BRO ÖVER FYRISÅN (ISLANDSBRON) I UPPSALA, MUNKGATAN

Spännarmerad betongbro

Broutredningar Uppsala spårväg – Område 3

BÄRIGHETSBERÄKNING

KNR: 3-94-1

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Rev	Ändring avser	Sign	Datum
H	Justering efter granskningssynpunkter: Kapitel 1, Bilaga 13	DSZ	250507
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F	Kapitel 1, Bilaga 13	DSZ	250129
-	Kapitel 1, Bilaga 12	ALM	240319
-	Kapitel 1, Bilaga 7.3, Bilaga 12, **Granskningsstatus borttagen**	ALM	231129
E	Justering efter granskningssynpunkter Kap. 1, Bilaga 4, Bilaga 7.1, Bilaga 7.3, Bilaga 9, Bilaga 11	ALM	231024
D	Justering efter granskningssynpunkter Kap. 1, 5, Bilaga 3, Bilaga 4, Bilaga 7, Bilaga 7.1, Bilaga 7.3, Bilaga 9, Bilaga 11	ALM	230901
C	Justering efter granskningssynpunkter Kap. 1, 5, 6, 8, Bilaga 1, Bilaga 3, Bilaga 4, Bilaga 7.1, Bilaga 9, Bilaga 11, Bilaga 12, Kompletterat med Bilaga 7.3	ALM	230522
B	Justering efter granskningssynpunkter Kap. 1, Bilaga 9, Kompletterat med Bilaga 12	ALM	230406
A	Justering efter granskningssynpunkter 1.1, 1.2, 3.1.2, 3.2, 5.1.4, 5.2.4, 5.2.5, 5.2.6, 6.2, Bilaga 1, Bilaga 2, Bilaga 3, Bilaga 4, Bilaga 7, Bilaga 8, Kompletterat med 1.3, Bilaga 10-11.	ALM	230329

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Revideringsförteckning

Reviderat	Datum
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Kapitel 1 Justering av text gällande pålgrupp och lager Bilaga 9 Generellt efter ny modellkörning och granskningssynpunkter Kompletterat med Bilaga 12	230406
Justering efter granskningssynpunkter kap. 1, 5, 6, 8, Bilaga 1, Bilaga 3, Bilaga 4, Bilaga 7.1, Bilaga 9, Bilaga 11, Bilaga 12 Kompletterat med Bilaga 7.3	230522
Justering efter granskningssynpunkter Kap. 1, 5, Bilaga 3, Bilaga 4 (LKA beam, LKB:a beam), Bilaga 7, Bilaga 7.1, Bilaga 7.3, Bilaga 9, Bilaga 11	230901
Justering efter granskningssynpunkter Kap. 1, Bilaga 4 (LKA beam, LKB:a beam), Bilaga 7.1, Bilaga 7.3, Bilaga 9, Bilaga 11	231024
Kapitel 1, Bilaga 7.3, Bilaga 12, Granskningsstatus borttagen	231129
Kapitel 1, Bilaga 12	240319
Kapitel 1, Läggs Bilaga 13	250129
Justering efter granskningssynpunkter Kapitel 1, Läggs Bilaga 13	250402
Justering efter granskningssynpunkter Kapitel 1, hela Bilaga 13	250507

1 - SAMMANFATTNING AV RESULTAT

Bjerking AB har på uppdrag av Uppsala kommun kontrollerat bärigheten för bro över Fyrisån (Islandsbron) knr. 3-94-1 för framtida spårvägstrafik. Se även kapitel 2.

Tabeller under kapitel 1.1 redovisar utnyttjandegrader (n).

Sammanfattningstext under kapitel 1.2 redovisar antaganden och kommentarer för kontroller med övertramp.

Tidare versioner av beräkningen visar att kontroller av armering, spännarmering, deformationer, utmattning, pålgrupp och lager är OK.

Denna beräkning har reviderats för att inkludera spårvagn A, B och C. Slutsatserna har uppdaterats och bilaga 13 har lagts till. Bakgrunden till revideringen är att den ursprungliga beräkningen utfördes för spårvagnslaster A32, A35 och A36, och inte för A, B och C. Därför har en jämförelse gjorts mellan lasteffekterna från spårvagn A, B och C på balkarna och de effekter som tidigare beräknats. En ny utmattningsberäkning har också genomförts. Utmattningskontroll visar att A, B, C ökar utnyttjandegrader för tvärkraft vid balk 2-5.

Slutsats under kapitel 1.3. För denna beräkning dras slutsats att samtliga kontroller är OK förutom utmattning för ovannämnda tvärkraft för balkarna 2-5.

1.1 Sammanfattningstabeller

1.1.1 Balk 1-6

	spännkabel överkant	spännkabel underkant		
	n	n	n	n
	LKA, M, max	LKA, M, min	LKA, V	LKA, T
Balk 6	0.79	0.68	0.65	0.99
Balk 6	0.79	0.68	0.53	0.69
Balk 6	0.79	0.68	0.73	0.96
Balk 6	0.79	0.68	0.75	0.97
Balk 6	0.79	0.68	0.54	0.69
Balk 6	0.79	0.68	0.64	1.00
Max UG	**0.79**	**0.68**	**0.75**	**1.00**

Tabell 1-1: LKA, balk 1-6

Utnyttjandegrader för brottgränstillstånd, LKA, moment

Se Bilaga 7.1

Utnyttjandegrader för brottgränstillstånd, LKA, tvärkraft

Se Bilaga 7.1

Utnyttjandegrader för brottgränstillstånd, LKA, vridning

Se Bilaga 7.1

Kontroller i bruksgränstillstånd, LKB:a

Se Bilaga 7.3. Huvudspänningar och kantspänningar OK.

1.1.2 Platta

1dir:	LKA, uk	LKA, ök
LL	OK	OK
TL1	OK	OK
TL2	OK	OK
Max UG		

2dir:	LKA, uk	LKA, ök
LL	1.02	OK
TL1	OK	OK
TL2	OK	OK
Max UG	1.02	

	n LKA, V
LL	0.44
TL1	0.40
TL2	0.40
Max UG	**0.44**

Tabell 1-2: LKA, platta

Utnyttjandegrader för brottgränstillstånd, LKA, moment

Se Bilaga 7.2

Utnyttjandegrader för brottgränstillstånd, LKA, tvärkraft

Se Bilaga 7.2

1.1.3 Deformationer

Kontroller i bruksgränstillstånd, LKB:c

Se Bilaga 6

		Effekt (mm)	Kapacitet	n
Umax	**U3 [mm]**	1.53	49.40	0.031
Umin	**U3 [mm]**	-8.64	49.40	0.175
			Max UG	**0.18**

Tabell 1-3: LKB:c, nedböjning

1.1.4 Utmattning

Utmattning

Se Bilaga 13. (Tidigare kontroll med A32, A35 och A36 återfinns i Bilaga 8 och Bilaga 10).
Dimensionerande för utmattning är tvärkraft i balkar med utnyttjandegrad enligt nedan.

	UG
Balk 1	0,91
Balk 2	2,81
Balk 3	2,62
Balk 4	2,58
Balk 5	2,84
Balk 6	0,83
Max UG	**2,84**

Tabell 1-4: LKC, utmattning

1.1.5 Pålgrundläggning

Se Bilaga 9.

Kontroll av pålgrupp och pålelement avseende nya pålkrafter anses OK.

	n Landfäste	n Mellanstöd
P max	0.85	0.97
P min	0.00	0.00
Max UG	0.85	0.97

Tabell 1-5: Utnyttjandegrad max pålkraft och min pålkraft

1.1.6 Lager

Se Bilaga 12. Anses OK.

Utnyttjandegrad för rörligt lager, landfästen:

$$UG_{rörligt_lager} := 0.61$$

Utnyttjandegrad för fast lager, mellanstöd:

$$UG_{fast_lager} := 0.89$$

1.2 Sammanfattning

Se Bilaga 3 och 4 för Indata/Utdata Systemanalys.
Se Bilaga 5 för Sammanställning av armering.

I detta kapitel kommenteras övertramp.
I samråd med beställare tas beslut om kontroller som överskrider gränserna.

Nya förutsättningar, kontroll, förtydligande.

Se bilaga 13 för slutsatser som rör spårvagn A, B och C. Kontroll av LKA påverkas inte av de nya förutsättningarna. Dimensionerande faktorer blir istället arbetståg och enstaka axellaster.

Däremot påverkas LKC, då de nya spårvagnarna ökar utnyttjandegraden för tvärkrafter. Detta förvärrar situationen eftersom tvärkraft redan överskred gränsvärdena med de tidigare förutsättningarna. Diskussion ska tas med beställaren för att se om det behövs åtgärder, eller resultat accepteras.

LKA platta

Utnyttjandegrad som mest på 1.02 i platta, snitt LL, i underkant platta i tvärled. Gäller i fåtal snitt. Se Bilaga 7.2.

Eftersom väldigt nära 1.0 anses det OK.

LKC balk

Utmattning med metoden enkel kontroll är ej ok för vissa snitt i balk för tvärkraft (4 antal balkar). Se Bilaga 13 för redovisning av utmattning med enkel kontroll. Med utmattningskontroll enligt Lambdametoden (med hänsyn till trafikdata 1957-2022), ger utmattning en utnyttjandegrad på 1,57 för L100 (TL 120 år).
Detta sker för hälften av snitten. Se Bilaga 13.

Anser att utmattningskontrollen är EJ OK m.h.t. övertramp.

1.3 Slutsats

Anser att samtliga kontroller är OK förutom utmattning för tvärkraft i balk 2-5 efter kontroll av spårvagn A, B och C. Detta ska bedömas av beställaren och om i senare skede ska denna kapacitet ökas genom åtgärder.

2 - ALLMÄNT

Denna bärighetsberäkning avser Bro över Fyrisån (Islandsbron) med konstruktionsnummer 3-91-1, och upprättas för att verifiera att bärverket har krävd bärförmåga, stadga och beständighet.

Bärighetsberäkningen kommer att huvudsak baseras på publikation TRVINFRA-00331 ”Krav med rådstext Bro och broliknande konstruktioner, Bärighetsberäkning version 1.0”. Benämns hädanefter som [1].

Förutsättningarna och använda metoder finns beskrivna i "RBFM Redogörelse för beräkningsarbetetes förutsättningar och metoder", dokumentnr. K-001 Bro över Fyrisån (Islandsbron), hänvisad i beräkningen som [2].

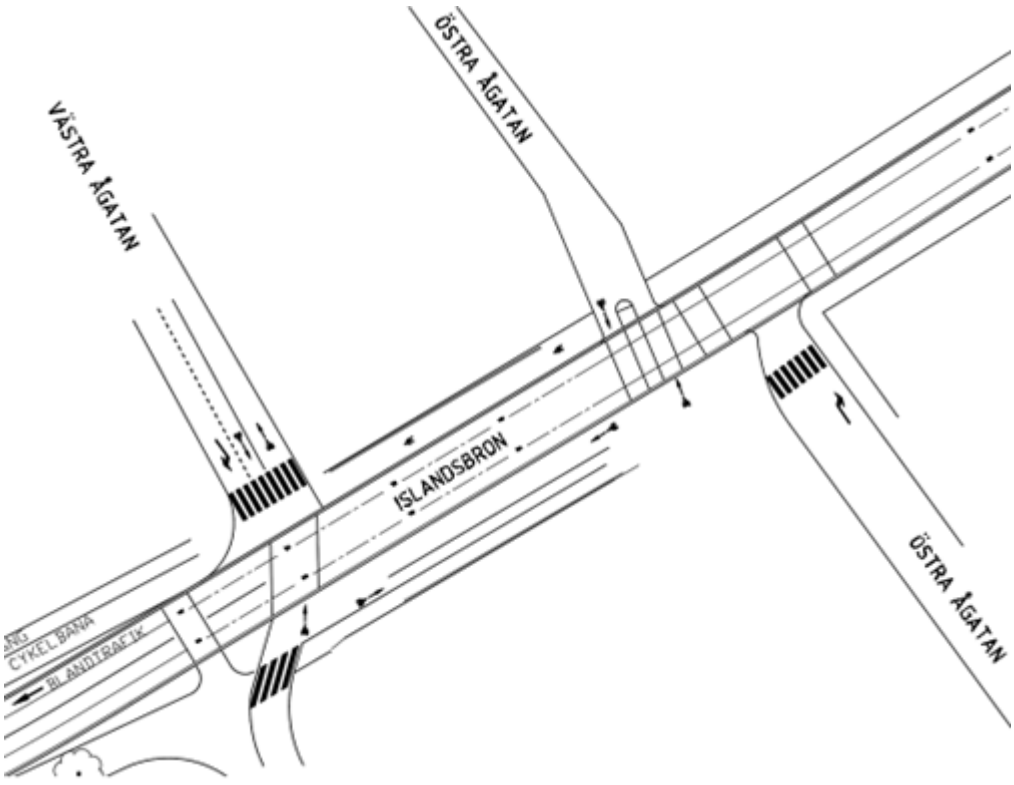
Konstruktionen ser ut som det visas nedan och beräkningen utförs som spännarmerad bro. Konstruktionen ska trafikeras ovanpå med ny spårväg.

Systemanalysen utförs i BRIGADE/Plus 2022-5. Övriga program som används är Mathcad Prime 7.0.0.0, caeApp Ec701 Rymdpålgrupp och Excel.

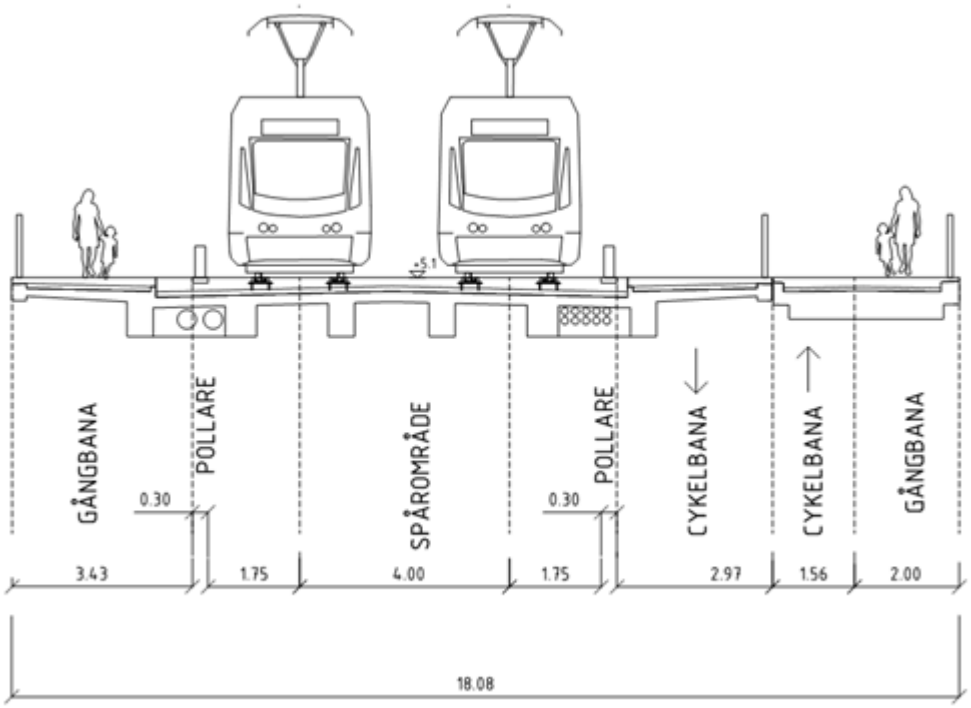
Nedanstående bärverksdelar kommer att ingå i bärighetsberäkning:
· Överbyggnad
· Grundläggning

2.1 Referenslista

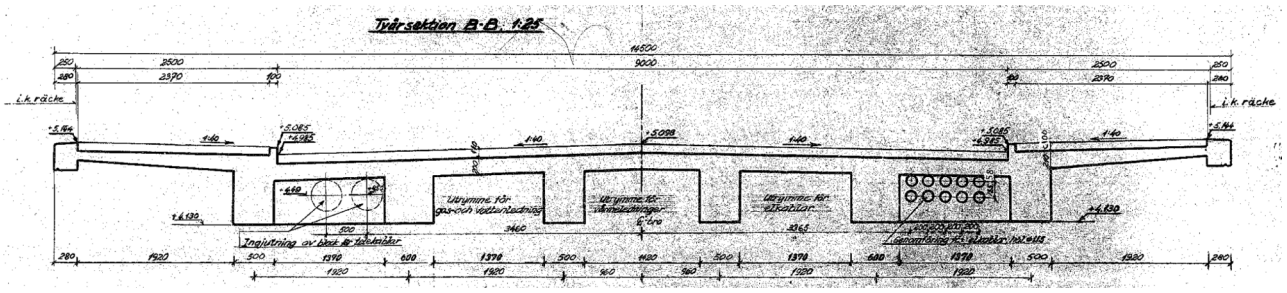
[1] Krav med rådstext Bro och broliknande konstruktioner, Bärighetsberäkning (TRVINFRA-00331 ver. 1.0)
[2] RBFM - Redogörelse för beräkningsarbetets förutsättningar och metoder, doknr K-001 Bro över Fyrisån (Islandsbron)
[3] SS-EN 1992-1-1:2005
[4] SS-EN 1992-2:2005
[5] SS-EN 1991-2:2003, Utgåva 1
[6] Krav TRVINFRA-00226 Bro och broliknande v3.0 och Krav TRVINFRA-00227 Bro och broliknande v3.0
[7] ”Recommendations for finite element analysis for the design of reinforced concrete slabs
[8] BBK 04
[9] Betonghandbok Konstruktion



Figur 2-1: Plan med aktuellt spårläge



Figur 2-2: Sektion med aktuellt spårläge



Figur 2-3: Sektion relationshandling

3 - BERÄKNINGSMODELL

Enligt [2].

Indata till systemanalysen återfinns i Bilaga 4. Utdata till systemanalysen återfinns i Bilaga 5.

3.1 Systemindata

3.1.1 Geometri

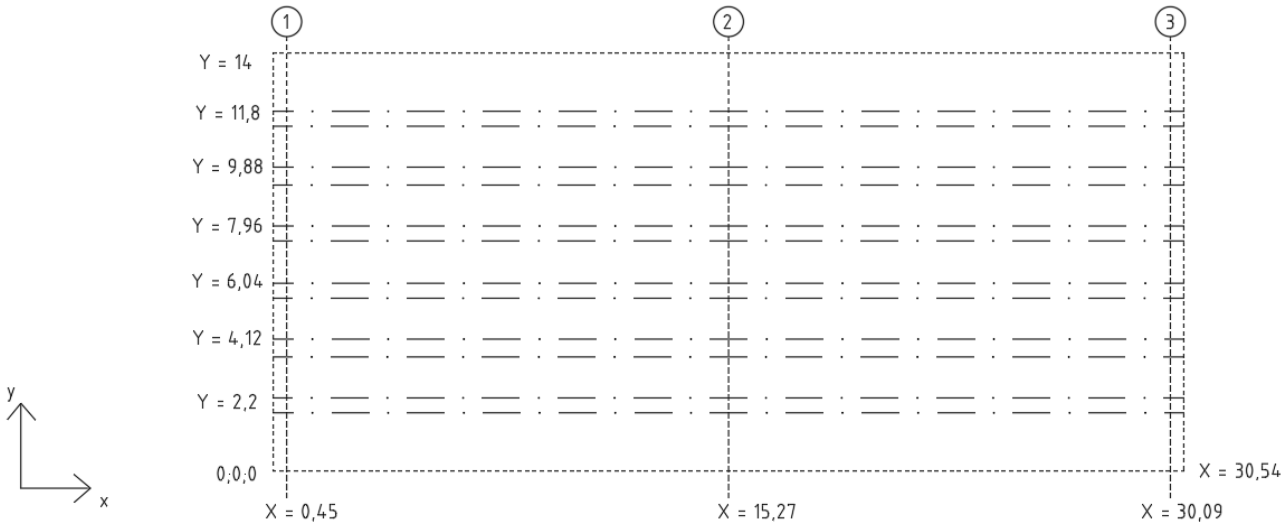
Systemmodellen byggs upp med hjälp av koordinater i enhet (m), med referenspunkt enligt Figur 3-1.
Platta modelleras som skalelement med en tjocklek på 200mm.

Redovisat i [2] kap. 6 används avstånd = 29,64m mellan upplag 1 och upplag 3, se även Figur 3-1.
Upplag 2 antas vara mittemellan dessa två.

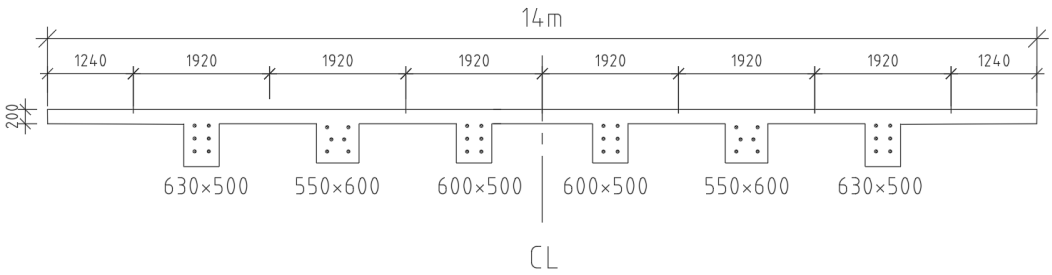
Spännkablar i verklighet enligt relationsritning redovisas i Bilaga 2. Även antaganden och förenklingar för modellering av spännkablar redovisas i Bilaga 2.

För att förenkla spännkablar används ett jämnt avstånd mellan n=1...10, se antaganden i Bilaga 2.

Längsgående balkar modelleras som rektangulära balkar med kalkylerad medelhöjd och mått, se antaganden i Bilaga 2. Se Figur 3-2.



Figur 3-1: Geometri - plan. Referenspunkt vid stöd 1 (0,0,0)



Figur 3-2: Geometri - sektion

3.1.2 Material

Konstruktionen utgörs av betong med följande egenskaper:

$E_{cd} := 34\ GPa$	elasticitetsmodul
$v := 0.2$	tvärkontraktionstal
$\alpha := 1 \cdot 10^{-5} \cdot K^{-1}$	termisk längdutvidgningskoefficient
$\rho_c := 2500\ \frac{kg}{m^3}$	densitet

Konstruktionen utgörs av stål med följande egenskaper:

$E_{st} := 200\ GPa$	elasticitetsmodul
$v := 0.3$	tvärkontraktionstal
$\alpha := 1 \cdot 10^{-5} \cdot K^{-1}$	termisk längdutvidgningskoefficient
$\rho_{st} := 7850\ \frac{kg}{m^3}$	densitet

Vid beräkning av snittkrafter används ovan materialvärden på samtliga delar.

3.2 Systembeskrivning

Bron modelleras i BRIGADE/Plus med skalelement, S4R.
Randvillkor utgörs av fjäder under mellanstöd (Spring-To-Ground). Se kap. 6.2.

Partitioner utförs i farbanans skalelement för att koppla ihop delar. Utförs enligt princip:

- Längsgående balkar kopplas med TIE utan tie av rotational DOFs till den del av skalelement ovanför balk med samma bredd som balken med ett mått på 500mm/600mm. Se Figur 3-2.
- Spännkablar kopplas med TIE utan tie av rotational DOFs till den del av skalelement ovanför som samverkar med spännkablar med en bredd på 1920mm/1920mm+1240mm. Se Figur 3-2.

För tidsberoende spännförluster väljs reduktionsfaktor till 0,75 enligt SS-EN 1992-1-1 kap. 5.10.8, d.v.s. 25% för spännkablar vid långtid. På grund av att information om spännkablar saknas så räknas det ej ut med formel, p.s.s.

För att säkerställa att modellen är tillräckligt noggrann utförs en konvergensstudie, med tre olika elementbredder, samt kontrollberäkning av modellens massa.

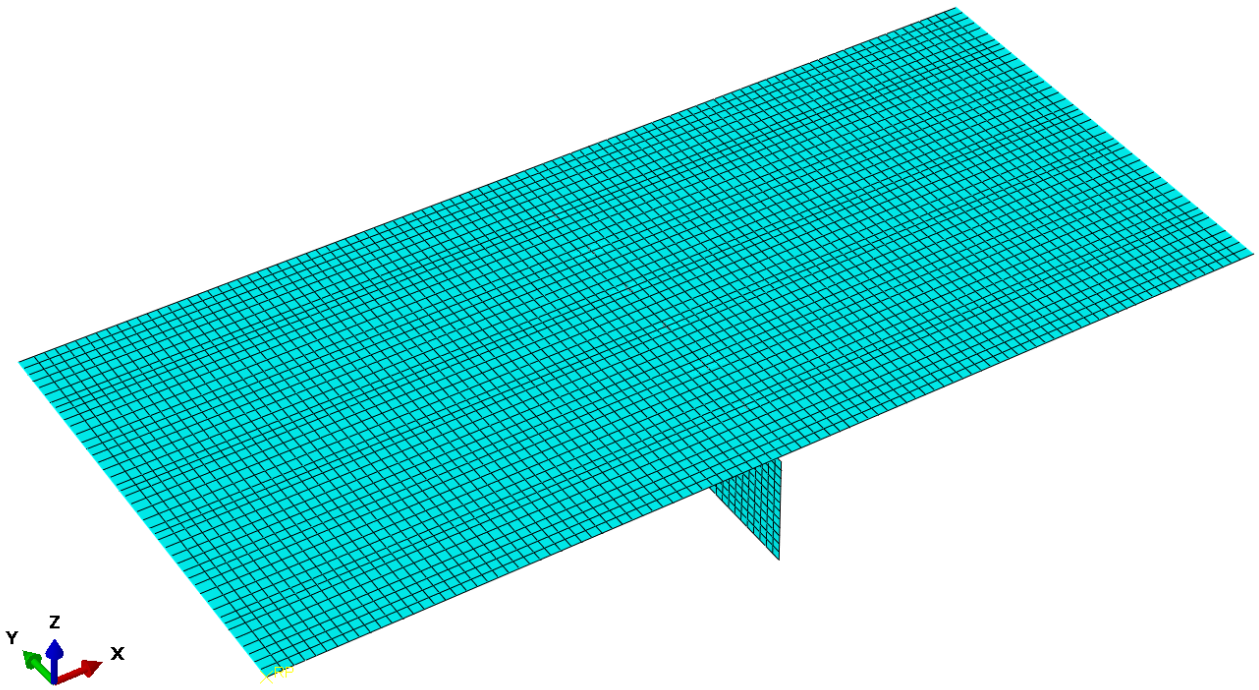
3.2.1 Konvergensstudie

En konvergensstudie utförs för att verifiera vald elementstorlek. Studien baseras på vertikal nedböjning och böjmoment runt 1-riktningen i bromitt.

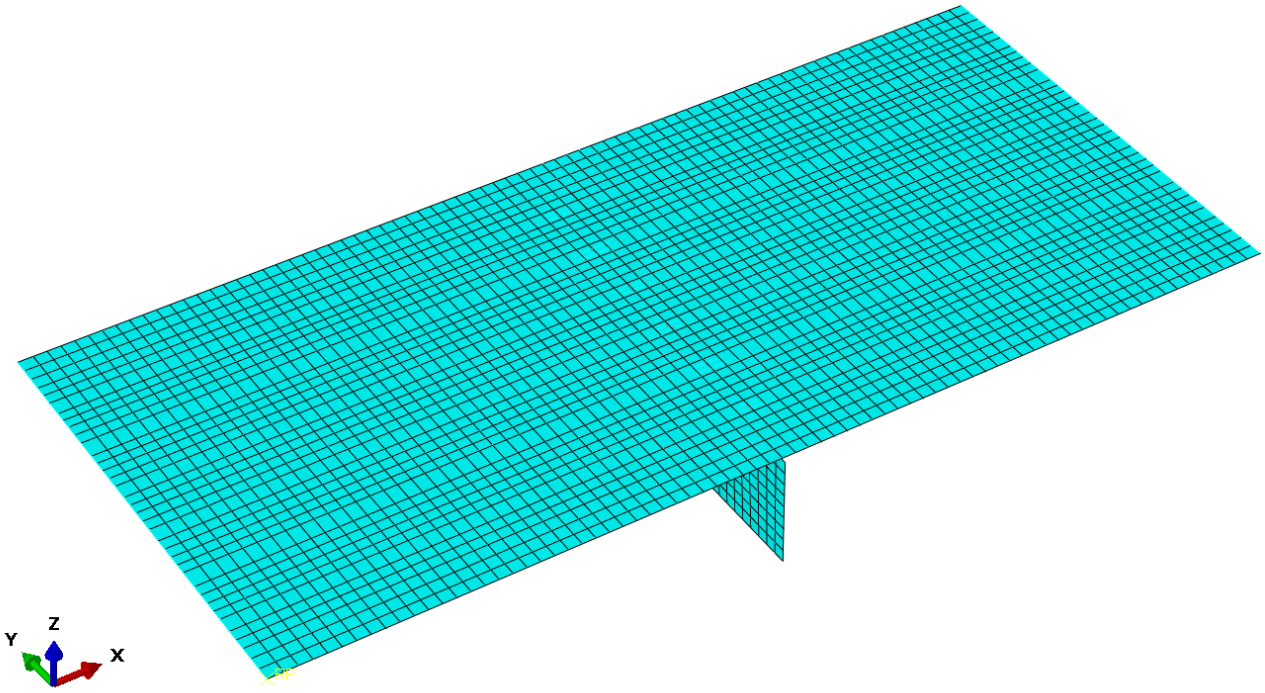
Tre olika elementstorlekar redovisas i figur 3-3a, 3-3b och 3-3c för respektive mesh. Jämförelse av resultat återfinns i figur 3-4a till 3-4c för nedböjning och böjmoment av gravitation.
Nedan följer resultat och vald elementbredd (seed) för de olika modellerna i linje för bromitt.

	Seed (m)	U3 (mm)	Diff	SM1 (kNm)	Diff
Mesh 1:	0.30	-3.83	-	9.47/-5.27	-
Mesh 2:	0.40	-3.74	2.4%	8.98/-5.19	5.17%/1.5%
Mesh 3:	0.50	-3.74	2.4%	9.19/-5.10	2.9%/3.2%

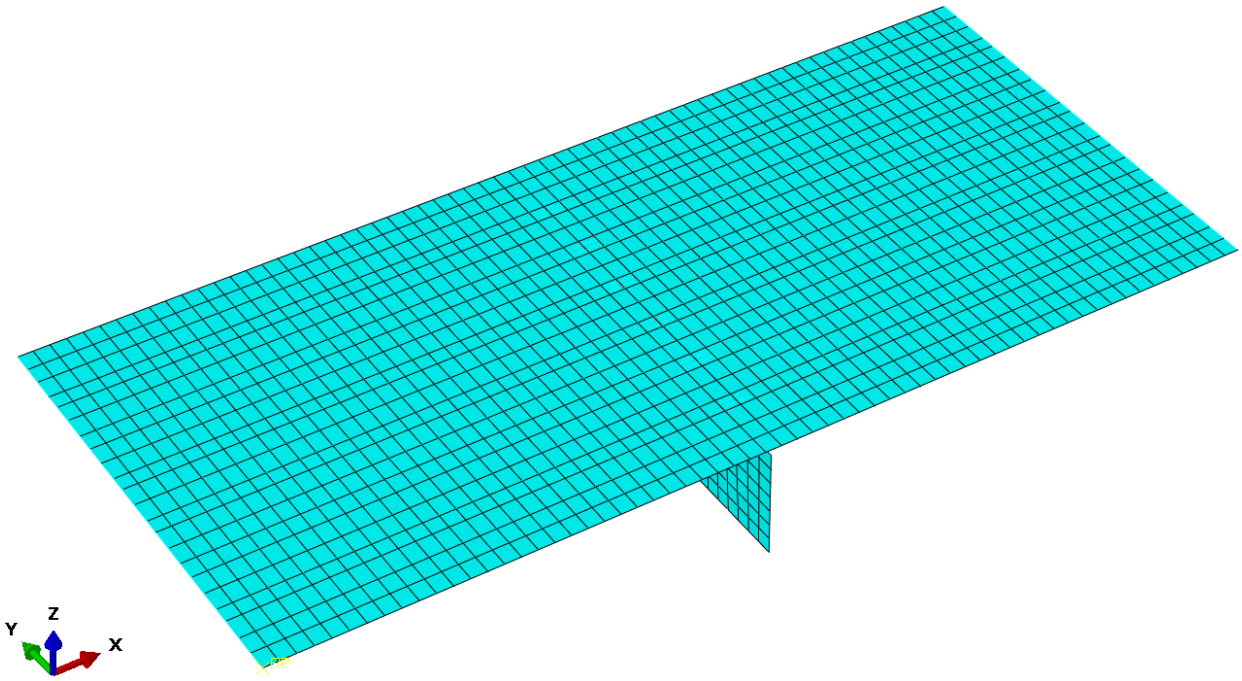
Vid vidare analys väljs Mesh 1 för att få till en jämn meshfördelning mellan



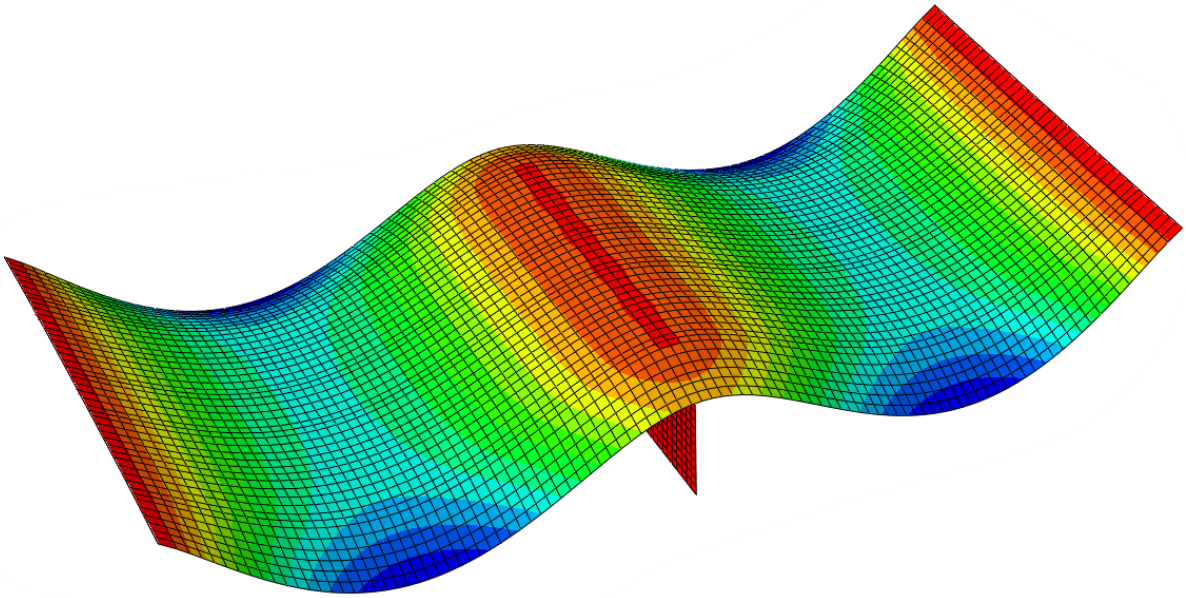
Figur 3-3a: Elementindelning för Mesh 1 = 0.3



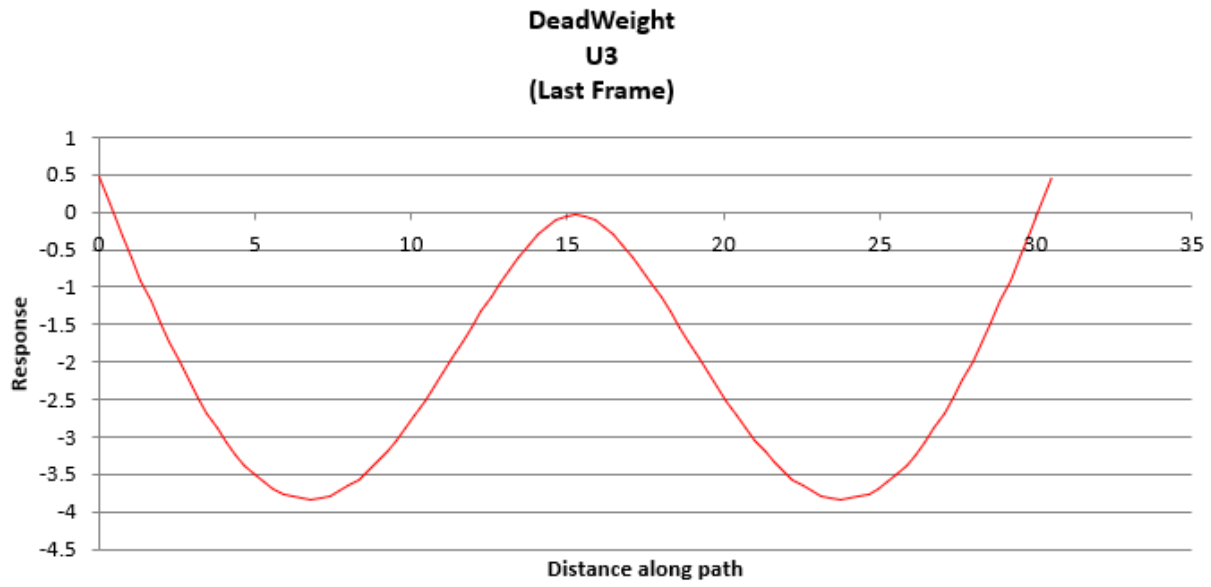
Figur 3-3b: Elementindelning för Mesh 2 = 0.4



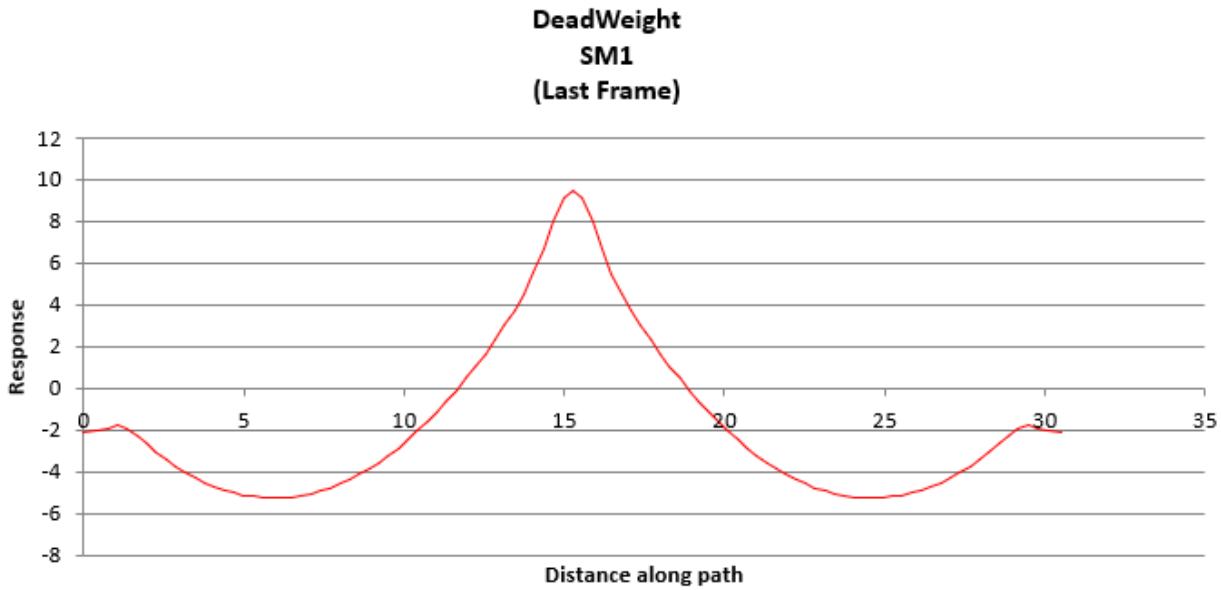
Figur 3-3c: Elementindelning för Mesh 3 = 0.5



Figur 3-4a: Nedböjning av egenvikt för vald meshindelning = 0,3



Figur 3-4b: Konvergensstudie av nedböjning av egenvikt för vald meshindelning = 0,3



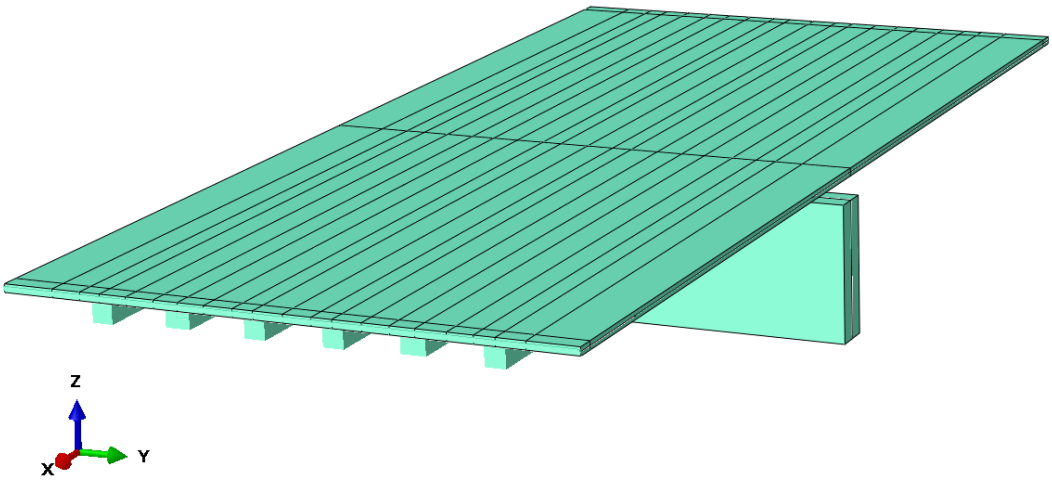
Figur 3-4c: Konvergensstudie av böjmoment för egenvikt för vald meshindelning = 0,3

3.2.2 Modellverifiering

För att kontrollera brons massa i systemberäkningsprogrammet (Mass properties) utförs jämförande beräkning.

Från BRIGADE/Plus: Mass properties:
Volume: 188.92
Mass: 472291.81

Värden på areor tas från AutoCAD på uppritad sektion och jämförs med systemmodell enligt Figur 3-5. (Exklusive kablar)



Figur 3-5: Rendering av systemmodell med shell section thickness

$A_{farbana_sektion} := 4676957.537 \cdot mm^2$ $L_{farbana_plan} := 30.54\ m$

$V_{farbana} := A_{farbana_sektion} \cdot L_{farbana_plan} = 142.834\ m^3$

$V_{stöd} := 1000\ mm \cdot 13.5\ m \cdot 3.5\ m = 47.25\ m^3$

$V_{bro} := V_{farbana} + V_{stöd}$ $V_{bro} = 190.084\ m^3$ total volym betong

$V_{bro_system} := 188.92\ m^3$ total volym betong systemmodell

$$100 - \frac{V_{bro_system} \cdot 100}{V_{bro}} = 0.613$$

$m_{btg} := 2500.0\ \frac{kg}{m^3}$

$G_{bro} := m_{btg} \cdot V_{bro}$ $G_{bro} = 475210.708\ kg$ total massa

$G_{bro_system} := 472291.81\ kg$ total massa systemmodell

$$100 - \frac{G_{bro_system} \cdot 100}{G_{bro}} = 0.614$$

Då avvikelsen mellan beräknade värden och systemmodellen är <0.62% verifierar modellen.

3.2.3 Resultatriktningar och resultatkomponenter

Se Figur 3-6a till Figur 3-6c.
Beaktade snittkrafter benämns enligt nedan:

SF1	normalkraft i 1-riktning
SF2	normalkraft i 2-riktning
SF3	skjuvkraft i planet 1-2
SF4	tvärkraft verkande i 1-riktningen
SF5	tvärkraft verkande i 2-riktningen
SM1	böjmoment runt 2-riktningen
SM2	böjmoment runt 1-riktningen
SM3	vridmoment i planet 1-2

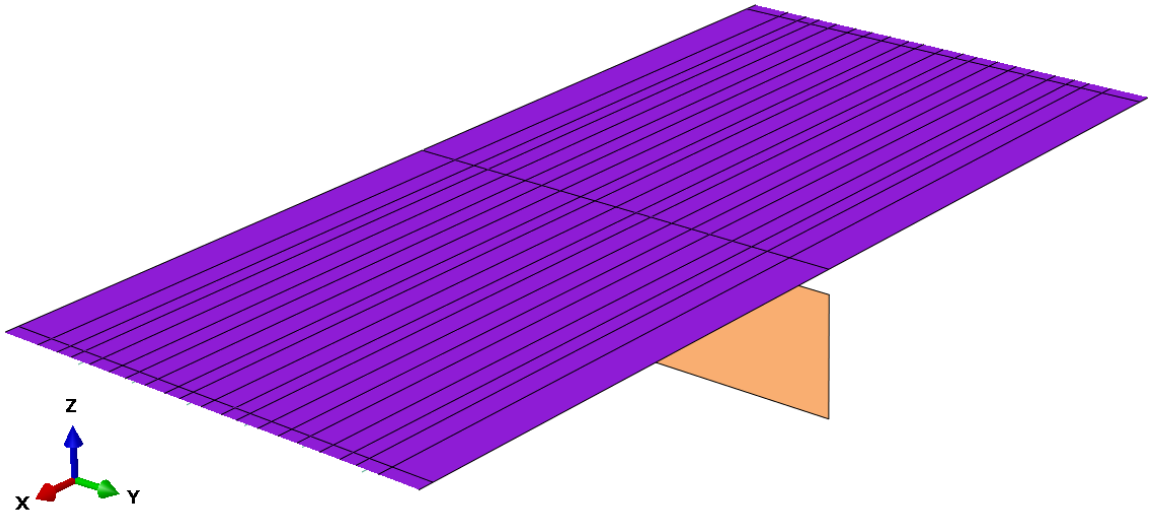
Dimensionerande normalkrafter och böjmoment beräknas enligt nedan och tar hänsyn till skjuvning och vridmoment:

N1 = SF1 + abs(SF3)	dimensionerande normalkraft i 1-riktning
N2 = SF2 + abs(SF3)	dimensionerande normalkraft i 2-riktning
M1 = SM1 + abs(SM3)	dimensionerande böjmoment runt 2-riktning
M2 = SM2 + abs(SM3)	dimensionerande böjmoment runt 1-riktning

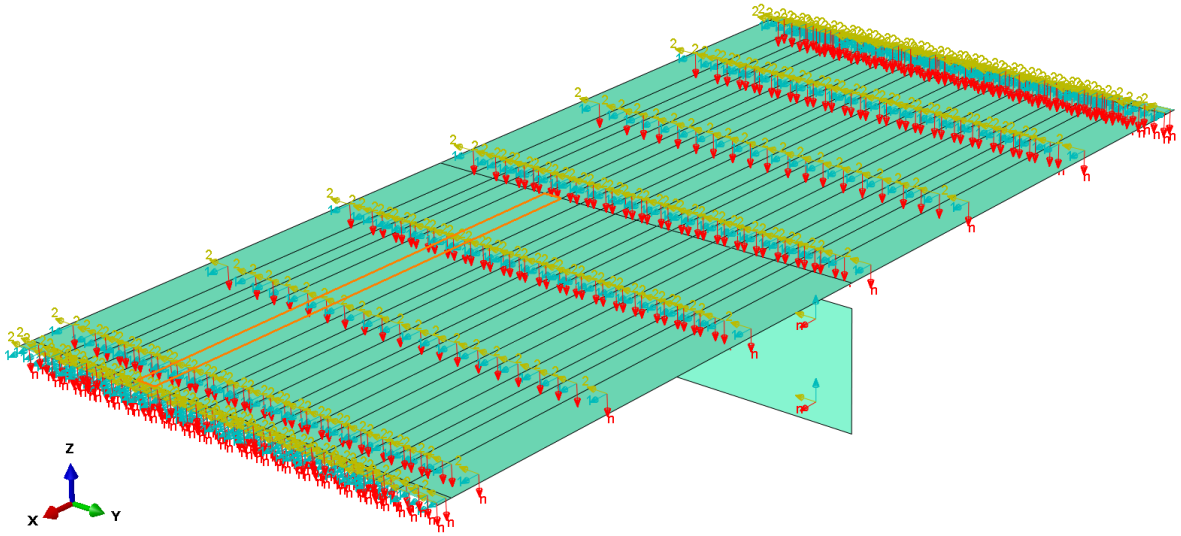
Tillhörande krafter och moment beräknas på samma sätt.

Dimensionerande tvärkrafter beräknas enligt nedan:
V1.max = sqrt(SF4.max^2 + SF5.tillh^2)
V1.min = sqrt(SF4.min^2 + SF5.tillh^2)
V2.max = sqrt(SF5.max^2 + SF4.tillh^2)
V2.min = sqrt(SF5.min^2 + SF4.tillh^2)

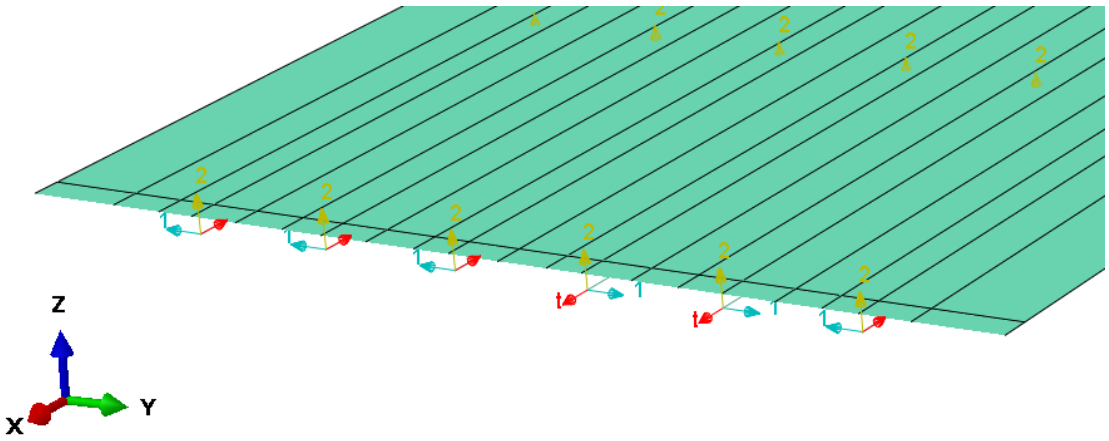
Vdim = max(V1.max, V1.min, V2.max, V2.min)



Figur 3-6a: Lokala riktningar, Shell element normals



Figur 3-6b: Lokala riktningar, Material orientations



Figur 3-6c: Lokala riktningar, Beam orientations

4 - BERÄKNINGSUNDERLAG

Enligt [2]

5 - SÄKERHETSKLASSER, LASTER, LASTKOMBINATIONER OCH KONTROLLER

Enligt [2].

Beräkningen utförs i säkerhetsklass 3 och Bilaga 4.

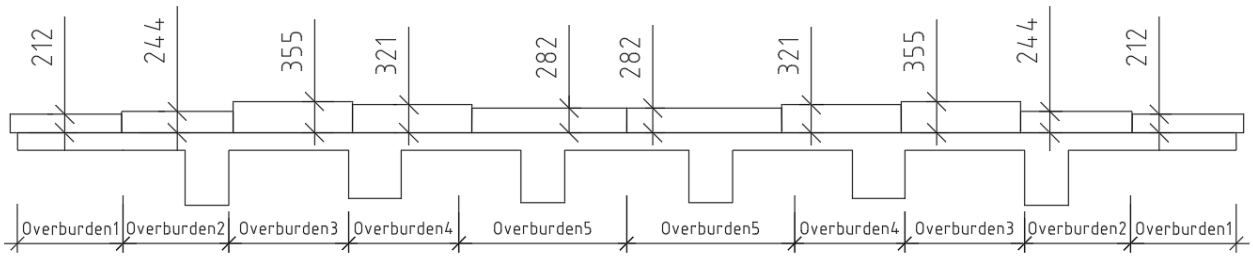
5.1 Permanenta laster

5.1.1 Egentyngd

Följande egentyngder beaktas:

$\gamma_{btg} := 25\ \boldsymbol{kN \cdot m^{-3}}$ [2] 5.2.1

$\begin{matrix}\gamma_{bel_overburden1}\\ \gamma_{bel_overburden2}\\ \gamma_{bel_overburden3}\\ \gamma_{bel_overburden4}\\ \gamma_{bel_overburden5}\end{matrix}$ $24\ \frac{\boldsymbol{kN}}{\boldsymbol{m^3}} \cdot \begin{bmatrix}212\ \boldsymbol{mm}\\ 244\ \boldsymbol{mm}\\ 355\ \boldsymbol{mm}\\ 321\ \boldsymbol{mm}\\ 282\ \boldsymbol{mm}\end{bmatrix} = \begin{bmatrix}5088\\ 5856\\ 8520\\ 7704\\ 6768\end{bmatrix} \frac{\boldsymbol{N}}{\boldsymbol{m^2}}$ [2] 5.2.1, se figur nedan



5.1.2 Vattentryck

$h_{MW_supp2} := 2.1\ \boldsymbol{m}$ [2] 5.2.4

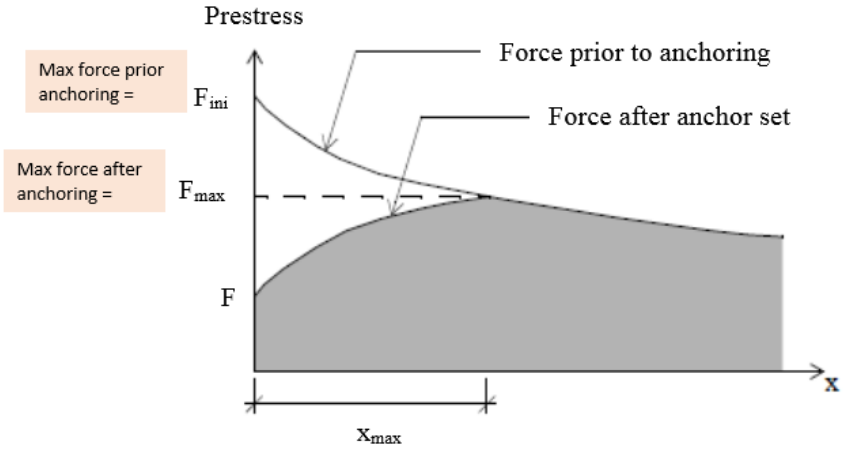
$\gamma_{water} := 10\ \boldsymbol{kN \cdot m^{-3}}$

Lika på båda sidor om stöd, kan därav försummas

5.1.3 Krympning och krypning

Ansätts på permanenta laster och temperaturändring enligt [2] 5.2.6 i lastkombinering.

5.1.4 Spännkraft



Brigade/PLUS använder indata enligt ovan princip.

12 ϕ 7 st150 enligt ritning.

$st := 12$

$$A_s := \frac{(7\ mm)^2 \cdot \pi}{4} \cdot st = 462\ mm^2$$

$f_{yk} := 1420\ MPa$ Bronorm 88, Bilaga 4-8 $f_{pk} := f_{yk}$

$f_{uk} := 1620\ MPa$ Bronorm 88, Bilaga 4-8 $f_{p01k} := f_{uk}$

Förspänningens effekt beräknas:

- Omedelbart efter det att uppspänningsarbetet är avslutat (t=t0)
- Efter kort tid då en del av de tidsberoende effekterna uppnåtts och då bron antas vara utsatt för trafiklast (t=t1). Cirka 30 år efter uppspänningarbetet avslutats.
- Efter lång tid (t=t2) då de tidsberoende effekterna uppnått sina slutvärden. Cirka 100 år efter det att bron tagits i trafik.

Använder nedan värden enligt SS-EN 1992-2-1 4.2.3.5.4

Före låsning:

$$F_{ini} := min\left(0.9 \cdot f_{yk} \cdot A_s, 0.8 \cdot f_{uk} \cdot A_s\right) = 590\ kN$$ SS-EN 1992-1-1, 5.10.2.1

Efter låsning:

$$F_{max} := min\left(0.85 \cdot f_{yk} \cdot A_s, 0.75 \cdot f_{uk} \cdot A_s\right) = 557\ kN$$ SS-EN 1992-1-1, 5.10.3

Spännkraft vid t_0 och t_1:

$\mu := 0.25$ Friktionskoefficient

$k := 0.00030$ Krokighetsfaktor

Max spännkraft före: $t_0 := F_{ini} = 590198\ N$

Max spännkraft efter: $t_1 := F_{max} = 557410\ N$

Spännkraft vid t_2:

BBK 04, 2.5.6 anger nedan värden på relaxation för spännarmering

$\chi := 0.12$ Efter 50 år

$\chi := 0.15$ Efter 100 år

Enligt betonghandboken (1990) avsnitt 4.4:212 är effektfaktor för att grovt uppskatta dessa långtidsförluster 0.82:

$\chi := 0.18$

Förlust antas därmed till:

$t_2 := 18\%$ Antagen förlust över tid, programmet räknar ut utifrån F_{max} och F_{ini}

För tvärkraftkontrollen :

Förspänning tas inte med i lastkombinering vid utdata i tvärkraftskontrollen för beräkning enligt BBK 04.
Tvärkraft på grund av spännkraft beräknas för hand enligt BBK 04 och läggs på i kontrollen för hand.

5.2 Variabla laster

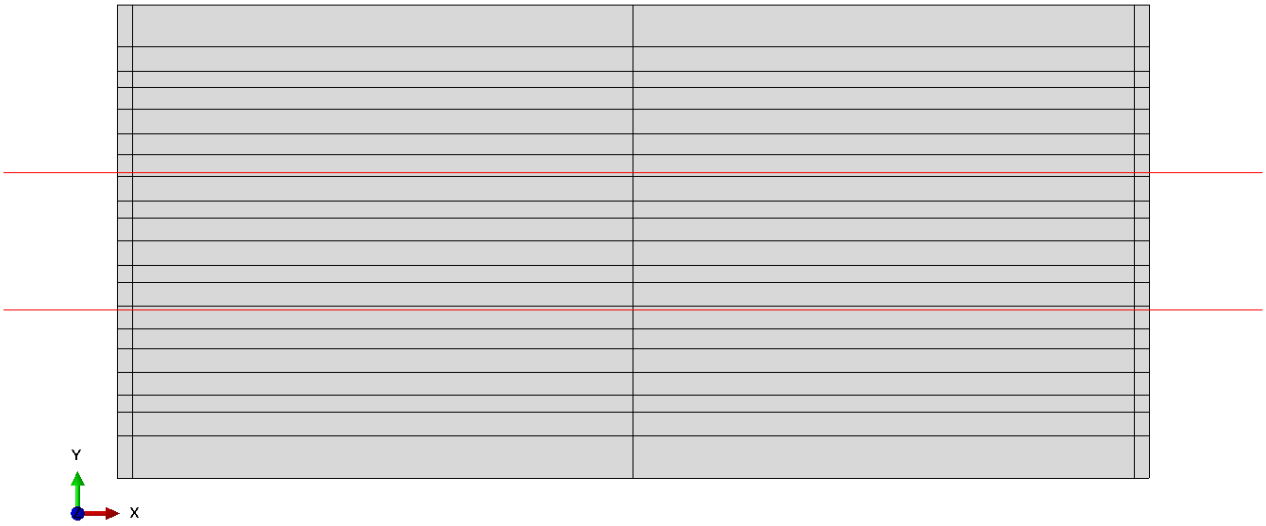
5.2.1 Vertikal trafiklast av Spårväg

Belastas med spårvagn A32, A35, A36 samt arbetståg och enstaka axelgrupper enligt [2] 5.3.1.

Bärighetsberäknas med vägtypfordon ena sidan, spårväg andra riktningen eller tvärtom. Även lastfall med spårväg båda riktningar samtidigt, för ogynnsammaste fallet. GC-last kombineras om ogynnsamt.

Dynamikfaktor för vertikal trafiklast från spårväg: $\varepsilon_{dyn} := 1.148$ [2] 5.3.1

Trafiklastlinjer enligt Figur 5-1.



Figur 5-1: Trafiklastlinjer spårväg

5.2.2 Horisontell trafiklast av Spårväg

De horisontella trafiklasterna verkar samtidigt som vertikal trafiklast.

Broms- och sidokraft ansätts längsmed och tvärled enligt [2] 5.3.2. Åt båda håll.

$q_{broms} := 5000 \cdot \frac{N}{m}$ bromskraft [2] 5.3.2

$q_{acc} := 5000 \cdot \frac{N}{m}$ acceleration [2] 5.3.2

$q_{sk} := 80000 \cdot N$ sidokraft [2] 5.3.2

5.2.3 Vertikal trafiklast av Vägtypfordon

Vägtrafiklast med A/B = 120kN/180kN (BK1) trafikerar bron enligt [2] 5.3.2.

Vägtrafiklasten består av Typfordon a) - o) enligt [2] 5.3.2.

Typfordonen placeras 1,5m från räcken enligt [2] 5.3.2 med 1m avstånd mellan trafiklastlinjer.

Ena lastfältets typfordon multipliceras med 1,0 och det andra lastfältets typfordon med 0,8. Antalet typfordon blir max 2st vid samma tillfälle.

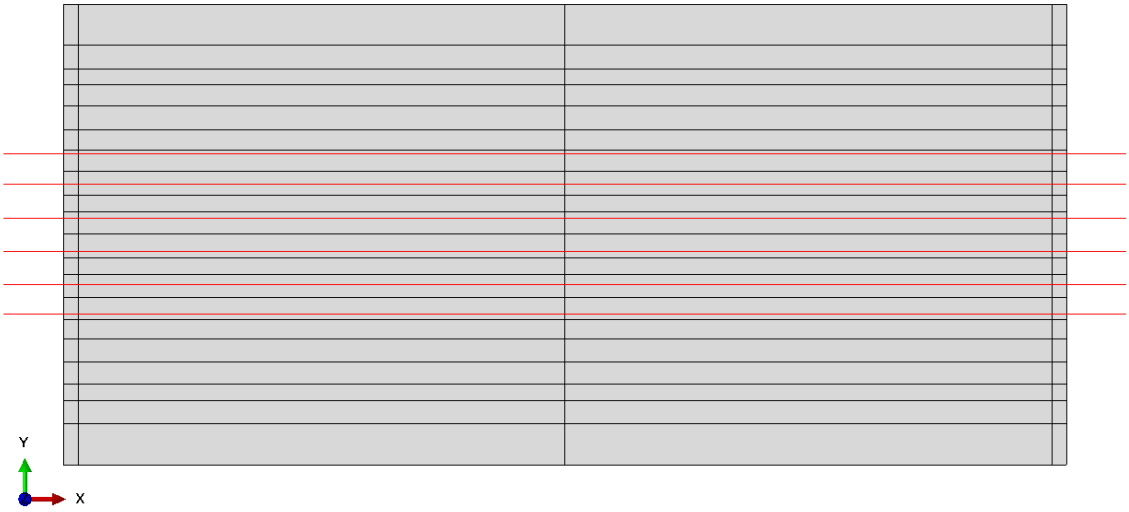
Typfordonen har ett hjulavstånd 2m enligt [2] 5.3.2.

Lasten appliceras perpendikulär mot farbana och neråt. Lasterna beskrivs i modellens input.

Bärighetsberäknas med vägtypfordon ena sidan, spårväg andra riktningen eller tvärtom. Även lastfall med spårväg båda riktningar samtidigt, ogynnsammaste fallet. GC-last kombineras om ogynnsamt.

Dynamiskt tillskott för vertikal trafiklast från trafik: $\varepsilon_{dyn} := 1.132$ [2] 5.3.2

Trafiklastlinjer enligt Figur 5-2.



Figur 5-2: Trafiklastlinjer vägtypfordon

5.2.4 Horisontell trafiklast av Vägtypfordon

De horisontella trafiklasterna verkar samtidigt som vertikal trafiklast.

Broms- och sidokraft ansätts längsmed och tvärled enligt [1] 8.3.2.3.1. Åt båda håll.

x = 0,25 gånger tyngden, utan dynamiskt tillskott, av det tyngsta typfordonets punktlaster på brolängden.
För denna bro typfordon o.

$$q_{bk} := 0.25 \cdot \left(59400 + 80100 \cdot 2 + 70200 \cdot 3 + 74700 \cdot 2 + 80100 \cdot 2\right)\ \boldsymbol{N} = 184950\ \boldsymbol{N}$$

$$q_{sk} := q_{bk} \cdot 0.25 = 46237.5\ \boldsymbol{N}$$

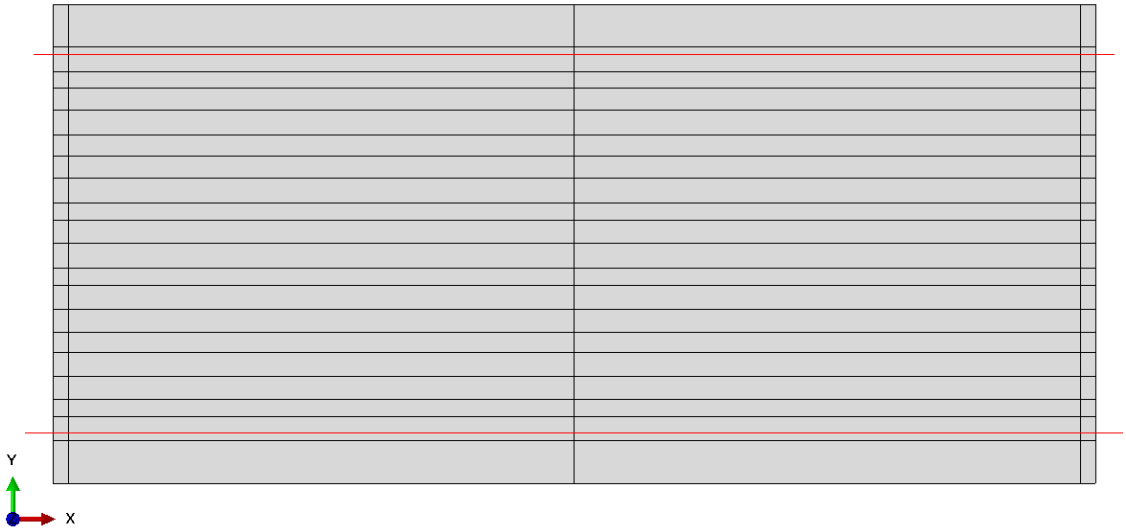
$$\frac{q_{bk}}{14\ \boldsymbol{m}} = 13211\ \frac{\boldsymbol{N}}{\boldsymbol{m}} \qquad \frac{q_{sk}}{29.6\ \boldsymbol{m}} = 1562\ \frac{\boldsymbol{N}}{\boldsymbol{m}}$$

5.2.5 Vertikal trafiklast av GC-last

Belastas med GC-last enligt [2] 5.3.3.

Trafiklastlinjer enligt Figur 5-3.

$$q_{fk} := 4\ \frac{kN}{m^2}$$



Figur 5-3: Trafiklastlinjer gång- och cykelbana

5.2.6 Istryck

$$0.0001\ m = 0.1\ mm$$

Enligt [2] 5.3.6.

Verkar antingen i tvärled eller längsled mot stöd 2. Angriper dels vid MHW och dels vid MLW.

$h_{MHW} := 2.7\ m$ $h_{MLW} := 1.8\ m$ avstånd från pålavskärningsplan i systemmodell

$$Q_{is_x} := \frac{\left(\frac{200000\ N}{13.5\ m}\right)}{0.001\ m} = 14814815\ \frac{N}{m^2}$$ Ansätts som ytlast på en yta på 0,001m längsmed stöd

$F_{is_y} := 200000\ N$ Ansätts som punktlast i kanterna av stöd

5.2.7 Strömtryck

Enligt [2] 5.3.7.

$$F_{ström_LLW} := 1000\ N \qquad F_{ström_HHW} := 320\ N$$

Anses försumbar i jämförelse med istryck.
Då is- och strömtryck väljs ogynnsammaste så bortses strömtryck från.

5.3 Lastkombinering

Lastkoefficienter hämtas från Tabell 8-12 i [1].

Tabell 5-1: Lastkoefficienter vid lastkombinering

Laster	Lastkombinationer			
	A	B:a	B:c	C
Permanenta laster				
Egentyngd betong	1,2	1	-	1
Beläggning	1,2	1	-	1
Spännkraft	1,2	1	-	1,2
Jordtryck	1,2	1	-	1
Vattentryck	1,2	1	-	1
Krympning	1,2	1	-	0,5
Variabla laster				
Vägtypfordon	0,7/1,5	1	1	1
Gångbanelast	0,4	0,4	-	-
Vägbromskraft	0,7/1,5	0,7	-	-
Vägsidokraft	0,7/1,5	0,7	-	-
Tåglast	0,7/1,5	1	1	0,8
Tågbromskraft	0,4/1,4	0,4	-	-
Tågsidokraft	0,4/1,4	0,4	-	-
Temperatur	(0,6/1,5)	0,6	-	-
Is- och strömtryck	0,6/1,5	0,6	-	-

Värden i tabellen används för följande tillstånd och kontroller:

- *LKA – Kontroller i brottgränstillstånd*
- *LKB:a – Bruksgränstillstånd, horisontell deformation*
- *LKB:c – Bruksgränstillstånd, vertikal deformation*
- *LKC – Utmattningskontroll*

I bärighetsberäkningen antas att samtliga variabla laster kan verka på konstruktionen samtidigt i LKA. Då konstruktionen belastas av både spår- och vägtrafik anses text under [1], 2.5.2.1 (att begränsa antalet variabla laster till max fyra) inte tillämpbar för denna beräkning.

Vid beräkning av LKA, LKB:b och LKB:c kombineras och tas utdata från ogynnsammaste av spår + spår samt spår + vägtrafik, respektive sida av bro, inklusive GC-last.

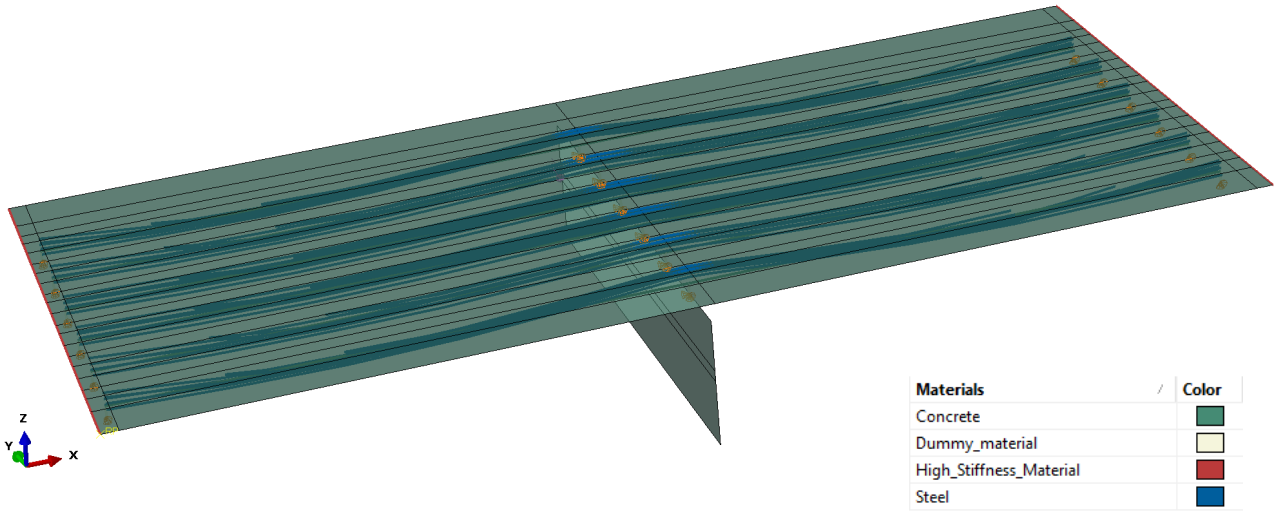
Vid beräkning av LKC kombineras och tas utdata från ogynnsammaste av spår + spår.

Spännkraft tas inte med i lastkombinering vid utdata i tvärkraftskontrollen för beräkning enligt BBK 04.

6 - SYSTEMSKISS OCH RANDVILLKOR

Enligt [2]

Figur 6-1 nedan visar FE-modellen från BRIGADE/Plus som använts i denna bärighetsberäkning.



Figur 6-1: FE-modell från BRIGADE/Plus

Vid utdata av normalkrafter används material "Concrete_ortho" på plattans skalelement, se kap. 3.1.2.
För att begränsa storlek på rapport redovisas endast indata för ovan modell.

6.1 Randvillkor för överbyggnad

Se [2] 3 samt systemskiss [2] 6.
Se även kap. 3.2 för kopplingar som använts mellan balk-spännkablar-platta.

Beräkningen utförs som spännarmerad bro med balkar på lager.

- Rörligt lager, 12st, vid stöd 1 och 3 är låsta med boundary condition i U1 och U3.

- Fast lager, 6st, vid stöd 2 är låsta med boundary condition i U1, U2 och U3.

Mellan centrum balkar och nivå för lager är en vertikal Dummy_beam modellerad för att få ned laster till lagernivå.

6.2 Randvillkor för grundläggning

Se [2] 3.

Bron är grundlagd på träpålgrundlagda landfästen med ensidigt rörliga lager (stöd 1 och stöd 3) samt fast lager på träpålgrundlagt mellanstöd (stöd 2).

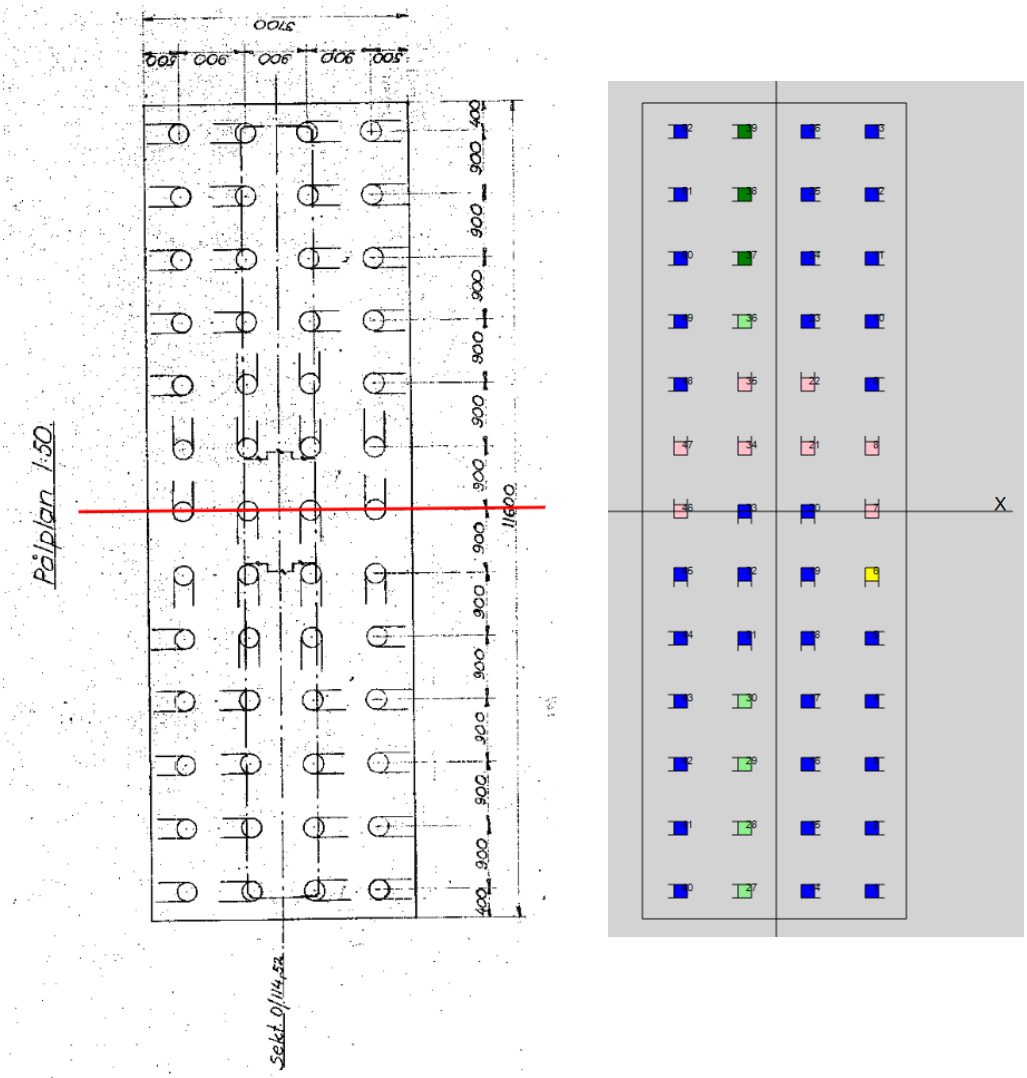
Beräkning av träpålgrupp beräknas enligt Bilaga 1.

Stöd 2 modelleras som en fjäderbädd med följande egenskaper:

Antagen pålgrupp från relationshandling och infört i caeEc701 Rymdpålgrupp, se Figur 6-2 samt Bilaga 1.

Medeldiameter påle:

$$\frac{((5 \cdot 25)\ mm + ((5 \cdot 25)\ mm + 10\ mm \cdot 15.1))}{2} = 200.5\ mm$$



Figur 6-2: Pålgrupp relationshandling samt CaEApp

Vid beräkning av styvhet hos stödet används nedan antaganden.

$E_{t.påle} := 12 \cdot GPa$ Elasticitetsmodul trä

$G_t := 5 \cdot GPa$ (minsta värde i programmet)

$k_d := 200\ kPa$ Sidomotstånd, se Bilaga 9

$$F_x := \frac{1000 \cdot kN}{31.39 \cdot mm} \qquad F_x = \left(3.18573 \cdot 10^7\right) \frac{N}{m}$$

$$F_y := \frac{1000 \cdot kN}{29.61 \cdot mm} \qquad F_y = \left(3.37724 \cdot 10^7\right) \frac{N}{m}$$

$$F_z := \frac{1000 \cdot kN}{0.81 \cdot mm} \qquad F_z = \left(1.23457 \cdot 10^9\right) \frac{N}{m}$$

$$M_x := \frac{1000 \cdot kN \cdot m}{0.07 \cdot \frac{rad}{1000}} \qquad M_x = \left(1.4286 \cdot 10^{10}\right) \frac{N \cdot m}{rad}$$

$$M_y := \frac{1000 \cdot kN \cdot m}{1.63 \cdot \frac{rad}{1000}} \qquad M_y = \left(6.13497 \cdot 10^8\right) \frac{N \cdot m}{rad}$$

$$M_z := \frac{1000 \cdot kN \cdot m}{1.01 \cdot \frac{rad}{1000}} \qquad M_z = \left(9.90099 \cdot 10^8\right) \frac{N \cdot m}{rad}$$

Indata används i BRIGADE/Plus med nedan beteckningar:

Aktion:	Reaktion BRIGADE/Plus:
Fx (kN/m)	D11 (kN/m)
Fy (kN/m)	D22 (kN/m)
Fz (kN/m)	D33 (kN/m)
Mx (kNm/rad)	D44 (kNm/rad)
My (kNm/rad)	D55 (kNm/rad)
Mz (kNm/rad)	D66 (kNm/rad)

7 - BERÄKNADE SNITT- OCH REAKTIONSKRAFTER

Beräknade snitt redovisas i Bilaga 4, där alla resultatlinjer visas.

8 - KAPACITETSBERÄKNING

Armeringsmängder, dimensioner och täckande betongskikt enligt [2] och ritningar angivna där.

I brottgränstillstånd ska armering kontrolleras.

I bruksgränstillstånd kontrolleras spänningar för spännarmering i balkar.

Skarv- och förankringslängder beräknas enligt [3], 8.4 och 8.7.

Momentkapacitet

För att bedöma inverkan av järn som förankrats i ett snitt bortom det studerade snittet har armeringen antagits ha full verkan en förankringslängd plus en förskjutning bortom armeringens ände.

Att förskjutningen av dragkraftskurvan enligt [1], 4.2.3.3 tas hänsyn på detta sätt innebär att kapacitetskurvan förskjuts istället för momentkurvan.

Tvärkraftskapacitet

Tvärkraftskapacitet beräknas enligt [1], 10.2.2 samt [8], 3.7.3.2.

Interaktion mellan tvärkraft och vridning kontrolleras också.

Kontroll av deformationer

Vertikala deformationer i konstruktionens längs- och tvärriktning kontrolleras.

I bilaga 6 återfinns kontrollerna. Se kapitel 1 för sammanställda deformationer.

Kontroll av utmattning

Kontroll av utmattning enligt den förenklade metoden enligt [3] kapitel 6.8.6 samt 6.8.7.

I bilaga 8 och bilaga 10 återfinns kontroll av utmattning.

Kontroll av pålgrupp

Kontroll av pålgrupp ingår i denna bärighetsberäkning. Se bilaga 9.

Kontroll av lager

Kontroll av lagerkrafter ingår i denna bärighetsberäkning. Se bilaga 12.

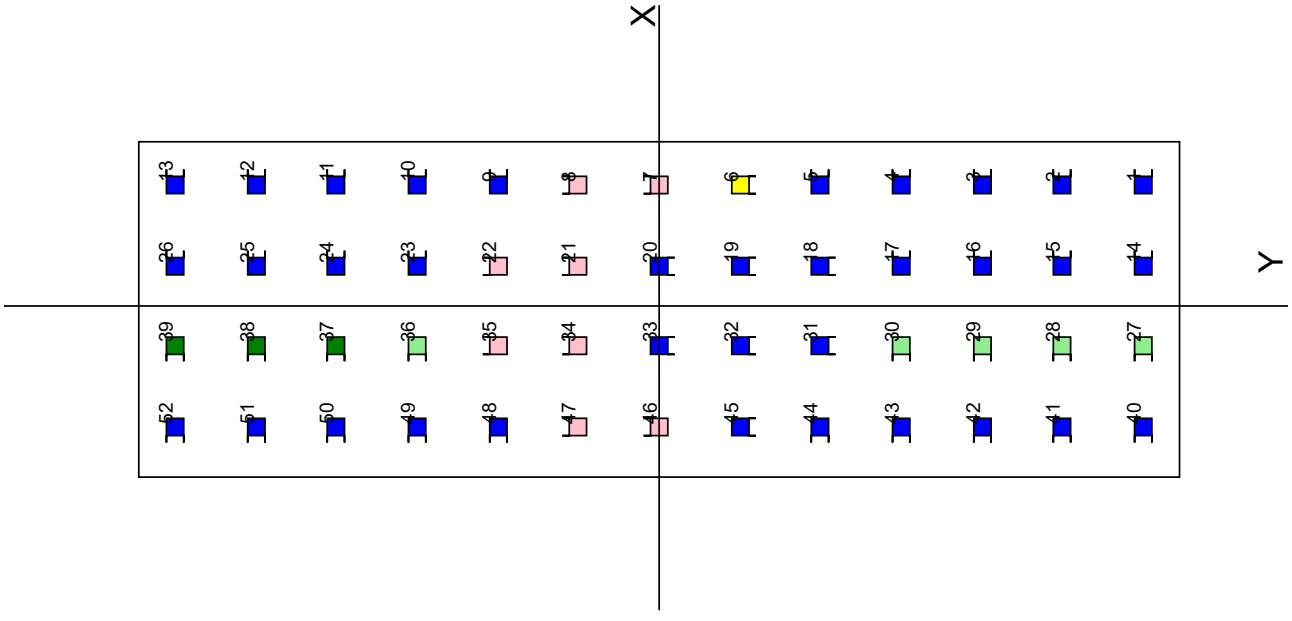
BILAGA 1

Pålgrupp till rotationsfjäder mellanstöd

Bilaga 1

Bjerking AB

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8



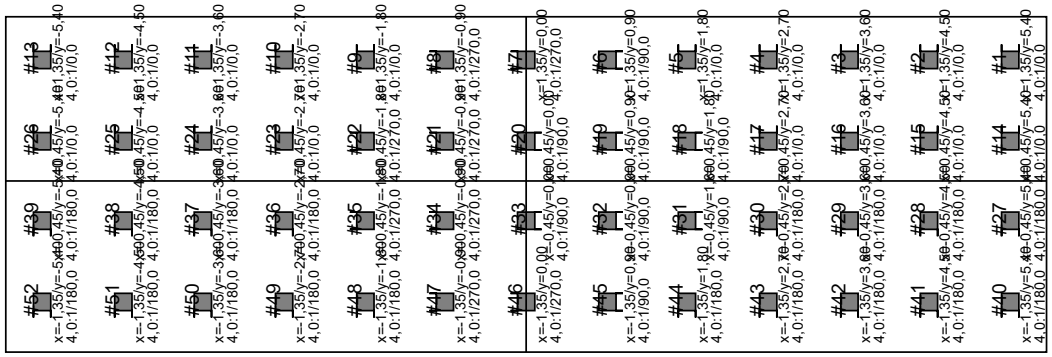
----------1----------

Beräkningen utförd av:ALM 2023-05-10 20:23:46
J:\2020\20U0977\K\Dokument\Beräkning\Islandsbron_Bärighetsberäkning\isbron_mitt_fjäderkonstant.xml

Bilaga 1

Bjerking AB

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8



Bjerking AB Bilaga 1

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Rymdpålgrupp

Systemdata----------

Cirkulära påltyper----------

Data nr	Insp	E GPa	G GPa	d mm	Längd m	Lfri m	kd kPa	nh MN/m3
1	N	12,0	5,0	201	15,10	0,00	200	

Geometri----------

Påle nr	Påltyp nr	Alpha grad	x m	y m	Lutning N: 1	Längd
1	1	0	1,35	5,40	4,00	
2	1	0	1,35	4,50	4,00	
3	1	0	1,35	3,60	4,00	
4	1	0	1,35	2,70	4,00	
5	1	0	1,35	1,80	4,00	
6	1	90	1,35	0,90	4,00	
7	1	270	1,35	0,00	4,00	
8	1	270	1,35	-0,90	4,00	
9	1	0	1,35	-1,80	4,00	
10	1	0	1,35	-2,70	4,00	
11	1	0	1,35	-3,60	4,00	
12	1	0	1,35	-4,50	4,00	
13	1	0	1,35	-5,40	4,00	
14	1	0	0,45	5,40	4,00	
15	1	0	0,45	4,50	4,00	
16	1	0	0,45	3,60	4,00	
17	1	0	0,45	2,70	4,00	
18	1	90	0,45	1,80	4,00	
19	1	90	0,45	0,90	4,00	
20	1	90	0,45	0,00	4,00	
21	1	270	0,45	-0,90	4,00	
22	1	270	0,45	-1,80	4,00	
23	1	0	0,45	-2,70	4,00	
24	1	0	0,45	-3,60	4,00	
25	1	0	0,45	-4,50	4,00	
26	1	0	0,45	-5,40	4,00	
27	1	180	-0,45	5,40	4,00	
28	1	180	-0,45	4,50	4,00	
29	1	180	-0,45	3,60	4,00	
30	1	180	-0,45	2,70	4,00	
31	1	90	-0,45	1,80	4,00	
32	1	90	-0,45	0,90	4,00	
33	1	90	-0,45	0,00	4,00	
34	1	270	-0,45	-0,90	4,00	
35	1	270	-0,45	-1,80	4,00	
36	1	180	-0,45	-2,70	4,00	
37	1	180	-0,45	-3,60	4,00	
38	1	180	-0,45	-4,50	4,00	
39	1	180	-0,45	-5,40	4,00	
40	1	180	-1,35	5,40	4,00	
41	1	180	-1,35	4,50	4,00	
42	1	180	-1,35	3,60	4,00	
43	1	180	-1,35	2,70	4,00	
44	1	180	-1,35	1,80	4,00	
45	1	90	-1,35	0,90	4,00	
46	1	270	-1,35	0,00	4,00	
47	1	270	-1,35	-0,90	4,00	
48	1	180	-1,35	-1,80	4,00	
49	1	180	-1,35	-2,70	4,00	
50	1	180	-1,35	-3,60	4,00	

Bilaga 1

Bjerking AB

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Geometri----------

Påle nr	Páltyp nr	Alpha grad	x m	y m	Lutning N: 1	Längd
51	1	180	-1,35	-4,50	4,00	
52	1	180	-1,35	-5,40	4,00	

Laster----------

Nr	Krafter PxEd kN	PyEd kN	PzEd kN	Moment MxEd kNm	MyEd kNm	MzEd kNm
1	1000,0	0,0	0,0	0,0	0,0	0,0
2	0,0	1000,0	0,0	0,0	0,0	0,0
3	0,0	0,0	1000,0	0,0	0,0	0,0
4	0,0	0,0	0,0	1000,0	0,0	0,0
5	0,0	0,0	0,0	0,0	1000,0	0,0
6	0,0	0,0	0,0	0,0	0,0	1000,0

Lastkombinationer enligt BFS 2019:1 - EKS 11----------

Pålcentrum för resp lastriktning.....

Lastriktning	x m	y m	z
X		0,00	-3,15
Y	0,00		-2,46
Z	0,00	0,00	

Pålgruppens deformationer redovisas i plintorigo----------

Last nr	Förskjutningar x mm	y mm	z mm	Rotationer promille x %.	y %.	z %.
1	31,93	0,00	0,00	0,00	5,14	-0,10
2	0,00	29,61	0,00	-0,18	0,00	0,00
3	0,00	0,00	0,81	0,00	0,00	0,00
4	0,00	-0,18	0,00	0,07	0,00	0,00
5	5,14	0,00	0,00	0,00	1,63	-0,03
6	-0,10	0,00	0,00	0,00	-0,03	1,01

Utskrift krafter----------

Last nr	Påle nr	Kraft Vx kN	Vy kN	Vmax kN	N kN	Moment Mx kNm	My kNm	Minsp kNm	Mmax kNm	z m	T kN
1	1	7	0	7	29	0	0	0	5	1,6	0
1	2	7	0	7	28	0	0	0	5	1,6	0
1	3	7	0	7	28	0	0	0	5	1,6	0
1	4	7	0	7	27	0	0	0	5	1,6	0
1	5	7	0	7	26	0	0	0	5	1,6	0
1	6	0	-7	7	-170	0	0	0	5	1,6	0
1	7	0	7	7	-168	0	0	0	4	1,6	0
1	8	0	7	7	-168	0	0	0	4	1,6	0
1	9	7	0	7	24	0	0	0	5	1,6	0
1	10	7	0	7	24	0	0	0	5	1,6	0

Bilaga 1

Bjerking AB

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last nr	Påle nr	Vx kN	Vy kN	Vmax kN	N kN	Mx kNm	My kNm	Minsp kNm	Mmax kNm	z m	T kN
1	11	7	0	7	23	0	0	0	5	1,6	0
1	12	7	0	7	23	0	0	0	5	1,6	0
1	13	7	0	7	22	0	0	0	5	1,6	0
1	14	7	0	7	141	0	0	0	5	1,6	0
1	15	7	0	7	141	0	0	0	4	1,6	0
1	16	7	0	7	140	0	0	0	4	1,6	0
1	17	7	0	7	140	0	0	0	4	1,6	0
1	18	0	-7	7	-57	0	0	0	5	1,6	0
1	19	0	-7	7	-57	0	0	0	5	1,6	0
1	20	0	-7	7	-57	0	0	0	4	1,6	0
1	21	0	7	7	-56	0	0	0	4	1,6	0
1	22	0	7	7	-56	0	0	0	4	1,6	0
1	23	7	0	7	136	0	0	0	4	1,6	0
1	24	7	0	7	136	0	0	0	4	1,6	0
1	25	6	0	6	135	0	0	0	4	1,6	0
1	26	6	0	6	135	0	0	0	4	1,6	0
1	27	-7	0	7	-141	0	0	0	5	1,6	0
1	28	-7	0	7	-141	0	0	0	4	1,6	0
1	29	-7	0	7	-140	0	0	0	4	1,6	0
1	30	-7	0	7	-140	0	0	0	4	1,6	0
1	31	0	-7	7	57	0	0	0	5	1,6	0
1	32	0	-7	7	57	0	0	0	5	1,6	0
1	33	0	-7	7	57	0	0	0	4	1,6	0
1	34	0	7	7	56	0	0	0	4	1,6	0
1	35	0	7	7	56	0	0	0	4	1,6	0
1	36	-7	0	7	-136	0	0	0	4	1,6	0
1	37	-7	0	7	-136	0	0	0	4	1,6	0
1	38	-6	0	6	-135	0	0	0	4	1,6	0
1	39	-6	0	6	-135	0	0	0	4	1,6	0
1	40	-7	0	7	-29	0	0	0	5	1,6	0
1	41	-7	0	7	-28	0	0	0	5	1,6	0
1	42	-7	0	7	-28	0	0	0	5	1,6	0
1	43	-7	0	7	-27	0	0	0	5	1,6	0
1	44	-7	0	7	-26	0	0	0	5	1,6	0
1	45	0	-7	7	170	0	0	0	5	1,6	0
1	46	0	7	7	168	0	0	0	4	1,6	0
1	47	0	7	7	168	0	0	0	4	1,6	0
1	48	-7	0	7	-24	0	0	0	5	1,6	0
1	49	-7	0	7	-24	0	0	0	5	1,6	0
1	50	-7	0	7	-23	0	0	0	5	1,6	0
1	51	-7	0	7	-23	0	0	0	5	1,6	0
1	52	-7	0	7	-22	0	0	0	5	1,6	0
1	min	-7	-7	6	-170	0	0	0	4	1,6	0
1	max	7	7	7	170	0	0	0	5	1,6	0
2	1	0	6	6	-24	0	0	0	4	1,6	0
2	2	0	6	6	-20	0	0	0	4	1,6	0
2	3	0	6	6	-16	0	0	0	4	1,6	0
2	4	0	6	6	-12	0	0	0	4	1,6	0
2	5	0	6	6	-8	0	0	0	4	1,6	0
2	6	6	0	6	176	0	0	0	4	1,6	0
2	7	-6	0	6	-180	0	0	0	4	1,6	0
2	8	-6	0	6	-176	0	0	0	4	1,6	0
2	9	0	6	6	8	0	0	0	4	1,6	0

Bjerking AB Bilaga 1

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
2	10	0	6	6	12	0	0	0	4	1,6	0
2	11	0	6	6	16	0	0	0	4	1,6	0
2	12	0	6	6	20	0	0	0	4	1,6	0
2	13	0	6	6	24	0	0	0	4	1,6	0
2	14	0	6	6	-24	0	0	0	4	1,6	0
2	15	0	6	6	-20	0	0	0	4	1,6	0
2	16	0	6	6	-16	0	0	0	4	1,6	0
2	17	0	6	6	-12	0	0	0	4	1,6	0
2	18	6	0	6	172	0	0	0	4	1,6	0
2	19	6	0	6	176	0	0	0	4	1,6	0
2	20	6	0	6	180	0	0	0	4	1,6	0
2	21	-6	0	6	-176	0	0	0	4	1,6	0
2	22	-6	0	6	-172	0	0	0	4	1,6	0
2	23	0	6	6	12	0	0	0	4	1,6	0
2	24	0	6	6	16	0	0	0	4	1,6	0
2	25	0	6	6	20	0	0	0	4	1,6	0
2	26	0	6	6	24	0	0	0	4	1,6	0
2	27	0	-6	6	-24	0	0	0	4	1,6	0
2	28	0	-6	6	-20	0	0	0	4	1,6	0
2	29	0	-6	6	-16	0	0	0	4	1,6	0
2	30	0	-6	6	-12	0	0	0	4	1,6	0
2	31	6	0	6	172	0	0	0	4	1,6	0
2	32	6	0	6	176	0	0	0	4	1,6	0
2	33	6	0	6	180	0	0	0	4	1,6	0
2	34	-6	0	6	-176	0	0	0	4	1,6	0
2	35	-6	0	6	-172	0	0	0	4	1,6	0
2	36	0	-6	6	12	0	0	0	4	1,6	0
2	37	0	-6	6	16	0	0	0	4	1,6	0
2	38	0	-6	6	20	0	0	0	4	1,6	0
2	39	0	-6	6	24	0	0	0	4	1,6	0
2	40	0	-6	6	-24	0	0	0	4	1,6	0
2	41	0	-6	6	-20	0	0	0	4	1,6	0
2	42	0	-6	6	-16	0	0	0	4	1,6	0
2	43	0	-6	6	-12	0	0	0	4	1,6	0
2	44	0	-6	6	-8	0	0	0	4	1,6	0
2	45	6	0	6	176	0	0	0	4	1,6	0
2	46	-6	0	6	-180	0	0	0	4	1,6	0
2	47	-6	0	6	-176	0	0	0	4	1,6	0
2	48	0	-6	6	8	0	0	0	4	1,6	0
2	49	0	-6	6	12	0	0	0	4	1,6	0
2	50	0	-6	6	16	0	0	0	4	1,6	0
2	51	0	-6	6	20	0	0	0	4	1,6	0
2	52	0	-6	6	24	0	0	0	4	1,6	0
2	min	-6	-6	6	-180	0	0	0	4	1,6	0
2	max	6	6	6	180	0	0	0	4	1,6	0
3	1	0	0	0	20	0	0	0	0	1,6	0
3	2	0	0	0	20	0	0	0	0	1,6	0
3	3	0	0	0	20	0	0	0	0	1,6	0
3	4	0	0	0	20	0	0	0	0	1,6	0
3	5	0	0	0	20	0	0	0	0	1,6	0
3	6	0	0	0	20	0	0	0	0	1,6	0
3	7	0	0	0	20	0	0	0	0	1,6	0
3	8	0	0	0	20	0	0	0	0	1,6	0

Bilaga 1

Bjerking AB

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
3	9	0	0	0	20	0	0	0	0	1,6	0
3	10	0	0	0	20	0	0	0	0	1,6	0
3	11	0	0	0	20	0	0	0	0	1,6	0
3	12	0	0	0	20	0	0	0	0	1,6	0
3	13	0	0	0	20	0	0	0	0	1,6	0
3	14	0	0	0	20	0	0	0	0	1,6	0
3	15	0	0	0	20	0	0	0	0	1,6	0
3	16	0	0	0	20	0	0	0	0	1,6	0
3	17	0	0	0	20	0	0	0	0	1,6	0
3	18	0	0	0	20	0	0	0	0	1,6	0
3	19	0	0	0	20	0	0	0	0	1,6	0
3	20	0	0	0	20	0	0	0	0	1,6	0
3	21	0	0	0	20	0	0	0	0	1,6	0
3	22	0	0	0	20	0	0	0	0	1,6	0
3	23	0	0	0	20	0	0	0	0	1,6	0
3	24	0	0	0	20	0	0	0	0	1,6	0
3	25	0	0	0	20	0	0	0	0	1,6	0
3	26	0	0	0	20	0	0	0	0	1,6	0
3	27	0	0	0	20	0	0	0	0	1,6	0
3	28	0	0	0	20	0	0	0	0	1,6	0
3	29	0	0	0	20	0	0	0	0	1,6	0
3	30	0	0	0	20	0	0	0	0	1,6	0
3	31	0	0	0	20	0	0	0	0	1,6	0
3	32	0	0	0	20	0	0	0	0	1,6	0
3	33	0	0	0	20	0	0	0	0	1,6	0
3	34	0	0	0	20	0	0	0	0	1,6	0
3	35	0	0	0	20	0	0	0	0	1,6	0
3	36	0	0	0	20	0	0	0	0	1,6	0
3	37	0	0	0	20	0	0	0	0	1,6	0
3	38	0	0	0	20	0	0	0	0	1,6	0
3	39	0	0	0	20	0	0	0	0	1,6	0
3	40	0	0	0	20	0	0	0	0	1,6	0
3	41	0	0	0	20	0	0	0	0	1,6	0
3	42	0	0	0	20	0	0	0	0	1,6	0
3	43	0	0	0	20	0	0	0	0	1,6	0
3	44	0	0	0	20	0	0	0	0	1,6	0
3	45	0	0	0	20	0	0	0	0	1,6	0
3	46	0	0	0	20	0	0	0	0	1,6	0
3	47	0	0	0	20	0	0	0	0	1,6	0
3	48	0	0	0	20	0	0	0	0	1,6	0
3	49	0	0	0	20	0	0	0	0	1,6	0
3	50	0	0	0	20	0	0	0	0	1,6	0
3	51	0	0	0	20	0	0	0	0	1,6	0
3	52	0	0	0	20	0	0	0	0	1,6	0
3	min	0	0	0	20	0	0	0	0	1,6	0
3	max	0	0	0	20	0	0	0	0	1,6	0
4	1	0	0	0	10	0	0	0	0	1,6	0
4	2	0	0	0	8	0	0	0	0	1,6	0
4	3	0	0	0	6	0	0	0	0	1,6	0
4	4	0	0	0	5	0	0	0	0	1,6	0
4	5	0	0	0	3	0	0	0	0	1,6	0
4	6	0	0	0	1	0	0	0	0	1,6	0
4	7	0	0	0	1	0	0	0	0	1,6	0

Bilaga 1

Bjerking AB

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
4	8	0	0	0	-1	0	0	0	0	1,6	0
4	9	0	0	0	-3	0	0	0	0	1,6	0
4	10	0	0	0	-5	0	0	0	0	1,6	0
4	11	0	0	0	-6	0	0	0	0	1,6	0
4	12	0	0	0	-8	0	0	0	0	1,6	0
4	13	0	0	0	-10	0	0	0	0	1,6	0
4	14	0	0	0	10	0	0	0	0	1,6	0
4	15	0	0	0	8	0	0	0	0	1,6	0
4	16	0	0	0	6	0	0	0	0	1,6	0
4	17	0	0	0	5	0	0	0	0	1,6	0
4	18	0	0	0	2	0	0	0	0	1,6	0
4	19	0	0	0	1	0	0	0	0	1,6	0
4	20	0	0	0	-1	0	0	0	0	1,6	0
4	21	0	0	0	-1	0	0	0	0	1,6	0
4	22	0	0	0	-2	0	0	0	0	1,6	0
4	23	0	0	0	-5	0	0	0	0	1,6	0
4	24	0	0	0	-6	0	0	0	0	1,6	0
4	25	0	0	0	-8	0	0	0	0	1,6	0
4	26	0	0	0	-10	0	0	0	0	1,6	0
4	27	0	0	0	10	0	0	0	0	1,6	0
4	28	0	0	0	8	0	0	0	0	1,6	0
4	29	0	0	0	6	0	0	0	0	1,6	0
4	30	0	0	0	5	0	0	0	0	1,6	0
4	31	0	0	0	2	0	0	0	0	1,6	0
4	32	0	0	0	1	0	0	0	0	1,6	0
4	33	0	0	0	-1	0	0	0	0	1,6	0
4	34	0	0	0	-1	0	0	0	0	1,6	0
4	35	0	0	0	-2	0	0	0	0	1,6	0
4	36	0	0	0	-5	0	0	0	0	1,6	0
4	37	0	0	0	-6	0	0	0	0	1,6	0
4	38	0	0	0	-8	0	0	0	0	1,6	0
4	39	0	0	0	-10	0	0	0	0	1,6	0
4	40	0	0	0	10	0	0	0	0	1,6	0
4	41	0	0	0	8	0	0	0	0	1,6	0
4	42	0	0	0	6	0	0	0	0	1,6	0
4	43	0	0	0	5	0	0	0	0	1,6	0
4	44	0	0	0	3	0	0	0	0	1,6	0
4	45	0	0	0	1	0	0	0	0	1,6	0
4	46	0	0	0	1	0	0	0	0	1,6	0
4	47	0	0	0	-1	0	0	0	0	1,6	0
4	48	0	0	0	-3	0	0	0	0	1,6	0
4	49	0	0	0	-5	0	0	0	0	1,6	0
4	50	0	0	0	-6	0	0	0	0	1,6	0
4	51	0	0	0	-8	0	0	0	0	1,6	0
4	52	0	0	0	-10	0	0	0	0	1,6	0
4	min	0	0	0	-10	0	0	0	0	1,6	0
4	max	0	0	0	10	0	0	0	0	1,6	0
5	1	1	0	1	-21	0	0	0	1	1,6	0
5	2	1	0	1	-21	0	0	0	1	1,6	0
5	3	1	0	1	-22	0	0	0	1	1,6	0
5	4	1	0	1	-22	0	0	0	1	1,6	0
5	5	1	0	1	-22	0	0	0	1	1,6	0
5	6	0	-1	1	-54	0	0	0	1	1,6	0

Bjerking AB

Box 1351 751 43 UPPSALA

Bilaga 1

Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
5	7	0	1	1	-53	0	0	0	1	1,6	0
5	8	0	1	1	-53	0	0	0	1	1,6	0
5	9	1	0	1	-23	0	0	0	1	1,6	0
5	10	1	0	1	-23	0	0	0	1	1,6	0
5	11	1	0	1	-23	0	0	0	1	1,6	0
5	12	1	0	1	-23	0	0	0	1	1,6	0
5	13	1	0	1	-23	0	0	0	1	1,6	0
5	14	1	0	1	14	0	0	0	1	1,6	0
5	15	1	0	1	14	0	0	0	1	1,6	0
5	16	1	0	1	14	0	0	0	1	1,6	0
5	17	1	0	1	14	0	0	0	1	1,6	0
5	18	0	-1	1	-18	0	0	0	1	1,6	0
5	19	0	-1	1	-18	0	0	0	1	1,6	0
5	20	0	-1	1	-18	0	0	0	1	1,6	0
5	21	0	1	1	-18	0	0	0	1	1,6	0
5	22	0	1	1	-18	0	0	0	1	1,6	0
5	23	1	0	1	13	0	0	0	1	1,6	0
5	24	1	0	1	13	0	0	0	1	1,6	0
5	25	1	0	1	13	0	0	0	1	1,6	0
5	26	1	0	1	12	0	0	0	1	1,6	0
5	27	-1	0	1	-14	0	0	0	1	1,6	0
5	28	-1	0	1	-14	0	0	0	1	1,6	0
5	29	-1	0	1	-14	0	0	0	1	1,6	0
5	30	-1	0	1	-14	0	0	0	1	1,6	0
5	31	0	-1	1	18	0	0	0	1	1,6	0
5	32	0	-1	1	18	0	0	0	1	1,6	0
5	33	0	-1	1	18	0	0	0	1	1,6	0
5	34	0	1	1	18	0	0	0	1	1,6	0
5	35	0	1	1	18	0	0	0	1	1,6	0
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5	37	-1	0	1	-13	0	0	0	1	1,6	0
5	38	-1	0	1	-13	0	0	0	1	1,6	0
5	39	-1	0	1	-12	0	0	0	1	1,6	0
5	40	-1	0	1	21	0	0	0	1	1,6	0
5	41	-1	0	1	21	0	0	0	1	1,6	0
5	42	-1	0	1	22	0	0	0	1	1,6	0
5	43	-1	0	1	22	0	0	0	1	1,6	0
5	44	-1	0	1	22	0	0	0	1	1,6	0
5	45	0	-1	1	54	0	0	0	1	1,6	0
5	46	0	1	1	53	0	0	0	1	1,6	0
5	47	0	1	1	53	0	0	0	1	1,6	0
5	48	-1	0	1	23	0	0	0	1	1,6	0
5	49	-1	0	1	23	0	0	0	1	1,6	0
5	50	-1	0	1	23	0	0	0	1	1,6	0
5	51	-1	0	1	23	0	0	0	1	1,6	0
5	52	-1	0	1	23	0	0	0	1	1,6	0
5	min	-1	-1	1	-54	0	0	0	1	1,6	0
5	max	1	1	1	54	0	0	0	1	1,6	0
6	1	-1	0	1	-33	0	0	0	1	1,6	0
6	2	-1	0	1	-27	0	0	0	1	1,6	0
6	3	-1	0	1	-22	0	0	0	1	1,6	0
6	4	-1	0	1	-16	0	0	0	0	1,6	0
6	5	0	0	0	-11	0	0	0	0	1,6	0

Bilaga 1

Bjerking AB

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

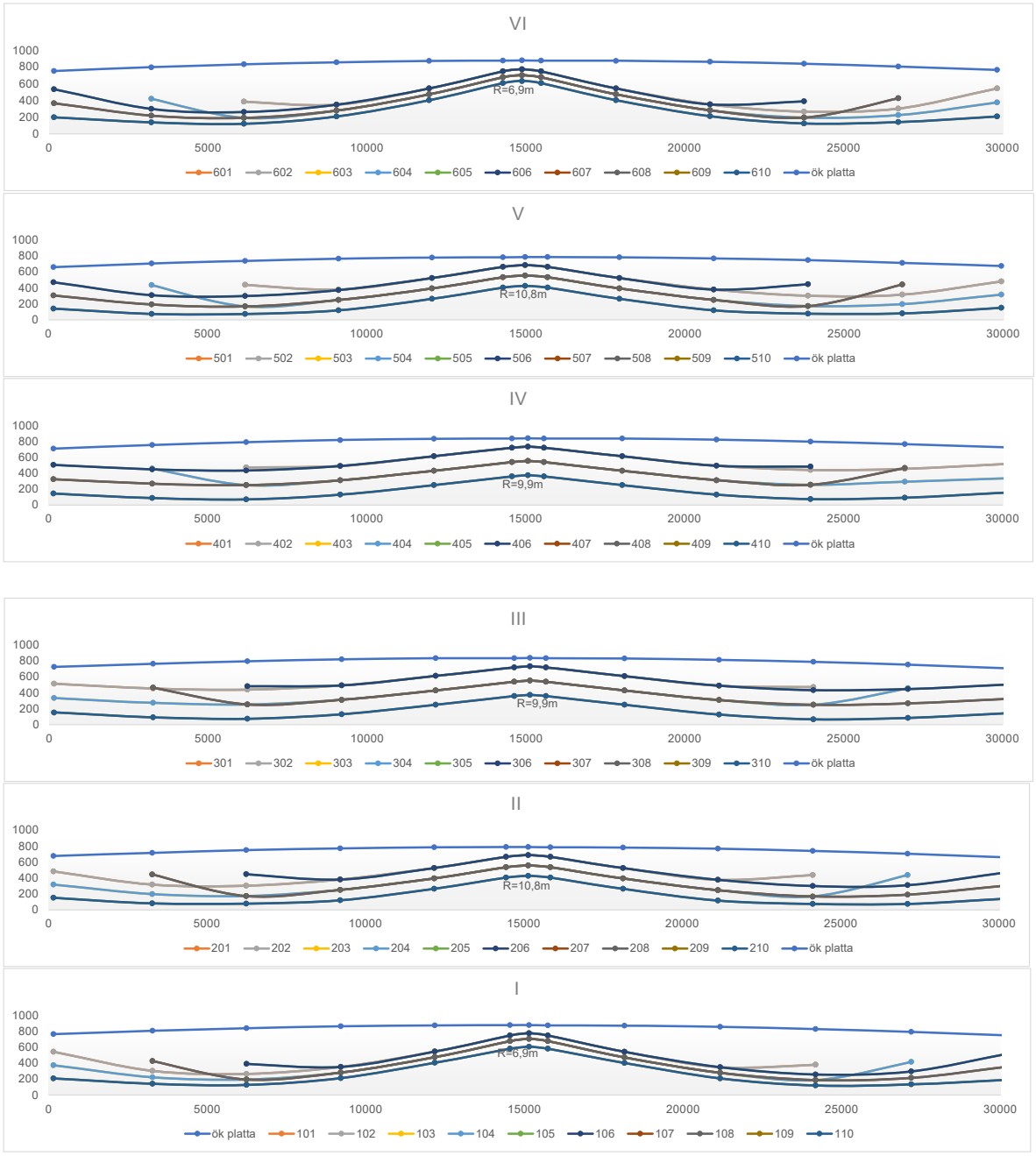
		Kraft				Moment					
Last nr	Påle nr	Vx kN	Vy kN	Vmax kN	N kN	Mx kNm	My kNm	Minsp kNm	Mmax kNm	z m	T kN
6	6	0	0	0	9	0	0	0	0	1,6	0
6	7	0	0	0	-7	0	0	0	0	1,6	0
6	8	0	0	0	-7	0	0	0	0	1,6	0
6	9	0	0	0	12	0	0	0	0	1,6	0
6	10	1	0	1	17	0	0	0	0	1,6	0
6	11	1	0	1	23	0	0	0	1	1,6	0
6	12	1	0	1	28	0	0	0	1	1,6	0
6	13	1	0	1	34	0	0	0	1	1,6	0
6	14	-1	0	1	-34	0	0	0	1	1,6	0
6	15	-1	0	1	-28	0	0	0	1	1,6	0
6	16	-1	0	1	-22	0	0	0	1	1,6	0
6	17	-1	0	1	-17	0	0	0	0	1,6	0
6	18	0	0	0	3	0	0	0	0	1,6	0
6	19	0	0	0	3	0	0	0	0	1,6	0
6	20	0	0	0	3	0	0	0	0	1,6	0
6	21	0	0	0	-2	0	0	0	0	1,6	0
6	22	0	0	0	-2	0	0	0	0	1,6	0
6	23	1	0	1	16	0	0	0	0	1,6	0
6	24	1	0	1	22	0	0	0	0	1,6	0
6	25	1	0	1	27	0	0	0	1	1,6	0
6	26	1	0	1	33	0	0	0	1	1,6	0
6	27	1	0	1	34	0	0	0	1	1,6	0
6	28	1	0	1	28	0	0	0	1	1,6	0
6	29	1	0	1	22	0	0	0	1	1,6	0
6	30	1	0	1	17	0	0	0	0	1,6	0
6	31	0	0	0	-3	0	0	0	0	1,6	0
6	32	0	0	0	-3	0	0	0	0	1,6	0
6	33	0	0	0	-3	0	0	0	0	1,6	0
6	34	0	0	0	2	0	0	0	0	1,6	0
6	35	0	0	0	2	0	0	0	0	1,6	0
6	36	-1	0	1	-16	0	0	0	0	1,6	0
6	37	-1	0	1	-22	0	0	0	0	1,6	0
6	38	-1	0	1	-27	0	0	0	1	1,6	0
6	39	-1	0	1	-33	0	0	0	1	1,6	0
6	40	1	0	1	33	0	0	0	1	1,6	0
6	41	1	0	1	27	0	0	0	1	1,6	0
6	42	1	0	1	22	0	0	0	1	1,6	0
6	43	1	0	1	16	0	0	0	0	1,6	0
6	44	0	0	0	11	0	0	0	0	1,6	0
6	45	0	0	0	-9	0	0	0	0	1,6	0
6	46	0	0	0	7	0	0	0	0	1,6	0
6	47	0	0	0	7	0	0	0	0	1,6	0
6	48	0	0	0	-12	0	0	0	0	1,6	0
6	49	-1	0	1	-17	0	0	0	0	1,6	0
6	50	-1	0	1	-23	0	0	0	1	1,6	0
6	51	-1	0	1	-28	0	0	0	1	1,6	0
6	52	-1	0	1	-34	0	0	0	1	1,6	0
6	min	-1	0	0	-34	0	0	0	0	1,6	0
6	max	1	0	1	34	0	0	0	1	1,6	0

BILAGA 2

Indata spännkablar

		0	1	2	3	4	*tangent*	5	*tangent*	6	7	8	9	10	
Snitt	***0***	**150**	**3215**	**6130**	**9045**	**11959**	**14274**	**14874**	**15474**	**17834**	**20794**	**23755**	**26715**	**29826**	***29976***
VI h		**750**	**794**	**828**	**853**	**869**	**872**	**875**	**873**	**871**	**858**	**835**	**802**	**762**	
601				384	348	541	744	770	744	542	351	264	302	540	
602				384	348	541	744	770	744	542	351	264	302	540	
603			418	189	278	471	674	700	674	472	281	194	222	373	
604			418	189	278	471	674	700	674	472	281	194	222	373	
605		532	297	259	348	541	744	770	744	542	351	389			
606		532	297	259	348	541	744	770	744	542	351	389			
607		365	217	189	278	471	674	700	674	472	281	194	425		
608		365	217	189	278	471	674	700	674	472	281	194	425		
609		198	136	119	208	401	604	630	604	402	211	124	141	206	
610		198	136	119	208	401	604	630	604	402	211	124	141	206	
	0	**150**	**3235**	**6169**	**9104**	**12038**	**14272**	**14972**	**15672**	**17934**	**20895**	**23857**	**26819**	**29931**	***30081***
h		**659**	**704**	**738**	**764**	**780**	**783**	**786**	**784**	**782**	**769**	**746**	**713**	**673**	
V 501				438	377	522	662	685	662	523	379	302	314	481	
502				438	377	522	662	685	662	523	379	302	314	481	
503			435	167	247	392	532	555	532	393	249	172	197	316	
504			435	167	247	392	532	555	532	393	249	172	197	316	
505		471	308	297	371	522	662	685	662	523	379	444			
506		471	308	297	371	522	662	685	662	523	379	444			
507		306	191	167	247	392	532	555	532	393	249	172	443		
508		306	191	167	247	392	532	555	532	393	249	172	443		
509		141	74	73	117	262	402	425	402	263	119	78	80	151	
510		141	74	73	117	262	402	425	402	263	119	78	80	151	
	0	**150**	**3255**	**6209**	**9163**	**12117**	**14571**	**15071**	**15571**	**18034**	**20997**	**23960**	**26923**	**30037**	***30187***
h		**706**	**751**	**786**	**812**	**828**	**831**	**834**	**832**	**830**	**817**	**794**	**761**	**721**	
IV 401				471	488	609	717	730	717	609	490	437	452	512	
402				471	488	609	717	730	717	609	490	437	452	512	
403			455	248	308	429	537	550	537	429	310	253	292	332	
404			455	248	308	429	537	550	537	429	310	253	292	332	
405		502	446	432	488	609	717	730	717	609	490	481			
406		502	446	432	488	609	717	730	717	609	490	481			
407		322	266	248	308	429	537	550	537	429	310	253	464		
408		322	266	248	308	429	537	550	537	429	310	253	464		
409		142	86	68	128	249	357	370	357	249	130	73	92	152	
410		142	86	68	128	249	357	370	357	249	130	73	92	152	

		10	9	8	7	6	*tangent*	5	*tangent*	4	3	2	1	0	
Snitt	***0***	**150**	**3265**	**6230**	**9194**	**12159**	**14624**	**15124**	**15624**	**18098**	**21072**	**24046**	**27019**	**30143**	***30293***
h		**721**	**761**	**794**	**817**	**830**	**832**	**834**	**831**	**827**	**811**	**785**	**750**	**704**	
III 301		512	452	437	490	609	717	730	717	608	487	470			
302		512	452	437	490	609	717	730	717	608	487	470			
303		332	272	253	310	429	537	550	537	428	307	247	454		
304		332	272	253	310	429	537	550	537	428	307	247	454		
305				481	490	609	717	730	717	608	487	431	445	502	
306				481	490	609	717	730	717	608	487	431	445	502	
307			464	253	310	428	537	550	537	428	307	247	265	322	
308			464	253	310	428	537	550	537	428	307	247	265	322	
309		152	92	73	130	249	357	370	357	248	127	67	85	142	
310		152	92	73	130	249	357	370	357	248	127	67	85	142	
	0	**150**	**3267**	**6233**	**9199**	**12165**	**14431**	**15131**	**15831**	**18125**	**21118**	**24112**	**27105**	**30249**	***30399***
h		**673**	**713**	**746**	**769**	**782**	**784**	**786**	**783**	**779**	**763**	**737**	**701**	**655**	
II 201		481	314	302	379	523	662	685	662	521	376	436			
202		481	314	302	379	523	662	685	662	521	376	436			
203		316	197	172	249	393	532	555	532	391	246	166	436		
204		316	197	172	249	393	532	555	532	391	246	166	436		
205				444	379	523	662	685	662	521	376	296	307	470	
206				444	379	523	662	685	662	521	376	296	307	470	
207			443	172	249	393	532	555	532	391	246	166	190	305	
208			443	172	249	393	532	555	532	391	246	166	190	305	
209		151	80	78	119	263	402	425	402	261	116	72	73	140	
210		151	80	78	119	263	402	425	402	261	116	72	73	140	
	0	**150**	**3268**	**6235**	**9203**	**12170**	**14538**	**15138**	**15738**	**18151**	**21164**	**24177**	**27190**	**30354**	***30504***
h		**762**	**802**	**835**	**858**	**871**	**873**	**875**	**872**	**868**	**852**	**825**	**789**	**742**	
I 101		540	302	264	351	542	744	770	744	540	348	378			
102		540	302	264	351	542	744	770	744	540	348	378			
103		373	222	194	281	472	674	700	674	470	278	187	413		
104		373	222	194	281	472	674	700	674	470	278	187	413		
105				389	351	542	744	770	744	540	348	257	293	527	
106				389	351	542	744	770	744	540	348	257	293	527	
107			425	194	281	472	674	700	674	470	278	187	213	360	
108			425	194	281	472	674	700	674	470	278	187	213	360	
109		206	141	124	211	402	577	603	577	400	208	117	132	193	
110		206	141	124	211	402	577	603	577	400	208	117	132	193	


VI
R=6,9m
601 602 603 604 605 606 607 608 609 610 ök platta
V
R=10,8m
501 502 503 504 505 506 507 508 509 510 ök platta
IV
R=9,9m
401 402 403 404 405 406 407 408 409 410 ök platta
III
R=9,9m
301 302 303 304 305 306 307 308 309 310 ök platta
II
R=10,8m
201 202 203 204 205 206 207 208 209 210 ök platta
I
R=6,9m
ök platta 101 102 103 104 105 106 107 108 109 110

Antaganden spännkablar

Redovisade tabeller kommer från relationshandling 3-94-Relationshandling@l (1390/2) och representerar verkligheten.
Då systemmodell har antagits till en rektangulär rak platta med icke lutande överyta behöver det göras vissa antaganden och utföras viss databehandling av tabeller.

Längsmed
Längd av farbana har bestämts i bromitt.
Start för balkar och slut för balkar har därifrån bestämts till 450mm från brobanekant.

Utifrån spännkablarnas verkliga läge i farbanan, se redovisade tabeller, har ett medel räknats ut.
I BRIGADE/Plus startar indatan vid balkens startpunkt. Längd redovisad i tabeller och relationshandlingar gäller för hela farbanans längd och inte endast balkarnas längd.
Därför dras 450mm respektive 225mm bort från medellängden.
Se uträknat medel för alla balkar nedan.

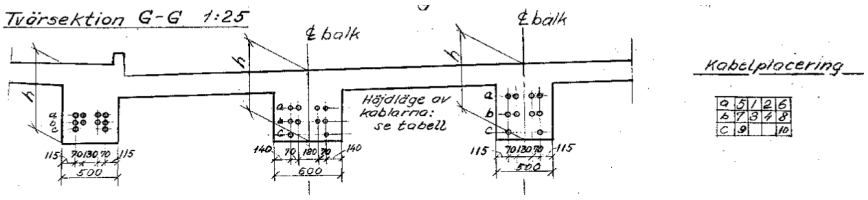
	0 Balk Start	1 Medel	2 Medel	3 Medel	4 Medel	Tangent Medel	5 Mitten medel	Tangent Medel	6 Medel	7 Medel	8 Medel	9 Medel	10 Slut Medel
I, VI	0	2801	5976	8927	11877	14227	14827	15427	17805	20782	23760	26737	29640
II, V	0	2801	5976	8927	11877	14127	14827	15527	17805	20782	23760	26737	29640
III, IV	0	2801	5976	8927	11877	14327	14827	15327	17805	20782	23760	26737	29640
		minus 450	*minus 225*	*minus 225*	*minus 225*	*minus 225*	*minus 225*	*minus 225*	*minus 225*	*minus 225*	*minus 225*	*minus 225*	*minus 450*

För att förenkla systemmodell valdes att dela upp balken längsmed i jämna uppdelningar, där n = 1…10 styrs av balklängden med formel (29,64m/10 * n)
Se uträknat använda längder för alla balkar nedan.

	0 Balk Start	1	2	3	4	Tangent	5 Mitten Hälften	Tangent	6	7	8	9	10 Slut Längd /10
I, VI	0	2964	5928	8892	11856	14220	14820	15420	17784	20748	23712	26676	29640
II, V	0	2964	5928	8892	11856	14120	14820	15520	17784	20748	23712	26676	29640
III, IV	0	2964	5928	8892	11856	14320	14820	15320	17784	20748	23712	26676	29640

Anser att längduppdelning inte skiljer sig mycket, använder därmed denna längd.

Tvärled
Tvärled ansätts enligt tvärsektion från relationshandling 3-94-Relationshandling@l (1390/2), se nedan.
I BRIGADE/Plus utgår indatan från balkens centrum.



Höjdled
För att förenkla modell har balkens varierande höjd bortsetts ifrån. Använder uträknad medelhöjd för respektive balk.
D.v.s. höjd från tabeller minus plattans tjocklek 200mm
Spännkablarnas placering utifrån överkant platta har därefter skalats för att representera verklig längd mellan spännkabel och överkant platta.
I BRIGADE/Plus utgår indatan från balkens centrum.

Se uträknat använda höjder för alla balkar nedan.

I, VI	h =	630
II, V	h =	550
III, IV	h =	600

Anser att höjd inte skiljer sig mycket, använder därmed denna höjd generellt längsmed hela balken. Detta förenklar iläggning av spännkablar i systemmodell.

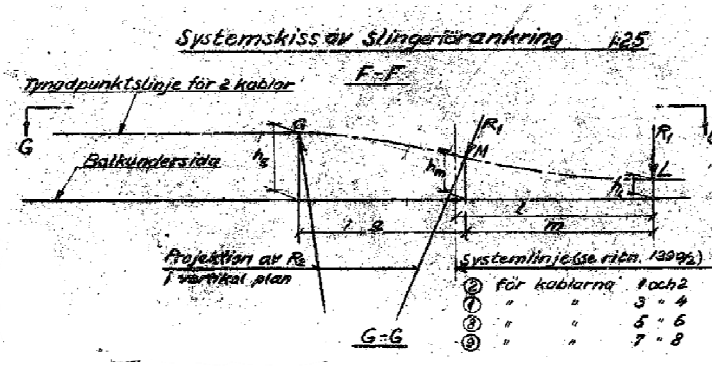
Slutantagande
Se nästkommande sida för slutlig förenkling av spännkablar som används i BRIGADE/Plus systemmodell.

Systemskiss slingförankring

Slingförankring kompletteras med höjder efter systemlinjer för respektive kabel
Gäller kablar X01-X08

Tabeller och systemskiss

Från ritning 1390/7



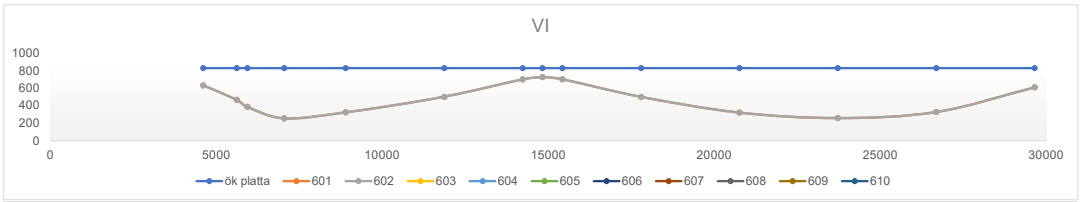
Balk nr	Kabel nr	l	m	a
I, III	3,4,7,8	1530	1530	1020
	1,2,5,6	1110	1430	1000
II, V	3,4,7,8	1800	1720	1160
	1,2,5,6	1160	1380	1000
III, IV	3,4,7,8	1570	1570	1160
	1,2,5,6	1170	1210	1120

Balk nr	Kabel nr	$h_{1,m}$	h_m	h_2	u	v	R_1(m)	R_2(m)
I	7,8	183	425	589	-15	135	48	27
	5,6	271	468	621	-27	135	53	27
	3,4	165	413	576	+55	65	50	27
	1,2	261	459	610	+63	65	53	27
II	7,8	181	418	598	-25	160	56	32
	5,6	315	498	631	-44	160	54	29
	3,4	155	417	584	+45	90	58	30
	1,2	316	489	621	+26	90	54	30
III	7,8	242	464	684	+15	135	57	37
	5,6	430	587	676	-3	135	58	37
	3,4	237	434	631	+65	65	57	37
	1,2	420	569	666	+65	65	59	37
IV	7,8	242	464	644	+15	135	57	37
	5,6	430	587	676	-3	135	58	37
	3,4	238	435	632	+65	65	57	37
	1,2	421	550	627	+65	65	59	37
V	7,8	161	418	598	-25	160	56	32
	5,6	315	498	631	-44	160	54	29
	3,4	165	410	587	+45	90	58	30
	1,2	313	491	623	+26	90	53	30
VI	7,8	183	425	589	-15	135	48	27
	5,6	271	468	621	-27	135	53	27
	3,4	164	418	580	+55	65	50	27
	1,2	267	462	614	+63	65	53	27

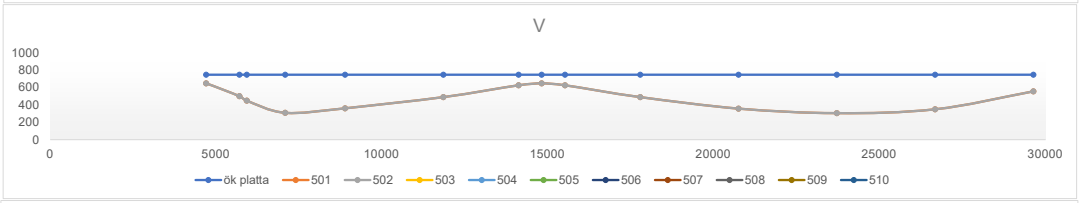
		0	1	h_a	h_m	2	h_l	3	4	*tangent*	5	*tangent*	6	7	8	9	10
	Snitt			**4598**	**5608**	**5928**	**7038**	**8892**	**11856**	**14220**	**14820**	**15420**	**17784**	**20748**	**23712**	**26676**	**29640**
VI	**h**			**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**
	601			633	466	386	257	325	502	702	725	701	501	323	259	330	608
	602			633	466	386	257	325	502	702	725	701	501	323	259	330	608
	603																
	604																
	605																
	606																
	607																
	608																
	609																
	610																
	Snitt			**4708**	**5708**	**5928**	**7088**	**8892**	**11856**	**14120**	**14820**	**15520**	**17784**	**20748**	**23712**	**26676**	**29640**
	h			**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**
V	**501**			650	503	450	309	363	492	629	649	628	491	360	306	351	558
	502			650	503	450	309	363	492	629	649	628	491	360	306	351	558
	503																
	504																
	505																
	506																
	507																
	508																
	509																
	510																
	Snitt			**4368**	**5488**	**5928**	**6698**	**8892**	**11856**	**14320**	**14820**	**15320**	**17784**	**20748**	**23712**	**26676**	**29640**
	h			**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**
IV	**401**			699	566	485	422	476	581	686	696	685	579	473	443	491	591
	402			699	566	485	422	476	581	686	696	685	579	473	443	491	591
	403																
	404																
	405																
	406																
	407																
	408																
	409																
	410																

		10	9	8	7	6	*tangent*	5	*tangent*	4	3	h_l	2	h_m	h_a	1	0
	Snitt	**0**	**2964**	**5928**	**8892**	**11856**	**14320**	**14820**	**15320**	**17784**	**20748**	**22942**	**23712**	**24152**	**25272**		
	h	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**		
III	**301**	591	491	443	473	579	685	696	687	581	476	422	485	566	699		
	302	591	491	443	473	579	685	696	687	581	476	422	485	566	699		
	303																
	304																
	305																
	306																
	307																
	308																
	309																
	310																
	Snitt	**0**	**2964**	**5928**	**8892**	**11856**	**14120**	**14820**	**15520**	**17784**	**20748**	**22552**	**23712**	**23932**	**24932**		
	h	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**		
II	**201**	558	351	306	360	491	628	649	630	492	363	310	449	505	652		
	202	558	351	306	360	491	628	649	630	492	363	310	449	505	652		
	203																
	204																
	205																
	206																
	207																
	208																
	209																
	210																
	Snitt	**0**	**2964**	**5928**	**8892**	**11856**	**14220**	**14820**	**15420**	**17784**	**20748**	**22602**	**23712**	**24032**	**25042**		
	h	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**		
I	**101**	608	330	259	323	501	701	725	703	502	326	253	383	466	633		
	102	608	330	259	323	501	701	725	703	502	326	253	383	466	633		
	103																
	104																
	105																
	106																
	107																
	108																
	109																
	110																

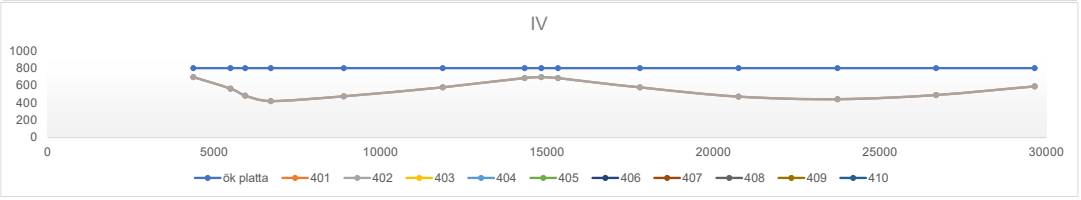
offset i sidled	
från centrum balk	
!	-65
a3	65
b2	-65
b3	65
a1	-135
a4	135
b1	-135
b4	135
c1	-135
c4	135



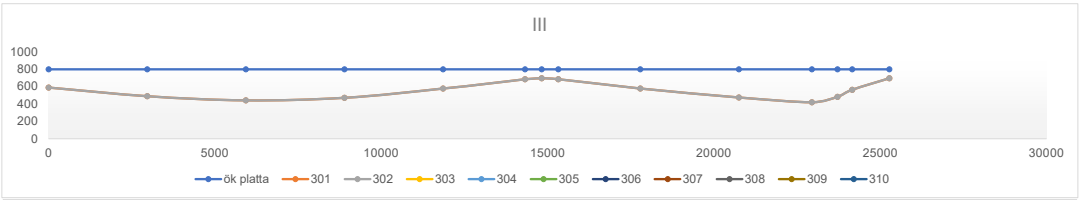
offset i sidled	
från centrum balk	
a2	-90
a3	90
b2	-90
b3	90
a1	-160
a4	160
b1	-160
b4	160
c1	-160
c4	160



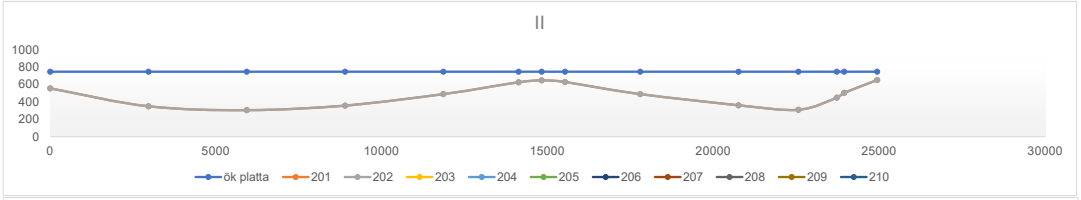
offset i sidled	
från centrum balk	
a2	-65
a3	65
b2	-65
b3	65
a1	-135
a4	135
b1	-135
b4	135
c1	-135
c4	135



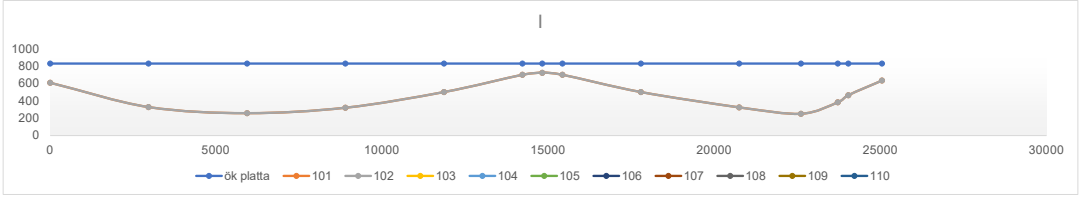
offset i sidled	
från centrum balk	
a2	-65
a3	65
b2	-65
b3	65
a1	-135
a4	135
b1	-135
b4	135
c1	-135
c4	135



offset i sidled	
från centrum balk	
a2	-90
a3	90
b2	-90
b3	90
a1	-160
a4	160
b1	-160
b4	160
c1	-160
c4	160



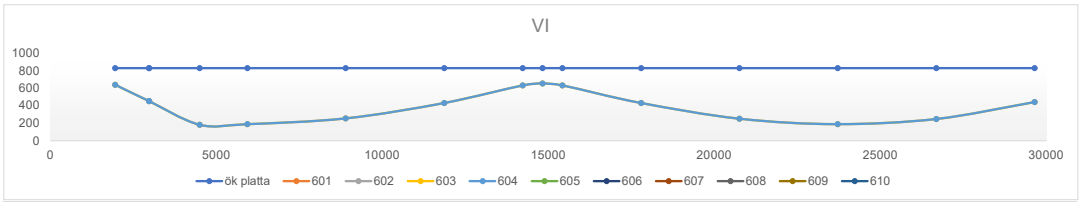
offset i sidled	
från centrum balk	
a2	-65
a3	65
b2	-65
b3	65
a1	-135
a4	135
b1	-135
b4	135
c1	-135
c4	135



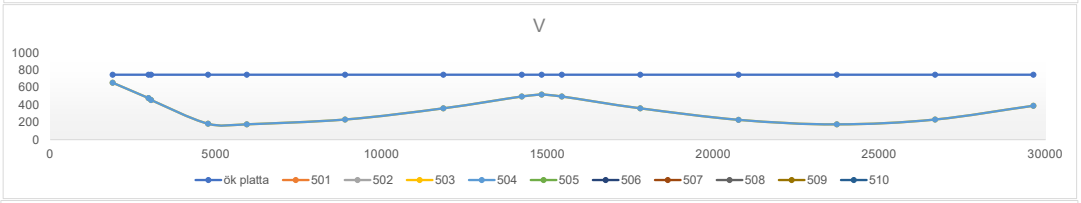
		0	1	h_a	h_m	2	h_l	3	4	*tangent*	5	*tangent*	6	7	8	9	10
	Snitt		**1944**	**2964**	**2964**	**4494**	**5928**	**8892**	**11856**	**14220**	**14820**	**15420**	**17784**	**20748**	**23712**	**26676**	**29640**
VI	**h**		**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**
	601																
	602																
	603		638	454	454	183	191	255	432	632	655	631	431	253	189	250	441
	604		638	454	454	183	191	255	432	632	655	631	431	253	189	250	441
	605																
	606																
	607																
	608																
	609																
	610																
	Snitt		**1884**	**2964**	**3044**	**4764**	**5928**	**8892**	**11856**	**14220**	**14820**	**15420**	**17784**	**20748**	**23712**	**26676**	**29640**
	h		**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**
V	**501**																
	502																
	503		656	481	459	184	179	233	362	499	519	498	361	230	176	234	393
	504		656	481	459	184	179	233	362	499	519	498	361	230	176	234	393
	505																
	506																
	507																
	508																
	509																
	510																
	Snitt		**1684**	**2964**	**2964**	**4534**	**5928**	**8892**	**11856**	**14220**	**14820**	**15420**	**17784**	**20748**	**23712**	**26676**	**29640**
	h		**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**
IV	**401**																
	402																
	403		704	504	504	270	262	296	401	506	516	505	399	293	259	331	411
	404		704	504	504	270	262	296	401	506	516	505	399	293	259	331	411
	405																
	406																
	407																
	408																
	409																
	410																

		10	9	8	7	6	*tangent*	5	*tangent*	4	3	h_l	2	h_m	h_a	1	0
	Snitt	**0**	**2964**	**5928**	**8892**	**11856**	**14320**	**14820**	**15320**	**17784**	**20748**	**23712**	**25106**	**26676**	**26676**	**27956**	
	h	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	
III	**301**																
	302																
	303	411	311	259	293	399	505	516	507	401	296	262	270	504	504	704	
	304	411	311	259	293	399	505	516	507	401	296	262	270	504	504	704	
	305																
	306																
	307																
	308																
	309																
	310																
	Snitt	**0**	**2964**	**5928**	**8892**	**11856**	**14320**	**14820**	**15320**	**17784**	**20748**	**23712**	**24876**	**26596**	**26676**	**27836**	
	h	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	
II	**201**																
	202																
	203	393	234	176	230	361	498	519	500	362	233	179	186	457	485	656	
	204	393	234	176	230	361	498	519	500	362	233	179	186	457	485	656	
	205																
	206																
	207																
	208																
	209																
	210																
	Snitt	**0**	**2964**	**5928**	**8892**	**11856**	**14320**	**14820**	**15320**	**17784**	**20748**	**23712**	**25146**	**26676**	**26676**	**27696**	
	h	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	
I	**101**																
	102																
	103	441	250	189	253	431	631	655	633	432	256	192	191	454	454	639	
	104	441	250	189	253	431	631	655	633	432	256	192	191	454	454	639	
	105																
	106																
	107																
	108																
	109																
	110																

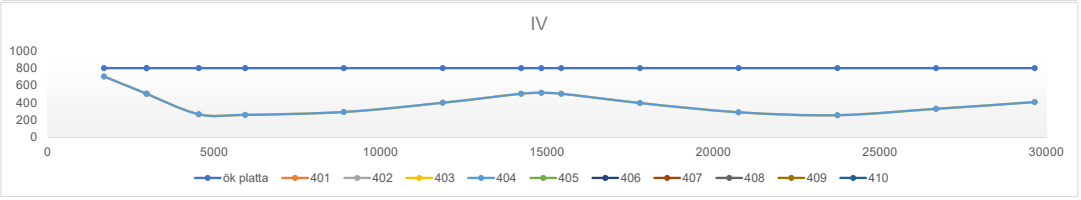
offset i sidled	
från centrum balk	
!	-65
a3	65
b2	-65
b3	65
a1	-135
a4	135
b1	-135
b4	135
c1	-135
c4	135



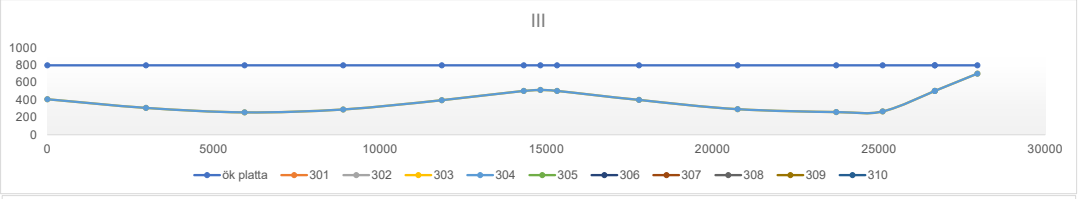
offset i sidled	
från centrum balk	
a2	-90
a3	90
b2	-90
b3	90
a1	-160
a4	160
b1	-160
b4	160
c1	-160
c4	160



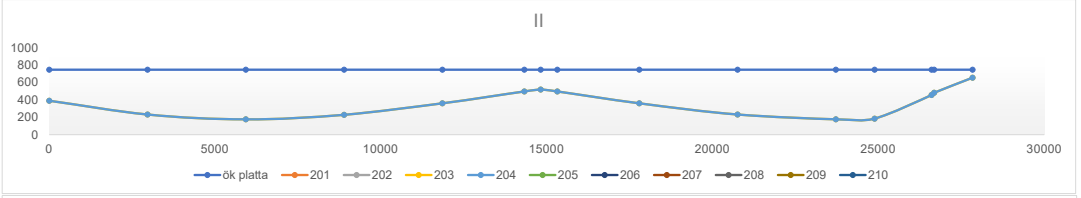
offset i sidled	
från centrum balk	
a2	-65
a3	65
b2	-65
b3	65
a1	-135
a4	135
b1	-135
b4	135
c1	-135
c4	135



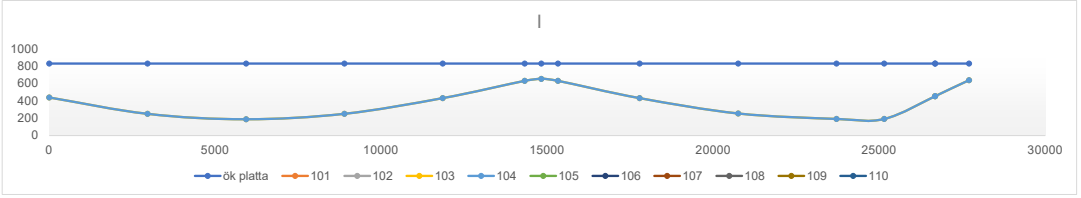
offset i sidled	
från centrum balk	
a2	-65
a3	65
b2	-65
b3	65
a1	-135
a4	135
b1	-135
b4	135
c1	-135
c4	135



offset i sidled	
från centrum balk	
a2	-90
a3	90
b2	-90
b3	90
a1	-160
a4	160
b1	-160
b4	160
c1	-160
c4	160



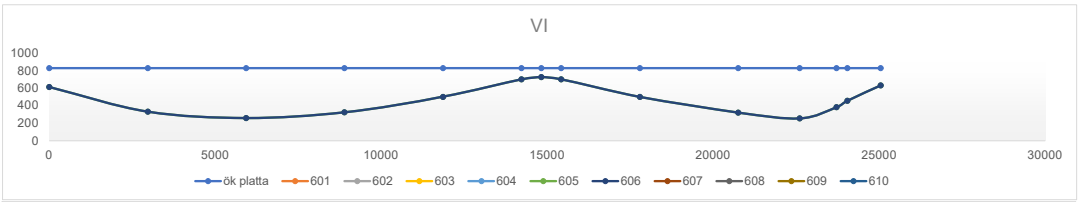
offset i sidled	
från centrum balk	
a2	-65
a3	65
b2	-65
b3	65
a1	-135
a4	135
b1	-135
b4	135
c1	-135
c4	135



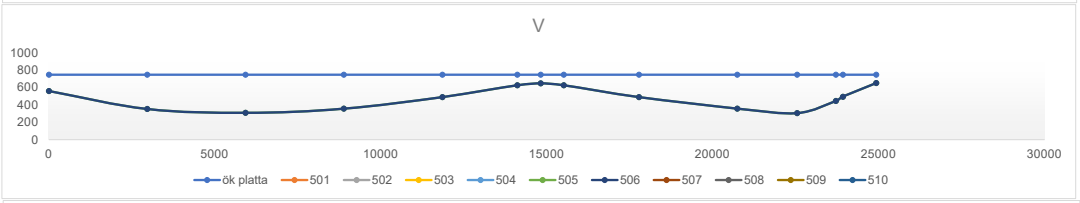
		0	1	2	3	4	*tangent*	5	*tangent*	6	7	h_l	8	h_a	h_m	9	10
	Snitt	**0**	**2964**	**5928**	**8892**	**11856**	**14220**	**14820**	**15420**	**17784**	**20748**	**22602**	**23712**	**24032**	**25042**		
VI	**h**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**		
	601																
	602																
	603																
	604																
	605	612	333	261	325	502	702	725	701	501	323	255	384	458	633		
	606	612	333	261	325	502	702	725	701	501	323	255	384	458	633		
	607																
	608																
	609																
	610																
	Snitt	**0**	**2964**	**5928**	**8892**	**11856**	**14120**	**14820**	**15520**	**17784**	**20748**	**22552**	**23712**	**23932**	**24932**		
	h	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**		
V	**501**																
	502																
	503																
	504																
	505	562	354	309	357	492	629	649	628	491	360	308	448	497	652		
	506	562	354	309	357	492	629	649	628	491	360	308	448	497	652		
	507																
	508																
	509																
	510																
	Snitt	**0**	**2964**	**5928**	**8892**	**11856**	**14320**	**14820**	**15320**	**17784**	**20748**	**22942**	**23712**	**24152**	**25272**		
	h	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**		
IV	**401**																
	402																
	403																
	404																
	405	596	495	446	476	581	686	696	685	579	473	425	487	566	699		
	406	596	495	446	476	581	686	696	685	579	473	425	487	566	699		
	407																
	408																
	409																
	410																

		10	9	h_m	h_a	8	h_l	7	6	*tangent*	5	*tangent*	4	3	2	1	0
	Snitt			**4368**	**5488**	**5928**	**6698**	**8892**	**11856**	**14320**	**14820**	**15320**	**17784**	**20748**	**23712**	**26676**	**29640**
	h			**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**
III	**301**																
	302																
	303																
	304																
	305			699	566	487	425	473	579	685	696	687	581	476	446	495	598
	306			699	566	487	425	473	579	685	696	687	581	476	446	495	598
	307																
	308																
	309																
	310																
	Snitt			**4708**	**5708**	**5928**	**7088**	**8892**	**11856**	**14120**	**14820**	**15520**	**17784**	**20748**	**23712**	**26676**	**29640**
	h			**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**
II	**201**																
	202																
	203																
	204																
	205			652	505	448	308	360	491	628	649	630	492	363	309	356	565
	206			652	505	448	308	360	491	628	649	630	492	363	309	356	565
	207																
	208																
	209																
	210																
	Snitt			**4598**	**5608**	**5928**	**7038**	**8892**	**11856**	**14220**	**14820**	**15420**	**17784**	**20748**	**23712**	**26676**	**29640**
	h			**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**
I	**101**																
	102																
	103																
	104																
	105			633	466	384	255	323	501	701	725	703	502	326	262	334	615
	106			633	466	384	255	323	501	701	725	703	502	326	262	334	615
	107																
	108																
	109																
	110																

offset i sidled	
från centrum balk	
!	-65
a3	65
b2	-65
b3	65
a1	-135
a4	135
b1	-135
b4	135
c1	-135
c4	135



offset i sidled	
från centrum balk	
a2	-90
a3	90
b2	-90
b3	90
a1	-160
a4	160
b1	-160
b4	160
c1	-160
c4	160



offset i sidled	
från centrum balk	
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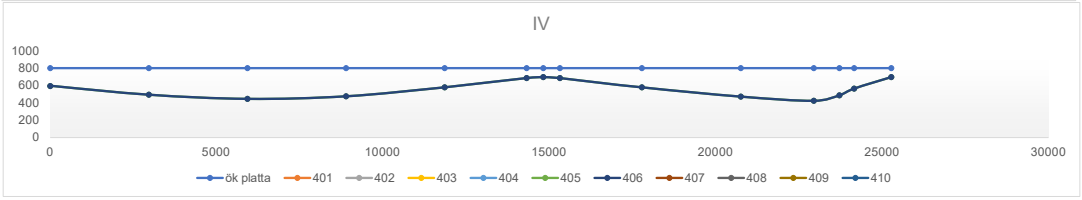
a3	65
b2	-65
b3	65
a1	-135
a4	135
b1	-135
b4	135
c1	-135
c4	135



offset i sidled	
från centrum balk	
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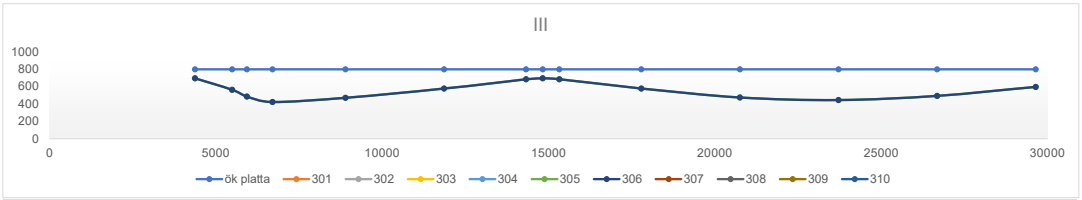
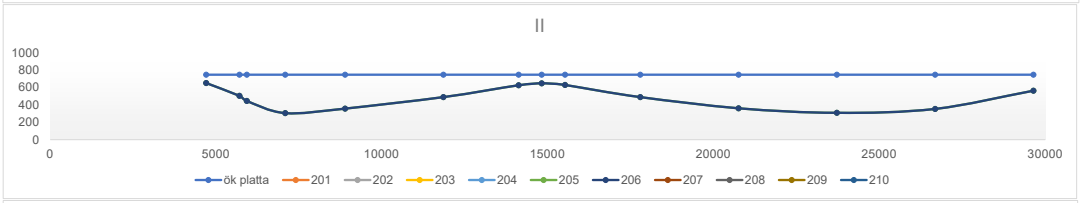
a3	65
b2	-65
b3	65
a1	-135
a4	135
b1	-135
b4	135
c1	-135
c4	135



offset i sidled	
från centrum balk	
a2	-90
a3	90
b2	-90
b3	90
a1	-160
a4	160
b1	-160
b4	160
c1	-160
c4	160



offset i sidled	
från centrum balk	
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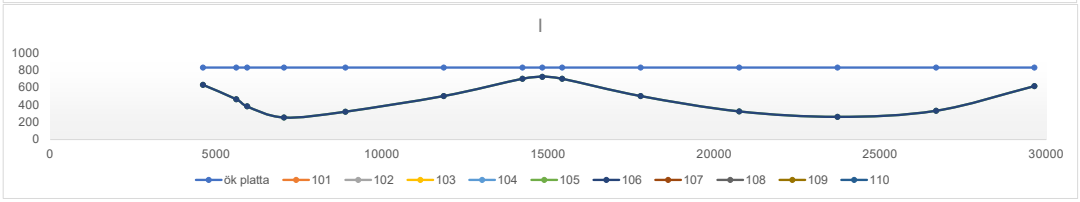
a3	65
b2	-65
b3	65
a1	-135
a4	135
b1	-135
b4	135
c1	-135
c4	135



		0	1	2	3	4	*5-XXX*	5	*5-XXX*	*6*	7	8	h_l	h_m	9	h_a	10
	Snitt	**0**	**2964**	**5928**	**8892**	**11856**	**14320**	**14820**	**15320**	**17784**	**20748**	**23712**	**25146**	**26676**	**26676**	**27696**	
VI	**h**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	
	601																
	602																
	603																
	604																
	605																
	606																
	607	445	253	191	255	432	632	655	631	431	253	189	195	453	453	637	
	608	445	253	191	255	432	632	655	631	431	253	189	195	453	453	637	
	609																
	610																
	Snitt	**0**	**2964**	**5928**	**8892**	**11856**	**14320**	**14820**	**15320**	**17784**	**20748**	**23712**	**24876**	**26596**	**26676**	**27836**	
	h	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	
V	**501**																
	502																
	503																
	504																
	505																
	506																
	507	397	237	179	233	362	499	519	498	361	230	176	182	447	480	655	
	508	397	237	179	233	362	499	519	498	361	230	176	182	447	480	655	
	509																
	510																
	Snitt	**0**	**2964**	**5928**	**8892**	**11856**	**14320**	**14820**	**15320**	**17784**	**20748**	**23712**	**25106**	**26676**	**26676**	**27956**	
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IV	**401**																
	402																
	403																
	404																
	405																
	406																
	407	416	315	262	296	401	506	516	505	399	293	259	265	503	503	703	
	408	416	315	262	296	401	506	516	505	399	293	259	265	503	503	703	
	409																
	410																

		10	h_a	9	h_m	h_l	8	7	*6*	*5-XXX*	5	*5-XXX*	4	3	2	1	0
	Snitt		**1684**	**2964**	**2964**	**4534**	**5928**	**8892**	**11856**	**14220**	**14820**	**15420**	**17784**	**20748**	**23712**	**26676**	**29640**
	h		**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**
III	**301**																
	302																
	303																
	304																
	305																
	306																
	307		703	503	503	265	259	293	398	505	516	507	401	296	262	315	418
	308		703	503	503	265	259	293	398	505	516	507	401	296	262	315	418
	309																
	310																
	Snitt		**1884**	**2964**	**3044**	**4764**	**5928**	**8892**	**11856**	**14220**	**14820**	**15420**	**17784**	**20748**	**23712**	**26676**	**29640**
	h		**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**
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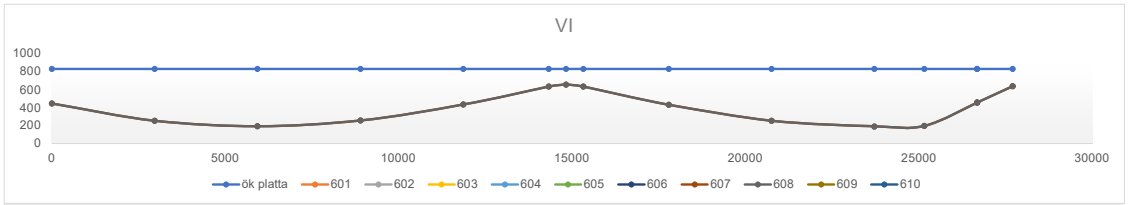
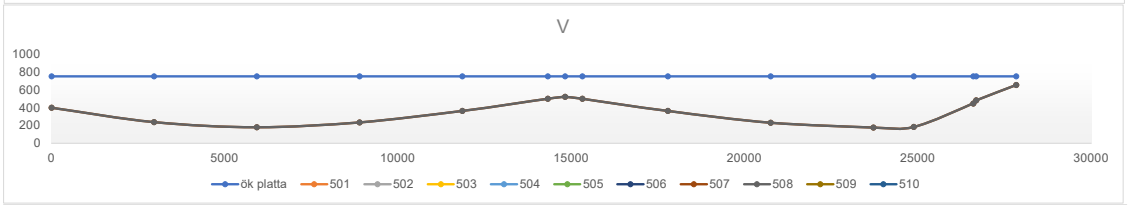
	202																
	203																
	204																
	205																
	206																
	207		655	480	457	182	176	230	361	498	519	500	362	233	179	239	400
	208		655	480	457	182	176	230	361	498	519	500	362	233	179	239	400
	209																
	210																
	Snitt		**1944**	**2964**	**2964**	**4494**	**5928**	**8892**	**11856**	**14220**	**14820**	**15420**	**17784**	**20748**	**23712**	**26676**	**29640**
	h		**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**
I	**101**																
	102																
	103																
	104																
	105																
	106																
	107		637	453	453	195	189	253	431	631	655	633	432	256	192	254	448
	108		637	453	453	195	189	253	431	631	655	633	432	256	192	254	448
	109																
	110																

offset i sidled	
från centrum balk	
?	-65
a3	65
b2	-65
b3	65
a1	-135
a4	135
b1	-135
b4	135
c1	-135
c4	135



offset i sidled	
från centrum balk	
a2	-90
a3	90
b2	-90
b3	90
a1	-160
a4	160
b1	-160
b4	160
c1	-160
c4	160



offset i sidled	
från centrum balk	
a2	-65
a3	65
b2	-65
b3	65
a1	-135
a4	135
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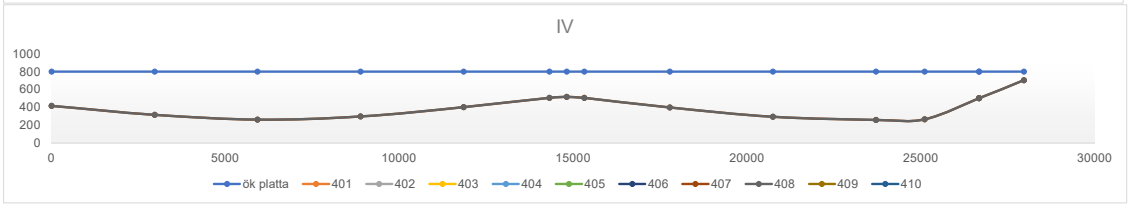
c1	-135
c4	135



offset i sidled	
från centrum balk	
a2	-65
a3	65
b2	-65
b3	65
a1	-135
a4	135
b1	-135
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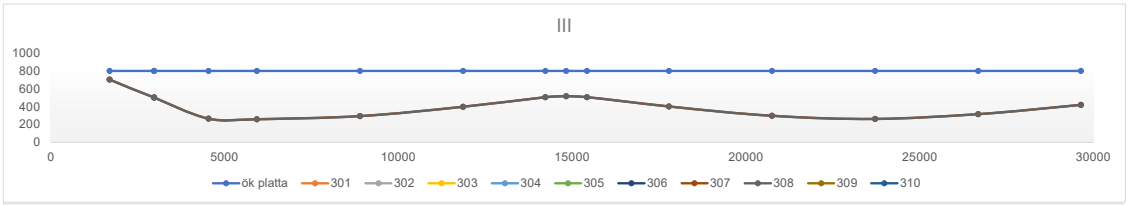
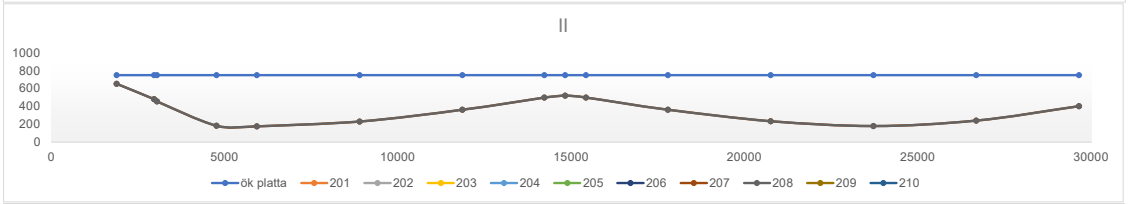
c1	-135
c4	135



offset i sidled	
från centrum balk	
a2	-90
a3	90
b2	-90
b3	90
a1	-160
a4	160
b1	-160
b4	160
c1	-160
c4	160



offset i sidled	
från centrum balk	
a2	-65
a3	65
b2	-65
b3	65
a1	-135
a4	135
b1	-135
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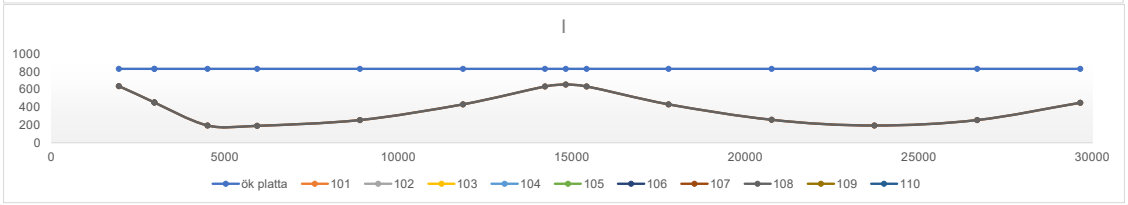
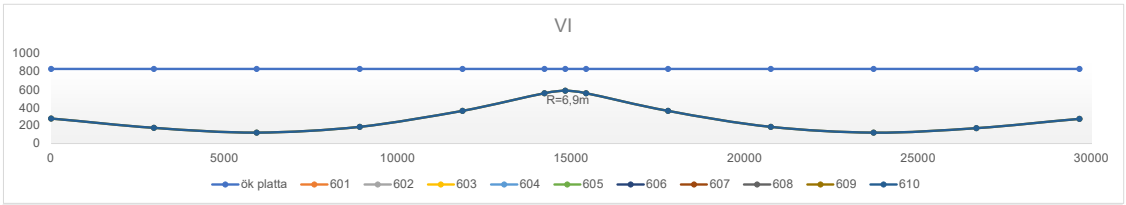
c1	-135
c4	135



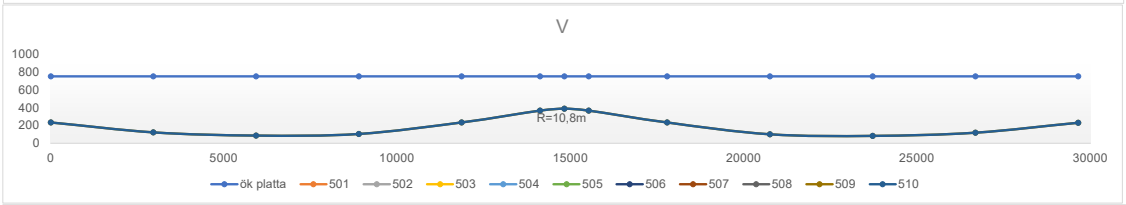
		0	1	2	3	4	*tangent*	5	*tangent*	6	7	8	9	10
	Snitt	**0**	**2964**	**5928**	**8892**	**11856**	**14220**	**14820**	**15420**	**17784**	**20748**	**23712**	**26676**	**29640**
VI	**h**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**
	601													
	602													
	603													
	604													
	605													
	606													
	607													
	608													
	609	278	172	121	185	362	559	585	559	361	183	119	169	274
	610	278	172	121	185	362	559	585	559	361	183	119	169	274
	Snitt	**0**	**2964**	**5928**	**8892**	**11856**	**14120**	**14820**	**15520**	**17784**	**20748**	**23712**	**26676**	**29640**
	h	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**
V	**501**													
	502													
	503													
	504													
	505													
	506													
	507													
	508													
	509	232	120	85	103	232	366	389	366	231	100	82	117	228
	510	232	120	85	103	232	366	389	366	231	100	82	117	228
	Snitt	**0**	**2964**	**5928**	**8892**	**11856**	**14320**	**14820**	**15320**	**17784**	**20748**	**23712**	**26676**	**29640**
	h	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**
IV	**401**													
	402													
	403													
	404													
	405													
	406													
	407													
	408													
	409	236	135	82	116	221	323	336	323	219	113	79	131	231
	410	236	135	82	116	221	323	336	323	219	113	79	131	231

		10	9	8	7	6	*tangent*	5	*tangent*	4	3	2	1	0
	Snitt	**0**	**2964**	**5928**	**8892**	**11856**	**14320**	**14820**	**15320**	**17784**	**20748**	**23712**	**26676**	**29640**
	h	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**
III	**301**													
	302													
	303													
	304													
	305													
	306													
	307													
	308													
	309	231	131	79	113	219	323	336	323	221	116	82	135	238
	310	231	131	79	113	219	323	336	323	221	116	82	135	238
	Snitt	**0**	**2964**	**5928**	**8892**	**11856**	**14120**	**14820**	**15520**	**17784**	**20748**	**23712**	**26676**	**29640**
	h	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**	**750**
II	**201**													
	202													
	203													
	204													
	205													
	206													
	207													
	208													
	209	228	117	82	100	231	366	389	366	232	103	85	122	235
	210	228	117	82	100	231	366	389	366	232	103	85	122	235
	Snitt	**0**	**2964**	**5928**	**8892**	**11856**	**14220**	**14820**	**15420**	**17784**	**20748**	**23712**	**26676**	**29640**
	h	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**	**830**
I	**101**													
	102													
	103													
	104													
	105													
	106													
	107													
	108													
	109	274	169	119	183	361	532	558	532	362	186	122	173	281
	110	274	169	119	183	361	532	558	532	362	186	122	173	281

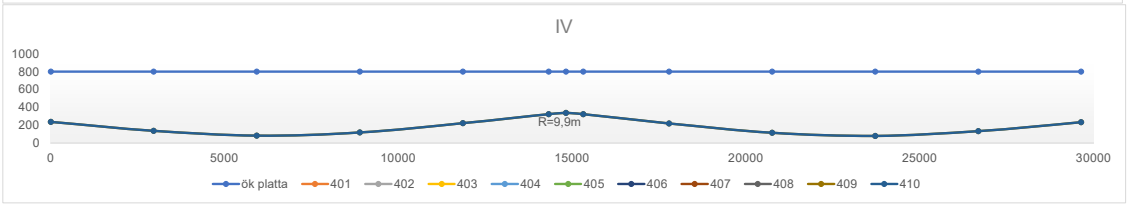
offset i sidled	
från centrum balk	
a2	-65
a3	65
b2	-65
b3	65
a1	-135
a4	135
b1	-135
b4	135
c1	-135
c4	135



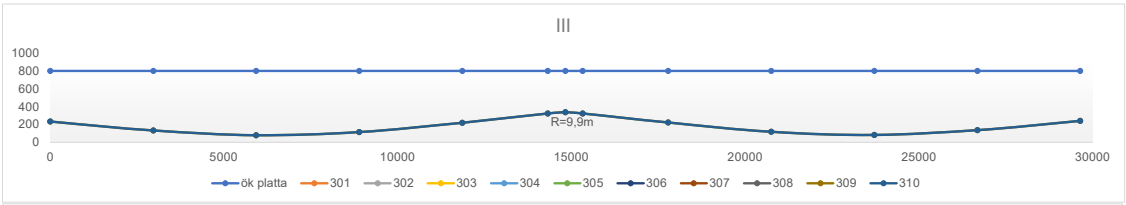
offset i sidled	
från centrum balk	
a2	-90
a3	90
b2	-90
b3	90
a1	-160
a4	160
b1	-160
b4	160
c1	-160
c4	160



offset i sidled	
från centrum balk	
a2	-65
a3	65
b2	-65
b3	65
a1	-135
a4	135
b1	-135
b4	135
c1	-135
c4	135



offset i sidled	
från centrum balk	
a2	-65
a3	65
b2	-65
b3	65
a1	-135
a4	135
b1	-135
b4	135
c1	-135
c4	135



offset i sidled	
från centrum balk	
a2	-90
a3	90
b2	-90
b3	90
a1	-160
a4	160
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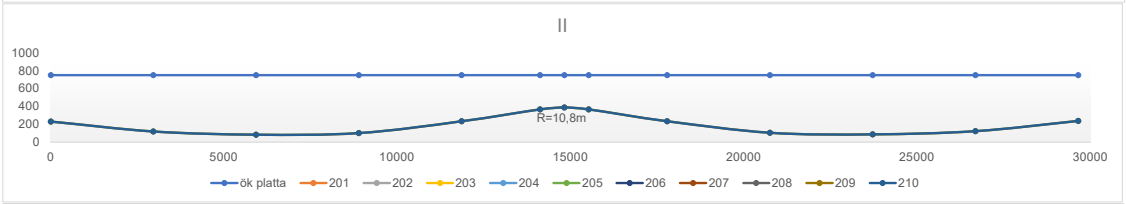
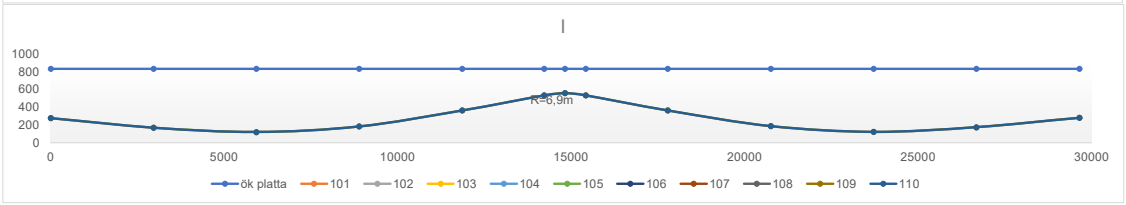
b4	160
c1	-160
c4	160



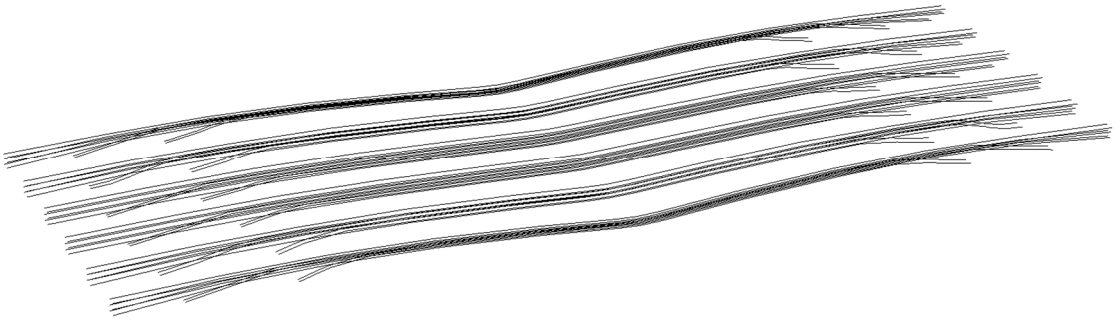
offset i sidled	
från centrum balk	
a2	-65
a3	65
b2	-65
b3	65
a1	-135
a4	135
b1	-135
b4	135
c1	-135
c4	135



BILAGA 3

Systemanalys
BRIGADE/Plus - Indata

1. Parts



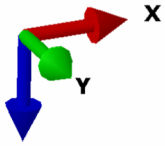


Figure 1. Model: Model-1; Part: TendonCollection

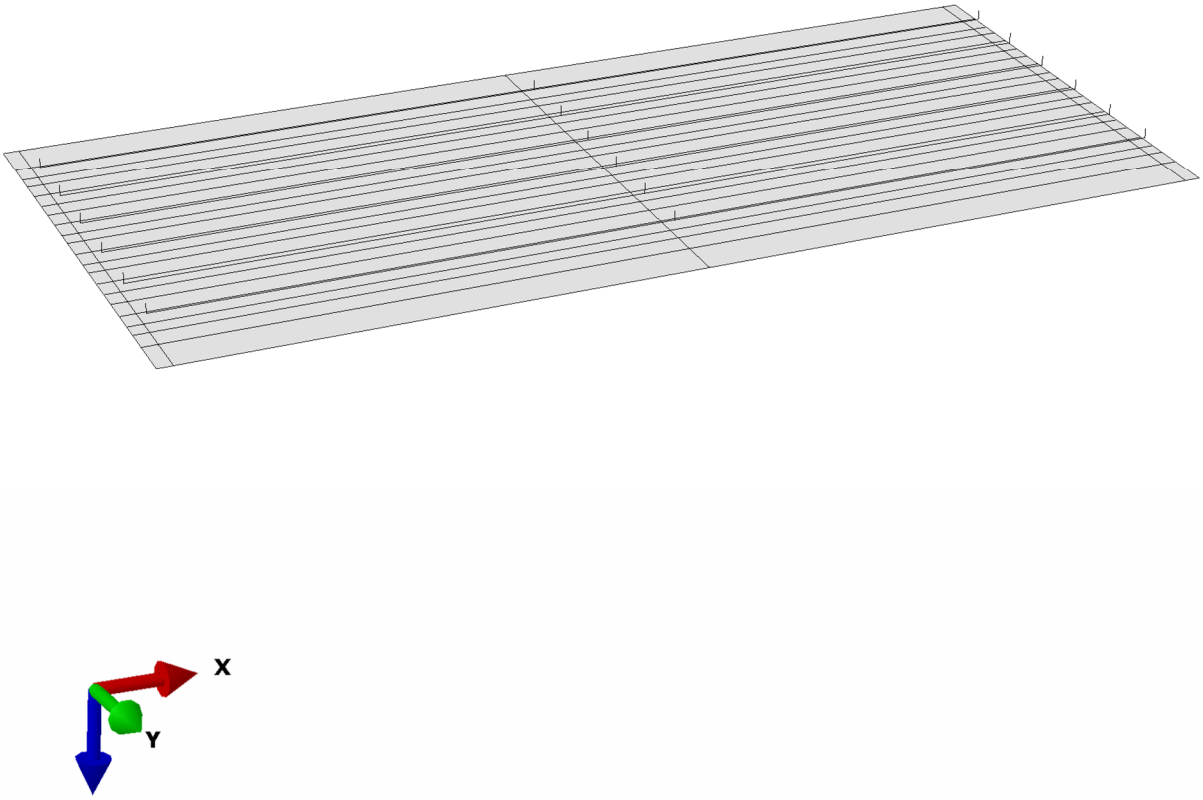


Figure 2. Model: Model-1; Part: Part-1

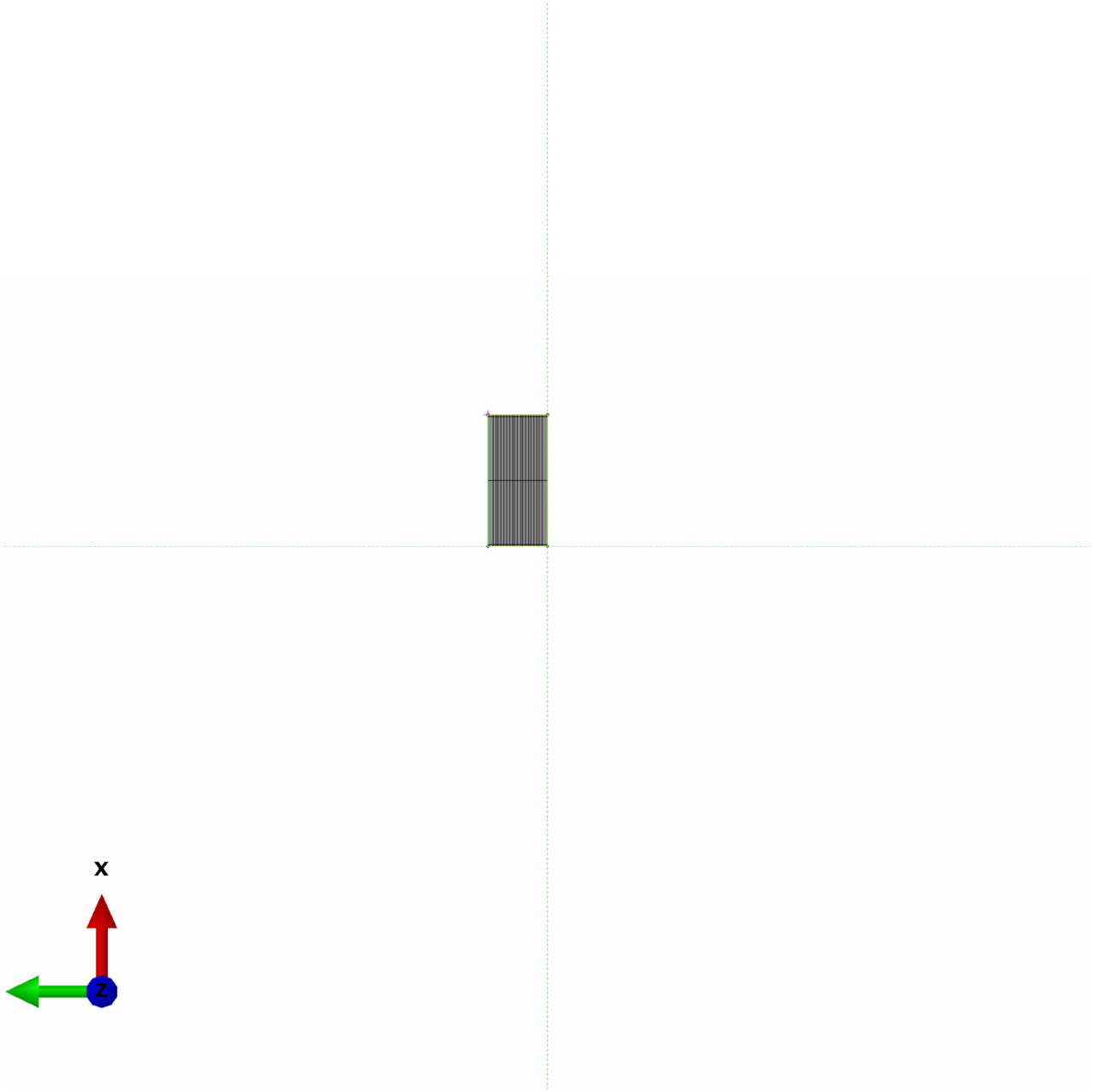


Figure 3. Model: Model-1; Part: Part-1; Feature: Shell deck

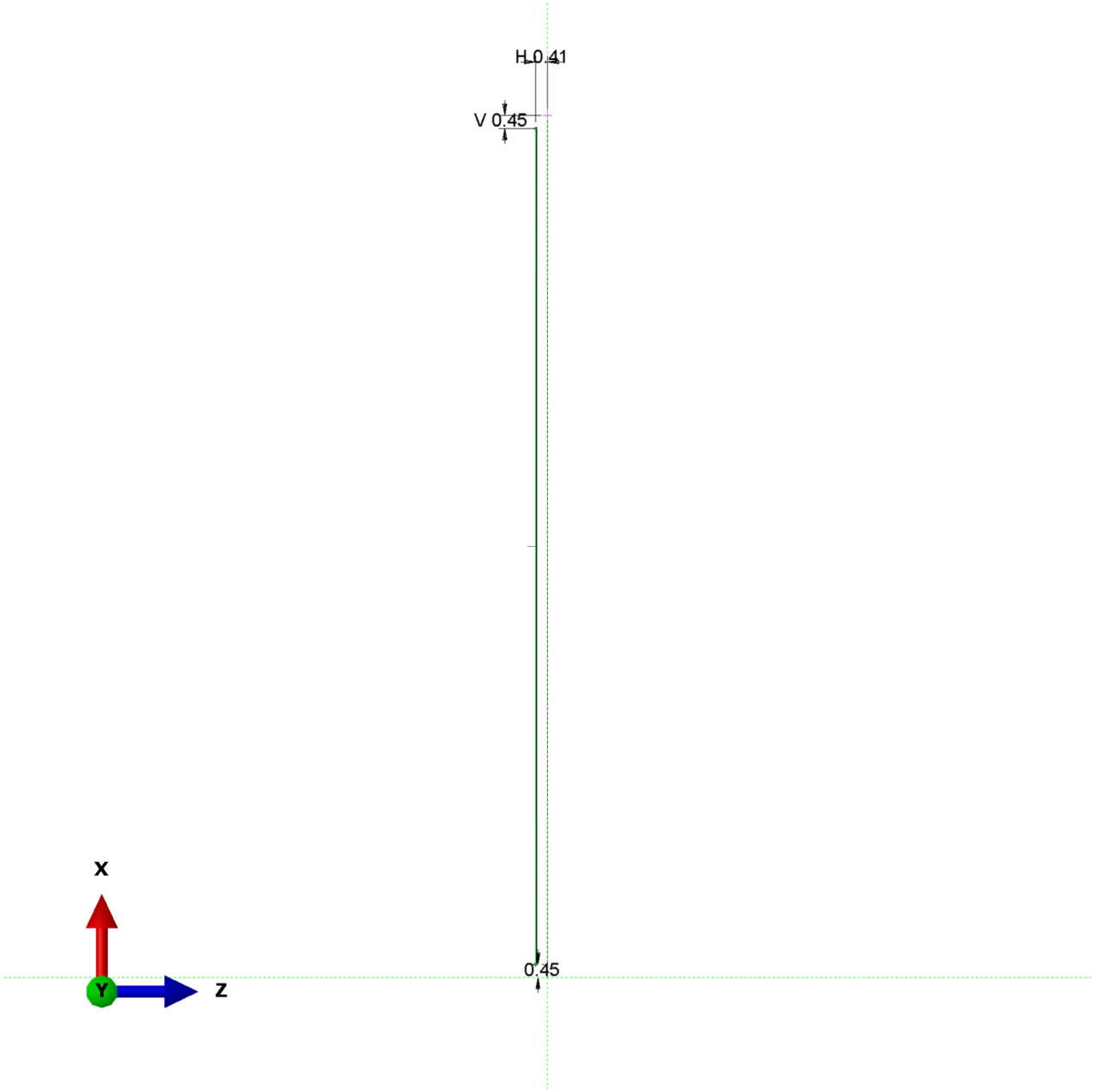


Figure 4. Model: Model-1; Part: Part-1; Feature: Wire-1

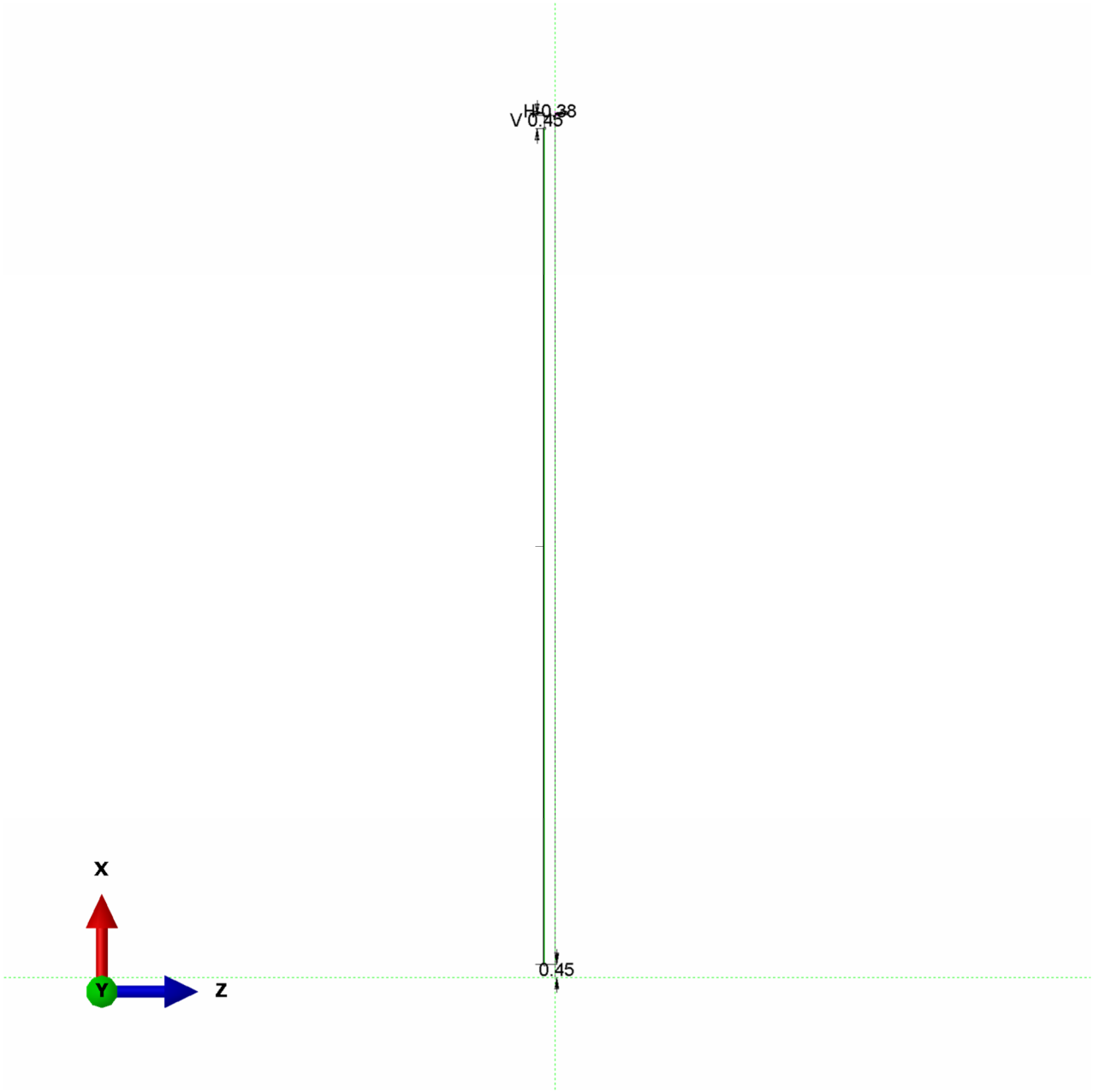


Figure 5. Model: Model-1; Part: Part-1; Feature: Wire-2

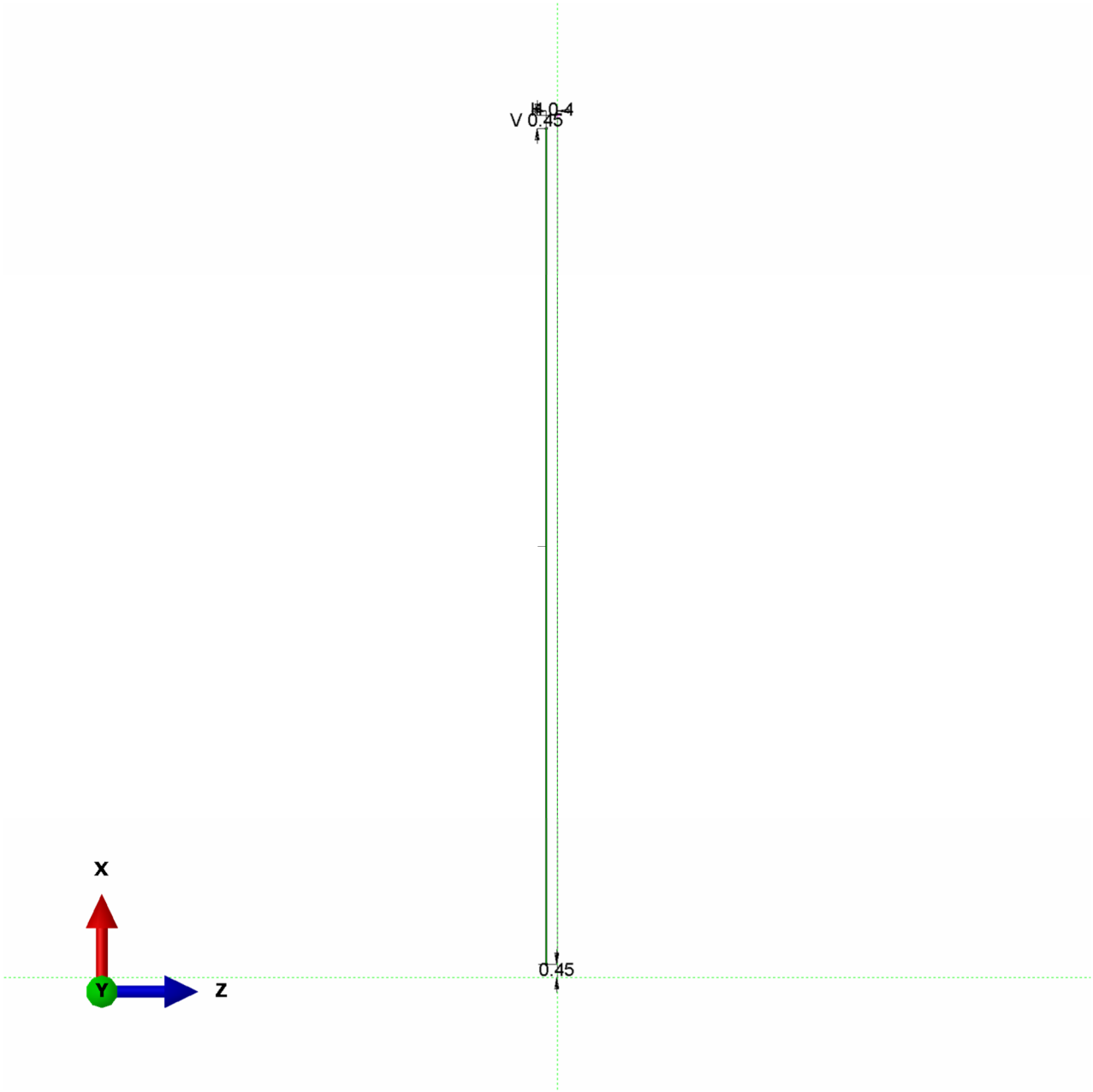


Figure 6. Model: Model-1; Part: Part-1; Feature: Wire-3

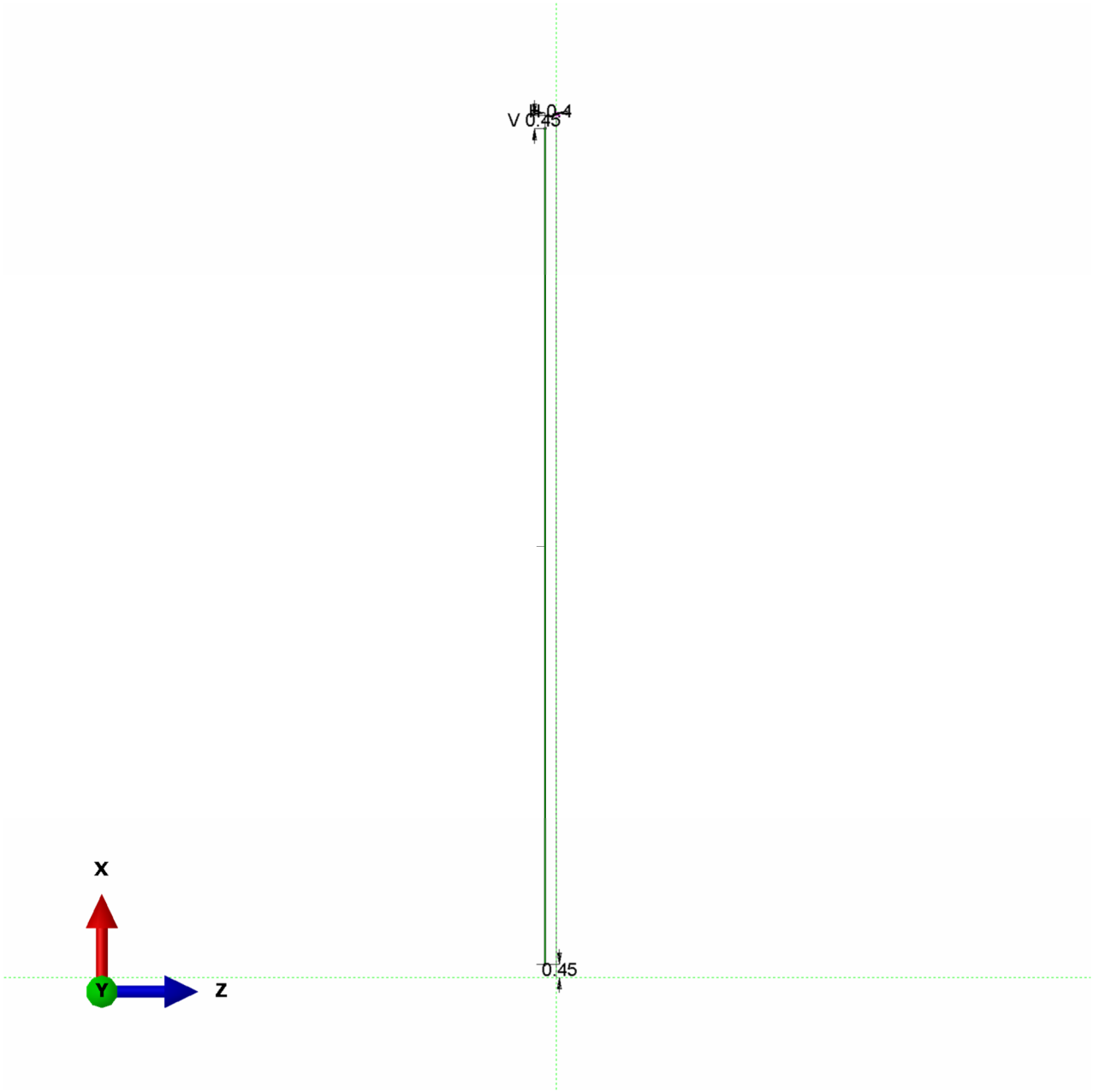


Figure 7. Model: Model-1; Part: Part-1; Feature: Wire-4

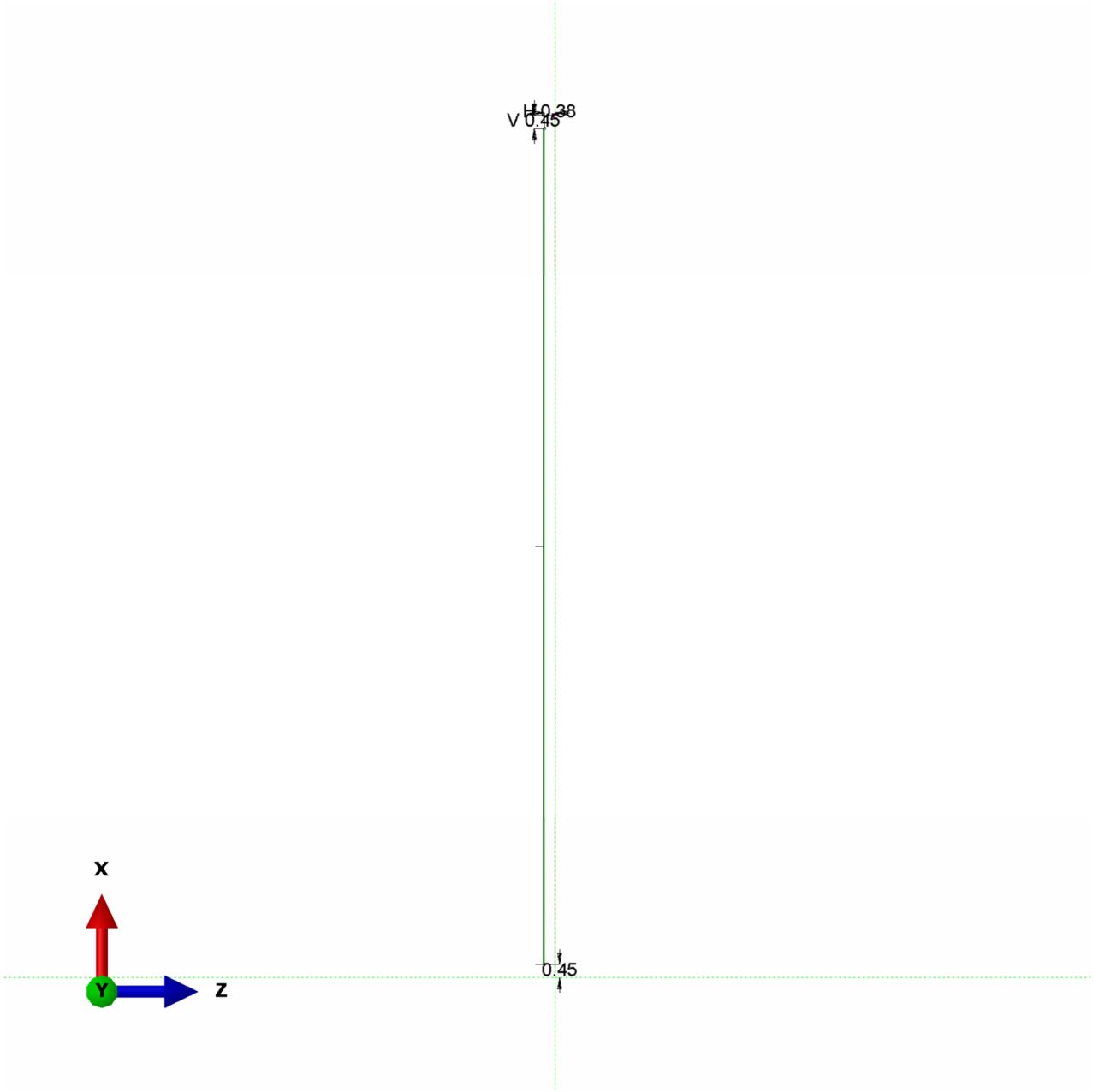


Figure 8. Model: Model-1; Part: Part-1; Feature: Wire-5

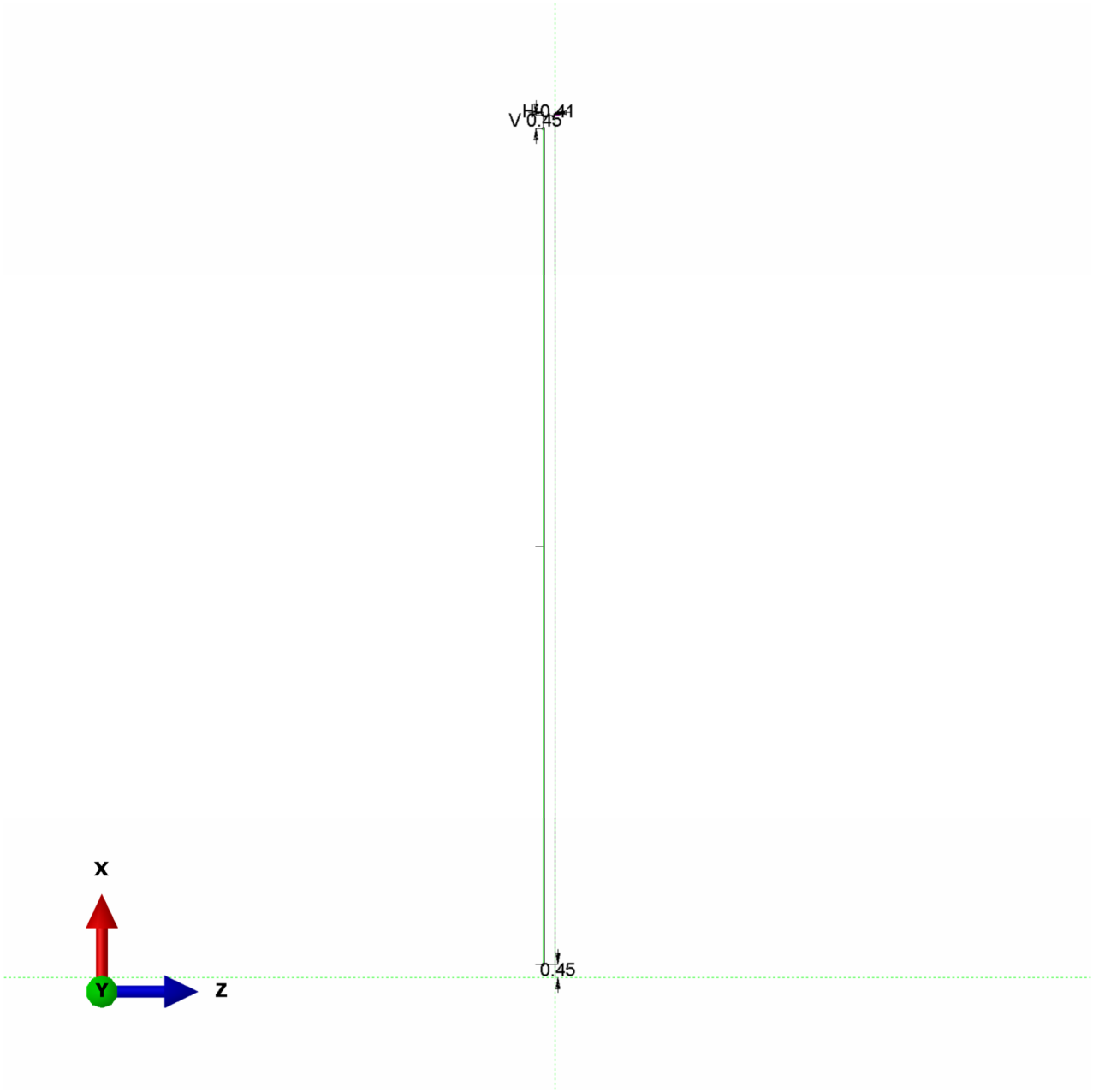


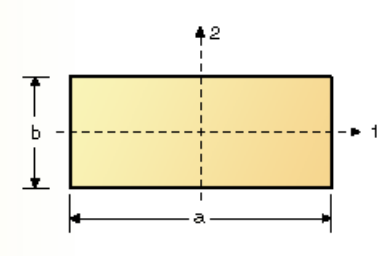
Figure 9. Model: Model-1; Part: Part-1; Feature: Wire-6

2. Properties

Profile-I

Type: RectangularProfile

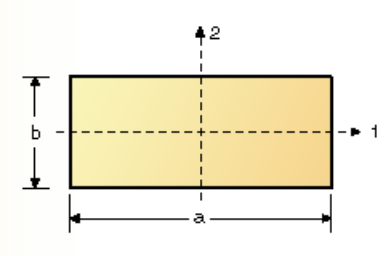
A: 0.5
B: 0.63



Profile-II

Type: RectangularProfile

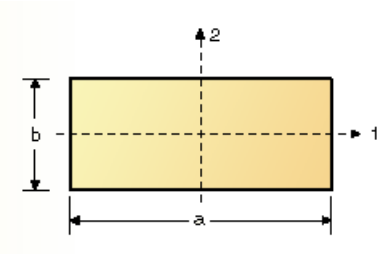
A: 0.6
B: 0.55



Profile-III

Type: RectangularProfile

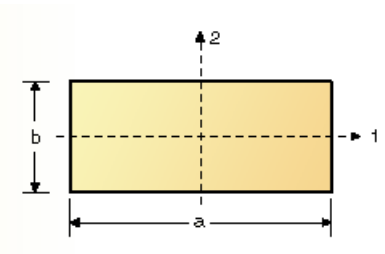
A: 0.5
B: 0.6



Profile-dummy

Type: RectangularProfile

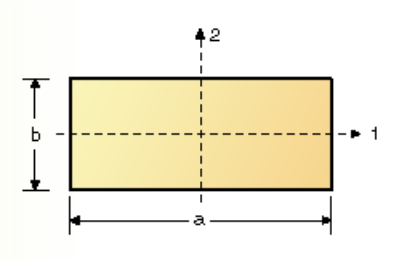
A: 0.1
B: 0.1



StringerBeam_Profile

Type: RectangularProfile

A: 0.1
B: 0.1



Section-deck

Type: HomogeneousShellSection

rebarLayers: <AbaqusMethod mdb.models['Model-1'].sections['Section-deck'].RebarLayers>
transverseShearShell: <AbaqusMethod mdb.models['Model-1'].sections['Section-deck'].TransverseShearShell>
Density: 0.0
Idealization: NO_IDEALIZATION
IntegrationRule: SIMPSON
Material: Concrete
NTemp: None
NodalThicknessField:
NumIntPts: 5
Poisson: 0.5
PoissonDefinition: DEFAULT
PreIntegrate: OFF
Temperature: GRADIENT
Thickness: 0.2
ThicknessField:
ThicknessModulus: None
ThicknessType: UNIFORM
UseDensity: OFF

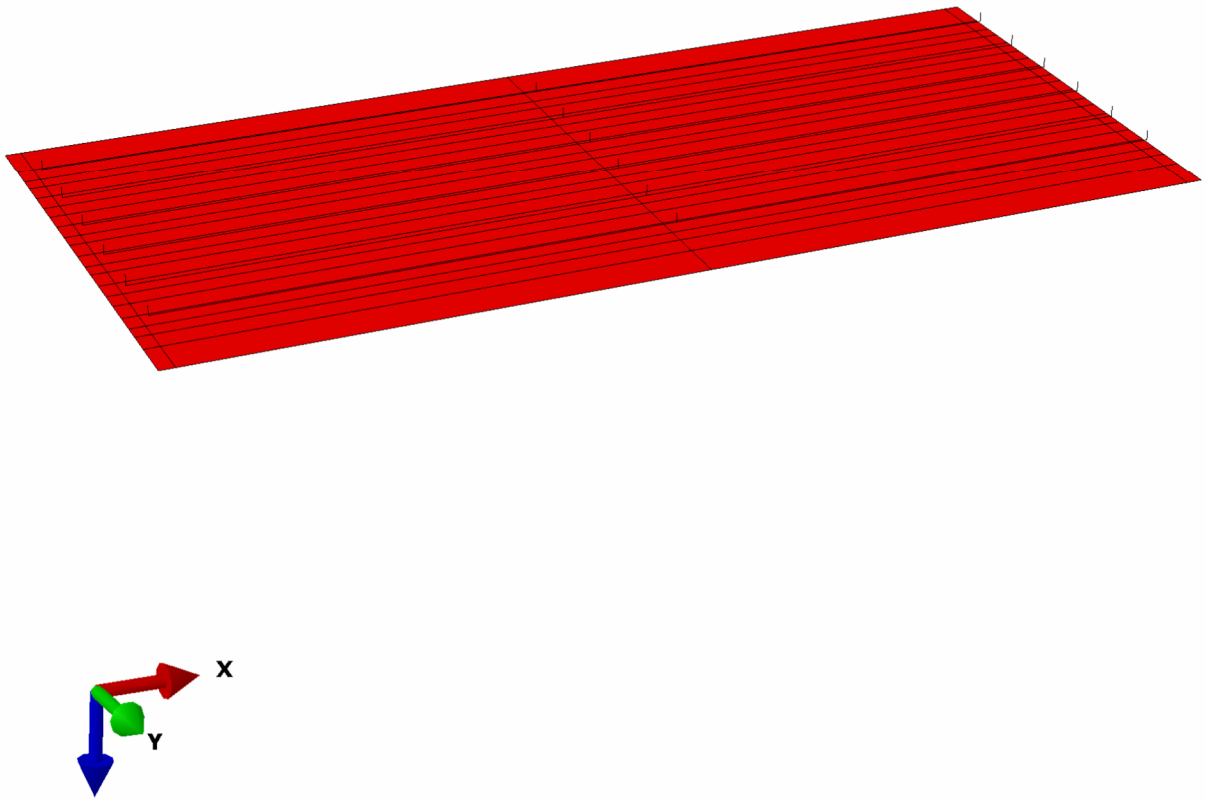


Figure 10. Model: Model-1; Region of Part: Part-1; Assigned section: Section-deck

Section-I

Type: BeamSection

transverseShearBeam: <AbaqusMethod mdb.models['Model-1'].sections['Section-I'].TransverseShearBeam>
AlphaDamping: 0.0
AxialMassCoef: 0.0
BeamShape: CONSTANT
BetaDamping: 0.0
Centroid: [0.0, 0.0]
CompositeDamping: 0.0
ConsistentMassMatrix: False
CrossSectionRadius: None
Density: None
Dependencies: 0
FluidMassDensity: None
Integration: DURING_ANALYSIS
LateralMassCoef: 1.0
MassOffsetX: 0.0
MassOffsetY: 0.0
Material: Concrete
OutputPts: ()
PoissonRatio: 0.2
Profile: Profile-I
ProfileEnd:

ReferenceTemperature: None
ShearCenter: [0.0, 0.0]
Submerged: FULLY
Table: ()
TemperatureDependency: OFF
TemperatureVar: LINEAR
ThermalExpansion: OFF
UseFluidInertia: OFF

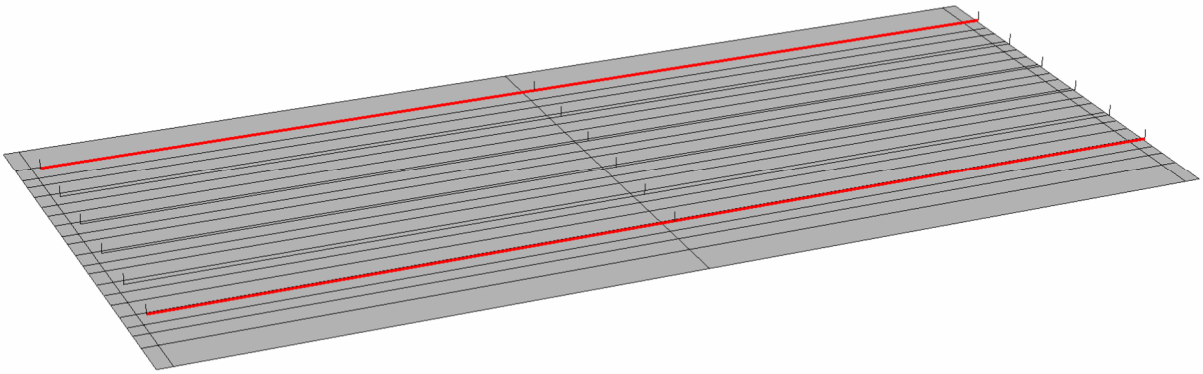


Figure 11. Model: Model-1; Region of Part: Part-1; Assigned section: Section-I

Section-II

Type: BeamSection

transverseShearBeam: <AbaqusMethod mdb.models['Model-1'].sections['Section-II'].TransverseShearBeam>
AlphaDamping: 0.0
AxialMassCoef: 0.0
BeamShape: CONSTANT
BetaDamping: 0.0
Centroid: [0.0, 0.0]
CompositeDamping: 0.0
ConsistentMassMatrix: False
CrossSectionRadius: None
Density: None
Dependencies: 0
FluidMassDensity: None
Integration: DURING_ANALYSIS

LateralMassCoef: 1.0
MassOffsetX: 0.0
MassOffsetY: 0.0
Material: Concrete
OutputPts: ()
PoissonRatio: 0.2
Profile: Profile-II
ProfileEnd:
ReferenceTemperature: None
ShearCenter: [0.0, 0.0]
Submerged: FULLY
Table: ()
TemperatureDependency: OFF
TemperatureVar: LINEAR
ThermalExpansion: OFF
UseFluidInertia: OFF

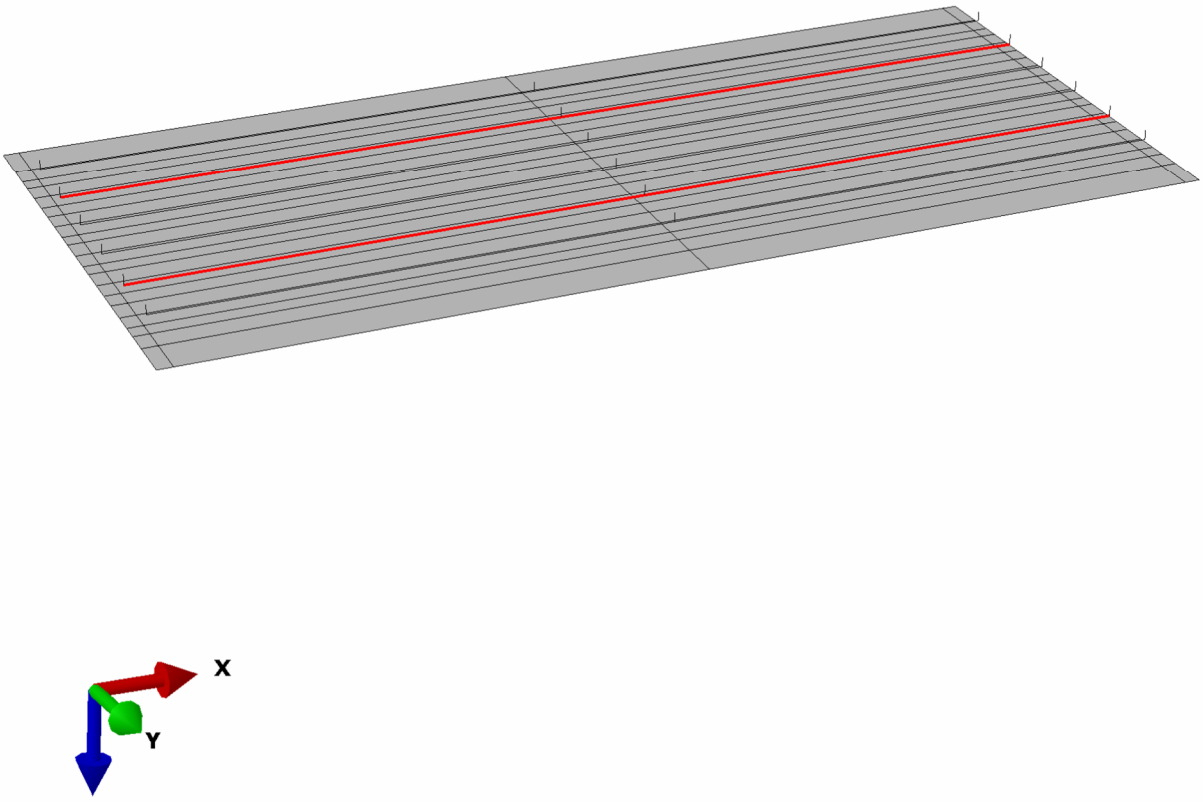


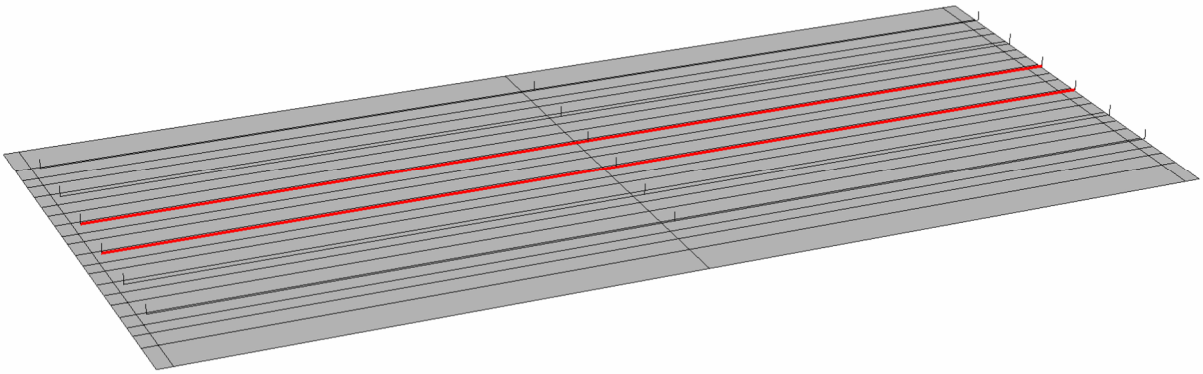
Figure 12. Model: Model-1; Region of Part: Part-1; Assigned section: Section-II

Section-III

Type: BeamSection

transverseShearBeam: <AbaqusMethod mdb.models['Model-1'].sections['Section-III'].TransverseShearBeam>
AlphaDamping: 0.0
AxialMassCoef: 0.0
BeamShape: CONSTANT
BetaDamping: 0.0

Centroid: [0.0, 0.0]
CompositeDamping: 0.0
ConsistentMassMatrix: False
CrossSectionRadius: None
Density: None
Dependencies: 0
FluidMassDensity: None
Integration: DURING_ANALYSIS
LateralMassCoef: 1.0
MassOffsetX: 0.0
MassOffsetY: 0.0
Material: Concrete
OutputPts: ()
PoissonRatio: 0.2
Profile: Profile-III
ProfileEnd:
ReferenceTemperature: None
ShearCenter: [0.0, 0.0]
Submerged: FULLY
Table: ()
TemperatureDependency: OFF
TemperatureVar: LINEAR
ThermalExpansion: OFF
UseFluidInertia: OFF



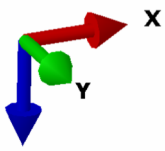


Figure 13. Model: Model-1; Region of Part: Part-1; Assigned section: Section-III

Section-dummy

Type: BeamSection

transverseShearBeam: <AbaqusMethod mdb.models['Model-1'].sections['Section-dummy'].TransverseShearBeam>
AlphaDamping: 0.0
AxialMassCoef: 0.0
BeamShape: CONSTANT
BetaDamping: 0.0
Centroid: [0.0, 0.0]
CompositeDamping: 0.0
ConsistentMassMatrix: False
CrossSectionRadius: None
Density: None
Dependencies: 0
FluidMassDensity: None
Integration: DURING_ANALYSIS
LateralMassCoef: 1.0
MassOffsetX: 0.0
MassOffsetY: 0.0
Material: Dummy_material
OutputPts: ()
PoissonRatio: 0.0
Profile: Profile-dummy
ProfileEnd:
ReferenceTemperature: None
ShearCenter: [0.0, 0.0]
Submerged: FULLY
Table: ()
TemperatureDependency: OFF
TemperatureVar: LINEAR
ThermalExpansion: OFF
UseFluidInertia: OFF

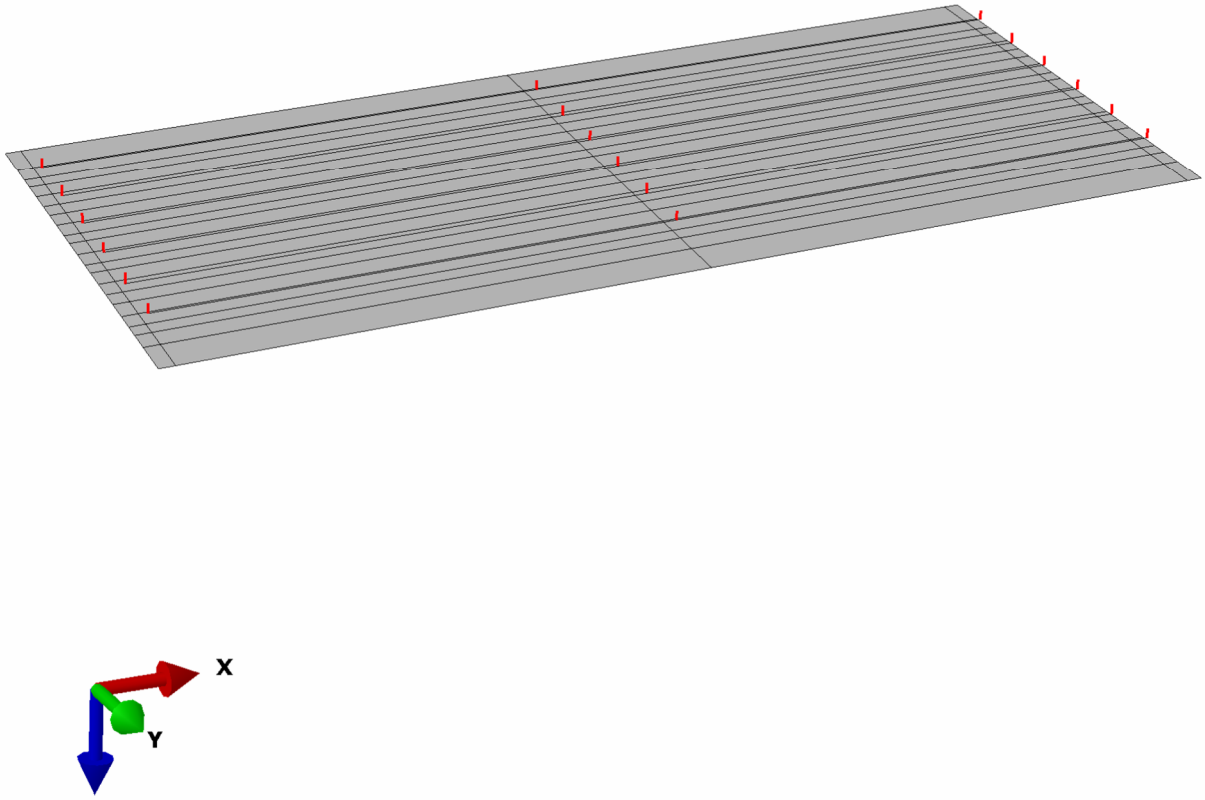


Figure 14. Model: Model-1; Region of Part: Part-1; Assigned section: Section-dummy

StringerBeamSection

Type: BeamSection

transverseShearBeam: <AbaqusMethod mdb.models['Model-1'].sections['StringerBeamSection'].TransverseShearBeam>
AlphaDamping: 0.0
AxialMassCoef: 0.0
BeamShape: CONSTANT
BetaDamping: 0.0
Centroid: [0.0, 0.0]
CompositeDamping: 0.0
ConsistentMassMatrix: False
CrossSectionRadius: None
Density: None
Dependencies: 0
FluidMassDensity: None
Integration: DURING_ANALYSIS
LateralMassCoef: 1.0
MassOffsetX: 0.0
MassOffsetY: 0.0
Material: High_Stiffness_Material
OutputPts: ()
PoissonRatio: 0.0
Profile: StringerBeam_Profile
ProfileEnd:

ReferenceTemperature: None
ShearCenter: [0.0, 0.0]
Submerged: FULLY
Table: ()
TemperatureDependency: OFF
TemperatureVar: LINEAR
ThermalExpansion: OFF
UseFluidInertia: OFF

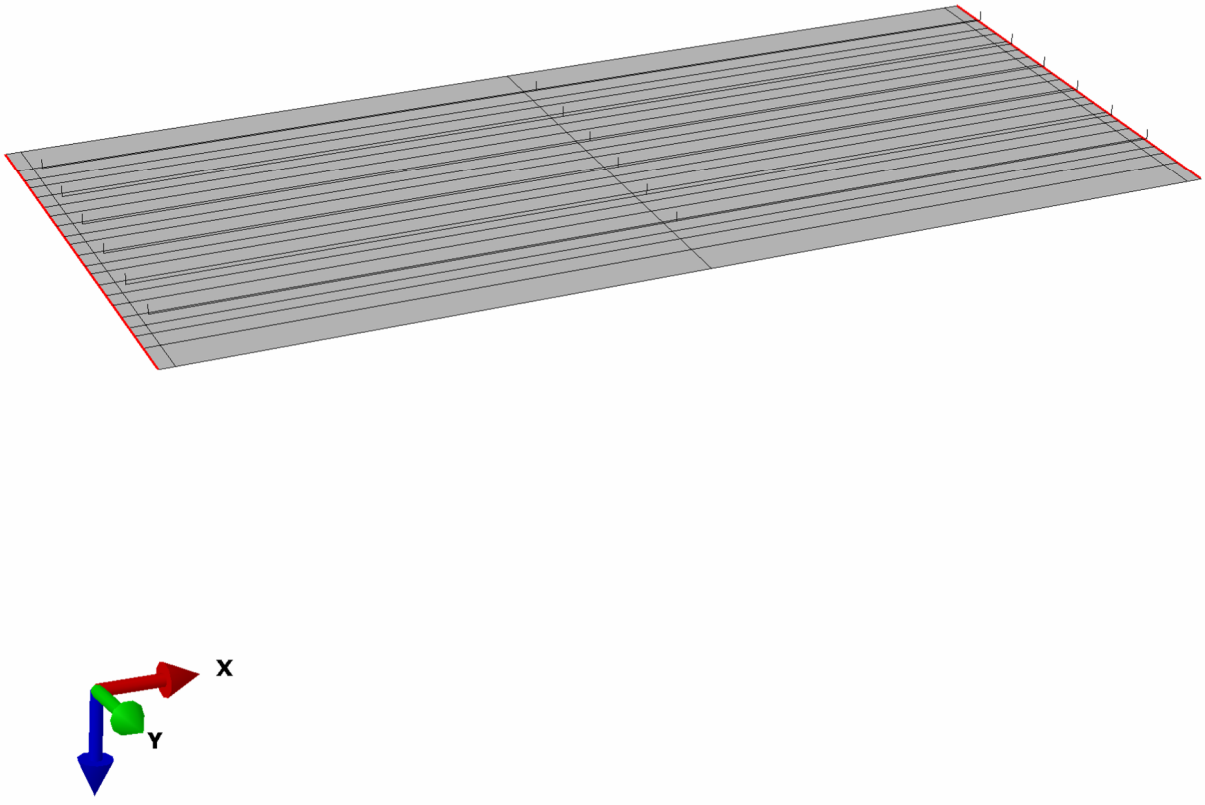
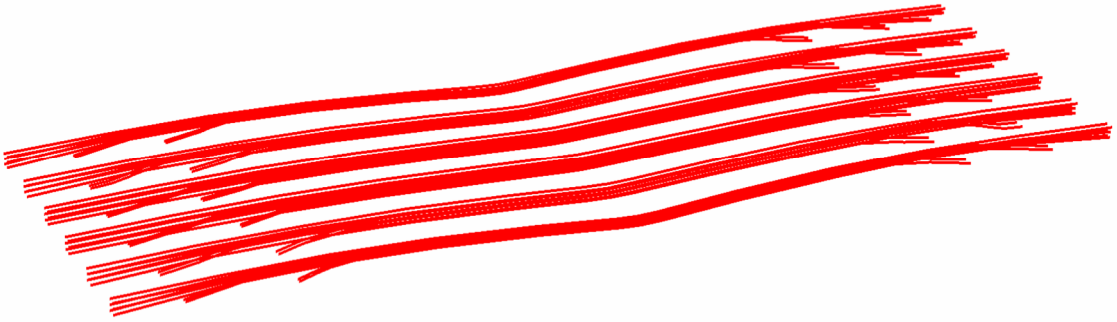


Figure 15. Model: Model-1; Region of Part: Part-1; Assigned section: StringerBeamSection

Truss-Steel-0.0004618

Type: TrussSection

Area: 0.0004618
Material: Steel



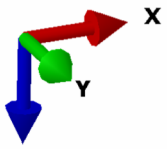


Figure 16. Model: Model-1; Region of Part: TendonCollection; Assigned section: Truss-Steel-0.0004618

Concrete

Density

Temperature dependent: OFF

ρ: 2500.0

Elastic: ISOTROPIC

Temperature dependent: OFF

Moduli time scale: LONG_TERM

No Compression: OFF

No Tension: OFF

E:	ν:
34000000000. 0	0.2

Expansion: ISOTROPIC

Temperature dependent: OFF

Reference Temperature: 0.0

α:
1e-05

Dummy_material

Elastic: ISOTROPIC

Temperature dependent: OFF

Moduli time scale: LONG_TERM

No Compression: OFF
No Tension: OFF

E:	ν:
1e+15	0.0

High_Stiffness_Material

Elastic: ISOTROPIC
Temperature dependent: OFF
Moduli time scale: LONG_TERM
No Compression: OFF
No Tension: OFF

E:	ν:
1e+15	0.0

Steel

Density
Temperature dependent: OFF
ρ: 7850.0
Elastic: ISOTROPIC
Temperature dependent: OFF
Moduli time scale: LONG_TERM
No Compression: OFF
No Tension: OFF

E:	ν:
2e+11	0.3

Expansion: ISOTROPIC
Temperature dependent: OFF
Reference Temperature: 0.0

α:
1e-05

3. Assembly

Set-BC-FL

3 (15.27, 9.88, -0.7)
10 (15.27, 6.04, -0.7)
16 (15.27, 2.2, -0.7)
22 (15.27, 4.12, -0.7)
27 (15.27, 7.96, -0.7)
34 (15.27, 11.8, -0.7)

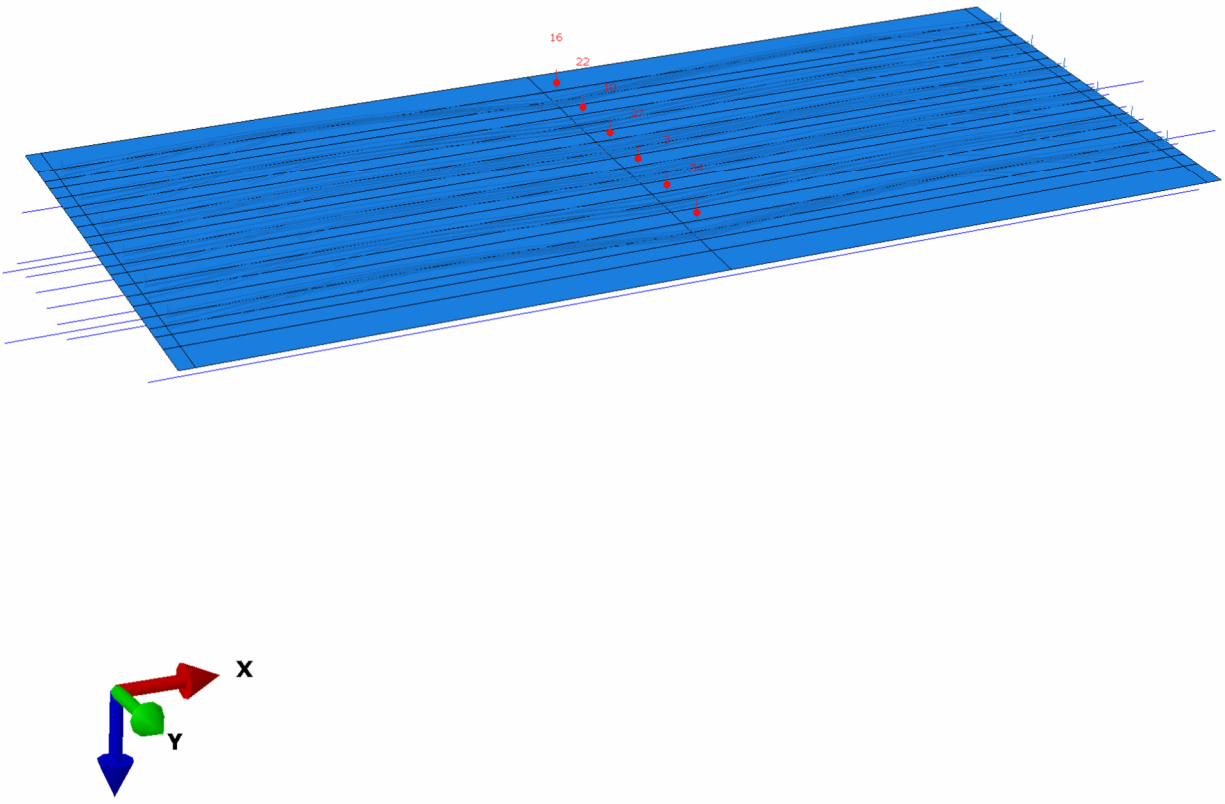


Figure 17. Highlighted vertices 3, 10, 16, 22, 27, 34

Set-BC-RL

0 (30.09, 9.88, -0.7)
5 (0.45, 9.88, -0.7)
6 (30.09, 6.04, -0.7)
11 (0.45, 6.04, -0.7)
12 (30.09, 2.2, -0.7)
17 (0.45, 2.2, -0.7)
18 (30.09, 4.12, -0.7)
23 (0.45, 4.12, -0.7)
24 (30.09, 7.96, -0.7)
29 (0.45, 7.96, -0.7)
30 (30.09, 11.8, -0.7)

35 (0.45, 11.8, -0.7)

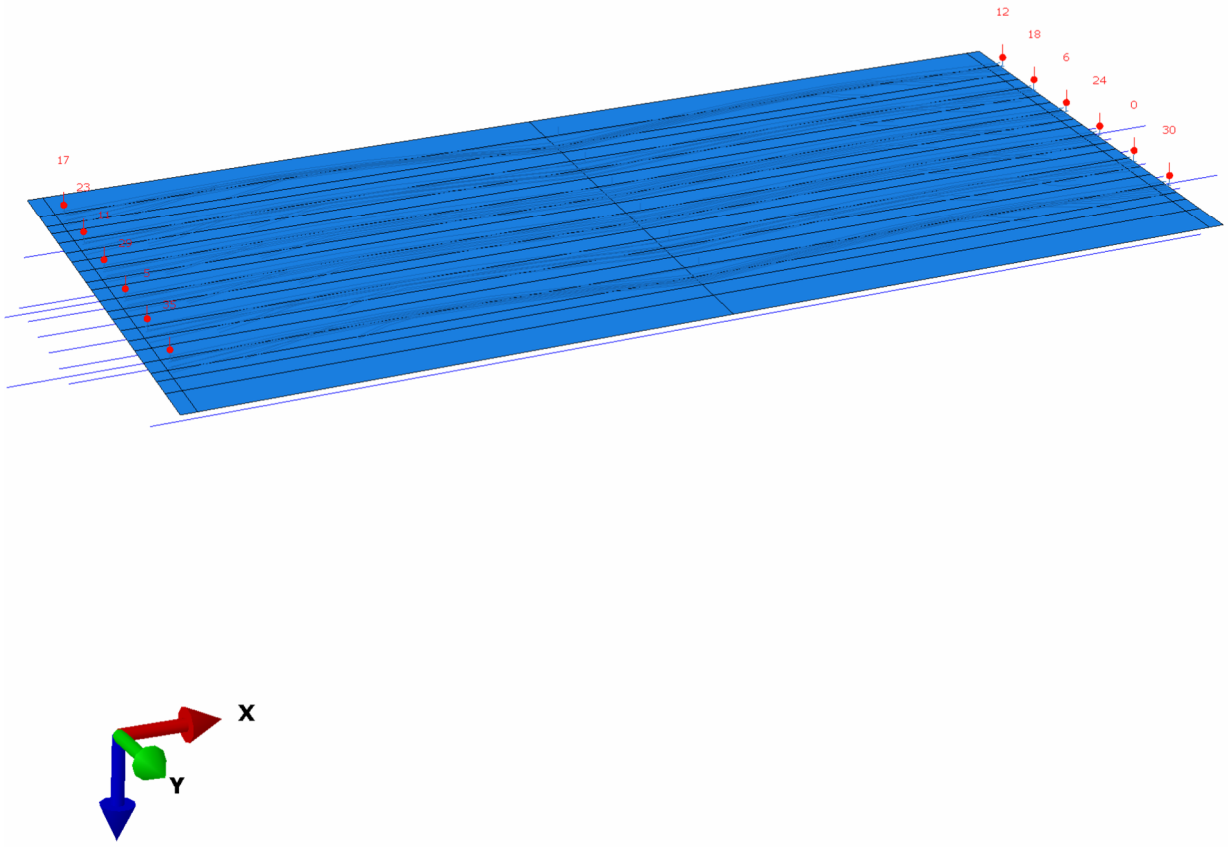


Figure 18. Highlighted vertices 0, 5, 6, 11, 12, 17, 18, 23, 24, 29, 30, 35

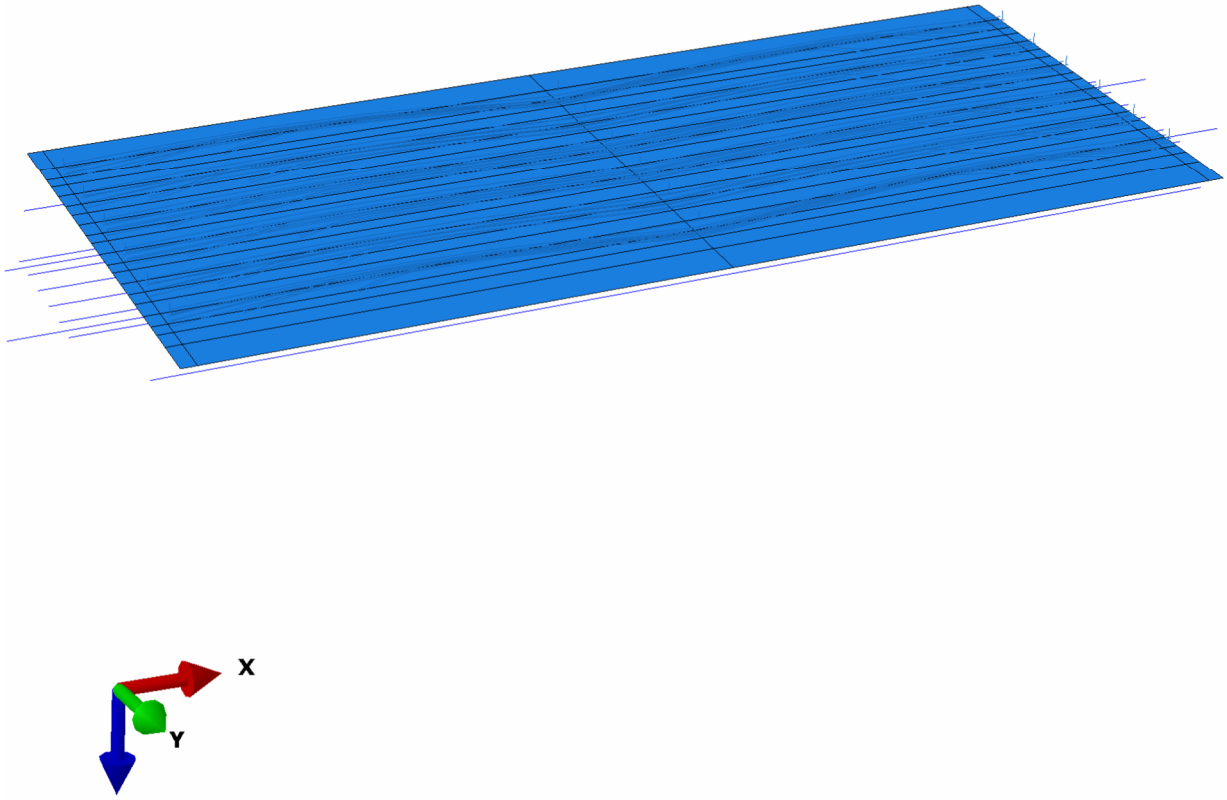


Figure 19. Assembly for model: Model-1

4. Steps

Initial
Type: NONE
Description:

DeadWeight
Type: STATIC_LINEAR_PERTURBATION
Description:

Loads in step:
DeadWeight

Prestress_t0
Type: STATIC_LINEAR_PERTURBATION
Description:

Prestress_t2
Type: STATIC_LINEAR_PERTURBATION
Description:

Overburden
Type: STATIC_LINEAR_PERTURBATION
Description: BRIGADE/Plus (Basic load case) - Connected to load "Overburden" (ID=OVERBURDEN)

Loads in step:
Belaggning_old
Overburden_1
Overburden_2
Overburden_3
Overburden_4
Overburden_5

Temperature_High
Type: STATIC_LINEAR_PERTURBATION
Description: BRIGADE/Plus (Basic load case) - Connected to load "Temperature High" (ID=TEMPERATURE_HIGH)

Predefined fields in step:
Temperature_High

Temperature_Low
Type: STATIC_LINEAR_PERTURBATION
Description: BRIGADE/Plus (Basic load case) - Connected to load "Temperature Low" (ID=TEMPERATURE_LOW)

Predefined fields in step:
Temperature_Low

Shrinkage
Type: STATIC_LINEAR_PERTURBATION
Description: BRIGADE/Plus (Basic load case) - Connected to load "Shrinkage" (ID=SHRINKAGE)

Predefined fields in step:
Shrinkage

Braking_Force_Traffic1
Type: STATIC_LINEAR_PERTURBATION
Description: BRIGADE/Plus (Basic load case) - Connected to load "Braking Force Traffic" (ID=BRAKINGFORCETRAFFIC)

Loads in step:
Brake_Traffic_1

Braking_Force_Traffic2

Type: STATIC_LINEAR_PERTURBATION
Description: BRIGADE/Plus (Basic load case) - Connected to load "Braking Force Traffic2" (ID=BRAKINGFORCETRAFFIC2)

Loads in step:
Brake_Traffic_2

Braking_Force_Traffic3

Type: STATIC_LINEAR_PERTURBATION
Description: BRIGADE/Plus (Basic load case) - Connected to load "Braking Force Traffic3" (ID=BRAKINGFORCETRAFFIC3)

Loads in step:
Brake_Traffic_3

Braking_Force_Traffic4

Type: STATIC_LINEAR_PERTURBATION
Description: BRIGADE/Plus (Basic load case) - Connected to load "Braking Force Traffic4" (ID=BRAKINGFORCETRAFFIC4)

Loads in step:
Brake_Traffic_4

Lateral_Force_Traffic1

Type: STATIC_LINEAR_PERTURBATION
Description: BRIGADE/Plus (Basic load case) - Connected to load "Lateral Force Traffic1" (ID=LATERALFORCETRAFFIC1)

Loads in step:
Lateral_Traffic_1

Lateral_Force_Traffic2

Type: STATIC_LINEAR_PERTURBATION
Description: BRIGADE/Plus (Basic load case) - Connected to load "Lateral Force Traffic2" (ID=LATERALFORCETRAFFIC2)

Loads in step:
Lateral_Traffic_2

Lateral_Force_Traffic3

Type: STATIC_LINEAR_PERTURBATION
Description: BRIGADE/Plus (Basic load case) - Connected to load "Lateral Force Traffic3" (ID=LATERALFORCETRAFFIC3)

Loads in step:
Lateral_Traffic_3

Lateral_Force_Traffic4

Type: STATIC_LINEAR_PERTURBATION
Description: BRIGADE/Plus (Basic load case) - Connected to load "Lateral Force Traffic4" (ID=LATERALFORCETRAFFIC4)

Loads in step:
Lateral_Traffic_4

Braking_Force_Train1

Type: STATIC_LINEAR_PERTURBATION
Description: BRIGADE/Plus (Basic load case) - Connected to load "Braking Force Train1" (ID=BRAKINGFORCETRAIN1)

Loads in step:
Brake_Train_1

Braking_Force_Train2

Type: STATIC_LINEAR_PERTURBATION
Description: BRIGADE/Plus (Basic load case) - Connected to load "Braking Force Train2" (ID=BRAKINGFORCETRAIN2)

Loads in step:
Brake_Train_2

Lateral_Force_Train1

Type: STATIC_LINEAR_PERTURBATION
Description: BRIGADE/Plus (Basic load case) - Connected to load "Lateral Force Train1" (ID=LATERALFORCETRAIN1)

Loads in step:
Lateral_Train1
Lateral_Train4

Lateral_Force_Train2

Type: STATIC_LINEAR_PERTURBATION
Description: BRIGADE/Plus (Basic load case) - Connected to load "Lateral Force Train2" (ID=LATERALFORCETRAIN2)

Loads in step:
Lateral_Train2
Lateral_Train3

5. Interactions

Tendon-101

Constraint type: Tie
Adjust: OFF
ConstraintEnforcement: NODE_TO_SURFACE
ConstraintRatio: 0.0
ConstraintRatioMethod: DEFAULT
Main: ('Host_Deck_I', 'Part-1', 'Part-1-1', 1, 1, 0)
PositionTolerance: 10000000000.0
PositionToleranceMethod: SPECIFIED
Secondary: ('Tendon-101', 'TendonCollection', 'TendonCollection', 1, 1, 0)
Thickness: ON
TieRotations: ON

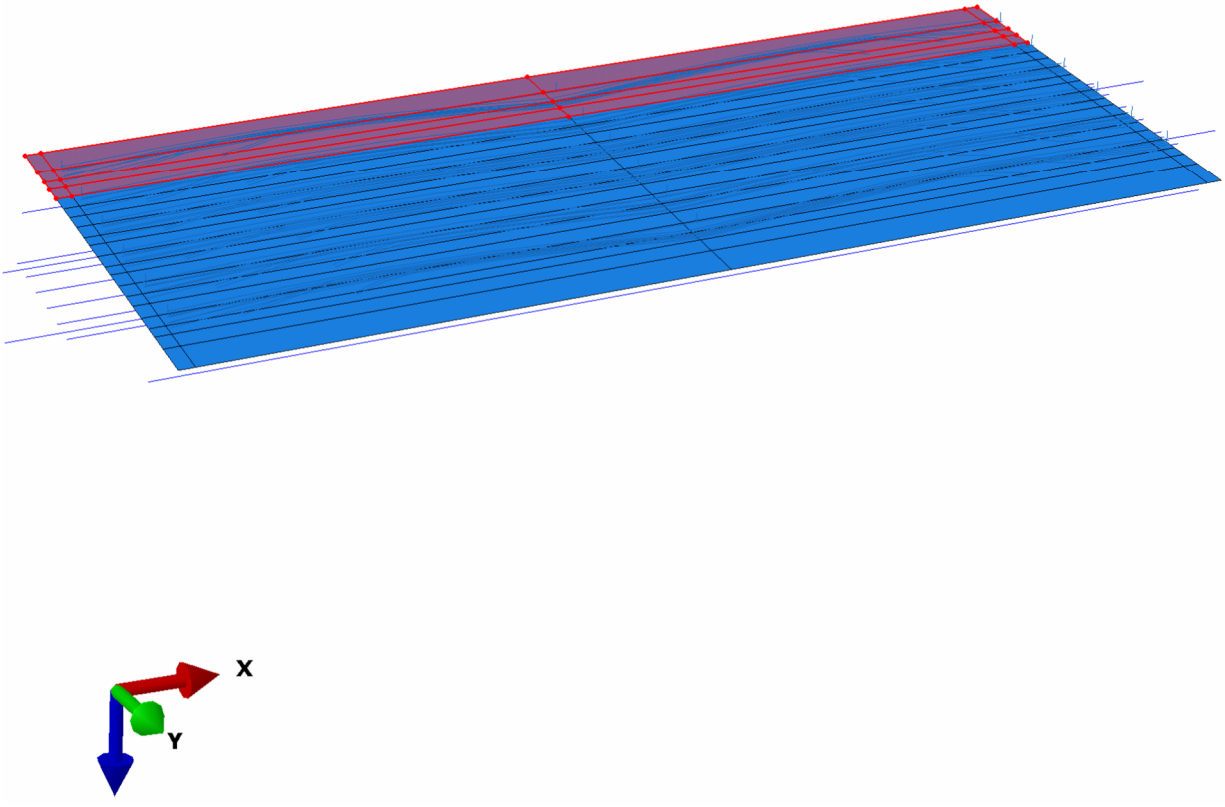


Figure 20. View of the Assembly with the main region of constraint: Tendon-101 highlighted

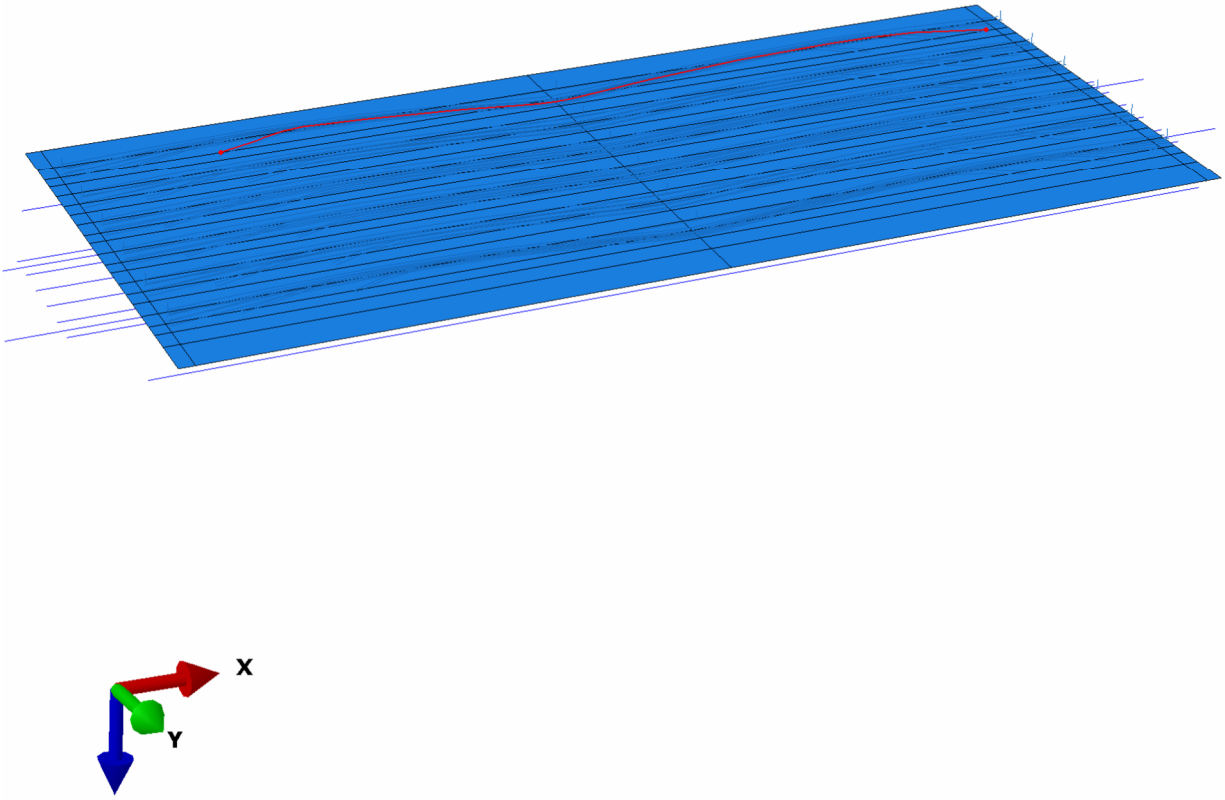


Figure 21. View of the Assembly with the secondary region of constraint: Tendon-101 highlighted

Tendon-201

Constraint type: Tie
Adjust: OFF
ConstraintEnforcement: NODE_TO_SURFACE
ConstraintRatio: 0.0
ConstraintRatioMethod: DEFAULT
Main: ('Host_Deck_II', 'Part-1', 'Part-1-1', 1, 1, 0)
PositionTolerance: 10000000000.0
PositionToleranceMethod: SPECIFIED
Secondary: ('Tendon-201', 'TendonCollection', 'TendonCollection', 1, 1, 0)
Thickness: ON
TieRotations: ON

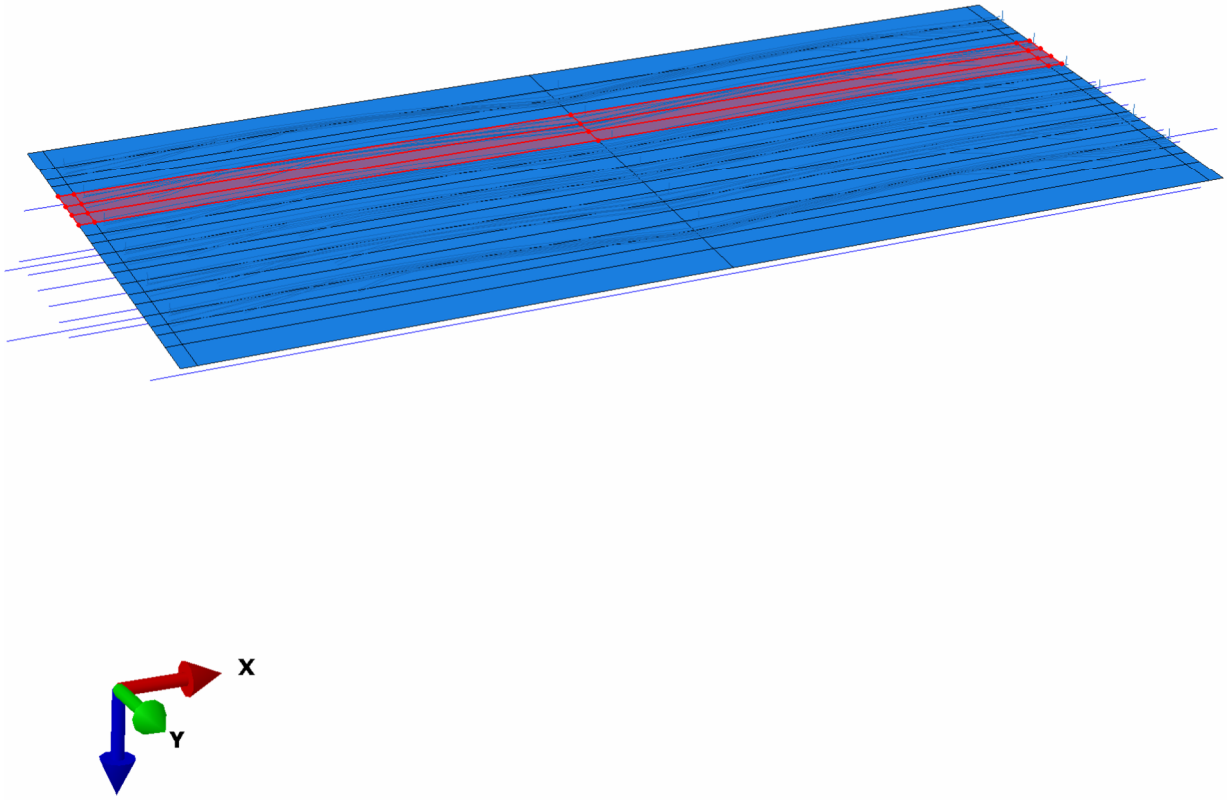


Figure 22. View of the Assembly with the main region of constraint: Tendon-201 highlighted

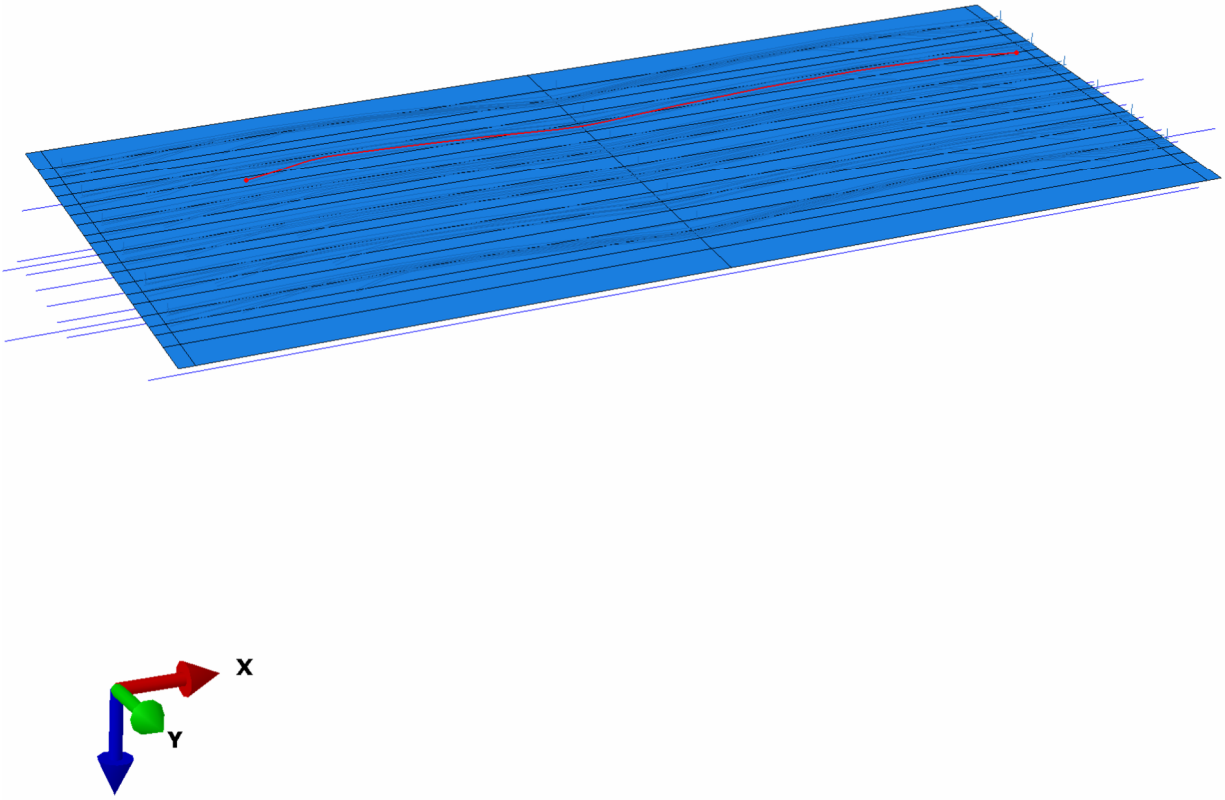


Figure 23. View of the Assembly with the secondary region of constraint: Tendon-201 highlighted

Tendon-303

Constraint type: Tie
Adjust: OFF
ConstraintEnforcement: NODE_TO_SURFACE
ConstraintRatio: 0.0
ConstraintRatioMethod: DEFAULT
Main: ('Host_Deck_III', 'Part-1', 'Part-1-1', 1, 1, 0)
PositionTolerance: 10000000000.0
PositionToleranceMethod: SPECIFIED
Secondary: ('Tendon-303', 'TendonCollection', 'TendonCollection', 1, 1, 0)
Thickness: ON
TieRotations: ON

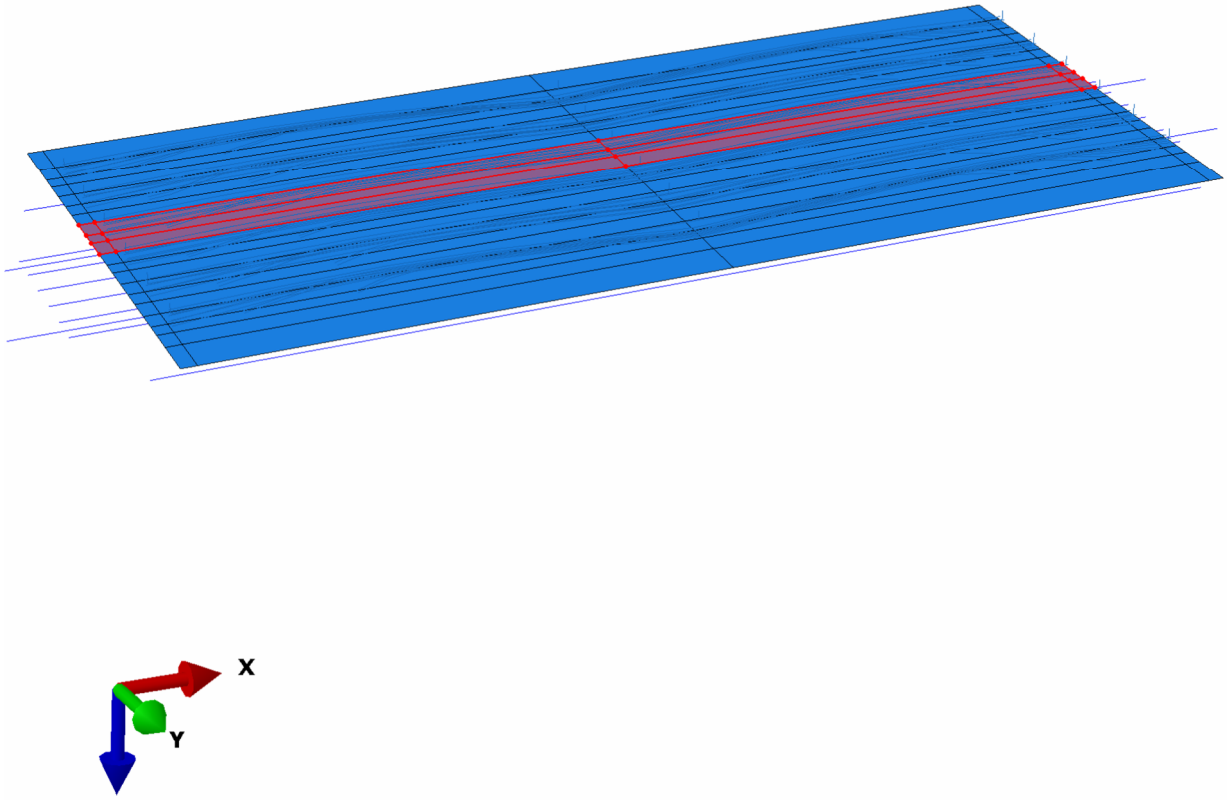


Figure 24. View of the Assembly with the main region of constraint: Tendon-303 highlighted

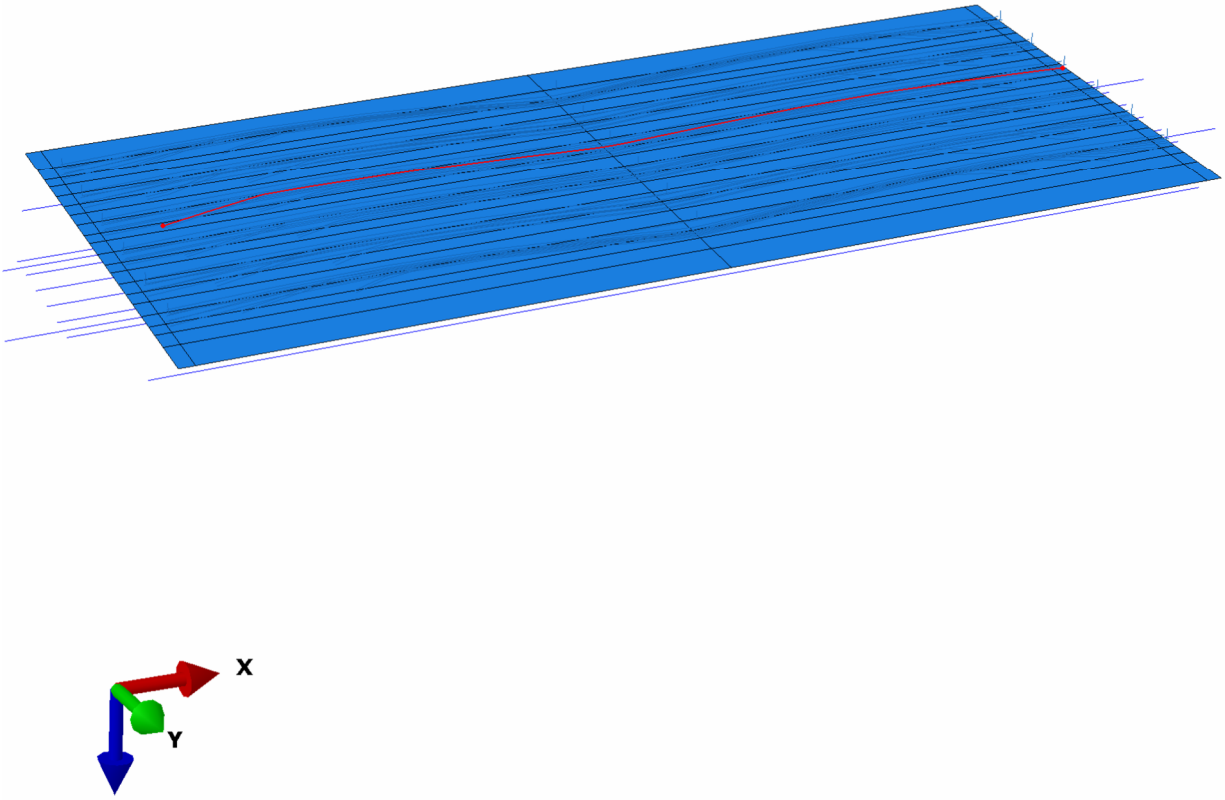


Figure 25. View of the Assembly with the secondary region of constraint: Tendon-303 highlighted

Tendon-404

Constraint type: Tie
Adjust: OFF
ConstraintEnforcement: NODE_TO_SURFACE
ConstraintRatio: 0.0
ConstraintRatioMethod: DEFAULT
Main: ('Host_Deck_IV', 'Part-1', 'Part-1-1', 1, 1, 0)
PositionTolerance: 10000000000.0
PositionToleranceMethod: SPECIFIED
Secondary: ('Tendon-404', 'TendonCollection', 'TendonCollection', 1, 1, 0)
Thickness: ON
TieRotations: ON

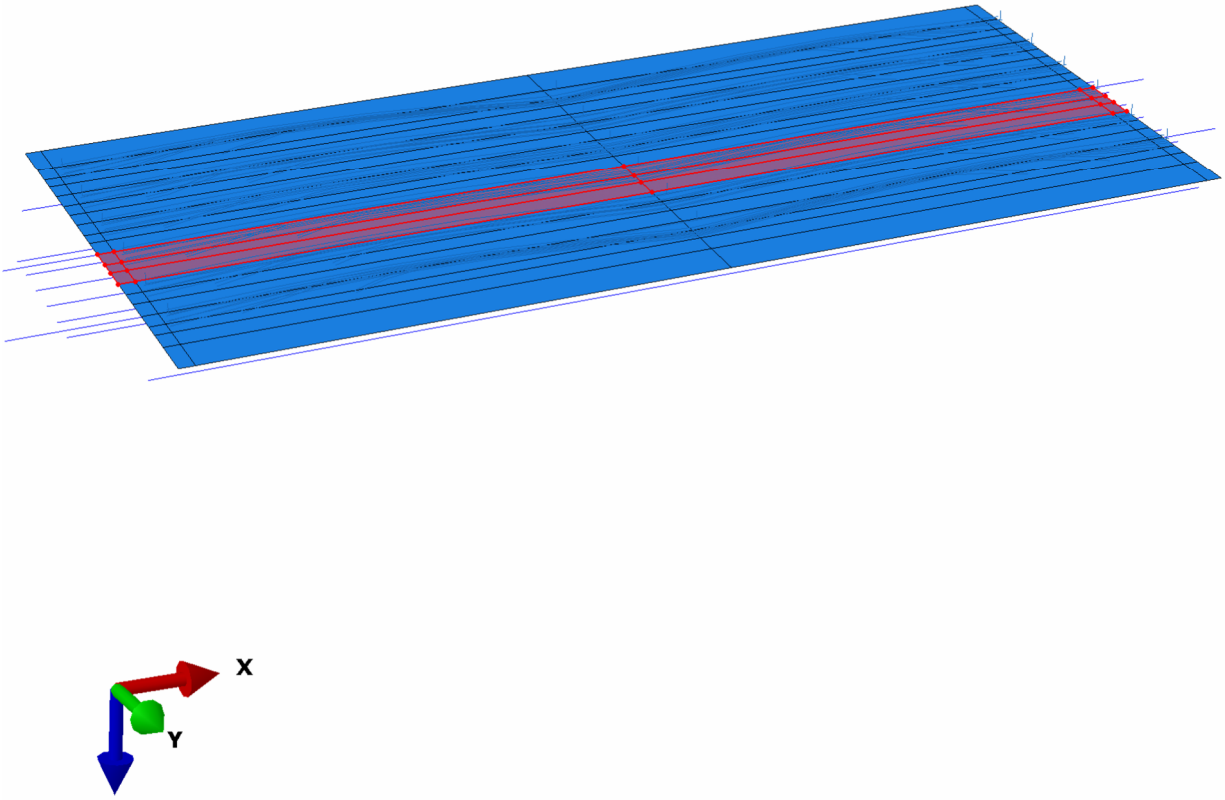


Figure 26. View of the Assembly with the main region of constraint: Tendon-404 highlighted

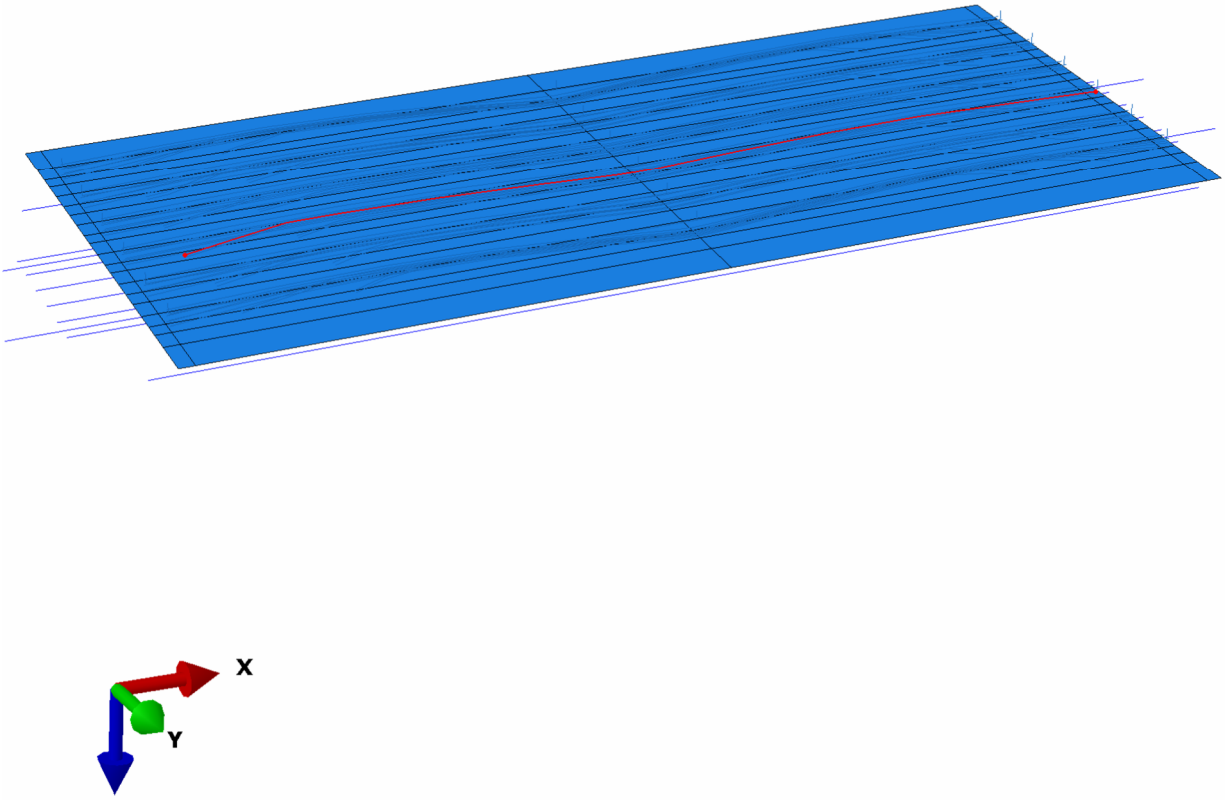


Figure 27. View of the Assembly with the secondary region of constraint: Tendon-404 highlighted

Tendon-505

Constraint type: Tie
Adjust: OFF
ConstraintEnforcement: NODE_TO_SURFACE
ConstraintRatio: 0.0
ConstraintRatioMethod: DEFAULT
Main: ('Host_Deck_V', 'Part-1', 'Part-1-1', 1, 1, 0)
PositionTolerance: 10000000000.0
PositionToleranceMethod: SPECIFIED
Secondary: ('Tendon-505', 'TendonCollection', 'TendonCollection', 1, 1, 0)
Thickness: ON
TieRotations: ON

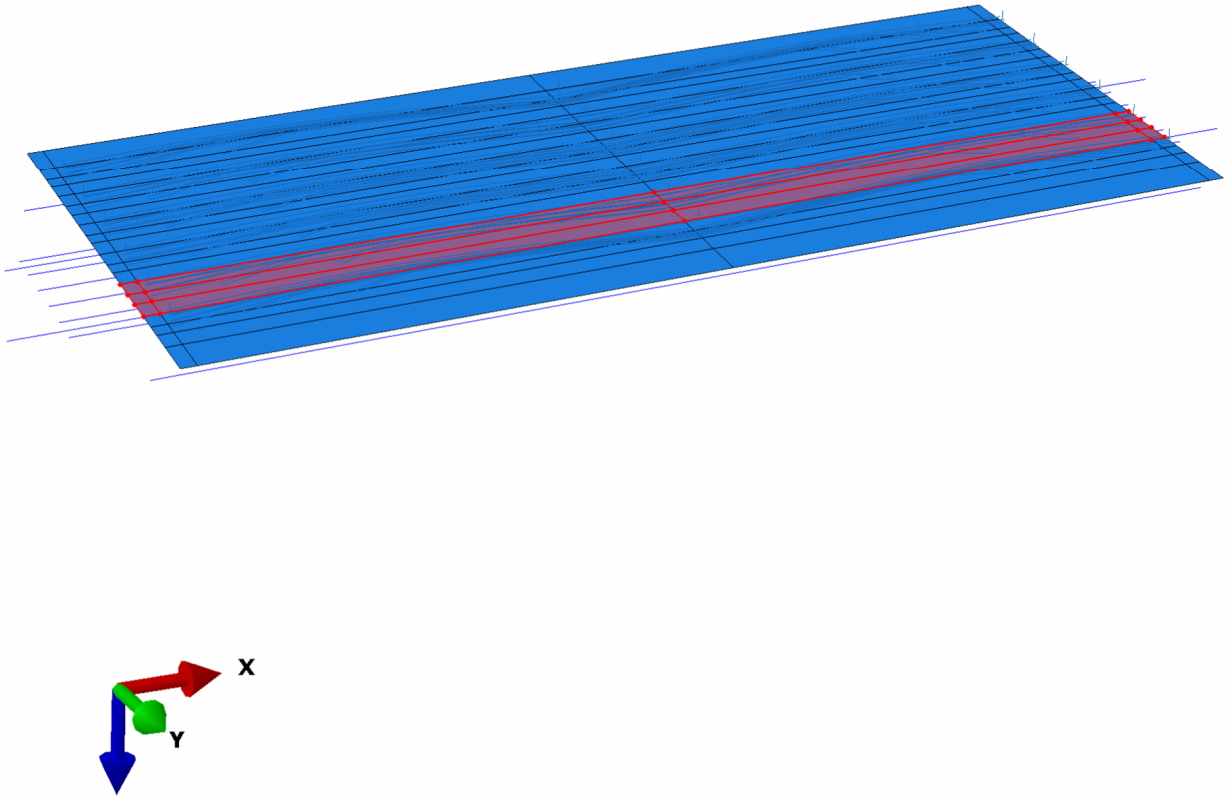


Figure 28. View of the Assembly with the main region of constraint: Tendon-505 highlighted

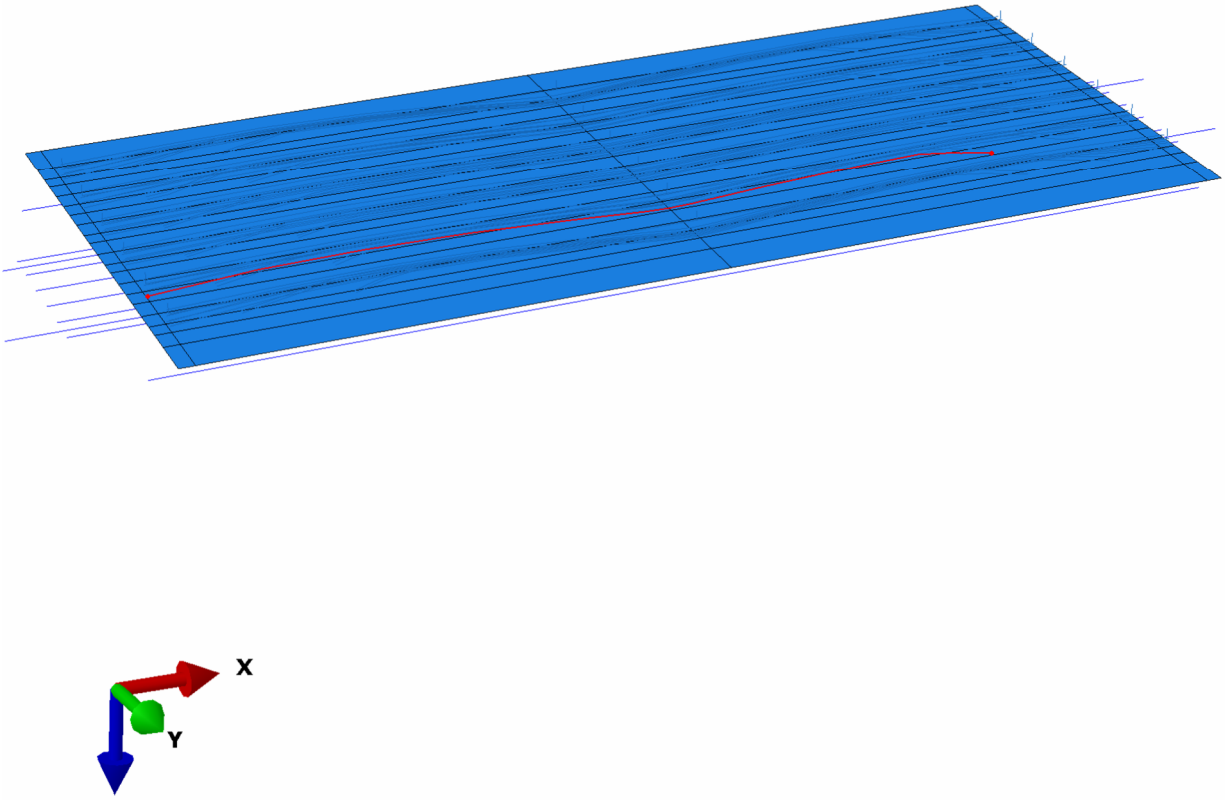


Figure 29. View of the Assembly with the secondary region of constraint: Tendon-505 highlighted

Tendon-606

Constraint type: Tie
Adjust: OFF
ConstraintEnforcement: NODE_TO_SURFACE
ConstraintRatio: 0.0
ConstraintRatioMethod: DEFAULT
Main: ('Host_Deck_VI', 'Part-1', 'Part-1-1', 1, 1, 0)
PositionTolerance: 10000000000.0
PositionToleranceMethod: SPECIFIED
Secondary: ('Tendon-606', 'TendonCollection', 'TendonCollection', 1, 1, 0)
Thickness: ON
TieRotations: ON

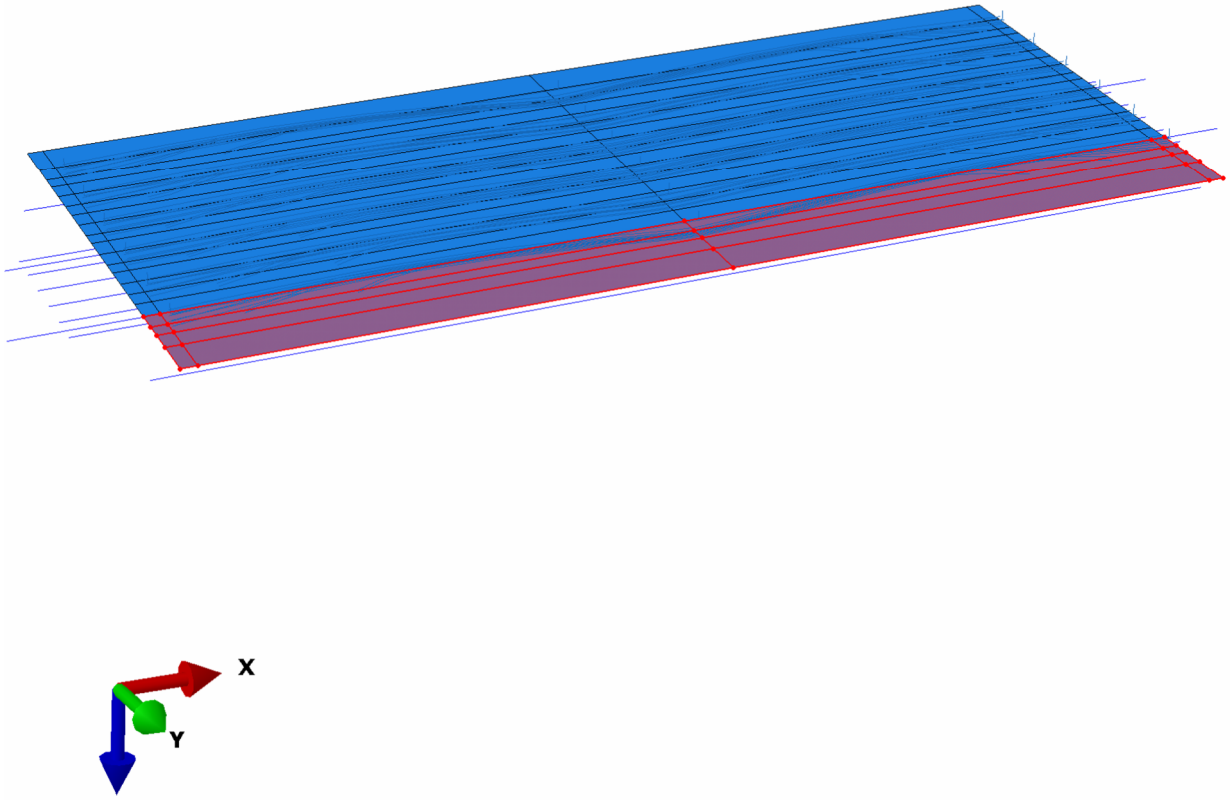


Figure 30. View of the Assembly with the main region of constraint: Tendon-606 highlighted

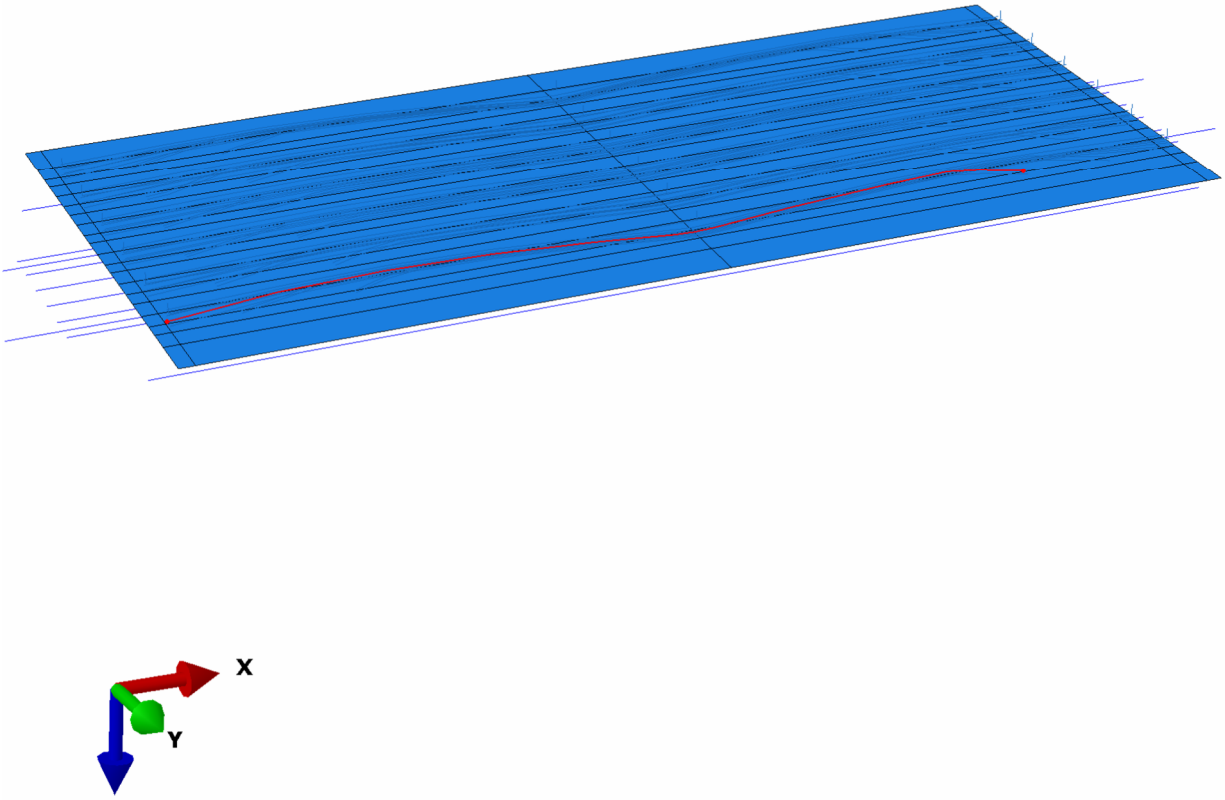


Figure 31. View of the Assembly with the secondary region of constraint: Tendon-606 highlighted

Tendon-607

Constraint type: Tie
Adjust: OFF
ConstraintEnforcement: NODE_TO_SURFACE
ConstraintRatio: 0.0
ConstraintRatioMethod: DEFAULT
Main: ('Host_Deck_VI', 'Part-1', 'Part-1-1', 1, 1, 0)
PositionTolerance: 10000000000.0
PositionToleranceMethod: SPECIFIED
Secondary: ('Tendon-607', 'TendonCollection', 'TendonCollection', 1, 1, 0)
Thickness: ON
TieRotations: ON

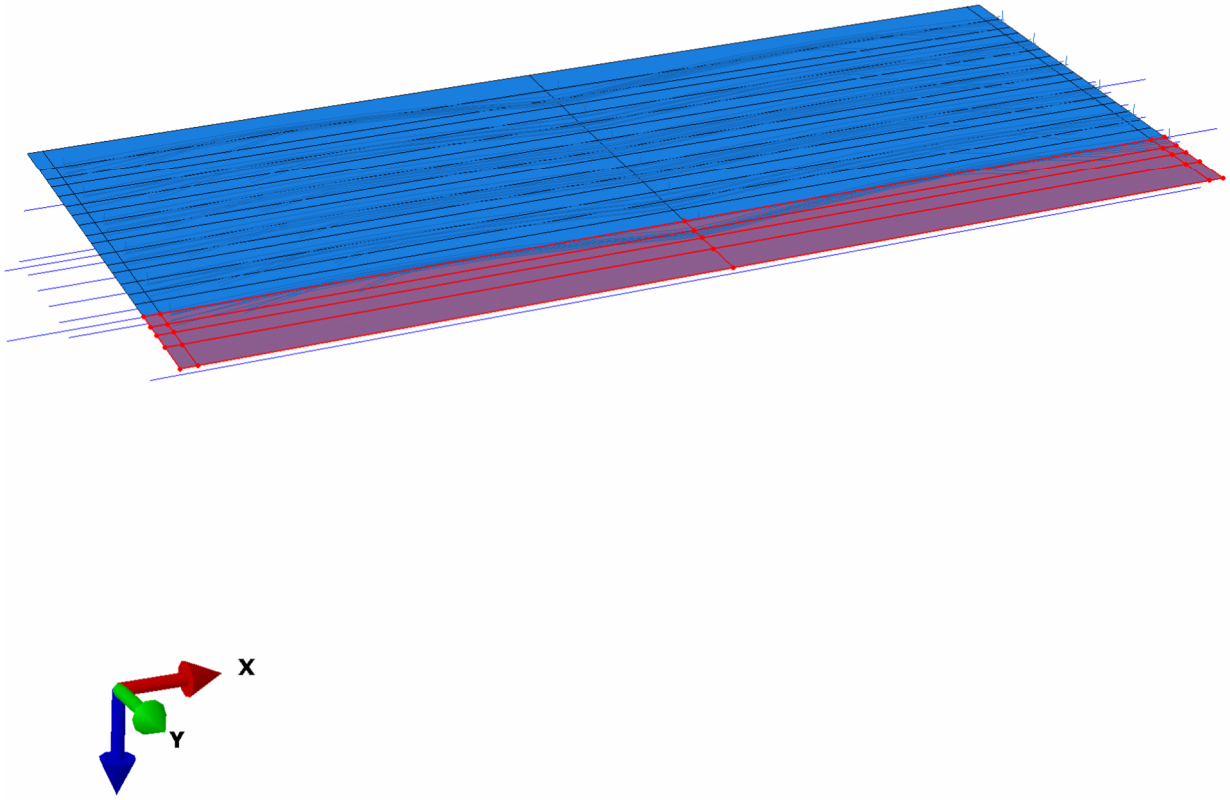


Figure 32. View of the Assembly with the main region of constraint: Tendon-607 highlighted

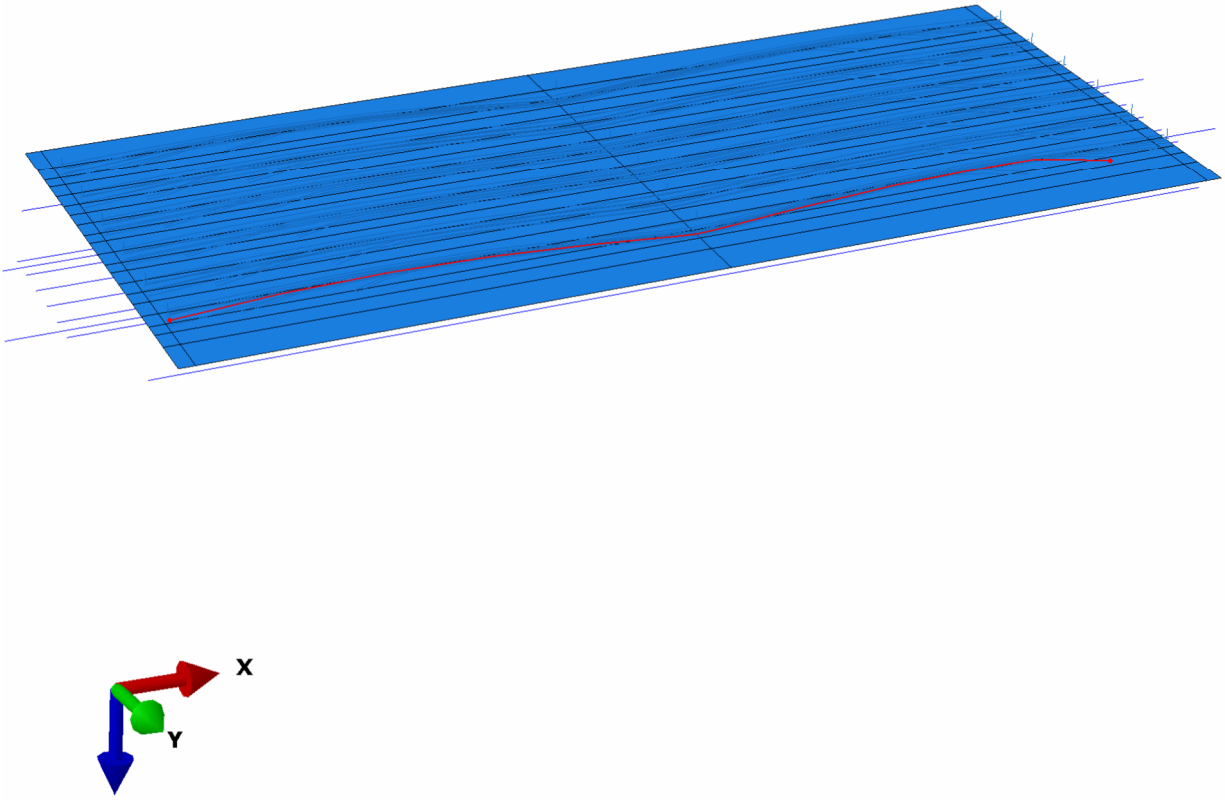


Figure 33. View of the Assembly with the secondary region of constraint: Tendon-607 highlighted

Tendon-608

Constraint type: Tie
Adjust: OFF
ConstraintEnforcement: NODE_TO_SURFACE
ConstraintRatio: 0.0
ConstraintRatioMethod: DEFAULT
Main: ('Host_Deck_VI', 'Part-1', 'Part-1-1', 1, 1, 0)
PositionTolerance: 10000000000.0
PositionToleranceMethod: SPECIFIED
Secondary: ('Tendon-608', 'TendonCollection', 'TendonCollection', 1, 1, 0)
Thickness: ON
TieRotations: ON

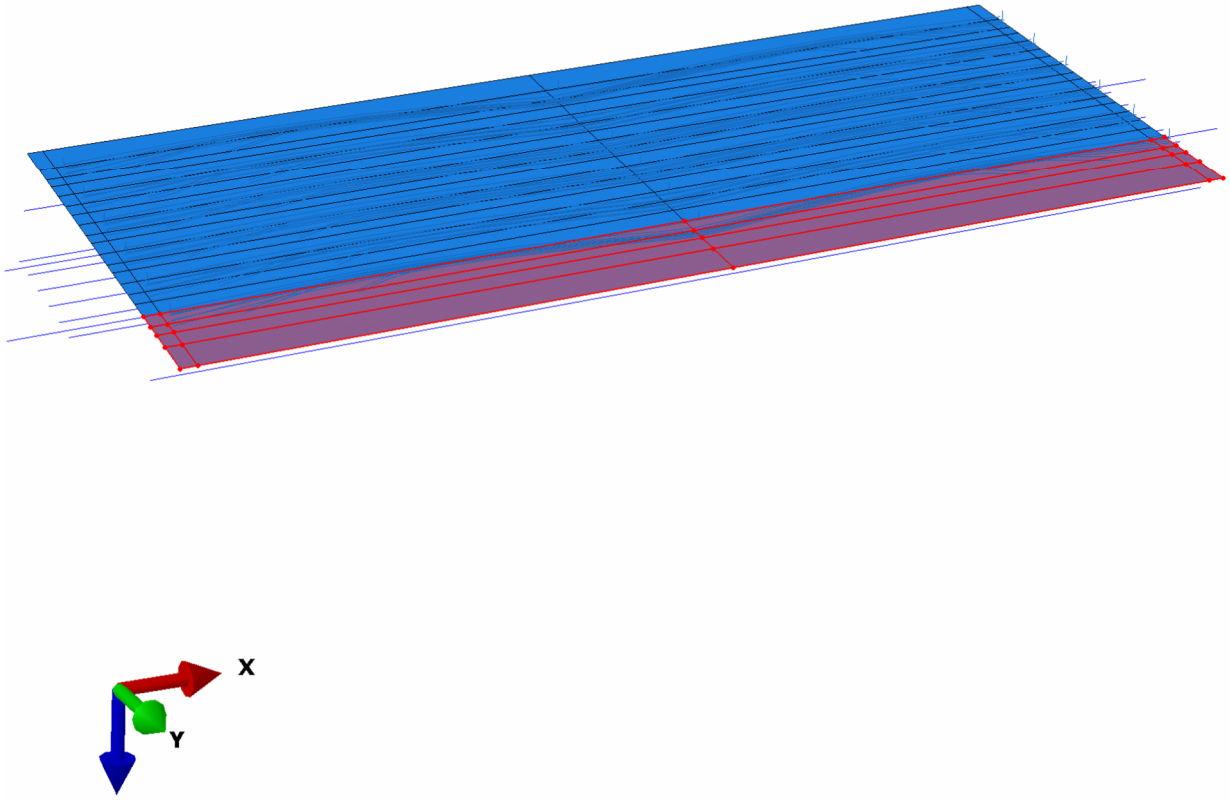


Figure 34. View of the Assembly with the main region of constraint: Tendon-608 highlighted

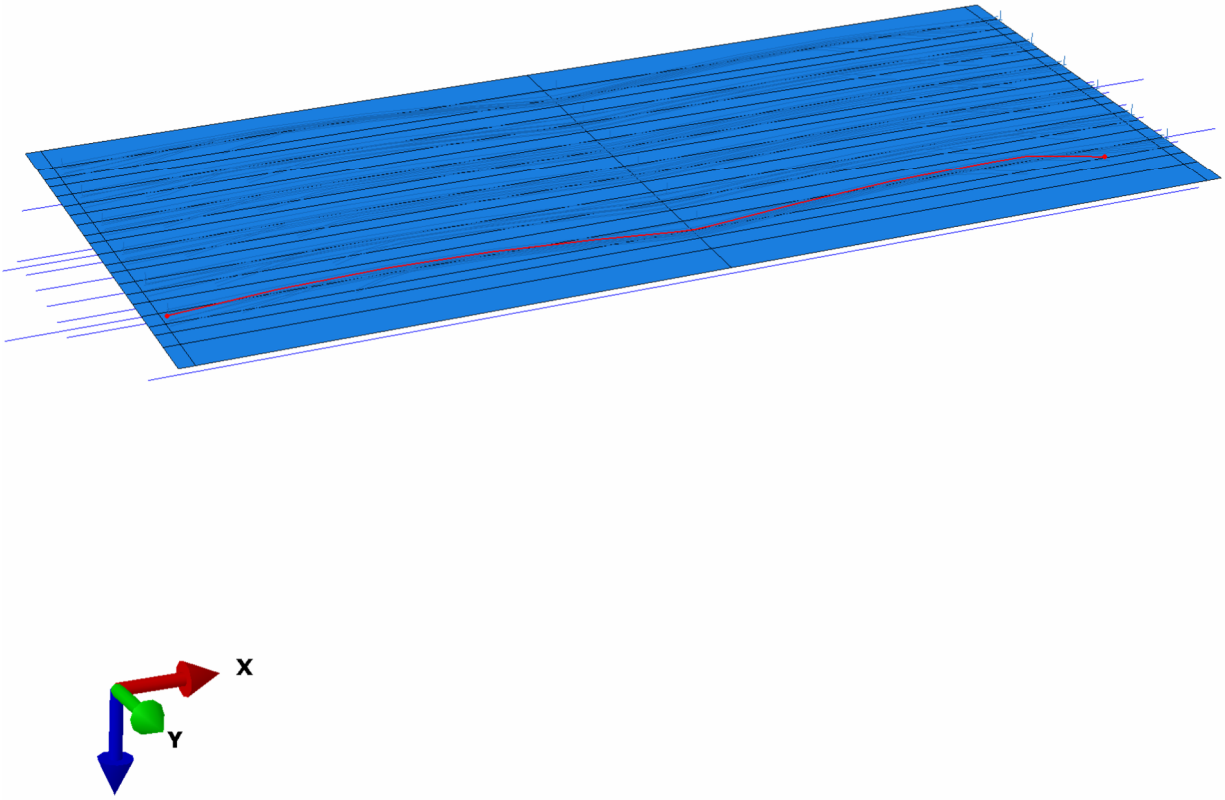


Figure 35. View of the Assembly with the secondary region of constraint: Tendon-608 highlighted

Tendon-609

Constraint type: Tie
Adjust: OFF
ConstraintEnforcement: NODE_TO_SURFACE
ConstraintRatio: 0.0
ConstraintRatioMethod: DEFAULT
Main: ('Host_Deck_VI', 'Part-1', 'Part-1-1', 1, 1, 0)
PositionTolerance: 10000000000.0
PositionToleranceMethod: SPECIFIED
Secondary: ('Tendon-609', 'TendonCollection', 'TendonCollection', 1, 1, 0)
Thickness: ON
TieRotations: ON

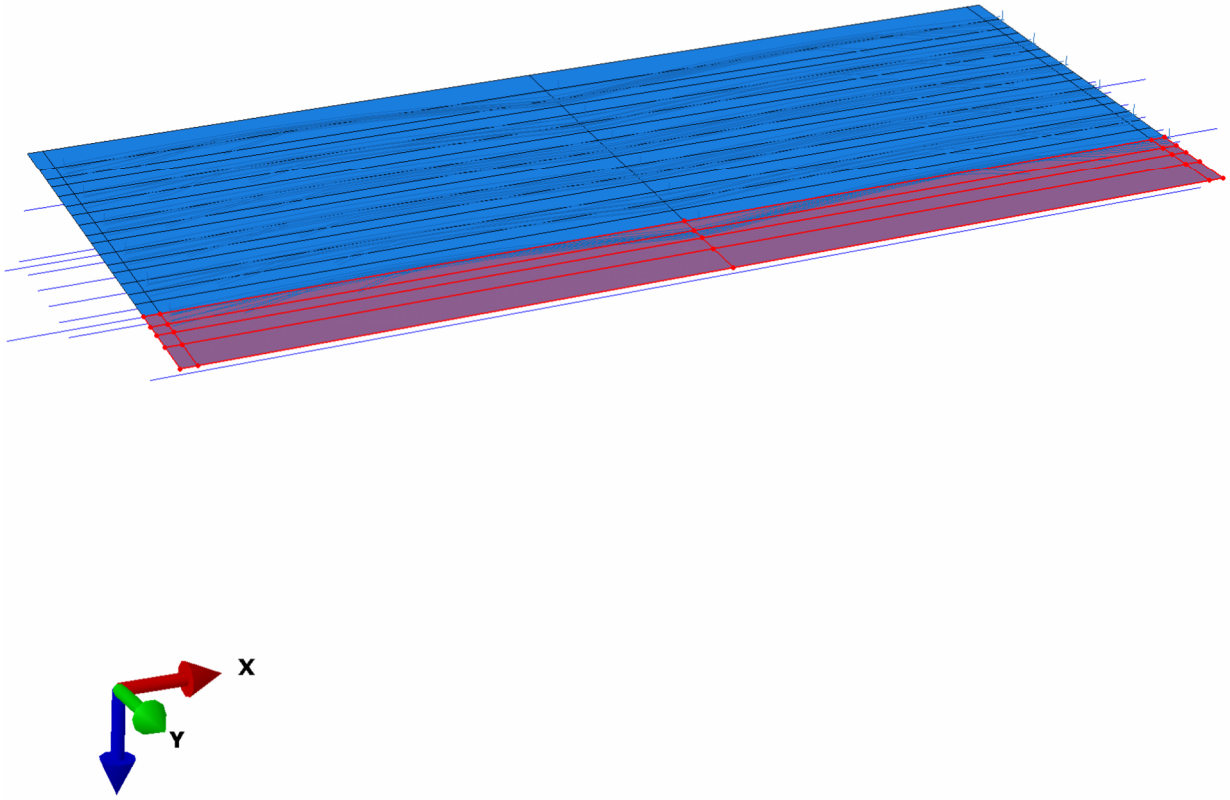


Figure 36. View of the Assembly with the main region of constraint: Tendon-609 highlighted

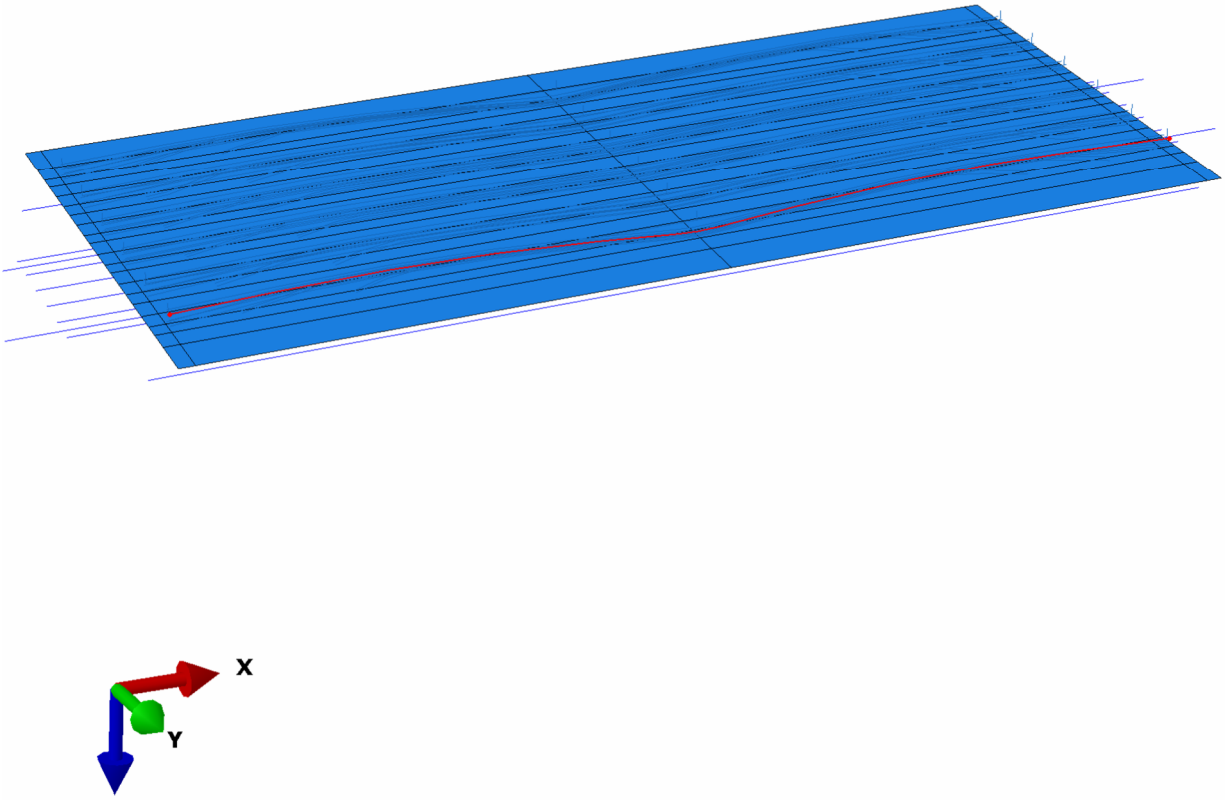


Figure 37. View of the Assembly with the secondary region of constraint: Tendon-609 highlighted

Tendon-610

Constraint type: Tie
Adjust: OFF
ConstraintEnforcement: NODE_TO_SURFACE
ConstraintRatio: 0.0
ConstraintRatioMethod: DEFAULT
Main: ('Host_Deck_VI', 'Part-1', 'Part-1-1', 1, 1, 0)
PositionTolerance: 10000000000.0
PositionToleranceMethod: SPECIFIED
Secondary: ('Tendon-610', 'TendonCollection', 'TendonCollection', 1, 1, 0)
Thickness: ON
TieRotations: ON

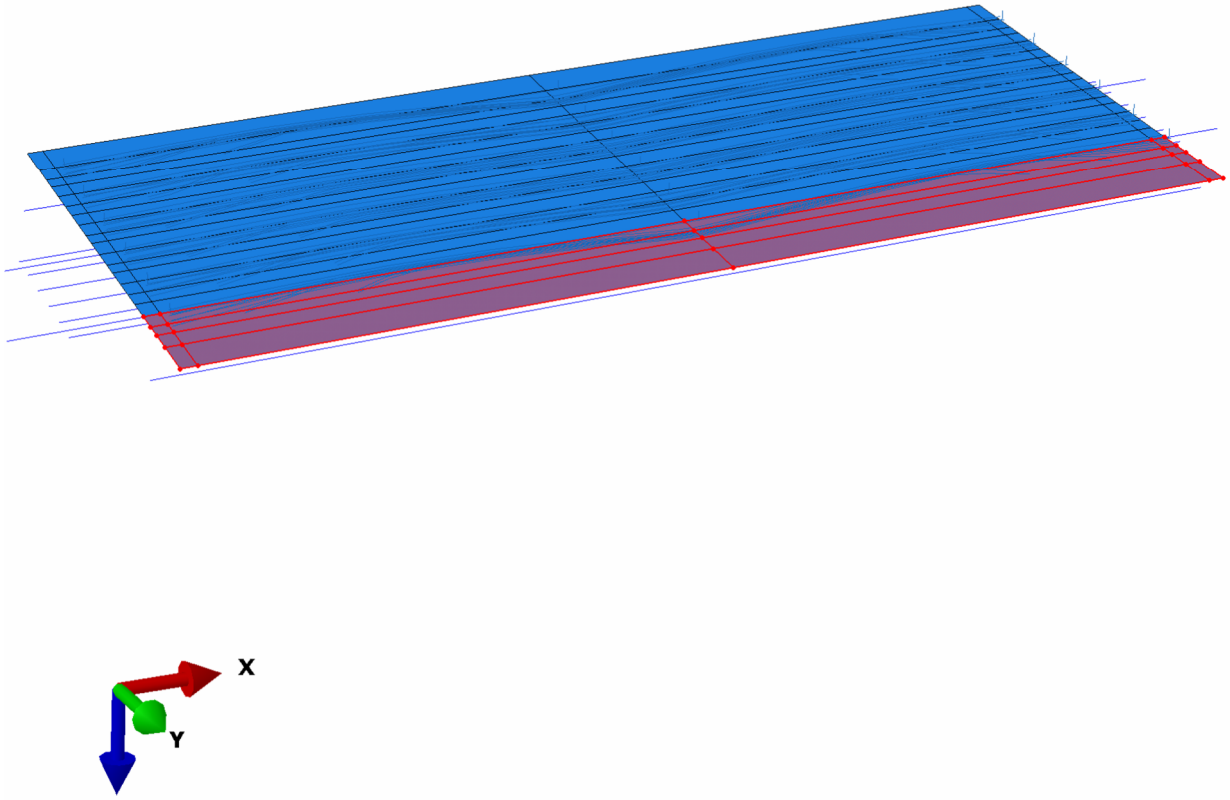


Figure 38. View of the Assembly with the main region of constraint: Tendon-610 highlighted

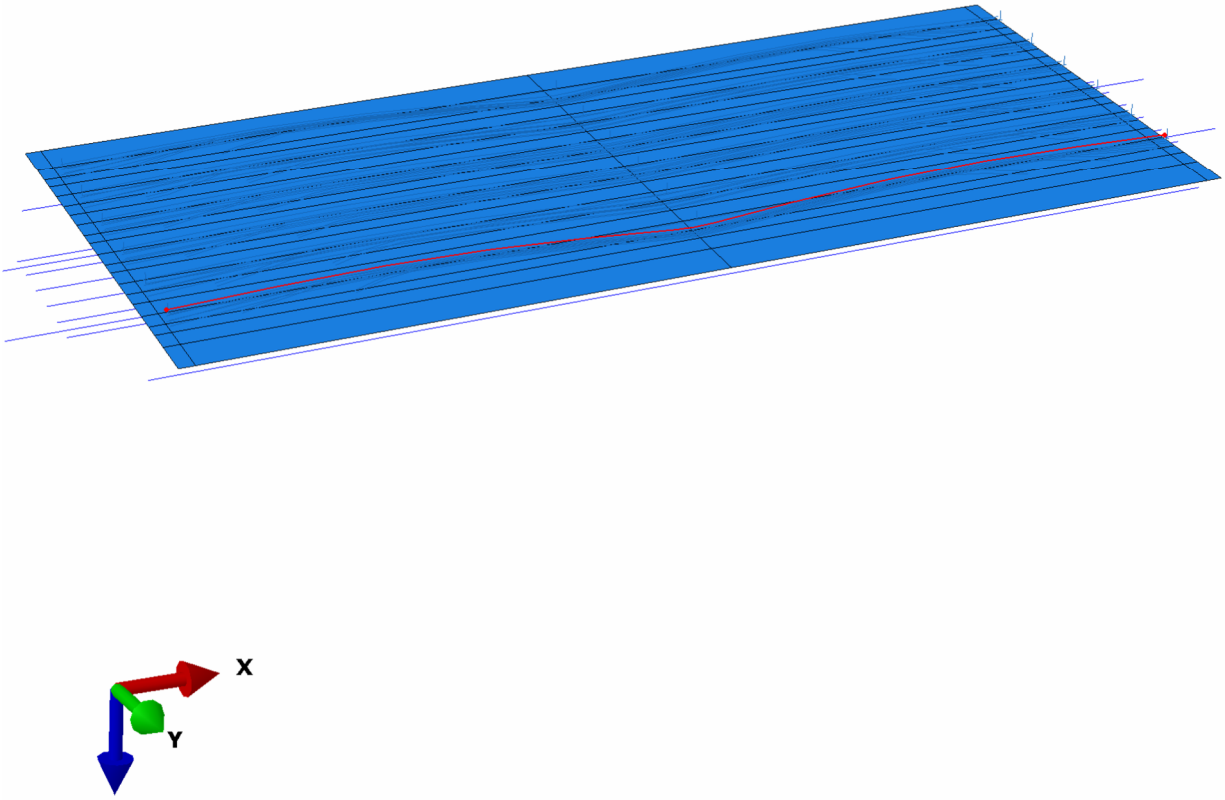
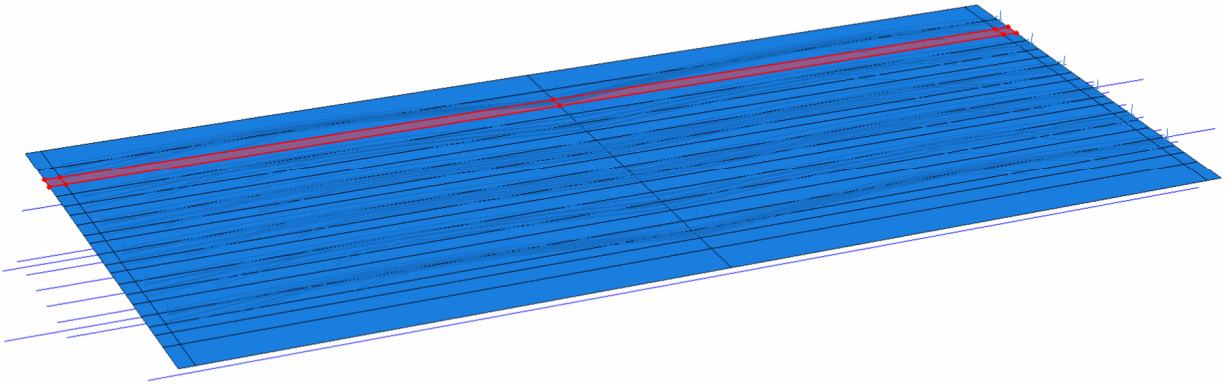


Figure 39. View of the Assembly with the secondary region of constraint: Tendon-610 highlighted

TieBeamtoDeckI

Constraint type: Tie
Adjust: OFF
ConstraintEnforcement: SOLVER_DEFAULT
ConstraintRatio: 0.0
ConstraintRatioMethod: DEFAULT
Main: ('m_Surf-TieBeamDeckI', 'Assembly', 1, 9, 0)
PositionTolerance: 2.0
PositionToleranceMethod: SPECIFIED
Secondary: ('Host_I', 'Part-1', 'Part-1-1', 1, 1, 0)
Thickness: ON
TieRotations: ON



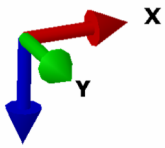


Figure 40. View of the Assembly with the main region of constraint: TieBeamtoDeckI highlighted

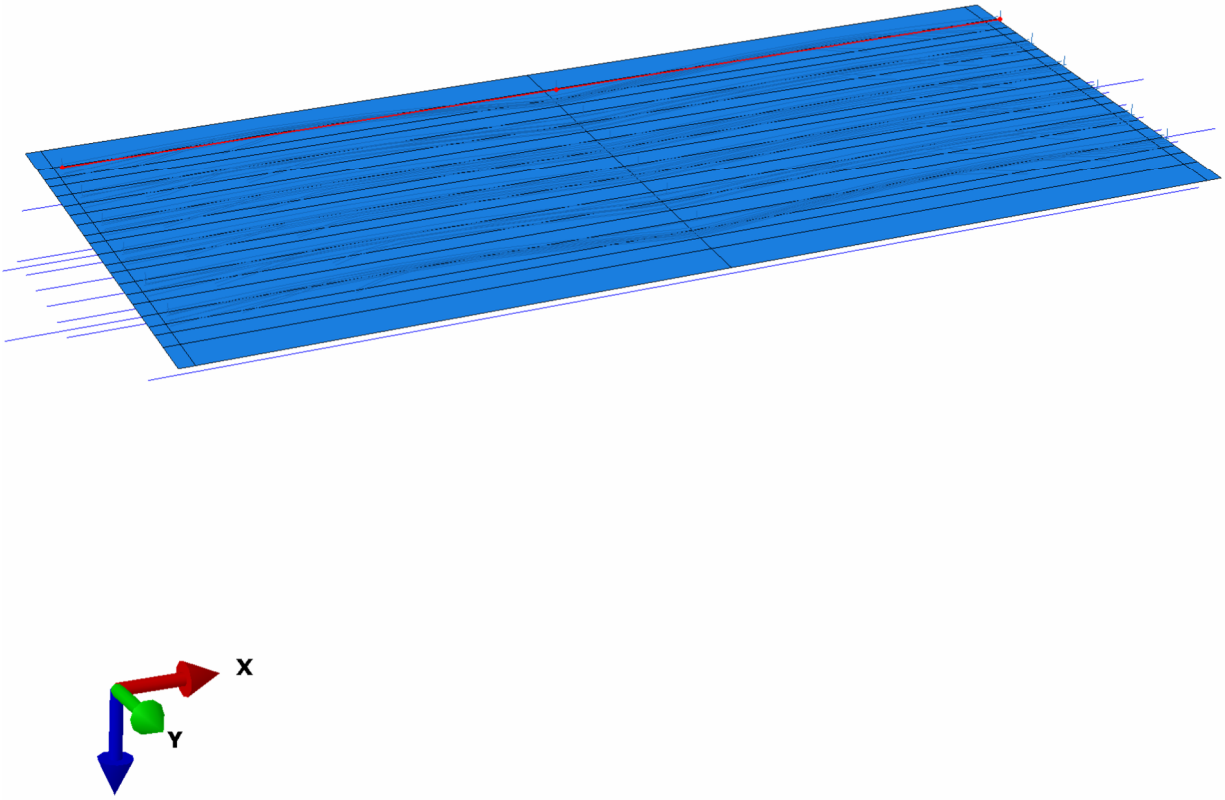


Figure 41. View of the Assembly with the secondary region of constraint: TieBeamtoDeckI highlighted

TieBeamtoDeckII

Constraint type: Tie
Adjust: OFF
ConstraintEnforcement: SOLVER_DEFAULT
ConstraintRatio: 0.0
ConstraintRatioMethod: DEFAULT
Main: ('m_Surf-TieBeamDeckII', 'Assembly', 1, 9, 0)
PositionTolerance: 2.0
PositionToleranceMethod: SPECIFIED
Secondary: ('Host_II', 'Part-1', 'Part-1-1', 1, 1, 0)
Thickness: ON
TieRotations: ON

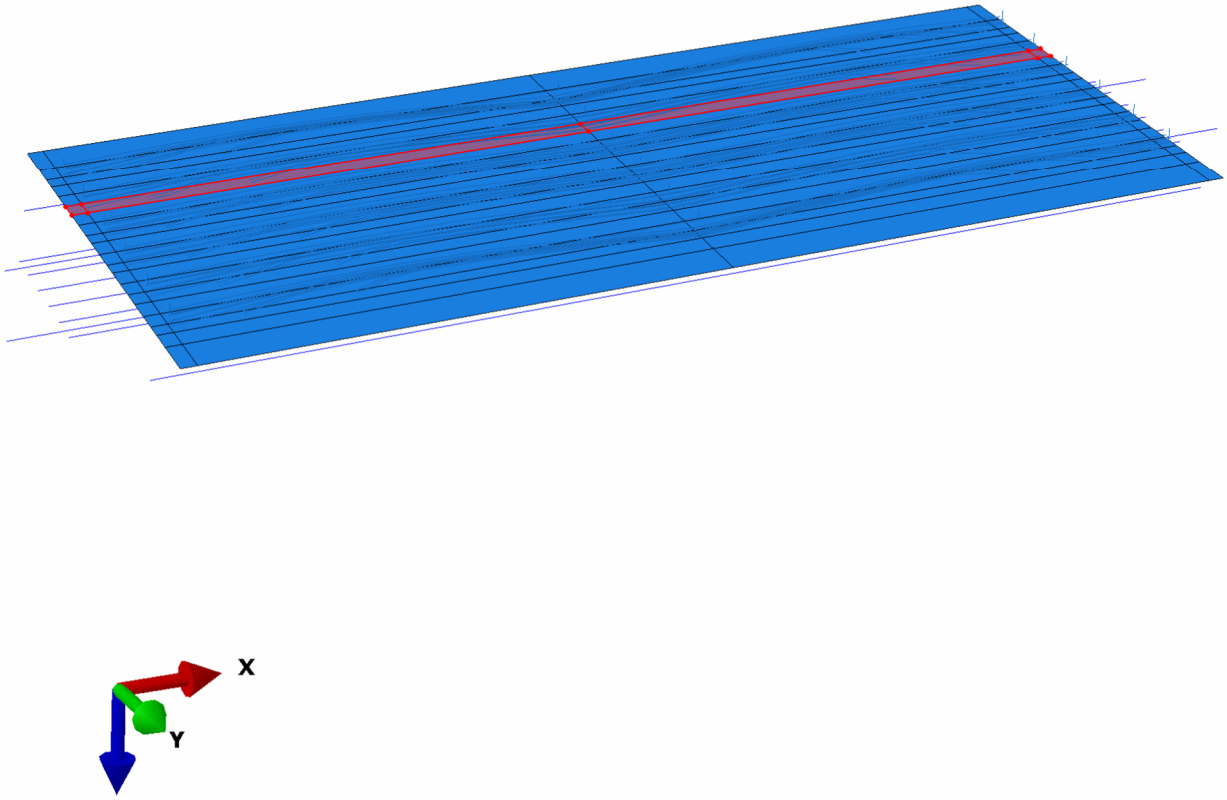


Figure 42. View of the Assembly with the main region of constraint: TieBeamtoDeckII highlighted

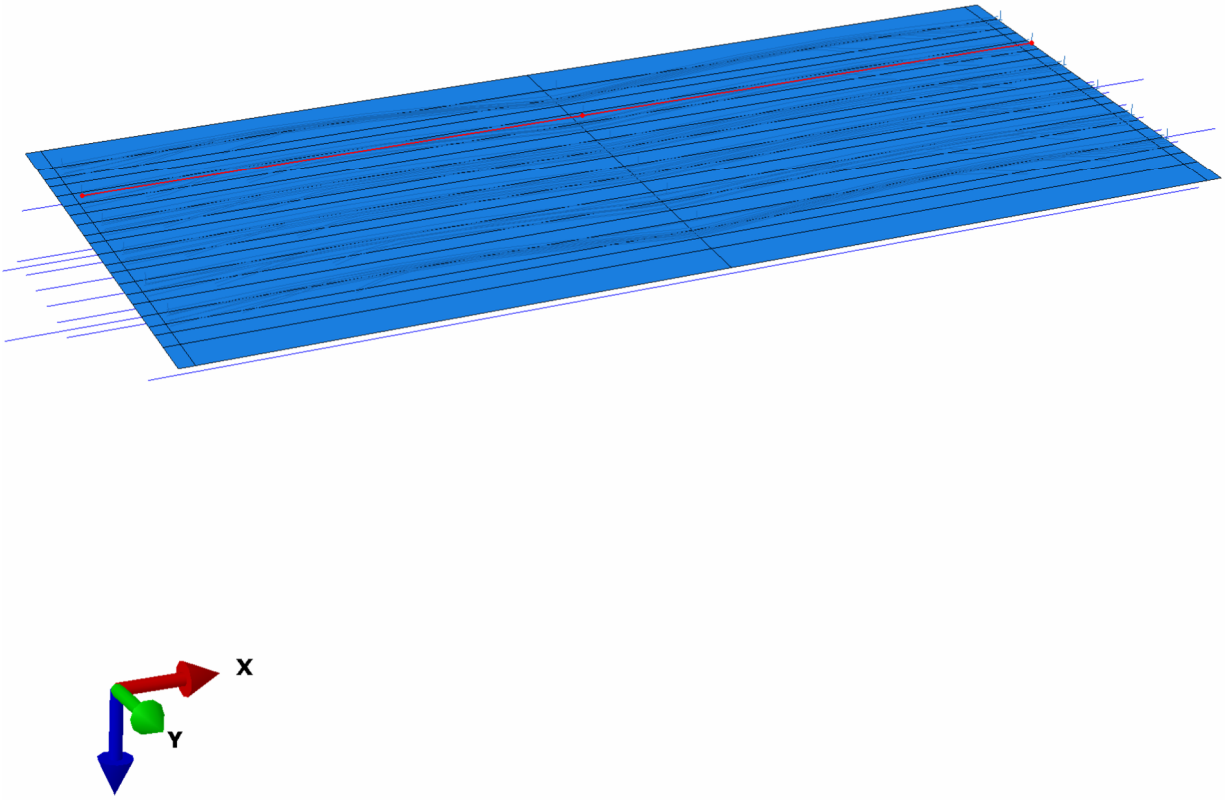


Figure 43. View of the Assembly with the secondary region of constraint: TieBeamtoDeckII highlighted

TieBeamtoDeckIII

Constraint type: Tie
Adjust: OFF
ConstraintEnforcement: SOLVER_DEFAULT
ConstraintRatio: 0.0
ConstraintRatioMethod: DEFAULT
Main: ('m_Surf-TieBeamDeckIII', 'Assembly', 1, 9, 0)
PositionTolerance: 2.0
PositionToleranceMethod: SPECIFIED
Secondary: ('Host_III', 'Part-1', 'Part-1-1', 1, 1, 0)
Thickness: ON
TieRotations: ON

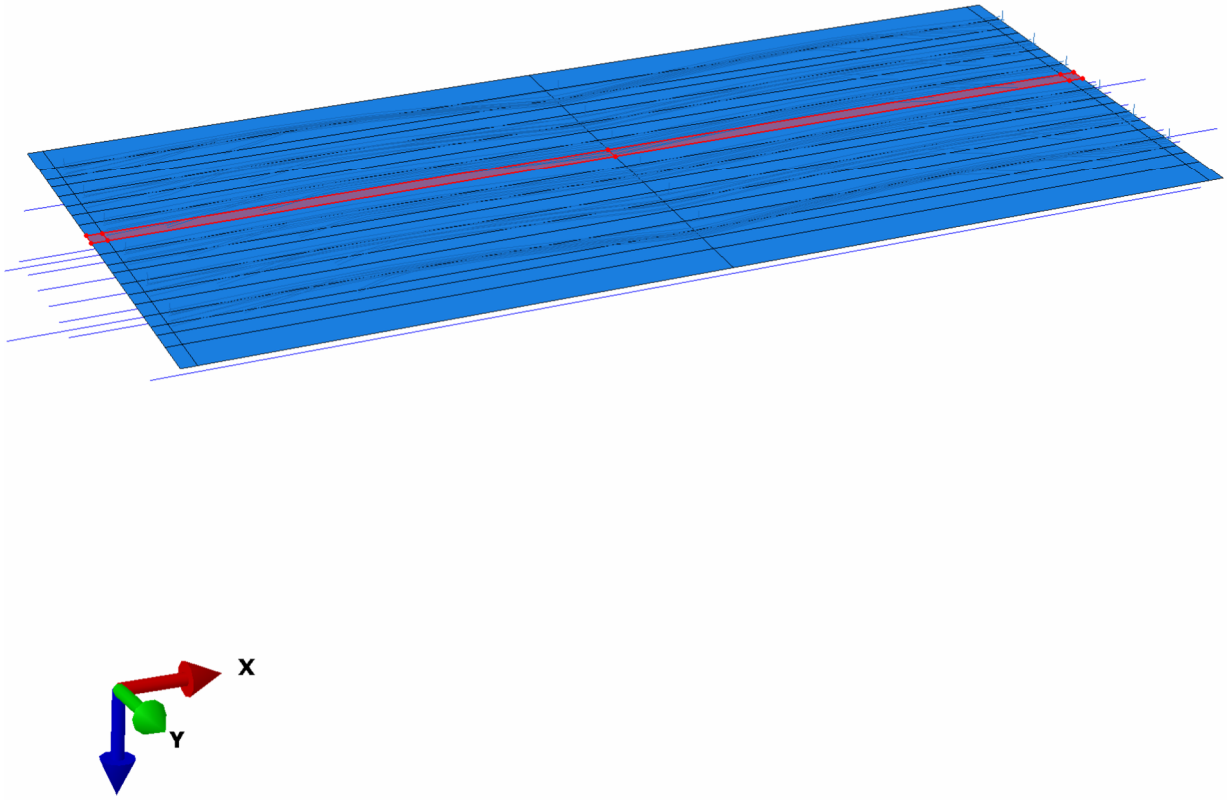
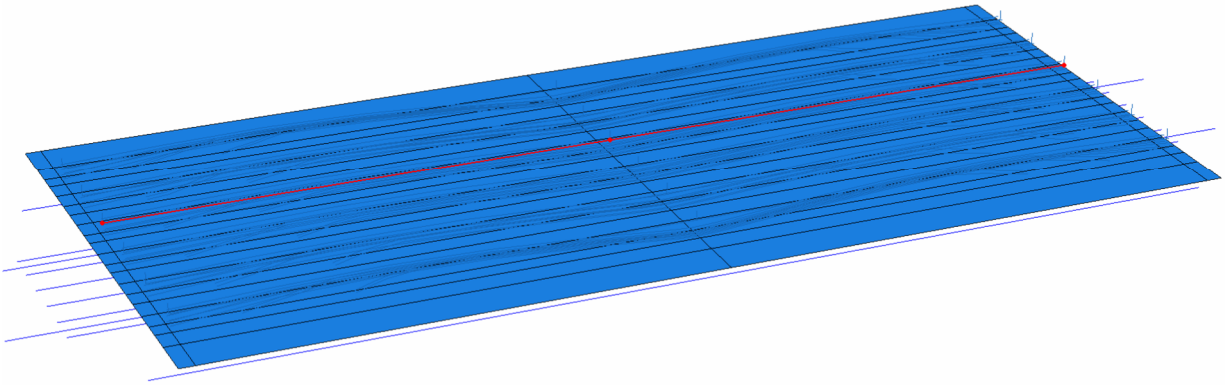


Figure 44. View of the Assembly with the main region of constraint: TieBeamtoDeckIII highlighted



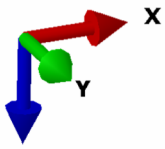


Figure 45. View of the Assembly with the secondary region of constraint: TieBeamtoDeckIII highlighted

TieBeamtoDeckIV

Constraint type: Tie
Adjust: OFF
ConstraintEnforcement: SOLVER_DEFAULT
ConstraintRatio: 0.0
ConstraintRatioMethod: DEFAULT
Main: ('m_Surf-TieBeamDeckIV', 'Assembly', 1, 9, 0)
PositionTolerance: 2.0
PositionToleranceMethod: SPECIFIED
Secondary: ('Host_IV', 'Part-1', 'Part-1-1', 1, 1, 0)
Thickness: ON
TieRotations: ON

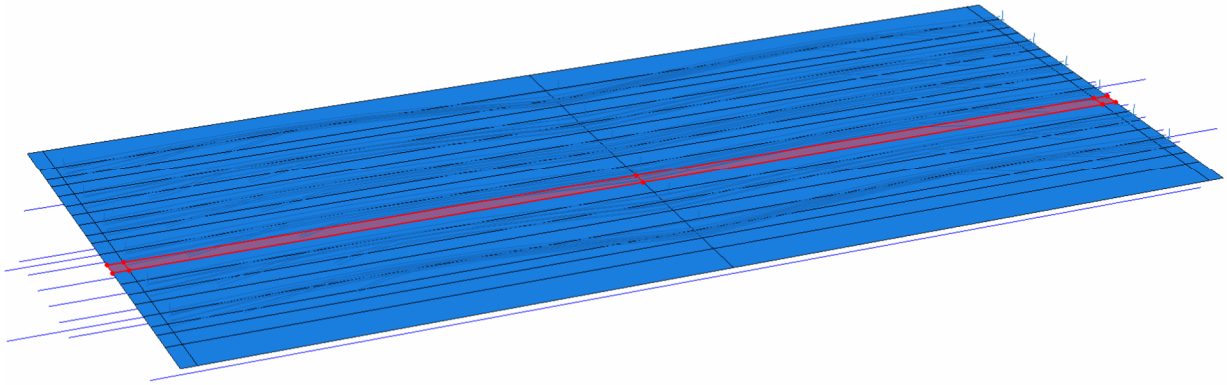


Figure 46. View of the Assembly with the main region of constraint: TieBeamtoDeckIV highlighted

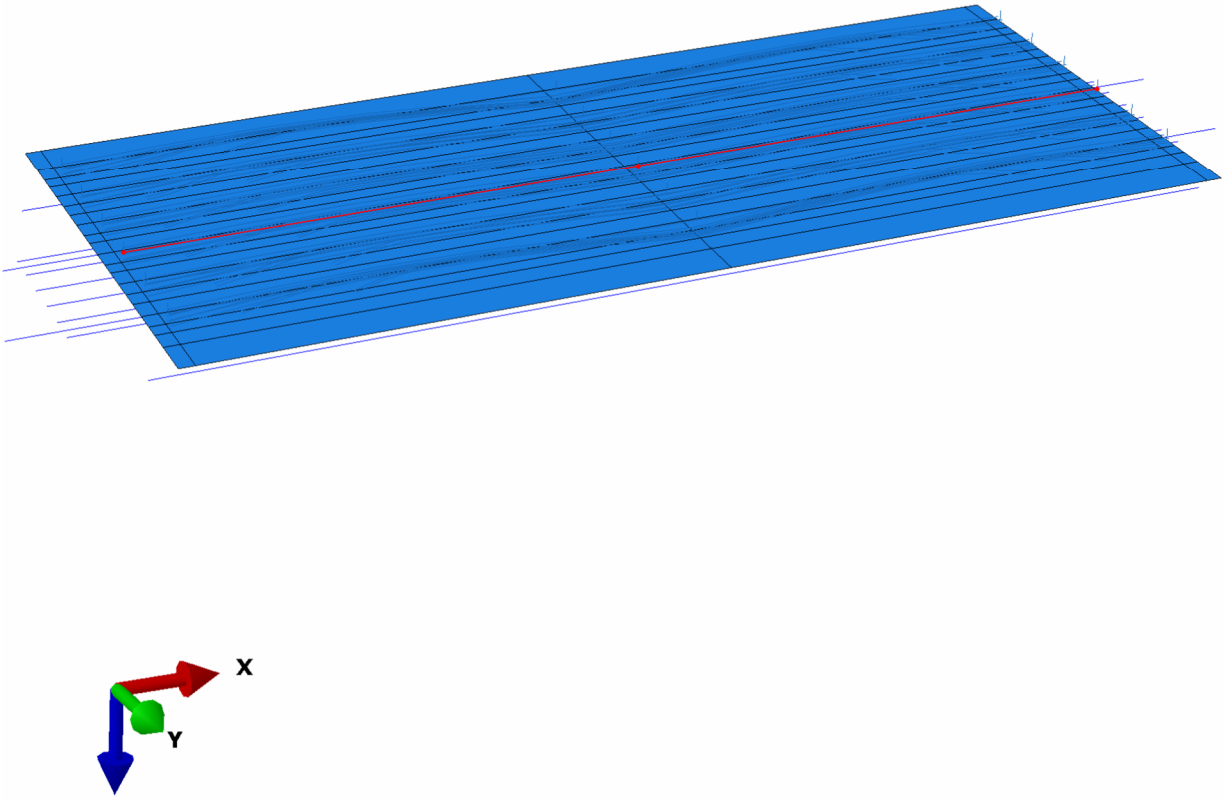
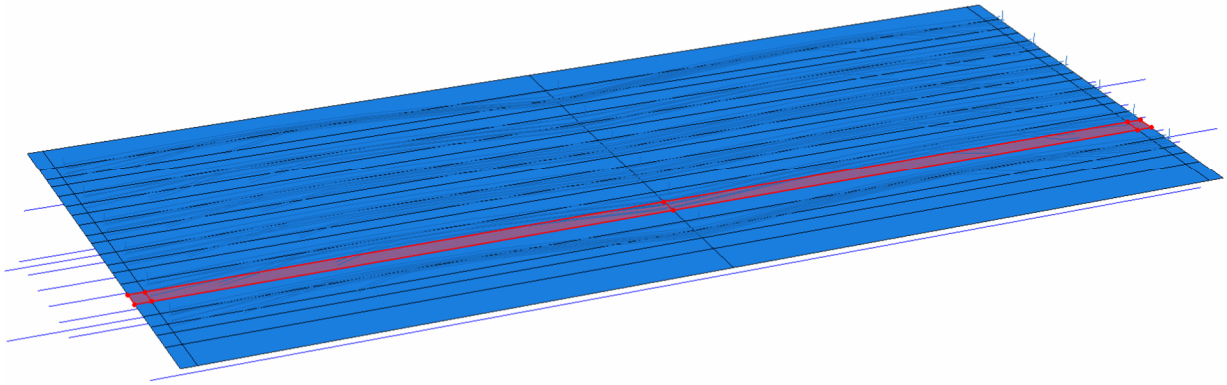


Figure 47. View of the Assembly with the secondary region of constraint: TieBeamtoDeckIV highlighted

TieBeamtoDeckV

Constraint type: Tie
Adjust: OFF
ConstraintEnforcement: SOLVER_DEFAULT
ConstraintRatio: 0.0
ConstraintRatioMethod: DEFAULT
Main: ('m_Surf-TieBeamDeckV', 'Assembly', 1, 9, 0)
PositionTolerance: 2.0
PositionToleranceMethod: SPECIFIED
Secondary: ('Host_V', 'Part-1', 'Part-1-1', 1, 1, 0)
Thickness: ON
TieRotations: ON



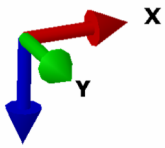


Figure 48. View of the Assembly with the main region of constraint: TieBeamtoDeckV highlighted

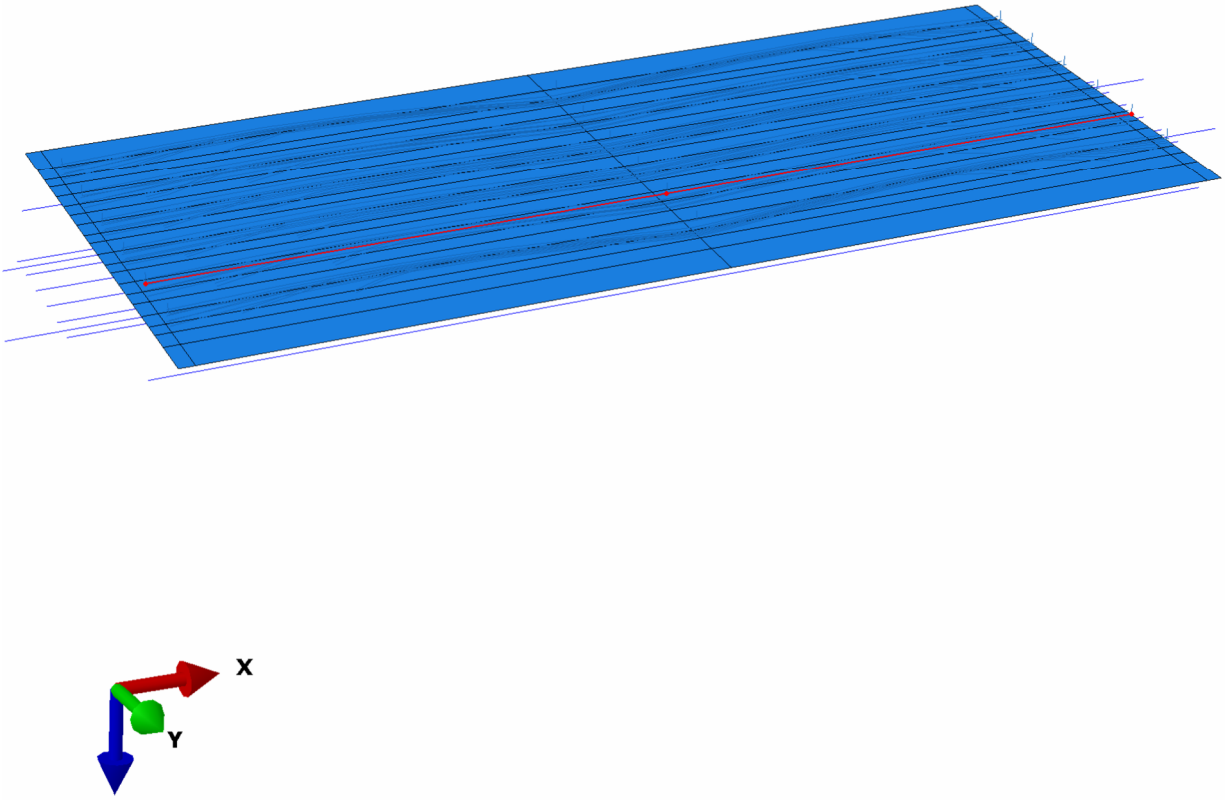


Figure 49. View of the Assembly with the secondary region of constraint: TieBeamtoDeckV highlighted

TieBeamtoDeckVI

Constraint type: Tie
Adjust: OFF
ConstraintEnforcement: SOLVER_DEFAULT
ConstraintRatio: 0.0
ConstraintRatioMethod: DEFAULT
Main: ('m_Surf-TieBeamDeckVI', 'Assembly', 1, 9, 0)
PositionTolerance: 2.0
PositionToleranceMethod: SPECIFIED
Secondary: ('Host_VI', 'Part-1', 'Part-1-1', 1, 1, 0)
Thickness: ON
TieRotations: ON

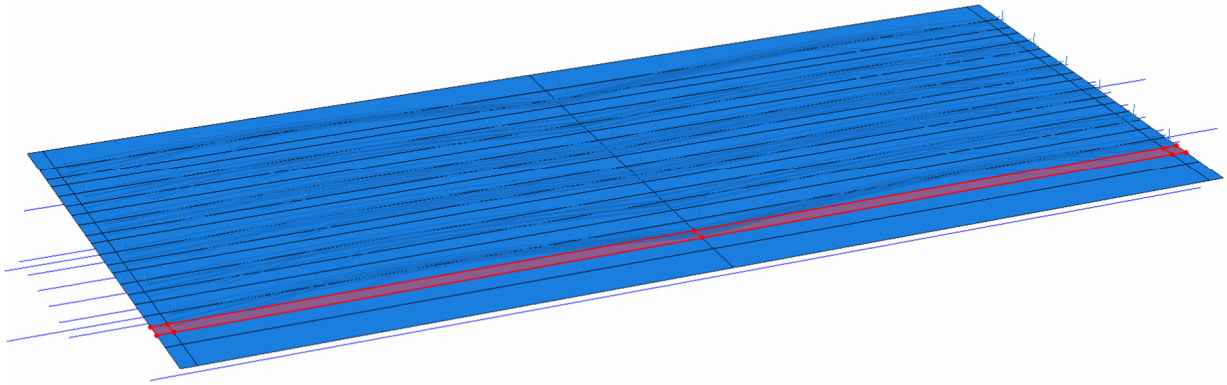


Figure 50. View of the Assembly with the main region of constraint: TieBeamtoDeckVI highlighted

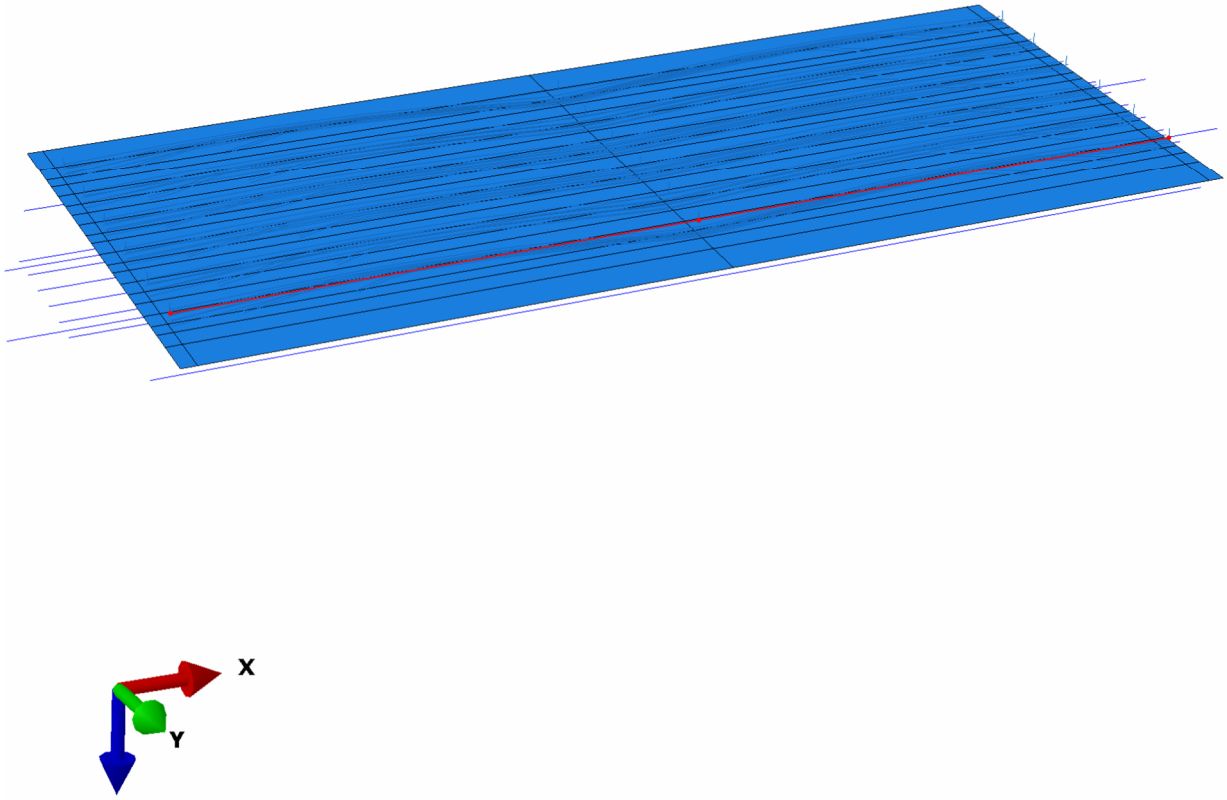


Figure 51. View of the Assembly with the secondary region of constraint: TieBeamtoDeckVI highlighted

6. Loads and Boundary Conditions

BC-FL

Type: DisplacementBC
Created in step: Initial
Modified in steps: Not modified
Active in steps: All

Properties in step: Initial

Amplitude:
AmplitudeState: UNSET
BuckleCase: NOT_APPLICABLE
Status: CREATED
U1: 0.0
U1State: SET
U2: 0.0
U2State: SET
U3: 0.0
U3State: SET
Ur1: 0.0
Ur1State: UNSET
Ur2: 0.0
Ur2State: UNSET
Ur3: 0.0
Ur3State: UNSET

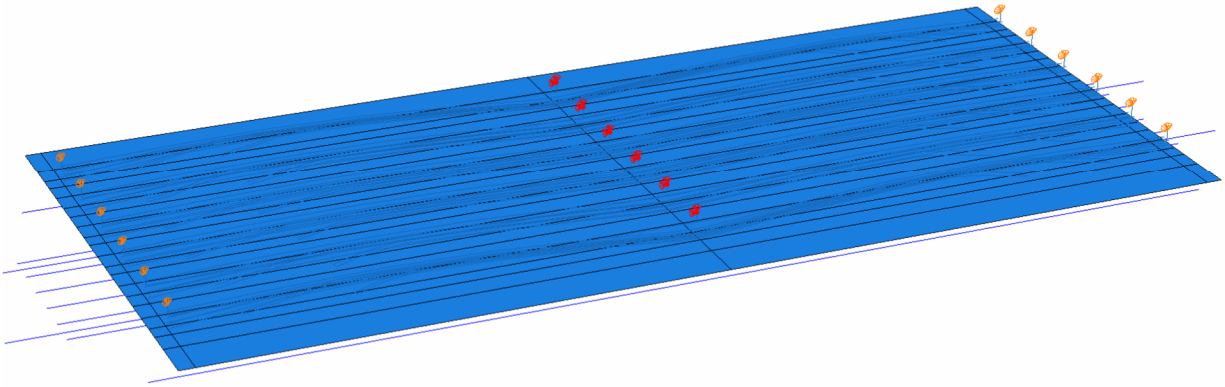


Figure 52. View of the Assembly with the region of Boundary Condition: BC-FL

BC-RL

Type: DisplacementBC
Created in step: Initial
Modified in steps: Not modified
Active in steps: All

Properties in step: Initial

Amplitude:
AmplitudeState: UNSET
BuckleCase: NOT_APPLICABLE
Status: CREATED
U1: 0.0
U1State: UNSET
U2: 0.0
U2State: SET
U3: 0.0
U3State: SET
Ur1: 0.0
Ur1State: UNSET
Ur2: 0.0
Ur2State: UNSET

Ur3: 0.0
Ur3State: UNSET

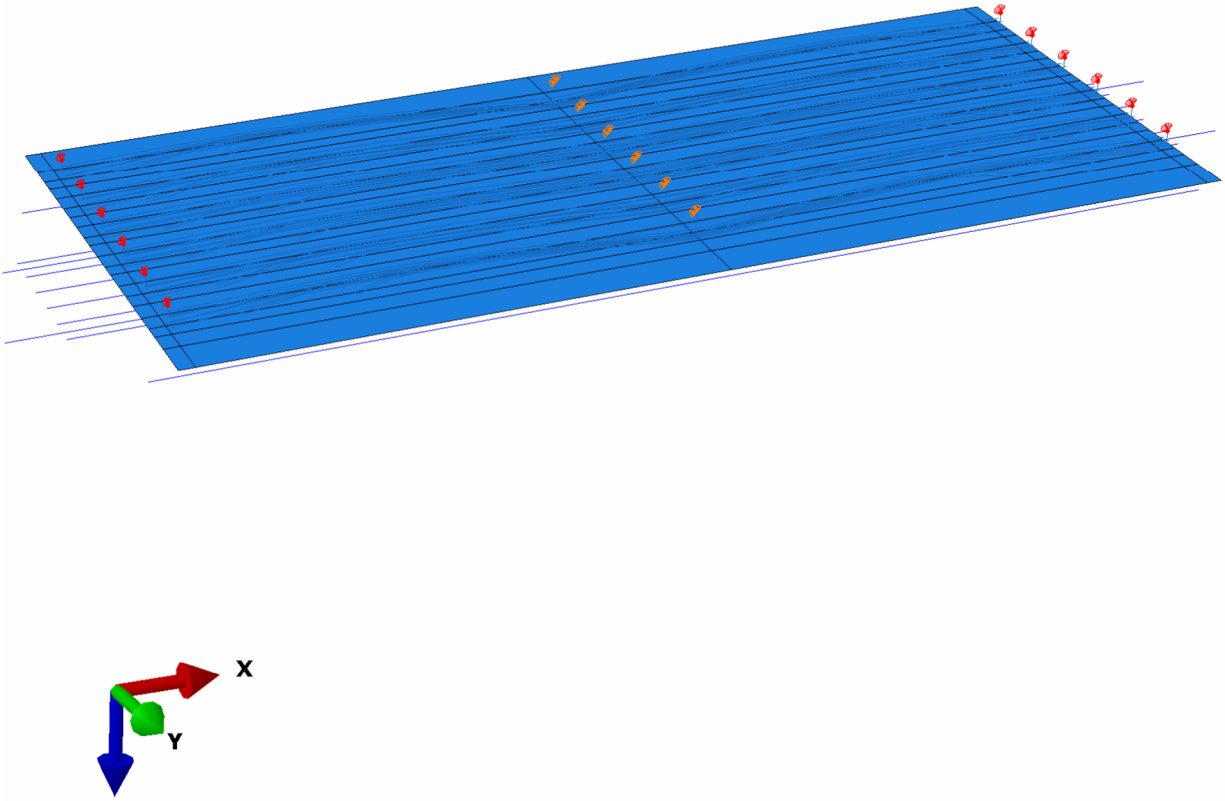


Figure 53. View of the Assembly with the region of Boundary Condition: BC-RL

Shrinkage

Type: Temperature
Created in step: Shrinkage
Modified in steps: Not modified
Active in steps: Shrinkage,

Properties in step: Shrinkage

AbsoluteExteriorTolerance: 0.0
AbsoluteExteriorToleranceState: UNSET
Amplitude:
AmplitudeState: UNSET
BeginIncrement: 0
BeginIncrementState: UNSET
BeginStep: 0
BeginStepState: UNSET
EndIncrement: 0
EndIncrementState: UNSET
EndStep: 0
EndStepState: UNSET

ExteriorTolerance: 0.05
ExteriorToleranceState: UNSET
FileName:
FileNameState: UNSET
Interpolate: OFF
InterpolateState: UNSET
Magnitudes: (-25.0,)
MagnitudesState: (SET,)
MidsideState: UNSET
Status: CREATED

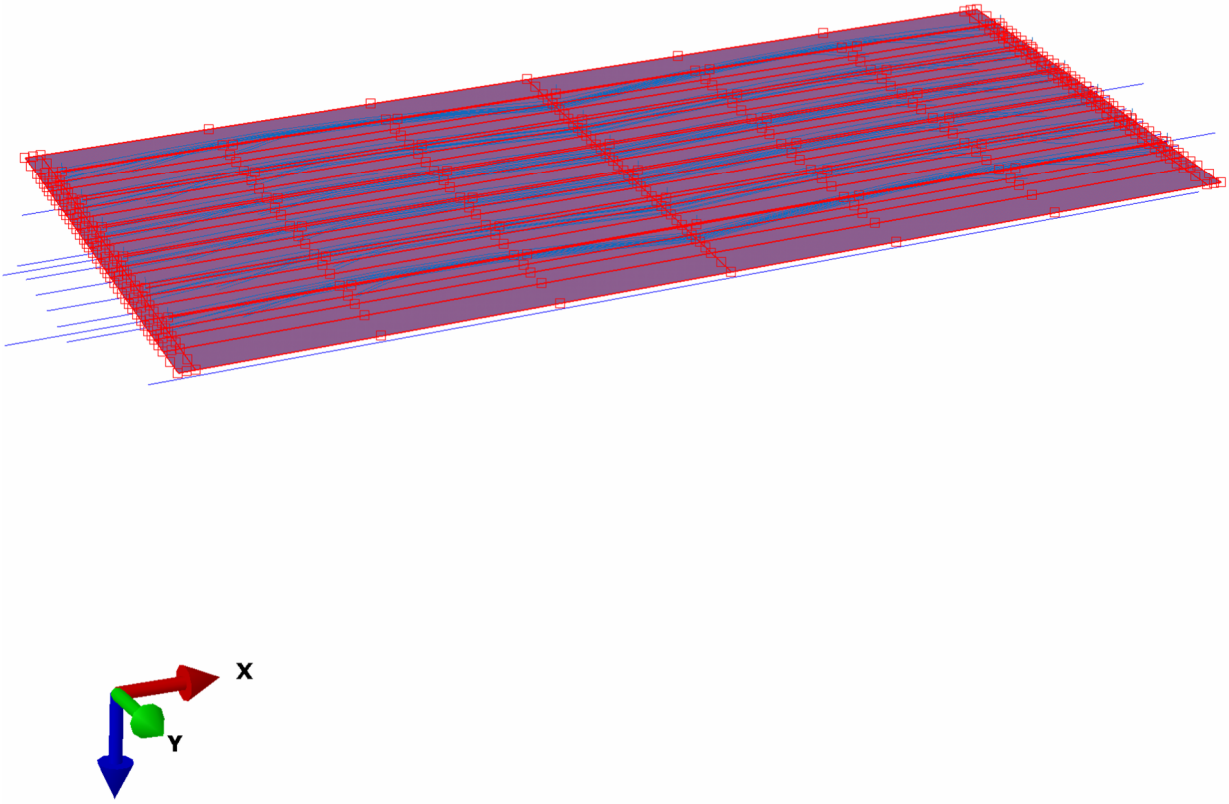


Figure 54. View of the Assembly with the region of Predefined Field: Shrinkage highlighted

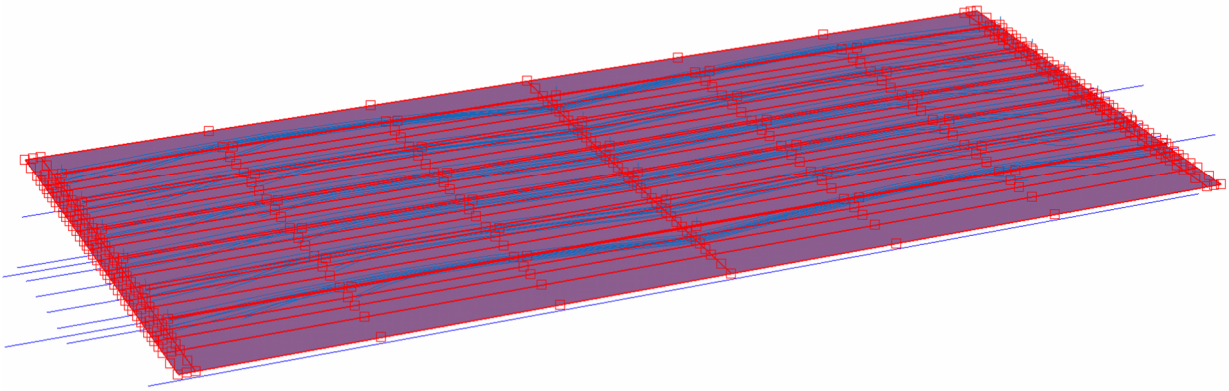
Temperature_High

Type: Temperature
Created in step: Temperature_High
Modified in steps: Not modified
Active in steps: Temperature_High,

Properties in step: Temperature_High

AbsoluteExteriorTolerance: 0.0
AbsoluteExteriorToleranceState: UNSET
Amplitude:
AmplitudeState: UNSET

BeginIncrement: 0
BeginIncrementState: UNSET
BeginStep: 0
BeginStepState: UNSET
EndIncrement: 0
EndIncrementState: UNSET
EndStep: 0
EndStepState: UNSET
ExteriorTolerance: 0.05
ExteriorToleranceState: UNSET
FileName:
FileNameState: UNSET
Interpolate: OFF
InterpolateState: UNSET
Magnitudes: (15.0,)
MagnitudesState: (SET,)
MidsideState: UNSET
Status: CREATED



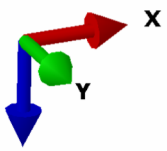


Figure 55. View of the Assembly with the region of Predefined Field: Temperature_High highlighted

Temperature_Low

Type: Temperature
Created in step: Temperature_Low
Modified in steps: Not modified

Active in steps: Temperature_Low,

Properties in step: Temperature_Low

AbsoluteExteriorTolerance: 0.0
AbsoluteExteriorToleranceState: UNSET
Amplitude:
AmplitudeState: UNSET
BeginIncrement: 0
BeginIncrementState: UNSET
BeginStep: 0
BeginStepState: UNSET
EndIncrement: 0
EndIncrementState: UNSET
EndStep: 0
EndStepState: UNSET
ExteriorTolerance: 0.05
ExteriorToleranceState: UNSET
FileName:
FileNameState: UNSET
Interpolate: OFF
InterpolateState: UNSET
Magnitudes: (-28.0,)
MagnitudesState: (SET,)
MidsideState: UNSET
Status: CREATED

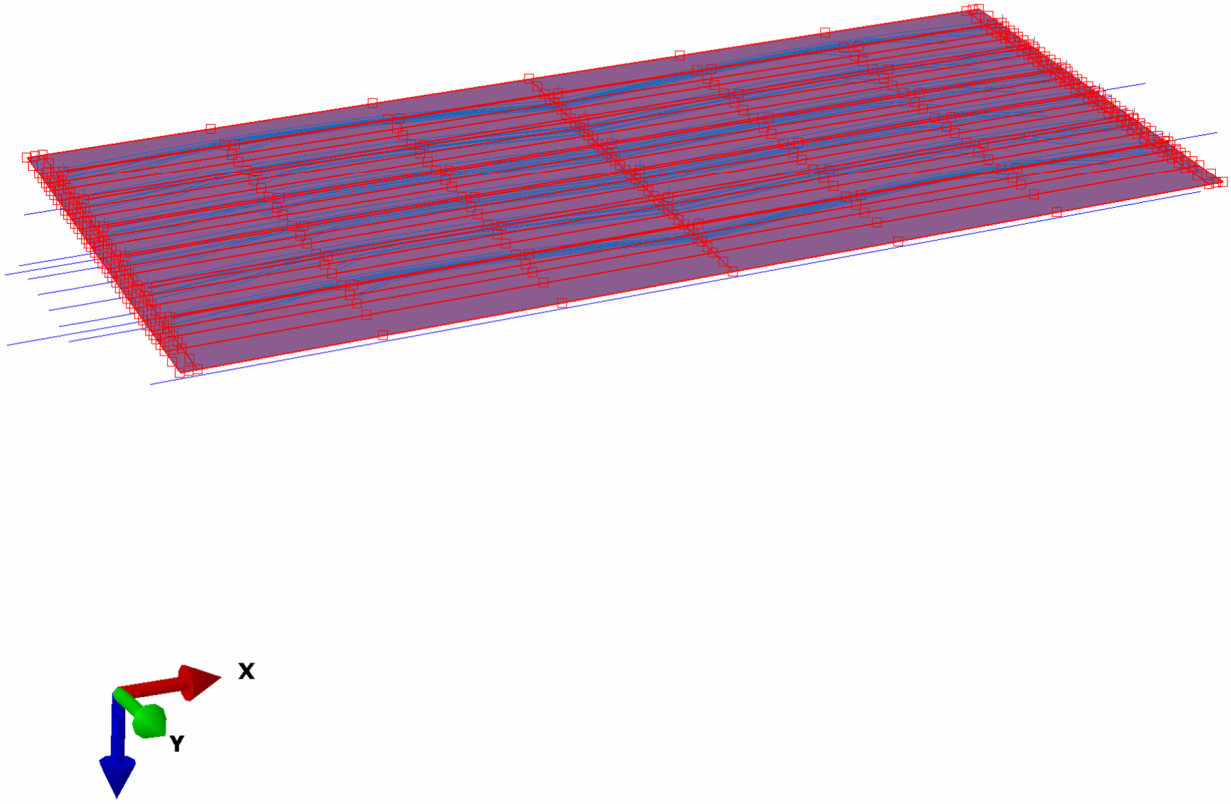


Figure 56. View of the Assembly with the region of Predefined Field: Temperature_Low highlighted

Brake_Traffic_1

Type: ShellEdgeLoad
Created in step: Braking_Force_Traffic1
Modified in steps: Not modified
Active in steps: Braking_Force_Traffic1,

Properties in step: Braking_Force_Traffic1

Amplitude:
AmplitudeState: UNSET
Magnitude: 13211.0
MagnitudeState: SET
Status: CREATED

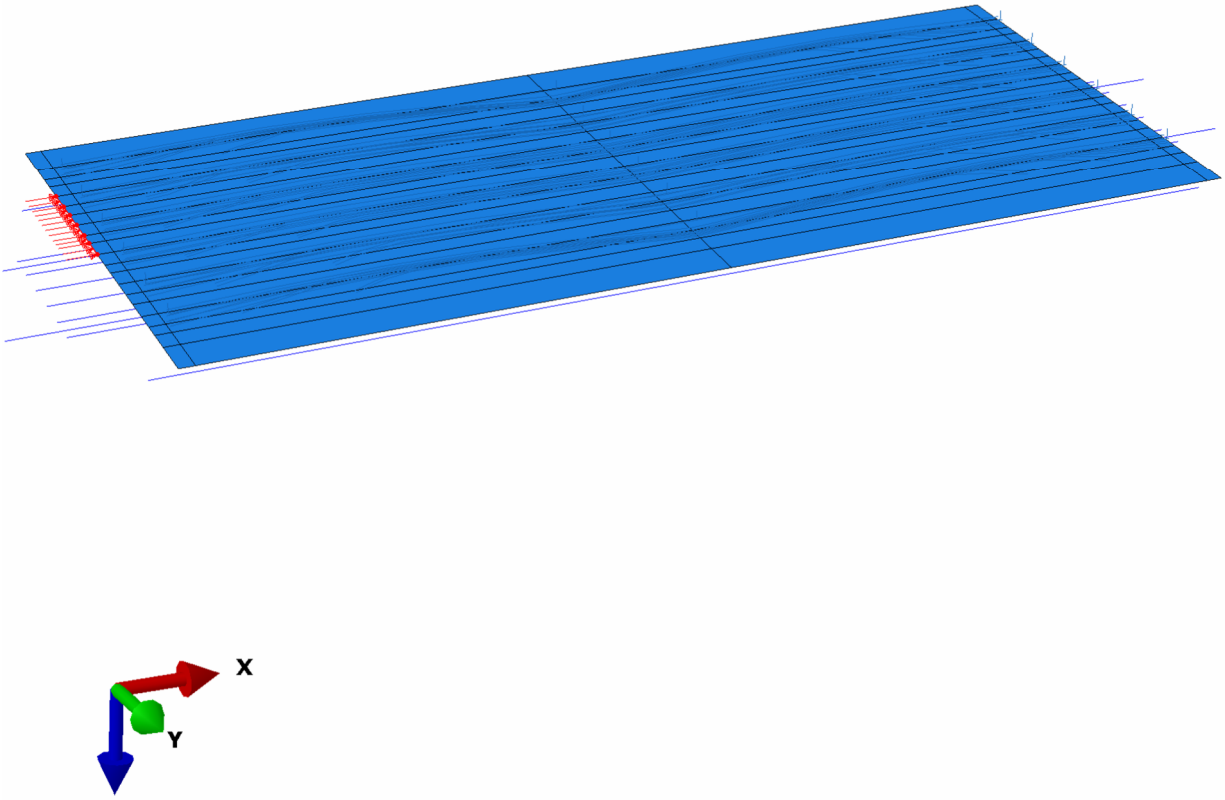


Figure 57. View of the Assembly with the region subjected to Load: Brake_Traffic_1

Brake_Traffic_2

Type: ShellEdgeLoad
Created in step: Braking_Force_Traffic2
Modified in steps: Not modified
Active in steps: Braking_Force_Traffic2,

Properties in step: Braking_Force_Traffic2

Amplitude:
AmplitudeState: UNSET
Magnitude: 13211.0
MagnitudeState: SET
Status: CREATED

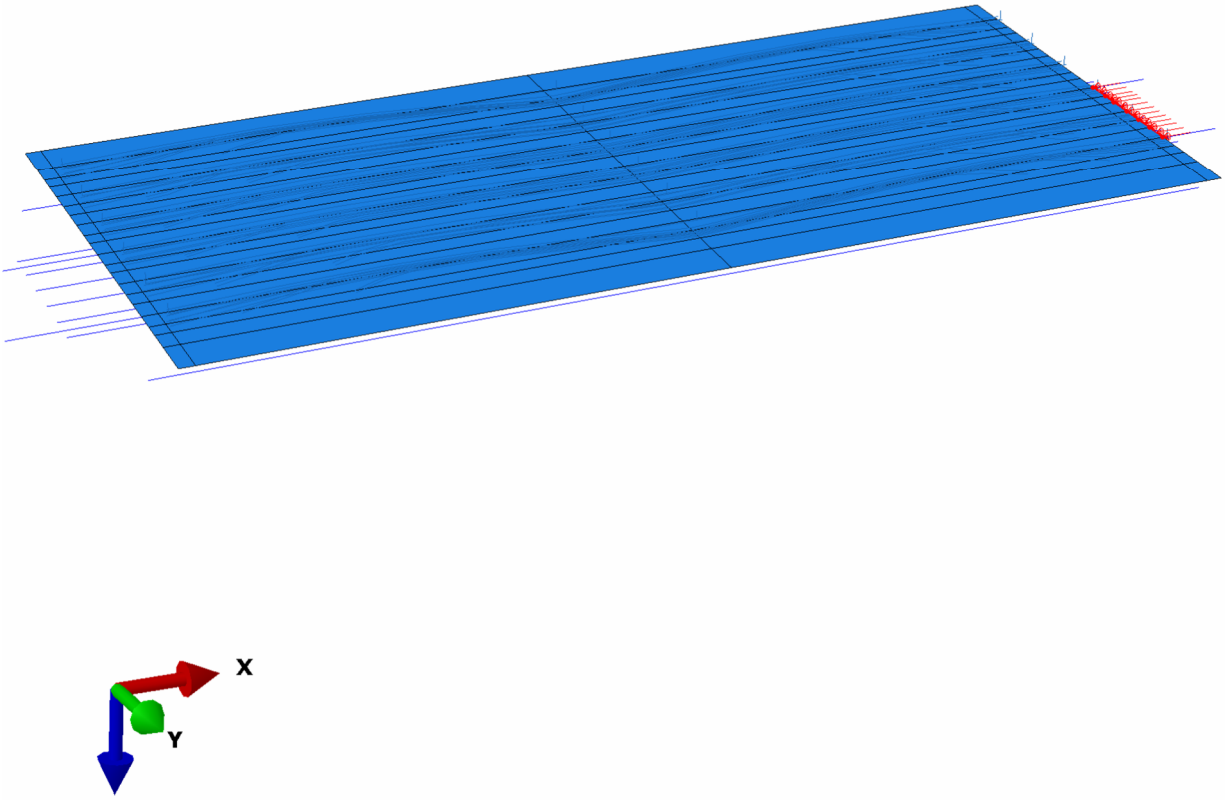


Figure 58. View of the Assembly with the region subjected to Load: Brake_Traffic_2

Brake_Traffic_3

Type: ShellEdgeLoad
Created in step: Braking_Force_Traffic3
Modified in steps: Not modified
Active in steps: Braking_Force_Traffic3,

Properties in step: Braking_Force_Traffic3

Amplitude:
AmplitudeState: UNSET
Magnitude: -13211.0
MagnitudeState: SET
Status: CREATED

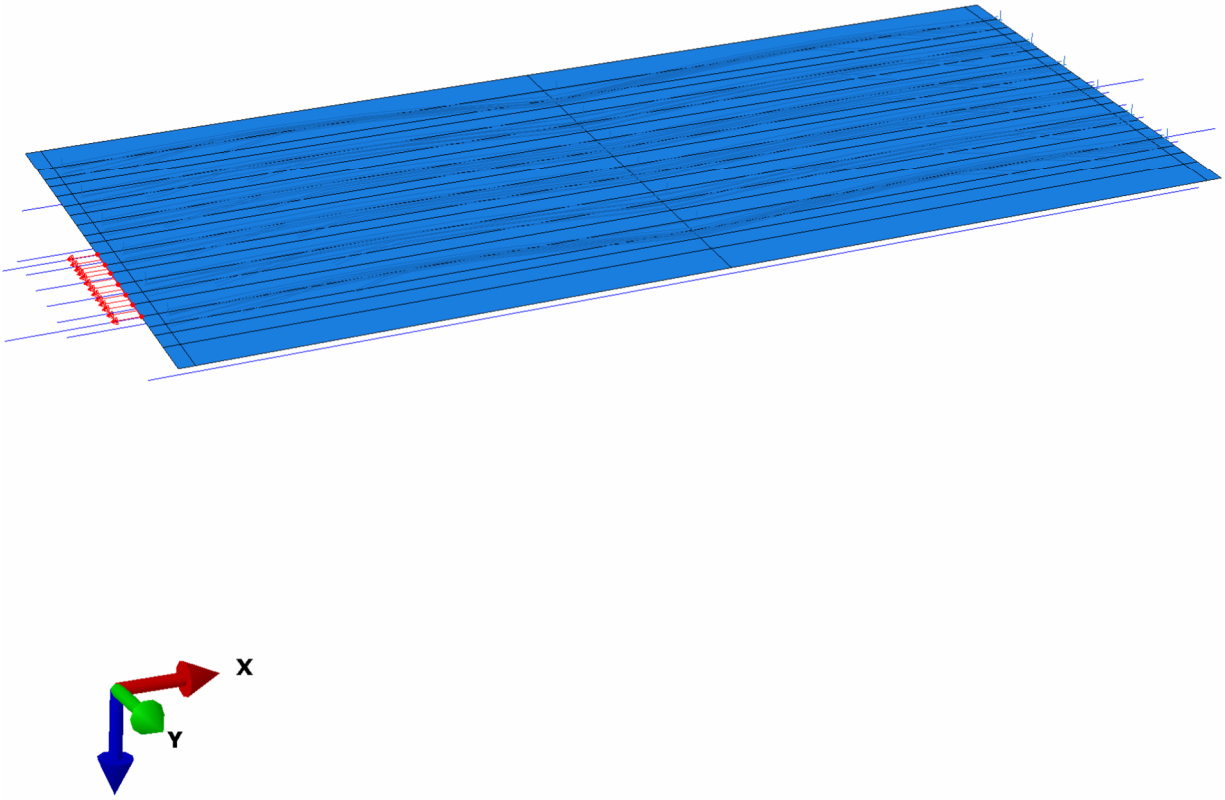


Figure 59. View of the Assembly with the region subjected to Load: Brake_Traffic_3

Brake_Traffic_4

Type: ShellEdgeLoad
Created in step: Braking_Force_Traffic4
Modified in steps: Not modified
Active in steps: Braking_Force_Traffic4,

Properties in step: Braking_Force_Traffic4

Amplitude:
AmplitudeState: UNSET
Magnitude: -13211.0
MagnitudeState: SET
Status: CREATED

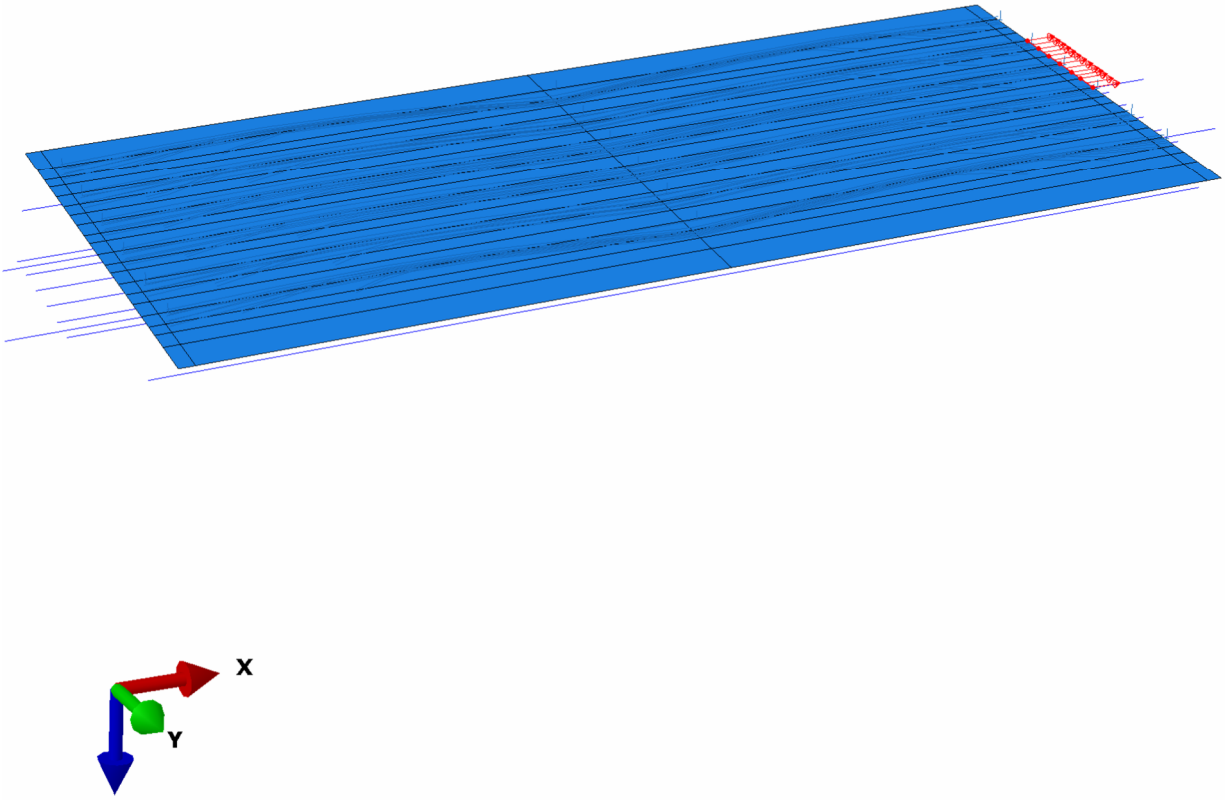


Figure 60. View of the Assembly with the region subjected to Load: Brake_Traffic_4

Brake_Train_1

Type: SurfaceTraction
Created in step: Braking_Force_Train1
Modified in steps: Not modified
Active in steps: Braking_Force_Train1,

Properties in step: Braking_Force_Train1

Amplitude:
AmplitudeState: UNSET
Magnitude: 1250.0
MagnitudeState: SET
Status: CREATED

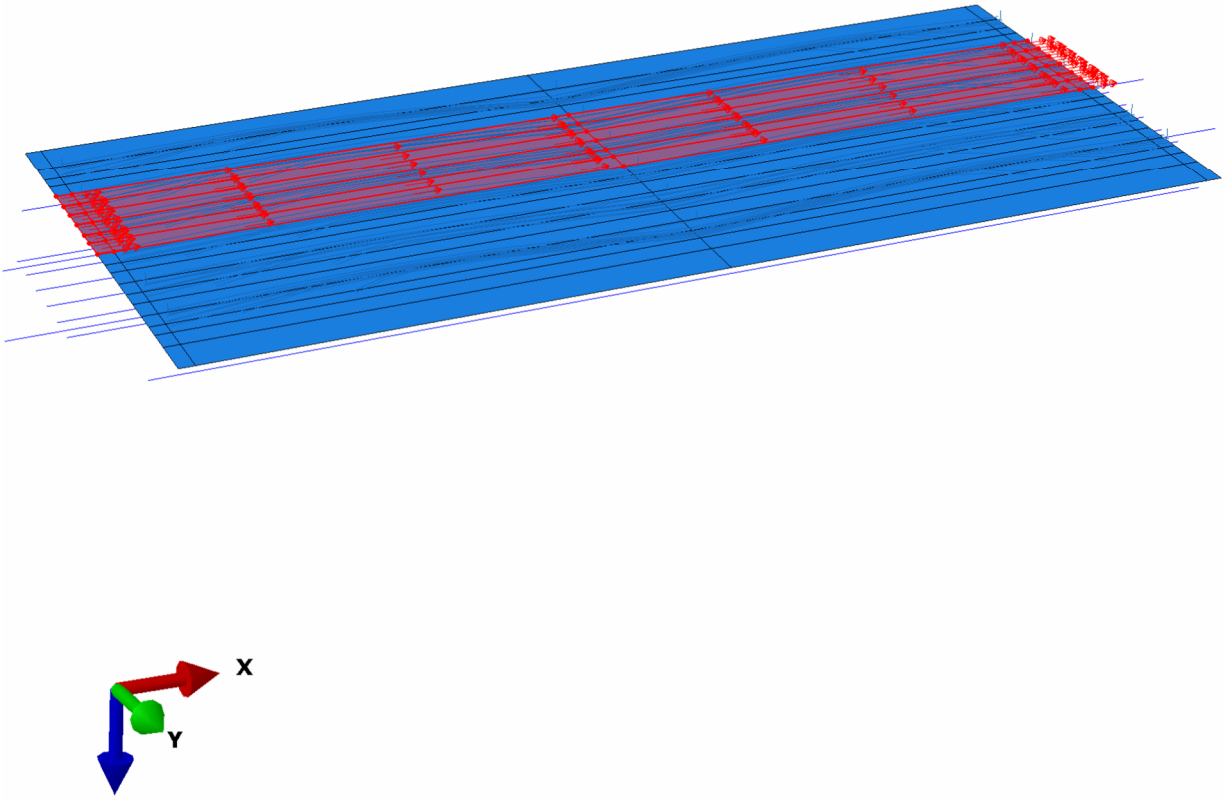


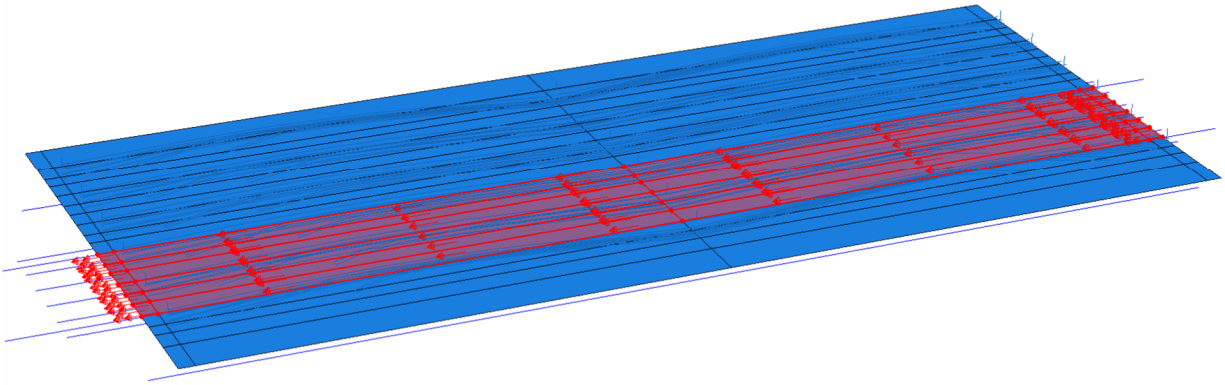
Figure 61. View of the Assembly with the region subjected to Load: Brake_Train_1

Brake_Train_2

Type: SurfaceTraction
Created in step: Braking_Force_Train2
Modified in steps: Not modified
Active in steps: Braking_Force_Train2,

Properties in step: Braking_Force_Train2

Amplitude:
AmplitudeState: UNSET
Magnitude: 1250.0
MagnitudeState: SET
Status: CREATED



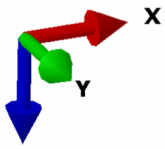


Figure 62. View of the Assembly with the region subjected to Load: Brake_Train_2

DeadWeight

Type: Gravity
Created in step: DeadWeight
Modified in steps: Not modified
Active in steps: DeadWeight,

Properties in step: DeadWeight

Amplitude:
AmplitudeState: UNSET
Comp1: 0.0
Comp1State: UNSET
Comp2: 0.0
Comp2State: UNSET
Comp3: -9.81
Comp3State: SET
Status: CREATED

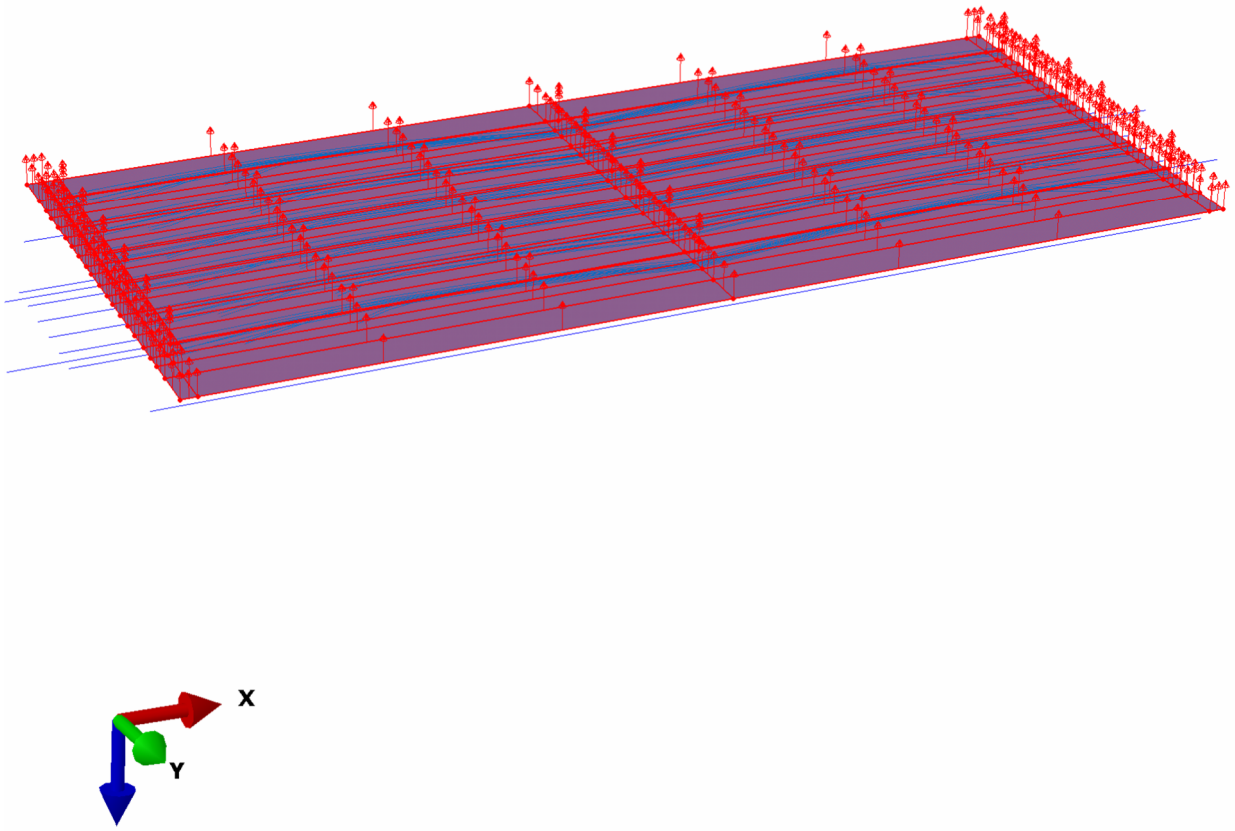


Figure 63. View of the Assembly with the region subjected to Load: DeadWeight

Lateral_Traffic_1

Type: ShellEdgeLoad
Created in step: Lateral_Force_Traffic1
Modified in steps: Not modified
Active in steps: Lateral_Force_Traffic1,

Properties in step: Lateral_Force_Traffic1

Amplitude:
AmplitudeState: UNSET
Magnitude: 1562.0
MagnitudeState: SET
Status: CREATED

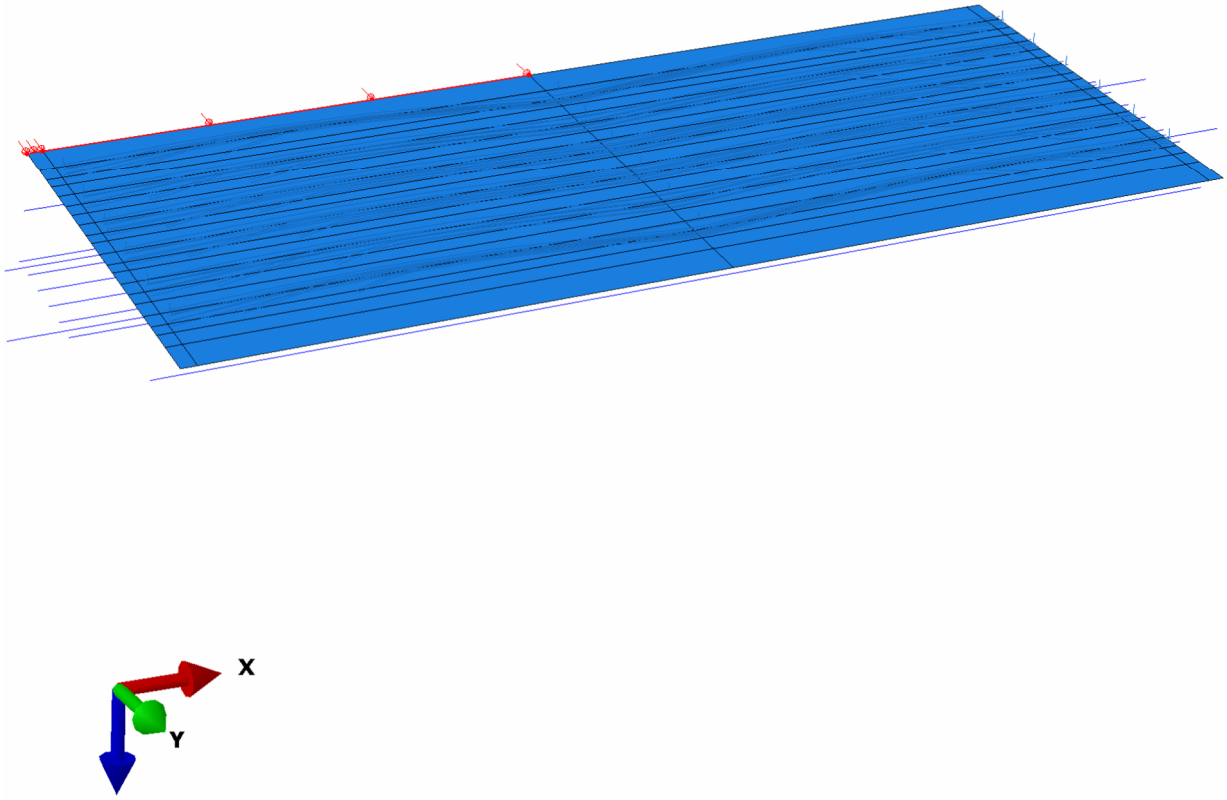


Figure 64. View of the Assembly with the region subjected to Load: Lateral_Traffic_1

Lateral_Traffic_2

Type: ShellEdgeLoad
Created in step: Lateral_Force_Traffic2
Modified in steps: Not modified
Active in steps: Lateral_Force_Traffic2,

Properties in step: Lateral_Force_Traffic2

Amplitude:
AmplitudeState: UNSET
Magnitude: 1562.0
MagnitudeState: SET
Status: CREATED

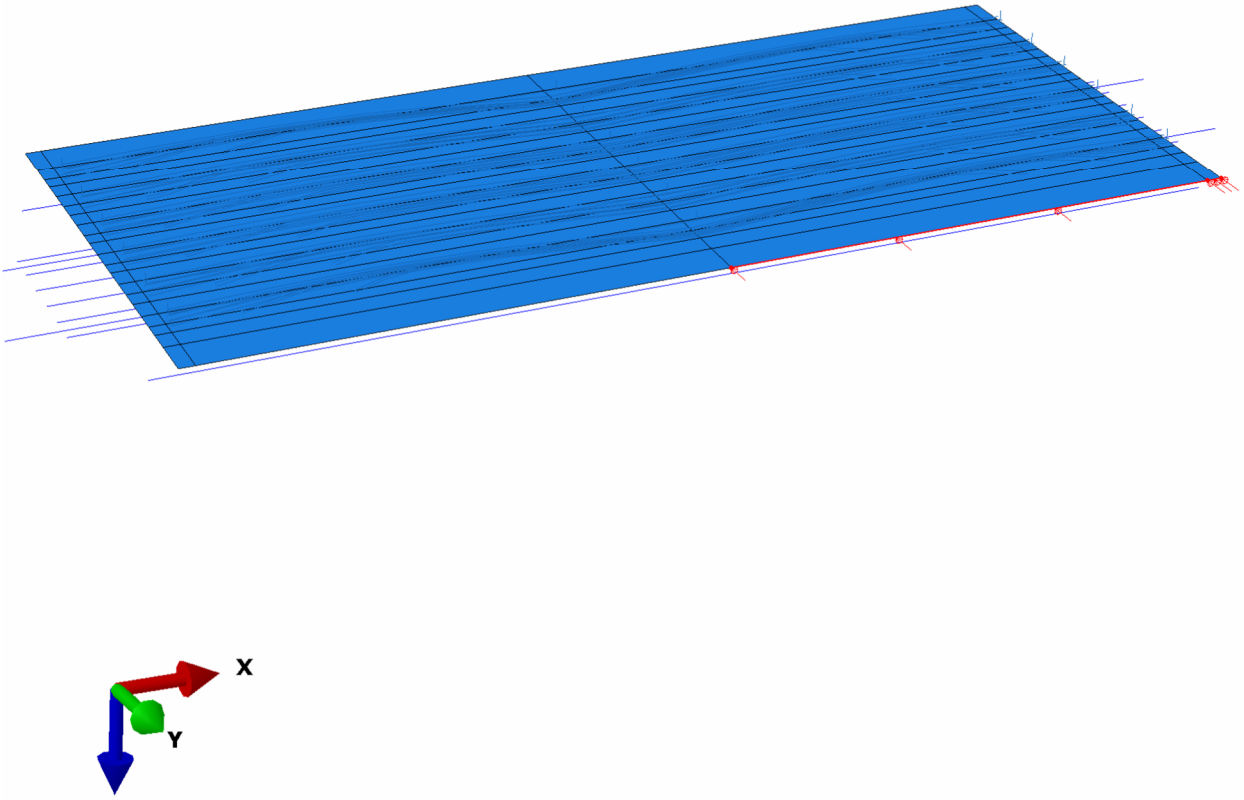


Figure 65. View of the Assembly with the region subjected to Load: Lateral_Traffic_2

Lateral_Traffic_3

Type: ShellEdgeLoad
Created in step: Lateral_Force_Traffic3
Modified in steps: Not modified
Active in steps: Lateral_Force_Traffic3,

Properties in step: Lateral_Force_Traffic3

Amplitude:
AmplitudeState: UNSET
Magnitude: 1562.0
MagnitudeState: SET
Status: CREATED

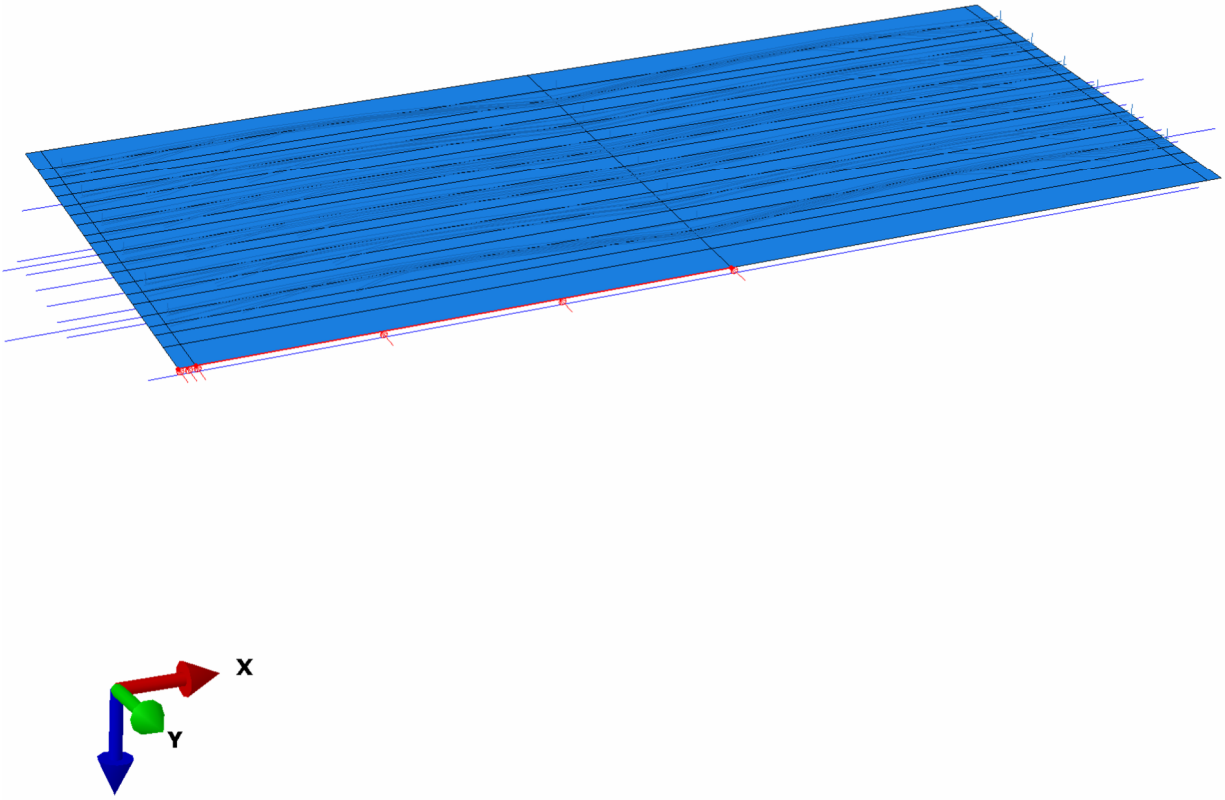


Figure 66. View of the Assembly with the region subjected to Load: Lateral_Traffic_3

Lateral_Traffic_4

Type: ShellEdgeLoad
Created in step: Lateral_Force_Traffic4
Modified in steps: Not modified
Active in steps: Lateral_Force_Traffic4,

Properties in step: Lateral_Force_Traffic4

Amplitude:
AmplitudeState: UNSET
Magnitude: 1562.0
MagnitudeState: SET
Status: CREATED

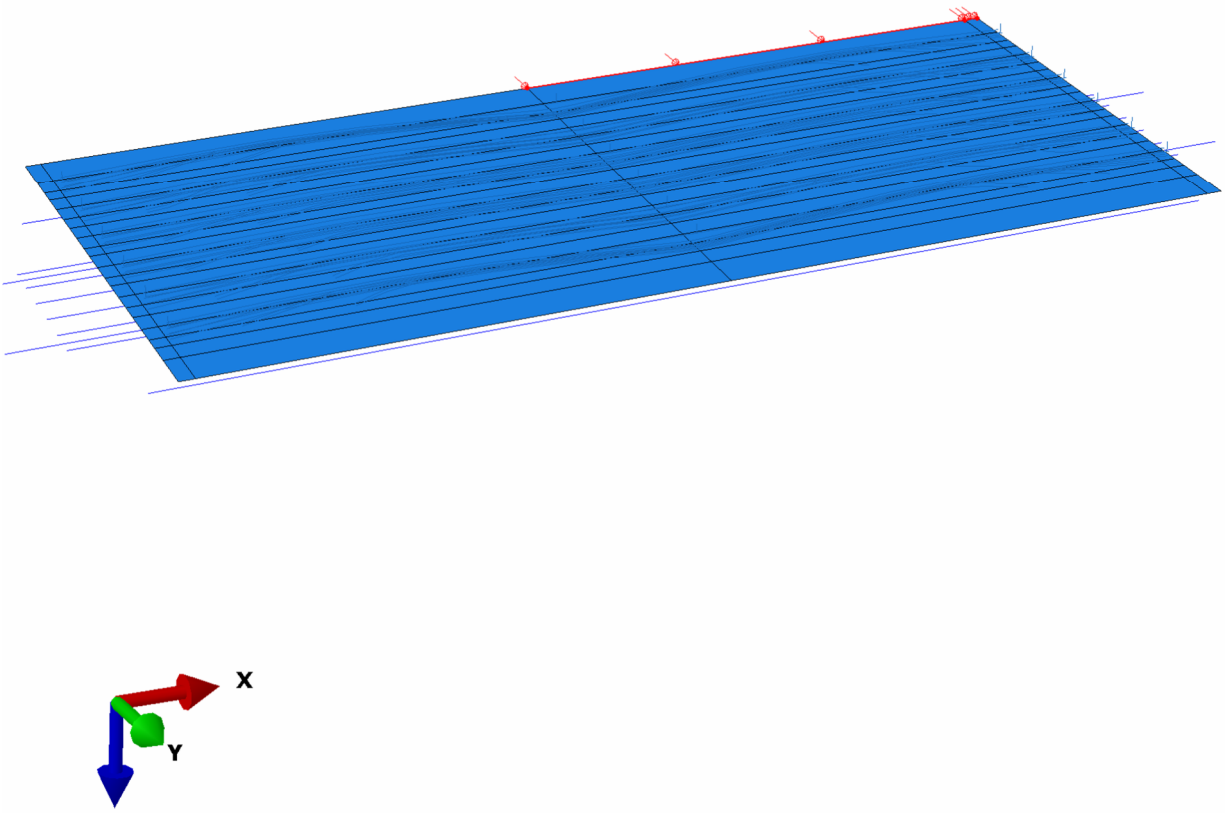


Figure 67. View of the Assembly with the region subjected to Load: Lateral_Traffic_4

Lateral_Train1

Type: ShellEdgeLoad
Created in step: Lateral_Force_Train1
Modified in steps: Not modified
Active in steps: Lateral_Force_Train1,

Properties in step: Lateral_Force_Train1

Amplitude:
AmplitudeState: UNSET
Magnitude: 676.0
MagnitudeState: SET
Status: CREATED

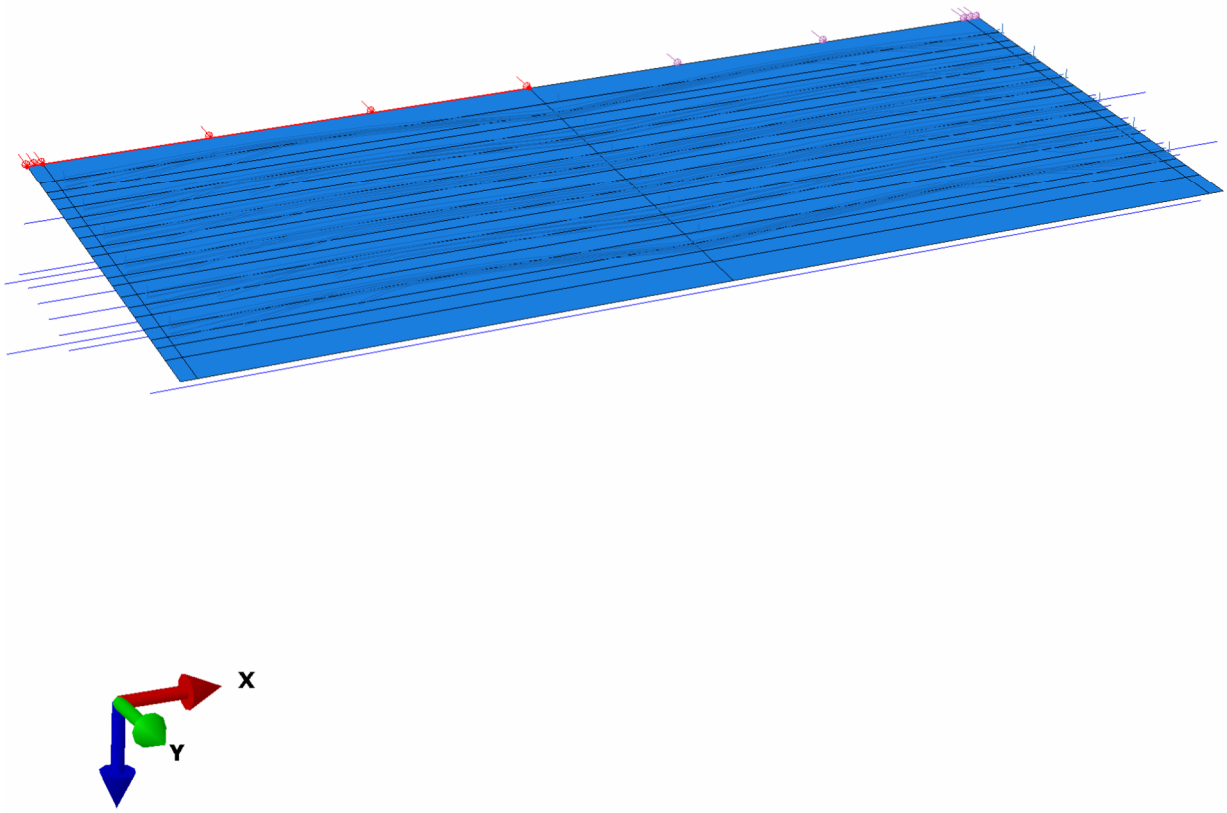


Figure 68. View of the Assembly with the region subjected to Load: Lateral_Train1

Lateral_Train2

Type: ShellEdgeLoad
Created in step: Lateral_Force_Train2
Modified in steps: Not modified
Active in steps: Lateral_Force_Train2,

Properties in step: Lateral_Force_Train2

Amplitude:
AmplitudeState: UNSET
Magnitude: 676.0
MagnitudeState: SET
Status: CREATED

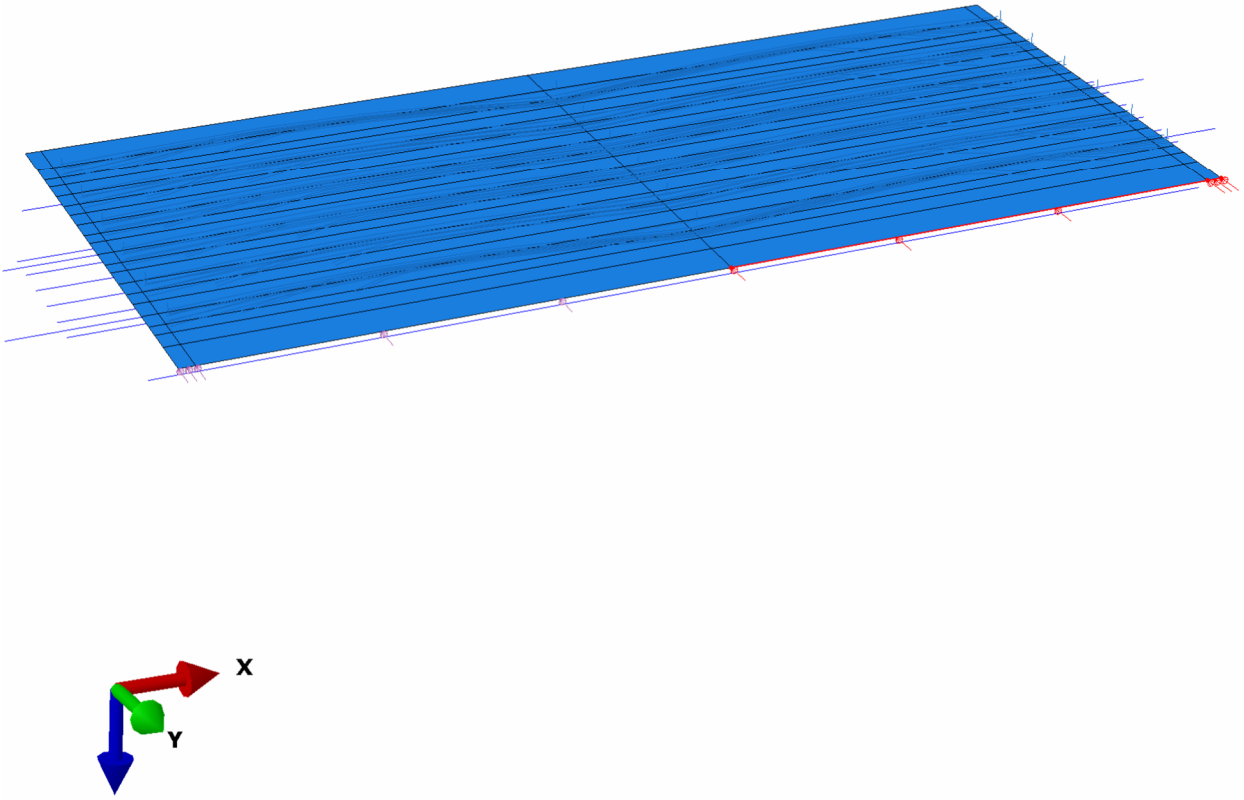


Figure 69. View of the Assembly with the region subjected to Load: Lateral_Train2

Lateral_Train3

Type: ShellEdgeLoad
Created in step: Lateral_Force_Train2
Modified in steps: Not modified
Active in steps: Lateral_Force_Train2,

Properties in step: Lateral_Force_Train2

Amplitude:
AmplitudeState: UNSET
Magnitude: 676.0
MagnitudeState: SET
Status: CREATED

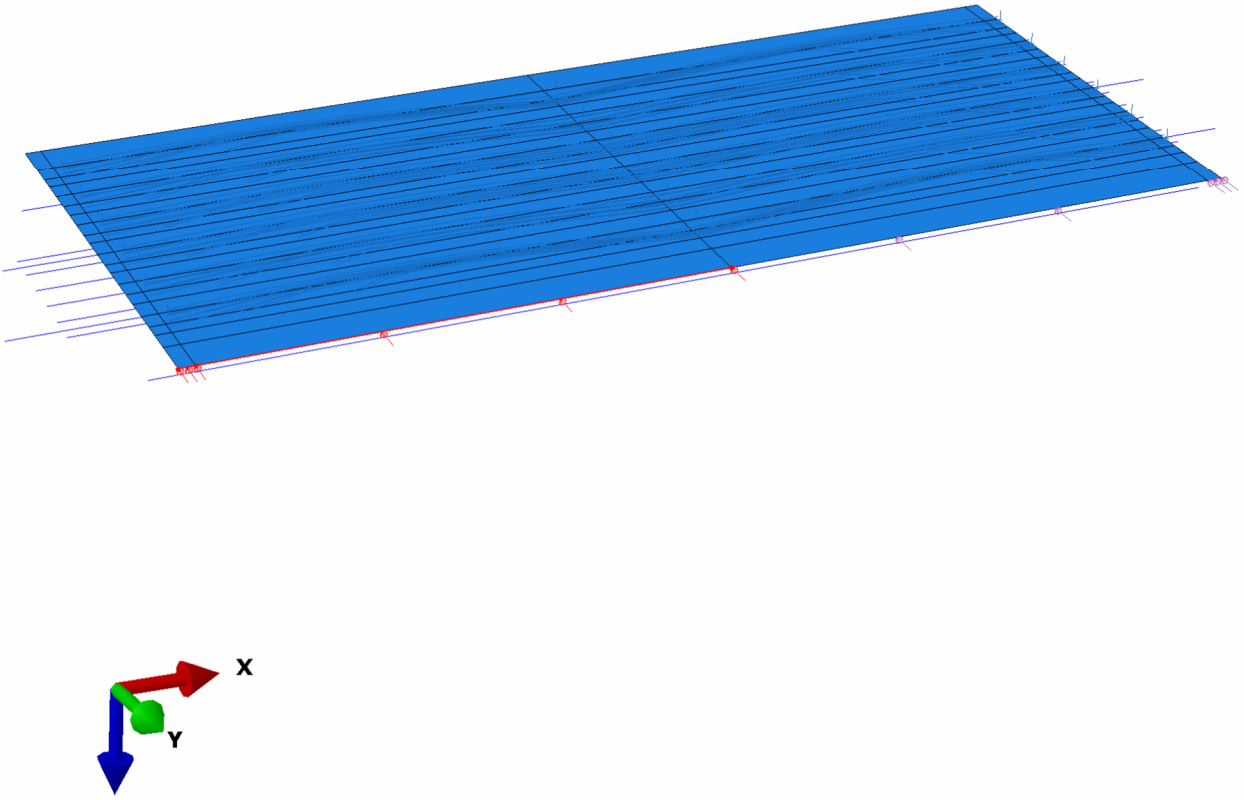


Figure 70. View of the Assembly with the region subjected to Load: Lateral_Train3

Lateral_Train4

Type: ShellEdgeLoad
Created in step: Lateral_Force_Train1
Modified in steps: Not modified
Active in steps: Lateral_Force_Train1,

Properties in step: Lateral_Force_Train1

Amplitude:
AmplitudeState: UNSET
Magnitude: 676.0
MagnitudeState: SET
Status: CREATED

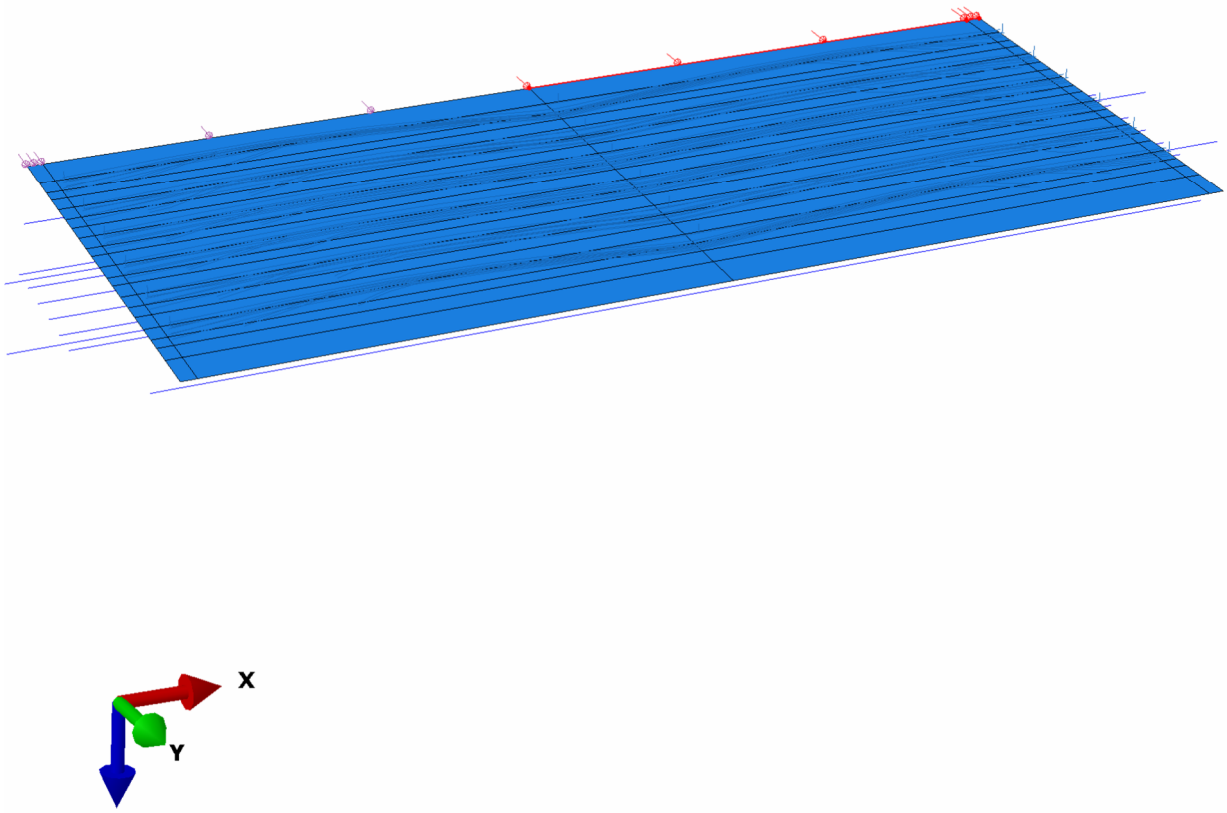


Figure 71. View of the Assembly with the region subjected to Load: Lateral_Train4

Overburden_1

Type: Pressure
Created in step: Overburden
Modified in steps: Not modified
Active in steps: Overburden,

Properties in step: Overburden

Amplitude:
AmplitudeState: UNSET
HReference: 0.0
HReferenceState: UNSET
HZero: 0.0
HZeroState: UNSET
Magnitude: 5088.0
MagnitudeState: SET
Status: CREATED

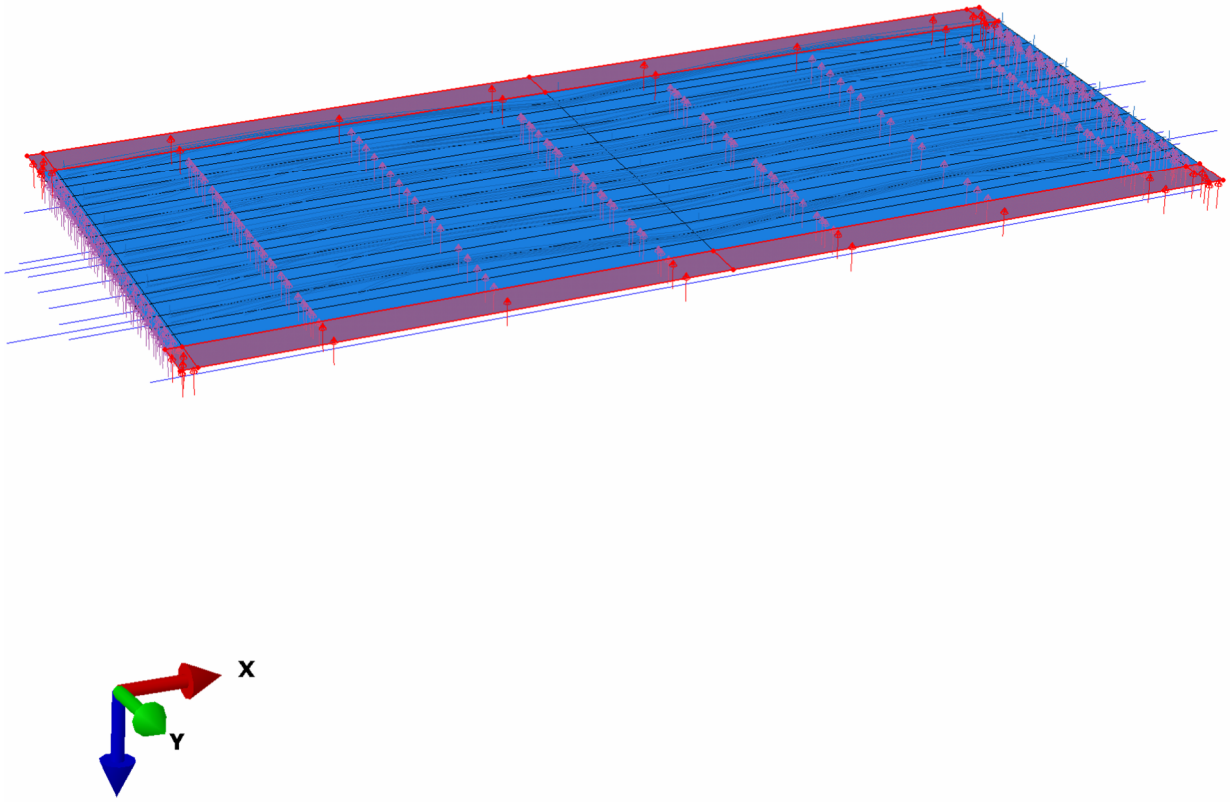


Figure 72. View of the Assembly with the region subjected to Load: Overburden_1

Overburden_2

Type: Pressure
Created in step: Overburden
Modified in steps: Not modified
Active in steps: Overburden,

Properties in step: Overburden

Amplitude:
AmplitudeState: UNSET
HReference: 0.0
HReferenceState: UNSET
HZero: 0.0
HZeroState: UNSET
Magnitude: 5856.0
MagnitudeState: SET
Status: CREATED

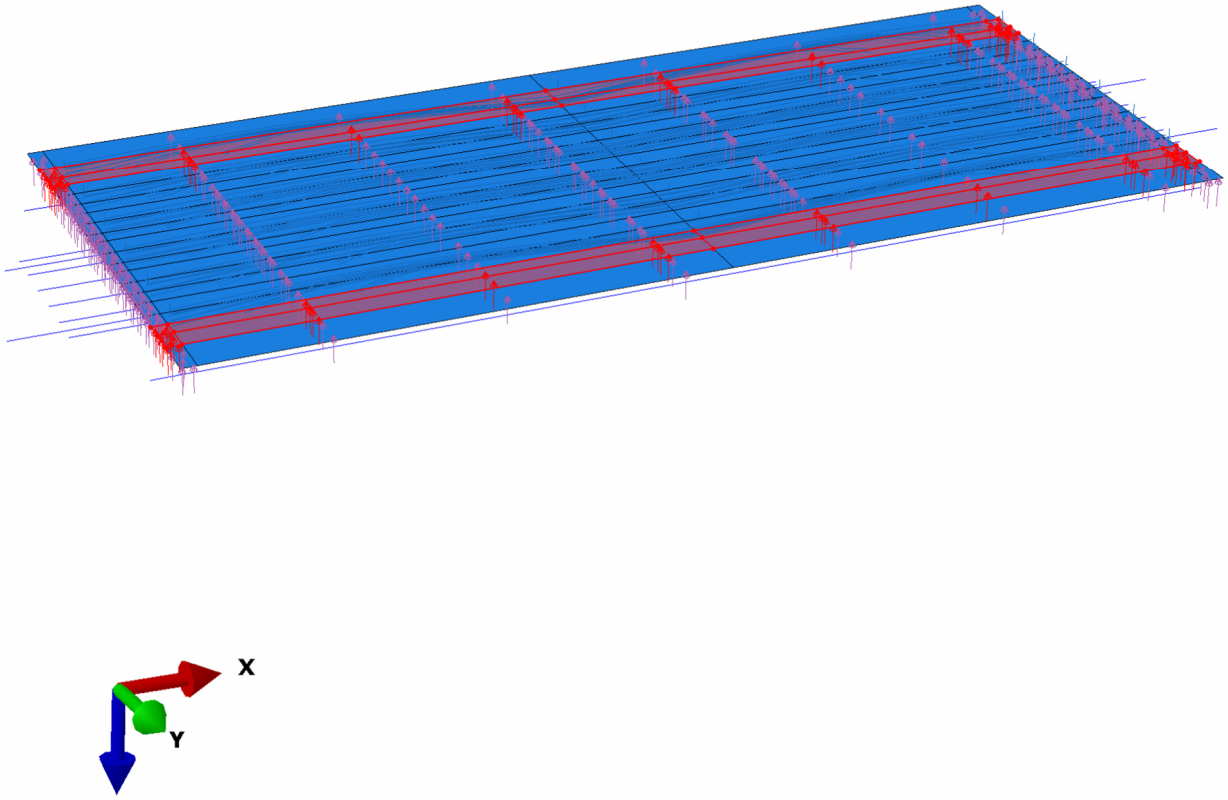


Figure 73. View of the Assembly with the region subjected to Load: Overburden_2

Overburden_3

Type: Pressure
Created in step: Overburden
Modified in steps: Not modified
Active in steps: Overburden,

Properties in step: Overburden

Amplitude:
AmplitudeState: UNSET
HReference: 0.0
HReferenceState: UNSET
HZero: 0.0
HZeroState: UNSET
Magnitude: 8520.0
MagnitudeState: SET
Status: CREATED

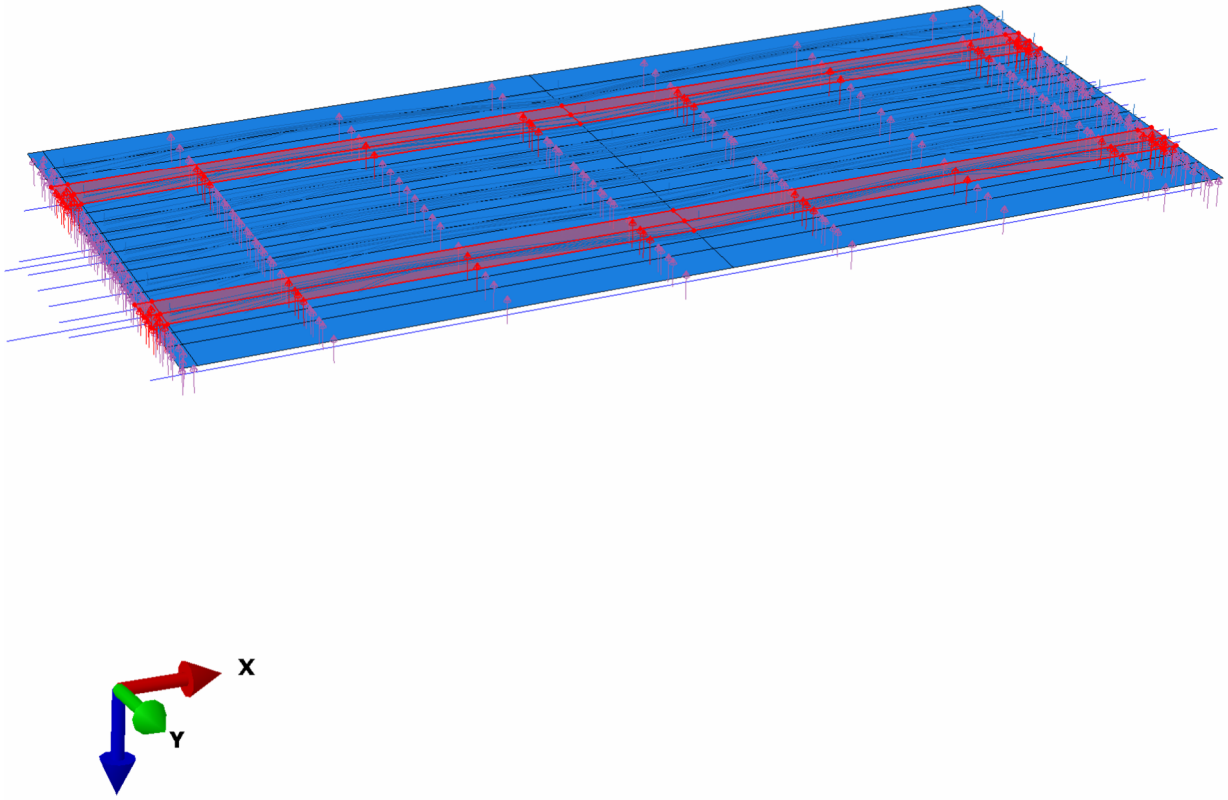


Figure 74. View of the Assembly with the region subjected to Load: Overburden_3

Overburden_4

Type: Pressure
Created in step: Overburden
Modified in steps: Not modified
Active in steps: Overburden,

Properties in step: Overburden

Amplitude:
AmplitudeState: UNSET
HReference: 0.0
HReferenceState: UNSET
HZero: 0.0
HZeroState: UNSET
Magnitude: 7704.0
MagnitudeState: SET
Status: CREATED

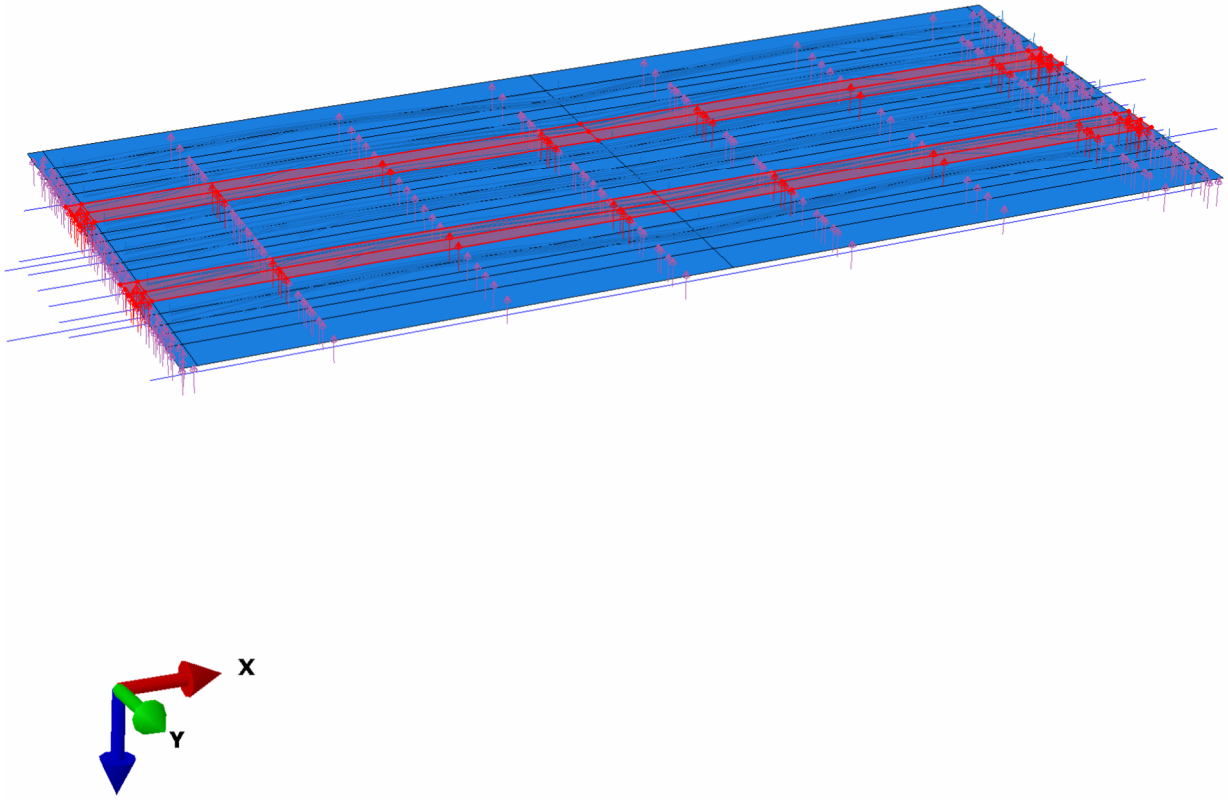


Figure 75. View of the Assembly with the region subjected to Load: Overburden_4

Overburden_5

Type: Pressure
Created in step: Overburden
Modified in steps: Not modified
Active in steps: Overburden,

Properties in step: Overburden

Amplitude:
AmplitudeState: UNSET
HReference: 0.0
HReferenceState: UNSET
HZero: 0.0
HZeroState: UNSET
Magnitude: 6768.0
MagnitudeState: SET
Status: CREATED

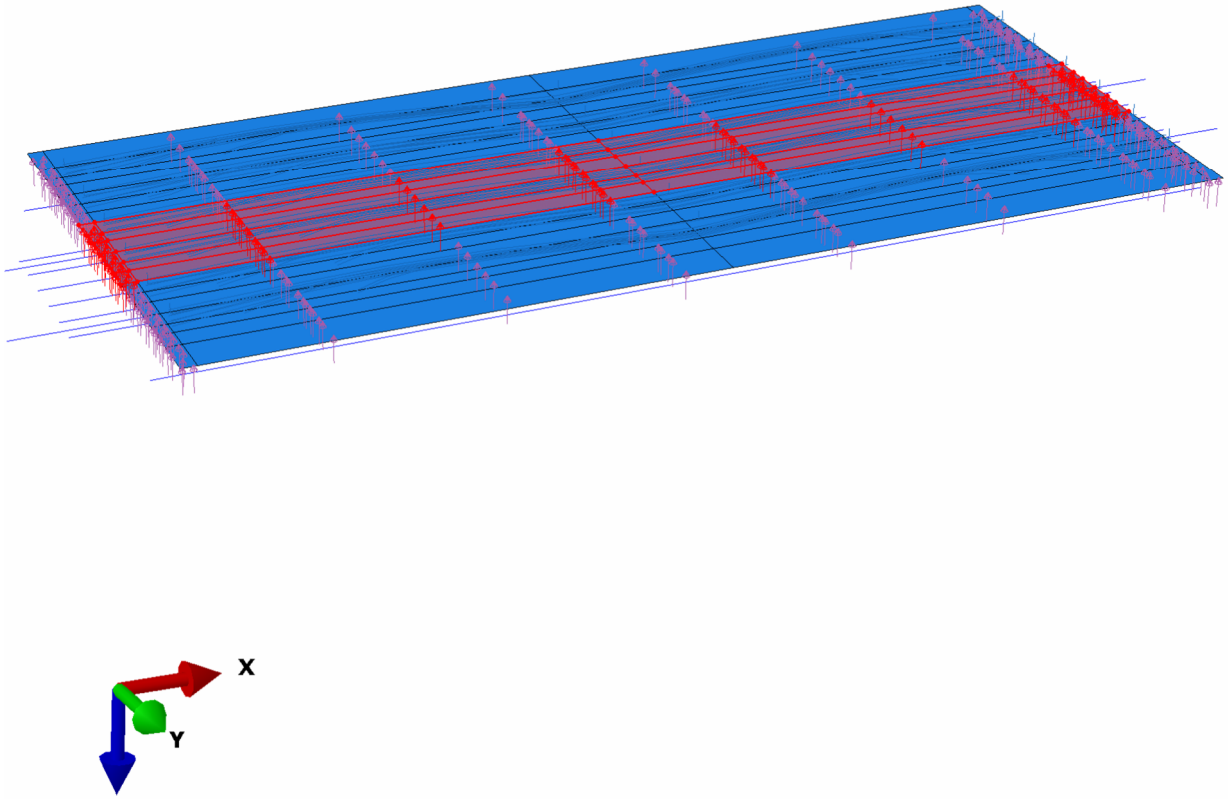


Figure 76. View of the Assembly with the region subjected to Load: Overburden_5

7. Prestress

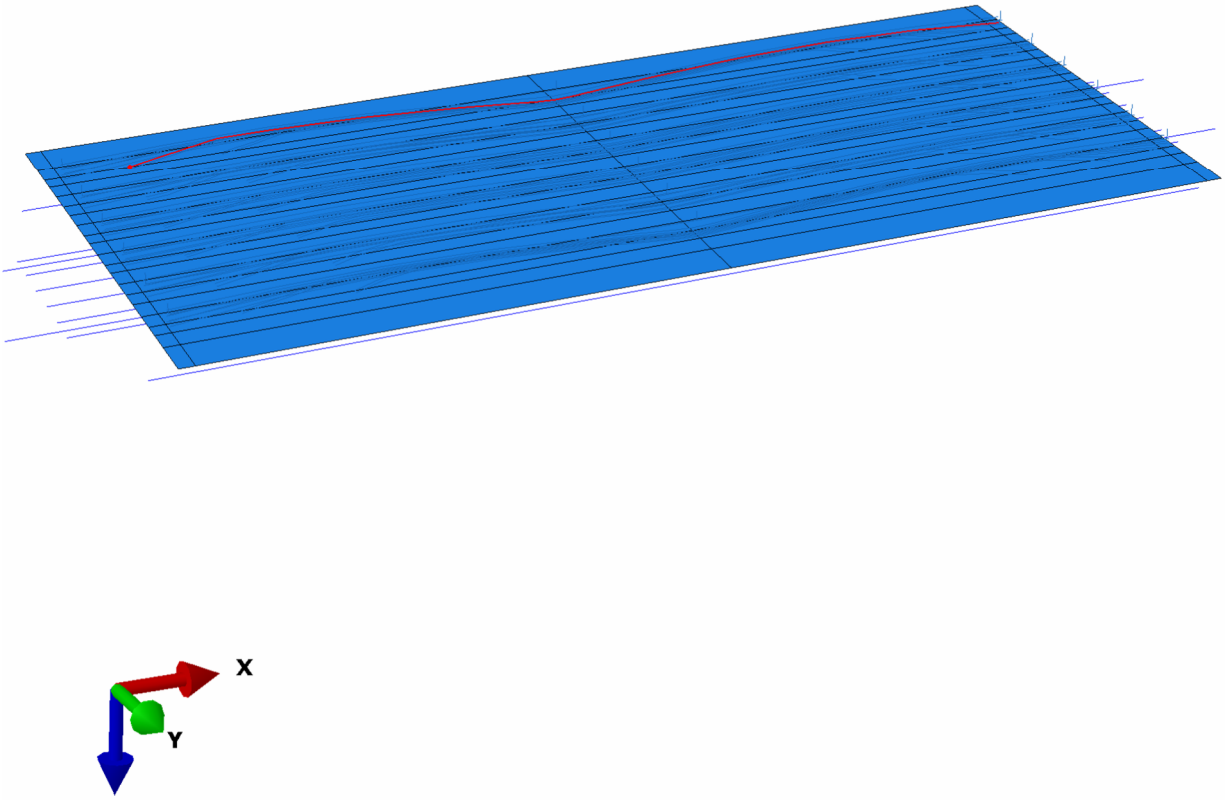


Figure 77. View of the Assembly with the tendon Tendon-103 highlighted

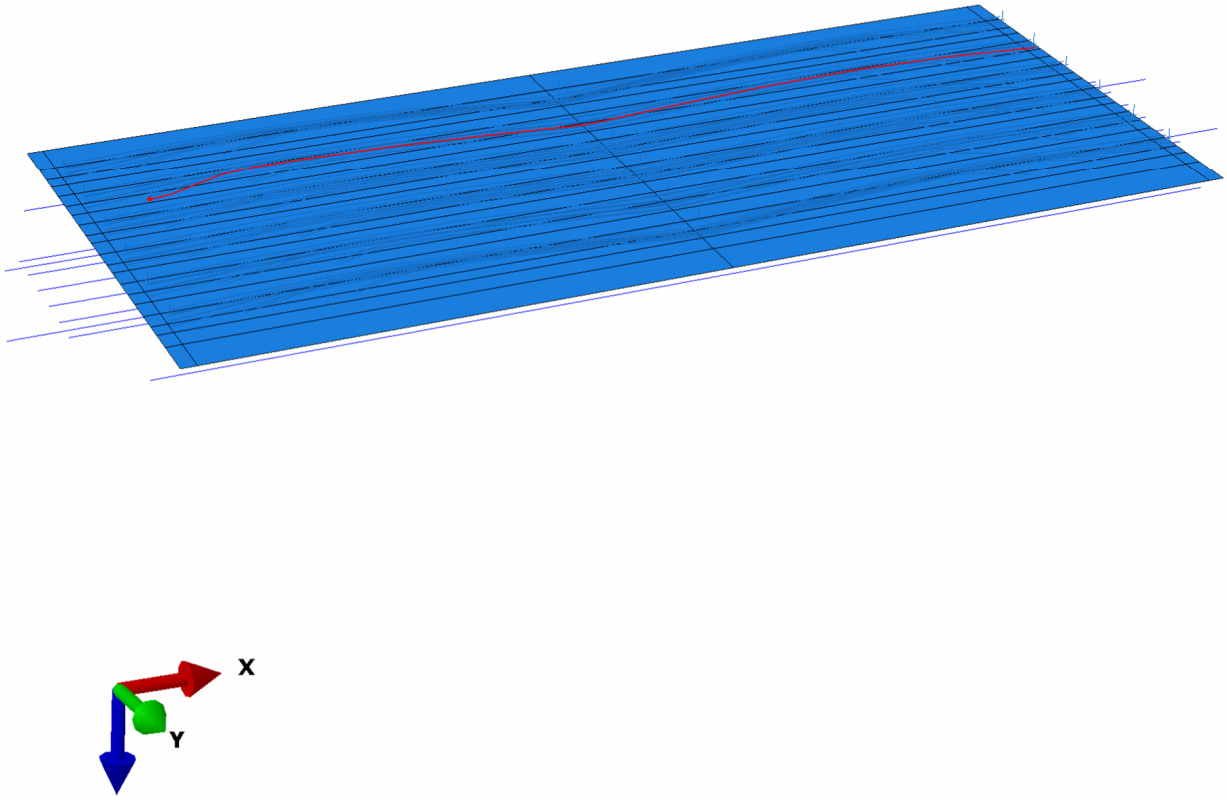


Figure 78. View of the Assembly with the tendon Tendon-204 highlighted

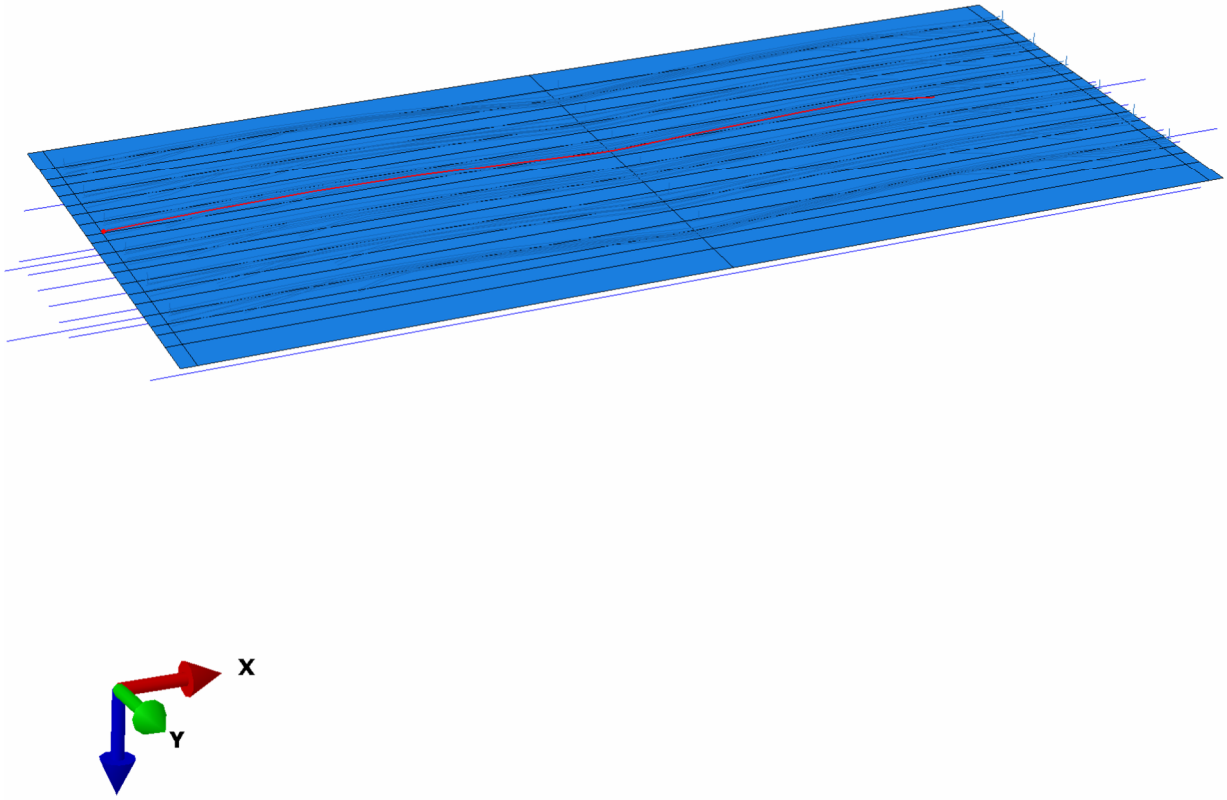


Figure 79. View of the Assembly with the tendon Tendon-305 highlighted

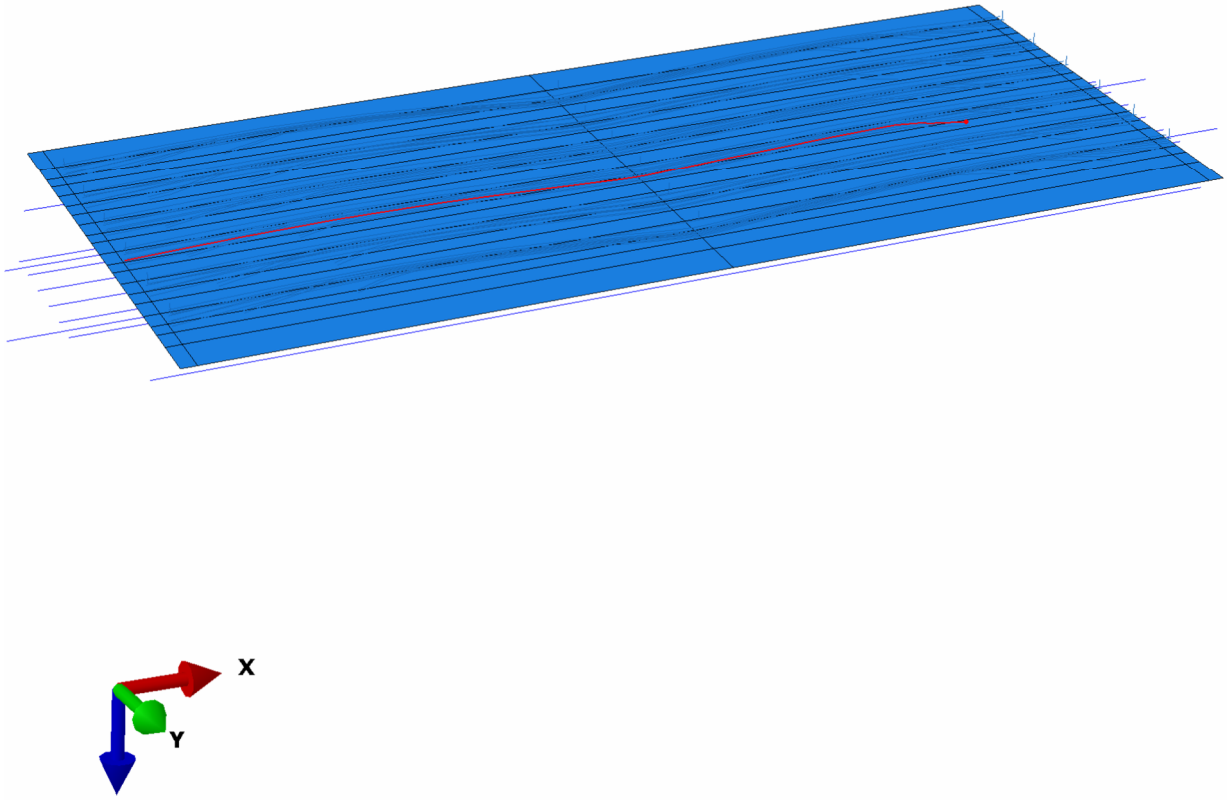


Figure 80. View of the Assembly with the tendon Tendon-406 highlighted

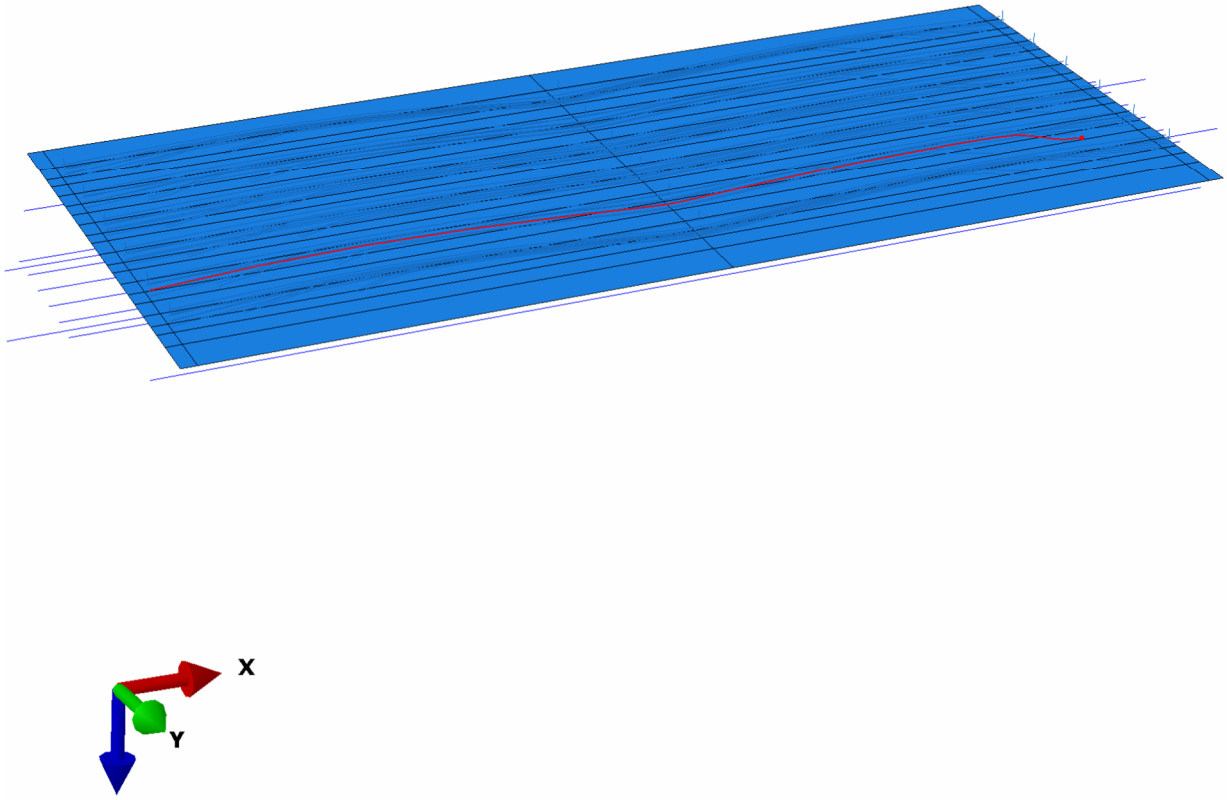


Figure 81. View of the Assembly with the tendon Tendon-507 highlighted

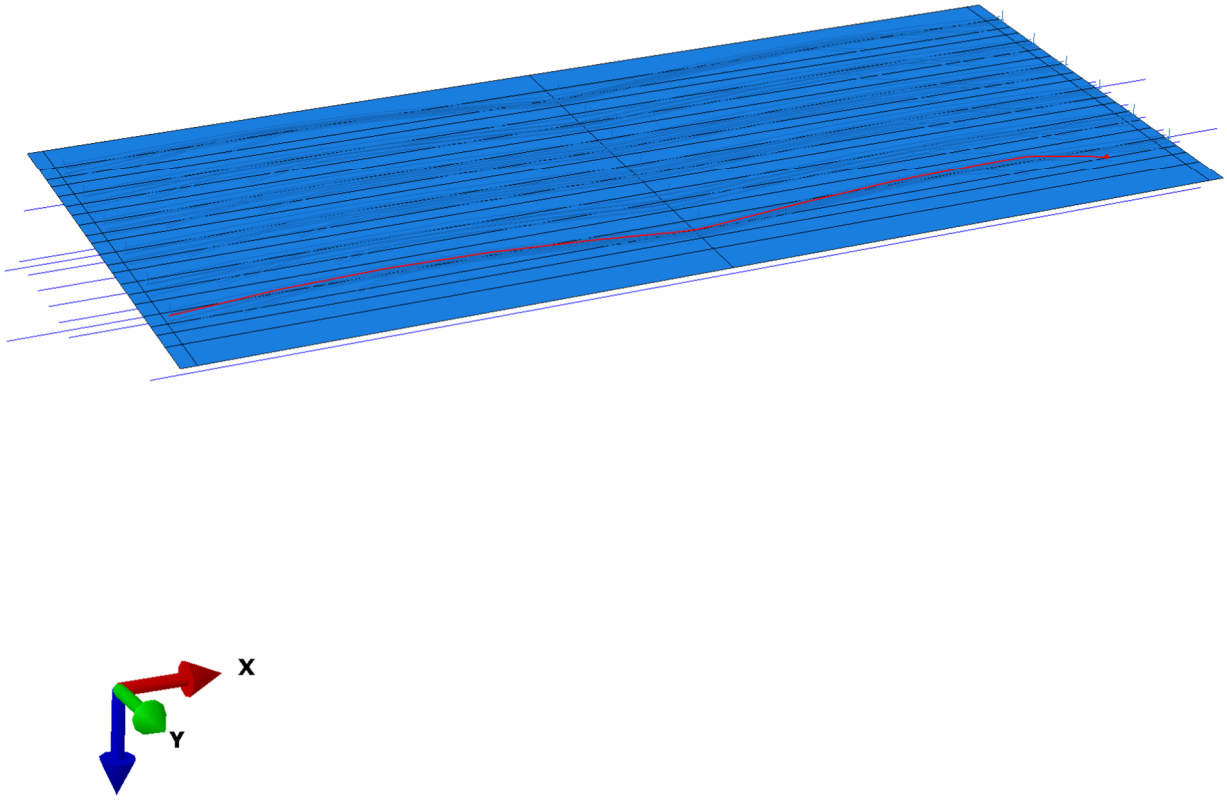


Figure 82. View of the Assembly with the tendon Tendon-608 highlighted

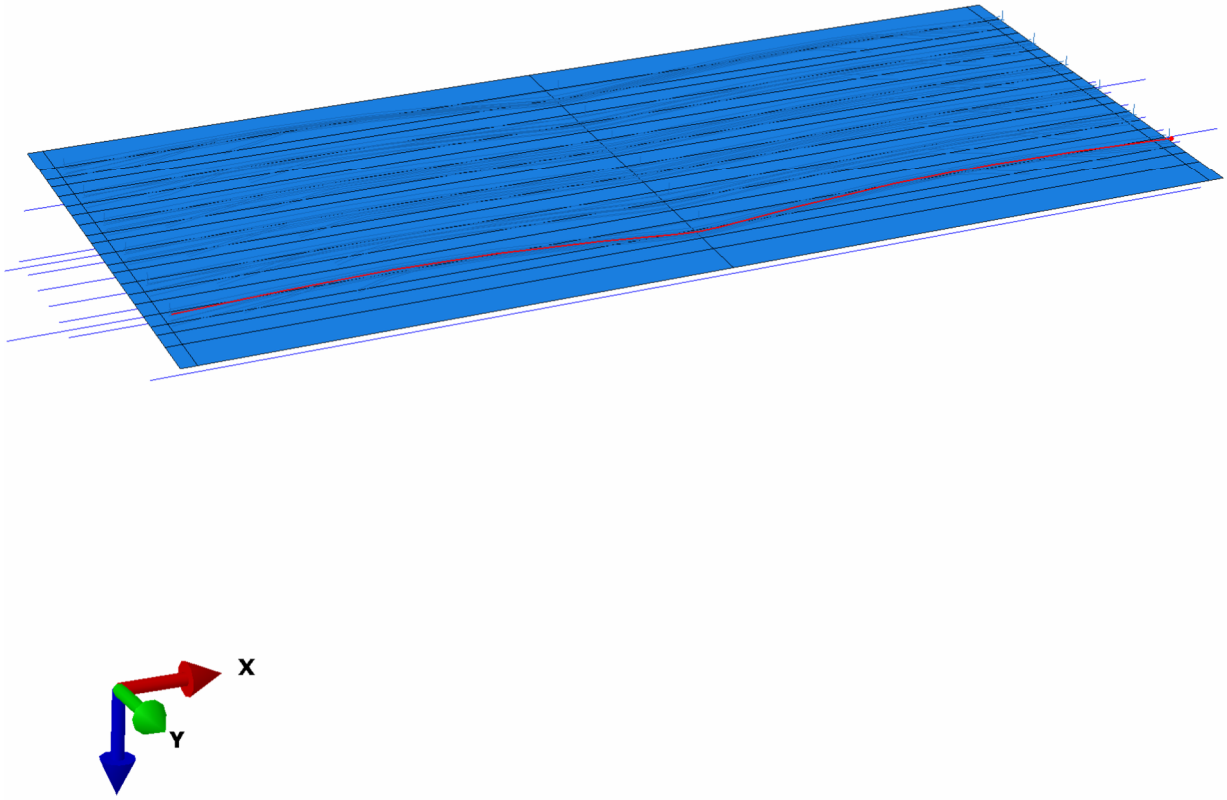
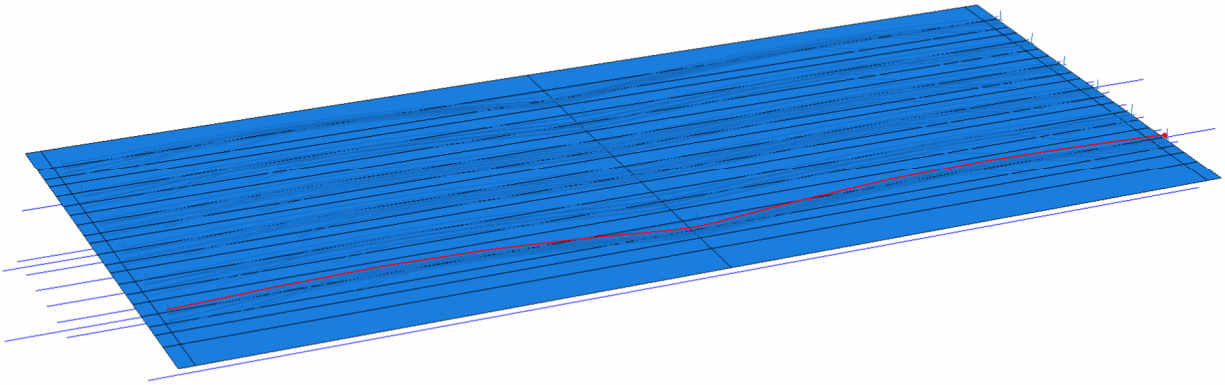


Figure 83. View of the Assembly with the tendon Tendon-609 highlighted



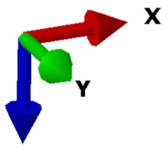


Figure 84. View of the Assembly with the tendon Tendon-610 highlighted

Tendon Definition for Tendon-101

Material: Steel
Cross section area: 0.0004618
Host region: Host_Deck_I

Geometry type: Offset
Reference CSYS: (Global)
Reference Edge: Part-1-1.Host_I
Reference Point: Last End
Vertical offset direction: Along Z direction
Horizontal offset direction is in the normal direction of a plane spanned by the tangent direction of the reference edge as 1-direction and the vertical offset direction as 2-direction in a right handed coordinate system.

Distance along	Offset vertical	Offset horizontal
0.45	0.293	-0.065
2.964	0.015	-0.065
5.928	-0.056	-0.065
8.892	0.008	-0.065
11.856	0.186	-0.065
14.22	0.386	-0.065
14.82	0.41	-0.065

15.42	0.3875	-0.065
17.784	0.187	-0.065
20.748	0.011	-0.065
22.602	-0.0625	-0.065
23.712	0.068	-0.065
24.032	0.15125	-0.065
25.042	0.318	-0.065

Tendon Definition for Tendon-102

Material: Steel
Cross section area: 0.0004618
Host region: Host_Deck_I

Geometry type: Offset
Reference CSYS: (Global)
Reference Edge: Part-1-1.Host_I
Reference Point: Last End
Vertical offset direction: Along Z direction
Horizontal offset direction is in the normal direction of a plane spanned by the tangent direction of the reference edge as 1-direction and the vertical offset direction as 2-direction in a right handed coordinate system.

Distance along	Offset vertical	Offset horizontal
0.45	0.293	0.065
2.964	0.015	0.065
5.928	-0.056	0.065
8.892	0.008	0.065
11.856	0.186	0.065
14.22	0.386	0.065
14.82	0.41	0.065
15.42	0.3875	0.065
17.784	0.187	0.065
20.748	0.011	0.065
22.602	-0.0625	0.065
23.712	0.068	0.065
24.032	0.15125	0.065
25.042	0.318	0.065

Tendon Definition for Tendon-203

Material: Steel
Cross section area: 0.0004618
Host region: Host_Deck_II

Geometry type: Offset
Reference CSYS: (Global)
Reference Edge: Part-1-1.Host_II
Reference Point: Last End
Vertical offset direction: Along Z direction
Horizontal offset direction is in the normal direction of a plane spanned by the tangent direction of the reference edge as 1-direction and the vertical offset direction as 2-direction in a right handed coordinate system.

Distance along	Offset vertical	Offset horizontal
0	0.118	-0.09
2.964	-0.041	-0.09
5.928	-0.099	-0.09
8.892	-0.045	-0.09
11.856	0.086	-0.09
14.32	0.223	-0.09
14.82	0.244	-0.09
15.32	0.2245	-0.09
17.784	0.087	-0.09
20.748	-0.042	-0.09
23.712	-0.096	-0.09
24.876	-0.089	-0.09
26.596	0.182	-0.09
26.676	0.21	-0.09
27.836	0.381	-0.09

Tendon Definition for Tendon-303

Material: Steel
Cross section area: 0.0004618
Host region: Host_Deck_III

Geometry type: Offset
Reference CSYS: (Global)
Reference Edge: Part-1-1.Host_III
Reference Point: Last End
Vertical offset direction: Along Z direction
Horizontal offset direction is in the normal direction of a plane spanned by the tangent direction of the reference edge as 1-direction and the vertical offset direction as 2-direction in a right handed coordinate system.

Distance along	Offset vertical	Offset horizontal
0	0.111	-0.065
2.964	0.011	-0.065
5.928	-0.041	-0.065
8.892	-0.007	-0.065
11.856	0.099	-0.065
14.32	0.205	-0.065
14.82	0.216	-0.065
15.32	0.2065	-0.065
17.784	0.101	-0.065
20.748	-0.004	-0.065
23.712	-0.038	-0.065
25.106	-0.0305	-0.065
26.676	0.204	-0.065
27.956	0.404	-0.065

Tendon Definition for Tendon-404

Material: Steel
Cross section area: 0.0004618
Host region: Host_Deck_IV

Geometry type: Offset
Reference CSYS: (Global)
Reference Edge: Part-1-1.Host_IV
Reference Point: First End
Vertical offset direction: Along Z direction
Horizontal offset direction is in the normal direction of a plane spanned by the tangent direction of the reference edge as 1-direction and the vertical offset direction as 2-direction in a right handed coordinate system.

Distance along	Offset vertical	Offset horizontal
1.684	0.4035	0.065
2.964	0.204	0.065
4.534	-0.0305	0.065
5.928	-0.038	0.065
8.892	-0.004	0.065
11.856	0.101	0.065
14.22	0.206	0.065
14.82	0.216	0.065
15.42	0.205	0.065
17.784	0.099	0.065
20.748	-0.007	0.065
23.712	-0.041	0.065
26.676	0.031	0.065
29.64	0.111	0.065

Tendon Definition for Tendon-505

Material: Steel
Cross section area: 0.0004618
Host region: Host_Deck_V

Geometry type: Offset
Reference CSYS: (Global)

Reference Edge: Part-1-1.Host_V
Reference Point: First End
Vertical offset direction: Along Z direction
Horizontal offset direction is in the normal direction of a plane spanned by the tangent direction of the reference edge as 1-direction and the vertical offset direction as 2-direction in a right handed coordinate system.

Distance along	Offset vertical	Offset horizontal
0	0.287	-0.16
2.964	0.079	-0.16
5.928	0.034	-0.16
8.892	0.082	-0.16
11.856	0.217	-0.16
14.12	0.354	-0.16
14.82	0.374	-0.16
15.52	0.353	-0.16
17.784	0.216	-0.16
20.748	0.085	-0.16
22.552	0.0325	-0.16
23.712	0.173	-0.16
23.932	0.2215	-0.16
24.932	0.3765	-0.16

Tendon Definition for Tendon-606

Material: Steel
Cross section area: 0.0004618
Host region: Host_Deck_VI

Geometry type: Offset
Reference CSYS: (Global)
Reference Edge: Part-1-1.Host_VI
Reference Point: First End
Vertical offset direction: Along Z direction
Horizontal offset direction is in the normal direction of a plane spanned by the tangent direction of the reference edge as 1-direction and the vertical offset direction as 2-direction in a right handed coordinate system.

Distance along	Offset vertical	Offset horizontal
0	0.297	0.135
2.964	0.018	0.135
5.928	-0.054	0.135
8.892	0.01	0.135
11.856	0.187	0.135
14.22	0.387	0.135
14.82	0.41	0.135
15.42	0.386	0.135
17.784	0.186	0.135
20.748	0.008	0.135
22.602	-0.0605	0.135
23.712	0.069	0.135
24.032	0.1425	0.135
25.042	0.3175	0.135

Tendon Definition for Tendon-607

Material: Steel
Cross section area: 0.0004618
Host region: Host_Deck_VI

Geometry type: Offset
Reference CSYS: (Global)
Reference Edge: Part-1-1.Host_VI
Reference Point: First End
Vertical offset direction: Along Z direction
Horizontal offset direction is in the normal direction of a plane spanned by the tangent direction of the reference edge as 1-direction and the vertical offset direction as 2-direction in a right handed coordinate system.

Distance along	Offset vertical	Offset horizontal
0	0.13	-0.135
2.964	-0.062	-0.135

5.928	-0.124	-0.135
8.892	-0.06	-0.135
11.856	0.117	-0.135
14.32	0.317	-0.135
14.82	0.34	-0.135
15.32	0.316	-0.135
17.784	0.116	-0.135
20.748	-0.062	-0.135
23.712	-0.126	-0.135
25.146	-0.1205	-0.135
26.676	0.138	-0.135
27.696	0.322	-0.135

Tendon Definition for Tendon-608

Material: Steel
Cross section area: 0.0004618
Host region: Host_Deck_VI

Geometry type: Offset
Reference CSYS: (Global)
Reference Edge: Part-1-1.Host_VI
Reference Point: First End
Vertical offset direction: Along Z direction
Horizontal offset direction is in the normal direction of a plane spanned by the tangent direction of the reference edge as 1-direction and the vertical offset direction as 2-direction in a right handed coordinate system.

Distance along	Offset vertical	Offset horizontal
0	0.13	0.135
2.964	-0.062	0.135
5.928	-0.124	0.135
8.892	-0.06	0.135
11.856	0.117	0.135
14.32	0.317	0.135
14.82	0.34	0.135
15.32	0.316	0.135
17.784	0.116	0.135
20.748	-0.062	0.135
23.712	-0.126	0.135
25.146	-0.1205	0.135
26.676	0.138	0.135
27.696	0.322	0.135

Tendon Definition for Tendon-609

Material: Steel
Cross section area: 0.0004618
Host region: Host_Deck_VI

Geometry type: Offset
Reference CSYS: (Global)
Reference Edge: Part-1-1.Host_VI
Reference Point: First End
Vertical offset direction: Along Z direction
Horizontal offset direction is in the normal direction of a plane spanned by the tangent direction of the reference edge as 1-direction and the vertical offset direction as 2-direction in a right handed coordinate system.

Distance along	Offset vertical	Offset horizontal
0	-0.037	-0.135
2.964	-0.143	-0.135
5.928	-0.194	-0.135
8.892	-0.13	-0.135
11.856	0.047	-0.135
14.22	0.244	-0.135
14.82	0.27	-0.135
15.42	0.244	-0.135
17.784	0.046	-0.135
20.748	-0.132	-0.135
23.712	-0.196	-0.135

26.676	-0.146	-0.135
29.64	-0.041	-0.135

Tendon Definition for Tendon-610

Material: Steel
Cross section area: 0.0004618
Host region: Host_Deck_VI

Geometry type: Offset
Reference CSYS: (Global)
Reference Edge: Part-1-1.Host_VI
Reference Point: First End
Vertical offset direction: Along Z direction
Horizontal offset direction is in the normal direction of a plane spanned by the tangent direction of the reference edge as 1-direction and the vertical offset direction as 2-direction in a right handed coordinate system.

Distance along	Offset vertical	Offset horizontal
0	-0.037	0.135
2.964	-0.143	0.135
5.928	-0.194	0.135
8.892	-0.13	0.135
11.856	0.047	0.135
14.22	0.244	0.135
14.82	0.27	0.135
15.42	0.244	0.135
17.784	0.046	0.135
20.748	-0.132	0.135
23.712	-0.196	0.135
26.676	-0.146	0.135
29.64	-0.041	0.135

Prestress Definition for Tendon-109

Force applying step: Prestress_t0
Force applying side: Both Ends

Loss equation: Swedish
Friction coefficient: 0.25
Friction loss: 0.003

Max. force prior anchoring (first end): 590198
Min. force after anchoring (first end): 557410

Max. force prior anchoring (second end): 590198
Min. force after anchoring (second end): 557410

Initial deformation:

Distance along	Deformation (%)
0.0	0.0

Prestress loss t2 step: Prestress_t2

Prestress loss at t2:

Distance along	Loss (%)
0.0	18.0

Prestress Definition for Tendon-208

Force applying step: Prestress_t0
Force applying side: First End

Loss equation: Swedish
Friction coefficient: 0.25
Friction loss: 0.003

Max. force prior anchoring (first end): 590198
Min. force after anchoring (first end): 557410

Initial deformation:

Distance along	Deformation (%)
0.0	0.0

Prestress loss t2 step: Prestress_t2

Prestress loss at t2:

Distance along	Loss (%)
0.0	18.0

Prestress Definition for Tendon-307

Force applying step: Prestress_t0
Force applying side: First End

Loss equation: Swedish
Friction coefficient: 0.25
Friction loss: 0.003

Max. force prior anchoring (first end): 590198
Min. force after anchoring (first end): 557410

Initial deformation:

Distance along	Deformation (%)
0.0	0.0

Prestress loss t2 step: Prestress_t2

Prestress loss at t2:

Distance along	Loss (%)
0.0	18.0

Prestress Definition for Tendon-406

Force applying step: Prestress_t0
Force applying side: First End

Loss equation: Swedish
Friction coefficient: 0.25
Friction loss: 0.003

Max. force prior anchoring (first end): 590198
Min. force after anchoring (first end): 557410

Initial deformation:

Distance along	Deformation (%)
0.0	0.0

Prestress loss t2 step: Prestress_t2

Prestress loss at t2:

Distance along	Loss (%)
0.0	18.0

Prestress Definition for Tendon-505

Force applying step: Prestress_t0
Force applying side: First End

Loss equation: Swedish
Friction coefficient: 0.25
Friction loss: 0.003

Max. force prior anchoring (first end): 590198
Min. force after anchoring (first end): 557410

Initial deformation:

Distance along	Deformation (%)
0.0	0.0

Prestress loss t2 step: Prestress_t2

Prestress loss at t2:

Distance along	Loss (%)
0.0	18.0

Prestress Definition for Tendon-601

Force applying step: Prestress_t0
Force applying side: Last End

Loss equation: Swedish
Friction coefficient: 0.25
Friction loss: 0.003

Max. force prior anchoring (second end): 590198
Min. force after anchoring (second end): 557410

Initial deformation:

Distance along	Deformation (%)
0.0	0.0

Prestress loss t2 step: Prestress_t2

Prestress loss at t2:

Distance along	Loss (%)
0.0	18.0

Prestress Definition for Tendon-602

Force applying step: Prestress_t0
Force applying side: Last End

Loss equation: Swedish
Friction coefficient: 0.25
Friction loss: 0.003

Max. force prior anchoring (second end): 590198
Min. force after anchoring (second end): 557410

Initial deformation:

Distance along	Deformation (%)
0.0	0.0

Prestress loss t2 step: Prestress_t2

Prestress loss at t2:

Distance along	Loss (%)
0.0	18.0

Prestress Definition for Tendon-603

Force applying step: Prestress_t0
Force applying side: Last End

Loss equation: Swedish
Friction coefficient: 0.25
Friction loss: 0.003

Max. force prior anchoring (second end): 590198
Min. force after anchoring (second end): 557410

Initial deformation:

Distance along	Deformation (%)
0.0	0.0

Prestress loss t2 step: Prestress_t2

Prestress loss at t2:

Distance along	Loss (%)
0.0	18.0

Prestress Definition for Tendon-604

Force applying step: Prestress_t0
Force applying side: Last End

Loss equation: Swedish
Friction coefficient: 0.25
Friction loss: 0.003

Max. force prior anchoring (second end): 590198
Min. force after anchoring (second end): 557410

Initial deformation:

Distance along	Deformation (%)
0.0	0.0

Prestress loss t2 step: Prestress_t2

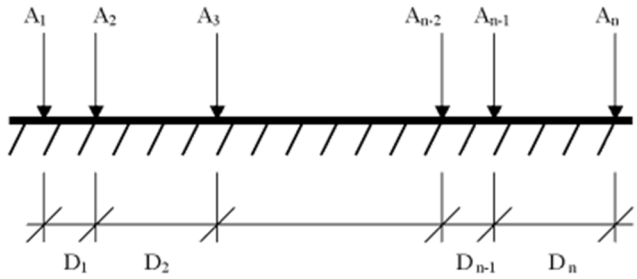
Prestress loss at t2:

Distance along	Loss (%)
0.0	18.0

8. Live Loads

A32, 1 wagon

Fixed Distances - unlimited no of axle/surface loads



Load type	Dist. to first load	Intensity	Load length
Axle Load	0.0	90000.0	
Axle Load	1.8	90000.0	
Axle Load	11.0	90000.0	
Axle Load	12.8	90000.0	
Axle Load	22.0	90000.0	
Axle Load	23.8	90000.0	
Axle Load	30.32	90000.0	

Lane width: 3.3
Axle width: 1.43
Surface load width: 2.25
No. of simultaneous vehicles: 1

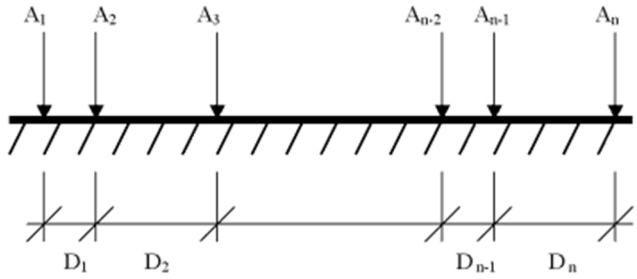
Lane	Magnitude factor
Most adverse	1
2'nd most adverse	0
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

Additional Lane Surface Load
Load width: 0
Load intensity: 0

Dynamic Magnification Factor
Axle loads: 1.148
Surface loads: 1
Additional Surface Load: 1

A35, 1 wagon

Fixed Distances - unlimited no of axle/surface loads



Load type	Dist. to first load	Intensity	Load length
Axle Load	0.0	80000.0	
Axle Load	1.85	80000.0	

Axle Load	9.39	90000.0
Axle Load	11.24	90000.0
Axle Load	14.59	90000.0
Axle Load	16.44	90000.0
Axle Load	23.98	80000.0
Axle Load	25.83	80000.0
Axle Load	31.85	80000.0

Lane width: 3.3
Axle width: 1.43
Surface load width: 2.25
No. of simultaneous vehicles: 1

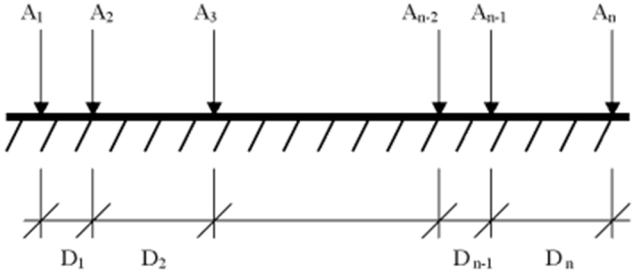
Lane	Magnitude factor
Most adverse	1
2'nd most adverse	0
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

Additional Lane Surface Load
Load width: 0
Load intensity: 0

Dynamic Magnification Factor
Axle loads: 1.148
Surface loads: 1
Additional Surface Load: 1

A36, 1 wagon

Fixed Distances - unlimited no of axle/surface loads



Load type	Dist. to first load	Intensity	Load length
Axle Load	0.0	80000.0	
Axle Load	1.85	80000.0	
Axle Load	9.6	95000.0	
Axle Load	11.45	95000.0	
Axle Load	14.6	70000.0	
Axle Load	16.45	70000.0	
Axle Load	23.275	95000.0	
Axle Load	25.125	95000.0	
Axle Load	32.875	80000.0	
Axle Load	34.725	80000.0	
Axle Load	39.475	80000.0	

Lane width: 3.3
Axle width: 1.43
Surface load width: 2.25
No. of simultaneous vehicles: 1

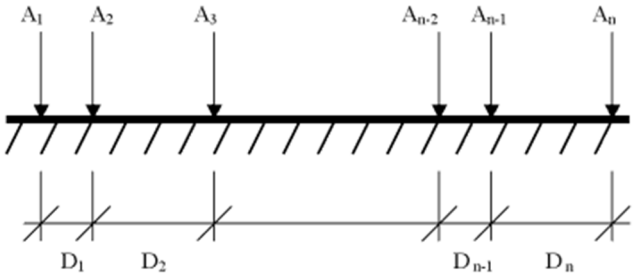
Lane	Magnitude factor
Most adverse	1
2'nd most adverse	0
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

Additional Lane Surface Load
Load width: 0
Load intensity: 0

Dynamic Magnification Factor
Axle loads: 1.148
Surface loads: 1
Additional Surface Load: 1

Arbetstag

Fixed Distances - unlimited no of axle/surface loads



Load type	Dist. to first load	Intensity	Load length
Axle Load	0.0	100000.0	
Axle Load	2.5	100000.0	

Lane width: 3.3
Axle width: 1.435
Surface load width: 2.25
No. of simultaneous vehicles: 1

Lane	Magnitude factor
Most adverse	1
2'nd most adverse	0
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

Additional Lane Surface Load
Load width: 2.25
Load intensity: 8890

Dynamic Magnification Factor
Axle loads: 1.148
Surface loads: 1.148
Additional Surface Load: 1.15

Arbetstag, lane load

Lane Surface Load

Load width: 2.25
Dynamic magnification factor: 1.148

Lane	Load intensity
Most adverse	1

2'nd most adverse	0
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

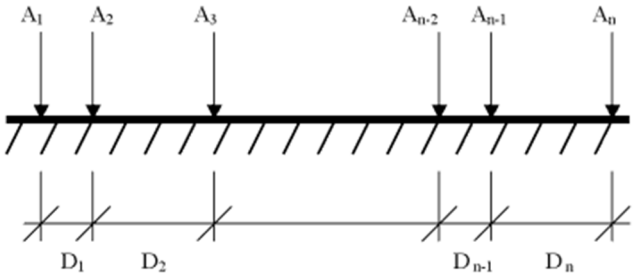
Classification Surface Load

General Moving Surface Load

Load Intensity: 1667
Dynamic magnification factor: 1.132

Classification Vehicle a, width = 2.0

Fixed Distances - unlimited no of axle/surface loads



Load type	Dist. to first load	Intensity	Load length
Axle Load	0.0	120000.0	

Lane width: 3
Axle width: 2
Surface load width: 0
No. of simultaneous vehicles: 2

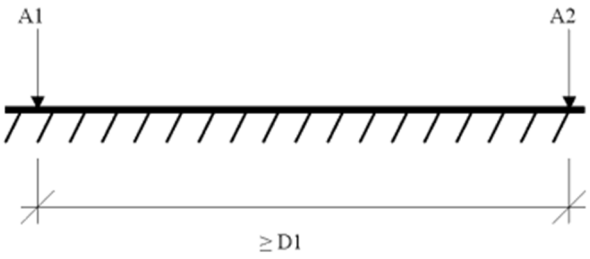
Lane	Magnitude factor
Most adverse	1
2'nd most adverse	0.8
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

Additional Lane Surface Load
Load width: 3
Load intensity: 0

Dynamic Magnification Factor
Axle loads: 1.132
Surface loads: 1
Additional Surface Load: 1

Classification Vehicle b, width = 2.0

Variable Distances - 2 axle/surface loads



Load type	Dist. to first load	Intensity	Load length
Axle Load	0.0	79200.0	

Axle Load	1.0	79200.0

Lane width: 3
Axle width: 2
Surface load width: 0
No. of simultaneous vehicles: 2

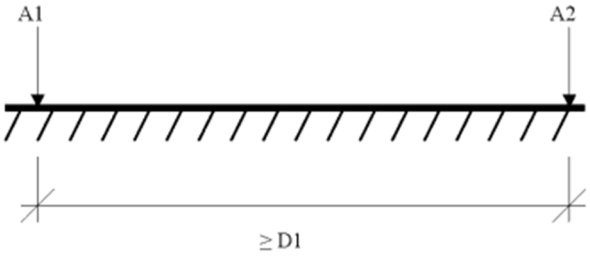
Lane	Magnitude factor
Most adverse	1
2'nd most adverse	0.8
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

Additional Lane Surface Load
Load width: 3
Load intensity: -1667

Dynamic Magnification Factor
Axle loads: 1.132
Surface loads: 1
Additional Surface Load: 1

Classification Vehicle c, width = 2.0

Variable Distances - 2 axle/surface loads



Load type	Dist. to first load	Intensity	Load length
Axle Load	0.0	90000.0	
Axle Load	1.3	90000.0	

Lane width: 3
Axle width: 2
Surface load width: 0
No. of simultaneous vehicles: 2

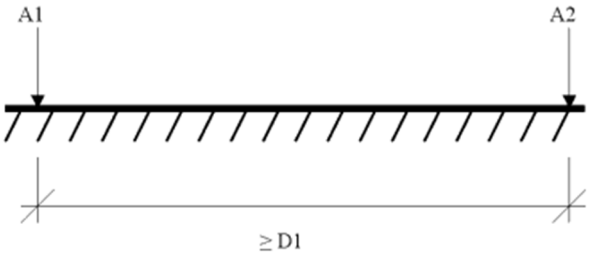
Lane	Magnitude factor
Most adverse	1
2'nd most adverse	0.8
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

Additional Lane Surface Load
Load width: 3
Load intensity: -1667

Dynamic Magnification Factor
Axle loads: 1.132
Surface loads: 1
Additional Surface Load: 1

Classification Vehicle d, width = 2.0

Variable Distances - 2 axle/surface loads



Load type	Dist. to first load	Intensity	Load length
Axle Load	0.0	99000.0	
Axle Load	1.8	99000.0	

Lane width: 3
Axle width: 2
Surface load width: 0
No. of simultaneous vehicles: 2

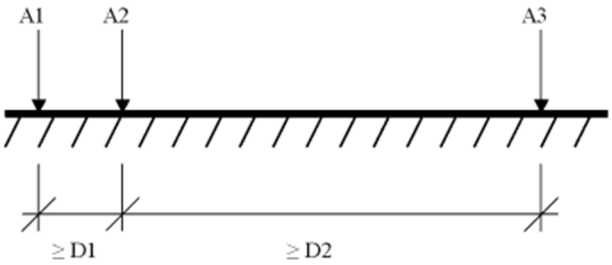
Lane	Magnitude factor
Most adverse	1
2'nd most adverse	0.8
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

Additional Lane Surface Load
Load width: 3
Load intensity: -1667

Dynamic Magnification Factor
Axle loads: 1.132
Surface loads: 1
Additional Surface Load: 1

Classification Vehicle e, width = 2.0

Variable Distances - 3 axle/surface loads



Load type	Dist. to first load	Intensity	Load length
Axle Load	0.0	70200.0	
Axle Load	1.0	70200.0	
Axle Load	2.0	70200.0	

Lane width: 3
Axle width: 2
Surface load width: 0
No. of simultaneous vehicles: 2

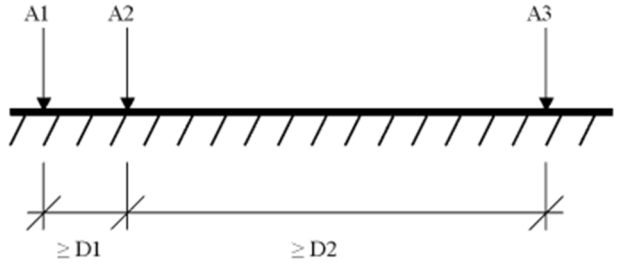
Lane	Magnitude factor
Most adverse	1
2'nd most adverse	0.8
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

Additional Lane Surface Load
Load width: 3
Load intensity: -1667

Dynamic Magnification Factor
Axle loads: 1.132
Surface loads: 1
Additional Surface Load: 1

Classification Vehicle f, width = 2.0

Variable Distances - 3 axle/surface loads



Load type	Dist. to first load	Intensity	Load length
Axle Load	0.0	79200.0	
Axle Load	1.3	79200.0	
Axle Load	2.6	79200.0	

Lane width: 3
Axle width: 2
Surface load width: 0
No. of simultaneous vehicles: 2

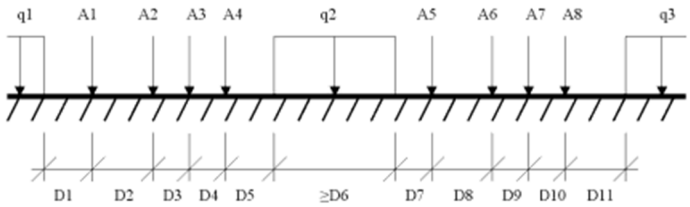
Lane	Magnitude factor
Most adverse	1
2'nd most adverse	0.8
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

Additional Lane Surface Load
Load width: 3
Load intensity: -1667

Dynamic Magnification Factor
Axle loads: 1.132
Surface loads: 1
Additional Surface Load: 1

Classification Vehicle g, width = 2.0

Fixed/Variable Distances - 11 axle/surface loads



Load type	Dist. to first load	Intensity	Load length
Surface Load (Non-Continuous)	0.0	1667.0	INFINITE_LENGTH

Axle Load	2.5	79200.0	
Axle Load	4.9	79200.0	
Axle Load	6.2	79200.0	
Axle Load	7.5	79200.0	
Surface Load (Non-Continuous)	12.5	1667.0	5.0
Axle Load	17.5	79200.0	
Axle Load	19.9	79200.0	
Axle Load	21.2	79200.0	
Axle Load	22.5	79200.0	
Surface Load (Non-Continuous)	25.0	1667.0	INFINITE_LENGTH

Lane width: 3
Axle width: 2
Surface load width: 3
No. of simultaneous vehicles: 2

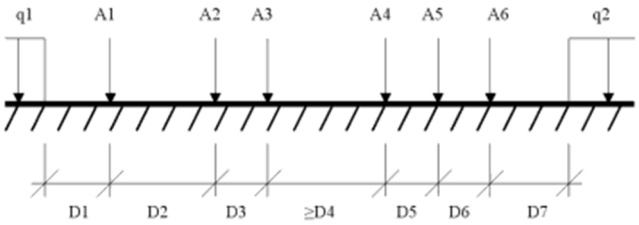
Lane	Magnitude factor
Most adverse	1
2'nd most adverse	0.8
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

Additional Lane Surface Load
Load width: 3
Load intensity: -1667

Dynamic Magnification Factor
Axle loads: 1.132
Surface loads: 1
Additional Surface Load: 1

Classification Vehicle h, width = 2.0

Fixed/Variable Distances - 8 axle/surface loads



Load type	Dist. to first load	Intensity	Load length
Surface Load (Non-Continuous)	0.0	1667.0	INFINITE_LENGTH
Axle Load	2.5	99000.0	
Axle Load	5.5	90000.0	
Axle Load	6.8	90000.0	
Axle Load	11.8	79200.0	
Axle Load	13.1	79200.0	
Axle Load	14.4	79200.0	
Surface Load (Non-Continuous)	16.9	1667.0	INFINITE_LENGTH

Lane width: 3
Axle width: 2
Surface load width: 3
No. of simultaneous vehicles: 2

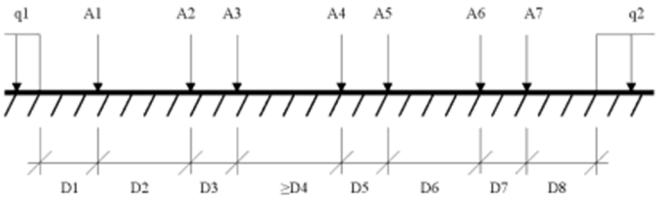
Lane	Magnitude factor
Most adverse	1
2'nd most adverse	0.8
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

Additional Lane Surface Load
Load width: 3
Load intensity: -1667

Dynamic Magnification Factor
Axle loads: 1.132
Surface loads: 1
Additional Surface Load: 1

Classification Vehicle i, width = 2.0

Fixed/Variable Distances - 9 axle/surface loads



Load type	Dist. to first load	Intensity	Load length
Surface Load (Non-Continuous)	0.0	1667.0	INFINITE_LENGTH
Axle Load	2.5	79200.0	
Axle Load	6.3	99000.0	
Axle Load	8.1	99000.0	
Axle Load	12.1	99000.0	
Axle Load	13.9	99000.0	
Axle Load	17.5	59400.0	
Axle Load	18.5	59400.0	
Surface Load (Non-Continuous)	21.0	1667.0	INFINITE_LENGTH

Lane width: 3
Axle width: 2
Surface load width: 3
No. of simultaneous vehicles: 2

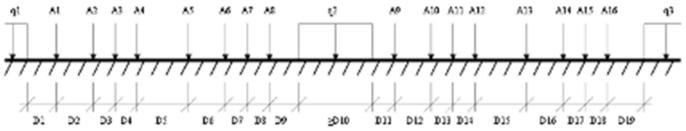
Lane	Magnitude factor
Most adverse	1
2'nd most adverse	0.8
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

Additional Lane Surface Load
Load width: 3
Load intensity: -1667

Dynamic Magnification Factor
Axle loads: 1.132
Surface loads: 1
Additional Surface Load: 1

Classification Vehicle j, width = 2.0, L=25

Fixed/Variable Distances - 19 axle/surface loads



Load type	Dist. to first load	Intensity	Load length
Surface Load (Non-Continuous)	0.0	1667.0	INFINITE_LENGTH
Axle Load	2.5	79200.0	
Axle Load	4.9	79200.0	
Axle Load	6.2	79200.0	
Axle Load	7.5	79200.0	
Axle Load	17.5	79200.0	
Axle Load	19.9	79200.0	
Axle Load	21.2	79200.0	
Axle Load	22.5	79200.0	
Surface Load (Non-Continuous)	37.5	1667.0	25.0
Axle Load	52.5	79200.0	
Axle Load	54.9	79200.0	
Axle Load	56.2	79200.0	
Axle Load	57.5	79200.0	
Axle Load	67.5	79200.0	
Axle Load	69.9	79200.0	
Axle Load	71.2	79200.0	
Axle Load	72.5	79200.0	
Surface Load (Non-Continuous)	75.0	1667.0	INFINITE_LENGTH

Lane width: 3
Axle width: 2
Surface load width: 3
No. of simultaneous vehicles: 2

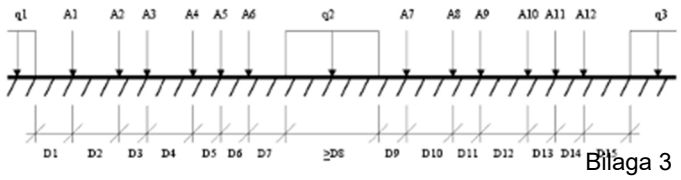
Lane	Magnitude factor
Most adverse	1
2'nd most adverse	0.8
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

Additional Lane Surface Load
Load width: 3
Load intensity: -1667

Dynamic Magnification Factor
Axle loads: 1.132
Surface loads: 1
Additional Surface Load: 1

Classification Vehicle k, width = 2.0, L=25

Fixed/Variable Distances - 15 axle/surface loads



Load type	Dist. to first load	Intensity	Load length
Surface Load (Non-Continuous)	0.0	1667.0	INFINITE_LENGTH
Axle Load	2.5	99000.0	
Axle Load	5.5	90000.0	
Axle Load	6.8	90000.0	
Axle Load	11.8	79200.0	
Axle Load	13.1	79200.0	
Axle Load	14.4	79200.0	
Surface Load (Non-Continuous)	29.4	1667.0	25.0
Axle Load	44.4	99000.0	
Axle Load	47.4	90000.0	
Axle Load	48.7	90000.0	
Axle Load	53.7	79200.0	
Axle Load	55.0	79200.0	
Axle Load	56.3	79200.0	
Surface Load (Non-Continuous)	58.8	1667.0	INFINITE_LENGTH

Lane width: 3
Axle width: 2
Surface load width: 3
No. of simultaneous vehicles: 2

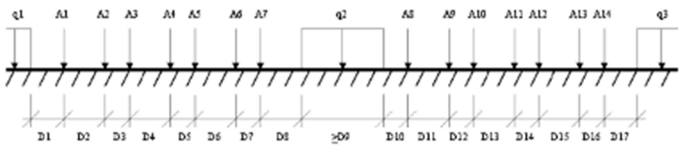
Lane	Magnitude factor
Most adverse	1
2'nd most adverse	0.8
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

Additional Lane Surface Load
Load width: 3
Load intensity: -1667

Dynamic Magnification Factor
Axle loads: 1.132
Surface loads: 1
Additional Surface Load: 1

Classification Vehicle I, width = 2.0, L=25

Fixed/Variable Distances - 17 axle/surface loads



Load type	Dist. to first load	Intensity	Load length
Surface Load (Non-Continuous)	0.0	1667.0	INFINITE_LENGTH
Axle Load	2.5	79200.0	
Axle Load	6.3	99000.0	
Axle Load	8.1	99000.0	
Axle Load	12.1	99000.0	
Axle Load	13.9	99000.0	
Axle Load	17.5	59400.0	
Axle Load	18.5	59400.0	
Surface Load (Non-	33.5	1667.0	25.0

Continuous)			
Axle Load	48.5	79200.0	
Axle Load	52.3	99000.0	
Axle Load	54.1	99000.0	
Axle Load	58.1	99000.0	
Axle Load	59.9	99000.0	
Axle Load	63.5	59400.0	
Axle Load	64.5	59400.0	
Surface Load (Non-Continuous)	67.0	1667.0	INFINITE_LENGTH

Lane width: 3
Axle width: 2
Surface load width: 3
No. of simultaneous vehicles: 2

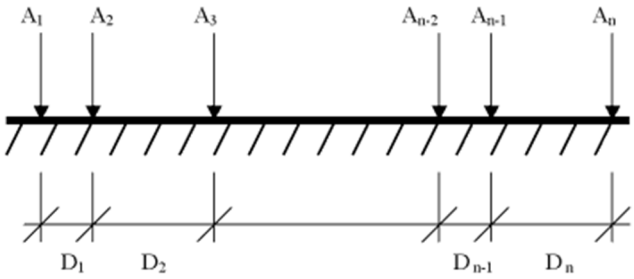
Lane	Magnitude factor
Most adverse	1
2'nd most adverse	0.8
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

Additional Lane Surface Load
Load width: 3
Load intensity: -1667

Dynamic Magnification Factor
Axle loads: 1.132
Surface loads: 1
Additional Surface Load: 1

Classification Vehicle m, width = 2.0

Fixed Distances - unlimited no of axle/surface loads



Load type	Dist. to first load	Intensity	Load length
Axle Load	0.0	59400.0	
Axle Load	1.3	90000.0	
Axle Load	3.1	90000.0	
Axle Load	6.5	79200.0	
Axle Load	8.3	79200.0	
Axle Load	9.6	79200.0	

Lane width: 3
Axle width: 2
Surface load width: 0
No. of simultaneous vehicles: 2

Lane	Magnitude factor
Most adverse	1
2'nd most adverse	0.8
3'rd most adverse	0

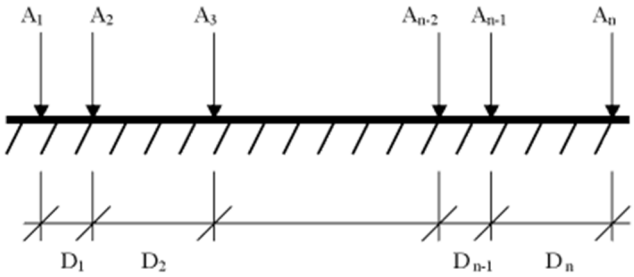
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

Additional Lane Surface Load
Load width: 3
Load intensity: -1667

Dynamic Magnification Factor
Axle loads: 1.132
Surface loads: 1
Additional Surface Load: 1

Classification Vehicle n, width = 2.0

Fixed Distances - unlimited no of axle/surface loads



Load type	Dist. to first load	Intensity	Load length
Axle Load	0.0	99000.0	
Axle Load	2.0	99000.0	
Axle Load	4.0	99000.0	
Axle Load	5.5	59400.0	
Axle Load	6.6	21600.0	

Lane width: 3
Axle width: 2
Surface load width: 0
No. of simultaneous vehicles: 2

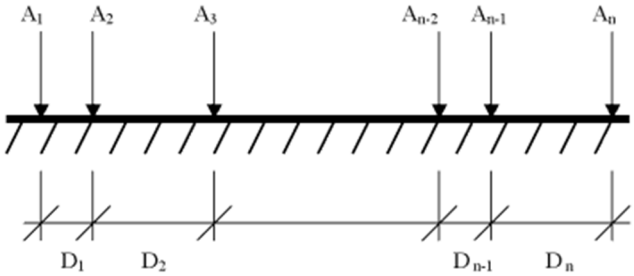
Lane	Magnitude factor
Most adverse	1
2'nd most adverse	0.8
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

Additional Lane Surface Load
Load width: 3
Load intensity: -1667

Dynamic Magnification Factor
Axle loads: 1.132
Surface loads: 1
Additional Surface Load: 1

Classification Vehicle o, width = 2.0

Fixed Distances - unlimited no of axle/surface loads



Load type	Dist. to first load	Intensity	Load length
Surface Load (Non-Continuous)	0.0	1667.0	INFINITE_LENGTH
Axle Load	2.5	59400.0	
Axle Load	5.9	80100.0	
Axle Load	7.2	80100.0	
Axle Load	12.9	70200.0	
Axle Load	14.2	70200.0	
Axle Load	15.5	70200.0	
Axle Load	20.3	74700.0	
Axle Load	21.6	74700.0	
Axle Load	28.1	80100.0	
Axle Load	29.9	80100.0	
Surface Load (Non-Continuous)	32.4	1667.0	INFINITE_LENGTH

Lane width: 3
Axle width: 2
Surface load width: 0
No. of simultaneous vehicles: 2

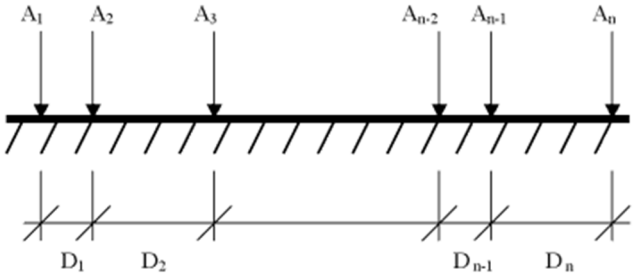
Lane	Magnitude factor
Most adverse	1
2'nd most adverse	0.8
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

Additional Lane Surface Load
Load width: 3
Load intensity: -1667

Dynamic Magnification Factor
Axle loads: 1.132
Surface loads: 1
Additional Surface Load: 1

Enstaka axelgrupper

Fixed Distances - unlimited no of axle/surface loads



Load type	Dist. to first load	Intensity	Load length
Axle Load	0.0	150000.0	

Axle Load	2.5	150000.0

Lane width: 3.3
Axle width: 1.435
Surface load width: 2.25
No. of simultaneous vehicles: 1

Lane	Magnitude factor
Most adverse	1
2'nd most adverse	0
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

Additional Lane Surface Load
Load width: 0
Load intensity: 0

Dynamic Magnification Factor
Axle loads: 1.148
Surface loads: 1
Additional Surface Load: 1

Pedestrian Load

Lane Surface Load

Load width: 3.12
Dynamic magnification factor: 1

Lane	Load intensity
Most adverse	1
2'nd most adverse	0.8
3'rd most adverse	0
4'th most adverse	0
5'rd most adverse	0
6'th most adverse	0

A32, 1 wagon

Vehicle:	A32, 1 wagon
Live Load Area:	Live-Load-Area-Tram1
Active lanes:	1
Live Load Area:	Live-Load-Area-Tram2
Active lanes:	1

A35, 1 wagon

Vehicle:	A35, 1 wagon
Live Load Area:	Live-Load-Area-Tram1
Active lanes:	1
Live Load Area:	Live-Load-Area-Tram2
Active lanes:	1

A36, 1 wagon

Vehicle:	A36, 1 wagon
Live Load Area:	Live-Load-Area-Tram1
Active lanes:	1
Live Load Area:	Live-Load-Area-Tram2
Active lanes:	1

Arbetstag

Vehicle:	Arbetstag
Live Load Area:	Live-Load-Area-Tram1
Active lanes:	1

Live Load Area:	Live-Load-Area-Tram2
Active lanes:	1

Arbetstag, lane load

Vehicle:	Arbetstag, lane load
Live Load Area:	Live-Load-Area-Tram1
Active lanes:	1
Live Load Area:	Live-Load-Area-Tram2
Active lanes:	1

Classification Surface Load

Vehicle:	Classification Surface Load
Live Load Area:	Live-Load-Area-Traffic1
Active lanes:	None
Live Load Area:	Live-Load-Area-Traffic2
Active lanes:	None

Classification Vehicle a, width = 2.0

Vehicle:	Classification Vehicle a, width = 2.0
Live Load Area:	Live-Load-Area-Traffic1
Active lanes:	1
	2
	3
Live Load Area:	Live-Load-Area-Traffic2
Active lanes:	1
	2
	3

Classification Vehicle b, width = 2.0

Vehicle:	Classification Vehicle b, width = 2.0
Live Load Area:	Live-Load-Area-Traffic1
Active lanes:	1
	2
	3
Live Load Area:	Live-Load-Area-Traffic2
Active lanes:	1
	2
	3

Classification Vehicle c, width = 2.0

Vehicle:	Classification Vehicle c, width = 2.0
Live Load Area:	Live-Load-Area-Traffic1
Active lanes:	1
	2
	3
Live Load Area:	Live-Load-Area-Traffic2
Active lanes:	1
	2
	3

Classification Vehicle d, width = 2.0

Vehicle:	Classification Vehicle d, width = 2.0
Live Load Area:	Live-Load-Area-Traffic1
Active lanes:	1
	2
	3
Live Load Area:	Live-Load-Area-Traffic2

Active lanes:	1
	2
	3

Classification Vehicle e, width = 2.0

Vehicle:	Classification Vehicle e, width = 2.0
Live Load Area:	Live-Load-Area-Traffic1
Active lanes:	1
	2
	3
Live Load Area:	Live-Load-Area-Traffic2
Active lanes:	1
	2
	3

Classification Vehicle f, width = 2.0

Vehicle:	Classification Vehicle f, width = 2.0
Live Load Area:	Live-Load-Area-Traffic1
Active lanes:	1
	2
	3
Live Load Area:	Live-Load-Area-Traffic2
Active lanes:	1
	2
	3

Classification Vehicle g, width = 2.0

Vehicle:	Classification Vehicle g, width = 2.0
Live Load Area:	Live-Load-Area-Traffic1
Active lanes:	1
	2
	3
Live Load Area:	Live-Load-Area-Traffic2
Active lanes:	1
	2
	3

Classification Vehicle h, width = 2.0

Vehicle:	Classification Vehicle h, width = 2.0
Live Load Area:	Live-Load-Area-Traffic1
Active lanes:	1
	2
	3
Live Load Area:	Live-Load-Area-Traffic2
Active lanes:	1
	2
	3

Classification Vehicle i, width = 2.0

Vehicle:	Classification Vehicle i, width = 2.0
Live Load Area:	Live-Load-Area-Traffic1
Active lanes:	1
	2
	3
Live Load Area:	Live-Load-Area-Traffic2

Active lanes:	1
	2
	3

Classification Vehicle m, width = 2.0

Vehicle:	Classification Vehicle m, width = 2.0
Live Load Area:	Live-Load-Area-Traffic1
Active lanes:	1
	2
	3
Live Load Area:	Live-Load-Area-Traffic2
Active lanes:	1
	2
	3

Classification Vehicle n, width = 2.0

Vehicle:	Classification Vehicle n, width = 2.0
Live Load Area:	Live-Load-Area-Traffic1
Active lanes:	1
	2
	3
Live Load Area:	Live-Load-Area-Traffic2
Active lanes:	1
	2
	3

Classification Vehicle o, width = 2.0

Vehicle:	Classification Vehicle o, width = 2.0
Live Load Area:	Live-Load-Area-Traffic1
Active lanes:	1
	2
	3
Live Load Area:	Live-Load-Area-Traffic2
Active lanes:	1
	2
	3

Enstaka axelgrupper

Vehicle:	Enstaka axelgrupper
Live Load Area:	Live-Load-Area-Tram1
Active lanes:	1
Live Load Area:	Live-Load-Area-Tram2
Active lanes:	1

Pedestrian Load

Vehicle:	Pedestrian Load
Live Load Area:	Live-Load-Area-GC1
Active lanes:	1
Live Load Area:	Live-Load-Area-GC2
Active lanes:	1

Live-Load-Area-GC1

Live Load Area type: Surface
Load direction: Negative Z-direction
Load Coordinate System: (Global)

Traffic lanes	Segment size	Increments

1 0.3 3, 3

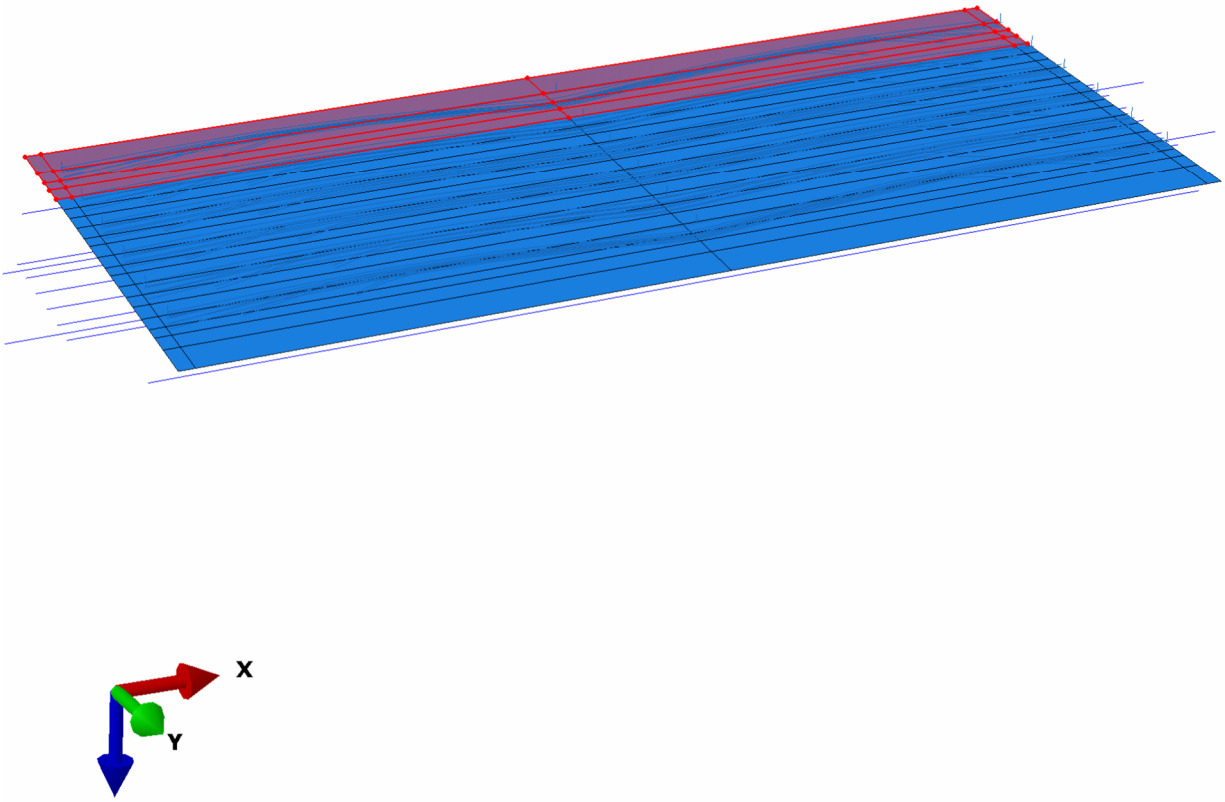
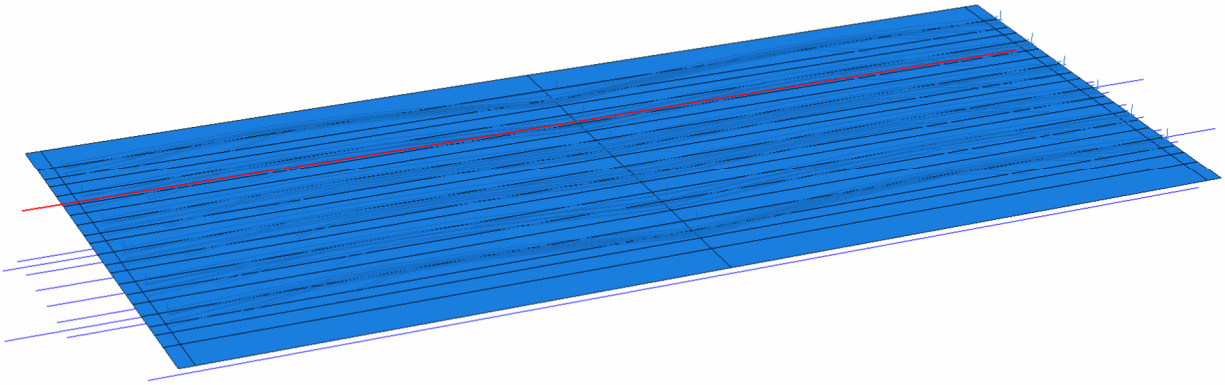


Figure 85. View of the Assembly with the Live Load Area Live-Load-Area-GC1 highlighted



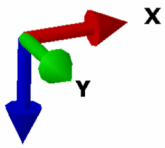


Figure 86. View of the Assembly with the traffic lane 1 highlighted

Live-Load-Area-GC2

Live Load Area type: Surface
Load direction: Negative Z-direction
Load Coordinate System: (Global)

Traffic lanes	Segment size	Increments
1	0.3	3, 3

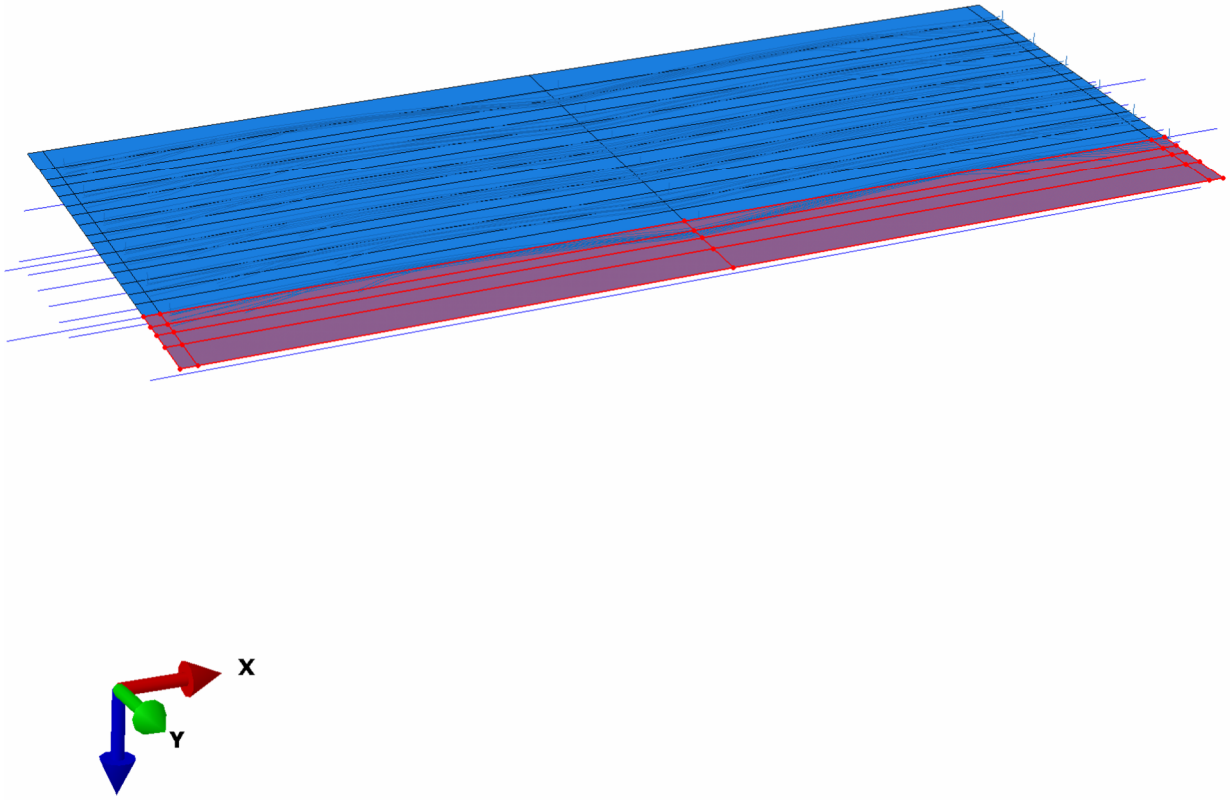


Figure 87. View of the Assembly with the Live Load Area Live-Load-Area-GC2 highlighted

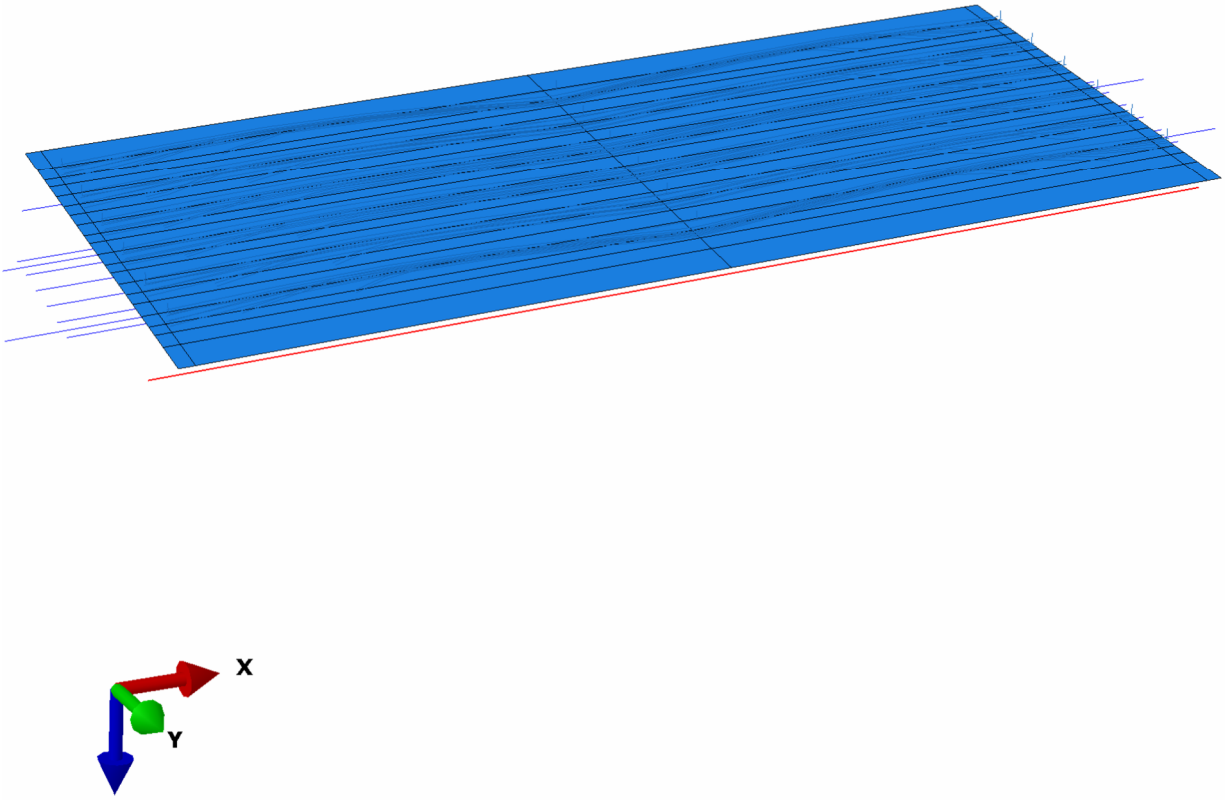


Figure 88. View of the Assembly with the traffic lane 1 highlighted

Live-Load-Area-Traffic1

Live Load Area type: Surface
Load direction: Negative Z-direction
Load Coordinate System: (Global)

Traffic lanes	Segment size	Increments
1	0.3	3, 3
2	0.3	3, 3
3	0.3	3, 3

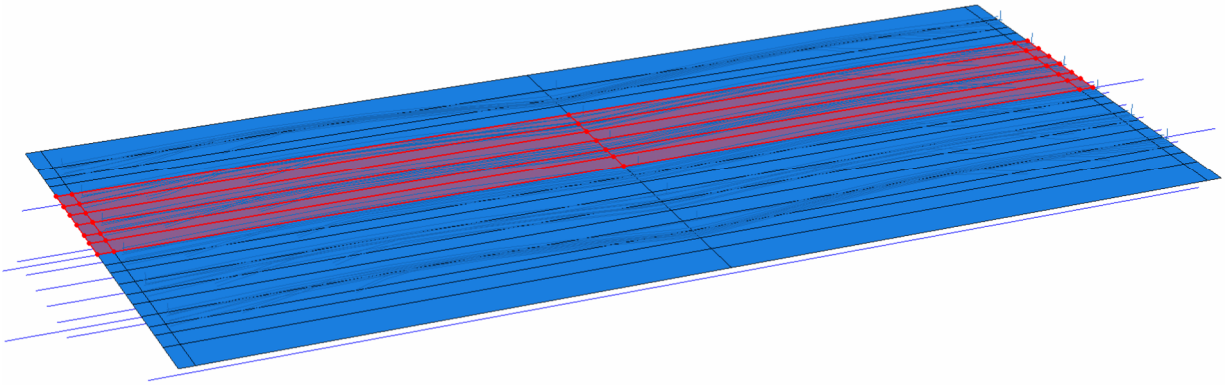


Figure 89. View of the Assembly with the Live Load Area Live-Load-Area-Traffic1 highlighted

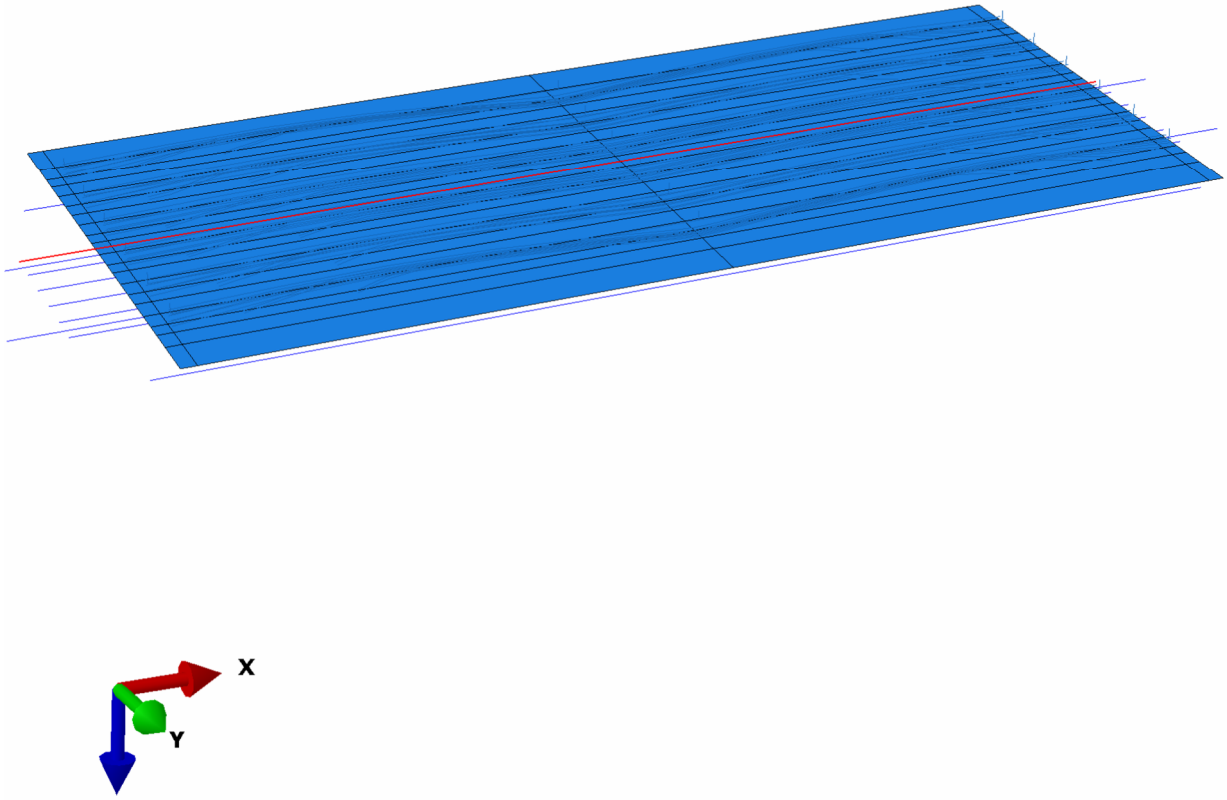


Figure 90. View of the Assembly with the traffic lane 1 highlighted

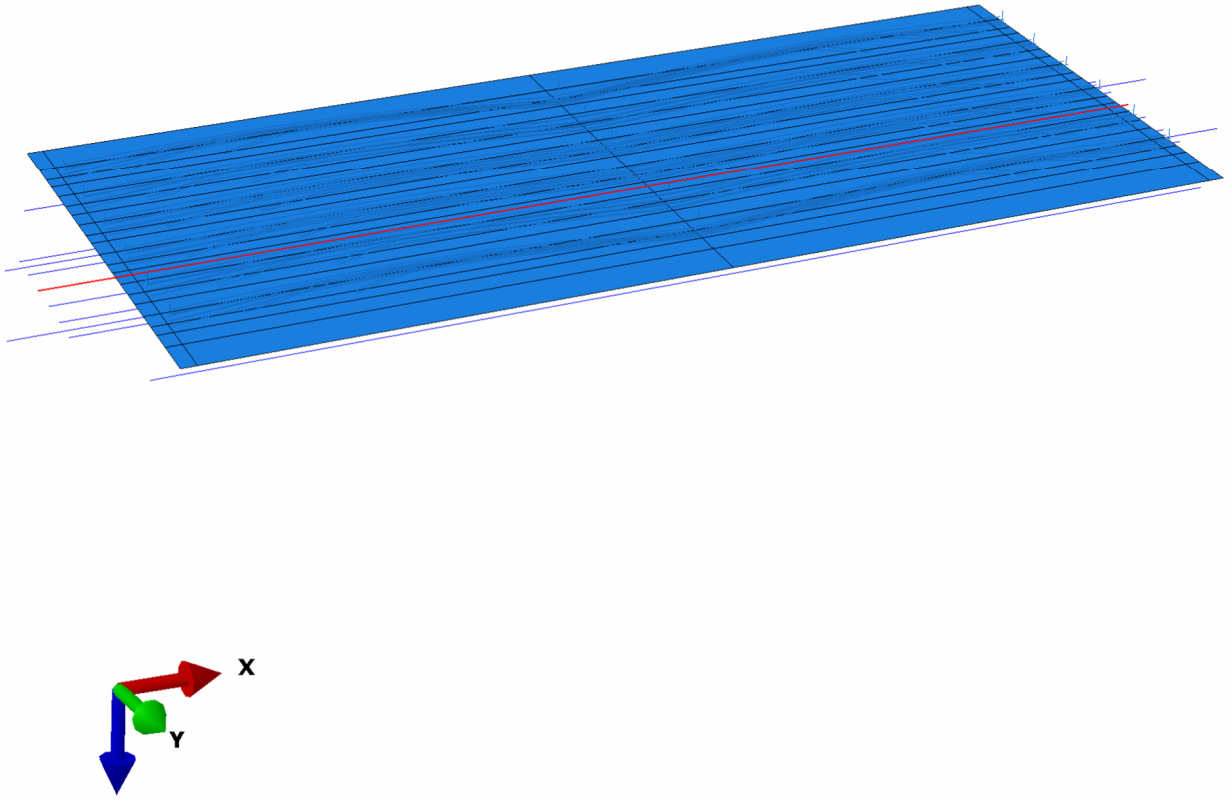


Figure 91. View of the Assembly with the traffic lane 2 highlighted

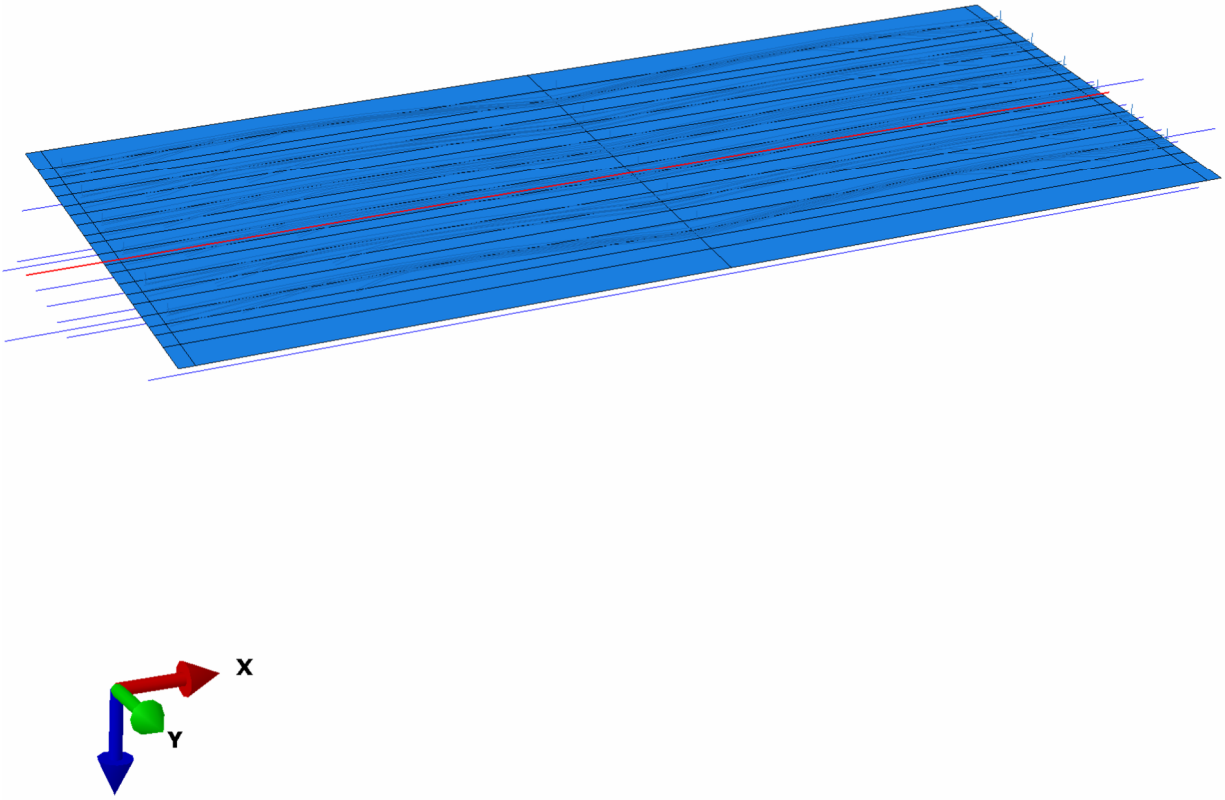


Figure 92. View of the Assembly with the traffic lane 3 highlighted

Live-Load-Area-Traffic2

Live Load Area type: Surface
Load direction: Negative Z-direction
Load Coordinate System: (Global)

Traffic lanes	Segment size	Increments
1	0.3	3, 3
2	0.3	3, 3
3	0.3	3, 3

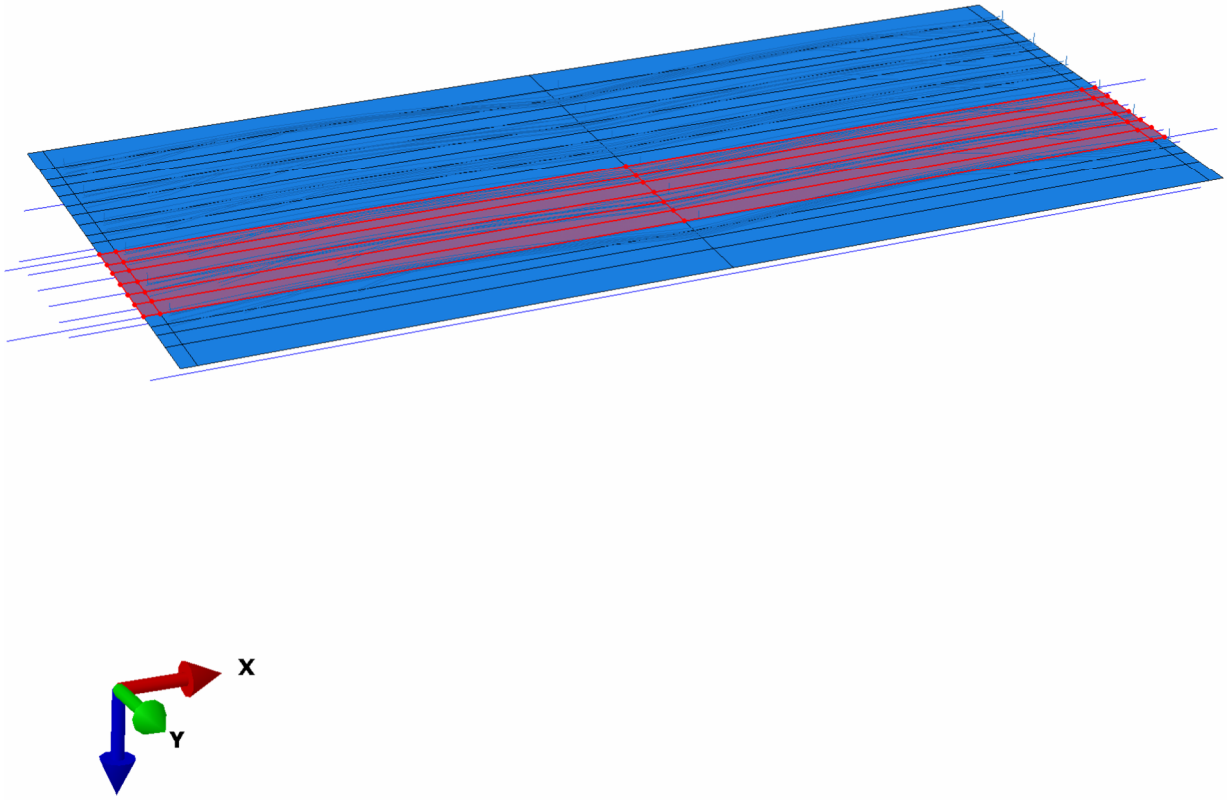


Figure 93. View of the Assembly with the Live Load Area Live-Load-Area-Traffic2 highlighted

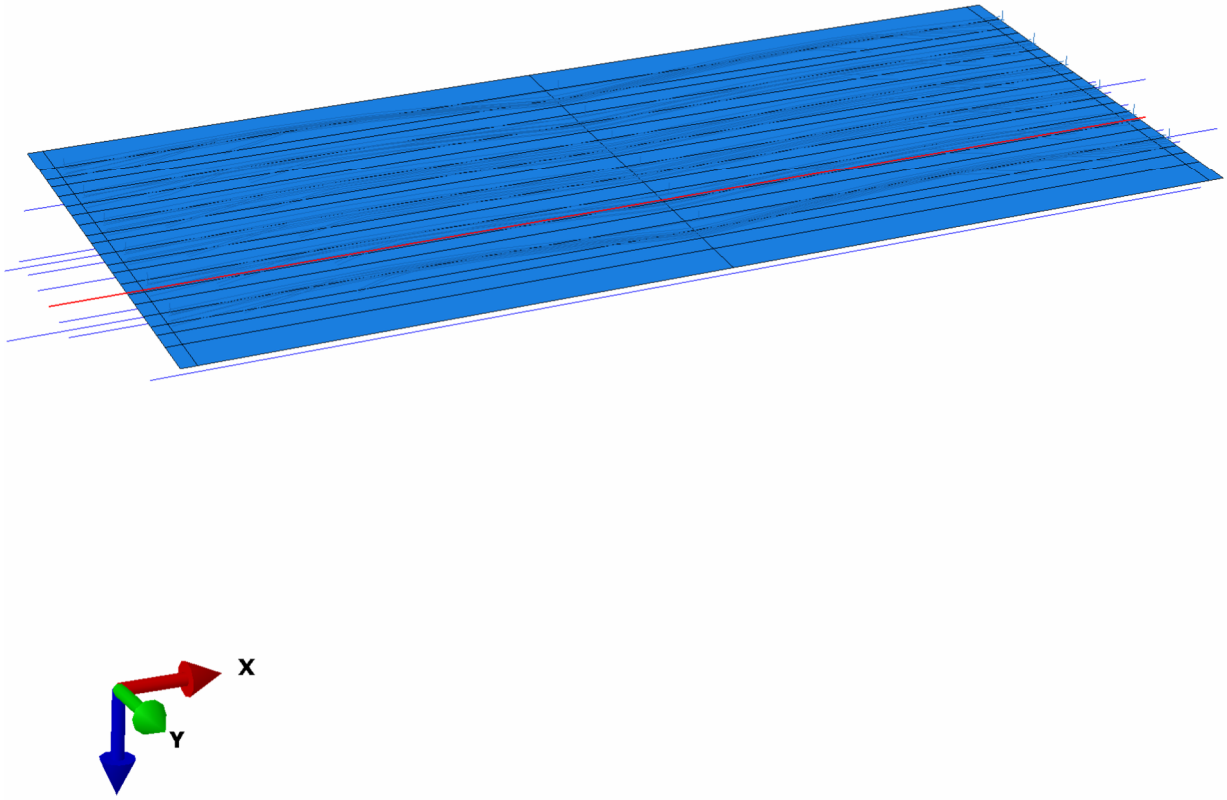


Figure 94. View of the Assembly with the traffic lane 1 highlighted

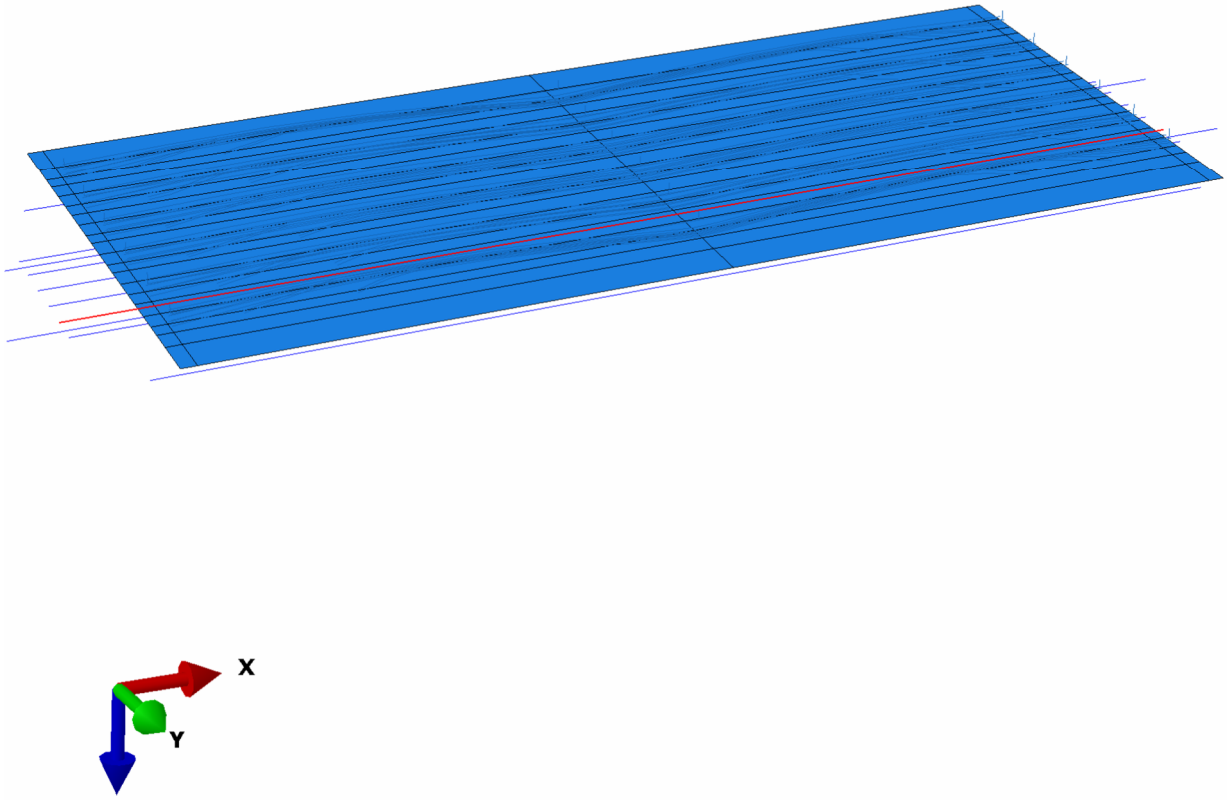


Figure 95. View of the Assembly with the traffic lane 2 highlighted

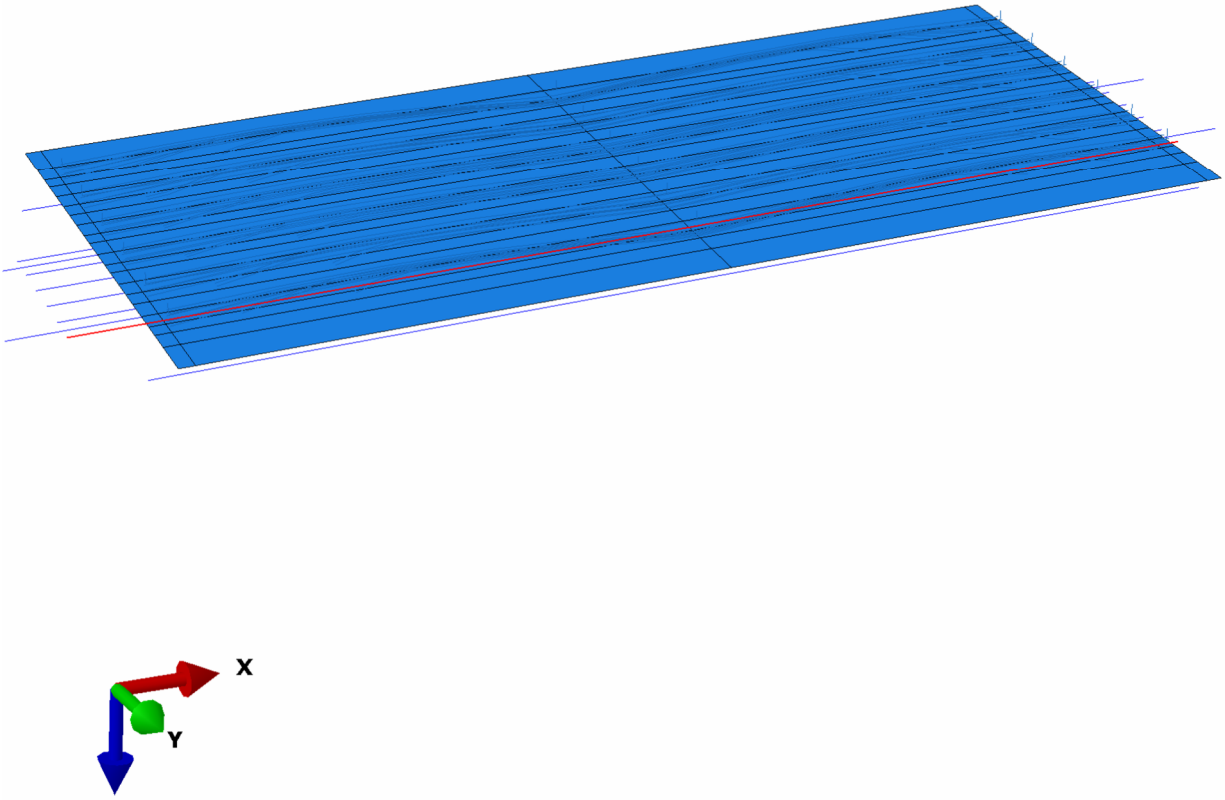


Figure 96. View of the Assembly with the traffic lane 3 highlighted

Live-Load-Area-Tram1

Live Load Area type: Surface
Load direction: Negative Z-direction
Load Coordinate System: (Global)

Traffic lanes	Segment size	Increments
1	0.3	3, 3

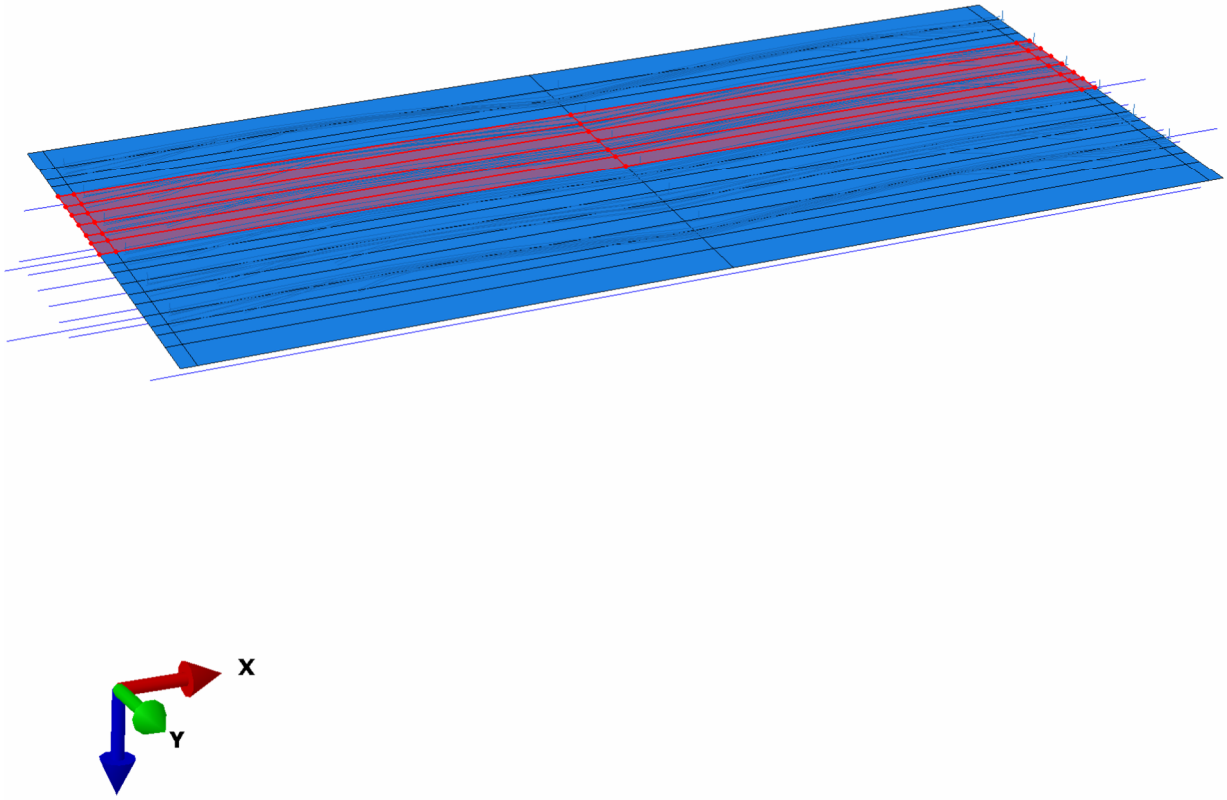


Figure 97. View of the Assembly with the Live Load Area Live-Load-Area-Tram1 highlighted

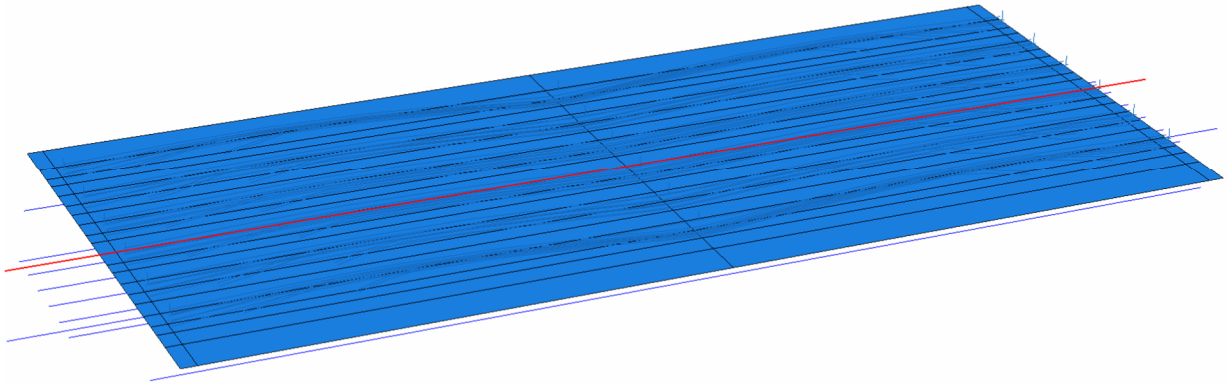


Figure 98. View of the Assembly with the traffic lane 1 highlighted

Live-Load-Area-Tram2

Live Load Area type: Surface
Load direction: Negative Z-direction
Load Coordinate System: (Global)

Traffic lanes	Segment size	Increments
1	0.3	3, 3

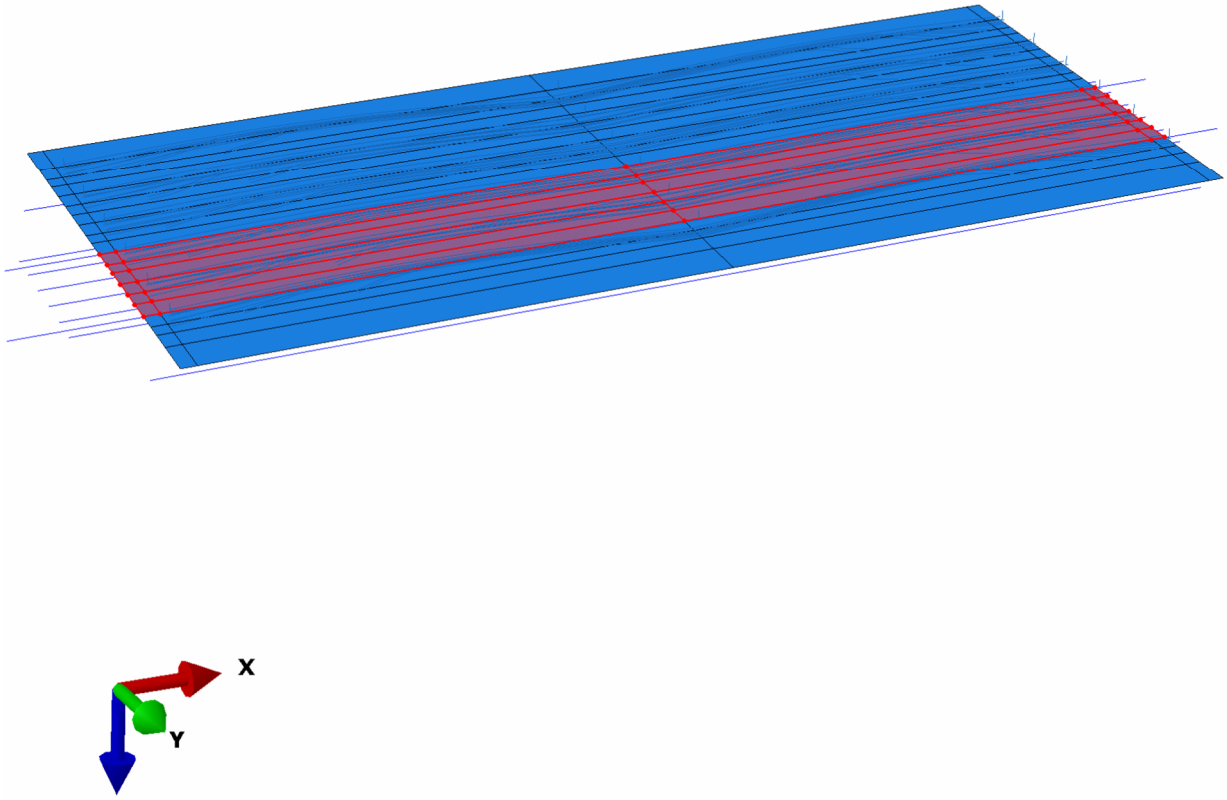


Figure 99. View of the Assembly with the Live Load Area Live-Load-Area-Tram2 highlighted

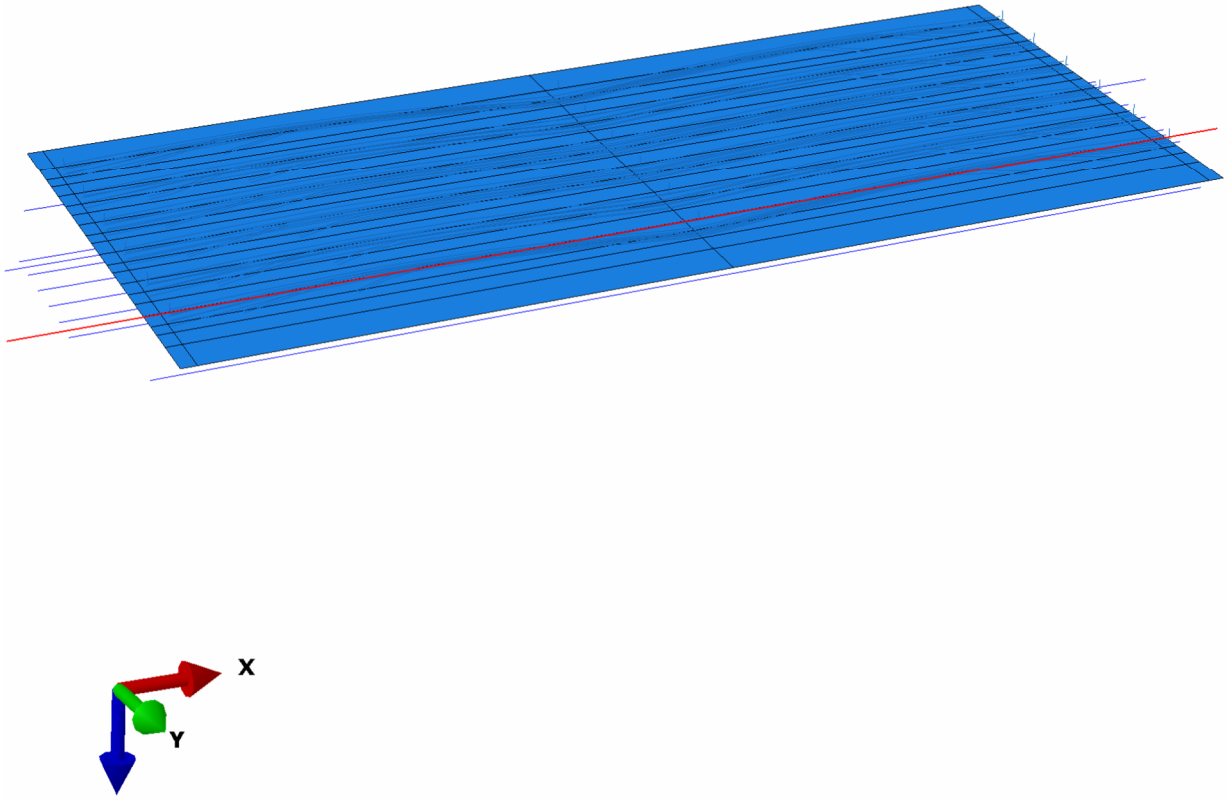


Figure 100. View of the Assembly with the traffic lane 1 highlighted

9. Load Combinations

Conditional summation: Summation of loads with an adverse influence

Unconditional summation: Summation of all loads, whether the influence of a load has an adverse influence or not

Pick-most-adverse: The load with the most adverse effect is used

User-Defined: Enables the use of several load coefficients and a specified number of variable loads to be summed.

Each load is followed by six values. These values are: First load coefficient, second load coefficient, third load coefficient, fourth load coefficient, scale factor of forces, scale factor of displacements. Permanent loads do not have a third and fourth load coefficient.

Comb A env

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Permanent Loads

No loads included

Variable Loads

Add Zero-Load: True

Reference: Traffic Comb A incl. temperature env (Pick-Most-Adverse/Load-Combination)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Train Comb A (User-Defined/Load-Combination)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Traffic Comb A env (Pick-Most-Adverse/Load-Combination)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Train Comb A incl. temperature (User-Defined/Load-Combination)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Comb B a env

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Permanent Loads

No loads included

Variable Loads

Add Zero-Load: False

Reference: Train Comb B a (User-Defined/Load-Combination)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Traffic Comb B a env (Pick-Most-Adverse/Load-Combination)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
- Stresses

S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Comb B b

Type: User-Defined
Number of design loads: 4
Number of load coefficients: 2

Permanent Loads

Reference: Overburden (Last Frame in Step Overburden/Step)	1.0, 1.0, 1.0, 3.0
Reference: Prestress (envelope) (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0
Reference: Dead Weight (Last Frame in Step DeadWeight/Step)	1.0, 1.0, 1.0, 3.0

Variable Loads

Add Zero-Load: True

Reference: Temperature Load (envelope) (Pick-Most-Adverse/Load-Group)	0.2, 0.2, 0.2, 0.2, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Comb B c env

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Permanent Loads

No loads included

Variable Loads

Add Zero-Load: True

Reference: Train Comb B c (User-Defined/Load-Combination)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Traffic Comb B c (Pick-Most-Adverse/Load-Combination)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses

S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Traffic Comb A env

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Permanent Loads

No loads included

Variable Loads

Add Zero-Load: False

Reference: Traffic Comb A, A-vehicle (User-Defined/Load-Combination)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Traffic Comb A, B-vehicles (User-Defined/Load-Combination)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Traffic Comb A incl. temperature env

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Permanent Loads

No loads included

Variable Loads

Add Zero-Load: False

Reference: Traffic Comb A, A-vehicle incl. temperature (User-Defined/Load-Combination)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Traffic Comb A, B-vehicles incl. temperature (User-Defined/Load-Combination)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses

S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Traffic Comb A, A-vehicle

Type: User-Defined
Number of design loads: 4
Number of load coefficients: 2

Permanent Loads

Reference: Prestress (envelope) (Pick-Most-Adverse/Load-Group)	1.2, 1.2, 1.0, 1.0
Reference: Dead Weight (Last Frame in Step DeadWeight/Step)	1.2, 1.2, 1.0, 3.0
Reference: Overburden env (Pick-Most-Adverse/Load-Group)	1.2, 1.2, 1.0, 3.0
Reference: Shrinkage (Last Frame in Step Shrinkage/Step)	1.2, 0.0, 0.333, 1.0

Variable Loads

Add Zero-Load: True

Reference: Braking Force Traffic envelope (Pick-Most-Adverse/Load-Group)	1.5, 0.7, 0.7, 0.7, 1.0, 1.0
Reference: Lateral Force Traffic envelope (Pick-Most-Adverse/Load-Group)	1.5, 0.7, 0.7, 0.7, 1.0, 1.0
Reference: Pedestrian Traffic Combination (Conditional/Load-Group)	0.4, 0.4, 0.4, 0.4, 1.0, 1.0
Reference: Traffic Classification, A-Vehicle (Conditional/Load-Group)	1.5, 0.7, 0.7, 0.7, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Traffic Comb A, A-vehicle incl. temperature

Type: User-Defined
Number of design loads: 4
Number of load coefficients: 2

Permanent Loads

Reference: Dead Weight (Last Frame in Step DeadWeight/Step)	1.2, 1.2, 1.0, 3.0
Reference: Shrinkage (Last Frame in Step Shrinkage/Step)	1.2, 0.0, 0.333, 1.0
Reference: Overburden env (Pick-Most-Adverse/Load-Group)	1.2, 1.2, 1.0, 3.0
Reference: Prestress (envelope) (Pick-Most-Adverse/Load-Group)	1.2, 1.2, 1.0, 1.0

Variable Loads

Add Zero-Load: True

Reference: Braking Force Traffic envelope (Pick-Most-Adverse/Load-Group)	1.5, 0.7, 0.7, 0.7, 1.0, 1.0
Reference: Lateral Force Traffic envelope (Pick-Most-Adverse/Load-Group)	1.5, 0.7, 0.7, 0.7, 1.0, 1.0
Reference: Traffic Classification, A-Vehicle (Conditional/Load-Group)	1.5, 0.7, 0.7, 0.7, 1.0, 1.0
Reference: Pedestrian Traffic Combination (Conditional/Load-Group)	0.4, 0.4, 0.4, 0.4, 1.0, 1.0
Reference: Temperature Load (envelope) (Pick-Most-Adverse/Load-Group)	1.5, 0.6, 0.6, 0.6, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Traffic Comb A, B-vehicles

Type: User-Defined
Number of design loads: 4
Number of load coefficients: 2

Permanent Loads

Reference: Dead Weight (Last Frame in Step DeadWeight/Step)	1.2, 1.2, 1.0, 3.0
Reference: Prestress (envelope) (Pick-Most-Adverse/Load-Group)	1.2, 1.2, 1.0, 1.0
Reference: Shrinkage (Last Frame in Step Shrinkage/Step)	1.2, 0.0, 0.333, 1.0
Reference: Overburden env (Pick-Most-Adverse/Load-Group)	1.2, 1.2, 1.0, 3.0

Variable Loads

Add Zero-Load: True

Reference: Traffic Classification, B-Vehicle (Pick-Most-Adverse/Load-Group)	1.5, 0.7, 0.7, 0.7, 1.0, 1.0
Reference: Pedestrian Traffic Combination (Conditional/Load-Group)	0.4, 0.4, 0.4, 0.4, 1.0, 1.0
Reference: Braking Force Traffic envelope (Pick-Most-Adverse/Load-Group)	1.5, 0.7, 0.7, 0.7, 1.0, 1.0
Reference: Lateral Force Traffic envelope (Pick-Most-Adverse/Load-Group)	1.5, 0.7, 0.7, 0.7, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Traffic Comb A, B-vehicles incl. temperature

Type: User-Defined
Number of design loads: 4
Number of load coefficients: 2

Permanent Loads

Reference: Prestress (envelope) (Pick-Most-Adverse/Load-Group)	1.2, 1.2, 1.0, 1.0
Reference: Shrinkage (Last Frame in Step Shrinkage/Step)	1.2, 0.0, 0.333, 1.0
Reference: Overburden env (Pick-Most-Adverse/Load-Group)	1.2, 1.2, 1.0, 3.0
Reference: Dead Weight (Last Frame in Step DeadWeight/Step)	1.2, 1.2, 1.0, 3.0

Variable Loads

Add Zero-Load: True

Reference: Lateral Force Traffic envelope (Pick-Most-Adverse/Load-Group)	1.5, 0.7, 0.7, 0.7, 1.0, 1.0
Reference: Braking Force Traffic envelope (Pick-Most-Adverse/Load-Group)	1.5, 0.7, 0.7, 0.7, 1.0, 1.0
Reference: Pedestrian Traffic Combination (Conditional/Load-Group)	0.4, 0.4, 0.4, 0.4, 1.0, 1.0
Reference: Temperature Load (envelope) (Pick-Most-Adverse/Load-Group)	1.5, 0.6, 0.6, 0.6, 1.0, 1.0
Reference: Traffic Classification, B-Vehicle (Pick-Most-Adverse/Load-Group)	1.5, 0.7, 0.7, 0.7, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Traffic Comb B a env

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Permanent Loads

No loads included

Variable Loads

Add Zero-Load: False

Reference: Traffic Comb B a, B-vehicles (User-Defined/Load-Combination)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Traffic Comb B a, A-vehicle (User-Defined/Load-Combination)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Traffic Comb B a, A-vehicle

Type: User-Defined

Number of design loads: 4
Number of load coefficients: 2

Permanent Loads

Reference: Shrinkage (Last Frame in Step Shrinkage/Step)	1.0, 0.0, 0.333, 1.0
Reference: Overburden (Last Frame in Step Overburden/Step)	1.0, 1.0, 1.0, 3.0
Reference: Dead Weight (Last Frame in Step DeadWeight/Step)	1.0, 1.0, 1.0, 3.0

Variable Loads

Add Zero-Load: True

Reference: Lateral Force Traffic envelope (Pick-Most-Adverse/Load-Group)	0.7, 0.7, 0.7, 0.7, 1.0, 1.0
Reference: Traffic Classification, A-Vehicle (Conditional/Load-Group)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0
Reference: Pedestrian Traffic Combination (Conditional/Load-Group)	0.4, 0.4, 0.4, 0.4, 1.0, 1.0
Reference: Braking Force Traffic envelope (Pick-Most-Adverse/Load-Group)	0.7, 0.7, 0.7, 0.7, 1.0, 1.0
Reference: Temperature Load (envelope) (Pick-Most-Adverse/Load-Group)	0.6, 0.6, 0.6, 0.6, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Traffic Comb B a, B-vehicles

Type: User-Defined
Number of design loads: 4
Number of load coefficients: 2

Permanent Loads

Reference: Shrinkage (Last Frame in Step Shrinkage/Step)	1.0, 0.0, 0.333, 1.0
Reference: Overburden (Last Frame in Step Overburden/Step)	1.0, 1.0, 1.0, 3.0
Reference: Dead Weight (Last Frame in Step DeadWeight/Step)	1.0, 1.0, 1.0, 3.0

Variable Loads

Add Zero-Load: True

Reference: Temperature Load (envelope) (Pick-Most-Adverse/Load-Group)	0.6, 0.6, 0.6, 0.6, 1.0, 1.0
Reference: Braking Force Traffic envelope (Pick-Most-Adverse/Load-Group)	0.7, 0.7, 0.7, 0.7, 1.0, 1.0
Reference: Traffic Classification, B-Vehicle (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0
Reference: Pedestrian Traffic Combination (Conditional/Load-Group)	0.4, 0.4, 0.4, 0.4, 1.0, 1.0
Reference: Lateral Force Traffic envelope (Pick-Most-Adverse/Load-Group)	0.7, 0.7, 0.7, 0.7, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments

SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Traffic Comb B c

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Permanent Loads

No loads included

Variable Loads

Add Zero-Load: False

Reference: Traffic Comb B c, B-vehicles (User-Defined/Load-Combination)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Traffic Comb B c, A-vehicle (User-Defined/Load-Combination)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Traffic Comb B c, A-vehicle

Type: User-Defined
Number of design loads: 4
Number of load coefficients: 2

Permanent Loads

No loads included

Variable Loads

Add Zero-Load: True

Reference: Traffic Classification, A-Vehicle (Conditional/Load-Group)	1.0, 1.0, 1.0, 1.0, 0.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Traffic Comb B c, B-vehicles

Type: User-Defined
Number of design loads: 4
Number of load coefficients: 2

Permanent Loads

No loads included

Variable Loads

Add Zero-Load: True

Reference: Traffic Classification, B-Vehicle (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0, 0.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Train Comb A

Type: User-Defined
Number of design loads: 4
Number of load coefficients: 2

Permanent Loads

Reference: Dead Weight (Last Frame in Step DeadWeight/Step)	1.2, 1.2, 1.0, 3.0
Reference: Prestress (envelope) (Pick-Most-Adverse/Load-Group)	1.2, 1.2, 1.0, 1.0
Reference: Overburden env (Pick-Most-Adverse/Load-Group)	1.2, 1.2, 1.0, 3.0
Reference: Shrinkage (Last Frame in Step Shrinkage/Step)	1.2, 0.0, 0.333, 1.0

Variable Loads

Add Zero-Load: True

Reference: Pedestrian Traffic Combination (Conditional/Load-Group)	0.4, 0.4, 0.4, 0.4, 1.0, 1.0
Reference: Braking Force Train envelope (Pick-Most-Adverse/Load-Group)	1.4, 0.4, 0.4, 0.4, 1.0, 1.0
Reference: Lateral Force Train envelope (Pick-Most-Adverse/Load-Group)	1.4, 0.4, 0.4, 0.4, 1.0, 1.0
Reference: Train load env (Pick-Most-Adverse/Load-Group)	1.5, 0.7, 0.7, 0.7, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments

RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Train Comb A incl. temperature

Type: User-Defined
Number of design loads: 4
Number of load coefficients: 2

Permanent Loads

Reference: Prestress (envelope) (Pick-Most-Adverse/Load-Group)	1.2, 1.2, 1.0, 1.0
Reference: Dead Weight (Last Frame in Step DeadWeight/Step)	1.2, 1.2, 1.0, 3.0
Reference: Overburden env (Pick-Most-Adverse/Load-Group)	1.2, 1.2, 1.0, 3.0
Reference: Shrinkage (Last Frame in Step Shrinkage/Step)	1.2, 0.0, 0.333, 1.0

Variable Loads

Add Zero-Load: True

Reference: Lateral Force Train envelope (Pick-Most-Adverse/Load-Group)	1.4, 0.4, 0.4, 0.4, 1.0, 1.0
Reference: Braking Force Train envelope (Pick-Most-Adverse/Load-Group)	1.4, 0.4, 0.4, 0.4, 1.0, 1.0
Reference: Pedestrian Traffic Combination (Conditional/Load-Group)	0.4, 0.4, 0.4, 0.4, 1.0, 1.0
Reference: Train load env (Pick-Most-Adverse/Load-Group)	1.5, 0.7, 0.7, 0.7, 1.0, 1.0
Reference: Temperature Load (envelope) (Pick-Most-Adverse/Load-Group)	1.5, 0.6, 0.6, 0.6, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Train Comb B a

Type: User-Defined
Number of design loads: 4
Number of load coefficients: 2

Permanent Loads

Reference: Dead Weight (Last Frame in Step DeadWeight/Step)	1.0, 1.0, 1.0, 3.0
Reference: Overburden (Last Frame in Step Overburden/Step)	1.0, 1.0, 1.0, 3.0
Reference: Shrinkage (Last Frame in Step Shrinkage/Step)	1.0, 0.0, 0.333, 1.0

Variable Loads

Add Zero-Load: True

Reference: Braking Force Train envelope (Pick-Most-Adverse/Load-Group)	0.4, 0.4, 0.4, 0.4, 1.0, 1.0
Reference: Train load env (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0
Reference: Pedestrian Traffic Combination (Conditional/Load-Group)	0.4, 0.4, 0.4, 0.4, 1.0, 1.0
Reference: Lateral Force Train envelope (Pick-Most-Adverse/Load-Group)	0.4, 0.4, 0.4, 0.4, 1.0, 1.0
Reference: Temperature Load (envelope) (Pick-Most-Adverse/Load-Group)	0.6, 0.6, 0.6, 0.6, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Train Comb B c

Type: User-Defined
Number of design loads: 4
Number of load coefficients: 2

Permanent Loads

No loads included

Variable Loads

Add Zero-Load: True

Reference: Train load env (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Train Comb C

Type: User-Defined
Number of design loads: 4
Number of load coefficients: 2

Permanent Loads

Reference: Shrinkage (Last Frame in Step Shrinkage/Step)	0.5, 0.0, 0.333, 1.0
Reference: Prestress (envelope) (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0
Reference: Dead Weight (Last Frame in Step DeadWeight/Step)	1.0, 1.0, 1.0, 3.0
Reference: Overburden (Last Frame in Step Overburden/Step)	1.0, 1.0, 1.0, 3.0

Variable Loads

Add Zero-Load: True

Reference: Train load env (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Train Comb C_cycl

Type: User-Defined
Number of design loads: 4
Number of load coefficients: 2

Permanent Loads

No loads included

Variable Loads

Add Zero-Load: True

Reference: Train load env (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Train Comb C_perm

Type: User-Defined
Number of design loads: 4
Number of load coefficients: 2

Permanent Loads

Reference: Prestress (envelope) (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0
Reference: Shrinkage (Last Frame in Step Shrinkage/Step)	0.5, 0.0, 0.333, 1.0
Reference: Dead Weight (Last Frame in Step DeadWeight/Step)	1.0, 1.0, 1.0, 3.0
Reference: Overburden (Last Frame in Step Overburden/Step)	1.0, 1.0, 1.0, 3.0

Variable Loads

Add Zero-Load: True

No loads included

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

A Train load env

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Train A32 (Pick-Most-Adverse/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Train A36 (Pick-Most-Adverse/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Train A35 (Pick-Most-Adverse/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Braking Force Traffic envelope

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Braking Force Traffic4 (Last Frame in Step Braking_Force_Traffic4/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Braking Force Traffic1 (Last Frame in Step Braking_Force_Traffic1/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Braking Force Traffic3 (Last Frame in Step Braking_Force_Traffic3/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Braking Force Traffic2 (Last Frame in Step Braking_Force_Traffic2/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Braking Force Traffic2 (Last Frame in Step Braking_Force_Traffic2/Step)	1.0, 0.0, 0.0, 0.0, -1.0, -1.0
Reference: Braking Force Traffic3 (Last Frame in Step Braking_Force_Traffic3/Step)	1.0, 0.0, 0.0, 0.0, -1.0, -1.0
Reference: Braking Force Traffic1 (Last Frame in Step Braking_Force_Traffic1/Step)	1.0, 0.0, 0.0, 0.0, -1.0, -1.0
Reference: Braking Force Traffic4 (Last Frame in Step Braking_Force_Traffic4/Step)	1.0, 0.0, 0.0, 0.0, -1.0, -1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration

U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Braking Force Train envelope

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Braking Force Train2 (Last Frame in Step Braking_Force_Train2/Step)	1.0, 0.0, 0.0, 0.0, -1.0, -1.0
Reference: Braking Force Train1 (Last Frame in Step Braking_Force_Train1/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Braking Force Train1 (Last Frame in Step Braking_Force_Train1/Step)	1.0, 0.0, 0.0, 0.0, -1.0, -1.0
Reference: Braking Force Train2 (Last Frame in Step Braking_Force_Train2/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification Traffic Combination

Type: Conditional
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: True

Reference: Classification Load (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification Vehicle a + surface load

Type: Conditional
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: True

Reference: Classification vehicle a no surface load (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0
Reference: Classification Surface Load (ALL_LIVE_LOAD_AREAS/Live-Load)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification Vehicle b + surface load

Type: Conditional
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: True

Reference: Classification Surface Load (ALL_LIVE_LOAD_AREAS/Live-Load)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0
Reference: Classification vehicle b no surface load (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification Vehicle c + surface load

Type: Conditional
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: True

Reference: Classification vehicle c no surface load (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0
Reference: Classification Surface Load (ALL_LIVE_LOAD_AREAS/Live-Load)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23

Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification Vehicle d + surface load

Type: Conditional
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: True

Reference: Classification Surface Load (ALL_LIVE_LOAD_AREAS/Live-Load)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0
Reference: Classification vehicle d no surface load (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification Vehicle e + surface load

Type: Conditional
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: True

Reference: Classification Surface Load (ALL_LIVE_LOAD_AREAS/Live-Load)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0
Reference: Classification vehicle e no surface load (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification Vehicle f + surface load

Type: Conditional
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: True

Reference: Classification Surface Load (ALL_LIVE_LOAD_AREAS/Live-Load)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0
Reference: Classification vehicle f no surface load (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification Vehicle g + surface load

Type: Conditional
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: True

Reference: Classification vehicle g no surface load (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0
Reference: Classification Surface Load (ALL_LIVE_LOAD_AREAS/Live-Load)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification Vehicle h + surface load

Type: Conditional
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: True

Reference: Classification vehicle h no surface load (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0
Reference: Classification Surface Load (ALL_LIVE_LOAD_AREAS/Live-Load)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23

Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification Vehicle i + surface load

Type: Conditional
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: True

Reference: Classification Surface Load (ALL_LIVE_LOAD_AREAS/Live-Load)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0
Reference: Classification vehicle i no surface load (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification Vehicle m + surface load

Type: Conditional
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: True

Reference: Classification Surface Load (ALL_LIVE_LOAD_AREAS/Live-Load)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0
Reference: Classification vehicle m no surface load (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification Vehicle n + surface load

Type: Conditional
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: True

Reference: Classification vehicle n no surface load (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0
Reference: Classification Surface Load (ALL_LIVE_LOAD_AREAS/Live-Load)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification Vehicle o + surface load

Type: Conditional
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: True

Reference: Classification vehicle o no surface load (Pick-Most-Adverse/Load-Group)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0
Reference: Classification Surface Load (ALL_LIVE_LOAD_AREAS/Live-Load)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification vehicle a no surface load

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Classification Vehicle a, width = 2.0 (ALL_LIVE_LOAD_AREAS/Live-Load)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration

U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification vehicle b no surface load

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Classification Vehicle b, width = 2.0 (ALL_LIVE_LOAD_AREAS/Live-Load) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification vehicle c no surface load

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Classification Vehicle c, width = 2.0 (ALL_LIVE_LOAD_AREAS/Live-Load) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification vehicle d no surface load

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Classification Vehicle d, width = 2.0 (ALL_LIVE_LOAD_AREAS/Live-Load) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification vehicle e no surface load

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Classification Vehicle e, width = 2.0 (ALL_LIVE_LOAD_AREAS/Live-Load) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification vehicle f no surface load

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Classification Vehicle f, width = 2.0 (ALL_LIVE_LOAD_AREAS/Live-Load) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2

SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification vehicle g no surface load

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Classification Vehicle g, width = 2.0 (ALL_LIVE_LOAD_AREAS/Live-Load) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification vehicle h no surface load

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Classification Vehicle h, width = 2.0 (ALL_LIVE_LOAD_AREAS/Live-Load) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification vehicle i no surface load

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Classification Vehicle i, width = 2.0 (ALL_LIVE_LOAD_AREAS/Live-Load) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification vehicle m no surface load

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Classification Vehicle m, width = 2.0 (ALL_LIVE_LOAD_AREAS/Live-Load) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification vehicle n no surface load

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Classification Vehicle n, width = 2.0 (ALL_LIVE_LOAD_AREAS/Live-Load) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2

SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Classification vehicle o no surface load

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Classification Vehicle o, width = 2.0 (ALL_LIVE_LOAD_AREAS/Live-Load) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Lateral Force Traffic envelope

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Lateral Force Traffic2 (Last Frame in Step Lateral_Force_Traffic2/Step) 1.0, 0.0, 0.0, 0.0, -1.0, -1.0
Reference: Lateral Force Traffic3 (Last Frame in Step Lateral_Force_Traffic3/Step) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Lateral Force Traffic4 (Last Frame in Step Lateral_Force_Traffic4/Step) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Lateral Force Traffic4 (Last Frame in Step Lateral_Force_Traffic4/Step) 1.0, 0.0, 0.0, 0.0, -1.0, -1.0
Reference: Lateral Force Traffic1 (Last Frame in Step Lateral_Force_Traffic1/Step) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Lateral Force Traffic1 (Last Frame in Step Lateral_Force_Traffic1/Step) 1.0, 0.0, 0.0, 0.0, -1.0, -1.0
Reference: Lateral Force Traffic3 (Last Frame in Step Lateral_Force_Traffic3/Step) 1.0, 0.0, 0.0, 0.0, -1.0, -1.0
Reference: Lateral Force Traffic2 (Last Frame in Step Lateral_Force_Traffic2/Step) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Lateral Force Train envelope

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Lateral Force Train2 (Last Frame in Step Lateral_Force_Train2/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Lateral Force Train1 (Last Frame in Step Lateral_Force_Train1/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Lateral Force Train1 (Last Frame in Step Lateral_Force_Train1/Step)	1.0, 0.0, 0.0, 0.0, -1.0, -1.0
Reference: Lateral Force Train2 (Last Frame in Step Lateral_Force_Train2/Step)	1.0, 0.0, 0.0, 0.0, -1.0, -1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Left Braking Force Traffic envelope

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Braking Force Traffic2 (Last Frame in Step Braking_Force_Traffic2/Step)	1.0, 0.0, 0.0, 0.0, -1.0, -1.0
Reference: Braking Force Traffic3 (Last Frame in Step Braking_Force_Traffic3/Step)	1.0, 0.0, 0.0, 0.0, -1.0, -1.0
Reference: Braking Force Traffic2 (Last Frame in Step Braking_Force_Traffic2/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Braking Force Traffic3 (Last Frame in Step Braking_Force_Traffic3/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Left Braking Force Train

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Braking Force Train2 (Last Frame in Step Braking_Force_Train2/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Braking Force Train2 (Last Frame in Step Braking_Force_Train2/Step)	1.0, 0.0, 0.0, 0.0, -1.0, -1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations

U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Left Lateral Force Traffic envelope

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Lateral Force Traffic2 (Last Frame in Step Lateral_Force_Traffic2/Step)	1.0, 0.0, 0.0, 0.0, -1.0, -1.0
Reference: Lateral Force Traffic3 (Last Frame in Step Lateral_Force_Traffic3/Step)	1.0, 0.0, 0.0, 0.0, -1.0, -1.0
Reference: Lateral Force Traffic3 (Last Frame in Step Lateral_Force_Traffic3/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Lateral Force Traffic2 (Last Frame in Step Lateral_Force_Traffic2/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Left Lateral Force Train

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Lateral Force Train2 (Last Frame in Step Lateral_Force_Train2/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Lateral Force Train2 (Last Frame in Step Lateral_Force_Train2/Step)	1.0, 0.0, 0.0, 0.0, -1.0, -1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Maintenance env

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Train Maintenance env (Pick-Most-Adverse/Load-Group) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Right Maintenance env (Pick-Most-Adverse/Load-Group) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Overburden env

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Overburden (Last Frame in Step Overburden/Step) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Pedestrian Traffic Combination

Type: Conditional
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: True

Reference: Pedestrian Load (ALL_LIVE_LOAD_AREAS/Live-Load) 1.0, 1.0, 1.0, 1.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations

U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Prestress (envelope)

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Prestress t2 (Last Frame in Step Prestress_t2/Step) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Prestress initial

Type: Unconditional
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Prestress t0 (Last Frame in Step Prestress_t0/Step) 1.0, 1.0, 1.0, 1.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Right Braking Force Traffic envelope

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Braking Force Traffic4 (Last Frame in Step Braking_Force_Traffic4/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Braking Force Traffic4 (Last Frame in Step Braking_Force_Traffic4/Step)	1.0, 0.0, 0.0, 0.0, -1.0, -1.0
Reference: Braking Force Traffic1 (Last Frame in Step Braking_Force_Traffic1/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Braking Force Traffic1 (Last Frame in Step Braking_Force_Traffic1/Step)	1.0, 0.0, 0.0, 0.0, -1.0, -1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Right Braking Force Train

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Braking Force Train1 (Last Frame in Step Braking_Force_Train1/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Braking Force Train1 (Last Frame in Step Braking_Force_Train1/Step)	1.0, 0.0, 0.0, 0.0, -1.0, -1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Right Lateral Force Traffic envelope

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Lateral Force Traffic1 (Last Frame in Step Lateral_Force_Traffic1/Step)	1.0, 0.0, 0.0, 0.0, -1.0, -1.0
Reference: Lateral Force Traffic4 (Last Frame in Step Lateral_Force_Traffic4/Step)	1.0, 0.0, 0.0, 0.0, -1.0, -1.0
Reference: Lateral Force Traffic4 (Last Frame in Step Lateral_Force_Traffic4/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Lateral Force Traffic1 (Last Frame in Step Lateral_Force_Traffic1/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23

Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Right Lateral Force Train

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Lateral Force Train1 (Last Frame in Step Lateral_Force_Train1/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Lateral Force Train1 (Last Frame in Step Lateral_Force_Train1/Step)	1.0, 0.0, 0.0, 0.0, -1.0, -1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Temperature High with Restraining Earth Pressure

Type: Unconditional
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Temperature High (Last Frame in Step Temperature_High/Step)	1.0, 1.0, 1.0, 1.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Temperature Load (envelope)

Type: Pick-Most-Adverse

Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: TemperatureGradient + wnTemperatureMean (Conditional/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: TemperatureMean + wmTemperatureGradient (Conditional/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Temperature Mean

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Temperature Low (Last Frame in Step Temperature_Low/Step)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Temperature High with Restraining Earth Pressure (Unconditional/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

TemperatureGradient + wnTemperatureMean

Type: Conditional
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: True

Reference: Temperature Mean (Pick-Most-Adverse/Load-Group)	0.35, 0.35, 0.35, 0.35, 0.769, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations

U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

TemperatureMean + wmTemperatureGradient

Type: Conditional
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: True

Reference: Temperature Mean (Pick-Most-Adverse/Load-Group) 1.0, 1.0, 1.0, 1.0, 0.769, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Traffic Classification, A-Vehicle

Type: Conditional
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: True

Reference: Classification Vehicle a + surface load (Conditional/Load-Group) 1.0, 1.0, 1.0, 1.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Traffic Classification, B-Vehicle

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Classification Vehicle j + surface load (Conditional/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Classification Vehicle d + surface load (Conditional/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Classification Vehicle b + surface load (Conditional/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Classification Vehicle k + surface load (Conditional/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Classification Vehicle c + surface load (Conditional/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Classification Vehicle f + surface load (Conditional/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Classification Vehicle h + surface load (Conditional/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Classification Vehicle n + surface load (Conditional/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Classification Vehicle i + surface load (Conditional/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Classification Vehicle e + surface load (Conditional/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Classification Vehicle g + surface load (Conditional/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Classification Vehicle l + surface load (Conditional/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Classification Vehicle o + surface load (Conditional/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Classification Vehicle m + surface load (Conditional/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Train A32

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: True

Reference: A32, 1 wagon (ALL_LIVE_LOAD_AREAS/Live-Load)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
- Stresses
  - S, Stress Components
    - S13, S12, S11, S33, S22, S23
- Displacement/Velocity/Acceleration
  - U, Translations and rotations
    - U1, U3, U2, UR1, UR2, UR3
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
- Forces/Reactions
  - RF, Reaction forces and moments
    - RF3, RF2, RF1, RM1, RM3, RM2
  - SF, Section forces and moments
    - SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Train A35

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: A35, 1 wagon (ALL_LIVE_LOAD_AREAS/Live-Load)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Train A36

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: A36, 1 wagon (ALL_LIVE_LOAD_AREAS/Live-Load) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Train Maintenance env

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: Enstaka axelgrupper (ALL_LIVE_LOAD_AREAS/Live-Load) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Arbetstag (ALL_LIVE_LOAD_AREAS/Live-Load) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Arbetstag, lane load (ALL_LIVE_LOAD_AREAS/Live-Load) 1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions

RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

Train load env

Type: Pick-Most-Adverse
Number of design loads: ALL LOADS
Number of load coefficients: 1

Add Zero-Load: False

Reference: A Train load env (Pick-Most-Adverse/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0
Reference: Maintenance env (Pick-Most-Adverse/Load-Group)	1.0, 0.0, 0.0, 0.0, 1.0, 1.0

Associated Field Outputs:
Stresses
S, Stress Components
S13, S12, S11, S33, S22, S23
Displacement/Velocity/Acceleration
U, Translations and rotations
U1, U3, U2, UR1, UR2, UR3
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2
Forces/Reactions
RF, Reaction forces and moments
RF3, RF2, RF1, RM1, RM3, RM2
SF, Section forces and moments
SM3, SF4, SF5, SF2, SF3, SM1, SF1, SM2

10. Mesh

Instance: Part-1-1

Number of point elements: 0
Number of line elements: 694
Number of quad elements: 4400
Number of tri elements: 0
Number of hex elements: 0
Number of wedge elements: 0
Number of tet elements: 0
Number of meshed regions: 150
Number of nodes: 5157
Total number of elements: 5094

Instance: Live-Load-Area-GC1-Lane-1

Number of point elements: 0
Number of line elements: 106
Number of quad elements: 0
Number of tri elements: 0
Number of hex elements: 0
Number of wedge elements: 0
Number of tet elements: 0
Number of meshed regions: 1
Number of nodes: 107
Total number of elements: 106

Instance: Live-Load-Area-GC2-Lane-1

Number of point elements: 0
Number of line elements: 104
Number of quad elements: 0
Number of tri elements: 0
Number of hex elements: 0
Number of wedge elements: 0
Number of tet elements: 0
Number of meshed regions: 1
Number of nodes: 105
Total number of elements: 104

Instance: Live-Load-Area-Traffic1-Lane-1

Number of point elements: 0
Number of line elements: 112
Number of quad elements: 0
Number of tri elements: 0
Number of hex elements: 0
Number of wedge elements: 0
Number of tet elements: 0
Number of meshed regions: 1
Number of nodes: 113
Total number of elements: 112

Instance: Live-Load-Area-Traffic1-Lane-2

Number of point elements: 0
Number of line elements: 112
Number of quad elements: 0
Number of tri elements: 0
Number of hex elements: 0
Number of wedge elements: 0
Number of tet elements: 0
Number of meshed regions: 1
Number of nodes: 113
Total number of elements: 112

Instance: Live-Load-Area-Traffic1-Lane-3

Number of point elements: 0
Number of line elements: 112
Number of quad elements: 0

Number of tri elements: 0
Number of hex elements: 0
Number of wedge elements: 0
Number of tet elements: 0
Number of meshed regions: 1
Number of nodes: 113
Total number of elements: 112

Instance: Live-Load-Area-Traffic2-Lane-1

Number of point elements: 0
Number of line elements: 112
Number of quad elements: 0
Number of tri elements: 0
Number of hex elements: 0
Number of wedge elements: 0
Number of tet elements: 0
Number of meshed regions: 1
Number of nodes: 113
Total number of elements: 112

Instance: Live-Load-Area-Traffic2-Lane-2

Number of point elements: 0
Number of line elements: 112
Number of quad elements: 0
Number of tri elements: 0
Number of hex elements: 0
Number of wedge elements: 0
Number of tet elements: 0
Number of meshed regions: 1
Number of nodes: 113
Total number of elements: 112

Instance: Live-Load-Area-Traffic2-Lane-3

Number of point elements: 0
Number of line elements: 112
Number of quad elements: 0
Number of tri elements: 0
Number of hex elements: 0
Number of wedge elements: 0
Number of tet elements: 0
Number of meshed regions: 1
Number of nodes: 113
Total number of elements: 112

Instance: Live-Load-Area-Tram1-Lane-1

Number of point elements: 0
Number of line elements: 122
Number of quad elements: 0
Number of tri elements: 0
Number of hex elements: 0
Number of wedge elements: 0
Number of tet elements: 0
Number of meshed regions: 1
Number of nodes: 123
Total number of elements: 122

Instance: Live-Load-Area-Tram2-Lane-1

Number of point elements: 0
Number of line elements: 122
Number of quad elements: 0
Number of tri elements: 0
Number of hex elements: 0
Number of wedge elements: 0
Number of tet elements: 0
Number of meshed regions: 1
Number of nodes: 123
Total number of elements: 122

Instance: TendonCollection

Number of point elements: 0
Number of line elements: 5412
Number of quad elements: 0
Number of tri elements: 0
Number of hex elements: 0
Number of wedge elements: 0
Number of tet elements: 0
Number of meshed regions: 60
Number of nodes: 5472
Total number of elements: 5412

Total number of elements: 11632
Total number of nodes: 11765

Figure 101. Model: Model-1; Mesh

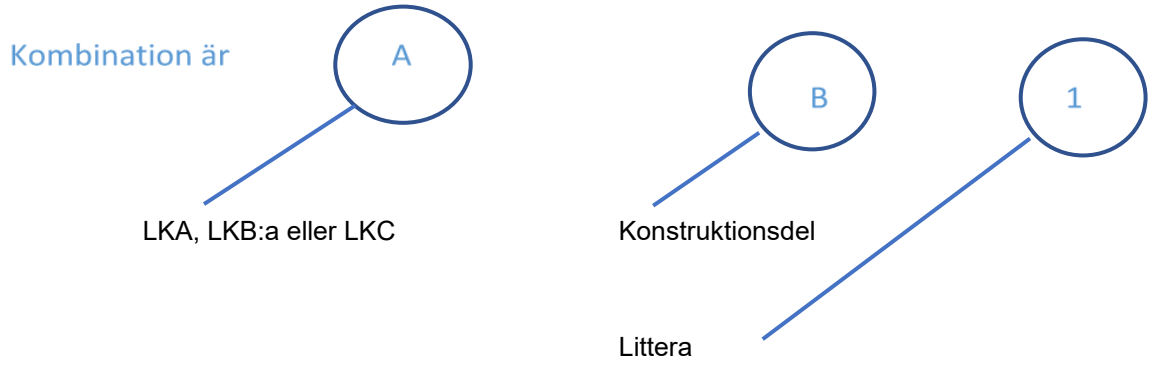
BILAGA 4

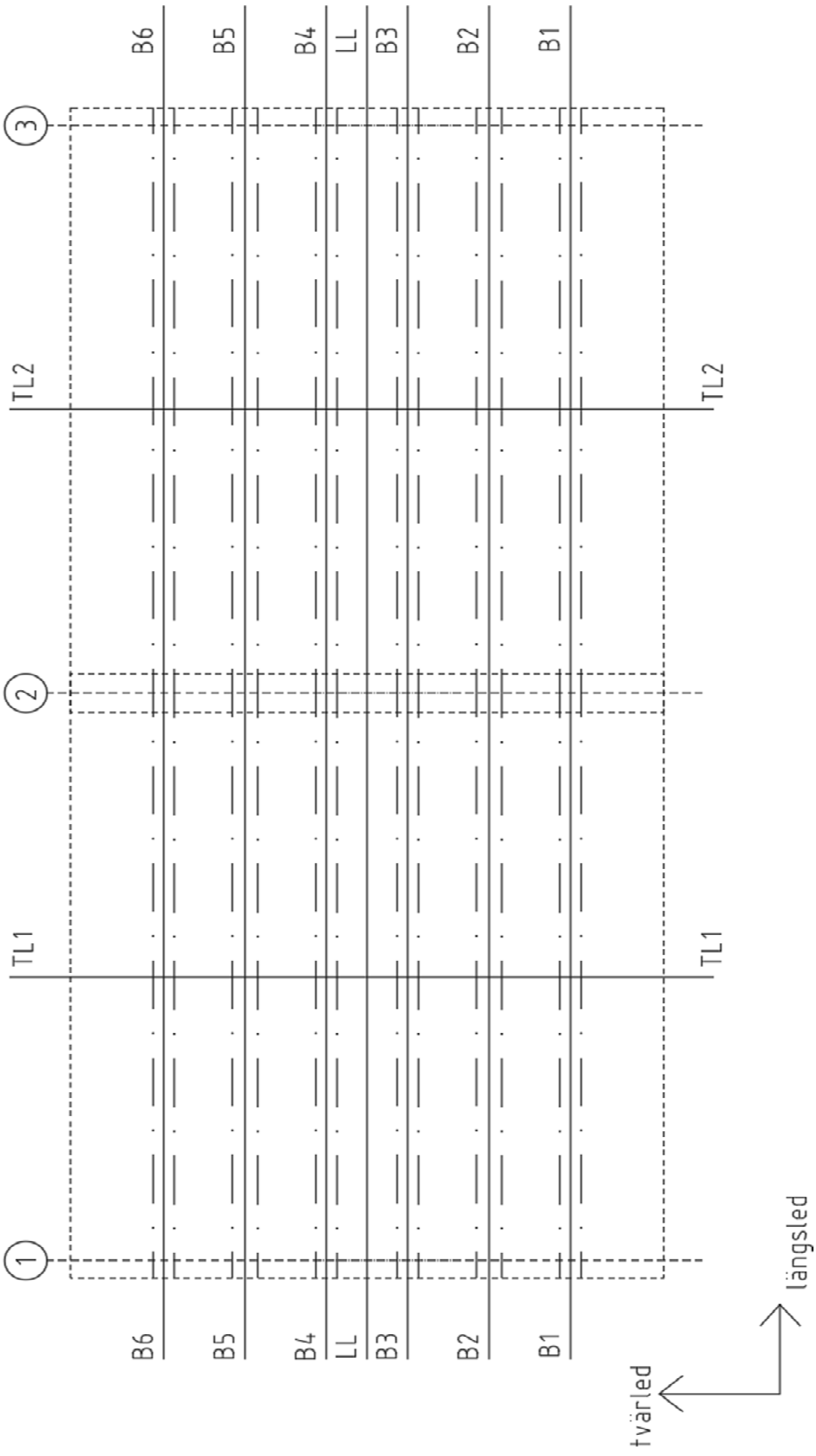
Systemanalys
BRIGADE/Plus - Utdata

Utdata BRIGADE/Plus

För valda snittlinjer, se Figur nästa sida.
Utdataresultat från BRIGADE/Plus tas ut i tabellformat, se efterföljande sidor.

Utdata BRIGADE/Plus till tillhörande snitt enligt princip samt förklaring nedan.





Figur, valda snittlinjer, plan

4. Utdata, redovisning av ordning

LKA shell, platta

LKB:a shell, platta

LKC_perm shell, platta
LKC_cycl shell, platta

LKA beam, balkar, exklusive spännkraft

LKB:a beam, balkar, exklusive spännkraft

LKC_perm beam, balkar
LKC_cycl beam, balkar

Kombination är A

LL

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]	N_tillh_Vmax_1_dir [kN]	N_tillh_Vmax_2_dir [kN]	N_tillh_Vmin_1_dir [kN]	N_tillh_Vmin_2_dir [kN]	Nmax_1 [kN]	Nmax_2 [kN]	Nmin_1 [kN]	Nmin_2 [kN]
0.00	9	23	-54.1	-22	-345	669	-404.3	28	168.0	194	225.7	197	-388.7	332	-411.6	297	-321.8	666	-405.4	18
0.45	6	27	-54.0	-18	-344	616	-391.0	12	204.6	232	258.6	233	-385.2	301	-406.8	267	-321.2	641	-420.8	1
0.75	-12	23	-53.2	-9	-357	551	-393.0	15	157.5	189	203.8	188	-475.8	215	-446.6	184	-330.5	602	-454.6	-1
1.05	-20	13	-45.9	-11	-496	512	-518.8	45	82.0	85	80.1	84	-670.8	175	-574.6	147	-452.9	550	-594.8	15
1.36	-5	6	-24.9	-13	-694	483	-688.2	57	87.4	58	41.2	59	-827.6	91	-707.1	293	-625.3	499	-789.7	23
1.66	6	6	-6.4	-10	-804	473	-770.3	65	73.4	45	27.7	47	-915.6	91	-794.6	316	-704.4	480	-897.1	41
1.96	12	10	-0.1	-8	-937	251	-806.0	208	56.5	33	16.6	36	-989.7	165	-866.8	184	-768.0	423	-1000.8	23
2.26	15	14	2.4	-6	-1079	14	-821.6	303	46.7	30	17.5	34	-1070.5	109	-917.7	127	-819.3	332	-1103.1	-25
2.57	16	16	2.8	-4	-1140	1	-831.0	250	41.3	29	22.4	34	-1128.7	69	-964.2	84	-838.1	292	-1154.2	-39
2.87	15	17	2.2	-3	-1212	9	-877.8	224	38.2	30	24.6	35	-1179.7	65	-1016.7	78	-884.7	268	-1231.9	-26
3.17	15	19	0.9	-2	-1291	26	-917.7	212	35.0	32	25.1	37	-1261.9	84	-1049.4	96	-922.8	244	-1308.1	2
3.47	14	19	-0.4	-2	-1321	62	-911.3	216	34.9	33	26.8	37	-1271.2	108	-1058.4	118	-915.9	246	-1331.5	36
3.78	13	21	-1.8	-2	-1334	97	-899.5	220	35.9	34	34.6	37	-1229.7	127	-1058.1	135	-900.5	252	-1341.9	67
4.08	12	22	-3.0	-2	-1349	133	-896.6	224	35.6	35	33.7	37	-1294.7	148	-1065.6	154	-898.3	266	-1354.8	95
4.38	12	21	-3.6	-1	-1386	147	-916.8	214	36.9	36	24.1	36	-1310.1	162	-1085.7	167	-918.4	261	-1389.6	106
4.68	12	23	-3.5	-1	-1413	140	-936.4	190	40.0	37	32.0	36	-1261.7	145	-1118.1	149	-937.0	233	-1423.8	100
4.99	14	23	-3.0	0	-1439	122	-952.8	151	38.9	37	36.6	36	-1302.9	111	-1164.5	114	-951.5	195	-1449.0	78
5.29	15	22	-2.4	0	-1475	91	-975.7	107	38.9	37	26.5	37	-1282.7	78	-1251.4	84	-973.5	150	-1478.2	50
5.59	15	23	-2.2	0	-1492	73	-991.2	78	41.0	36	32.2	39	-1233.8	52	-1315.1	61	-989.0	118	-1503.7	30
5.89	14	23	-2.8	1	-1524	68	-1017.1	64	37.5	36	43.3	39	-1280.4	51	-1335.0	56	-1015.1	103	-1536.6	25
6.20	13	23	-3.8	1	-1549	84	-1041.9	60	36.6	36	33.4	39	-1296.1	67	-1352.7	67	-1040.0	108	-1552.0	38
6.50	12	23	-4.8	1	-1531	107	-1043.4	64	39.0	37	33.1	39	-1271.4	79	-1352.7	79	-1041.4	122	-1544.2	56
6.80	11	23	-5.4	1	-1520	114	-1034.5	67	37.4	37	42.1	39	-1284.3	84	-1343.4	83	-1032.7	130	-1535.1	61
7.10	11	23	-5.5	1	-1523	116	-1026.6	68	38.7	37	39.5	39	-1282.3	86	-1354.0	85	-1024.9	135	-1524.7	60
7.41	12	23	-5.3	1	-1509	123	-1023.1	69	42.4	36	39.6	39	-1259.7	85	-1343.7	84	-1021.6	135	-1516.9	59
7.71	12	23	-5.0	1	-1503	126	-1024.1	68	40.9	36	42.1	38	-1275.1	83	-1315.8	81	-1022.7	133	-1515.3	56
8.01	12	23	-4.7	1	-1507	123	-1029.0	69	41.4	36	39.8	39	-1280.0	80	-1343.6	79	-1027.7	131	-1516.4	53
8.31	13	24	-4.3	0	-1505	120	-1038.2	71	44.6	36	38.9	39	-1265.4	77	-1368.2	75	-1037.0	128	-1515.9	50
8.62	13	23	-3.9	0	-1507	117	-1050.8	72	42.9	35	40.4	38	-1283.0	73	-1369.5	71	-1049.6	124	-1516.3	47
8.92	13	23	-3.5	0	-1513	113	-1065.8	72	43.7	35	40.0	38	-1292.2	69	-1435.4	68	-1064.7	119	-1519.8	45
9.22	14	24	-3.0	-1	-1514	111	-1082.7	73	46.8	35	40.2	39	-1291.2	66	-1445.9	64	-1081.6	116	-1523.1	43
9.52	13	23	-2.6	0	-1516	109	-1100.7	72	44.0	35	41.2	39	-1322.8	58	-1400.3	57	-1099.8	114	-1522.3	43
9.83	13	22	-2.2	0	-1518	106	-1119.5	72	44.0	35	40.7	38	-1339.9	56	-1457.8	55	-1118.6	111	-1519.7	44
10.13	15	23	-1.8	-1	-1514	106	-1138.5	75	47.0	35	41.1	38	-1342.6	55	-1467.1	54	-1137.6	108	-1519.3	44
10.43	13	22	-1.4	-1	-1496	105	-1175.6	77	43.7	35	42.5	38	-1370.7	50	-1428.3	49	-1156.7	106	-1517.7	46
10.73	13	21	-1.1	-1	-1477	102	-1211.5	79	43.8	34	41.5	38	-1387.6	52	-1470.0	51	-1175.6	104	-1508.7	49
11.04	14	22	-0.8	-1	-1471	101	-1227.8	82	47.0	34	41.9	37	-1393.3	52	-1475.8	51	-1194.3	99	-1506.1	51
11.34	14	21	-0.5	-1	-1457	101	-1243.6	83	43.5	35	43.6	38	-1415.3	49	-1445.7	49	-1212.6	85	-1506.6	46
11.64	14	19	-0.3	-1	-1455	100	-1259.0	82	43.5	34	42.1	36	-1430.0	51	-1467.4	51	-1233.1	79	-1505.3	35
11.94	14	19	-0.2	-1	-1462	104	-1266.6	75	47.0	34	42.5	36	-1437.1	50	-1468.2	51	-1244.4	82	-1502.8	27
12.25	13	19	-0.3	-1	-1464	112	-1263.2	67	42.9	34	45.2	36	-1445.1	48	-1440.7	49	-1241.2	85	-1502.2	21
12.55	13	18	-0.4	-1	-1468	118	-1253.3	62	42.9	35	43.7	36	-1454.9	48	-1430.2	49	-1228.6	89	-1505.1	19
12.85	13	17	-0.8	-1	-1470	120	-1232.5	53	46.9	35	44.2	36	-1465.3	47	-1425.9	49	-1210.1	100	-1498.7	15
13.15	14	16	-1.1	-1	-1466	101	-1205.7	45	42.6	35	47.2	36	-1466.5	46	-1418.3	49	-1185.0	110	-1487.5	5
13.46	14	15	-1.6	-1	-1460	88	-1178.0	44	42.3	35	45.3	35	-1465.9	46	-1382.1	49	-1157.4	112	-1478.0	-2
13.76	13	15	-2.5	0	-1455	94	-1142.4	45	45.8	35	46.0	35	-1463.4	47	-1362.9	51	-1129.2	116	-1469.6	-4
14.06	14	15	-4.0	-1	-1445	102	-1101.0	49	41.5	36	49.0	36	-1455.5	33	-1362.6	73	-1088.8	125	-1462.5	-9
14.36	12	15	-6.4	-1	-1441	114	-1104.6	51	41.2	36	45.2	35	-1439.2	22	-1303.2	102	-1056.6	143	-1459.3	-14
14.67	11	15	-8.7	0	-1443	127	-1120.0	51	46.4	35	44.6	34	-1424.4	55	-1293.7	95	-1041.8	171	-1456.6	0
14.97	11	15	-9.5	1	-1442	140	-1112.8	63	42.4	36	47.8	35	-1409.0	89	-1323.0	84	-1026.2	185	-1455.6	21
15.27	11	15	-9.5	2	-1440	144	-1114.9	74	42.0	37	42.6	35	-1356.0	93	-1355.4	87	-1016.6	184	-1455.6	26
15.57	11	15	-9.7	1	-1441	140	-1113.1	64	47.3	36	42.8	34	-1322.6	89	-1408.4	83	-1025.6	184	-1454.7	21
15.87	11	15	-8.9	0	-1440	128	-1119.4	52	44.3	35	46.5	34	-1292.0	55	-1423.3	95	-1040.3	169	-1454.9	0
16.18	12	14	-6.5	-1	-1439	114	-1103.0	50	45.1	36	41.1	35	-1301.3	21	-1437.5	102	-1054.9	143	-1456.8	-14
16.48	14	15	-4.1	-1	-1443	102	-1099.2	48	49.1	36	41.5	36	-1360.4	32	-1453.4	73	-1087.0	126	-1460.9	-8
16.78	13	15	-2.6	-1	-1452	93	-1139.9	44	46.0	35	45.9	35	-1359.9	47	-1460.6	51	-1126.7	117	-1467.3	-4
17.08	14	15	-1.7	-1	-1457	87	-1174.8	44	45.3	35	42.3	35	-1378.5	46	-1462.3	49	-1154.3	112	-1474.9	0
17.39	14	16	-1.2	-1	-1461	101	-1201.8	45	47.1	35	42.6	36	-1414.0	46	-1462.2	48	-1181.2	110	-1483.7	10
17.69	13	17	-0.9	-1	-1463	119	-1227.9	52	44.1	35	46.9	36	-1421.0	47	-1460.5	48	-1205.6	100	-1494.3	19
17.99	13	17	-0.5	-1	-1461	117	-1248.3	62	43.6	35	42.9	36	-1424.8	47	-1449.5	48	-1223.2	89	-1500.2	20
18.29	13	19	-0.4	-1	-1456	110	-1257.2	66	45.2	35	42.9	36	-1434.8	47	-1439.2	48	-1234.5	86	-1496.7	22
18.60	14	19	-0.3	-1	-1455	102	-1259.5	74	42.5	34	47.0	36	-1461.8	49	-1430.6	50	-1236.2	83	-1496.8	27
18.90	14	19	-0.4	-1	-1447	98	-1251.2	81	42.1	34	43.5	36	-1460.3	49	-1422.8	50	-1224.6	80	-1498.8	35
19.20	14	21	-0.7	-1	-1448	100	-1235.1	82	43.6	35	43.5	37	-1438.3	48	-1407.4	48	-1204.2	85	-1499.4	46
19.50	14	22	-1.0	-1	-1463	100	-1218.6	82	41.8	34	47.0	37	-1467.6	51	-1384.7	51	-1185.0	97	-1498.2	51
19.81	13	21	-1.3	-1	-1469	101	-1201.6	79	41.5	35	43.8	37	-1460.8	51	-1378.4	51	-1165.7	103	-1500.1	49
20.11	13	21	-1.7	-1	-1486	104	-1165.2	77	42.4	35	43.8	38	-1418.5	49	-1360.8	49	-1146.3	105	-1508.5	46
20.41	14	23	-2.0	-1	-1505	105	-1127.6	75	41.1	35	47.0	38	-1456.8	55	-1332.2	54	-1126.7	108	-1509.5	45
20.71	13	22	-2.4	-1	-1508	106	-1108.3	72	40.7	35	44.0	38	-1446.9	56	-1329.1	56	-1107.4	111	-1509.4	45
21.02	13	23	-2.8	-1	-1505	109	-1089.5	73	41.2	35	44.0	38	-1389.2	59	-1311.9	58	-1088.6	115	-1511.7	44
21.32	14	24	-3.2	-1	-1503	112	-1071.7	74	40.2	35	46.9	38	-1435.9	67	-1280.4	65	-1070.6	118	-1512.5	44
21.62	13	23	-3.7	0	-1499	114	-1055.2	74	39.9	35	43.8	38	-1425.6	71	-1281.8	69	-1054.1	121	-1509.3	49
21.92	13	23	-4.1	0	-1494	119	-1040.5	74	40.4	36	43.1	38	-1359.3	74	-1273.0	73	-1039.1	126	-1506.1	55
22.23	13	24	-4.5	0	-1495	122	-1027.3	74	38.8	36	45.2	39	-1358.8	78	-1249.3	77	-1025.8	130	-1505.6	58
22.53	12	23	-4.9	1	-1494	125	-1016.5	73	39.6	36	42.2	38	-1335.3	82	-1264.6	81	-1014.9	134	-1504.6	63
22.83	12	23	-5.2	1	-1492	128	-1009.6	75	41.9	36	41.5	38	-1309.3	85	-1266.7	83	-1008.0	137	-1505.3	67
23.13	12	23	-5.6	1	-1499	129	-1007.5	79	39.2	37	43.0	38	-1339.4	87	-1252.0	86	-1005.9	139	-1510.2	71
23.44	11	22	-6.0	1	-1511	127	-1010.8	82	39.1	37	38.8	38	-1351.6	89	-1276.0	88	-1009.1	139	-1518.5	74
23.74	11	23	-5.9	1	-1513	126	-1019.2	84	42.2	38	37.2	38	-1343.6	88	-1280.3	87	-1017.4	137	-1529.5	76
24.04	12	23	-5.2	1	-1530	119	-1032.4	85	33.5	37	38.9	39	-1358.3	85	-1273.2	84	-1030.5	134	-1542.6	73
24.34	13	22	-4.1	1	-1553	106	-1046.4	82	33.5	37	36.7	39	-1368.1	79	-1309.4	80	-1044.4	132	-1556.7	63
24.65	13	23	-3.0	1	-1549	88	-1060.4	77	42.8	36	37.0	39	-1374.6	67	-1319.3	72	-1058.3	125	-1569.6	48
24.95	14	23	-2.3	0	-1512	83	-1022.5	87	33.6	36	40.3	39	-1365.2	35	-1282.8	63	-1020.3	131	-1530.6	42
25.25	14	22	-2.1	0	-1478	73	-976.0	92	27.3	36	38.9	38	-1326.3	32	-1253.5	57	-973.8	134	-1480.0	33
25.55	14	23	-2.4	-1	-1471	87	-989.5	120	35.6	36	37.9	37	-1286.3	80	-1254.6	84	-986.1	160	-1482.3	49
25.86	14	23	-3.0	-1	-1427	158	-955.4	206	32.9	36	39.2	38	-1211.6	138	-1267.4	142	-954.0	251	-1439.8	119
26.16	13	22	-3.2	-1	-1386	171	-916.2	242	25.2	34	37.1	38	-1116.7	168	-1318.5	173	-915.7	283	-1389.8	133
26.46	13	22	-2.6	-1	-1368	134	-916.0	227	34.2	34	36.0	37	-1077.8	156	-1304.4	163	-916.8	263	-1372.7	96
26.76	13	21	-1.8	-1	-1344	102	-911.0	221	34.7	33	36.7	37	-1064.5	137	-1235.0	145	-913.0	256	-1351.0	66
27.07	14	20	-0.7	-2	-1327	59	-920.5	216	26.8	32	35.7	37	-1057.7	115	-1271.4	124	-920.6	244	-1337.5	33
27.37	14	19	0.4	-2	-1282	33	-914.1	211	24.8	32	36.1	37	-1042.1	88	-1258.2	100	-921.9	252	-1299.0	-1
27.67	14	18	1.5	-2	-1231	1	-900.0	212	24.1	30	37.3	35	-1017.1	73	-1183.9	86	-906.5	259	-1251.6	-34
27.97	15	17	2.4	-3	-1140	10	-837.5	255	25.8	29	39.1	34	-974.3	67	-1140.5	82	-842.5	301	-1154.7	-22
28.28	16	15	2.2	-5	-1025	24	-769.5	310	19.9	30	45.6	34	-893.9	91	-1047.5	109	-772.8	345	-1052.2	-9
28.58	13	11	0.4	-7	-922	221	-786.8	184	14.7	31	54.3	34	-836.4	151	-958.6	171	-746.1	395	-988.4	0
28.88	8	8	-4.5	-7	-754	496	-720.3	87	25.2	41	69.2	44	-764.4	94	-884.7	319	-652.0	503	-846.9	64
29.18	-2	8	-20.2	-10	-590	517	-584.3	92	35.6	52	82.7	54	-633.8	95	-753.1	297	-521.4	533	-685.4	58
29.49	-15	13	-38.0	-8	-435	511	-459.1	43	64.4	72	70.1	69	-493.8	194	-588.9	166	-393.4	548	-534.3	14
29.79	-9	21	-44.5	-6	-332	571	-374.7	31	165.2	152	121.4	149	-402.3	255	-431.8	224	-306.4	616	-430.2	14
30.09	6	23	-45.9	-13	-305	640	-343.5	30	211.7	185	158.3	186	-364.5	329	-343.4	295	-284.5	679	-387.2	22
30.54	8	20	-46.5	-18	-285	679	-315.6	35	185.4	155	129.0	156	-347.7	348	-326.0	312	-267.5	716	-356.1	33

Kombination är A

TL 1

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]	N_tillh_Vmax_1_dir [kN]	N_tillh_Vmax_2_dir [kN]	N_tillh_Vmin_1_dir [kN]	N_tillh_Vmin_2_dir [kN]	Nmax_1 [kN]	Nmax_2 [kN]	Nmin_1 [kN]	Nmin_2 [kN]
0.00	4	1	-3.0	-1	-1324	8	-985.2	14	10.9	7	2.1	5	-1126.2	1	-1255.4	-1	-976.7	16	-1436.0	6
0.31	4	1	-3.6	-2	-1312	16	-974.4	27	9.2	8	5.3	6	-1184.4	2	-1189.8	0	-967.5	29	-1425.4	14
0.62	3	-1	-4.5	-5	-1291	32	-956.4	52	10.4	11	10.9	10	-1187.5	6	-1181.6	2	-952.3	54	-1407.8	29
0.93	3	-4	-5.7	-9	-1335	47	-943.9	76	16.2	17	16.4	15	-1175.8	12	-1187.1	6	-941.3	77	-1396.8	43
1.24	2	-10	-7.3	-15	-1389	59	-934.7	96	22.6	24	22.8	22	-1206.5	18	-1156.5	13	-932.5	100	-1392.9	54
1.60	-1	-18	-9.5	-24	-1388	65	-923.9	110	29.8	31	30.0	28	-1173.3	23	-1180.4	19	-922.5	117	-1392.2	58
1.95	-3	-27	-11.2	-33	-1387	61	-911.1	110	26.2	26	24.2	22	-1166.1	19	-1214.7	25	-910.1	122	-1389.6	50
2.20	-3	-25	-11.3	-36	-1368	58	-903.4	119	16.1	13	13.1	18	-1165.9	10	-1250.2	35	-899.8	136	-1380.2	47
2.45	-2	-19	-10.6	-33	-1370	78	-918.3	138	24.2	13	25.6	33	-1228.2	15	-1296.4	49	-915.3	158	-1386.8	57
2.79	1	-12	-10.2	-25	-1399	98	-949.8	140	31.8	12	35.5	41	-1289.9	28	-1292.7	57	-949.8	169	-1411.5	66
3.12	5	-1	-9.7	-19	-1414	107	-973.4	135	36.1	5	39.3	44	-1284.6	36	-1269.3	68	-991.3	172	-1409.7	69
3.47	7	7	-9.6	-18	-1417	111	-992.7	127	52.8	31	46.7	31	-1305.9	42	-1302.0	79	-1011.6	168	-1406.1	64
3.82	6	8	-9.6	-18	-1413	99	-998.8	107	55.9	62	42.9	21	-1312.1	45	-1326.1	78	-990.8	152	-1419.3	45
4.12	4	6	-9.1	-19	-1394	104	-979.2	101	73.2	36	65.4	70	-1298.1	49	-1311.5	67	-960.7	162	-1409.9	47
4.42	6	10	-8.8	-19	-1398	121	-979.7	109	77.4	12	64.0	75	-1299.9	60	-1301.6	65	-969.9	177	-1419.0	63
4.75	8	16	-8.2	-13	-1442	121	-1006.4	101	44.9	16	26.1	42	-1256.1	62	-1318.3	73	-1005.6	166	-1455.6	67
5.08	9	19	-7.4	-8	-1466	129	-1018.3	74	44.4	12	37.2	51	-1209.6	62	-1293.3	78	-1017.2	159	-1474.0	68
5.44	10	22	-7.0	-6	-1470	133	-1011.5	53	68.7	46	55.4	37	-1210.2	60	-1301.9	86	-1009.2	150	-1483.5	67
5.79	8	20	-6.7	-6	-1475	119	-993.4	57	90.1	88	72.1	17	-1247.5	56	-1350.7	83	-986.8	137	-1490.7	58
6.04	6	18	-6.6	-10	-1488	116	-977.2	65	83.9	57	70.3	53	-1300.2	71	-1380.5	70	-971.3	129	-1498.9	45
6.29	9	22	-6.4	-10	-1507	118	-983.4	79	68.4	15	49.8	76	-1287.9	85	-1376.0	66	-983.7	128	-1510.5	46
6.66	11	23	-5.9	-3	-1521	111	-1007.2	81	53.0	26	45.0	49	-1269.9	92	-1353.3	70	-1007.6	127	-1521.4	54
7.02	11	23	-5.4	1	-1519	118	-1026.7	68	38.9	37	39.2	38	-1276.6	85	-1351.1	86	-1025.0	136	-1522.7	60
7.37	12	24	-5.7	-2	-1514	131	-1026.6	69	54.7	50	47.7	26	-1280.2	73	-1362.7	95	-1023.1	147	-1514.3	63
7.71	10	23	-6.0	-9	-1501	143	-1001.5	69	64.4	75	51.7	15	-1302.1	74	-1389.6	87	-998.1	154	-1504.8	60
7.96	7	19	-6.2	-10	-1489	131	-987.9	73	73.1	50	66.7	54	-1314.6	77	-1394.3	72	-984.4	148	-1500.0	59
8.21	8	20	-6.5	-7	-1479	125	-1002.3	70	83.3	13	70.7	85	-1261.1	83	-1363.2	57	-995.7	147	-1496.8	67
8.57	11	23	-6.8	-6	-1469	142	-1015.5	61	69.2	34	57.2	48	-1222.2	83	-1314.0	58	-1011.0	159	-1485.1	75
8.92	10	21	-7.1	-7	-1464	139	-1016.5	83	44.3	50	36.4	13	-1220.7	75	-1305.4	59	-1015.4	169	-1471.3	78
9.25	9	17	-7.7	-12	-1438	136	-1002.5	115	42.4	41	26.6	16	-1269.7	70	-1331.3	59	-1001.7	181	-1450.7	82
9.58	6	13	-7.9	-17	-1390	142	-973.1	129	71.9	74	66.7	16	-1315.3	64	-1316.5	59	-963.1	197	-1411.6	85
9.88	4	8	-8.2	-17	-1398	110	-983.3	112	60.5	72	67.6	35	-1317.6	67	-1313.3	48	-964.7	171	-1414.4	56
10.18	6	9	-8.8	-16	-1426	91	-1011.8	105	45.8	25	46.3	59	-1330.7	77	-1322.7	43	-1004.0	148	-1431.7	41
10.55	8	8	-8.9	-17	-1419	110	-996.1	125	54.8	33	52.2	33	-1312.3	74	-1306.2	38	-1015.9	167	-1407.1	62
10.92	5	0	-9.2	-19	-1409	108	-967.9	133	40.8	48	43.5	6	-1284.2	62	-1268.5	31	-986.5	173	-1402.4	69
11.24	1	-12	-9.8	-25	-1390	105	-940.1	143	37.5	44	38.5	13	-1303.8	53	-1290.7	26	-940.2	173	-1400.7	70
11.55	-1	-19	-10.4	-33	-1355	91	-905.8	148	25.2	33	29.2	14	-1259.5	48	-1295.0	15	-902.7	169	-1372.5	68
11.80	-3	-25	-10.9	-36	-1361	65	-898.6	122	9.1	14	16.5	11	-1209.8	38	-1246.3	13	-894.9	140	-1373.6	51
12.05	-3	-27	-10.9	-32	-1385	60	-910.9	107	22.1	20	25.4	23	-1199.1	30	-1204.9	22	-909.8	119	-1387.8	47
12.41	0	-18	-9.2	-23	-1374	66	-911.7	110	30.0	29	30.0	31	-1160.3	22	-1164.2	25	-910.1	118	-1378.3	59
12.76	2	-10	-7.0	-14	-1361	61	-909.0	98	22.7	22	22.9	24	-1172.8	14	-1132.1	18	-906.6	102	-1365.8	56
13.07	4	-4	-5.4	-9	-1356	49	-908.8	76	16.2	16	16.4	17	-1141.9	6	-1153.7	11	-905.9	79	-1360.0	45
13.38	4	-1	-4.2	-5	-1304	33	-914.5	51	10.4	10	10.9	11	-1145.6	2	-1141.0	5	-910.1	55	-1363.9	30
13.69	4	1	-3.2	-2	-1261	16	-926.3	26	8.7	6	5.3	7	-1136.7	0	-1141.3	2	-919.4	29	-1375.6	14
14.00	4	1	-2.6	-1	-1270	8	-934.0	13	9.9	6	2.1	6	-1076.0	-1	-1203.7	0	-925.6	16	-1383.4	6

Kombination är A TL 2

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]	N_tillh_Vmax_1_dir [kN]	N_tillh_Vmax_2_dir [kN]	N_tillh_Vmin_1_dir [kN]	N_tillh_Vmin_2_dir [kN]	Nmax_1 [kN]	Nmax_2 [kN]	Nmin_1 [kN]	Nmin_2 [kN]
0.00	2	0	-2.8	-1	-1348	5	-1042.4	10	3.9	4	7.6	2	-1266.3	1	-1190.7	-1	-1030.0	12	-1457.2	4
0.31	2	0	-3.1	-2	-1338	12	-1030.4	20	5.9	6	7.7	5	-1226.0	2	-1221.5	0	-1020.0	22	-1449.2	10
0.62	1	-2	-3.8	-4	-1319	25	-1007.9	39	10.6	11	10.6	10	-1216.4	5	-1212.2	1	-1001.5	38	-1435.6	23
0.93	1	-6	-4.8	-8	-1364	39	-988.3	59	16.3	17	16.3	15	-1227.1	9	-1191.8	4	-984.8	54	-1425.1	35
1.24	1	-11	-6.2	-14	-1413	53	-969.0	79	22.3	23	22.3	21	-1201.1	14	-1197.6	9	-966.6	74	-1417.4	48
1.60	-1	-19	-8.3	-23	-1406	67	-945.3	99	29.0	30	28.8	27	-1210.5	18	-1158.7	15	-943.5	95	-1409.9	60
1.95	-3	-27	-10.4	-32	-1400	76	-920.4	113	21.1	29	30.1	24	-1233.0	11	-1165.1	26	-918.9	110	-1401.6	67
2.20	-3	-25	-10.3	-35	-1399	51	-939.2	101	8.7	24	28.0	19	-1245.7	5	-1190.1	37	-935.7	111	-1409.9	38
2.45	-2	-19	-9.6	-32	-1413	42	-977.0	94	22.7	20	31.1	31	-1306.3	11	-1243.5	44	-970.8	118	-1425.8	16
2.79	1	-13	-9.3	-24	-1425	67	-983.3	108	33.6	11	31.4	39	-1300.0	21	-1293.7	50	-979.9	137	-1430.7	33
3.12	5	-2	-9.0	-19	-1422	81	-980.7	117	37.9	4	37.4	43	-1262.4	27	-1288.6	60	-999.5	151	-1413.5	49
3.47	7	6	-9.2	-18	-1420	92	-972.0	126	45.1	30	55.3	31	-1325.7	32	-1283.2	71	-1002.9	160	-1400.9	59
3.82	6	7	-9.2	-18	-1417	102	-962.4	127	34.6	62	62.0	25	-1367.2	37	-1281.9	72	-972.4	164	-1411.7	61
4.12	4	6	-8.7	-19	-1413	87	-995.0	90	48.3	40	81.5	72	-1359.3	42	-1269.9	64	-972.1	151	-1425.8	41
4.42	6	10	-8.4	-19	-1425	76	-1026.0	61	54.3	18	81.7	74	-1361.1	50	-1264.0	61	-1001.7	136	-1442.6	27
4.75	8	15	-7.6	-14	-1448	91	-1028.0	71	25.2	16	46.8	42	-1334.3	52	-1249.5	67	-1024.0	139	-1457.5	35
5.08	9	19	-6.6	-9	-1460	116	-1030.5	62	36.5	11	47.2	52	-1282.2	54	-1227.2	75	-1029.4	147	-1466.7	49
5.44	10	23	-6.2	-7	-1460	136	-1020.8	51	56.7	45	69.5	39	-1305.9	55	-1227.0	86	-1016.0	151	-1478.7	66
5.79	8	20	-5.9	-5	-1474	138	-1003.6	67	70.4	85	91.5	21	-1366.7	56	-1260.4	89	-996.8	152	-1494.0	75
6.04	6	19	-5.7	-8	-1507	122	-979.5	98	65.5	57	89.5	56	-1404.2	69	-1295.3	83	-977.3	135	-1513.8	75
6.29	9	22	-5.7	-9	-1520	109	-977.2	115	46.9	16	71.0	76	-1409.6	85	-1290.2	72	-976.9	120	-1527.4	74
6.66	12	24	-5.2	-3	-1512	110	-998.6	101	44.4	26	54.1	49	-1370.6	94	-1271.7	64	-997.2	120	-1522.6	71
7.02	12	23	-4.8	1	-1494	125	-1020.4	71	39.1	37	42.3	38	-1339.3	80	-1260.2	81	-1018.8	134	-1503.8	61
7.37	12	24	-5.0	-3	-1484	142	-1022.7	71	48.0	49	54.9	26	-1365.3	63	-1274.8	93	-1021.0	146	-1487.5	50
7.71	10	23	-5.6	-8	-1489	135	-996.1	86	51.7	76	67.1	13	-1399.1	71	-1280.4	82	-995.9	136	-1489.7	46
7.96	7	20	-5.7	-9	-1474	143	-966.9	100	65.5	53	80.6	52	-1390.1	81	-1282.0	67	-965.5	152	-1478.7	73
8.21	9	21	-5.6	-6	-1443	155	-971.0	89	71.0	14	84.4	84	-1352.1	87	-1246.3	55	-965.0	170	-1462.9	92
8.57	11	24	-5.9	-5	-1431	151	-993.1	61	59.0	35	69.5	46	-1292.8	85	-1214.1	56	-988.4	166	-1450.9	81
8.92	10	20	-6.4	-7	-1430	134	-1000.8	74	35.0	52	48.2	12	-1268.2	76	-1213.7	55	-999.8	165	-1435.6	66
9.25	8	16	-7.3	-12	-1411	112	-997.6	89	26.6	41	43.3	17	-1316.6	69	-1232.9	52	-996.3	159	-1420.3	49
9.58	6	12	-8.1	-17	-1387	90	-993.5	73	60.2	73	73.8	17	-1335.1	60	-1241.0	49	-977.6	150	-1402.9	30
9.88	4	8	-8.5	-17	-1378	90	-959.7	98	51.2	72	68.9	33	-1316.1	62	-1242.9	40	-943.4	157	-1388.9	43
10.18	6	9	-8.6	-16	-1390	101	-936.4	132	38.7	26	51.8	57	-1328.6	72	-1257.6	37	-947.4	165	-1384.1	64
10.55	8	7	-8.6	-17	-1401	95	-955.6	125	51.3	33	56.5	33	-1305.8	68	-1263.2	35	-987.4	160	-1381.6	59
10.92	5	-1	-8.6	-19	-1403	87	-963.3	119	41.3	47	42.3	6	-1251.2	58	-1270.8	30	-982.8	155	-1393.5	53
11.24	1	-12	-8.9	-25	-1401	75	-961.5	112	36.4	41	35.7	11	-1290.2	53	-1283.1	24	-958.1	143	-1407.0	40
11.55	-1	-18	-9.3	-31	-1389	46	-956.1	95	25.8	31	26.9	14	-1287.7	46	-1230.5	13	-949.8	120	-1402.2	19
11.80	-2	-24	-10.3	-35	-1377	51	-919.3	99	11.9	13	15.3	13	-1222.5	38	-1166.7	6	-915.8	109	-1387.5	37
12.05	-3	-27	-10.1	-32	-1381	72	-903.4	108	22.4	19	23.6	23	-1209.5	28	-1140.6	12	-901.9	105	-1382.7	62
12.41	-1	-19	-7.8	-23	-1393	59	-933.5	91	28.7	27	28.5	30	-1188.3	17	-1134.7	19	-931.5	87	-1396.2	52
12.76	1	-11	-5.9	-14	-1398	47	-955.9	73	22.2	21	22.2	23	-1179.8	12	-1176.3	15	-953.3	68	-1402.2	42
13.07	3	-6	-4.4	-8	-1403	34	-972.4	53	16.1	15	16.2	17	-1204.9	6	-1170.2	10	-968.8	50	-1407.1	31
13.38	3	-2	-3.4	-4	-1355	22	-988.4	33	10.4	10	10.5	11	-1193.4	2	-1187.4	6	-982.6	35	-1414.7	20
13.69	2	0	-2.7	-2	-1315	10	-1007.4	16	5.4	5	7.1	6	-1201.9	0	-1196.3	2	-998.4	21	-1425.8	8
14.00	3	0	-2.4	-1	-1324	4	-1017.9	8	3.1	2	6.7	4	-1241.3	-1	-1165.7	1	-1007.1	11	-1432.6	3

Kombination är B_a

LL

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]	N_tillh_Vmax_1_dir [kN]	N_tillh_Vmax_2_dir [kN]	N_tillh_Vmin_1_dir [kN]	N_tillh_Vmin_2_dir [kN]	Nmax_1 [kN]	Nmax_2 [kN]	Nmin_1 [kN]	Nmin_2 [kN]
0.00	8	20	-43.5	-19	-246	1401	-349.6	-438	146.0	165	189.9	162	-289.1	505	-364.1	404	-226.3	1402	-372.5	-437
0.45	5	22	-43.6	-16	-238	1312	-351.0	-412	174.3	194	215.2	193	-277.2	471	-364.7	375	-218.9	1323	-374.3	-425
0.75	-10	19	-43.0	-9	-239	1175	-369.7	-354	134.4	157	168.3	156	-390.4	380	-353.3	385	-216.7	1201	-396.8	-381
1.05	-17	10	-37.2	-10	-347	1071	-477.7	-304	68.8	71	67.5	70	-602.4	242	-401.7	282	-308.4	1102	-523.8	-332
1.36	-5	4	-20.5	-11	-501	980	-622.3	-268	68.0	47	35.4	48	-739.5	78	-494.8	246	-433.3	1005	-700.5	-292
1.66	6	3	-5.4	-7	-583	902	-698.5	-217	55.1	35	22.5	36	-821.7	73	-553.6	271	-485.3	928	-805.9	-237
1.96	11	6	-0.1	-4	-773	380	-643.7	272	40.4	24	12.0	26	-889.9	131	-603.7	166	-529.6	823	-901.4	-216
2.26	13	9	2.0	-3	-975	-159	-566.4	665	32.1	20	11.7	24	-955.1	85	-636.9	213	-563.8	686	-990.9	-237
2.57	13	11	2.2	-3	-1027	-195	-573.8	567	27.1	20	15.2	23	-1011.4	51	-667.4	258	-576.7	593	-1036.8	-217
2.87	12	12	1.6	-2	-1091	-163	-608.3	498	23.6	20	17.3	24	-1068.1	117	-705.3	228	-610.7	525	-1104.3	-182
3.17	12	13	0.5	-2	-1156	-124	-632.9	444	20.8	22	17.7	25	-1133.6	192	-726.7	220	-632.8	467	-1167.9	-143
3.47	11	13	-0.7	-1	-1179	-71	-625.3	407	20.5	22	18.8	25	-1144.0	165	-729.6	216	-625.2	432	-1186.0	-92
3.78	10	14	-1.9	-1	-1189	-23	-614.7	375	21.1	23	23.5	25	-1118.4	140	-726.9	189	-615.4	400	-1194.3	-48
4.08	9	15	-3.0	-1	-1205	23	-613.2	346	20.7	24	22.7	25	-1164.8	151	-732.2	170	-615.3	378	-1206.5	-5
4.38	9	15	-3.5	-1	-1236	49	-631.7	308	21.8	24	16.4	24	-1174.1	156	-749.5	171	-634.3	344	-1236.4	20
4.68	9	16	-3.4	-1	-1257	58	-649.5	263	24.7	25	20.8	24	-1133.3	137	-782.6	150	-651.3	298	-1263.3	25
4.99	10	16	-3.0	-1	-1278	53	-665.3	210	24.3	25	23.3	24	-1156.8	114	-834.7	114	-666.0	247	-1282.6	19
5.29	11	16	-2.5	-1	-1303	39	-686.8	152	24.1	25	16.7	25	-1047.0	82	-997.2	82	-686.8	188	-1304.0	7
5.59	11	16	-2.3	-1	-1315	34	-703.3	111	25.3	24	20.4	26	-919.8	48	-1144.2	62	-703.3	146	-1321.9	-1
5.89	11	16	-2.8	-1	-1339	38	-729.7	88	22.7	24	27.3	27	-958.0	44	-1173.4	54	-729.7	122	-1346.7	2
6.20	10	16	-3.6	0	-1357	58	-755.1	74	21.9	24	21.6	27	-976.3	55	-1188.8	56	-755.1	107	-1358.2	22
6.50	9	17	-4.4	0	-1343	83	-761.0	66	23.5	25	21.2	27	-962.7	62	-1189.5	63	-761.0	101	-1350.1	44
6.80	8	16	-4.9	0	-1331	93	-758.4	61	22.7	25	26.0	26	-971.4	64	-1180.3	64	-758.5	104	-1340.4	46
7.10	8	16	-5.0	0	-1329	98	-757.0	55	23.8	25	24.1	26	-973.9	66	-1181.0	62	-757.0	111	-1330.2	38
7.41	8	16	-4.8	0	-1317	105	-759.5	50	26.7	24	24.2	26	-960.5	66	-1167.5	58	-759.6	116	-1322.0	31
7.71	8	17	-4.5	0	-1308	106	-765.8	46	26.1	24	25.9	26	-969.3	65	-1143.2	53	-765.9	117	-1315.7	24
8.01	9	17	-4.2	0	-1307	105	-775.4	42	26.6	24	24.3	26	-977.1	62	-1160.1	55	-775.4	117	-1311.7	20
8.31	9	17	-3.8	0	-1307	103	-788.4	39	29.0	24	23.1	26	-970.8	60	-1187.5	58	-788.4	117	-1310.0	16
8.62	9	17	-3.5	0	-1302	101	-804.1	37	28.4	23	23.6	26	-980.6	56	-1198.4	54	-804.1	112	-1309.1	14
8.92	9	16	-3.1	0	-1302	97	-821.8	37	29.2	23	23.2	26	-990.6	53	-1239.9	52	-821.8	108	-1308.2	12
9.22	10	17	-2.6	0	-1306	93	-840.9	38	31.4	23	23.4	26	-998.0	51	-1244.9	49	-840.9	103	-1307.5	11
9.52	10	16	-2.2	0	-1305	90	-860.9	39	29.5	23	24.3	26	-1027.1	45	-1212.3	44	-860.9	97	-1306.8	15
9.83	10	16	-1.8	0	-1303	87	-881.3	41	29.5	23	24.1	26	-1046.2	44	-1248.4	42	-881.3	92	-1304.8	20
10.13	10	16	-1.5	0	-1287	84	-926.8	46	31.4	23	24.6	26	-1055.7	43	-1251.7	38	-901.7	87	-1301.7	23
10.43	10	15	-1.2	0	-1257	81	-985.2	51	29.3	23	25.7	26	-1081.9	40	-1222.9	32	-922.0	81	-1297.8	29
10.73	9	15	-0.9	0	-1219	76	-1015.5	57	29.3	23	25.3	25	-1100.4	41	-1247.6	36	-941.9	77	-1286.4	37
11.04	10	15	-0.7	0	-1199	73	-1040.4	65	31.5	23	25.8	25	-1111.0	41	-1247.9	39	-961.5	71	-1277.0	44
11.34	10	15	-0.4	0	-1187	69	-1063.9	69	29.1	23	27.2	25	-1132.3	40	-1223.9	40	-980.7	71	-1275.7	40
11.64	10	13	-0.2	0	-1189	68	-1074.9	72	29.2	23	26.5	25	-1148.4	42	-1234.5	45	-998.1	77	-1278.3	26
11.94	10	13	-0.5	0	-1196	81	-1075.4	57	31.6	23	27.0	24	-1159.0	43	-1230.3	47	-1008.5	86	-1278.4	17
12.25	9	14	-0.5	0	-1190	100	-1068.3	35	28.9	23	29.4	25	-1169.8	44	-1200.8	46	-1009.7	96	-1273.7	9
12.55	10	12	-0.1	0	-1194	113	-1060.3	19	28.9	23	29.0	24	-1181.1	45	-1183.9	48	-1004.8	107	-1269.8	0
12.85	10	12	-0.3	0	-1197	125	-1042.9	3	31.7	24	29.6	24	-1191.9	46	-1176.9	51	-993.9	131	-1262.8	-11
13.15	10	12	-0.8	0	-1197	126	-1023.5	-5	28.9	24	32.0	25	-1195.6	47	-1166.6	53	-973.6	154	-1250.9	-24
13.46	10	12	-1.6	0	-1198	132	-1002.0	-9	28.8	24	31.1	24	-1197.9	49	-1135.5	66	-947.3	167	-1240.2	-31
13.76	10	12	-2.3	0	-1195	150	-963.3	-12	31.2	25	31.9	24	-1198.0	34	-1115.1	82	-916.1	182	-1233.8	-42
14.06	11	12	-3.4	-1	-1190	173	-917.9	-16	28.4	26	34.1	25	-1193.9	15	-1108.0	133	-882.1	202	-1227.3	-44
14.36	10	13	-5.1	-1	-1188	204	-920.4	-20	28.4	26	31.4	24	-1178.9	6	-1061.9	163	-859.2	238	-1223.0	-50
14.67	9	13	-6.9	-1	-1192	237	-933.5	-25	32.1	25	30.8	24	-1164.7	54	-1053.1	122	-853.6	285	-1219.1	-62
14.97	9	14	-8.1	0	-1194	256	-920.9	-18	29.1	26	32.8	24	-1157.8	115	-1068.7	118	-845.9	308	-1216.9	-61
15.27	9	14	-8.5	0	-1194	260	-917.8	-11	28.5	27	29.0	25	-1105.8	120	-1105.4	141	-837.1	306	-1216.4	-59
15.57	9	14	-8.3	0	-1193	255	-920.9	-18	32.3	26	29.5	24	-1068.3	115	-1156.8	118	-845.1	307	-1216.3	-60
15.87	9	13	-7.1	-1	-1189	237	-932.9	-24	30.5	25	32.2	24	-1051.6	54	-1163.3	121	-851.9	284	-1217.7	-63
16.18	10	13	-5.2	-1	-1186	204	-919.0	-21	31.4	26	28.3	24	-1060.3	6	-1177.6	163	-857.8	238	-1221.0	-51
16.48	10	12	-3.5	-1	-1188	174	-916.4	-16	34.1	26	28.4	25	-1106.1	15	-1192.2	133	-880.5	203	-1226.0	-44
16.78	10	12	-2.4	0	-1193	152	-961.1	-13	31.9	25	31.2	24	-1112.6	34	-1195.6	82	-914.1	183	-1231.8	-41
17.08	10	12	-1.6	0	-1195	133	-999.2	-9	31.0	24	28.8	24	-1132.4	49	-1194.9	66	-944.7	168	-1237.7	-31
17.39	10	12	-0.9	0	-1193	126	-1020.2	-4	31.9	24	28.9	25	-1162.9	47	-1192.1	53	-970.4	154	-1246.9	-20
17.69	10	12	-0.4	0	-1192	124	-1038.3	4	29.6	24	31.7	24	-1172.9	45	-1187.9	50	-989.4	132	-1257.4	-8
17.99	10	12	-0.2	0	-1190	112	-1054.4	19	28.9	23	28.9	24	-1179.4	44	-1176.6	48	-999.0	108	-1263.8	-1
18.29	9	13	-0.6	0	-1184	98	-1062.4	34	29.4	23	28.9	25	-1195.9	43	-1164.9	45	-1003.2	96	-1268.3	8
18.60	9	13	-0.6	0	-1190	79	-1068.8	56	27.0	23	31.5	24	-1224.9	42	-1153.6	46	-1002.4	87	-1273.1	16
18.90	9	13	-0.3	0	-1183	66	-1067.2	71	26.4	23	29.2	24	-1228.6	41	-1142.4	44	-992.0	78	-1271.4	26
19.20	10	14	-0.6	0	-1180	68	-1055.8	68	27.2	23	29.1	25	-1217.8	39	-1125.7	40	-973.6	72	-1267.4	40
19.50	10	15	-0.8	0	-1191	71	-1032.2	65	25.7	23	31.5	25	-1241.2	40	-1103.9	38	-953.8	72	-1267.9	43
19.81	9	15	-1.1	0	-1209	75	-1007.2	57	25.3	23	29.3	25	-1239.9	41	-1092.6	36	-933.7	78	-1276.4	37
20.11	9	15	-1.4	0	-1246	80	-976.5	52	25.7	24	29.3	26	-1214.7	39	-1073.6	32	-913.3	84	-1287.1	29
20.41	9	16	-1.7	0	-1276	84	-917.7	47	24.5	23	31.4	26	-1243.1	43	-1047.0	38	-892.6	90	-1290.2	23
20.71	10	16	-2.0	0	-1291	88	-871.9	42	24.1	23	29.5	26	-1239.1	44	-1037.2	43	-871.9	96	-1292.6	21
21.02	9	16	-2.4	0	-1292	92	-851.5	40	24.3	24	29.5	26	-1202.9	46	-1018.0	45	-851.6	101	-1294.1	16
21.32	9	16	-2.8	0	-1293	97	-831.7	39	23.4	24	31.4	26	-1237.1	52	-989.0	50	-831.7	108	-1294.5	13
21.62	9	16	-3.2	0	-1289	103	-812.9	38	23.1	24	29.3	26	-1232.3	54	-981.8	53	-812.9	114	-1295.0	13
21.92	9	17	-3.6	0	-1289	106	-795.2	39	23.5	24	28.6	26	-1189.9	58	-972.2	56	-795.2	118	-1295.9	16
22.23	9	17	-4.0	0	-1293	108	-778.7	41	23.0	24	29.7	26	-1179.6	61	-953.4	59	-778.7	124	-1296.8	20
22.53	8	16	-4.3	0	-1294	112	-764.5	43	24.1	24	27.5	26	-1153.1	64	-960.3	62	-764.5	125	-1298.7	25
22.83	8	16	-4.7	-1	-1296	112	-753.4	47	25.7	24	26.7	26	-1137.7	66	-962.4	64	-753.4	125	-1302.9	32
23.13	8	16	-5.0	-1	-1306	112	-746.4	53	23.8	25	27.2	26	-1163.9	68	-954.5	67	-746.4	126	-1310.1	41
23.44	8	16	-5.4	-1	-1316	110	-743.8	60	23.8	25	24.0	26	-1178.7	68	-969.1	67	-743.8	123	-1319.9	50
23.74	8	16	-5.4	-1	-1324	104	-745.5	69	26.1	25	22.5	26	-1180.0	67	-968.4	67	-745.6	118	-1332.1	58
24.04	9	17	-4.8	-1	-1341	93	-751.5	78	21.5	25	23.4	26	-1193.7	67	-964.5	68	-751.5	120	-1347.3	55
24.34	10	16	-3.9	-1	-1360	77	-758.3	87	21.5	25	22.0	26	-1201.2	65	-987.5	67	-758.3	128	-1362.0	42
24.65	10	16	-3.0	-1	-1362	56	-765.2	94	26.9	24	22.3	26	-1206.0	57	-990.6	67	-765.2	133	-1374.2	24
24.95	11	16	-2.5	-1	-1334	42	-729.6	118	21.6	24	24.7	27	-1202.4	28	-960.9	57	-729.6	155	-1344.7	10
25.25	11	16	-2.3	-1	-1305	24	-686.8	139	17.4	24	24.1	26	-1174.7	28	-926.3	62	-686.8	174	-1305.0	-8
25.55	10	16	-2.5	-1	-1303	26	-693.9	180	22.1	24	23.5	25	-1107.5	79	-952.7	97	-693.2	214	-1308.7	-2
25.86	10	16	-3.1	0	-1269	72	-664.1	277	21.1	24	24.2	26	-940.1	131	-1066.3	144	-664.8	312	-1276.2	42
26.16	10	15	-3.2	-1	-1235	70	-629.4	332	17.1	23	22.2	26	-781.8	161	-1177.0	176	-630.8	364	-1235.3	39
26.46	9	15	-2.7	-1	-1221	23	-629.7	346	23.0	23	21.0	26	-742.3	158	-1173.1	177	-631.1	375	-1221.6	-6
26.76	10	15	-1.9	-1	-1200	-21	-626.3	374	23.5	22	21.7	25	-732.2	148	-1123.0	197	-627.7	401	-1203.7	-48
27.07	11	14	-1.0	-1	-1186	-74	-632.9	405	18.7	22	21.2	25	-729.1	170	-1144.1	222	-632.9	429	-1193.4	-94
27.37	11	13	0.0	-1	-1151	-119	-633.1	443	17.4	21	21.7	25	-720.7	195	-1130.4	223	-633.0	471	-1162.8	-143
27.67	12	12	1.0	-2	-1107	-170	-623.8	489	16.9	20	22.9	24	-705.7	123	-1072.0	235	-624.2	517	-1121.0	-194
27.97	12	12	1.8	-2	-1028	-188	-577.5	571	18.0	20	25.1	23	-676.0	50	-1021.7	161	-580.8	599	-1036.7	-211
28.28	13	10	1.8	-2	-929	-147	-527.3	668	13.6	20	31.1	24	-617.1	70	-935.9	102	-527.2	693	-947.8	-227
28.58	11	7	0.3	-3	-759	358	-627.7	250	10.0	22	38.5	25	-578.3	119	-863.4	156	-509.2	797	-891.0	-243
28.88	7	5	-3.8	-5	-541	921	-656.8	-198	19.8	31	51.5	33	-528.5	75	-795.4	273	-442.1	947	-764.0	-221
29.18	-2	5	-16.6	-8	-415	1009	-535.7	-239	30.7	42	63.8	44	-433.0	89	-678.1	249	-349.6	1033	-613.5	-263
29.49	-14	9	-30.6	-7	-297	1070	-427.7	-305	54.5	59	58.4	58	-333.7	266	-534.8	298	-259.5	1101	-473.4	-333
29.79	-8	16	-35.7	-7	-216	1194	-354.4	-342	136.1	126	104.1	124	-316.5	412	-353.8	418	-196.3	1218	-381.2	-370
30.09	5	19	-36.9	-12	-206	1329	-318.6	-384	176.0	156	135.6	153	-329.4	494	-242.6	398	-190.9	1343	-336.3	-405
30.54	8	17	-37.2	-15	-205	1399	-290.0	-403	156.3	133	113.2	128	-310.8	518	-237.3	417	-188.1	1409	-301.9	-420

Kombination är B_a TL 1

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]	N_tillh_Vmax_1_dir [kN]	N_tillh_Vmax_2_dir [kN]	N_tillh_Vmin_1_dir [kN]	N_tillh_Vmin_2_dir [kN]	Nmax_1 [kN]	Nmax_2 [kN]	Nmin_1 [kN]	Nmin_2 [kN]
0.00	4	1	-2.8	-1	-1362	1	-719.9	15	11.1	6	3.5	3	-864.3	1	-1262.1	0	-710.9	16	-1367.8	0
0.31	4	0	-3.3	-2	-1348	1	-712.3	30	8.6	7	5.5	4	-1048.6	2	-1067.0	0	-705.2	31	-1352.9	0
0.62	3	-1	-4.1	-4	-1321	2	-700.9	57	8.7	10	9.4	8	-1063.4	6	-1043.1	1	-697.3	59	-1324.8	1
0.93	2	-4	-5.0	-8	-1296	3	-695.9	83	13.6	15	13.8	13	-1032.0	13	-1061.5	2	-693.9	86	-1299.1	2
1.24	1	-8	-6.3	-13	-1271	4	-695.3	105	18.9	20	19.3	18	-1109.3	20	-981.1	4	-693.7	110	-1273.8	3
1.60	-1	-15	-8.1	-21	-1243	4	-695.4	122	25.0	27	25.2	24	-1036.7	27	-1047.4	6	-694.4	129	-1245.1	2
1.95	-3	-22	-9.6	-29	-1208	2	-694.7	126	22.3	22	20.3	19	-1016.6	23	-1041.2	7	-694.2	135	-1209.7	0
2.20	-3	-20	-9.7	-31	-1178	5	-699.6	134	14.8	11	9.4	13	-1007.2	5	-1052.1	23	-694.8	147	-1190.3	0
2.45	-2	-14	-9.1	-28	-1171	21	-720.2	150	19.9	10	17.6	24	-1031.7	-1	-1085.3	44	-715.6	165	-1189.1	10
2.79	-1	-10	-8.7	-22	-1172	39	-753.5	155	23.1	9	25.6	30	-1059.0	9	-1061.8	51	-753.5	175	-1184.1	22
3.12	2	-2	-8.2	-18	-1165	47	-787.5	150	24.0	4	27.5	31	-1053.5	14	-1037.8	60	-807.0	177	-1144.5	29
3.47	4	3	-7.9	-17	-1152	54	-804.4	140	35.8	22	31.6	21	-1045.6	18	-1076.8	69	-823.6	172	-1121.4	34
3.82	3	3	-8.0	-16	-1141	63	-784.9	122	38.0	42	28.2	16	-1029.4	19	-1099.0	69	-775.3	156	-1143.0	36
4.12	1	3	-7.7	-17	-1128	56	-774.2	120	48.8	25	40.1	49	-1030.4	21	-1073.0	61	-753.1	159	-1147.6	25
4.42	3	6	-7.4	-15	-1144	48	-778.6	125	52.7	9	40.4	53	-1028.3	30	-1081.9	60	-766.7	168	-1168.7	22
4.75	5	10	-7.0	-10	-1198	60	-773.4	112	31.5	10	18.8	32	-970.9	34	-1123.1	67	-773.3	156	-1211.1	35
5.08	6	13	-6.4	-6	-1234	100	-768.0	81	30.2	8	26.3	37	-934.4	36	-1112.3	72	-767.9	145	-1237.9	40
5.44	6	15	-6.1	-5	-1248	128	-755.4	54	46.7	32	37.4	31	-927.8	35	-1131.5	78	-753.9	132	-1256.0	32
5.79	6	14	-5.9	-6	-1259	111	-739.8	49	61.9	59	46.3	18	-954.6	31	-1177.7	76	-730.9	120	-1269.7	21
6.04	5	13	-5.8	-9	-1276	103	-721.0	52	58.7	38	46.9	39	-981.4	48	-1201.2	58	-713.3	112	-1283.3	20
6.29	6	15	-5.7	-8	-1300	101	-719.6	62	49.3	11	36.3	55	-966.5	68	-1197.2	48	-720.8	109	-1301.9	29
6.66	8	16	-5.3	-3	-1321	95	-740.9	63	36.1	18	30.6	36	-963.4	73	-1179.5	47	-742.3	107	-1322.1	35
7.02	8	16	-4.9	0	-1326	100	-758.6	53	23.9	25	23.8	26	-970.7	65	-1177.3	61	-758.6	113	-1328.4	36
7.37	8	17	-5.1	-3	-1317	111	-759.1	53	37.2	36	32.3	17	-972.9	55	-1187.1	76	-759.5	124	-1316.1	35
7.71	6	16	-5.3	-7	-1296	121	-743.1	50	45.7	54	37.4	10	-978.5	58	-1208.6	67	-743.4	130	-1297.5	30
7.96	5	13	-5.5	-8	-1277	116	-740.5	44	50.2	37	44.5	36	-993.9	68	-1212.8	47	-734.5	127	-1284.6	24
8.21	6	14	-5.8	-6	-1262	117	-761.2	44	56.7	11	45.7	57	-966.4	75	-1188.2	32	-750.8	128	-1275.2	23
8.57	7	16	-6.0	-5	-1247	135	-779.2	44	47.0	24	38.5	33	-938.1	75	-1141.7	33	-774.7	140	-1257.7	26
8.92	6	14	-6.1	-6	-1232	98	-790.7	79	30.1	36	25.5	9	-943.8	69	-1122.6	33	-790.6	153	-1236.1	25
9.25	5	11	-6.5	-9	-1194	57	-797.8	123	29.4	31	19.0	11	-982.7	65	-1134.1	32	-797.7	168	-1207.2	21
9.58	4	8	-6.7	-13	-1137	59	-797.2	142	48.1	52	45.6	12	-1044.3	59	-1086.0	29	-784.1	185	-1162.5	18
9.88	2	5	-7.0	-15	-1132	64	-785.2	131	38.9	51	46.0	24	-1048.1	61	-1063.3	21	-762.6	166	-1151.2	29
10.18	3	5	-7.4	-15	-1152	61	-803.1	122	30.2	18	31.7	40	-1044.9	67	-1093.1	18	-784.6	152	-1153.0	37
10.55	4	4	-7.4	-16	-1158	49	-816.3	138	37.0	23	35.5	23	-1053.1	64	-1079.5	15	-832.9	171	-1121.2	29
10.92	3	-1	-7.8	-17	-1169	38	-782.3	150	27.5	34	30.6	4	-1055.1	55	-1035.9	10	-807.8	177	-1143.2	21
11.24	-1	-9	-8.4	-22	-1175	31	-744.8	158	27.2	32	27.8	10	-1069.1	48	-1059.8	6	-744.9	178	-1188.1	13
11.55	-2	-14	-8.9	-28	-1173	17	-709.7	158	19.0	23	21.0	11	-1034.1	43	-1084.1	-1	-705.0	174	-1191.0	3
11.80	-3	-20	-9.3	-31	-1171	7	-695.6	137	7.3	9	12.4	10	-999.4	25	-1048.5	6	-690.7	150	-1183.0	3
12.05	-3	-22	-9.3	-28	-1194	9	-694.6	123	18.4	17	20.8	20	-1024.5	10	-1032.0	26	-694.0	133	-1195.8	9
12.41	-1	-15	-7.9	-21	-1227	7	-685.1	122	25.2	24	25.2	27	-1039.3	9	-1033.9	29	-684.0	129	-1229.7	6
12.76	1	-8	-6.1	-13	-1251	4	-673.9	107	19.0	18	19.3	20	-1091.4	5	-961.3	20	-672.0	112	-1253.5	2
13.07	3	-4	-4.7	-8	-1268	2	-666.6	84	13.6	13	13.8	15	-1004.4	2	-1034.3	12	-664.3	87	-1271.7	0
13.38	4	-1	-3.8	-4	-1287	1	-665.9	58	8.7	8	9.4	10	-1028.7	0	-1010.1	6	-662.1	60	-1290.8	-1
13.69	4	0	-3.0	-2	-1308	0	-672.1	30	8.1	4	5.2	7	-1009.7	0	-1026.8	2	-665.0	31	-1312.3	-1
14.00	5	1	-2.5	-1	-1318	0	-677.1	15	10.1	3	2.8	6	-823.5	0	-1219.5	1	-668.3	16	-1323.9	-1

Kombination är B_a TL 2

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]	N_tillh_Vmax_1_dir [kN]	N_tillh_Vmax_2_dir [kN]	N_tillh_Vmin_1_dir [kN]	N_tillh_Vmin_2_dir [kN]	Nmax_1 [kN]	Nmax_2 [kN]	Nmin_1 [kN]	Nmin_2 [kN]
0.00	4	0	-2.7	-1	-1335	1	-790.4	11	6.6	5	8.8	2	-1221.6	1	-942.7	0	-777.2	12	-1343.9	0
0.31	4	0	-3.0	-2	-1321	2	-780.8	22	6.8	6	7.7	4	-1085.2	2	-1069.3	0	-770.0	23	-1329.1	1
0.62	3	-1	-3.5	-4	-1296	2	-763.7	43	9.0	10	9.1	8	-1066.0	5	-1067.5	0	-757.5	44	-1301.3	1
0.93	2	-4	-4.3	-7	-1274	1	-750.4	64	13.7	15	13.8	13	-1092.2	10	-1032.0	1	-747.5	65	-1276.9	0
1.24	1	-9	-5.4	-13	-1252	1	-739.0	85	18.8	20	18.8	18	-1048.3	16	-1051.7	2	-737.2	87	-1255.5	-2
1.60	-1	-15	-7.2	-21	-1232	5	-725.5	105	24.3	26	24.3	23	-1076.3	22	-990.6	2	-724.1	109	-1236.6	-1
1.95	-3	-22	-8.7	-28	-1208	6	-739.5	120	18.4	24	25.7	20	-1025.6	8	-1043.8	16	-710.9	125	-1218.5	0
2.20	-3	-19	-8.6	-30	-1172	21	-763.6	114	8.2	20	24.1	16	-1000.6	-8	-1066.0	32	-731.5	125	-1190.6	14
2.45	-2	-14	-8.0	-27	-1155	43	-775.3	113	17.4	16	24.4	23	-1048.0	-6	-1070.4	40	-766.4	130	-1170.9	31
2.79	0	-10	-7.8	-22	-1159	47	-785.7	127	24.4	8	22.4	28	-1046.8	0	-1084.0	47	-780.8	148	-1168.7	31
3.12	2	-2	-7.6	-18	-1152	46	-789.6	134	26.2	3	25.3	30	-1027.2	3	-1067.8	55	-818.3	160	-1136.0	24
3.47	4	3	-7.7	-17	-1146	46	-790.4	138	30.1	21	37.8	21	-1085.2	6	-1043.4	64	-840.7	168	-1113.0	14
3.82	3	3	-7.7	-17	-1136	39	-795.7	137	21.2	42	43.5	19	-1129.4	8	-1016.6	66	-816.3	169	-1129.4	0
4.12	1	3	-7.2	-16	-1110	38	-836.2	112	30.3	29	56.0	51	-1130.6	10	-989.4	61	-773.9	153	-1154.3	16
4.42	3	6	-7.0	-15	-1134	51	-823.3	90	36.6	13	56.1	52	-1135.9	15	-989.5	60	-754.8	137	-1183.7	39
4.75	5	9	-6.4	-11	-1194	60	-777.6	92	17.9	10	33.1	32	-1120.3	17	-986.7	67	-770.3	139	-1207.0	37
5.08	6	13	-5.6	-7	-1221	99	-781.6	70	25.7	8	32.5	37	-1089.9	20	-966.2	74	-781.4	140	-1225.2	29
5.44	7	15	-5.3	-5	-1231	138	-791.0	39	38.3	31	47.3	33	-1124.6	21	-956.4	83	-786.1	136	-1244.1	16
5.79	6	14	-5.1	-5	-1248	135	-784.5	29	44.7	56	63.0	22	-1182.3	21	-978.0	86	-777.1	137	-1263.8	13
6.04	5	13	-5.0	-7	-1282	114	-745.3	54	43.0	38	62.5	42	-1212.7	29	-986.9	79	-743.5	125	-1289.5	32
6.29	6	15	-5.0	-7	-1303	96	-728.5	81	33.7	12	50.7	55	-1209.1	59	-980.5	54	-729.3	114	-1308.7	45
6.66	8	17	-4.6	-3	-1301	100	-749.3	68	29.6	17	37.5	35	-1177.9	79	-972.3	42	-749.3	120	-1306.2	38
7.02	9	16	-4.2	0	-1293	111	-769.0	41	23.5	25	27.5	25	-1158.5	62	-957.8	62	-769.0	125	-1297.8	23
7.37	9	17	-4.4	-2	-1286	122	-768.9	40	32.0	35	37.7	16	-1173.7	41	-979.5	74	-768.9	124	-1287.7	16
7.71	7	16	-4.9	-6	-1281	117	-744.6	56	37.1	55	47.2	9	-1200.6	55	-972.2	53	-745.5	118	-1280.3	21
7.96	5	14	-5.0	-7	-1255	131	-734.8	53	43.6	39	55.5	35	-1201.1	80	-976.0	27	-733.7	134	-1260.7	30
8.21	6	14	-4.9	-5	-1222	150	-757.7	33	45.8	12	57.5	56	-1170.5	83	-966.5	20	-752.4	151	-1238.3	24
8.57	7	16	-5.1	-4	-1208	150	-782.3	27	39.9	25	47.1	32	-1113.9	82	-945.8	21	-778.9	149	-1221.5	14
8.92	6	13	-5.5	-5	-1196	99	-785.9	72	24.4	37	33.3	8	-1078.2	75	-955.1	21	-785.8	155	-1199.8	16
9.25	5	11	-6.2	-9	-1164	44	-778.9	107	18.9	31	30.2	12	-1105.4	68	-973.0	18	-773.5	155	-1176.2	22
9.58	3	8	-6.7	-14	-1106	37	-807.5	101	40.5	51	49.4	13	-1107.2	59	-970.3	15	-749.6	148	-1150.9	25
9.88	2	5	-7.0	-15	-1089	29	-804.4	122	33.0	50	45.7	22	-1089.6	60	-966.9	8	-757.4	158	-1123.7	10
10.18	3	5	-7.2	-15	-1115	37	-771.3	143	25.3	19	35.2	38	-1099.1	66	-996.7	8	-796.7	170	-1106.1	2
10.55	5	4	-7.3	-16	-1128	48	-776.1	137	34.7	22	38.4	23	-1068.1	62	-1027.5	8	-825.9	168	-1096.1	18
10.92	3	-2	-7.2	-17	-1138	46	-774.3	136	28.6	33	29.0	4	-1015.8	55	-1054.1	6	-804.3	164	-1121.2	27
11.24	0	-9	-7.6	-22	-1146	47	-767.1	131	26.4	30	25.4	9	-1036.1	49	-1074.6	3	-762.2	153	-1155.3	30
11.55	-1	-13	-7.8	-27	-1136	45	-757.8	113	18.2	22	20.3	11	-1036.8	42	-1059.0	-4	-748.8	131	-1152.2	33
11.80	-2	-19	-8.5	-30	-1148	24	-747.1	112	8.1	9	13.3	11	-986.2	33	-1047.2	-8	-714.9	123	-1168.0	17
12.05	-3	-22	-8.4	-28	-1183	2	-725.4	116	18.4	16	20.2	19	-1005.9	17	-1023.5	9	-696.7	121	-1193.0	-3
12.41	-1	-15	-6.7	-20	-1204	0	-715.6	99	24.1	23	24.0	25	-1058.2	4	-970.5	23	-714.0	102	-1208.8	-2
12.76	1	-9	-5.2	-13	-1226	4	-728.0	80	18.6	18	18.7	20	-1031.0	3	-1035.1	17	-726.1	82	-1229.7	3
13.07	2	-4	-3.9	-7	-1249	7	-737.1	61	13.5	13	13.6	14	-1074.1	2	-1015.1	11	-734.1	61	-1252.4	5
13.38	3	-1	-3.2	-4	-1273	6	-747.2	41	8.9	8	9.0	9	-1047.2	1	-1046.8	6	-741.7	41	-1277.6	4
13.69	4	0	-2.6	-2	-1300	4	-761.3	21	6.3	4	7.2	6	-1065.4	0	-1048.4	2	-752.0	22	-1306.3	2
14.00	4	0	-2.3	-1	-1314	2	-769.6	10	5.8	2	7.9	5	-1201.1	0	-921.8	1	-758.2	11	-1321.6	1

Kombination är C_perm

LL

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]	N_tillh_Vmax_1_dir [kN]	N_tillh_Vmax_2_dir [kN]	N_tillh_Vmin_1_dir [kN]	N_tillh_Vmin_2_dir [kN]	Nmax_1 [kN]	Nmax_2 [kN]	Nmin_1 [kN]	Nmin_2 [kN]
0.00	5	18	-30.1	-17	-297	288	-311.4	16	184.5	185	184.9	185	-326.8	131	-338.7	116	-296.6	288	-311.4	16
0.45	0	19	-33.1	-14	-296	258	-311.2	2	205.2	205	205.5	205	-320.9	113	-335.6	99	-296.1	258	-311.2	2
0.75	-16	13	-37.4	-8	-304	231	-322.1	1	159.3	159	159.4	159	-382.1	55	-379.2	42	-304.2	231	-322.1	1
1.05	-22	3	-33.7	-8	-408	222	-430.7	14	73.1	73	73.0	73	-520.1	36	-494.5	25	-408.0	222	-430.7	14
1.36	-12	-2	-18.5	-9	-555	208	-582.7	21	46.2	46	46.1	46	-628.7	28	-598.6	112	-555.1	208	-582.7	21
1.66	-3	-3	-4.8	-5	-625	210	-656.6	43	29.4	29	29.2	29	-696.1	41	-662.4	135	-624.9	210	-656.6	43
1.96	2	-1	0.3	-2	-704	111	-702.5	101	14.4	14	14.2	14	-755.9	68	-719.3	76	-685.8	180	-720.7	32
2.26	4	1	2.3	0	-774	-13	-736.0	119	7.4	7	7.2	7	-793.8	30	-754.8	37	-736.0	119	-774.2	-13
2.57	4	2	2.7	1	-793	-22	-752.1	93	3.9	4	3.9	4	-824.4	0	-783.6	7	-752.1	93	-792.5	-22
2.87	3	3	2.3	2	-836	-13	-794.2	87	3.1	3	3.2	3	-866.7	4	-824.5	9	-794.2	87	-836.0	-13
3.17	2	3	1.3	3	-871	4	-827.9	90	4.4	4	4.5	4	-888.1	28	-844.8	32	-827.9	90	-871.3	4
3.47	1	3	0.3	3	-869	33	-824.9	106	4.6	5	4.7	5	-887.2	49	-843.3	53	-824.9	106	-868.9	33
3.78	0	3	-0.9	3	-862	59	-817.4	121	4.7	5	4.7	5	-881.1	69	-836.9	73	-817.4	121	-861.7	59
4.08	-1	3	-1.9	3	-864	84	-819.7	135	4.4	4	4.4	4	-882.2	90	-838.1	93	-819.7	135	-864.0	84
4.38	-2	4	-2.3	3	-883	94	-839.1	136	4.1	4	4.1	4	-895.2	101	-851.4	104	-839.1	136	-883.0	94
4.68	-2	4	-2.2	3	-899	89	-856.0	123	3.7	4	3.7	4	-909.9	94	-866.8	96	-856.0	123	-899.4	89
4.99	-1	4	-1.8	3	-914	71	-871.1	98	3.1	3	3.1	3	-928.9	68	-886.7	70	-871.1	98	-913.7	71
5.29	0	3	-1.2	2	-929	47	-888.0	67	3.3	3	3.3	3	-927.0	39	-925.3	40	-888.0	67	-929.2	47
5.59	0	3	-1.0	2	-942	32	-901.8	47	3.2	3	3.2	3	-921.2	21	-958.8	22	-901.8	47	-942.1	32
5.89	-1	3	-1.4	3	-966	29	-926.4	39	3.5	4	3.5	4	-939.4	22	-975.7	23	-926.4	39	-965.6	29
6.20	-2	3	-2.2	3	-982	38	-944.9	43	4.3	4	4.3	4	-950.0	36	-984.8	37	-944.9	43	-981.6	38
6.50	-3	3	-3.0	3	-978	52	-943.8	53	4.4	4	4.4	4	-947.6	48	-982.0	48	-943.8	53	-978.1	52
6.80	-3	3	-3.5	3	-971	59	-937.6	58	4.1	4	4.1	4	-941.7	54	-975.3	54	-937.6	59	-970.7	58
7.10	-3	3	-3.6	3	-964	63	-932.3	61	3.5	4	3.5	4	-937.5	57	-969.5	57	-932.3	63	-964.3	61
7.41	-3	3	-3.4	3	-961	66	-930.3	62	3.1	3	3.1	3	-936.9	57	-967.2	57	-930.3	66	-960.7	62
7.71	-3	3	-3.1	3	-961	67	-932.8	61	2.9	3	2.9	3	-940.3	57	-968.9	57	-932.8	67	-961.4	61
8.01	-3	3	-2.8	3	-966	67	-939.4	60	2.9	3	2.9	3	-947.4	56	-974.3	55	-939.4	67	-966.3	60
8.31	-2	4	-2.5	3	-975	66	-949.4	59	3.0	3	3.0	3	-957.8	54	-983.0	54	-949.4	66	-974.7	59
8.62	-2	4	-2.1	3	-986	64	-961.5	57	3.1	3	3.1	3	-970.6	52	-994.2	52	-961.5	64	-985.7	57
8.92	-1	4	-1.7	3	-998	63	-975.2	56	3.2	3	3.2	3	-985.3	50	-1007.3	50	-975.2	63	-998.2	56
9.22	-1	4	-1.3	3	-1012	62	-990.6	55	3.3	3	3.3	3	-1001.4	48	-1021.8	48	-990.6	62	-1012.0	55
9.52	-1	4	-0.8	3	-1027	60	-1007.2	54	3.2	3	3.2	3	-1018.4	47	-1037.4	46	-1007.2	60	-1027.1	54
9.83	0	4	-0.4	4	-1043	59	-1024.5	54	3.2	3	3.1	3	-1035.9	46	-1053.5	45	-1024.5	59	-1042.9	54
10.13	0	4	-0.1	4	-1059	58	-1042.2	54	3.1	3	3.1	3	-1053.8	45	-1070.0	45	-1042.2	58	-1059.2	54
10.43	1	4	0.2	4	-1068	57	-1067.7	54	3.1	3	3.0	3	-1071.8	45	-1086.7	45	-1060.2	57	-1075.9	54
10.73	1	4	0.6	4	-1078	57	-1092.6	55	3.1	3	3.0	3	-1089.7	45	-1103.4	45	-1078.2	57	-1092.6	55
11.04	1	4	0.9	3	-1096	56	-1109.4	56	3.0	3	3.0	3	-1107.6	45	-1120.1	45	-1096.2	56	-1109.4	56
11.34	2	4	1.2	3	-1114	55	-1126.0	56	3.0	3	3.0	3	-1125.1	45	-1136.6	45	-1113.9	56	-1126.0	55
11.64	2	4	1.5	3	-1131	54	-1142.4	57	3.1	3	3.0	3	-1142.3	45	-1152.7	45	-1131.4	57	-1142.4	54
11.94	2	4	1.8	3	-1148	56	-1158.5	54	3.1	3	3.0	3	-1158.8	45	-1168.3	45	-1148.4	58	-1158.5	52
12.25	3	4	2.1	3	-1165	58	-1173.8	50	3.1	3	3.0	3	-1174.3	44	-1182.9	44	-1164.6	58	-1173.8	50
12.55	3	4	2.4	3	-1180	57	-1187.9	47	3.0	3	2.9	3	-1188.3	43	-1196.2	44	-1179.7	57	-1187.9	47
12.85	3	4	2.8	3	-1193	56	-1199.8	43	2.9	3	2.8	3	-1200.3	42	-1207.6	42	-1192.5	56	-1199.8	43
13.15	4	4	3.1	3	-1202	56	-1209.1	39	2.7	3	2.5	3	-1209.7	40	-1216.4	41	-1202.4	56	-1209.1	39
13.46	4	3	3.2	3	-1209	55	-1215.2	35	2.5	2	2.3	2	-1215.8	38	-1222.0	39	-1209.0	55	-1215.2	35
13.76	4	3	3.2	2	-1212	56	-1217.8	31	2.4	2	2.4	2	-1218.2	36	-1224.0	38	-1212.0	56	-1217.8	31
14.06	4	3	3.1	2	-1211	57	-1216.4	27	2.5	3	2.6	3	-1216.6	28	-1221.9	45	-1211.2	57	-1216.4	27
14.36	3	4	2.7	2	-1208	61	-1212.8	26	3.0	3	3.1	3	-1212.9	22	-1217.5	56	-1208.3	61	-1212.8	26
14.67	3	4	2.3	3	-1207	67	-1210.7	28	2.9	3	3.0	3	-1210.3	36	-1214.0	53	-1207.1	67	-1210.7	28
14.97	3	4	2.1	3	-1207	74	-1209.5	31	2.8	3	2.8	3	-1209.3	51	-1210.9	49	-1206.8	74	-1209.5	31
15.27	3	4	2.0	3	-1206	76	-1208.4	32	3.4	3	3.4	3	-1209.0	53	-1209.0	51	-1206.0	76	-1208.4	32
15.57	3	4	2.0	3	-1205	74	-1208.0	31	3.1	3	3.1	3	-1210.5	51	-1208.9	49	-1205.2	74	-1208.0	31
15.87	3	4	2.1	3	-1204	68	-1207.8	29	3.2	3	3.2	3	-1212.8	36	-1209.2	52	-1204.3	68	-1207.8	29
16.18	3	3	2.5	2	-1205	62	-1209.9	27	3.2	3	3.1	3	-1216.1	22	-1211.5	55	-1205.3	62	-1209.9	27
16.48	4	3	2.9	2	-1208	58	-1213.3	29	2.6	3	2.5	2	-1220.2	28	-1214.9	45	-1208.0	58	-1213.3	29
16.78	4	3	3.1	2	-1208	57	-1214.0	32	2.4	2	2.4	2	-1221.6	36	-1215.8	38	-1208.2	57	-1214.0	32
17.08	4	3	3.1	2	-1205	57	-1210.8	36	2.3	2	2.4	2	-1219.0	38	-1212.8	39	-1204.6	57	-1210.8	36
17.39	4	3	3.0	3	-1197	57	-1204.1	40	2.5	3	2.6	3	-1212.8	39	-1206.1	40	-1197.3	57	-1204.1	40
17.69	3	4	2.7	3	-1187	57	-1194.3	44	2.7	3	2.8	3	-1203.5	41	-1196.2	42	-1187.0	57	-1194.3	44
17.99	3	4	2.3	3	-1174	57	-1182.1	47	2.8	3	2.9	3	-1191.7	42	-1183.8	43	-1174.1	57	-1182.1	47
18.29	3	4	2.0	3	-1159	57	-1168.0	50	2.9	3	3.0	3	-1178.0	43	-1169.3	43	-1159.1	57	-1168.0	50
18.60	2	4	1.7	3	-1143	55	-1152.5	54	2.9	3	3.0	3	-1162.9	44	-1153.3	44	-1142.5	57	-1152.5	52
18.90	2	4	1.3	3	-1125	53	-1136.0	57	3.0	3	3.0	3	-1146.8	44	-1136.3	44	-1125.0	57	-1136.0	53
19.20	2	4	1.0	3	-1107	55	-1119.0	56	3.0	3	3.0	3	-1130.0	44	-1118.6	44	-1106.9	56	-1119.0	55
19.50	1	4	0.7	3	-1089	56	-1101.7	55	3.0	3	3.0	3	-1113.0	44	-1100.4	44	-1088.5	56	-1101.7	55
19.81	1	4	0.4	3	-1070	57	-1084.3	55	3.0	3	3.1	3	-1095.7	44	-1082.0	44	-1070.0	57	-1084.3	55
20.11	1	4	0.1	3	-1059	58	-1058.9	55	3.1	3	3.1	3	-1078.5	45	-1063.5	44	-1051.5	58	-1066.8	55
20.41	0	4	-0.3	3	-1049	60	-1033.0	55	3.1	3	3.2	3	-1061.3	45	-1045.1	45	-1033.0	60	-1049.4	55
20.71	0	4	-0.6	3	-1032	61	-1014.7	55	3.2	3	3.2	3	-1044.5	46	-1027.0	46	-1014.7	61	-1032.3	55
21.02	-1	4	-1.0	3	-1016	63	-996.7	56	3.2	3	3.3	3	-1028.3	48	-1009.3	47	-996.7	63	-1015.8	56
21.32	-1	4	-1.4	3	-1000	66	-979.4	58	3.3	3	3.3	3	-1012.8	49	-992.3	49	-979.4	66	-1000.0	58
21.62	-2	4	-1.9	3	-985	68	-963.3	60	3.3	3	3.3	3	-998.5	51	-976.5	51	-963.3	68	-985.4	60
21.92	-2	4	-2.3	3	-972	70	-948.7	63	3.2	3	3.2	3	-985.8	53	-962.2	53	-948.7	70	-972.4	63
22.23	-2	3	-2.6	3	-961	73	-936.1	65	3.2	3	3.2	3	-975.2	55	-949.9	55	-936.1	73	-961.4	65
22.53	-3	3	-2.9	3	-953	75	-926.2	68	3.2	3	3.2	3	-967.2	57	-940.3	57	-926.2	75	-953.2	68
22.83	-3	3	-3.3	3	-948	76	-919.6	70	3.3	3	3.3	3	-962.7	59	-934.1	58	-919.6	76	-948.3	70
23.13	-3	3	-3.7	3	-948	76	-917.2	72	3.8	4	3.8	4	-962.1	59	-931.8	59	-917.2	76	-947.6	72
23.44	-4	3	-4.0	3	-951	75	-919.2	72	4.4	4	4.4	4	-965.8	59	-933.8	59	-919.2	75	-951.3	72
23.74	-4	3	-4.0	3	-959	72	-925.4	72	4.8	5	4.8	5	-973.7	57	-940.1	57	-925.4	73	-959.0	71
24.04	-3	3	-3.4	3	-971	67	-935.5	69	4.6	5	4.6	5	-985.1	53	-950.8	53	-935.5	69	-970.8	67
24.34	-2	3	-2.5	3	-983	59	-946.4	64	4.2	4	4.1	4	-996.9	47	-962.1	47	-946.4	64	-983.2	59
24.65	-1	3	-1.6	3	-996	45	-957.5	54	4.1	4	4.1	4	-1008.6	35	-972.3	36	-957.5	54	-995.6	45
24.95	-1	3	-1.1	3	-968	41	-927.8	55	3.5	4	3.5	4	-1000.4	10	-962.7	19	-927.8	55	-967.7	41
25.25	-1	3	-1.0	3	-930	33	-888.3	54	3.4	3	3.4	3	-963.4	4	-924.5	13	-888.3	54	-929.9	33
25.55	-1	3	-1.2	3	-938	46	-895.3	72	4.0	4	4.0	4	-941.8	43	-922.0	44	-895.3	72	-937.6	46
25.86	-1	4	-1.9	3	-913	104	-869.7	138	4.0	4	4.0	4	-912.4	88	-934.1	90	-869.7	138	-913.1	104
26.16	-1	4	-2.0	3	-881	116	-836.6	158	4.2	4	4.1	4	-866.5	106	-910.2	109	-836.6	158	-880.6	116
26.46	-1	3	-1.5	3	-880	84	-835.7	136	4.3	4	4.2	4	-847.3	97	-891.5	100	-835.7	136	-879.9	84
26.76	0	3	-0.9	3	-875	60	-830.6	121	4.3	4	4.3	4	-841.9	77	-886.1	81	-830.6	121	-874.9	60
27.07	0	3	0.0	3	-877	30	-832.5	104	4.4	4	4.3	4	-843.2	54	-887.2	58	-832.5	104	-876.6	30
27.37	1	3	0.9	3	-871	4	-828.4	90	4.0	4	3.9	4	-841.8	31	-885.1	36	-828.4	90	-871.5	4
27.67	2	3	1.7	2	-855	-22	-812.9	78	3.7	4	3.6	4	-827.6	10	-869.8	15	-812.9	78	-854.9	-22
27.97	3	3	2.4	2	-795	-18	-755.2	98	2.5	3	2.5	3	-792.6	-1	-833.4	5	-755.2	98	-795.4	-18
28.28	4	2	2.2	1	-732	-5	-694.0	126	5.6	6	5.8	6	-735.4	15	-774.3	22	-694.0	126	-732.3	-5
28.58	3	1	0.7	-1	-689	89	-686.9	81	12.5	13	12.7	13	-694.2	57	-730.7	65	-670.2	160	-705.8	11
28.88	-1	-2	-3.2	-3	-583	229	-614.7	62	25.1	25	25.3	25	-637.6	43	-671.2	137	-583.1	229	-614.7	62
29.18	-9	-1	-14.5	-6	-468	237	-495.5	50	41.0	41	41.2	41	-536.9	31	-566.9	115	-468.0	237	-495.5	50
29.49	-19	3	-27.1	-5	-358	221	-380.2	13	60.6	61	60.8	61	-426.5	52	-452.2	41	-357.5	221	-380.2	13
29.79	-14	11	-30.1	-5	-285	246	-304.1	15	127.7	128	127.6	128	-342.3	88	-345.2	75	-284.7	246	-304.1	15
30.09	0	16	-26.3	-10	-265	277	-280.3	21	166.3	166	166.1	166	-300.1	136	-285.4	122	-265.1	277	-280.3	21
30.54	4	15	-23.7	-13	-248	296	-259.8	27	151.3	151	150.9	151	-285.3	144	-273.4	129	-247.9	296	-259.8	27

Kombination är C_perm

TL 1

Xkoord [m]	Mmax_1_dir [kNm]		Mmax_2_dir [kNm]		Mmin_1_dir [kNm]		Mmin_2_dir [kNm]		N_tillh_Mmax_1_dir [kN]		N_tillh_Mmax_2_dir [kN]		N_tillh_Mmin_1_dir [kN]		N_tillh_Mmin_2_dir [kN]		Vmax_1_dir [kN]		Vmax_2_dir [kN]		Vmin_1_dir [kN]		Vmin_2_dir [kN]		N_tillh_Vmax_1_dir [kN]		N_tillh_Vmax_2_dir [kN]		N_tillh_Vmin_1_dir [kN]		N_tillh_Vmin_2_dir [kN]		Nmax_1 [kN]		Nmax_2 [kN]		Nmin_1 [kN]		Nmin_2 [kN]	
0.00	1	1	1	-1.6	-1	-942	10	-876.4	12	5.7	6	5.1	5	-887.9	1	-950.8	0	-876.4	12	-941.7	10
0.31	0	1	-2.1	-2	-930	19	-865.9	23	6.0	6	5.7	6	-916.1	2	-919.3	1	-865.9	23	-930.1	19
0.62	0	-1	-2.9	-3	-909	36	-847.7	45	8.4	8	8.5	8	-917.2	4	-913.8	4	-847.7	45	-909.2	36
0.93	-1	-4	-3.9	-6	-892	53	-834.1	65	13.0	13	13.0	13	-912.8	8	-916.4	7	-834.1	65	-891.9	53
1.24	-3	-8	-5.2	-11	-876	66	-823.0	82	18.1	18	18.1	18	-921.2	12	-904.1	10	-823.0	82	-876.0	66
1.60	-5	-15	-7.0	-18	-858	74	-810.5	93	23.9	24	23.9	24	-904.9	14	-905.8	11	-810.5	93	-857.6	74
1.95	-7	-22	-8.5	-24	-838	72	-796.8	93	19.8	20	19.8	20	-887.5	12	-891.6	8	-796.8	93	-837.5	72
2.20	-7	-21	-8.5	-24	-829	67	-794.2	89	10.9	11	10.9	11	-873.1	9	-887.7	10	-794.2	89	-829.4	67
2.45	-6	-17	-7.9	-19	-843	73	-813.1	96	11.4	11	11.3	11	-889.4	16	-899.8	21	-813.1	96	-843.5	73
2.79	-6	-14	-7.5	-16	-864	83	-839.3	107	10.7	11	10.8	11	-915.9	27	-917.8	32	-839.3	107	-863.9	83
3.12	-6	-12	-7.1	-13	-874	88	-855.9	112	5.1	5	5.3	5	-928.0	35	-928.4	40	-863.4	112	-866.6	88
3.47	-6	-11	-7.1	-12	-869	86	-864.8	109	4.4	4	4.3	4	-922.8	36	-928.8	41	-872.9	109	-861.1	86
3.82	-6	-11	-7.0	-12	-856	71	-860.4	93	8.6	9	8.6	9	-901.7	31	-912.6	36	-861.1	93	-855.3	71
4.12	-6	-10	-6.6	-10	-846	69	-845.6	89	8.0	8	8.1	8	-894.4	28	-894.6	33	-845.6	89	-845.8	69
4.42	-6	-7	-6.3	-8	-865	79	-860.0	97	9.9	10	10.1	10	-910.1	36	-913.8	41	-860.0	97	-865.3	79
4.75	-5	-4	-5.8	-5	-901	80	-891.4	97	12.1	12	12.3	12	-924.9	47	-946.6	52	-891.4	97	-901.2	80
5.08	-4	-1	-5.1	-2	-916	86	-902.4	87	6.3	6	6.6	7	-931.2	50	-955.7	55	-902.4	94	-916.5	79
5.44	-4	0	-4.7	-1	-915	88	-896.6	75	5.3	5	5.3	5	-923.7	48	-950.4	52	-896.6	88	-914.8	75
5.79	-4	0	-4.5	-1	-903	75	-881.4	65	11.0	11	10.9	11	-905.4	41	-933.9	44	-881.4	75	-903.0	65
6.04	-4	0	-4.4	-1	-907	57	-880.2	51	14.0	14	13.9	14	-894.7	38	-924.3	38	-880.2	57	-906.8	51
6.29	-4	1	-4.2	0	-931	52	-900.2	49	12.0	12	11.9	12	-907.3	45	-937.8	42	-900.2	52	-931.2	49
6.66	-3	2	-3.9	2	-955	59	-922.4	56	7.3	7	7.3	7	-927.7	54	-959.0	51	-922.4	59	-954.5	56
7.02	-3	3	-3.5	3	-964	64	-932.3	61	3.2	3	3.2	3	-937.9	57	-969.5	57	-932.3	64	-963.8	61
7.37	-3	3	-3.7	2	-955	68	-925.8	62	5.8	6	5.7	6	-934.6	54	-965.8	57	-925.8	68	-955.1	62
7.71	-3	1	-3.9	1	-931	67	-904.4	60	8.9	9	8.8	9	-918.6	47	-949.0	48	-904.4	67	-931.1	60
7.96	-3	1	-4.1	0	-909	71	-884.5	63	10.1	10	10.1	10	-907.5	43	-937.0	40	-884.5	71	-908.9	63
8.21	-3	0	-4.3	0	-908	83	-886.4	73	8.5	8	8.4	8	-917.6	45	-946.0	42	-886.4	83	-908.1	73
8.57	-3	1	-4.6	0	-917	95	-898.4	82	4.0	4	4.0	4	-934.2	51	-960.9	47	-898.4	95	-916.6	82
8.92	-4	0	-4.8	-1	-915	94	-901.1	95	5.0	5	5.3	5	-941.1	52	-965.5	48	-901.1	102	-915.2	88
9.25	-4	-2	-5.3	-4	-898	93	-888.3	109	10.8	11	11.1	11	-936.1	49	-957.8	45	-888.3	109	-898.1	93
9.58	-5	-5	-5.6	-6	-860	97	-854.4	115	10.8	11	11.0	11	-923.0	41	-926.7	36	-854.4	115	-859.7	97
9.88	-5	-8	-5.8	-8	-850	77	-850.1	97	11.4	12	11.6	11	-907.0	32	-907.2	27	-850.1	97	-850.3	77
10.18	-6	-10	-6.3	-11	-868	68	-872.4	89	9.5	9	9.4	9	-911.3	35	-922.1	30	-873.1	89	-867.2	68
10.55	-6	-10	-6.5	-11	-872	84	-867.6	107	3.7	4	3.7	4	-927.5	38	-933.0	33	-876.0	107	-863.8	84
10.92	-6	-11	-6.7	-13	-870	89	-851.3	112	6.3	7	6.5	6	-928.2	35	-928.0	30	-859.1	112	-862.3	89
11.24	-6	-14	-7.2	-16	-856	87	-831.1	111	12.1	12	12.1	12	-914.1	30	-915.8	25	-831.1	111	-856.1	87
11.55	-6	-17	-7.6	-19	-833	82	-802.3	105	11.5	11	11.5	11	-887.2	21	-897.7	16	-802.3	105	-832.7	82
11.80	-7	-21	-8.2	-23	-825	70	-789.7	92	7.3	7	7.4	7	-869.6	12	-884.3	11	-789.7	92	-824.9	70
12.05	-6	-22	-8.2	-24	-837	69	-796.2	90	16.9	17	16.9	17	-881.1	11	-885.2	15	-796.2	90	-836.9	69
12.41	-5	-15	-6.8	-18	-847	75	-799.7	94	24.1	24	24.1	24	-892.6	13	-893.5	16	-799.7	94	-846.9	75
12.76	-3	-8	-4.9	-11	-854	68	-801.0	84	18.3	18	18.3	18	-900.9	10	-883.7	12	-801.0	84	-854.1	68
13.07	-1	-4	-3.6	-6	-862	54	-804.1	67	13.1	13	13.1	13	-885.0	6	-888.6	7	-804.1	67	-862.0	54
13.38	0	-1	-2.6	-3	-874	37	-812.1	46	8.5	9	8.6	9	-883.2	3	-879.8	3	-812.1	46	-873.7	37
13.69	1	1	-1.8	-2	-890	19	-825.3	24	6.0	6	5.7	6	-876.3	1	-879.5	1	-825.3	24	-889.6	19
14.00	1	1	-1.3	-1	-899	10	-833.5	12	5.6	5	5.0	6	-845.2	0	-908.2	0	-833.5	12	-898.8	10

Kombination är C_perm

TL 2

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]	N_tillh_Vmax_1_dir [kN]	N_tillh_Vmax_2_dir [kN]	N_tillh_Vmin_1_dir [kN]	N_tillh_Vmin_2_dir [kN]	Nmax_1 [kN]	Nmax_2 [kN]	Nmin_1 [kN]	Nmin_2 [kN]
0.00	0	0	-1.2	-1	-981	7	-928.4	9	2.4	3	3.1	2	-987.7	0	-937.1	0	-928.4	9	-981.0	7
0.31	-1	0	-1.5	-1	-969	14	-917.3	18	4.2	5	4.5	4	-959.7	1	-957.3	1	-917.3	18	-969.3	14
0.62	-1	-2	-2.1	-3	-947	29	-896.6	37	8.3	8	8.3	8	-950.3	3	-952.9	3	-896.6	37	-947.0	29
0.93	-2	-5	-2.9	-6	-926	44	-878.0	55	13.0	13	13.0	13	-947.1	6	-944.3	5	-878.0	55	-925.9	44
1.24	-4	-10	-4.1	-10	-904	59	-858.9	73	17.8	18	17.8	18	-937.5	9	-940.5	7	-858.9	73	-903.5	59
1.60	-5	-16	-5.9	-17	-876	74	-835.9	90	23.1	23	23.1	23	-930.9	10	-927.7	7	-835.9	90	-876.2	74
1.95	-7	-23	-7.6	-24	-848	84	-812.0	102	23.6	24	23.6	24	-905.4	7	-925.6	7	-812.0	102	-847.6	84
2.20	-7	-21	-7.6	-23	-864	58	-832.3	78	21.7	22	21.8	22	-899.8	7	-915.1	10	-832.3	78	-863.9	58
2.45	-6	-17	-6.9	-18	-896	38	-867.9	60	17.5	17	17.5	18	-909.6	14	-920.4	18	-867.9	60	-896.1	38
2.79	-6	-15	-6.7	-16	-896	57	-872.8	80	9.9	10	9.8	10	-925.1	23	-930.9	28	-872.8	80	-896.5	57
3.12	-6	-13	-6.4	-13	-889	74	-870.3	98	4.3	4	4.2	4	-933.5	29	-934.4	34	-878.2	98	-880.9	74
3.47	-6	-12	-6.6	-13	-873	86	-859.4	109	3.9	4	4.0	4	-932.6	30	-928.7	36	-872.7	109	-859.4	86
3.82	-6	-11	-6.6	-12	-850	90	-841.5	113	14.8	15	14.8	15	-921.5	26	-913.3	33	-849.6	113	-841.5	90
4.12	-6	-9	-6.2	-10	-867	62	-865.5	82	21.0	21	21.0	21	-915.4	25	-903.6	32	-866.9	82	-865.5	62
4.42	-5	-7	-5.9	-8	-908	41	-908.0	60	17.0	17	16.9	17	-929.7	32	-914.9	39	-906.5	60	-909.6	41
4.75	-5	-4	-5.2	-5	-923	56	-918.0	75	12.5	12	12.3	13	-949.7	42	-932.0	49	-917.8	75	-923.3	56
5.08	-4	-2	-4.3	-2	-926	79	-916.4	80	7.1	7	6.9	7	-960.1	47	-940.0	54	-916.4	88	-925.7	71
5.44	-4	0	-4.1	0	-918	97	-905.1	81	4.8	5	4.7	5	-961.0	48	-938.9	55	-905.1	97	-918.2	81
5.79	-3	1	-3.9	0	-906	100	-889.3	86	14.3	14	14.3	14	-953.8	45	-930.1	52	-889.3	100	-905.6	86
6.04	-3	1	-3.7	0	-910	89	-886.1	81	22.3	22	22.4	22	-949.1	43	-924.4	50	-886.1	89	-909.8	81
6.29	-3	1	-3.6	0	-928	82	-898.8	79	15.3	15	15.4	15	-956.7	50	-931.1	50	-898.8	82	-928.1	79
6.66	-3	2	-3.2	2	-945	81	-916.3	76	6.2	6	6.2	6	-967.0	59	-940.8	52	-916.3	81	-944.5	76
7.02	-3	3	-2.8	3	-956	74	-929.3	67	3.0	3	3.0	3	-969.3	57	-942.8	57	-929.3	74	-955.8	67
7.37	-3	3	-3.0	2	-956	64	-929.5	57	4.9	5	4.9	5	-962.0	51	-935.8	58	-929.5	64	-955.6	57
7.71	-3	2	-3.5	1	-941	59	-912.9	54	10.9	11	10.9	11	-947.9	48	-922.4	48	-912.9	59	-941.0	54
7.96	-2	2	-3.7	0	-900	87	-875.9	79	15.8	16	15.9	16	-938.6	48	-914.0	41	-875.9	87	-899.6	79
8.21	-3	1	-3.6	1	-880	114	-863.1	100	9.1	9	9.2	9	-942.8	51	-919.2	44	-863.1	114	-879.5	100
8.57	-3	1	-3.7	0	-896	110	-882.4	94	2.8	3	2.8	3	-950.4	55	-928.3	48	-882.4	110	-895.5	94
8.92	-4	0	-4.2	-1	-901	94	-891.4	95	6.7	7	6.5	6	-948.9	55	-928.9	48	-891.4	103	-900.8	86
9.25	-4	-3	-4.9	-4	-893	73	-888.0	92	11.6	12	11.3	11	-935.3	50	-917.7	43	-887.8	92	-893.3	73
9.58	-5	-5	-5.6	-7	-877	52	-876.3	71	12.8	13	12.8	13	-910.3	39	-895.5	32	-875.7	71	-877.9	52
9.88	-5	-7	-6.1	-9	-839	66	-836.4	87	15.7	16	15.7	16	-893.1	30	-881.3	24	-838.7	87	-836.4	66
10.18	-6	-10	-6.2	-11	-828	91	-820.3	114	11.4	11	11.4	11	-901.5	33	-893.3	26	-828.4	114	-820.3	91
10.55	-6	-11	-6.1	-12	-859	86	-845.7	109	3.3	3	3.3	3	-916.7	38	-913.1	32	-859.2	109	-845.7	86
10.92	-6	-12	-6.1	-13	-875	77	-855.6	100	5.9	6	5.7	6	-919.1	37	-920.4	31	-863.8	100	-866.5	77
11.24	-6	-15	-6.4	-16	-878	62	-854.3	85	10.5	11	10.3	10	-909.2	30	-915.4	25	-854.3	85	-878.3	62
11.55	-6	-17	-6.7	-18	-878	40	-849.9	62	12.4	12	12.4	12	-891.7	20	-902.7	15	-849.9	62	-878.2	40
11.80	-6	-21	-7.7	-23	-847	56	-815.2	77	11.5	12	11.6	12	-880.5	11	-895.9	8	-815.2	77	-846.8	56
12.05	-6	-23	-7.4	-24	-833	80	-797.3	99	18.3	18	18.3	18	-886.1	8	-906.4	8	-797.3	99	-833.0	80
12.41	-5	-16	-5.5	-17	-866	67	-825.4	84	22.9	23	22.9	23	-912.5	9	-909.2	11	-825.4	84	-865.8	67
12.76	-3	-10	-3.9	-10	-892	54	-847.3	68	17.8	18	17.8	18	-919.6	8	-922.6	10	-847.3	68	-892.0	54
13.07	-2	-5	-2.6	-6	-912	40	-864.1	51	13.0	13	13.0	13	-928.6	6	-925.9	7	-864.1	51	-912.1	40
13.38	-1	-2	-1.8	-3	-931	27	-880.3	34	8.4	8	8.4	8	-931.1	3	-933.6	4	-880.3	34	-930.8	27
13.69	0	0	-1.2	-1	-951	13	-898.8	17	4.2	4	4.5	5	-939.7	1	-937.4	1	-898.8	17	-950.9	13
14.00	0	0	-0.9	-1	-962	7	-908.9	9	2.4	2	3.0	3	-967.6	0	-916.8	1	-908.9	9	-961.5	7

Kombination är C_cycl

LL

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]	N_tillh_Vmax_1_dir [kN]	N_tillh_Vmax_2_dir [kN]	N_tillh_Vmin_1_dir [kN]	N_tillh_Vmin_2_dir [kN]	Nmax_1 [kN]	Nmax_2 [kN]	Nmin_1 [kN]	Nmin_2 [kN]	
0.00	0	0	-6.0	-2	1	3	21.5	31	8.6	7	0.7	7	-6.0	4	0.6	4	7.9	33	7.4	1	
0.45	0	0	-5.1	-2	2	2	15.8	26	7.7	6	1.2	6	-8.8	6	1.0	6	6.9	33	3.1	1	
0.75	0	0	-4.1	-3	-2	2	7.4	19	5.5	3	1.4	3	-14.8	6	1.5	6	5.2	31	-6.6	2	
1.05	1	0	-2.6	-3	-9	4	4.8	13	4.0	2	0.9	2	-21.2	3	1.2	3	4.1	21	-17.8	3	
1.36	3	1	-0.7	-3	-14	12	4.2	8	3.8	3	0.7	3	-30.6	3	0.8	3	3.6	14	-26.4	2	
1.66	4	3	-0.2	-2	-22	20	3.5	5	3.7	3	0.6	3	-39.5	4	1.0	4	3.5	14	-28.6	0	
1.96	4	3	-0.1	-2	-34	24	3.5	5	3.9	4	0.5	4	-48.1	4	1.3	4	3.5	14	-33.8	-1	
2.26	4	4	-0.1	-2	-45	27	5.1	6	4.3	4	0.4	4	-59.8	4	1.5	4	5.0	14	-45.3	-1	
2.57	4	4	-0.1	-2	-56	27	6.9	5	4.5	5	0.3	5	-65.3	5	1.9	5	6.9	16	-56.5	-1	
2.87	4	4	-0.1	-2	-65	27	7.4	4	4.8	5	0.3	5	-70.3	6	2.3	6	7.4	21	-67.0	0	
3.17	5	4	-0.1	-2	-73	26	8.0	3	5.0	6	1.0	6	-72.7	7	-11.7	6	8.0	27	-76.6	0	
3.47	4	4	-0.1	-2	-83	26	8.5	2	5.1	6	1.8	6	-74.5	7	-28.1	7	8.5	26	-84.4	1	
3.78	4	4	-0.2	-2	-92	24	9.1	3	5.6	7	2.0	7	-83.4	8	-31.5	8	9.1	23	-91.8	2	
4.08	4	4	-0.2	-2	-100	20	9.6	4	5.5	7	2.7	7	-82.5	9	-41.9	9	9.6	19	-99.7	2	
4.38	4	3	-0.2	-1	-106	19	10.2	4	5.5	8	3.3	7	-81.1	10	-50.1	10	10.2	18	-106.4	2	
4.68	4	3	-0.2	-1	-112	18	10.7	4	5.3	8	3.1	8	-78.2	11	-47.5	11	10.7	17	-111.8	2	
4.99	4	3	-0.2	-1	-116	16	11.3	4	5.1	8	3.7	8	-75.1	12	-55.1	12	11.3	16	-115.0	2	
5.29	4	3	-0.2	-1	-119	15	11.9	5	5.5	8	4.2	8	-81.6	13	-62.6	13	11.9	15	-118.0	2	
5.59	4	3	-0.2	-1	-122	16	12.5	6	5.5	8	4.2	8	-80.0	13	-60.8	13	12.5	16	-121.6	2	
5.89	4	3	-0.2	-1	-122	18	13.1	6	5.2	8	4.4	8	-74.9	13	-61.3	13	13.1	18	-121.7	2	
6.20	4	3	-0.2	-1	-119	20	13.7	6	5.3	8	4.5	8	-76.8	13	-62.8	13	13.7	20	-119.2	2	
6.50	3	3	-0.3	-1	-117	21	14.3	6	5.2	8	4.6	8	-74.7	14	-63.2	13	14.3	21	-117.4	2	
6.80	3	3	-0.3	-1	-114	23	15.0	5	4.6	8	4.6	8	-67.1	14	-63.1	14	15.0	23	-113.9	2	
7.10	3	3	-0.3	-1	-109	24	15.7	4	4.3	8	5.0	8	-66.0	13	-66.8	13	15.7	24	-110.0	2	
7.41	3	3	-0.3	-1	-107	25	16.4	3	4.3	8	5.4	8	-65.4	12	-74.5	13	16.4	25	-107.5	1	
7.71	3	3	-0.3	-1	-104	26	17.1	4	4.0	8	5.4	8	-59.8	12	-75.6	12	17.1	26	-103.9	1	
8.01	3	3	-0.3	-1	-99	27	17.8	3	4.0	8	5.1	8	-58.9	12	-67.5	11	17.8	27	-99.2	1	
8.31	4	3	-0.3	-1	-93	28	18.6	2	4.2	8	5.3	8	-62.6	10	-67.8	10	18.6	28	-93.2	1	
8.62	4	3	-0.3	-1	-88	29	19.4	2	4.2	8	5.3	8	-60.4	9	-69.0	9	19.4	29	-87.9	0	
8.92	4	3	-0.3	-1	-82	30	20.2	1	3.9	8	5.3	8	-56.1	7	-69.8	7	20.2	29	-82.3	0	
9.22	4	3	-0.4	-1	-75	30	21.1	2	3.8	7	5.4	7	-56.7	7	-69.3	6	21.1	30	-74.6	0	
9.52	4	3	-0.4	-1	-67	31	22.0	1	3.4	7	5.1	7	-44.8	6	-59.1	5	22.0	30	-65.8	-2	
9.83	3	3	-0.4	-2	-59	33	23.0	1	2.4	7	5.0	7	-24.4	4	-57.2	4	23.0	29	-57.8	-4	
10.13	3	3	-0.4	-2	-49	35	24.1	1	0.9	7	5.0	6	-9.0	2	-53.6	2	24.1	29	-49.4	-5	
10.43	3	3	-0.4	-2	-39	36	25.2	1	0.1	6	4.9	6	-0.7	0	-48.7	0	25.2	30	-39.0	-3	
10.73	3	3	-0.4	-2	-29	36	26.3	0	0.1	6	4.7	5	-0.6	-1	-44.1	-1	26.3	30	-37.0	0	
11.04	3	3	-0.5	-2	-28	37	27.6	0	0.1	5	4.2	5	-0.5	-2	-30.0	-2	27.6	30	-38.5	-1	
11.34	2	3	-0.5	-2	-27	36	29.0	0	0.1	5	4.0	5	-0.3	-4	-22.2	-4	29.0	30	-32.9	-1	
11.64	2	3	-0.5	-2	-21	34	30.4	0	0.1	4	3.7	4	-0.2	-5	-14.8	-6	37.0	28	-24.7	-2	
11.94	2	3	-1.1	-2	-15	33	42.2	1	0.1	4	3.3	3	-0.1	-7	1.4	-7	48.9	24	-15.4	-2	
12.25	2	2	-1.9	-2	-5	29	58.5	1	0.1	3	3.1	3	0.1	-8	14.6	-8	58.6	21	-8.6	-3	
12.55	2	2	-2.1	-2	2	21	69.0	0	0.1	2	2.9	2	0.3	-5	27.4	-5	69.1	20	-2.1	-4	
12.85	1	1	-2.3	-2	8	13	78.9	-2	0.1	2	2.7	2	0.6	-3	39.0	-3	78.8	20	8.0	-1	
13.15	1	1	-2.8	-2	19	7	96.5	-3	0.0	2	2.7	2	0.8	-4	51.3	-6	96.4	19	18.8	5	
13.46	1	1	-3.5	-2	12	5	117.9	-1	0.0	2	2.8	2	1.3	-7	69.5	-8	115.2	19	11.8	8	
13.76	0	1	-3.8	-2	-1	6	132.5	9	0.1	2	3.0	2	1.7	-7	81.2	-7	129.2	20	-0.7	2	
14.06	0	1	-4.2	-2	-1	7	145.1	17	0.1	3	3.3	3	2.1	-5	93.0	-5	144.5	21	-0.8	-3	
14.36	0	1	-4.5	-2	-1	10	152.5	13	0.3	3	3.7	3	14.4	-1	108.5	-1	152.5	25	-0.8	-5	
14.67	0	0	-4.7	-1	-1	13	155.1	4	0.7	3	3.3	3	28.2	3	111.7	2	155.1	32	-0.8	-1	
14.97	0	0	-4.5	-1	-1	13	156.6	5	1.1	3	3.2	3	29.0	5	112.6	5	156.5	23	-0.8	4	
15.27	0	0	-4.3	-1	-1	13	156.8	11	2.4	3	2.3	3	72.3	6	72.2	5	156.7	11	-0.8	4	
15.57	0	0	-4.5	-1	-1	12	156.7	5	3.2	3	1.1	3	112.6	5	29.0	5	156.7	23	-0.8	4	
15.87	0	0	-4.7	-1	-1	13	155.1	4	3.3	3	0.7	3	111.8	3	28.2	3	155.1	32	-0.8	0	
16.18	0	1	-4.5	-2	-1	10	152.6	13	3.6	3	0.3	3	108.6	-1	14.4	-1	152.6	25	-0.8	-4	
16.48	0	1	-4.2	-2	-1	7	145.2	17	3.3	3	0.1	3	93.0	-5	2.1	-5	144.6	21	-0.8	-3	
16.78	0	1	-3.8	-2	-1	6	132.5	9	3.0	2	0.1	2	81.3	-7	1.7	-7	129.3	20	-0.7	2	
17.08	1	1	-3.5	-2	12	5	117.9	-1	2.8	2	0.0	2	69.6	-7	1.3	-8	115.3	19	11.8	8	
17.39	1	1	-2.8	-2	19	7	96.6	-3	2.7	2	0.0	2	51.3	-4	0.8	-6	96.4	19	18.8	5	
17.69	1	1	-2.3	-2	8	13	78.9	-2	2.7	2	0.1	2	39.3	-3	0.6	-3	78.8	20	8.0	-1	
17.99	2	2	-2.1	-2	2	21	69.1	0	2.8	2	0.1	2	27.7	-5	0.3	-5	69.1	20	-2.0	-4	
18.29	2	2	-1.9	-2	-5	29	58.6	1	3.1	3	0.1	3	14.6	-8	0.1	-8	58.6	21	-8.6	-3	
18.60	2	3	-1.1	-2	-15	33	42.2	1	3.3	4	0.1	3	1.4	-7	-0.1	-7	48.9	24	-15.4	-2	
18.90	2	3	-0.5	-2	-21	34	30.4	0	3.7	4	0.1	4	-14.8	-5	-0.2	-6	37.0	28	-24.7	-2	
19.20	2	3	-0.5	-2	-27	36	29.0	0	4.0	5	0.1	5	-22.2	-4	-0.3	-4	29.0	30	-32.9	-1	
19.50	3	3	-0.5	-2	-28	37	27.6	0	4.2	5	0.1	5	-30.0	-2	-0.5	-2	27.6	30	-38.6	-1	
19.81	3	3	-0.4	-2	-29	36	26.4	0	4.7	6	0.1	5	-44.1	-1	-0.6	-1	26.4	30	-37.0	0	
20.11	3	3	-0.4	-2	-39	36	25.2	1	4.9	6	0.1	6	-48.7	0	-0.7	0	25.2	30	-39.0	-3	
20.41	3	3	-0.4	-2	-49	35	24.1	1	5.0	7	0.9	6	-53.6	2	-9.0	2	24.1	29	-49.4	-4	
20.71	3	3	-0.4	-2	-59	33	23.0	1	5.0	7	2.4	7	-57.2	4	-24.5	4	23.0	29	-57.8	-4	
21.02	4	3	-0.4	-1	-67	31	22.1	2	5.1	7	3.4	7	-59.1	6	-44.8	5	22.1	30	-65.8	-2	
21.32	4	3	-0.4	-1	-75	30	21.1	2	5.4	7	3.8	7	-69.3	7	-56.7	6	21.1	30	-74.6	0	
21.62	4	3	-0.3	-1	-82	30	20.2	1	5.3	8	3.9	8	-69.4	7	-56.1	7	20.2	29	-82.3	0	
21.92	4	3	-0.3	-1	-88	29	19.4	2	5.3	8	4.2	8	-68.6	9	-60.5	9	19.4	29	-87.9	0	
22.23	4	3	-0.3	-1	-93	28	18.6	2	5.3	8	4.2	8	-67.7	10	-62.6	10	18.6	28	-93.2	1	
22.53	3	3	-0.3	-1	-99	27	17.8	3	5.1	8	4.0	8	-67.5	12	-58.9	11	17.8	27	-99.2	1	
22.83	3	3	-0.3	-1	-104	26	17.1	4	5.3	8	3.7	8	-75.3	12	-55.2	12	17.1	26	-103.9	1	
23.13	3	3	-0.3	-1	-107	25	16.4	3	5.4	8	4.0	8	-74.2	12	-60.8	13	16.4	25	-107.5	2	
23.44	3	3	-0.3	-1	-109	24	15.7	4	5.0	8	4.3	8	-66.8	13	-66.0	13	15.7	24	-110.0	2	
23.74	3	3	-0.3	-1	-114	23	15.0	5	4.6	8	4.6	8	-63.1	14	-67.1	14	15.0	23	-113.9	2	
24.04	3	3	-0.3	-1	-117	21	14.3	6	4.6	8	5.2	8	-62.9	14	-74.7	13	14.3	21	-117.4	2	
24.34	4	3	-0.2	-1	-119	20	13.7	6	4.5	8	5.3	8	-62.3	13	-76.8	13	13.7	20	-119.2	2	
24.65	4	3	-0.2	-1	-122	18	13.1	6	4.4	8	5.2	8	-60.8	13	-74.8	12	13.1	18	-121.7	2	
24.95	4	3	-0.2	-1	-122	16	12.5	6	4.2	8	5.5	8	-60.4	13	-79.9	13	12.5	16	-121.6	2	
25.25	4	3	-0.2	-1	-119	15	11.9	5	4.1	8	5.5	8	-62.3	13	-81.6	13	11.9	16	-118.0	2	
25.55	4	3	-0.2	-1	-115	16	11.3	4	4.2	8	5.1	8	-61.8	12	-75.4	12	11.3	16	-114.8	2	
25.86	4	3	-0.2	-1	-112	18	10.7	4	3.6	8	5.3	8	-54.1	11	-78.7	11	10.7	17	-111.7	2	
26.16	4	3	-0.2	-1	-106	19	10.2	4	3.3	8	5.5	7	-49.8	10	-81.2	10	10.2	18	-106.3	2	
26.46	4	4	-0.2	-2	-100	20	9.6	4	2.8	7	5.6	7	-43.7	9	-82.4	9	9.6	19	-99.6	2	
26.76	4	4	-0.2	-2	-92	24	9.0	3	2.1	7	5.6	7	-33.3	8	-83.3	8	9.0	23	-91.8	2	
27.07	4	4	-0.1	-2	-83	26	8.5	2	1.8	6	5.3	6	-28.1	7	-78.2	7	8.5	26	-84.4	1	
27.37	5	4	-0.1	-2	-73	26	8.0	3	1.3	6	5.2	6	-19.2	7	-76.4	6	8.0	26	-76.6	0	
27.67	4	4	-0.1	-2	-65	27	7.4	4	0.7	5	4.9	5	-5.3	6	-70.3	6	7.4	21	-67.0	0	
27.97	4	4	-0.1	-2	-56	27	6.9	5	0.4	5	4.6	5	1.8	5	-65.3	5	6.9	16	-56.5	-1	
28.28	4	4	-0.1	-2	-45	27	5.1	6	0.4	4	4.3	4	1.6	4	-59.9	4	5.0	14	-45.4	-1	
28.58	4	3	-0.1	-2	-34	24	3.5	5	0.5	4	3.9	4	1.3	4	-48.2	4	3.5	14	-33.8	-1	
28.88	4	3	-0.2	-2	-23	20	3.5	5	0.6	3	3.8	3	1.0	4	-39.5	4	3.5	14	-29.0	0	
29.18	3	1	-0.7	-3	-14	12	4.0	7	0.7	3	4.0	3	0.8	3	-30.8	3	3.6	14	-26.8	2	
29.49	1	0	-2.6	-3	-9	4	4.4	13	0.9	2	4.0	2	1.2	3	-21.4	3	3.4	21	-17.8	3	
29.79	0	0	-4.1	-3	-2	2	7.2	19	1.4	3	5.4	3	1.5	5	-15.0	5	4.5	31	-6.8	2	
30.09	0	0	-5.1	-2	2	2	15.5	26	1.3	5	7.5	6	1.0	6	-9.2	6	6.6	33	2.9	1	
30.54	0	0	-6.0	-2	1	3	20.8	30	0.7	6	8.1	7	0.6	4	-6.4	3	7.5	33	7.4	1	

Kombination är C_cycl

TL 1

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]	N_tillh_Vmax_1_dir [kN]	N_tillh_Vmax_2_dir [kN]	N_tillh_Vmin_1_dir [kN]	N_tillh_Vmin_2_dir [kN]	Nmax_1 [kN]	Nmax_2 [kN]	Nmin_1 [kN]	Nmin_2 [kN]
0.00	1	0	-0.3	0	-71	0	18.6	1	0.5	1	1.3	0	-38.2	0	-37.2	0	18.6	1	-71.1	0
0.31	1	0	-0.3	0	-72	0	18.7	2	0.5	1	0.8	0	-39.4	0	-38.2	0	18.7	2	-72.4	0
0.62	1	0	-0.3	0	-76	0	19.0	5	0.3	0	0.2	0	-40.8	1	-33.5	0	19.0	5	-75.4	0
0.93	2	0	-0.3	-1	-80	0	19.3	8	0.1	0	0.2	0	-24.1	3	-34.5	0	19.3	8	-79.6	0
1.24	2	0	-0.3	-1	-86	0	19.6	12	0.1	0	0.2	0	-34.8	5	-33.0	0	19.6	12	-85.3	0
1.60	2	0	-0.3	-1	-93	0	20.1	17	0.1	0	0.2	0	-51.3	7	-46.9	0	20.1	16	-92.9	0
1.95	2	0	-0.3	-1	-102	0	20.4	22	0.6	1	1.7	1	-46.1	3	-74.3	6	20.4	21	-101.4	0
2.20	2	0	-0.3	-3	-114	1	18.0	18	2.2	1	5.6	6	-52.6	-1	-88.5	13	18.0	20	-113.5	0
2.45	2	0	-0.3	-4	-122	3	15.8	12	4.0	0	6.8	9	-60.1	-1	-78.4	13	15.8	15	-122.1	0
2.79	2	0	-0.3	-2	-123	7	16.3	6	4.8	0	5.1	9	-71.1	-1	-56.1	13	16.3	16	-123.1	-1
3.12	3	2	-0.3	-2	-124	16	16.9	0	5.0	0	5.0	9	-76.1	-1	-61.2	14	16.9	19	-124.6	-2
3.47	4	5	-0.3	-2	-130	22	17.6	2	5.9	0	6.0	9	-85.2	-1	-85.7	16	17.6	23	-130.0	-3
3.82	5	8	-0.3	-1	-143	26	18.2	4	8.9	0	10.3	11	-102.5	-1	-108.2	20	18.2	27	-142.5	-2
4.12	5	10	-0.3	-3	-153	28	16.9	4	27.2	2	30.1	28	-119.9	8	-124.5	20	16.9	29	-153.3	-2
4.42	6	11	-0.3	-4	-149	24	15.6	5	31.2	10	31.8	25	-127.7	16	-127.0	15	15.6	29	-149.8	-2
4.75	7	11	-0.3	-3	-139	21	16.2	7	12.3	11	11.1	5	-111.7	15	-111.5	13	16.2	27	-140.8	-3
5.08	7	11	-0.3	-3	-136	20	16.8	10	5.9	4	5.8	3	-96.2	14	-103.1	11	16.8	25	-137.5	-2
5.44	7	12	-0.3	-2	-138	17	17.4	14	17.3	7	15.2	14	-110.4	13	-110.2	10	17.4	23	-139.9	0
5.79	6	10	-0.3	-2	-146	20	17.9	17	46.5	40	47.5	13	-124.1	15	-123.2	10	17.9	24	-146.8	2
6.04	5	9	-0.3	-4	-143	27	16.5	16	37.8	40	42.3	5	-111.6	20	-116.0	10	16.5	31	-143.6	1
6.29	4	7	-0.3	-4	-128	30	15.2	14	8.1	9	9.8	8	-90.7	20	-99.4	10	15.2	33	-127.6	0
6.66	4	4	-0.3	-2	-114	26	15.7	9	4.9	9	5.6	8	-74.1	15	-81.9	12	15.7	27	-114.1	1
7.02	3	3	-0.3	-1	-109	24	15.9	4	4.3	8	5.1	8	-65.4	13	-68.1	13	15.9	24	-109.0	2
7.37	4	4	-0.3	-2	-114	26	15.6	9	4.3	8	5.4	8	-61.9	11	-76.0	15	15.6	27	-113.7	1
7.71	4	7	-0.3	-4	-127	29	15.1	15	7.4	8	9.3	9	-79.4	11	-93.3	19	15.1	33	-126.6	0
7.96	5	8	-0.3	-4	-142	26	16.4	17	35.0	6	39.1	37	-110.7	10	-115.0	19	16.4	31	-142.3	1
8.21	6	10	-0.3	-2	-145	20	17.8	17	44.1	2	44.6	38	-123.3	8	-122.1	15	17.8	24	-145.9	2
8.57	8	12	-0.3	-2	-138	18	17.4	14	17.7	5	15.6	7	-110.0	8	-109.8	14	17.4	23	-139.3	0
8.92	7	11	-0.3	-3	-136	20	16.7	10	6.1	5	6.2	2	-96.1	6	-103.1	18	16.7	25	-137.1	-2
9.25	7	11	-0.3	-4	-140	22	16.1	8	10.3	4	9.2	7	-111.9	8	-111.6	18	16.1	27	-140.9	-3
9.58	6	11	-0.3	-4	-149	25	15.5	5	25.2	20	25.5	8	-128.3	15	-127.8	16	15.5	27	-150.6	-2
9.88	5	10	-0.3	-3	-154	27	16.8	5	23.6	24	26.0	2	-120.6	20	-125.6	8	16.8	27	-154.8	-2
10.18	5	8	-0.3	-2	-144	25	18.1	4	9.2	11	10.6	0	-103.5	20	-108.8	-1	18.1	27	-143.5	-2
10.55	4	5	-0.3	-2	-131	22	17.5	2	6.1	9	6.1	0	-86.0	16	-86.1	-1	17.5	23	-130.7	-3
10.92	3	2	-0.3	-2	-125	16	16.9	0	5.0	9	5.1	0	-75.4	14	-61.6	-1	16.9	19	-125.3	-2
11.24	2	0	-0.3	-2	-124	6	16.3	6	4.9	9	5.2	0	-73.0	13	-56.7	-1	16.3	17	-124.2	-1
11.55	2	0	-0.3	-4	-123	3	15.8	12	4.2	9	6.9	0	-63.1	13	-79.4	-1	15.8	16	-123.4	0
11.80	2	0	-0.3	-3	-115	1	18.0	19	2.2	6	5.7	1	-53.1	13	-89.6	-1	18.0	20	-114.7	0
12.05	2	0	-0.3	-1	-103	0	20.4	22	0.6	1	1.8	0	-46.5	7	-69.4	3	20.4	22	-102.6	0
12.41	2	0	-0.3	-1	-95	0	20.1	17	0.1	0	0.2	0	-49.1	0	-47.3	7	20.1	17	-94.1	0
12.76	2	0	-0.3	-1	-87	0	19.7	12	0.1	0	0.2	0	-32.5	0	-39.4	4	19.7	12	-86.7	0
13.07	2	0	-0.3	-1	-81	0	19.3	8	0.1	0	0.2	0	-24.5	0	-35.3	3	19.3	8	-80.9	0
13.38	1	0	-0.3	0	-77	0	19.0	5	0.3	0	0.2	0	-41.4	0	-34.1	1	19.0	5	-76.5	0
13.69	1	0	-0.3	0	-74	0	18.7	2	0.5	0	0.8	1	-40.0	0	-38.9	0	18.7	2	-73.5	0
14.00	1	0	-0.3	0	-72	0	18.6	1	0.5	0	1.4	1	-38.7	0	-37.9	0	18.6	1	-72.3	0

Kombination är C_cycl TL 2

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]	N_tillh_Vmax_1_dir [kN]	N_tillh_Vmax_2_dir [kN]	N_tillh_Vmin_1_dir [kN]	N_tillh_Vmin_2_dir [kN]	Nmax_1 [kN]	Nmax_2 [kN]	Nmin_1 [kN]	Nmin_2 [kN]
0.00	1	0	-0.3	0	-63	0	20.7	2	0.8	0	1.0	0	4.3	0	-47.0	0	20.7	2	-63.0	0
0.31	1	0	-0.3	0	-64	0	20.7	4	0.6	0	0.6	0	-27.3	0	-29.2	0	20.7	3	-63.7	0
0.62	1	0	-0.3	0	-65	0	20.9	7	0.3	0	0.2	0	-34.1	1	-28.1	0	20.9	7	-65.5	0
0.93	1	0	-0.3	-1	-68	0	21.1	12	0.2	0	0.1	0	-42.1	2	-25.5	0	21.1	11	-68.3	0
1.24	2	0	-0.3	-1	-72	0	21.4	17	0.2	0	0.1	0	-42.7	4	-36.4	0	21.4	16	-72.1	-1
1.60	2	0	-0.3	-1	-77	0	21.8	24	0.3	0	0.1	0	-54.7	5	-26.5	0	21.8	22	-77.4	-1
1.95	2	0	-0.3	-1	-84	0	22.1	30	2.8	1	0.1	2	-93.3	2	-5.8	6	22.1	28	-83.8	-1
2.20	2	0	-0.3	-3	-100	1	20.1	22	7.1	1	0.2	7	-91.1	-1	-17.1	11	20.1	23	-100.3	0
2.45	2	0	-0.3	-4	-114	3	17.9	10	7.3	0	2.4	9	-80.9	-1	-32.5	11	17.9	14	-114.1	-1
2.79	3	1	-0.3	-2	-114	8	18.0	4	5.1	0	3.3	9	-56.7	-1	-51.7	11	18.0	16	-114.2	-2
3.12	3	2	-0.3	-2	-115	18	18.6	0	5.2	0	3.4	9	-64.7	-1	-58.0	12	18.6	21	-114.8	-3
3.47	4	5	-0.3	-2	-119	24	19.3	2	6.3	0	5.3	9	-90.4	-1	-75.2	14	19.3	27	-119.4	-3
3.82	5	8	-0.3	-2	-130	30	20.0	5	10.8	0	8.0	11	-102.3	-1	-93.0	19	20.0	32	-129.6	-2
4.12	5	10	-0.3	-3	-142	33	18.7	5	31.2	2	26.8	28	-118.7	7	-109.3	18	18.7	33	-142.1	-2
4.42	6	11	-0.3	-4	-141	26	17.5	6	32.8	11	31.3	25	-130.7	14	-107.1	14	17.5	31	-141.7	-4
4.75	7	11	-0.3	-4	-132	21	18.1	9	11.6	11	12.1	5	-113.4	14	-95.4	12	18.1	28	-133.2	-4
5.08	7	11	-0.3	-3	-130	18	18.8	13	6.1	4	5.7	3	-95.8	14	-90.6	8	18.8	24	-131.8	-2
5.44	7	12	-0.3	-3	-134	15	19.5	17	16.0	7	17.3	15	-105.2	12	-94.3	7	19.5	23	-135.3	0
5.79	7	11	-0.3	-2	-142	20	20.0	22	48.6	41	47.2	14	-119.7	14	-104.0	8	20.0	25	-142.9	2
6.04	5	8	-0.3	-4	-134	28	18.7	20	43.8	41	37.7	6	-113.1	18	-102.8	8	18.7	35	-134.0	0
6.29	4	7	-0.3	-5	-114	31	17.3	16	10.8	10	7.1	8	-97.4	18	-78.8	8	17.3	38	-113.6	-1
6.66	4	4	-0.3	-2	-102	29	17.8	10	5.8	8	4.5	8	-80.1	14	-60.8	10	17.8	30	-102.2	0
7.02	4	3	-0.3	-1	-97	27	18.0	2	5.1	8	4.0	8	-66.8	11	-59.7	11	18.0	27	-97.4	1
7.37	4	4	-0.3	-2	-102	29	17.7	10	5.6	8	4.5	8	-80.3	9	-60.9	13	17.7	30	-101.8	0
7.71	4	6	-0.3	-5	-113	31	17.2	16	10.5	8	7.0	9	-97.4	8	-78.7	18	17.2	37	-112.6	-1
7.96	5	8	-0.3	-4	-133	28	18.6	20	40.5	6	34.7	38	-112.1	8	-101.9	18	18.6	32	-132.8	1
8.21	7	10	-0.3	-2	-142	19	19.9	22	45.7	3	44.6	38	-125.4	6	-103.1	14	19.9	23	-142.2	2
8.57	8	12	-0.3	-3	-133	15	19.4	18	16.3	5	17.6	7	-111.5	6	-93.9	12	19.4	22	-135.0	0
8.92	7	11	-0.3	-3	-130	18	18.7	13	6.5	6	5.9	2	-95.8	4	-90.6	17	18.7	24	-131.5	-2
9.25	7	11	-0.3	-4	-132	22	18.1	9	9.7	4	10.1	8	-114.0	7	-95.6	17	18.1	28	-133.1	-4
9.58	6	11	-0.3	-4	-141	27	17.4	6	26.6	20	25.2	9	-131.6	14	-107.7	14	17.4	29	-141.9	-4
9.88	5	10	-0.3	-3	-143	32	18.6	6	27.4	24	23.0	2	-120.1	19	-110.0	7	18.6	31	-143.0	-2
10.18	5	8	-0.3	-2	-131	30	19.9	5	11.2	12	8.4	0	-103.6	19	-94.6	-1	19.9	32	-130.8	-2
10.55	4	5	-0.3	-2	-120	24	19.3	3	6.4	9	5.6	0	-90.8	14	-76.6	-1	19.3	27	-120.3	-3
10.92	3	2	-0.3	-2	-116	17	18.6	0	5.6	9	4.7	0	-68.0	12	-69.5	-1	18.6	21	-115.8	-3
11.24	3	1	-0.3	-2	-115	7	17.9	4	5.5	9	4.6	0	-60.2	11	-63.4	-1	17.9	16	-115.5	-2
11.55	2	0	-0.3	-4	-115	3	17.8	10	7.5	9	2.4	0	-81.8	11	-32.9	-1	17.8	15	-115.3	-1
11.80	2	0	-0.3	-3	-101	1	20.1	23	7.3	7	0.2	1	-92.2	11	-14.9	-1	20.1	23	-101.3	0
12.05	2	0	-0.3	-1	-85	0	22.1	31	2.9	2	0.1	1	-94.4	6	-3.5	2	22.1	29	-84.7	-1
12.41	2	0	-0.3	-1	-78	0	21.8	24	0.3	0	0.1	0	-55.6	0	-26.9	5	21.8	23	-78.3	-1
12.76	2	0	-0.3	-1	-73	0	21.4	17	0.2	0	0.1	0	-43.4	0	-36.9	4	21.4	16	-73.0	-1
13.07	1	0	-0.3	-1	-69	0	21.1	12	0.2	0	0.1	0	-42.9	0	-25.8	2	21.1	11	-69.2	0
13.38	1	0	-0.3	0	-66	0	20.9	8	0.3	0	0.2	0	-34.7	0	-28.6	1	20.9	7	-66.4	0
13.69	1	0	-0.3	0	-65	0	20.8	4	0.6	0	0.6	0	-27.9	0	-29.7	0	20.8	3	-64.6	0
14.00	1	0	-0.3	0	-64	0	20.7	2	0.8	0	1.0	0	4.0	0	-47.7	0	20.7	2	-64.0	0

Kombination är A

B 1

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmin_1_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]	Nmax_1 [kN]	Nmin_1 [kN]	Tmax [kNm]	Tmin [kNm]	N_tillh_Vmax_1 [kN]	N_tillh_Vmax_2 [kN]	N_tillh_Vmin_1 [kN]	N_tillh_Vmin_2 [kN]
0.00	-5	13	-37.4	-25	-126	-266.2	71.9	231	-127.6	124	-104.0	-251	53.7	-5	-241	-204	-146	-163
0.30	-43	40	-141.8	-17	74	-37.8	94.3	449	-9.9	244	91.3	-71	114.1	-6	-7	26	24	-18
0.60	-112	53	-270.3	-15	101	-24.1	50.9	427	-18.8	235	142.3	-97	115.9	-3	15	66	22	-47
0.91	-181	49	-387.6	-8	121	-14.0	39.5	402	-23.8	225	188.1	-107	106.7	-2	48	88	31	-49
1.21	-248	43	-493.4	-4	137	3.0	20.9	377	-19.2	213	230.5	-104	96.9	1	85	109	48	-41
1.51	-310	35	-589.5	-3	153	24.5	15.8	355	-17.3	200	270.6	-91	87.3	1	108	128	95	-25
1.81	-365	28	-678.6	-2	132	47.9	11.4	330	-16.6	187	308.8	-75	78.9	-1	157	147	132	-4
2.12	-414	25	-760.4	-2	113	71.3	8.1	305	-15.0	173	320.0	-63	71.3	-4	180	171	179	20
2.42	-457	22	-834.2	-2	132	94.2	7.6	284	-13.7	157	331.1	-52	64.7	-6	195	158	221	78
2.72	-496	19	-901.3	-4	151	117.5	7.4	261	-12.4	141	367.2	-41	58.7	-8	237	141	241	137
3.02	-530	18	-961.4	-5	169	138.4	7.0	238	-11.1	124	401.0	-29	53.4	-10	261	150	282	175
3.33	-560	16	-1015.6	-6	185	156.9	6.6	217	-10.0	106	432.5	-17	48.6	-11	278	158	321	209
3.63	-585	15	-1063.7	-7	200	175.6	6.3	195	-9.0	88	461.1	-6	44.5	-11	292	183	356	226
3.93	-605	14	-1103.3	-8	213	193.0	6.0	171	-6.8	76	486.8	4	41.1	-12	308	205	358	264
4.23	-621	13	-1137.6	-9	223	210.5	5.6	150	-4.7	57	509.3	15	37.8	-12	323	213	357	286
4.54	-633	12	-1167.6	-10	295	225.0	5.4	128	-4.4	30	528.6	24	34.8	-12	335	221	332	286
4.84	-640	12	-1189.8	-10	368	235.0	5.1	104	-4.1	9	544.6	31	31.9	-12	341	239	302	303
5.14	-642	11	-1204.4	-11	378	242.4	4.9	83	-4.0	-12	557.2	36	29.1	-12	347	252	315	302
5.44	-641	11	-1212.6	-11	386	247.6	4.8	61	-3.9	-34	566.5	40	26.4	-13	350	254	325	298
5.75	-634	11	-1216.5	-11	391	249.5	4.6	38	-3.8	-55	572.3	42	23.8	-15	353	257	324	291
6.05	-624	11	-1214.4	-11	393	247.1	4.5	17	-3.8	-78	574.7	42	21.4	-16	355	261	320	282
6.35	-610	10	-1204.8	-11	392	242.2	4.4	-12	-3.8	-100	573.6	39	19.2	-14	356	295	325	286
6.65	-591	10	-1189.1	-11	388	234.9	4.3	-40	-3.8	-122	569.2	34	16.9	-11	337	324	337	274
6.96	-568	10	-1168.0	-11	381	225.0	4.3	-60	-3.9	-144	561.4	28	14.6	-13	313	317	343	259
7.26	-541	10	-1141.1	-11	372	212.8	4.2	-80	-4.0	-167	550.4	18	12.5	-15	298	302	337	260
7.56	-509	10	-1107.1	-11	347	210.2	4.2	-100	-4.1	-189	536.1	7	14.7	-17	285	280	313	246
7.86	-473	10	-1066.9	-10	320	201.6	4.2	-120	-4.2	-212	518.7	-6	17.5	-19	292	261	287	226
8.17	-433	10	-1022.3	-10	302	178.1	4.2	-139	-4.3	-234	498.4	-22	16.7	-21	294	238	277	218
8.47	-388	10	-971.0	-9	281	155.5	5.8	-158	-4.5	-256	539.9	-39	16.5	-23	273	224	243	193
8.77	-340	11	-911.9	-8	258	131.2	7.4	-177	-4.7	-279	580.0	-58	16.5	-26	245	207	208	163
9.07	-287	11	-847.3	-8	231	101.7	7.6	-196	-4.8	-301	554.0	-80	16.3	-28	225	181	190	146
9.38	-229	11	-777.8	-7	203	69.4	7.8	-214	-5.0	-323	525.1	-111	15.9	-31	201	154	150	111
9.68	-167	11	-701.1	-6	172	38.8	8.1	-232	-5.3	-345	493.7	-150	15.4	-34	257	147	108	73
9.98	-101	11	-616.7	-5	139	6.0	8.3	-250	-5.6	-368	459.9	-191	14.6	-37	313	116	72	49
10.28	-30	12	-527.5	-4	104	-28.9	8.5	-268	-5.9	-389	424.0	-234	13.7	-41	286	76	18	8
10.59	45	12	-432.8	-2	67	-62.9	8.6	-285	-6.3	-411	386.2	-279	12.4	-44	258	59	-21	-36
10.89	126	13	-329.2	-1	26	-91.5	8.7	-302	-6.6	-432	346.6	-326	10.9	-48	226	21	-60	-65
11.19	211	13	-221.1	-1	-20	-118.1	8.7	-319	-7.2	-454	305.8	-374	9.2	-52	192	-33	-112	-95
11.49	302	14	-109.0	-1	-66	-145.1	8.5	-336	-7.7	-476	264.0	-423	7.1	-57	166	-85	-148	-170
11.80	400	16	7.8	-1	-110	-171.9	8.1	-352	-8.4	-498	221.9	-472	4.8	-62	137	-123	-186	-245
12.10	505	17	128.3	-2	-169	-197.8	7.2	-367	-9.4	-519	182.1	-522	2.1	-68	96	-163	-232	-275
12.40	624	18	252.4	-3	-225	-220.1	5.7	-383	-11.0	-542	147.6	-501	-0.7	-74	52	-202	-269	-309
12.70	760	21	374.0	-4	-258	-104.6	3.3	-397	-13.8	-564	117.8	-479	-3.6	-80	9	-239	-305	-338
13.01	906	23	493.7	-6	-286	2.0	0.1	-411	-19.2	-553	92.2	-529	-6.2	-87	-99	-275	-343	-355
13.31	1061	22	617.1	-6	-308	-36.7	-4.1	-425	-28.6	-542	71.9	-575	-8.3	-92	-196	-301	-373	-377
13.61	1224	17	746.6	-9	-325	-71.6	-9.6	-437	-44.9	-563	60.3	-616	-9.3	-96	-228	-300	-393	-410
13.91	1398	7	880.5	-20	-377	-60.0	-17.0	-448	-73.1	-585	57.8	-652	-8.6	-98	-259	-321	-424	-437
14.22	1583	-6	1017.6	-42	-427	-35.2	-27.3	-458	-118.3	-608	60.4	-681	-5.5	-94	-268	-353	-445	-456
14.52	1780	-22	1158.3	-84	-438	-38.4	-40.4	-464	-178.9	-631	66.5	-702	-7.3	-87	-279	-370	-435	-470
14.82	1293	-26	780.6	-95	-677	-365.6	18.4	332	-210.9	-332	-267.0	-907	23.8	-24	-675	-627	-589	-670

Kombination är A B 2

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmin_1_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]	Nmax_1 [kN]	Nmin_1 [kN]	Tmax [kNm]	Tmin [kNm]	N_tillh_Vmax_1 [kN]	N_tillh_Vmax_2 [kN]	N_tillh_Vmin_1 [kN]	N_tillh_Vmin_2 [kN]
0.00	-5	20	-28.3	-22	-76	-197.1	91.7	176	-101.6	72	-63.9	-222	31.3	-26	-162	-139	-93	-93
0.30	-34	27	-109.0	-23	22	-34.5	50.1	339	-43.6	138	29.9	-63	67.7	-58	-46	-3	3	-35
0.60	-83	28	-210.1	-23	15	-65.0	26.6	314	-18.9	128	32.3	-112	70.6	-64	-92	-21	0	-62
0.91	-134	26	-304.1	-20	-8	-101.2	25.3	289	-16.2	114	21.1	-163	64.8	-62	-116	-38	-37	-76
1.21	-185	26	-388.3	-17	-57	-139.4	20.7	267	-15.0	97	-2.1	-215	59.6	-59	-144	-60	-101	-90
1.51	-233	25	-463.1	-15	-110	-175.6	23.2	249	-17.8	85	-30.4	-272	56.3	-58	-184	-88	-152	-131
1.81	-277	23	-533.9	-13	-147	-212.9	20.6	230	-18.4	71	-56.8	-329	52.9	-56	-202	-131	-207	-159
2.12	-317	20	-598.9	-13	-183	-249.4	18.9	214	-18.2	53	-80.4	-383	49.8	-54	-242	-176	-257	-158
2.42	-353	20	-657.6	-13	-216	-284.0	17.6	202	-18.0	42	-103.5	-433	46.8	-52	-277	-208	-303	-183
2.72	-385	20	-712.3	-14	-247	-317.8	16.3	186	-17.3	30	-126.5	-478	43.1	-50	-313	-267	-344	-208
3.02	-413	19	-761.3	-15	-286	-338.9	15.6	174	-16.5	16	-149.6	-519	39.9	-47	-367	-296	-377	-224
3.33	-437	21	-805.5	-17	-320	-347.3	14.5	165	-15.5	3	-172.5	-555	37.1	-45	-376	-296	-413	-230
3.63	-457	25	-845.8	-18	-339	-364.8	14.0	151	-14.6	-11	-194.2	-587	33.9	-42	-400	-365	-379	-253
3.93	-474	24	-877.8	-19	-354	-390.6	13.6	140	-14.1	-26	-213.3	-614	31.0	-39	-441	-389	-338	-294
4.23	-487	24	-905.4	-20	-341	-421.2	12.8	133	-13.3	-36	-230.3	-637	28.2	-36	-462	-366	-361	-292
4.54	-496	24	-930.8	-21	-317	-448.8	12.5	119	-13.0	-48	-246.0	-655	25.0	-33	-478	-426	-378	-313
4.84	-502	24	-948.8	-21	-314	-465.3	12.3	108	-13.3	-62	-259.2	-669	22.2	-30	-492	-440	-387	-354
5.14	-504	24	-959.2	-22	-313	-484.8	11.7	102	-12.5	-70	-269.4	-679	19.9	-27	-476	-409	-402	-342
5.44	-503	23	-966.8	-22	-310	-500.8	11.6	88	-12.3	-80	-273.3	-685	22.5	-24	-484	-457	-410	-355
5.75	-499	23	-971.1	-22	-305	-506.8	11.6	78	-12.6	-94	-270.0	-687	25.5	-22	-485	-460	-409	-393
6.05	-491	23	-966.1	-22	-296	-510.3	11.3	73	-12.0	-103	-262.9	-684	24.9	-22	-458	-417	-415	-374
6.35	-480	23	-956.9	-22	-285	-508.5	11.2	58	-11.9	-113	-252.8	-678	24.2	-23	-454	-413	-412	-382
6.65	-465	23	-946.6	-22	-271	-507.1	11.4	49	-12.2	-125	-239.6	-668	22.8	-24	-443	-405	-400	-414
6.96	-447	22	-928.3	-22	-254	-501.6	11.2	43	-11.8	-134	-223.3	-654	22.4	-24	-434	-390	-381	-381
7.26	-425	22	-907.1	-21	-234	-491.0	11.3	29	-11.8	-144	-203.9	-636	23.1	-25	-417	-380	-372	-374
7.56	-400	22	-883.2	-21	-212	-480.6	11.7	19	-12.2	-155	-181.6	-613	24.7	-27	-395	-363	-369	-395
7.86	-371	22	-851.1	-20	-187	-465.2	11.5	13	-12.1	-166	-156.4	-588	26.7	-23	-382	-335	-335	-354
8.17	-339	21	-815.0	-20	-159	-445.3	11.6	-2	-12.2	-176	-128.2	-558	28.9	-20	-358	-312	-313	-340
8.47	-303	21	-774.7	-19	-129	-422.4	12.1	-12	-12.5	-187	-97.3	-525	31.3	-22	-325	-286	-293	-315
8.77	-264	20	-728.7	-18	-96	-398.2	11.9	-19	-12.6	-200	-63.6	-492	33.8	-24	-322	-255	-249	-258
9.07	-221	20	-676.7	-17	-61	-367.6	12.1	-34	-12.8	-212	-27.2	-462	36.0	-26	-289	-227	-258	-301
9.38	-175	19	-620.6	-16	-30	-328.8	12.6	-45	-13.3	-224	11.9	-431	37.9	-28	-246	-194	-280	-268
9.68	-125	19	-560.7	-14	5	-292.0	13.1	-53	-13.5	-238	53.4	-396	39.4	-30	-219	-157	-200	-166
9.98	-71	18	-493.1	-13	47	-252.7	13.5	-69	-13.9	-250	97.5	-360	40.8	-32	-170	-121	-154	-207
10.28	-14	15	-421.6	-11	91	-212.3	13.9	-82	-14.5	-264	143.8	-324	42.0	-34	-110	-82	-170	-168
10.59	46	12	-347.2	-10	137	-177.2	14.3	-91	-14.8	-279	192.3	-289	43.0	-36	-42	-41	-80	-57
10.89	111	12	-265.7	-9	185	-124.4	14.6	-108	-15.2	-293	242.8	-254	44.0	-38	18	-3	-32	-90
11.19	178	12	-179.0	-8	232	-76.7	14.8	-122	-16.0	-310	295.0	-217	44.9	-40	84	35	-44	-43
11.49	250	14	-89.9	-9	276	-21.9	14.8	-131	-16.5	-328	348.5	-178	45.7	-41	154	80	34	-8
11.80	326	17	2.0	-11	322	42.4	14.6	-148	-17.6	-344	403.2	-140	46.2	-43	226	134	36	-44
12.10	409	19	98.3	-12	277	113.3	14.1	-161	-15.8	-362	458.4	-101	46.6	-45	300	186	78	76
12.40	503	21	196.3	-14	223	184.7	12.9	-171	-13.7	-386	513.6	-64	46.9	-46	373	237	200	103
12.70	608	22	294.3	-17	252	238.6	10.9	-188	-14.8	-407	569.6	-32	47.0	-48	443	295	211	75
13.01	719	23	394.6	-21	293	288.9	9.9	-202	-17.0	-426	626.6	-5	47.1	-49	419	349	262	187
13.31	836	23	495.9	-20	340	337.2	11.0	-214	-20.7	-453	682.3	19	47.2	-51	337	396	346	189
13.61	958	22	596.7	-20	357	395.2	15.0	-230	-26.9	-481	734.6	36	47.3	-52	383	436	384	148
13.91	1086	19	696.4	-24	364	448.0	23.1	-245	-38.3	-501	782.1	49	47.1	-53	477	474	413	184
14.22	1218	18	796.5	-33	368	510.1	34.8	-257	-58.8	-531	825.5	58	47.0	-53	505	534	413	178
14.52	1357	22	891.0	-51	364	557.1	50.9	-265	-87.4	-563	860.3	64	46.9	-61	523	618	401	194
14.82	990	23	584.7	-53	-22	89.0	95.0	339	-128.3	-339	398.1	-294	39.0	-39	19	7	73	28

Kombination är A B 3

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmin_1_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]	Nmax_1 [kN]	Nmin_1 [kN]	Tmax [kNm]	Tmin [kNm]	N_tillh_Vmax_1 [kN]	N_tillh_Vmax_2 [kN]	N_tillh_Vmin_1 [kN]	N_tillh_Vmin_2 [kN]
0.00	-8	17	-31.4	-20	-103	-200.3	98.4	217	-112.2	95	-88.0	-256	43.9	-31	-160	-172	-196	-122
0.30	-42	18	-121.1	-16	37	4.4	52.9	421	-43.5	186	48.6	-33	100.2	-70	1	36	24	-12
0.60	-93	17	-229.8	-15	60	27.3	25.0	398	-23.6	176	86.7	-47	111.2	-79	7	73	41	-11
0.91	-145	16	-325.1	-13	76	62.5	27.6	374	-22.3	163	127.5	-53	107.5	-78	36	118	45	-1
1.21	-196	16	-408.1	-13	68	101.8	24.8	350	-16.1	149	171.6	-54	103.9	-77	77	163	47	16
1.51	-243	16	-481.2	-13	55	141.0	25.3	331	-15.7	134	214.6	-53	101.3	-76	123	200	34	32
1.81	-286	17	-550.5	-13	57	177.6	24.5	312	-15.9	119	252.9	-53	97.4	-74	163	233	28	53
2.12	-327	17	-614.7	-13	56	212.3	24.8	290	-16.0	104	286.5	-56	93.9	-72	178	261	41	74
2.42	-365	18	-673.3	-13	53	241.7	23.7	272	-15.6	88	315.9	-60	90.7	-70	180	280	55	91
2.72	-399	19	-728.6	-13	49	267.1	21.7	254	-15.1	71	340.7	-62	86.1	-66	202	296	75	119
3.02	-430	20	-778.4	-14	45	289.7	21.2	234	-14.6	54	361.6	-64	82.0	-63	207	300	84	148
3.33	-457	20	-822.4	-15	32	324.5	20.0	217	-13.8	38	379.9	-46	77.4	-60	191	275	115	193
3.63	-480	21	-862.6	-16	25	356.3	18.4	199	-13.0	21	395.0	-29	71.9	-56	219	259	155	230
3.93	-499	21	-896.1	-16	23	371.0	18.1	181	-12.7	6	406.0	-31	67.1	-52	219	260	164	243
4.23	-514	21	-925.7	-17	17	380.3	16.8	165	-12.0	-13	413.3	-32	62.2	-48	196	254	160	260
4.54	-525	22	-953.3	-17	17	384.0	16.1	148	-11.3	-29	417.9	-34	56.4	-44	223	256	157	272
4.84	-532	22	-972.7	-18	18	388.0	16.1	131	-11.1	-43	421.4	-35	51.6	-40	247	259	217	277
5.14	-535	22	-984.8	-18	17	383.9	14.7	114	-11.0	-62	423.3	-36	46.6	-36	218	253	270	279
5.44	-535	22	-994.0	-18	16	379.2	14.2	98	-11.4	-80	422.2	-37	41.2	-33	214	250	272	276
5.75	-530	22	-998.6	-18	14	379.9	14.6	81	-12.5	-95	419.0	-38	37.1	-30	235	251	280	287
6.05	-522	21	-993.8	-18	13	377.7	13.2	65	-12.4	-115	414.0	-39	32.9	-27	202	245	250	291
6.35	-510	21	-985.0	-18	12	367.1	12.7	49	-12.9	-131	407.6	-40	28.7	-27	196	240	247	273
6.65	-495	21	-974.7	-18	11	357.0	13.4	33	-14.0	-147	399.7	-40	26.1	-30	216	234	272	276
6.96	-475	21	-955.5	-18	10	348.4	11.8	18	-13.9	-167	390.5	-41	26.1	-33	182	227	239	277
7.26	-452	21	-933.0	-17	9	340.3	11.5	2	-14.4	-183	379.5	-42	28.2	-37	191	219	215	255
7.56	-425	20	-907.7	-17	9	331.9	12.3	-14	-15.4	-199	366.6	-43	30.5	-40	224	212	219	253
7.86	-394	20	-874.3	-17	8	315.6	11.2	-28	-15.5	-219	352.5	-43	32.7	-44	156	203	188	250
8.17	-359	19	-836.3	-16	7	302.2	10.9	-45	-16.0	-234	337.1	-44	35.4	-48	145	192	179	224
8.47	-321	19	-793.8	-16	7	288.5	11.3	-61	-16.9	-251	319.1	-43	38.7	-52	190	183	192	217
8.77	-278	19	-745.7	-15	6	268.6	11.3	-74	-17.1	-271	299.9	-43	41.9	-55	130	174	159	210
9.07	-233	18	-690.9	-14	6	250.3	11.6	-92	-17.7	-287	280.0	-43	45.2	-59	86	160	119	183
9.38	-183	17	-631.8	-14	6	231.5	12.1	-107	-18.4	-304	257.8	-42	48.0	-63	92	148	129	171
9.68	-129	17	-569.0	-13	6	207.4	12.3	-120	-18.6	-324	235.0	-59	50.5	-66	70	139	120	155
9.98	-72	16	-498.1	-12	6	183.6	12.7	-138	-19.5	-340	212.0	-76	53.0	-69	62	124	75	122
10.28	-12	15	-423.3	-11	6	159.1	13.1	-153	-20.0	-358	188.5	-77	55.4	-72	67	110	82	104
10.59	53	14	-346.1	-10	4	131.6	13.3	-166	-20.0	-377	164.8	-78	57.3	-74	58	98	71	84
10.89	120	14	-261.5	-10	1	108.3	13.6	-183	-21.1	-394	141.7	-86	58.8	-76	47	83	20	43
11.19	192	13	-171.8	-9	1	78.1	13.9	-198	-21.6	-412	119.2	-103	60.2	-78	42	69	23	18
11.49	266	13	-79.4	-9	-3	50.8	14.0	-211	-21.4	-433	99.3	-126	61.3	-79	38	58	-1	-22
11.80	344	12	16.0	-9	-10	31.0	14.4	-225	-22.7	-452	89.1	-154	62.0	-81	33	48	-60	-84
12.10	426	12	115.1	-10	-19	4.8	14.6	-239	-23.1	-469	69.4	-190	62.3	-82	33	39	-84	-101
12.40	514	12	216.1	-11	-86	-9.2	14.5	-252	-22.9	-492	51.1	-231	62.1	-81	28	27	-110	-147
12.70	615	13	316.8	-13	-165	-19.1	14.7	-265	-23.8	-515	50.4	-276	61.2	-81	-18	14	-143	-226
13.01	725	14	418.7	-15	-224	-40.6	14.9	-278	-24.1	-530	49.1	-325	59.8	-80	-53	0	-194	-266
13.31	842	16	521.8	-18	-283	-58.3	15.5	-289	-24.5	-555	47.2	-378	58.0	-77	-53	-13	-240	-316
13.61	967	17	624.5	-20	-340	-52.6	18.0	-302	-27.4	-582	45.0	-433	55.9	-76	-64	-26	-276	-367
13.91	1100	19	727.5	-23	-399	-42.0	22.8	-314	-33.1	-599	43.0	-486	53.7	-73	-70	-34	-279	-403
14.22	1243	21	832.8	-28	-429	-42.5	31.3	-325	-44.4	-627	41.8	-533	51.5	-69	-75	-37	-234	-454
14.52	1396	27	940.0	-39	-458	-38.1	42.1	-333	-63.2	-657	42.0	-572	49.7	-66	-78	-37	-205	-479
14.82	1015	26	632.5	-38	-660	-346.0	72.0	311	-89.8	-311	-200.5	-793	37.8	-38	-387	-496	-457	-517

Kombination är A B 4

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmin_1_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]	Nmax_1 [kN]	Nmin_1 [kN]	Tmax [kNm]	Tmin [kNm]	N_tillh_Vmax_1 [kN]	N_tillh_Vmax_2 [kN]	N_tillh_Vmin_1 [kN]	N_tillh_Vmin_2 [kN]
0.00	-8	20	-31.3	-16	-103	-194.9	113.3	-95	-99.0	-217	-88.2	-255	31.0	-44	-196	-202	-161	-107
0.30	-42	18	-121.0	-16	37	4.8	43.1	-187	-53.9	-421	47.8	-33	70.2	-101	24	-12	1	35
0.60	-94	18	-229.6	-15	59	27.8	23.1	-176	-24.8	-398	85.6	-46	78.9	-112	40	-11	8	73
0.91	-145	16	-324.8	-13	75	63.1	22.0	-163	-27.3	-374	126.7	-52	78.5	-108	45	0	36	118
1.21	-196	16	-407.8	-13	67	102.4	16.1	-149	-24.9	-350	171.1	-53	77.0	-105	47	17	76	162
1.51	-243	16	-480.9	-13	55	141.6	15.8	-134	-25.3	-331	214.1	-52	75.9	-102	34	32	121	200
1.81	-287	17	-550.1	-13	56	178.3	16.1	-119	-24.6	-311	252.5	-52	74.5	-98	29	53	160	233
2.12	-327	18	-614.3	-13	55	213.0	16.2	-104	-25.0	-290	286.1	-55	72.5	-95	42	74	175	261
2.42	-365	18	-672.8	-13	53	242.5	15.7	-88	-23.9	-272	315.5	-58	69.9	-91	57	92	177	280
2.72	-399	19	-728.1	-14	49	268.0	15.2	-71	-21.9	-254	340.3	-61	66.8	-87	77	119	198	296
3.02	-430	20	-777.8	-14	44	290.6	14.7	-54	-21.4	-234	361.2	-62	63.7	-83	118	148	203	300
3.33	-457	20	-821.8	-15	32	325.1	14.0	-37	-20.2	-217	379.5	-44	60.2	-78	149	193	188	276
3.63	-480	21	-862.1	-16	21	356.6	13.1	-21	-18.6	-199	394.5	-27	56.3	-72	156	230	216	260
3.93	-499	21	-895.4	-16	19	371.5	12.8	-6	-18.3	-181	405.5	-29	52.4	-68	164	243	215	261
4.23	-514	21	-925.1	-17	17	380.9	12.1	13	-17.1	-165	412.9	-30	48.4	-63	161	260	193	255
4.54	-525	22	-952.6	-17	17	384.6	11.4	29	-16.4	-148	417.4	-32	44.2	-57	211	264	219	257
4.84	-532	22	-972.0	-18	18	388.7	11.4	43	-16.4	-131	420.9	-33	40.1	-52	267	259	242	260
5.14	-535	22	-984.1	-18	17	384.6	11.2	62	-15.0	-114	422.8	-34	36.1	-47	264	270	214	254
5.44	-535	22	-993.3	-18	16	380.0	11.7	80	-14.5	-98	421.7	-35	32.8	-42	266	276	209	250
5.75	-530	22	-998.0	-18	14	380.7	12.8	95	-14.9	-81	418.5	-36	30.0	-38	275	287	230	251
6.05	-522	22	-993.1	-18	13	378.6	12.6	115	-13.4	-64	413.5	-36	27.4	-33	245	292	198	240
6.35	-510	21	-984.3	-18	12	367.9	13.1	131	-13.0	-48	407.0	-37	27.5	-29	242	274	192	235
6.65	-495	21	-974.0	-18	11	357.9	14.2	147	-13.7	-33	399.2	-38	30.4	-26	267	277	210	235
6.96	-475	21	-954.8	-18	10	349.4	14.1	167	-12.1	-16	389.9	-39	33.9	-26	235	278	177	225
7.26	-452	21	-932.4	-17	9	341.3	14.6	183	-11.7	0	379.0	-40	37.6	-28	212	255	186	216
7.56	-425	20	-907.1	-17	8	333.0	15.7	199	-12.6	15	366.0	-40	40.7	-31	214	253	219	209
7.86	-394	20	-873.7	-17	8	316.7	15.7	219	-11.4	30	352.0	-41	44.3	-33	184	250	154	198
8.17	-359	20	-835.7	-16	7	303.3	16.2	234	-11.1	46	336.5	-42	48.5	-36	176	225	142	190
8.47	-321	19	-793.2	-16	6	289.6	17.1	251	-11.7	62	318.5	-41	52.2	-39	188	218	185	180
8.77	-278	19	-745.1	-15	6	269.9	17.3	271	-11.5	76	299.4	-41	55.3	-42	156	210	127	169
9.07	-233	18	-690.4	-14	6	251.6	17.9	287	-11.7	93	279.6	-41	59.5	-45	117	184	86	157
9.38	-183	17	-631.3	-14	5	232.8	18.6	304	-12.2	108	257.4	-57	63.5	-48	126	171	92	146
9.68	-129	17	-568.6	-13	5	208.7	18.8	323	-12.4	123	234.7	-73	66.0	-51	118	155	70	134
9.98	-72	16	-497.7	-12	5	185.0	19.7	340	-12.8	139	211.8	-74	69.5	-53	74	122	62	122
10.28	-12	15	-422.9	-11	5	160.5	20.2	358	-13.3	154	188.4	-75	72.7	-56	79	104	67	109
10.59	53	15	-345.9	-10	3	133.0	20.2	376	-13.4	168	164.9	-77	74.5	-58	69	84	58	95
10.89	120	14	-261.3	-10	1	109.7	21.3	394	-13.7	184	142.0	-86	76.8	-59	19	43	47	82
11.19	192	13	-171.6	-9	0	79.5	21.8	412	-14.0	199	119.8	-103	78.6	-60	21	17	34	71
11.49	266	13	-79.4	-9	-3	52.2	21.6	433	-14.1	212	99.7	-126	79.8	-62	-3	-23	30	62
11.80	344	13	15.9	-9	-11	32.5	22.9	452	-14.5	226	71.1	-154	81.6	-62	-60	-85	32	52
12.10	425	12	114.9	-10	-20	6.3	23.3	469	-14.7	239	51.1	-191	82.1	-63	-84	-103	32	40
12.40	514	12	215.9	-11	-86	-7.6	23.1	492	-14.6	252	50.8	-232	81.5	-62	-110	-149	27	29
12.70	614	13	316.6	-13	-164	-17.4	24.0	515	-14.8	265	50.0	-277	81.4	-61	-143	-229	-18	16
13.01	725	14	418.5	-15	-225	-38.7	24.3	530	-15.0	278	48.4	-326	80.4	-60	-194	-269	-51	3
13.31	842	16	521.6	-18	-285	-56.2	24.8	555	-15.7	289	46.3	-379	78.1	-58	-239	-319	-51	-10
13.61	966	17	624.3	-20	-343	-50.4	27.8	582	-18.1	302	44.1	-434	76.5	-56	-275	-370	-63	-23
13.91	1099	19	727.3	-23	-402	-39.4	33.7	599	-22.8	314	42.0	-487	74.0	-54	-277	-407	-70	-32
14.22	1241	21	832.7	-28	-432	-39.4	45.4	627	-31.0	325	40.7	-534	70.0	-51	-230	-457	-78	-34
14.52	1395	27	940.0	-39	-461	-35.0	64.7	657	-41.5	333	40.9	-573	66.8	-49	-201	-483	-81	-34
14.82	1014	29	632.3	-36	-662	-344.0	91.4	312	-71.8	-312	-201.2	-794	38.1	-38	-456	-496	-387	-517

Kombination är A B 5

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmin_1_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]	Nmax_1 [kN]	Nmin_1 [kN]	Tmax [kNm]	Tmin [kNm]	N_tillh_Vmax_1 [kN]	N_tillh_Vmax_2 [kN]	N_tillh_Vmin_1 [kN]	N_tillh_Vmin_2 [kN]
0.00	-5	23	-28.3	-19	-72	-189.0	101.0	-72	-91.1	-176	-63.7	-224	25.9	-31	-93	-149	-163	-93
0.30	-34	27	-108.9	-23	23	-34.5	43.1	-138	-50.2	-340	30.1	-63	57.6	-68	3	-35	-46	-2
0.60	-82	28	-210.0	-22	15	-64.9	19.0	-127	-26.6	-317	32.4	-112	63.9	-70	0	-62	-92	-19
0.91	-134	26	-303.9	-20	-8	-100.9	16.3	-113	-25.1	-290	21.0	-162	62.5	-65	-37	-75	-115	-36
1.21	-185	26	-387.9	-17	-57	-138.7	15.2	-96	-20.5	-268	-2.3	-215	59.6	-59	-102	-88	-143	-58
1.51	-233	25	-462.7	-15	-110	-174.5	18.0	-84	-23.0	-252	-30.6	-271	57.9	-56	-152	-118	-183	-84
1.81	-277	23	-533.3	-13	-147	-211.3	18.5	-70	-20.5	-231	-57.1	-328	56.3	-52	-207	-144	-201	-131
2.12	-317	20	-598.2	-13	-183	-247.5	18.3	-52	-18.7	-215	-80.7	-381	54.5	-49	-257	-152	-241	-177
2.42	-353	20	-656.7	-13	-217	-281.8	18.1	-41	-17.5	-204	-103.8	-430	52.4	-46	-304	-178	-276	-205
2.72	-385	22	-711.4	-14	-247	-315.3	17.4	-29	-16.1	-188	-126.8	-475	50.0	-43	-344	-203	-312	-266
3.02	-413	24	-760.3	-16	-286	-336.1	16.5	-14	-15.3	-175	-150.0	-516	47.4	-39	-377	-216	-365	-296
3.33	-437	24	-804.6	-17	-321	-344.2	15.6	-2	-14.3	-168	-172.9	-552	44.9	-37	-413	-223	-374	-296
3.63	-457	25	-844.8	-18	-339	-361.4	14.6	12	-13.8	-152	-194.7	-584	42.3	-33	-378	-245	-397	-367
3.93	-473	25	-876.8	-19	-355	-387.1	14.1	28	-13.4	-141	-214.0	-611	39.5	-31	-336	-287	-439	-388
4.23	-486	24	-904.4	-20	-342	-417.6	13.3	37	-12.7	-135	-231.1	-633	36.6	-28	-360	-290	-460	-360
4.54	-496	24	-929.7	-21	-318	-445.2	13.0	49	-12.4	-120	-246.8	-651	33.6	-25	-376	-310	-476	-383
4.84	-502	24	-947.7	-21	-314	-461.5	13.3	64	-12.2	-110	-260.1	-665	30.4	-27	-386	-350	-490	-397
5.14	-504	24	-958.0	-22	-314	-481.0	12.5	71	-11.6	-104	-270.5	-675	27.4	-29	-401	-340	-473	-403
5.44	-503	23	-965.6	-22	-311	-496.9	12.3	82	-11.5	-90	-274.0	-681	24.4	-27	-409	-353	-481	-416
5.75	-499	23	-969.9	-22	-306	-502.9	12.5	96	-11.5	-80	-270.2	-683	22.1	-25	-407	-392	-483	-417
6.05	-491	23	-965.0	-22	-297	-506.2	11.9	104	-11.2	-75	-263.2	-680	21.4	-25	-413	-378	-455	-405
6.35	-480	23	-955.8	-22	-286	-504.4	11.8	114	-11.2	-61	-253.0	-674	22.4	-24	-410	-387	-451	-402
6.65	-465	23	-945.4	-22	-272	-502.9	12.1	127	-11.4	-51	-239.8	-664	23.3	-23	-398	-415	-441	-396
6.96	-447	22	-927.1	-22	-255	-497.3	11.7	135	-11.2	-46	-223.5	-649	23.7	-22	-379	-381	-432	-383
7.26	-425	22	-905.9	-21	-236	-486.7	11.7	145	-11.3	-31	-204.1	-631	25.0	-23	-370	-373	-414	-375
7.56	-400	22	-882.1	-21	-213	-476.3	12.0	157	-11.7	-21	-181.7	-609	26.2	-25	-367	-391	-393	-359
7.86	-371	22	-850.0	-20	-188	-460.8	11.9	167	-11.5	-15	-156.4	-584	27.3	-27	-333	-351	-379	-332
8.17	-339	21	-814.0	-20	-161	-440.9	12.0	177	-11.6	0	-128.2	-554	29.2	-29	-312	-337	-356	-308
8.47	-303	21	-773.7	-19	-131	-418.0	12.4	189	-12.1	10	-97.2	-521	31.4	-32	-292	-346	-323	-283
8.77	-264	20	-727.8	-18	-98	-393.8	12.5	201	-12.0	16	-63.4	-489	34.4	-34	-249	-290	-319	-252
9.07	-221	20	-675.8	-17	-63	-363.1	12.7	212	-12.1	32	-27.0	-460	31.6	-36	-258	-264	-286	-223
9.38	-175	19	-619.8	-16	-31	-324.4	13.1	224	-12.7	43	12.1	-429	27.8	-38	-280	-231	-243	-190
9.68	-125	19	-560.0	-14	3	-287.7	13.3	238	-13.1	51	53.8	-394	29.5	-40	-199	-165	-218	-152
9.98	-71	18	-492.5	-13	45	-248.4	13.7	250	-13.6	67	97.9	-358	31.6	-41	-154	-207	-162	-117
10.28	-14	17	-421.1	-11	89	-208.1	14.3	264	-14.0	80	144.3	-322	33.5	-42	-170	-168	-103	-78
10.59	46	14	-346.8	-10	135	-173.1	14.5	279	-14.4	89	192.8	-287	35.2	-43	-80	-57	-42	-36
10.89	110	12	-265.4	-9	183	-120.4	15.1	293	-14.7	106	243.3	-252	37.3	-44	-67	-91	18	1
11.19	178	12	-178.8	-8	229	-73.0	15.8	310	-14.9	120	295.5	-216	39.1	-45	-80	-45	84	40
11.49	250	12	-90.0	-9	274	-18.5	16.3	328	-14.9	129	349.2	-178	40.8	-46	32	-10	155	85
11.80	326	15	1.8	-10	320	45.3	17.5	344	-14.7	146	403.8	-140	42.8	-47	33	-49	226	140
12.10	409	19	98.1	-12	274	115.9	18.5	362	-14.2	160	459.1	-102	44.4	-47	63	70	300	194
12.40	503	21	195.9	-14	220	187.2	16.3	386	-13.0	170	514.3	-65	45.8	-47	186	98	372	242
12.70	608	22	293.9	-17	249	240.9	14.5	407	-11.1	187	570.3	-34	47.6	-47	208	70	443	300
13.01	719	23	394.1	-20	289	291.1	16.7	426	-9.9	201	627.3	-7	49.1	-47	258	182	420	353
13.31	835	24	495.4	-24	336	339.4	20.3	453	-11.0	213	683.0	16	50.6	-47	300	183	338	400
13.61	957	22	596.2	-23	352	397.5	26.7	481	-14.9	229	735.4	33	52.4	-47	283	144	384	436
13.91	1084	19	695.8	-23	359	450.4	38.2	501	-22.9	244	782.0	45	53.2	-47	354	179	477	484
14.22	1217	18	795.9	-32	365	510.2	59.1	532	-34.6	255	823.8	54	52.8	-47	410	170	504	547
14.52	1355	22	890.4	-50	360	557.2	88.1	563	-50.5	266	857.8	60	61.1	-46	399	185	520	584
14.82	989	28	584.0	-47	-26	90.7	128.8	341	-94.5	-340	396.6	-297	38.7	-39	72	-19	17	2

Kombination är A

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Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmin_1_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]	Nmax_1 [kN]	Nmin_1 [kN]	Tmax [kNm]	Tmin [kNm]	N_tillh_Vmax_1 [kN]	N_tillh_Vmax_2 [kN]	N_tillh_Vmin_1 [kN]	N_tillh_Vmin_2 [kN]
0.00	-5	25	-37.2	-13	-122	-267.9	126.3	231	-71.6	124	-103.9	-280	4.8	-53	-143	-238	-243	-137
0.30	-43	16	-141.6	-39	74	-37.6	10.4	449	-93.4	244	91.4	-72	6.3	-112	24	26	-7	-18
0.60	-112	15	-270.3	-52	101	-23.7	18.6	427	-50.3	235	142.5	-98	3.4	-114	22	66	15	-47
0.91	-181	8	-387.4	-48	121	-13.3	23.5	402	-39.1	225	188.2	-108	1.6	-105	32	89	44	-49
1.21	-247	4	-493.1	-43	137	4.0	19.0	377	-20.7	213	230.3	-104	-0.9	-95	50	110	78	-41
1.51	-309	3	-588.9	-38	152	25.7	17.2	355	-15.7	200	270.1	-92	-0.5	-85	96	130	103	-25
1.81	-365	2	-677.9	-30	132	49.7	16.6	331	-13.3	187	307.9	-76	1.4	-77	132	149	181	-5
2.12	-414	2	-759.6	-24	112	73.4	14.9	306	-10.0	173	318.8	-64	4.1	-69	180	173	204	19
2.42	-457	2	-833.2	-22	131	96.7	13.6	284	-7.4	158	329.7	-53	6.5	-63	221	160	193	77
2.72	-496	4	-900.2	-19	150	120.3	12.3	261	-7.2	141	365.6	-41	8.3	-57	241	143	235	137
3.02	-530	5	-960.2	-17	168	141.3	11.0	238	-6.9	124	399.3	-29	9.8	-52	281	152	258	174
3.33	-559	6	-1014.3	-16	185	160.0	9.9	218	-6.5	106	430.6	-18	10.7	-47	320	161	275	208
3.63	-584	7	-1062.4	-14	200	179.0	9.0	195	-6.1	89	459.2	-8	11.3	-43	355	176	289	224
3.93	-605	8	-1101.9	-13	212	196.9	8.1	172	-5.8	70	484.8	3	11.7	-40	388	199	304	257
4.23	-621	9	-1136.1	-13	222	214.6	6.1	151	-5.5	50	507.3	13	11.8	-37	388	218	320	279
4.54	-633	10	-1166.0	-12	293	229.5	4.3	129	-5.2	29	526.6	22	11.7	-34	334	227	327	285
4.84	-640	10	-1188.2	-12	366	239.8	4.1	105	-5.0	9	542.6	29	11.4	-31	305	244	335	301
5.14	-642	11	-1202.6	-13	376	247.6	5.3	84	-4.8	-13	555.3	34	11.8	-28	295	258	345	300
5.44	-641	11	-1210.8	-15	384	253.1	6.5	62	-4.7	-34	564.7	38	13.1	-26	279	260	348	297
5.75	-634	11	-1214.7	-15	389	255.0	6.5	39	-4.5	-56	570.6	40	14.4	-23	271	264	355	290
6.05	-624	11	-1212.5	-15	391	252.7	6.4	17	-4.4	-78	573.1	40	15.8	-21	266	267	362	281
6.35	-610	11	-1202.8	-15	390	248.1	6.4	-4	-4.3	-101	572.2	37	17.5	-19	279	265	360	285
6.65	-591	11	-1187.1	-15	386	240.8	6.5	-27	-4.3	-122	567.9	32	14.9	-16	286	258	337	273
6.96	-568	11	-1166.0	-15	379	230.9	6.6	-48	-4.2	-145	560.3	25	12.5	-14	286	252	312	257
7.26	-541	11	-1139.3	-15	369	218.7	6.7	-74	-4.2	-167	549.4	16	14.4	-16	291	272	298	259
7.56	-509	11	-1105.4	-15	345	216.1	6.8	-100	-4.2	-189	535.3	5	16.2	-18	257	284	286	246
7.86	-473	10	-1065.3	-15	318	207.5	5.5	-120	-4.1	-212	518.1	-9	18.1	-17	251	264	275	227
8.17	-433	10	-1020.7	-15	300	184.0	4.2	-139	-5.5	-235	498.0	-24	20.3	-17	277	241	274	219
8.47	-389	9	-969.6	-12	279	161.4	4.3	-158	-7.1	-257	474.9	-41	22.6	-16	243	213	270	194
8.77	-340	8	-910.7	-10	255	137.0	4.5	-177	-7.3	-279	513.9	-61	24.9	-16	207	196	244	165
9.07	-287	8	-846.1	-11	229	107.4	4.7	-196	-7.5	-302	551.6	-82	27.5	-16	175	182	224	147
9.38	-229	7	-776.7	-11	200	75.1	4.9	-214	-7.8	-323	523.1	-111	30.1	-16	133	154	201	112
9.68	-167	6	-700.3	-11	169	44.4	5.2	-232	-8.0	-346	491.9	-150	33.0	-15	107	117	256	74
9.98	-101	5	-616.0	-11	136	11.6	5.4	-250	-8.2	-368	458.4	-191	36.1	-15	72	87	311	50
10.28	-30	4	-527.0	-12	101	-23.3	5.8	-268	-8.5	-389	422.7	-234	39.3	-14	19	55	282	9
10.59	45	2	-432.5	-12	64	-57.7	6.1	-285	-8.6	-411	385.1	-279	42.8	-12	-18	38	253	-35
10.89	125	1	-329.1	-12	23	-86.4	6.5	-302	-8.7	-433	345.8	-325	46.6	-11	-57	5	221	-64
11.19	211	1	-221.2	-13	-22	-113.9	7.0	-319	-8.6	-454	305.0	-372	50.5	-9	-109	-48	188	-95
11.49	302	1	-109.4	-14	-67	-141.7	7.5	-336	-8.5	-476	263.4	-420	55.2	-7	-145	-84	162	-171
11.80	399	1	7.2	-16	-111	-168.9	8.2	-352	-8.1	-498	221.3	-468	60.5	-5	-184	-123	135	-247
12.10	504	2	127.6	-17	-171	-195.5	9.2	-367	-7.2	-519	181.7	-518	66.3	-2	-232	-163	95	-278
12.40	624	3	251.5	-18	-228	-217.9	10.7	-383	-5.7	-542	147.3	-571	72.3	1	-259	-203	53	-310
12.70	759	4	373.6	-21	-261	-101.9	13.5	-397	-3.3	-564	117.6	-549	78.6	3	-294	-241	10	-339
13.01	905	6	493.8	-23	-289	4.9	18.8	-411	-0.1	-585	92.0	-524	84.8	6	-342	-278	-97	-359
13.31	1059	9	617.1	-21	-311	-33.7	28.1	-425	4.1	-607	71.6	-569	90.5	8	-372	-305	-193	-381
13.61	1222	11	746.5	-17	-328	-68.7	44.2	-437	9.5	-629	59.9	-610	94.7	9	-391	-303	-228	-405
13.91	1395	19	880.4	-7	-379	-57.1	72.0	-448	16.8	-616	57.1	-645	96.0	9	-421	-323	-260	-431
14.22	1580	42	1017.4	6	-429	-32.3	116.8	-458	27.0	-604	59.4	-673	92.6	6	-441	-355	-270	-452
14.52	1776	82	1158.1	22	-439	-35.5	176.8	-467	40.0	-627	65.2	-694	85.4	1	-430	-359	-281	-465
14.82	1290	94	781.0	26	-676	-361.7	208.6	326	-18.1	-326	-271.1	-898	27.5	-28	-583	-617	-676	-658

Kombination är B_a B 1

Xkoord [m]	Mmax_1_dir [kNm]	Mmin_1_dir [kNm]	V_2_tillh_Mmax_1_dir [kN]	V_2_tillh_Mmin_1_dir [kN]	T_tillh_Mmax_1_dir [kNm]	T_tillh_Mmin_1_dir [kNm]	Vmax_2_dir [kN]	Vmin_2_dir [kN]	M1_tillh_Vmax_2 [kNm]	M1_tillh_Vmin_2 [kNm]	T_tillh_Vmax_2 [kNm]	T_tillh_Vmin_2 [kNm]	Tmax [kNm]	Tmin [kNm]	M1_tillh_Tmax [kNm]	M1_tillh_Tmin [kNm]	V_2_tillh_Tmax [kN]	V_2_tillh_Tmin [kN]
0.00	5	-42	139.6	149	22	24	192	88	-11.6	-29	13.1	36	43.7	2	-29.0	-11	101.0	174
0.30	-16	-143	266.3	294	39	67	374	175	-62.8	-101	19.8	90	106.3	-2	-104.2	-57	199.3	340
0.60	-68	-253	245.2	286	33	87	354	172	-145.9	-178	13.8	108	124.9	-8	-186.6	-132	194.3	321
0.91	-122	-347	229.0	274	32	84	332	168	-228.4	-241	15.9	102	118.7	-7	-250.0	-212	189.1	301
1.21	-174	-429	212.5	260	31	77	310	162	-307.0	-294	17.3	91	108.2	-5	-304.7	-277	182.2	271
1.51	-222	-501	193.3	251	30	69	289	156	-383.3	-339	17.3	82	98.4	-5	-354.3	-330	174.1	242
1.81	-264	-556	175.1	244	29	61	270	152	-448.7	-370	17.3	72	88.0	-4	-388.4	-362	169.5	226
2.12	-302	-598	160.3	237	29	54	252	150	-502.6	-392	17.3	63	78.1	-4	-412.3	-389	167.5	211
2.42	-339	-647	144.3	226	28	47	236	141	-591.2	-388	28.6	44	68.9	-3	-441.8	-437	160.3	194
2.72	-375	-701	127.0	211	27	40	220	123	-678.5	-390	36.5	28	60.4	-3	-474.7	-485	148.1	174
3.02	-406	-748	109.3	193	26	33	201	105	-718.7	-423	30.1	27	52.6	-2	-502.9	-528	134.7	154
3.33	-433	-790	91.2	173	25	26	183	87	-754.7	-451	24.1	26	45.4	-2	-526.2	-565	119.5	133
3.63	-455	-824	73.4	147	24	22	162	68	-778.5	-474	19.0	24	39.0	-1	-544.4	-596	103.3	112
3.93	-471	-849	58.5	120	20	19	140	51	-794.3	-493	13.9	23	34.7	-2	-604.2	-640	78.9	103
4.23	-483	-869	45.2	104	16	14	122	33	-815.8	-573	10.0	21	33.1	-5	-673.7	-678	54.1	95
4.54	-484	-865	33.8	94	15	9	111	21	-809.8	-636	6.5	19	31.8	-7	-682.1	-691	42.6	80
4.84	-482	-854	24.1	82	14	6	103	11	-794.1	-626	2.1	18	29.7	-10	-678.9	-699	33.7	69
5.14	-486	-864	11.6	67	13	4	91	-2	-802.1	-644	-0.6	17	28.5	-12	-688.3	-720	20.5	61
5.44	-490	-880	-3.0	54	12	1	74	-19	-813.1	-663	-2.3	16	27.7	-14	-704.8	-747	4.3	50
5.75	-490	-892	-20	33	11	-2	53	-39	-816	-682	-5	15	26	-16	-717	-746	-15	29
6.05	-485	-896	-37.9	0	10	-3	28	-61	-812.7	-696	-6.8	14	24.8	-18	-732.6	-737	-38.0	4
6.35	-475	-892	-54.2	-26	8	-5	4	-82	-802.2	-683	-8.8	13	23.5	-20	-739.8	-735	-58.6	-20
6.65	-461	-881	-68.8	-48	7	-7	-18	-100	-786.2	-681	-10.7	11	21.9	-22	-722.4	-714	-75.6	-41
6.96	-443	-865	-82.7	-69	6	-9	-37	-117	-763.5	-674	-12.5	9	20.5	-23	-718.6	-687	-92.6	-60
7.26	-422	-844	-96.4	-88	4	-11	-56	-134	-738.3	-646	-14.4	8	19.1	-25	-711.3	-669	-109.6	-79
7.56	-398	-818	-110.2	-113	3	-11	-74	-150	-710.9	-628	-16.3	6	17.7	-27	-617.2	-624	-117.3	-98
7.86	-370	-787	-124.3	-134	1	-14	-93	-168	-673.7	-606	-17.9	5	16.7	-29	-523.4	-585	-124.8	-117
8.17	-339	-753	-138.6	-149	0	-17	-111	-185	-635.7	-566	-19.7	4	16.2	-31	-521.4	-565	-136.0	-134
8.47	-304	-712	-153.1	-170	-2	-18	-129	-203	-579.9	-533	-21.8	2	15.9	-33	-517.3	-508	-147.3	-154
8.77	-266	-666	-167.9	-196	-3	-19	-146	-222	-478.4	-501	-10.9	-9	15.5	-35	-482.2	-446	-163.5	-172
9.07	-224	-614	-182.8	-214	-5	-22	-162	-240	-391.2	-450	-0.2	-19	15.1	-37	-441.0	-404	-179.4	-191
9.38	-178	-558	-197.5	-228	-6	-25	-178	-259	-343.0	-399	-2.1	-22	14.5	-40	-395.0	-373	-195.0	-206
9.68	-128	-496	-212.1	-254	-7	-26	-193	-278	-295.3	-343	-3.6	-24	13.9	-42	-343.2	-347	-211.0	-221
9.98	-74	-427	-226.9	-272	-9	-30	-208	-297	-243.9	-269	-5.2	-27	13.3	-45	-286.6	-297	-227.1	-237
10.28	-17	-354	-243.3	-283	-23	-21	-224	-314	-184.8	-201	-7.3	-30	12.6	-49	-225.0	-228	-243.1	-253
10.59	46	-278	-259.4	-306	-37	-10	-239	-332	-122.3	-128	-9.5	-33	11.7	-53	-160.0	-158	-258.8	-268
10.89	115	-197	-274.5	-321	-42	-11	-254	-349	-56.2	-38	-11.5	-37	10.9	-57	-94.1	-89	-273.6	-284
11.19	187	-113	-290.4	-329	-48	-11	-268	-364	13.6	57	-13.7	-41	10.0	-62	-25.0	49	-287.9	-300
11.49	262	-27	-306.0	-339	-54	-11	-281	-381	91.1	101	-34.0	-28	9.2	-68	49.0	187	-302.1	-315
11.80	342	61	-320.3	-352	-61	-10	-292	-398	175.3	147	-57.0	-13	8.4	-74	125.1	265	-315.5	-326
12.10	426	150	-349.3	-361	-67	-9	-301	-412	254.6	247	-64.2	-13	7.7	-82	203.1	345	-328.2	-335
12.40	518	238	-378.7	-354	-73	-5	-308	-428	333.1	342	-72.0	-13	7.1	-91	282.7	426	-340.3	-342
12.70	614	320	-388.7	-353	-81	1	-312	-443	413.0	438	-80.8	-13	6.9	-100	362.5	508	-352.0	-347
13.01	710	399	-396.3	-363	-90	1	-314	-456	492.5	539	-89.9	-12	7.0	-110	442.3	590	-363.6	-349
13.31	806	478	-402.3	-373	-98	2	-314	-471	568.0	637	-97.2	-11	7.7	-119	522.1	670	-375.7	-350
13.61	900	557	-404.0	-384	-106	3	-312	-488	650.8	735	-104.9	-9	9.2	-127	602.1	749	-389.1	-349
13.91	992	638	-405.0	-398	-110	5	-308	-505	737.4	840	-110.1	-7	11.2	-132	683.9	827	-404.6	-347
14.22	1082	722	-409.0	-416	-106	7	-304	-529	810.7	956	-106.6	-5	13.8	-129	768.1	903	-424.7	-346
14.52	1183	807	-499	-370	-54	-33	-306	-569	879	1085	-96	-2	17	-119	860	985	-458	-351
14.82	855	538	-200.9	200	0	0	295	-296	660.1	717	-30.1	30	43.7	-44	650.3	641	-69.7	74

Kombination är B_a B 2

Xkoord [m]	Mmax_1_dir [kNm]	Mmin_1_dir [kNm]	V_2_tillh_Mmax_1_dir [kN]	V_2_tillh_Mmin_1_dir [kN]	T_tillh_Mmax_1_dir [kNm]	T_tillh_Mmin_1_dir [kNm]	Vmax_2_dir [kN]	Vmin_2_dir [kN]	M1_tillh_Vmax_2 [kNm]	M1_tillh_Vmin_2 [kNm]	T_tillh_Vmax_2 [kNm]	T_tillh_Vmin_2 [kNm]	Tmax [kNm]	Tmin [kNm]	M1_tillh_Tmax [kNm]	M1_tillh_Tmin [kN]	V_2_tillh_Tmax [kN]	V_2_tillh_Tmin [kN]
0.00	8	-28	86.8	112	29	2	147	53	-0.9	-20	29.8	4	40.0	-24	5.2	-24	86.9	68
0.30	-2	-94	165.1	219	59	8	285	102	-35.8	-63	50.7	9	80.0	-48	-26.2	-77	211.6	132
0.60	-44	-167	148.9	209	60	12	265	95	-105.6	-105	41.5	9	79.8	-50	-100.0	-132	244.1	125
0.91	-90	-233	134.2	185	56	13	242	87	-177.0	-163	49.7	4	78.7	-50	-166.5	-182	222.5	119
1.21	-136	-294	120.0	158	52	13	222	77	-244.7	-226	48.4	0	76.5	-49	-231.8	-229	199.3	112
1.51	-180	-349	105.3	146	48	15	205	69	-305.7	-265	37.2	2	73.2	-47	-299.7	-270	187.1	104
1.81	-206	-388	93.6	140	43	18	190	61	-348.1	-297	41.9	4	68.4	-45	-334.0	-297	170.7	98
2.12	-229	-422	85.6	129	38	19	179	52	-381.6	-331	38.2	7	63.0	-42	-362.1	-325	157.3	94
2.42	-263	-467	78.7	115	32	20	171	48	-428.0	-362	26.1	7	57.4	-39	-418.1	-363	153.6	90
2.72	-299	-516	68.4	121	22	27	163	42	-485.6	-389	28.8	5	50.8	-36	-464.4	-401	145.3	85
3.02	-328	-564	54.3	112	13	31	151	31	-532.7	-430	24.2	9	44.6	-33	-506.5	-436	132.0	77
3.33	-349	-608	42.1	96	12	25	134	16	-564.8	-458	12.2	10	39.0	-30	-552.3	-464	116.8	64
3.63	-365	-644	33.7	76	10	20	113	1	-601.0	-490	14.0	12	34.3	-28	-568.0	-497	95.0	53
3.93	-377	-669	27.5	42	6	14	99	-13	-612.2	-542	12.6	14	31.9	-29	-576.4	-526	79.5	43
4.23	-385	-690	21.1	46	6	10	92	-23	-610.0	-553	6.8	5	30.2	-29	-601.4	-542	75.0	32
4.54	-385	-695	16.8	40	6	8	85	-30	-619.3	-559	12.8	3	28.5	-28	-601.6	-546	70.2	27
4.84	-377	-678	15.0	22	6	3	84	-32	-609.4	-567	12.3	6	26.6	-27	-582.5	-530	67.5	27
5.14	-374	-674	11.9	39	6	1	85	-32	-602.0	-543	5.3	-2	24.5	-26	-562.8	-527	25.1	27
5.44	-379	-693	6.3	34	5	-1	76	-38	-628.5	-553	2.1	4	22.8	-25	-557.2	-557	-20.9	38
5.75	-382	-711	-1	6	5	-5	69	-49	-648	-584	-7	16	22	-25	-568	-588	-30	48
6.05	-380	-718	-11.0	-12	4	-8	58	-61	-646.8	-566	-14.1	8	21.0	-25	-577.7	-586	-42.8	32
6.35	-373	-717	-21.2	-17	4	-9	41	-75	-622.1	-581	-8.6	0	20.2	-26	-579.2	-576	-56.2	15
6.65	-362	-711	-29.9	-30	3	-10	29	-89	-596.8	-616	-2.5	-2	19.0	-26	-563.2	-576	-63.8	5
6.96	-347	-698	-37.5	-63	2	-13	22	-100	-588.6	-583	-3.1	-11	18.5	-26	-503.5	-556	-53.5	-7
7.26	-329	-680	-44.6	-60	1	-14	11	-110	-561.8	-568	-4.6	-13	19.1	-27	-451.3	-531	-44.8	-19
7.56	-309	-660	-51.6	-70	0	-16	3	-120	-540.1	-573	-5.5	-7	19.9	-28	-436.1	-517	-52.2	-25
7.86	-286	-634	-58.7	-101	-1	-19	-3	-129	-523.5	-524	-5.8	-16	20.8	-28	-436.2	-499	-57.2	-77
8.17	-260	-604	-65.9	-91	-1	-19	-15	-138	-487.9	-496	-7.2	-18	21.8	-29	-432.7	-468	-62.4	-129
8.47	-231	-570	-73.2	-81	-2	-19	-24	-148	-457.2	-469	-8.0	-19	23.1	-30	-406.4	-438	-70.1	-138
8.77	-199	-532	-80.8	-113	-3	-22	-30	-158	-431.3	-405	-8.2	-29	24.3	-32	-376.5	-406	-77.9	-150
9.07	-165	-489	-88.4	-122	-4	-23	-42	-167	-385.8	-383	-9.4	-31	25.4	-34	-341.4	-382	-85.7	-160
9.38	-127	-443	-96.0	-112	-5	-23	-52	-177	-345.3	-344	-9.9	-32	26.4	-36	-306.6	-353	-93.1	-167
9.68	-87	-394	-103.6	-145	-5	-26	-59	-189	-309.8	-269	-9.8	-33	27.4	-38	-264.9	-312	-101.0	-178
9.98	-44	-339	-111.4	-155	-6	-27	-71	-199	-254.9	-237	-10.4	-36	28.4	-40	-214.6	-273	-109.6	-191
10.28	1	-281	-119.0	-146	-6	-26	-81	-211	-204.9	-186	-10.3	-37	29.5	-42	-162.7	-210	-118.0	-200
10.59	49	-221	-126.5	-181	-6	-29	-89	-223	-160.1	-98	-9.4	-37	30.5	-45	-109.6	-155	-126.3	-212
10.89	100	-156	-133.8	-211	-5	-31	-101	-235	-96.7	-56	-9.0	-40	31.5	-47	-57.5	-96	-134.2	-226
11.19	152	-87	-141.5	-202	-5	-30	-111	-248	-38.5	6	-7.8	-41	32.7	-49	-3.9	-21	-141.6	-235
11.49	207	-18	-155.8	-190	-16	-18	-118	-263	13.9	75	-5.6	-44	34.1	-52	55.0	44	-148.9	-250
11.80	266	51	-171.5	-210	-29	-7	-129	-276	83.0	128	-3.9	-48	35.8	-55	116.4	113	-155.6	-267
12.10	329	120	-199.4	-226	-37	-3	-137	-289	145.8	224	-1.3	-48	37.8	-59	179.6	195	-162.0	-277
12.40	399	188	-231.6	-205	-46	3	-142	-306	202.4	302	2.5	-52	40.0	-63	243.4	267	-167.7	-294
12.70	471	255	-251.4	-192	-51	8	-151	-321	273.6	365	5.9	-59	42.7	-68	305.9	342	-172.5	-312
13.01	544	320	-268.1	-215	-56	11	-158	-334	337.8	455	10.5	-61	45.8	-74	366.8	429	-176.8	-323
13.31	617	383	-281.5	-234	-61	14	-163	-353	394.7	535	16.2	-69	49.1	-80	426.3	506	-180.9	-342
13.61	691	443	-300.6	-237	-67	18	-170	-374	455.2	604	22.1	-79	52.5	-87	484.4	584	-184.9	-364
13.91	767	500	-321.8	-211	-71	28	-177	-391	519.0	685	27.5	-85	55.2	-92	539.6	673	-189.1	-379
14.22	844	552	-347.4	-185	-72	35	-183	-417	571.6	772	35.6	-88	56.6	-94	591.5	727	-195.1	-334
14.52	930	602	-381	-196	-70	36	-195	-452	610	873	40	-85	57	-95	642	773	-208	-295
14.82	678	391	-165.3	164	0	0	253	-254	493.5	547	40.3	-40	50.9	-51	498.6	487	-4.3	3

Kombination är B_a B 3

Xkoord [m]	Mmax_1_dir [kNm]	Mmin_1_dir [kNm]	V_2_tillh_Mmax_1_dir [kN]	V_2_tillh_Mmin_1_dir [kN]	T_tillh_Mmax_1_dir [kNm]	T_tillh_Mmin_1_dir [kNm]	Vmax_2_dir [kN]	Vmin_2_dir [kN]	M1_tillh_Vmax_2 [kN]	M1_tillh_Vmin_2 [kNm]	T_tillh_Vmax_2 [kNm]	T_tillh_Vmin_2 [kNm]	Tmax [kNm]	Tmin [kNm]	M1_tillh_Tmax [kNm]	M1_tillh_Tmin [kN]	V_2_tillh_Tmax [kN]	V_2_tillh_Tmin [kN]
0.00	5	-24	103.0	138	10	17	173	75	-2.5	-17	14.5	5	36.2	-25	-1.4	-22	154.4	111
0.30	-8	-90	197.7	280	22	25	337	145	-39.0	-60	33.0	11	76.5	-52	-34.8	-78	303.8	217
0.60	-45	-169	183.9	264	24	19	322	136	-105.9	-115	37.0	5	80.5	-54	-98.8	-142	293.1	198
0.91	-83	-242	172.7	238	23	22	304	126	-167.9	-171	35.1	0	79.5	-54	-154.6	-201	274.0	179
1.21	-120	-308	159.7	221	23	24	284	115	-227.4	-222	32.4	2	77.7	-54	-209.3	-258	254.8	169
1.51	-152	-361	148.4	208	21	25	271	106	-279.7	-261	33.4	4	76.1	-54	-262.1	-306	245.9	161
1.81	-178	-403	141.2	201	19	25	261	98	-319.5	-294	32.6	5	73.3	-52	-296.0	-342	233.6	155
2.12	-209	-448	132.1	186	17	25	247	88	-364.0	-330	29.1	7	69.9	-51	-336.7	-381	218.9	147
2.42	-247	-496	120.2	164	15	25	231	76	-421.3	-364	28.3	7	66.5	-49	-395.9	-424	207.6	136
2.72	-284	-543	108.0	154	13	23	215	63	-475.1	-404	26.0	8	62.2	-46	-444.0	-460	190.2	124
3.02	-320	-584	95.3	136	11	22	197	49	-523.1	-439	22.0	9	58.2	-44	-488.7	-492	172.4	111
3.33	-352	-621	82.2	123	7	20	180	35	-571.4	-466	20.8	8	54.1	-41	-540.3	-526	159.0	97
3.63	-381	-653	68.5	106	2	18	161	21	-612.2	-493	18.3	9	49.3	-38	-574.2	-556	138.9	83
3.93	-405	-679	46.9	78	0	17	142	7	-642.9	-514	14.5	8	45.3	-35	-601.0	-576	113.5	73
4.23	-410	-688	29.1	90	0	14	128	-5	-655.1	-521	12.9	8	41.7	-32	-619.3	-581	96.8	69
4.54	-403	-682	22.5	80	0	12	118	-13	-645.9	-512	10.6	6	38.0	-30	-605.0	-577	85.2	64
4.84	-401	-689	15.2	49	0	11	107	-21	-647.2	-513	7.7	6	35.1	-28	-599.7	-585	74.7	58
5.14	-406	-708	6.9	54	0	7	95	-33	-665.2	-530	6.3	5	31.8	-26	-619.2	-606	68.1	52
5.44	-408	-725	-2.2	41	-1	5	83	-45	-678.6	-545	4.3	4	28.2	-24	-620.1	-617	55.3	39
5.75	-408	-740	-13	4	-1	4	67	-58	-686	-560	2	2	26	-23	-618	-623	40	23
6.05	-404	-744	-25.9	-21	-1	2	47	-77	-682.9	-564	6.2	1	23.0	-21	-621.7	-620	25.4	-29
6.35	-395	-742	-38.1	-41	-1	0	29	-94	-659.9	-567	7.1	-3	20.4	-21	-614.4	-602	9.9	-78
6.65	-383	-736	-49.2	-58	-1	-2	14	-110	-633.5	-585	7.5	-8	18.4	-23	-567.6	-583	-32.6	-92
6.96	-367	-722	-59.6	-85	-1	-6	2	-128	-616.6	-581	11.1	-9	18.2	-26	-525.4	-576	-75.0	-110
7.26	-348	-705	-69.8	-89	-2	-10	-11	-143	-594.6	-554	5.0	-11	19.5	-28	-513.5	-564	-87.9	-127
7.56	-325	-683	-79.9	-104	-2	-11	-24	-157	-571.2	-539	3.4	-12	21.0	-30	-487.0	-531	-99.7	-137
7.86	-300	-655	-89.9	-141	-2	-12	-35	-173	-547.0	-519	6.4	-14	22.4	-33	-481.7	-509	-103.4	-154
8.17	-272	-623	-99.9	-136	-2	-14	-49	-187	-510.5	-478	1.2	-15	24.2	-36	-474.1	-511	-107.2	-170
8.47	-241	-587	-109.9	-131	-3	-17	-61	-201	-476.4	-449	-0.1	-17	26.3	-38	-445.5	-495	-119.2	-179
8.77	-206	-547	-119.9	-167	-3	-17	-72	-217	-445.2	-415	2.4	-18	28.4	-40	-414.1	-447	-131.1	-189
9.07	-169	-501	-129.5	-181	-3	-18	-85	-230	-396.4	-392	-1.8	-20	30.5	-43	-375.4	-406	-142.4	-206
9.38	-130	-452	-139.0	-175	-3	-20	-97	-243	-352.6	-350	-2.8	-21	32.4	-46	-328.8	-365	-153.9	-222
9.68	-87	-401	-148.5	-212	-3	-21	-108	-259	-314.1	-273	-0.5	-21	34.1	-48	-275.4	-312	-165.8	-231
9.98	-42	-343	-157.9	-225	-3	-21	-121	-272	-255.1	-240	-3.7	-23	35.9	-50	-226.8	-265	-177.3	-247
10.28	6	-283	-167.0	-218	-3	-23	-132	-286	-202.2	-187	-4.3	-24	37.5	-53	-175.4	-212	-188.4	-263
10.59	55	-221	-175.8	-256	-2	-23	-143	-301	-155.8	-130	-2.1	-25	38.9	-54	-116.8	-144	-199.0	-272
10.89	107	-154	-184.1	-287	-1	-21	-154	-315	-76.4	-87	0.1	-28	40.1	-56	-56.5	-85	-209.2	-288
11.19	161	-85	-192.0	-279	-1	-23	-165	-329	-16.3	7	0.1	-26	41.2	-57	0.6	-22	-218.9	-303
11.49	216	-14	-200.4	-275	0	-23	-175	-344	24.3	75	-2.2	-27	42.2	-58	58.8	45	-228.1	-317
11.80	273	58	-209.8	-301	0	-19	-184	-358	101.4	129	0.8	-30	43.1	-59	124.1	115	-236.7	-333
12.10	332	130	-234.3	-296	-5	-14	-192	-370	176.8	225	4.0	-27	43.9	-60	192.5	196	-244.5	-343
12.40	396	200	-283.1	-278	-21	-6	-200	-387	235.8	299	4.1	-28	44.5	-61	261.6	268	-251.4	-357
12.70	467	268	-326.3	-271	-30	-1	-208	-403	295.7	365	4.9	-31	44.9	-62	331.3	342	-257.8	-373
13.01	541	334	-346.6	-257	-27	1	-215	-414	354.6	452	6.0	-31	45.0	-62	399.6	426	-263.7	-383
13.31	617	400	-360.4	-276	-28	4	-221	-432	412.4	533	6.7	-32	45.0	-63	466.1	503	-268.9	-399
13.61	697	463	-380.0	-295	-30	8	-228	-453	472.4	617	7.8	-32	44.8	-63	538.8	585	-289.4	-418
13.91	781	526	-401.3	-269	-30	9	-235	-468	531.5	713	8.7	-32	44.4	-63	614.9	678	-310.4	-432
14.22	870	589	-425.4	-244	-29	8	-241	-492	591.8	810	10.0	-31	43.3	-62	688.8	767	-317.0	-454
14.52	971	652	-455	-252	-27	9	-250	-523	655	916	11	-28	42	-59	766	867	-327	-482
14.82	705	435	-141.1	140	0	0	233	-235	533.1	575	12.2	-12	32.9	-33	581.3	572	24.2	-21

Kombination är		B_a		B		4													
Xkoord	Mmax_1_dir	Mmin_1_dir	V_2_tillh_Mmax_1_dir	V_2_tillh_Mmin_1_dir	T_tillh_Mmax_1_dir	T_tillh_Mmin_1_dir	Vmax_2_dir	Vmin_2_dir	M1_tillh_Vmax_2	M1_tillh_Vmin_2	T_tillh_Vmax_2	T_tillh_Vmin_2	Tmax	Tmin	M1_tillh_Tmax	M1_tillh_Tmin	V_2_tillh_Tmax	V_2_tillh_Tmin
[m]	[kNm]	[kNm]	[kN]	[kN]	[kNm]	[kNm]	[kN]	[kN]	[kNm]	[kNm]	[kNm]	[kNm]	[kNm]	[kNm]	[kNm]	[kNm]	[kN]	[kN]
0.00	5	-24	-103.0	-138	-10	-17	-75	-173	-17.4	-3	-5.5	-14	24.4	-37	-20.2	-3	-111.1	-154
0.30	-8	-89	-197.7	-279	-23	-25	-145	-337	-60.2	-39	-11.3	-33	51.5	-78	-76.3	-36	-217.6	-302
0.60	-45	-168	-183.8	-264	-25	-18	-136	-322	-114.9	-106	-5.5	-37	54.2	-82	-141.6	-99	-198.7	-292
0.91	-83	-242	-172.7	-238	-24	-21	-126	-304	-171.1	-168	-0.9	-35	54.3	-81	-201.1	-155	-179.7	-273
1.21	-120	-308	-159.6	-221	-24	-24	-115	-284	-222.4	-227	-3.2	-32	54.0	-79	-259.2	-208	-169.8	-254
1.51	-152	-361	-148.4	-208	-22	-24	-106	-271	-260.7	-280	-4.3	-33	53.4	-77	-306.8	-261	-161.5	-245
1.81	-178	-403	-141.1	-201	-20	-24	-98	-261	-294.4	-319	-6.0	-32	52.3	-74	-343.3	-295	-155.4	-232
2.12	-209	-447	-131.9	-186	-18	-24	-88	-247	-330.2	-364	-7.4	-29	50.6	-71	-381.8	-335	-147.1	-218
2.42	-246	-495	-119.9	-163	-16	-24	-76	-231	-363.3	-420	-7.7	-28	48.6	-68	-424.7	-394	-136.0	-206
2.72	-283	-541	-107.6	-154	-14	-23	-63	-214	-403.3	-473	-8.8	-26	46.1	-63	-460.7	-441	-123.9	-189
3.02	-318	-582	-94.9	-135	-12	-22	-49	-196	-438.1	-520	-9.4	-22	43.6	-59	-492.1	-484	-111.0	-171
3.33	-349	-617	-81.6	-123	-8	-20	-34	-179	-463.4	-567	-9.1	-21	40.8	-55	-524.5	-534	-97.4	-157
3.63	-377	-647	-67.8	-105	-3	-18	-20	-160	-489.8	-605	-9.2	-18	37.8	-50	-553.1	-566	-83.2	-137
3.93	-399	-671	-53.4	-70	0	-16	-7	-141	-509.5	-633	-8.6	-14	35.2	-46	-570.8	-591	-76.3	-112
4.23	-413	-694	-33.9	-78	1	-13	8	-123	-525.7	-660	-7.5	-11	33.2	-41	-588.6	-621	-68.6	-92
4.54	-418	-716	-17.7	-69	0	-11	20	-108	-533.0	-677	-6.4	-9	30.9	-38	-609.2	-626	-54.1	-77
4.84	-409	-706	-15.2	-48	0	-10	21	-107	-522.0	-664	-5.9	-7	28.1	-35	-602.6	-609	-58.0	-74
5.14	-401	-698	-11.5	-65	0	-7	27	-105	-522.4	-658	-5.4	-6	25.5	-32	-599.8	-611	-61.5	-74
5.44	-406	-720	0.1	-47	1	-5	42	-87	-540.1	-674	-4.2	-4	24.2	-29	-613.7	-614	-44.1	-58
5.75	-407	-736	13	-5	1	-3	57	-68	-558	-683	-2	-1	23	-25	-622	-614	-24	-39
6.05	-403	-741	25.9	21	1	-1	77	-46	-562.1	-685	-0.1	0	21.9	-23	-618.3	-618	28.0	-25
6.35	-394	-740	38.1	41	1	1	94	-28	-565.2	-663	4.1	-1	22.3	-20	-600.6	-612	77.3	-9
6.65	-382	-734	49.2	58	2	3	110	-14	-582.6	-633	8.3	-2	24.3	-18	-582.5	-600	90.8	5
6.96	-366	-721	59.6	84	2	6	128	-1	-579.0	-616	9.5	-6	26.7	-18	-575.8	-558	108.4	47
7.26	-347	-703	69.8	89	2	10	143	12	-551.8	-595	11.3	-5	29.1	-19	-563.5	-512	125.4	88
7.56	-325	-682	80.0	104	2	11	157	25	-537.3	-571	13.0	-3	31.2	-21	-530.4	-486	136.5	100
7.86	-300	-655	90.0	141	2	12	173	37	-517.7	-547	14.1	-6	33.7	-22	-508.2	-482	152.9	104
8.17	-272	-622	99.9	136	3	15	187	50	-476.9	-511	15.8	-1	36.5	-24	-510.1	-474	168.6	108
8.47	-241	-586	110.0	131	3	17	201	62	-447.5	-477	17.2	0	38.9	-26	-493.8	-446	178.5	120
8.77	-206	-546	119.9	167	3	17	217	73	-413.5	-445	18.1	-3	41.0	-28	-445.8	-414	188.5	132
9.07	-169	-501	129.5	181	3	18	230	86	-390.9	-397	20.0	2	43.9	-31	-405.4	-375	204.9	143
9.38	-130	-452	139.1	174	3	20	243	98	-348.9	-353	21.1	3	46.6	-32	-364.2	-329	220.9	154
9.68	-87	-400	148.5	211	3	20	259	109	-271.7	-314	21.2	0	48.5	-34	-310.0	-277	230.3	166
9.98	-42	-343	157.9	225	3	20	272	121	-239.0	-255	23.3	3	50.9	-36	-262.5	-229	246.0	178
10.28	6	-283	167.0	218	3	22	286	133	-186.1	-203	24.0	4	53.0	-38	-209.8	-177	261.7	189
10.59	55	-221	175.8	256	2	22	301	144	-129.1	-156	25.2	2	54.3	-39	-141.8	-119	271.2	199
10.89	107	-154	184.1	286	2	20	314	155	-85.9	-77	27.5	-1	55.9	-40	-82.4	-58	286.7	210
11.19	161	-84	192.0	279	1	22	328	166	7.3	2	25.8	-3	57.2	-41	-19.7	-1	302.1	219
11.49	216	-13	200.4	274	0	22	344	175	75.5	59	26.8	-4	58.3	-42	47.3	57	316.1	229
11.80	272	58	209.8	301	1	19	358	184	129.9	117	29.6	-4	59.8	-43	116.6	122	331.5	237
12.10	331	130	234.2	295	5	13	370	192	224.9	176	27.1	-4	60.6	-44	197.1	191	341.4	245
12.40	396	200	282.9	278	22	5	386	200	299.2	235	27.9	-5	61.0	-45	269.3	260	355.9	252
12.70	466	267	326.0	271	31	1	403	208	364.3	295	31.5	-5	62.1	-45	342.8	330	371.6	258
13.01	540	334	346.5	257	28	-1	413	215	450.9	354	31.1	-6	62.9	-45	426.8	398	381.5	264
13.31	617	400	360.1	276	29	-5	432	221	531.9	412	32.1	-7	63.3	-45	504.1	465	397.7	270
13.61	696	463	379.7	295	30	-9	452	228	615.9	472	33.0	-8	64.2	-45	584.8	538	416.1	290
13.91	780	526	400.7	269	31	-9	467	234	711.6	533	32.2	-10	64.3	-44	677.3	614	429.7	310
14.22	869	588	424.8	243	30	-9	492	241	808.6	594	32.0	-11	62.3	-43	766.4	687	452.0	317
14.52	970	652	455	252	28	-10	522	250	915	656	29	-10	60	-41	867	765	480	327
14.82	705	435	-140.9	141	0	0	235	-234	533.5	576	11.8	-12	33.1	-33	581.8	573	23.4	-25

Kombination är B_a B 5

Xkoord [m]	Mmax_1_dir [kNm]	Mmin_1_dir [kNm]	V_2_tillh_Mmax_1_dir [kN]	V_2_tillh_Mmin_1_dir [kN]	T_tillh_Mmax_1_dir [kNm]	T_tillh_Mmin_1_dir [kNm]	Vmax_2_dir [kN]	Vmin_2_dir [kN]	M1_tillh_Vmax_2 [kN]	M1_tillh_Vmin_2 [kN]	T_tillh_Vmax_2 [kNm]	T_tillh_Vmin_2 [kNm]	Tmax [kNm]	Tmin [kNm]	M1_tillh_Tmax [kNm]	M1_tillh_Tmin [kN]	V_2_tillh_Tmax [kN]	V_2_tillh_Tmin [kN]
0.00	8	-28	-86.6	-112	-29	-2	-53	-146	-20.1	-1	-3.8	-30	23.4	-40	-24.5	5	-67.9	-87
0.30	-2	-94	-164.5	-219	-60	-7	-102	-285	-62.7	-36	-9.0	-51	48.2	-80	-76.9	-26	-132.3	-211
0.60	-43	-166	-148.3	-209	-61	-11	-95	-267	-104.5	-105	-9.7	-42	50.1	-80	-130.7	-100	-125.4	-243
0.91	-89	-232	-133.7	-184	-57	-12	-86	-243	-162.7	-176	-4.1	-50	50.3	-79	-180.8	-166	-118.7	-221
1.21	-135	-293	-119.4	-157	-53	-13	-75	-222	-225.8	-243	-0.1	-48	49.2	-77	-228.8	-230	-111.8	-198
1.51	-179	-347	-104.6	-146	-49	-14	-68	-206	-263.9	-305	-2.0	-38	47.4	-74	-269.9	-297	-103.7	-186
1.81	-209	-389	-93.8	-140	-44	-17	-60	-191	-297.7	-352	-4.2	-42	45.2	-69	-299.8	-336	-97.9	-171
2.12	-232	-424	-87.0	-130	-38	-19	-52	-182	-333.0	-386	-6.8	-38	42.4	-63	-328.3	-365	-94.8	-159
2.42	-263	-467	-79.1	-115	-33	-19	-47	-174	-362.0	-428	-7.4	-26	39.5	-58	-363.7	-417	-89.9	-154
2.72	-298	-514	-71.3	-112	-27	-21	-40	-161	-396.5	-484	-9.3	-28	36.4	-51	-401.6	-461	-83.8	-142
3.02	-326	-559	-57.3	-102	-18	-24	-28	-148	-436.1	-529	-12.6	-24	33.3	-45	-434.6	-501	-75.0	-128
3.33	-347	-602	-41.8	-94	-13	-25	-15	-134	-455.2	-561	-10.2	-12	30.1	-39	-462.7	-546	-63.5	-115
3.63	-363	-638	-33.9	-77	-10	-19	-1	-114	-485.2	-599	-11.8	-14	28.2	-34	-495.6	-563	-53.6	-95
3.93	-375	-665	-27.4	-42	-7	-14	14	-100	-536.7	-613	-14.0	-13	28.2	-32	-523.9	-572	-43.5	-79
4.23	-384	-686	-20.6	-46	-6	-11	23	-92	-548.4	-610	-5.6	-7	28.5	-31	-541.0	-597	-32.4	-74
4.54	-389	-703	-14.2	-35	-6	-7	35	-81	-568.5	-611	-3.1	-6	28.7	-28	-555.9	-605	-22.7	-66
4.84	-392	-716	-8.6	-6	-6	-2	47	-75	-603.9	-619	-5.5	-5	28.2	-26	-564.5	-605	-14.7	-57
5.14	-384	-700	-10.6	-35	-6	-1	38	-85	-557.4	-627	-5.3	2	26.4	-24	-549.9	-600	-23.8	-65
5.44	-376	-686	-11.3	-46	-6	2	31	-88	-535.4	-623	-11.3	11	25.0	-23	-552.6	-574	-48.2	-29
5.75	-379	-702	-1	-11	-5	6	47	-74	-575	-632	-16	13	25	-21	-582	-562	-52	26
6.05	-378	-711	10.9	12	-4	8	61	-60	-561.9	-644	-8.1	14	25.1	-21	-582.2	-573	-32.6	43
6.35	-371	-711	20.9	16	-4	10	76	-42	-578.4	-618	0.6	9	25.8	-20	-572.9	-575	-15.8	56
6.65	-361	-707	29.6	29	-3	11	90	-31	-615.5	-593	3.0	2	26.4	-19	-573.6	-565	-6.6	66
6.96	-346	-694	37.3	61	-2	14	100	-25	-580.8	-587	11.9	3	26.4	-18	-553.7	-507	6.1	56
7.26	-329	-677	44.5	59	-1	15	110	-13	-565.5	-561	13.5	4	27.1	-19	-528.6	-450	17.6	45
7.56	-308	-657	51.5	70	0	16	120	-4	-570.7	-541	7.9	5	27.7	-20	-515.4	-435	23.7	52
7.86	-285	-631	58.7	101	1	19	130	1	-521.4	-525	17.0	5	28.4	-21	-497.9	-435	76.2	57
8.17	-259	-602	65.9	91	2	19	139	13	-493.6	-489	18.5	7	29.6	-22	-466.2	-432	128.4	62
8.47	-231	-568	73.2	81	3	19	148	22	-466.1	-459	19.8	8	30.9	-23	-423.5	-406	134.1	70
8.77	-199	-530	80.8	112	4	22	158	28	-402.3	-433	29.0	8	32.8	-24	-390.4	-376	146.2	78
9.07	-164	-488	88.4	122	4	23	167	41	-380.8	-387	31.1	9	34.8	-25	-381.1	-341	159.4	86
9.38	-127	-442	96.0	112	5	23	177	50	-341.2	-346	32.1	9	36.4	-26	-351.9	-306	166.9	93
9.68	-87	-393	103.6	144	6	25	189	57	-266.6	-311	33.1	9	38.0	-27	-310.2	-265	177.5	101
9.98	-44	-338	111.3	155	6	26	199	70	-235.1	-256	35.7	10	40.4	-29	-270.0	-216	190.6	109
10.28	1	-280	119.0	146	6	26	211	80	-184.0	-206	36.7	10	42.7	-30	-207.5	-164	199.8	118
10.59	49	-220	126.4	181	6	29	223	87	-128.5	-161	37.9	9	44.6	-31	-152.6	-111	211.4	126
10.89	100	-155	133.8	210	5	31	235	100	-86.0	-98	41.2	8	47.2	-32	-93.5	-59	225.3	134
11.19	152	-86	141.4	201	6	30	248	110	6.8	-40	41.3	7	49.5	-33	-19.0	-5	234.9	142
11.49	207	-17	155.8	189	17	17	263	117	75.4	13	43.7	5	52.1	-34	46.0	54	250.1	149
11.80	265	51	171.3	209	29	6	276	128	128.6	82	48.5	3	55.5	-36	114.4	115	267.0	156
12.10	329	120	199.2	226	37	3	289	136	223.5	145	48.3	0	58.8	-38	196.9	177	277.0	162
12.40	398	188	231.3	205	46	-4	305	141	300.8	202	52.5	-3	62.7	-40	269.8	240	293.7	167
12.70	470	255	251.2	192	51	-9	321	150	363.9	273	59.6	-7	68.0	-43	343.9	303	311.7	172
13.01	543	320	267.9	214	56	-11	334	157	453.7	337	61.4	-11	73.7	-46	429.1	365	322.5	177
13.31	616	383	281.3	234	62	-14	353	162	533.8	393	69.1	-17	80.2	-49	505.6	425	342.1	181
13.61	690	442	300.4	237	68	-19	374	170	602.8	454	79.8	-22	87.4	-52	583.6	483	363.8	185
13.91	765	499	321.6	210	72	-28	390	176	683.3	518	85.7	-27	92.7	-55	672.4	538	378.8	189
14.22	842	551	347.2	185	73	-35	417	183	769.5	571	88.3	-35	94.4	-56	725.9	590	333.5	195
14.52	929	601	381	196	71	-36	452	195	871	610	85	-40	95	-56	773	641	295	207
14.82	678	391	-166.2	167	0	0	255	-255	493.1	547	40.5	-40	50.7	-51	497.7	494	-1.5	-39

Kombination är		B_a		B		6															
Xkoord	Mmax_1_dir	Mmin_1_dir	V_2_tillh_Mmax_1_dir	V_2_tillh_Mmin_1_dir	T_tillh_Mmax_1_dir	T_tillh_Mmin_1_dir	Vmax_2_dir	Vmin_2_dir	M1_tillh_Vmax_2	M1_tillh_Vmin_2	T_tillh_Vmax_2	T_tillh_Vmin_2	Tmax	Tmin	M1_tillh_Tmax	M1_tillh_Tmin	V_2_tillh_Tmax	V_2_tillh_Tmin
[m]	[kNm]	[kNm]	[kN]	[kN]	[kNm]	[kNm]	[kN]	[kN]	[kN]	[kN]	[kNm]	[kNm]	[kNm]	[kNm]	[kNm]	[kNm]	[kN]	[kN]
0.00	5	-42	139.5	149	-22	-23	192	88	-11.5	-29	-12.1	-36	-2.3	-43	-10.8	-29	175.5	99
0.30	-15	-143	266.1	293	-39	-65	373	174	-62.5	-101	-17.8	-90	2.2	-104	-57.0	-104	341.7	196
0.60	-68	-253	245.1	285	-33	-86	353	171	-145.4	-179	-11.8	-108	8.5	-123	-132.2	-186	322.4	191
0.91	-122	-346	228.8	273	-32	-82	331	167	-227.6	-241	-14.0	-102	6.7	-117	-203.5	-248	291.5	186
1.21	-173	-429	212.4	258	-31	-76	309	162	-305.9	-294	-15.5	-92	5.2	-106	-268.5	-303	261.0	179
1.51	-222	-501	193.2	246	-30	-68	289	155	-382.3	-339	-15.6	-82	4.7	-97	-330.1	-352	242.2	172
1.81	-264	-555	175.0	240	-30	-60	269	151	-447.7	-370	-15.6	-73	4.4	-86	-362.3	-386	225.9	167
2.12	-302	-597	160.3	236	-29	-52	251	150	-501.4	-391	-15.6	-63	4.0	-76	-389.8	-409	211.4	165
2.42	-339	-646	144.3	225	-28	-45	236	140	-590.0	-387	-27.0	-44	3.5	-67	-438.1	-438	194.2	158
2.72	-375	-699	126.9	210	-27	-38	219	123	-676.5	-390	-34.9	-28	3.1	-59	-485.4	-471	174.9	146
3.02	-406	-746	109.2	192	-26	-31	201	105	-715.7	-423	-28.5	-27	2.5	-51	-528.4	-499	154.8	133
3.33	-433	-787	91.1	172	-25	-25	183	87	-751.6	-451	-22.6	-26	2.0	-44	-564.9	-522	133.7	118
3.63	-455	-821	73.1	147	-24	-21	162	68	-781.3	-474	-17.6	-25	1.5	-38	-595.5	-609	112.4	105
3.93	-471	-847	58.2	119	-20	-18	140	50	-797.9	-540	-12.9	-22	2.3	-34	-640.6	-669	103.1	80
4.23	-483	-866	44.9	104	-16	-13	122	33	-814.4	-620	-8.6	-21	4.6	-32	-678.6	-670	95.1	52
4.54	-491	-882	31.1	86	-16	-8	104	17	-825.6	-645	-5.3	-20	7.0	-31	-707.6	-689	74.3	37
4.84	-493	-887	20.1	69	-14	-6	92	5	-824.6	-643	-1.9	-19	9.4	-30	-729.0	-695	59.8	25
5.14	-490	-876	12.7	69	-13	-3	93	-1	-815.0	-649	1.5	-18	12.0	-28	-732.9	-704	64.9	20
5.44	-489	-875	0.2	64	-12	0	83	-14	-811.3	-659	3.9	-17	14.1	-27	-745.6	-712	59.9	7
5.75	-490	-888	-19	35	-11	3	55	-38	-815	-680	6	-15	16	-25	-744	-714	33	-16
6.05	-485	-892	-37.4	0	-10	3	29	-61	-811.0	-694	7.8	-14	17.5	-24	-736.0	-729	6.0	-39
6.35	-475	-887	-53.8	-26	-8	5	5	-81	-800.3	-681	9.7	-13	19.5	-23	-734.4	-737	-17.3	-60
6.65	-461	-876	-68.8	-48	-7	7	-17	-99	-784.5	-679	11.5	-11	21.3	-22	-712.0	-720	-38.5	-77
6.96	-443	-860	-82.8	-68	-6	9	-36	-117	-762.0	-672	13.3	-10	23.0	-20	-684.6	-716	-58.2	-94
7.26	-422	-840	-96.6	-87	-4	11	-55	-134	-736.8	-644	15.2	-9	25.0	-19	-667.4	-709	-77.1	-111
7.56	-397	-814	-110.4	-113	-3	11	-74	-150	-709.3	-626	17.2	-7	26.7	-17	-623.1	-614	-96.6	-118
7.86	-370	-783	-124.4	-133	-1	14	-92	-168	-672.0	-605	18.8	-6	28.4	-16	-583.8	-520	-115.0	-125
8.17	-339	-749	-138.7	-148	0	17	-110	-185	-634.1	-564	20.6	-5	30.4	-16	-563.5	-519	-132.3	-136
8.47	-304	-709	-153.2	-168	2	18	-128	-203	-595.6	-531	22.6	-3	32.3	-15	-506.7	-514	-151.1	-148
8.77	-265	-662	-168.0	-195	3	19	-146	-221	-516.3	-499	15.0	8	34.3	-15	-445.0	-479	-169.9	-164
9.07	-223	-611	-182.8	-213	5	21	-162	-240	-411.7	-448	4.1	19	36.6	-15	-401.5	-440	-188.5	-180
9.38	-177	-555	-197.5	-227	6	25	-178	-259	-341.1	-397	2.5	21	39.1	-14	-370.2	-394	-204.0	-195
9.68	-127	-493	-212.1	-253	8	26	-193	-278	-293.4	-341	4.0	23	41.8	-14	-343.2	-343	-218.1	-211
9.98	-74	-425	-226.9	-271	9	29	-209	-296	-242.2	-267	5.5	26	44.9	-13	-294.1	-287	-234.4	-227
10.28	-16	-352	-243.2	-281	23	20	-224	-314	-183.2	-200	7.6	29	48.1	-12	-225.1	-225	-250.1	-243
10.59	47	-277	-259.3	-305	38	9	-239	-331	-120.7	-127	9.7	32	51.9	-12	-155.2	-160	-265.7	-259
10.89	115	-196	-274.2	-319	42	10	-254	-348	-54.7	-37	11.8	35	55.9	-11	-85.5	-95	-281.1	-274
11.19	187	-112	-289.9	-327	48	10	-268	-364	15.0	45	13.8	40	60.5	-10	52.5	-26	-297.8	-288
11.49	263	-26	-305.1	-338	54	10	-282	-380	91.9	89	34.1	27	66.3	-9	190.2	48	-312.9	-302
11.80	342	62	-319.0	-351	61	9	-293	-396	176.2	147	57.2	12	73.1	-8	267.5	124	-323.5	-315
12.10	426	151	-347.9	-361	67	8	-301	-411	256.1	247	64.4	12	80.7	-8	347.0	202	-332.3	-328
12.40	518	238	-377.2	-353	73	4	-308	-426	334.5	341	72.2	12	89.0	-7	427.5	281	-338.9	-340
12.70	614	320	-386.8	-352	81	-1	-312	-441	414.5	436	81.0	11	98.3	-7	509.0	361	-343.3	-352
13.01	709	399	-394.0	-361	89	-1	-314	-454	493.9	537	90.2	11	108.0	-7	590.3	440	-345.6	-363
13.31	805	478	-399.3	-371	97	-2	-314	-469	569.2	634	97.6	10	117.7	-8	669.7	520	-345.7	-375
13.61	898	557	-400.4	-383	105	-3	-311	-485	651.8	731	105.2	8	125.7	-9	747.7	600	-344.3	-388
13.91	988	637	-400.7	-397	109	-5	-307	-502	737.9	834	110.6	6	130.3	-11	823.9	681	-341.6	-403
14.22	1077	720	-403.5	-416	105	-7	-303	-526	810.5	948	107.1	3	127.7	-13	898.6	764	-339.9	-423
14.52	1176	805	-494	-370	54	33	-305	-566	878	1077	97	1	118	-16	979	855	-346	-457
14.82	850	537	-197.5	197	0	0	291	-292	657.2	714	30.5	-30	43.1	-43	642.4	641	42.2	-34

Kombination är C_perm

B 1

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]
0.00	5	-5	3.6	-6	-606	-226	-614.2	-224	-17.1	-224	-28.7	-226
0.30	23	0	19.6	-1	-985	-332	-996.3	-328	18.5	-328	10.8	-332
0.60	41	2	38.5	-1	-1238	-105	-1251.4	-100	12.0	-100	7.4	-105
0.91	44	2	42.0	-2	-1282	33	-1296.7	36	10.8	36	8.1	33
1.21	40	1	39.1	-2	-1252	68	-1267.3	71	10.0	71	8.4	68
1.51	37	1	36.5	-3	-1209	66	-1226.1	69	9.7	69	9.0	66
1.81	25	1	25.0	-3	-1221	36	-1220.4	38	10.0	38	9.8	36
2.12	-8	1	-7.7	-2	-1346	-9	-1326.7	-7	10.6	-7	10.4	-9
2.42	-18	1	-18.3	-2	-1426	-32	-1405.3	-30	11.4	-30	10.9	-32
2.72	-1	2	-1.1	-1	-1413	-35	-1390.8	-33	11.8	-33	11.2	-35
3.02	7	2	7.2	0	-1425	-42	-1401.4	-40	12.0	-40	11.2	-42
3.33	16	3	15.5	1	-1442	-46	-1416.6	-45	11.4	-45	10.5	-46
3.63	24	4	23.5	1	-1462	-45	-1435.8	-44	10.5	-44	9.6	-45
3.93	32	4	32.3	2	-1478	-39	-1450.4	-38	9.2	-38	8.3	-39
4.23	44	4	44.1	2	-1494	-32	-1465.5	-31	7.8	-31	6.9	-32
4.54	29	4	28.4	2	-1607	-40	-1578.2	-39	6.9	-39	6.0	-40
4.84	2	4	1.5	2	-1760	-47	-1731.3	-46	6.0	-46	5.1	-47
5.14	6	4	5.4	2	-1816	-43	-1786.1	-42	5.8	-42	4.9	-43
5.44	18	4	17.9	3	-1832	-53	-1802.5	-52	5.6	-52	4.7	-53
5.75	28	4	27.4	3	-1860	-65	-1830.0	-64	5.6	-64	4.7	-65
6.05	36	4	36.2	3	-1891	-54	-1861.3	-54	5.4	-54	4.6	-54
6.35	42	4	42.0	3	-1919	-28	-1889.4	-28	4.9	-28	4.1	-28
6.65	45	4	44.3	4	-1937	-4	-1907.5	-4	4.4	-4	3.5	-4
6.96	44	5	44.0	4	-1943	16	-1912.9	16	3.5	16	2.7	16
7.26	42	5	41.9	4	-1937	32	-1907.1	32	2.7	32	1.9	32
7.56	39	5	38.4	4	-1921	45	-1892.0	45	1.8	45	1.1	45
7.86	34	5	33.8	4	-1899	54	-1869.5	54	1.0	54	0.3	54
8.17	29	5	28.4	4	-1871	60	-1841.5	60	0.3	60	-0.4	60
8.47	23	5	22.7	4	-1839	63	-1810.1	63	-0.3	63	-1.0	63
8.77	18	4	17.0	4	-1806	62	-1777.4	62	-0.9	62	-1.6	62
9.07	13	4	11.7	4	-1773	58	-1745.1	58	-1.4	58	-2.1	58
9.38	8	4	6.9	4	-1742	55	-1714.0	54	-1.9	55	-2.5	54
9.68	4	4	2.5	4	-1712	51	-1684.3	51	-2.3	51	-2.9	51
9.98	0	4	-1.6	3	-1683	49	-1655.7	48	-2.8	49	-3.3	48
10.28	-4	4	-5.5	3	-1655	47	-1628.1	46	-3.2	47	-3.8	46
10.59	-8	4	-9.3	3	-1628	45	-1601.5	44	-3.6	45	-4.2	44
10.89	-12	4	-13.0	3	-1601	44	-1575.4	43	-4.0	44	-4.5	43
11.19	-15	4	-16.8	3	-1574	45	-1549.4	43	-4.4	45	-4.9	43
11.49	-19	4	-20.9	3	-1547	46	-1523.6	44	-4.7	46	-5.3	44
11.80	-24	4	-25.2	3	-1520	47	-1498.2	44	-5.1	47	-5.7	44
12.10	-29	5	-29.9	3	-1495	45	-1474.4	42	-5.5	45	-6.1	42
12.40	-33	5	-34.6	3	-1472	39	-1454.3	35	-5.9	39	-6.7	35
12.70	-37	5	-38.4	3	-1455	27	-1440.5	21	-6.6	27	-7.7	21
13.01	-40	5	-40.7	3	-1447	8	-1436.3	1	-8.0	8	-9.8	1
13.31	-40	5	-40.8	2	-1450	-17	-1447.1	-25	-10.7	-17	-13.9	-25
13.61	-38	2	-38.3	0	-1471	-48	-1471.4	-59	-16.2	-48	-22.2	-59
13.91	-30	-3	-32.0	-4	-1516	-94	-1509.5	-93	-26.1	-87	-37.5	-100
14.22	-17	-12	-20.1	-16	-1585	-157	-1571.0	-141	-45.6	-141	-66.9	-157
14.52	15	-28	9.5	-41	-1674	-268	-1652.0	-249	-73.2	-249	-112.0	-268
14.82	27	-41	22.0	-54	-1473	-3	-1438.0	-3	-41.4	4	-118.0	-11
15.12	14	-28	8.2	-41	-1676	260	-1653.9	241	112.0	260	73.2	241
15.42	-17	-12	-20.3	-16	-1590	153	-1576.1	137	66.9	153	45.6	137
15.73	-30	-3	-31.5	-4	-1522	92	-1516.2	91	37.5	98	26.1	85
16.03	-37	2	-37.3	0	-1478	48	-1478.6	58	22.2	58	16.2	48
16.33	-39	5	-39.7	2	-1457	18	-1454.2	27	13.9	27	10.7	18
16.63	-39	5	-39.7	3	-1454	-5	-1442.5	1	9.8	1	8.0	-5
16.94	-37	5	-37.6	3	-1460	-23	-1445.5	-18	7.7	-18	6.6	-23
17.24	-33	5	-34.1	3	-1476	-35	-1458.2	-31	6.6	-31	5.9	-35
17.54	-28	5	-29.7	3	-1498	-42	-1477.3	-39	6.0	-39	5.4	-42
17.84	-24	4	-25.2	3	-1522	-44	-1500.4	-42	5.6	-42	5.1	-44
18.15	-20	4	-20.9	3	-1549	-44	-1525.4	-43	5.3	-43	4.7	-44
18.45	-15	4	-16.7	3	-1576	-45	-1551.3	-43	4.9	-43	4.4	-45
18.75	-11	4	-12.7	3	-1603	-45	-1577.9	-44	4.5	-44	4.0	-45
19.05	-7	4	-8.6	3	-1631	-46	-1605.3	-45	4.1	-45	3.6	-46
19.36	-3	4	-4.5	3	-1660	-48	-1633.6	-47	3.7	-47	3.2	-48
19.66	1	4	-0.3	3	-1690	-49	-1663.0	-49	3.3	-49	2.7	-49
19.96	5	4	4.2	4	-1721	-52	-1693.5	-51	2.9	-51	2.3	-52
20.26	10	4	8.9	4	-1753	-54	-1725.1	-54	2.5	-54	1.9	-54
20.57	15	4	13.9	4	-1786	-57	-1757.8	-57	2.0	-57	1.4	-57
20.87	20	4	19.4	4	-1820	-59	-1791.3	-59	1.5	-59	0.9	-59
21.17	26	5	25.1	4	-1853	-59	-1824.6	-59	1.0	-59	0.3	-59
21.47	31	5	30.8	4	-1885	-56	-1856.3	-56	0.3	-56	-0.4	-56
21.78	37	5	36.1	4	-1914	-49	-1884.5	-49	-0.3	-49	-1.1	-49
22.08	41	5	40.6	4	-1936	-39	-1907.0	-39	-1.1	-39	-1.9	-39
22.38	45	5	44.1	4	-1952	-25	-1922.1	-25	-1.9	-25	-2.7	-25
22.68	47	5	46.2	4	-1958	-8	-1928.1	-8	-2.8	-8	-3.6	-8
22.99	47	4	46.4	4	-1953	13	-1923.5	13	-3.5	13	-4.3	13
23.29	44	4	44.0	3	-1937	37	-1907.3	37	-4.2	37	-5.0	37
23.59	39	4	38.6	3	-1910	60	-1880.4	60	-4.5	60	-5.3	60
23.89	31	4	30.4	3	-1877	70	-1846.9	70	-4.7	70	-5.6	70
24.20	21	4	21.1	2	-1844	64	-1813.8	63	-4.7	64	-5.6	63
24.50	15	4	14.7	2	-1803	59	-1773.5	58	-4.7	59	-5.6	58
24.80	7	4	6.9	2	-1774	68	-1744.5	67	-5.1	68	-6.1	67
25.10	24	4	24.3	2	-1666	61	-1637.8	60	-5.6	61	-6.5	60
25.41	44	4	44.3	2	-1545	43	-1517.1	43	-6.9	43	-7.8	43
25.71	35	4	35.3	2	-1517	43	-1490.2	42	-8.1	43	-9.0	42
26.01	27	4	26.9	1	-1494	46	-1468.0	45	-9.4	46	-10.3	45
26.31	20	3	19.4	1	-1469	48	-1444.0	47	-10.5	48	-11.4	47
26.62	12	3	12.2	0	-1444	48	-1420.1	46	-11.0	48	-11.8	46
26.92	3	2	2.4	-1	-1423	48	-1400.1	46	-11.2	48	-11.8	46
27.22	0	2	-0.5	-2	-1380	51	-1359.3	49	-10.8	51	-11.3	49
27.52	-12	1	-12.3	-2	-1387	45	-1367.7	43	-10.4	45	-10.6	43
27.83	7	1	6.6	-2	-1300	-5	-1299.0	-7	-9.7	-5	-9.9	-7
28.13	35	2	34.3	-2	-1207	-59	-1224.2	-62	-9.0	-59	-9.8	-62
28.43	29	2	28.2	-2	-1270	-68	-1285.5	-71	-8.4	-68	-9.9	-71
28.73	19	2	17.7	-2	-1337	-43	-1351.9	-46	-8.1	-43	-10.8	-46
29.04	39	2	36.4	-1	-1211	40	-1224.4	36	-7.8	40	-12.4	36
29.34	58	1	54.7	-1	-901	182	-913.0	177	-11.5	182	-19.2	177
29.64	23	-5	21.3	-6	-603	132	-605.1	129	-37.9	132	-49.5	129

Kombination är C_perm

					B		2					
Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]
0.00	-1	1	-2.1	0	-538	-237	-537.7	-238	6.9	-237	-1.1	-238
0.30	9	-1	7.6	-2	-1029	-352	-1031.2	-355	0.2	-352	-5.1	-355
0.60	28	-1	27.0	-3	-1299	-135	-1299.0	-137	1.0	-135	-2.5	-137
0.91	34	-1	33.5	-3	-1366	-14	-1363.4	-15	1.3	-14	-1.1	-15
1.21	36	-1	35.8	-4	-1361	21	-1355.6	19	1.4	21	-0.3	19
1.51	40	-1	40.0	-4	-1326	28	-1327.1	26	1.7	28	0.5	26
1.81	2	-1	1.6	-4	-1406	12	-1416.0	10	1.9	12	1.1	10
2.12	-32	-1	-32.0	-4	-1494	-13	-1506.2	-15	2.2	-13	1.7	-15
2.42	-20	-1	-20.7	-3	-1490	-44	-1503.4	-45	2.5	-44	2.3	-45
2.72	-8	0	-9.0	-3	-1519	-91	-1533.4	-92	2.5	-91	2.4	-92
3.02	7	0	6.1	-3	-1574	-123	-1589.5	-124	2.7	-123	2.6	-124
3.33	23	0	21.9	-2	-1641	-113	-1657.2	-113	2.5	-113	2.2	-113
3.63	36	0	34.6	-2	-1701	-80	-1717.7	-80	2.4	-80	2.0	-80
3.93	45	0	43.8	-2	-1744	-50	-1761.0	-51	2.4	-50	1.9	-51
4.23	60	0	59.1	-1	-1747	-28	-1764.5	-28	2.1	-28	1.6	-28
4.54	40	0	38.7	-1	-1836	-27	-1853.8	-27	2.5	-27	1.9	-27
4.84	6	1	4.8	-1	-1965	-40	-1982.0	-40	2.3	-39	1.7	-40
5.14	6	1	5.2	-1	-2009	-52	-2026.3	-52	2.5	-52	1.8	-52
5.44	15	1	13.7	0	-2043	-69	-2059.7	-69	2.4	-69	1.7	-69
5.75	27	1	26.3	0	-2078	-83	-2094.2	-83	2.2	-83	1.5	-83
6.05	38	1	37.0	0	-2121	-78	-2137.4	-78	2.1	-78	1.4	-78
6.35	46	1	45.3	0	-2161	-52	-2176.5	-52	1.7	-52	1.0	-52
6.65	50	1	49.6	1	-2189	-22	-2204.3	-22	1.6	-22	0.9	-22
6.96	52	1	50.9	1	-2202	2	-2216.9	2	1.3	2	0.7	2
7.26	51	1	50.1	1	-2200	22	-2215.3	22	1.2	22	0.5	22
7.56	48	1	47.5	1	-2187	37	-2201.7	37	1.0	37	0.4	37
7.86	44	1	43.8	1	-2164	49	-2178.7	49	0.8	49	0.2	49
8.17	40	1	39.2	1	-2134	58	-2148.5	58	0.6	58	0.1	58
8.47	34	1	34.0	1	-2099	63	-2113.1	63	0.4	63	-0.1	63
8.77	29	1	28.7	1	-2061	64	-2074.4	64	0.2	64	-0.3	64
9.07	24	1	23.5	1	-2028	63	-2027.7	63	-0.1	63	-0.4	63
9.38	19	1	18.7	0	-1995	61	-1981.2	61	-0.3	61	-0.6	61
9.68	14	1	14.1	0	-1956	59	-1942.2	59	-0.5	59	-0.7	59
9.98	10	0	9.8	0	-1917	58	-1903.6	58	-0.6	58	-0.8	58
10.28	6	0	5.6	0	-1878	57	-1865.2	57	-0.7	57	-0.9	57
10.59	2	0	1.4	-1	-1839	57	-1826.5	57	-0.8	57	-0.9	57
10.89	-2	0	-2.8	-1	-1800	58	-1787.3	58	-0.8	58	-0.9	58
11.19	-6	0	-7.2	-2	-1760	60	-1747.2	60	-0.7	60	-0.9	60
11.49	-11	-1	-11.9	-2	-1718	62	-1706.0	63	-0.6	63	-0.9	62
11.80	-16	-1	-16.9	-3	-1675	65	-1663.4	66	-0.5	66	-0.8	65
12.10	-21	-1	-22.3	-3	-1630	66	-1620.1	67	-0.4	67	-0.7	66
12.40	-27	-1	-28.0	-4	-1586	65	-1577.0	67	-0.3	67	-0.4	65
12.70	-32	-1	-33.6	-4	-1544	61	-1536.0	63	0.2	63	-0.2	61
13.01	-38	-1	-38.7	-5	-1505	53	-1499.5	56	1.2	56	-0.1	53
13.31	-42	-1	-43.1	-4	-1472	41	-1469.4	45	3.3	45	0.1	41
13.61	-46	-1	-46.4	-4	-1448	25	-1448.6	30	7.2	30	0.5	25
13.91	-48	0	-48.0	-2	-1435	6	-1439.7	6	14.1	9	1.2	3
14.22	-47	4	-47.1	-1	-1445	-24	-1442.3	-33	26.0	-24	2.6	-33
14.52	-35	14	-36.4	0	-1475	-97	-1461.4	-107	44.2	-97	4.4	-107
14.82	-16	16	-17.3	1	-1152	-1	-1150.5	-1	59.8	3	-12.6	-5
15.12	-36	14	-37.9	0	-1474	92	-1460.8	102	-4.4	102	-44.2	92
15.42	-47	4	-47.3	-1	-1447	19	-1444.7	28	-2.5	28	-26.0	19
15.73	-47	0	-47.5	-2	-1440	-9	-1444.7	-9	-1.2	-6	-14.1	-12
16.03	-45	-1	-45.6	-4	-1454	-26	-1454.8	-31	-0.5	-26	-7.2	-31
16.33	-41	-1	-42.2	-4	-1479	-40	-1476.0	-44	-0.1	-40	-3.3	-44
16.63	-37	-1	-37.9	-4	-1511	-51	-1505.8	-54	0.1	-51	-1.2	-54
16.94	-32	-1	-33.0	-4	-1549	-59	-1541.7	-61	0.2	-59	-0.1	-61
17.24	-26	-1	-27.6	-4	-1591	-63	-1581.7	-65	0.4	-63	0.3	-65
17.54	-21	-1	-22.1	-3	-1634	-65	-1624.0	-66	0.7	-65	0.4	-66
17.84	-16	-1	-16.8	-2	-1678	-64	-1667.0	-65	0.8	-64	0.5	-65
18.15	-11	0	-11.7	-2	-1722	-62	-1709.7	-63	0.9	-62	0.6	-63
18.45	-6	0	-6.9	-1	-1764	-61	-1751.5	-61	0.9	-61	0.7	-61
18.75	-2	0	-2.3	-1	-1805	-60	-1792.7	-60	0.9	-60	0.8	-60
19.05	3	0	2.2	-1	-1846	-59	-1833.2	-59	0.8	-59	0.8	-59
19.36	7	0	6.7	0	-1887	-59	-1873.4	-59	0.8	-59	0.7	-59
19.66	11	1	11.2	0	-1927	-59	-1913.6	-59	0.7	-59	0.5	-59
19.96	16	1	15.8	0	-1967	-60	-1953.9	-60	0.6	-60	0.4	-60
20.26	21	1	20.6	0	-2008	-61	-1994.3	-60	0.5	-60	0.2	-61
20.57	26	1	25.5	1	-2042	-61	-2041.7	-61	0.3	-61	-0.1	-61
20.87	31	1	30.6	1	-2075	-62	-2088.6	-61	0.1	-61	-0.3	-62
21.17	36	1	35.8	1	-2113	-59	-2127.2	-59	-0.1	-59	-0.5	-59
21.47	41	1	40.8	1	-2148	-54	-2162.6	-54	-0.3	-54	-0.8	-54
21.78	46	1	45.2	1	-2178	-45	-2192.7	-45	-0.4	-45	-1.0	-45
22.08	49	1	48.7	1	-2201	-32	-2215.6	-32	-0.6	-32	-1.2	-32
22.38	52	1	51.1	1	-2214	-16	-2229.3	-16	-0.7	-16	-1.3	-16
22.68	52	1	51.8	0	-2216	3	-2231.6	3	-0.9	3	-1.5	3
22.99	51	1	50.4	0	-2205	27	-2220.7	27	-1.0	27	-1.7	27
23.29	47	1	46.1	0	-2181	52	-2196.8	52	-1.3	52	-2.0	52
23.59	39	1	38.4	0	-2144	75	-2160.6	75	-1.4	75	-2.1	75
23.89	28	1	27.5	0	-2103	79	-2119.9	79	-1.7	79	-2.4	79
24.20	18	1	17.3	-1	-2066	65	-2082.4	65	-1.8	65	-2.5	65
24.50	2	0	0.7	-1	-2053	56	-2070.0	56	-1.7	56	-2.4	56
24.80	30	0	29.2	-1	-1929	41	-1946.3	41	-1.9	41	-2.5	41
25.10	53	0	51.4	-1	-1834	30	-1851.5	30	-1.5	30	-2.1	30
25.41	42	0	41.1	-2	-1825	42	-1842.0	42	-1.7	42	-2.3	42
25.71	44	0	42.9	-2	-1769	61	-1786.0	61	-1.6	61	-2.0	61
26.01	34	0	32.8	-2	-1728	83	-1744.5	84	-1.8	84	-2.2	83
26.31	23	0	22.3	-2	-1670	104	-1686.6	104	-2.0	104	-2.3	104
26.62	10	0	9.0	-3	-1609	111	-1624.8	112	-2.1	112	-2.2	111
26.92	-5	-1	-5.4	-3	-1557	93	-1571.4	94	-2.3	94	-2.4	93
27.22	-12	-1	-12.5	-3	-1507	61	-1519.9	62	-1.7	62	-2.0	61
27.52	-22	-1	-22.2	-4	-1490	34	-1502.0	35	-1.5	35	-2.0	34
27.83	1	-1	0.9	-4	-1414	3	-1423.5	4	-0.9	4	-1.7	3
28.13	30	-1	30.0	-4	-1348	-21	-1348.7	-19	-0.2	-19	-1.4	-21
28.43	25	-1	24.1	-3	-1382	-19	-1376.4	-17	0.2	-17	-1.5	-19
28.73	11	-1	9.9	-3	-1419	9	-1416.6	11	1.1	11	-1.3	9
29.04	29	-1	27.4	-3	-1258	90	-1258.2	92	2.1	92	-1.4	90
29.34	43	-1	41.1	-2	-929	238	-931.5	240	4.5	240	-0.8	238
29.64	13	1	12.0	0	-517	164	-520.5	165	9.9	165	1.9	164

Kombination är C_perm

					B				3			
Xkoord	Mmax_1_dir	Mmax_2_dir	Mmin_1_dir	Mmin_2_dir	N_tillh_Mmax_1_dir	N_tillh_Mmax_2_dir	N_tillh_Mmin_1_dir	N_tillh_Mmin_2_dir	Vmax_1_dir	Vmax_2_dir	Vmin_1_dir	Vmin_2_dir
[m]	[kNm]	[kNm]	[kNm]	[kNm]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]
0.00	2	1	0.9	1	-509	-240	-508.4	-241	6.5	-240	4.3	-241
0.30	17	0	15.8	0	-1024	-349	-1025.5	-351	-2.3	-349	-3.6	-351
0.60	39	0	37.8	-1	-1288	-112	-1286.7	-115	-1.2	-112	-2.0	-115
0.91	44	0	43.5	-1	-1337	21	-1332.7	19	-1.2	21	-1.8	19
1.21	53	0	52.0	-1	-1290	55	-1282.7	53	-1.2	55	-1.7	53
1.51	26	0	25.6	-1	-1314	38	-1315.8	35	-1.0	38	-1.4	35
1.81	-18	0	-18.4	-1	-1405	-4	-1417.5	-6	-1.1	-4	-1.4	-6
2.12	-21	-1	-21.8	-1	-1425	-29	-1440.0	-31	-0.8	-29	-1.0	-31
2.42	-10	-1	-11.2	-1	-1427	-42	-1444.0	-43	-0.8	-42	-0.9	-43
2.72	1	-1	-0.3	-1	-1438	-52	-1457.4	-54	-0.6	-52	-0.7	-54
3.02	10	-1	8.8	-1	-1463	-62	-1484.0	-64	-0.5	-62	-0.6	-64
3.33	20	0	18.7	-1	-1493	-69	-1515.2	-70	-0.4	-69	-0.5	-70
3.63	33	0	31.1	-1	-1519	-69	-1543.3	-71	-0.3	-69	-0.3	-71
3.93	45	0	43.1	-1	-1548	-65	-1572.9	-67	-0.2	-65	-0.2	-67
4.23	45	0	43.6	-1	-1606	-66	-1632.5	-67	0.0	-66	0.0	-67
4.54	11	0	8.7	-1	-1760	-73	-1786.6	-74	0.0	-73	-0.1	-74
4.84	-3	0	-4.8	0	-1862	-69	-1889.7	-70	0.0	-69	-0.1	-70
5.14	19	0	16.8	0	-1870	-62	-1898.4	-63	-0.2	-62	-0.3	-63
5.44	29	0	27.1	0	-1904	-67	-1932.5	-68	-0.2	-67	-0.4	-68
5.75	39	0	37.5	0	-1937	-66	-1966.1	-67	-0.3	-66	-0.5	-67
6.05	46	0	44.8	0	-1970	-46	-1999.4	-47	-0.4	-46	-0.5	-47
6.35	50	0	48.7	-1	-1994	-18	-2023.6	-19	-0.3	-18	-0.5	-19
6.65	51	0	49.5	-1	-2006	4	-2035.8	3	-0.3	4	-0.4	3
6.96	50	0	48.6	-1	-2006	19	-2035.8	19	-0.1	19	-0.2	19
7.26	48	-1	46.6	-1	-1997	31	-2026.2	31	0.0	31	-0.1	31
7.56	45	-1	43.8	-1	-1980	41	-2009.0	41	0.2	41	0.1	41
7.86	41	-1	40.2	-1	-1956	50	-1985.6	49	0.3	50	0.2	49
8.17	36	-1	35.9	-1	-1928	56	-1956.9	56	0.5	56	0.3	56
8.47	32	-1	31.2	-1	-1895	61	-1923.7	61	0.6	61	0.4	61
8.77	26	-1	26.2	-1	-1859	64	-1887.1	64	0.7	64	0.5	64
9.07	21	0	21.1	-1	-1835	64	-1835.0	64	0.7	64	0.6	64
9.38	16	0	16.0	-1	-1810	63	-1782.9	63	0.8	63	0.6	63
9.68	11	0	11.0	-1	-1772	62	-1745.0	62	0.8	62	0.7	62
9.98	6	0	6.1	-1	-1734	61	-1707.5	61	0.9	61	0.8	61
10.28	2	0	1.2	-1	-1696	60	-1670.5	60	0.9	60	0.8	60
10.59	-3	0	-3.6	-1	-1659	59	-1634.0	59	1.0	59	0.9	59
10.89	-8	0	-8.3	-1	-1623	58	-1598.1	58	1.0	58	1.0	58
11.19	-12	0	-13.1	-1	-1587	57	-1562.9	57	1.1	57	1.1	57
11.49	-17	0	-17.8	-1	-1551	55	-1528.6	56	1.2	56	1.2	55
11.80	-22	0	-22.6	-1	-1517	54	-1495.4	55	1.3	55	1.3	54
12.10	-26	0	-27.4	-1	-1484	51	-1463.9	52	1.4	52	1.4	51
12.40	-31	0	-31.9	-1	-1454	45	-1435.3	47	1.5	47	1.4	45
12.70	-35	0	-35.9	0	-1428	37	-1411.2	39	1.6	39	1.5	37
13.01	-38	0	-39.1	0	-1408	25	-1393.2	28	1.8	28	1.5	25
13.31	-40	1	-41.0	0	-1395	10	-1383.2	14	2.2	14	1.4	10
13.61	-40	1	-41.4	0	-1392	-8	-1382.9	-3	3.1	-3	1.4	-8
13.91	-39	1	-39.6	1	-1399	-27	-1393.8	-28	4.7	-25	1.3	-30
14.22	-35	2	-35.0	1	-1420	-53	-1418.3	-60	7.8	-53	1.2	-60
14.52	-21	5	-22.2	2	-1455	-107	-1452.6	-116	12.9	-107	1.0	-116
14.82	-7	6	-7.7	2	-1136	-3	-1125.3	-3	17.3	0	-5.1	-6
15.12	-24	5	-24.5	2	-1449	101	-1446.7	109	-1.3	109	-13.1	101
15.42	-35	2	-35.7	1	-1418	45	-1415.8	52	-1.4	52	-7.9	45
15.73	-39	1	-39.4	1	-1400	22	-1394.7	23	-1.4	25	-4.7	20
16.03	-40	1	-40.7	0	-1395	6	-1386.2	1	-1.4	6	-3.1	1
16.33	-39	1	-40.1	0	-1400	-11	-1388.0	-15	-1.4	-11	-2.2	-15
16.63	-37	0	-38.1	0	-1413	-25	-1398.8	-28	-1.5	-25	-1.8	-28
16.94	-34	0	-35.0	0	-1434	-36	-1417.1	-38	-1.4	-36	-1.6	-38
17.24	-30	0	-31.0	-1	-1460	-44	-1441.4	-46	-1.4	-44	-1.4	-46
17.54	-25	0	-26.5	-1	-1490	-50	-1470.1	-52	-1.3	-50	-1.3	-52
17.84	-21	0	-21.8	-1	-1523	-53	-1501.9	-55	-1.3	-53	-1.3	-55
18.15	-16	0	-16.9	-1	-1558	-55	-1535.7	-57	-1.2	-55	-1.2	-57
18.45	-11	0	-12.0	-1	-1594	-57	-1570.9	-58	-1.1	-57	-1.1	-58
18.75	-6	0	-7.1	-1	-1631	-58	-1607.0	-59	-1.0	-58	-1.1	-59
19.05	-1	0	-2.1	-1	-1669	-60	-1644.1	-60	-0.9	-60	-1.0	-60
19.36	3	0	2.9	-1	-1708	-61	-1681.9	-61	-0.9	-61	-0.9	-61
19.66	8	0	8.0	-1	-1747	-61	-1720.3	-62	-0.8	-61	-0.9	-62
19.96	13	0	13.1	-1	-1786	-62	-1759.1	-62	-0.8	-62	-0.9	-62
20.26	18	0	18.2	-1	-1826	-63	-1798.2	-63	-0.7	-63	-0.8	-63
20.57	23	0	23.3	-1	-1851	-63	-1851.3	-63	-0.6	-63	-0.8	-63
20.87	29	0	28.4	-1	-1876	-62	-1904.0	-62	-0.6	-62	-0.7	-62
21.17	34	-1	33.3	-1	-1912	-59	-1941.1	-59	-0.5	-59	-0.6	-59
21.47	38	-1	37.8	-1	-1945	-54	-1974.4	-54	-0.3	-54	-0.5	-54
21.78	43	-1	41.9	-1	-1973	-47	-2002.6	-47	-0.2	-47	-0.3	-47
22.08	46	0	45.3	-1	-1996	-39	-2025.5	-39	0.0	-39	-0.2	-39
22.38	49	0	47.9	-1	-2013	-29	-2042.2	-28	0.1	-28	0.0	-29
22.68	51	0	49.6	-1	-2022	-16	-2051.6	-16	0.3	-16	0.1	-16
22.99	51	0	50.2	0	-2022	0	-2051.8	0	0.3	0	0.2	0
23.29	50	0	49.0	0	-2013	20	-2042.1	20	0.2	20	0.1	20
23.59	47	0	45.5	0	-1991	43	-2020.2	44	0.1	44	0.0	43
23.89	40	0	38.5	-1	-1960	63	-1989.5	64	-0.2	64	-0.3	63
24.20	32	0	30.6	-1	-1922	69	-1950.7	70	-0.3	70	-0.4	69
24.50	21	-1	18.8	-1	-1892	67	-1920.3	67	-0.4	67	-0.5	67
24.80	20	-1	17.8	-1	-1836	67	-1863.8	68	-0.3	68	-0.4	67
25.10	5	-1	3.1	-1	-1812	74	-1839.3	75	0.1	75	0.0	74
25.41	26	-1	24.0	-1	-1695	74	-1721.0	75	0.4	75	0.3	74
25.71	53	-1	51.2	-1	-1562	68	-1587.3	70	0.8	70	0.8	68
26.01	33	-1	30.9	-1	-1551	71	-1574.9	72	1.1	72	1.1	71
26.31	22	-1	20.3	-1	-1517	69	-1539.9	71	1.1	71	1.1	69
26.62	11	0	9.9	-1	-1487	63	-1508.3	65	1.2	65	1.2	63
26.92	2	0	0.4	-1	-1462	53	-1481.4	54	1.0	54	0.9	53
27.22	-8	0	-9.0	-1	-1445	43	-1462.5	44	1.1	44	0.9	43
27.52	-27	0	-27.7	-1	-1460	34	-1474.6	36	1.1	36	0.9	34
27.83	3	0	2.5	-1	-1373	-4	-1385.9	-2	1.0	-2	0.7	-4
28.13	31	0	30.8	-1	-1330	-48	-1331.7	-45	1.4	-45	1.1	-48
28.43	27	0	26.1	-1	-1388	-58	-1380.8	-56	1.2	-56	0.7	-58
28.73	25	-1	24.1	-1	-1426	-37	-1422.2	-35	1.5	-35	0.9	-37
29.04	41	-1	40.0	-1	-1296	58	-1295.6	61	2.0	61	1.2	58
29.34	56	0	54.5	-1	-966	228	-967.4	231	3.8	231	2.5	228
29.64	20	1	19.4	1	-519	162	-522.1	163	11.8	163	9.6	162

Kombination är C_perm

B 4

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]
0.00	4	0	3.4	0	-493	227	-492.7	228	2.1	228	-0.3	227
0.30	21	0	19.8	0	-967	329	-968.1	332	-0.4	332	-1.7	329
0.60	41	0	40.0	0	-1218	102	-1217.5	105	-0.4	105	-1.2	102
0.91	45	0	44.5	0	-1264	-27	-1259.8	-25	-0.5	-25	-1.1	-27
1.21	54	0	53.9	0	-1210	-60	-1203.5	-58	-0.6	-58	-1.1	-60
1.51	24	0	23.8	0	-1242	-39	-1243.8	-36	-0.8	-36	-1.2	-39
1.81	-26	0	-26.0	0	-1349	8	-1361.3	10	-0.9	10	-1.2	8
2.12	-29	0	-30.1	0	-1375	36	-1390.1	38	-0.9	38	-1.1	36
2.42	-18	0	-18.5	0	-1380	49	-1397.4	51	-0.7	51	-0.9	49
2.72	-5	1	-6.7	0	-1396	61	-1415.1	62	-0.2	62	-0.4	61
3.02	4	0	2.6	0	-1427	71	-1448.1	73	0.1	73	0.0	71
3.33	14	0	12.6	0	-1464	78	-1486.5	79	0.5	79	0.5	78
3.63	25	0	23.0	-1	-1503	77	-1527.2	78	0.6	78	0.6	77
3.93	36	0	33.9	-1	-1539	68	-1564.5	69	0.5	69	0.5	68
4.23	49	-1	47.5	-1	-1559	53	-1585.8	54	0.2	54	0.2	53
4.54	62	-1	60.4	-1	-1570	41	-1597.3	42	-0.5	42	-0.5	41
4.84	19	-1	17.7	-1	-1730	79	-1757.4	80	-0.8	80	-0.9	79
5.14	-10	0	-12.2	-1	-1882	113	-1909.9	114	-1.3	114	-1.4	113
5.44	16	0	14.8	0	-1899	101	-1927.6	102	-1.2	102	-1.3	101
5.75	32	0	30.6	0	-1936	83	-1965.0	84	-0.9	84	-1.0	83
6.05	42	0	40.3	0	-1972	55	-2001.0	55	-0.5	55	-0.6	55
6.35	47	0	45.4	0	-1993	24	-2022.7	24	0.0	24	-0.1	24
6.65	48	0	47.2	0	-1998	0	-2027.9	1	0.3	1	0.1	0
6.96	48	0	46.8	0	-1992	-17	-2021.3	-17	0.5	-17	0.3	-17
7.26	46	0	44.9	0	-1977	-30	-2006.4	-29	0.4	-29	0.3	-30
7.56	43	0	42.0	0	-1955	-40	-1984.8	-40	0.3	-40	0.2	-40
7.86	39	0	38.4	0	-1929	-49	-1958.0	-48	0.2	-48	0.0	-49
8.17	34	0	34.0	0	-1898	-55	-1926.9	-55	0.0	-55	-0.1	-55
8.47	30	0	29.2	0	-1864	-59	-1892.6	-59	-0.1	-59	-0.2	-59
8.77	24	0	24.2	0	-1828	-60	-1856.1	-60	-0.1	-60	-0.3	-60
9.07	19	0	19.2	0	-1805	-60	-1804.7	-60	-0.2	-60	-0.3	-60
9.38	14	0	14.2	0	-1781	-59	-1753.6	-59	-0.2	-59	-0.3	-59
9.68	10	0	9.4	-1	-1744	-57	-1717.2	-58	-0.2	-57	-0.3	-58
9.98	5	0	4.6	-1	-1708	-56	-1681.5	-56	-0.2	-56	-0.3	-56
10.28	0	0	-0.1	-1	-1673	-55	-1646.8	-55	-0.2	-55	-0.3	-55
10.59	-4	0	-4.6	-1	-1638	-53	-1613.0	-54	-0.2	-53	-0.3	-54
10.89	-8	-1	-9.2	-1	-1604	-52	-1580.0	-52	-0.3	-52	-0.3	-52
11.19	-13	-1	-13.6	-1	-1571	-50	-1547.8	-51	-0.3	-50	-0.3	-51
11.49	-17	-1	-18.0	-1	-1539	-49	-1516.7	-50	-0.4	-49	-0.4	-50
11.80	-21	-1	-22.3	-1	-1508	-47	-1486.8	-48	-0.4	-47	-0.4	-48
12.10	-25	-1	-26.6	-1	-1479	-44	-1458.9	-45	-0.5	-44	-0.5	-45
12.40	-29	-1	-30.6	-1	-1453	-38	-1434.1	-40	-0.6	-38	-0.6	-40
12.70	-33	-1	-34.1	-2	-1431	-30	-1413.8	-32	-0.8	-30	-0.9	-32
13.01	-36	-1	-36.8	-2	-1414	-19	-1399.4	-22	-1.0	-19	-1.4	-22
13.31	-37	-1	-38.3	-2	-1405	-4	-1392.6	-8	-1.4	-4	-2.2	-8
13.61	-37	-1	-38.3	-1	-1404	13	-1394.9	8	-2.1	13	-3.8	8
13.91	-36	0	-36.4	0	-1413	30	-1407.6	31	-3.4	33	-6.9	27
14.22	-31	2	-31.8	1	-1435	55	-1433.2	62	-5.9	62	-12.6	55
14.52	-18	7	-18.8	3	-1470	110	-1467.9	119	-10.0	119	-22.2	110
14.82	-4	6	-5.3	2	-1147	2	-1136.3	2	-4.6	5	-27.6	-1
15.12	-19	7	-20.2	3	-1467	-103	-1465.1	-112	21.5	-103	9.3	-112
15.42	-32	2	-32.0	1	-1434	-49	-1431.6	-56	12.2	-49	5.5	-56
15.73	-35	0	-36.1	0	-1413	-26	-1407.7	-27	6.6	-23	3.2	-29
16.03	-37	-1	-37.8	-1	-1405	-10	-1396.2	-5	3.7	-5	1.9	-10
16.33	-36	-1	-37.6	-2	-1407	7	-1394.8	10	2.1	10	1.3	7
16.63	-35	-1	-36.0	-2	-1417	20	-1402.3	23	1.3	23	0.9	20
16.94	-32	-1	-33.3	-2	-1434	31	-1417.1	34	0.8	34	0.7	31
17.24	-29	-1	-29.8	-1	-1457	39	-1437.9	41	0.6	41	0.5	39
17.54	-25	-1	-25.8	-1	-1483	45	-1463.1	47	0.4	47	0.4	45
17.84	-20	-1	-21.5	-1	-1513	49	-1491.3	50	0.3	50	0.3	49
18.15	-16	-1	-17.0	-1	-1544	51	-1521.6	52	0.3	52	0.3	51
18.45	-12	-1	-12.5	-1	-1577	53	-1553.4	54	0.3	54	0.2	53
18.75	-7	0	-7.9	-1	-1611	55	-1586.3	55	0.2	55	0.2	55
19.05	-3	0	-3.2	-1	-1645	56	-1620.2	57	0.2	57	0.2	56
19.36	2	0	1.6	-1	-1681	58	-1655.0	58	0.3	58	0.2	58
19.66	7	0	6.4	0	-1717	59	-1690.7	59	0.3	59	0.2	59
19.96	12	0	11.4	0	-1754	60	-1727.2	61	0.4	61	0.3	60
20.26	17	0	16.4	0	-1792	61	-1764.3	62	0.4	62	0.3	61
20.57	22	0	21.4	0	-1816	62	-1815.7	62	0.5	62	0.3	62
20.87	27	0	26.5	0	-1839	62	-1867.0	62	0.5	62	0.3	62
21.17	32	0	31.5	0	-1874	60	-1903.0	60	0.4	60	0.3	60
21.47	37	0	36.2	0	-1907	56	-1936.4	55	0.3	56	0.2	55
21.78	41	0	40.4	0	-1938	50	-1966.7	50	0.2	50	0.1	50
22.08	45	0	44.0	0	-1964	42	-1993.0	42	0.0	42	-0.1	42
22.38	48	0	47.0	0	-1984	32	-2014.0	32	-0.2	32	-0.3	32
22.68	50	0	49.1	0	-1999	20	-2028.2	20	-0.4	20	-0.5	20
22.99	51	0	49.9	0	-2004	3	-2033.1	2	-0.4	3	-0.6	2
23.29	50	0	48.7	0	-1998	-21	-2027.9	-21	-0.3	-21	-0.5	-21
23.59	46	1	44.7	0	-1980	-49	-2009.2	-50	-0.1	-49	-0.2	-50
23.89	38	1	36.7	0	-1949	-72	-1978.3	-73	0.4	-72	0.2	-73
24.20	30	1	27.9	0	-1908	-78	-1937.1	-79	0.8	-78	0.7	-79
24.50	17	0	14.8	0	-1877	-74	-1905.4	-75	1.2	-74	1.1	-75
24.80	16	0	14.1	0	-1817	-75	-1845.1	-76	1.4	-75	1.3	-76
25.10	0	0	-2.3	-1	-1795	-85	-1822.3	-86	1.3	-85	1.2	-86
25.41	23	0	21.5	-1	-1665	-87	-1691.7	-88	0.9	-87	0.8	-88
25.71	54	0	52.3	-1	-1515	-82	-1539.9	-83	0.4	-82	0.4	-83
26.01	31	0	29.1	-1	-1500	-85	-1524.3	-86	-0.1	-85	-0.2	-86
26.31	19	0	17.0	-1	-1460	-83	-1482.7	-84	-0.2	-83	-0.3	-84
26.62	7	0	5.0	0	-1424	-75	-1445.1	-77	-0.3	-75	-0.4	-77
26.92	-4	0	-5.5	0	-1393	-62	-1412.2	-64	0.2	-62	0.1	-64
27.22	-15	0	-15.9	0	-1372	-50	-1389.5	-52	0.6	-50	0.4	-52
27.52	-36	0	-36.4	0	-1386	-39	-1400.9	-41	0.8	-39	0.6	-41
27.83	-1	0	-1.0	0	-1285	4	-1297.4	2	1.3	4	1.0	2
28.13	34	0	33.3	0	-1231	54	-1232.2	52	0.9	54	0.5	52
28.43	31	0	30.9	0	-1290	69	-1283.2	67	1.0	69	0.6	67
28.73	44	0	42.8	0	-1306	55	-1302.3	53	0.8	55	0.2	53
29.04	39	0	37.4	0	-1307	-39	-1306.5	-42	1.2	-39	0.3	-42
29.34	11	0	9.3	0	-1156	-227	-1157.4	-230	2.2	-227	0.8	-230
29.64	-7	0	-8.1	0	-626	-168	-629.2	-170	3.9	-168	1.5	-170

Kombination är C_perm

					B				5			
Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]
0.00	2	1	1.5	0	-502	215	-502.1	216	6.3	216	-1.9	215
0.30	15	0	13.5	-1	-932	317	-934.4	320	1.6	320	-3.6	317
0.60	31	0	29.9	-2	-1180	115	-1179.9	117	0.9	117	-2.5	115
0.91	35	0	33.7	-3	-1239	0	-1236.5	2	0.0	2	-2.4	0
1.21	35	0	34.2	-3	-1228	-32	-1222.7	-30	-0.6	-30	-2.3	-32
1.51	37	0	36.6	-3	-1190	-36	-1191.0	-35	-1.3	-35	-2.5	-36
1.81	9	0	9.1	-3	-1239	-9	-1248.9	-7	-1.8	-7	-2.6	-9
2.12	-34	0	-34.7	-3	-1365	35	-1376.7	36	-2.4	36	-2.9	35
2.42	-38	0	-38.3	-3	-1419	68	-1432.6	69	-2.9	69	-3.1	68
2.72	-18	0	-18.7	-2	-1441	100	-1455.6	101	-3.0	101	-3.1	100
3.02	-2	0	-3.0	-2	-1496	124	-1511.1	124	-3.1	124	-3.2	124
3.33	14	1	13.1	-2	-1555	115	-1571.2	116	-2.8	116	-3.1	115
3.63	26	1	24.9	-1	-1610	88	-1626.8	89	-2.5	89	-2.9	88
3.93	35	1	33.4	-1	-1649	60	-1666.5	61	-2.1	61	-2.6	60
4.23	41	1	39.3	-1	-1672	35	-1689.2	35	-1.8	35	-2.4	35
4.54	46	1	44.9	-1	-1675	15	-1692.1	15	-1.7	15	-2.3	15
4.84	54	1	53.3	-1	-1661	6	-1678.7	6	-1.5	6	-2.1	6
5.14	18	1	16.9	0	-1794	67	-1810.7	67	-1.6	67	-2.3	67
5.44	-13	1	-13.9	0	-1962	132	-1978.4	131	-1.5	132	-2.2	131
5.75	10	1	8.6	0	-2011	124	-2027.8	123	-1.4	124	-2.1	123
6.05	28	1	26.8	0	-2061	98	-2077.4	98	-1.3	98	-2.0	98
6.35	38	1	37.5	0	-2106	67	-2121.5	67	-1.0	67	-1.7	67
6.65	45	1	44.0	0	-2132	37	-2147.4	37	-0.8	37	-1.5	37
6.96	47	1	46.6	1	-2142	10	-2157.6	10	-0.5	10	-1.2	10
7.26	47	1	46.5	1	-2139	-12	-2154.3	-12	-0.4	-12	-1.0	-12
7.56	45	1	44.4	1	-2125	-30	-2139.8	-30	-0.2	-30	-0.8	-30
7.86	41	1	40.9	1	-2102	-43	-2116.6	-43	0.0	-43	-0.6	-43
8.17	37	1	36.4	1	-2073	-53	-2086.9	-53	0.2	-53	-0.4	-53
8.47	31	1	31.3	1	-2039	-58	-2052.6	-58	0.4	-58	-0.1	-58
8.77	26	1	26.0	0	-2002	-59	-2015.6	-59	0.6	-59	0.1	-59
9.07	21	1	21.0	0	-1971	-57	-1971.0	-57	0.7	-57	0.4	-57
9.38	16	0	16.4	0	-1940	-55	-1926.9	-55	0.9	-55	0.6	-55
9.68	12	0	12.1	0	-1904	-53	-1890.5	-53	1.0	-53	0.8	-53
9.98	8	0	8.1	-1	-1868	-51	-1855.0	-51	1.1	-51	0.9	-51
10.28	5	0	4.1	-1	-1833	-51	-1820.2	-50	1.1	-50	1.0	-51
10.59	1	-1	0.3	-1	-1798	-50	-1785.5	-50	1.1	-50	1.1	-50
10.89	-3	-1	-3.6	-2	-1763	-51	-1750.5	-51	1.1	-51	1.0	-51
11.19	-7	-1	-7.5	-2	-1727	-52	-1714.8	-52	1.1	-52	0.9	-52
11.49	-11	-1	-11.6	-3	-1690	-54	-1678.2	-54	1.1	-54	0.8	-54
11.80	-15	-2	-16.0	-4	-1652	-56	-1640.7	-56	1.0	-56	0.7	-56
12.10	-20	-2	-20.7	-4	-1613	-57	-1602.9	-58	0.8	-57	0.5	-58
12.40	-24	-2	-25.5	-5	-1575	-55	-1566.1	-56	0.5	-55	0.3	-56
12.70	-29	-2	-30.3	-5	-1539	-50	-1531.9	-52	0.1	-50	-0.3	-52
13.01	-33	-3	-34.6	-6	-1507	-42	-1502.1	-45	-0.3	-42	-1.7	-45
13.31	-37	-3	-38.2	-6	-1481	-31	-1478.5	-35	-1.1	-31	-4.3	-35
13.61	-40	-2	-40.8	-5	-1463	-16	-1463.7	-21	-2.5	-16	-9.3	-21
13.91	-41	-1	-41.7	-2	-1456	2	-1460.2	2	-4.9	5	-17.9	-1
14.22	-40	5	-40.1	0	-1469	32	-1466.7	40	-9.3	40	-32.9	32
14.52	-27	18	-28.9	4	-1502	101	-1488.1	111	-15.8	111	-55.9	101
14.82	-11	16	-12.5	1	-1169	2	-1167.6	2	1.3	6	-71.2	-2
15.12	-28	17	-29.7	3	-1503	-95	-1489.7	-105	55.1	-95	15.0	-105
15.42	-39	5	-39.8	0	-1472	-26	-1469.1	-34	32.4	-26	8.7	-34
15.73	-41	-1	-40.9	-2	-1459	2	-1463.8	1	17.5	4	4.6	-2
16.03	-39	-2	-39.7	-5	-1468	17	-1468.4	23	9.0	23	2.2	17
16.33	-36	-3	-37.2	-6	-1487	32	-1483.7	36	4.2	36	0.9	32
16.63	-32	-3	-33.6	-6	-1513	42	-1507.3	45	1.5	45	0.2	42
16.94	-28	-2	-29.4	-5	-1544	50	-1537.0	52	0.1	52	-0.2	50
17.24	-24	-2	-24.7	-5	-1580	54	-1570.9	56	-0.4	56	-0.6	54
17.54	-19	-2	-20.0	-4	-1617	56	-1607.1	57	-0.6	57	-0.9	56
17.84	-14	-2	-15.3	-3	-1655	56	-1643.9	56	-0.8	56	-1.1	56
18.15	-10	-1	-11.0	-3	-1692	54	-1680.5	54	-1.0	54	-1.2	54
18.45	-6	-1	-6.9	-2	-1728	53	-1716.1	53	-1.1	53	-1.3	53
18.75	-2	-1	-3.0	-2	-1764	52	-1751.1	52	-1.2	52	-1.3	52
19.05	1	0	0.9	-1	-1799	52	-1785.6	52	-1.2	52	-1.2	52
19.36	5	0	4.8	-1	-1833	52	-1820.2	52	-1.1	52	-1.2	52
19.66	9	0	8.8	0	-1869	54	-1855.3	54	-1.0	54	-1.2	54
19.96	13	0	13.0	0	-1905	56	-1891.4	56	-0.8	56	-1.0	56
20.26	18	1	17.5	0	-1942	58	-1928.6	58	-0.5	58	-0.9	58
20.57	22	1	22.3	0	-1974	61	-1973.9	61	-0.3	61	-0.7	61
20.87	28	1	27.5	1	-2006	63	-2019.6	63	0.0	63	-0.4	63
21.17	33	1	33.0	1	-2044	62	-2057.6	62	0.2	62	-0.2	62
21.47	39	1	38.4	1	-2079	57	-2092.9	57	0.5	57	0.0	57
21.78	44	1	43.1	1	-2109	48	-2123.7	48	0.7	48	0.1	48
22.08	47	1	46.9	1	-2133	34	-2147.6	34	0.9	34	0.3	34
22.38	50	1	49.2	1	-2147	15	-2161.6	15	1.1	15	0.4	15
22.68	50	1	49.3	1	-2148	-10	-2162.8	-10	1.3	-10	0.6	-10
22.99	47	1	46.7	1	-2135	-38	-2150.2	-38	1.4	-38	0.8	-38
23.29	42	1	40.8	0	-2107	-66	-2123.3	-66	1.8	-66	1.1	-66
23.59	32	1	31.5	0	-2064	-92	-2079.8	-92	1.9	-92	1.2	-92
23.89	20	1	18.7	0	-2014	-99	-2030.6	-99	2.3	-99	1.6	-99
24.20	7	1	5.8	0	-1968	-86	-1985.0	-86	2.4	-86	1.7	-86
24.50	-14	1	-15.5	0	-1954	-76	-1970.7	-76	2.4	-76	1.7	-76
24.80	19	1	18.0	-1	-1811	-42	-1828.3	-42	2.6	-42	2.0	-42
25.10	48	1	46.7	-1	-1712	-10	-1729.1	-10	2.2	-10	1.6	-10
25.41	40	1	38.4	-1	-1722	-15	-1739.3	-16	2.5	-15	1.9	-16
25.71	46	1	45.2	-1	-1678	-41	-1695.0	-41	2.3	-41	1.9	-41
26.01	38	1	36.4	-1	-1646	-85	-1662.7	-86	2.6	-85	2.2	-86
26.31	25	1	23.5	-2	-1582	-140	-1598.4	-140	2.8	-140	2.6	-140
26.62	4	0	2.7	-2	-1512	-160	-1527.0	-161	2.8	-160	2.7	-161
26.92	-17	0	-18.1	-2	-1449	-121	-1463.7	-121	3.2	-121	3.1	-121
27.22	-33	0	-33.2	-3	-1410	-60	-1423.1	-61	2.8	-60	2.6	-61
27.52	-36	0	-37.0	-3	-1386	-12	-1398.1	-13	3.0	-12	2.5	-13
27.83	-3	0	-3.6	-3	-1303	22	-1313.2	20	2.7	22	1.8	20
28.13	31	0	30.7	-3	-1243	39	-1244.5	37	2.3	39	1.1	37
28.43	34	0	33.4	-3	-1272	38	-1266.4	36	2.5	38	0.8	36
28.73	34	0	32.8	-3	-1294	17	-1291.0	15	2.3	17	-0.1	15
29.04	29	0	27.7	-2	-1268	-73	-1268.0	-76	2.8	-73	-0.7	-76
29.34	4	0	2.3	-1	-1096	-252	-1098.2	-254	4.0	-252	-1.3	-254
29.64	-9	1	-9.3	0	-599	-179	-602.4	-180	7.7	-179	-0.5	-180

Kombination är C_perm

					B							
					6							
Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]
0.00	10	6	7.9	5	-557	-200	-565.1	-203	31.4	-200	19.6	-203
0.30	30	1	26.7	-1	-885	-287	-896.7	-291	-12.8	-287	-20.6	-291
0.60	45	1	42.0	-2	-1112	-71	-1125.5	-75	-7.8	-71	-12.5	-75
0.91	44	1	42.2	-2	-1142	59	-1157.0	56	-7.9	59	-10.6	56
1.21	38	2	37.5	-2	-1099	92	-1114.6	88	-8.0	92	-9.6	88
1.51	34	2	33.3	-2	-1047	86	-1063.5	83	-8.5	86	-9.3	83
1.81	19	2	19.1	-1	-1058	48	-1057.2	46	-9.2	48	-9.4	46
2.12	-20	2	-20.6	-1	-1205	-6	-1185.8	-9	-10.0	-6	-10.2	-9
2.42	-34	2	-34.0	-1	-1301	-35	-1280.2	-37	-10.6	-35	-11.1	-37
2.72	-14	1	-13.8	-2	-1286	-41	-1263.6	-43	-11.1	-41	-11.8	-43
3.02	-4	0	-4.2	-2	-1303	-52	-1278.5	-53	-11.3	-52	-12.1	-53
3.33	6	0	5.8	-3	-1325	-59	-1300.0	-61	-10.9	-59	-11.8	-61
3.63	15	-1	14.8	-4	-1355	-58	-1328.1	-59	-10.1	-58	-11.0	-59
3.93	24	-2	23.7	-4	-1380	-45	-1352.6	-46	-8.9	-45	-9.8	-46
4.23	31	-3	30.8	-4	-1396	-23	-1367.8	-24	-7.5	-23	-8.4	-24
4.54	41	-3	40.7	-4	-1378	3	-1349.5	2	-6.1	3	-7.1	2
4.84	29	-3	29.2	-4	-1450	-18	-1421.1	-18	-5.1	-18	-6.0	-18
5.14	-3	-3	-3.6	-4	-1637	-93	-1607.5	-94	-4.4	-93	-5.3	-94
5.44	-6	-3	-6.6	-4	-1751	-126	-1720.8	-126	-4.1	-126	-5.0	-126
5.75	15	-3	14.3	-4	-1796	-102	-1765.6	-102	-4.0	-102	-4.9	-102
6.05	29	-3	28.5	-4	-1836	-73	-1805.6	-73	-4.0	-73	-4.8	-73
6.35	36	-3	35.9	-4	-1861	-43	-1831.1	-43	-3.8	-43	-4.6	-43
6.65	40	-3	39.2	-4	-1871	-15	-1841.4	-16	-3.4	-15	-4.2	-16
6.96	40	-3	39.4	-4	-1871	6	-1841.3	6	-2.8	6	-3.6	6
7.26	38	-4	37.5	-4	-1862	23	-1832.0	23	-2.1	23	-2.8	23
7.56	35	-4	34.1	-4	-1844	37	-1814.3	37	-1.2	37	-2.0	37
7.86	30	-4	29.5	-4	-1820	46	-1790.7	46	-0.4	46	-1.2	46
8.17	25	-4	24.3	-4	-1792	52	-1763.2	52	0.3	52	-0.4	52
8.47	20	-4	18.9	-4	-1763	53	-1733.9	54	1.0	54	0.3	53
8.77	14	-4	13.7	-4	-1733	52	-1704.4	52	1.5	52	0.9	52
9.07	10	-4	8.8	-4	-1704	48	-1675.5	48	2.0	48	1.4	48
9.38	6	-3	4.5	-4	-1676	44	-1648.3	44	2.5	44	1.9	44
9.68	2	-3	0.7	-4	-1651	40	-1623.0	40	2.9	40	2.3	40
9.98	-2	-3	-2.7	-4	-1627	37	-1599.4	37	3.3	37	2.7	37
10.28	-5	-3	-6.0	-4	-1604	35	-1577.1	35	3.7	35	3.1	35
10.59	-8	-3	-9.1	-4	-1582	34	-1555.8	34	4.0	34	3.5	34
10.89	-11	-3	-12.2	-4	-1561	33	-1534.8	34	4.4	34	3.8	33
11.19	-14	-3	-15.4	-4	-1539	33	-1513.9	35	4.7	35	4.2	33
11.49	-17	-3	-18.8	-4	-1517	34	-1493.0	36	5.1	36	4.5	34
11.80	-21	-3	-22.6	-4	-1494	35	-1472.2	38	5.4	38	4.8	35
12.10	-25	-3	-26.8	-4	-1473	33	-1452.5	37	5.7	37	5.1	33
12.40	-30	-3	-30.9	-5	-1455	26	-1436.4	31	6.3	31	5.5	26
12.70	-33	-3	-34.2	-5	-1442	13	-1427.0	18	7.2	18	6.1	13
13.01	-35	-2	-36.1	-5	-1439	-7	-1427.5	0	9.2	0	7.4	-7
13.31	-35	-2	-35.7	-4	-1446	-34	-1443.2	-25	13.0	-25	9.7	-34
13.61	-32	0	-32.6	-2	-1472	-68	-1472.5	-57	20.7	-57	14.7	-68
13.91	-24	4	-25.5	3	-1522	-103	-1515.8	-105	35.0	-97	23.5	-111
14.22	-9	15	-12.7	11	-1597	-153	-1583.3	-169	62.4	-153	41.1	-169
14.52	24	38	18.2	26	-1692	-262	-1670.4	-282	104.2	-262	65.5	-282
14.82	33	51	28.0	38	-1478	-4	-1478.3	-4	109.9	3	34.2	-11
15.12	24	38	18.5	26	-1697	253	-1675.3	272	-66.2	272	-104.9	253
15.42	-9	15	-11.7	11	-1604	150	-1590.2	166	-41.5	166	-62.9	150
15.73	-23	4	-24.4	3	-1530	101	-1523.5	103	-23.8	109	-35.2	96
16.03	-31	0	-31.3	-2	-1480	67	-1480.4	56	-14.9	67	-20.9	56
16.33	-34	-2	-34.4	-4	-1454	33	-1450.9	25	-9.8	33	-13.1	25
16.63	-34	-2	-34.8	-5	-1446	7	-1434.9	0	-7.5	7	-9.3	0
16.94	-32	-3	-33.2	-5	-1449	-13	-1434.2	-18	-6.2	-13	-7.3	-18
17.24	-29	-3	-30.0	-5	-1461	-27	-1443.2	-31	-5.6	-27	-6.3	-31
17.54	-25	-3	-26.1	-4	-1479	-34	-1458.6	-37	-5.2	-34	-5.8	-37
17.84	-21	-3	-22.1	-4	-1500	-36	-1477.4	-38	-4.8	-36	-5.4	-38
18.15	-17	-3	-18.4	-4	-1521	-35	-1497.3	-37	-4.5	-35	-5.1	-37
18.45	-14	-3	-15.0	-4	-1543	-35	-1517.7	-36	-4.2	-35	-4.8	-36
18.75	-10	-3	-11.8	-4	-1564	-35	-1538.4	-36	-3.9	-35	-4.4	-36
19.05	-7	-3	-8.7	-4	-1586	-36	-1559.3	-37	-3.5	-36	-4.1	-37
19.36	-4	-3	-5.5	-4	-1608	-38	-1580.9	-39	-3.2	-38	-3.8	-39
19.66	-1	-3	-2.2	-4	-1631	-41	-1603.7	-41	-2.8	-41	-3.4	-41
19.96	2	-3	1.4	-4	-1656	-44	-1628.3	-45	-2.4	-44	-3.0	-45
20.26	6	-3	5.4	-4	-1683	-49	-1654.8	-49	-2.0	-49	-2.6	-49
20.57	11	-4	10.0	-4	-1712	-54	-1683.5	-54	-1.6	-54	-2.2	-54
20.87	16	-4	15.1	-4	-1743	-58	-1714.0	-58	-1.1	-58	-1.7	-58
21.17	21	-4	20.7	-4	-1775	-60	-1745.6	-60	-0.5	-60	-1.2	-60
21.47	27	-4	26.6	-5	-1806	-59	-1777.1	-59	0.2	-59	-0.5	-59
21.78	33	-4	32.1	-5	-1835	-53	-1806.0	-53	1.0	-53	0.2	-53
22.08	37	-4	36.9	-5	-1860	-43	-1830.4	-43	1.9	-43	1.1	-43
22.38	41	-4	40.6	-5	-1878	-28	-1848.0	-28	2.8	-28	2.0	-28
22.68	43	-4	42.6	-4	-1886	-9	-1856.4	-9	3.7	-9	2.9	-9
22.99	43	-3	42.3	-4	-1883	16	-1853.0	16	4.5	16	3.7	16
23.29	39	-3	39.0	-4	-1866	44	-1836.1	44	5.2	44	4.4	44
23.59	33	-3	32.4	-3	-1837	69	-1806.8	70	5.4	70	4.6	69
23.89	23	-2	22.9	-3	-1800	81	-1769.8	81	5.5	81	4.7	81
24.20	12	-2	12.1	-3	-1762	78	-1732.0	78	5.4	78	4.5	78
24.50	4	-2	3.7	-3	-1713	78	-1683.0	78	5.1	78	4.2	78
24.80	-7	-2	-7.6	-4	-1674	92	-1644.9	93	5.5	93	4.5	92
25.10	13	-2	12.7	-4	-1544	80	-1515.6	81	5.8	81	4.9	80
25.41	37	-2	37.0	-4	-1399	55	-1371.1	56	7.2	56	6.3	55
25.71	26	-2	25.9	-4	-1366	52	-1339.1	53	8.6	53	7.7	52
26.01	16	-2	15.7	-4	-1341	54	-1314.3	55	10.3	55	9.4	54
26.31	7	-1	7.0	-4	-1314	53	-1288.7	55	11.6	55	10.7	53
26.62	-1	0	-1.3	-3	-1289	49	-1265.0	51	12.2	51	11.4	49
26.92	-11	1	-11.7	-2	-1271	46	-1247.8	48	12.3	48	11.6	46
27.22	-14	2	-13.8	-2	-1225	45	-1203.3	47	11.5	47	11.0	45
27.52	-25	2	-25.6	-1	-1239	36	-1219.6	38	10.8	38	10.5	36
27.83	0	2	-0.5	-2	-1148	-26	-1147.1	-23	9.7	-23	9.5	-26
28.13	37	2	37.1	-2	-1043	-93	-1060.1	-90	9.7	-90	9.0	-93
28.43	36	2	35.4	-2	-1120	-106	-1135.8	-103	10.0	-103	8.4	-106
28.73	43	1	41.0	-3	-1180	-88	-1194.4	-84	11.1	-84	8.4	-88
29.04	43	1	40.3	-2	-1193	10	-1206.9	15	13.0	15	8.4	10
29.34	18	1	15.0	-1	-1062	192	-1074.0	197	20.9	197	13.2	192
29.64	-2	6	-3.4	5	-691	147	-692.1	149	54.9	149	43.2	147

Kombination är C_cycl

					B				1			
Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]
0.00	0	2	-1.2	0	1	12	2.5	-1	17.2	14	-6.8	-2
0.30	1	0	-3.7	0	-1	15	17.3	7	1.1	30	-6.0	-3
0.60	1	1	-6.2	-1	-5	4	36.0	15	0.3	31	-3.9	-3
0.91	1	0	-8.8	-1	-6	1	57.1	15	0.1	31	-4.2	-3
1.21	1	0	-11.6	-1	-7	0	74.3	15	0.0	30	-4.4	-2
1.51	1	0	-14.2	-1	-8	5	90.9	14	0.0	29	-4.5	-2
1.81	1	0	-16.6	-1	-10	11	106.7	15	0.0	27	-4.5	-2
2.12	1	0	-18.8	-1	-12	10	122.5	19	0.0	26	-4.4	-2
2.42	1	0	-21.0	-2	-13	9	137.3	20	0.1	24	-4.2	-2
2.72	2	0	-23.1	-2	-14	9	150.1	18	0.1	22	-4.0	-2
3.02	2	0	-24.9	-2	-13	9	161.6	16	0.1	20	-3.8	-2
3.33	2	0	-26.5	-2	-12	9	171.7	14	0.1	18	-3.6	-2
3.63	2	0	-27.9	-2	-14	8	180.4	13	0.1	16	-3.4	-2
3.93	2	0	-29.1	-2	-15	3	187.8	11	0.1	14	-3.1	-2
4.23	3	0	-30.1	-2	-16	-2	193.9	8	0.2	13	-2.9	-2
4.54	3	0	-30.8	-2	-18	-2	199.2	6	0.3	11	-2.7	-2
4.84	3	0	-31.4	-2	-19	-2	203.3	5	0.4	10	-2.5	-3
5.14	3	0	-32.0	-2	-21	-2	206.1	4	0.5	8	-2.4	-3
5.44	3	0	-32.4	-2	-22	-2	207.6	3	0.6	7	-2.2	-4
5.75	4	0	-32.5	-2	-23	-2	207.7	0	0.7	6	-2.0	-5
6.05	4	0	-32.4	-2	-25	-2	206.5	-1	0.8	5	-1.8	-6
6.35	4	0	-32.1	-2	-26	-2	204.5	-2	1.0	5	-1.6	-8
6.65	4	0	-31.7	-2	-28	-2	201.6	-4	1.1	4	-1.5	-9
6.96	4	0	-31.1	-2	-29	-2	197.6	-5	1.2	3	-1.3	-11
7.26	5	0	-30.4	-2	-31	-2	192.4	-6	1.3	2	-1.2	-13
7.56	5	0	-29.5	-2	-32	-2	186.2	-8	1.5	1	-1.1	-14
7.86	5	0	-28.4	-2	-34	-2	178.9	-11	1.7	1	-1.0	-16
8.17	5	0	-27.2	-2	-36	-2	170.3	-11	1.8	1	-0.9	-18
8.47	5	0	-25.7	-2	-37	-2	160.5	-12	2.1	1	-0.8	-21
8.77	6	0	-24.0	-2	-39	-2	149.4	-13	2.2	1	-0.7	-23
9.07	6	0	-22.2	-2	-41	-2	137.0	-13	2.4	0	-0.6	-25
9.38	6	0	-20.2	-2	-43	-2	123.8	-15	2.6	0	-0.5	-27
9.68	6	0	-18.1	-2	-45	-2	109.7	-17	2.8	0	-0.4	-29
9.98	7	0	-15.7	-2	-46	-6	94.3	-18	3.0	0	-0.3	-30
10.28	7	0	-13.2	-2	-48	-12	77.8	-19	3.2	0	-0.2	-32
10.59	7	0	-11.0	-2	-50	-14	64.8	-19	3.3	0	-0.2	-34
10.89	7	0	-9.5	-2	-52	-15	56.2	-21	3.5	0	-0.1	-35
11.19	8	0	-8.1	-2	-54	-18	47.8	-17	3.6	1	0.0	-36
11.49	8	0	-6.6	-1	-61	-24	39.3	-13	3.8	1	0.0	-37
11.80	10	1	-5.1	-1	-75	-28	30.6	-14	3.9	1	0.0	-38
12.10	12	1	-3.8	-1	-91	-31	31.2	-13	4.0	1	0.0	-39
12.40	15	1	-3.2	-1	-106	-33	36.4	-11	4.1	1	0.0	-40
12.70	17	1	-3.2	-1	-121	-34	36.7	-12	4.3	1	0.0	-40
13.01	19	1	-3.1	0	-136	-36	36.3	-10	4.5	1	-0.1	-39
13.31	22	2	-3.2	0	-153	-36	36.1	-6	4.8	1	-0.2	-38
13.61	26	2	-3.2	0	-174	-37	36.9	-2	5.5	1	-0.4	-37
13.91	29	3	-3.3	0	-193	-36	37.7	0	6.9	1	-0.8	-36
14.22	33	5	-3.5	0	-212	-34	38.6	-1	10.0	2	-1.5	-35
14.52	39	8	-3.9	-1	-215	-33	39.2	-1	14.4	3	-2.4	-34
14.82	45	10	-19.0	-1	-147	-4	18.2	0	16.3	43	-7.4	-43
15.12	39	8	-3.9	-1	-215	33	39.2	1	2.4	34	-14.4	-3
15.42	33	5	-3.5	0	-212	34	38.7	1	1.5	35	-10.0	-2
15.73	29	3	-3.3	0	-193	36	37.7	0	0.8	36	-6.9	-1
16.03	26	2	-3.3	0	-174	37	36.9	2	0.4	37	-5.5	-1
16.33	22	2	-3.2	0	-153	36	36.1	6	0.2	38	-4.8	-1
16.63	19	1	-3.2	0	-136	36	36.3	10	0.1	39	-4.5	-1
16.94	17	1	-3.2	-1	-121	34	36.7	12	0.0	40	-4.3	-1
17.24	15	1	-3.2	-1	-106	33	36.4	11	0.0	40	-4.1	-1
17.54	12	1	-3.8	-1	-91	31	31.2	13	0.0	39	-4.0	-1
17.84	10	1	-5.2	-1	-75	28	30.6	14	0.0	38	-3.9	-1
18.15	8	0	-6.7	-1	-61	24	39.3	13	0.0	37	-3.8	-1
18.45	8	0	-8.1	-2	-54	18	47.8	17	0.0	36	-3.6	-1
18.75	7	0	-9.5	-2	-52	15	56.2	21	0.1	35	-3.5	-1
19.05	7	0	-11.0	-2	-50	14	64.8	19	0.2	34	-3.3	0
19.36	7	0	-13.2	-2	-48	12	77.9	19	0.2	32	-3.2	0
19.66	7	0	-15.7	-2	-46	6	94.3	18	0.3	30	-3.0	0
19.96	6	0	-18.1	-2	-44	2	109.6	17	0.4	29	-2.8	0
20.26	6	0	-20.2	-2	-43	2	123.6	15	0.5	27	-2.6	0
20.57	6	0	-22.2	-2	-41	2	136.8	13	0.6	25	-2.4	-1
20.87	6	0	-24.0	-2	-39	2	149.2	13	0.7	23	-2.2	-1
21.17	5	0	-25.7	-2	-37	2	160.3	12	0.8	20	-2.1	-1
21.47	5	0	-27.1	-2	-36	2	170.1	11	0.9	18	-1.8	-1
21.78	5	0	-28.4	-2	-34	2	178.6	11	1.0	16	-1.7	-1
22.08	5	0	-29.5	-2	-32	2	186.0	8	1.1	14	-1.5	-1
22.38	5	0	-30.4	-2	-31	2	192.3	6	1.2	13	-1.3	-2
22.68	4	0	-31.1	-2	-29	2	197.4	6	1.3	11	-1.2	-3
22.99	4	0	-31.7	-2	-28	2	201.5	5	1.5	9	-1.1	-4
23.29	4	0	-32.1	-2	-26	2	204.3	3	1.6	8	-1.0	-4
23.59	4	0	-32.4	-2	-25	2	206.2	1	1.8	7	-0.8	-5
23.89	4	0	-32.5	-2	-23	2	207.3	0	2.0	5	-0.7	-6
24.20	3	0	-32.3	-2	-22	2	207.2	-2	2.2	4	-0.6	-7
24.50	3	0	-32.0	-2	-21	2	205.7	-4	2.4	3	-0.5	-8
24.80	3	0	-31.5	-2	-19	2	203.0	-5	2.5	3	-0.4	-10
25.10	3	0	-30.8	-2	-18	2	199.0	-6	2.7	2	-0.3	-11
25.41	3	0	-30.1	-2	-16	2	193.7	-8	2.9	2	-0.2	-13
25.71	2	0	-29.1	-2	-15	-3	187.5	-10	3.1	2	-0.1	-14
26.01	2	0	-27.9	-2	-14	-8	180.1	-13	3.4	2	-0.1	-16
26.31	2	0	-26.5	-2	-12	-9	171.4	-14	3.6	2	-0.1	-18
26.62	2	0	-24.9	-2	-13	-9	161.3	-16	3.8	2	-0.1	-20
26.92	2	0	-23.1	-2	-14	-9	149.9	-18	4.0	2	-0.1	-22
27.22	1	0	-21.0	-2	-13	-9	137.1	-20	4.2	2	-0.1	-24
27.52	1	0	-18.8	-1	-12	-10	122.4	-19	4.4	2	0.0	-26
27.83	1	0	-16.6	-1	-10	-12	106.8	-15	4.5	2	0.0	-28
28.13	1	0	-14.2	-1	-8	-5	90.9	-14	4.5	2	0.0	-29
28.43	1	0	-11.6	-1	-7	0	74.3	-15	4.4	2	0.0	-30
28.73	1	0	-8.8	-1	-6	-1	57.1	-15	4.2	3	-0.1	-31
29.04	1	1	-6.2	-1	-5	-4	36.3	-15	3.9	3	-0.3	-31
29.34	1	0	-3.7	0	-1	-15	17.6	-7	6.1	3	-1.1	-30
29.64	0	2	-1.2	0	-3	-12	5.9	1	20.6	2	-3.4	-14

Kombination är C_cycl

B 2

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]
0.00	3	3	-1.5	-1	13	2	-59.8	28	18.5	35	-9.3	-1
0.30	4	0	-3.9	-1	8	1	30.1	59	1.6	67	-9.0	-2
0.60	2	0	-7.6	-2	-1	-2	68.2	55	0.6	64	-5.3	-2
0.91	1	1	-12.5	-3	-5	-2	99.1	43	0.6	65	-5.0	-2
1.21	1	0	-17.3	-3	-7	6	136.8	34	1.0	64	-4.8	-3
1.51	1	0	-22.1	-3	-7	14	176.7	29	1.3	59	-4.8	-5
1.81	1	0	-25.4	-3	-7	12	206.8	27	1.4	57	-5.0	-6
2.12	1	0	-27.6	-3	-7	10	226.6	25	1.4	54	-4.8	-8
2.42	1	0	-30.5	-3	-8	11	245.5	20	1.6	49	-4.5	-10
2.72	1	0	-33.0	-3	-9	9	268.1	19	1.6	48	-4.6	-12
3.02	1	0	-35.1	-3	-10	8	286.1	14	1.7	45	-4.4	-15
3.33	2	0	-37.2	-3	-11	8	298.4	12	2.0	41	-4.2	-18
3.63	2	0	-38.0	-3	-12	9	309.8	14	2.0	40	-4.3	-20
3.93	2	0	-39.3	-3	-13	9	321.2	7	2.1	38	-4.0	-21
4.23	2	0	-40.7	-3	-14	9	326.9	2	2.3	35	-3.8	-23
4.54	2	0	-40.4	-3	-15	10	330.0	6	2.4	36	-4.0	-24
4.84	2	0	-40.7	-3	-16	10	333.9	4	2.4	34	-3.8	-26
5.14	2	0	-41.7	-3	-17	11	336.4	-1	2.6	31	-3.6	-27
5.44	3	0	-41.0	-3	-18	8	334.2	2	2.7	32	-3.7	-28
5.75	3	0	-40.8	-3	-19	6	331.0	5	2.7	30	-3.5	-30
6.05	3	0	-41.4	-3	-20	4	327.9	-1	2.8	28	-3.4	-31
6.35	3	0	-41.1	-3	-21	2	326.1	-2	2.9	28	-3.4	-33
6.65	3	0	-40.9	-3	-22	-2	324.8	1	3.0	26	-3.2	-34
6.96	3	0	-40.1	-3	-23	-5	316.7	-4	3.1	25	-3.1	-35
7.26	3	0	-39.5	-3	-24	-8	312.2	-5	3.3	24	-3.0	-37
7.56	4	0	-39.5	-3	-25	-10	311.2	-2	3.4	23	-2.9	-38
7.86	4	0	-38.1	-3	-26	-9	302.8	-4	3.5	23	-2.7	-41
8.17	4	0	-36.8	-3	-28	-9	292.2	-8	3.7	21	-2.7	-44
8.47	4	0	-36.2	-3	-29	-11	281.6	-10	3.7	21	-2.6	-45
8.77	4	0	-34.4	-3	-30	-14	269.2	-12	3.9	20	-2.5	-47
9.07	4	0	-32.4	-3	-31	-18	252.5	-17	4.1	18	-2.5	-51
9.38	5	0	-31.1	-3	-33	-21	235.7	-18	4.1	17	-2.4	-52
9.68	5	1	-28.6	-3	-34	-21	218.3	-17	4.3	15	-2.3	-55
9.98	5	1	-26.0	-3	-35	-24	194.2	-19	4.4	14	-2.2	-59
10.28	5	1	-24.0	-3	-36	-28	171.2	-24	4.5	12	-2.1	-61
10.59	6	1	-22.7	-3	-38	-32	158.1	-20	4.6	11	-2.0	-64
10.89	6	1	-21.2	-3	-39	-37	142.6	-17	4.7	10	-2.0	-68
11.19	7	1	-18.8	-3	-49	-41	126.7	-26	4.8	7	-1.9	-71
11.49	9	1	-17.1	-3	-66	-46	112.4	-27	4.9	6	-1.7	-75
11.80	12	1	-15.2	-2	-86	-52	89.4	-25	5.0	5	-1.7	-79
12.10	15	1	-12.0	-2	-115	-57	67.6	-16	4.8	3	-1.6	-81
12.40	19	1	-9.7	-2	-153	-59	47.3	-15	5.0	2	-1.4	-87
12.70	23	2	-7.0	-2	-193	-65	18.5	-32	5.3	1	-1.3	-92
13.01	28	2	-3.6	-2	-236	-71	-1.8	-22	5.3	0	-1.1	-95
13.31	34	2	-1.8	-2	-284	-78	8.7	-20	5.8	0	-0.7	-101
13.61	41	3	-1.1	-1	-336	-83	22.6	-34	6.7	0	-0.6	-107
13.91	49	4	-1.0	-1	-389	-90	22.4	-23	8.2	0	-0.9	-112
14.22	57	5	-0.8	0	-441	-103	22.3	-6	11.4	0	-1.7	-118
14.52	73	8	-1.1	-1	-478	-118	-26.8	-2	15.5	1	-2.9	-125
14.82	80	8	-25.7	-1	-352	-11	-77.7	0	16.9	84	-7.7	-84
15.12	73	8	-1.1	-1	-478	118	-26.8	2	2.9	125	-15.4	-1
15.42	57	5	-0.8	0	-441	103	22.3	6	1.7	118	-11.4	0
15.73	49	4	-1.0	-1	-388	90	22.4	23	0.9	112	-8.2	0
16.03	41	3	-1.1	-1	-336	83	22.7	34	0.6	107	-6.7	0
16.33	34	2	-1.8	-2	-284	78	8.7	20	0.7	101	-5.8	0
16.63	28	2	-3.6	-2	-236	71	-1.7	22	1.1	95	-5.3	0
16.94	23	2	-7.0	-2	-193	65	18.6	32	1.3	92	-5.3	-1
17.24	19	1	-9.7	-2	-153	59	47.2	15	1.4	87	-5.0	-2
17.54	15	1	-12.0	-2	-115	57	67.6	16	1.6	81	-4.8	-3
17.84	12	1	-15.2	-2	-86	52	89.3	25	1.7	79	-5.0	-5
18.15	9	1	-17.2	-3	-66	46	112.3	27	1.8	75	-4.9	-6
18.45	7	1	-18.7	-3	-49	41	126.7	26	1.9	71	-4.8	-7
18.75	6	1	-21.2	-3	-39	37	142.4	17	2.0	68	-4.7	-10
19.05	6	1	-22.7	-3	-38	32	157.9	20	2.0	64	-4.6	-11
19.36	5	1	-24.0	-3	-36	28	171.2	24	2.1	61	-4.5	-12
19.66	5	1	-26.0	-3	-35	24	194.3	19	2.2	59	-4.4	-14
19.96	5	1	-28.6	-3	-34	21	218.4	17	2.3	55	-4.2	-15
20.26	5	0	-31.1	-3	-33	21	235.4	18	2.4	52	-4.1	-17
20.57	4	0	-32.3	-3	-31	18	252.3	17	2.5	51	-4.1	-18
20.87	4	0	-34.3	-3	-30	14	269.2	12	2.5	47	-3.9	-20
21.17	4	0	-36.2	-3	-29	11	281.3	10	2.6	45	-3.7	-21
21.47	4	0	-36.8	-3	-28	9	292.0	8	2.7	44	-3.7	-21
21.78	4	0	-38.1	-3	-26	9	303.0	4	2.7	41	-3.5	-22
22.08	4	0	-39.4	-3	-25	10	311.0	2	2.9	39	-3.3	-23
22.38	3	0	-39.4	-3	-24	8	311.6	5	3.0	37	-3.3	-24
22.68	3	0	-40.1	-3	-23	5	316.4	4	3.1	35	-3.1	-25
22.99	3	0	-40.9	-3	-22	2	324.5	-1	3.2	34	-3.0	-26
23.29	3	0	-41.0	-3	-21	-2	325.6	2	3.4	33	-2.9	-28
23.59	3	0	-41.4	-3	-20	-4	327.1	1	3.4	31	-2.8	-28
23.89	3	0	-40.8	-3	-19	-6	330.4	-5	3.5	30	-2.7	-30
24.20	2	0	-41.0	-3	-18	-8	333.9	-2	3.7	28	-2.7	-32
24.50	2	0	-41.6	-3	-17	-11	336.0	1	3.6	27	-2.6	-31
24.80	2	0	-40.8	-3	-16	-10	333.1	-4	3.8	26	-2.4	-33
25.10	2	0	-40.5	-3	-15	-10	329.5	-5	4.0	25	-2.4	-35
25.41	2	0	-40.6	-3	-14	-9	327.1	-2	3.8	23	-2.3	-35
25.71	2	0	-39.3	-3	-13	-9	321.2	-7	4.0	22	-2.1	-38
26.01	2	0	-38.0	-3	-12	-9	309.8	-13	4.3	20	-2.0	-40
26.31	2	0	-37.1	-3	-11	-8	298.3	-11	4.2	18	-2.0	-41
26.62	1	0	-35.1	-3	-10	-8	285.9	-14	4.4	15	-1.7	-45
26.92	1	0	-33.1	-3	-9	-9	267.9	-19	4.6	12	-1.6	-48
27.22	1	0	-30.6	-3	-8	-11	245.4	-20	4.5	10	-1.6	-50
27.52	1	0	-27.6	-3	-7	-10	226.6	-25	4.8	8	-1.4	-54
27.83	1	0	-25.4	-3	-7	-12	207.0	-27	5.0	6	-1.4	-57
28.13	1	0	-22.0	-3	-7	-14	177.1	-29	4.8	5	-1.3	-60
28.43	1	0	-17.3	-3	-7	-6	137.1	-34	4.8	3	-1.0	-65
28.73	1	1	-12.5	-3	-6	2	99.2	-48	5.0	2	-0.6	-66
29.04	2	0	-7.5	-2	-1	2	68.1	-60	5.3	2	-0.6	-65
29.34	4	0	-3.9	-1	8	-1	30.0	-59	9.0	2	-1.6	-67
29.64	3	3	-1.4	-1	14	-2	-63.2	-28	23.5	1	-4.3	-35

Kombination är C_cycl

					B							
					3							
Xkoord	Mmax_1_dir	Mmax_2_dir	Mmin_1_dir	Mmin_2_dir	N_tillh_Mmax_1_dir	N_tillh_Mmax_2_dir	N_tillh_Mmin_1_dir	N_tillh_Mmin_2_dir	Vmax_1_dir	Vmax_2_dir	Vmin_1_dir	Vmin_2_dir
[m]	[kNm]	[kNm]	[kNm]	[kNm]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]
0.00	2	3	-0.6	-3	9	17	-42.9	20	21.8	34	-22.7	-1
0.30	3	1	-3.0	0	10	40	27.4	27	9.7	64	-5.8	-2
0.60	2	2	-7.3	0	1	43	61.6	14	6.3	61	-4.2	-2
0.91	1	3	-12.1	-1	-4	39	90.1	13	6.3	64	-4.6	-2
1.21	1	3	-17.0	-1	-6	38	126.6	12	6.1	61	-4.9	-3
1.51	1	3	-21.8	-1	-6	34	165.8	12	5.9	57	-5.0	-4
1.81	1	3	-25.4	-1	-6	31	194.8	15	6.2	56	-4.9	-5
2.12	1	3	-27.9	-1	-7	29	214.1	17	5.9	52	-4.7	-7
2.42	1	3	-30.7	-2	-8	26	232.3	16	5.5	48	-4.4	-9
2.72	1	3	-33.4	-2	-9	23	254.6	15	5.7	47	-4.2	-10
3.02	1	3	-35.7	-2	-10	22	272.6	14	5.3	43	-3.9	-12
3.33	2	3	-37.6	-2	-11	20	284.8	13	4.9	40	-3.7	-15
3.63	2	3	-38.8	-2	-12	18	297.2	11	5.1	40	-3.4	-18
3.93	2	3	-40.3	-2	-13	15	309.0	9	4.8	37	-3.1	-19
4.23	2	3	-41.4	-2	-14	13	314.6	8	4.4	35	-2.9	-21
4.54	2	3	-41.3	-2	-15	13	318.4	7	4.6	35	-2.7	-23
4.84	2	3	-41.7	-2	-16	4	322.3	6	4.4	32	-2.6	-24
5.14	2	3	-42.6	-3	-17	3	323.9	4	4.0	30	-2.8	-25
5.44	3	3	-42.2	-3	-18	10	322.4	3	4.2	31	-2.9	-27
5.75	3	3	-42.0	-3	-19	8	319.6	1	4.0	29	-3.0	-28
6.05	3	3	-42.2	-3	-20	-1	316.1	0	3.8	27	-3.1	-30
6.35	3	3	-41.9	-3	-21	-3	314.5	-2	3.8	26	-3.2	-31
6.65	3	3	-41.7	-2	-22	-4	313.0	-5	3.6	25	-3.4	-32
6.96	3	3	-40.9	-2	-23	-13	308.4	-6	3.5	23	-3.5	-34
7.26	3	3	-40.3	-2	-24	-15	304.7	-7	3.4	22	-3.7	-35
7.56	4	3	-40.2	-2	-25	-7	300.1	-9	3.3	21	-3.8	-37
7.86	4	3	-38.9	-2	-26	-9	291.7	-10	3.2	20	-3.9	-40
8.17	4	3	-37.6	-2	-27	-18	281.6	-12	3.1	20	-4.2	-42
8.47	4	3	-36.6	-2	-28	-11	270.3	-13	3.0	19	-4.2	-45
8.77	4	3	-34.8	-2	-29	-13	257.8	-14	3.0	17	-4.4	-47
9.07	5	3	-32.7	-2	-31	-23	241.6	-15	2.9	16	-4.6	-50
9.38	5	3	-31.1	-2	-32	-24	224.1	-16	2.9	14	-4.7	-52
9.68	5	3	-28.7	-2	-33	-24	206.8	-18	3.1	13	-4.8	-55
9.98	5	3	-25.9	-2	-34	-26	184.9	-19	3.3	11	-5.1	-58
10.28	5	3	-23.7	-1	-35	-30	164.5	-19	3.4	10	-5.0	-61
10.59	6	2	-22.2	-1	-37	-29	149.2	-13	3.6	8	-5.2	-64
10.89	6	2	-20.4	-1	-38	-32	130.7	-9	3.7	8	-5.4	-68
11.19	7	2	-18.2	-1	-47	-38	115.8	-10	3.8	6	-5.3	-70
11.49	10	2	-16.5	-1	-63	-28	102.1	-11	3.9	5	-5.4	-74
11.80	12	2	-14.2	-1	-82	-19	79.2	-11	3.9	4	-5.5	-78
12.10	15	2	-11.3	-1	-111	-16	59.1	-36	4.0	2	-5.2	-80
12.40	19	2	-8.9	-1	-146	-15	40.3	-61	4.0	1	-5.4	-85
12.70	24	2	-5.9	-1	-184	-23	12.8	-65	4.0	1	-5.8	-90
13.01	29	2	-2.6	-1	-224	-18	-5.3	-71	4.0	0	-5.7	-92
13.31	35	2	-0.7	-1	-268	-21	-3.1	-77	4.1	0	-6.4	-97
13.61	41	2	-0.2	-2	-316	-29	1.6	-82	4.5	0	-7.8	-103
13.91	49	3	-0.3	-3	-366	-30	1.8	-87	5.5	0	-10.2	-107
14.22	58	5	-0.3	-5	-413	-29	1.9	-100	7.6	0	-15.4	-112
14.52	72	7	-0.5	-9	-447	-29	-32.8	-113	10.8	1	-22.8	-119
14.82	78	7	-24.1	-10	-330	-4	-71.2	-11	19.2	82	-27.9	-82
15.12	72	7	-0.5	-9	-446	29	-32.7	113	22.8	119	-10.8	-1
15.42	58	5	-0.3	-5	-413	29	1.9	100	15.4	112	-7.6	0
15.73	49	3	-0.3	-3	-365	30	1.8	87	10.2	107	-5.5	0
16.03	41	2	-0.2	-2	-316	29	1.6	82	7.8	103	-4.5	0
16.33	35	2	-0.7	-1	-268	21	-3.4	77	6.4	97	-4.1	0
16.63	29	2	-2.6	-1	-224	18	-5.3	71	5.7	92	-4.0	0
16.94	24	2	-5.9	-1	-184	23	12.8	65	5.8	90	-4.0	-1
17.24	19	2	-8.9	-1	-146	15	39.9	61	5.4	85	-4.0	-1
17.54	15	2	-11.3	-1	-111	16	59.2	36	5.2	80	-4.0	-2
17.84	12	2	-14.2	-1	-82	19	79.2	11	5.5	78	-3.9	-4
18.15	10	2	-16.5	-1	-63	27	101.5	11	5.4	74	-3.9	-5
18.45	7	2	-18.2	-1	-47	38	115.8	10	5.3	70	-3.8	-6
18.75	6	2	-20.4	-1	-38	32	130.7	9	5.4	68	-3.7	-8
19.05	6	2	-22.2	-1	-37	29	148.5	13	5.2	64	-3.6	-8
19.36	5	3	-23.7	-1	-35	30	163.7	19	5.0	61	-3.4	-10
19.66	5	3	-25.9	-2	-34	26	184.7	19	5.1	58	-3.3	-11
19.96	5	3	-28.7	-2	-33	24	207.3	18	4.8	55	-3.1	-13
20.26	5	3	-31.1	-2	-32	24	224.0	16	4.7	52	-2.9	-14
20.57	5	3	-32.7	-2	-31	23	241.3	15	4.6	50	-2.9	-15
20.87	4	3	-34.8	-2	-29	13	258.2	14	4.4	47	-3.0	-17
21.17	4	3	-36.6	-2	-28	11	270.1	13	4.2	45	-3.0	-19
21.47	4	3	-37.5	-2	-27	18	281.3	12	4.2	42	-3.1	-19
21.78	4	3	-38.9	-2	-26	9	292.2	10	3.9	40	-3.2	-20
22.08	4	3	-40.1	-2	-25	7	300.0	9	3.8	38	-3.3	-21
22.38	3	3	-40.3	-2	-24	15	304.6	7	3.7	35	-3.4	-22
22.68	3	3	-40.9	-2	-23	14	309.0	6	3.5	34	-3.5	-23
22.99	3	3	-41.6	-2	-22	4	312.9	5	3.4	32	-3.6	-25
23.29	3	3	-41.8	-3	-21	3	314.3	2	3.2	31	-3.8	-26
23.59	3	3	-42.1	-3	-20	1	315.9	0	3.1	30	-3.8	-27
23.89	3	3	-42.0	-3	-19	-8	319.2	-1	3.0	28	-4.0	-29
24.20	3	3	-42.2	-3	-18	-9	322.7	-3	2.9	27	-4.2	-31
24.50	2	3	-42.6	-3	-17	-3	323.6	-4	2.8	25	-4.0	-30
24.80	2	3	-41.8	-2	-16	-4	321.2	-6	2.6	24	-4.4	-32
25.10	2	3	-41.3	-2	-15	-13	318.3	-7	2.7	23	-4.6	-35
25.41	2	3	-41.3	-2	-14	-13	314.7	-8	2.9	21	-4.4	-34
25.71	2	3	-40.3	-2	-13	-14	308.3	-9	3.1	20	-4.8	-37
26.01	2	3	-38.8	-2	-12	-17	296.9	-11	3.4	18	-5.1	-40
26.31	2	3	-37.6	-2	-11	-20	284.6	-13	3.7	15	-4.9	-40
26.62	1	3	-35.7	-2	-10	-22	272.5	-14	3.9	12	-5.3	-44
26.92	1	3	-33.5	-2	-9	-23	254.8	-15	4.2	10	-5.7	-48
27.22	1	3	-30.7	-2	-8	-26	237.4	-16	4.5	9	-5.5	-48
27.52	1	3	-27.9	-1	-7	-29	219.3	-17	4.7	7	-5.9	-52
27.83	1	3	-25.5	-1	-6	-31	194.9	-15	4.9	5	-6.2	-57
28.13	1	3	-21.9	-1	-6	-34	166.1	-12	5.0	4	-5.9	-57
28.43	1	3	-16.9	-1	-6	-38	127.0	-12	4.9	3	-6.1	-62
28.73	1	3	-12.0	-1	-5	-44	90.2	-13	4.7	2	-6.3	-65
29.04	2	2	-7.3	0	0	-49	61.6	-14	4.2	2	-6.3	-62
29.34	3	1	-3.0	0	9	-40	27.3	-27	5.8	2	-9.7	-64
29.64	2	3	-0.6	-3	-48	-17	5.5	-20	19.2	1	-25.3	-34

Kombination är C_cycl

					B				4			
Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]
0.00	2	3	-0.5	-3	9	-16	-49.8	-20	23.1	1	-22.1	-33
0.30	3	1	-2.9	0	10	-39	26.8	-27	5.9	2	-9.7	-62
0.60	1	2	-7.1	-1	1	-47	60.0	-14	4.2	2	-6.3	-60
0.91	1	3	-11.8	-1	-4	-43	88.0	-13	4.7	2	-6.4	-63
1.21	1	3	-16.7	-1	-6	-37	124.2	-13	4.9	2	-6.2	-60
1.51	1	3	-21.5	-1	-6	-34	163.3	-13	5.0	4	-6.0	-56
1.81	1	3	-25.1	-1	-6	-31	191.9	-16	4.9	5	-6.3	-55
2.12	1	3	-27.6	-1	-7	-29	216.2	-18	4.7	6	-6.0	-51
2.42	1	3	-30.4	-2	-8	-25	234.3	-16	4.5	8	-5.6	-47
2.72	1	3	-33.0	-2	-9	-23	251.5	-15	4.3	10	-5.8	-46
3.02	1	3	-35.3	-2	-10	-22	269.3	-14	4.0	11	-5.3	-42
3.33	2	3	-37.2	-2	-11	-20	281.4	-13	3.7	14	-5.0	-39
3.63	2	3	-38.4	-2	-12	-17	293.9	-11	3.4	17	-5.2	-39
3.93	2	3	-39.9	-2	-13	-14	305.7	-10	3.2	19	-4.8	-36
4.23	2	3	-41.1	-2	-14	-13	311.1	-8	2.9	20	-4.5	-34
4.54	2	3	-41.2	-2	-15	-13	314.4	-7	2.7	22	-4.6	-34
4.84	2	3	-41.5	-3	-16	-4	318.6	-6	2.6	23	-4.4	-32
5.14	2	3	-42.1	-3	-17	-3	320.8	-5	2.7	24	-4.1	-30
5.44	3	3	-41.8	-3	-18	-10	319.4	-3	2.9	26	-4.2	-30
5.75	3	3	-41.6	-3	-19	0	316.4	-1	3.0	27	-4.0	-28
6.05	3	3	-41.8	-3	-20	10	312.9	0	3.1	29	-3.8	-26
6.35	3	3	-41.5	-3	-21	3	311.3	2	3.2	30	-3.8	-25
6.65	3	3	-41.3	-3	-22	4	309.7	5	3.4	31	-3.6	-24
6.96	3	3	-40.5	-2	-23	14	305.3	6	3.5	33	-3.5	-22
7.26	3	3	-40.0	-2	-24	15	301.6	7	3.6	34	-3.4	-21
7.56	4	3	-39.8	-2	-25	7	297.1	9	3.8	36	-3.3	-20
7.86	4	3	-38.5	-2	-26	9	288.8	10	3.9	39	-3.1	-19
8.17	4	3	-37.2	-2	-27	18	278.7	12	4.2	41	-3.0	-19
8.47	4	3	-36.2	-2	-28	11	267.5	13	4.3	44	-3.0	-18
8.77	4	3	-34.5	-2	-29	13	255.1	15	4.4	46	-2.9	-16
9.07	5	3	-32.4	-2	-31	23	238.9	16	4.7	49	-2.8	-15
9.38	5	3	-30.7	-2	-32	24	221.6	17	4.7	51	-2.9	-13
9.68	5	3	-28.3	-2	-33	24	204.5	18	4.9	54	-3.1	-12
9.98	5	3	-25.6	-2	-34	26	182.6	20	5.1	57	-3.3	-11
10.28	5	3	-23.4	-1	-35	30	162.1	19	5.1	60	-3.5	-9
10.59	6	3	-21.9	-1	-37	29	146.7	13	5.2	63	-3.6	-8
10.89	6	2	-20.1	-1	-37	32	128.5	9	5.4	66	-3.7	-7
11.19	7	2	-17.9	-1	-46	38	113.8	10	5.4	69	-3.9	-5
11.49	9	2	-16.2	-1	-63	27	100.0	11	5.5	73	-3.9	-4
11.80	12	2	-13.9	-1	-81	19	77.6	11	5.6	77	-4.0	-3
12.10	15	2	-11.0	-1	-109	15	57.8	35	5.3	79	-4.0	-2
12.40	19	2	-8.7	-1	-145	15	39.2	61	5.5	83	-4.0	-1
12.70	24	2	-5.6	-1	-182	22	12.1	65	5.9	89	-4.0	-1
13.01	29	2	-2.4	-1	-222	18	-6.0	70	5.8	91	-4.1	0
13.31	35	2	-0.6	-1	-265	21	-3.6	76	6.4	95	-4.2	0
13.61	41	2	-0.2	-2	-313	30	1.6	81	7.8	101	-4.7	0
13.91	49	3	-0.3	-3	-361	30	1.8	86	10.2	105	-5.7	0
14.22	57	5	-0.3	-5	-408	29	1.9	98	15.3	110	-8.0	0
14.52	71	7	-0.6	-9	-441	29	-33.1	111	22.7	116	-11.5	-1
14.82	78	8	-24.2	-9	-325	-13	-71.3	-4	28.4	80	-19.6	-80
15.12	71	7	-0.6	-9	-440	-30	-33.1	-111	11.5	1	-22.7	-116
15.42	57	5	-0.3	-5	-408	-30	1.9	-98	8.0	0	-15.3	-110
15.73	49	3	-0.3	-3	-361	-30	1.8	-86	5.7	0	-10.2	-105
16.03	41	2	-0.2	-2	-313	-30	1.6	-81	4.7	0	-7.8	-101
16.33	35	2	-0.6	-1	-265	-21	-3.8	-76	4.2	0	-6.4	-95
16.63	29	2	-2.4	-1	-222	-18	-5.9	-70	4.1	0	-5.8	-91
16.94	24	2	-5.6	-1	-182	-22	12.1	-65	4.0	1	-5.9	-89
17.24	19	2	-8.7	-1	-145	-15	38.7	-61	4.0	1	-5.5	-83
17.54	15	2	-11.0	-1	-109	-15	57.9	-35	4.0	2	-5.3	-79
17.84	12	2	-13.9	-1	-81	-19	77.5	-11	4.0	3	-5.6	-77
18.15	9	2	-16.2	-1	-63	-27	99.5	-11	3.9	4	-5.5	-73
18.45	7	2	-17.9	-1	-46	-38	113.8	-10	3.9	5	-5.4	-69
18.75	6	2	-20.1	-1	-37	-32	128.5	-9	3.7	7	-5.4	-66
19.05	6	3	-21.9	-1	-37	-29	146.0	-13	3.6	8	-5.2	-63
19.36	5	3	-23.4	-1	-35	-30	161.4	-19	3.5	9	-5.1	-60
19.66	5	3	-25.6	-2	-34	-26	182.4	-20	3.3	11	-5.1	-57
19.96	5	3	-28.3	-2	-33	-24	205.0	-18	3.1	12	-4.9	-54
20.26	5	3	-30.7	-2	-32	-24	221.4	-17	2.9	13	-4.7	-51
20.57	5	3	-32.4	-2	-31	-23	238.7	-16	2.8	15	-4.7	-49
20.87	4	3	-34.4	-2	-29	-13	255.5	-15	2.9	16	-4.4	-46
21.17	4	3	-36.2	-2	-28	-11	267.3	-13	3.0	18	-4.3	-44
21.47	4	3	-37.2	-2	-27	-18	278.3	-12	3.0	19	-4.2	-41
21.78	4	3	-38.5	-2	-26	-9	289.2	-10	3.1	19	-3.9	-39
22.08	4	3	-39.7	-2	-25	-8	296.8	-9	3.3	20	-3.8	-36
22.38	3	3	-39.9	-2	-24	-15	301.3	-7	3.4	21	-3.6	-34
22.68	3	3	-40.5	-2	-23	-14	305.7	-6	3.5	22	-3.5	-33
22.99	3	3	-41.2	-3	-22	-4	309.5	-5	3.6	24	-3.4	-31
23.29	3	3	-41.4	-3	-21	-3	311.0	-2	3.8	25	-3.2	-30
23.59	3	3	-41.7	-3	-20	-10	312.7	0	3.8	26	-3.1	-29
23.89	3	3	-41.6	-3	-19	0	316.1	1	4.0	28	-3.0	-27
24.20	3	3	-41.8	-3	-18	9	319.6	3	4.2	30	-2.8	-26
24.50	2	3	-42.2	-3	-17	3	320.4	4	4.1	30	-2.7	-25
24.80	2	3	-41.5	-3	-16	4	318.0	6	4.4	31	-2.6	-23
25.10	2	3	-40.9	-2	-15	13	315.1	7	4.7	34	-2.7	-22
25.41	2	3	-40.9	-2	-14	13	311.6	8	4.5	34	-2.9	-21
25.71	2	3	-40.0	-2	-13	14	305.2	10	4.8	36	-3.2	-19
26.01	2	3	-38.4	-2	-12	17	293.8	11	5.2	39	-3.4	-17
26.31	2	3	-37.2	-2	-11	20	281.5	13	5.0	40	-3.7	-15
26.62	1	3	-35.4	-2	-10	22	269.5	14	5.3	43	-4.0	-12
26.92	1	3	-33.1	-2	-9	23	252.0	15	5.8	47	-4.3	-10
27.22	1	3	-30.4	-2	-8	25	234.7	16	5.6	47	-4.5	-8
27.52	1	3	-27.6	-1	-7	29	216.6	18	6.0	51	-4.7	-6
27.83	1	3	-25.2	-1	-6	30	192.2	16	6.3	56	-4.9	-5
28.13	1	3	-21.6	-1	-6	34	163.6	13	6.0	56	-5.0	-4
28.43	1	3	-16.6	-1	-6	37	124.7	13	6.2	60	-4.9	-2
28.73	1	3	-11.8	-1	-4	44	88.1	13	6.4	63	-4.7	-2
29.04	1	2	-7.1	-1	0	48	59.9	14	6.3	61	-4.2	-2
29.34	3	1	-2.9	0	9	40	26.7	27	9.7	62	-5.9	-2
29.64	2	3	-0.5	-3	-47	16	5.5	19	25.6	33	-19.6	-1

Kombination är C_cycl

B 5

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]
0.00	3	1	-1.5	-3	-19	-2	-61.1	-30	8.9	1	-17.6	-35
0.30	4	0	-4.0	-1	8	-1	30.8	-62	8.4	2	-1.6	-69
0.60	2	1	-7.7	-2	-2	2	69.8	-62	5.0	2	-0.6	-66
0.91	1	1	-12.8	-3	-6	2	101.2	-48	4.7	2	-0.5	-66
1.21	1	0	-17.6	-3	-7	-6	139.1	-33	4.4	3	-0.8	-66
1.51	1	0	-22.4	-3	-7	-14	179.2	-28	4.4	5	-1.1	-61
1.81	1	0	-25.7	-3	-7	-12	209.2	-26	4.6	7	-1.2	-57
2.12	1	0	-27.9	-3	-7	-10	229.0	-22	4.4	8	-1.2	-55
2.42	1	0	-30.9	-3	-8	-11	248.3	-17	4.2	10	-1.4	-51
2.72	1	0	-33.4	-3	-9	-9	270.9	-18	4.3	13	-1.4	-48
3.02	1	0	-35.5	-3	-10	-8	289.2	-13	4.0	16	-1.5	-46
3.33	2	0	-37.6	-3	-11	-8	301.9	-9	3.8	19	-1.7	-42
3.63	2	0	-38.3	-3	-12	-9	313.2	-11	3.9	21	-1.8	-41
3.93	2	0	-39.6	-3	-13	-9	324.6	-7	3.7	22	-1.8	-39
4.23	2	0	-41.1	-3	-14	-9	330.6	-3	3.5	24	-2.0	-37
4.54	2	0	-40.8	-3	-15	-10	332.8	-6	3.6	26	-2.1	-36
4.84	2	0	-41.2	-3	-16	-10	335.9	-4	3.4	27	-2.2	-35
5.14	2	0	-42.2	-3	-17	-11	339.1	-1	3.3	28	-2.3	-33
5.44	2	0	-41.3	-3	-18	-8	331.4	-2	3.4	29	-2.4	-33
5.75	3	0	-41.2	-3	-19	-6	328.0	-1	3.2	31	-2.5	-31
6.05	3	0	-41.8	-3	-20	-4	330.8	3	3.1	32	-2.6	-29
6.35	3	0	-41.5	-3	-21	-2	329.1	2	3.1	33	-2.7	-28
6.65	3	0	-41.3	-3	-22	2	327.9	0	2.9	35	-2.8	-27
6.96	3	0	-40.5	-3	-23	5	319.7	4	2.8	36	-2.9	-26
7.26	3	0	-39.9	-3	-24	8	314.9	5	2.7	38	-3.0	-25
7.56	4	0	-39.9	-3	-25	11	314.0	7	2.6	39	-3.1	-24
7.86	4	0	-38.5	-3	-27	10	300.9	8	2.5	41	-3.2	-23
8.17	4	0	-37.1	-3	-28	9	289.9	9	2.4	45	-3.4	-22
8.47	4	0	-36.6	-3	-29	11	284.2	11	2.4	46	-3.4	-21
8.77	4	0	-34.7	-3	-30	14	266.9	12	2.3	48	-3.6	-21
9.07	4	0	-32.7	-3	-31	18	250.0	16	2.2	52	-3.7	-19
9.38	5	0	-31.4	-3	-33	21	238.0	17	2.1	53	-3.8	-17
9.68	5	1	-28.9	-3	-34	21	220.7	17	2.0	56	-3.9	-16
9.98	5	1	-26.3	-3	-35	24	196.5	19	2.0	60	-4.1	-14
10.28	5	1	-24.4	-3	-37	28	173.5	22	1.9	62	-4.1	-13
10.59	5	1	-23.0	-3	-38	32	160.2	20	1.8	65	-4.2	-11
10.89	6	1	-21.5	-2	-40	37	144.8	19	1.8	69	-4.4	-10
11.19	7	1	-19.0	-2	-50	42	128.8	26	1.6	72	-4.4	-8
11.49	9	1	-17.4	-2	-67	47	114.2	27	1.5	76	-4.5	-6
11.80	12	1	-15.5	-2	-87	52	91.1	26	1.5	80	-4.6	-5
12.10	15	1	-12.2	-2	-117	57	69.0	15	1.4	83	-4.5	-4
12.40	19	1	-9.9	-2	-155	60	48.4	15	1.2	89	-4.6	-2
12.70	23	2	-7.2	-2	-195	66	19.5	33	1.1	93	-5.0	-1
13.01	29	2	-3.9	-2	-239	72	-0.9	21	0.9	97	-4.9	-1
13.31	34	2	-1.8	-2	-287	79	9.0	20	0.5	103	-5.4	0
13.61	41	3	-1.1	-1	-339	84	22.4	36	0.6	109	-6.3	0
13.91	49	4	-0.9	-1	-393	91	22.1	23	1.1	114	-7.8	0
14.22	58	5	-0.7	0	-446	104	22.0	5	2.0	120	-10.9	0
14.52	74	8	-1.3	-1	-483	119	-31.3	2	3.2	127	-14.8	-1
14.82	82	6	-26.9	-3	-356	0	-83.8	-11	7.5	84	-16.2	-84
15.12	74	8	-1.3	-1	-483	-120	-31.2	-2	14.8	1	-3.3	-127
15.42	58	5	-0.7	0	-446	-104	22.0	-5	10.9	0	-2.0	-120
15.73	49	4	-0.9	-1	-392	-91	22.1	-23	7.8	0	-1.1	-114
16.03	41	3	-1.1	-1	-339	-84	22.4	-36	6.3	0	-0.6	-109
16.33	34	2	-1.9	-2	-287	-79	9.0	-20	5.4	0	-0.5	-103
16.63	29	2	-3.8	-2	-238	-72	-0.8	-21	4.9	1	-0.9	-97
16.94	23	2	-7.2	-2	-195	-66	19.5	-33	5.0	1	-1.1	-93
17.24	19	1	-9.9	-2	-154	-60	48.1	-15	4.6	2	-1.2	-89
17.54	15	1	-12.2	-2	-117	-57	69.0	-15	4.5	4	-1.4	-83
17.84	12	1	-15.5	-2	-87	-52	91.2	-26	4.6	5	-1.5	-80
18.15	9	1	-17.4	-2	-67	-47	114.0	-27	4.5	6	-1.5	-76
18.45	7	1	-19.0	-2	-50	-42	128.7	-26	4.4	8	-1.6	-72
18.75	6	1	-21.5	-2	-40	-37	145.0	-19	4.4	10	-1.8	-69
19.05	5	1	-23.0	-3	-38	-32	160.4	-20	4.2	11	-1.8	-65
19.36	5	1	-24.4	-3	-37	-28	173.9	-22	4.1	13	-1.9	-62
19.66	5	1	-26.3	-3	-35	-24	196.7	-19	4.1	14	-2.0	-60
19.96	5	1	-28.9	-3	-34	-21	220.8	-17	3.9	16	-2.0	-56
20.26	5	0	-31.4	-3	-33	-21	238.2	-17	3.8	17	-2.1	-53
20.57	4	0	-32.7	-3	-31	-18	250.1	-16	3.7	19	-2.2	-52
20.87	4	0	-34.7	-3	-30	-14	267.3	-12	3.6	21	-2.3	-48
21.17	4	0	-36.6	-3	-29	-11	284.3	-11	3.4	21	-2.4	-46
21.47	4	0	-37.1	-3	-28	-9	290.0	-9	3.4	22	-2.4	-45
21.78	4	0	-38.4	-3	-27	-10	301.2	-8	3.2	23	-2.5	-41
22.08	4	0	-39.8	-3	-25	-11	314.1	-7	3.1	24	-2.6	-39
22.38	3	0	-39.8	-3	-24	-8	314.7	-5	3.0	25	-2.7	-38
22.68	3	0	-40.5	-3	-23	-5	319.7	-4	2.9	26	-2.8	-36
22.99	3	0	-41.3	-3	-22	-2	327.9	0	2.8	27	-2.9	-35
23.29	3	0	-41.4	-3	-21	2	328.9	-2	2.7	28	-3.1	-34
23.59	3	0	-41.8	-3	-20	4	330.7	-3	2.6	29	-3.1	-32
23.89	3	0	-41.2	-3	-19	6	327.8	1	2.5	31	-3.2	-31
24.20	3	0	-41.4	-3	-18	8	331.3	2	2.4	32	-3.4	-29
24.50	2	0	-42.1	-3	-17	11	339.6	1	2.3	33	-3.3	-28
24.80	2	0	-41.1	-3	-16	10	336.3	5	2.2	35	-3.4	-27
25.10	2	0	-40.8	-3	-15	10	332.5	6	2.1	36	-3.6	-26
25.41	2	0	-41.0	-3	-14	9	330.2	3	2.1	37	-3.5	-24
25.71	2	0	-39.6	-3	-13	9	323.9	7	1.9	39	-3.7	-23
26.01	2	0	-38.3	-3	-12	9	312.7	10	1.8	41	-3.9	-21
26.31	2	0	-37.6	-3	-11	8	301.5	9	1.7	42	-3.8	-19
26.62	1	0	-35.5	-3	-10	8	289.0	13	1.5	46	-4.0	-16
26.92	1	0	-33.4	-3	-9	9	271.1	18	1.4	48	-4.3	-13
27.22	1	0	-31.0	-3	-8	11	248.4	17	1.4	51	-4.2	-10
27.52	1	0	-27.9	-3	-7	10	229.3	22	1.2	56	-4.4	-8
27.83	1	0	-25.7	-3	-7	12	209.8	27	1.2	58	-4.6	-7
28.13	1	0	-22.4	-3	-7	14	179.6	28	1.1	61	-4.4	-5
28.43	1	0	-17.7	-3	-7	6	139.4	34	0.8	66	-4.4	-3
28.73	1	1	-12.8	-3	-6	-2	101.2	49	0.5	67	-4.7	-2
29.04	2	1	-7.8	-2	-2	-2	69.6	62	0.6	66	-5.0	-2
29.34	4	0	-4.0	-1	8	1	30.5	62	1.6	69	-8.4	-2
29.64	3	1	-1.5	-3	14	2	-52.1	30	4.3	35	-22.3	-1

Kombination är C_cycl

B 6

Xkoord [m]	Mmax_1_dir [kNm]	Mmax_2_dir [kNm]	Mmin_1_dir [kNm]	Mmin_2_dir [kNm]	N_tillh_Mmax_1_dir [kN]	N_tillh_Mmax_2_dir [kN]	N_tillh_Mmin_1_dir [kN]	N_tillh_Mmin_2_dir [kN]	Vmax_1_dir [kN]	Vmax_2_dir [kN]	Vmin_1_dir [kN]	Vmin_2_dir [kN]
0.00	0	0	-1.2	-2	1	-1	1.9	12	6.9	14	-17.4	-2
0.30	1	0	-3.7	0	-1	8	17.2	15	6.2	30	-1.1	-3
0.60	1	1	-6.2	0	-5	16	36.3	4	3.9	32	-0.3	-3
0.91	1	1	-8.9	0	-6	15	57.9	1	4.2	31	-0.1	-3
1.21	1	1	-11.7	0	-7	15	75.5	0	4.4	31	0.0	-2
1.51	1	1	-14.3	0	-8	14	92.5	5	4.5	30	0.0	-2
1.81	1	1	-16.8	0	-10	15	108.7	12	4.5	28	0.0	-2
2.12	1	2	-19.1	0	-12	19	124.8	10	4.4	26	0.0	-2
2.42	1	2	-21.3	0	-13	20	139.9	9	4.2	25	-0.1	-2
2.72	2	2	-23.4	0	-14	18	153.0	9	4.0	23	-0.1	-2
3.02	2	2	-25.3	0	-13	16	164.8	9	3.8	21	-0.1	-2
3.33	2	2	-26.9	0	-12	15	175.1	9	3.6	19	-0.1	-2
3.63	2	2	-28.4	0	-14	13	184.0	9	3.4	17	-0.1	-2
3.93	2	2	-29.6	0	-15	11	191.5	3	3.2	15	-0.1	-2
4.23	3	2	-30.5	0	-16	9	197.8	-2	3.0	13	-0.2	-2
4.54	3	2	-31.4	0	-18	7	202.9	-2	2.8	11	-0.3	-2
4.84	3	2	-32.0	0	-19	5	207.1	-2	2.6	10	-0.4	-3
5.14	3	2	-32.5	0	-21	5	210.3	-2	2.4	9	-0.5	-3
5.44	3	2	-32.8	0	-22	3	211.8	-2	2.2	7	-0.7	-4
5.75	4	2	-33.0	0	-23	0	212.0	-2	2.0	6	-0.8	-5
6.05	4	2	-32.9	0	-25	-1	210.8	-2	1.8	5	-0.9	-7
6.35	4	2	-32.7	0	-26	-2	208.8	-2	1.7	5	-1.0	-8
6.65	4	2	-32.2	0	-28	-5	205.9	-2	1.5	4	-1.1	-9
6.96	4	2	-31.7	0	-29	-6	201.8	-2	1.3	3	-1.2	-11
7.26	5	2	-30.9	0	-31	-6	196.6	-2	1.2	2	-1.3	-13
7.56	5	2	-30.0	0	-32	-9	190.2	-2	1.1	1	-1.5	-15
7.86	5	2	-28.9	0	-34	-11	182.7	-2	1.0	1	-1.7	-17
8.17	5	2	-27.6	0	-36	-12	174.0	-2	0.9	1	-1.9	-19
8.47	5	2	-26.1	0	-37	-13	163.9	-2	0.8	1	-2.1	-21
8.77	6	2	-24.4	0	-39	-13	152.5	-2	0.7	0	-2.2	-23
9.07	6	2	-22.6	0	-41	-14	139.9	-2	0.6	0	-2.4	-25
9.38	6	2	-20.6	0	-43	-15	126.4	-2	0.5	0	-2.6	-27
9.68	6	2	-18.4	0	-44	-17	112.0	-6	0.4	0	-2.8	-29
9.98	7	2	-16.0	0	-46	-19	96.3	-11	0.3	0	-3.0	-31
10.28	7	2	-13.4	0	-48	-19	79.5	-12	0.2	0	-3.2	-33
10.59	7	2	-11.2	0	-50	-20	66.0	-14	0.2	0	-3.3	-34
10.89	7	2	-9.7	0	-52	-21	57.0	-15	0.1	0	-3.5	-36
11.19	8	2	-8.2	0	-54	-17	48.4	-18	0.1	1	-3.7	-37
11.49	8	1	-6.7	0	-61	-14	39.6	-24	0.0	1	-3.8	-38
11.80	10	1	-5.2	-1	-76	-15	30.6	-29	0.0	1	-3.9	-39
12.10	13	1	-3.8	-1	-91	-13	31.1	-31	0.0	1	-4.0	-40
12.40	15	1	-3.2	-1	-107	-11	36.4	-34	0.0	1	-4.2	-41
12.70	17	1	-3.1	-1	-123	-12	36.4	-35	0.1	1	-4.3	-41
13.01	20	0	-3.1	-1	-139	-10	36.0	-37	0.1	1	-4.5	-40
13.31	23	0	-3.1	-2	-157	-6	36.1	-37	0.2	1	-4.9	-40
13.61	26	0	-3.2	-2	-178	-2	36.9	-38	0.5	1	-5.6	-39
13.91	30	0	-3.3	-3	-199	0	37.7	-37	0.9	1	-7.1	-37
14.22	34	0	-3.4	-5	-218	-1	38.6	-35	1.6	2	-10.2	-36
14.52	40	1	-3.8	-9	-221	-1	39.3	-34	2.6	3	-14.9	-35
14.82	47	1	-19.6	-10	-151	0	18.0	-4	7.6	44	-16.8	-44
15.12	40	1	-3.8	-9	-221	1	39.4	34	14.9	35	-2.6	-3
15.42	34	0	-3.4	-5	-218	1	38.7	35	10.2	36	-1.6	-2
15.73	30	0	-3.3	-3	-199	0	37.7	37	7.1	37	-0.9	-1
16.03	26	0	-3.2	-2	-178	2	36.9	38	5.6	39	-0.5	-1
16.33	23	0	-3.2	-2	-157	6	36.1	37	4.9	40	-0.2	-1
16.63	20	0	-3.1	-1	-139	10	36.3	37	4.5	40	-0.1	-1
16.94	17	1	-3.1	-1	-123	12	36.7	35	4.3	41	-0.1	-1
17.24	15	1	-3.2	-1	-107	12	36.4	34	4.2	41	0.0	-1
17.54	13	1	-3.8	-1	-91	13	31.1	31	4.0	40	0.0	-1
17.84	10	1	-5.2	-1	-76	15	30.6	29	3.9	39	0.0	-1
18.15	8	1	-6.7	0	-61	14	39.6	24	3.8	38	0.0	-1
18.45	8	2	-8.2	0	-54	17	48.4	18	3.7	37	-0.1	-1
18.75	7	2	-9.7	0	-52	21	57.0	15	3.5	36	-0.1	0
19.05	7	2	-11.2	0	-50	19	66.0	14	3.3	34	-0.2	0
19.36	7	2	-13.4	0	-48	19	79.5	12	3.2	33	-0.2	0
19.66	7	2	-16.0	0	-46	19	96.3	11	3.0	31	-0.3	0
19.96	6	2	-18.4	0	-44	17	111.9	6	2.8	29	-0.4	0
20.26	6	2	-20.6	0	-43	16	126.3	2	2.6	27	-0.5	0
20.57	6	2	-22.6	0	-41	14	139.8	2	2.4	25	-0.6	0
20.87	6	2	-24.4	0	-39	13	152.4	2	2.2	23	-0.7	-1
21.17	5	2	-26.1	0	-37	13	163.7	2	2.1	21	-0.8	-1
21.47	5	2	-27.6	0	-36	12	173.7	2	1.9	19	-0.9	-1
21.78	5	2	-28.9	0	-34	11	182.4	2	1.7	17	-1.0	-1
22.08	5	2	-30.0	0	-32	9	189.9	2	1.5	15	-1.1	-1
22.38	5	2	-30.9	0	-31	7	196.3	2	1.3	13	-1.2	-2
22.68	4	2	-31.6	0	-29	6	201.6	2	1.2	11	-1.3	-3
22.99	4	2	-32.2	0	-28	5	205.7	2	1.1	9	-1.5	-4
23.29	4	2	-32.6	0	-26	3	208.6	2	1.0	8	-1.7	-5
23.59	4	2	-32.9	0	-25	1	210.5	2	0.9	7	-1.8	-5
23.89	4	2	-33.0	0	-23	0	211.6	2	0.8	5	-2.0	-6
24.20	3	2	-32.9	0	-22	-3	211.5	2	0.7	4	-2.2	-7
24.50	3	2	-32.5	0	-20	-4	210.0	2	0.5	3	-2.4	-8
24.80	3	2	-32.0	0	-19	-5	207.2	2	0.4	3	-2.6	-10
25.10	3	2	-31.3	0	-18	-7	203.1	2	0.3	2	-2.8	-11
25.41	3	2	-30.5	0	-16	-9	197.8	2	0.2	2	-3.0	-13
25.71	2	2	-29.5	0	-15	-11	191.4	-3	0.1	2	-3.2	-15
26.01	2	2	-28.3	0	-14	-13	183.8	-9	0.1	2	-3.4	-17
26.31	2	2	-26.9	0	-12	-15	174.8	-9	0.1	2	-3.6	-19
26.62	2	2	-25.3	0	-13	-16	164.5	-9	0.1	2	-3.8	-21
26.92	2	2	-23.4	0	-14	-18	152.7	-9	0.1	2	-4.0	-23
27.22	1	2	-21.3	0	-13	-21	139.6	-9	0.1	2	-4.2	-25
27.52	1	2	-19.1	0	-12	-19	124.6	-11	0.0	2	-4.4	-27
27.83	1	1	-16.8	0	-10	-15	108.6	-12	0.0	2	-4.5	-28
28.13	1	1	-14.3	0	-8	-15	92.4	-5	0.0	2	-4.5	-30
28.43	1	1	-11.7	0	-7	-15	75.4	0	0.0	3	-4.4	-31
28.73	1	1	-8.8	0	-7	-15	57.8	-1	0.1	3	-4.2	-32
29.04	1	1	-6.2	0	-5	-16	36.5	-4	0.3	3	-3.9	-32
29.34	1	0	-3.7	0	-1	-8	17.3	-15	1.1	3	-6.2	-30
29.64	0	0	-1.2	-2	-3	1	5.7	-12	3.4	2	-20.9	-14

BILAGA 5

Sammanställning av armering

5. Sammanställning av armering, längsled

Allmänt, längsled

Armeringsmängder är framtagna från ritning.
Armeringsmängder undersöks i de punkter där lasteffekter från systemanalysen tas fram.

Då moment studeras tas armeringsmängder fram med hänsyn till förankringslängder
och förskjutning av momentkurvan pga av ökning av dragkraften, till följd av sneda sprickor.

Då tvärkraft studeras tas armeringsmängder fram med hänsyn till förankringslängder (ej förskjutning).

Alla skarvar antas kunna överföra full kraft.

Förskjutningen väljs enligt TDOK 2013:0267 version 2.0 till a_l =0,5d.

a_l approximeras i denna beräkning per konstruktionsdel enligt nedan:

300mm

För moment blir ekvationen som används för att dra av armeringsstångens längd
(för att fastställa var stången kan ta full kraft):

$l_b + a_l$

För tvärkraft blir ekvationen som används för att dra av armeringsstångens längd
(för att fastställa var stången kan ta full kraft):

l_b

Konstruktionshöjder

B1, B6		B2, B5		B3, B4		Farbana		
x [m]	h [m]	x [m]	h [m]	x [m]	h [m]	x [m]	h [m]	
0.000	0.830	0.000	0.750	0.000	0.800	0.000	0.200	
0.302	0.830	0.302	0.750	0.302	0.800	0.450	0.200	
0.605	0.830	0.605	0.750	0.605	0.800	0.752	0.200	
0.907	0.830	0.907	0.750	0.907	0.800	1.055	0.200	
1.210	0.830	1.210	0.750	1.210	0.800	1.357	0.200	
1.512	0.830	1.512	0.750	1.512	0.800	1.660	0.200	
1.815	0.830	1.815	0.750	1.815	0.800	1.962	0.200	
2.117	0.830	2.117	0.750	2.117	0.800	2.265	0.200	
2.420	0.830	2.420	0.750	2.420	0.800	2.567	0.200	
2.722	0.830	2.722	0.750	2.722	0.800	2.870	0.200	
3.024	0.830	3.024	0.750	3.024	0.800	3.172	0.200	
3.327	0.830	3.327	0.750	3.327	0.800	3.474	0.200	
3.629	0.830	3.629	0.750	3.629	0.800	3.777	0.200	
3.932	0.830	3.932	0.750	3.932	0.800	4.079	0.200	
4.234	0.830	4.234	0.750	4.234	0.800	4.382	0.200	
4.537	0.830	4.537	0.750	4.537	0.800	4.684	0.200	
4.839	0.830	4.839	0.750	4.839	0.800	4.987	0.200	
5.142	0.830	5.142	0.750	5.142	0.800	5.289	0.200	
5.444	0.830	5.444	0.750	5.444	0.800	5.592	0.200	
5.747	0.830	5.747	0.750	5.747	0.800	5.894	0.200	
6.049	0.830	6.049	0.750	6.049	0.800	6.197	0.200	
6.351	0.830	6.351	0.750	6.351	0.800	6.499	0.200	
6.654	0.830	6.654	0.750	6.654	0.800	6.801	0.200	
6.956	0.830	6.956	0.750	6.956	0.800	7.104	0.200	
7.259	0.830	7.259	0.750	7.259	0.800	7.406	0.200	
7.561	0.830	7.561	0.750	7.561	0.800	7.709	0.200	
7.864	0.830	7.864	0.750	7.864	0.800	8.011	0.200	
8.166	0.830	8.166	0.750	8.166	0.800	8.314	0.200	
8.469	0.830	8.469	0.750	8.469	0.800	8.616	0.200	
8.771	0.830	8.771	0.750	8.771	0.800	8.919	0.200	
9.073	0.830	9.073	0.750	9.073	0.800	9.221	0.200	
9.376	0.830	9.376	0.750	9.376	0.800	9.523	0.200	
9.678	0.830	9.678	0.750	9.678	0.800	9.826	0.200	
9.981	0.830	9.981	0.750	9.981	0.800	10.128	0.200	
10.283	0.830	10.283	0.750	10.283	0.800	10.431	0.200	
10.586	0.830	10.586	0.750	10.586	0.800	10.733	0.200	
10.888	0.830	10.888	0.750	10.888	0.800	11.036	0.200	
11.191	0.830	11.191	0.750	11.191	0.800	11.338	0.200	
11.493	0.830	11.493	0.750	11.493	0.800	11.641	0.200	
11.796	0.830	11.796	0.750	11.796	0.800	11.943	0.200	
12.098	0.830	12.098	0.750	12.098	0.800	12.246	0.200	
12.400	0.830	12.400	0.750	12.400	0.800	12.548	0.200	

12.703	0.830	12.703	0.750	12.703	0.800	12.850	0.200
13.005	0.830	13.005	0.750	13.005	0.800	13.153	0.200
13.308	0.830	13.308	0.750	13.308	0.800	13.455	0.200
13.610	0.830	13.610	0.750	13.610	0.800	13.758	0.200
13.913	0.830	13.913	0.750	13.913	0.800	14.060	0.200
14.215	0.830	14.215	0.750	14.215	0.800	14.363	0.200
14.518	0.830	14.518	0.750	14.518	0.800	14.665	0.200
14.820	0.830	14.820	0.750	14.820	0.800	14.968	0.200
15.122	0.830	15.122	0.750	15.122	0.800	15.270	0.200
15.425	0.830	15.425	0.750	15.425	0.800	15.572	0.200
15.727	0.830	15.727	0.750	15.727	0.800	15.875	0.200
16.030	0.830	16.030	0.750	16.030	0.800	16.177	0.200
16.332	0.830	16.332	0.750	16.332	0.800	16.480	0.200
16.635	0.830	16.635	0.750	16.635	0.800	16.782	0.200
16.937	0.830	16.937	0.750	16.937	0.800	17.085	0.200
17.240	0.830	17.240	0.750	17.240	0.800	17.387	0.200
17.542	0.830	17.542	0.750	17.542	0.800	17.690	0.200
17.844	0.830	17.844	0.750	17.844	0.800	17.992	0.200
18.147	0.830	18.147	0.750	18.147	0.800	18.294	0.200
18.449	0.830	18.449	0.750	18.449	0.800	18.597	0.200
18.752	0.830	18.752	0.750	18.752	0.800	18.899	0.200
19.054	0.830	19.054	0.750	19.054	0.800	19.202	0.200
19.357	0.830	19.357	0.750	19.357	0.800	19.504	0.200
19.659	0.830	19.659	0.750	19.659	0.800	19.807	0.200
19.962	0.830	19.962	0.750	19.962	0.800	20.109	0.200
20.264	0.830	20.264	0.750	20.264	0.800	20.412	0.200
20.567	0.830	20.567	0.750	20.567	0.800	20.714	0.200
20.869	0.830	20.869	0.750	20.869	0.800	21.017	0.200
21.171	0.830	21.171	0.750	21.171	0.800	21.319	0.200

21.474	0.830	21.474	0.750	21.474	0.800	21.621	0.200
21.776	0.830	21.776	0.750	21.776	0.800	21.924	0.200
22.079	0.830	22.079	0.750	22.079	0.800	22.226	0.200
22.381	0.830	22.381	0.750	22.381	0.800	22.529	0.200
22.684	0.830	22.684	0.750	22.684	0.800	22.831	0.200
22.986	0.830	22.986	0.750	22.986	0.800	23.134	0.200
23.289	0.830	23.289	0.750	23.289	0.800	23.436	0.200
23.591	0.830	23.591	0.750	23.591	0.800	23.739	0.200
23.893	0.830	23.893	0.750	23.893	0.800	24.041	0.200
24.196	0.830	24.196	0.750	24.196	0.800	24.343	0.200
24.498	0.830	24.498	0.750	24.498	0.800	24.646	0.200
24.801	0.830	24.801	0.750	24.801	0.800	24.948	0.200
25.103	0.830	25.103	0.750	25.103	0.800	25.251	0.200
25.406	0.830	25.406	0.750	25.406	0.800	25.553	0.200
25.708	0.830	25.708	0.750	25.708	0.800	25.856	0.200
26.011	0.830	26.011	0.750	26.011	0.800	26.158	0.200
26.313	0.830	26.313	0.750	26.313	0.800	26.461	0.200
26.616	0.830	26.616	0.750	26.616	0.800	26.763	0.200
26.918	0.830	26.918	0.750	26.918	0.800	27.066	0.200
27.220	0.830	27.220	0.750	27.220	0.800	27.368	0.200
27.523	0.830	27.523	0.750	27.523	0.800	27.670	0.200
27.825	0.830	27.825	0.750	27.825	0.800	27.973	0.200
28.128	0.830	28.128	0.750	28.128	0.800	28.275	0.200
28.430	0.830	28.430	0.750	28.430	0.800	28.578	0.200
28.733	0.830	28.733	0.750	28.733	0.800	28.880	0.200
29.035	0.830	29.035	0.750	29.035	0.800	29.183	0.200
29.338	0.830	29.338	0.750	29.338	0.800	29.485	0.200
29.640	0.830	29.640	0.750	29.640	0.800	29.788	0.200
						30.090	0.200
						30.540	0.200

Förankringslängd

Enligt SS-EN 1992-1-1, 8.4

Balkar

				Underkant			Överkant		
Indata	**Anm**			**Φ10,Lag 1 Ks40**	**Φ12, Lag 1 Ks40**	**Φ16, Lag 3 Ks40**	**Φ10,Lag 1 Ks40**	**Φ12,Lag 1 Ks40**	**Φ10,Lag 2 Ks40**
Ø	[mm] Stångdiameter			10	12	16	10	12	16
a *	[mm] Avstånd mellan stänger			384	384	184	384	384	184
c	[mm] Minsta TB intill stång			30	30	175	30	30	140
f_{ctk}	[MPa]			2.25	2.25	2.1	2.25	2.25	2.1
σ_{sd}	[MPa] Aktuell spänning i stång			356	356	539.1	356	356	438.5
ΣA_{st}	[mm^2] 8.4.4, Tabell 8.2			0	0	0	0	0	0
ρ	[MPa] Tvärgående tryck längs l_{bd}			0	0	0	0	0	0
Konstruktionstyp:	[**A**] Platta	[**B**] Övrig		B	B	B	B	B	B
Armering:	[**A**] Dragen	[**B**] Tryckt		A	A	A	A	A	A
Vidhäftning:	[**A**] God vidh	[**B**] Övrig		A	A	A	B	B	B
Typ av stänger:	[**A**] Rak	[**B**] Bockad	[**C**] Slingor	A	A	A	A	A	A
Placering:	[**A**] Hörn	[**B**] Innanför	[**C**] Utanför	C	B	B	C	C	B
Tvärstänger:	[**A**] Ej svetsad	[**B**] Svetsad		A	A	A	A	A	A

Resultat förankringslängd

l_{bd}	[m] 8.4.4			**0.185**	**0.245**	**0.479**	**0.264**	**0.350**	**0.557**

Delresultat

η_1	8.4.2			1.00	1.00	1.00	0.70	0.70	0.70
η_2	8.4.2			1.00	1.00	1.00	1.00	1.00	1.00
f_{bd}	[MPa] 8.4.2			3.38	3.38	3.15	2.36	2.36	2.21
$l_{b,rqd}$	[mm] 8.4.3			264	316	685	377	452	795
C_d	[mm] 8.4.4, Figur 8.3			30	30	92	30	30	92
K	8.4.4, Figur 8.4			0.00	0.05	0.05	0.00	0.00	0.05
A_s	[mm^2] 8.4.4, Tabell 8.2			79	113	201	79	113	201
$\Sigma A_{st,min}$ (förankr.)	[mm^2] 8.4.4, Tabell 8.2			20	28	50	20	28	50
λ (förankr.)	8.4.4, Tabell 8.2			-0.25	-0.25	-0.25	-0.25	-0.25	-0.25
α_1	8.4.4, Tabell 8.2			1.00	1.00	1.00	1.00	1.00	1.00
α_2	8.4.4, Tabell 8.2			0.70	0.78	0.70	0.70	0.78	0.70
α_3 (förankr.)	8.4.4, Tabell 8.2			1.00	1.00	1.00	1.00	1.00	1.00
α_4	8.4.4, Tabell 8.2			1.00	1.00	1.00	1.00	1.00	1.00
α_5	8.4.4, Tabell 8.2			1.00	1.00	1.00	1.00	1.00	1.00
$l_{b,min}$	[mm] 8.4.4			100	120	205	113	136	239

** Lägst s-avstånd inom kategorin.*

Förankringslängd

Enligt SS-EN 1992-1-1, 8.4

Farbana

				Underkant			Överkant		
Indata	**Anm**			**Φ10,Lag 1 Ks40**	**Φ12, Lag 1 Ks40**	**Φ16, Lag 3 Ks40**	**Φ10,Lag 1 Ks40**	**Φ12,Lag 1 Ks40**	**Φ10,Lag 2 Ks40**
Ø	[mm] Stångdiameter			10	12	16	10	12	16
a *	[mm] Avstånd mellan stänger			384	384	184	384	384	184
c	[mm] Minsta TB intill stång			20	20	175	20	20	140
f_{ctk}	[MPa]			2.25	2.25	2.1	2.25	2.25	2.1
σ_{sd}	[MPa] Aktuell spänning i stång			356	356	539.1	356	356	438.5
ΣA_{st}	[mm^2] 8.4.4, Tabell 8.2			0	0	0	0	0	0
ρ	[MPa] Tvärgående tryck längs l_{bd}			0	0	0	0	0	0
Konstruktionstyp:	[**A**] Platta	[**B**] Övrig		A	A	A	A	A	A
Armering:	[**A**] Dragen	[**B**] Tryckt		A	A	A	A	A	A
Vidhäftning:	[**A**] God vidh	[**B**] Övrig		A	A	A	B	B	B
Typ av stänger:	[**A**] Rak	[**B**] Bockad	[**C**] Slingor	A	A	A	A	A	A
Placering:	[**A**] Hörn	[**B**] Innanför	[**C**] Utanför	C	B	B	C	C	B
Tvärstänger:	[**A**] Ej svetsad	[**B**] Svetsad		A	A	A	A	A	A

Resultat förankringslängd

l_{bd}	[m] 8.4.4			**0.224**	**0.285**	**0.479**	**0.320**	**0.407**	**0.557**

Delresultat

η_1	8.4.2			1.00	1.00	1.00	0.70	0.70	0.70
η_2	8.4.2			1.00	1.00	1.00	1.00	1.00	1.00
f_{bd}	[MPa] 8.4.2			3.38	3.38	3.15	2.36	2.36	2.21
$l_{b,rqd}$	[mm] 8.4.3			264	316	685	377	452	795
C_d	[mm] 8.4.4, Figur 8.3			20	20	92	20	20	92
K	8.4.4, Figur 8.4			0.00	0.05	0.05	0.00	0.00	0.05
A_s	[mm^2] 8.4.4, Tabell 8.2			79	113	201	79	113	201
$\Sigma A_{st,min}$ (förankr.)	[mm^2] 8.4.4, Tabell 8.2			0	0	0	0	0	0
λ (förankr.)	8.4.4, Tabell 8.2			0.00	0.00	0.00	0.00	0.00	0.00
α_1	8.4.4, Tabell 8.2			1.00	1.00	1.00	1.00	1.00	1.00
α_2	8.4.4, Tabell 8.2			0.85	0.90	0.70	0.85	0.90	0.70
α_3 (förankr.)	8.4.4, Tabell 8.2			1.00	1.00	1.00	1.00	1.00	1.00
α_4	8.4.4, Tabell 8.2			1.00	1.00	1.00	1.00	1.00	1.00
α_5	8.4.4, Tabell 8.2			1.00	1.00	1.00	1.00	1.00	1.00
$l_{b,min}$	[mm] 8.4.4			100	120	205	113	136	239

** Lägst s-avstånd inom kategorin.*

Sammanfattning böjarmering - LL i ök

Farbana

Beskrivning:

** Armeringsmängder viktas till Ks40 .*
** Start innebär avståndet från närmaste armeringsände till systemlinjen i ramben vid stöd 1.*
** Slut innebär avstånd från armeringsänden längst bort till systemlinjen i ramben vid stöd 4.*
** 0 m = I systemlinjen för ramben vid stöd 1*
** 28,23 m = I systemlinje för ramben stöd 4*
** TP innebär avståndet från närmaste kant till tyngdpunkt för armeringen.*
** l_b är förankringslängden för respektive littera.*

nr	Littera	Φ [mm]	c/c [mm]	st/m [-]	Kvalite [-]	Lager [-]	Start [m]	Slut [m]	f_{yk} [Mpa]	$f_{yk,vikt}$ [Mpa]	A_s [cm^2/m]	Tp [mm]	l_b [m]	Del
1	A501	10	384	-	Ks40	1	-1.00	32.00	410	410	2.05	20	0.26	
2	A503	12	384	-	Ks40	1	-1.00	1.40	410	410	2.95	20	0.26	
3	A509	16	384	-	Ks40	1	13.87	16.67	410	410	5.24	20	0.26	
4	A503	12	384	-	Ks40	1	29.14	32.00	410	410	2.95	20	0.26	

** Axxxx-Axxxx = B2418, D2419, D3419, B3418*

Böjarmering

-Tillhörande momentkontrollen

-Farbana LL i ök

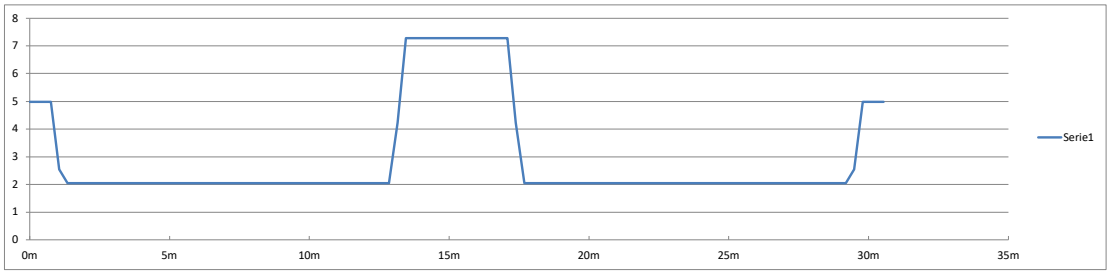
Littera/ ev. nr	As [cm2]	$Start_1$ [m]	$Slut_1$ [m]	l_0 [m]	a_l [m]	$Start_2$ [m]	$Slut_2$ [m]	TP [mm]	Litt.	As [cm2]	$Start_1$ [m]	$Slut_1$ [m]	l_0 [m]	a_l [m]	$Start_2$ [m]	$Slut_2$ [m]	TP [mm]
1	2.05	-1.0	32.0	0.26	0.3	-0.4	31.4	20	-								
2	2.95	-1.0	1.4	0.26	0.3	-0.4	0.8	20	-								
3	5.24	13.9	16.7	0.26	0.3	13.3	17.2	20	-								
4	2.95	29.1	32.0	0.26	0.3	29.7	31.4	20	-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								

Mängder i armeringskvalite: Ks40

Beskrivning:

* TP - Avstånd från järn till närmaste kant
* l_0 - Förankringslängd
* $Start_2$ och $slut_0$ innebär var stängerna tar full kraft utefter beräkningssnittet.
* a_l - Förskjutning till följd av ökad dragkraft.

	1		2		3		4		-		-		-		-		-		-		-		-		-		-	
x	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP
[m]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]
0.000	2.0	20	2.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.450	2.0	20	2.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.752	2.0	20	2.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.055	2.0	20	0.5	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.357	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.660	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.962	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.265	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.567	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.870	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.172	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.474	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.777	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.079	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.382	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.684	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.987	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.289	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.592	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.894	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.197	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.499	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.801	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.104	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.406	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.709	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.011	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.314	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.616	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.919	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.221	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.523	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.826	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.128	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.431	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.733	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.036	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.338	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.641	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.943	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.246	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.548	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.850	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.153	2.0	20	0.0	0	2.2	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.455	2.0	20	0.0	0	5.2	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.758	2.0	20	0.0	0	5.2	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.060	2.0	20	0.0	0	5.2	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.363	2.0	20	0.0	0	5.2	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.665	2.0	20	0.0	0	5.2	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.968	2.0	20	0.0	0	5.2	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.270	2.0	20	0.0	0	5.2	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.572	2.0	20	0.0	0	5.2	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.875	2.0	20	0.0	0	5.2	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.177	2.0	20	0.0	0	5.2	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.480	2.0	20	0.0	0	5.2	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.782	2.0	20	0.0	0	5.2	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.085	2.0	20	0.0	0	5.2	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.387	2.0	20	0.0	0	2.2	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.690	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.992	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.294	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.597	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.899	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.202	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.504	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.807	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.109	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.412	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.714	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.017	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.319	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.621	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.924	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.226	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.529	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.831	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.134	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.436	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.739	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.041	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.343	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.646	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.948	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.251	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.553	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.856	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.158	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.461	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.763	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.066	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.368	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.670	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.973	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.275	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.578	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.880	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.183	2.0	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.485	2.0	20	0.0	0	0.0	0	0.5	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.788	2.0	20	0.0	0	0.0	0	2.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0



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x	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	$A_{s,tot}$	TP_{tot}	h	d
[m]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[m]	[m]
0.000	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**5.0**	**20**	**0.200**	**0.180**
0.450	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**5.0**	**20**	**0.200**	**0.180**
0.752	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**5.0**	**20**	**0.200**	**0.180**
1.055	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.5**	**20**	**0.200**	**0.180**
1.357	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
1.660	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
1.962	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
2.265	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
2.567	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
2.870	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
3.172	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
3.474	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
3.777	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
4.079	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
4.382	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
4.684	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
4.987	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
5.289	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
5.592	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
5.894	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
6.197	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
6.499	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
6.801	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
7.104	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
7.406	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
7.709	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
8.011	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
8.314	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
8.616	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
8.919	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
9.221	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
9.523	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
9.826	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
10.128	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
10.431	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
10.733	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
11.036	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
11.338	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
11.641	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
11.943	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
12.246	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
12.548	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
12.850	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
13.153	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**4.2**	**20**	**0.200**	**0.180**
13.455	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**7.3**	**20**	**0.200**	**0.180**
13.758	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**7.3**	**20**	**0.200**	**0.180**
14.060	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**7.3**	**20**	**0.200**	**0.180**
14.363	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**7.3**	**20**	**0.200**	**0.180**
14.665	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**7.3**	**20**	**0.200**	**0.180**
14.968	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**7.3**	**20**	**0.200**	**0.180**
15.270	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**7.3**	**20**	**0.200**	**0.180**
15.572	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**7.3**	**20**	**0.200**	**0.180**
15.875	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**7.3**	**20**	**0.200**	**0.180**
16.177	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**7.3**	**20**	**0.200**	**0.180**
16.480	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**7.3**	**20**	**0.200**	**0.180**
16.782	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**7.3**	**20**	**0.200**	**0.180**
17.085	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**7.3**	**20**	**0.200**	**0.180**
17.387	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**4.2**	**20**	**0.200**	**0.180**
17.690	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
17.992	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
18.294	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
18.597	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
18.899	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
19.202	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
19.504	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
19.807	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
20.109	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
20.412	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
20.714	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
21.017	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
21.319	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
21.621	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
21.924	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
22.226	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
22.529	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
22.831	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
23.134	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
23.436	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
23.739	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
24.041	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
24.343	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
24.646	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
24.948	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
25.251	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
25.553	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
25.856	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
26.158	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
26.461	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
26.763	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
27.066	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
27.368	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
27.670	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
27.973	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
28.275	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
28.578	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
28.880	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**2.0**	**20**	**0.200**	**0.180**
29.183	0.0	0	0.0

Sammanfattning böjarmering - LL i uk

Farbana

Beskrivning:

** Armeringsmängder viktas till Ks40 .*
** Start innebär avståndet från närmaste armeringsände till systemlinjen i ramben vid stöd 1.*
** Slut innebär avstånd från armeringsänden längst bort till systemlinjen i ramben vid stöd 4.*
** 0 m = I systemlinjen för ramben vid stöd 1*
** 28,23 m = I systemlinje för ramben stöd 4*
** TP innebär avståndet från närmaste kant till tyngdpunkt för armeringen.*
** l_b är förankringslängden för respektive littera.*

nr	Littera	Φ [mm]	c/c [mm]	st/m [-]	Kvalite [-]	Lager [-]	Start [m]	Slut [m]	f_{yk} [Mpa]	$f_{yk,vikt}$ [Mpa]	A_s [cm^2/m]	Tp [mm]	l_b [m]	Del
1	A504	10	160	-	Ks40	1	-1.00	32.00	410	410	4.91	20	0.26	

** Axxxx-Axxxx = B2418, D2419, D3419, B3418*

Böjarmering

-Tillhörande momentkontrollen

-Balk LL i uk

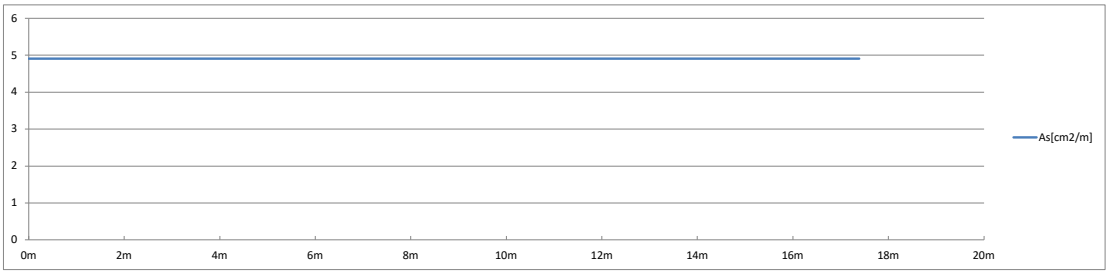
Littera/ ev. nr	As [cm2]	$Start_1$ [m]	$Slut_1$ [m]	l_0 [m]	a_l [m]	$Start_2$ [m]	$Slut_2$ [m]	TP [mm]	Litt.	As [cm2]	$Start_1$ [m]	$Slut_1$ [m]	l_0 [m]	a_l [m]	$Start_2$ [m]	$Slut_2$ [m]	TP [mm]
1	4.91	-1.0	32.0	0.26	0.3	-0.4	31.4	20	-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								

Mängder i armeringskvalite: Ks40

Beskrivning:

* TP - Avstånd från järn till närmaste kant
* l_0 - Förankringslängd
* $Start_2$ och $slut_0$ innebär var stängerna tar full kraft utefter beräkningssnittet.
* a_l - Förskjutning till följd av ökad dragkraft.

	1		-		-		-		-		-		-		-		-		-		-		-		-	
x	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP
[m]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]
0.000	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.450	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.752	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.055	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.357	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.660	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.962	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.265	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.567	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.870	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.172	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.474	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.777	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.079	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.382	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.684	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.987	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.289	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.592	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.894	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.197	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.499	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.801	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.104	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.406	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.709	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.011	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.314	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.616	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.919	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.221	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.523	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.826	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.128	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.431	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.733	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.036	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.338	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.641	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.943	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.246	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.548	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.850	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.153	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.455	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.758	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.060	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.363	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.665	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.968	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.270	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.572	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.875	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.177	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.480	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.782	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.085	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.387	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.690	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.992	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.294	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.597	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.899	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.202	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.504	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.807	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.109	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.412	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.714	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.017	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.319	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.621	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.924	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.226	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.529	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.831	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.134	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.436	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.739	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.041	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.343	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.646	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.948	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.251	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.553	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.856	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.158	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.461	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.763	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.066	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.368	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.670	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.973	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.275	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.578	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.880	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.183	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.485	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.788	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
30.090	4.9	20	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0



	-		-		-		-		-		-		-		-		-		-		-		-		-		Summering			
x	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	$A_{s,tot}$	TP_{tot}	h	d
[m]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[m]	[m]
0.000	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
0.450	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
0.752	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
1.055	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
1.357	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
1.660	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
1.962	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
2.265	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
2.567	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
2.870	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
3.172	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
3.474	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
3.777	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
4.079	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
4.382	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
4.684	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
4.987	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
5.289	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
5.592	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
5.894	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
6.197	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
6.499	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
6.801	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
7.104	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
7.406	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
7.709	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
8.011	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
8.314	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
8.616	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
8.919	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
9.221	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
9.523	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
9.826	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
10.128	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
10.431	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
10.733	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
11.036	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
11.338	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
11.641	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
11.943	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
12.246	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
12.548	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
12.850	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
13.153	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
13.455	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
13.758	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
14.060	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
14.363	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
14.665	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
14.968	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
15.270	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
15.572	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
15.875	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
16.177	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
16.480	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
16.782	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
17.085	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
17.387	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
17.690	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
17.992	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
18.294	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
18.597	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
18.899	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
19.202	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
19.504	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
19.807	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
20.109	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
20.412	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
20.714	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
21.017	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
21.319	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
21.621	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
21.924	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
22.226	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
22.529	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
22.831	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
23.134	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
23.436	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
23.739	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
24.041	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
24.343	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
24.646	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
24.948	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
25.251	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
25.553	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
25.856	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
26.158	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
26.461	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
26.763	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
27.066	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
27.368	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
27.670	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
27.973	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
28.275	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
28.578	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
28.880	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.9	20	0.200	0.180
29.183

Sammanfattning böjarmering - LL i uk

Balk
B1

Beskrivning:

** Armeringsmängder viktas till Ks40 .*
** Start innebär avståndet från närmaste armeringsände till systemlinjen i ramben vid stöd 1.*
** Slut innebär avstånd från armeringsänden längst bort till systemlinjen i ramben vid stöd 4.*
** 0 m = I systemlinjen för ramben vid stöd 1*
** 28,23 m = I systemlinje för ramben stöd 4*
** TP innebär avståndet från närmaste kant till tyngdpunkt för armeringen.*
** l_b är förankringslängden för respektive littera.*

nr	Littera	Φ [mm]	c/c [mm]	st/m [-]	Kvalite [-]	Lager [-]	Start [m]	Slut [m]	f_{yk} [Mpa]	$f_{yk,vikt}$ [Mpa]	A_s [cm^2/m]	Tp [mm]	l_b [m]	Del
1	A621	16	-	3	Ks40	1	-1.00	30.64	410	410	6.03	30	0.00	

Böjarmering

-Tillhörande momentkontrollen

-Balk LL i uk

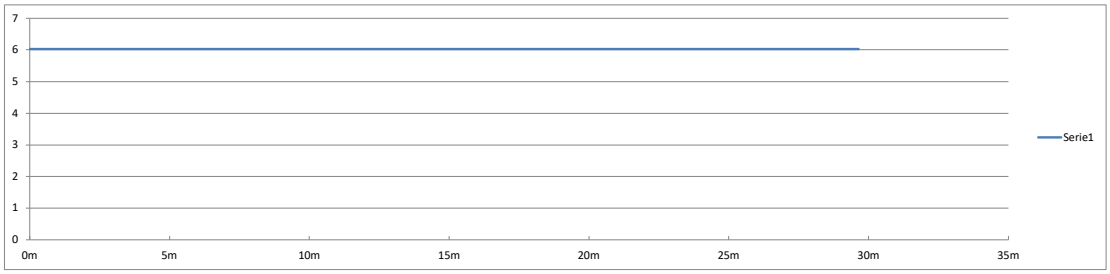
Littera/ ev. nr	As [cm2]	$Start_1$ [m]	$Slut_1$ [m]	l_b [m]	a_l [m]	$Start_2$ [m]	$Slut_2$ [m]	TP [mm]	Litt.	As [cm2]	$Start_1$ [m]	$Slut_1$ [m]	l_b [m]	a_l [m]	$Start_2$ [m]	$Slut_2$ [m]	TP [mm]
1	6.03	-1.0	30.6	0.00	0.3	-0.7	30.3	30	-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								

Mängder i armeringskvalite: Ks40

Beskrivning:

* TP - Avstånd från järn till närmaste kant
* l_b - Förankringslängd
* $Start_2$ och $slut_2$ innebär var stängerna tar full kraft utefter beräkningssnittet.
* a_l - Förskjutning till följd av ökad dragkraft.

	1		-		-		-		-		-		-		-		-		-		-		-		-	
x	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP
[m]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]
0.000	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.302	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.605	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.907	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.210	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.512	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.815	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.117	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.420	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.722	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.024	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.327	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.629	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.932	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.234	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.537	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.839	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.142	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.444	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.747	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.049	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.351	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.654	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.956	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.259	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.561	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.864	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.166	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.469	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.771	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.073	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.376	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.678	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.981	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.283	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.586	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.888	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.191	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.493	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.796	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.098	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.400	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.703	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.005	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.308	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.610	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.913	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.215	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.518	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.820	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.122	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.425	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.727	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.030	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.332	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.635	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.937	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.240	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.542	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.844	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.147	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.449	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.752	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.054	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.357	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.659	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.962	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.264	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.567	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.869	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.171	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.474	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.776	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.079	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.381	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.684	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.986	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.289	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.591	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.893	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.196	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.498	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.801	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.103	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.406	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.708	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.011	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.313	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.616	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.918	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.220	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.523	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.825	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.128	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.430	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.733	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.035	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.338	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.640	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0



	-		-		-		-		-		-		-		-		-		-		-		-		-		Summering			
x	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	$A_{s,tot}$	TP_{tot}	h	d
[m]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[m]	[m]
0.000	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
0.302	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
0.605	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
0.907	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
1.210	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
1.512	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
1.815	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
2.117	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
2.420	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
2.722	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
3.024	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
3.327	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
3.629	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
3.932	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
4.234	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
4.537	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
4.839	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
5.142	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
5.444	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
5.747	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
6.049	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
6.351	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
6.654	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
6.956	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
7.259	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
7.561	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
7.864	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
8.166	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
8.469	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
8.771	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
9.073	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
9.376	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
9.678	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
9.981	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
10.283	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
10.586	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
10.888	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
11.191	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
11.493	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
11.796	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
12.098	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
12.400	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
12.703	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
13.005	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
13.308	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
13.610	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
13.913	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
14.215	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
14.518	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
14.820	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
15.122	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
15.425	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
15.727	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
16.030	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
16.332	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
16.635	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
16.937	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
17.240	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
17.542	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
17.844	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
18.147	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
18.449	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
18.752	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
19.054	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
19.357	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
19.659	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
19.962	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
20.264	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
20.567	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
20.869	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
21.171	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
21.474	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
21.776	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
22.079	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
22.381	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
22.684	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
22.986	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
23.289	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
23.591	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
23.893	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
24.196	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
24.498	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
24.801	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
25.103	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
25.406	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
25.708	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
26.011	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
26.313	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
26.616	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
26.918	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	**6.0**	**30**	**0.830**	**0.800**
27.220	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0

Sammanfattning böjarmering - LL i uk

Balk
B6

Beskrivning:

** Armeringsmängder viktas till Ks40 .*
** Start innebär avståndet från närmaste armeringsände till systemlinjen i ramben vid stöd 1.*
** Slut innebär avstånd från armeringsänden längst bort till systemlinjen i ramben vid stöd 4.*
** 0 m = I systemlinjen för ramben vid stöd 1*
** 28,23 m = I systemlinje för ramben stöd 4*
** TP innebär avståndet från närmaste kant till tyngdpunkt för armeringen.*
** l_b är förankringslängden för respektive littera.*

nr	Littera	Φ [mm]	c/c [mm]	st/m [-]	Kvalite [-]	Lager [-]	Start [m]	Slut [m]	f_{yk} [Mpa]	$f_{yk,vikt}$ [Mpa]	A_s [cm^2/m]	Tp [mm]	l_b [m]	Del
1	A621	16	-	3	Ks40	1	-1.00	30.64	410	410	6.03	30	0.00	

Böjarmering

-Tillhörande momentkontrollen

-Balk LL i uk

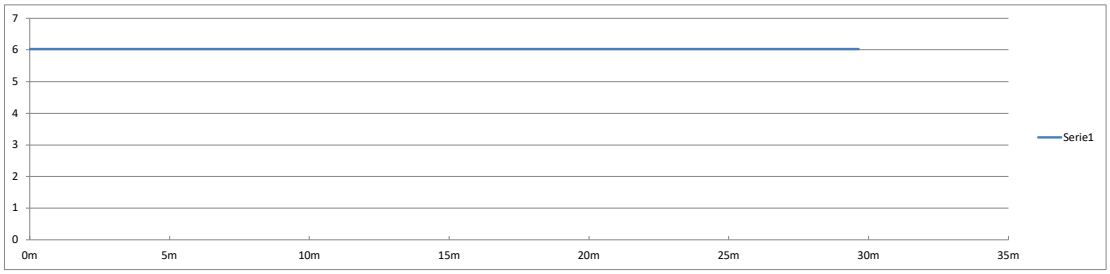
Littera/ ev. nr	As [cm2]	$Start_1$ [m]	$Slut_1$ [m]	l_0 [m]	a_l [m]	$Start_2$ [m]	$Slut_2$ [m]	TP [mm]	Litt.	As [cm2]	$Start_1$ [m]	$Slut_1$ [m]	l_0 [m]	a_l [m]	$Start_2$ [m]	$Slut_2$ [m]	TP [mm]
1	6.03	-1.0	30.6	0.00	0.3	-0.7	30.3	30	-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								

Mängder i armeringskvalite: Ks40

Beskrivning:

* TP - Avstånd från järn till närmaste kant
* l_0 - Förankringslängd
* $Start_2$ och $slut_0$ innebär var stängerna tar full kraft utefter beräkningssnittet.
* a_l - Förskjutning till följd av ökad dragkraft.

	1		-		-		-		-		-		-		-		-		-		-		-		-	
x	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP
[m]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]
0.000	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.302	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.605	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.907	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.210	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.512	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.815	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.117	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.420	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.722	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.024	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.327	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.629	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.932	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.234	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.537	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.839	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.142	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.444	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.747	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.049	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.351	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.654	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.956	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.259	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.561	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.864	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.166	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.469	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.771	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.073	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.376	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.678	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.981	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.283	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.586	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.888	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.191	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.493	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.796	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.098	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.400	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.703	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.005	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.308	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.610	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.913	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.215	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.518	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.820	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.122	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.425	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.727	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.030	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.332	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.635	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.937	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.240	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.542	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.844	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.147	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.449	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.752	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.054	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.357	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.659	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.962	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.264	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.567	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.869	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.171	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.474	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.776	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.079	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.381	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.684	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.986	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.289	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.591	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.893	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.196	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.498	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.801	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.103	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.406	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.708	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.011	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.313	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.616	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.918	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.220	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.523	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.825	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.128	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.430	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.733	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.035	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.338	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.640	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0



	-		-		-		-		-		-		-		-		-		-		-		-		-		Summering			
x	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	h	d
[m]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[m]	[m]
0.000	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
0.302	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
0.605	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
0.907	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
1.210	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
1.512	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
1.815	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
2.117	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
2.420	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
2.722	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
3.024	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
3.327	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
3.629	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
3.932	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
4.234	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
4.537	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
4.839	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
5.142	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
5.444	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
5.747	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
6.049	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
6.351	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
6.654	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
6.956	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
7.259	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
7.561	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
7.864	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
8.166	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
8.469	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
8.771	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
9.073	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
9.376	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
9.678	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
9.981	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
10.283	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
10.586	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
10.888	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
11.191	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
11.493	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
11.796	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
12.098	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
12.400	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
12.703	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
13.005	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
13.308	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
13.610	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
13.913	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
14.215	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
14.518	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
14.820	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
15.122	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
15.425	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
15.727	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
16.030	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
16.332	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
16.635	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
16.937	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
17.240	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
17.542	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
17.844	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
18.147	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
18.449	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
18.752	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
19.054	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
19.357	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
19.659	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
19.962	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
20.264	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
20.567	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
20.869	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
21.171	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
21.474	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
21.776	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
22.079	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
22.381	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
22.684	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
22.986	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
23.289	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
23.591	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
23.893	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
24.196	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
24.498	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
24.801	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
25.103	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
25.406	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
25.708	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
26.011	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
26.313	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
26.616	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
26.918	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
27.220	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Sammanfattning böjarmering - LL i uk

Balk
B3

Beskrivning:

** Armeringsmängder viktas till Ks40 .*
** Start innebär avståndet från närmaste armeringsände till systemlinjen i ramben vid stöd 1.*
** Slut innebär avstånd från armeringsänden längst bort till systemlinjen i ramben vid stöd 4.*
** 0 m = I systemlinjen för ramben vid stöd 1*
** 28,23 m = I systemlinje för ramben stöd 4*
** TP innebär avståndet från närmaste kant till tyngdpunkt för armeringen.*
** l_b är förankringslängden för respektive littera.*

nr	Littera	Φ [mm]	c/c [mm]	st/m [-]	Kvalite [-]	Lager [-]	Start [m]	Slut [m]	f_{yk} [Mpa]	$f_{yk,vikt}$ [Mpa]	A_s [cm^2/m]	Tp [mm]	l_b [m]	Del
1	A621	16	-	3	Ks40	1	-1.00	30.64	410	410	6.03	30	0.00	

Böjarmering

-Tillhörande momentkontrollen

-Balk LL i uk

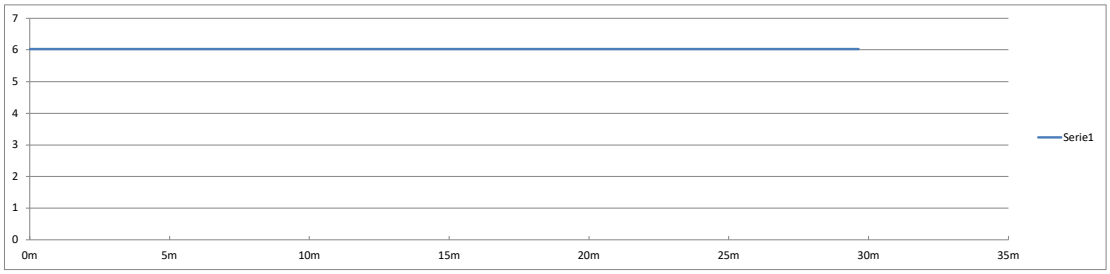
Littera/ ev. nr	As [cm2]	Start$_1$ [m]	Slut$_1$ [m]	l_b [m]	a_l [m]	Start$_2$ [m]	Slut$_2$ [m]	TP [mm]	Litt.	As [cm2]	Start$_1$ [m]	Slut$_1$ [m]	l_b [m]	a_l [m]	Start$_2$ [m]	Slut$_2$ [m]	TP [mm]
1	6.03	-1.0	30.6	0.00	0.3	-0.7	30.3	30	-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								

Mängder i armeringskvalite: Ks40

Beskrivning:

* TP - Avstånd från järn till närmaste kant
* l_b - Förankringslängd
* Start$_2$ och slut$_2$ innebär var stängerna tar full kraft utefter beräkningssnittet.
* a_l - Förskjutning till följd av ökad dragkraft.

	1		-		-		-		-		-		-		-		-		-		-		-		-	
x	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP
[m]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]
0.000	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.302	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.605	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.907	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.210	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.512	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.815	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.117	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.420	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.722	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.024	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.327	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.629	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.932	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.234	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.537	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.839	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.142	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.444	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.747	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.049	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.351	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.654	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.956	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.259	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.561	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.864	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.166	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.469	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.771	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.073	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.376	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.678	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.981	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.283	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.586	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.888	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.191	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.493	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.796	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.098	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.400	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.703	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.005	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.308	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.610	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.913	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.215	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.518	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.820	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.122	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.425	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.727	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.030	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.332	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.635	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.937	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.240	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.542	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.844	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.147	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.449	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.752	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.054	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.357	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.659	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.962	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.264	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.567	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.869	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.171	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.474	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.776	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.079	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.381	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.684	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.986	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.289	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.591	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.893	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.196	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.498	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.801	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.103	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.406	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.708	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.011	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.313	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.616	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.918	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.220	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.523	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.825	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.128	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.430	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.733	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.035	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.338	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.640	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0



	-		-		-		-		-		-		-		-		-		-		-		-		-		-		Summering			
x	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	$A_{s,tot}$	TP_{tot}	h	d
[m]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[m]	[m]
0.000	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
0.302	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
0.605	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
0.907	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
1.210	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
1.512	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
1.815	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
2.117	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
2.420	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
2.722	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
3.024	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
3.327	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
3.629	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
3.932	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
4.234	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
4.537	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
4.839	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
5.142	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
5.444	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
5.747	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
6.049	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
6.351	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
6.654	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
6.956	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
7.259	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
7.561	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
7.864	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
8.166	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
8.469	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
8.771	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
9.073	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
9.376	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
9.678	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
9.981	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
10.283	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
10.586	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
10.888	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
11.191	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
11.493	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
11.796	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
12.098	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
12.400	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
12.703	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
13.005	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
13.308	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
13.610	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
13.913	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
14.215	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
14.518	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
14.820	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
15.122	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
15.425	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
15.727	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
16.030	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
16.332	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
16.635	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
16.937	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
17.240	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
17.542	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
17.844	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
18.147	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
18.449	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
18.752	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
19.054	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
19.357	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
19.659	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
19.962	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
20.264	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
20.567	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
20.869	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
21.171	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
21.474	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
21.776	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
22.079	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
22.381	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
22.684	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
22.986	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
23.289	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
23.591	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
23.893	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
24.196	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
24.498	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
24.801	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
25.103	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
25.406	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
25.708	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
26.011	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
26.313	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
26.616	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
26.918	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
27.220	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Sammanfattning böjarmering - LL i uk

Balk
B4

Beskrivning:

** Armeringsmängder viktas till Ks40 .*
** Start innebär avståndet från närmaste armeringsände till systemlinjen i ramben vid stöd 1.*
** Slut innebär avstånd från armeringsänden längst bort till systemlinjen i ramben vid stöd 4.*
** 0 m = I systemlinjen för ramben vid stöd 1*
** 28,23 m = I systemlinje för ramben stöd 4*
** TP innebär avståndet från närmaste kant till tyngdpunkt för armeringen.*
** l_b är förankringslängden för respektive littera.*

nr	Littera	Φ [mm]	c/c [mm]	st/m [-]	Kvalite [-]	Lager [-]	Start [m]	Slut [m]	f_{yk} [Mpa]	$f_{yk,vikt}$ [Mpa]	A_s [cm^2/m]	Tp [mm]	l_b [m]	Del
1	A621	16	-	3	Ks40	1	-1.00	30.64	410	410	6.03	30	0.00	

Böjarmering

-Tillhörande momentkontrollen

-Balk LL i uk

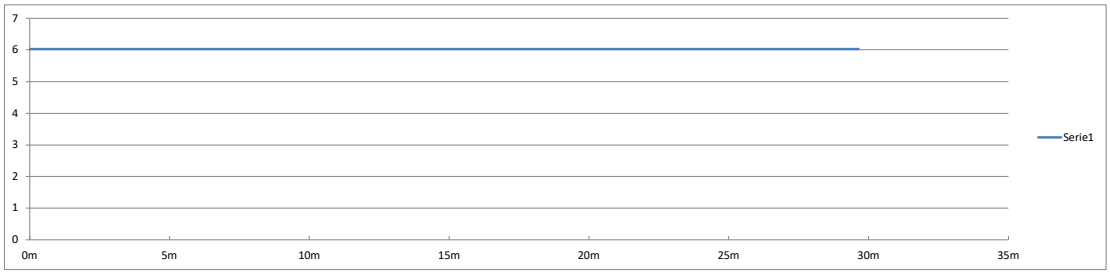
Littera/ ev. nr	As [cm2]	$Start_1$ [m]	$Slut_1$ [m]	l_0 [m]	a_l [m]	$Start_2$ [m]	$Slut_2$ [m]	TP [mm]	Litt.	As [cm2]	$Start_1$ [m]	$Slut_1$ [m]	l_0 [m]	a_l [m]	$Start_2$ [m]	$Slut_2$ [m]	TP [mm]
1	6.03	-1.0	30.6	0.00	0.3	-0.7	30.3	30	-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								

Mängder i armeringskvalite: Ks40

Beskrivning:

* TP - Avstånd från järn till närmaste kant
* l_0 - Förankringslängd
* $Start_2$ och $slut_0$ innebär var stängerna tar full kraft utefter beräkningssnittet.
* a_l - Förskjutning till följd av ökad dragkraft.

	1		-		-		-		-		-		-		-		-		-		-		-		-	
x	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP
[m]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]
0.000	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.302	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.605	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.907	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.210	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.512	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.815	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.117	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.420	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.722	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.024	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.327	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.629	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.932	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.234	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.537	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.839	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.142	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.444	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.747	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.049	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.351	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.654	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.956	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.259	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.561	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.864	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.166	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.469	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.771	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.073	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.376	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.678	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.981	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.283	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.586	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.888	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.191	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.493	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.796	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.098	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.400	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.703	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.005	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.308	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.610	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.913	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.215	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.518	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.820	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.122	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.425	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.727	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.030	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.332	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.635	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.937	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.240	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.542	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.844	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.147	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.449	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.752	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.054	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.357	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.659	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.962	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.264	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.567	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.869	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.171	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.474	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.776	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.079	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.381	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.684	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.986	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.289	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.591	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.893	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.196	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.498	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.801	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.103	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.406	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.708	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.011	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.313	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.616	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.918	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.220	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.523	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.825	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.128	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.430	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.733	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.035	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.338	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.640	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0



	-		-		-		-		-		-		-		-		-		-		-		-		-		Summering			
x	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	h	d
[m]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[m]	[m]
0.000	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
0.302	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
0.605	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
0.907	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
1.210	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
1.512	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
1.815	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
2.117	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
2.420	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
2.722	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
3.024	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
3.327	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
3.629	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
3.932	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
4.234	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
4.537	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
4.839	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
5.142	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
5.444	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
5.747	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
6.049	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
6.351	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
6.654	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
6.956	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
7.259	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
7.561	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
7.864	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
8.166	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
8.469	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
8.771	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
9.073	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
9.376	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
9.678	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
9.981	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
10.283	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
10.586	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
10.888	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
11.191	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
11.493	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
11.796	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
12.098	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
12.400	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
12.703	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
13.005	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
13.308	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
13.610	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
13.913	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
14.215	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
14.518	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
14.820	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
15.122	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
15.425	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
15.727	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
16.030	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
16.332	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
16.635	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
16.937	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
17.240	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
17.542	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
17.844	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
18.147	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
18.449	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
18.752	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
19.054	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
19.357	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
19.659	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
19.962	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
20.264	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
20.567	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
20.869	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
21.171	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
21.474	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
21.776	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
22.079	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
22.381	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
22.684	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
22.986	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
23.289	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
23.591	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
23.893	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
24.196	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
24.498	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
24.801	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
25.103	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
25.406	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
25.708	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
26.011	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
26.313	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
26.616	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
26.918	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
27.220	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Sammanfattning böjarmering - LL i uk

Balk
B2

Beskrivning:

** Armeringsmängder viktas till Ks40 .*
** Start innebär avståndet från närmaste armeringsände till systemlinjen i ramben vid stöd 1.*
** Slut innebär avstånd från armeringsänden längst bort till systemlinjen i ramben vid stöd 4.*
** 0 m = I systemlinjen för ramben vid stöd 1*
** 28,23 m = I systemlinje för ramben stöd 4*
** TP innebär avståndet från närmaste kant till tyngdpunkt för armeringen.*
** l_b är förankringslängden för respektive littera.*

nr	Littera	Φ [mm]	c/c [mm]	st/m [-]	Kvalite [-]	Lager [-]	Start [m]	Slut [m]	f_{yk} [Mpa]	$f_{yk,vikt}$ [Mpa]	A_s [cm^2/m]	Tp [mm]	l_b [m]	Del
1	A621	16	-	3	Ks40	1	-1.00	30.64	410	410	6.03	30	0.00	

Böjarmering

-Tillhörande momentkontrollen

-Balk LL i uk

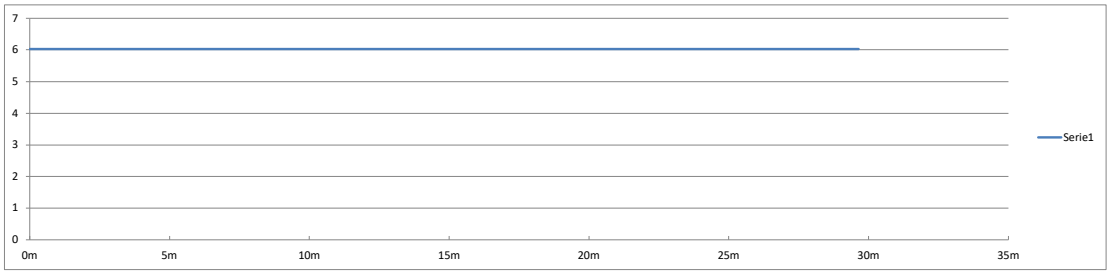
Littera/ ev. nr	As [cm2]	$Start_1$ [m]	$Slut_1$ [m]	l_0 [m]	a_l [m]	$Start_2$ [m]	$Slut_2$ [m]	TP [mm]	Litt.	As [cm2]	$Start_1$ [m]	$Slut_1$ [m]	l_0 [m]	a_l [m]	$Start_2$ [m]	$Slut_2$ [m]	TP [mm]
1	6.03	-1.0	30.6	0.00	0.3	-0.7	30.3	30	-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								

Mängder i armeringskvalite: Ks40

Beskrivning:

* TP - Avstånd från järn till närmaste kant
* l_0 - Förankringslängd
* $Start_2$ och $slut_0$ innebär var stängerna tar full kraft utefter beräkningssnittet.
* a_l - Förskjutning till följd av ökad dragkraft.

	1		-		-		-		-		-		-		-		-		-		-		-		-	
x	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP
[m]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]
0.000	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.302	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.605	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.907	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.210	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.512	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.815	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.117	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.420	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.722	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.024	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.327	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.629	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.932	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.234	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.537	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.839	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.142	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.444	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.747	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.049	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.351	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.654	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.956	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.259	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.561	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.864	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.166	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.469	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.771	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.073	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.376	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.678	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.981	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.283	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.586	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.888	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.191	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.493	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.796	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.098	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.400	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.703	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.005	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.308	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.610	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.913	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.215	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.518	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.820	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.122	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.425	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.727	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.030	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.332	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.635	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.937	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.240	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.542	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.844	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.147	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.449	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.752	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.054	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.357	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.659	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.962	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.264	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.567	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.869	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.171	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.474	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.776	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.079	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.381	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.684	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.986	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.289	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.591	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.893	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.196	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.498	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.801	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.103	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.406	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.708	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.011	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.313	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.616	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.918	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.220	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.523	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.825	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.128	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.430	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.733	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.035	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.338	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.640	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0



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x	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	h	d
[m]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[m]	[m]
0.000	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
0.302	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
0.605	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
0.907	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
1.210	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
1.512	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
1.815	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
2.117	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
2.420	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
2.722	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
3.024	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
3.327	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
3.629	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
3.932	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
4.234	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
4.537	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
4.839	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
5.142	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
5.444	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
5.747	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
6.049	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
6.351	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
6.654	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
6.956	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
7.259	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
7.561	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
7.864	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
8.166	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
8.469	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
8.771	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
9.073	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
9.376	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
9.678	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
9.981	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
10.283	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
10.586	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
10.888	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
11.191	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
11.493	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
11.796	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
12.098	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
12.400	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
12.703	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
13.005	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
13.308	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
13.610	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
13.913	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
14.215	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
14.518	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
14.820	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
15.122	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
15.425	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
15.727	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
16.030	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
16.332	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
16.635	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
16.937	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
17.240	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
17.542	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
17.844	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
18.147	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
18.449	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
18.752	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
19.054	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
19.357	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
19.659	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
19.962	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
20.264	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
20.567	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
20.869	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
21.171	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
21.474	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
21.776	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
22.079	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
22.381	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
22.684	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
22.986	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
23.289	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
23.591	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
23.893	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
24.196	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
24.498	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
24.801	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
25.103	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
25.406	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
25.708	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
26.011	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
26.313	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
26.616	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
26.918	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
27.220	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Sammanfattning böjarmering - LL i uk

Balk
B5

Beskrivning:

** Armeringsmängder viktas till Ks40 .*
** Start innebär avståndet från närmaste armeringsände till systemlinjen i ramben vid stöd 1.*
** Slut innebär avstånd från armeringsänden längst bort till systemlinjen i ramben vid stöd 4.*
** 0 m = I systemlinjen för ramben vid stöd 1*
** 28,23 m = I systemlinje för ramben stöd 4*
** TP innebär avståndet från närmaste kant till tyngdpunkt för armeringen.*
** l_b är förankringslängden för respektive littera.*

nr	Littera	Φ [mm]	c/c [mm]	st/m [-]	Kvalite [-]	Lager [-]	Start [m]	Slut [m]	f_{yk} [Mpa]	$f_{yk,vikt}$ [Mpa]	A_s [cm^2/m]	Tp [mm]	l_b [m]	Del
1	A621	16	-	3	Ks40	1	-1.00	30.64	410	410	6.03	30	0.00	

Böjarmering

-Tillhörande momentkontrollen

-Balk LL i uk

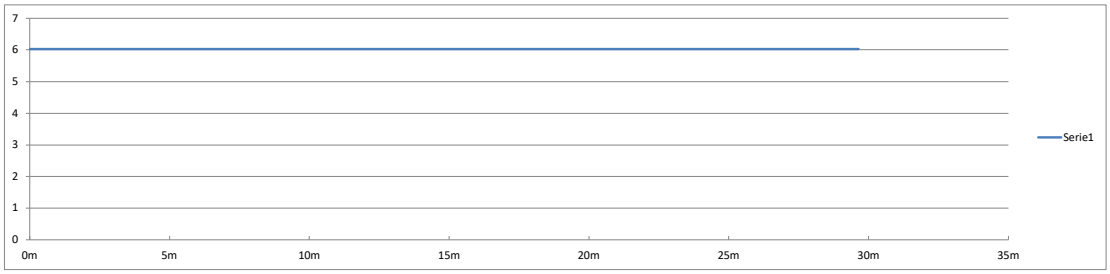
Littera/ ev. nr	As [cm2]	Start$_1$ [m]	Slut$_1$ [m]	l_b [m]	a_l [m]	Start$_2$ [m]	Slut$_2$ [m]	TP [mm]	Litt.	As [cm2]	Start$_1$ [m]	Slut$_1$ [m]	l_b [m]	a_l [m]	Start$_2$ [m]	Slut$_2$ [m]	TP [mm]
1	6.03	-1.0	30.6	0.00	0.3	-0.7	30.3	30	-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								

Mängder i armeringskvalite: Ks40

Beskrivning:

* TP - Avstånd från järn till närmaste kant
* l_b - Förankringslängd
* Start$_2$ och slut$_2$ innebär var stängerna tar full kraft utefter beräkningssnittet.
* a_l - Förskjutning till följd av ökad dragkraft.

	1		-		-		-		-		-		-		-		-		-		-		-		-	
x	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP
[m]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]
0.000	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.302	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.605	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.907	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.210	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.512	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.815	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.117	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.420	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.722	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.024	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.327	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.629	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.932	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.234	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.537	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.839	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.142	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.444	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.747	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.049	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.351	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.654	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.956	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.259	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.561	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.864	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.166	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.469	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.771	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.073	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.376	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.678	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.981	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.283	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.586	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.888	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.191	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.493	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.796	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.098	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.400	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.703	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.005	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.308	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.610	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.913	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.215	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.518	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.820	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.122	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.425	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
15.727	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.030	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.332	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.635	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
16.937	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.240	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.542	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
17.844	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.147	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.449	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
18.752	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.054	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.357	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.659	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
19.962	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.264	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.567	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
20.869	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.171	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.474	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
21.776	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.079	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.381	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.684	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
22.986	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.289	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.591	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
23.893	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.196	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.498	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
24.801	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.103	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.406	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
25.708	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.011	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.313	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.616	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
26.918	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.220	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.523	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
27.825	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.128	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.430	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
28.733	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.035	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.338	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
29.640	6.0	30	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0



	-		-		-		-		-		-		-		-		-		-		-		-		-		Summering			
x	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	h	d
[m]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[m]	[m]
0.000	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
0.302	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
0.605	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
0.907	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
1.210	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
1.512	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
1.815	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
2.117	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
2.420	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
2.722	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
3.024	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
3.327	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
3.629	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
3.932	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
4.234	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
4.537	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
4.839	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
5.142	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
5.444	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
5.747	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
6.049	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
6.351	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
6.654	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
6.956	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
7.259	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
7.561	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
7.864	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
8.166	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
8.469	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
8.771	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
9.073	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
9.376	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
9.678	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
9.981	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
10.283	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
10.586	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
10.888	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
11.191	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
11.493	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
11.796	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
12.098	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
12.400	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
12.703	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
13.005	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
13.308	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
13.610	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
13.913	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
14.215	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
14.518	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
14.820	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
15.122	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
15.425	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
15.727	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
16.030	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
16.332	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
16.635	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
16.937	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
17.240	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
17.542	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
17.844	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
18.147	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
18.449	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
18.752	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
19.054	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
19.357	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
19.659	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
19.962	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
20.264	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
20.567	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
20.869	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
21.171	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
21.474	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
21.776	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
22.079	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
22.381	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
22.684	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
22.986	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
23.289	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
23.591	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
23.893	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
24.196	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
24.498	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
24.801	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
25.103	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
25.406	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
25.708	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
26.011	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
26.313	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
26.616	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
26.918	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.0	30	0.830	0.800
27.220	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

5. Sammanställning av armering, tvärled

Allmänt, tvärled

Armeringsmängder är framtagna från ritning.
Armeringsmängder undersöks i de punkter där lasteffekter från systemanalysen tas fram.

Konstruktionshöjder

Farbana

x [m]	**h [m]**	x [m]	**h [m]**	x [m]	**h [m]**	x [m]	**h [m]**
0.000	**0.200**	-	-	-	-	-	-
0.310	**0.200**	-	-	-	-	-	-
0.620	**0.200**	-	-	-	-	-	-
0.930	**0.200**	-	-	-	-	-	-
1.240	**0.200**	-	-	-	-	-	-
1.595	**0.200**	-	-	-	-	-	-
1.950	**0.200**	-	-	-	-	-	-
2.200	**0.200**	-	-	-	-	-	-
2.450	**0.200**	-	-	-	-	-	-
2.785	**0.200**	-	-	-	-	-	-
3.120	**0.200**	-	-	-	-	-	-
3.470	**0.200**	-	-	-	-	-	-
3.820	**0.200**	-	-	-	-	-	-
4.120	**0.200**	-	-	-	-	-	-
4.420	**0.200**	-	-	-	-	-	-
4.750	**0.200**	-	-	-	-	-	-
5.080	**0.200**	-	-	-	-	-	-
5.435	**0.200**	-	-	-	-	-	-
5.790	**0.200**	-	-	-	-	-	-
6.040	**0.200**	-	-	-	-	-	-
6.290	**0.200**	-	-	-	-	-	-
6.655	**0.200**	-	-	-	-	-	-
7.020	**0.200**	-	-	-	-	-	-
7.365	**0.200**	-	-	-	-	-	-
7.710	**0.200**	-	-	-	-	-	-
7.960	**0.200**	-	-	-	-	-	-
8.210	**0.200**	-	-	-	-	-	-
8.565	**0.200**	-	-	-	-	-	-
8.920	**0.200**	-	-	-	-	-	-
9.250	**0.200**	-	-	-	-	-	-
9.580	**0.200**	-	-	-	-	-	-
9.880	**0.200**	-	-	-	-	-	-
10.180	**0.200**	-	-	-	-	-	-
10.550	**0.200**	-	-	-	-	-	-
10.920	**0.200**	-	-	-	-	-	-
11.235	**0.200**	-	-	-	-	-	-
11.550	**0.200**	-	-	-	-	-	-
11.800	**0.200**	-	-	-	-	-	-
12.050	**0.200**	-	-	-	-	-	-
12.405	**0.200**	-	-	-	-	-	-
12.760	**0.200**	-	-	-	-	-	-
13.070	**0.200**	-	-	-	-	-	-
13.380	**0.200**	-	-	-	-	-	-
13.690	**0.200**	-	-	-	-	-	-
14.000	**0.200**	-	-	-	-	-	-

Sammanfattning böjarmering - TL i uk

Farbana

Beskrivning:

** Armeringsmängder viktas till Ks40 .*

** Start innebär ena mololitänden, 0m.*
** Slut innebär avstånd till nästa monolitände.*

** TP innebär avståndet från närmaste kant till tyngdpunkt för armeringen.*

** l_b är förankringslängden för respektive littera, 0m då ingen avkortning.*

nr	Littera	Φ [mm]	c/c [mm]	st/m [-]	Kvalite [-]	Lager [-]	Start [m]	Slut [m]	f_{yk} [Mpa]	$f_{yk,vikt}$ [Mpa]	A_s [cm^2/m]	Tp [mm]	l_b [m]	Del
1	A522	10	300	-	Ks40	1	0.00	2.20	500	500	2.62	75	0.00	
2	A515	10	225	-	Ks40	1	2.20	11.80	500	500	3.49	75	0.00	
3	A514	10	675	-	Ks40	1	2.20	11.80	500	500	1.16	75	0.00	
4	A522	10	300	-	Ks40	1	11.80	14.20	500	500	2.62	75	0.00	

Böjarmering

-Tillhörande momentkontrollen

-Farbana TL i uk

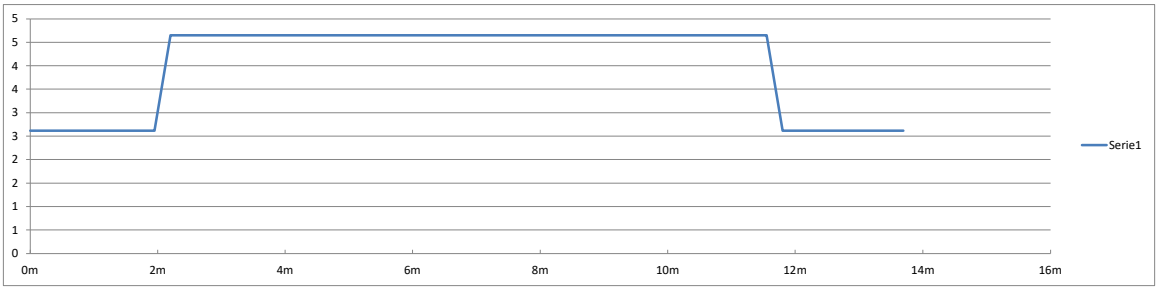
Littera/ ev. nr	As [cm2]	$Start_1$ [m]	$Slut_1$ [m]	l_b [m]	a_l [m]	$Start_2$ [m]	$Slut_2$ [m]	TP [mm]	Litt.	As [cm2]	$Start_1$ [m]	$Slut_1$ [m]	l_b [m]	a_l [m]	$Start_2$ [m]	$Slut_2$ [m]	TP [mm]
1	2.62	0.0	2.2	0.00	0	0.0	2.2	75	-								
2	3.49	2.2	11.8	0.00	0	2.2	11.8	75	-								
3	1.16	2.2	11.8	0.00	0	2.2	11.8	75	-								
4	2.62	11.8	14.2	0.00	0	11.8	14.2	75	-								
									-								
									-								
									-								
									-								
									-								
									-								
									-								
									-								
									-								
									-								
									-								

Mängder i armeringskvalite:
Ks40

Beskrivning:

* TP - Avstånd från järn till närmaste kant
* l_b - Förankringslängd
* $Start_2$ och $slut_2$ innebär var stängerna tar full kraft utefter beräkningssnittet.
* a_l - Förskjutning till följd av ökad dragkraft.

	1		2		3		4		0		0		0		0		0		0		0		-		-		-		-	
x	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP
[m]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]
0.000	2.6	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.310	2.6	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.620	2.6	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.930	2.6	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.240	2.6	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.595	2.6	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.950	2.6	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.200	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.450	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.785	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.120	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.470	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.820	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.120	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.420	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.750	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.080	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.435	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.790	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.040	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.290	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.655	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.020	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.365	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.710	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.960	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.210	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.565	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.920	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.250	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.580	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.880	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.180	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.550	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.920	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.235	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.550	0.0	0	3.5	75	1.2	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.800	0.0	0	0.0	0	0.0	0	2.6	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.050	0.0	0	0.0	0	0.0	0	2.6	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.405	0.0	0	0.0	0	0.0	0	2.6	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.760	0.0	0	0.0	0	0.0	0	2.6	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.070	0.0	0	0.0	0	0.0	0	2.6	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.380	0.0	0	0.0	0	0.0	0	2.6	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.690	0.0	0	0.0	0	0.0	0	2.6	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.000	0.0	0	0.0	0	0.0	0	2.6	75	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
-	0.0	0	0.0	0	0.0	0	0.0	0



	-		-		-		-		-		-		-		-		-		-		-		-		-		Summering			
x	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	$A_{s,tot}$	TP_{tot}	h	d
[m]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[m]	[m]
0.000	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2.6	75	0.200	0.125
0.310	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2.6	75	0.200	0.125
0.620	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2.6	75	0.200	0.125
0.930	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2.6	75	0.200	0.125
1.240	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2.6	75	0.200	0.125
1.595	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2.6	75	0.200	0.125
1.950	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2.6	75	0.200	0.125
2.200	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
2.450	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
2.785	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
3.120	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
3.470	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
3.820	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
4.120	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
4.420	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
4.750	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
5.080	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
5.435	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
5.790	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
6.040	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
6.290	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
6.655	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
7.020	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
7.365	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
7.710	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
7.960	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
8.210	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
8.565	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
8.920	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
9.250	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
9.580	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
9.880	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
10.180	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
10.550	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
10.920	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
11.235	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
11.550	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4.7	75	0.200	0.125
11.800	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2.6	75	0.200	0.125
12.050	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2.6	75	0.200	0.125
12.405	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2.6	75	0.200	0.125
12.760	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2.6	75	0.200	0.125
13.070	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2.6	75	0.200	0.125
13.380	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2.6	75	0.200	0.125
13.690	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2.6	75	0.200	0.125
14.000	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2.6	75	0.200	0.125
-	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	-	0.000	-

Sammanfattning böjarmering - TL i ök

Farbana

Beskrivning:

** Armeringsmängder viktas till Ks40 .*

** Start innebär ena mololitänden, 0m.*
** Slut innebär avstånd till nästa monolitände.*

** TP innebär avståndet från närmaste kant till tyngdpunkt för armeringen.*

** l_b är förankringslängden för respektive littera, 0m då ingen avkortning.*

nr	Littera	Φ [mm]	c/c [mm]	st/m [-]	Kvalite [-]	Lager [-]	Start [m]	Slut [m]	f_{yk} [Mpa]	$f_{yk,vikt}$ [Mpa]	A_s [cm^2/m]	Tp [mm]	l_b [m]	Del
1	F517	12	300	-	Ks40	1	0.00	2.20	500	500	3.77	44	0.00	
2	G518	12	300	-	Ks40	1	0.00	2.20	500	500	3.77	44	0.00	
3	A528	10	675	-	Ks40	1	2.20	11.80	500	500	1.16	44	0.00	
4	A512	12	225	-	Ks40	1	2.20	11.80	500	500	5.03	44	0.00	
5	F517	12	300	-	Ks40	1	11.80	14.20	500	500	3.77	44	0.00	
6	G518	12	300	-	Ks40	1	11.80	14.20	500	500	3.77	44	0.00	

** Axxxx-Axxxx = B2318, D2319, D3319, B3318*

Böjarmering

-Tillhörande momentkontrollen

-Farbana TL i ök

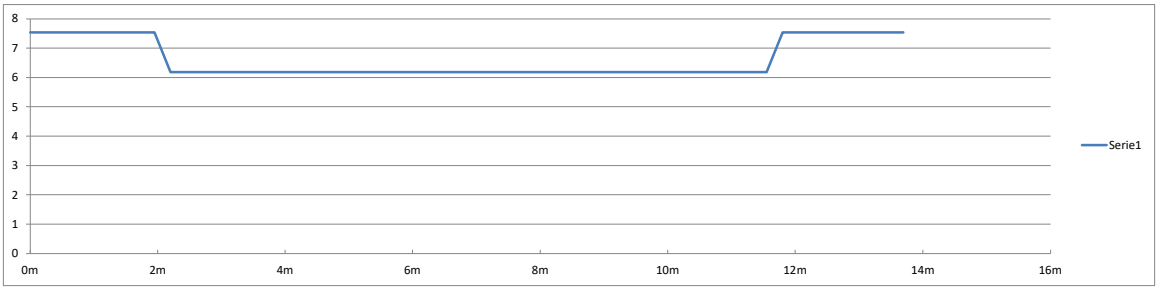
Littera/ ev. nr	As [cm2]	$Start_1$ [m]	$Slut_1$ [m]	l_b [m]	a_l [m]	$Start_2$ [m]	$Slut_2$ [m]	TP [mm]	Litt.	As [cm2]	$Start_1$ [m]	$Slut_1$ [m]	l_b [m]	a_l [m]	$Start_2$ [m]	$Slut_2$ [m]	TP [mm]
1	3.77	0.0	2.2	0.00	0	0.0	2.2	44	-								
2	3.77	0.0	2.2	0.00	0	0.0	2.2	44	-								
3	1.16	2.2	11.8	0.00	0	2.2	11.8	44	-								
4	5.03	2.2	11.8	0.00	0	2.2	11.8	44	-								
5	3.77	11.8	14.2	0.00	0	11.8	14.2	44	-								
6	3.77	11.8	14.2	0.00	0	11.8	14.2	44	-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								
-									-								

Mängder i armeringskvalite:
Ks40

Beskrivning:

* TP - Avstånd från järn till närmaste kant
* l_b - Förankringslängd
* $Start_2$ och $slut_2$ innebär var stängerna tar full kraft utefter beräkningssnittet.
* a_l - Förskjutning till följd av ökad dragkraft.

	1		2		3		4		5		6		-		-		-		-		-		-		-		-	
x	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP
[m]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]
0.000	3.8	44	3.8	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.310	3.8	44	3.8	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.620	3.8	44	3.8	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
0.930	3.8	44	3.8	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.240	3.8	44	3.8	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.595	3.8	44	3.8	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1.950	3.8	44	3.8	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.200	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.450	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
2.785	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.120	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.470	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
3.820	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.120	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.420	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
4.750	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.080	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.435	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
5.790	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.040	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.290	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
6.655	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.020	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.365	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.710	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
7.960	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.210	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.565	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
8.920	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.250	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.580	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
9.880	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.180	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.550	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
10.920	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.235	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.550	0.0	0	0.0	0	1.2	44	5.0	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
11.800	0.0	0	0.0	0	0.0	0	0.0	0	3.8	44	3.8	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.050	0.0	0	0.0	0	0.0	0	0.0	0	3.8	44	3.8	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.405	0.0	0	0.0	0	0.0	0	0.0	0	3.8	44	3.8	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
12.760	0.0	0	0.0	0	0.0	0	0.0	0	3.8	44	3.8	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.070	0.0	0	0.0	0	0.0	0	0.0	0	3.8	44	3.8	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.380	0.0	0	0.0	0	0.0	0	0.0	0	3.8	44	3.8	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
13.690	0.0	0	0.0	0	0.0	0	0.0	0	3.8	44	3.8	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
14.000	0.0	0	0.0	0	0.0	0	0.0	0	3.8	44	3.8	44	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
-	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0



	-		-		-		-		-		-		-		-		-		-		-		-		-		Summering			
x	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	A_s	TP	$A_{s,tot}$	TP_{tot}	h	d
[m]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[cm2]	[mm]	[m]	[m]
0.000	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	7.5	44	0.200	0.156
0.310	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	7.5	44	0.200	0.156
0.620	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	7.5	44	0.200	0.156
0.930	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	7.5	44	0.200	0.156
1.240	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	7.5	44	0.200	0.156
1.595	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	7.5	44	0.200	0.156
1.950	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	7.5	44	0.200	0.156
2.200	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
2.450	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
2.785	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
3.120	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
3.470	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
3.820	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
4.120	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
4.420	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
4.750	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
5.080	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
5.435	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
5.790	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
6.040	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
6.290	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
6.655	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
7.020	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
7.365	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
7.710	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
7.960	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
8.210	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
8.565	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
8.920	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.200	0.156
9.250	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.000	-0.044
9.580	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.000	-0.044
9.880	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.000	-0.044
10.180	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.000	-0.044
10.550	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.000	-0.044
10.920	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.000	-0.044
11.235	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.000	-0.044
11.550	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	6.2	44	0.000	-0.044
11.800	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	7.5	44	0.000	-0.044
12.050	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	7.5	44	0.000	-0.044
12.405	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	7.5	44	0.000	-0.044
12.760	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	7.5	44	0.000	-0.044
13.070	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	7.5	44	0.000	-0.044
13.380	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	7.5	44	0.000	-0.044
13.690	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	7.5	44	0.000	-0.044
14.000	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	7.5	44	0.000	-0.044
-	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	-	0.000	-

BILAGA 6

Kontroll av deformationer
LKB:c

6. Deformation

Deformationer ges av lastkombination B:c. Se nästkommande sidor för diagram från utdata. U_{min} redovisas i diagram.

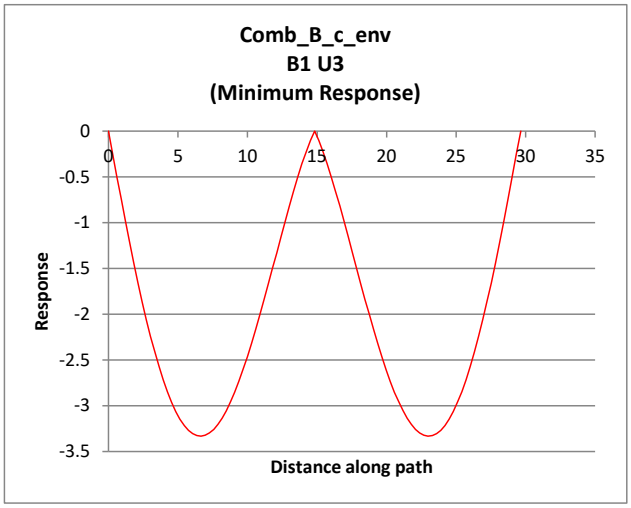
	U_{min}	**U_{max}**
	U3 [mm]	
Balk 1	0.89	-3.33
Balk 2	0.88	-4.51
Balk 3	0.87	-5.08
Balk 4	0.86	-5.09
Balk 5	0.88	-4.53
Balk 6	0.89	-3.38
LL	0.86	-5.18
TL1	0.87	-5.18
TL2	0.92	-5.06

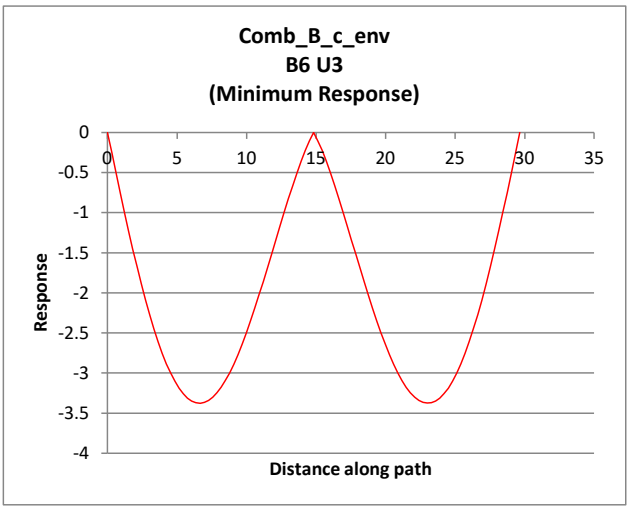
L = 14820mm
Kapacitet = L / 300

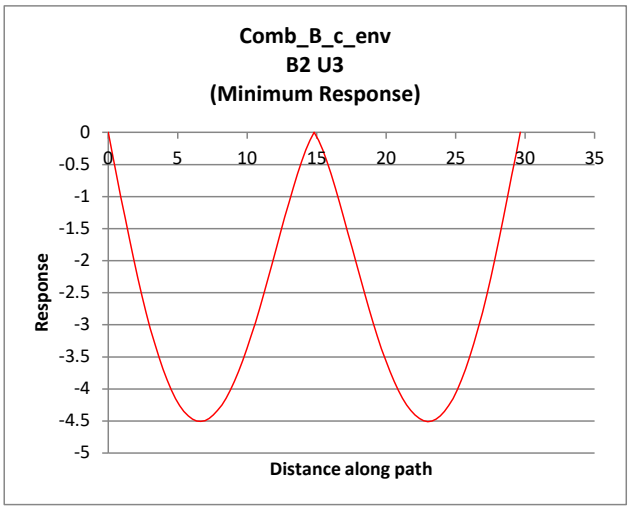
x U1
y U2
z U3 (nedböjning anses neråt om U3 <0)

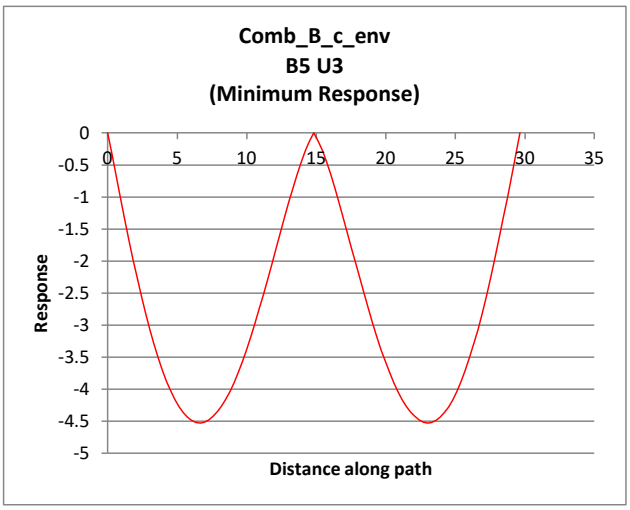
		Effekt (mm)	**Kapacitet**	**n**
Umax	**U3 [mm]**	1.53	49.40	0.031
Umin	**U3 [mm]**	-8.64	49.40	0.175
			Max UG	**0.18**

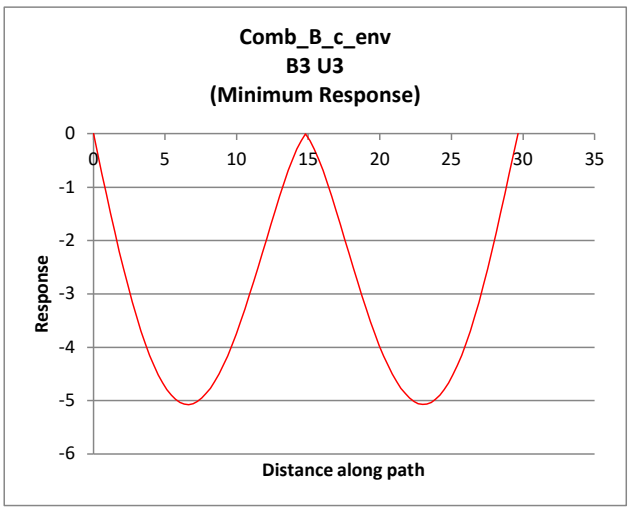
*Sprucken betong antas p.s.s.
Enligt [1] 4.3.2.1 ska det divideras med 0,6

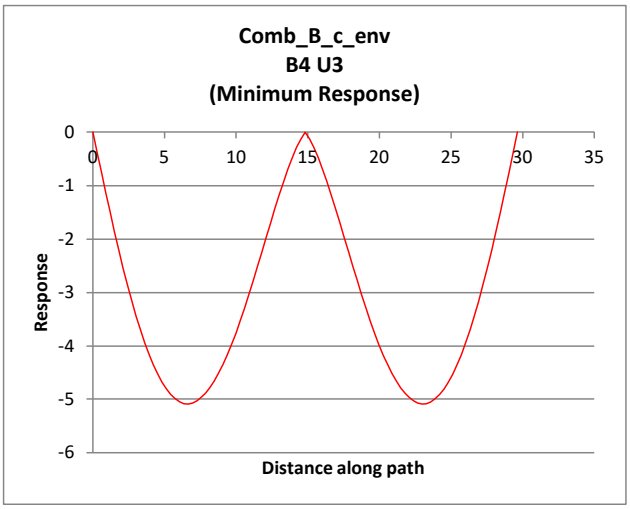

Comb_B_c_env
B1 U3
(Minimum Response)
Response
Distance along path

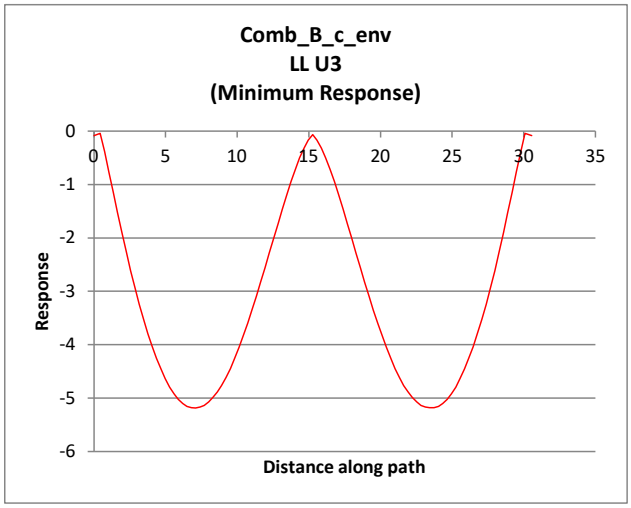

Comb_B_c_env
B6 U3
(Minimum Response)
Response
Distance along path

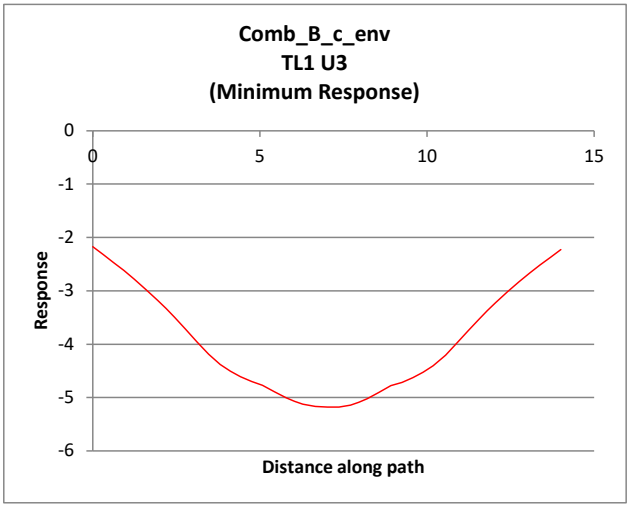

Comb_B_c_env
B2 U3
(Minimum Response)
Response
Distance along path

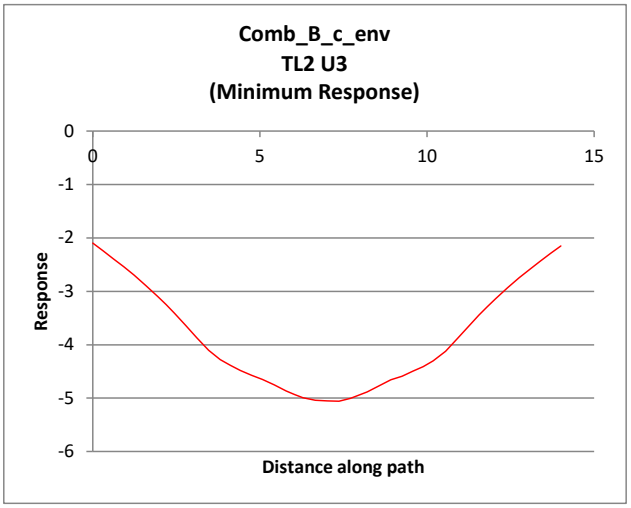

Comb_B_c_env
B5 U3
(Minimum Response)
Response
Distance along path


Comb_B_c_env
B3 U3
(Minimum Response)
Response
Distance along path


Comb_B_c_env
B4 U3
(Minimum Response)
Response
Distance along path


Comb_B_c_env
LL U3
(Minimum Response)
Response
Distance along path
0
-1
-2
-3
-4
-5
-6
0
5
10
15
20
25
30
35


Comb_B_c_env
TL1 U3
(Minimum Response)
Response
Distance along path
0
-1
-2
-3
-4
-5
-6
0
5
10
15


Comb_B_c_env
TL2 U3
(Minimum Response)
Response
Distance along path
0
-1
-2
-3
-4
-5
-6
0
5
10
15

BILAGA 7

Kontroll LKA och LKB:a

7.1 Balkar LKA
7.2 Platta
7.3 Balkar LKB:a

Balk 1 **Indata e_{ekv} samt lutning spännkablar**

							Kabel 1			Kabel 2			Kabel 3			Kabel 4			Kabel 5			Kabel 6			Kabel 7			Kabel 8			Kabel 9			Kabel 10		
X [m]	TP balk	Diam [m]	Area [m^2]	e_{ekv}[m]	$Area_{tot}$	lutning	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal
0	0.415	0.007	0.000462	-0.026	0.0028	0	0.608	-0.193	1	0.608	-0.193	1	0.441	-0.026	1	0.441	-0.026	1													0.274	0.141	1	0.274	0.141	1
0.302	0.415	0.007	0.000462	-0.0005	0.0028	4.8279	0.5701	-0.155	1	0.5701	-0.1551	1	0.4156	-0.0006	1	0.4156	-0.0006	1													0.2608	0.1542	1	0.2608	0.1542	1
0.605	0.415	0.007	0.000462	0.0237	0.0028	4.5704	0.5341	-0.119	1	0.5341	-0.1191	1	0.3914	0.0236	1	0.3914	0.0236	1													0.2483	0.1667	1	0.2483	0.1667	1
0.907	0.415	0.007	0.000462	0.0465	0.0028	4.3129	0.5004	-0.085	1	0.5004	-0.0854	1	0.3687	0.0463	1	0.3687	0.0463	1													0.2364	0.1786	1	0.2364	0.1786	1
1.21	0.415	0.007	0.000462	0.068	0.0028	4.055	0.4687	-0.054	1	0.4687	-0.0537	1	0.3473	0.0677	1	0.3473	0.0677	1													0.225	0.19	1	0.225	0.19	1
1.512	0.415	0.007	0.000462	0.088	0.0028	3.7971	0.4394	-0.024	1	0.4394	-0.0244	1	0.3273	0.0877	1	0.3273	0.0877	1													0.2143	0.2007	1	0.2143	0.2007	1
1.815	0.415	0.007	0.000462	0.1068	0.0028	3.5389	0.4122	0.003	1	0.4122	0.0028	1	0.3086	0.1064	1	0.3086	0.1064	1													0.204	0.211	1	0.204	0.211	1
2.117	0.415	0.007	0.000462	0.1241	0.0028	3.2803	0.3873	0.028	1	0.3873	0.0277	1	0.2913	0.1237	1	0.2913	0.1237	1													0.1942	0.2208	1	0.1942	0.2208	1
2.42	0.415	0.007	0.000462	0.1401	0.0028	3.0216	0.3647	0.05	1	0.3647	0.0503	1	0.2753	0.1397	1	0.2753	0.1397	1													0.1848	0.2302	1	0.1848	0.2302	1
2.722	0.415	0.007	0.000462	0.1546	0.0028	2.7626	0.3445	0.071	1	0.3445	0.0705	1	0.2607	0.1543	1	0.2607	0.1543	1													0.1759	0.2391	1	0.1759	0.2391	1
3.024	0.415	0.007	0.000462	0.1185	0.0037	-6.8166	0.3266	0.088	1	0.3266	0.0884	1	0.2475	0.1675	1	0.2475	0.1675	1							0.4444	-0.0294	1	0.4444	-0.0294	1	0.1673	0.2477	1	0.1673	0.2477	1
3.327	0.415	0.007	0.000462	0.1379	0.0037	3.6515	0.3111	0.104	1	0.3111	0.1039	1	0.2356	0.1794	1	0.2356	0.1794	1							0.4026	0.0124	1	0.4026	0.0124	1	0.1591	0.2559	1	0.1591	0.2559	1
3.629	0.415	0.007	0.000462	0.1553	0.0037	3.3084	0.298	0.117	1	0.298	0.117	1	0.225	0.19	1	0.225	0.19	1							0.3642	0.0508	1	0.3642	0.0508	1	0.1514	0.2636	1	0.1514	0.2636	1
3.932	0.415	0.007	0.000462	0.171	0.0037	2.9602	0.2869	0.128	1	0.2869	0.1281	1	0.2158	0.1992	1	0.2158	0.1992	1							0.329	0.086	1	0.329	0.086	1	0.1443	0.2707	1	0.1443	0.2707	1
4.234	0.415	0.007	0.000462	0.1848	0.0037	2.6066	0.2779	0.137	1	0.2779	0.1371	1	0.208	0.207	1	0.208	0.207	1							0.2973	0.1177	1	0.2973	0.1177	1	0.1378	0.2772	1	0.1378	0.2772	1
4.537	0.415	0.007	0.000462	0.1966	0.0037	2.2477	0.2707	0.144	1	0.2707	0.1443	1	0.2015	0.2135	1	0.2015	0.2135	1							0.2691	0.1459	1	0.2691	0.1459	1	0.1321	0.2829	1	0.1321	0.2829	1
4.839	0.415	0.007	0.000462	0.2066	0.0037	1.8834	0.2654	0.15	1	0.2654	0.1496	1	0.1964	0.2186	1	0.1964	0.2186	1							0.2446	0.1704	1	0.2446	0.1704	1	0.1273	0.2877	1	0.1273	0.2877	1
5.142	0.415	0.007	0.000462	0.2146	0.0037	1.5135	0.2617	0.153	1	0.2617	0.1533	1	0.1926	0.2224	1	0.1926	0.2224	1							0.2239	0.1911	1	0.2239	0.1911	1	0.1235	0.2915	1	0.1235	0.2915	1
5.444	0.415	0.007	0.000462	0.2206	0.0037	1.138	0.2595	0.155	1	0.2595	0.1555	1	0.1901	0.2249	1	0.1901	0.2249	1							0.2072	0.2078	1	0.2072	0.2078	1	0.1208	0.2942	1	0.1208	0.2942	1
5.747	0.415	0.007	0.000462	0.2246	0.0037	0.7568	0.2588	0.156	1	0.2588	0.1562	1	0.189	0.226	1	0.189	0.226	1							0.1945	0.2205	1	0.1945	0.2205	1	0.1193	0.2957	1	0.1193	0.2957	1
6.049	0.415	0.007	0.000462	0.1889	0.0046	-6.746	0.2594	0.156	1	0.2594	0.1556	1	0.1893	0.2257	1	0.1893	0.2257	1	0.3768	0.0382	1	0.3768	0.0382	1	0.1861	0.2289	1	0.1861	0.2289	1	0.1191	0.2959	1	0.1191	0.2959	1
6.351	0.415	0.007	0.000462	0.1921	0.0046	0.6101	0.2612	0.154	1	0.2612	0.1538	1	0.1908	0.2242	1	0.1908	0.2242	1	0.3605	0.0545	1	0.3605	0.0545	1	0.1819	0.2332	1	0.1819	0.2332	1	0.1202	0.2948	1	0.1202	0.2948	1
6.654	0.415	0.007	0.000462	0.1933	0.0046	0.2326	0.2642	0.151	1	0.2642	0.1508	1	0.1937	0.2213	1	0.1937	0.2213	1	0.3465	0.0685	1	0.3465	0.0685	1	0.1813	0.2337	1	0.1813	0.2337	1	0.1227	0.2923	1	0.1227	0.2923	1
6.956	0.415	0.007	0.000462	0.1926	0.0046	-0.13	0.2684	0.147	1	0.2684	0.1466	1	0.1979	0.2171	1	0.1979	0.2171	1	0.335	0.08	1	0.335	0.08	1	0.184	0.231	1	0.184	0.231	1	0.1266	0.2884	1	0.1266	0.2884	1
7.259	0.415	0.007	0.000462	0.1901	0.0046	-0.478	0.2738	0.141	1	0.2738	0.1412	1	0.2033	0.2117	1	0.2033	0.2117	1	0.3259	0.0891	1	0.3259	0.0891	1	0.1897	0.2253	1	0.1897	0.2253	1	0.1318	0.2832	1	0.1318	0.2832	1
7.561	0.415	0.007	0.000462	0.1858	0.0046	-0.8114	0.2804	0.135	1	0.2804	0.1346	1	0.2099	0.2051	1	0.2099	0.2051	1	0.3194	0.0956	1	0.3194	0.0956	1	0.1978	0.2172	1	0.1978	0.2172	1	0.1383	0.2767	1	0.1383	0.2767	1
7.864	0.415	0.007	0.000462	0.1798	0.0046	-1.1301	0.2881	0.127	1	0.2881	0.1269	1	0.2178	0.1972	1	0.2178	0.1972	1	0.3156	0.0994	1	0.3156	0.0994	1	0.2081	0.2069	1	0.2081	0.2069	1	0.1462	0.2688	1	0.1462	0.2688	1
8.166	0.415	0.007	0.000462	0.1723	0.0046	-1.4344	0.297	0.118	1	0.297	0.118	1	0.2268	0.1882	1	0.2268	0.1882	1	0.3144	0.1006	1	0.3144	0.1006	1	0.22	0.195	1	0.22	0.195	1	0.1554	0.2596	1	0.1554	0.2596	1
8.469	0.415	0.007	0.000462	0.1632	0.0046	-1.7243	0.3071	0.108	1	0.3071	0.1079	1	0.2369	0.1781	1	0.2369	0.1781	1	0.316	0.099	1	0.316	0.099	1	0.2332	0.1818	1	0.2332	0.1818	1	0.166	0.249	1	0.166	0.249	1
8.771	0.415	0.007	0.000462	0.1526	0.0046	-1.9995	0.3182	0.097	1	0.3182	0.0968	1	0.2482	0.1668	1	0.2482	0.1668	1	0.3204	0.0946	1	0.3204	0.0946	1	0.2472	0.1678	1	0.2472	0.1678	1	0.1779	0.2371	1	0.1779	0.2371	1
9.073	0.415	0.007	0.000462	0.1407	0.0046	-2.2604	0.3305	0.085	1	0.3305	0.0845	1	0.2605	0.1545	1	0.2605	0.1545	1	0.3277	0.0873	1	0.3277	0.0873	1	0.2617	0.1533	1	0.2617	0.1533	1	0.1911	0.2239	1	0.1911	0.2239	1
9.376	0.415	0.007	0.000462	0.1274	0.0046	-2.5138	0.3439	0.071	1	0.3439	0.0711	1	0.274	0.141	1	0.274	0.141	1	0.3379	0.0771	1	0.3379	0.0771	1	0.2766	0.1384	1	0.2766	0.1384	1	0.2056	0.2094	1	0.2056	0.2094	1
9.678	0.415	0.007	0.000462	0.1128	0.0046	-2.764	0.3585	0.057	1	0.3585	0.0565	1	0.2886	0.1264	1	0.2886	0.1264	1	0.3507	0.0643	1	0.3507	0.0643	1	0.292	0.123	1	0.292	0.123	1	0.2212	0.1938	1	0.2212	0.1938	1
9.981	0.415	0.007	0.000462	0.0969	0.0046	-3.0112	0.3743	0.041	1	0.3743	0.0407	1	0.3044	0.1106	1	0.3044	0.1106	1	0.3659	0.0491	1	0.3659	0.0491	1	0.308	0.107	1	0.308	0.107	1	0.238	0.177	1	0.238	0.177	1
10.28	0.415	0.007	0.000462	0.0797	0.0046	-3.2552	0.3913	0.024	1	0.3913	0.0237	1	0.3214	0.0936	1	0.3214	0.0936	1	0.3833	0.0317	1	0.3833	0.0317	1	0.3249	0.0901	1	0.3249	0.0901	1	0.2557	0.1593	1	0.2557	0.1593	1
10.59	0.415	0.007	0.000462	0.0612	0.0046	-3.4962	0.4096	0.005	1	0.4096	0.0054	1	0.3397	0.0753	1	0.3397	0.0753	1	0.4027	0.0123	1	0.4027	0.0123	1	0.3427	0.0723	1	0.3427	0.0723	1	0.2744	0.1406	1	0.2744	0.1406	1
10.89	0.415	0.007	0.000462	0.0415	0.0046	-3.7343	0.4291	-0.014	1	0.4291	-0.0141	1	0.3592	0.0558	1	0.3592	0.0558	1	0.4238	-0.0088	1	0.4238	-0.0088	1	0.3615	0.0535	1	0.3615	0.0535	1	0.2939	0.1211	1	0.2939	0.1211	1
11.19	0.415	0.007	0.000462	0.0204	0.0046	-3.9692	0.4501	-0.035	1	0.4501	-0.0351	1	0.3802	0.0348	1	0.3802	0.0348	1	0.4466	-0.0316	1	0.4466	-0.0316	1	0.3817	0.0333	1	0.3817	0.0333	1	0.3142	0.1008	1	0.3142	0.1008	1
11.49	0.415	0.007	0.000462	-0.0017	0.0046	-4.2011	0.4724	-0.057	1	0.4724	-0.0574	1	0.4024	0.0126	1	0.4024	0.0126	1	0.4706	-0.0556	1	0.4706	-0.0556	1	0.4032	0.0118	1	0.4032	0.0118	1	0.3351	0.0799	1	0.3351	0.0799	1
11.8	0.415	0.007	0.000462	-0.0252	0.0046	-4.4301	0.4961	-0.081	1	0.4961	-0.0811	1	0.4261	-0.0111	1	0.4261	-0.0111	1	0.4959	-0.0809	1	0.4959	-0.0809	1	0.4262	-0.0112	1	0.4262	-0.0112	1	0.3567	0.0583	1	0.3567	0.0583	1
12.1	0.415	0.007	0.000462	-0.0498	0.0046	-4.6495	0.5212	-0.106	1	0.5212	-0.1062	1	0.4512	-0.0362	1	0.4512	-0.0362	1	0.522	-0.107	1	0.522	-0.107	1	0.4509	-0.0359	1	0.4509	-0.0359	1	0.3786	0.0364	1	0.3786	0.0364	1
12.4	0.415	0.007	0.000462	-0.0752	0.0046	-4.8108	0.5473	-0.132	1	0.5473	-0.1323	1	0.4773	-0.0623	1	0.4773	-0.0623	1	0.5486	-0.1336	1	0.5486	-0.1336	1	0.4768	-0.0618	1	0.4768	-0.0618	1	0.4009	0.0141	1	0.4009	0.0141	1
12.7	0.415	0.007	0.000462	-0.1011	0.0046	-4.8927	0.5741	-0.159	1	0.5741	-0.1591	1	0.5041	-0.0891	1	0.5041	-0.0891	1	0.5756	-0.1606	1	0.5756	-0.1606	1	0.5035	-0.0885	1	0.5035	-0.0885	1	0.4234	-0.0084	1	0.4234	-0.0084	1
13.01	0.415	0.007	0.000462	-0.127	0.0046	-4.8948	0.6009	-0.186	1	0.6009	-0.1859	1	0.5309	-0.1159	1	0.5309	-0.1159	1	0.6022	-0.1872	1	0.6022	-0.1872	1	0.5303	-0.1153	1	0.5303	-0.1153	1	0.4458	-0.0308	1	0.4458	-0.0308	1
13.31	0.415	0.007	0.000462	-0.1525	0.0046	-4.8172	0.6272	-0.212	1	0.6272	-0.2122	1	0.5573	-0.1423	1	0.5573	-0.1423	1	0.6283	-0.2133	1	0.6283	-0.2133	1	0.5568	-0.1418	1	0.5568	-0.1418	1	0.468	-0.053	1	0.468	-0.053	1
13.61	0.415	0.007	0.000462	-0.1771	0.0046	-4.6598	0.6526	-0.238	1	0.6526	-0.2376	1	0.5826	-0.1676	1	0.5826	-0.1676	1	0.6532	-0.2382	1	0.6532	-0.2382	1	0.5824	-0.1674	1	0.5824	-0.1674	1	0.4898	-0.0748	1	0.4898	-0.0748	1
13.91	0.415	0.007	0.000462	-0.2006	0.0046	-4.4229	0.6766	-0.262	1	0.6766	-0.2616	1	0.6067	-0.1917	1	0.6067	-0.1917	1	0.6769	-0.2619	1	0.6769	-0.2619	1	0.6065	-0.1915	1	0.6065	-0.1915	1	0.5111	-0.0961	1	0.5111	-0.0961	1
14.22	0.415	0.007	0.000462	-0.2223	0.0046	-4.1068	0.6987	-0.284	1	0.6987	-0.2837	1	0.6287	-0.2137	1	0.6287	-0.2137	1	0.6987	-0.2837	1	0.6987	-0.2837	1	0.6287	-0.2137	1	0.6287	-0.2137	1	0.5317	-0.1167	1	0.5317	-0.1167	1
14.52	0.415	0.007	0.000462	-0.2406	0.0046	-3.4718	0.7171	-0.302	1	0.7171	-0.3021	1	0.6471	-0.2321	1	0.6471	-0.2321	1	0.717	-0.302	1	0.717	-0.302	1	0.6471	-0.2321	1	0.6471	-0.2321	1	0.5499	-0.1349	1	0.5499	-0.1349	1
14.82	0.415	0.007	0.000462	-0.2486	0.0046	0	0.725	-0.31	1	0.725	-0.31	1	0.655	-0.24	1	0.655	-0.24	1	0.725	-0.31	1	0.725	-0.31	1	0.655	-0.24	1	0.655	-0.24	1	0.558	-0.143	1	0.558	-0.143	1

15.12	0.415	0.007	0.000462	-0.2406	0.0046	3.4703	0.717	-0.302	1	0.717	-0.302	1	0.6471	-0.2321	1	0.6471	-0.2321	1	0.7171	-0.3021	1	0.7171	-0.3021	1	0.6471	-0.2321	1	0.6471	-0.2321	1	0.5499	-0.1349	1	0.5499	-0.1349	1
15.43	0.415	0.007	0.000462	-0.2223	0.0046	4.1	0.6987	-0.284	1	0.6987	-0.2837	1	0.6287	-0.2137	1	0.6287	-0.2137	1	0.6987	-0.2837	1	0.6987	-0.2837	1	0.6287	-0.2137	1	0.6287	-0.2137	1	0.5317	-0.1167	1	0.5317	-0.1167	1
15.73	0.415	0.007	0.000462	-0.2006	0.0046	4.4105	0.6769	-0.262	1	0.6769	-0.2619	1	0.6066	-0.1916	1	0.6066	-0.1916	1	0.6767	-0.2617	1	0.6767	-0.2617	1	0.6067	-0.1917	1	0.6067	-0.1917	1	0.5112	-0.0962	1	0.5112	-0.0962	1
16.03	0.415	0.007	0.000462	-0.1772	0.0046	4.642	0.6533	-0.238	1	0.6533	-0.2383	1	0.5825	-0.1675	1	0.5825	-0.1675	1	0.6527	-0.2377	1	0.6527	-0.2377	1	0.5827	-0.1677	1	0.5827	-0.1677	1	0.4899	-0.0749	1	0.4899	-0.0749	1
16.33	0.415	0.007	0.000462	-0.1527	0.0046	4.7943	0.6284	-0.213	1	0.6284	-0.2134	1	0.557	-0.142	1	0.557	-0.142	1	0.6274	-0.2124	1	0.6274	-0.2124	1	0.5575	-0.1425	1	0.5575	-0.1425	1	0.4682	-0.0532	1	0.4682	-0.0532	1
16.64	0.415	0.007	0.000462	-0.1273	0.0046	4.8672	0.6025	-0.187	1	0.6025	-0.1875	1	0.5306	-0.1156	1	0.5306	-0.1156	1	0.6012	-0.1862	1	0.6012	-0.1862	1	0.5312	-0.1162	1	0.5312	-0.1162	1	0.4461	-0.0311	1	0.4461	-0.0311	1
16.94	0.415	0.007	0.000462	-0.1016	0.0046	4.8605	0.576	-0.161	1	0.576	-0.161	1	0.504	-0.089	1	0.504	-0.089	1	0.5746	-0.1596	1	0.5746	-0.1596	1	0.5046	-0.0896	1	0.5046	-0.0896	1	0.4238	-0.0088	1	0.4238	-0.0088	1
17.24	0.415	0.007	0.000462	-0.0758	0.0046	4.7744	0.5492	-0.134	1	0.5492	-0.1342	1	0.4774	-0.0624	1	0.4774	-0.0624	1	0.548	-0.133	1	0.548	-0.133	1	0.478	-0.063	1	0.478	-0.063	1	0.4015	0.0135	1	0.4015	0.0135	1
17.54	0.415	0.007	0.000462	-0.0506	0.0046	4.6092	0.5228	-0.108	1	0.5228	-0.1078	1	0.4517	-0.0367	1	0.4517	-0.0367	1	0.522	-0.107	1	0.522	-0.107	1	0.452	-0.037	1	0.452	-0.037	1	0.3795	0.0355	1	0.3795	0.0355	1
17.84	0.415	0.007	0.000462	-0.0263	0.0046	4.3865	0.4969	-0.082	1	0.4969	-0.0819	1	0.4273	-0.0123	1	0.4273	-0.0123	1	0.4972	-0.0822	1	0.4972	-0.0822	1	0.4272	-0.0122	1	0.4272	-0.0122	1	0.3577	0.0573	1	0.3577	0.0573	1
18.15	0.415	0.007	0.000462	-0.003	0.0046	4.1554	0.4719	-0.057	1	0.4719	-0.0569	1	0.4044	0.0106	1	0.4044	0.0106	1	0.4736	-0.0586	1	0.4736	-0.0586	1	0.4037	0.0113	1	0.4037	0.0113	1	0.3364	0.0786	1	0.3364	0.0786	1
18.45	0.415	0.007	0.000462	0.0189	0.0046	3.9226	0.4482	-0.033	1	0.4482	-0.0332	1	0.3832	0.0318	1	0.3832	0.0318	1	0.4516	-0.0366	1	0.4516	-0.0366	1	0.3817	0.0333	1	0.3817	0.0333	1	0.3157	0.0993	1	0.3157	0.0993	1
18.75	0.415	0.007	0.000462	0.0397	0.0046	3.6882	0.4257	-0.011	1	0.4257	-0.0107	1	0.3632	0.0518	1	0.3632	0.0518	1	0.4309	-0.0159	1	0.4309	-0.0159	1	0.361	0.054	1	0.361	0.054	1	0.2957	0.1193	1	0.2957	0.1193	1
19.05	0.415	0.007	0.000462	0.0592	0.0046	3.452	0.4049	0.01	1	0.4049	0.0101	1	0.3446	0.0704	1	0.3446	0.0704	1	0.4116	0.0034	1	0.4116	0.0034	1	0.3417	0.0733	1	0.3417	0.0733	1	0.2764	0.1386	1	0.2764	0.1386	1
19.36	0.415	0.007	0.000462	0.0775	0.0046	3.2141	0.3857	0.029	1	0.3857	0.0293	1	0.327	0.088	1	0.327	0.088	1	0.3935	0.0215	1	0.3935	0.0215	1	0.3236	0.0914	1	0.3236	0.0914	1	0.2579	0.1571	1	0.2579	0.1571	1
19.66	0.415	0.007	0.000462	0.0944	0.0046	2.9745	0.3686	0.046	1	0.3686	0.0464	1	0.3104	0.1046	1	0.3104	0.1046	1	0.3767	0.0383	1	0.3767	0.0383	1	0.3068	0.1082	1	0.3068	0.1082	1	0.2404	0.1746	1	0.2404	0.1746	1
19.96	0.415	0.007	0.000462	0.1102	0.0046	2.7331	0.3535	0.061	1	0.3535	0.0615	1	0.2946	0.1204	1	0.2946	0.1204	1	0.3611	0.0539	1	0.3611	0.0539	1	0.2912	0.1238	1	0.2912	0.1238	1	0.2238	0.1912	1	0.2238	0.1912	1
20.26	0.415	0.007	0.000462	0.1246	0.0046	2.49	0.3409	0.074	1	0.3409	0.0741	1	0.2794	0.1356	1	0.2794	0.1356	1	0.3467	0.0683	1	0.3467	0.0683	1	0.2768	0.1382	1	0.2768	0.1382	1	0.2084	0.2066	1	0.2084	0.2066	1
20.57	0.415	0.007	0.000462	0.1377	0.0046	2.2449	0.3308	0.084	1	0.3308	0.0842	1	0.2646	0.1504	1	0.2646	0.1504	1	0.3334	0.0816	1	0.3334	0.0816	1	0.2635	0.1515	1	0.2635	0.1515	1	0.194	0.221	1	0.194	0.221	1
20.87	0.415	0.007	0.000462	0.1496	0.0046	1.9927	0.3234	0.092	1	0.3234	0.0916	1	0.2503	0.1647	1	0.2503	0.1647	1	0.3213	0.0937	1	0.3213	0.0937	1	0.2512	0.1638	1	0.2512	0.1638	1	0.1809	0.2341	1	0.1809	0.2341	1
21.17	0.415	0.007	0.000462	0.1601	0.0046	1.7252	0.3188	0.096	1	0.3188	0.0962	1	0.2364	0.1786	1	0.2364	0.1786	1	0.3102	0.1048	1	0.3102	0.1048	1	0.24	0.175	1	0.24	0.175	1	0.1691	0.2459	1	0.1691	0.2459	1
21.47	0.415	0.007	0.000462	0.1692	0.0046	1.4424	0.317	0.098	1	0.317	0.098	1	0.2232	0.1918	1	0.2232	0.1918	1	0.3002	0.1148	1	0.3002	0.1148	1	0.2299	0.1851	1	0.2299	0.1851	1	0.1586	0.2564	1	0.1586	0.2564	1
21.78	0.415	0.007	0.000462	0.1768	0.0046	1.1442	0.3179	0.097	1	0.3179	0.0971	1	0.2114	0.2036	1	0.2114	0.2036	1	0.2913	0.1237	1	0.2913	0.1237	1	0.2209	0.1941	1	0.2209	0.1941	1	0.1494	0.2656	1	0.1494	0.2656	1
22.08	0.415	0.007	0.000462	0.1829	0.0046	0.8305	0.3215	0.094	1	0.3215	0.0935	1	0.2011	0.2139	1	0.2011	0.2139	1	0.2835	0.1315	1	0.2835	0.1315	1	0.213	0.202	1	0.213	0.202	1	0.1415	0.2735	1	0.1415	0.2735	1
22.38	0.415	0.007	0.000462	0.1873	0.0046	0.5012	0.3275	0.087	1	0.3275	0.0875	1	0.193	0.222	1	0.193	0.222	1	0.2769	0.1381	1	0.2769	0.1381	1	0.2064	0.2086	1	0.2064	0.2086	1	0.1349	0.2801	1	0.1349	0.2801	1
22.68	0.415	0.007	0.000462	0.1899	0.0046	0.1565	0.3361	0.079	1	0.3361	0.0789	1	0.1873	0.2277	1	0.1873	0.2277	1	0.2715	0.1435	1	0.2715	0.1435	1	0.2009	0.2141	1	0.2009	0.2141	1	0.1296	0.2854	1	0.1296	0.2854	1
22.99	0.415	0.007	0.000462	0.1907	0.0046	-0.2037	0.3471	0.068	1	0.3471	0.0679	1	0.1845	0.2305	1	0.1845	0.2305	1	0.2672	0.1478	1	0.2672	0.1478	1	0.1968	0.2182	1	0.1968	0.2182	1	0.1258	0.2892	1	0.1258	0.2892	1
23.29	0.415	0.007	0.000462	0.1897	0.0046	-0.5797	0.3605	0.055	1	0.3605	0.0545	1	0.185	0.23	1	0.185	0.23	1	0.2642	0.1508	1	0.2642	0.1508	1	0.1938	0.2212	1	0.1938	0.2212	1	0.1232	0.2918	1	0.1232	0.2918	1
23.59	0.415	0.007	0.000462	0.1866	0.0046	6.611	0.3761	0.039	1	0.3761	0.0389	1	0.1892	0.2258	1	0.1892	0.2258	1	0.2624	0.1526	1	0.2624	0.1526	1	0.1923	0.2227	1	0.1923	0.2227	1	0.1221	0.2929	1	0.1221	0.2929	1
23.89	0.415	0.007	0.000462	0.2216	0.0037	-0.7541							0.1975	0.2175	1	0.1975	0.2175	1	0.2618	0.1532	1	0.2618	0.1532	1	0.192	0.223	1	0.192	0.223	1	0.1223	0.2927	1	0.1223	0.2927	1
24.2	0.415	0.007	0.000462	0.2176	0.0037	-1.1374							0.21	0.205	1	0.21	0.205	1	0.2626	0.1524	1	0.2626	0.1524	1	0.1931	0.2219	1	0.1931	0.2219	1	0.1238	0.2912	1	0.1238	0.2912	1
24.5	0.415	0.007	0.000462	0.2116	0.0037	-1.5149							0.2266	0.1884	1	0.2266	0.1884	1	0.2648	0.1502	1	0.2648	0.1502	1	0.1956	0.2194	1	0.1956	0.2194	1	0.1266	0.2884	1	0.1266	0.2884	1
24.8	0.415	0.007	0.000462	0.2036	0.0037	-1.8867							0.2471	0.1679	1	0.2471	0.1679	1	0.2685	0.1465	1	0.2685	0.1465	1	0.1995	0.2155	1	0.1995	0.2155	1	0.1305	0.2845	1	0.1305	0.2845	1
25.1	0.415	0.007	0.000462	0.1937	0.0037	-2.253							0.2714	0.1436	1	0.2714	0.1436	1	0.2739	0.1411	1	0.2739	0.1411	1	0.2047	0.2103	1	0.2047	0.2103	1	0.1353	0.2797	1	0.1353	0.2797	1
25.41	0.415	0.007	0.000462	0.1817	0.0037	-2.6139							0.2994	0.1156	1	0.2994	0.1156	1	0.2812	0.1338	1	0.2812	0.1338	1	0.2113	0.2037	1	0.2113	0.2037	1	0.1411	0.2739	1	0.1411	0.2739	1
25.71	0.415	0.007	0.000462	0.1679	0.0037	-2.9693							0.3309	0.0841	1	0.3309	0.0841	1	0.2903	0.1247	1	0.2903	0.1247	1	0.2193	0.1957	1	0.2193	0.1957	1	0.1477	0.2673	1	0.1477	0.2673	1
26.01	0.415	0.007	0.000462	0.1522	0.0037	-3.3195							0.3659	0.0491	1	0.3659	0.0491	1	0.3016	0.1134	1	0.3016	0.1134	1	0.2286	0.1864	1	0.2286	0.1864	1	0.155	0.26	1	0.155	0.26	1
26.31	0.415	0.007	0.000462	0.1347	0.0037	-3.6644							0.404	0.011	1	0.404	0.011	1	0.3149	0.1001	1	0.3149	0.1001	1	0.2393	0.1757	1	0.2393	0.1757	1	0.1629	0.2521	1	0.1629	0.2521	1
26.62	0.415	0.007	0.000462	0.1153	0.0037	6.6418							0.4454	-0.0304	1	0.4454	-0.0304	1	0.3306	0.0844	1	0.3306	0.0844	1	0.2514	0.1636	1	0.2514	0.1636	1	0.1713	0.2437	1	0.1713	0.2437	1
26.92	0.415	0.007	0.000462	0.1505	0.0028	-2.8062													0.3486	0.0664	1	0.3486	0.0664	1	0.2649	0.1501	1	0.2649	0.1501	1	0.1801	0.2349	1	0.1801	0.2349	1
27.22	0.415	0.007	0.000462	0.1357	0.0028	-3.069													0.3691	0.0459	1	0.3691	0.0459	1	0.2797	0.1353	1	0.2797	0.1353	1	0.1892	0.2258	1	0.1892	0.2258	1
27.52	0.415	0.007	0.000462	0.1194	0.0028	-3.3318													0.392	0.023	1	0.392	0.023	1	0.2959	0.1191	1	0.2959	0.1191	1	0.1988	0.2162	1	0.1988	0.2162	1
27.83	0.415	0.007	0.000462	0.1018	0.0028	-3.5943													0.4171	-0.0021	1	0.4171	-0.0021	1	0.3135	0.1015	1	0.3135	0.1015	1	0.2089	0.2061	1	0.2089	0.2061	1
28.13	0.415	0.007	0.000462	0.0828	0.0028	-3.8563													0.4446	-0.0296	1	0.4446	-0.0296	1	0.3325	0.0825	1	0.3325	0.0825	1	0.2195	0.1955	1	0.2195	0.1955	1
28.43	0.415	0.007	0.000462	0.0625	0.0028	-4.1183													0.4743	-0.0593	1	0.4743	-0.0593	1	0.3528	0.0622	1	0.3528	0.0622	1	0.2306	0.1844	1	0.2306	0.1844	1
28.73	0.415	0.007	0.000462	0.0406	0.0028	-4.38													0.5063	-0.0913	1	0.5063	-0.0913	1	0.3746	0.0404	1	0.3746	0.0404	1	0.2422	0.1728	1	0.2422	0.1728	1
29.04	0.415	0.007	0.000462	0.0175	0.0028	-4.6416													0.5403	-0.1253	1	0.5403	-0.1253	1	0.3976	0.0174	1	0.3976	0.0174	1	0.2545	0.1605	1	0.2545	0.1605	1
29.34	0.415	0.007	0.000462	-0.0071	0.0028	-4.9029													0.5767	-0.1617	1	0.5767	-0.1617	1	0.4222	-0.0072	1	0.4222	-0.0072	1	0.2674	0.1476	1	0.2674	0.1476	1
29.64	0.415	0.007	0.000462	-0.033	0.0028	0													0.615	-0.2	1	0.615	-0.2	1	0.448	-0.033	1	0.448	-0.033	1	0.281	0.134	1	0.281	0.134	1

Balk 2 **Indata e_{ekv} samt lutning spännkablar**

							Kabel 1			Kabel 2			Kabel 3			Kabel 4			Kabel 5			Kabel 6			Kabel 7			Kabel 8			Kabel 9			Kabel 10		
X [m]	TP balk	Diam [m]	Area [m^2]	e_{ekv}[m]	$Area_{tot}$	lutning	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal
0	0.375	0.007	0.000462	-0.018	0.0028	0	0.558	-0.183	1	0.558	-0.183	1	0.393	-0.018	1	0.393	-0.018	1													0.228	0.147	1	0.228	0.147	1
0.302	0.375	0.007	0.000462	0.0034	0.0028	4.055	0.5294	-0.154	1	0.5294	-0.1544	1	0.3722	0.0028	1	0.3722	0.0028	1													0.2132	0.1618	1	0.2132	0.1618	1
0.605	0.375	0.007	0.000462	0.0237	0.0028	3.8389	0.5024	-0.127	1	0.5024	-0.1274	1	0.3524	0.0226	1	0.3524	0.0226	1													0.199	0.176	1	0.199	0.176	1
0.907	0.375	0.007	0.000462	0.0428	0.0028	3.6199	0.477	-0.102	1	0.477	-0.102	1	0.3337	0.0413	1	0.3337	0.0413	1													0.1857	0.1893	1	0.1857	0.1893	1
1.21	0.375	0.007	0.000462	0.0608	0.0028	3.3978	0.4533	-0.078	1	0.4533	-0.0783	1	0.3161	0.0589	1	0.3161	0.0589	1													0.1731	0.2019	1	0.1731	0.2019	1
1.512	0.375	0.007	0.000462	0.0776	0.0028	3.1727	0.4314	-0.056	1	0.4314	-0.0564	1	0.2995	0.0755	1	0.2995	0.0755	1													0.1614	0.2136	1	0.1614	0.2136	1
1.815	0.375	0.007	0.000462	0.0932	0.0028	2.945	0.4112	-0.036	1	0.4112	-0.0362	1	0.2839	0.0911	1	0.2839	0.0911	1													0.1504	0.2246	1	0.1504	0.2246	1
2.117	0.375	0.007	0.000462	0.1075	0.0028	2.714	0.3928	-0.018	1	0.3928	-0.0178	1	0.2694	0.1056	1	0.2694	0.1056	1													0.1404	0.2346	1	0.1404	0.2346	1
2.42	0.375	0.007	0.000462	0.1206	0.0028	2.4799	0.3762	-0.001	1	0.3762	-0.0012	1	0.2559	0.1191	1	0.2559	0.1191	1													0.1312	0.2438	1	0.1312	0.2438	1
2.722	0.375	0.007	0.000462	0.1324	0.0028	2.2431	0.3614	0.014	1	0.3614	0.0136	1	0.2433	0.1317	1	0.2433	0.1317	1													0.1229	0.2521	1	0.1229	0.2521	1
3.024	0.375	0.007	0.000462	0.0834	0.0037	-9.2156	0.3486	0.026	1	0.3486	0.0264	1	0.2318	0.1432	1	0.2318	0.1432	1							0.4703	-0.0953	1	0.4703	-0.0953	1	0.1156	0.2594	1	0.1156	0.2594	1
3.327	0.375	0.007	0.000462	0.1022	0.0037	3.5526	0.3376	0.037	1	0.3376	0.0374	1	0.2212	0.1538	1	0.2212	0.1538	1							0.423	-0.048	1	0.423	-0.048	1	0.1092	0.2658	1	0.1092	0.2658	1
3.629	0.375	0.007	0.000462	0.1192	0.0037	3.2178	0.3284	0.047	1	0.3284	0.0466	1	0.2116	0.1634	1	0.2116	0.1634	1							0.3793	-0.0043	1	0.3793	-0.0043	1	0.1037	0.2713	1	0.1037	0.2713	1
3.932	0.375	0.007	0.000462	0.1345	0.0037	2.8819	0.3209	0.054	1	0.3209	0.0541	1	0.2031	0.1719	1	0.2031	0.1719	1							0.3391	0.0359	1	0.3391	0.0359	1	0.099	0.276	1	0.099	0.276	1
4.234	0.375	0.007	0.000462	0.1479	0.0037	2.545	0.315	0.06	1	0.315	0.06	1	0.1956	0.1794	1	0.1956	0.1794	1							0.3028	0.0722	1	0.3028	0.0722	1	0.095	0.28	1	0.095	0.28	1
4.537	0.375	0.007	0.000462	0.1596	0.0037	2.2071	0.3106	0.064	1	0.3106	0.0644	1	0.1893	0.1857	1	0.1893	0.1857	1							0.2702	0.1048	1	0.2702	0.1048	1	0.0916	0.2834	1	0.0916	0.2834	1
4.839	0.375	0.007	0.000462	0.1694	0.0037	1.8679	0.3075	0.068	1	0.3075	0.0675	1	0.1842	0.1908	1	0.1842	0.1908	1							0.2418	0.1332	1	0.2418	0.1332	1	0.0888	0.2862	1	0.0888	0.2862	1
5.142	0.375	0.007	0.000462	0.1775	0.0037	1.5274	0.3056	0.069	1	0.3056	0.0694	1	0.1803	0.1947	1	0.1803	0.1947	1							0.2176	0.1574	1	0.2176	0.1574	1	0.0864	0.2886	1	0.0864	0.2886	1
5.444	0.375	0.007	0.000462	0.1838	0.0037	1.1854	0.305	0.07	1	0.305	0.07	1	0.1776	0.1974	1	0.1776	0.1974	1							0.1979	0.1771	1	0.1979	0.1771	1	0.0845	0.2905	1	0.0845	0.2905	1
5.747	0.375	0.007	0.000462	0.1882	0.0037	0.842	0.3053	0.07	1	0.3053	0.0697	1	0.1762	0.1988	1	0.1762	0.1988	1							0.1828	0.1922	1	0.1828	0.1922	1	0.0828	0.2922	1	0.0828	0.2922	1
6.049	0.375	0.007	0.000462	0.1396	0.0046	-9.1358	0.3066	0.068	1	0.3066	0.0684	1	0.1761	0.1989	1	0.1761	0.1989	1	0.4401	-0.0651	1	0.4401	-0.0651	1	0.1724	0.2026	1	0.1724	0.2026	1	0.0815	0.2935	1	0.0815	0.2935	1
6.351	0.375	0.007	0.000462	0.144	0.0046	0.823	0.3088	0.066	1	0.3088	0.0662	1	0.1774	0.1976	1	0.1774	0.1976	1	0.4218	-0.0468	1	0.4218	-0.0468	1	0.1667	0.2083	1	0.1667	0.2083	1	0.0804	0.2946	1	0.0804	0.2946	1
6.654	0.375	0.007	0.000462	0.1466	0.0046	0.4915	0.3119	0.063	1	0.3119	0.0631	1	0.1799	0.1951	1	0.1799	0.1951	1	0.4056	-0.0306	1	0.4056	-0.0306	1	0.1651	0.2099	1	0.1651	0.2099	1	0.0797	0.2953	1	0.0797	0.2953	1
6.956	0.375	0.007	0.000462	0.1475	0.0046	0.1749	0.3158	0.059	1	0.3158	0.0593	1	0.1835	0.1915	1	0.1835	0.1915	1	0.3916	-0.0166	1	0.3916	-0.0166	1	0.1671	0.2079	1	0.1671	0.2079	1	0.0795	0.2955	1	0.0795	0.2955	1
7.259	0.375	0.007	0.000462	0.1468	0.0046	-0.127	0.3205	0.055	1	0.3205	0.0545	1	0.1883	0.1867	1	0.1883	0.1867	1	0.3799	-0.0049	1	0.3799	-0.0049	1	0.1722	0.2028	1	0.1722	0.2028	1	0.0799	0.2951	1	0.0799	0.2951	1
7.561	0.375	0.007	0.000462	0.1447	0.0046	-0.414	0.326	0.049	1	0.326	0.049	1	0.1941	0.1809	1	0.1941	0.1809	1	0.3706	0.0044	1	0.3706	0.0044	1	0.1798	0.1952	1	0.1798	0.1952	1	0.0812	0.2938	1	0.0812	0.2938	1
7.864	0.375	0.007	0.000462	0.141	0.0046	-0.6863	0.3324	0.043	1	0.3324	0.0426	1	0.2009	0.1741	1	0.2009	0.1741	1	0.3637	0.0113	1	0.3637	0.0113	1	0.1894	0.1856	1	0.1894	0.1856	1	0.0835	0.2915	1	0.0835	0.2915	1
8.166	0.375	0.007	0.000462	0.136	0.0046	-0.9439	0.3396	0.035	1	0.3396	0.0354	1	0.2085	0.1665	1	0.2085	0.1665	1	0.3594	0.0156	1	0.3594	0.0156	1	0.2005	0.1745	1	0.2005	0.1745	1	0.0868	0.2882	1	0.0868	0.2882	1
8.469	0.375	0.007	0.000462	0.1298	0.0046	-1.1867	0.3476	0.027	1	0.3476	0.0274	1	0.217	0.158	1	0.217	0.158	1	0.3577	0.0173	1	0.3577	0.0173	1	0.2126	0.1624	1	0.2126	0.1624	1	0.0913	0.2837	1	0.0913	0.2837	1
8.771	0.375	0.007	0.000462	0.1223	0.0046	-1.4151	0.3563	0.019	1	0.3563	0.0187	1	0.2261	0.1489	1	0.2261	0.1489	1	0.3588	0.0162	1	0.3588	0.0162	1	0.225	0.15	1	0.225	0.15	1	0.0972	0.2778	1	0.0972	0.2778	1
9.073	0.375	0.007	0.000462	0.1137	0.0046	-1.6287	0.3658	0.009	1	0.3658	0.0092	1	0.236	0.139	1	0.236	0.139	1	0.3627	0.0123	1	0.3627	0.0123	1	0.2374	0.1376	1	0.2374	0.1376	1	0.1046	0.2704	1	0.1046	0.2704	1
9.376	0.375	0.007	0.000462	0.104	0.0046	-1.833	0.3761	-0.001	1	0.3761	-0.0011	1	0.2465	0.1285	1	0.2465	0.1285	1	0.3693	0.0057	1	0.3693	0.0057	1	0.2496	0.1254	1	0.2496	0.1254	1	0.1135	0.2615	1	0.1135	0.2615	1
9.678	0.375	0.007	0.000462	0.0933	0.0046	-2.0313	0.3871	-0.012	1	0.3871	-0.0121	1	0.2576	0.1174	1	0.2576	0.1174	1	0.3783	-0.0033	1	0.3783	-0.0033	1	0.2616	0.1134	1	0.2616	0.1134	1	0.1238	0.2512	1	0.1238	0.2512	1
9.981	0.375	0.007	0.000462	0.0815	0.0046	-2.2235	0.399	-0.024	1	0.399	-0.024	1	0.2695	0.1055	1	0.2695	0.1055	1	0.3895	-0.0145	1	0.3895	-0.0145	1	0.2738	0.1012	1	0.2738	0.1012	1	0.1354	0.2396	1	0.1354	0.2396	1
10.28	0.375	0.007	0.000462	0.0688	0.0046	-2.4097	0.4116	-0.037	1	0.4116	-0.0366	1	0.2822	0.0928	1	0.2822	0.0928	1	0.4026	-0.0276	1	0.4026	-0.0276	1	0.2863	0.0887	1	0.2863	0.0887	1	0.1482	0.2268	1	0.1482	0.2268	1
10.59	0.375	0.007	0.000462	0.0551	0.0046	-2.5899	0.4251	-0.05	1	0.4251	-0.0501	1	0.2956	0.0794	1	0.2956	0.0794	1	0.4173	-0.0423	1	0.4173	-0.0423	1	0.2991	0.0759	1	0.2991	0.0759	1	0.1622	0.2128	1	0.1622	0.2128	1
10.89	0.375	0.007	0.000462	0.0406	0.0046	-2.764	0.4394	-0.064	1	0.4394	-0.0644	1	0.3098	0.0652	1	0.3098	0.0652	1	0.4334	-0.0584	1	0.4334	-0.0584	1	0.3125	0.0625	1	0.3125	0.0625	1	0.1771	0.1979	1	0.1771	0.1979	1
11.19	0.375	0.007	0.000462	0.025	0.0046	-2.9322	0.4546	-0.08	1	0.4546	-0.0796	1	0.3248	0.0502	1	0.3248	0.0502	1	0.4506	-0.0756	1	0.4506	-0.0756	1	0.3266	0.0484	1	0.3266	0.0484	1	0.1931	0.1819	1	0.1931	0.1819	1
11.49	0.375	0.007	0.000462	0.0087	0.0046	-3.0942	0.4706	-0.096	1	0.4706	-0.0956	1	0.3407	0.0343	1	0.3407	0.0343	1	0.4686	-0.0936	1	0.4686	-0.0936	1	0.3416	0.0334	1	0.3416	0.0334	1	0.2099	0.1651	1	0.2099	0.1651	1
11.8	0.375	0.007	0.000462	-0.0085	0.0046	-3.2504	0.4875	-0.113	1	0.4875	-0.1125	1	0.3576	0.0174	1	0.3576	0.0174	1	0.4873	-0.1123	1	0.4873	-0.1123	1	0.3577	0.0173	1	0.3577	0.0173	1	0.2274	0.1476	1	0.2274	0.1476	1
12.1	0.375	0.007	0.000462	-0.0264	0.0046	-3.3963	0.5053	-0.13	1	0.5053	-0.1303	1	0.3752	-0.0002	1	0.3752	-0.0002	1	0.5061	-0.1311	1	0.5061	-0.1311	1	0.3748	0.0002	1	0.3748	0.0002	1	0.2456	0.1294	1	0.2456	0.1294	1
12.4	0.375	0.007	0.000462	-0.0449	0.0046	-3.5021	0.5237	-0.149	1	0.5237	-0.1487	1	0.3936	-0.0186	1	0.3936	-0.0186	1	0.5251	-0.1501	1	0.5251	-0.1501	1	0.3929	-0.0179	1	0.3929	-0.0179	1	0.2642	0.1108	1	0.2642	0.1108	1
12.7	0.375	0.007	0.000462	-0.0637	0.0046	-3.5544	0.5425	-0.167	1	0.5425	-0.1675	1	0.4124	-0.0374	1	0.4124	-0.0374	1	0.544	-0.169	1	0.544	-0.169	1	0.4117	-0.0367	1	0.4117	-0.0367	1	0.2831	0.0919	1	0.2831	0.0919	1
13.01	0.375	0.007	0.000462	-0.0825	0.0046	-3.5531	0.5612	-0.186	1	0.5612	-0.1862	1	0.4312	-0.0562	1	0.4312	-0.0562	1	0.5626	-0.1876	1	0.5626	-0.1876	1	0.4306	-0.0556	1	0.4306	-0.0556	1	0.3018	0.0732	1	0.3018	0.0732	1
13.31	0.375	0.007	0.000462	-0.101	0.0046	-3.4981	0.5798	-0.205	1	0.5798	-0.2048	1	0.4498	-0.0748	1	0.4498	-0.0748	1	0.5808	-0.2058	1	0.5808	-0.2058	1	0.4493	-0.0743	1	0.4493	-0.0743	1	0.3202	0.0548	1	0.3202	0.0548	1
13.61	0.375	0.007	0.000462	-0.1189	0.0046	-3.3895	0.5978	-0.223	1	0.5978	-0.2228	1	0.4678	-0.0928	1	0.4678	-0.0928	1	0.5984	-0.2234	1	0.5984	-0.2234	1	0.4675	-0.0925	1	0.4675	-0.0925	1	0.338	0.037	1	0.338	0.037	1
13.91	0.375	0.007	0.000462	-0.136	0.0046	-3.2274	0.6149	-0.24	1	0.6149	-0.2399	1	0.4849	-0.1099	1	0.4849	-0.1099	1	0.6151	-0.2401	1	0.6151	-0.2401	1	0.4849	-0.1099	1	0.4849	-0.1099	1	0.355	0.02	1	0.355	0.02	1
14.22	0.375	0.007	0.000462	-0.1518	0.0046	-3.0074	0.6308	-0.256	1	0.6308	-0.2558	1	0.5008	-0.1258	1	0.5008	-0.1258	1	0.6308	-0.2558	1	0.6308	-0.2558	1	0.5009	-0.1259	1	0.5009	-0.1259	1	0.3708	0.0042	1	0.3708	0.0042	1
14.52	0.375	0.007	0.000462	-0.1647	0.0046	-2.43	0.6437	-0.269	1	0.6437	-0.2687	1	0.5137	-0.1387	1	0.5137	-0.1387	1	0.6436	-0.2686	1	0.6436	-0.2686	1	0.5137	-0.1387	1	0.5137	-0.1387	1	0.3837	-0.0087	1	0.3837	-0.0087	1
14.82	0.375	0.007	0.000462	-0.17	0.0046	0	0.649	-0.274	1	0.649	-0.274	1	0.519	-0.144	1	0.519	-0.144	1	0.649	-0.274	1	0.649	-0.274	1	0.519	-0.144	1	0.519	-0.144	1	0.389	-0.014	1	0.389	-0.014	1

15.12	0.375	0.007	0.000462	-0.1647	0.0046	2.4293	0.6436	-0.269	1	0.6436	-0.2686	1	0.5137	-0.1387	1	0.5137	-0.1387	1	0.6437	-0.2687	1	0.6437	-0.2687	1	0.5137	-0.1387	1	0.5137	-0.1387	1	0.3837	-0.0087	1	0.3837	-0.0087	1
15.43	0.375	0.007	0.000462	-0.1518	0.0046	3.0014	0.6308	-0.256	1	0.6308	-0.2558	1	0.5009	-0.1259	1	0.5009	-0.1259	1	0.6308	-0.2558	1	0.6308	-0.2558	1	0.5008	-0.1258	1	0.5008	-0.1258	1	0.3708	0.0042	1	0.3708	0.0042	1
15.73	0.375	0.007	0.000462	-0.136	0.0046	3.2152	0.6151	-0.24	1	0.6151	-0.2401	1	0.4849	-0.1099	1	0.4849	-0.1099	1	0.615	-0.24	1	0.615	-0.24	1	0.485	-0.11	1	0.485	-0.11	1	0.355	0.02	1	0.355	0.02	1
16.03	0.375	0.007	0.000462	-0.119	0.0046	3.3717	0.5984	-0.223	1	0.5984	-0.2234	1	0.4676	-0.0926	1	0.4676	-0.0926	1	0.5979	-0.2229	1	0.5979	-0.2229	1	0.4679	-0.0929	1	0.4679	-0.0929	1	0.3381	0.0369	1	0.3381	0.0369	1
16.33	0.375	0.007	0.000462	-0.1012	0.0046	3.4749	0.581	-0.206	1	0.581	-0.206	1	0.4495	-0.0745	1	0.4495	-0.0745	1	0.58	-0.205	1	0.58	-0.205	1	0.45	-0.075	1	0.45	-0.075	1	0.3204	0.0546	1	0.3204	0.0546	1
16.64	0.375	0.007	0.000462	-0.0828	0.0046	3.5248	0.5629	-0.188	1	0.5629	-0.1879	1	0.4309	-0.0559	1	0.4309	-0.0559	1	0.5615	-0.1865	1	0.5615	-0.1865	1	0.4315	-0.0565	1	0.4315	-0.0565	1	0.3021	0.0729	1	0.3021	0.0729	1
16.94	0.375	0.007	0.000462	-0.0642	0.0046	3.5216	0.5445	-0.169	1	0.5445	-0.1695	1	0.4121	-0.0371	1	0.4121	-0.0371	1	0.5429	-0.1679	1	0.5429	-0.1679	1	0.4129	-0.0379	1	0.4129	-0.0379	1	0.2835	0.0915	1	0.2835	0.0915	1
17.24	0.375	0.007	0.000462	-0.0455	0.0046	3.4649	0.5257	-0.151	1	0.5257	-0.1507	1	0.3936	-0.0186	1	0.3936	-0.0186	1	0.5243	-0.1493	1	0.5243	-0.1493	1	0.3942	-0.0192	1	0.3942	-0.0192	1	0.2648	0.1102	1	0.2648	0.1102	1
17.54	0.375	0.007	0.000462	-0.0272	0.0046	3.3553	0.507	-0.132	1	0.507	-0.132	1	0.3757	-0.0007	1	0.3757	-0.0007	1	0.5061	-0.1311	1	0.5061	-0.1311	1	0.3761	-0.0011	1	0.3761	-0.0011	1	0.2464	0.1286	1	0.2464	0.1286	1
17.84	0.375	0.007	0.000462	-0.0095	0.0046	3.206	0.4883	-0.113	1	0.4883	-0.1133	1	0.3587	0.0163	1	0.3587	0.0163	1	0.4886	-0.1136	1	0.4886	-0.1136	1	0.3586	0.0164	1	0.3586	0.0164	1	0.2285	0.1465	1	0.2285	0.1465	1
18.15	0.375	0.007	0.000462	0.0074	0.0046	3.048	0.4699	-0.095	1	0.4699	-0.0949	1	0.3429	0.0321	1	0.3429	0.0321	1	0.4719	-0.0969	1	0.4719	-0.0969	1	0.342	0.033	1	0.342	0.033	1	0.2111	0.1639	1	0.2111	0.1639	1
18.45	0.375	0.007	0.000462	0.0235	0.0046	2.8852	0.4522	-0.077	1	0.4522	-0.0772	1	0.3282	0.0468	1	0.3282	0.0468	1	0.4561	-0.0811	1	0.4561	-0.0811	1	0.3264	0.0486	1	0.3264	0.0486	1	0.1946	0.1804	1	0.1946	0.1804	1
18.75	0.375	0.007	0.000462	0.0388	0.0046	2.7177	0.4352	-0.06	1	0.4352	-0.0602	1	0.3143	0.0607	1	0.3143	0.0607	1	0.4412	-0.0662	1	0.4412	-0.0662	1	0.3115	0.0635	1	0.3115	0.0635	1	0.1789	0.1961	1	0.1789	0.1961	1
19.05	0.375	0.007	0.000462	0.0531	0.0046	2.5455	0.4194	-0.044	1	0.4194	-0.0444	1	0.3011	0.0739	1	0.3011	0.0739	1	0.4271	-0.0521	1	0.4271	-0.0521	1	0.2976	0.0774	1	0.2976	0.0774	1	0.1642	0.2108	1	0.1642	0.2108	1
19.36	0.375	0.007	0.000462	0.0666	0.0046	2.3686	0.4049	-0.03	1	0.4049	-0.0299	1	0.2885	0.0865	1	0.2885	0.0865	1	0.4139	-0.0389	1	0.4139	-0.0389	1	0.2844	0.0906	1	0.2844	0.0906	1	0.1505	0.2246	1	0.1505	0.2246	1
19.66	0.375	0.007	0.000462	0.0791	0.0046	2.1871	0.392	-0.017	1	0.392	-0.017	1	0.2763	0.0987	1	0.2763	0.0987	1	0.4014	-0.0264	1	0.4014	-0.0264	1	0.272	0.103	1	0.272	0.103	1	0.1379	0.2371	1	0.1379	0.2371	1
19.96	0.375	0.007	0.000462	0.0907	0.0046	2.0007	0.381	-0.006	1	0.381	-0.006	1	0.2643	0.1107	1	0.2643	0.1107	1	0.3898	-0.0148	1	0.3898	-0.0148	1	0.2603	0.1147	1	0.2603	0.1147	1	0.1264	0.2486	1	0.1264	0.2486	1
20.26	0.375	0.007	0.000462	0.1012	0.0046	1.8098	0.3721	0.003	1	0.3721	0.0029	1	0.2524	0.1226	1	0.2524	0.1226	1	0.3789	-0.0039	1	0.3789	-0.0039	1	0.2493	0.1257	1	0.2493	0.1257	1	0.1163	0.2587	1	0.1163	0.2587	1
20.57	0.375	0.007	0.000462	0.1108	0.0046	1.6139	0.3656	0.009	1	0.3656	0.0094	1	0.2403	0.1347	1	0.2403	0.1347	1	0.3687	0.0063	1	0.3687	0.0063	1	0.2389	0.1361	1	0.2389	0.1361	1	0.1075	0.2675	1	0.1075	0.2675	1
20.87	0.375	0.007	0.000462	0.1193	0.0046	1.409	0.3618	0.013	1	0.3618	0.0132	1	0.228	0.147	1	0.228	0.147	1	0.3593	0.0157	1	0.3593	0.0157	1	0.2292	0.1458	1	0.2292	0.1458	1	0.1003	0.2747	1	0.1003	0.2747	1
21.17	0.375	0.007	0.000462	0.1267	0.0046	1.1879	0.3607	0.014	1	0.3607	0.0143	1	0.2156	0.1594	1	0.2156	0.1594	1	0.3506	0.0244	1	0.3506	0.0244	1	0.22	0.155	1	0.22	0.155	1	0.0944	0.2806	1	0.0944	0.2806	1
21.47	0.375	0.007	0.000462	0.133	0.0046	0.9508	0.3623	0.013	1	0.3623	0.0127	1	0.2036	0.1714	1	0.2036	0.1714	1	0.3427	0.0323	1	0.3427	0.0323	1	0.2116	0.1634	1	0.2116	0.1634	1	0.0899	0.2851	1	0.0899	0.2851	1
21.78	0.375	0.007	0.000462	0.138	0.0046	0.6974	0.3665	0.008	1	0.3665	0.0085	1	0.1925	0.1825	1	0.1925	0.1825	1	0.3355	0.0395	1	0.3355	0.0395	1	0.2039	0.1711	1	0.2039	0.1711	1	0.0865	0.2885	1	0.0865	0.2885	1
22.08	0.375	0.007	0.000462	0.1417	0.0046	0.4277	0.3732	0.002	1	0.3732	0.0018	1	0.1828	0.1922	1	0.1828	0.1922	1	0.3291	0.0459	1	0.3291	0.0459	1	0.1971	0.1779	1	0.1971	0.1779	1	0.0843	0.2907	1	0.0843	0.2907	1
22.38	0.375	0.007	0.000462	0.1439	0.0046	0.1419	0.3823	-0.007	1	0.3823	-0.0073	1	0.1752	0.1998	1	0.1752	0.1998	1	0.3235	0.0515	1	0.3235	0.0515	1	0.1913	0.1837	1	0.1913	0.1837	1	0.0829	0.2921	1	0.0829	0.2921	1
22.68	0.375	0.007	0.000462	0.1447	0.0046	-0.1604	0.3938	-0.019	1	0.3938	-0.0188	1	0.1701	0.2049	1	0.1701	0.2049	1	0.3187	0.0563	1	0.3187	0.0563	1	0.1865	0.1885	1	0.1865	0.1885	1	0.0824	0.2926	1	0.0824	0.2926	1
22.99	0.375	0.007	0.000462	0.1439	0.0046	-0.4789	0.4075	-0.032	1	0.4075	-0.0325	1	0.1681	0.2069	1	0.1681	0.2069	1	0.3148	0.0602	1	0.3148	0.0602	1	0.1828	0.1922	1	0.1828	0.1922	1	0.0826	0.2924	1	0.0826	0.2924	1
23.29	0.375	0.007	0.000462	0.1413	0.0046	-0.8137	0.4234	-0.048	1	0.4234	-0.0484	1	0.1697	0.2053	1	0.1697	0.2053	1	0.3117	0.0633	1	0.3117	0.0633	1	0.1803	0.1947	1	0.1803	0.1947	1	0.0833	0.2917	1	0.0833	0.2917	1
23.59	0.375	0.007	0.000462	0.137	0.0046	9.0551	0.4413	-0.066	1	0.4413	-0.0663	1	0.1754	0.1996	1	0.1754	0.1996	1	0.3096	0.0654	1	0.3096	0.0654	1	0.1791	0.1959	1	0.1791	0.1959	1	0.0845	0.2905	1	0.0845	0.2905	1
23.89	0.375	0.007	0.000462	0.1852	0.0037	-0.8639							0.1858	0.1892	1	0.1858	0.1892	1	0.3084	0.0666	1	0.3084	0.0666	1	0.1793	0.1957	1	0.1793	0.1957	1	0.0859	0.2891	1	0.0859	0.2891	1
24.2	0.375	0.007	0.000462	0.1806	0.0037	-1.2141							0.2011	0.1739	1	0.2011	0.1739	1	0.3081	0.0669	1	0.3081	0.0669	1	0.1808	0.1942	1	0.1808	0.1942	1	0.0876	0.2874	1	0.0876	0.2874	1
24.5	0.375	0.007	0.000462	0.1742	0.0037	-1.5619							0.2209	0.1541	1	0.2209	0.1541	1	0.309	0.066	1	0.309	0.066	1	0.1836	0.1914	1	0.1836	0.1914	1	0.0897	0.2853	1	0.0897	0.2853	1
24.8	0.375	0.007	0.000462	0.1659	0.0037	-1.9073							0.2453	0.1297	1	0.2453	0.1297	1	0.311	0.064	1	0.311	0.064	1	0.1877	0.1873	1	0.1877	0.1873	1	0.0923	0.2827	1	0.0923	0.2827	1
25.1	0.375	0.007	0.000462	0.1559	0.0037	-2.2503							0.2738	0.1012	1	0.2738	0.1012	1	0.3143	0.0607	1	0.3143	0.0607	1	0.1931	0.1819	1	0.1931	0.1819	1	0.0953	0.2797	1	0.0953	0.2797	1
25.41	0.375	0.007	0.000462	0.144	0.0037	-2.5912							0.3066	0.0684	1	0.3066	0.0684	1	0.319	0.056	1	0.319	0.056	1	0.1996	0.1754	1	0.1996	0.1754	1	0.0989	0.2761	1	0.0989	0.2761	1
25.71	0.375	0.007	0.000462	0.1303	0.0037	-2.9299							0.3432	0.0318	1	0.3432	0.0318	1	0.3251	0.0499	1	0.3251	0.0499	1	0.2073	0.1677	1	0.2073	0.1677	1	0.1032	0.2718	1	0.1032	0.2718	1
26.01	0.375	0.007	0.000462	0.1148	0.0037	-3.2665							0.3837	-0.0087	1	0.3837	-0.0087	1	0.3329	0.0421	1	0.3329	0.0421	1	0.2161	0.1589	1	0.2161	0.1589	1	0.1082	0.2668	1	0.1082	0.2668	1
26.31	0.375	0.007	0.000462	0.0976	0.0037	-3.6013							0.4276	-0.0526	1	0.4276	-0.0526	1	0.3423	0.0327	1	0.3423	0.0327	1	0.2259	0.1491	1	0.2259	0.1491	1	0.1139	0.2611	1	0.1139	0.2611	1
26.62	0.375	0.007	0.000462	0.0785	0.0037	9.1719							0.4752	-0.1002	1	0.4752	-0.1002	1	0.3536	0.0214	1	0.3536	0.0214	1	0.2367	0.1383	1	0.2367	0.1383	1	0.1206	0.2544	1	0.1206	0.2544	1
26.92	0.375	0.007	0.000462	0.1272	0.0028	-2.2849													0.3666	0.0084	1	0.3666	0.0084	1	0.2485	0.1265	1	0.2485	0.1265	1	0.1281	0.2469	1	0.1281	0.2469	1
27.22	0.375	0.007	0.000462	0.1152	0.0028	-2.52													0.3816	-0.0066	1	0.3816	-0.0066	1	0.2613	0.1137	1	0.2613	0.1137	1	0.1366	0.2384	1	0.1366	0.2384	1
27.52	0.375	0.007	0.000462	0.1019	0.0028	-2.7525													0.3984	-0.0234	1	0.3984	-0.0234	1	0.275	0.1	1	0.275	0.1	1	0.146	0.229	1	0.146	0.229	1
27.83	0.375	0.007	0.000462	0.0873	0.0028	-2.9824													0.417	-0.042	1	0.417	-0.042	1	0.2898	0.0852	1	0.2898	0.0852	1	0.1562	0.2188	1	0.1562	0.2188	1
28.13	0.375	0.007	0.000462	0.0716	0.0028	-3.2096													0.4374	-0.0624	1	0.4374	-0.0624	1	0.3055	0.0695	1	0.3055	0.0695	1	0.1674	0.2076	1	0.1674	0.2076	1
28.43	0.375	0.007	0.000462	0.0546	0.0028	-3.4343													0.4595	-0.0845	1	0.4595	-0.0845	1	0.3223	0.0527	1	0.3223	0.0527	1	0.1793	0.1957	1	0.1793	0.1957	1
28.73	0.375	0.007	0.000462	0.0364	0.0028	-3.6565													0.4834	-0.1084	1	0.4834	-0.1084	1	0.3401	0.0349	1	0.3401	0.0349	1	0.1921	0.1829	1	0.1921	0.1829	1
29.04	0.375	0.007	0.000462	0.0171	0.0028	-3.8759													0.509	-0.134	1	0.509	-0.134	1	0.359	0.016	1	0.359	0.016	1	0.2056	0.1694	1	0.2056	0.1694	1
29.34	0.375	0.007	0.000462	-0.0034	0.0028	-4.093													0.5362	-0.1612	1	0.5362	-0.1612	1	0.379	-0.004	1	0.379	-0.004	1	0.22	0.155	1	0.22	0.155	1
29.64	0.375	0.007	0.000462	-0.025	0.0028	0													0.565	-0.19	1	0.565	-0.19	1	0.4	-0.025	1	0.4	-0.025	1	0.235	0.14	1	0.235	0.14	1

Balk 3 **Indata e_{ekv} samt lutning spännkablar**

							Kabel 1			Kabel 2			Kabel 3			Kabel 4			Kabel 5			Kabel 6			Kabel 7			Kabel 8			Kabel 9			Kabel 10		
X [m]	TP balk	Diam [m]	Area [m^2]	e_{ekv}[m]	$Area_{tot}$	lutning	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal
0	0.4	0.007	0.000462	-0.011	0.0028	0	0.591	-0.191	1	0.591	-0.191	1	0.411	-0.011	1	0.411	-0.011	1													0.231	0.169	1	0.231	0.169	1
0.302	0.4	0.007	0.000462	0.0014	0.0028	2.3544	0.5785	-0.178	1	0.5785	-0.1785	1	0.3986	0.0014	1	0.3986	0.0014	1													0.2186	0.1814	1	0.2186	0.1814	1
0.605	0.4	0.007	0.000462	0.0133	0.0028	2.2482	0.5664	-0.166	1	0.5664	-0.1664	1	0.3868	0.0132	1	0.3868	0.0132	1													0.2068	0.1932	1	0.2068	0.1932	1
0.907	0.4	0.007	0.000462	0.0246	0.0028	2.1458	0.555	-0.155	1	0.555	-0.155	1	0.3755	0.0245	1	0.3755	0.0245	1													0.1955	0.2045	1	0.1955	0.2045	1
1.21	0.4	0.007	0.000462	0.0355	0.0028	2.0473	0.5441	-0.144	1	0.5441	-0.1441	1	0.3648	0.0352	1	0.3648	0.0352	1													0.1848	0.2152	1	0.1848	0.2152	1
1.512	0.4	0.007	0.000462	0.0458	0.0028	1.9532	0.5338	-0.134	1	0.5338	-0.1338	1	0.3545	0.0455	1	0.3545	0.0455	1													0.1745	0.2255	1	0.1745	0.2255	1
1.815	0.4	0.007	0.000462	0.0556	0.0028	1.8627	0.5239	-0.124	1	0.5239	-0.1239	1	0.3446	0.0554	1	0.3446	0.0554	1													0.1646	0.2354	1	0.1646	0.2354	1
2.117	0.4	0.007	0.000462	0.065	0.0028	1.7764	0.5146	-0.115	1	0.5146	-0.1146	1	0.3352	0.0648	1	0.3352	0.0648	1													0.1552	0.2448	1	0.1552	0.2448	1
2.42	0.4	0.007	0.000462	0.0739	0.0028	1.6941	0.5057	-0.106	1	0.5057	-0.1057	1	0.3262	0.0738	1	0.3262	0.0738	1													0.1462	0.2538	1	0.1462	0.2538	1
2.722	0.4	0.007	0.000462	0.0825	0.0028	1.6156	0.4974	-0.097	1	0.4974	-0.0974	1	0.3176	0.0824	1	0.3176	0.0824	1													0.1376	0.2624	1	0.1376	0.2624	1
3.024	0.4	0.007	0.000462	0.0441	0.0037	-7.2351	0.4895	-0.089	1	0.4895	-0.0895	1	0.3094	0.0906	1	0.3094	0.0906	1							0.4953	-0.0953	1	0.4953	-0.0953	1	0.1294	0.2706	1	0.1294	0.2706	1
3.327	0.4	0.007	0.000462	0.0593	0.0037	2.8675	0.482	-0.082	1	0.482	-0.082	1	0.3015	0.0985	1	0.3015	0.0985	1							0.4578	-0.0578	1	0.4578	-0.0578	1	0.1215	0.2785	1	0.1215	0.2785	1
3.629	0.4	0.007	0.000462	0.0734	0.0037	2.6774	0.475	-0.075	1	0.475	-0.075	1	0.294	0.106	1	0.294	0.106	1							0.4232	-0.0232	1	0.4232	-0.0232	1	0.114	0.286	1	0.114	0.286	1
3.932	0.4	0.007	0.000462	0.0865	0.0037	2.4726	0.4686	-0.069	1	0.4686	-0.0686	1	0.2871	0.1129	1	0.2871	0.1129	1							0.3912	0.0088	1	0.3912	0.0088	1	0.1071	0.2929	1	0.1071	0.2929	1
4.234	0.4	0.007	0.000462	0.0984	0.0037	2.2532	0.4628	-0.063	1	0.4628	-0.0628	1	0.2807	0.1193	1	0.2807	0.1193	1							0.3623	0.0377	1	0.3623	0.0377	1	0.1007	0.2993	1	0.1007	0.2993	1
4.537	0.4	0.007	0.000462	0.1091	0.0037	2.0193	0.4576	-0.058	1	0.4576	-0.0576	1	0.275	0.125	1	0.275	0.125	1							0.3362	0.0638	1	0.3362	0.0638	1	0.095	0.305	1	0.095	0.305	1
4.839	0.4	0.007	0.000462	0.1184	0.0037	1.7708	0.4531	-0.053	1	0.4531	-0.0531	1	0.27	0.13	1	0.27	0.13	1							0.3134	0.0866	1	0.3134	0.0866	1	0.09	0.31	1	0.09	0.31	1
5.142	0.4	0.007	0.000462	0.1264	0.0037	1.5074	0.4492	-0.049	1	0.4492	-0.0492	1	0.2657	0.1343	1	0.2657	0.1343	1							0.2938	0.1062	1	0.2938	0.1062	1	0.0857	0.3143	1	0.0857	0.3143	1
5.444	0.4	0.007	0.000462	0.1329	0.0037	1.2294	0.4462	-0.046	1	0.4462	-0.0462	1	0.2624	0.1376	1	0.2624	0.1376	1							0.2776	0.1224	1	0.2776	0.1224	1	0.0824	0.3176	1	0.0824	0.3176	1
5.747	0.4	0.007	0.000462	0.1378	0.0037	0.9367	0.4439	-0.044	1	0.4439	-0.0439	1	0.26	0.14	1	0.26	0.14	1							0.2649	0.1351	1	0.2649	0.1351	1	0.08	0.32	1	0.08	0.32	1
6.049	0.4	0.007	0.000462	0.0961	0.0046	-7.8658	0.4425	-0.043	1	0.4425	-0.0425	1	0.2586	0.1414	1	0.2586	0.1414	1	0.4841	-0.0841	1	0.4841	-0.0841	1	0.2558	0.1442	1	0.2558	0.1442	1	0.0786	0.3214	1	0.0786	0.3214	1
6.351	0.4	0.007	0.000462	0.0988	0.0046	0.5065	0.442	-0.042	1	0.442	-0.042	1	0.2582	0.1418	1	0.2582	0.1418	1	0.4775	-0.0775	1	0.4775	-0.0775	1	0.2503	0.1497	1	0.2503	0.1497	1	0.0782	0.3218	1	0.0782	0.3218	1
6.654	0.4	0.007	0.000462	0.1	0.0046	0.2321	0.4424	-0.042	1	0.4424	-0.0424	1	0.2589	0.1411	1	0.2589	0.1411	1	0.4721	-0.0721	1	0.4721	-0.0721	1	0.2479	0.1521	1	0.2479	0.1521	1	0.0789	0.3211	1	0.0789	0.3211	1
6.956	0.4	0.007	0.000462	0.0998	0.0046	-0.0288	0.4436	-0.044	1	0.4436	-0.0436	1	0.2605	0.1395	1	0.2605	0.1395	1	0.4679	-0.0679	1	0.4679	-0.0679	1	0.2483	0.1517	1	0.2483	0.1517	1	0.0805	0.3195	1	0.0805	0.3195	1
7.259	0.4	0.007	0.000462	0.0984	0.0046	-0.276	0.4458	-0.046	1	0.4458	-0.0458	1	0.2631	0.1369	1	0.2631	0.1369	1	0.4649	-0.0649	1	0.4649	-0.0649	1	0.2512	0.1488	1	0.2512	0.1488	1	0.0831	0.3169	1	0.0831	0.3169	1
7.561	0.4	0.007	0.000462	0.0957	0.0046	-0.5098	0.4488	-0.049	1	0.4488	-0.0488	1	0.2667	0.1333	1	0.2667	0.1333	1	0.4632	-0.0632	1	0.4632	-0.0632	1	0.2561	0.1439	1	0.2561	0.1439	1	0.0867	0.3133	1	0.0867	0.3133	1
7.864	0.4	0.007	0.000462	0.0918	0.0046	-0.73	0.4528	-0.053	1	0.4528	-0.0528	1	0.2712	0.1288	1	0.2712	0.1288	1	0.463	-0.063	1	0.463	-0.063	1	0.2628	0.1372	1	0.2628	0.1372	1	0.0912	0.3088	1	0.0912	0.3088	1
8.166	0.4	0.007	0.000462	0.0869	0.0046	-0.9365	0.4576	-0.058	1	0.4576	-0.0576	1	0.2766	0.1234	1	0.2766	0.1234	1	0.4641	-0.0641	1	0.4641	-0.0641	1	0.2707	0.1293	1	0.2707	0.1293	1	0.0966	0.3034	1	0.0966	0.3034	1
8.469	0.4	0.007	0.000462	0.0809	0.0046	-1.1297	0.4634	-0.063	1	0.4634	-0.0634	1	0.2828	0.1172	1	0.2828	0.1172	1	0.4667	-0.0667	1	0.4667	-0.0667	1	0.2796	0.1204	1	0.2796	0.1204	1	0.1028	0.2972	1	0.1028	0.2972	1
8.771	0.4	0.007	0.000462	0.074	0.0046	-1.3093	0.4701	-0.07	1	0.4701	-0.0701	1	0.2899	0.1101	1	0.2899	0.1101	1	0.4709	-0.0709	1	0.4709	-0.0709	1	0.2891	0.1109	1	0.2891	0.1109	1	0.1099	0.2901	1	0.1099	0.2901	1
9.073	0.4	0.007	0.000462	0.0662	0.0046	-1.4752	0.4777	-0.078	1	0.4777	-0.0777	1	0.2978	0.1022	1	0.2978	0.1022	1	0.4766	-0.0766	1	0.4766	-0.0766	1	0.2988	0.1012	1	0.2988	0.1012	1	0.1178	0.2822	1	0.1178	0.2822	1
9.376	0.4	0.007	0.000462	0.0576	0.0046	-1.6283	0.4862	-0.086	1	0.4862	-0.0862	1	0.3066	0.0934	1	0.3066	0.0934	1	0.4839	-0.0839	1	0.4839	-0.0839	1	0.3087	0.0913	1	0.3087	0.0913	1	0.1266	0.2734	1	0.1266	0.2734	1
9.678	0.4	0.007	0.000462	0.0483	0.0046	-1.7688	0.4955	-0.095	1	0.4955	-0.0955	1	0.3159	0.0841	1	0.3159	0.0841	1	0.4925	-0.0925	1	0.4925	-0.0925	1	0.3186	0.0814	1	0.3186	0.0814	1	0.1359	0.2641	1	0.1359	0.2641	1
9.981	0.4	0.007	0.000462	0.0383	0.0046	-1.8965	0.5055	-0.106	1	0.5055	-0.1055	1	0.326	0.074	1	0.326	0.074	1	0.5023	-0.1023	1	0.5023	-0.1023	1	0.3288	0.0712	1	0.3288	0.0712	1	0.146	0.254	1	0.146	0.254	1
10.28	0.4	0.007	0.000462	0.0277	0.0046	-2.0116	0.5162	-0.116	1	0.5162	-0.1162	1	0.3367	0.0633	1	0.3367	0.0633	1	0.5131	-0.1131	1	0.5131	-0.1131	1	0.3391	0.0609	1	0.3391	0.0609	1	0.1567	0.2433	1	0.1567	0.2433	1
10.59	0.4	0.007	0.000462	0.0165	0.0046	-2.114	0.5274	-0.127	1	0.5274	-0.1274	1	0.3478	0.0522	1	0.3478	0.0522	1	0.5248	-0.1248	1	0.5248	-0.1248	1	0.3497	0.0503	1	0.3497	0.0503	1	0.1678	0.2322	1	0.1678	0.2322	1
10.89	0.4	0.007	0.000462	0.0049	0.0046	-2.2037	0.5391	-0.139	1	0.5391	-0.1391	1	0.3594	0.0406	1	0.3594	0.0406	1	0.5371	-0.1371	1	0.5371	-0.1371	1	0.3606	0.0394	1	0.3606	0.0394	1	0.1794	0.2206	1	0.1794	0.2206	1
11.19	0.4	0.007	0.000462	-0.0072	0.0046	-2.2806	0.5513	-0.151	1	0.5513	-0.1513	1	0.3715	0.0285	1	0.3715	0.0285	1	0.5499	-0.1499	1	0.5499	-0.1499	1	0.3719	0.0281	1	0.3719	0.0281	1	0.1915	0.2085	1	0.1915	0.2085	1
11.49	0.4	0.007	0.000462	-0.0196	0.0046	-2.3449	0.5637	-0.164	1	0.5637	-0.1637	1	0.3838	0.0162	1	0.3838	0.0162	1	0.5631	-0.1631	1	0.5631	-0.1631	1	0.3835	0.0165	1	0.3835	0.0165	1	0.2038	0.1962	1	0.2038	0.1962	1
11.8	0.4	0.007	0.000462	-0.0323	0.0046	-2.3964	0.5765	-0.176	1	0.5765	-0.1765	1	0.3965	0.0035	1	0.3965	0.0035	1	0.5764	-0.1764	1	0.5764	-0.1764	1	0.3956	0.0044	1	0.3956	0.0044	1	0.2165	0.1835	1	0.2165	0.1835	1
12.1	0.4	0.007	0.000462	-0.0451	0.0046	-2.4352	0.5893	-0.189	1	0.5893	-0.1893	1	0.4093	-0.0093	1	0.4093	-0.0093	1	0.5896	-0.1896	1	0.5896	-0.1896	1	0.408	-0.008	1	0.408	-0.008	1	0.2293	0.1707	1	0.2293	0.1707	1
12.4	0.4	0.007	0.000462	-0.0581	0.0046	-2.4605	0.6023	-0.202	1	0.6023	-0.2023	1	0.4222	-0.0222	1	0.4222	-0.0222	1	0.6028	-0.2028	1	0.6028	-0.2028	1	0.4209	-0.0209	1	0.4209	-0.0209	1	0.2422	0.1578	1	0.2422	0.1578	1
12.7	0.4	0.007	0.000462	-0.0712	0.0046	-2.472	0.6154	-0.215	1	0.6154	-0.2154	1	0.4353	-0.0353	1	0.4353	-0.0353	1	0.6159	-0.2159	1	0.6159	-0.2159	1	0.434	-0.034	1	0.434	-0.034	1	0.2553	0.1447	1	0.2553	0.1447	1
13.01	0.4	0.007	0.000462	-0.0842	0.0046	-2.47	0.6283	-0.228	1	0.6283	-0.2283	1	0.4483	-0.0483	1	0.4483	-0.0483	1	0.6289	-0.2289	1	0.6289	-0.2289	1	0.4472	-0.0472	1	0.4472	-0.0472	1	0.2683	0.1317	1	0.2683	0.1317	1
13.31	0.4	0.007	0.000462	-0.0972	0.0046	-2.4541	0.6413	-0.241	1	0.6413	-0.2413	1	0.4612	-0.0612	1	0.4612	-0.0612	1	0.6417	-0.2417	1	0.6417	-0.2417	1	0.4604	-0.0604	1	0.4604	-0.0604	1	0.2812	0.1188	1	0.2812	0.1188	1
13.61	0.4	0.007	0.000462	-0.11	0.0046	-2.4245	0.654	-0.254	1	0.654	-0.254	1	0.474	-0.074	1	0.474	-0.074	1	0.6543	-0.2543	1	0.6543	-0.2543	1	0.4735	-0.0735	1	0.4735	-0.0735	1	0.294	0.106	1	0.294	0.106	1
13.91	0.4	0.007	0.000462	-0.1226	0.0046	-2.3812	0.6666	-0.267	1	0.6666	-0.2666	1	0.4866	-0.0866	1	0.4866	-0.0866	1	0.6667	-0.2667	1	0.6667	-0.2667	1	0.4864	-0.0864	1	0.4864	-0.0864	1	0.3066	0.0934	1	0.3066	0.0934	1
14.22	0.4	0.007	0.000462	-0.1348	0.0046	-2.3243	0.6788	-0.279	1	0.6788	-0.2788	1	0.4988	-0.0988	1	0.4988	-0.0988	1	0.6788	-0.2788	1	0.6788	-0.2788	1	0.4988	-0.0988	1	0.4988	-0.0988	1	0.3188	0.0812	1	0.3188	0.0812	1
14.52	0.4	0.007	0.000462	-0.1464	0.0046	-2.1811	0.6904	-0.29	1	0.6904	-0.2904	1	0.5104	-0.1104	1	0.5104	-0.1104	1	0.6903	-0.2903	1	0.6903	-0.2903	1	0.5104	-0.1104	1	0.5104	-0.1104	1	0.3304	0.0696	1	0.3304	0.0696	1
14.82	0.4	0.007	0.000462	-0.152	0.0046	0	0.696	-0.296	1	0.696	-0.296	1	0.516	-0.116	1	0.516	-0.116	1	0.696	-0.296	1	0.696	-0.296	1	0.516	-0.116	1	0.516	-0.116	1	0.336	0.064	1	0.336	0.064	1

15.12	0.4	0.007	0.000462	-0.1463	0.0046	2.1727	0.6903	-0.29	1	0.6903	-0.2903	1	0.5104	-0.1104	1	0.5104	-0.1104	1	0.6903	-0.2903	1	0.6903	-0.2903	1	0.5103	-0.1103	1	0.5103	-0.1103	1	0.3303	0.0697	1	0.3303	0.0697	1
15.43	0.4	0.007	0.000462	-0.1348	0.0046	2.2983	0.6789	-0.279	1	0.6789	-0.2789	1	0.4988	-0.0988	1	0.4988	-0.0988	1	0.6788	-0.2788	1	0.6788	-0.2788	1	0.4989	-0.0989	1	0.4989	-0.0989	1	0.3188	0.0812	1	0.3188	0.0812	1
15.73	0.4	0.007	0.000462	-0.1227	0.0046	2.3403	0.6669	-0.267	1	0.6669	-0.2669	1	0.4866	-0.0866	1	0.4866	-0.0866	1	0.6667	-0.2667	1	0.6667	-0.2667	1	0.4867	-0.0867	1	0.4867	-0.0867	1	0.3067	0.0933	1	0.3067	0.0933	1
16.03	0.4	0.007	0.000462	-0.1103	0.0046	2.3724	0.6546	-0.255	1	0.6546	-0.2546	1	0.4741	-0.0741	1	0.4741	-0.0741	1	0.6544	-0.2544	1	0.6544	-0.2544	1	0.4743	-0.0743	1	0.4743	-0.0743	1	0.2943	0.1057	1	0.2943	0.1057	1
16.33	0.4	0.007	0.000462	-0.0978	0.0046	2.3944	0.6423	-0.242	1	0.6423	-0.2423	1	0.4614	-0.0614	1	0.4614	-0.0614	1	0.6419	-0.2419	1	0.6419	-0.2419	1	0.4618	-0.0618	1	0.4618	-0.0618	1	0.2818	0.1182	1	0.2818	0.1182	1
16.64	0.4	0.007	0.000462	-0.0852	0.0046	2.4063	0.6297	-0.23	1	0.6297	-0.2297	1	0.4486	-0.0486	1	0.4486	-0.0486	1	0.6292	-0.2292	1	0.6292	-0.2292	1	0.4491	-0.0491	1	0.4491	-0.0491	1	0.2691	0.1309	1	0.2691	0.1309	1
16.94	0.4	0.007	0.000462	-0.0725	0.0046	2.408	0.6171	-0.217	1	0.6171	-0.2171	1	0.4359	-0.0359	1	0.4359	-0.0359	1	0.6165	-0.2165	1	0.6165	-0.2165	1	0.4365	-0.0365	1	0.4365	-0.0365	1	0.2564	0.1436	1	0.2564	0.1436	1
17.24	0.4	0.007	0.000462	-0.0597	0.0046	2.3997	0.6042	-0.204	1	0.6042	-0.2042	1	0.4232	-0.0232	1	0.4232	-0.0232	1	0.6038	-0.2038	1	0.6038	-0.2038	1	0.4237	-0.0237	1	0.4237	-0.0237	1	0.2437	0.1563	1	0.2437	0.1563	1
17.54	0.4	0.007	0.000462	-0.0471	0.0046	2.3813	0.5914	-0.191	1	0.5914	-0.1914	1	0.4108	-0.0108	1	0.4108	-0.0108	1	0.5911	-0.1911	1	0.5911	-0.1911	1	0.4111	-0.0111	1	0.4111	-0.0111	1	0.2311	0.1689	1	0.2311	0.1689	1
17.84	0.4	0.007	0.000462	-0.0345	0.0046	2.3518	0.5784	-0.178	1	0.5784	-0.1784	1	0.3986	0.0014	1	0.3986	0.0014	1	0.5785	-0.1785	1	0.5785	-0.1785	1	0.3985	0.0015	1	0.3985	0.0015	1	0.2185	0.1815	1	0.2185	0.1815	1
18.15	0.4	0.007	0.000462	-0.0221	0.0046	2.3092	0.5654	-0.165	1	0.5654	-0.1654	1	0.3868	0.0132	1	0.3868	0.0132	1	0.566	-0.166	1	0.566	-0.166	1	0.3861	0.0139	1	0.3861	0.0139	1	0.2061	0.1939	1	0.2061	0.1939	1
18.45	0.4	0.007	0.000462	-0.0099	0.0046	2.253	0.5525	-0.153	1	0.5525	-0.1525	1	0.3753	0.0247	1	0.3753	0.0247	1	0.5537	-0.1537	1	0.5537	-0.1537	1	0.374	0.026	1	0.374	0.026	1	0.194	0.206	1	0.194	0.206	1
18.75	0.4	0.007	0.000462	0.002	0.0046	2.1834	0.5399	-0.14	1	0.5399	-0.1399	1	0.3641	0.0359	1	0.3641	0.0359	1	0.5417	-0.1417	1	0.5417	-0.1417	1	0.3621	0.0379	1	0.3621	0.0379	1	0.1821	0.2179	1	0.1821	0.2179	1
19.05	0.4	0.007	0.000462	0.0135	0.0046	2.1004	0.5278	-0.128	1	0.5278	-0.1278	1	0.3532	0.0468	1	0.3532	0.0468	1	0.5301	-0.1301	1	0.5301	-0.1301	1	0.3506	0.0494	1	0.3506	0.0494	1	0.1706	0.2294	1	0.1706	0.2294	1
19.36	0.4	0.007	0.000462	0.0247	0.0046	2.0038	0.5163	-0.116	1	0.5163	-0.1163	1	0.3425	0.0575	1	0.3425	0.0575	1	0.519	-0.119	1	0.519	-0.119	1	0.3395	0.0605	1	0.3395	0.0605	1	0.1595	0.2405	1	0.1595	0.2405	1
19.66	0.4	0.007	0.000462	0.0352	0.0046	1.8938	0.5055	-0.106	1	0.5055	-0.1055	1	0.3321	0.0679	1	0.3321	0.0679	1	0.5084	-0.1084	1	0.5084	-0.1084	1	0.3289	0.0711	1	0.3289	0.0711	1	0.1489	0.2511	1	0.1489	0.2511	1
19.96	0.4	0.007	0.000462	0.0452	0.0046	1.7704	0.4958	-0.096	1	0.4958	-0.0958	1	0.3219	0.0781	1	0.3219	0.0781	1	0.4984	-0.0984	1	0.4984	-0.0984	1	0.3189	0.0811	1	0.3189	0.0811	1	0.1389	0.2611	1	0.1389	0.2611	1
20.26	0.4	0.007	0.000462	0.0546	0.0046	1.6335	0.4871	-0.087	1	0.4871	-0.0871	1	0.3118	0.0882	1	0.3118	0.0882	1	0.4892	-0.0892	1	0.4892	-0.0892	1	0.3095	0.0905	1	0.3095	0.0905	1	0.1295	0.2705	1	0.1295	0.2705	1
20.57	0.4	0.007	0.000462	0.0632	0.0046	1.4831	0.4797	-0.08	1	0.4797	-0.0797	1	0.3019	0.0981	1	0.3019	0.0981	1	0.4807	-0.0807	1	0.4807	-0.0807	1	0.3008	0.0992	1	0.3008	0.0992	1	0.1208	0.2792	1	0.1208	0.2792	1
20.87	0.4	0.007	0.000462	0.071	0.0046	1.3195	0.4738	-0.074	1	0.4738	-0.0738	1	0.2921	0.1079	1	0.2921	0.1079	1	0.4731	-0.0731	1	0.4731	-0.0731	1	0.2929	0.1071	1	0.2929	0.1071	1	0.1129	0.2871	1	0.1129	0.2871	1
21.17	0.4	0.007	0.000462	0.078	0.0046	1.1422	0.4694	-0.069	1	0.4694	-0.0694	1	0.2826	0.1174	1	0.2826	0.1174	1	0.4664	-0.0664	1	0.4664	-0.0664	1	0.2858	0.1142	1	0.2858	0.1142	1	0.1058	0.2942	1	0.1058	0.2942	1
21.47	0.4	0.007	0.000462	0.084	0.0046	0.9514	0.4665	-0.066	1	0.4665	-0.0665	1	0.2737	0.1263	1	0.2737	0.1263	1	0.4606	-0.0606	1	0.4606	-0.0606	1	0.2796	0.1204	1	0.2796	0.1204	1	0.0996	0.3004	1	0.0996	0.3004	1
21.78	0.4	0.007	0.000462	0.089	0.0046	0.747	0.4649	-0.065	1	0.4649	-0.0649	1	0.2657	0.1343	1	0.2657	0.1343	1	0.4557	-0.0557	1	0.4557	-0.0557	1	0.2742	0.1258	1	0.2742	0.1258	1	0.0942	0.3058	1	0.0942	0.3058	1
22.08	0.4	0.007	0.000462	0.093	0.0046	0.5292	0.4648	-0.065	1	0.4648	-0.0648	1	0.2591	0.1409	1	0.2591	0.1409	1	0.4518	-0.0518	1	0.4518	-0.0518	1	0.2697	0.1303	1	0.2697	0.1303	1	0.0897	0.3103	1	0.0897	0.3103	1
22.38	0.4	0.007	0.000462	0.0958	0.0046	0.2976	0.4659	-0.066	1	0.4659	-0.0659	1	0.2542	0.1458	1	0.2542	0.1458	1	0.4487	-0.0487	1	0.4487	-0.0487	1	0.2661	0.1339	1	0.2661	0.1339	1	0.0861	0.3139	1	0.0861	0.3139	1
22.68	0.4	0.007	0.000462	0.0974	0.0046	0.0527	0.4683	-0.068	1	0.4683	-0.0683	1	0.2514	0.1486	1	0.2514	0.1486	1	0.4466	-0.0466	1	0.4466	-0.0466	1	0.2635	0.1365	1	0.2635	0.1365	1	0.0835	0.3165	1	0.0835	0.3165	1
22.99	0.4	0.007	0.000462	0.0976	0.0046	-0.206	0.4719	-0.072	1	0.4719	-0.0719	1	0.2509	0.1491	1	0.2509	0.1491	1	0.4454	-0.0454	1	0.4454	-0.0454	1	0.2618	0.1382	1	0.2618	0.1382	1	0.0818	0.3182	1	0.0818	0.3182	1
23.29	0.4	0.007	0.000462	0.0965	0.0046	-0.4782	0.4766	-0.077	1	0.4766	-0.0766	1	0.2533	0.1467	1	0.2533	0.1467	1	0.445	-0.045	1	0.445	-0.045	1	0.2612	0.1388	1	0.2612	0.1388	1	0.0812	0.3188	1	0.0812	0.3188	1
23.59	0.4	0.007	0.000462	0.094	0.0046	7.691	0.4824	-0.082	1	0.4824	-0.0824	1	0.2588	0.1412	1	0.2588	0.1412	1	0.4455	-0.0455	1	0.4455	-0.0455	1	0.2616	0.1384	1	0.2616	0.1384	1	0.0816	0.3184	1	0.0816	0.3184	1
23.89	0.4	0.007	0.000462	0.1348	0.0037	-0.9374							0.2678	0.1322	1	0.2678	0.1322	1	0.447	-0.047	1	0.447	-0.047	1	0.263	0.137	1	0.263	0.137	1	0.083	0.317	1	0.083	0.317	1
24.2	0.4	0.007	0.000462	0.1299	0.0037	-1.2307							0.2805	0.1195	1	0.2805	0.1195	1	0.4492	-0.0492	1	0.4492	-0.0492	1	0.2654	0.1346	1	0.2654	0.1346	1	0.0854	0.3146	1	0.0854	0.3146	1
24.5	0.4	0.007	0.000462	0.1234	0.0037	-1.5093							0.2965	0.1035	1	0.2965	0.1035	1	0.4523	-0.0523	1	0.4523	-0.0523	1	0.2688	0.1312	1	0.2688	0.1312	1	0.0888	0.3112	1	0.0888	0.3112	1
24.8	0.4	0.007	0.000462	0.1154	0.0037	-1.7735							0.316	0.084	1	0.316	0.084	1	0.4562	-0.0562	1	0.4562	-0.0562	1	0.2731	0.1269	1	0.2731	0.1269	1	0.0931	0.3069	1	0.0931	0.3069	1
25.1	0.4	0.007	0.000462	0.106	0.0037	-2.0232							0.3386	0.0614	1	0.3386	0.0614	1	0.4608	-0.0608	1	0.4608	-0.0608	1	0.2782	0.1218	1	0.2782	0.1218	1	0.0982	0.3018	1	0.0982	0.3018	1
25.41	0.4	0.007	0.000462	0.0953	0.0037	-2.2587							0.3644	0.0356	1	0.3644	0.0356	1	0.4661	-0.0661	1	0.4661	-0.0661	1	0.2841	0.1159	1	0.2841	0.1159	1	0.1041	0.2959	1	0.1041	0.2959	1
25.71	0.4	0.007	0.000462	0.0834	0.0037	-2.4798							0.3931	0.0069	1	0.3931	0.0069	1	0.4721	-0.0721	1	0.4721	-0.0721	1	0.2906	0.1094	1	0.2906	0.1094	1	0.1106	0.2894	1	0.1106	0.2894	1
26.01	0.4	0.007	0.000462	0.0703	0.0037	-2.6867							0.4248	-0.0248	1	0.4248	-0.0248	1	0.4787	-0.0787	1	0.4787	-0.0787	1	0.2977	0.1023	1	0.2977	0.1023	1	0.1177	0.2823	1	0.1177	0.2823	1
26.31	0.4	0.007	0.000462	0.0561	0.0037	-2.8793							0.4592	-0.0592	1	0.4592	-0.0592	1	0.4858	-0.0858	1	0.4858	-0.0858	1	0.3053	0.0947	1	0.3053	0.0947	1	0.1253	0.2747	1	0.1253	0.2747	1
26.62	0.4	0.007	0.000462	0.0409	0.0037	7.0614							0.4963	-0.0963	1	0.4963	-0.0963	1	0.4934	-0.0934	1	0.4934	-0.0934	1	0.3134	0.0866	1	0.3134	0.0866	1	0.1334	0.2666	1	0.1334	0.2666	1
26.92	0.4	0.007	0.000462	0.0783	0.0028	-1.6586													0.5015	-0.1015	1	0.5015	-0.1015	1	0.3218	0.0782	1	0.3218	0.0782	1	0.1418	0.2582	1	0.1418	0.2582	1
27.22	0.4	0.007	0.000462	0.0695	0.0028	-1.7415													0.5101	-0.1101	1	0.5101	-0.1101	1	0.3306	0.0694	1	0.3306	0.0694	1	0.1506	0.2494	1	0.1506	0.2494	1
27.52	0.4	0.007	0.000462	0.0603	0.0028	-1.8279													0.5192	-0.1192	1	0.5192	-0.1192	1	0.3399	0.0601	1	0.3399	0.0601	1	0.1599	0.2401	1	0.1599	0.2401	1
27.83	0.4	0.007	0.000462	0.0507	0.0028	-1.9185													0.5288	-0.1288	1	0.5288	-0.1288	1	0.3495	0.0505	1	0.3495	0.0505	1	0.1695	0.2305	1	0.1695	0.2305	1
28.13	0.4	0.007	0.000462	0.0405	0.0028	-2.0129													0.539	-0.139	1	0.539	-0.139	1	0.3597	0.0403	1	0.3597	0.0403	1	0.1797	0.2203	1	0.1797	0.2203	1
28.43	0.4	0.007	0.000462	0.0299	0.0028	-2.1113													0.5496	-0.1496	1	0.5496	-0.1496	1	0.3703	0.0297	1	0.3703	0.0297	1	0.1903	0.2097	1	0.1903	0.2097	1
28.73	0.4	0.007	0.000462	0.0188	0.0028	-2.2134													0.5609	-0.1609	1	0.5609	-0.1609	1	0.3814	0.0186	1	0.3814	0.0186	1	0.2014	0.1986	1	0.2014	0.1986	1
29.04	0.4	0.007	0.000462	0.0071	0.0028	-2.3197													0.5727	-0.1727	1	0.5727	-0.1727	1	0.393	0.007	1	0.393	0.007	1	0.213	0.187	1	0.213	0.187	1
29.34	0.4	0.007	0.000462	-0.0052	0.0028	-2.4298													0.5851	-0.1851	1	0.5851	-0.1851	1	0.4053	-0.0053	1	0.4053	-0.0053	1	0.2253	0.1747	1	0.2253	0.1747	1
29.64	0.4	0.007	0.000462	-0.018	0.0028	0													0.598	-0.198	1	0.598	-0.198	1	0.418	-0.018	1	0.418	-0.018	1	0.238	0.162	1	0.238	0.162	1

Balk 4 **Indata e_{ekv} samt lutning spännkablar**

							Kabel 1			Kabel 2			Kabel 3			Kabel 4			Kabel 5			Kabel 6			Kabel 7			Kabel 8			Kabel 9			Kabel 10		
X [m]	TP balk	Diam [m]	Area [m^2]	e_{ekv}[m]	$Area_{tot}$	lutning	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal
0	0.4	0.007	0.000462	-0.016	0.0028	0													0.596	-0.196	1	0.596	-0.196	1	0.416	-0.016	1	0.416	-0.016	1	0.236	0.164	1	0.236	0.164	1
0.302	0.4	0.007	0.000462	-0.0035	0.0028	2.3735													0.5834	-0.1834	1	0.5834	-0.1834	1	0.4035	-0.0035	1	0.4035	-0.0035	1	0.2235	0.1765	1	0.2235	0.1765	1
0.605	0.4	0.007	0.000462	0.0085	0.0028	2.2668													0.5712	-0.1712	1	0.5712	-0.1712	1	0.3916	0.0084	1	0.3916	0.0084	1	0.2116	0.1884	1	0.2116	0.1884	1
0.907	0.4	0.007	0.000462	0.0199	0.0028	2.1643													0.5597	-0.1597	1	0.5597	-0.1597	1	0.3803	0.0198	1	0.3803	0.0198	1	0.2003	0.1998	1	0.2003	0.1998	1
1.21	0.4	0.007	0.000462	0.0309	0.0028	2.0658													0.5487	-0.1487	1	0.5487	-0.1487	1	0.3694	0.0306	1	0.3694	0.0306	1	0.1894	0.2106	1	0.1894	0.2106	1
1.512	0.4	0.007	0.000462	0.0413	0.0028	1.9718													0.5383	-0.1383	1	0.5383	-0.1383	1	0.359	0.041	1	0.359	0.041	1	0.179	0.221	1	0.179	0.221	1
1.815	0.4	0.007	0.000462	0.0512	0.0028	1.8816													0.5283	-0.1283	1	0.5283	-0.1283	1	0.349	0.051	1	0.349	0.051	1	0.169	0.231	1	0.169	0.231	1
2.117	0.4	0.007	0.000462	0.0607	0.0028	1.7957													0.5189	-0.1189	1	0.5189	-0.1189	1	0.3395	0.0605	1	0.3395	0.0605	1	0.1595	0.2405	1	0.1595	0.2405	1
2.42	0.4	0.007	0.000462	0.0697	0.0028	1.7139													0.5099	-0.1099	1	0.5099	-0.1099	1	0.3304	0.0696	1	0.3304	0.0696	1	0.1504	0.2496	1	0.1504	0.2496	1
2.722	0.4	0.007	0.000462	0.0784	0.0028	1.6363													0.5015	-0.1015	1	0.5015	-0.1015	1	0.3217	0.0783	1	0.3217	0.0783	1	0.1417	0.2583	1	0.1417	0.2583	1
3.024	0.4	0.007	0.000462	0.0409	0.0037	-7.0776							0.4963	-0.0963	1	0.4963	-0.0963	1	0.4934	-0.0934	1	0.4934	-0.0934	1	0.3134	0.0866	1	0.3134	0.0866	1	0.1334	0.2666	1	0.1334	0.2666	1
3.327	0.4	0.007	0.000462	0.0561	0.0037	2.8703							0.4592	-0.0592	1	0.4592	-0.0592	1	0.4859	-0.0859	1	0.4859	-0.0859	1	0.3054	0.0946	1	0.3054	0.0946	1	0.1254	0.2746	1	0.1254	0.2746	1
3.629	0.4	0.007	0.000462	0.0702	0.0037	2.6813							0.4248	-0.0248	1	0.4248	-0.0248	1	0.4788	-0.0788	1	0.4788	-0.0788	1	0.2978	0.1022	1	0.2978	0.1022	1	0.1178	0.2822	1	0.1178	0.2822	1
3.932	0.4	0.007	0.000462	0.0833	0.0037	2.4774							0.3931	0.0069	1	0.3931	0.0069	1	0.4722	-0.0722	1	0.4722	-0.0722	1	0.2907	0.1093	1	0.2907	0.1093	1	0.1107	0.2893	1	0.1107	0.2893	1
4.234	0.4	0.007	0.000462	0.0952	0.0037	2.2586							0.3644	0.0356	1	0.3644	0.0356	1	0.4663	-0.0663	1	0.4663	-0.0663	1	0.2842	0.1158	1	0.2842	0.1158	1	0.1042	0.2958	1	0.1042	0.2958	1
4.537	0.4	0.007	0.000462	0.1059	0.0037	2.025							0.3386	0.0614	1	0.3386	0.0614	1	0.461	-0.061	1	0.461	-0.061	1	0.2784	0.1217	1	0.2784	0.1217	1	0.0984	0.3016	1	0.0984	0.3016	1
4.839	0.4	0.007	0.000462	0.1153	0.0037	1.7766							0.316	0.084	1	0.316	0.084	1	0.4563	-0.0563	1	0.4563	-0.0563	1	0.2732	0.1268	1	0.2732	0.1268	1	0.0932	0.3068	1	0.0932	0.3068	1
5.142	0.4	0.007	0.000462	0.1233	0.0037	1.5133							0.2965	0.1035	1	0.2965	0.1035	1	0.4524	-0.0524	1	0.4524	-0.0524	1	0.2689	0.1311	1	0.2689	0.1311	1	0.0889	0.3111	1	0.0889	0.3111	1
5.444	0.4	0.007	0.000462	0.1298	0.0037	1.2348							0.2805	0.1195	1	0.2805	0.1195	1	0.4493	-0.0493	1	0.4493	-0.0493	1	0.2655	0.1345	1	0.2655	0.1345	1	0.0855	0.3145	1	0.0855	0.3145	1
5.747	0.4	0.007	0.000462	0.1348	0.0037	0.9414							0.2678	0.1322	1	0.2678	0.1322	1	0.447	-0.047	1	0.447	-0.047	1	0.263	0.137	1	0.263	0.137	1	0.083	0.317	1	0.083	0.317	1
6.049	0.4	0.007	0.000462	0.094	0.0046	-7.688	0.4824	-0.082	1	0.4824	-0.0824	1	0.2588	0.1412	1	0.2588	0.1412	1	0.4455	-0.0455	1	0.4455	-0.0455	1	0.2615	0.1385	1	0.2615	0.1385	1	0.0815	0.3185	1	0.0815	0.3185	1
6.351	0.4	0.007	0.000462	0.0966	0.0046	0.48	0.4766	-0.077	1	0.4766	-0.0766	1	0.2533	0.1467	1	0.2533	0.1467	1	0.445	-0.045	1	0.445	-0.045	1	0.2612	0.1389	1	0.2612	0.1389	1	0.0812	0.3189	1	0.0812	0.3189	1
6.654	0.4	0.007	0.000462	0.0977	0.0046	0.2071	0.4719	-0.072	1	0.4719	-0.0719	1	0.2509	0.1491	1	0.2509	0.1491	1	0.4453	-0.0453	1	0.4453	-0.0453	1	0.2618	0.1382	1	0.2618	0.1382	1	0.0818	0.3182	1	0.0818	0.3182	1
6.956	0.4	0.007	0.000462	0.0974	0.0046	-0.0523	0.4683	-0.068	1	0.4683	-0.0683	1	0.2514	0.1486	1	0.2514	0.1486	1	0.4466	-0.0466	1	0.4466	-0.0466	1	0.2634	0.1366	1	0.2634	0.1366	1	0.0834	0.3166	1	0.0834	0.3166	1
7.259	0.4	0.007	0.000462	0.0958	0.0046	-0.2977	0.4659	-0.066	1	0.4659	-0.0659	1	0.2542	0.1458	1	0.2542	0.1458	1	0.4487	-0.0487	1	0.4487	-0.0487	1	0.2661	0.1339	1	0.2661	0.1339	1	0.0861	0.3139	1	0.0861	0.3139	1
7.561	0.4	0.007	0.000462	0.093	0.0046	-0.5296	0.4648	-0.065	1	0.4648	-0.0648	1	0.2591	0.1409	1	0.2591	0.1409	1	0.4518	-0.0518	1	0.4518	-0.0518	1	0.2696	0.1304	1	0.2696	0.1304	1	0.0896	0.3104	1	0.0896	0.3104	1
7.864	0.4	0.007	0.000462	0.0891	0.0046	-0.7478	0.4649	-0.065	1	0.4649	-0.0649	1	0.2657	0.1343	1	0.2657	0.1343	1	0.4557	-0.0557	1	0.4557	-0.0557	1	0.2742	0.1258	1	0.2742	0.1258	1	0.0942	0.3058	1	0.0942	0.3058	1
8.166	0.4	0.007	0.000462	0.084	0.0046	-0.9523	0.4665	-0.066	1	0.4665	-0.0665	1	0.2737	0.1263	1	0.2737	0.1263	1	0.4606	-0.0606	1	0.4606	-0.0606	1	0.2795	0.1205	1	0.2795	0.1205	1	0.0995	0.3005	1	0.0995	0.3005	1
8.469	0.4	0.007	0.000462	0.078	0.0046	-1.1431	0.4694	-0.069	1	0.4694	-0.0694	1	0.2826	0.1174	1	0.2826	0.1174	1	0.4664	-0.0664	1	0.4664	-0.0664	1	0.2858	0.1142	1	0.2858	0.1142	1	0.1058	0.2942	1	0.1058	0.2942	1
8.771	0.4	0.007	0.000462	0.071	0.0046	-1.3204	0.4738	-0.074	1	0.4738	-0.0738	1	0.2921	0.1079	1	0.2921	0.1079	1	0.4731	-0.0731	1	0.4731	-0.0731	1	0.2929	0.1071	1	0.2929	0.1071	1	0.1129	0.2871	1	0.1129	0.2871	1
9.073	0.4	0.007	0.000462	0.0632	0.0046	-1.4837	0.4797	-0.08	1	0.4797	-0.0797	1	0.3019	0.0981	1	0.3019	0.0981	1	0.4807	-0.0807	1	0.4807	-0.0807	1	0.3008	0.0992	1	0.3008	0.0992	1	0.1208	0.2792	1	0.1208	0.2792	1
9.376	0.4	0.007	0.000462	0.0546	0.0046	-1.6339	0.4871	-0.087	1	0.4871	-0.0871	1	0.3118	0.0882	1	0.3118	0.0882	1	0.4892	-0.0892	1	0.4892	-0.0892	1	0.3095	0.0905	1	0.3095	0.0905	1	0.1295	0.2705	1	0.1295	0.2705	1
9.678	0.4	0.007	0.000462	0.0452	0.0046	-1.7706	0.4958	-0.096	1	0.4958	-0.0958	1	0.3219	0.0781	1	0.3219	0.0781	1	0.4984	-0.0984	1	0.4984	-0.0984	1	0.3189	0.0811	1	0.3189	0.0811	1	0.1389	0.2611	1	0.1389	0.2611	1
9.981	0.4	0.007	0.000462	0.0352	0.0046	-1.8939	0.5055	-0.106	1	0.5055	-0.1055	1	0.3321	0.0679	1	0.3321	0.0679	1	0.5084	-0.1084	1	0.5084	-0.1084	1	0.3289	0.0711	1	0.3289	0.0711	1	0.1489	0.2511	1	0.1489	0.2511	1
10.28	0.4	0.007	0.000462	0.0246	0.0046	-2.0037	0.5163	-0.116	1	0.5163	-0.1163	1	0.3425	0.0575	1	0.3425	0.0575	1	0.519	-0.119	1	0.519	-0.119	1	0.3395	0.0605	1	0.3395	0.0605	1	0.1595	0.2405	1	0.1595	0.2405	1
10.59	0.4	0.007	0.000462	0.0135	0.0046	-2.1002	0.5278	-0.128	1	0.5278	-0.1278	1	0.3532	0.0468	1	0.3532	0.0468	1	0.5302	-0.1302	1	0.5302	-0.1302	1	0.3506	0.0494	1	0.3506	0.0494	1	0.1706	0.2294	1	0.1706	0.2294	1
10.89	0.4	0.007	0.000462	0.002	0.0046	-2.1832	0.5399	-0.14	1	0.5399	-0.1399	1	0.3641	0.0359	1	0.3641	0.0359	1	0.5417	-0.1417	1	0.5417	-0.1417	1	0.3621	0.0379	1	0.3621	0.0379	1	0.1821	0.2179	1	0.1821	0.2179	1
11.19	0.4	0.007	0.000462	-0.0099	0.0046	-2.2528	0.5525	-0.153	1	0.5525	-0.1525	1	0.3753	0.0247	1	0.3753	0.0247	1	0.5537	-0.1537	1	0.5537	-0.1537	1	0.374	0.026	1	0.374	0.026	1	0.194	0.206	1	0.194	0.206	1
11.49	0.4	0.007	0.000462	-0.0221	0.0046	-2.3089	0.5654	-0.165	1	0.5654	-0.1654	1	0.3868	0.0132	1	0.3868	0.0132	1	0.566	-0.166	1	0.566	-0.166	1	0.3861	0.0139	1	0.3861	0.0139	1	0.2061	0.1939	1	0.2061	0.1939	1
11.8	0.4	0.007	0.000462	-0.0345	0.0046	-2.3515	0.5784	-0.178	1	0.5784	-0.1784	1	0.3986	0.0014	1	0.3986	0.0014	1	0.5785	-0.1785	1	0.5785	-0.1785	1	0.3985	0.0015	1	0.3985	0.0015	1	0.2185	0.1815	1	0.2185	0.1815	1
12.1	0.4	0.007	0.000462	-0.0471	0.0046	-2.3812	0.5914	-0.191	1	0.5914	-0.1914	1	0.4108	-0.0108	1	0.4108	-0.0108	1	0.5911	-0.1911	1	0.5911	-0.1911	1	0.4111	-0.0111	1	0.4111	-0.0111	1	0.2311	0.1689	1	0.2311	0.1689	1
12.4	0.4	0.007	0.000462	-0.0597	0.0046	-2.3996	0.6042	-0.204	1	0.6042	-0.2042	1	0.4232	-0.0232	1	0.4232	-0.0232	1	0.6038	-0.2038	1	0.6038	-0.2038	1	0.4237	-0.0237	1	0.4237	-0.0237	1	0.2437	0.1563	1	0.2437	0.1563	1
12.7	0.4	0.007	0.000462	-0.0725	0.0046	-2.408	0.6171	-0.217	1	0.6171	-0.2171	1	0.4359	-0.0359	1	0.4359	-0.0359	1	0.6165	-0.2165	1	0.6165	-0.2165	1	0.4364	-0.0364	1	0.4364	-0.0364	1	0.2564	0.1436	1	0.2564	0.1436	1
13.01	0.4	0.007	0.000462	-0.0852	0.0046	-2.4063	0.6297	-0.23	1	0.6297	-0.2297	1	0.4486	-0.0486	1	0.4486	-0.0486	1	0.6292	-0.2292	1	0.6292	-0.2292	1	0.4491	-0.0491	1	0.4491	-0.0491	1	0.2691	0.1309	1	0.2691	0.1309	1
13.31	0.4	0.007	0.000462	-0.0978	0.0046	-2.3944	0.6423	-0.242	1	0.6423	-0.2423	1	0.4614	-0.0614	1	0.4614	-0.0614	1	0.6419	-0.2419	1	0.6419	-0.2419	1	0.4618	-0.0618	1	0.4618	-0.0618	1	0.2818	0.1182	1	0.2818	0.1182	1
13.61	0.4	0.007	0.000462	-0.1103	0.0046	-2.3724	0.6546	-0.255	1	0.6546	-0.2546	1	0.4741	-0.0741	1	0.4741	-0.0741	1	0.6544	-0.2544	1	0.6544	-0.2544	1	0.4743	-0.0743	1	0.4743	-0.0743	1	0.2943	0.1057	1	0.2943	0.1057	1
13.91	0.4	0.007	0.000462	-0.1227	0.0046	-2.3405	0.6669	-0.267	1	0.6669	-0.2669	1	0.4866	-0.0866	1	0.4866	-0.0866	1	0.6667	-0.2667	1	0.6667	-0.2667	1	0.4867	-0.0867	1	0.4867	-0.0867	1	0.3067	0.0933	1	0.3067	0.0933	1
14.22	0.4	0.007	0.000462	-0.1348	0.0046	-2.2983	0.6789	-0.279	1	0.6789	-0.2789	1	0.4988	-0.0988	1	0.4988	-0.0988	1	0.6788	-0.2788	1	0.6788	-0.2788	1	0.4988	-0.0988	1	0.4988	-0.0988	1	0.3188	0.0812	1	0.3188	0.0812	1
14.52	0.4	0.007	0.000462	-0.1463	0.0046	-2.1728	0.6903	-0.29	1	0.6903	-0.2903	1	0.5104	-0.1104	1	0.5104	-0.1104	1	0.6903	-0.2903	1	0.6903	-0.2903	1	0.5103	-0.1103	1	0.5103	-0.1103	1	0.3303	0.0697	1	0.3303	0.0697	1
14.82	0.4	0.007	0.000462	-0.152	0.0046	0	0.696	-0.296	1	0.696	-0.296	1	0.516	-0.116	1	0.516	-0.116	1	0.696	-0.296	1	0.696	-0.296	1	0.516	-0.116	1	0.516	-0.116	1	0.336	0.064	1	0.336	0.064	1

15.12	0.4	0.007	0.000462	-0.1464	0.0046	2.1805	0.6904	-0.29	1	0.6904	-0.2904	1	0.5104	-0.1104	1	0.5104	-0.1104	1	0.6903	-0.2903	1	0.6903	-0.2903	1	0.5104	-0.1104	1	0.5104	-0.1104	1	0.3304	0.0696	1	0.3304	0.0696	1
15.43	0.4	0.007	0.000462	-0.1348	0.0046	2.3221	0.6788	-0.279	1	0.6788	-0.2788	1	0.4988	-0.0988	1	0.4988	-0.0988	1	0.6788	-0.2788	1	0.6788	-0.2788	1	0.4988	-0.0988	1	0.4988	-0.0988	1	0.3188	0.0812	1	0.3188	0.0812	1
15.73	0.4	0.007	0.000462	-0.1226	0.0046	2.3777	0.6666	-0.267	1	0.6666	-0.2666	1	0.4866	-0.0866	1	0.4866	-0.0866	1	0.6667	-0.2667	1	0.6667	-0.2667	1	0.4864	-0.0864	1	0.4864	-0.0864	1	0.3066	0.0934	1	0.3066	0.0934	1
16.03	0.4	0.007	0.000462	-0.11	0.0046	2.4199	0.654	-0.254	1	0.654	-0.254	1	0.4739	-0.0739	1	0.4739	-0.0739	1	0.6543	-0.2543	1	0.6543	-0.2543	1	0.4737	-0.0737	1	0.4737	-0.0737	1	0.294	0.106	1	0.294	0.106	1
16.33	0.4	0.007	0.000462	-0.0972	0.0046	2.4488	0.6413	-0.241	1	0.6413	-0.2413	1	0.4611	-0.0611	1	0.4611	-0.0611	1	0.6417	-0.2417	1	0.6417	-0.2417	1	0.4608	-0.0608	1	0.4608	-0.0608	1	0.2812	0.1188	1	0.2812	0.1188	1
16.64	0.4	0.007	0.000462	-0.0843	0.0046	2.4642	0.6283	-0.228	1	0.6283	-0.2283	1	0.4482	-0.0482	1	0.4482	-0.0482	1	0.6289	-0.2289	1	0.6289	-0.2289	1	0.4477	-0.0477	1	0.4477	-0.0477	1	0.2683	0.1317	1	0.2683	0.1317	1
16.94	0.4	0.007	0.000462	-0.0713	0.0046	2.4661	0.6154	-0.215	1	0.6154	-0.2154	1	0.4352	-0.0352	1	0.4352	-0.0352	1	0.6159	-0.2159	1	0.6159	-0.2159	1	0.4347	-0.0347	1	0.4347	-0.0347	1	0.2553	0.1447	1	0.2553	0.1447	1
17.24	0.4	0.007	0.000462	-0.0582	0.0046	2.4547	0.6023	-0.202	1	0.6023	-0.2023	1	0.4221	-0.0221	1	0.4221	-0.0221	1	0.6028	-0.2028	1	0.6028	-0.2028	1	0.4217	-0.0217	1	0.4217	-0.0217	1	0.2422	0.1578	1	0.2422	0.1578	1
17.54	0.4	0.007	0.000462	-0.0453	0.0046	2.4299	0.5893	-0.189	1	0.5893	-0.1893	1	0.4092	-0.0092	1	0.4092	-0.0092	1	0.5896	-0.1896	1	0.5896	-0.1896	1	0.409	-0.009	1	0.409	-0.009	1	0.2293	0.1707	1	0.2293	0.1707	1
17.84	0.4	0.007	0.000462	-0.0325	0.0046	2.3919	0.5765	-0.176	1	0.5765	-0.1765	1	0.3965	0.0035	1	0.3965	0.0035	1	0.5764	-0.1764	1	0.5764	-0.1764	1	0.3966	0.0034	1	0.3966	0.0034	1	0.2165	0.1835	1	0.2165	0.1835	1
18.15	0.4	0.007	0.000462	-0.0198	0.0046	2.3416	0.5637	-0.164	1	0.5637	-0.1637	1	0.384	0.016	1	0.384	0.016	1	0.5631	-0.1631	1	0.5631	-0.1631	1	0.3845	0.0155	1	0.3845	0.0155	1	0.2038	0.1962	1	0.2038	0.1962	1
18.45	0.4	0.007	0.000462	-0.0075	0.0046	2.2787	0.5513	-0.151	1	0.5513	-0.1513	1	0.3718	0.0282	1	0.3718	0.0282	1	0.5499	-0.1499	1	0.5499	-0.1499	1	0.3729	0.0271	1	0.3729	0.0271	1	0.1915	0.2085	1	0.1915	0.2085	1
18.75	0.4	0.007	0.000462	0.0046	0.0046	2.2036	0.5391	-0.139	1	0.5391	-0.1391	1	0.3599	0.0401	1	0.3599	0.0401	1	0.5371	-0.1371	1	0.5371	-0.1371	1	0.3615	0.0385	1	0.3615	0.0385	1	0.1794	0.2206	1	0.1794	0.2206	1
19.05	0.4	0.007	0.000462	0.0162	0.0046	2.1161	0.5274	-0.127	1	0.5274	-0.1274	1	0.3484	0.0516	1	0.3484	0.0516	1	0.5248	-0.1248	1	0.5248	-0.1248	1	0.3505	0.0495	1	0.3505	0.0495	1	0.1678	0.2322	1	0.1678	0.2322	1
19.36	0.4	0.007	0.000462	0.0274	0.0046	2.0161	0.5162	-0.116	1	0.5162	-0.1162	1	0.3373	0.0627	1	0.3373	0.0627	1	0.5131	-0.1131	1	0.5131	-0.1131	1	0.3397	0.0603	1	0.3397	0.0603	1	0.1567	0.2433	1	0.1567	0.2433	1
19.66	0.4	0.007	0.000462	0.038	0.0046	1.904	0.5055	-0.106	1	0.5055	-0.1055	1	0.3267	0.0733	1	0.3267	0.0733	1	0.5023	-0.1023	1	0.5023	-0.1023	1	0.3293	0.0707	1	0.3293	0.0707	1	0.146	0.254	1	0.146	0.254	1
19.96	0.4	0.007	0.000462	0.0481	0.0046	1.7793	0.4955	-0.095	1	0.4955	-0.0955	1	0.3165	0.0835	1	0.3165	0.0835	1	0.4925	-0.0925	1	0.4925	-0.0925	1	0.319	0.081	1	0.319	0.081	1	0.1359	0.2641	1	0.1359	0.2641	1
20.26	0.4	0.007	0.000462	0.0575	0.0046	1.6424	0.4862	-0.086	1	0.4862	-0.0862	1	0.307	0.093	1	0.307	0.093	1	0.4839	-0.0839	1	0.4839	-0.0839	1	0.3089	0.0911	1	0.3089	0.0911	1	0.1266	0.2734	1	0.1266	0.2734	1
20.57	0.4	0.007	0.000462	0.0662	0.0046	1.493	0.4777	-0.078	1	0.4777	-0.0777	1	0.298	0.102	1	0.298	0.102	1	0.4766	-0.0766	1	0.4766	-0.0766	1	0.2989	0.1011	1	0.2989	0.1011	1	0.1178	0.2822	1	0.1178	0.2822	1
20.87	0.4	0.007	0.000462	0.0741	0.0046	1.3301	0.4701	-0.07	1	0.4701	-0.0701	1	0.2898	0.1102	1	0.2898	0.1102	1	0.4709	-0.0709	1	0.4709	-0.0709	1	0.2891	0.1109	1	0.2891	0.1109	1	0.1099	0.2901	1	0.1099	0.2901	1
21.17	0.4	0.007	0.000462	0.0811	0.0046	1.1512	0.4634	-0.063	1	0.4634	-0.0634	1	0.2822	0.1178	1	0.2822	0.1178	1	0.4667	-0.0667	1	0.4667	-0.0667	1	0.2795	0.1205	1	0.2795	0.1205	1	0.1028	0.2972	1	0.1028	0.2972	1
21.47	0.4	0.007	0.000462	0.0872	0.0046	0.9564	0.4576	-0.058	1	0.4576	-0.0576	1	0.2754	0.1246	1	0.2754	0.1246	1	0.4641	-0.0641	1	0.4641	-0.0641	1	0.2706	0.1294	1	0.2706	0.1294	1	0.0966	0.3034	1	0.0966	0.3034	1
21.78	0.4	0.007	0.000462	0.0922	0.0046	0.7458	0.4528	-0.053	1	0.4528	-0.0528	1	0.2695	0.1305	1	0.2695	0.1305	1	0.463	-0.063	1	0.463	-0.063	1	0.2626	0.1374	1	0.2626	0.1374	1	0.0912	0.3088	1	0.0912	0.3088	1
22.08	0.4	0.007	0.000462	0.0961	0.0046	0.5192	0.4488	-0.049	1	0.4488	-0.0488	1	0.2646	0.1354	1	0.2646	0.1354	1	0.4632	-0.0632	1	0.4632	-0.0632	1	0.256	0.144	1	0.256	0.144	1	0.0867	0.3133	1	0.0867	0.3133	1
22.38	0.4	0.007	0.000462	0.0989	0.0046	0.2766	0.4458	-0.046	1	0.4458	-0.0458	1	0.2608	0.1392	1	0.2608	0.1392	1	0.4649	-0.0649	1	0.4649	-0.0649	1	0.2511	0.1489	1	0.2511	0.1489	1	0.0831	0.3169	1	0.0831	0.3169	1
22.68	0.4	0.007	0.000462	0.1003	0.0046	0.0182	0.4436	-0.044	1	0.4436	-0.0436	1	0.2581	0.1419	1	0.2581	0.1419	1	0.4679	-0.0679	1	0.4679	-0.0679	1	0.2482	0.1518	1	0.2482	0.1518	1	0.0805	0.3195	1	0.0805	0.3195	1
22.99	0.4	0.007	0.000462	0.1004	0.0046	-0.2562	0.4424	-0.042	1	0.4424	-0.0424	1	0.2567	0.1433	1	0.2567	0.1433	1	0.4721	-0.0721	1	0.4721	-0.0721	1	0.2478	0.1522	1	0.2478	0.1522	1	0.0789	0.3211	1	0.0789	0.3211	1
23.29	0.4	0.007	0.000462	0.0991	0.0046	-0.5466	0.442	-0.042	1	0.442	-0.042	1	0.2566	0.1434	1	0.2566	0.1434	1	0.4775	-0.0775	1	0.4775	-0.0775	1	0.2502	0.1498	1	0.2502	0.1498	1	0.0782	0.3218	1	0.0782	0.3218	1
23.59	0.4	0.007	0.000462	0.0962	0.0046	7.7997	0.4425	-0.043	1	0.4425	-0.0425	1	0.258	0.142	1	0.258	0.142	1	0.4841	-0.0841	1	0.4841	-0.0841	1	0.2558	0.1442	1	0.2558	0.1442	1	0.0786	0.3214	1	0.0786	0.3214	1
23.89	0.4	0.007	0.000462	0.1376	0.0037	-1.0299	0.4439	-0.044	1	0.4439	-0.0439	1	0.2609	0.1391	1	0.2609	0.1391	1							0.2649	0.1351	1	0.2649	0.1351	1	0.08	0.32	1	0.08	0.32	1
24.2	0.4	0.007	0.000462	0.1321	0.0037	-1.3375	0.4462	-0.046	1	0.4462	-0.0462	1	0.2653	0.1347	1	0.2653	0.1347	1							0.2776	0.1224	1	0.2776	0.1224	1	0.0824	0.3176	1	0.0824	0.3176	1
24.5	0.4	0.007	0.000462	0.1251	0.0037	-1.6246	0.4492	-0.049	1	0.4492	-0.0492	1	0.2709	0.1291	1	0.2709	0.1291	1							0.2938	0.1062	1	0.2938	0.1062	1	0.0857	0.3143	1	0.0857	0.3143	1
24.8	0.4	0.007	0.000462	0.1165	0.0037	-1.8914	0.4531	-0.053	1	0.4531	-0.0531	1	0.2776	0.1224	1	0.2776	0.1224	1							0.3134	0.0866	1	0.3134	0.0866	1	0.09	0.31	1	0.09	0.31	1
25.1	0.4	0.007	0.000462	0.1065	0.0037	-2.1376	0.4576	-0.058	1	0.4576	-0.0576	1	0.2852	0.1148	1	0.2852	0.1148	1							0.3362	0.0638	1	0.3362	0.0638	1	0.095	0.305	1	0.095	0.305	1
25.41	0.4	0.007	0.000462	0.0952	0.0037	-2.3634	0.4628	-0.063	1	0.4628	-0.0628	1	0.2934	0.1066	1	0.2934	0.1066	1							0.3623	0.0377	1	0.3623	0.0377	1	0.1007	0.2993	1	0.1007	0.2993	1
25.71	0.4	0.007	0.000462	0.0827	0.0037	-2.569	0.4686	-0.069	1	0.4686	-0.0686	1	0.3022	0.0978	1	0.3022	0.0978	1							0.3912	0.0088	1	0.3912	0.0088	1	0.1071	0.2929	1	0.1071	0.2929	1
26.01	0.4	0.007	0.000462	0.0691	0.0037	-2.7543	0.475	-0.075	1	0.475	-0.075	1	0.3112	0.0888	1	0.3112	0.0888	1							0.4232	-0.0232	1	0.4232	-0.0232	1	0.114	0.286	1	0.114	0.286	1
26.31	0.4	0.007	0.000462	0.0546	0.0037	-2.9193	0.482	-0.082	1	0.482	-0.082	1	0.3202	0.0798	1	0.3202	0.0798	1							0.4578	-0.0578	1	0.4578	-0.0578	1	0.1215	0.2785	1	0.1215	0.2785	1
26.62	0.4	0.007	0.000462	0.0392	0.0037	6.8977	0.4895	-0.089	1	0.4895	-0.0895	1	0.3292	0.0708	1	0.3292	0.0708	1							0.4953	-0.0953	1	0.4953	-0.0953	1	0.1294	0.2706	1	0.1294	0.2706	1
26.92	0.4	0.007	0.000462	0.0757	0.0028	-1.6032	0.4974	-0.097	1	0.4974	-0.0974	1	0.3379	0.0621	1	0.3379	0.0621	1													0.1376	0.2624	1	0.1376	0.2624	1
27.22	0.4	0.007	0.000462	0.0672	0.0028	-1.6431	0.5057	-0.106	1	0.5057	-0.1057	1	0.3463	0.0537	1	0.3463	0.0537	1													0.1462	0.2538	1	0.1462	0.2538	1
27.52	0.4	0.007	0.000462	0.0585	0.0028	-1.6895	0.5146	-0.115	1	0.5146	-0.1146	1	0.3545	0.0455	1	0.3545	0.0455	1													0.1552	0.2448	1	0.1552	0.2448	1
27.83	0.4	0.007	0.000462	0.0496	0.0028	-1.7425	0.5239	-0.124	1	0.5239	-0.1239	1	0.3625	0.0375	1	0.3625	0.0375	1													0.1646	0.2354	1	0.1646	0.2354	1
28.13	0.4	0.007	0.000462	0.0404	0.0028	-1.8023	0.5338	-0.134	1	0.5338	-0.1338	1	0.3705	0.0295	1	0.3705	0.0295	1													0.1745	0.2255	1	0.1745	0.2255	1
28.43	0.4	0.007	0.000462	0.0309	0.0028	-1.8683	0.5441	-0.144	1	0.5441	-0.1441	1	0.3784	0.0216	1	0.3784	0.0216	1													0.1848	0.2152	1	0.1848	0.2152	1
28.73	0.4	0.007	0.000462	0.021	0.0028	-1.9411	0.555	-0.155	1	0.555	-0.155	1	0.3863	0.0137	1	0.3863	0.0137	1													0.1955	0.2045	1	0.1955	0.2045	1
29.04	0.4	0.007	0.000462	0.0108	0.0028	-2.0205	0.5664	-0.166	1	0.5664	-0.1664	1	0.3944	0.0056	1	0.3944	0.0056	1													0.2068	0.1932	1	0.2068	0.1932	1
29.34	0.4	0.007	0.000462	0.0001	0.0028	-2.1063	0.5785	-0.178	1	0.5785	-0.1785	1	0.4026	-0.0026	1	0.4026	-0.0026	1													0.2186	0.1814	1	0.2186	0.1814	1
29.64	0.4	0.007	0.000462	-0.011	0.0028	0	0.591	-0.191	1	0.591	-0.191	1	0.411	-0.011	1	0.411	-0.011	1													0.231	0.169	1	0.231	0.169	1

Balk 5 **Indata e_{ekv} samt lutning spännkablar**

							Kabel 1			Kabel 2			Kabel 3			Kabel 4			Kabel 5			Kabel 6			Kabel 7			Kabel 8			Kabel 9			Kabel 10		
X [m]	TP balk	Diam [m]	Area [m^2]	e_{ekv}[m]	$Area_{tot}$	lutning	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal
0	0.375	0.007	0.000462	-0.022	0.0028	0													0.562	-0.187	1	0.562	-0.187	1	0.397	-0.022	1	0.397	-0.022	1	0.232	0.143	1	0.232	0.143	1
0.302	0.375	0.007	0.000462	-0.0004	0.0028	4.0837													0.5333	-0.1583	1	0.5333	-0.1583	1	0.376	-0.001	1	0.376	-0.001	1	0.217	0.158	1	0.217	0.158	1
0.605	0.375	0.007	0.000462	0.02	0.0028	3.8668													0.506	-0.131	1	0.506	-0.131	1	0.3561	0.0189	1	0.3561	0.0189	1	0.2027	0.1723	1	0.2027	0.1723	1
0.907	0.375	0.007	0.000462	0.0393	0.0028	3.6464													0.4805	-0.1055	1	0.4805	-0.1055	1	0.3373	0.0377	1	0.3373	0.0377	1	0.1893	0.1857	1	0.1893	0.1857	1
1.21	0.375	0.007	0.000462	0.0574	0.0028	3.4226													0.4567	-0.0817	1	0.4567	-0.0817	1	0.3195	0.0555	1	0.3195	0.0555	1	0.1766	0.1984	1	0.1766	0.1984	1
1.512	0.375	0.007	0.000462	0.0743	0.0028	3.1953													0.4346	-0.0596	1	0.4346	-0.0596	1	0.3029	0.0721	1	0.3029	0.0721	1	0.1647	0.2103	1	0.1647	0.2103	1
1.815	0.375	0.007	0.000462	0.09	0.0028	2.9644													0.4142	-0.0392	1	0.4142	-0.0392	1	0.2872	0.0878	1	0.2872	0.0878	1	0.1537	0.2213	1	0.1537	0.2213	1
2.117	0.375	0.007	0.000462	0.1044	0.0028	2.7301													0.3958	-0.0208	1	0.3958	-0.0208	1	0.2726	0.1024	1	0.2726	0.1024	1	0.1435	0.2315	1	0.1435	0.2315	1
2.42	0.375	0.007	0.000462	0.1175	0.0028	2.4922													0.3791	-0.0041	1	0.3791	-0.0041	1	0.259	0.116	1	0.259	0.116	1	0.1343	0.2407	1	0.1343	0.2407	1
2.722	0.375	0.007	0.000462	0.1294	0.0028	2.251													0.3644	0.0106	1	0.3644	0.0106	1	0.2464	0.1286	1	0.2464	0.1286	1	0.126	0.249	1	0.126	0.249	1
3.024	0.375	0.007	0.000462	0.0809	0.0037	-9.1232							0.4713	-0.0963	1	0.4713	-0.0963	1	0.3516	0.0234	1	0.3516	0.0234	1	0.2348	0.1402	1	0.2348	0.1402	1	0.1186	0.2564	1	0.1186	0.2564	1
3.327	0.375	0.007	0.000462	0.0997	0.0037	3.5372							0.4244	-0.0494	1	0.4244	-0.0494	1	0.3407	0.0343	1	0.3407	0.0343	1	0.2241	0.1509	1	0.2241	0.1509	1	0.1122	0.2628	1	0.1122	0.2628	1
3.629	0.375	0.007	0.000462	0.1165	0.0037	3.2009							0.3809	-0.0059	1	0.3809	-0.0059	1	0.3317	0.0433	1	0.3317	0.0433	1	0.2145	0.1605	1	0.2145	0.1605	1	0.1066	0.2684	1	0.1066	0.2684	1
3.932	0.375	0.007	0.000462	0.1317	0.0037	2.8646							0.341	0.034	1	0.341	0.034	1	0.3244	0.0506	1	0.3244	0.0506	1	0.206	0.169	1	0.206	0.169	1	0.1019	0.2731	1	0.1019	0.2731	1
4.234	0.375	0.007	0.000462	0.145	0.0037	2.5284							0.3049	0.0701	1	0.3049	0.0701	1	0.3186	0.0564	1	0.3186	0.0564	1	0.1985	0.1765	1	0.1985	0.1765	1	0.0979	0.2771	1	0.0979	0.2771	1
4.537	0.375	0.007	0.000462	0.1566	0.0037	2.1924							0.2725	0.1025	1	0.2725	0.1025	1	0.3142	0.0608	1	0.3142	0.0608	1	0.1922	0.1828	1	0.1922	0.1828	1	0.0945	0.2805	1	0.0945	0.2805	1
4.839	0.375	0.007	0.000462	0.1664	0.0037	1.8562							0.2443	0.1307	1	0.2443	0.1307	1	0.3112	0.0638	1	0.3112	0.0638	1	0.1871	0.1879	1	0.1871	0.1879	1	0.0917	0.2833	1	0.0917	0.2833	1
5.142	0.375	0.007	0.000462	0.1745	0.0037	1.5199							0.2203	0.1547	1	0.2203	0.1547	1	0.3093	0.0657	1	0.3093	0.0657	1	0.1832	0.1918	1	0.1832	0.1918	1	0.0893	0.2857	1	0.0893	0.2857	1
5.444	0.375	0.007	0.000462	0.1807	0.0037	1.1834							0.2008	0.1743	1	0.2008	0.1743	1	0.3085	0.0665	1	0.3085	0.0665	1	0.1805	0.1945	1	0.1805	0.1945	1	0.0874	0.2876	1	0.0874	0.2876	1
5.747	0.375	0.007	0.000462	0.1852	0.0037	0.8463							0.1857	0.1893	1	0.1857	0.1893	1	0.3086	0.0664	1	0.3086	0.0664	1	0.1792	0.1958	1	0.1792	0.1958	1	0.0858	0.2892	1	0.0858	0.2892	1
6.049	0.375	0.007	0.000462	0.1369	0.0046	-9.0918	0.4422	-0.067	1	0.4422	-0.0672	1	0.1755	0.1995	1	0.1755	0.1995	1	0.3094	0.0656	1	0.3094	0.0656	1	0.1792	0.1959	1	0.1792	0.1959	1	0.0845	0.2905	1	0.0845	0.2905	1
6.351	0.375	0.007	0.000462	0.1412	0.0046	0.8297	0.4242	-0.049	1	0.4242	-0.0492	1	0.1698	0.2052	1	0.1698	0.2052	1	0.311	0.064	1	0.311	0.064	1	0.1804	0.1946	1	0.1804	0.1946	1	0.0834	0.2916	1	0.0834	0.2916	1
6.654	0.375	0.007	0.000462	0.1439	0.0046	0.5044	0.4081	-0.033	1	0.4081	-0.0331	1	0.1683	0.2067	1	0.1683	0.2067	1	0.3134	0.0616	1	0.3134	0.0616	1	0.183	0.192	1	0.183	0.192	1	0.0828	0.2922	1	0.0828	0.2922	1
6.956	0.375	0.007	0.000462	0.1449	0.0046	0.1926	0.3943	-0.019	1	0.3943	-0.0193	1	0.1704	0.2046	1	0.1704	0.2046	1	0.3165	0.0585	1	0.3165	0.0585	1	0.1867	0.1883	1	0.1867	0.1883	1	0.0826	0.2924	1	0.0826	0.2924	1
7.259	0.375	0.007	0.000462	0.1443	0.0046	-0.1056	0.3827	-0.008	1	0.3827	-0.0077	1	0.1755	0.1995	1	0.1755	0.1995	1	0.3204	0.0546	1	0.3204	0.0546	1	0.1915	0.1835	1	0.1915	0.1835	1	0.0831	0.2919	1	0.0831	0.2919	1
7.561	0.375	0.007	0.000462	0.1423	0.0046	-0.3901	0.3735	0.001	1	0.3735	0.0015	1	0.1831	0.1919	1	0.1831	0.1919	1	0.3252	0.0498	1	0.3252	0.0498	1	0.1973	0.1777	1	0.1973	0.1777	1	0.0844	0.2906	1	0.0844	0.2906	1
7.864	0.375	0.007	0.000462	0.1388	0.0046	-0.661	0.3667	0.008	1	0.3667	0.0083	1	0.1927	0.1823	1	0.1927	0.1823	1	0.3309	0.0441	1	0.3309	0.0441	1	0.2041	0.1709	1	0.2041	0.1709	1	0.0867	0.2883	1	0.0867	0.2883	1
8.166	0.375	0.007	0.000462	0.134	0.0046	-0.9184	0.3625	0.013	1	0.3625	0.0125	1	0.2037	0.1713	1	0.2037	0.1713	1	0.3374	0.0376	1	0.3374	0.0376	1	0.2117	0.1633	1	0.2117	0.1633	1	0.09	0.285	1	0.09	0.285	1
8.469	0.375	0.007	0.000462	0.1278	0.0046	-1.1622	0.3608	0.014	1	0.3608	0.0142	1	0.2157	0.1593	1	0.2157	0.1593	1	0.3449	0.0301	1	0.3449	0.0301	1	0.2201	0.1549	1	0.2201	0.1549	1	0.0945	0.2805	1	0.0945	0.2805	1
8.771	0.375	0.007	0.000462	0.1205	0.0046	-1.3926	0.3618	0.013	1	0.3618	0.0132	1	0.2281	0.1469	1	0.2281	0.1469	1	0.3533	0.0217	1	0.3533	0.0217	1	0.2292	0.1458	1	0.2292	0.1458	1	0.1003	0.2747	1	0.1003	0.2747	1
9.073	0.375	0.007	0.000462	0.112	0.0046	-1.6094	0.3656	0.009	1	0.3656	0.0094	1	0.2403	0.1347	1	0.2403	0.1347	1	0.3628	0.0122	1	0.3628	0.0122	1	0.2389	0.1361	1	0.2389	0.1361	1	0.1075	0.2675	1	0.1075	0.2675	1
9.376	0.375	0.007	0.000462	0.1024	0.0046	-1.8169	0.3721	0.003	1	0.3721	0.0029	1	0.2523	0.1227	1	0.2523	0.1227	1	0.3732	0.0018	1	0.3732	0.0018	1	0.2493	0.1257	1	0.2493	0.1257	1	0.1163	0.2587	1	0.1163	0.2587	1
9.678	0.375	0.007	0.000462	0.0917	0.0046	-2.0175	0.3809	-0.006	1	0.3809	-0.0059	1	0.2642	0.1108	1	0.2642	0.1108	1	0.3846	-0.0096	1	0.3846	-0.0096	1	0.2602	0.1148	1	0.2602	0.1148	1	0.1264	0.2486	1	0.1264	0.2486	1
9.981	0.375	0.007	0.000462	0.08	0.0046	-2.2111	0.3919	-0.017	1	0.3919	-0.0169	1	0.2762	0.0988	1	0.2762	0.0988	1	0.3969	-0.0219	1	0.3969	-0.0219	1	0.272	0.103	1	0.272	0.103	1	0.1378	0.2372	1	0.1378	0.2372	1
10.28	0.375	0.007	0.000462	0.0674	0.0046	-2.3979	0.4048	-0.03	1	0.4048	-0.0298	1	0.2884	0.0866	1	0.2884	0.0866	1	0.4101	-0.0351	1	0.4101	-0.0351	1	0.2844	0.0906	1	0.2844	0.0906	1	0.1504	0.2246	1	0.1504	0.2246	1
10.59	0.375	0.007	0.000462	0.0537	0.0046	-2.5777	0.4193	-0.044	1	0.4193	-0.0443	1	0.3011	0.0739	1	0.3011	0.0739	1	0.4242	-0.0492	1	0.4242	-0.0492	1	0.2976	0.0774	1	0.2976	0.0774	1	0.1642	0.2108	1	0.1642	0.2108	1
10.89	0.375	0.007	0.000462	0.0392	0.0046	-2.7507	0.4352	-0.06	1	0.4352	-0.0602	1	0.3142	0.0608	1	0.3142	0.0608	1	0.4391	-0.0641	1	0.4391	-0.0641	1	0.3115	0.0635	1	0.3115	0.0635	1	0.1789	0.1961	1	0.1789	0.1961	1
11.19	0.375	0.007	0.000462	0.0238	0.0046	-2.9168	0.4521	-0.077	1	0.4521	-0.0771	1	0.3281	0.0469	1	0.3281	0.0469	1	0.4548	-0.0798	1	0.4548	-0.0798	1	0.3263	0.0487	1	0.3263	0.0487	1	0.1946	0.1804	1	0.1946	0.1804	1
11.49	0.375	0.007	0.000462	0.0076	0.0046	-3.076	0.4699	-0.095	1	0.4699	-0.0949	1	0.3429	0.0321	1	0.3429	0.0321	1	0.4713	-0.0963	1	0.4713	-0.0963	1	0.342	0.033	1	0.342	0.033	1	0.2111	0.1639	1	0.2111	0.1639	1
11.8	0.375	0.007	0.000462	-0.0095	0.0046	-3.2283	0.4883	-0.113	1	0.4883	-0.1133	1	0.3587	0.0163	1	0.3587	0.0163	1	0.4885	-0.1135	1	0.4885	-0.1135	1	0.3586	0.0164	1	0.3586	0.0164	1	0.2285	0.1465	1	0.2285	0.1465	1
12.1	0.375	0.007	0.000462	-0.0273	0.0046	-3.3698	0.507	-0.132	1	0.507	-0.132	1	0.3757	-0.0007	1	0.3757	-0.0007	1	0.5064	-0.1314	1	0.5064	-0.1314	1	0.3761	-0.0011	1	0.3761	-0.0011	1	0.2464	0.1286	1	0.2464	0.1286	1
12.4	0.375	0.007	0.000462	-0.0456	0.0046	-3.4723	0.5257	-0.151	1	0.5257	-0.1507	1	0.3936	-0.0186	1	0.3936	-0.0186	1	0.5247	-0.1497	1	0.5247	-0.1497	1	0.3942	-0.0192	1	0.3942	-0.0192	1	0.2648	0.1102	1	0.2648	0.1102	1
12.7	0.375	0.007	0.000462	-0.0643	0.0046	-3.5232	0.5445	-0.169	1	0.5445	-0.1695	1	0.4122	-0.0372	1	0.4122	-0.0372	1	0.5434	-0.1684	1	0.5434	-0.1684	1	0.4129	-0.0379	1	0.4129	-0.0379	1	0.2835	0.0915	1	0.2835	0.0915	1
13.01	0.375	0.007	0.000462	-0.0829	0.0046	-3.5225	0.5629	-0.188	1	0.5629	-0.1879	1	0.4309	-0.0559	1	0.4309	-0.0559	1	0.562	-0.187	1	0.562	-0.187	1	0.4315	-0.0565	1	0.4315	-0.0565	1	0.3021	0.0729	1	0.3021	0.0729	1
13.31	0.375	0.007	0.000462	-0.1012	0.0046	-3.4701	0.581	-0.206	1	0.581	-0.206	1	0.4495	-0.0745	1	0.4495	-0.0745	1	0.5803	-0.2053	1	0.5803	-0.2053	1	0.45	-0.075	1	0.45	-0.075	1	0.3204	0.0546	1	0.3204	0.0546	1
13.61	0.375	0.007	0.000462	-0.119	0.0046	-3.366	0.5984	-0.223	1	0.5984	-0.2234	1	0.4676	-0.0926	1	0.4676	-0.0926	1	0.598	-0.223	1	0.598	-0.223	1	0.4679	-0.0929	1	0.4679	-0.0929	1	0.3381	0.0369	1	0.3381	0.0369	1
13.91	0.375	0.007	0.000462	-0.136	0.0046	-3.2102	0.6151	-0.24	1	0.6151	-0.2401	1	0.4849	-0.1099	1	0.4849	-0.1099	1	0.615	-0.24	1	0.615	-0.24	1	0.485	-0.11	1	0.485	-0.11	1	0.355	0.02	1	0.355	0.02	1
14.22	0.375	0.007	0.000462	-0.1518	0.0046	-2.9986	0.6308	-0.256	1	0.6308	-0.2558	1	0.5009	-0.1259	1	0.5009	-0.1259	1	0.6308	-0.2558	1	0.6308	-0.2558	1	0.5008	-0.1258	1	0.5008	-0.1258	1	0.3708	0.0042	1	0.3708	0.0042	1
14.52	0.375	0.007	0.000462	-0.1647	0.0046	-2.4291	0.6436	-0.269	1	0.6436	-0.2686	1	0.5137	-0.1387	1	0.5137	-0.1387	1	0.6437	-0.2687	1	0.6437	-0.2687	1	0.5137	-0.1387	1	0.5137	-0.1387	1	0.3837	-0.0087	1	0.3837	-0.0087	1
14.82	0.375	0.007	0.000462	-0.17	0.0046	0	0.649	-0.274	1	0.649	-0.274	1	0.519	-0.144	1	0.519	-0.144	1	0.649	-0.274	1	0.649	-0.274	1	0.519	-0.144	1	0.519	-0.144	1	0.389	-0.014	1	0.389	-0.014	1

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Balk 6 **Indata e_{ekv} samt lutning spännkablar**

							Kabel 1			Kabel 2			Kabel 3			Kabel 4			Kabel 5			Kabel 6			Kabel 7			Kabel 8			Kabel 9			Kabel 10		
X [m]	TP balk	Diam [m]	Area [m^2]	e_{ekv}[m]	$Area_{tot}$	lutning	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal	H [m]	e [m]	antal
0	0.415	0.007	0.000462	-0.03	0.0028	0													0.612	-0.197	1	0.612	-0.197	1	0.445	-0.03	1	0.445	-0.03	1	0.278	0.137	1	0.278	0.137	1
0.302	0.415	0.007	0.000462	-0.0044	0.0028	4.8465													0.574	-0.159	1	0.574	-0.159	1	0.4195	-0.0045	1	0.4195	-0.0045	1	0.2647	0.1503	1	0.2647	0.1503	1
0.605	0.415	0.007	0.000462	0.0199	0.0028	4.5883													0.5379	-0.1229	1	0.5379	-0.1229	1	0.3952	0.0198	1	0.3952	0.0198	1	0.2521	0.1629	1	0.2521	0.1629	1
0.907	0.415	0.007	0.000462	0.0428	0.0028	4.3302													0.5041	-0.0891	1	0.5041	-0.0891	1	0.3724	0.0426	1	0.3724	0.0426	1	0.2401	0.1749	1	0.2401	0.1749	1
1.21	0.415	0.007	0.000462	0.0644	0.0028	4.0723													0.4723	-0.0573	1	0.4723	-0.0573	1	0.3509	0.0641	1	0.3509	0.0641	1	0.2287	0.1863	1	0.2287	0.1863	1
1.512	0.415	0.007	0.000462	0.0845	0.0028	3.8146													0.4429	-0.0279	1	0.4429	-0.0279	1	0.3308	0.0842	1	0.3308	0.0842	1	0.2178	0.1972	1	0.2178	0.1972	1
1.815	0.415	0.007	0.000462	0.1033	0.0028	3.557													0.4156	-0.0006	1	0.4156	-0.0006	1	0.312	0.103	1	0.312	0.103	1	0.2074	0.2076	1	0.2074	0.2076	1
2.117	0.415	0.007	0.000462	0.1207	0.0028	3.2996													0.3906	0.0244	1	0.3906	0.0244	1	0.2946	0.1204	1	0.2946	0.1204	1	0.1976	0.2174	1	0.1976	0.2174	1
2.42	0.415	0.007	0.000462	0.1368	0.0028	3.0422													0.3679	0.0471	1	0.3679	0.0471	1	0.2785	0.1365	1	0.2785	0.1365	1	0.1881	0.2269	1	0.1881	0.2269	1
2.722	0.415	0.007	0.000462	0.1515	0.0028	2.7851													0.3476	0.0674	1	0.3476	0.0674	1	0.2638	0.1512	1	0.2638	0.1512	1	0.179	0.236	1	0.179	0.236	1
3.024	0.415	0.007	0.000462	0.1161	0.0037	-6.7014							0.4454	-0.0304	1	0.4454	-0.0304	1	0.3296	0.0854	1	0.3296	0.0854	1	0.2505	0.1645	1	0.2505	0.1645	1	0.1703	0.2447	1	0.1703	0.2447	1
3.327	0.415	0.007	0.000462	0.1355	0.0037	3.6646							0.4038	0.0112	1	0.4038	0.0112	1	0.314	0.101	1	0.314	0.101	1	0.2384	0.1766	1	0.2384	0.1766	1	0.1619	0.2531	1	0.1619	0.2531	1
3.629	0.415	0.007	0.000462	0.153	0.0037	3.3229							0.3656	0.0495	1	0.3656	0.0495	1	0.3007	0.1143	1	0.3007	0.1143	1	0.2278	0.1872	1	0.2278	0.1872	1	0.154	0.261	1	0.154	0.261	1
3.932	0.415	0.007	0.000462	0.1687	0.0037	2.9751							0.3304	0.0846	1	0.3304	0.0846	1	0.2895	0.1255	1	0.2895	0.1255	1	0.2184	0.1966	1	0.2184	0.1966	1	0.1467	0.2683	1	0.1467	0.2683	1
4.234	0.415	0.007	0.000462	0.1826	0.0037	2.6213							0.2989	0.1161	1	0.2989	0.1161	1	0.2803	0.1347	1	0.2803	0.1347	1	0.2105	0.2045	1	0.2105	0.2045	1	0.14	0.275	1	0.14	0.275	1
4.537	0.415	0.007	0.000462	0.1945	0.0037	2.2611							0.2707	0.1443	1	0.2707	0.1443	1	0.2731	0.1419	1	0.2731	0.1419	1	0.2039	0.2111	1	0.2039	0.2111	1	0.1342	0.2808	1	0.1342	0.2808	1
4.839	0.415	0.007	0.000462	0.2045	0.0037	1.8947							0.2464	0.1686	1	0.2464	0.1686	1	0.2676	0.1474	1	0.2676	0.1474	1	0.1986	0.2164	1	0.1986	0.2164	1	0.1293	0.2857	1	0.1293	0.2857	1
5.142	0.415	0.007	0.000462	0.2126	0.0037	1.5219							0.2257	0.1893	1	0.2257	0.1893	1	0.2639	0.1511	1	0.2639	0.1511	1	0.1947	0.2203	1	0.1947	0.2203	1	0.1254	0.2896	1	0.1254	0.2896	1
5.444	0.415	0.007	0.000462	0.2186	0.0037	1.1427							0.2091	0.2059	1	0.2091	0.2059	1	0.2616	0.1534	1	0.2616	0.1534	1	0.1922	0.2228	1	0.1922	0.2228	1	0.1227	0.2923	1	0.1227	0.2923	1
5.747	0.415	0.007	0.000462	0.2226	0.0037	0.7566							0.1965	0.2185	1	0.1965	0.2185	1	0.2608	0.1542	1	0.2608	0.1542	1	0.191	0.224	1	0.191	0.224	1	0.1212	0.2938	1	0.1212	0.2938	1
6.049	0.415	0.007	0.000462	0.1868	0.0046	-6.7515	0.3788	0.036	1	0.3788	0.0362	1	0.1882	0.2268	1	0.1882	0.2268	1	0.2614	0.1536	1	0.2614	0.1536	1	0.1912	0.2238	1	0.1912	0.2238	1	0.1211	0.2939	1	0.1211	0.2939	1
6.351	0.415	0.007	0.000462	0.19	0.0046	0.6001	0.3626	0.052	1	0.3626	0.0524	1	0.1839	0.2311	1	0.1839	0.2311	1	0.2631	0.1519	1	0.2631	0.1519	1	0.1928	0.2222	1	0.1928	0.2222	1	0.1225	0.2925	1	0.1225	0.2925	1
6.654	0.415	0.007	0.000462	0.1912	0.0046	0.2208	0.3486	0.066	1	0.3486	0.0664	1	0.1834	0.2316	1	0.1834	0.2316	1	0.2662	0.1488	1	0.2662	0.1488	1	0.1957	0.2193	1	0.1957	0.2193	1	0.1253	0.2897	1	0.1253	0.2897	1
6.956	0.415	0.007	0.000462	0.1904	0.0046	-0.1421	0.3371	0.078	1	0.3371	0.0779	1	0.1861	0.2289	1	0.1861	0.2289	1	0.2704	0.1446	1	0.2704	0.1446	1	0.1998	0.2152	1	0.1998	0.2152	1	0.1294	0.2856	1	0.1294	0.2856	1
7.259	0.415	0.007	0.000462	0.1878	0.0046	-0.4885	0.328	0.087	1	0.328	0.087	1	0.1918	0.2232	1	0.1918	0.2232	1	0.2758	0.1392	1	0.2758	0.1392	1	0.2053	0.2097	1	0.2053	0.2097	1	0.1348	0.2802	1	0.1348	0.2802	1
7.561	0.415	0.007	0.000462	0.1835	0.0046	-0.8184	0.3216	0.093	1	0.3216	0.0934	1	0.2	0.215	1	0.2	0.215	1	0.2824	0.1326	1	0.2824	0.1326	1	0.2119	0.2031	1	0.2119	0.2031	1	0.1415	0.2735	1	0.1415	0.2735	1
7.864	0.415	0.007	0.000462	0.1775	0.0046	-1.1321	0.3177	0.097	1	0.3177	0.0973	1	0.2102	0.2048	1	0.2102	0.2048	1	0.2901	0.1249	1	0.2901	0.1249	1	0.2198	0.1952	1	0.2198	0.1952	1	0.1495	0.2655	1	0.1495	0.2655	1
8.166	0.415	0.007	0.000462	0.17	0.0046	-1.4294	0.3165	0.099	1	0.3165	0.0985	1	0.2221	0.1929	1	0.2221	0.1929	1	0.299	0.116	1	0.299	0.116	1	0.2288	0.1862	1	0.2288	0.1862	1	0.1586	0.2564	1	0.1586	0.2564	1
8.469	0.415	0.007	0.000462	0.161	0.0046	-1.7103	0.318	0.097	1	0.318	0.097	1	0.2353	0.1797	1	0.2353	0.1797	1	0.3091	0.1059	1	0.3091	0.1059	1	0.239	0.176	1	0.239	0.176	1	0.1688	0.2462	1	0.1688	0.2462	1
8.771	0.415	0.007	0.000462	0.1505	0.0046	-1.9752	0.3224	0.093	1	0.3224	0.0926	1	0.2493	0.1657	1	0.2493	0.1657	1	0.3202	0.0948	1	0.3202	0.0948	1	0.2502	0.1648	1	0.2502	0.1648	1	0.1802	0.2348	1	0.1802	0.2348	1
9.073	0.415	0.007	0.000462	0.1388	0.0046	-2.2239	0.3297	0.085	1	0.3297	0.0853	1	0.2637	0.1513	1	0.2637	0.1513	1	0.3325	0.0825	1	0.3325	0.0825	1	0.2625	0.1525	1	0.2625	0.1525	1	0.1925	0.2225	1	0.1925	0.2225	1
9.376	0.415	0.007	0.000462	0.1258	0.0046	-2.4673	0.3398	0.075	1	0.3398	0.0752	1	0.2785	0.1365	1	0.2785	0.1365	1	0.3459	0.0691	1	0.3459	0.0691	1	0.276	0.1391	1	0.276	0.1391	1	0.206	0.209	1	0.206	0.209	1
9.678	0.415	0.007	0.000462	0.1115	0.0046	-2.7125	0.3525	0.062	1	0.3525	0.0625	1	0.2938	0.1212	1	0.2938	0.1212	1	0.3603	0.0547	1	0.3603	0.0547	1	0.2905	0.1245	1	0.2905	0.1245	1	0.2206	0.1944	1	0.2206	0.1944	1
9.981	0.415	0.007	0.000462	0.0958	0.0046	-2.9596	0.3677	0.047	1	0.3677	0.0473	1	0.3098	0.1052	1	0.3098	0.1052	1	0.3761	0.0389	1	0.3761	0.0389	1	0.3062	0.1088	1	0.3062	0.1088	1	0.2363	0.1787	1	0.2363	0.1787	1
10.28	0.415	0.007	0.000462	0.0789	0.0046	-3.2085	0.3849	0.03	1	0.3849	0.0301	1	0.3265	0.0885	1	0.3265	0.0885	1	0.393	0.022	1	0.393	0.022	1	0.3231	0.0919	1	0.3231	0.0919	1	0.2532	0.1618	1	0.2532	0.1618	1
10.59	0.415	0.007	0.000462	0.0605	0.0046	-3.4595	0.4043	0.011	1	0.4043	0.0107	1	0.3442	0.0708	1	0.3442	0.0708	1	0.4112	0.0038	1	0.4112	0.0038	1	0.3413	0.0737	1	0.3413	0.0737	1	0.2714	0.1436	1	0.2714	0.1436	1
10.89	0.415	0.007	0.000462	0.0409	0.0046	-3.7124	0.4253	-0.01	1	0.4253	-0.0103	1	0.363	0.052	1	0.363	0.052	1	0.4306	-0.0156	1	0.4306	-0.0156	1	0.3607	0.0543	1	0.3607	0.0543	1	0.2908	0.1242	1	0.2908	0.1242	1
11.19	0.415	0.007	0.000462	0.0199	0.0046	-3.9673	0.4479	-0.033	1	0.4479	-0.0329	1	0.383	0.032	1	0.383	0.032	1	0.4514	-0.0364	1	0.4514	-0.0364	1	0.3815	0.0335	1	0.3815	0.0335	1	0.3115	0.1035	1	0.3115	0.1035	1
11.49	0.415	0.007	0.000462	-0.0024	0.0046	-4.2242	0.4718	-0.057	1	0.4718	-0.0568	1	0.4043	0.0107	1	0.4043	0.0107	1	0.4736	-0.0586	1	0.4736	-0.0586	1	0.4036	0.0114	1	0.4036	0.0114	1	0.3336	0.0814	1	0.3336	0.0814	1
11.8	0.415	0.007	0.000462	-0.0261	0.0046	-4.4832	0.4969	-0.082	1	0.4969	-0.0819	1	0.4273	-0.0123	1	0.4273	-0.0123	1	0.4972	-0.0822	1	0.4972	-0.0822	1	0.4272	-0.0122	1	0.4272	-0.0122	1	0.3572	0.0578	1	0.3572	0.0578	1
12.1	0.415	0.007	0.000462	-0.0512	0.0046	-4.7362	0.5228	-0.108	1	0.5228	-0.1078	1	0.4517	-0.0367	1	0.4517	-0.0367	1	0.5221	-0.1071	1	0.5221	-0.1071	1	0.4521	-0.0371	1	0.4521	-0.0371	1	0.3821	0.0329	1	0.3821	0.0329	1
12.4	0.415	0.007	0.000462	-0.0772	0.0046	-4.9246	0.5493	-0.134	1	0.5493	-0.1343	1	0.4775	-0.0625	1	0.4775	-0.0625	1	0.548	-0.133	1	0.548	-0.133	1	0.478	-0.063	1	0.478	-0.063	1	0.408	0.007	1	0.408	0.007	1
12.7	0.415	0.007	0.000462	-0.1038	0.0046	-5.0229	0.5761	-0.161	1	0.5761	-0.1611	1	0.504	-0.089	1	0.504	-0.089	1	0.5746	-0.1596	1	0.5746	-0.1596	1	0.5046	-0.0896	1	0.5046	-0.0896	1	0.4346	-0.0196	1	0.4346	-0.0196	1
13.01	0.415	0.007	0.000462	-0.1304	0.0046	-5.0303	0.6026	-0.188	1	0.6026	-0.1876	1	0.5307	-0.1157	1	0.5307	-0.1157	1	0.6012	-0.1862	1	0.6012	-0.1862	1	0.5312	-0.1162	1	0.5312	-0.1162	1	0.4612	-0.0462	1	0.4612	-0.0462	1
13.31	0.415	0.007	0.000462	-0.1566	0.0046	-4.9469	0.6285	-0.214	1	0.6285	-0.2135	1	0.5571	-0.1421	1	0.5571	-0.1421	1	0.6275	-0.2125	1	0.6275	-0.2125	1	0.5575	-0.1425	1	0.5575	-0.1425	1	0.4875	-0.0725	1	0.4875	-0.0725	1
13.61	0.415	0.007	0.000462	-0.1818	0.0046	-4.773	0.6534	-0.238	1	0.6534	-0.2384	1	0.5825	-0.1675	1	0.5825	-0.1675	1	0.6528	-0.2378	1	0.6528	-0.2378	1	0.5828	-0.1678	1	0.5828	-0.1678	1	0.5128	-0.0978	1	0.5128	-0.0978	1
13.91	0.415	0.007	0.000462	-0.2057	0.0046	-4.5085	0.6769	-0.262	1	0.6769	-0.2619	1	0.6066	-0.1916	1	0.6066	-0.1916	1	0.6767	-0.2617	1	0.6767	-0.2617	1	0.6067	-0.1917	1	0.6067	-0.1917	1	0.5367	-0.1217	1	0.5367	-0.1217	1
14.22	0.415	0.007	0.000462	-0.2277	0.0046	-4.154	0.6987	-0.284	1	0.6987	-0.2837	1	0.6287	-0.2137	1	0.6287	-0.2137	1	0.6987	-0.2837	1	0.6987	-0.2837	1	0.6287	-0.2137	1	0.6287	-0.2137	1	0.5587	-0.1437	1	0.5587	-0.1437	1
14.52	0.415	0.007	0.000462	-0.2461	0.0046	-3.4775	0.717	-0.302	1	0.717	-0.302	1	0.6471	-0.2321	1	0.6471	-0.2321	1	0.7171	-0.3021	1	0.7171	-0.3021	1	0.6471	-0.2321	1	0.6471	-0.2321	1	0.5771	-0.1621	1	0.5771	-0.1621	1
14.82	0.415	0.007	0.000462	-0.254	0.0046	0	0.725	-0.31	1	0.725	-0.31	1	0.655	-0.24	1	0.655	-0.24	1	0.725	-0.31	1	0.725	-0.31	1	0.655	-0.24	1	0.655	-0.24	1	0.585	-0.17	1	0.585	-0.17	1

15.12	0.415	0.007	0.000462	-0.2461	0.0046	3.4795	0.7171	-0.302	1	0.7171	-0.3021	1	0.6471	-0.2321	1	0.6471	-0.2321	1	0.717	-0.302	1	0.717	-0.302	1	0.6471	-0.2321	1	0.6471	-0.2321	1	0.5771	-0.1621	1	0.5771	-0.1621	1
15.43	0.415	0.007	0.000462	-0.2277	0.0046	4.1633	0.6987	-0.284	1	0.6987	-0.2837	1	0.6287	-0.2137	1	0.6287	-0.2137	1	0.6987	-0.2837	1	0.6987	-0.2837	1	0.6287	-0.2137	1	0.6287	-0.2137	1	0.5587	-0.1437	1	0.5587	-0.1437	1
15.73	0.415	0.007	0.000462	-0.2057	0.0046	4.5246	0.6766	-0.262	1	0.6766	-0.2616	1	0.6067	-0.1917	1	0.6067	-0.1917	1	0.6769	-0.2619	1	0.6769	-0.2619	1	0.6065	-0.1915	1	0.6065	-0.1915	1	0.5366	-0.1216	1	0.5366	-0.1216	1
16.03	0.415	0.007	0.000462	-0.1817	0.0046	4.7945	0.6526	-0.238	1	0.6526	-0.2376	1	0.5826	-0.1676	1	0.5826	-0.1676	1	0.6532	-0.2382	1	0.6532	-0.2382	1	0.5824	-0.1674	1	0.5824	-0.1674	1	0.5126	-0.0976	1	0.5126	-0.0976	1
16.33	0.415	0.007	0.000462	-0.1564	0.0046	4.9729	0.6272	-0.212	1	0.6272	-0.2122	1	0.5573	-0.1423	1	0.5573	-0.1423	1	0.6283	-0.2133	1	0.6283	-0.2133	1	0.5568	-0.1418	1	0.5568	-0.1418	1	0.4872	-0.0722	1	0.4872	-0.0722	1
16.64	0.415	0.007	0.000462	-0.13	0.0046	5.0593	0.6009	-0.186	1	0.6009	-0.1859	1	0.5309	-0.1159	1	0.5309	-0.1159	1	0.6022	-0.1872	1	0.6022	-0.1872	1	0.5303	-0.1153	1	0.5303	-0.1153	1	0.4608	-0.0458	1	0.4608	-0.0458	1
16.94	0.415	0.007	0.000462	-0.1033	0.0046	5.0535	0.5741	-0.159	1	0.5741	-0.1591	1	0.5041	-0.0891	1	0.5041	-0.0891	1	0.5756	-0.1606	1	0.5756	-0.1606	1	0.5035	-0.0885	1	0.5035	-0.0885	1	0.4341	-0.0191	1	0.4341	-0.0191	1
17.24	0.415	0.007	0.000462	-0.0765	0.0046	4.9558	0.5473	-0.132	1	0.5473	-0.1323	1	0.4773	-0.0623	1	0.4773	-0.0623	1	0.5486	-0.1336	1	0.5486	-0.1336	1	0.4768	-0.0618	1	0.4768	-0.0618	1	0.4073	0.0077	1	0.4073	0.0077	1
17.54	0.415	0.007	0.000462	-0.0503	0.0046	4.7666	0.5212	-0.106	1	0.5212	-0.1062	1	0.4512	-0.0362	1	0.4512	-0.0362	1	0.522	-0.107	1	0.522	-0.107	1	0.4509	-0.0359	1	0.4509	-0.0359	1	0.3812	0.0338	1	0.3812	0.0338	1
17.84	0.415	0.007	0.000462	-0.0251	0.0046	4.5118	0.4961	-0.081	1	0.4961	-0.0811	1	0.4261	-0.0111	1	0.4261	-0.0111	1	0.4959	-0.0809	1	0.4959	-0.0809	1	0.4262	-0.0112	1	0.4262	-0.0112	1	0.3561	0.0589	1	0.3561	0.0589	1
18.15	0.415	0.007	0.000462	-0.0012	0.0046	4.2509	0.4724	-0.057	1	0.4724	-0.0574	1	0.4024	0.0126	1	0.4024	0.0126	1	0.4706	-0.0556	1	0.4706	-0.0556	1	0.4032	0.0118	1	0.4032	0.0118	1	0.3324	0.0826	1	0.3324	0.0826	1
18.45	0.415	0.007	0.000462	0.0213	0.0046	3.9919	0.4501	-0.035	1	0.4501	-0.0351	1	0.3802	0.0348	1	0.3802	0.0348	1	0.4466	-0.0316	1	0.4466	-0.0316	1	0.3817	0.0333	1	0.3817	0.0333	1	0.3102	0.1048	1	0.3102	0.1048	1
18.75	0.415	0.007	0.000462	0.0424	0.0046	3.7349	0.4291	-0.014	1	0.4291	-0.0141	1	0.3592	0.0558	1	0.3592	0.0558	1	0.4238	-0.0088	1	0.4238	-0.0088	1	0.3615	0.0535	1	0.3615	0.0535	1	0.2893	0.1257	1	0.2893	0.1257	1
19.05	0.415	0.007	0.000462	0.0621	0.0046	3.4797	0.4096	0.005	1	0.4096	0.0054	1	0.3397	0.0753	1	0.3397	0.0753	1	0.4027	0.0123	1	0.4027	0.0123	1	0.3427	0.0723	1	0.3427	0.0723	1	0.2698	0.1452	1	0.2698	0.1452	1
19.36	0.415	0.007	0.000462	0.0805	0.0046	3.2264	0.3913	0.024	1	0.3913	0.0237	1	0.3214	0.0936	1	0.3214	0.0936	1	0.3833	0.0317	1	0.3833	0.0317	1	0.3249	0.0901	1	0.3249	0.0901	1	0.2515	0.1635	1	0.2515	0.1635	1
19.66	0.415	0.007	0.000462	0.0976	0.0046	2.9748	0.3743	0.041	1	0.3743	0.0407	1	0.3044	0.1106	1	0.3044	0.1106	1	0.3659	0.0491	1	0.3659	0.0491	1	0.308	0.107	1	0.308	0.107	1	0.2345	0.1805	1	0.2345	0.1805	1
19.96	0.415	0.007	0.000462	0.1133	0.0046	2.7251	0.3585	0.057	1	0.3585	0.0565	1	0.2886	0.1264	1	0.2886	0.1264	1	0.3507	0.0643	1	0.3507	0.0643	1	0.292	0.123	1	0.292	0.123	1	0.2187	0.1963	1	0.2187	0.1963	1
20.26	0.415	0.007	0.000462	0.1277	0.0046	2.4772	0.3439	0.071	1	0.3439	0.0711	1	0.274	0.141	1	0.274	0.141	1	0.3379	0.0771	1	0.3379	0.0771	1	0.2766	0.1384	1	0.2766	0.1384	1	0.2041	0.2109	1	0.2041	0.2109	1
20.57	0.415	0.007	0.000462	0.1408	0.0046	2.231	0.3305	0.085	1	0.3305	0.0845	1	0.2605	0.1545	1	0.2605	0.1545	1	0.3277	0.0873	1	0.3277	0.0873	1	0.2617	0.1533	1	0.2617	0.1533	1	0.1906	0.2244	1	0.1906	0.2244	1
20.87	0.415	0.007	0.000462	0.1526	0.0046	1.9795	0.3182	0.097	1	0.3182	0.0968	1	0.2482	0.1668	1	0.2482	0.1668	1	0.3204	0.0946	1	0.3204	0.0946	1	0.2472	0.1678	1	0.2472	0.1678	1	0.1782	0.2368	1	0.1782	0.2368	1
21.17	0.415	0.007	0.000462	0.163	0.0046	1.7124	0.3071	0.108	1	0.3071	0.1079	1	0.2369	0.1781	1	0.2369	0.1781	1	0.316	0.099	1	0.316	0.099	1	0.2332	0.1818	1	0.2332	0.1818	1	0.1668	0.2482	1	0.1668	0.2482	1
21.47	0.415	0.007	0.000462	0.1721	0.0046	1.4296	0.297	0.118	1	0.297	0.118	1	0.2268	0.1882	1	0.2268	0.1882	1	0.3144	0.1006	1	0.3144	0.1006	1	0.22	0.195	1	0.22	0.195	1	0.1566	0.2584	1	0.1566	0.2584	1
21.78	0.415	0.007	0.000462	0.1796	0.0046	1.1311	0.2881	0.127	1	0.2881	0.1269	1	0.2178	0.1972	1	0.2178	0.1972	1	0.3156	0.0994	1	0.3156	0.0994	1	0.2081	0.2069	1	0.2081	0.2069	1	0.1475	0.2675	1	0.1475	0.2675	1
22.08	0.415	0.007	0.000462	0.1856	0.0046	0.8165	0.2804	0.135	1	0.2804	0.1346	1	0.2099	0.2051	1	0.2099	0.2051	1	0.3194	0.0956	1	0.3194	0.0956	1	0.1978	0.2172	1	0.1978	0.2172	1	0.1395	0.2755	1	0.1395	0.2755	1
22.38	0.415	0.007	0.000462	0.1899	0.0046	0.4862	0.2738	0.141	1	0.2738	0.1412	1	0.2033	0.2117	1	0.2033	0.2117	1	0.3259	0.0891	1	0.3259	0.0891	1	0.1897	0.2253	1	0.1897	0.2253	1	0.1329	0.2821	1	0.1329	0.2821	1
22.68	0.415	0.007	0.000462	0.1924	0.0046	0.14	0.2684	0.147	1	0.2684	0.1466	1	0.1979	0.2171	1	0.1979	0.2171	1	0.335	0.08	1	0.335	0.08	1	0.184	0.231	1	0.184	0.231	1	0.1274	0.2876	1	0.1274	0.2876	1
22.99	0.415	0.007	0.000462	0.1932	0.0046	-0.2223	0.2642	0.151	1	0.2642	0.1508	1	0.1937	0.2213	1	0.1937	0.2213	1	0.3465	0.0685	1	0.3465	0.0685	1	0.1813	0.2337	1	0.1813	0.2337	1	0.1233	0.2917	1	0.1233	0.2917	1
23.29	0.415	0.007	0.000462	0.192	0.0046	-0.6006	0.2612	0.154	1	0.2612	0.1538	1	0.1908	0.2242	1	0.1908	0.2242	1	0.3605	0.0545	1	0.3605	0.0545	1	0.1819	0.2332	1	0.1819	0.2332	1	0.1206	0.2944	1	0.1206	0.2944	1
23.59	0.415	0.007	0.000462	0.1888	0.0046	6.7542	0.2594	0.156	1	0.2594	0.1556	1	0.1893	0.2257	1	0.1893	0.2257	1	0.3768	0.0382	1	0.3768	0.0382	1	0.1861	0.2289	1	0.1861	0.2289	1	0.1192	0.2958	1	0.1192	0.2958	1
23.89	0.415	0.007	0.000462	0.2246	0.0037	-0.7507	0.2588	0.156	1	0.2588	0.1562	1	0.189	0.226	1	0.189	0.226	1							0.1945	0.2205	1	0.1945	0.2205	1	0.1192	0.2958	1	0.1192	0.2958	1
24.2	0.415	0.007	0.000462	0.2206	0.0037	-1.1347	0.2595	0.155	1	0.2595	0.1555	1	0.1901	0.2249	1	0.1901	0.2249	1							0.2072	0.2078	1	0.2072	0.2078	1	0.1206	0.2944	1	0.1206	0.2944	1
24.5	0.415	0.007	0.000462	0.2147	0.0037	-1.5124	0.2617	0.153	1	0.2617	0.1533	1	0.1926	0.2224	1	0.1926	0.2224	1							0.2239	0.1911	1	0.2239	0.1911	1	0.1232	0.2918	1	0.1232	0.2918	1
24.8	0.415	0.007	0.000462	0.2067	0.0037	-1.8841	0.2654	0.15	1	0.2654	0.1496	1	0.1964	0.2186	1	0.1964	0.2186	1							0.2446	0.1704	1	0.2446	0.1704	1	0.127	0.288	1	0.127	0.288	1
25.1	0.415	0.007	0.000462	0.1967	0.0037	-2.2497	0.2707	0.144	1	0.2707	0.1443	1	0.2015	0.2135	1	0.2015	0.2135	1							0.2691	0.1459	1	0.2691	0.1459	1	0.1318	0.2832	1	0.1318	0.2832	1
25.41	0.415	0.007	0.000462	0.1848	0.0037	-2.6095	0.2779	0.137	1	0.2779	0.1371	1	0.208	0.207	1	0.208	0.207	1							0.2973	0.1177	1	0.2973	0.1177	1	0.1375	0.2775	1	0.1375	0.2775	1
25.71	0.415	0.007	0.000462	0.1711	0.0037	-2.9635	0.2869	0.128	1	0.2869	0.1281	1	0.2158	0.1992	1	0.2158	0.1992	1							0.329	0.086	1	0.329	0.086	1	0.144	0.271	1	0.144	0.271	1
26.01	0.415	0.007	0.000462	0.1554	0.0037	-3.3118	0.298	0.117	1	0.298	0.117	1	0.225	0.19	1	0.225	0.19	1							0.3642	0.0508	1	0.3642	0.0508	1	0.1513	0.2637	1	0.1513	0.2637	1
26.31	0.415	0.007	0.000462	0.1379	0.0037	-3.6544	0.3111	0.104	1	0.3111	0.1039	1	0.2356	0.1794	1	0.2356	0.1794	1							0.4026	0.0124	1	0.4026	0.0124	1	0.1591	0.2559	1	0.1591	0.2559	1
26.62	0.415	0.007	0.000462	0.1185	0.0037	6.814	0.3266	0.088	1	0.3266	0.0884	1	0.2475	0.1675	1	0.2475	0.1675	1							0.4444	-0.0294	1	0.4444	-0.0294	1	0.1673	0.2477	1	0.1673	0.2477	1
26.92	0.415	0.007	0.000462	0.1546	0.0028	-2.7642	0.3445	0.071	1	0.3445	0.0705	1	0.2607	0.1543	1	0.2607	0.1543	1													0.1759	0.2391	1	0.1759	0.2391	1
27.22	0.415	0.007	0.000462	0.1401	0.0028	-3.0223	0.3647	0.05	1	0.3647	0.0503	1	0.2753	0.1397	1	0.2753	0.1397	1													0.1849	0.2301	1	0.1849	0.2301	1
27.52	0.415	0.007	0.000462	0.1241	0.0028	-3.2803	0.3873	0.028	1	0.3873	0.0277	1	0.2913	0.1237	1	0.2913	0.1237	1													0.1943	0.2207	1	0.1943	0.2207	1
27.83	0.415	0.007	0.000462	0.1067	0.0028	-3.5383	0.4122	0.003	1	0.4122	0.0028	1	0.3086	0.1064	1	0.3086	0.1064	1													0.204	0.211	1	0.204	0.211	1
28.13	0.415	0.007	0.000462	0.088	0.0028	-3.7963	0.4394	-0.024	1	0.4394	-0.0244	1	0.3273	0.0877	1	0.3273	0.0877	1													0.2143	0.2007	1	0.2143	0.2007	1
28.43	0.415	0.007	0.000462	0.068	0.0028	-4.054	0.4687	-0.054	1	0.4687	-0.0537	1	0.3473	0.0677	1	0.3473	0.0677	1													0.2251	0.1899	1	0.2251	0.1899	1
28.73	0.415	0.007	0.000462	0.0465	0.0028	-4.3119	0.5004	-0.085	1	0.5004	-0.0854	1	0.3687	0.0463	1	0.3687	0.0463	1													0.2364	0.1786	1	0.2364	0.1786	1
29.04	0.415	0.007	0.000462	0.0237	0.0028	-4.5697	0.5341	-0.119	1	0.5341	-0.1191	1	0.3914	0.0236	1	0.3914	0.0236	1													0.2483	0.1667	1	0.2483	0.1667	1
29.34	0.415	0.007	0.000462	-0.0005	0.0028	-4.8276	0.5701	-0.155	1	0.5701	-0.1551	1	0.4156	-0.0006	1	0.4156	-0.0006	1													0.2608	0.1542	1	0.2608	0.1542	1
29.64	0.415	0.007	0.000462	-0.026	0.0028	0	0.608	-0.193	1	0.608	-0.193	1	0.441	-0.026	1	0.441	-0.026	1													0.274	0.141	1	0.274	0.141	1

BILAGA 7.1

Kontroll LKA balkar

7.1 Moment och tvärkraft i spännarmerade balkar

I detta kapitel redovisas kontrollerna för moment, tvärkaft och vridmoment för spännarmerade balkar.

Kontrollerna som görs

Balk 1-6	Dimensionering av böjarmering med endast spännarmering - LKA 1dir
Balk 1-6	Dimensionering av tvärkraftsarmering - Balk
Balk 1-6	Dimensionering av vridarmering - Balk

Rader som är i grått ingår inte i kontrollen. Snitt behöver inte kontrolleras vid sektioner vid stöd m.h.t. skjuvning.

Sammanställning, balk

	spännkabel överkant	spännkabel underkant		
	n	n	n	n
	LKA, M, max	**LKA, M, min**	**LKA, V**	**LKA, T**
Balk 6	0.79	0.68	0.65	0.99
Balk 6	0.79	0.68	0.53	0.69
Balk 6	0.79	0.68	0.73	0.96
Balk 6	0.79	0.68	0.75	0.97
Balk 6	0.79	0.68	0.54	0.69
Balk 6	0.79	0.68	0.64	1.00
Max UG	**0.79**	**0.68**	**0.75**	**1.00**

Böjning - Kontroll av tvärsnitt med endast spännarmering

Brottgränstillstånd (LKA)

Enligt SS-EN 1992-1-1

Formler och förklaringar

Se Bilaga 11 för kontroll av snitt och beräkningsgång

Indata

$M_{exkl,P}$	[kNm]	*Moment exkl förspänning i t2*
$N_{tillh,ULS}$	[kN]	*Tillhörande normalkraft*
σ_p	[kN/m^2]	*Aktuell förspänning*
h	[m]	*Balkens tvärsnittshöjd*
bw	[m]	*Balkens bredd exklusive flänsar*
t_f	[m]	*Flänsar tjocklek*
b_f	[m]	*Flänsar bredd*
bm	[mm]	*Basmått*
TP_{balk}	[m]	*Balkens tyngdpunkt för tvärsnitt i systemanalys*
TP_{kabel}	[m]	*Spännarmeringens tp i systemanalysen*
$d_{spännarm}$	[m]	*Spännarm tp korrigerat, skillnaden mellan tvärsnitt i analysen och verklig balk*
$Ø_{sparm.1}$	[mm]	*Spännarmeringsdiameter*
$k_{tvång}$		*Faktor för tvång, 1,0 eller 1,35*
f_{ck}	[MPa]	*Betongens cylindertryckhållfasthet*
γ_c		*Partialkoefficient betong*
γ_s		*Partialkoefficient för slak- och spännarmering*
ε_{cu3}		*3,5 / 1000*
f_{p01k}	[MPa]	*Kar. Värde för spänningen i spännarmeringen vid töjning 0,1%*
E_p	[GPa]	*Spännarmeringens E-modul*
$A_{s,\phi}$	[mm^2]	*Spännarmeringens tvärsnittsarea per enhet*

Resultat

Utnyttjandegrad		$M_{Ed,ULS}$ /$M_{Rd,ULS}$
ε_s		$\varepsilon_s = \Delta\varepsilon_s + \varepsilon_p$

Delresultat

$A_{tvär}$	[m]	h_w*bw*t_f*b_f
f_{cd}	[MPa]	f_{ck} / γ_c
e	[m]	$d_{spännarm}$ - h / 2
η		1 - (f_{ck} - 50) / 200 för f_{ck} > 50 MPa, 1 för f_{ck} < 50 MPa
F_c	[kN]	Kraft i betong
F_s	[kN]	Stålets kraft
z	[m]	d • (1 - ω / 2)
λ		0,8 - (f_{ck} - 50) / 400 för f_{ck} > 50 MPa, 0,8 för f_{ck} < 50 MPa
x	[m]	λx / λ
$\Delta\varepsilon_s$		$\Delta\varepsilon_s = \varepsilon_{su3}$ • (d - x) / x
ε_p		σ_p / E_p
f_{pd}	[MPa]	f_{p01k} / γ_s
σ_s	[MPa]	Passad, se Bilaga 11
A_s	[m^2]	$A_{s,\phi}$*antal
$P_{spännkraft}$	[kN]	$A_{s,ULS}$ • σ_p
e_{kabel} från TP	[m]	TP_{kabel} - TP_{balk}
M_0	[kNm]	$P_{spännkraft}$ • e_{kabel}
$M_{Ed,ULS}$	[kNm]	$M_{exkl,P}$
$M_{Rd,ULS}$	[kNm]	Momentkapacitet

Dimensionering av böjarmering med endast spännarmering - LKA

Projekt: **Islandsbron** | A | 1dir | max | Balk 1 | spännkabel i överkant

Indata:

f_{ck}	35.5	MPa			f_{cd}	23.7	MPa	
f_{ctk}	2.25	MPa	E_p	200	GPa			
E_{cm}	34	GPa	γ_s	1.15	-			
γ_c	1.5	-	$k_{tvång}$	1				
ε_{cu3}	0.0035	%	f_{yk}	1250	MPa	P_{efter}	457.1	kN
			f_{uk}	1500	MPa			
k_t	0.4	-	ε_g	4.0	%			
η	1.0	-	f_{st}	1087	MPa			
λ	0.8	-	f_{stu}	1304	MPa			

18% av F initial, tid t2

Snitt kontrolleras ej vid upplag:

precis över stöd

0.81

Kontroll

snitt	$M_{exkl.P}$	N_{tillh}	h	bw	t_f	b_f	bm	TP_{balk}	TP_{kabel}	$d_{spänn}$	$Ø_{sparm.1}$	Antal	$A_{s,ø}$	A_s	e	f_{st}	F_s	$P_{spännkraft}$	passad med σ s_dim	x	$F_c = F_s$	$\Delta\varepsilon_s$	$\Delta\varepsilon_{p0}$	$\Delta\varepsilon_s+\Delta\varepsilon_{p0}$	ε_{st}	σ s_dim	M_0	M_{ed}	M_{Rd}	Uttnyttj	Ok/
m	kNm	kN	m	m	m	m	mm	m	m	m	mm	st	cm^2	cm^2	m	MPa	kN	kN	MPa	m	kN	-	-	(ε_s)	-	mm^3	kNm	kNm	kNm	-	Ej ok
0	0	0	0.83	0.50	0.20	0.50	30	0.42	0.44	0.44	7.0	6	4.618	27.71	0.026	1087	2985	2742	1077	0.315	2985	0.00139	0.00495	0.0063	0.0074	1077	71	0	940	0.00	OK
0.302	0	0	0.83	0.50	0.20	0.50	30	0.42	0.42	0.42	7.0	6	4.618	27.71	0.000	1087	2978	2742	1075	0.315	2978	0.00112	0.00495	0.0061	0.0074	1075	1	0	863	0.00	OK
0.605	0	0	0.83	0.50	0.20	0.50	30	0.42	0.44	0.44	7.0	6	4.618	27.71	-0.024	1087	2984	2742	1077	0.315	2984	0.00137	0.00495	0.0063	0.0074	1077	-65	0	933	0.00	OK
0.907	0	0	0.83	0.50	0.20	0.50	30	0.42	0.46	0.46	7.0	6	4.618	27.71	-0.047	1087	2990	2742	1079	0.316	2990	0.00161	0.00495	0.0066	0.0074	1079	-128	0	1002	0.00	OK
1.21	0	0	0.83	0.50	0.20	0.50	30	0.42	0.48	0.48	7.0	6	4.618	27.71	-0.068	1087	2996	2742	1081	0.316	2996	0.00184	0.00495	0.0068	0.0074	1081	-186	0	1068	0.00	OK
1.512	0	0	0.83	0.50	0.20	0.50	30	0.42	0.50	0.50	7.0	6	4.618	27.71	-0.088	1087	3001	2742	1083	0.317	3001	0.00205	0.00495	0.0070	0.0074	1083	-241	0	1129	0.00	OK
1.815	0	0	0.83	0.50	0.20	0.50	30	0.42	0.52	0.52	7.0	6	4.618	27.71	-0.107	1087	3006	2742	1085	0.318	3006	0.00225	0.00495	0.0072	0.0074	1085	-293	0	1187	0.00	OK
2.117	0	0	0.83	0.50	0.20	0.50	30	0.42	0.54	0.54	7.0	6	4.618	27.71	-0.124	1087	3011	2742	1086	0.318	3011	0.00243	0.00495	0.0074	0.0074	1086	-340	0	1240	0.00	OK
2.42	0	0	0.83	0.50	0.20	0.50	30	0.42	0.56	0.56	7.0	6	4.618	27.71	-0.140	1087	3015	2742	1088	0.318	3015	0.00260	0.00495	0.0075	0.0074	1088	-384	0	1289	0.00	OK
2.722	0	0	0.83	0.50	0.20	0.50	30	0.42	0.57	0.57	7.0	6	4.618	27.71	-0.155	1087	3018	2742	1089	0.319	3018	0.00275	0.00495	0.0077	0.0074	1089	-424	0	1334	0.00	OK
3.024	0	0	0.83	0.50	0.20	0.50	30	0.42	0.53	0.53	7.0	8	4.618	36.95	-0.119	1087	3966	3657	1073	0.419	3966	0.00096	0.00495	0.0059	0.0074	1073	-433	0	1451	0.00	OK
3.327	0	0	0.83	0.50	0.20	0.50	30	0.42	0.55	0.55	7.0	8	4.618	36.95	-0.138	1087	3971	3657	1075	0.419	3971	0.00111	0.00495	0.0061	0.0074	1075	-504	0	1529	0.00	OK
3.629	0	0	0.83	0.50	0.20	0.50	30	0.42	0.57	0.57	7.0	8	4.618	36.95	-0.155	1087	3975	3657	1076	0.420	3975	0.00125	0.00495	0.0062	0.0074	1076	-568	0	1600	0.00	OK
3.932	0	0	0.83	0.50	0.20	0.50	30	0.42	0.59	0.59	7.0	8	4.618	36.95	-0.171	1087	3980	3657	1077	0.420	3980	0.00138	0.00495	0.0063	0.0074	1077	-625	0	1663	0.00	OK
4.234	0	0	0.83	0.50	0.20	0.50	30	0.42	0.60	0.60	7.0	8	4.618	36.95	-0.185	1087	3983	3657	1078	0.421	3983	0.00149	0.00495	0.0064	0.0074	1078	-676	0	1719	0.00	OK
4.537	0	0	0.83	0.50	0.20	0.50	30	0.42	0.61	0.61	7.0	8	4.618	36.95	-0.197	1087	3986	3657	1079	0.421	3986	0.00158	0.00495	0.0065	0.0074	1079	-719	0	1767	0.00	OK
4.839	0	0	0.83	0.50	0.20	0.50	30	0.42	0.62	0.62	7.0	8	4.618	36.95	-0.207	1087	3989	3657	1080	0.421	3989	0.00166	0.00495	0.0066	0.0074	1080	-755	0	1807	0.00	OK
5.142	0	0	0.83	0.50	0.20	0.50	30	0.42	0.63	0.63	7.0	8	4.618	36.95	-0.215	1087	3991	3657	1080	0.422	3991	0.00173	0.00495	0.0067	0.0074	1080	-785	0	1840	0.00	OK
5.444	0	0	0.83	0.50	0.20	0.50	30	0.42	0.64	0.64	7.0	8	4.618	36.95	-0.221	1087	3993	3657	1081	0.422	3993	0.00177	0.00495	0.0067	0.0074	1081	-807	0	1864	0.00	OK
5.747	0	0	0.83	0.50	0.20	0.50	30	0.42	0.64	0.64	7.0	8	4.618	36.95	-0.225	1087	3994	3657	1081	0.422	3994	0.00181	0.00495	0.0068	0.0074	1081	-821	0	1880	0.00	OK
6.049	0	0	0.83	0.50	0.20	0.50	30	0.42	0.60	0.60	7.0	10	4.618	46.18	-0.189	1087	4941	4571	1070	0.522	4941	0.00055	0.00495	0.0055	0.0074	1070	-863	0	1952	0.00	OK
6.351	0	0	0.83	0.50	0.20	0.50	30	0.42	0.61	0.61	7.0	10	4.618	46.18	-0.192	1087	4941	4571	1070	0.522	4941	0.00057	0.00495	0.0055	0.0074	1070	-878	0	1968	0.00	OK
6.654	0	0	0.83	0.50	0.20	0.50	30	0.42	0.61	0.61	7.0	10	4.618	46.18	-0.193	1087	4942	4571	1070	0.522	4942	0.00058	0.00495	0.0055	0.0074	1070	-884	0	1974	0.00	OK
6.956	0	0	0.83	0.50	0.20	0.50	30	0.42	0.61	0.61	7.0	10	4.618	46.18	-0.193	1087	4942	4571	1070	0.522	4942	0.00057	0.00495	0.0055	0.0074	1070	-880	0	1971	0.00	OK
7.259	0	0	0.83	0.50	0.20	0.50	30	0.42	0.61	0.61	7.0	10	4.618	46.18	-0.190	1087	4941	4571	1070	0.522	4941	0.00056	0.00495	0.0055	0.0074	1070	-869	0	1958	0.00	OK
7.561	0	0	0.83	0.50	0.20	0.50	30	0.42	0.60	0.60	7.0	10	4.618	46.18	-0.186	1087	5009	4571	1085	0.529	5009	0.00047	0.00495	0.0054	0.0074	1085	-849	0	1949	0.00	OK
7.864	0	0	0.83	0.50	0.20	0.50	30	0.42	0.59	0.59	7.0	10	4.618	46.18	-0.180	1087	4988	4571	1080	0.527	4988	0.00045	0.00495	0.0054	0.0074	1080	-822	0	1916	0.00	OK
8.166	0	0	0.83	0.50	0.20	0.50	30	0.42	0.59	0.59	7.0	10	4.618	46.18	-0.172	1087	4961	4571	1074	0.524	4961	0.00042	0.00495	0.0054	0.0074	1074	-787	0	1874	0.00	OK
8.469	0	0	0.83	0.50	0.20	0.50	30	0.42	0.58	0.58	7.0	10	4.618	46.18	-0.163	1087	4928	4571	1067	0.521	4928	0.00039	0.00495	0.0053	0.0074	1067	-746	0	1823	0.00	OK
8.771	0	0	0.83	0.50	0.20	0.50	30	0.42	0.57	0.57	7.0	10	4.618	46.18	-0.153	1087	4890	4571	1059	0.517	4890	0.00035	0.00495	0.0053	0.0074	1059	-698	0	1765	0.00	OK
9.073	0	0	0.83	0.50	0.20	0.50	30	0.42	0.56	0.56	7.0	10	4.618	46.18	-0.141	1087	4847	4571	1050	0.512	4847	0.00030	0.00495	0.0052	0.0074	1050	-643	0	1701	0.00	OK
9.376	0	0	0.83	0.50	0.20	0.50	30	0.42	0.54	0.54	7.0	10	4.618	46.18	-0.127	1087	4798	4571	1039	0.507	4798	0.00025	0.00495	0.0052	0.0074	1039	-582	0	1630	0.00	OK
9.678	0	0	0.83	0.50	0.20	0.50	30	0.42	0.53	0.53	7.0	10	4.618	46.18	-0.113	1087	4743	4571	1027	0.501	4743	0.00019	0.00495	0.0051	0.0074	1027	-516	0	1553	0.00	OK
9.981	0	0	0.83	0.50	0.20	0.50	30	0.42	0.51	0.51	7.0	10	4.618	46.18	-0.097	1087	4683	4571	1014	0.495	4683	0.00012	0.00495	0.0051	0.0074	1014	-443	0	1470	0.00	OK
10.283	0	0	0.83	0.50	0.20	0.50	30	0.42	0.49	0.49	7.0	10	4.618	46.18	-0.080	1087	4617	4571	1000	0.488	4617	0.00005	0.00495	0.0050	0.0074	1000	-364	0	1383	0.00	OK
10.586	45	-67	0.83	0.50	0.20	0.50	30	0.42	0.48	0.48	7.0	10	4.618	46.18	-0.061	1087	4545	4571	984	0.480	4545	-0.00003	0.00495	0.0049	0.0074	984	-280	45	1291	0.04	OK
10.888	126	-26	0.83	0.50	0.20	0.50	30	0.42	0.46	0.46	7.0	10	4.618	46.18	-0.041	1087	4466	4571	967	0.472	4466	-0.00011	0.00495	0.0048	0.0074	967	-190	126	1196	0.11	OK
11.191	211	-20	0.83	0.50	0.20	0.50	30	0.42	0.44	0.44	7.0	10	4.618	46.18	-0.020	1087	4380	4571	949	0.463	4380	-0.00021	0.00495	0.0047	0.0074	949	-93	211	1097	0.19	OK
11.493	302	-66	0.83	0.50	0.20	0.50	30	0.42	0.42	0.42	7.0	10	4.618	46.18	0.002	1087	4302	4571	932	0.454	4302	-0.00029	0.00495	0.0047	0.0074	932	8	302	1011	0.30	OK
11.796	400	-110	0.83	0.50	0.20	0.50	30	0.42	0.44	0.44	7.0	10	4.618	46.18	0.025	1087	4400	4571	953	0.465	4400	-0.00019	0.00495	0.0048	0.0074	953	115	400	1119	0.36	OK
12.098	505	-169	0.83	0.50	0.20	0.50	30	0.42	0.46	0.46	7.0	10	4.618	46.18	0.050	1087	4499	4571	974	0.475	4499	-0.00008	0.00495	0.0049	0.0074	974	227	505	1236	0.41	OK
12.4	624	-225	0.83	0.50	0.20	0.50	30	0.42	0.49	0.49	7.0	10	4.618	46.18	0.075	1087	4600	4571	996	0.486	4600	0.00003	0.00495	0.0050	0.0074	996	344	624	1361	0.46	OK
12.703	760	-258	0.83	0.50	0.20	0.50	30	0.42	0.52	0.52	7.0	10	4.618	46.18	0.101	1087	4699	4571	1018	0.496	4699	0.00014	0.00495	0.0051	0.0074	1018	462	760	1492	0.51	OK
13.005	906	-286	0.83	0.50	0.20	0.50	30	0.42	0.54	0.54	7.0	10	4.618	46.18	0.127	1087	4796	4571	1039	0.507	4796	0.00024	0.00495	0.0052	0.0074	1039	580	906	1628	0.56	OK
13.308	1061	-308	0.83	0.50	0.20	0.50	30	0.42	0.57	0.57	7.0	10	4.618	46.18	0.153	1087	4890	4571	1059	0.517	4890	0.00035	0.00495	0.0053	0.0074	1059	697	1061	1765	0.60	OK
13.61	1224	-325	0.83	0.50	0.20	0.50	30	0.42	0.59	0.59	7.0	10	4.618	46.18	0.177	1087	4978	4571	1078	0.526	4978	0.00044	0.00495	0.0054	0.0074	1078	810	1224	1901	0.64	OK
13.913	1398	-377	0.83	0.50	0.20	0.50	30	0.42	0.62	0.62	7.0	10	4.618	46.18	0.201	1087	4944	4571	1070	0.522	4944	0.00063	0.00495	0.0056	0.0074	1070	917	1398	2011	0.70	OK
14.215	1583	-427	0.83	0.50	0.20	0.50	30	0.42	0.64	0.64	7.0	10	4.618	46.18	0.222	1087	4949	4571	1072	0.523	4949	0.00077	0.00495	0.0057	0.0074	1072	1016	1583	2119	0.75	OK
14.518	1780	-438	0.83	0.50	0.20	0.50	30	0.42	0.66	0.66	7.0	10	4.618	46.18	0.241	1087	4954	4571	1073	0.523	4954	0.00088	0.00495	0.0058	0.0074	1073	1100	1780	2211	0.81	OK
14.82	1293	-677	0.83	0.50	0.20	0.50	30	0.42	0.66	0.66	7.0	10	4.618	46.18	0.249	1087	4956	4571	1073	0.524	4956	0.00094	0.00495	0.0059	0.0074	1073	1136	1293	2251	0.57	OK

Dimensionering av böjarmering med endast spännarmering - LKA

Projekt: **Islandsbron** A 1dir min Balk 1 spännkabel i underkant

Indata:

f_{ck}	35.5	MPa			f_{cd}	23.7	MPa	
f_{ctk}	2.25	MPa	E_p	200	GPa			
E_{cm}	34	GPa	γ_s	1.15	-			
γ_c	1.5	-	$k_{tvång}$	1				
ε_{cu3}	0.0035	%	f_{pk}	1250	MPa	P_{efter}	457.1	kN
			f_{dk}	1500	MPa			
k_t	0.4	-	ε_g	4.0	%			
η	1.0	-	f_{st}	1087	MPa			
λ	0.8	-	f_{stu}	1304	MPa			

18% av F initial, tid t2

Snitt kontrolleras ej vid upplag:

precis över stöd

0.68

Kontroll

snitt	$M_{exkl.P}$	N_{tillh}	h	bw	t_f	b_f	bm	TP_{balk}	TP_{kabel}	$d_{spänn}$	$Ø_{sparm.1}$	Antal	$A_{s,\phi}$	A_s	e	f_{st}	F_s	$P_{spännkraft}$	σ_s passad med σ s_dim	x	$F_c = F_s$	$\Delta\varepsilon_s$	$\Delta\varepsilon_{p0}$	$\Delta\varepsilon_s+\Delta\varepsilon_{p0}$	ε_{st}	σ s_dim	M_0	M_{ed}	M_{Rd}	Uttnyttj	Ok/
m	kNm	kN	m	m	m	m	mm	m	m	m	mm	st	cm^2	cm^2	m	MPa	kN	kN	MPa	m	kN	-	-	(ε_s)	-	mm^3	kNm	kNm	kNm	-	Ej ok
0	37	-266	0.83	0.50	0.20	0.50	30	0.42	0.44	0.44	7.0	6	4.618	27.71	0.026	1087	2985	2742	1077	0.315	2985	0.00139	0.00495	0.0063	0.0074	1077	71	37	940	0.04	OK
0.302	142	-38	0.83	0.50	0.20	0.50	30	0.42	0.42	0.42	7.0	6	4.618	27.71	0.000	1087	2978	2742	1075	0.315	2978	0.00112	0.00495	0.0061	0.0074	1075	1	142	863	0.16	OK
0.605	270	-24	0.83	0.50	0.20	0.50	30	0.42	0.44	0.44	7.0	6	4.618	27.71	-0.024	1087	2984	2742	1077	0.315	2984	0.00137	0.00495	0.0063	0.0074	1077	-65	270	933	0.29	OK
0.907	388	-14	0.83	0.50	0.20	0.50	30	0.42	0.46	0.46	7.0	6	4.618	27.71	-0.047	1087	2990	2742	1079	0.316	2990	0.00161	0.00495	0.0066	0.0074	1079	-128	388	1002	0.39	OK
1.21	493	-3	0.83	0.50	0.20	0.50	30	0.42	0.48	0.48	7.0	6	4.618	27.71	-0.068	1087	2996	2742	1081	0.316	2996	0.00184	0.00495	0.0068	0.0074	1081	-186	493	1068	0.46	OK
1.512	589	-24	0.83	0.50	0.20	0.50	30	0.42	0.50	0.50	7.0	6	4.618	27.71	-0.088	1087	3001	2742	1083	0.317	3001	0.00205	0.00495	0.0070	0.0074	1083	-241	589	1129	0.52	OK
1.815	679	-48	0.83	0.50	0.20	0.50	30	0.42	0.52	0.52	7.0	6	4.618	27.71	-0.107	1087	3006	2742	1085	0.318	3006	0.00225	0.00495	0.0072	0.0074	1085	-293	679	1187	0.57	OK
2.117	760	-71	0.83	0.50	0.20	0.50	30	0.42	0.54	0.54	7.0	6	4.618	27.71	-0.124	1087	3011	2742	1086	0.318	3011	0.00243	0.00495	0.0074	0.0074	1086	-340	760	1240	0.61	OK
2.42	834	-94	0.83	0.50	0.20	0.50	30	0.42	0.56	0.56	7.0	6	4.618	27.71	-0.140	1087	3015	2742	1088	0.318	3015	0.00260	0.00495	0.0075	0.0074	1088	-384	834	1289	0.65	OK
2.722	901	-118	0.83	0.50	0.20	0.50	30	0.42	0.57	0.57	7.0	6	4.618	27.71	-0.155	1087	3018	2742	1089	0.319	3018	0.00275	0.00495	0.0077	0.0074	1089	-424	901	1334	0.68	OK
3.024	961	-138	0.83	0.50	0.20	0.50	30	0.42	0.53	0.53	7.0	8	4.618	36.95	-0.119	1087	3966	3657	1073	0.419	3966	0.00096	0.00495	0.0059	0.0074	1073	-433	961	1451	0.66	OK
3.327	1016	-157	0.83	0.50	0.20	0.50	30	0.42	0.55	0.55	7.0	8	4.618	36.95	-0.138	1087	3971	3657	1075	0.419	3971	0.00111	0.00495	0.0061	0.0074	1075	-504	1016	1529	0.66	OK
3.629	1064	-176	0.83	0.50	0.20	0.50	30	0.42	0.57	0.57	7.0	8	4.618	36.95	-0.155	1087	3975	3657	1076	0.420	3975	0.00125	0.00495	0.0062	0.0074	1076	-568	1064	1600	0.67	OK
3.932	1103	-193	0.83	0.50	0.20	0.50	30	0.42	0.59	0.59	7.0	8	4.618	36.95	-0.171	1087	3980	3657	1077	0.420	3980	0.00138	0.00495	0.0063	0.0074	1077	-625	1103	1663	0.66	OK
4.234	1138	-211	0.83	0.50	0.20	0.50	30	0.42	0.60	0.60	7.0	8	4.618	36.95	-0.185	1087	3983	3657	1078	0.421	3983	0.00149	0.00495	0.0064	0.0074	1078	-676	1138	1719	0.66	OK
4.537	1168	-225	0.83	0.50	0.20	0.50	30	0.42	0.61	0.61	7.0	8	4.618	36.95	-0.197	1087	3986	3657	1079	0.421	3986	0.00158	0.00495	0.0065	0.0074	1079	-719	1168	1767	0.66	OK
4.839	1190	-235	0.83	0.50	0.20	0.50	30	0.42	0.62	0.62	7.0	8	4.618	36.95	-0.207	1087	3989	3657	1080	0.421	3989	0.00166	0.00495	0.0066	0.0074	1080	-755	1190	1807	0.66	OK
5.142	1204	-242	0.83	0.50	0.20	0.50	30	0.42	0.63	0.63	7.0	8	4.618	36.95	-0.215	1087	3991	3657	1080	0.422	3991	0.00173	0.00495	0.0067	0.0074	1080	-785	1204	1840	0.65	OK
5.444	1213	-248	0.83	0.50	0.20	0.50	30	0.42	0.64	0.64	7.0	8	4.618	36.95	-0.221	1087	3993	3657	1081	0.422	3993	0.00177	0.00495	0.0067	0.0074	1081	-807	1213	1864	0.65	OK
5.747	1216	-249	0.83	0.50	0.20	0.50	30	0.42	0.64	0.64	7.0	8	4.618	36.95	-0.225	1087	3994	3657	1081	0.422	3994	0.00181	0.00495	0.0068	0.0074	1081	-821	1216	1880	0.65	OK
6.049	1214	-247	0.83	0.50	0.20	0.50	30	0.42	0.60	0.60	7.0	10	4.618	46.18	-0.189	1087	4941	4571	1070	0.522	4941	0.00055	0.00495	0.0055	0.0074	1070	-863	1214	1952	0.62	OK
6.351	1205	-242	0.83	0.50	0.20	0.50	30	0.42	0.61	0.61	7.0	10	4.618	46.18	-0.192	1087	4941	4571	1070	0.522	4941	0.00057	0.00495	0.0055	0.0074	1070	-878	1205	1968	0.61	OK
6.654	1189	-235	0.83	0.50	0.20	0.50	30	0.42	0.61	0.61	7.0	10	4.618	46.18	-0.193	1087	4942	4571	1070	0.522	4942	0.00058	0.00495	0.0055	0.0074	1070	-884	1189	1974	0.60	OK
6.956	1168	-225	0.83	0.50	0.20	0.50	30	0.42	0.61	0.61	7.0	10	4.618	46.18	-0.193	1087	4942	4571	1070	0.522	4942	0.00057	0.00495	0.0055	0.0074	1070	-880	1168	1971	0.59	OK
7.259	1141	-213	0.83	0.50	0.20	0.50	30	0.42	0.61	0.61	7.0	10	4.618	46.18	-0.190	1087	4941	4571	1070	0.522	4941	0.00056	0.00495	0.0055	0.0074	1070	-869	1141	1958	0.58	OK
7.561	1107	-210	0.83	0.50	0.20	0.50	30	0.42	0.60	0.60	7.0	10	4.618	46.18	-0.186	1087	4940	4571	1070	0.522	4940	0.00053	0.00495	0.0055	0.0074	1070	-849	1107	1937	0.57	OK
7.864	1067	-202	0.83	0.50	0.20	0.50	30	0.42	0.59	0.59	7.0	10	4.618	46.18	-0.180	1087	4988	4571	1080	0.527	4988	0.00045	0.00495	0.0054	0.0074	1080	-822	1067	1916	0.56	OK
8.166	1022	-178	0.83	0.50	0.20	0.50	30	0.42	0.59	0.59	7.0	10	4.618	46.18	-0.172	1087	4961	4571	1074	0.524	4961	0.00042	0.00495	0.0054	0.0074	1074	-787	1022	1874	0.55	OK
8.469	971	-155	0.83	0.50	0.20	0.50	30	0.42	0.58	0.58	7.0	10	4.618	46.18	-0.163	1087	4928	4571	1067	0.521	4928	0.00039	0.00495	0.0053	0.0074	1067	-746	971	1823	0.53	OK
8.771	912	-131	0.83	0.50	0.20	0.50	30	0.42	0.57	0.57	7.0	10	4.618	46.18	-0.153	1087	4890	4571	1059	0.517	4890	0.00035	0.00495	0.0053	0.0074	1059	-698	912	1765	0.52	OK
9.073	847	-102	0.83	0.50	0.20	0.50	30	0.42	0.56	0.56	7.0	10	4.618	46.18	-0.141	1087	4847	4571	1050	0.512	4847	0.00030	0.00495	0.0052	0.0074	1050	-643	847	1701	0.50	OK
9.376	778	-69	0.83	0.50	0.20	0.50	30	0.42	0.54	0.54	7.0	10	4.618	46.18	-0.127	1087	4798	4571	1039	0.507	4798	0.00025	0.00495	0.0052	0.0074	1039	-582	778	1630	0.48	OK
9.678	701	-39	0.83	0.50	0.20	0.50	30	0.42	0.53	0.53	7.0	10	4.618	46.18	-0.113	1087	4743	4571	1027	0.501	4743	0.00019	0.00495	0.0051	0.0074	1027	-516	701	1553	0.45	OK
9.981	617	-6	0.83	0.50	0.20	0.50	30	0.42	0.51	0.51	7.0	10	4.618	46.18	-0.097	1087	4683	4571	1014	0.495	4683	0.00012	0.00495	0.0051	0.0074	1014	-443	617	1470	0.42	OK
10.283	528	-29	0.83	0.50	0.20	0.50	30	0.42	0.49	0.49	7.0	10	4.618	46.18	-0.080	1087	4617	4571	1000	0.488	4617	0.00005	0.00495	0.0050	0.0074	1000	-364	528	1383	0.38	OK
10.586	433	-63	0.83	0.50	0.20	0.50	30	0.42	0.48	0.48	7.0	10	4.618	46.18	-0.061	1087	4545	4571	984	0.480	4545	-0.00003	0.00495	0.0049	0.0074	984	-280	433	1291	0.34	OK
10.888	329	-91	0.83	0.50	0.20	0.50	30	0.42	0.46	0.46	7.0	10	4.618	46.18	-0.041	1087	4466	4571	967	0.472	4466	-0.00011	0.00495	0.0048	0.0074	967	-190	329	1196	0.28	OK
11.191	221	-118	0.83	0.50	0.20	0.50	30	0.42	0.44	0.44	7.0	10	4.618	46.18	-0.020	1087	4380	4571	949	0.463	4380	-0.00021	0.00495	0.0047	0.0074	949	-93	221	1097	0.20	OK
11.493	109	-145	0.83	0.50	0.20	0.50	30	0.42	0.42	0.42	7.0	10	4.618	46.18	0.002	1087	4302	4571	932	0.454	4302	-0.00029	0.00495	0.0047	0.0074	932	8	109	1011	0.11	OK
11.796	0	0	0.83	0.50	0.20	0.50	30	0.42	0.44	0.44	7.0	10	4.618	46.18	0.025	1087	4400	4571	953	0.465	4400	-0.00019	0.00495	0.0048	0.0074	953	115	0	1119	0.00	OK
12.098	0	0	0.83	0.50	0.20	0.50	30	0.42	0.46	0.46	7.0	10	4.618	46.18	0.050	1087	4499	4571	974	0.475	4499	-0.00008	0.00495	0.0049	0.0074	974	227	0	1236	0.00	OK
12.4	0	0	0.83	0.50	0.20	0.50	30	0.42	0.49	0.49	7.0	10	4.618	46.18	0.075	1087	4600	4571	996	0.486	4600	0.00003	0.00495	0.0050	0.0074	996	344	0	1361	0.00	OK
12.703	0	0	0.83	0.50	0.20	0.50	30	0.42	0.52	0.52	7.0	10	4.618	46.18	0.101	1087	4699	4571	1018	0.496	4699	0.00014	0.00495	0.0051	0.0074	1018	462	0	1492	0.00	OK
13.005	0	0	0.83	0.50	0.20	0.50	30	0.42	0.54	0.54	7.0	10	4.618	46.18	0.127	1087	4796	4571	1039	0.507	4796	0.00024	0.00495	0.0052	0.0074	1039	580	0	1628	0.00	OK
13.308	0	0	0.83	0.50	0.20	0.50	30	0.42	0.57	0.57	7.0	10	4.618	46.18	0.153	1087	4890	4571	1059	0.517	4890	0.00035	0.00495	0.0053	0.0074	1059	697	0	1765	0.00	OK
13.61	0	0	0.83	0.50	0.20	0.50	30	0.42	0.59	0.59	7.0	10	4.618	46.18	0.177	1087	4978	4571	1078	0.526	4978	0.00044	0.00495	0.0054	0.0074	1078	810	0	1901	0.00	OK
13.913	0	0	0.83	0.50	0.20	0.50	30	0.42	0.62	0.62	7.0	10	4.618	46.18	0.201	1087	4944	4571	1070	0.522	4944	0.00063	0.00495	0.0056	0.0074	1070	917	0	2011	0.00	OK
14.215	0	0	0.83	0.50	0.20	0.50	30	0.42	0.64	0.64	7.0	10	4.618	46.18	0.222	1087	4949	4571	1072	0.523	4949	0.00077	0.00495	0.0057	0.0074	1072	1016	0	2119	0.00	OK
14.518	0	0	0.83	0.50	0.20	0.50	30	0.42	0.66	0.66	7.0	10	4.618	46.18	0.241	1087	4954	4571	1073	0.523	4954	0.00088	0.00495	0.0058	0.0074	1073	1100	0	2211	0.00	OK
14.82	0	0	0.83	0.50	0.20	0.50	30	0.42	0.66	0.66	7.0	10	4.618	46.18	0.249	1087	4956	4571	1073	0.524	4956	0.00094	0.00495	0.0059	0.0074	1073	1136	0	2251	0.00	OK

Dimensionering av böjarmering med endast spännarmering - LKA

Projekt: **Islandsbron** A 1dir max Balk 6 spännkabel i överkant

Indata:

f_{ck}	35.5	MPa			f_{cd}	23.7	MPa
f_{ctk}	2.25	MPa	E_p	200	GPa		
E_{cm}	34	GPa	γ_s	1.15	-		
γ_c	1.5	-	$k_{tvång}$	1			
ε_{cu3}	0.0035	%	f_{yk}	1250	MPa	P_{efter}	457.1 kN
			f_{uk}	1500	MPa		
k_t	0.4	-	ε_g	4.0	%		
η	1.0	-	f_{st}	1087	MPa		
λ	0.8	-	f_{stu}	1304	MPa		

18% av F initial, tid t2

Snitt kontrolleras ej vid upplag:

precis över stöd

0.79

Kontroll

snitt	$M_{exkl.P}$	N_{tillh}	h	bw	t_f	b_f	bm	TP_{balk}	TP_{kabel}	$d_{spänn}$	$Ø_{sparm.1}$	Antal	$A_{s,\phi}$	A_s	e	f_{st}	F_s	$P_{spännkraft}$	σ_s passad med σ s_dim	x	$F_c = F_s$	$\Delta\varepsilon_s$	$\Delta\varepsilon_{p0}$	$\Delta\varepsilon_s+\Delta\varepsilon_{p0}$ (ε_s)	ε_{st}	σ s_dim	M_0	M_{ed}	M_{Rd}	Uttnyttj	Ok/
m	kNm	kN	m	m	m	m	mm	m	m	m	mm	st	cm^2	cm^2	m	MPa	kN	kN	MPa	m	kN	-	-	-	-	mm^3	kNm	kNm	kNm	-	Ej ok
0	0	0	0.83	0.50	0.20	0.50	30	0.42	0.45	0.45	7.0	6	4.618	27.71	0.030	1087	2986	2742	1078	0.315	2986	0.00144	0.00495	0.0064	0.0074	1078	82	0	952	0.00	OK
0.302	0	0	0.83	0.50	0.20	0.50	30	0.42	0.42	0.42	7.0	6	4.618	27.71	0.004	1087	2979	2742	1075	0.315	2979	0.00116	0.00495	0.0061	0.0074	1075	12	0	874	0.00	OK
0.605	0	0	0.83	0.50	0.20	0.50	30	0.42	0.43	0.43	7.0	6	4.618	27.71	-0.020	1087	2983	2742	1077	0.315	2983	0.00133	0.00495	0.0063	0.0074	1077	-55	0	921	0.00	OK
0.907	0	0	0.83	0.50	0.20	0.50	30	0.42	0.46	0.46	7.0	6	4.618	27.71	-0.043	1087	2989	2742	1079	0.316	2989	0.00157	0.00495	0.0065	0.0074	1079	-117	0	991	0.00	OK
1.21	0	0	0.83	0.50	0.20	0.50	30	0.42	0.48	0.48	7.0	6	4.618	27.71	-0.064	1087	2995	2742	1081	0.316	2995	0.00180	0.00495	0.0068	0.0074	1081	-177	0	1057	0.00	OK
1.512	0	0	0.83	0.50	0.20	0.50	30	0.42	0.50	0.50	7.0	6	4.618	27.71	-0.084	1087	3000	2742	1083	0.317	3000	0.00202	0.00495	0.0070	0.0074	1083	-232	0	1118	0.00	OK
1.815	0	0	0.83	0.50	0.20	0.50	30	0.42	0.52	0.52	7.0	6	4.618	27.71	-0.103	1087	3005	2742	1085	0.317	3005	0.00221	0.00495	0.0072	0.0074	1085	-283	0	1176	0.00	OK
2.117	0	0	0.83	0.50	0.20	0.50	30	0.42	0.54	0.54	7.0	6	4.618	27.71	-0.121	1087	3010	2742	1086	0.318	3010	0.00240	0.00495	0.0073	0.0074	1086	-331	0	1230	0.00	OK
2.42	0	0	0.83	0.50	0.20	0.50	30	0.42	0.55	0.55	7.0	6	4.618	27.71	-0.137	1087	3014	2742	1088	0.318	3014	0.00257	0.00495	0.0075	0.0074	1088	-375	0	1279	0.00	OK
2.722	0	0	0.83	0.50	0.20	0.50	30	0.42	0.57	0.57	7.0	6	4.618	27.71	-0.152	1087	3018	2742	1089	0.319	3018	0.00272	0.00495	0.0077	0.0074	1089	-416	0	1325	0.00	OK
3.024	0	0	0.83	0.50	0.20	0.50	30	0.42	0.53	0.53	7.0	8	4.618	36.95	-0.116	1087	3965	3657	1073	0.419	3965	0.00094	0.00495	0.0059	0.0074	1073	-424	0	1441	0.00	OK
3.327	0	0	0.83	0.50	0.20	0.50	30	0.42	0.55	0.55	7.0	8	4.618	36.95	-0.135	1087	3970	3657	1075	0.419	3970	0.00109	0.00495	0.0060	0.0074	1075	-495	0	1519	0.00	OK
3.629	0	0	0.83	0.50	0.20	0.50	30	0.42	0.57	0.57	7.0	8	4.618	36.95	-0.153	1087	3975	3657	1076	0.420	3975	0.00123	0.00495	0.0062	0.0074	1076	-559	0	1590	0.00	OK
3.932	0	0	0.83	0.50	0.20	0.50	30	0.42	0.58	0.58	7.0	8	4.618	36.95	-0.169	1087	3979	3657	1077	0.420	3979	0.00136	0.00495	0.0063	0.0074	1077	-617	0	1654	0.00	OK
4.234	0	0	0.83	0.50	0.20	0.50	30	0.42	0.60	0.60	7.0	8	4.618	36.95	-0.183	1087	3983	3657	1078	0.421	3983	0.00147	0.00495	0.0064	0.0074	1078	-668	0	1710	0.00	OK
4.537	0	0	0.83	0.50	0.20	0.50	30	0.42	0.61	0.61	7.0	8	4.618	36.95	-0.195	1087	3986	3657	1079	0.421	3986	0.00157	0.00495	0.0065	0.0074	1079	-711	0	1758	0.00	OK
4.839	0	0	0.83	0.50	0.20	0.50	30	0.42	0.62	0.62	7.0	8	4.618	36.95	-0.205	1087	3988	3657	1080	0.421	3988	0.00165	0.00495	0.0066	0.0074	1080	-748	0	1799	0.00	OK
5.142	0	0	0.83	0.50	0.20	0.50	30	0.42	0.63	0.63	7.0	8	4.618	36.95	-0.213	1087	3990	3657	1080	0.422	3990	0.00171	0.00495	0.0067	0.0074	1080	-777	0	1831	0.00	OK
5.444	0	0	0.83	0.50	0.20	0.50	30	0.42	0.63	0.63	7.0	8	4.618	36.95	-0.219	1087	3992	3657	1081	0.422	3992	0.00176	0.00495	0.0067	0.0074	1081	-799	0	1856	0.00	OK
5.747	0	0	0.83	0.50	0.20	0.50	30	0.42	0.64	0.64	7.0	8	4.618	36.95	-0.223	1087	3993	3657	1081	0.422	3993	0.00179	0.00495	0.0067	0.0074	1081	-814	0	1872	0.00	OK
6.049	0	0	0.83	0.50	0.20	0.50	30	0.42	0.60	0.60	7.0	10	4.618	46.18	-0.187	1087	4940	4571	1070	0.522	4940	0.00054	0.00495	0.0055	0.0074	1070	-854	0	1942	0.00	OK
6.351	0	0	0.83	0.50	0.20	0.50	30	0.42	0.61	0.61	7.0	10	4.618	46.18	-0.190	1087	4941	4571	1070	0.522	4941	0.00056	0.00495	0.0055	0.0074	1070	-868	0	1958	0.00	OK
6.654	0	0	0.83	0.50	0.20	0.50	30	0.42	0.61	0.61	7.0	10	4.618	46.18	-0.191	1087	4941	4571	1070	0.522	4941	0.00056	0.00495	0.0055	0.0074	1070	-874	0	1964	0.00	OK
6.956	0	0	0.83	0.50	0.20	0.50	30	0.42	0.61	0.61	7.0	10	4.618	46.18	-0.190	1087	4941	4571	1070	0.522	4941	0.00056	0.00495	0.0055	0.0074	1070	-870	0	1960	0.00	OK
7.259	0	0	0.83	0.50	0.20	0.50	30	0.42	0.60	0.60	7.0	10	4.618	46.18	-0.188	1087	4940	4571	1070	0.522	4940	0.00054	0.00495	0.0055	0.0074	1070	-859	0	1947	0.00	OK
7.561	0	0	0.83	0.50	0.20	0.50	30	0.42	0.60	0.60	7.0	10	4.618	46.18	-0.184	1087	4939	4571	1070	0.522	4939	0.00052	0.00495	0.0055	0.0074	1070	-839	0	1925	0.00	OK
7.864	0	0	0.83	0.50	0.20	0.50	30	0.42	0.59	0.59	7.0	10	4.618	46.18	-0.178	1087	4980	4571	1078	0.526	4980	0.00044	0.00495	0.0054	0.0074	1078	-812	0	1903	0.00	OK
8.166	0	0	0.83	0.50	0.20	0.50	30	0.42	0.59	0.59	7.0	10	4.618	46.18	-0.170	1087	4953	4571	1072	0.523	4953	0.00041	0.00495	0.0054	0.0074	1072	-777	0	1861	0.00	OK
8.469	0	0	0.83	0.50	0.20	0.50	30	0.42	0.58	0.58	7.0	10	4.618	46.18	-0.161	1087	4920	4571	1065	0.520	4920	0.00038	0.00495	0.0053	0.0074	1065	-736	0	1811	0.00	OK
8.771	0	0	0.83	0.50	0.20	0.50	30	0.42	0.57	0.57	7.0	10	4.618	46.18	-0.151	1087	4883	4571	1057	0.516	4883	0.00034	0.00495	0.0053	0.0074	1057	-688	0	1754	0.00	OK
9.073	0	0	0.83	0.50	0.20	0.50	30	0.42	0.55	0.55	7.0	10	4.618	46.18	-0.139	1087	4840	4571	1048	0.511	4840	0.00029	0.00495	0.0052	0.0074	1048	-634	0	1691	0.00	OK
9.376	0	0	0.83	0.50	0.20	0.50	30	0.42	0.54	0.54	7.0	10	4.618	46.18	-0.126	1087	4792	4571	1038	0.506	4792	0.00024	0.00495	0.0052	0.0074	1038	-575	0	1621	0.00	OK
9.678	0	0	0.83	0.50	0.20	0.50	30	0.42	0.53	0.53	7.0	10	4.618	46.18	-0.111	1087	4738	4571	1026	0.501	4738	0.00018	0.00495	0.0051	0.0074	1026	-509	0	1546	0.00	OK
9.981	0	0	0.83	0.50	0.20	0.50	30	0.42	0.51	0.51	7.0	10	4.618	46.18	-0.096	1087	4679	4571	1013	0.494	4679	0.00012	0.00495	0.0051	0.0074	1013	-438	0	1465	0.00	OK
10.283	0	0	0.83	0.50	0.20	0.50	30	0.42	0.49	0.49	7.0	10	4.618	46.18	-0.079	1087	4614	4571	999	0.487	4614	0.00005	0.00495	0.0050	0.0074	999	-360	0	1379	0.00	OK
10.586	45	-64	0.83	0.50	0.20	0.50	30	0.42	0.48	0.48	7.0	10	4.618	46.18	-0.061	1087	4542	4571	984	0.480	4542	-0.00003	0.00495	0.0049	0.0074	984	-277	45	1288	0.03	OK
10.888	125	-23	0.83	0.50	0.20	0.50	30	0.42	0.46	0.46	7.0	10	4.618	46.18	-0.041	1087	4464	4571	967	0.472	4464	-0.00012	0.00495	0.0048	0.0074	967	-187	125	1193	0.10	OK
11.191	211	-22	0.83	0.50	0.20	0.50	30	0.42	0.43	0.43	7.0	10	4.618	46.18	-0.020	1087	4378	4571	948	0.462	4378	-0.00021	0.00495	0.0047	0.0074	948	-91	211	1094	0.19	OK
11.493	302	-67	0.83	0.50	0.20	0.50	30	0.42	0.42	0.42	7.0	10	4.618	46.18	0.002	1087	4305	4571	932	0.455	4305	-0.00029	0.00495	0.0047	0.0074	932	11	302	1014	0.30	OK
11.796	399	-111	0.83	0.50	0.20	0.50	30	0.42	0.44	0.44	7.0	10	4.618	46.18	0.026	1087	4404	4571	954	0.465	4404	-0.00018	0.00495	0.0048	0.0074	954	119	399	1123	0.36	OK
12.098	504	-171	0.83	0.50	0.20	0.50	30	0.42	0.47	0.47	7.0	10	4.618	46.18	0.051	1087	4505	4571	975	0.476	4505	-0.00007	0.00495	0.0049	0.0074	975	234	504	1242	0.41	OK
12.4	624	-228	0.83	0.50	0.20	0.50	30	0.42	0.49	0.49	7.0	10	4.618	46.18	0.077	1087	4607	4571	998	0.487	4607	0.00004	0.00495	0.0050	0.0074	998	353	624	1371	0.45	OK
12.703	759	-261	0.83	0.50	0.20	0.50	30	0.42	0.52	0.52	7.0	10	4.618	46.18	0.104	1087	4709	4571	1020	0.497	4709	0.00015	0.00495	0.0051	0.0074	1020	474	759	1506	0.50	OK
13.005	905	-289	0.83	0.50	0.20	0.50	30	0.42	0.55	0.55	7.0	10	4.618	46.18	0.130	1087	4809	4571	1041	0.508	4809	0.00026	0.00495	0.0052	0.0074	1041	596	905	1646	0.55	OK
13.308	1059	-311	0.83	0.50	0.20	0.50	30	0.42	0.57	0.57	7.0	10	4.618	46.18	0.157	1087	4905	4571	1062	0.518	4905	0.00036	0.00495	0.0053	0.0074	1062	716	1059	1787	0.59	OK
13.61	1222	-328	0.83	0.50	0.20	0.50	30	0.42	0.60	0.60	7.0	10	4.618	46.18	0.182	1087	4939	4571	1069	0.522	4939	0.00050	0.00495	0.0055	0.0074	1069	831	1222	1917	0.64	OK
13.913	1395	-379	0.83	0.50	0.20	0.50	30	0.42	0.62	0.62	7.0	10	4.618	46.18	0.206	1087	4945	4571	1071	0.522	4945	0.00066	0.00495	0.0056	0.0074	1071	940	1395	2036	0.69	OK
14.215	1580	-429	0.83	0.50	0.20	0.50	30	0.42	0.64	0.64	7.0	10	4.618	46.18	0.228	1087	4951	4571	1072	0.523	4951	0.00080	0.00495	0.0057	0.0074	1072	1041	1580	2146	0.74	OK
14.518	1776	-439	0.83	0.50	0.20	0.50	30	0.42	0.66	0.66	7.0	10	4.618	46.18	0.246	1087	4956	4571	1073	0.523	4956	0.00092	0.00495	0.0059	0.0074	1073	1125	1776	2238	0.79	OK
14.82	1290	-676	0.83	0.50	0.20	0.50	30	0.42	0.67	0.67	7.0	10	4.618	46.18	0.254	1087	4958	4571	1074	0.524	4958	0.00097	0.00495	0.0059	0.0074	1074	1161	1290	2278	0.57	OK

Dimensionering av böjarmering med endast spännarmering - LKA

Projekt: **Islandsbron** A 1dir min Balk 6 spännkabel i underkant

Indata:

f_{ck}	35.5	MPa			f_{cd}	23.7	MPa	
f_{ctk}	2.25	MPa	E_p	200	GPa			
E_{cm}	34	GPa	γ_s	1.15	-			
γ_c	1.5	-	$k_{tvång}$	1				
ε_{cu3}	0.0035	%	f_{yk}	1250	MPa	P_{efter}	457.1	kN
			f_{uk}	1500	MPa			
k_t	0.4	-	ε_g	4.0	%			
η	1.0	-	f_{st}	1087	MPa			
λ	0.8	-	f_{stu}	1304	MPa			

18% av F initial, tid t2

Snitt kontrolleras ej vid upplag:

precis över stöd

0.68

Kontroll

snitt	$M_{exkl.P}$	N_{tillh}	h	bw	t_f	b_f	bm	TP_{balk}	TP_{kabel}	$d_{spänn}$	$Ø_{sparm.1}$	Antal	$A_{s,\phi}$	A_s	e	f_{st}	F_s	$P_{spännkraft}$	σ_s passad med σ s_dim	x	$F_c = F_s$	$\Delta\varepsilon_s$	$\Delta\varepsilon_{p0}$	$\Delta\varepsilon_s+\Delta\varepsilon_{p0}$	ε_{st}	σ s_dim	M_0	M_{ed}	M_{Rd}	Uttnyttj	Ok/
m	kNm	kN	m	m	m	m	mm	m	m	m	mm	st	cm^2	cm^2	m	MPa	kN	kN	MPa	m	kN	-	-	(ε_s)	-	mm^3	kNm	kNm	kNm	-	Ej ok
0	37	-268	0.83	0.50	0.20	0.50	30	0.42	0.45	0.45	7.0	6	4.618	27.71	0.030	1087	2986	2742	1078	0.315	2986	0.00144	0.00495	0.0064	0.0074	1078	82	37	952	0.04	OK
0.302	142	-38	0.83	0.50	0.20	0.50	30	0.42	0.42	0.42	7.0	6	4.618	27.71	0.004	1087	2979	2742	1075	0.315	2979	0.00116	0.00495	0.0061	0.0074	1075	12	142	874	0.16	OK
0.605	270	-24	0.83	0.50	0.20	0.50	30	0.42	0.43	0.43	7.0	6	4.618	27.71	-0.020	1087	2983	2742	1077	0.315	2983	0.00133	0.00495	0.0063	0.0074	1077	-55	270	921	0.29	OK
0.907	387	-13	0.83	0.50	0.20	0.50	30	0.42	0.46	0.46	7.0	6	4.618	27.71	-0.043	1087	2989	2742	1079	0.316	2989	0.00157	0.00495	0.0065	0.0074	1079	-117	387	991	0.39	OK
1.21	493	-4	0.83	0.50	0.20	0.50	30	0.42	0.48	0.48	7.0	6	4.618	27.71	-0.064	1087	2995	2742	1081	0.316	2995	0.00180	0.00495	0.0068	0.0074	1081	-177	493	1057	0.47	OK
1.512	589	-26	0.83	0.50	0.20	0.50	30	0.42	0.50	0.50	7.0	6	4.618	27.71	-0.084	1087	3000	2742	1083	0.317	3000	0.00202	0.00495	0.0070	0.0074	1083	-232	589	1118	0.53	OK
1.815	678	-50	0.83	0.50	0.20	0.50	30	0.42	0.52	0.52	7.0	6	4.618	27.71	-0.103	1087	3005	2742	1085	0.317	3005	0.00221	0.00495	0.0072	0.0074	1085	-283	678	1176	0.58	OK
2.117	760	-73	0.83	0.50	0.20	0.50	30	0.42	0.54	0.54	7.0	6	4.618	27.71	-0.121	1087	3010	2742	1086	0.318	3010	0.00240	0.00495	0.0073	0.0074	1086	-331	760	1230	0.62	OK
2.42	833	-97	0.83	0.50	0.20	0.50	30	0.42	0.55	0.55	7.0	6	4.618	27.71	-0.137	1087	3014	2742	1088	0.318	3014	0.00257	0.00495	0.0075	0.0074	1088	-375	833	1279	0.65	OK
2.722	900	-120	0.83	0.50	0.20	0.50	30	0.42	0.57	0.57	7.0	6	4.618	27.71	-0.152	1087	3018	2742	1089	0.319	3018	0.00272	0.00495	0.0077	0.0074	1089	-416	900	1325	0.68	OK
3.024	960	-141	0.83	0.50	0.20	0.50	30	0.42	0.53	0.53	7.0	8	4.618	36.95	-0.116	1087	3965	3657	1073	0.419	3965	0.00094	0.00495	0.0059	0.0074	1073	-424	960	1441	0.67	OK
3.327	1014	-160	0.83	0.50	0.20	0.50	30	0.42	0.55	0.55	7.0	8	4.618	36.95	-0.135	1087	3970	3657	1075	0.419	3970	0.00109	0.00495	0.0060	0.0074	1075	-495	1014	1519	0.67	OK
3.629	1062	-179	0.83	0.50	0.20	0.50	30	0.42	0.57	0.57	7.0	8	4.618	36.95	-0.153	1087	3975	3657	1076	0.420	3975	0.00123	0.00495	0.0062	0.0074	1076	-559	1062	1590	0.67	OK
3.932	1102	-197	0.83	0.50	0.20	0.50	30	0.42	0.58	0.58	7.0	8	4.618	36.95	-0.169	1087	3979	3657	1077	0.420	3979	0.00136	0.00495	0.0063	0.0074	1077	-617	1102	1654	0.67	OK
4.234	1136	-215	0.83	0.50	0.20	0.50	30	0.42	0.60	0.60	7.0	8	4.618	36.95	-0.183	1087	3983	3657	1078	0.421	3983	0.00147	0.00495	0.0064	0.0074	1078	-668	1136	1710	0.66	OK
4.537	1166	-229	0.83	0.50	0.20	0.50	30	0.42	0.61	0.61	7.0	8	4.618	36.95	-0.195	1087	3986	3657	1079	0.421	3986	0.00157	0.00495	0.0065	0.0074	1079	-711	1166	1758	0.66	OK
4.839	1188	-240	0.83	0.50	0.20	0.50	30	0.42	0.62	0.62	7.0	8	4.618	36.95	-0.205	1087	3988	3657	1080	0.421	3988	0.00165	0.00495	0.0066	0.0074	1080	-748	1188	1799	0.66	OK
5.142	1203	-248	0.83	0.50	0.20	0.50	30	0.42	0.63	0.63	7.0	8	4.618	36.95	-0.213	1087	3990	3657	1080	0.422	3990	0.00171	0.00495	0.0067	0.0074	1080	-777	1203	1831	0.66	OK
5.444	1211	-253	0.83	0.50	0.20	0.50	30	0.42	0.63	0.63	7.0	8	4.618	36.95	-0.219	1087	3992	3657	1081	0.422	3992	0.00176	0.00495	0.0067	0.0074	1081	-799	1211	1856	0.65	OK
5.747	1215	-255	0.83	0.50	0.20	0.50	30	0.42	0.64	0.64	7.0	8	4.618	36.95	-0.223	1087	3993	3657	1081	0.422	3993	0.00179	0.00495	0.0067	0.0074	1081	-814	1215	1872	0.65	OK
6.049	1213	-253	0.83	0.50	0.20	0.50	30	0.42	0.60	0.60	7.0	10	4.618	46.18	-0.187	1087	4940	4571	1070	0.522	4940	0.00054	0.00495	0.0055	0.0074	1070	-854	1213	1942	0.62	OK
6.351	1203	-248	0.83	0.50	0.20	0.50	30	0.42	0.61	0.61	7.0	10	4.618	46.18	-0.190	1087	4941	4571	1070	0.522	4941	0.00056	0.00495	0.0055	0.0074	1070	-868	1203	1958	0.61	OK
6.654	1187	-241	0.83	0.50	0.20	0.50	30	0.42	0.61	0.61	7.0	10	4.618	46.18	-0.191	1087	4941	4571	1070	0.522	4941	0.00056	0.00495	0.0055	0.0074	1070	-874	1187	1964	0.60	OK
6.956	1166	-231	0.83	0.50	0.20	0.50	30	0.42	0.61	0.61	7.0	10	4.618	46.18	-0.190	1087	4941	4571	1070	0.522	4941	0.00056	0.00495	0.0055	0.0074	1070	-870	1166	1960	0.59	OK
7.259	1139	-219	0.83	0.50	0.20	0.50	30	0.42	0.60	0.60	7.0	10	4.618	46.18	-0.188	1087	4940	4571	1070	0.522	4940	0.00054	0.00495	0.0055	0.0074	1070	-859	1139	1947	0.59	OK
7.561	1105	-216	0.83	0.50	0.20	0.50	30	0.42	0.60	0.60	7.0	10	4.618	46.18	-0.184	1087	4939	4571	1070	0.522	4939	0.00052	0.00495	0.0055	0.0074	1070	-839	1105	1925	0.57	OK
7.864	1065	-208	0.83	0.50	0.20	0.50	30	0.42	0.59	0.59	7.0	10	4.618	46.18	-0.178	1087	4980	4571	1078	0.526	4980	0.00044	0.00495	0.0054	0.0074	1078	-812	1065	1903	0.56	OK
8.166	1021	-184	0.83	0.50	0.20	0.50	30	0.42	0.59	0.59	7.0	10	4.618	46.18	-0.170	1087	4953	4571	1072	0.523	4953	0.00041	0.00495	0.0054	0.0074	1072	-777	1021	1861	0.55	OK
8.469	970	-161	0.83	0.50	0.20	0.50	30	0.42	0.58	0.58	7.0	10	4.618	46.18	-0.161	1087	4920	4571	1065	0.520	4920	0.00038	0.00495	0.0053	0.0074	1065	-736	970	1811	0.54	OK
8.771	911	-137	0.83	0.50	0.20	0.50	30	0.42	0.57	0.57	7.0	10	4.618	46.18	-0.151	1087	4883	4571	1057	0.516	4883	0.00034	0.00495	0.0053	0.0074	1057	-688	911	1754	0.52	OK
9.073	846	-107	0.83	0.50	0.20	0.50	30	0.42	0.55	0.55	7.0	10	4.618	46.18	-0.139	1087	4840	4571	1048	0.511	4840	0.00029	0.00495	0.0052	0.0074	1048	-634	846	1691	0.50	OK
9.376	777	-75	0.83	0.50	0.20	0.50	30	0.42	0.54	0.54	7.0	10	4.618	46.18	-0.126	1087	4792	4571	1038	0.506	4792	0.00024	0.00495	0.0052	0.0074	1038	-575	777	1621	0.48	OK
9.678	700	-44	0.83	0.50	0.20	0.50	30	0.42	0.53	0.53	7.0	10	4.618	46.18	-0.111	1087	4738	4571	1026	0.501	4738	0.00018	0.00495	0.0051	0.0074	1026	-509	700	1546	0.45	OK
9.981	616	-12	0.83	0.50	0.20	0.50	30	0.42	0.51	0.51	7.0	10	4.618	46.18	-0.096	1087	4679	4571	1013	0.494	4679	0.00012	0.00495	0.0051	0.0074	1013	-438	616	1465	0.42	OK
10.283	527	-23	0.83	0.50	0.20	0.50	30	0.42	0.49	0.49	7.0	10	4.618	46.18	-0.079	1087	4614	4571	999	0.487	4614	0.00005	0.00495	0.0050	0.0074	999	-360	527	1379	0.38	OK
10.586	433	-58	0.83	0.50	0.20	0.50	30	0.42	0.48	0.48	7.0	10	4.618	46.18	-0.061	1087	4542	4571	984	0.480	4542	-0.00003	0.00495	0.0049	0.0074	984	-277	433	1288	0.34	OK
10.888	329	-86	0.83	0.50	0.20	0.50	30	0.42	0.46	0.46	7.0	10	4.618	46.18	-0.041	1087	4464	4571	967	0.472	4464	-0.00012	0.00495	0.0048	0.0074	967	-187	329	1193	0.28	OK
11.191	221	-114	0.83	0.50	0.20	0.50	30	0.42	0.43	0.43	7.0	10	4.618	46.18	-0.020	1087	4378	4571	948	0.462	4378	-0.00021	0.00495	0.0047	0.0074	948	-91	221	1094	0.20	OK
11.493	109	-142	0.83	0.50	0.20	0.50	30	0.42	0.42	0.42	7.0	10	4.618	46.18	0.002	1087	4305	4571	932	0.455	4305	-0.00029	0.00495	0.0047	0.0074	932	11	109	1014	0.11	OK
11.796	0	0	0.83	0.50	0.20	0.50	30	0.42	0.44	0.44	7.0	10	4.618	46.18	0.026	1087	4404	4571	954	0.465	4404	-0.00018	0.00495	0.0048	0.0074	954	119	0	1123	0.00	OK
12.098	0	0	0.83	0.50	0.20	0.50	30	0.42	0.47	0.47	7.0	10	4.618	46.18	0.051	1087	4505	4571	975	0.476	4505	-0.00007	0.00495	0.0049	0.0074	975	234	0	1242	0.00	OK
12.4	0	0	0.83	0.50	0.20	0.50	30	0.42	0.49	0.49	7.0	10	4.618	46.18	0.077	1087	4607	4571	998	0.487	4607	0.00004	0.00495	0.0050	0.0074	998	353	0	1371	0.00	OK
12.703	0	0	0.83	0.50	0.20	0.50	30	0.42	0.52	0.52	7.0	10	4.618	46.18	0.104	1087	4709	4571	1020	0.497	4709	0.00015	0.00495	0.0051	0.0074	1020	474	0	1506	0.00	OK
13.005	0	0	0.83	0.50	0.20	0.50	30	0.42	0.55	0.55	7.0	10	4.618	46.18	0.130	1087	4809	4571	1041	0.508	4809	0.00026	0.00495	0.0052	0.0074	1041	596	0	1646	0.00	OK
13.308	0	0	0.83	0.50	0.20	0.50	30	0.42	0.57	0.57	7.0	10	4.618	46.18	0.157	1087	4905	4571	1062	0.518	4905	0.00036	0.00495	0.0053	0.0074	1062	716	0	1787	0.00	OK
13.61	0	0	0.83	0.50	0.20	0.50	30	0.42	0.60	0.60	7.0	10	4.618	46.18	0.182	1087	4939	4571	1069	0.522	4939	0.00050	0.00495	0.0055	0.0074	1069	831	0	1917	0.00	OK
13.913	0	0	0.83	0.50	0.20	0.50	30	0.42	0.62	0.62	7.0	10	4.618	46.18	0.206	1087	4945	4571	1071	0.522	4945	0.00066	0.00495	0.0056	0.0074	1071	940	0	2036	0.00	OK
14.215	0	0	0.83	0.50	0.20	0.50	30	0.42	0.64	0.64	7.0	10	4.618	46.18	0.228	1087	4951	4571	1072	0.523	4951	0.00080	0.00495	0.0057	0.0074	1072	1041	0	2146	0.00	OK
14.518	0	0	0.83	0.50	0.20	0.50	30	0.42	0.66	0.66	7.0	10	4.618	46.18	0.246	1087	4956	4571	1073	0.523	4956	0.00092	0.00495	0.0059	0.0074	1073	1125	0	2238	0.00	OK
14.82	0	0	0.83	0.50	0.20	0.50	30	0.42	0.67	0.67	7.0	10	4.618	46.18	0.254	1087	4958	4571	1074	0.524	4958	0.00097	0.00495	0.0059	0.0074	1074	1161	0	2278	0.00	OK

Dimensionering av böjarmering med endast spännarmering - LKA

Projekt: **Islandsbron** A 1dir max Balk 2 spännkabel i överkant

Indata:

f_{ck}	35.5	MPa			f_{cd}	23.7	MPa
f_{ctk}	2.25	MPa	E_p	200	GPa		
E_{cm}	34	GPa	γ_s	1.15	-		
γ_c	1.5	-	$k_{tvång}$	1			
ε_{cu3}	0.0035	%	f_{yk}	1250	MPa	P_{efter}	457.1 kN
			f_{dk}	1500	MPa		
k_t	0.4	-	ε_g	4.0	%		
η	1.0	-	f_{st}	1087	MPa		
λ	0.8	-	f_{stu}	1304	MPa		

18% av F initial, tid t2

Snitt kontrolleras ej vid upplag:

precis över stöd

0.75

Kontroll

snitt	$M_{exkl.P}$	N_{tillh}	h	bw	t_f	b_f	bm	TP_{balk}	TP_{kabel}	$d_{spänn}$	$Ø_{sparm.1}$	Antal	$A_{s,\phi}$	A_s	e	f_{st}	F_s	$P_{spännkraft}$	σ_s passad med σ s_dim	x	$F_c = F_s$	$\Delta\varepsilon_s$	$\Delta\varepsilon_{p0}$	$\Delta\varepsilon_s+\Delta\varepsilon_{p0}$	ε_{st}	σ s_dim	M_0	M_{ed}	M_{Rd}	Uttnyttj	Ok/
m	kNm	kN	m	m	m	m	mm	m	m	m	mm	st	cm^2	cm^2	m	MPa	kN	kN	MPa	m	kN	-	-	(ε_s)	-	mm^3	kNm	kNm	kNm	-	Ej ok
0	0	0	0.75	0.60	0.20	0.50	30	0.38	0.39	0.39	7.0	6	4.618	27.71	0.018	1087	2993	2742	1080	0.263	2993	0.00172	0.00495	0.0067	0.0074	1080	49	0	861	0.00	OK
0.302	0	0	0.75	0.60	0.20	0.50	30	0.38	0.38	0.38	7.0	6	4.618	27.71	-0.003	1087	2988	2742	1079	0.263	2988	0.00153	0.00495	0.0065	0.0074	1079	-9	0	816	0.00	OK
0.605	0	0	0.75	0.60	0.20	0.50	30	0.38	0.40	0.40	7.0	6	4.618	27.71	-0.024	1087	2995	2742	1081	0.264	2995	0.00179	0.00495	0.0067	0.0074	1081	-65	0	878	0.00	OK
0.907	0	0	0.75	0.60	0.20	0.50	30	0.38	0.42	0.42	7.0	6	4.618	27.71	-0.043	1087	3001	2742	1083	0.264	3001	0.00204	0.00495	0.0070	0.0074	1083	-118	0	937	0.00	OK
1.21	0	0	0.75	0.60	0.20	0.50	30	0.38	0.44	0.44	7.0	6	4.618	27.71	-0.061	1087	3006	2742	1085	0.265	3006	0.00226	0.00495	0.0072	0.0074	1085	-167	0	992	0.00	OK
1.512	0	0	0.75	0.60	0.20	0.50	30	0.38	0.45	0.45	7.0	6	4.618	27.71	-0.078	1087	3012	2742	1087	0.265	3012	0.00248	0.00495	0.0074	0.0074	1087	-213	0	1044	0.00	OK
1.815	0	0	0.75	0.60	0.20	0.50	30	0.38	0.47	0.47	7.0	6	4.618	27.71	-0.093	1087	3016	2742	1089	0.266	3016	0.00267	0.00495	0.0076	0.0074	1089	-256	0	1092	0.00	OK
2.117	0	0	0.75	0.60	0.20	0.50	30	0.38	0.48	0.48	7.0	6	4.618	27.71	-0.107	1087	3021	2742	1090	0.266	3021	0.00285	0.00495	0.0078	0.0074	1090	-295	0	1136	0.00	OK
2.42	0	0	0.75	0.60	0.20	0.50	30	0.38	0.50	0.50	7.0	6	4.618	27.71	-0.121	1087	3025	2742	1092	0.266	3025	0.00301	0.00495	0.0080	0.0074	1092	-331	0	1177	0.00	OK
2.722	0	0	0.75	0.60	0.20	0.50	30	0.38	0.51	0.51	7.0	6	4.618	27.71	-0.132	1087	3028	2742	1093	0.267	3028	0.00316	0.00495	0.0081	0.0074	1093	-363	0	1214	0.00	OK
3.024	0	0	0.75	0.60	0.20	0.50	30	0.38	0.46	0.46	7.0	8	4.618	36.95	-0.083	1087	3970	3657	1075	0.349	3970	0.00109	0.00495	0.0060	0.0074	1075	-305	0	1265	0.00	OK
3.327	0	0	0.75	0.60	0.20	0.50	30	0.38	0.48	0.48	7.0	8	4.618	36.95	-0.102	1087	3976	3657	1076	0.350	3976	0.00127	0.00495	0.0062	0.0074	1076	-374	0	1341	0.00	OK
3.629	0	0	0.75	0.60	0.20	0.50	30	0.38	0.49	0.49	7.0	8	4.618	36.95	-0.119	1087	3981	3657	1078	0.350	3981	0.00144	0.00495	0.0064	0.0074	1078	-436	0	1410	0.00	OK
3.932	0	0	0.75	0.60	0.20	0.50	30	0.38	0.51	0.51	7.0	8	4.618	36.95	-0.134	1087	3986	3657	1079	0.351	3986	0.00158	0.00495	0.0065	0.0074	1079	-492	0	1471	0.00	OK
4.234	0	0	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	8	4.618	36.95	-0.148	1087	3990	3657	1080	0.351	3990	0.00171	0.00495	0.0067	0.0074	1080	-541	0	1526	0.00	OK
4.537	0	0	0.75	0.60	0.20	0.50	30	0.38	0.53	0.53	7.0	8	4.618	36.95	-0.160	1087	3994	3657	1081	0.352	3994	0.00182	0.00495	0.0068	0.0074	1081	-584	0	1573	0.00	OK
4.839	0	0	0.75	0.60	0.20	0.50	30	0.38	0.54	0.54	7.0	8	4.618	36.95	-0.169	1087	3997	3657	1082	0.352	3997	0.00192	0.00495	0.0069	0.0074	1082	-620	0	1614	0.00	OK
5.142	0	0	0.75	0.60	0.20	0.50	30	0.38	0.55	0.55	7.0	8	4.618	36.95	-0.178	1087	4000	3657	1083	0.352	4000	0.00199	0.00495	0.0069	0.0074	1083	-649	0	1647	0.00	OK
5.444	0	0	0.75	0.60	0.20	0.50	30	0.38	0.56	0.56	7.0	8	4.618	36.95	-0.184	1087	4002	3657	1083	0.352	4002	0.00205	0.00495	0.0070	0.0074	1083	-672	0	1672	0.00	OK
5.747	0	0	0.75	0.60	0.20	0.50	30	0.38	0.56	0.56	7.0	8	4.618	36.95	-0.188	1087	4003	3657	1083	0.352	4003	0.00209	0.00495	0.0070	0.0074	1083	-688	0	1690	0.00	OK
6.049	0	0	0.75	0.60	0.20	0.50	30	0.38	0.51	0.51	7.0	10	4.618	46.18	-0.140	1087	4944	4571	1071	0.435	4944	0.00064	0.00495	0.0056	0.0074	1071	-638	0	1684	0.00	OK
6.351	0	0	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.144	1087	4946	4571	1071	0.435	4946	0.00067	0.00495	0.0056	0.0074	1071	-658	0	1705	0.00	OK
6.654	0	0	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.147	1087	4946	4571	1071	0.435	4946	0.00069	0.00495	0.0056	0.0074	1071	-670	0	1718	0.00	OK
6.956	0	0	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.148	1087	4947	4571	1071	0.435	4947	0.00070	0.00495	0.0056	0.0074	1071	-674	0	1723	0.00	OK
7.259	0	0	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.147	1087	4946	4571	1071	0.435	4946	0.00069	0.00495	0.0056	0.0074	1071	-671	0	1720	0.00	OK
7.561	0	0	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.145	1087	4946	4571	1071	0.435	4946	0.00068	0.00495	0.0056	0.0074	1071	-661	0	1709	0.00	OK
7.864	0	0	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.141	1087	4945	4571	1071	0.435	4945	0.00065	0.00495	0.0056	0.0074	1071	-645	0	1691	0.00	OK
8.166	0	0	0.75	0.60	0.20	0.50	30	0.38	0.51	0.51	7.0	10	4.618	46.18	-0.136	1087	4943	4571	1070	0.435	4943	0.00061	0.00495	0.0056	0.0074	1070	-622	0	1666	0.00	OK
8.469	0	0	0.75	0.60	0.20	0.50	30	0.38	0.50	0.50	7.0	10	4.618	46.18	-0.130	1087	4941	4571	1070	0.435	4941	0.00056	0.00495	0.0055	0.0074	1070	-593	0	1634	0.00	OK
8.771	0	0	0.75	0.60	0.20	0.50	30	0.38	0.50	0.50	7.0	10	4.618	46.18	-0.122	1087	4939	4571	1069	0.435	4939	0.00050	0.00495	0.0055	0.0074	1069	-559	0	1597	0.00	OK
9.073	0	0	0.75	0.60	0.20	0.50	30	0.38	0.49	0.49	7.0	10	4.618	46.18	-0.114	1087	4958	4571	1074	0.436	4958	0.00042	0.00495	0.0054	0.0074	1074	-520	0	1558	0.00	OK
9.376	0	0	0.75	0.60	0.20	0.50	30	0.38	0.48	0.48	7.0	10	4.618	46.18	-0.104	1087	4916	4571	1065	0.433	4916	0.00037	0.00495	0.0053	0.0074	1065	-475	0	1504	0.00	OK
9.678	0	0	0.75	0.60	0.20	0.50	30	0.38	0.47	0.47	7.0	10	4.618	46.18	-0.093	1087	4870	4571	1054	0.429	4870	0.00032	0.00495	0.0053	0.0074	1054	-427	0	1446	0.00	OK
9.981	0	0	0.75	0.60	0.20	0.50	30	0.38	0.46	0.46	7.0	10	4.618	46.18	-0.082	1087	4818	4571	1043	0.424	4818	0.00027	0.00495	0.0052	0.0074	1043	-373	0	1382	0.00	OK
10.283	0	0	0.75	0.60	0.20	0.50	30	0.38	0.44	0.44	7.0	10	4.618	46.18	-0.069	1087	4761	4571	1031	0.419	4761	0.00021	0.00495	0.0052	0.0074	1031	-315	0	1315	0.00	OK
10.586	46	-137	0.75	0.60	0.20	0.50	30	0.38	0.43	0.43	7.0	10	4.618	46.18	-0.055	1087	4699	4571	1018	0.414	4699	0.00014	0.00495	0.0051	0.0074	1018	-252	46	1244	0.04	OK
10.888	111	-185	0.75	0.60	0.20	0.50	30	0.38	0.42	0.42	7.0	10	4.618	46.18	-0.041	1087	4632	4571	1003	0.408	4632	0.00007	0.00495	0.0050	0.0074	1003	-185	111	1169	0.09	OK
11.191	178	-232	0.75	0.60	0.20	0.50	30	0.38	0.40	0.40	7.0	10	4.618	46.18	-0.025	1087	4560	4571	987	0.401	4560	-0.00001	0.00495	0.0049	0.0074	987	-114	178	1092	0.16	OK
11.493	250	-276	0.75	0.60	0.20	0.50	30	0.38	0.38	0.38	7.0	10	4.618	46.18	-0.009	1087	4482	4571	971	0.395	4482	-0.00010	0.00495	0.0049	0.0074	971	-40	250	1012	0.25	OK
11.796	326	-322	0.75	0.60	0.20	0.50	30	0.38	0.38	0.38	7.0	10	4.618	46.18	0.008	1087	4481	4571	970	0.394	4481	-0.00010	0.00495	0.0049	0.0074	970	39	326	1011	0.32	OK
12.098	409	-277	0.75	0.60	0.20	0.50	30	0.38	0.40	0.40	7.0	10	4.618	46.18	0.026	1087	4566	4571	989	0.402	4566	0.00000	0.00495	0.0049	0.0074	989	121	409	1099	0.37	OK
12.4	503	-223	0.75	0.60	0.20	0.50	30	0.38	0.42	0.42	7.0	10	4.618	46.18	0.045	1087	4652	4571	1007	0.410	4652	0.00009	0.00495	0.0050	0.0074	1007	205	503	1191	0.42	OK
12.703	608	-252	0.75	0.60	0.20	0.50	30	0.38	0.44	0.44	7.0	10	4.618	46.18	0.064	1087	4738	4571	1026	0.417	4738	0.00018	0.00495	0.0051	0.0074	1026	291	608	1288	0.47	OK
13.005	719	-293	0.75	0.60	0.20	0.50	30	0.38	0.46	0.46	7.0	10	4.618	46.18	0.082	1087	4822	4571	1044	0.424	4822	0.00027	0.00495	0.0052	0.0074	1044	377	719	1387	0.52	OK
13.308	836	-340	0.75	0.60	0.20	0.50	30	0.38	0.48	0.48	7.0	10	4.618	46.18	0.101	1087	4903	4571	1062	0.432	4903	0.00036	0.00495	0.0053	0.0074	1062	462	836	1487	0.56	OK
13.61	958	-357	0.75	0.60	0.20	0.50	30	0.38	0.49	0.49	7.0	10	4.618	46.18	0.119	1087	4980	4571	1078	0.438	4980	0.00044	0.00495	0.0054	0.0074	1078	543	958	1586	0.60	OK
13.913	1086	-364	0.75	0.60	0.20	0.50	30	0.38	0.51	0.51	7.0	10	4.618	46.18	0.136	1087	4943	4571	1070	0.435	4943	0.00061	0.00495	0.0056	0.0074	1070	621	1086	1665	0.65	OK
14.215	1218	-368	0.75	0.60	0.20	0.50	30	0.38	0.53	0.53	7.0	10	4.618	46.18	0.152	1087	4948	4571	1071	0.436	4948	0.00073	0.00495	0.0057	0.0074	1071	694	1218	1745	0.70	OK
14.518	1357	-364	0.75	0.60	0.20	0.50	30	0.38	0.54	0.54	7.0	10	4.618	46.18	0.165	1087	4952	4571	1072	0.436	4952	0.00083	0.00495	0.0058	0.0074	1072	753	1357	1809	0.75	OK
14.82	990	-22	0.75	0.60	0.20	0.50	30	0.38	0.55	0.55	7.0	10	4.618	46.18	0.170	1087	4954	4571	1073	0.436	4954	0.00087	0.00495	0.0058	0.0074	1073	777	990	1836	0.54	OK

Dimensionering av böjarmering med endast spännarmering - LKA

Projekt: **Islandsbron** A 1dir min Balk 2 spännkabel i underkant

Indata:

f_{ck}	35.5	MPa			f_{cd}	23.7	MPa	
f_{ctk}	2.25	MPa	E_p	200	GPa			
E_{cm}	34	GPa	γ_s	1.15	-			
γ_c	1.5	-	$k_{tvång}$	1				
ε_{cu3}	0.0035	%	f_{pk}	1250	MPa	P_{efter}	457.1	kN
			f_{dk}	1500	MPa			
k_t	0.4	-	ε_g	4.0	%			
η	1.0	-	f_{st}	1087	MPa			
λ	0.8	-	f_{stu}	1304	MPa			

18% av F initial, tid t2

Snitt kontrolleras ej vid upplag:

precis över stöd

0.60

Kontroll

snitt	$M_{exkl.P}$	N_{tillh}	h	bw	t_f	b_f	bm	TP_{balk}	TP_{kabel}	$d_{spänn}$	$Ø_{sparm.1}$	Antal	$A_{s,\phi}$	A_s	e	f_{st}	F_s	$P_{spännkraft}$	σ_s passad med σ s_dim	x	$F_c = F_s$	$\Delta\varepsilon_s$	$\Delta\varepsilon_{p0}$	$\Delta\varepsilon_s+\Delta\varepsilon_{p0}$	ε_{st}	σ s_dim	M_0	M_{ed}	M_{Rd}	Uttnyttj	Ok/
m	kNm	kN	m	m	m	m	mm	m	m	m	mm	st	cm^2	cm^2	m	MPa	kN	kN	MPa	m	kN	-	-	(ε_s)	-	mm^3	kNm	kNm	kNm	-	Ej ok
0	28	-197	0.75	0.60	0.20	0.50	30	0.38	0.39	0.39	7.0	6	4.618	27.71	0.018	1087	2993	2742	1080	0.263	2993	0.00172	0.00495	0.0067	0.0074	1080	49	28	861	0.03	OK
0.302	109	-34	0.75	0.60	0.20	0.50	30	0.38	0.38	0.38	7.0	6	4.618	27.71	-0.003	1087	2988	2742	1079	0.263	2988	0.00153	0.00495	0.0065	0.0074	1079	-9	109	816	0.13	OK
0.605	210	-65	0.75	0.60	0.20	0.50	30	0.38	0.40	0.40	7.0	6	4.618	27.71	-0.024	1087	2995	2742	1081	0.264	2995	0.00179	0.00495	0.0067	0.0074	1081	-65	210	878	0.24	OK
0.907	304	-101	0.75	0.60	0.20	0.50	30	0.38	0.42	0.42	7.0	6	4.618	27.71	-0.043	1087	3001	2742	1083	0.264	3001	0.00204	0.00495	0.0070	0.0074	1083	-118	304	937	0.32	OK
1.21	388	-139	0.75	0.60	0.20	0.50	30	0.38	0.44	0.44	7.0	6	4.618	27.71	-0.061	1087	3006	2742	1085	0.265	3006	0.00226	0.00495	0.0072	0.0074	1085	-167	388	992	0.39	OK
1.512	463	-176	0.75	0.60	0.20	0.50	30	0.38	0.45	0.45	7.0	6	4.618	27.71	-0.078	1087	3012	2742	1087	0.265	3012	0.00248	0.00495	0.0074	0.0074	1087	-213	463	1044	0.44	OK
1.815	534	-213	0.75	0.60	0.20	0.50	30	0.38	0.47	0.47	7.0	6	4.618	27.71	-0.093	1087	3016	2742	1089	0.266	3016	0.00267	0.00495	0.0076	0.0074	1089	-256	534	1092	0.49	OK
2.117	599	-249	0.75	0.60	0.20	0.50	30	0.38	0.48	0.48	7.0	6	4.618	27.71	-0.107	1087	3021	2742	1090	0.266	3021	0.00285	0.00495	0.0078	0.0074	1090	-295	599	1136	0.53	OK
2.42	658	-284	0.75	0.60	0.20	0.50	30	0.38	0.50	0.50	7.0	6	4.618	27.71	-0.121	1087	3025	2742	1092	0.266	3025	0.00301	0.00495	0.0080	0.0074	1092	-331	658	1177	0.56	OK
2.722	712	-318	0.75	0.60	0.20	0.50	30	0.38	0.51	0.51	7.0	6	4.618	27.71	-0.132	1087	3028	2742	1093	0.267	3028	0.00316	0.00495	0.0081	0.0074	1093	-363	712	1214	0.59	OK
3.024	761	-339	0.75	0.60	0.20	0.50	30	0.38	0.46	0.46	7.0	8	4.618	36.95	-0.083	1087	3970	3657	1075	0.349	3970	0.00109	0.00495	0.0060	0.0074	1075	-305	761	1265	0.60	OK
3.327	806	-347	0.75	0.60	0.20	0.50	30	0.38	0.48	0.48	7.0	8	4.618	36.95	-0.102	1087	3976	3657	1076	0.350	3976	0.00127	0.00495	0.0062	0.0074	1076	-374	806	1341	0.60	OK
3.629	846	-365	0.75	0.60	0.20	0.50	30	0.38	0.49	0.49	7.0	8	4.618	36.95	-0.119	1087	3981	3657	1078	0.350	3981	0.00144	0.00495	0.0064	0.0074	1078	-436	846	1410	0.60	OK
3.932	878	-391	0.75	0.60	0.20	0.50	30	0.38	0.51	0.51	7.0	8	4.618	36.95	-0.134	1087	3986	3657	1079	0.351	3986	0.00158	0.00495	0.0065	0.0074	1079	-492	878	1471	0.60	OK
4.234	905	-421	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	8	4.618	36.95	-0.148	1087	3990	3657	1080	0.351	3990	0.00171	0.00495	0.0067	0.0074	1080	-541	905	1526	0.59	OK
4.537	931	-449	0.75	0.60	0.20	0.50	30	0.38	0.53	0.53	7.0	8	4.618	36.95	-0.160	1087	3994	3657	1081	0.352	3994	0.00182	0.00495	0.0068	0.0074	1081	-584	931	1573	0.59	OK
4.839	949	-465	0.75	0.60	0.20	0.50	30	0.38	0.54	0.54	7.0	8	4.618	36.95	-0.169	1087	3997	3657	1082	0.352	3997	0.00192	0.00495	0.0069	0.0074	1082	-620	949	1614	0.59	OK
5.142	959	-485	0.75	0.60	0.20	0.50	30	0.38	0.55	0.55	7.0	8	4.618	36.95	-0.178	1087	4000	3657	1083	0.352	4000	0.00199	0.00495	0.0069	0.0074	1083	-649	959	1647	0.58	OK
5.444	967	-501	0.75	0.60	0.20	0.50	30	0.38	0.56	0.56	7.0	8	4.618	36.95	-0.184	1087	4002	3657	1083	0.352	4002	0.00205	0.00495	0.0070	0.0074	1083	-672	967	1672	0.58	OK
5.747	971	-507	0.75	0.60	0.20	0.50	30	0.38	0.56	0.56	7.0	8	4.618	36.95	-0.188	1087	4003	3657	1083	0.352	4003	0.00209	0.00495	0.0070	0.0074	1083	-688	971	1690	0.57	OK
6.049	966	-510	0.75	0.60	0.20	0.50	30	0.38	0.51	0.51	7.0	10	4.618	46.18	-0.140	1087	4944	4571	1071	0.435	4944	0.00064	0.00495	0.0056	0.0074	1071	-638	966	1684	0.57	OK
6.351	957	-509	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.144	1087	4946	4571	1071	0.435	4946	0.00067	0.00495	0.0056	0.0074	1071	-658	957	1705	0.56	OK
6.654	947	-507	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.147	1087	4946	4571	1071	0.435	4946	0.00069	0.00495	0.0056	0.0074	1071	-670	947	1718	0.55	OK
6.956	928	-502	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.148	1087	4947	4571	1071	0.435	4947	0.00070	0.00495	0.0056	0.0074	1071	-674	928	1723	0.54	OK
7.259	907	-491	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.147	1087	4946	4571	1071	0.435	4946	0.00069	0.00495	0.0056	0.0074	1071	-671	907	1720	0.53	OK
7.561	883	-481	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.145	1087	4946	4571	1071	0.435	4946	0.00068	0.00495	0.0056	0.0074	1071	-661	883	1709	0.52	OK
7.864	851	-465	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.141	1087	4945	4571	1071	0.435	4945	0.00065	0.00495	0.0056	0.0074	1071	-645	851	1691	0.50	OK
8.166	815	-445	0.75	0.60	0.20	0.50	30	0.38	0.51	0.51	7.0	10	4.618	46.18	-0.136	1087	4943	4571	1070	0.435	4943	0.00061	0.00495	0.0056	0.0074	1070	-622	815	1666	0.49	OK
8.469	775	-422	0.75	0.60	0.20	0.50	30	0.38	0.50	0.50	7.0	10	4.618	46.18	-0.130	1087	4941	4571	1070	0.435	4941	0.00056	0.00495	0.0055	0.0074	1070	-593	775	1634	0.47	OK
8.771	729	-398	0.75	0.60	0.20	0.50	30	0.38	0.50	0.50	7.0	10	4.618	46.18	-0.122	1087	4939	4571	1069	0.435	4939	0.00050	0.00495	0.0055	0.0074	1069	-559	729	1597	0.46	OK
9.073	677	-368	0.75	0.60	0.20	0.50	30	0.38	0.49	0.49	7.0	10	4.618	46.18	-0.114	1087	4958	4571	1074	0.436	4958	0.00042	0.00495	0.0054	0.0074	1074	-520	677	1558	0.43	OK
9.376	621	-329	0.75	0.60	0.20	0.50	30	0.38	0.48	0.48	7.0	10	4.618	46.18	-0.104	1087	4916	4571	1065	0.433	4916	0.00037	0.00495	0.0053	0.0074	1065	-475	621	1504	0.41	OK
9.678	561	-292	0.75	0.60	0.20	0.50	30	0.38	0.47	0.47	7.0	10	4.618	46.18	-0.093	1087	4870	4571	1054	0.429	4870	0.00032	0.00495	0.0053	0.0074	1054	-427	561	1446	0.39	OK
9.981	493	-253	0.75	0.60	0.20	0.50	30	0.38	0.46	0.46	7.0	10	4.618	46.18	-0.082	1087	4818	4571	1043	0.424	4818	0.00027	0.00495	0.0052	0.0074	1043	-373	493	1382	0.36	OK
10.283	422	-212	0.75	0.60	0.20	0.50	30	0.38	0.44	0.44	7.0	10	4.618	46.18	-0.069	1087	4761	4571	1031	0.419	4761	0.00021	0.00495	0.0052	0.0074	1031	-315	422	1315	0.32	OK
10.586	347	-177	0.75	0.60	0.20	0.50	30	0.38	0.43	0.43	7.0	10	4.618	46.18	-0.055	1087	4699	4571	1018	0.414	4699	0.00014	0.00495	0.0051	0.0074	1018	-252	347	1244	0.28	OK
10.888	266	-124	0.75	0.60	0.20	0.50	30	0.38	0.42	0.42	7.0	10	4.618	46.18	-0.041	1087	4632	4571	1003	0.408	4632	0.00007	0.00495	0.0050	0.0074	1003	-185	266	1169	0.23	OK
11.191	179	-77	0.75	0.60	0.20	0.50	30	0.38	0.40	0.40	7.0	10	4.618	46.18	-0.025	1087	4560	4571	987	0.401	4560	-0.00001	0.00495	0.0049	0.0074	987	-114	179	1092	0.16	OK
11.493	90	-22	0.75	0.60	0.20	0.50	30	0.38	0.38	0.38	7.0	10	4.618	46.18	-0.009	1087	4482	4571	971	0.395	4482	-0.00010	0.00495	0.0049	0.0074	971	-40	90	1012	0.09	OK
11.796	0	0	0.75	0.60	0.20	0.50	30	0.38	0.38	0.38	7.0	10	4.618	46.18	0.008	1087	4481	4571	970	0.394	4481	-0.00010	0.00495	0.0049	0.0074	970	39	0	1011	0.00	OK
12.098	0	0	0.75	0.60	0.20	0.50	30	0.38	0.40	0.40	7.0	10	4.618	46.18	0.026	1087	4566	4571	989	0.402	4566	0.00000	0.00495	0.0049	0.0074	989	121	0	1099	0.00	OK
12.4	0	0	0.75	0.60	0.20	0.50	30	0.38	0.42	0.42	7.0	10	4.618	46.18	0.045	1087	4652	4571	1007	0.410	4652	0.00009	0.00495	0.0050	0.0074	1007	205	0	1191	0.00	OK
12.703	0	0	0.75	0.60	0.20	0.50	30	0.38	0.44	0.44	7.0	10	4.618	46.18	0.064	1087	4738	4571	1026	0.417	4738	0.00018	0.00495	0.0051	0.0074	1026	291	0	1288	0.00	OK
13.005	0	0	0.75	0.60	0.20	0.50	30	0.38	0.46	0.46	7.0	10	4.618	46.18	0.082	1087	4822	4571	1044	0.424	4822	0.00027	0.00495	0.0052	0.0074	1044	377	0	1387	0.00	OK
13.308	0	0	0.75	0.60	0.20	0.50	30	0.38	0.48	0.48	7.0	10	4.618	46.18	0.101	1087	4903	4571	1062	0.432	4903	0.00036	0.00495	0.0053	0.0074	1062	462	0	1487	0.00	OK
13.61	0	0	0.75	0.60	0.20	0.50	30	0.38	0.49	0.49	7.0	10	4.618	46.18	0.119	1087	4980	4571	1078	0.438	4980	0.00044	0.00495	0.0054	0.0074	1078	543	0	1586	0.00	OK
13.913	0	0	0.75	0.60	0.20	0.50	30	0.38	0.51	0.51	7.0	10	4.618	46.18	0.136	1087	4943	4571	1070	0.435	4943	0.00061	0.00495	0.0056	0.0074	1070	621	0	1665	0.00	OK
14.215	0	0	0.75	0.60	0.20	0.50	30	0.38	0.53	0.53	7.0	10	4.618	46.18	0.152	1087	4948	4571	1071	0.436	4948	0.00073	0.00495	0.0057	0.0074	1071	694	0	1745	0.00	OK
14.518	0	0	0.75	0.60	0.20	0.50	30	0.38	0.54	0.54	7.0	10	4.618	46.18	0.165	1087	4952	4571	1072	0.436	4952	0.00083	0.00495	0.0058	0.0074	1072	753	0	1809	0.00	OK
14.82	0	0	0.75	0.60	0.20	0.50	30	0.38	0.55	0.55	7.0	10	4.618	46.18	0.170	1087	4954	4571	1073	0.436	4954	0.00087	0.00495	0.0058	0.0074	1073	777	0	1836	0.00	OK

Dimensionering av böjarmering med endast spännarmering - LKA

Projekt: **Islandsbron** A 1dir max Balk 5 spännkabel i överkant

Indata:

f_{ck}	35.5	MPa			f_{cd}	23.7	MPa	
f_{ctk}	2.25	MPa	E_p	200	GPa			
E_{cm}	34	GPa	γ_s	1.15	-			
γ_c	1.5	-	$k_{tvång}$	1				
ε_{cu3}	0.0035	%	f_{yk}	1250	MPa	P_{efter}	457.1	kN
			f_{uk}	1500	MPa			
k_t	0.4	-	ε_g	4.0	%			
η	1.0	-	f_{st}	1087	MPa			
λ	0.8	-	f_{stu}	1304	MPa			

18% av F initial, tid t2

Snitt kontrolleras ej vid upplag:

precis över stöd

0.75

Kontroll

snitt	$M_{exkl.P}$	N_{tillh}	h	bw	t_f	b_f	bm	TP_{balk}	TP_{kabel}	$d_{spänn}$	$Ø_{sparm.1}$	Antal	$A_{s,\phi}$	A_s	e	f_{st}	F_s	$P_{spännkraft}$	σ_s passad med σ s_dim	x	$F_c = F_s$	$\Delta\varepsilon_s$	$\Delta\varepsilon_{p0}$	$\Delta\varepsilon_s+\Delta\varepsilon_{p0}$	ε_{st}	σ s_dim	M_0	M_{ed}	M_{Rd}	Uttnyttj	Ok/
m	kNm	kN	m	m	m	m	mm	m	m	m	mm	st	cm^2	cm^2	m	MPa	kN	kN	MPa	m	kN	-	-	(ε_s)	-	mm^3	kNm	kNm	kNm	-	Ej ok
0	0	0	0.75	0.60	0.20	0.50	30	0.38	0.40	0.40	7.0	6	4.618	27.71	0.022	1087	2994	2742	1081	0.264	2994	0.00177	0.00495	0.0067	0.0074	1081	60	0	873	0.00	OK
0.302	0	0	0.75	0.60	0.20	0.50	30	0.38	0.38	0.38	7.0	6	4.618	27.71	0.000	1087	2988	2742	1078	0.263	2988	0.00150	0.00495	0.0064	0.0074	1078	1	0	807	0.00	OK
0.605	0	0	0.75	0.60	0.20	0.50	30	0.38	0.40	0.40	7.0	6	4.618	27.71	-0.020	1087	2994	2742	1080	0.264	2994	0.00175	0.00495	0.0067	0.0074	1080	-55	0	867	0.00	OK
0.907	0	0	0.75	0.60	0.20	0.50	30	0.38	0.41	0.41	7.0	6	4.618	27.71	-0.039	1087	3000	2742	1083	0.264	3000	0.00199	0.00495	0.0069	0.0074	1083	-108	0	926	0.00	OK
1.21	0	0	0.75	0.60	0.20	0.50	30	0.38	0.43	0.43	7.0	6	4.618	27.71	-0.057	1087	3005	2742	1085	0.265	3005	0.00222	0.00495	0.0072	0.0074	1085	-157	0	982	0.00	OK
1.512	0	0	0.75	0.60	0.20	0.50	30	0.38	0.45	0.45	7.0	6	4.618	27.71	-0.074	1087	3011	2742	1086	0.265	3011	0.00243	0.00495	0.0074	0.0074	1086	-204	0	1033	0.00	OK
1.815	0	0	0.75	0.60	0.20	0.50	30	0.38	0.46	0.46	7.0	6	4.618	27.71	-0.090	1087	3015	2742	1088	0.265	3015	0.00263	0.00495	0.0076	0.0074	1088	-247	0	1082	0.00	OK
2.117	0	0	0.75	0.60	0.20	0.50	30	0.38	0.48	0.48	7.0	6	4.618	27.71	-0.104	1087	3020	2742	1090	0.266	3020	0.00281	0.00495	0.0078	0.0074	1090	-286	0	1126	0.00	OK
2.42	0	0	0.75	0.60	0.20	0.50	30	0.38	0.49	0.49	7.0	6	4.618	27.71	-0.118	1087	3024	2742	1091	0.266	3024	0.00298	0.00495	0.0079	0.0074	1091	-322	0	1167	0.00	OK
2.722	0	0	0.75	0.60	0.20	0.50	30	0.38	0.50	0.50	7.0	6	4.618	27.71	-0.129	1087	3027	2742	1093	0.267	3027	0.00312	0.00495	0.0081	0.0074	1093	-355	0	1204	0.00	OK
3.024	0	0	0.75	0.60	0.20	0.50	30	0.38	0.46	0.46	7.0	8	4.618	36.95	-0.081	1087	3969	3657	1074	0.349	3969	0.00107	0.00495	0.0060	0.0074	1074	-296	0	1255	0.00	OK
3.327	0	0	0.75	0.60	0.20	0.50	30	0.38	0.47	0.47	7.0	8	4.618	36.95	-0.100	1087	3975	3657	1076	0.350	3975	0.00125	0.00495	0.0062	0.0074	1076	-364	0	1330	0.00	OK
3.629	0	0	0.75	0.60	0.20	0.50	30	0.38	0.49	0.49	7.0	8	4.618	36.95	-0.117	1087	3981	3657	1077	0.350	3981	0.00141	0.00495	0.0064	0.0074	1077	-426	0	1399	0.00	OK
3.932	0	0	0.75	0.60	0.20	0.50	30	0.38	0.51	0.51	7.0	8	4.618	36.95	-0.132	1087	3985	3657	1079	0.351	3985	0.00156	0.00495	0.0065	0.0074	1079	-482	0	1460	0.00	OK
4.234	0	0	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	8	4.618	36.95	-0.145	1087	3990	3657	1080	0.351	3990	0.00168	0.00495	0.0066	0.0074	1080	-530	0	1514	0.00	OK
4.537	0	0	0.75	0.60	0.20	0.50	30	0.38	0.53	0.53	7.0	8	4.618	36.95	-0.157	1087	3993	3657	1081	0.352	3993	0.00179	0.00495	0.0067	0.0074	1081	-573	0	1561	0.00	OK
4.839	0	0	0.75	0.60	0.20	0.50	30	0.38	0.54	0.54	7.0	8	4.618	36.95	-0.166	1087	3996	3657	1082	0.352	3996	0.00189	0.00495	0.0068	0.0074	1082	-609	0	1601	0.00	OK
5.142	0	0	0.75	0.60	0.20	0.50	30	0.38	0.55	0.55	7.0	8	4.618	36.95	-0.174	1087	3999	3657	1082	0.352	3999	0.00196	0.00495	0.0069	0.0074	1082	-638	0	1634	0.00	OK
5.444	0	0	0.75	0.60	0.20	0.50	30	0.38	0.56	0.56	7.0	8	4.618	36.95	-0.181	1087	4001	3657	1083	0.352	4001	0.00202	0.00495	0.0070	0.0074	1083	-661	0	1660	0.00	OK
5.747	0	0	0.75	0.60	0.20	0.50	30	0.38	0.56	0.56	7.0	8	4.618	36.95	-0.185	1087	4002	3657	1083	0.352	4002	0.00207	0.00495	0.0070	0.0074	1083	-677	0	1678	0.00	OK
6.049	0	0	0.75	0.60	0.20	0.50	30	0.38	0.51	0.51	7.0	10	4.618	46.18	-0.137	1087	4943	4571	1070	0.435	4943	0.00062	0.00495	0.0056	0.0074	1070	-626	0	1670	0.00	OK
6.351	0	0	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.141	1087	4945	4571	1071	0.435	4945	0.00065	0.00495	0.0056	0.0074	1071	-646	0	1692	0.00	OK
6.654	0	0	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.144	1087	4946	4571	1071	0.435	4946	0.00067	0.00495	0.0056	0.0074	1071	-658	0	1705	0.00	OK
6.956	0	0	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.145	1087	4946	4571	1071	0.435	4946	0.00068	0.00495	0.0056	0.0074	1071	-662	0	1710	0.00	OK
7.259	0	0	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.144	1087	4946	4571	1071	0.435	4946	0.00068	0.00495	0.0056	0.0074	1071	-660	0	1707	0.00	OK
7.561	0	0	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.142	1087	4945	4571	1071	0.435	4945	0.00066	0.00495	0.0056	0.0074	1071	-650	0	1697	0.00	OK
7.864	0	0	0.75	0.60	0.20	0.50	30	0.38	0.51	0.51	7.0	10	4.618	46.18	-0.139	1087	4944	4571	1071	0.435	4944	0.00063	0.00495	0.0056	0.0074	1071	-634	0	1680	0.00	OK
8.166	0	0	0.75	0.60	0.20	0.50	30	0.38	0.51	0.51	7.0	10	4.618	46.18	-0.134	1087	4942	4571	1070	0.435	4942	0.00059	0.00495	0.0055	0.0074	1070	-612	0	1655	0.00	OK
8.469	0	0	0.75	0.60	0.20	0.50	30	0.38	0.50	0.50	7.0	10	4.618	46.18	-0.128	1087	4940	4571	1070	0.435	4940	0.00055	0.00495	0.0055	0.0074	1070	-584	0	1625	0.00	OK
8.771	0	0	0.75	0.60	0.20	0.50	30	0.38	0.50	0.50	7.0	10	4.618	46.18	-0.120	1087	4987	4571	1080	0.439	4987	0.00045	0.00495	0.0054	0.0074	1080	-551	0	1595	0.00	OK
9.073	0	0	0.75	0.60	0.20	0.50	30	0.38	0.49	0.49	7.0	10	4.618	46.18	-0.112	1087	4951	4571	1072	0.436	4951	0.00041	0.00495	0.0054	0.0074	1072	-512	0	1548	0.00	OK
9.376	0	0	0.75	0.60	0.20	0.50	30	0.38	0.48	0.48	7.0	10	4.618	46.18	-0.102	1087	4909	4571	1063	0.432	4909	0.00037	0.00495	0.0053	0.0074	1063	-468	0	1495	0.00	OK
9.678	0	0	0.75	0.60	0.20	0.50	30	0.38	0.47	0.47	7.0	10	4.618	46.18	-0.092	1087	4863	4571	1053	0.428	4863	0.00032	0.00495	0.0053	0.0074	1053	-419	0	1437	0.00	OK
9.981	0	0	0.75	0.60	0.20	0.50	30	0.38	0.46	0.46	7.0	10	4.618	46.18	-0.080	1087	4811	4571	1042	0.424	4811	0.00026	0.00495	0.0052	0.0074	1042	-366	0	1374	0.00	OK
10.283	0	0	0.75	0.60	0.20	0.50	30	0.38	0.44	0.44	7.0	10	4.618	46.18	-0.067	1087	4755	4571	1030	0.419	4755	0.00020	0.00495	0.0051	0.0074	1030	-308	0	1307	0.00	OK
10.586	46	-135	0.75	0.60	0.20	0.50	30	0.38	0.43	0.43	7.0	10	4.618	46.18	-0.054	1087	4693	4571	1016	0.413	4693	0.00013	0.00495	0.0051	0.0074	1016	-246	46	1237	0.04	OK
10.888	110	-183	0.75	0.60	0.20	0.50	30	0.38	0.41	0.41	7.0	10	4.618	46.18	-0.039	1087	4626	4571	1002	0.407	4626	0.00006	0.00495	0.0050	0.0074	1002	-179	110	1163	0.09	OK
11.191	178	-229	0.75	0.60	0.20	0.50	30	0.38	0.40	0.40	7.0	10	4.618	46.18	-0.024	1087	4554	4571	986	0.401	4554	-0.00002	0.00495	0.0049	0.0074	986	-109	178	1086	0.16	OK
11.493	250	-274	0.75	0.60	0.20	0.50	30	0.38	0.38	0.38	7.0	10	4.618	46.18	-0.008	1087	4476	4571	969	0.394	4476	-0.00010	0.00495	0.0048	0.0074	969	-35	250	1007	0.25	OK
11.796	326	-320	0.75	0.60	0.20	0.50	30	0.38	0.38	0.38	7.0	10	4.618	46.18	0.010	1087	4486	4571	971	0.395	4486	-0.00009	0.00495	0.0049	0.0074	971	44	326	1016	0.32	OK
12.098	409	-274	0.75	0.60	0.20	0.50	30	0.38	0.40	0.40	7.0	10	4.618	46.18	0.027	1087	4571	4571	990	0.402	4571	0.00000	0.00495	0.0049	0.0074	990	125	409	1103	0.37	OK
12.4	503	-220	0.75	0.60	0.20	0.50	30	0.38	0.42	0.42	7.0	10	4.618	46.18	0.046	1087	4656	4571	1008	0.410	4656	0.00009	0.00495	0.0050	0.0074	1008	209	503	1195	0.42	OK
12.703	608	-249	0.75	0.60	0.20	0.50	30	0.38	0.44	0.44	7.0	10	4.618	46.18	0.064	1087	4741	4571	1027	0.417	4741	0.00018	0.00495	0.0051	0.0074	1027	294	608	1291	0.47	OK
13.005	719	-289	0.75	0.60	0.20	0.50	30	0.38	0.46	0.46	7.0	10	4.618	46.18	0.083	1087	4824	4571	1045	0.425	4824	0.00027	0.00495	0.0052	0.0074	1045	379	719	1389	0.52	OK
13.308	835	-336	0.75	0.60	0.20	0.50	30	0.38	0.48	0.48	7.0	10	4.618	46.18	0.101	1087	4904	4571	1062	0.432	4904	0.00036	0.00495	0.0053	0.0074	1062	463	835	1489	0.56	OK
13.61	957	-352	0.75	0.60	0.20	0.50	30	0.38	0.49	0.49	7.0	10	4.618	46.18	0.119	1087	4981	4571	1078	0.438	4981	0.00044	0.00495	0.0054	0.0074	1078	544	957	1587	0.60	OK
13.913	1084	-359	0.75	0.60	0.20	0.50	30	0.38	0.51	0.51	7.0	10	4.618	46.18	0.136	1087	4943	4571	1070	0.435	4943	0.00061	0.00495	0.0056	0.0074	1070	622	1084	1666	0.65	OK
14.215	1217	-365	0.75	0.60	0.20	0.50	30	0.38	0.53	0.53	7.0	10	4.618	46.18	0.152	1087	4948	4571	1071	0.436	4948	0.00073	0.00495	0.0057	0.0074	1071	694	1217	1745	0.70	OK
14.518	1355	-360	0.75	0.60	0.20	0.50	30	0.38	0.54	0.54	7.0	10	4.618	46.18	0.165	1087	4952	4571	1072	0.436	4952	0.00083	0.00495	0.0058	0.0074	1072	753	1355	1809	0.75	OK
14.82	989	-26	0.75	0.60	0.20	0.50	30	0.38	0.55	0.55	7.0	10	4.618	46.18	0.170	1087	4954	4571	1073	0.436	4954	0.00087	0.00495	0.0058	0.0074	1073	777	989	1836	0.54	OK

Dimensionering av böjarmering med endast spännarmering - LKA

Projekt: **Islandsbron** A 1dir min Balk 5 spännkabel i underkant

Indata:

f_{ck}	35.5	MPa			f_{cd}	23.7	MPa	
f_{ctk}	2.25	MPa	E_p	200	GPa			
E_{cm}	34	GPa	γ_s	1.15	-			
γ_c	1.5	-	$k_{tvång}$	1				
ε_{cu3}	0.0035	%	f_{pk}	1250	MPa	P_{efter}	457.1	kN
			f_{dk}	1500	MPa			
k_t	0.4	-	ε_g	4.0	%			
η	1.0	-	f_{st}	1087	MPa			
λ	0.8	-	f_{stu}	1304	MPa			

18% av F initial, tid t2

Snitt kontrolleras ej vid upplag:

precis över stöd

0.61

Kontroll

snitt	$M_{exkl.P}$	N_{tillh}	h	bw	t_f	b_f	bm	TP_{balk}	TP_{kabel}	$d_{spänn}$	$Ø_{sparm.1}$	Antal	$A_{s,\phi}$	A_s	e	f_{st}	F_s	$P_{spännkraft}$	σ_s passad med σ s_dim	x	$F_c = F_s$	$\Delta\varepsilon_s$	$\Delta\varepsilon_{p0}$	$\Delta\varepsilon_s+\Delta\varepsilon_{p0}$ (ε_s)	ε_{st}	σ s_dim	M_0	M_{ed}	M_{Rd}	Uttnyttj	Ok/
m	kNm	kN	m	m	m	m	mm	m	m	m	mm	st	cm^2	cm^2	m	MPa	kN	kN	MPa	m	kN	-	-	-	-	mm^3	kNm	kNm	kNm	-	Ej ok
0	28	-189	0.75	0.60	0.20	0.50	30	0.38	0.40	0.40	7.0	6	4.618	27.71	0.022	1087	2994	2742	1081	0.264	2994	0.00177	0.00495	0.0067	0.0074	1081	60	28	873	0.03	OK
0.302	109	-35	0.75	0.60	0.20	0.50	30	0.38	0.38	0.38	7.0	6	4.618	27.71	0.000	1087	2988	2742	1078	0.263	2988	0.00150	0.00495	0.0064	0.0074	1078	1	109	807	0.13	OK
0.605	210	-65	0.75	0.60	0.20	0.50	30	0.38	0.40	0.40	7.0	6	4.618	27.71	-0.020	1087	2994	2742	1080	0.264	2994	0.00175	0.00495	0.0067	0.0074	1080	-55	210	867	0.24	OK
0.907	304	-101	0.75	0.60	0.20	0.50	30	0.38	0.41	0.41	7.0	6	4.618	27.71	-0.039	1087	3000	2742	1083	0.264	3000	0.00199	0.00495	0.0069	0.0074	1083	-108	304	926	0.33	OK
1.21	388	-139	0.75	0.60	0.20	0.50	30	0.38	0.43	0.43	7.0	6	4.618	27.71	-0.057	1087	3005	2742	1085	0.265	3005	0.00222	0.00495	0.0072	0.0074	1085	-157	388	982	0.40	OK
1.512	463	-174	0.75	0.60	0.20	0.50	30	0.38	0.45	0.45	7.0	6	4.618	27.71	-0.074	1087	3011	2742	1086	0.265	3011	0.00243	0.00495	0.0074	0.0074	1086	-204	463	1033	0.45	OK
1.815	533	-211	0.75	0.60	0.20	0.50	30	0.38	0.46	0.46	7.0	6	4.618	27.71	-0.090	1087	3015	2742	1088	0.265	3015	0.00263	0.00495	0.0076	0.0074	1088	-247	533	1082	0.49	OK
2.117	598	-247	0.75	0.60	0.20	0.50	30	0.38	0.48	0.48	7.0	6	4.618	27.71	-0.104	1087	3020	2742	1090	0.266	3020	0.00281	0.00495	0.0078	0.0074	1090	-286	598	1126	0.53	OK
2.42	657	-282	0.75	0.60	0.20	0.50	30	0.38	0.49	0.49	7.0	6	4.618	27.71	-0.118	1087	3024	2742	1091	0.266	3024	0.00298	0.00495	0.0079	0.0074	1091	-322	657	1167	0.56	OK
2.722	711	-315	0.75	0.60	0.20	0.50	30	0.38	0.50	0.50	7.0	6	4.618	27.71	-0.129	1087	3027	2742	1093	0.267	3027	0.00312	0.00495	0.0081	0.0074	1093	-355	711	1204	0.59	OK
3.024	760	-336	0.75	0.60	0.20	0.50	30	0.38	0.46	0.46	7.0	8	4.618	36.95	-0.081	1087	3969	3657	1074	0.349	3969	0.00107	0.00495	0.0060	0.0074	1074	-296	760	1255	0.61	OK
3.327	805	-344	0.75	0.60	0.20	0.50	30	0.38	0.47	0.47	7.0	8	4.618	36.95	-0.100	1087	3975	3657	1076	0.350	3975	0.00125	0.00495	0.0062	0.0074	1076	-364	805	1330	0.60	OK
3.629	845	-361	0.75	0.60	0.20	0.50	30	0.38	0.49	0.49	7.0	8	4.618	36.95	-0.117	1087	3981	3657	1077	0.350	3981	0.00141	0.00495	0.0064	0.0074	1077	-426	845	1399	0.60	OK
3.932	877	-387	0.75	0.60	0.20	0.50	30	0.38	0.51	0.51	7.0	8	4.618	36.95	-0.132	1087	3985	3657	1079	0.351	3985	0.00156	0.00495	0.0065	0.0074	1079	-482	877	1460	0.60	OK
4.234	904	-418	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	8	4.618	36.95	-0.145	1087	3990	3657	1080	0.351	3990	0.00168	0.00495	0.0066	0.0074	1080	-530	904	1514	0.60	OK
4.537	930	-445	0.75	0.60	0.20	0.50	30	0.38	0.53	0.53	7.0	8	4.618	36.95	-0.157	1087	3993	3657	1081	0.352	3993	0.00179	0.00495	0.0067	0.0074	1081	-573	930	1561	0.60	OK
4.839	948	-462	0.75	0.60	0.20	0.50	30	0.38	0.54	0.54	7.0	8	4.618	36.95	-0.166	1087	3996	3657	1082	0.352	3996	0.00189	0.00495	0.0068	0.0074	1082	-609	948	1601	0.59	OK
5.142	958	-481	0.75	0.60	0.20	0.50	30	0.38	0.55	0.55	7.0	8	4.618	36.95	-0.174	1087	3999	3657	1082	0.352	3999	0.00196	0.00495	0.0069	0.0074	1082	-638	958	1634	0.59	OK
5.444	966	-497	0.75	0.60	0.20	0.50	30	0.38	0.56	0.56	7.0	8	4.618	36.95	-0.181	1087	4001	3657	1083	0.352	4001	0.00202	0.00495	0.0070	0.0074	1083	-661	966	1660	0.58	OK
5.747	970	-503	0.75	0.60	0.20	0.50	30	0.38	0.56	0.56	7.0	8	4.618	36.95	-0.185	1087	4002	3657	1083	0.352	4002	0.00207	0.00495	0.0070	0.0074	1083	-677	970	1678	0.58	OK
6.049	965	-506	0.75	0.60	0.20	0.50	30	0.38	0.51	0.51	7.0	10	4.618	46.18	-0.137	1087	4943	4571	1070	0.435	4943	0.00062	0.00495	0.0056	0.0074	1070	-626	965	1670	0.58	OK
6.351	956	-504	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.141	1087	4945	4571	1071	0.435	4945	0.00065	0.00495	0.0056	0.0074	1071	-646	956	1692	0.56	OK
6.654	945	-503	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.144	1087	4946	4571	1071	0.435	4946	0.00067	0.00495	0.0056	0.0074	1071	-658	945	1705	0.55	OK
6.956	927	-497	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.145	1087	4946	4571	1071	0.435	4946	0.00068	0.00495	0.0056	0.0074	1071	-662	927	1710	0.54	OK
7.259	906	-487	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.144	1087	4946	4571	1071	0.435	4946	0.00068	0.00495	0.0056	0.0074	1071	-660	906	1707	0.53	OK
7.561	882	-476	0.75	0.60	0.20	0.50	30	0.38	0.52	0.52	7.0	10	4.618	46.18	-0.142	1087	4945	4571	1071	0.435	4945	0.00066	0.00495	0.0056	0.0074	1071	-650	882	1697	0.52	OK
7.864	850	-461	0.75	0.60	0.20	0.50	30	0.38	0.51	0.51	7.0	10	4.618	46.18	-0.139	1087	4944	4571	1071	0.435	4944	0.00063	0.00495	0.0056	0.0074	1071	-634	850	1680	0.51	OK
8.166	814	-441	0.75	0.60	0.20	0.50	30	0.38	0.51	0.51	7.0	10	4.618	46.18	-0.134	1087	4942	4571	1070	0.435	4942	0.00059	0.00495	0.0055	0.0074	1070	-612	814	1655	0.49	OK
8.469	774	-418	0.75	0.60	0.20	0.50	30	0.38	0.50	0.50	7.0	10	4.618	46.18	-0.128	1087	4940	4571	1070	0.435	4940	0.00055	0.00495	0.0055	0.0074	1070	-584	774	1625	0.48	OK
8.771	728	-394	0.75	0.60	0.20	0.50	30	0.38	0.50	0.50	7.0	10	4.618	46.18	-0.120	1087	4987	4571	1080	0.439	4987	0.00045	0.00495	0.0054	0.0074	1080	-551	728	1595	0.46	OK
9.073	676	-363	0.75	0.60	0.20	0.50	30	0.38	0.49	0.49	7.0	10	4.618	46.18	-0.112	1087	4951	4571	1072	0.436	4951	0.00041	0.00495	0.0054	0.0074	1072	-512	676	1548	0.44	OK
9.376	620	-324	0.75	0.60	0.20	0.50	30	0.38	0.48	0.48	7.0	10	4.618	46.18	-0.102	1087	4909	4571	1063	0.432	4909	0.00037	0.00495	0.0053	0.0074	1063	-468	620	1495	0.41	OK
9.678	560	-288	0.75	0.60	0.20	0.50	30	0.38	0.47	0.47	7.0	10	4.618	46.18	-0.092	1087	4863	4571	1053	0.428	4863	0.00032	0.00495	0.0053	0.0074	1053	-419	560	1437	0.39	OK
9.981	492	-248	0.75	0.60	0.20	0.50	30	0.38	0.46	0.46	7.0	10	4.618	46.18	-0.080	1087	4811	4571	1042	0.424	4811	0.00026	0.00495	0.0052	0.0074	1042	-366	492	1374	0.36	OK
10.283	421	-208	0.75	0.60	0.20	0.50	30	0.38	0.44	0.44	7.0	10	4.618	46.18	-0.067	1087	4755	4571	1030	0.419	4755	0.00020	0.00495	0.0051	0.0074	1030	-308	421	1307	0.32	OK
10.586	347	-173	0.75	0.60	0.20	0.50	30	0.38	0.43	0.43	7.0	10	4.618	46.18	-0.054	1087	4693	4571	1016	0.413	4693	0.00013	0.00495	0.0051	0.0074	1016	-246	347	1237	0.28	OK
10.888	265	-120	0.75	0.60	0.20	0.50	30	0.38	0.41	0.41	7.0	10	4.618	46.18	-0.039	1087	4626	4571	1002	0.407	4626	0.00006	0.00495	0.0050	0.0074	1002	-179	265	1163	0.23	OK
11.191	179	-73	0.75	0.60	0.20	0.50	30	0.38	0.40	0.40	7.0	10	4.618	46.18	-0.024	1087	4554	4571	986	0.401	4554	-0.00002	0.00495	0.0049	0.0074	986	-109	179	1086	0.16	OK
11.493	90	-19	0.75	0.60	0.20	0.50	30	0.38	0.38	0.38	7.0	10	4.618	46.18	-0.008	1087	4476	4571	969	0.394	4476	-0.00010	0.00495	0.0048	0.0074	969	-35	90	1007	0.09	OK
11.796	0	0	0.75	0.60	0.20	0.50	30	0.38	0.38	0.38	7.0	10	4.618	46.18	0.010	1087	4486	4571	971	0.395	4486	-0.00009	0.00495	0.0049	0.0074	971	44	0	1016	0.00	OK
12.098	0	0	0.75	0.60	0.20	0.50	30	0.38	0.40	0.40	7.0	10	4.618	46.18	0.027	1087	4571	4571	990	0.402	4571	0.00000	0.00495	0.0049	0.0074	990	125	0	1103	0.00	OK
12.4	0	0	0.75	0.60	0.20	0.50	30	0.38	0.42	0.42	7.0	10	4.618	46.18	0.046	1087	4656	4571	1008	0.410	4656	0.00009	0.00495	0.0050	0.0074	1008	209	0	1195	0.00	OK
12.703	0	0	0.75	0.60	0.20	0.50	30	0.38	0.44	0.44	7.0	10	4.618	46.18	0.064	1087	4741	4571	1027	0.417	4741	0.00018	0.00495	0.0051	0.0074	1027	294	0	1291	0.00	OK
13.005	0	0	0.75	0.60	0.20	0.50	30	0.38	0.46	0.46	7.0	10	4.618	46.18	0.083	1087	4824	4571	1045	0.425	4824	0.00027	0.00495	0.0052	0.0074	1045	379	0	1389	0.00	OK
13.308	0	0	0.75	0.60	0.20	0.50	30	0.38	0.48	0.48	7.0	10	4.618	46.18	0.101	1087	4904	4571	1062	0.432	4904	0.00036	0.00495	0.0053	0.0074	1062	463	0	1489	0.00	OK
13.61	0	0	0.75	0.60	0.20	0.50	30	0.38	0.49	0.49	7.0	10	4.618	46.18	0.119	1087	4981	4571	1078	0.438	4981	0.00044	0.00495	0.0054	0.0074	1078	544	0	1587	0.00	OK
13.913	0	0	0.75	0.60	0.20	0.50	30	0.38	0.51	0.51	7.0	10	4.618	46.18	0.136	1087	4943	4571	1070	0.435	4943	0.00061	0.00495	0.0056	0.0074	1070	622	0	1666	0.00	OK
14.215	0	0	0.75	0.60	0.20	0.50	30	0.38	0.53	0.53	7.0	10	4.618	46.18	0.152	1087	4948	4571	1071	0.436	4948	0.00073	0.00495	0.0057	0.0074	1071	694	0	1745	0.00	OK
14.518	0	0	0.75	0.60	0.20	0.50	30	0.38	0.54	0.54	7.0	10	4.618	46.18	0.165	1087	4952	4571	1072	0.436	4952	0.00083	0.00495	0.0058	0.0074	1072	753	0	1809	0.00	OK
14.82	0	0	0.75	0.60	0.20	0.50	30	0.38	0.55	0.55	7.0	10	4.618	46.18	0.170	1087	4954	4571	1073	0.436	4954	0.00087	0.00495	0.0058	0.0074	1073	777	0	1836	0.00	OK

Dimensionering av böjarmering med endast spännarmering - LKA

Projekt: **Islandsbron** A 1dir max Balk 3 spännkabel i överkant

Indata:

f_{ck}	35.5	MPa			f_{cd}	23.7	MPa	
f_{ctk}	2.25	MPa	E_p	200	GPa			
E_{cm}	34	GPa	γ_s	1.15	-			
γ_c	1.5	-	$k_{tvång}$	1				
ε_{cu3}	0.0035	%	f_{pk}	1250	MPa	P_{efter}	457.1	kN
			f_{dk}	1500	MPa			
k_t	0.4	-	ε_g	4.0	%			
η	1.0	-	f_{st}	1087	MPa			
λ	0.8	-	f_{stu}	1304	MPa			

18% av F initial, tid t2

Snitt kontrolleras ej vid upplag:

precis över stöd

0.85

Kontroll

snitt	$M_{exkl.P}$	N_{tillh}	h	bw	t_f	b_f	bm	TP_{balk}	TP_{kabel}	$d_{spänn}$	$Ø_{sparm.1}$	Antal	$A_{s,\phi}$	A_s	e	f_{st}	F_s	$P_{spännkraft}$	σ_s passad med σ s_dim	x	$F_c = F_s$	$\Delta\varepsilon_s$	$\Delta\varepsilon_{p0}$	$\Delta\varepsilon_s+\Delta\varepsilon_{p0}$	ε_{st}	σ s_dim	M_0	M_{ed}	M_{Rd}	Uttnyttj	Ok/
m	kNm	kN	m	m	m	m	mm	m	m	m	mm	st	cm^2	cm^2	m	MPa	kN	kN	MPa	m	kN	-	-	(ε_s)	-	mm^3	kNm	kNm	kNm	-	Ej ok
0	0	0	0.80	0.50	0.20	0.50	30	0.40	0.41	0.41	7.0	6	4.618	27.71	0.011	1087	2977	2742	1074	0.314	2977	0.00107	0.00495	0.0060	0.0074	1074	30	0	849	0.00	OK
0.302	0	0	0.80	0.50	0.20	0.50	30	0.40	0.40	0.40	7.0	6	4.618	27.71	-0.001	1087	2975	2742	1074	0.314	2975	0.00097	0.00495	0.0059	0.0074	1074	-4	0	820	0.00	OK
0.605	0	0	0.80	0.50	0.20	0.50	30	0.40	0.41	0.41	7.0	6	4.618	27.71	-0.013	1087	2978	2742	1075	0.315	2978	0.00110	0.00495	0.0060	0.0074	1075	-37	0	856	0.00	OK
0.907	0	0	0.80	0.50	0.20	0.50	30	0.40	0.42	0.42	7.0	6	4.618	27.71	-0.025	1087	2981	2742	1076	0.315	2981	0.00122	0.00495	0.0062	0.0074	1076	-68	0	890	0.00	OK
1.21	0	0	0.80	0.50	0.20	0.50	30	0.40	0.44	0.44	7.0	6	4.618	27.71	-0.035	1087	2984	2742	1077	0.315	2984	0.00134	0.00495	0.0063	0.0074	1077	-97	0	923	0.00	OK
1.512	0	0	0.80	0.50	0.20	0.50	30	0.40	0.45	0.45	7.0	6	4.618	27.71	-0.046	1087	2986	2742	1078	0.315	2986	0.00145	0.00495	0.0064	0.0074	1078	-125	0	954	0.00	OK
1.815	0	0	0.80	0.50	0.20	0.50	30	0.40	0.46	0.46	7.0	6	4.618	27.71	-0.056	1087	2989	2742	1079	0.316	2989	0.00155	0.00495	0.0065	0.0074	1079	-153	0	984	0.00	OK
2.117	0	0	0.80	0.50	0.20	0.50	30	0.40	0.46	0.46	7.0	6	4.618	27.71	-0.065	1087	2991	2742	1080	0.316	2991	0.00165	0.00495	0.0066	0.0074	1080	-178	0	1013	0.00	OK
2.42	0	0	0.80	0.50	0.20	0.50	30	0.40	0.47	0.47	7.0	6	4.618	27.71	-0.074	1087	2994	2742	1080	0.316	2994	0.00175	0.00495	0.0067	0.0074	1080	-203	0	1040	0.00	OK
2.722	0	0	0.80	0.50	0.20	0.50	30	0.40	0.48	0.48	7.0	6	4.618	27.71	-0.082	1087	2996	2742	1081	0.316	2996	0.00184	0.00495	0.0068	0.0074	1081	-226	0	1066	0.00	OK
3.024	0	0	0.80	0.50	0.20	0.50	30	0.40	0.44	0.44	7.0	8	4.618	36.95	-0.044	1087	3876	3657	1049	0.409	3876	0.00030	0.00495	0.0052	0.0074	1049	-161	0	1087	0.00	OK
3.327	0	0	0.80	0.50	0.20	0.50	30	0.40	0.46	0.46	7.0	8	4.618	36.95	-0.059	1087	3931	3657	1064	0.415	3931	0.00037	0.00495	0.0053	0.0074	1064	-217	0	1153	0.00	OK
3.629	0	0	0.80	0.50	0.20	0.50	30	0.40	0.47	0.47	7.0	8	4.618	36.95	-0.073	1087	3982	3657	1078	0.421	3982	0.00044	0.00495	0.0054	0.0074	1078	-268	0	1215	0.00	OK
3.932	0	0	0.80	0.50	0.20	0.50	30	0.40	0.49	0.49	7.0	8	4.618	36.95	-0.087	1087	3953	3657	1070	0.418	3953	0.00058	0.00495	0.0055	0.0074	1070	-316	0	1263	0.00	OK
4.234	0	0	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	8	4.618	36.95	-0.098	1087	3957	3657	1071	0.418	3957	0.00067	0.00495	0.0056	0.0074	1071	-360	0	1310	0.00	OK
4.537	0	0	0.80	0.50	0.20	0.50	30	0.40	0.51	0.51	7.0	8	4.618	36.95	-0.109	1087	3959	3657	1072	0.418	3959	0.00076	0.00495	0.0057	0.0074	1072	-399	0	1353	0.00	OK
4.839	0	0	0.80	0.50	0.20	0.50	30	0.40	0.52	0.52	7.0	8	4.618	36.95	-0.118	1087	3962	3657	1072	0.419	3962	0.00084	0.00495	0.0058	0.0074	1072	-433	0	1391	0.00	OK
5.142	0	0	0.80	0.50	0.20	0.50	30	0.40	0.53	0.53	7.0	8	4.618	36.95	-0.126	1087	3964	3657	1073	0.419	3964	0.00090	0.00495	0.0058	0.0074	1073	-462	0	1423	0.00	OK
5.444	0	0	0.80	0.50	0.20	0.50	30	0.40	0.53	0.53	7.0	8	4.618	36.95	-0.133	1087	3966	3657	1073	0.419	3966	0.00095	0.00495	0.0059	0.0074	1073	-486	0	1449	0.00	OK
5.747	0	0	0.80	0.50	0.20	0.50	30	0.40	0.54	0.54	7.0	8	4.618	36.95	-0.138	1087	3967	3657	1074	0.419	3967	0.00099	0.00495	0.0059	0.0074	1074	-504	0	1469	0.00	OK
6.049	0	0	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	-0.096	1087	4622	4571	1001	0.488	4622	0.00006	0.00495	0.0050	0.0074	1001	-439	0	1390	0.00	OK
6.351	0	0	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	-0.099	1087	4633	4571	1003	0.489	4633	0.00007	0.00495	0.0050	0.0074	1003	-451	0	1404	0.00	OK
6.654	0	0	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	-0.100	1087	4637	4571	1004	0.490	4637	0.00007	0.00495	0.0050	0.0074	1004	-457	0	1410	0.00	OK
6.956	0	0	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	-0.100	1087	4637	4571	1004	0.490	4637	0.00007	0.00495	0.0050	0.0074	1004	-456	0	1409	0.00	OK
7.259	0	0	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	-0.098	1087	4631	4571	1003	0.489	4631	0.00007	0.00495	0.0050	0.0074	1003	-450	0	1402	0.00	OK
7.561	0	0	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	-0.096	1087	4621	4571	1001	0.488	4621	0.00005	0.00495	0.0050	0.0074	1001	-437	0	1388	0.00	OK
7.864	0	0	0.80	0.50	0.20	0.50	30	0.40	0.49	0.49	7.0	10	4.618	46.18	-0.092	1087	4606	4571	997	0.487	4606	0.00004	0.00495	0.0050	0.0074	997	-420	0	1369	0.00	OK
8.166	0	0	0.80	0.50	0.20	0.50	30	0.40	0.49	0.49	7.0	10	4.618	46.18	-0.087	1087	4587	4571	993	0.485	4587	0.00002	0.00495	0.0050	0.0074	993	-397	0	1344	0.00	OK
8.469	0	0	0.80	0.50	0.20	0.50	30	0.40	0.48	0.48	7.0	10	4.618	46.18	-0.081	1087	4563	4571	988	0.482	4563	-0.00001	0.00495	0.0049	0.0074	988	-370	0	1315	0.00	OK
8.771	0	0	0.80	0.50	0.20	0.50	30	0.40	0.47	0.47	7.0	10	4.618	46.18	-0.074	1087	4536	4571	982	0.479	4536	-0.00004	0.00495	0.0049	0.0074	982	-338	0	1281	0.00	OK
9.073	0	0	0.80	0.50	0.20	0.50	30	0.40	0.47	0.47	7.0	10	4.618	46.18	-0.066	1087	4505	4571	976	0.476	4505	-0.00007	0.00495	0.0049	0.0074	976	-303	0	1243	0.00	OK
9.376	0	0	0.80	0.50	0.20	0.50	30	0.40	0.46	0.46	7.0	10	4.618	46.18	-0.058	1087	4471	4571	968	0.472	4471	-0.00011	0.00495	0.0048	0.0074	968	-263	0	1201	0.00	OK
9.678	0	0	0.80	0.50	0.20	0.50	30	0.40	0.45	0.45	7.0	10	4.618	46.18	-0.048	1087	4433	4571	960	0.468	4433	-0.00015	0.00495	0.0048	0.0074	960	-221	0	1157	0.00	OK
9.981	0	0	0.80	0.50	0.20	0.50	30	0.40	0.44	0.44	7.0	10	4.618	46.18	-0.038	1087	4392	4571	951	0.464	4392	-0.00019	0.00495	0.0048	0.0074	951	-175	0	1110	0.00	OK
10.283	0	0	0.80	0.50	0.20	0.50	30	0.40	0.43	0.43	7.0	10	4.618	46.18	-0.028	1087	4348	4571	942	0.459	4348	-0.00024	0.00495	0.0047	0.0074	942	-126	0	1061	0.00	OK
10.586	53	-4	0.80	0.50	0.20	0.50	30	0.40	0.42	0.42	7.0	10	4.618	46.18	-0.016	1087	4301	4571	931	0.454	4301	-0.00029	0.00495	0.0047	0.0074	931	-75	53	1010	0.05	OK
10.888	120	-1	0.80	0.50	0.20	0.50	30	0.40	0.40	0.40	7.0	10	4.618	46.18	-0.005	1087	4252	4571	921	0.449	4252	-0.00035	0.00495	0.0046	0.0074	921	-22	120	958	0.13	OK
11.191	192	-1	0.80	0.50	0.20	0.50	30	0.40	0.41	0.41	7.0	10	4.618	46.18	0.007	1087	4262	4571	923	0.450	4262	-0.00033	0.00495	0.0046	0.0074	923	33	192	968	0.20	OK
11.493	266	-3	0.80	0.50	0.20	0.50	30	0.40	0.42	0.42	7.0	10	4.618	46.18	0.020	1087	4314	4571	934	0.456	4314	-0.00028	0.00495	0.0047	0.0074	934	90	266	1024	0.26	OK
11.796	344	-10	0.80	0.50	0.20	0.50	30	0.40	0.43	0.43	7.0	10	4.618	46.18	0.032	1087	4367	4571	946	0.461	4367	-0.00022	0.00495	0.0047	0.0074	946	147	344	1082	0.32	OK
12.098	426	-19	0.80	0.50	0.20	0.50	30	0.40	0.45	0.45	7.0	10	4.618	46.18	0.045	1087	4420	4571	957	0.467	4420	-0.00016	0.00495	0.0048	0.0074	957	206	426	1142	0.37	OK
12.4	514	-86	0.80	0.50	0.20	0.50	30	0.40	0.46	0.46	7.0	10	4.618	46.18	0.058	1087	4472	4571	968	0.472	4472	-0.00011	0.00495	0.0048	0.0074	968	265	514	1204	0.43	OK
12.703	615	-165	0.80	0.50	0.20	0.50	30	0.40	0.47	0.47	7.0	10	4.618	46.18	0.071	1087	4525	4571	980	0.478	4525	-0.00005	0.00495	0.0049	0.0074	980	325	615	1267	0.49	OK
13.005	725	-224	0.80	0.50	0.20	0.50	30	0.40	0.48	0.48	7.0	10	4.618	46.18	0.084	1087	4576	4571	991	0.483	4576	0.00001	0.00495	0.0050	0.0074	991	385	725	1331	0.54	OK
13.308	842	-283	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	0.097	1087	4627	4571	1002	0.489	4627	0.00006	0.00495	0.0050	0.0074	1002	444	842	1396	0.60	OK
13.61	967	-340	0.80	0.50	0.20	0.50	30	0.40	0.51	0.51	7.0	10	4.618	46.18	0.110	1087	4676	4571	1012	0.494	4676	0.00011	0.00495	0.0051	0.0074	1012	503	967	1461	0.66	OK
13.913	1100	-399	0.80	0.50	0.20	0.50	30	0.40	0.52	0.52	7.0	10	4.618	46.18	0.123	1087	4724	4571	1023	0.499	4724	0.00017	0.00495	0.0051	0.0074	1023	560	1100	1526	0.72	OK
14.215	1243	-429	0.80	0.50	0.20	0.50	30	0.40	0.53	0.53	7.0	10	4.618	46.18	0.135	1087	4770	4571	1033	0.504	4770	0.00022	0.00495	0.0052	0.0074	1033	616	1243	1590	0.78	OK
14.518	1396	-458	0.80	0.50	0.20	0.50	30	0.40	0.55	0.55	7.0	10	4.618	46.18	0.146	1087	4812	4571	1042	0.508	4812	0.00026	0.00495	0.0052	0.0074	1042	669	1396	1651	0.85	OK
14.82	1015	-660	0.80	0.50	0.20	0.50	30	0.40	0.55	0.55	7.0	10	4.618	46.18	0.152	1087	4833	4571	1047	0.511	4833	0.00028	0.00495	0.0052	0.0074	1047	695	1015	1681	0.60	OK

Dimensionering av böjarmering med endast spännarmering - LKA

Projekt: **Islandsbron** A 1dir min Balk 3 spännkabel i underkant

Indata:

f_{ck}	35.5	MPa			f_{cd}	23.7	MPa	
f_{ctk}	2.25	MPa	E_p	200	GPa			
E_{cm}	34	GPa	γ_s	1.15	-			
γ_c	1.5	-	$k_{tvång}$	1				
ϵ_{cu3}	0.0035	%	f_{pk}	1250	MPa	P_{efter}	457.1	kN
			f_{dk}	1500	MPa			
k_t	0.4	-	ϵ_g	4.0	%			
η	1.0	-	f_{st}	1087	MPa			
λ	0.8	-	f_{stu}	1304	MPa			

18% av F initial, tid t2

Snitt kontrolleras ej vid upplag:

precis över stöd

0.72

Kontroll

snitt	$M_{exkl.P}$	N_{tillh}	h	bw	t_f	b_f	bm	TP_{balk}	TP_{kabel}	$d_{spänn}$	$Ø_{sparm.1}$	Antal	$A_{s,\phi}$	A_s	e	f_{st}	F_s	$P_{spännkraft}$	σ_s passad med σ s_dim	x	$F_c = F_s$	$\Delta\epsilon_s$	$\Delta\epsilon_{p0}$	$\Delta\epsilon_s+\Delta\epsilon_{p0}$	ϵ_{st}	σ s_dim	M_0	M_{ed}	M_{Rd}	Uttnyttj	Ok/
m	kNm	kN	m	m	m	m	mm	m	m	m	mm	st	cm^2	cm^2	m	MPa	kN	kN	MPa	m	kN	-	-	(ϵ_s)	-	mm^3	kNm	kNm	kNm	-	Ej ok
0	31	-200	0.80	0.50	0.20	0.50	30	0.40	0.41	0.41	7.0	6	4.618	27.71	0.011	1087	2977	2742	1074	0.314	2977	0.00107	0.00495	0.0060	0.0074	1074	30	31	849	0.04	OK
0.302	121	-4	0.80	0.50	0.20	0.50	30	0.40	0.40	0.40	7.0	6	4.618	27.71	-0.001	1087	2975	2742	1074	0.314	2975	0.00097	0.00495	0.0059	0.0074	1074	-4	121	820	0.15	OK
0.605	230	-27	0.80	0.50	0.20	0.50	30	0.40	0.41	0.41	7.0	6	4.618	27.71	-0.013	1087	2978	2742	1075	0.315	2978	0.00110	0.00495	0.0060	0.0074	1075	-37	230	856	0.27	OK
0.907	325	-62	0.80	0.50	0.20	0.50	30	0.40	0.42	0.42	7.0	6	4.618	27.71	-0.025	1087	2981	2742	1076	0.315	2981	0.00122	0.00495	0.0062	0.0074	1076	-68	325	890	0.37	OK
1.21	408	-102	0.80	0.50	0.20	0.50	30	0.40	0.44	0.44	7.0	6	4.618	27.71	-0.035	1087	2984	2742	1077	0.315	2984	0.00134	0.00495	0.0063	0.0074	1077	-97	408	923	0.44	OK
1.512	481	-141	0.80	0.50	0.20	0.50	30	0.40	0.45	0.45	7.0	6	4.618	27.71	-0.046	1087	2986	2742	1078	0.315	2986	0.00145	0.00495	0.0064	0.0074	1078	-125	481	954	0.50	OK
1.815	551	-178	0.80	0.50	0.20	0.50	30	0.40	0.46	0.46	7.0	6	4.618	27.71	-0.056	1087	2989	2742	1079	0.316	2989	0.00155	0.00495	0.0065	0.0074	1079	-153	551	984	0.56	OK
2.117	615	-212	0.80	0.50	0.20	0.50	30	0.40	0.46	0.46	7.0	6	4.618	27.71	-0.065	1087	2991	2742	1080	0.316	2991	0.00165	0.00495	0.0066	0.0074	1080	-178	615	1013	0.61	OK
2.42	673	-242	0.80	0.50	0.20	0.50	30	0.40	0.47	0.47	7.0	6	4.618	27.71	-0.074	1087	2994	2742	1080	0.316	2994	0.00175	0.00495	0.0067	0.0074	1080	-203	673	1040	0.65	OK
2.722	729	-267	0.80	0.50	0.20	0.50	30	0.40	0.48	0.48	7.0	6	4.618	27.71	-0.082	1087	2996	2742	1081	0.316	2996	0.00184	0.00495	0.0068	0.0074	1081	-226	729	1066	0.68	OK
3.024	778	-290	0.80	0.50	0.20	0.50	30	0.40	0.44	0.44	7.0	8	4.618	36.95	-0.044	1087	3876	3657	1049	0.409	3876	0.00030	0.00495	0.0052	0.0074	1049	-161	778	1087	0.72	OK
3.327	822	-324	0.80	0.50	0.20	0.50	30	0.40	0.46	0.46	7.0	8	4.618	36.95	-0.059	1087	3931	3657	1064	0.415	3931	0.00037	0.00495	0.0053	0.0074	1064	-217	822	1153	0.71	OK
3.629	863	-356	0.80	0.50	0.20	0.50	30	0.40	0.47	0.47	7.0	8	4.618	36.95	-0.073	1087	3982	3657	1078	0.421	3982	0.00044	0.00495	0.0054	0.0074	1078	-268	863	1215	0.71	OK
3.932	896	-371	0.80	0.50	0.20	0.50	30	0.40	0.49	0.49	7.0	8	4.618	36.95	-0.087	1087	3953	3657	1070	0.418	3953	0.00058	0.00495	0.0055	0.0074	1070	-316	896	1263	0.71	OK
4.234	926	-380	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	8	4.618	36.95	-0.098	1087	3957	3657	1071	0.418	3957	0.00067	0.00495	0.0056	0.0074	1071	-360	926	1310	0.71	OK
4.537	953	-384	0.80	0.50	0.20	0.50	30	0.40	0.51	0.51	7.0	8	4.618	36.95	-0.109	1087	3959	3657	1072	0.418	3959	0.00076	0.00495	0.0057	0.0074	1072	-399	953	1353	0.70	OK
4.839	973	-388	0.80	0.50	0.20	0.50	30	0.40	0.52	0.52	7.0	8	4.618	36.95	-0.118	1087	3962	3657	1072	0.419	3962	0.00084	0.00495	0.0058	0.0074	1072	-433	973	1391	0.70	OK
5.142	985	-384	0.80	0.50	0.20	0.50	30	0.40	0.53	0.53	7.0	8	4.618	36.95	-0.126	1087	3964	3657	1073	0.419	3964	0.00090	0.00495	0.0058	0.0074	1073	-462	985	1423	0.69	OK
5.444	994	-379	0.80	0.50	0.20	0.50	30	0.40	0.53	0.53	7.0	8	4.618	36.95	-0.133	1087	3966	3657	1073	0.419	3966	0.00095	0.00495	0.0059	0.0074	1073	-486	994	1449	0.69	OK
5.747	999	-380	0.80	0.50	0.20	0.50	30	0.40	0.54	0.54	7.0	8	4.618	36.95	-0.138	1087	3967	3657	1074	0.419	3967	0.00099	0.00495	0.0059	0.0074	1074	-504	999	1469	0.68	OK
6.049	994	-378	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	-0.096	1087	4622	4571	1001	0.488	4622	0.00006	0.00495	0.0050	0.0074	1001	-439	994	1390	0.71	OK
6.351	985	-367	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	-0.099	1087	4633	4571	1003	0.489	4633	0.00007	0.00495	0.0050	0.0074	1003	-451	985	1404	0.70	OK
6.654	975	-357	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	-0.100	1087	4637	4571	1004	0.490	4637	0.00007	0.00495	0.0050	0.0074	1004	-457	975	1410	0.69	OK
6.956	955	-348	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	-0.100	1087	4637	4571	1004	0.490	4637	0.00007	0.00495	0.0050	0.0074	1004	-456	955	1409	0.68	OK
7.259	933	-340	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	-0.098	1087	4631	4571	1003	0.489	4631	0.00007	0.00495	0.0050	0.0074	1003	-450	933	1402	0.67	OK
7.561	908	-332	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	-0.096	1087	4621	4571	1001	0.488	4621	0.00005	0.00495	0.0050	0.0074	1001	-437	908	1388	0.65	OK
7.864	874	-316	0.80	0.50	0.20	0.50	30	0.40	0.49	0.49	7.0	10	4.618	46.18	-0.092	1087	4606	4571	997	0.487	4606	0.00004	0.00495	0.0050	0.0074	997	-420	874	1369	0.64	OK
8.166	836	-302	0.80	0.50	0.20	0.50	30	0.40	0.49	0.49	7.0	10	4.618	46.18	-0.087	1087	4587	4571	993	0.485	4587	0.00002	0.00495	0.0050	0.0074	993	-397	836	1344	0.62	OK
8.469	794	-288	0.80	0.50	0.20	0.50	30	0.40	0.48	0.48	7.0	10	4.618	46.18	-0.081	1087	4563	4571	988	0.482	4563	-0.00001	0.00495	0.0049	0.0074	988	-370	794	1315	0.60	OK
8.771	746	-269	0.80	0.50	0.20	0.50	30	0.40	0.47	0.47	7.0	10	4.618	46.18	-0.074	1087	4536	4571	982	0.479	4536	-0.00004	0.00495	0.0049	0.0074	982	-338	746	1281	0.58	OK
9.073	691	-250	0.80	0.50	0.20	0.50	30	0.40	0.47	0.47	7.0	10	4.618	46.18	-0.066	1087	4505	4571	976	0.476	4505	-0.00007	0.00495	0.0049	0.0074	976	-303	691	1243	0.56	OK
9.376	632	-231	0.80	0.50	0.20	0.50	30	0.40	0.46	0.46	7.0	10	4.618	46.18	-0.058	1087	4471	4571	968	0.472	4471	-0.00011	0.00495	0.0048	0.0074	968	-263	632	1201	0.53	OK
9.678	569	-207	0.80	0.50	0.20	0.50	30	0.40	0.45	0.45	7.0	10	4.618	46.18	-0.048	1087	4433	4571	960	0.468	4433	-0.00015	0.00495	0.0048	0.0074	960	-221	569	1157	0.49	OK
9.981	498	-184	0.80	0.50	0.20	0.50	30	0.40	0.44	0.44	7.0	10	4.618	46.18	-0.038	1087	4392	4571	951	0.464	4392	-0.00019	0.00495	0.0048	0.0074	951	-175	498	1110	0.45	OK
10.283	423	-159	0.80	0.50	0.20	0.50	30	0.40	0.43	0.43	7.0	10	4.618	46.18	-0.028	1087	4348	4571	942	0.459	4348	-0.00024	0.00495	0.0047	0.0074	942	-126	423	1061	0.40	OK
10.586	346	-132	0.80	0.50	0.20	0.50	30	0.40	0.42	0.42	7.0	10	4.618	46.18	-0.016	1087	4301	4571	931	0.454	4301	-0.00029	0.00495	0.0047	0.0074	931	-75	346	1010	0.34	OK
10.888	262	-108	0.80	0.50	0.20	0.50	30	0.40	0.40	0.40	7.0	10	4.618	46.18	-0.005	1087	4252	4571	921	0.449	4252	-0.00035	0.00495	0.0046	0.0074	921	-22	262	958	0.27	OK
11.191	172	-78	0.80	0.50	0.20	0.50	30	0.40	0.41	0.41	7.0	10	4.618	46.18	0.007	1087	4262	4571	923	0.450	4262	-0.00033	0.00495	0.0046	0.0074	923	33	172	968	0.18	OK
11.493	79	-51	0.80	0.50	0.20	0.50	30	0.40	0.42	0.42	7.0	10	4.618	46.18	0.020	1087	4314	4571	934	0.456	4314	-0.00028	0.00495	0.0047	0.0074	934	90	79	1024	0.08	OK
11.796	0	0	0.80	0.50	0.20	0.50	30	0.40	0.43	0.43	7.0	10	4.618	46.18	0.032	1087	4367	4571	946	0.461	4367	-0.00022	0.00495	0.0047	0.0074	946	147	0	1082	0.00	OK
12.098	0	0	0.80	0.50	0.20	0.50	30	0.40	0.45	0.45	7.0	10	4.618	46.18	0.045	1087	4420	4571	957	0.467	4420	-0.00016	0.00495	0.0048	0.0074	957	206	0	1142	0.00	OK
12.4	0	0	0.80	0.50	0.20	0.50	30	0.40	0.46	0.46	7.0	10	4.618	46.18	0.058	1087	4472	4571	968	0.472	4472	-0.00011	0.00495	0.0048	0.0074	968	265	0	1204	0.00	OK
12.703	0	0	0.80	0.50	0.20	0.50	30	0.40	0.47	0.47	7.0	10	4.618	46.18	0.071	1087	4525	4571	980	0.478	4525	-0.00005	0.00495	0.0049	0.0074	980	325	0	1267	0.00	OK
13.005	0	0	0.80	0.50	0.20	0.50	30	0.40	0.48	0.48	7.0	10	4.618	46.18	0.084	1087	4576	4571	991	0.483	4576	0.00001	0.00495	0.0050	0.0074	991	385	0	1331	0.00	OK
13.308	0	0	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	0.097	1087	4627	4571	1002	0.489	4627	0.00006	0.00495	0.0050	0.0074	1002	444	0	1396	0.00	OK
13.61	0	0	0.80	0.50	0.20	0.50	30	0.40	0.51	0.51	7.0	10	4.618	46.18	0.110	1087	4676	4571	1012	0.494	4676	0.00011	0.00495	0.0051	0.0074	1012	503	0	1461	0.00	OK
13.913	0	0	0.80	0.50	0.20	0.50	30	0.40	0.52	0.52	7.0	10	4.618	46.18	0.123	1087	4724	4571	1023	0.499	4724	0.00017	0.00495	0.0051	0.0074	1023	560	0	1526	0.00	OK
14.215	0	0	0.80	0.50	0.20	0.50	30	0.40	0.53	0.53	7.0	10	4.618	46.18	0.135	1087	4770	4571	1033	0.504	4770	0.00022	0.00495	0.0052	0.0074	1033	616	0	1590	0.00	OK
14.518	0	0	0.80	0.50	0.20	0.50	30	0.40	0.55	0.55	7.0	10	4.618	46.18	0.146	1087	4812	4571	1042	0.508	4812	0.00026	0.00495	0.0052	0.0074	1042	669	0	1651	0.00	OK
14.82	0	0	0.80	0.50	0.20	0.50	30	0.40	0.55	0.55	7.0	10	4.618	46.18	0.152	1087	4833	4571	1047	0.511	4833	0.00028	0.00495	0.0052	0.0074	1047	695	0	1681	0.00	OK

Dimensionering av böjarmering med endast spännarmering - LKA

Projekt: **Islandsbron** A 1dir max Balk 4 spännkabel i överkant

Indata: f_{ck} 35.5 MPa; f_{cd} 23.7 MPa

f_{ctk} 2.25 MPa; E_p 200 GPa

E_{cm} 34 GPa; γ_s 1.15 -

γ_c 1.5 -; $k_{tvång}$ 1

ε_{cu3} 0.0035 %; f_{pk} 1250 MPa; P_{efter} 457.1 kN *18% av F initial, tid t2*

f_{dk} 1500 MPa

k_t 0.4 -; ε_g 4.0 %

η 1.0 -; f_{st} 1087 MPa

λ 0.8 -; f_{stu} 1304 MPa

Snitt kontrolleras ej vid upplag:

precis över stöd

0.85

Kontroll

passad

snitt	$M_{exkl.P}$	N_{tillh}	h	bw	t_f	b_f	bm	TP_{balk}	TP_{kabel}	$d_{spänn}$	$Ø_{sparm.1}$	Antal	$A_{s,ø}$	A_s	e	f_{st}	F_s	$P_{spännkraft}$	σ_s	x	$F_c = F_s$	$\Delta\varepsilon_s$	$\Delta\varepsilon_{p0}$	$\Delta\varepsilon_s+\Delta\varepsilon_{p0}$	ε_{st}	σ s_dim	M_0	M_{ed}	M_{Rd}	Uttnyttj	Ok/
m	kNm	kN	m	m	m	m	mm	m	m	m	mm	st	cm^2	cm^2	m	MPa	kN	kN	MPa	m	kN	-	-	(ε_s)	-	mm^3	kNm	kNm	kNm	-	Ej ok
0	0	0	0.80	0.50	0.20	0.50	30	0.40	0.42	0.42	7.0	6	4.618	27.71	0.016	1087	2979	2742	1075	0.315	2979	0.00113	0.00495	0.0061	0.0074	1075	44	0	864	0.00	OK
0.302	0	0	0.80	0.50	0.20	0.50	30	0.40	0.40	0.40	7.0	6	4.618	27.71	0.003	1087	2975	2742	1074	0.314	2975	0.00099	0.00495	0.0059	0.0074	1074	10	0	826	0.00	OK
0.605	0	0	0.80	0.50	0.20	0.50	30	0.40	0.41	0.41	7.0	6	4.618	27.71	-0.009	1087	2977	2742	1074	0.314	2977	0.00105	0.00495	0.0060	0.0074	1074	-23	0	842	0.00	OK
0.907	0	0	0.80	0.50	0.20	0.50	30	0.40	0.42	0.42	7.0	6	4.618	27.71	-0.020	1087	2980	2742	1075	0.315	2980	0.00117	0.00495	0.0061	0.0074	1075	-55	0	876	0.00	OK
1.21	0	0	0.80	0.50	0.20	0.50	30	0.40	0.43	0.43	7.0	6	4.618	27.71	-0.031	1087	2982	2742	1076	0.315	2982	0.00129	0.00495	0.0062	0.0074	1076	-85	0	909	0.00	OK
1.512	0	0	0.80	0.50	0.20	0.50	30	0.40	0.44	0.44	7.0	6	4.618	27.71	-0.041	1087	2985	2742	1077	0.315	2985	0.00140	0.00495	0.0063	0.0074	1077	-113	0	941	0.00	OK
1.815	0	0	0.80	0.50	0.20	0.50	30	0.40	0.45	0.45	7.0	6	4.618	27.71	-0.051	1087	2988	2742	1078	0.316	2988	0.00150	0.00495	0.0065	0.0074	1078	-140	0	971	0.00	OK
2.117	0	0	0.80	0.50	0.20	0.50	30	0.40	0.46	0.46	7.0	6	4.618	27.71	-0.061	1087	2990	2742	1079	0.316	2990	0.00160	0.00495	0.0066	0.0074	1079	-166	0	1000	0.00	OK
2.42	0	0	0.80	0.50	0.20	0.50	30	0.40	0.47	0.47	7.0	6	4.618	27.71	-0.070	1087	2993	2742	1080	0.316	2993	0.00170	0.00495	0.0066	0.0074	1080	-191	0	1027	0.00	OK
2.722	0	0	0.80	0.50	0.20	0.50	30	0.40	0.48	0.48	7.0	6	4.618	27.71	-0.078	1087	2995	2742	1081	0.316	2995	0.00179	0.00495	0.0067	0.0074	1081	-215	0	1054	0.00	OK
3.024	0	0	0.80	0.50	0.20	0.50	30	0.40	0.44	0.44	7.0	8	4.618	36.95	-0.041	1087	3864	3657	1046	0.408	3864	0.00028	0.00495	0.0052	0.0074	1046	-149	0	1073	0.00	OK
3.327	0	0	0.80	0.50	0.20	0.50	30	0.40	0.46	0.46	7.0	8	4.618	36.95	-0.056	1087	3919	3657	1061	0.414	3919	0.00036	0.00495	0.0053	0.0074	1061	-205	0	1138	0.00	OK
3.629	0	0	0.80	0.50	0.20	0.50	30	0.40	0.47	0.47	7.0	8	4.618	36.95	-0.070	1087	3970	3657	1075	0.419	3970	0.00042	0.00495	0.0054	0.0074	1075	-257	0	1201	0.00	OK
3.932	0	0	0.80	0.50	0.20	0.50	30	0.40	0.48	0.48	7.0	8	4.618	36.95	-0.083	1087	3953	3657	1070	0.418	3953	0.00055	0.00495	0.0055	0.0074	1070	-305	0	1250	0.00	OK
4.234	0	0	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	8	4.618	36.95	-0.095	1087	3956	3657	1071	0.418	3956	0.00065	0.00495	0.0056	0.0074	1071	-348	0	1298	0.00	OK
4.537	0	0	0.80	0.50	0.20	0.50	30	0.40	0.51	0.51	7.0	8	4.618	36.95	-0.106	1087	3959	3657	1071	0.418	3959	0.00073	0.00495	0.0057	0.0074	1071	-387	0	1341	0.00	OK
4.839	0	0	0.80	0.50	0.20	0.50	30	0.40	0.52	0.52	7.0	8	4.618	36.95	-0.115	1087	3961	3657	1072	0.418	3961	0.00081	0.00495	0.0058	0.0074	1072	-422	0	1378	0.00	OK
5.142	0	0	0.80	0.50	0.20	0.50	30	0.40	0.52	0.52	7.0	8	4.618	36.95	-0.123	1087	3963	3657	1073	0.419	3963	0.00088	0.00495	0.0058	0.0074	1073	-451	0	1410	0.00	OK
5.444	0	0	0.80	0.50	0.20	0.50	30	0.40	0.53	0.53	7.0	8	4.618	36.95	-0.130	1087	3965	3657	1073	0.419	3965	0.00093	0.00495	0.0059	0.0074	1073	-475	0	1436	0.00	OK
5.747	0	0	0.80	0.50	0.20	0.50	30	0.40	0.53	0.53	7.0	8	4.618	36.95	-0.135	1087	3966	3657	1074	0.419	3966	0.00097	0.00495	0.0059	0.0074	1074	-493	0	1456	0.00	OK
6.049	0	0	0.80	0.50	0.20	0.50	30	0.40	0.49	0.49	7.0	10	4.618	46.18	-0.094	1087	4614	4571	999	0.487	4614	0.00005	0.00495	0.0050	0.0074	999	-430	0	1380	0.00	OK
6.351	0	0	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	-0.097	1087	4624	4571	1001	0.488	4624	0.00006	0.00495	0.0050	0.0074	1001	-441	0	1393	0.00	OK
6.654	0	0	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	-0.098	1087	4628	4571	1002	0.489	4628	0.00006	0.00495	0.0050	0.0074	1002	-446	0	1398	0.00	OK
6.956	0	0	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	-0.097	1087	4627	4571	1002	0.489	4627	0.00006	0.00495	0.0050	0.0074	1002	-445	0	1397	0.00	OK
7.259	0	0	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	-0.096	1087	4621	4571	1001	0.488	4621	0.00005	0.00495	0.0050	0.0074	1001	-438	0	1389	0.00	OK
7.561	0	0	0.80	0.50	0.20	0.50	30	0.40	0.49	0.49	7.0	10	4.618	46.18	-0.093	1087	4611	4571	998	0.487	4611	0.00004	0.00495	0.0050	0.0074	998	-425	0	1375	0.00	OK
7.864	0	0	0.80	0.50	0.20	0.50	30	0.40	0.49	0.49	7.0	10	4.618	46.18	-0.089	1087	4595	4571	995	0.485	4595	0.00003	0.00495	0.0050	0.0074	995	-407	0	1355	0.00	OK
8.166	0	0	0.80	0.50	0.20	0.50	30	0.40	0.48	0.48	7.0	10	4.618	46.18	-0.084	1087	4576	4571	991	0.483	4576	0.00001	0.00495	0.0050	0.0074	991	-384	0	1330	0.00	OK
8.469	0	0	0.80	0.50	0.20	0.50	30	0.40	0.48	0.48	7.0	10	4.618	46.18	-0.078	1087	4552	4571	986	0.481	4552	-0.00002	0.00495	0.0049	0.0074	986	-356	0	1300	0.00	OK
8.771	0	0	0.80	0.50	0.20	0.50	30	0.40	0.47	0.47	7.0	10	4.618	46.18	-0.071	1087	4524	4571	980	0.478	4524	-0.00005	0.00495	0.0049	0.0074	980	-325	0	1266	0.00	OK
9.073	0	0	0.80	0.50	0.20	0.50	30	0.40	0.46	0.46	7.0	10	4.618	46.18	-0.063	1087	4493	4571	973	0.475	4493	-0.00008	0.00495	0.0049	0.0074	973	-289	0	1228	0.00	OK
9.376	0	0	0.80	0.50	0.20	0.50	30	0.40	0.45	0.45	7.0	10	4.618	46.18	-0.055	1087	4458	4571	965	0.471	4458	-0.00012	0.00495	0.0048	0.0074	965	-249	0	1187	0.00	OK
9.678	0	0	0.80	0.50	0.20	0.50	30	0.40	0.45	0.45	7.0	10	4.618	46.18	-0.045	1087	4420	4571	957	0.467	4420	-0.00016	0.00495	0.0048	0.0074	957	-207	0	1142	0.00	OK
9.981	0	0	0.80	0.50	0.20	0.50	30	0.40	0.44	0.44	7.0	10	4.618	46.18	-0.035	1087	4379	4571	948	0.463	4379	-0.00021	0.00495	0.0047	0.0074	948	-161	0	1096	0.00	OK
10.283	0	0	0.80	0.50	0.20	0.50	30	0.40	0.42	0.42	7.0	10	4.618	46.18	-0.025	1087	4336	4571	939	0.458	4336	-0.00025	0.00495	0.0047	0.0074	939	-113	0	1047	0.00	OK
10.586	53	-3	0.80	0.50	0.20	0.50	30	0.40	0.41	0.41	7.0	10	4.618	46.18	-0.014	1087	4289	4571	929	0.453	4289	-0.00031	0.00495	0.0046	0.0074	929	-62	53	996	0.05	OK
10.888	120	-1	0.80	0.50	0.20	0.50	30	0.40	0.40	0.40	7.0	10	4.618	46.18	-0.002	1087	4240	4571	918	0.448	4240	-0.00036	0.00495	0.0046	0.0074	918	-9	120	945	0.13	OK
11.191	192	0	0.80	0.50	0.20	0.50	30	0.40	0.41	0.41	7.0	10	4.618	46.18	0.010	1087	4273	4571	925	0.451	4273	-0.00032	0.00495	0.0046	0.0074	925	45	192	980	0.20	OK
11.493	266	-3	0.80	0.50	0.20	0.50	30	0.40	0.42	0.42	7.0	10	4.618	46.18	0.022	1087	4325	4571	936	0.457	4325	-0.00027	0.00495	0.0047	0.0074	936	101	266	1035	0.26	OK
11.796	344	-11	0.80	0.50	0.20	0.50	30	0.40	0.43	0.43	7.0	10	4.618	46.18	0.035	1087	4376	4571	948	0.462	4376	-0.00021	0.00495	0.0047	0.0074	948	158	344	1092	0.31	OK
12.098	425	-20	0.80	0.50	0.20	0.50	30	0.40	0.45	0.45	7.0	10	4.618	46.18	0.047	1087	4428	4571	959	0.468	4428	-0.00015	0.00495	0.0048	0.0074	959	215	425	1151	0.37	OK
12.4	514	-86	0.80	0.50	0.20	0.50	30	0.40	0.46	0.46	7.0	10	4.618	46.18	0.060	1087	4479	4571	970	0.473	4479	-0.00010	0.00495	0.0048	0.0074	970	273	514	1211	0.42	OK
12.703	614	-164	0.80	0.50	0.20	0.50	30	0.40	0.47	0.47	7.0	10	4.618	46.18	0.072	1087	4530	4571	981	0.479	4530	-0.00004	0.00495	0.0049	0.0074	981	331	614	1273	0.48	OK
13.005	725	-225	0.80	0.50	0.20	0.50	30	0.40	0.49	0.49	7.0	10	4.618	46.18	0.085	1087	4580	4571	992	0.484	4580	0.00001	0.00495	0.0050	0.0074	992	389	725	1336	0.54	OK
13.308	842	-285	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	0.098	1087	4629	4571	1002	0.489	4629	0.00006	0.00495	0.0050	0.0074	1002	447	842	1399	0.60	OK
13.61	966	-343	0.80	0.50	0.20	0.50	30	0.40	0.51	0.51	7.0	10	4.618	46.18	0.110	1087	4677	4571	1013	0.494	4677	0.00012	0.00495	0.0051	0.0074	1013	504	966	1463	0.66	OK
13.913	1099	-402	0.80	0.50	0.20	0.50	30	0.40	0.52	0.52	7.0	10	4.618	46.18	0.123	1087	4724	4571	1023	0.499	4724	0.00017	0.00495	0.0051	0.0074	1023	561	1099	1526	0.72	OK
14.215	1241	-432	0.80	0.50	0.20	0.50	30	0.40	0.53	0.53	7.0	10	4.618	46.18	0.135	1087	4770	4571	1033	0.504	4770	0.00022	0.00495	0.0052	0.0074	1033	616	1241	1590	0.78	OK
14.518	1395	-461	0.80	0.50	0.20	0.50	30	0.40	0.55	0.55	7.0	10	4.618	46.18	0.146	1087	4812	4571	1042	0.508	4812	0.00026	0.00495	0.0052	0.0074	1042	669	1395	1651	0.85	OK
14.82	1014	-662	0.80	0.50	0.20	0.50	30	0.40	0.55	0.55	7.0	10	4.618	46.18	0.152	1087	4833	4571	1047	0.511	4833	0.00028	0.00495	0.0052	0.0074	1047	695	1014	1681	0.60	OK

Dimensionering av böjarmering med endast spännarmering - LKA

Projekt: **Islandsbron** | A | 1dir | min | Balk 4 | spännkabel i underkant

Indata:

f_{ck}	35.5	MPa			f_{cd}	23.7	MPa
f_{ctk}	2.25	MPa	E_p	200	GPa		
E_{cm}	34	GPa	γ_s	1.15	-		
γ_c	1.5	-	$k_{tvång}$	1			
ε_{cu3}	0.0035	%	f_{yk}	1250	MPa	P_{efter}	457.1 kN
			f_{dk}	1500	MPa		
k_t	0.4	-	ε_g	4.0	%		
η	1.0	-	f_{st}	1087	MPa		
λ	0.8	-	f_{stu}	1304	MPa		

18% av F initial, tid t2

Snitt kontrolleras ej vid upplag:

precis över stöd

0.73

Kontroll

passad

snitt	$M_{exkl.P}$	N_{tillh}	h	bw	t_f	b_f	bm	TP_{balk}	TP_{kabel}	$d_{spänn}$	$Ø_{sparm.1}$	Antal	$A_{s,ø}$	A_s	e	f_{st}	F_s	$P_{spännkraft}$	σ_s	x	$F_c = F_s$	$\Delta\varepsilon_s$	$\Delta\varepsilon_{p0}$	$\Delta\varepsilon_s+\Delta\varepsilon_{p0}$	ε_{st}	σ s_dim	M_0	M_{ed}	M_{Rd}	Uttnyttj	Ok/
m	kNm	kN	m	m	m	m	mm	m	m	m	mm	st	cm^2	cm^2	m	MPa	kN	kN	MPa	m	kN	-	-	(ε_s)	-	mm^3	kNm	kNm	kNm	-	Ej ok
0	31	-195	0.80	0.50	0.20	0.50	30	0.40	0.42	0.42	7.0	6	4.618	27.71	0.016	1087	2979	2742	1075	0.315	2979	0.00113	0.00495	0.0061	0.0074	1075	44	31	864	0.04	OK
0.302	121	-5	0.80	0.50	0.20	0.50	30	0.40	0.40	0.40	7.0	6	4.618	27.71	0.003	1087	2975	2742	1074	0.314	2975	0.00099	0.00495	0.0059	0.0074	1074	10	121	826	0.15	OK
0.605	230	-28	0.80	0.50	0.20	0.50	30	0.40	0.41	0.41	7.0	6	4.618	27.71	-0.009	1087	2977	2742	1074	0.314	2977	0.00105	0.00495	0.0060	0.0074	1074	-23	230	842	0.27	OK
0.907	325	-63	0.80	0.50	0.20	0.50	30	0.40	0.42	0.42	7.0	6	4.618	27.71	-0.020	1087	2980	2742	1075	0.315	2980	0.00117	0.00495	0.0061	0.0074	1075	-55	325	876	0.37	OK
1.21	408	-102	0.80	0.50	0.20	0.50	30	0.40	0.43	0.43	7.0	6	4.618	27.71	-0.031	1087	2982	2742	1076	0.315	2982	0.00129	0.00495	0.0062	0.0074	1076	-85	408	909	0.45	OK
1.512	481	-142	0.80	0.50	0.20	0.50	30	0.40	0.44	0.44	7.0	6	4.618	27.71	-0.041	1087	2985	2742	1077	0.315	2985	0.00140	0.00495	0.0063	0.0074	1077	-113	481	941	0.51	OK
1.815	550	-178	0.80	0.50	0.20	0.50	30	0.40	0.45	0.45	7.0	6	4.618	27.71	-0.051	1087	2988	2742	1078	0.316	2988	0.00150	0.00495	0.0065	0.0074	1078	-140	550	971	0.57	OK
2.117	614	-213	0.80	0.50	0.20	0.50	30	0.40	0.46	0.46	7.0	6	4.618	27.71	-0.061	1087	2990	2742	1079	0.316	2990	0.00160	0.00495	0.0066	0.0074	1079	-166	614	1000	0.61	OK
2.42	673	-242	0.80	0.50	0.20	0.50	30	0.40	0.47	0.47	7.0	6	4.618	27.71	-0.070	1087	2993	2742	1080	0.316	2993	0.00170	0.00495	0.0066	0.0074	1080	-191	673	1027	0.65	OK
2.722	728	-268	0.80	0.50	0.20	0.50	30	0.40	0.48	0.48	7.0	6	4.618	27.71	-0.078	1087	2995	2742	1081	0.316	2995	0.00179	0.00495	0.0067	0.0074	1081	-215	728	1054	0.69	OK
3.024	778	-291	0.80	0.50	0.20	0.50	30	0.40	0.44	0.44	7.0	8	4.618	36.95	-0.041	1087	3864	3657	1046	0.408	3864	0.00028	0.00495	0.0052	0.0074	1046	-149	778	1073	0.73	OK
3.327	822	-325	0.80	0.50	0.20	0.50	30	0.40	0.46	0.46	7.0	8	4.618	36.95	-0.056	1087	3919	3657	1061	0.414	3919	0.00036	0.00495	0.0053	0.0074	1061	-205	822	1138	0.72	OK
3.629	862	-357	0.80	0.50	0.20	0.50	30	0.40	0.47	0.47	7.0	8	4.618	36.95	-0.070	1087	3970	3657	1075	0.419	3970	0.00042	0.00495	0.0054	0.0074	1075	-257	862	1201	0.72	OK
3.932	895	-371	0.80	0.50	0.20	0.50	30	0.40	0.48	0.48	7.0	8	4.618	36.95	-0.083	1087	3953	3657	1070	0.418	3953	0.00055	0.00495	0.0055	0.0074	1070	-305	895	1250	0.72	OK
4.234	925	-381	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	8	4.618	36.95	-0.095	1087	3956	3657	1071	0.418	3956	0.00065	0.00495	0.0056	0.0074	1071	-348	925	1298	0.71	OK
4.537	953	-385	0.80	0.50	0.20	0.50	30	0.40	0.51	0.51	7.0	8	4.618	36.95	-0.106	1087	3959	3657	1071	0.418	3959	0.00073	0.00495	0.0057	0.0074	1071	-387	953	1341	0.71	OK
4.839	972	-389	0.80	0.50	0.20	0.50	30	0.40	0.52	0.52	7.0	8	4.618	36.95	-0.115	1087	3961	3657	1072	0.418	3961	0.00081	0.00495	0.0058	0.0074	1072	-422	972	1378	0.71	OK
5.142	984	-385	0.80	0.50	0.20	0.50	30	0.40	0.52	0.52	7.0	8	4.618	36.95	-0.123	1087	3963	3657	1073	0.419	3963	0.00088	0.00495	0.0058	0.0074	1073	-451	984	1410	0.70	OK
5.444	993	-380	0.80	0.50	0.20	0.50	30	0.40	0.53	0.53	7.0	8	4.618	36.95	-0.130	1087	3965	3657	1073	0.419	3965	0.00093	0.00495	0.0059	0.0074	1073	-475	993	1436	0.69	OK
5.747	998	-381	0.80	0.50	0.20	0.50	30	0.40	0.53	0.53	7.0	8	4.618	36.95	-0.135	1087	3966	3657	1074	0.419	3966	0.00097	0.00495	0.0059	0.0074	1074	-493	998	1456	0.69	OK
6.049	993	-379	0.80	0.50	0.20	0.50	30	0.40	0.49	0.49	7.0	10	4.618	46.18	-0.094	1087	4614	4571	999	0.487	4614	0.00005	0.00495	0.0050	0.0074	999	-430	993	1380	0.72	OK
6.351	984	-368	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	-0.097	1087	4624	4571	1001	0.488	4624	0.00006	0.00495	0.0050	0.0074	1001	-441	984	1393	0.71	OK
6.654	974	-358	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	-0.098	1087	4628	4571	1002	0.489	4628	0.00006	0.00495	0.0050	0.0074	1002	-446	974	1398	0.70	OK
6.956	955	-349	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	-0.097	1087	4627	4571	1002	0.489	4627	0.00006	0.00495	0.0050	0.0074	1002	-445	955	1397	0.68	OK
7.259	932	-341	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	-0.096	1087	4621	4571	1001	0.488	4621	0.00005	0.00495	0.0050	0.0074	1001	-438	932	1389	0.67	OK
7.561	907	-333	0.80	0.50	0.20	0.50	30	0.40	0.49	0.49	7.0	10	4.618	46.18	-0.093	1087	4611	4571	998	0.487	4611	0.00004	0.00495	0.0050	0.0074	998	-425	907	1375	0.66	OK
7.864	874	-317	0.80	0.50	0.20	0.50	30	0.40	0.49	0.49	7.0	10	4.618	46.18	-0.089	1087	4595	4571	995	0.485	4595	0.00003	0.00495	0.0050	0.0074	995	-407	874	1355	0.64	OK
8.166	836	-303	0.80	0.50	0.20	0.50	30	0.40	0.48	0.48	7.0	10	4.618	46.18	-0.084	1087	4576	4571	991	0.483	4576	0.00001	0.00495	0.0050	0.0074	991	-384	836	1330	0.63	OK
8.469	793	-290	0.80	0.50	0.20	0.50	30	0.40	0.48	0.48	7.0	10	4.618	46.18	-0.078	1087	4552	4571	986	0.481	4552	-0.00002	0.00495	0.0049	0.0074	986	-356	793	1300	0.61	OK
8.771	745	-270	0.80	0.50	0.20	0.50	30	0.40	0.47	0.47	7.0	10	4.618	46.18	-0.071	1087	4524	4571	980	0.478	4524	-0.00005	0.00495	0.0049	0.0074	980	-325	745	1266	0.59	OK
9.073	690	-252	0.80	0.50	0.20	0.50	30	0.40	0.46	0.46	7.0	10	4.618	46.18	-0.063	1087	4493	4571	973	0.475	4493	-0.00008	0.00495	0.0049	0.0074	973	-289	690	1228	0.56	OK
9.376	631	-233	0.80	0.50	0.20	0.50	30	0.40	0.45	0.45	7.0	10	4.618	46.18	-0.055	1087	4458	4571	965	0.471	4458	-0.00012	0.00495	0.0048	0.0074	965	-249	631	1187	0.53	OK
9.678	569	-209	0.80	0.50	0.20	0.50	30	0.40	0.45	0.45	7.0	10	4.618	46.18	-0.045	1087	4420	4571	957	0.467	4420	-0.00016	0.00495	0.0048	0.0074	957	-207	569	1142	0.50	OK
9.981	498	-185	0.80	0.50	0.20	0.50	30	0.40	0.44	0.44	7.0	10	4.618	46.18	-0.035	1087	4379	4571	948	0.463	4379	-0.00021	0.00495	0.0047	0.0074	948	-161	498	1096	0.45	OK
10.283	423	-161	0.80	0.50	0.20	0.50	30	0.40	0.42	0.42	7.0	10	4.618	46.18	-0.025	1087	4336	4571	939	0.458	4336	-0.00025	0.00495	0.0047	0.0074	939	-113	423	1047	0.40	OK
10.586	346	-133	0.80	0.50	0.20	0.50	30	0.40	0.41	0.41	7.0	10	4.618	46.18	-0.014	1087	4289	4571	929	0.453	4289	-0.00031	0.00495	0.0046	0.0074	929	-62	346	996	0.35	OK
10.888	261	-110	0.80	0.50	0.20	0.50	30	0.40	0.40	0.40	7.0	10	4.618	46.18	-0.002	1087	4240	4571	918	0.448	4240	-0.00036	0.00495	0.0046	0.0074	918	-9	261	945	0.28	OK
11.191	172	-80	0.80	0.50	0.20	0.50	30	0.40	0.41	0.41	7.0	10	4.618	46.18	0.010	1087	4273	4571	925	0.451	4273	-0.00032	0.00495	0.0046	0.0074	925	45	172	980	0.18	OK
11.493	79	-52	0.80	0.50	0.20	0.50	30	0.40	0.42	0.42	7.0	10	4.618	46.18	0.022	1087	4325	4571	936	0.457	4325	-0.00027	0.00495	0.0047	0.0074	936	101	79	1035	0.08	OK
11.796	0	0	0.80	0.50	0.20	0.50	30	0.40	0.43	0.43	7.0	10	4.618	46.18	0.035	1087	4376	4571	948	0.462	4376	-0.00021	0.00495	0.0047	0.0074	948	158	0	1092	0.00	OK
12.098	0	0	0.80	0.50	0.20	0.50	30	0.40	0.45	0.45	7.0	10	4.618	46.18	0.047	1087	4428	4571	959	0.468	4428	-0.00015	0.00495	0.0048	0.0074	959	215	0	1151	0.00	OK
12.4	0	0	0.80	0.50	0.20	0.50	30	0.40	0.46	0.46	7.0	10	4.618	46.18	0.060	1087	4479	4571	970	0.473	4479	-0.00010	0.00495	0.0048	0.0074	970	273	0	1211	0.00	OK
12.703	0	0	0.80	0.50	0.20	0.50	30	0.40	0.47	0.47	7.0	10	4.618	46.18	0.072	1087	4530	4571	981	0.479	4530	-0.00004	0.00495	0.0049	0.0074	981	331	0	1273	0.00	OK
13.005	0	0	0.80	0.50	0.20	0.50	30	0.40	0.49	0.49	7.0	10	4.618	46.18	0.085	1087	4580	4571	992	0.484	4580	0.00001	0.00495	0.0050	0.0074	992	389	0	1336	0.00	OK
13.308	0	0	0.80	0.50	0.20	0.50	30	0.40	0.50	0.50	7.0	10	4.618	46.18	0.098	1087	4629	4571	1002	0.489	4629	0.00006	0.00495	0.0050	0.0074	1002	447	0	1399	0.00	OK
13.61	0	0	0.80	0.50	0.20	0.50	30	0.40	0.51	0.51	7.0	10	4.618	46.18	0.110	1087	4677	4571	1013	0.494	4677	0.00012	0.00495	0.0051	0.0074	1013	504	0	1463	0.00	OK
13.913	0	0	0.80	0.50	0.20	0.50	30	0.40	0.52	0.52	7.0	10	4.618	46.18	0.123	1087	4724	4571	1023	0.499	4724	0.00017	0.00495	0.0051	0.0074	1023	561	0	1526	0.00	OK
14.215	0	0	0.80	0.50	0.20	0.50	30	0.40	0.53	0.53	7.0	10	4.618	46.18	0.135	1087	4770	4571	1033	0.504	4770	0.00022	0.00495	0.0052	0.0074	1033	616	0	1590	0.00	OK
14.518	0	0	0.80	0.50	0.20	0.50	30	0.40	0.55	0.55	7.0	10	4.618	46.18	0.146	1087	4812	4571	1042	0.508	4812	0.00026	0.00495	0.0052	0.0074	1042	669	0	1651	0.00	OK
14.82	0	0	0.80	0.50	0.20	0.50	30	0.40	0.55	0.55	7.0	10	4.618	46.18	0.152	1087	4833	4571	1047	0.511	4833	0.00028	0.00495	0.0052	0.0074	1047	695	0	1681	0.00	OK

Tvärkraftskontrollen

Enligt TRVINFRA-00331, 10.2.2. Vid beräkning av tvärkraftskapacitet i ett tvärsnitt med tvärkraftsarmering i broar dimensionerade för 1975 års vägtrafiklastbestämmelser eller 2008 års järnvägslastbestämmelser och tidigare ska kapaciteten sättas till det minsta värdet av uttryck (10-7) och (10-8).

$V_{Rd+}V_c$ (10-7) och $V_{rd,max}$ (10-8)

V_{Rd} Beräknas enligt SS-EN 1992-1-1, avsnitt 6.2.1(2) $V_{Rd} = V_{Rd,s}$

$V_{Rd,s} = A_{sw}/s * f_{sv} * 0.9 * d$ Vid vertikala byglar
Betonghandbok (16a) samt SS-EN 1992-1-1 (6.13)

V_c Beräknas enligt BBK 04, avsnitt 3.7.3.2 varvid f_{ct} ska sättas till f_{ctd} enligt SS-EN 1992-2, 3.1.6(102).

Tillägg enligt BBK 04 avsnitt 3.7.3.4, 3.7.3.5, 3.7.3.6 och 3.7.4.2 ska göras. Tillägg av Vs enligt formel BBK 04 (3.7.4.2c)

Tillägg enligt BBK 04 avsnitt 3.7.3.3 görs för snitt nära upplag med hög utnyttjandegrad. Se "Tvärkraftskontroll - Snitt nära upplag med stor utnyttjandegrad"

Detta ger:
$V_c = V_{c,0} + V_p + V_i - 0.1*N_d$ Se efterföljande sidor

$V_{rd,max}$ Beräknas enligt SS-EN 1992-1-1, avsnitt 6.2.3(4), ekvation (6.14).
Dimensionerande bärförmåga för tvärkraft begränsad av flytning i tvärkraftsarmeringen enligt SS-EN 1992-1-1, avsnitt 6.2.1(2) och avsnitt 6.2.3(4).

$V_{c.0} = b_w * d * f_v$ (BBK 04, kap 3.7.3.2)

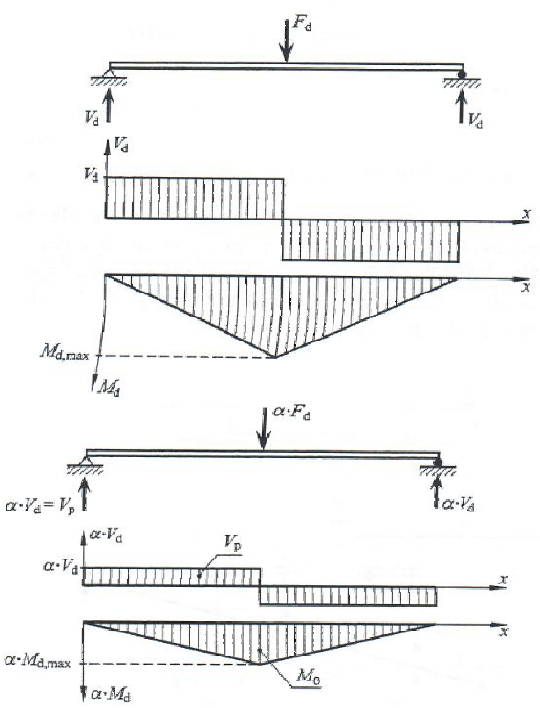
Betongens tvärkraftskapacitet vid s.k. böjskjuvbrott utan spännkraft

$V_p = V_d / (1{,}2 * y_n) * \min (M_0 / M_d)$ 3.7.3.4a

Ökning av betongens tvärkraftskapacitet p.g.a. spännkraft.

M_0 nolltöjningsmomentet i farligaste snittet, se figur nedan.

M_d böjande moment av yttre last i farligaste snittet i betraktad balkdel, tillhörande tvärkraft



$$M_0 = P\left(\frac{W_u}{A} + e\right)$$

Enligt BBK 04 3.7.3.6 får inverkan Vi räknas med vid effektiv spännkraft vid lutande spännarmering.

Ger tillägg om V_i har samma riktning som V_d

$V_i = P_{eff} * \tan \alpha$ Minsta värde man får räkna med. Betonghandbok 3.7:36

α ekvivalent lutning spännkablar används

Vid dragande normalkraft, N_d, minskas V_c med $0{,}1 * N_d$ enligt BBK 04, 3.7.3.5

$0.1 * N_d$ dock ej lägre än 0

N_d normalkraftens dimensioneringsvärde tillhörande tvärkraft

$V_c = V_{c.0} + \text{ABS}(V_p) + \text{ABS}(V_i) - 0{,}1 * N_d$

Dimensionering av tvärkraftsarmering - Balk

Projekt: **Islandsbron** Balk 1

Snitt kontrolleras ej från upplag:

0.5*d*cotθ = 0.39

Indata: f_{ck} 35.5 MPa f_{yk} 410 MPa α 90 °, bygelvinkel

f_{ctk} 2.25 MPa γ_s 1.15 cot α 0.00

γ_c 1.5 f_{cd} 23.67 MPa cot θ 1.00 <2,5

θ 45 deg (tryckströvans lutning) f_{sv}* 356.52 MPa

v 0.5148 - (6.6N) v* **För $f_{sv} = f_{st}$** *om kapaciteten för tryckbrott blir dimensionerande får fsv sättas till 0,8fst och v till 0,6

v_1 0.600 - (6.10N) f_{ct} 1.5 MPa

** V_i samma riktning som V_d 0.65

													(6.11N)		(6.13)	(6.14)	BBK04 (3.7.3.2b)	BBK04 (3.7.3.2a)										
x	$V_{Ed,LKA}$	$N_{Ed,tillh}$	h	b_w	d	A_{sl}	α	A_{sw}/s	ρ	k	σ_{cp}	σ_{cp}/f_{cc}	α_{cw}	z	V_{Rds}	V_{Rdmax}	f_v	V_c	M_0	M_d	M_0/M_d	V_p	$0{,}1*N_d$	lutning	**	V_i	V_c	V_{Rd}	n
m	kN	kN	m	m	m	cm^2	deg	cm^2/m	%	-	MPa			m	kN	kN	Mpa	kN		kNm	-	kN	kN	ekv		kN	kN	kN	-
0	231	204	0.830	0.500	0.780	27.7	90	10.5	0.0071	1.506	-0.491	-0.021	0.979	0.702	262	2440	0.60	235	71	0	0.000	0	20	0	Nej	0	215	477	0.48
0.302	449	26	0.830	0.500	0.780	27.7	90	10.5	0.0071	1.506	-0.062	-0.003	0.997	0.702	262	2133	0.60	235	1	0	0.000	0	3	5	Ja	232	464	726	0.62
0.605	427	66	0.830	0.500	0.780	27.7	90	10.5	0.0071	1.506	-0.158	-0.007	0.993	0.702	262	2124	0.60	235	-65	-270	0.241	86	7	5	Ja	219	533	795	0.54
0.907	402	88	0.830	0.500	0.780	27.7	90	5.2	0.0071	1.506	-0.212	-0.009	0.991	0.702	131	2119	0.60	235	-128	-388	0.329	110	9	4	Ja	207	543	674	0.60
1.21	377	109	0.830	0.500	0.780	27.7	90	5.2	0.0071	1.506	-0.263	-0.011	0.989	0.702	131	2114	0.60	235	-186	-493	0.378	119	11	4	Ja	194	537	668	0.56
1.512	355	128	0.830	0.500	0.780	27.7	90	5.2	0.0071	1.506	-0.308	-0.013	0.987	0.702	131	2110	0.60	235	-241	-589	0.410	121	13	4	Ja	182	525	656	0.54
1.815	330	147	0.830	0.500	0.780	27.7	90	5.2	0.0071	1.506	-0.355	-0.015	0.985	0.702	131	2106	0.60	235	-293	-679	0.431	119	15	4	Ja	170	509	640	0.52
2.117	305	171	0.830	0.500	0.780	27.7	90	5.2	0.0071	1.506	-0.411	-0.017	0.983	0.702	131	2101	0.60	235	-340	-760	0.447	114	17	3	Ja	157	489	620	0.49
2.42	284	158	0.830	0.500	0.780	27.7	90	5.2	0.0071	1.506	-0.381	-0.016	0.984	0.702	131	2104	0.60	235	-384	-834	0.460	109	16	3	Ja	145	473	604	0.47
2.722	261	141	0.830	0.500	0.780	27.7	90	5.2	0.0071	1.506	-0.339	-0.014	0.986	0.702	131	2108	0.60	235	-424	-901	0.471	102	14	3	Ja	132	455	586	0.44
3.024	238	150	0.830	0.500	0.780	36.9	90	5.2	0.0095	1.506	-0.361	-0.015	0.985	0.702	131	2106	0.66	256	-433	-961	0.451	89	15	-7	Nej	0	330	461	0.52
3.327	217	158	0.830	0.500	0.780	36.9	90	5.2	0.0095	1.506	-0.380	-0.016	0.984	0.702	131	2104	0.66	256	-504	-1016	0.496	90	16	4	Ja	233	563	694	0.31
3.629	195	183	0.830	0.500	0.780	36.9	90	5.2	0.0095	1.506	-0.440	-0.019	0.981	0.702	131	2098	0.66	256	-568	-1064	0.534	87	18	3	Ja	211	535	666	0.29
3.932	171	205	0.830	0.500	0.780	36.9	90	5.2	0.0095	1.506	-0.494	-0.021	0.979	0.702	131	2440	0.66	256	-625	-1103	0.567	81	21	3	Ja	189	505	636	0.27
4.234	150	213	0.830	0.500	0.780	36.9	90	5.2	0.0095	1.506	-0.513	-0.022	0.978	0.702	131	2438	0.66	256	-676	-1138	0.594	74	21	3	Ja	166	475	606	0.25
4.537	128	221	0.830	0.500	0.780	36.9	90	5.2	0.0095	1.506	-0.532	-0.022	0.978	0.702	131	2090	0.66	256	-719	-1168	0.616	66	22	2	Ja	144	443	574	0.22
4.839	104	239	0.830	0.500	0.780	36.9	90	5.2	0.0095	1.506	-0.575	-0.024	0.976	0.702	131	2086	0.66	256	-755	-1190	0.635	55	24	2	Ja	120	407	538	0.19
5.142	83	252	0.830	0.500	0.780	36.9	90	5.2	0.0095	1.506	-0.607	-0.026	0.974	0.702	131	2083	0.66	256	-785	-1204	0.652	45	25	2	Ja	97	372	503	0.17
5.444	61	254	0.830	0.500	0.780	36.9	90	5.2	0.0095	1.506	-0.613	-0.026	0.974	0.702	131	2083	0.66	256	-807	-1213	0.665	34	25	1	Ja	73	337	468	0.13
5.747	55	291	0.830	0.500	0.780	36.9	90	5.2	0.0095	1.506	-0.701	-0.030	0.970	0.702	131	2075	0.66	256	-821	-1216	0.675	31	29	1	Nej	0	257	388	0.14
6.049	78	282	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.679	-0.029	0.971	0.702	131	2077	0.71	276	-863	-1214	0.711	46	28	-7	Ja	-541	835	966	0.08
6.351	100	286	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.690	-0.029	0.971	0.702	131	2076	0.71	276	-878	-1205	0.729	61	29	1	Nej	0	308	439	0.23
6.654	122	274	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.661	-0.028	0.972	0.702	131	2079	0.71	276	-884	-1189	0.743	75	27	0	Nej	0	324	455	0.27
6.956	144	259	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.624	-0.026	0.974	0.702	131	2082	0.71	276	-880	-1168	0.754	91	26	0	Ja	-10	351	482	0.30
7.259	167	260	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.627	-0.026	0.974	0.702	131	2082	0.71	276	-869	-1141	0.761	106	26	0	Ja	-38	394	525	0.32
7.561	189	246	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.593	-0.025	0.975	0.702	131	2085	0.71	276	-849	-1107	0.767	121	25	-1	Ja	-65	437	568	0.33
7.864	212	226	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.545	-0.023	0.977	0.702	131	2089	0.71	276	-822	-1067	0.770	136	23	-1	Ja	-90	479	611	0.35
8.166	234	218	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.526	-0.022	0.978	0.702	131	2091	0.71	276	-787	-1022	0.770	150	22	-1	Ja	-114	519	650	0.36
8.469	256	193	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.464	-0.020	0.980	0.702	131	2096	0.71	276	-746	-971	0.768	164	19	-2	Ja	-138	558	689	0.37
8.771	279	163	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.394	-0.017	0.983	0.702	131	2103	0.71	276	-698	-912	0.765	178	16	-2	Ja	-160	597	728	0.38
9.073	301	146	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.352	-0.015	0.985	0.702	131	2106	0.71	276	-643	-847	0.759	191	15	-2	Ja	-180	632	763	0.39
9.376	323	111	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.267	-0.011	0.989	0.702	131	2114	0.71	276	-582	-778	0.749	202	11	-3	Ja	-201	667	798	0.40
9.678	345	73	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.176	-0.007	0.993	0.702	131	2122	0.71	276	-516	-701	0.735	212	7	-3	Ja	-221	701	832	0.42
9.981	368	49	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.119	-0.005	0.995	0.702	131	2128	0.71	276	-443	-617	0.718	220	5	-3	Ja	-240	731	863	0.43
10.283	389	8	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.019	-0.001	0.999	0.702	131	2137	0.71	276	-364	-528	0.691	224	1	-3	Ja	-260	759	890	0.44
10.586	411	36	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.086	-0.004	0.996	0.702	131	2130	0.71	276	-280	-433	0.646	221	4	-3	Ja	-279	773	904	0.45
10.888	432	65	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.156	-0.007	0.993	0.702	131	2124	0.71	276	-190	-329	0.576	208	6	-4	Ja	-298	775	906	0.48
11.191	454	95	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.229	-0.010	0.990	0.702	131	2118	0.71	276	-93	-221	0.423	160	10	-4	Ja	-317	744	875	0.52
11.493	476	170	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.409	-0.017	0.983	0.702	131	2101	0.71	276	8	302	0.026	10	17	-4	Ja	-336	605	736	0.65
11.796	498	245	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.589	-0.025	0.975	0.702	131	2085	0.71	276	115	400	0.288	120	24	-4	Ja	-354	725	856	0.58
12.098	519	275	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.663	-0.028	0.972	0.702	131	2078	0.71	276	227	505	0.451	195	28	-5	Ja	-372	815	946	0.55
12.4	542	309	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.744	-0.031	0.969	0.702	131	2071	0.71	276	344	624	0.550	249	31	-5	Ja	-385	878	1009	0.54
12.703	564	338	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.815	-0.034	0.966	0.702	131	2065	0.71	276	462	760	0.608	286	34	-5	Ja	-391	920	1051	0.54
13.005	553	355	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.855	-0.036	0.964	0.702	131	2061	0.71	276	580	906	0.641	295	35	-5	Ja	-391	927	1058	0.52
13.308	542	377	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.909	-0.038	0.962	0.702	131	2056	0.71	276	697	1061	0.657	297	38	-5	Ja	-385	920	1051	0.52
13.61	563	410	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.987	-0.042	0.958	0.702	131	2049	0.71	276	810	1224	0.661	311	41	-5	Ja	-373	918	1049	0.54
13.913	585	437	0.830	0.500	0.780	46.2	90	10.5	0.0118	1.506	-1.052	-0.044	0.956	0.702	262	2043	0.71	276	917	1398	0.656	320	44	-4	Ja	-354	906	1168	0.50
14.215	608	456	0.830	0.500	0.780	46.2	90	10.5	0.0118	1.506	-1.100	-0.046	0.954	0.702	262	2039	0.71	276	1016	1583	0.642	325	46	-4	Ja	-328	883	1146	0.53
14.518	631	470	0.830	0.500	0.780	46.2	90	10.5	0.0118	1.506	-1.132	-0.048	0.952	0.702	262	2036	0.71	276	1100	1780	0.618	325	47	-3	Ja	-277	831	1093	0.58
14.82	332	670	0.830	0.500	0.780	46.2	90	10.5	0.0118	1.506	-1.615	-0.068	0.932	0.702	262	1992	0.71	276	1136	1293	0.879	243	67	0	Nej	0	452	715	0.47

Dimensionering av tvärkraftsarmering - Balk

Projekt: **Islandsbron** Balk 6

Snitt kontrolleras ej från upplag:

0.5*d*cotθ = 0.39

Indata: f_{ck} 35.5 MPa f_{yk} 410 MPa α 90 °, bygelvinkel

f_{ctk} 2.25 MPa γ_s 1.15 cot α 0.00

γ_c 1.5 f_{cd} 23.67 MPa cot θ 1.00 <2,5

θ 45 deg (tryckströvans lutning) f_{sv}* 356.52 MPa

v 0.5148 - (6.6N) v* **För $f_{sv} = f_{st}$** *om kapaciteten för tryckbrott blir dimensionerande får fsv sättas till 0,8fst och v till 0,6

v_1 0.600 - (6.10N) f_{ct} 1.5 MPa

** V_l samma riktning som V_d 0.64

													(6.11N)		(6.13)	(6.14)	BBK04 (3.7.3.2b)	BBK04 (3.7.3.2a)										
x	$V_{Ed,LKA}$	$N_{Ed,tillh}$	h	b_w	d	A_{sl}	α	A_{sw}/s	ρ	k	σ_{cp}	σ_{cp}/f_{cc}	α_{cw}	z	V_{Rds}	V_{Rdmax}	f_v	V_c	M_0	M_d	M_0/M_d	V_p	$0{,}1*N_d$	lutning	**	V_l	V_c	V_{Rd}	n
m	kN	kN	m	m	m	cm^2	deg	cm^2/m	%	-	MPa			m	kN	kN	Mpa	kN		kNm	-	kN	kN	ekv		kN	kN	kN	-
0	231	238	0.830	0.500	0.780	27.7	90	10.5	0.0071	1.506	-0.574	-0.024	0.976	0.702	262	2432	0.60	235	82	0	0.000	0	24	0	Nej	0	211	473	0.49
0.302	449	26	0.830	0.500	0.780	27.7	90	10.5	0.0071	1.506	-0.063	-0.003	0.997	0.702	262	2133	0.60	235	12	0	0.000	0	3	5	Ja	233	465	727	0.62
0.605	427	66	0.830	0.500	0.780	27.7	90	10.5	0.0071	1.506	-0.160	-0.007	0.993	0.702	262	2124	0.60	235	-55	-270	0.202	72	7	5	Ja	220	520	782	0.55
0.907	402	89	0.830	0.500	0.780	27.7	90	5.2	0.0071	1.506	-0.215	-0.009	0.991	0.702	131	2119	0.60	235	-117	-387	0.303	101	9	4	Ja	208	535	666	0.60
1.21	377	110	0.830	0.500	0.780	27.7	90	5.2	0.0071	1.506	-0.266	-0.011	0.989	0.702	131	2114	0.60	235	-177	-493	0.358	112	11	4	Ja	195	532	663	0.57
1.512	355	130	0.830	0.500	0.780	27.7	90	5.2	0.0071	1.506	-0.312	-0.013	0.987	0.702	131	2110	0.60	235	-232	-589	0.393	116	13	4	Ja	183	521	652	0.54
1.815	331	149	0.830	0.500	0.780	27.7	90	5.2	0.0071	1.506	-0.360	-0.015	0.985	0.702	131	2106	0.60	235	-283	-678	0.418	115	15	4	Ja	170	506	637	0.52
2.117	306	173	0.830	0.500	0.780	27.7	90	5.2	0.0071	1.506	-0.417	-0.018	0.982	0.702	131	2101	0.60	235	-331	-760	0.436	111	17	3	Ja	158	487	618	0.49
2.42	284	160	0.830	0.500	0.780	27.7	90	5.2	0.0071	1.506	-0.387	-0.016	0.984	0.702	131	2103	0.60	235	-375	-833	0.450	107	16	3	Ja	146	471	602	0.47
2.722	261	143	0.830	0.500	0.780	27.7	90	5.2	0.0071	1.506	-0.345	-0.015	0.985	0.702	131	2107	0.60	235	-416	-900	0.462	100	14	3	Ja	133	455	586	0.45
3.024	238	152	0.830	0.500	0.780	36.9	90	5.2	0.0095	1.506	-0.367	-0.016	0.984	0.702	131	2105	0.66	256	-424	-960	0.442	88	15	-7	Nej	0	328	459	0.52
3.327	218	161	0.830	0.500	0.780	36.9	90	5.2	0.0095	1.506	-0.388	-0.016	0.984	0.702	131	2103	0.66	256	-495	-1014	0.488	89	16	4	Ja	234	562	693	0.31
3.629	195	176	0.830	0.500	0.780	36.9	90	5.2	0.0095	1.506	-0.424	-0.018	0.982	0.702	131	2100	0.66	256	-559	-1062	0.527	86	18	3	Ja	212	536	667	0.29
3.932	172	199	0.830	0.500	0.780	36.9	90	5.2	0.0095	1.506	-0.480	-0.020	0.980	0.702	131	2095	0.66	256	-617	-1102	0.560	80	20	3	Ja	190	506	637	0.27
4.234	151	218	0.830	0.500	0.780	36.9	90	5.2	0.0095	1.506	-0.526	-0.022	0.978	0.702	131	2437	0.66	256	-668	-1136	0.588	74	22	3	Ja	167	475	606	0.25
4.537	129	227	0.830	0.500	0.780	36.9	90	5.2	0.0095	1.506	-0.546	-0.023	0.977	0.702	131	2089	0.66	256	-711	-1166	0.610	65	23	2	Ja	144	443	574	0.22
4.839	105	244	0.830	0.500	0.780	36.9	90	5.2	0.0095	1.506	-0.589	-0.025	0.975	0.702	131	2085	0.66	256	-748	-1188	0.629	55	24	2	Ja	121	407	538	0.20
5.142	84	258	0.830	0.500	0.780	36.9	90	5.2	0.0095	1.506	-0.621	-0.026	0.974	0.702	131	2082	0.66	256	-777	-1203	0.646	45	26	2	Ja	97	372	503	0.17
5.444	62	260	0.830	0.500	0.780	36.9	90	5.2	0.0095	1.506	-0.627	-0.027	0.973	0.702	131	2082	0.66	256	-799	-1211	0.660	34	26	1	Ja	73	336	468	0.13
5.747	56	290	0.830	0.500	0.780	36.9	90	5.2	0.0095	1.506	-0.699	-0.030	0.970	0.702	131	2075	0.66	256	-814	-1215	0.670	31	29	1	Nej	0	258	389	0.14
6.049	78	281	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.677	-0.029	0.971	0.702	131	2077	0.71	276	-854	-1213	0.704	46	28	-7	Ja	-541	835	966	0.08
6.351	101	285	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.687	-0.029	0.971	0.702	131	2076	0.71	276	-868	-1203	0.722	61	29	1	Nej	0	308	439	0.23
6.654	122	273	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.657	-0.028	0.972	0.702	131	2079	0.71	276	-874	-1187	0.736	75	27	0	Nej	0	324	455	0.27
6.956	145	257	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.620	-0.026	0.974	0.702	131	2082	0.71	276	-870	-1166	0.747	90	26	0	Ja	-11	352	483	0.30
7.259	167	259	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.624	-0.026	0.974	0.702	131	2082	0.71	276	-859	-1139	0.754	105	26	0	Ja	-39	394	525	0.32
7.561	189	246	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.592	-0.025	0.975	0.702	131	2085	0.71	276	-839	-1105	0.759	120	25	-1	Ja	-65	436	568	0.33
7.864	212	227	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.546	-0.023	0.977	0.702	131	2089	0.71	276	-812	-1065	0.762	135	23	-1	Ja	-90	478	609	0.35
8.166	235	219	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.527	-0.022	0.978	0.702	131	2091	0.71	276	-777	-1021	0.761	149	22	-1	Ja	-114	517	648	0.36
8.469	257	194	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.467	-0.020	0.980	0.702	131	2096	0.71	276	-736	-970	0.759	162	19	-2	Ja	-136	555	686	0.37
8.771	279	165	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.397	-0.017	0.983	0.702	131	2102	0.71	276	-688	-911	0.756	176	16	-2	Ja	-158	593	724	0.39
9.073	302	147	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.355	-0.015	0.985	0.702	131	2106	0.71	276	-634	-846	0.750	188	15	-2	Ja	-178	627	758	0.40
9.376	323	112	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.270	-0.011	0.989	0.702	131	2114	0.71	276	-575	-777	0.740	199	11	-2	Ja	-197	661	792	0.41
9.678	346	74	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.178	-0.008	0.992	0.702	131	2122	0.71	276	-509	-700	0.727	210	7	-3	Ja	-217	695	826	0.42
9.981	368	50	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.120	-0.005	0.995	0.702	131	2127	0.71	276	-438	-616	0.711	218	5	-3	Ja	-236	725	856	0.43
10.283	389	9	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.021	-0.001	0.999	0.702	131	2136	0.71	276	-360	-527	0.684	222	1	-3	Ja	-256	753	884	0.44
10.586	411	35	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.084	-0.004	0.996	0.702	131	2131	0.71	276	-277	-433	0.640	219	3	-3	Ja	-276	768	899	0.46
10.888	433	64	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.155	-0.007	0.993	0.702	131	2124	0.71	276	-187	-329	0.569	205	6	-4	Ja	-297	771	902	0.48
11.191	454	95	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.228	-0.010	0.990	0.702	131	2118	0.71	276	-91	-221	0.412	156	9	-4	Ja	-317	739	870	0.52
11.493	476	171	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.411	-0.017	0.983	0.702	131	2101	0.71	276	11	302	0.036	14	17	-4	Ja	-338	611	742	0.64
11.796	498	247	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.595	-0.025	0.975	0.702	131	2084	0.71	276	119	399	0.299	124	25	-4	Ja	-358	734	865	0.58
12.098	519	278	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.669	-0.028	0.972	0.702	131	2078	0.71	276	234	504	0.464	201	28	-5	Ja	-379	828	959	0.54
12.4	542	310	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.748	-0.032	0.968	0.702	131	2071	0.71	276	353	624	0.566	255	31	-5	Ja	-394	894	1025	0.53
12.703	564	339	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.818	-0.035	0.965	0.702	131	2064	0.71	276	474	759	0.625	294	34	-5	Ja	-402	938	1069	0.53
13.005	585	359	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.865	-0.037	0.963	0.702	131	2060	0.71	276	596	905	0.659	321	36	-5	Ja	-402	964	1095	0.53
13.308	607	381	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.918	-0.039	0.961	0.702	131	2055	0.71	276	716	1059	0.676	342	38	-5	Ja	-396	975	1106	0.55
13.61	629	405	0.830	0.500	0.780	46.2	90	5.2	0.0118	1.506	-0.976	-0.041	0.959	0.702	131	2050	0.71	276	831	1222	0.680	356	41	-5	Ja	-382	974	1105	0.57
13.913	616	431	0.830	0.500	0.780	46.2	90	10.5	0.0118	1.506	-1.038	-0.044	0.956	0.702	262	2044	0.71	276	940	1395	0.674	346	43	-5	Ja	-360	939	1201	0.51
14.215	604	452	0.830	0.500	0.780	46.2	90	10.5	0.0118	1.506	-1.089	-0.046	0.954	0.702	262	2040	0.71	276	1041	1580	0.659	332	45	-4	Ja	-332	894	1157	0.52
14.518	627	465	0.830	0.500	0.780	46.2	90	10.5	0.0118	1.506	-1.121	-0.047	0.953	0.702	262	2037	0.71	276	1125	1776	0.633	331	47	-3	Ja	-278	838	1100	0.57
14.82	326	658	0.830	0.500	0.780	46.2	90	10.5	0.0118	1.506	-1.586	-0.067	0.933	0.702	262	1995	0.71	276	1161	1290	0.900	245	66	0	Nej	0	455	717	0.45

Dimensionering av tvärkraftsarmering - Balk

Projekt: **Islandsbron** Balk 2

Snitt kontrolleras ej från upplag:

0.5*d*cotθ = 0.35

Indata: f_{ck} 35.5 MPa f_{yk} 410 MPa α 90 °, bygelvinkel

f_{ctk} 2.25 MPa γ_s 1.15 cot α 0.00

γ_c 1.5 f_{cd} 23.67 MPa cot θ 1.00 <2,5

θ 45 deg (tryckströvans lutning) f_{sv}* 356.52 MPa

ν 0.5148 - (6.6N) ν* **För $f_{sv} = f_{st}$** *om kapaciteten för tryckbrott blir dimensionerande får fsv sättas till 0,8fst och ν till 0,6

ν_1 0.600 - (6.10N) f_{ct} 1.5 MPa

** V_i samma riktning som V_d 0.53

													(6.11N)		(6.13)	(6.14)	BBK04 (3.7.3.2b)	BBK04 (3.7.3.2a)										
x	$V_{Ed,LKA}$	$N_{Ed,tillh}$	h	b_w	d	A_{sl}	α	A_{sw}/s	ρ	k	σ_{cp}	σ_{cp}/f_{cc}	α_{cw}	z	V_{Rds}	V_{Rdmax}	f_v	V_c	M_0	M_d	M_0/M_d	V_p	$0{,}1*N_d$	lutning	**	V_i	V_c	V_{Rd}	n
m	kN	kN	m	m	m	cm^2	deg	cm^2/m	%	-	MPa			m	kN	kN	Mpa	kN		kNm	-	kN	kN	ekv		kN	kN	kN	-
0	176	139	0.750	0.600	0.700	27.7	90	10.5	0.0066	1.535	-0.308	-0.013	0.987	0.630	235	2649	0.61	256	49	0	0.000	0	14	0	Nej	0	243	478	0.37
0.302	339	3	0.750	0.600	0.700	27.7	90	10.5	0.0066	1.535	-0.006	0.000	1.000	0.630	235	2683	0.61	256	-9	-109	0.086	24	0	4	Ja	194	475	710	0.48
0.605	314	21	0.750	0.600	0.700	27.7	90	10.5	0.0066	1.535	-0.046	-0.002	0.998	0.630	235	2679	0.61	256	-65	-210	0.310	81	2	4	Ja	184	519	755	0.42
0.907	289	38	0.750	0.600	0.700	27.7	90	5.2	0.0066	1.535	-0.084	-0.004	0.996	0.630	118	2295	0.61	256	-118	-304	0.386	93	4	4	Ja	173	519	637	0.45
1.21	267	60	0.750	0.600	0.700	27.7	90	5.2	0.0066	1.535	-0.134	-0.006	0.994	0.630	118	2290	0.61	256	-167	-388	0.430	96	6	3	Ja	163	509	626	0.43
1.512	249	88	0.750	0.600	0.700	27.7	90	5.2	0.0066	1.535	-0.195	-0.008	0.992	0.630	118	2284	0.61	256	-213	-463	0.459	95	9	3	Ja	152	495	613	0.41
1.815	230	131	0.750	0.600	0.700	27.7	90	5.2	0.0066	1.535	-0.292	-0.012	0.988	0.630	118	2274	0.61	256	-256	-534	0.479	92	13	3	Ja	141	476	594	0.39
2.117	214	176	0.750	0.600	0.700	27.7	90	5.2	0.0066	1.535	-0.392	-0.017	0.983	0.630	118	2265	0.61	256	-295	-599	0.492	88	18	3	Ja	130	457	574	0.37
2.42	202	208	0.750	0.600	0.700	27.7	90	5.2	0.0066	1.535	-0.462	-0.020	0.980	0.630	118	2258	0.61	256	-331	-658	0.503	85	21	2	Ja	119	439	557	0.36
2.722	186	267	0.750	0.600	0.700	27.7	90	5.2	0.0066	1.535	-0.593	-0.025	0.975	0.630	118	2245	0.61	256	-363	-712	0.510	79	27	2	Ja	107	416	534	0.35
3.024	174	296	0.750	0.600	0.700	36.9	90	5.2	0.0088	1.535	-0.658	-0.028	0.972	0.630	118	2239	0.66	278	-305	-761	0.401	58	30	-9	Nej	0	306	424	0.41
3.327	165	296	0.750	0.600	0.700	36.9	90	5.2	0.0088	1.535	-0.659	-0.028	0.972	0.630	118	2609	0.66	278	-374	-806	0.464	64	30	4	Ja	227	539	656	0.25
3.629	151	365	0.750	0.600	0.700	36.9	90	5.2	0.0088	1.535	-0.811	-0.034	0.966	0.630	118	2592	0.66	278	-436	-846	0.515	65	37	3	Ja	206	511	629	0.24
3.932	140	389	0.750	0.600	0.700	36.9	90	5.2	0.0088	1.535	-0.863	-0.036	0.964	0.630	118	2586	0.66	278	-492	-878	0.560	65	39	3	Ja	184	488	606	0.23
4.234	133	366	0.750	0.600	0.700	36.9	90	5.2	0.0088	1.535	-0.814	-0.034	0.966	0.630	118	2591	0.66	278	-541	-905	0.597	66	37	3	Ja	163	469	587	0.23
4.537	119	426	0.750	0.600	0.700	36.9	90	5.2	0.0088	1.535	-0.947	-0.040	0.960	0.630	118	2211	0.66	278	-584	-931	0.627	62	43	2	Ja	141	438	555	0.21
4.839	108	440	0.750	0.600	0.700	36.9	90	5.2	0.0088	1.535	-0.978	-0.041	0.959	0.630	118	2208	0.66	278	-620	-949	0.653	59	44	2	Ja	119	412	529	0.20
5.142	102	409	0.750	0.600	0.700	36.9	90	5.2	0.0088	1.535	-0.908	-0.038	0.962	0.630	118	2214	0.66	278	-649	-959	0.677	58	41	2	Ja	98	392	509	0.20
5.444	88	457	0.750	0.600	0.700	36.9	90	5.2	0.0088	1.535	-1.015	-0.043	0.957	0.630	118	2204	0.66	278	-672	-967	0.695	51	46	1	Ja	76	358	476	0.18
5.747	94	393	0.750	0.600	0.700	36.9	90	5.2	0.0088	1.535	-0.874	-0.037	0.963	0.630	118	2218	0.66	278	-688	-971	0.709	56	39	1	Nej	0	294	411	0.23
6.049	103	374	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.832	-0.035	0.965	0.630	118	2222	0.71	299	-638	-966	0.661	56	37	-9	Ja	-735	1053	1170	0.09
6.351	113	382	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.850	-0.036	0.964	0.630	118	2220	0.71	299	-658	-957	0.688	65	38	1	Nej	0	325	443	0.25
6.654	125	414	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.921	-0.039	0.961	0.630	118	2213	0.71	299	-670	-947	0.708	73	41	0	Nej	0	331	448	0.28
6.956	134	381	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.847	-0.036	0.964	0.630	118	2220	0.71	299	-674	-928	0.726	81	38	0	Nej	0	342	459	0.29
7.259	144	374	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.831	-0.035	0.965	0.630	118	2222	0.71	299	-671	-907	0.740	89	37	0	Ja	-10	360	478	0.30
7.561	155	395	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.877	-0.037	0.963	0.630	118	2217	0.71	299	-661	-883	0.749	97	39	0	Ja	-33	389	507	0.31
7.864	166	354	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.786	-0.033	0.967	0.630	118	2226	0.71	299	-645	-851	0.757	105	35	-1	Ja	-55	423	540	0.31
8.166	176	340	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.756	-0.032	0.968	0.630	118	2229	0.71	299	-622	-815	0.763	112	34	-1	Ja	-75	452	570	0.31
8.469	187	315	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.699	-0.030	0.970	0.630	118	2235	0.71	299	-593	-775	0.766	120	31	-1	Ja	-95	481	599	0.31
8.771	200	258	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.572	-0.024	0.976	0.630	118	2247	0.71	299	-559	-729	0.767	128	26	-1	Ja	-113	514	632	0.32
9.073	212	301	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.668	-0.028	0.972	0.630	118	2238	0.71	299	-520	-677	0.768	135	30	-2	Ja	-130	534	652	0.32
9.376	224	268	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.594	-0.025	0.975	0.630	118	2245	0.71	299	-475	-621	0.766	143	27	-2	Ja	-146	561	679	0.33
9.678	238	166	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.369	-0.016	0.984	0.630	118	2267	0.71	299	-427	-561	0.761	151	17	-2	Ja	-162	595	713	0.33
9.981	250	207	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.460	-0.019	0.981	0.630	118	2258	0.71	299	-373	-493	0.756	158	21	-2	Ja	-177	613	731	0.34
10.283	264	168	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.373	-0.016	0.984	0.630	118	2266	0.71	299	-315	-422	0.746	164	17	-2	Ja	-192	639	756	0.35
10.586	279	57	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.126	-0.005	0.995	0.630	118	2290	0.71	299	-252	-347	0.726	169	6	-3	Ja	-207	669	786	0.36
10.888	293	90	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.200	-0.008	0.992	0.630	118	2283	0.71	299	-185	-266	0.698	170	9	-3	Ja	-221	681	798	0.37
11.191	310	43	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.096	-0.004	0.996	0.630	118	2293	0.71	299	-114	-179	0.639	165	4	-3	Ja	-234	694	811	0.38
11.493	328	8	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.018	-0.001	0.999	0.630	118	2301	0.71	299	-40	-90	0.443	121	1	-3	Ja	-247	666	784	0.42
11.796	344	44	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.098	-0.004	0.996	0.630	118	2293	0.71	299	39	326	0.119	34	4	-3	Ja	-260	588	706	0.49
12.098	362	76	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.169	-0.007	0.993	0.630	118	2286	0.71	299	121	409	0.295	89	8	-3	Ja	-271	652	769	0.47
12.4	386	103	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.230	-0.010	0.990	0.630	118	2280	0.71	299	205	503	0.408	131	10	-4	Ja	-280	699	817	0.47
12.703	407	75	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.167	-0.007	0.993	0.630	118	2286	0.71	299	291	608	0.479	163	8	-4	Ja	-284	738	855	0.48
13.005	426	187	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.414	-0.018	0.982	0.630	118	2262	0.71	299	377	719	0.524	186	19	-4	Ja	-284	750	867	0.49
13.308	453	189	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.420	-0.018	0.982	0.630	118	2262	0.71	299	462	836	0.552	208	19	-3	Ja	-279	768	885	0.51
13.61	481	148	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.330	-0.014	0.986	0.630	118	2271	0.71	299	543	958	0.567	227	15	-3	Ja	-271	782	900	0.53
13.913	501	184	0.750	0.600	0.700	46.2	90	10.5	0.011	1.535	-0.408	-0.017	0.983	0.630	235	2263	0.71	299	621	1086	0.572	239	18	-3	Ja	-258	777	1012	0.49
14.215	531	178	0.750	0.600	0.700	46.2	90	10.5	0.011	1.535	-0.395	-0.017	0.983	0.630	235	2264	0.71	299	694	1218	0.570	252	18	-3	Ja	-240	773	1009	0.53
14.518	563	194	0.750	0.600	0.700	46.2	90	10.5	0.011	1.535	-0.430	-0.018	0.982	0.630	235	2261	0.71	299	753	1357	0.555	260	19	-2	Ja	-194	734	969	0.58
14.82	339	7	0.750	0.600	0.700	46.2	90	10.5	0.011	1.535	-0.016	-0.001	0.999	0.630	235	2301	0.71	299	777	990	0.785	222	1	0	Nej	0	520	755	0.45

Dimensionering av tvärkraftsarmering - Balk

Projekt: **Islandsbron** Balk 5

Snitt kontrolleras ej från upplag:

0.5*d*cotθ = 0.35

Indata: f_{ck} 35.5 MPa f_{yk} 410 MPa α 90 °, bygelvinkel

f_{ctk} 2.25 MPa γ_s 1.15 cot α 0.00

γ_c 1.5 f_{cd} 23.67 MPa cot θ 1.00 <2,5

θ 45 deg (tryckströvans lutning) f_{sv}* 356.52 MPa

v 0.5148 - (6.6N) v* **För $f_{sv} = f_{st}$** *om kapaciteten för tryckbrott blir dimensionerande får fsv sättas till 0,8fst och v till 0,6

v_1 0.600 - (6.10N) f_{ct} 1.5 MPa ** V_i samma riktning som V_d 0.54

													(6.11N)		(6.13)	(6.14)	BBK04 (3.7.3.2b)	BBK04 (3.7.3.2a)										
x	$V_{Ed,LKA}$	$N_{Ed,tillh}$	h	b_w	d	A_{sl}	α	A_{sw}/s	ρ	k	σ_{cp}	σ_{cp} / f_{cc}	α_{cw}	z	V_{Rds}	V_{Rdmax}	f_v	V_c	M_0	M_d	M_d/M_d	V_p	0,1*N_d	lutning	**	V_i	V_c	V_{Rd}	n
m	kN	kN	m	m	m	cm^2	deg	cm^2/m	%	-	MPa			m	kN	kN	Mpa	kN		kNm	-	kN	kN	ekv		kN	kN	kN	-
0	176	93	0.750	0.600	0.700	27.7	90	10.5	0.0066	1.535	-0.206	-0.009	0.991	0.630	235	2660	0.61	256	60	0	0.000	0	9	0	Nej	0	247	482	0.36
0.302	340	2	0.750	0.600	0.700	27.7	90	10.5	0.0066	1.535	-0.005	0.000	1.000	0.630	235	2683	0.61	256	1	0	0.000	0	0	-4	Ja	-196	452	687	0.50
0.605	317	19	0.750	0.600	0.700	27.7	90	10.5	0.0066	1.535	-0.043	-0.002	0.998	0.630	235	2679	0.61	256	-55	-210	0.262	69	2	-4	Ja	-185	509	744	0.43
0.907	290	36	0.750	0.600	0.700	27.7	90	5.2	0.0066	1.535	-0.080	-0.003	0.997	0.630	118	2295	0.61	256	-108	-304	0.354	86	4	-4	Ja	-175	513	631	0.46
1.21	268	58	0.750	0.600	0.700	27.7	90	5.2	0.0066	1.535	-0.129	-0.005	0.995	0.630	118	2290	0.61	256	-157	-388	0.406	91	6	-3	Ja	-164	505	623	0.43
1.512	252	84	0.750	0.600	0.700	27.7	90	5.2	0.0066	1.535	-0.187	-0.008	0.992	0.630	118	2285	0.61	256	-204	-463	0.440	92	8	-3	Ja	-153	493	611	0.41
1.815	231	131	0.750	0.600	0.700	27.7	90	5.2	0.0066	1.535	-0.291	-0.012	0.988	0.630	118	2274	0.61	256	-247	-533	0.463	89	13	-3	Ja	-142	474	592	0.39
2.117	215	177	0.750	0.600	0.700	27.7	90	5.2	0.0066	1.535	-0.392	-0.017	0.983	0.630	118	2265	0.61	256	-286	-598	0.478	86	18	-3	Ja	-131	455	573	0.38
2.42	204	205	0.750	0.600	0.700	27.7	90	5.2	0.0066	1.535	-0.455	-0.019	0.981	0.630	118	2258	0.61	256	-322	-657	0.491	84	20	-2	Ja	-119	439	556	0.37
2.722	188	266	0.750	0.600	0.700	27.7	90	5.2	0.0066	1.535	-0.591	-0.025	0.975	0.630	118	2245	0.61	256	-355	-711	0.499	78	27	-2	Ja	-108	416	533	0.35
3.024	175	296	0.750	0.600	0.700	36.9	90	5.2	0.0088	1.535	-0.659	-0.028	0.972	0.630	118	2239	0.66	278	-296	-760	0.389	57	30	9	Nej	0	305	422	0.42
3.327	168	296	0.750	0.600	0.700	36.9	90	5.2	0.0088	1.535	-0.658	-0.028	0.972	0.630	118	2609	0.66	278	-364	-805	0.453	63	30	-4	Ja	-226	537	655	0.26
3.629	152	367	0.750	0.600	0.700	36.9	90	5.2	0.0088	1.535	-0.816	-0.034	0.966	0.630	118	2591	0.66	278	-426	-845	0.504	64	37	-3	Ja	-204	509	627	0.24
3.932	141	388	0.750	0.600	0.700	36.9	90	5.2	0.0088	1.535	-0.862	-0.036	0.964	0.630	118	2586	0.66	278	-482	-877	0.549	65	39	-3	Ja	-183	486	604	0.23
4.234	135	360	0.750	0.600	0.700	36.9	90	5.2	0.0088	1.535	-0.801	-0.034	0.966	0.630	118	2593	0.66	278	-530	-904	0.586	66	36	-3	Ja	-161	469	587	0.23
4.537	120	383	0.750	0.600	0.700	36.9	90	5.2	0.0088	1.535	-0.852	-0.036	0.964	0.630	118	2220	0.66	278	-573	-930	0.616	62	38	-2	Ja	-140	441	558	0.21
4.839	110	397	0.750	0.600	0.700	36.9	90	5.2	0.0088	1.535	-0.883	-0.037	0.963	0.630	118	2217	0.66	278	-609	-948	0.642	59	40	-2	Ja	-119	415	533	0.21
5.142	104	403	0.750	0.600	0.700	36.9	90	5.2	0.0088	1.535	-0.896	-0.038	0.962	0.630	118	2215	0.66	278	-638	-958	0.666	58	40	-2	Ja	-97	392	510	0.20
5.444	90	416	0.750	0.600	0.700	36.9	90	5.2	0.0088	1.535	-0.926	-0.039	0.961	0.630	118	2213	0.66	278	-661	-966	0.684	51	42	-1	Ja	-76	363	480	0.19
5.747	96	392	0.750	0.600	0.700	36.9	90	5.2	0.0088	1.535	-0.872	-0.037	0.963	0.630	118	2218	0.66	278	-677	-970	0.698	56	39	-1	Nej	0	294	412	0.23
6.049	104	378	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.841	-0.036	0.964	0.630	118	2221	0.71	299	-626	-965	0.648	56	38	9	Ja	731	1048	1166	0.09
6.351	114	387	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.859	-0.036	0.964	0.630	118	2219	0.71	299	-646	-956	0.675	64	39	-1	Nej	0	324	442	0.26
6.654	127	415	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.922	-0.039	0.961	0.630	118	2213	0.71	299	-658	-945	0.696	73	41	-1	Nej	0	331	448	0.28
6.956	135	381	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.847	-0.036	0.964	0.630	118	2220	0.71	299	-662	-927	0.714	80	38	0	Nej	0	341	459	0.29
7.259	145	373	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.829	-0.035	0.965	0.630	118	2222	0.71	299	-660	-906	0.728	88	37	0	Ja	8	358	476	0.31
7.561	157	391	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.868	-0.037	0.963	0.630	118	2218	0.71	299	-650	-882	0.737	96	39	0	Ja	31	387	505	0.31
7.864	167	351	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.779	-0.033	0.967	0.630	118	2227	0.71	299	-634	-850	0.746	104	35	1	Ja	53	420	538	0.31
8.166	177	337	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.749	-0.032	0.968	0.630	118	2230	0.71	299	-612	-814	0.752	111	34	1	Ja	73	450	567	0.31
8.469	189	346	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.769	-0.033	0.967	0.630	118	2228	0.71	299	-584	-774	0.755	119	35	1	Ja	93	476	593	0.32
8.771	201	290	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.645	-0.027	0.973	0.630	118	2240	0.71	299	-551	-728	0.757	126	29	1	Ja	111	507	625	0.32
9.073	212	264	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.586	-0.025	0.975	0.630	118	2246	0.71	299	-512	-676	0.757	134	26	2	Ja	128	534	652	0.32
9.376	224	231	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.513	-0.022	0.978	0.630	118	2253	0.71	299	-468	-620	0.755	141	23	2	Ja	145	562	679	0.33
9.678	238	165	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.367	-0.016	0.984	0.630	118	2267	0.71	299	-419	-560	0.749	149	17	2	Ja	161	592	709	0.34
9.981	250	207	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.460	-0.019	0.981	0.630	118	2258	0.71	299	-366	-492	0.743	155	21	2	Ja	176	610	727	0.34
10.283	264	168	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.374	-0.016	0.984	0.630	118	2266	0.71	299	-308	-421	0.731	161	17	2	Ja	191	634	752	0.35
10.586	279	57	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.126	-0.005	0.995	0.630	118	2290	0.71	299	-246	-347	0.708	165	6	3	Ja	206	664	781	0.36
10.888	293	91	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.202	-0.009	0.991	0.630	118	2283	0.71	299	-179	-265	0.676	165	9	3	Ja	220	674	792	0.37
11.191	310	45	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.099	-0.004	0.996	0.630	118	2293	0.71	299	-109	-179	0.608	157	4	3	Ja	233	684	802	0.39
11.493	328	10	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.023	-0.001	0.999	0.630	118	2300	0.71	299	-35	-90	0.384	105	1	3	Ja	246	648	766	0.43
11.796	344	49	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.110	-0.005	0.995	0.630	118	2292	0.71	299	44	326	0.134	38	5	3	Ja	258	590	708	0.49
12.098	362	70	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.156	-0.007	0.993	0.630	118	2288	0.71	299	125	409	0.305	92	7	3	Ja	269	653	771	0.47
12.4	386	98	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.219	-0.009	0.991	0.630	118	2281	0.71	299	209	503	0.415	133	10	3	Ja	277	700	817	0.47
12.703	407	70	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.156	-0.007	0.993	0.630	118	2288	0.71	299	294	608	0.484	164	7	4	Ja	281	737	855	0.48
13.005	426	182	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.404	-0.017	0.983	0.630	118	2263	0.71	299	379	719	0.527	187	18	4	Ja	281	749	867	0.49
13.308	453	183	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.408	-0.017	0.983	0.630	118	2263	0.71	299	463	835	0.554	209	18	3	Ja	277	767	884	0.51
13.61	481	144	0.750	0.600	0.700	46.2	90	5.2	0.011	1.535	-0.321	-0.014	0.986	0.630	118	2272	0.71	299	544	957	0.568	228	14	3	Ja	269	781	899	0.54
13.913	501	179	0.750	0.600	0.700	46.2	90	10.5	0.011	1.535	-0.398	-0.017	0.983	0.630	235	2264	0.71	299	622	1084	0.573	239	18	3	Ja	256	777	1012	0.50
14.215	532	170	0.750	0.600	0.700	46.2	90	10.5	0.011	1.535	-0.377	-0.016	0.984	0.630	235	2266	0.71	299	694	1217	0.570	253	17	3	Ja	239	774	1009	0.53
14.518	563	185	0.750	0.600	0.700	46.2	90	10.5	0.011	1.535	-0.411	-0.017	0.983	0.630	235	2263	0.71	299	753	1355	0.555	261	18	2	Ja	194	735	970	0.58
14.82	341	19	0.750	0.600	0.700	46.2	90	10.5	0.011	1.535	-0.043	-0.002	0.998	0.630	235	2298	0.71	299	777	989	0.785	223	2	0	Nej	0	520	755	0.45

Dimensionering av tvärkraftsarmering - Balk

Projekt: **Islandsbron** Balk 3

Snitt kontrolleras ej från upplag:

0.5*d*cotθ = 0.375

Indata: f_{ck} 35.5 MPa f_{yk} 410 MPa α 90 °, bygelvinkel

f_{ctk} 2.25 MPa γ_s 1.15 cot α 0.00

γ_c 1.5 f_{cd} 23.67 MPa cot θ 1.00 <2,5

θ 45 deg (tryckströvans lutning) f_{sv}* 356.52 MPa

v 0.5148 - (6.6N) v* **För $f_{sv} = f_{st}$** *om kapaciteten för tryckbrott blir dimensionerande får fsv sättas till 0,8fst och v till 0,6

v_1 0.600 - (6.10N) f_{ct} 1.5 MPa ** V_i samma riktning som V_d 0.73

													(6.11N)		(6.13)	(6.14)	BBK04 (3.7.3.2b)	BBK04 (3.7.3.2a)										
x	$V_{Ed,LKA}$	$N_{Ed,tillh}$	h	b_w	d	A_{sl}	α	A_{sw}/s	ρ	k	σ_{cp}	σ_{cp}/f_{cc}	α_{cw}	z	V_{Rds}	V_{Rdmax}	f_v	V_c	M_0	M_d	M_0/M_d	V_p	$0{,}1*N_d$	lutning	**	V_i	V_c	V_{Rd}	n
m	kN	kN	m	m	m	cm^2	deg	cm^2/m	%	-	MPa			m	kN	kN	Mpa	kN		kNm	-	kN	kN	ekv		kN	kN	kN	-
0	217	172	0.800	0.500	0.750	27.7	90	10.5	0.0074	1.516	-0.430	-0.018	0.982	0.675	252	2353	0.62	231	30	0	0.000	0	17	0	Nej	0	214	466	0.47
0.302	421	36	0.800	0.500	0.750	27.7	90	10.5	0.0074	1.516	-0.089	-0.004	0.996	0.675	252	2048	0.62	231	-4	-121	0.032	11	4	2	Ja	113	352	604	0.70
0.605	398	73	0.800	0.500	0.750	27.7	90	10.5	0.0074	1.516	-0.183	-0.008	0.992	0.675	252	2040	0.62	231	-37	-230	0.159	53	7	2	Ja	108	384	636	0.63
0.907	374	118	0.800	0.500	0.750	27.7	90	5.2	0.0074	1.516	-0.296	-0.012	0.988	0.675	126	2030	0.62	231	-68	-325	0.208	65	12	2	Ja	103	387	513	0.73
1.21	350	163	0.800	0.500	0.750	27.7	90	5.2	0.0074	1.516	-0.407	-0.017	0.983	0.675	126	2021	0.62	231	-97	-408	0.238	70	16	2	Ja	98	382	508	0.69
1.512	331	200	0.800	0.500	0.750	27.7	90	5.2	0.0074	1.516	-0.501	-0.021	0.979	0.675	126	2012	0.62	231	-125	-481	0.261	72	20	2	Ja	94	377	503	0.66
1.815	312	233	0.800	0.500	0.750	27.7	90	5.2	0.0074	1.516	-0.583	-0.025	0.975	0.675	126	2005	0.62	231	-153	-551	0.277	72	23	2	Ja	89	369	495	0.63
2.117	290	261	0.800	0.500	0.750	27.7	90	5.2	0.0074	1.516	-0.652	-0.028	0.972	0.675	126	1999	0.62	231	-178	-615	0.290	70	26	2	Ja	85	360	486	0.60
2.42	272	280	0.800	0.500	0.750	27.7	90	5.2	0.0074	1.516	-0.700	-0.030	0.970	0.675	126	1995	0.62	231	-203	-673	0.301	68	28	2	Ja	81	353	479	0.57
2.722	254	296	0.800	0.500	0.750	27.7	90	5.2	0.0074	1.516	-0.739	-0.031	0.969	0.675	126	1992	0.62	231	-226	-729	0.310	66	30	2	Ja	77	345	471	0.54
3.024	234	300	0.800	0.500	0.750	36.9	90	5.2	0.0099	1.516	-0.749	-0.032	0.968	0.675	126	1991	0.67	252	-161	-778	0.207	40	30	-7	Nej	0	262	388	0.60
3.327	217	275	0.800	0.500	0.750	36.9	90	5.2	0.0099	1.516	-0.687	-0.029	0.971	0.675	126	1996	0.67	252	-217	-822	0.264	48	27	3	Ja	183	455	581	0.37
3.629	199	259	0.800	0.500	0.750	36.9	90	5.2	0.0099	1.516	-0.647	-0.027	0.973	0.675	126	2000	0.67	252	-268	-863	0.311	52	26	3	Ja	171	449	575	0.35
3.932	181	260	0.800	0.500	0.750	36.9	90	5.2	0.0099	1.516	-0.650	-0.027	0.973	0.675	126	2000	0.67	252	-316	-896	0.353	53	26	2	Ja	158	437	563	0.32
4.234	165	254	0.800	0.500	0.750	36.9	90	5.2	0.0099	1.516	-0.635	-0.027	0.973	0.675	126	2332	0.67	252	-360	-926	0.389	53	25	2	Ja	144	424	550	0.30
4.537	148	256	0.800	0.500	0.750	36.9	90	5.2	0.0099	1.516	-0.639	-0.027	0.973	0.675	126	2000	0.67	252	-399	-953	0.418	52	26	2	Ja	129	407	533	0.28
4.839	131	259	0.800	0.500	0.750	36.9	90	5.2	0.0099	1.516	-0.648	-0.027	0.973	0.675	126	2000	0.67	252	-433	-973	0.445	48	26	2	Ja	113	387	513	0.25
5.142	114	253	0.800	0.500	0.750	36.9	90	5.2	0.0099	1.516	-0.632	-0.027	0.973	0.675	126	2001	0.67	252	-462	-985	0.469	45	25	2	Ja	96	367	493	0.23
5.444	98	250	0.800	0.500	0.750	36.9	90	5.2	0.0099	1.516	-0.624	-0.026	0.974	0.675	126	2002	0.67	252	-486	-994	0.489	40	25	1	Ja	78	345	471	0.21
5.747	95	287	0.800	0.500	0.750	36.9	90	5.2	0.0099	1.516	-0.716	-0.030	0.970	0.675	126	1994	0.67	252	-504	-999	0.505	40	29	1	Nej	0	263	389	0.24
6.049	115	291	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.729	-0.031	0.969	0.675	126	1993	0.73	273	-439	-994	0.442	42	29	-8	Ja	-631	917	1043	0.11
6.351	131	273	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.684	-0.029	0.971	0.675	126	1997	0.73	273	-451	-985	0.458	50	27	1	Nej	0	296	422	0.31
6.654	147	276	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.691	-0.029	0.971	0.675	126	1996	0.73	273	-457	-975	0.469	57	28	0	Nej	0	302	428	0.34
6.956	167	277	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.693	-0.029	0.971	0.675	126	1996	0.73	273	-456	-955	0.478	67	28	0	Ja	-2	314	440	0.38
7.259	183	255	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.637	-0.027	0.973	0.675	126	2001	0.73	273	-450	-933	0.482	74	25	0	Ja	-22	343	469	0.39
7.561	199	253	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.631	-0.027	0.973	0.675	126	2001	0.73	273	-437	-908	0.482	80	25	-1	Ja	-41	368	494	0.40
7.864	219	250	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.624	-0.026	0.974	0.675	126	2002	0.73	273	-420	-874	0.480	88	25	-1	Ja	-58	394	520	0.42
8.166	234	224	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.560	-0.024	0.976	0.675	126	2007	0.73	273	-397	-836	0.475	93	22	-1	Ja	-75	418	544	0.43
8.469	251	217	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.544	-0.023	0.977	0.675	126	2009	0.73	273	-370	-794	0.466	97	22	-1	Ja	-90	438	564	0.44
8.771	271	210	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.525	-0.022	0.978	0.675	126	2010	0.73	273	-338	-746	0.454	103	21	-1	Ja	-104	459	585	0.46
9.073	287	183	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.458	-0.019	0.981	0.675	126	2016	0.73	273	-303	-691	0.438	105	18	-1	Ja	-118	477	603	0.48
9.376	304	171	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.427	-0.018	0.982	0.675	126	2019	0.73	273	-263	-632	0.417	106	17	-2	Ja	-130	491	617	0.49
9.678	324	155	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.388	-0.016	0.984	0.675	126	2022	0.73	273	-221	-569	0.388	105	16	-2	Ja	-141	503	629	0.51
9.981	340	122	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.306	-0.013	0.987	0.675	126	2029	0.73	273	-175	-498	0.351	99	12	-2	Ja	-151	511	637	0.53
10.283	358	104	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.261	-0.011	0.989	0.675	126	2033	0.73	273	-126	-423	0.299	89	10	-2	Ja	-161	512	638	0.56
10.586	377	84	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.211	-0.009	0.991	0.675	126	2038	0.73	273	-75	-346	0.218	68	8	-2	Ja	-169	501	627	0.60
10.888	394	43	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.108	-0.005	0.995	0.675	126	2047	0.73	273	-22	-262	0.085	28	4	-2	Ja	-176	472	598	0.66
11.191	412	18	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.045	-0.002	0.998	0.675	126	2052	0.73	273	33	192	0.172	59	2	-2	Ja	-182	512	638	0.65
11.493	433	22	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.056	-0.002	0.998	0.675	126	2051	0.73	273	90	266	0.337	121	2	-2	Ja	-187	579	705	0.61
11.796	452	84	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.210	-0.009	0.991	0.675	126	2038	0.73	273	147	344	0.429	161	8	-2	Ja	-191	617	743	0.61
12.098	469	101	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.253	-0.011	0.989	0.675	126	2034	0.73	273	206	426	0.484	189	10	-2	Ja	-194	646	772	0.61
12.4	492	147	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.366	-0.015	0.985	0.675	126	2024	0.73	273	265	514	0.516	212	15	-2	Ja	-196	666	792	0.62
12.703	515	226	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.566	-0.024	0.976	0.675	126	2007	0.73	273	325	615	0.529	227	23	-2	Ja	-197	674	800	0.64
13.005	530	266	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.666	-0.028	0.972	0.675	126	1998	0.73	273	385	725	0.531	234	27	-2	Ja	-197	677	803	0.66
13.308	555	316	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.791	-0.033	0.967	0.675	126	1987	0.73	273	444	842	0.527	244	32	-2	Ja	-196	681	807	0.69
13.61	582	367	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.916	-0.039	0.961	0.675	126	1976	0.73	273	503	967	0.520	252	37	-2	Ja	-194	682	808	0.72
13.913	599	403	0.800	0.500	0.750	46.2	90	10.5	0.0123	1.516	-1.008	-0.043	0.957	0.675	252	1968	0.73	273	560	1100	0.509	254	40	-2	Ja	-190	677	929	0.65
14.215	627	454	0.800	0.500	0.750	46.2	90	10.5	0.0123	1.516	-1.134	-0.048	0.952	0.675	252	1957	0.73	273	616	1243	0.496	259	45	-2	Ja	-186	672	924	0.68
14.518	657	479	0.800	0.500	0.750	46.2	90	10.5	0.0123	1.516	-1.197	-0.051	0.949	0.675	252	1952	0.73	273	669	1396	0.479	262	48	-2	Ja	-174	661	913	0.72
14.82	311	517	0.800	0.500	0.750	46.2	90	10.5	0.0123	1.516	-1.292	-0.055	0.945	0.675	252	1944	0.73	273	695	1015	0.685	177	52	0	Nej	0	398	650	0.48

Dimensionering av tvärkraftsarmering - Balk

Projekt: **Islandsbron** Balk 4

Snitt kontrolleras ej från upplag:

0.5*d*cotθ = 0.375

Indata: f_{ck} 35.5 MPa f_{yk} 410 MPa α 90 °, bygelvinkel

f_{ctk} 2.25 MPa γ_s 1.15 cot α 0.00

γ_c 1.5 f_{cd} 23.67 MPa cot θ 1.00 <2,5

θ 45 deg (tryckströvans lutning) f_{sv}* 356.52 MPa

ν 0.5148 - (6.6N) ν* **För $f_{sv} = f_{st}$** *om kapaciteten för tryckbrott blir dimensionerande får fsv sättas till 0,8fst och ν till 0,6

ν_1 0.600 - (6.10N) f_{ct} 1.5 MPa ** V_i samma riktning som V_d 0.75

													(6.11N)		(6.13)	(6.14)	BBK04 (3.7.3.2b)	BBK04 (3.7.3.2a)										
x	$V_{Ed,LKA}$	$N_{Ed,tillh}$	h	b_w	d	A_{sl}	α	A_{sw}/s	ρ	k	σ_{cp}	σ_{cp}/f_{cc}	α_{cw}	z	V_{Rds}	V_{Rdmax}	f_v	V_c	M_0	M_d	M_0/M_d	V_p	0,1*N_d	lutning	**	V_i	V_c	V_{Rd}	η
m	kN	kN	m	m	m	cm^2	deg	cm^2/m	%	-	MPa			m	kN	kN	Mpa	kN		kNm	-	kN	kN	ekv		kN	kN	kN	-
0	217	107	0.800	0.500	0.750	27.7	90	10.5	0.0074	1.516	-0.268	-0.011	0.989	0.675	252	2369	0.62	231	44	0	0.000	0	11	0	Nej	0	220	472	0.46
0.302	421	35	0.800	0.500	0.750	27.7	90	10.5	0.0074	1.516	-0.089	-0.004	0.996	0.675	252	2048	0.62	231	10	0	0.000	0	4	-2	Ja	-114	341	593	0.71
0.605	398	73	0.800	0.500	0.750	27.7	90	10.5	0.0074	1.516	-0.182	-0.008	0.992	0.675	252	2040	0.62	231	-23	-230	0.102	34	7	-2	Ja	-109	366	618	0.64
0.907	374	118	0.800	0.500	0.750	27.7	90	5.2	0.0074	1.516	-0.294	-0.012	0.988	0.675	126	2030	0.62	231	-55	-325	0.168	52	12	-2	Ja	-104	375	501	0.75
1.21	350	162	0.800	0.500	0.750	27.7	90	5.2	0.0074	1.516	-0.406	-0.017	0.983	0.675	126	2021	0.62	231	-85	-408	0.208	61	16	-2	Ja	-99	374	500	0.70
1.512	331	200	0.800	0.500	0.750	27.7	90	5.2	0.0074	1.516	-0.500	-0.021	0.979	0.675	126	2013	0.62	231	-113	-481	0.235	65	20	-2	Ja	-94	370	496	0.67
1.815	311	233	0.800	0.500	0.750	27.7	90	5.2	0.0074	1.516	-0.582	-0.025	0.975	0.675	126	2005	0.62	231	-140	-550	0.255	66	23	-2	Ja	-90	364	490	0.64
2.117	290	261	0.800	0.500	0.750	27.7	90	5.2	0.0074	1.516	-0.652	-0.028	0.972	0.675	126	1999	0.62	231	-166	-614	0.271	65	26	-2	Ja	-86	356	482	0.60
2.42	272	280	0.800	0.500	0.750	27.7	90	5.2	0.0074	1.516	-0.700	-0.030	0.970	0.675	126	1995	0.62	231	-191	-673	0.284	65	28	-2	Ja	-82	350	476	0.57
2.722	254	296	0.800	0.500	0.750	27.7	90	5.2	0.0074	1.516	-0.740	-0.031	0.969	0.675	126	1992	0.62	231	-215	-728	0.295	62	30	-2	Ja	-78	342	468	0.54
3.024	234	300	0.800	0.500	0.750	36.9	90	5.2	0.0099	1.516	-0.751	-0.032	0.968	0.675	126	1991	0.67	252	-149	-778	0.192	37	30	7	Nej	0	259	385	0.61
3.327	217	276	0.800	0.500	0.750	36.9	90	5.2	0.0099	1.516	-0.690	-0.029	0.971	0.675	126	1996	0.67	252	-205	-822	0.249	45	28	-3	Ja	-183	453	579	0.37
3.629	199	260	0.800	0.500	0.750	36.9	90	5.2	0.0099	1.516	-0.650	-0.027	0.973	0.675	126	1999	0.67	252	-257	-862	0.298	49	26	-3	Ja	-171	447	573	0.35
3.932	181	261	0.800	0.500	0.750	36.9	90	5.2	0.0099	1.516	-0.652	-0.028	0.972	0.675	126	1999	0.67	252	-305	-895	0.340	51	26	-2	Ja	-158	435	561	0.32
4.234	165	255	0.800	0.500	0.750	36.9	90	5.2	0.0099	1.516	-0.638	-0.027	0.973	0.675	126	2332	0.67	252	-348	-925	0.376	52	26	-2	Ja	-144	422	548	0.30
4.537	148	257	0.800	0.500	0.750	36.9	90	5.2	0.0099	1.516	-0.642	-0.027	0.973	0.675	126	2000	0.67	252	-387	-953	0.407	50	26	-2	Ja	-129	406	532	0.28
4.839	131	260	0.800	0.500	0.750	36.9	90	5.2	0.0099	1.516	-0.650	-0.027	0.973	0.675	126	1999	0.67	252	-422	-972	0.434	47	26	-2	Ja	-113	387	513	0.25
5.142	114	254	0.800	0.500	0.750	36.9	90	5.2	0.0099	1.516	-0.634	-0.027	0.973	0.675	126	2001	0.67	252	-451	-984	0.458	44	25	-2	Ja	-97	367	493	0.23
5.444	98	250	0.800	0.500	0.750	36.9	90	5.2	0.0099	1.516	-0.626	-0.026	0.974	0.675	126	2002	0.67	252	-475	-993	0.478	39	25	-1	Ja	-79	345	471	0.21
5.747	95	287	0.800	0.500	0.750	36.9	90	5.2	0.0099	1.516	-0.717	-0.030	0.970	0.675	126	1994	0.67	252	-493	-998	0.494	39	29	-1	Nej	0	262	388	0.24
6.049	115	292	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.729	-0.031	0.969	0.675	126	1993	0.73	273	-430	-993	0.433	41	29	8	Ja	617	902	1028	0.11
6.351	131	274	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.685	-0.029	0.971	0.675	126	1997	0.73	273	-441	-984	0.448	49	27	0	Nej	0	294	420	0.31
6.654	147	277	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.692	-0.029	0.971	0.675	126	1996	0.73	273	-446	-974	0.458	56	28	0	Nej	0	301	427	0.34
6.956	167	278	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.694	-0.029	0.971	0.675	126	1996	0.73	273	-445	-955	0.466	65	28	0	Ja	4	314	440	0.38
7.259	183	255	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.638	-0.027	0.973	0.675	126	2001	0.73	273	-438	-932	0.470	72	26	0	Ja	24	343	469	0.39
7.561	199	253	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.633	-0.027	0.973	0.675	126	2001	0.73	273	-425	-907	0.469	78	25	1	Ja	42	367	493	0.40
7.864	219	250	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.626	-0.026	0.974	0.675	126	2002	0.73	273	-407	-874	0.466	85	25	1	Ja	60	392	518	0.42
8.166	234	225	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.562	-0.024	0.976	0.675	126	2007	0.73	273	-384	-836	0.460	90	22	1	Ja	76	416	542	0.43
8.469	251	218	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.545	-0.023	0.977	0.675	126	2009	0.73	273	-356	-793	0.449	94	22	1	Ja	91	436	562	0.45
8.771	271	210	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.526	-0.022	0.978	0.675	126	2010	0.73	273	-325	-745	0.436	98	21	1	Ja	105	455	581	0.47
9.073	287	184	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.459	-0.019	0.981	0.675	126	2016	0.73	273	-289	-690	0.419	100	18	1	Ja	118	473	599	0.48
9.376	304	171	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.428	-0.018	0.982	0.675	126	2019	0.73	273	-249	-631	0.395	100	17	2	Ja	130	486	612	0.50
9.678	323	155	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.388	-0.016	0.984	0.675	126	2022	0.73	273	-207	-569	0.364	98	16	2	Ja	141	496	622	0.52
9.981	340	122	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.306	-0.013	0.987	0.675	126	2029	0.73	273	-161	-498	0.323	92	12	2	Ja	151	503	629	0.54
10.283	358	104	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.260	-0.011	0.989	0.675	126	2033	0.73	273	-113	-423	0.266	79	10	2	Ja	160	502	628	0.57
10.586	376	84	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.210	-0.009	0.991	0.675	126	2038	0.73	273	-62	-346	0.179	56	8	2	Ja	168	488	614	0.61
10.888	394	43	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.106	-0.004	0.996	0.675	126	2047	0.73	273	-9	-261	0.035	12	4	2	Ja	174	454	580	0.68
11.191	412	17	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.043	-0.002	0.998	0.675	126	2052	0.73	273	45	192	0.236	81	2	2	Ja	180	532	658	0.63
11.493	433	23	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.059	-0.002	0.998	0.675	126	2051	0.73	273	101	266	0.379	137	2	2	Ja	184	591	717	0.60
11.796	452	85	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.214	-0.009	0.991	0.675	126	2037	0.73	273	158	344	0.459	173	9	2	Ja	188	625	751	0.60
12.098	469	103	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.257	-0.011	0.989	0.675	126	2034	0.73	273	215	425	0.506	198	10	2	Ja	190	650	776	0.60
12.4	492	149	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.371	-0.016	0.984	0.675	126	2024	0.73	273	273	514	0.531	218	15	2	Ja	192	667	793	0.62
12.703	515	229	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.572	-0.024	0.976	0.675	126	2006	0.73	273	331	614	0.539	231	23	2	Ja	192	673	799	0.64
13.005	530	269	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.673	-0.028	0.972	0.675	126	1998	0.73	273	389	725	0.537	237	27	2	Ja	192	675	801	0.66
13.308	555	319	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.798	-0.034	0.966	0.675	126	1987	0.73	273	447	842	0.531	246	32	2	Ja	191	678	804	0.69
13.61	582	370	0.800	0.500	0.750	46.2	90	5.2	0.0123	1.516	-0.924	-0.039	0.961	0.675	126	1976	0.73	273	504	966	0.522	253	37	2	Ja	189	678	804	0.72
13.913	599	407	0.800	0.500	0.750	46.2	90	10.5	0.0123	1.516	-1.017	-0.043	0.957	0.675	252	1968	0.73	273	561	1099	0.510	255	41	2	Ja	187	674	926	0.65
14.215	627	457	0.800	0.500	0.750	46.2	90	10.5	0.0123	1.516	-1.142	-0.048	0.952	0.675	252	1957	0.73	273	616	1241	0.496	260	46	2	Ja	183	670	922	0.68
14.518	657	483	0.800	0.500	0.750	46.2	90	10.5	0.0123	1.516	-1.208	-0.051	0.949	0.675	252	1951	0.73	273	669	1395	0.479	263	48	2	Ja	173	660	912	0.72
14.82	312	517	0.800	0.500	0.750	46.2	90	10.5	0.0123	1.516	-1.292	-0.055	0.945	0.675	252	1944	0.73	273	695	1014	0.685	178	52	0	Nej	0	399	651	0.48

Dimensionering av vridarmering - Balk

Projekt: **Islandsbron**

Balk 1

Indata: f_{ck} 35.5 MPa f_{yk} 410 MPa
f_{ctk} 2.5 MPa γ_s 1.15
γ_c 1.5

θ 21.8 deg (tryckströvans lutning)
ν 0.5148 - (6.6N) 0.99
ν_1 0.600 - (6.10N)

Delresultat

x	$V_{Ed,LKA}$	T_{Ed}	h	bw	t_f	b_f	α	$A_{s,längs}$	$A_{sw,b}$	$A_{sw,h}$	A_{tot}	d_{s0}	e_{s0}	$T_{Rd,c}$	Kontroll	n	Interak	$t_{ef,1}$	$t_{ef,2}$	Z_{h1}	Z_{b1}	Z_{h2}	Z_{b2}	$A_{k,1}$	$A_{k,2}$	u_{k1}	u_{k2}	$A_{sL,T}$	v1	α_{cw}	$T_{Rd,s,max}$
m	kN	kNm	m	m	m	m	deg	cm^2	cm^2	cm^2	cm^2	m	mm	kNm	-	-	-	m	m	m	m	m	m	m	m	m	m	cm^2	-	-	kN
0	231	54	0.830	0.500	0.200	0.500	90	27.7	0	10.5	38.18	0.795	35	95	BTG OK	0.56	0.25	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.49	0.556	1.021	453
0.302	449	114	0.830	0.500	0.200	0.500	90	27.7	0	10.5	38.18	0.795	35	95	ARM OK	0.03	0.56	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	1.04	0.556	0.997	443
0.605	427	116	0.830	0.500	0.200	0.500	90	27.7	0	10.5	38.18	0.795	35	95	ARM OK	0.03	0.55	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	1.06	0.556	0.993	441
0.907	402	107	0.830	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.795	35	95	ARM OK	0.03	0.52	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.97	0.556	0.991	440
1.21	377	97	0.830	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.795	35	95	ARM OK	0.03	0.48	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.88	0.556	0.989	439
1.512	355	87	0.830	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.795	35	95	BTG OK	0.92	0.44	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.79	0.556	0.987	438
1.815	330	79	0.830	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.795	35	95	BTG OK	0.83	0.41	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.72	0.556	0.985	437
2.117	305	71	0.830	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.795	35	95	BTG OK	0.75	0.37	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.65	0.556	0.983	436
2.42	284	65	0.830	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.795	35	95	BTG OK	0.68	0.34	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.59	0.556	0.984	437
2.722	261	59	0.830	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.795	35	95	BTG OK	0.62	0.31	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.53	0.556	0.986	437
3.024	238	53	0.830	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.795	35	95	BTG OK	0.56	0.29	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.49	0.556	0.985	437
3.327	217	49	0.830	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.795	35	95	BTG OK	0.51	0.26	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.44	0.556	0.984	437
3.629	195	45	0.830	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.795	35	95	BTG OK	0.47	0.24	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.41	0.556	0.981	435
3.932	171	41	0.830	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.795	35	95	BTG OK	0.43	0.20	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.37	0.556	0.979	434
4.234	150	38	0.830	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.795	35	95	BTG OK	0.40	0.18	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.34	0.556	0.978	434
4.537	128	35	0.830	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.795	35	95	BTG OK	0.37	0.16	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.32	0.556	0.978	434
4.839	104	32	0.830	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.795	35	95	BTG OK	0.33	0.14	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.29	0.556	0.976	433
5.142	83	29	0.830	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.795	35	95	BTG OK	0.31	0.12	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.26	0.556	0.974	432
5.444	61	26	0.830	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.795	35	95	BTG OK	0.28	0.10	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.24	0.556	0.974	432
5.747	55	24	0.830	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.795	35	95	BTG OK	0.25	0.09	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.22	0.556	0.970	431
6.049	78	21	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.22	0.10	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.20	0.556	0.971	431
6.351	100	19	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.20	0.10	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.17	0.556	0.971	431
6.654	122	17	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.18	0.11	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.15	0.556	0.972	431
6.956	144	15	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.15	0.12	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.13	0.556	0.974	432
7.259	167	15	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.16	0.13	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.14	0.556	0.974	432
7.561	189	17	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.18	0.17	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.15	0.556	0.975	433
7.864	212	19	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.20	0.19	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.17	0.556	0.977	433
8.166	234	21	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.22	0.21	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.19	0.556	0.978	434
8.469	256	23	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.25	0.23	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.21	0.556	0.980	435
8.771	279	26	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.27	0.25	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.24	0.556	0.983	436
9.073	301	28	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.30	0.27	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.26	0.556	0.985	437
9.376	323	31	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.33	0.29	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.28	0.556	0.989	439
9.678	345	34	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.36	0.31	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.31	0.556	0.993	440
9.981	368	37	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.39	0.33	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.34	0.556	0.995	441
10.28	389	41	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.43	0.36	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.37	0.556	0.999	443
10.59	411	44	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.46	0.38	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.40	0.556	1.004	445
10.89	432	48	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.50	0.40	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.44	0.556	1.007	447
11.19	454	52	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.55	0.42	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.47	0.556	1.010	448
11.49	476	57	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.60	0.44	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.52	0.556	1.017	451
11.8	498	62	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.65	0.47	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.57	0.556	1.025	455
12.1	519	68	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.71	0.49	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.62	0.556	1.028	456
12.4	542	74	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.78	0.52	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.67	0.556	1.031	458
12.7	564	80	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.84	0.54	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.73	0.556	1.034	459
13.01	553	87	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.91	0.55	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.79	0.556	1.036	460
13.31	542	92	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.97	0.55	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.84	0.556	1.038	461
13.61	563	96	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	ARM OK	0.02	0.58	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.88	0.556	1.042	462
13.91	585	98	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	ARM OK	0.02	0.59	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.89	0.556	1.044	463
14.22	608	94	0.830	0.500	0.200	0.500	90	46.2	0	10.5	56.65	0.795	35	95	BTG OK	0.99	0.60	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.86	0.556	1.046	464
14.52	631	87	0.830	0.500	0.200	0.500	90	46.2	0	10.5	56.65	0.795	35	95	BTG OK	0.91	0.59	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.79	0.556	1.048	465
14.82	332	24	0.830	0.500	0.200	0.500	90	46.2	0	10.5	56.65	0.795	35	95	BTG OK	0.25	0.23	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.22	0.556	1.068	474

Dimensionering av vridarmering - Balk

Projekt: **Islandsbron**

Balk 6

Indata: f_{ck} 35.5 MPa f_{yk} 410 MPa
f_{ctk} 2.5 MPa γ_s 1.15
γ_c 1.5

θ 21.8 deg (tryckströvans lutning)
ν 0.5148 - (6.6N) 1.00
ν_1 0.600 - (6.10N)

Delresultat

x	$V_{Ed,LKA}$	T_{Ed}	h	bw	t_f	b_f	α	$A_{s,längs}$	$A_{sw,b}$	$A_{sw,h}$	A_{tot}	d_{s0}	e_{s0}	$T_{Rd,c}$	Kontroll	n	Interak	$t_{ef,1}$	$t_{ef,2}$	Z_{h1}	ZB6	Z_{h2}	Z_{b2}	$A_{k,1}$	$A_{k,2}$	u_{k1}	u_{k2}	A_{sLT}	v1	α_{cw}	$T_{Rd,s,max}$
m	kN	kNm	m	m	m	m	deg	cm^2	cm^2	cm^2	cm^2	m	mm	kNm	-	-	-	m	m	m	m	m	m	m	m	m	m	cm^2	-	-	kN
0	231	53	0.830	0.500	0.200	0.500	90	27.7	0	10.5	38.18	0.795	35	95	BTG OK	0.56	0.25	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.19	0.556	1.024	454
0.302	449	112	0.830	0.500	0.200	0.500	90	27.7	0	10.5	38.18	0.795	35	95	ARM OK	0.01	0.56	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.40	0.556	0.997	443
0.605	427	114	0.830	0.500	0.200	0.500	90	27.7	0	10.5	38.18	0.795	35	95	ARM OK	0.01	0.55	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.41	0.556	0.993	441
0.907	402	105	0.830	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.795	35	95	ARM OK	0.01	0.51	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.38	0.556	0.991	440
1.21	377	95	0.830	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.795	35	95	BTG OK	1.00	0.47	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.34	0.556	0.989	439
1.512	355	85	0.830	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.795	35	95	BTG OK	0.90	0.44	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.78	0.556	0.987	438
1.815	331	77	0.830	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.795	35	95	BTG OK	0.81	0.40	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.70	0.556	0.985	437
2.117	306	69	0.830	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.795	35	95	BTG OK	0.73	0.37	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.63	0.556	0.982	436
2.42	284	63	0.830	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.795	35	95	BTG OK	0.66	0.34	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.57	0.556	0.984	436
2.722	261	57	0.830	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.795	35	95	BTG OK	0.60	0.31	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.52	0.556	0.985	437
3.024	238	52	0.830	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.795	35	95	BTG OK	0.54	0.28	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.47	0.556	0.984	437
3.327	218	47	0.830	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.795	35	95	BTG OK	0.50	0.26	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.43	0.556	0.984	436
3.629	195	43	0.830	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.795	35	95	BTG OK	0.46	0.23	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.40	0.556	0.982	436
3.932	172	40	0.830	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.795	35	95	BTG OK	0.42	0.21	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.37	0.556	0.980	435
4.234	151	37	0.830	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.795	35	95	BTG OK	0.39	0.18	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.34	0.556	0.978	434
4.537	129	34	0.830	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.795	35	95	BTG OK	0.36	0.16	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.31	0.556	0.977	433
4.839	105	31	0.830	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.795	35	95	BTG OK	0.33	0.13	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.28	0.556	0.975	433
5.142	84	28	0.830	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.795	35	95	BTG OK	0.30	0.12	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.26	0.556	0.974	432
5.444	62	26	0.830	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.795	35	95	BTG OK	0.27	0.10	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.23	0.556	0.973	432
5.747	56	23	0.830	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.795	35	95	BTG OK	0.24	0.09	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.21	0.556	0.970	431
6.049	78	21	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.22	0.10	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.19	0.556	0.971	431
6.351	101	19	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.20	0.10	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.17	0.556	0.971	431
6.654	122	16	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.17	0.11	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.15	0.556	0.972	431
6.956	145	14	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.15	0.12	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.13	0.556	0.974	432
7.259	167	16	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.17	0.14	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.15	0.556	0.974	432
7.561	189	18	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.19	0.17	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.17	0.556	0.975	433
7.864	212	18	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.19	0.19	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.16	0.556	0.977	433
8.166	235	20	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.21	0.21	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.18	0.556	0.978	434
8.469	257	23	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.24	0.23	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.21	0.556	0.980	435
8.771	279	25	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.26	0.25	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.23	0.556	0.983	436
9.073	302	27	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.29	0.27	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.25	0.556	0.985	437
9.376	323	30	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.32	0.29	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.27	0.556	0.989	439
9.678	346	33	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.35	0.31	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.30	0.556	0.992	440
9.981	368	36	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.38	0.33	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.33	0.556	0.995	441
10.28	389	39	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.41	0.35	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.36	0.556	0.999	443
10.59	411	43	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.45	0.37	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.39	0.556	1.004	445
10.89	433	47	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.49	0.40	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.42	0.556	1.007	447
11.19	454	51	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.53	0.42	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.46	0.556	1.010	448
11.49	476	55	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.58	0.44	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.50	0.556	1.017	451
11.8	498	61	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.64	0.46	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.55	0.556	1.025	455
12.1	519	66	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.70	0.49	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.60	0.556	1.028	456
12.4	542	72	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.76	0.51	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.66	0.556	1.032	458
12.7	564	79	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.82	0.54	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.72	0.556	1.035	459
13.01	585	85	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.89	0.57	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.77	0.556	1.037	460
13.31	607	90	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.95	0.59	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.82	0.556	1.039	461
13.61	629	95	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	BTG OK	0.99	0.61	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.86	0.556	1.041	462
13.91	616	96	0.830	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.795	35	95	ARM OK	0.02	0.61	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.87	0.556	1.044	463
14.22	604	93	0.830	0.500	0.200	0.500	90	46.2	0	10.5	56.65	0.795	35	95	BTG OK	0.97	0.59	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.84	0.556	1.046	464
14.52	627	85	0.830	0.500	0.200	0.500	90	46.2	0	10.5	56.65	0.795	35	95	BTG OK	0.90	0.59	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.78	0.556	1.047	465
14.82	326	28	0.830	0.500	0.200	0.500	90	46.2	0	10.5	56.65	0.795	35	95	BTG OK	0.29	0.24	0.139381	0.071429	0.49	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.25	0.556	1.067	473

Dimensionering av vridarmering - Balk

Projekt: **Islandsbron**

Balk 2

Indata: f_{ck} 35.5 MPa f_{yk} 410 MPa
f_{ctk} 2.5 MPa γ_s 1.15
γ_c 1.5

θ 21.8 deg (tryckströvans lutning)
ν 0.5148 - (6.6N) 0.69
ν_1 0.600 - (6.10N)

Delresultat

x	$V_{Ed,LKA}$	T_{Ed}	h	bw	t_f	b_f	α	$A_{s,längs}$	$A_{sw,b}$	$A_{sw,h}$	A_{tot}	d_{s0}	e_{s0}	$T_{Rd,c}$	Kontroll	n	Interak	$t_{ef,1}$	$t_{ef,2}$	Z_{h1}	ZB2	Z_{h2}	Z_{b2}	$A_{k,1}$	$A_{k,2}$	u_{k1}	u_{k2}	$A_{sl,T}$	v1	α_{cw}	$T_{Rd,s,max}$
m	kN	kNm	m	m	m	m	deg	cm^2	cm^2	cm^2	cm^2	m	mm	kNm	-	-	-	m	m	m	m	m	m	m	m	m	m	cm^2	-	-	kN
0	176	31	0.750	0.600	0.200	0.500	90	27.7	0	10.5	38.18	0.715	35	**102**	**BTG OK**	**0.31**	**0.16**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.28	0.556	1.013	475
0.302	339	68	0.750	0.600	0.200	0.500	90	27.7	0	10.5	38.18	0.715	35	**102**	**BTG OK**	**0.66**	**0.33**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.60	0.556	1.000	469
0.605	314	71	0.750	0.600	0.200	0.500	90	27.7	0	10.5	38.18	0.715	35	**102**	**BTG OK**	**0.69**	**0.32**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.62	0.556	1.002	470
0.907	289	65	0.750	0.600	0.200	0.500	90	27.7	0	5.2	32.94	0.715	35	**102**	**BTG OK**	**0.64**	**0.32**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.57	0.556	1.004	471
1.21	267	60	0.750	0.600	0.200	0.500	90	27.7	0	5.2	32.94	0.715	35	**102**	**BTG OK**	**0.59**	**0.29**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.53	0.556	1.006	472
1.512	249	58	0.750	0.600	0.200	0.500	90	27.7	0	5.2	32.94	0.715	35	**102**	**BTG OK**	**0.57**	**0.28**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.51	0.556	1.008	473
1.815	230	56	0.750	0.600	0.200	0.500	90	27.7	0	5.2	32.94	0.715	35	**102**	**BTG OK**	**0.55**	**0.26**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.50	0.556	1.012	475
2.117	214	54	0.750	0.600	0.200	0.500	90	27.7	0	5.2	32.94	0.715	35	**102**	**BTG OK**	**0.53**	**0.25**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.48	0.556	1.017	477
2.42	202	52	0.750	0.600	0.200	0.500	90	27.7	0	5.2	32.94	0.715	35	**102**	**BTG OK**	**0.51**	**0.23**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.46	0.556	1.020	478
2.722	186	50	0.750	0.600	0.200	0.500	90	27.7	0	5.2	32.94	0.715	35	**102**	**BTG OK**	**0.49**	**0.22**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.44	0.556	1.025	481
3.024	174	47	0.750	0.600	0.200	0.500	90	36.9	0	5.2	42.18	0.715	35	**102**	**BTG OK**	**0.46**	**0.20**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.42	0.556	1.028	482
3.327	165	45	0.750	0.600	0.200	0.500	90	36.9	0	5.2	42.18	0.715	35	**102**	**BTG OK**	**0.44**	**0.18**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.40	0.556	1.028	482
3.629	151	42	0.750	0.600	0.200	0.500	90	36.9	0	5.2	42.18	0.715	35	**102**	**BTG OK**	**0.41**	**0.17**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.37	0.556	1.034	485
3.932	140	39	0.750	0.600	0.200	0.500	90	36.9	0	5.2	42.18	0.715	35	**102**	**BTG OK**	**0.39**	**0.15**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.35	0.556	1.036	486
4.234	133	36	0.750	0.600	0.200	0.500	90	36.9	0	5.2	42.18	0.715	35	**102**	**BTG OK**	**0.36**	**0.14**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.32	0.556	1.034	485
4.537	119	33	0.750	0.600	0.200	0.500	90	36.9	0	5.2	42.18	0.715	35	**102**	**BTG OK**	**0.33**	**0.13**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.30	0.556	1.040	488
4.839	108	30	0.750	0.600	0.200	0.500	90	36.9	0	5.2	42.18	0.715	35	**102**	**BTG OK**	**0.30**	**0.12**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.27	0.556	1.041	489
5.142	102	27	0.750	0.600	0.200	0.500	90	36.9	0	5.2	42.18	0.715	35	**102**	**BTG OK**	**0.27**	**0.11**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.24	0.556	1.038	487
5.444	88	24	0.750	0.600	0.200	0.500	90	36.9	0	5.2	42.18	0.715	35	**102**	**BTG OK**	**0.24**	**0.10**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.22	0.556	1.043	489
5.747	94	25	0.750	0.600	0.200	0.500	90	36.9	0	5.2	42.18	0.715	35	**102**	**BTG OK**	**0.25**	**0.10**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.23	0.556	1.037	487
6.049	103	25	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.24**	**0.10**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.22	0.556	1.035	486
6.351	113	24	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.24**	**0.11**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.21	0.556	1.036	486
6.654	125	24	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.23**	**0.11**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.21	0.556	1.039	487
6.956	134	24	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.24**	**0.12**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.21	0.556	1.036	486
7.259	144	25	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.25**	**0.13**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.23	0.556	1.035	486
7.561	155	27	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.26**	**0.14**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.24	0.556	1.037	487
7.864	166	27	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.26**	**0.14**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.24	0.556	1.033	485
8.166	176	29	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.28**	**0.17**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.26	0.556	1.032	484
8.469	187	31	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.31**	**0.18**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.28	0.556	1.030	483
8.771	200	34	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.33**	**0.19**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.30	0.556	1.024	481
9.073	212	36	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.35**	**0.20**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.32	0.556	1.028	482
9.376	224	38	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.37**	**0.22**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.34	0.556	1.025	481
9.678	238	39	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.39**	**0.23**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.35	0.556	1.016	477
9.981	250	41	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.40**	**0.24**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.36	0.556	1.019	478
10.28	264	42	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.41**	**0.25**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.37	0.556	1.016	477
10.59	279	43	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.42**	**0.27**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.38	0.556	1.005	472
10.89	293	44	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.43**	**0.28**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.39	0.556	1.008	473
11.19	310	45	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.44**	**0.29**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.40	0.556	1.004	471
11.49	328	46	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.45**	**0.30**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.40	0.556	1.001	470
11.8	344	46	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.45**	**0.31**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.41	0.556	1.004	471
12.1	362	47	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.46**	**0.33**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.41	0.556	0.993	466
12.4	386	47	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.46**	**0.35**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.41	0.556	0.990	465
12.7	407	48	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.47**	**0.36**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.42	0.556	0.993	466
13.01	426	49	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.48**	**0.38**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.44	0.556	0.982	461
13.31	453	51	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.50**	**0.40**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.45	0.556	0.982	461
13.61	481	52	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.52**	**0.42**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.46	0.556	0.986	463
13.91	501	53	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.52**	**0.44**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.47	0.556	0.983	461
14.22	531	53	0.750	0.600	0.200	0.500	90	46.2	0	10.5	56.65	0.715	35	**102**	**BTG OK**	**0.52**	**0.46**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.47	0.556	0.983	461
14.52	563	61	0.750	0.600	0.200	0.500	90	46.2	0	10.5	56.65	0.715	35	**102**	**BTG OK**	**0.60**	**0.49**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.54	0.556	0.982	461
14.82	339	39	0.750	0.600	0.200	0.500	90	46.2	0	10.5	56.65	0.715	35	**102**	**BTG OK**	**0.38**	**0.27**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.34	0.556	0.999	469

Dimensionering av vridarmering - Balk

Projekt: **Islandsbron**

Balk 5

Indata: f_{ck} 35.5 MPa f_{yk} 410 MPa
f_{ctk} 2.5 MPa γ_s 1.15
γ_c 1.5

θ 21.8 deg (tryckströvans lutning)
ν 0.5148 - (6.6N) 0.69
ν_1 0.600 - (6.10N)

Delresultat

x	$V_{Ed,LKA}$	T_{Ed}	h	bw	t_f	b_f	α	$A_{s,längs}$	$A_{sw,b}$	$A_{sw,h}$	A_{tot}	d_{s0}	e_{s0}	$T_{Rd,c}$	Kontroll	n	Interak	$t_{ef,1}$	$t_{ef,2}$	Z_{h1}	ZB5	Z_{h2}	ZB5	$A_{k,1}$	$A_{k,2}$	u_{k1}	u_{k2}	$A_{sL,T}$	v1	α_{cw}	$T_{Rd,s,max}$
m	kN	kNm	m	m	m	m	deg	cm^2	cm^2	cm^2	cm^2	m	mm	kNm	-	-	-	m	m	m	m	m	m	m	m	m	m	cm^2	-	-	kN
0	176	31	0.750	0.600	0.200	0.500	90	27.7	0	10.5	38.18	0.715	35	**102**	**BTG OK**	**0.31**	**0.16**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.28	0.556	1.009	473
0.302	340	68	0.750	0.600	0.200	0.500	90	27.7	0	10.5	38.18	0.715	35	**102**	**BTG OK**	**0.66**	**0.33**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.60	0.556	1.000	469
0.605	317	70	0.750	0.600	0.200	0.500	90	27.7	0	10.5	38.18	0.715	35	**102**	**BTG OK**	**0.69**	**0.32**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.62	0.556	1.002	470
0.907	290	65	0.750	0.600	0.200	0.500	90	27.7	0	5.2	32.94	0.715	35	**102**	**BTG OK**	**0.63**	**0.32**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.57	0.556	1.003	471
1.21	268	60	0.750	0.600	0.200	0.500	90	27.7	0	5.2	32.94	0.715	35	**102**	**BTG OK**	**0.58**	**0.29**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.53	0.556	1.005	472
1.512	252	58	0.750	0.600	0.200	0.500	90	27.7	0	5.2	32.94	0.715	35	**102**	**BTG OK**	**0.57**	**0.28**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.51	0.556	1.008	473
1.815	231	56	0.750	0.600	0.200	0.500	90	27.7	0	5.2	32.94	0.715	35	**102**	**BTG OK**	**0.55**	**0.26**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.50	0.556	1.012	475
2.117	215	54	0.750	0.600	0.200	0.500	90	27.7	0	5.2	32.94	0.715	35	**102**	**BTG OK**	**0.53**	**0.25**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.48	0.556	1.017	477
2.42	204	52	0.750	0.600	0.200	0.500	90	27.7	0	5.2	32.94	0.715	35	**102**	**BTG OK**	**0.51**	**0.24**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.46	0.556	1.019	478
2.722	188	50	0.750	0.600	0.200	0.500	90	27.7	0	5.2	32.94	0.715	35	**102**	**BTG OK**	**0.49**	**0.22**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.44	0.556	1.025	481
3.024	175	47	0.750	0.600	0.200	0.500	90	36.9	0	5.2	42.18	0.715	35	**102**	**BTG OK**	**0.47**	**0.21**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.42	0.556	1.028	482
3.327	168	45	0.750	0.600	0.200	0.500	90	36.9	0	5.2	42.18	0.715	35	**102**	**BTG OK**	**0.44**	**0.18**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.40	0.556	1.028	482
3.629	152	42	0.750	0.600	0.200	0.500	90	36.9	0	5.2	42.18	0.715	35	**102**	**BTG OK**	**0.42**	**0.17**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.37	0.556	1.034	485
3.932	141	40	0.750	0.600	0.200	0.500	90	36.9	0	5.2	42.18	0.715	35	**102**	**BTG OK**	**0.39**	**0.15**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.35	0.556	1.036	486
4.234	135	37	0.750	0.600	0.200	0.500	90	36.9	0	5.2	42.18	0.715	35	**102**	**BTG OK**	**0.36**	**0.15**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.32	0.556	1.034	485
4.537	120	34	0.750	0.600	0.200	0.500	90	36.9	0	5.2	42.18	0.715	35	**102**	**BTG OK**	**0.33**	**0.13**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.30	0.556	1.036	486
4.839	110	30	0.750	0.600	0.200	0.500	90	36.9	0	5.2	42.18	0.715	35	**102**	**BTG OK**	**0.30**	**0.12**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.27	0.556	1.037	487
5.142	104	29	0.750	0.600	0.200	0.500	90	36.9	0	5.2	42.18	0.715	35	**102**	**BTG OK**	**0.29**	**0.11**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.26	0.556	1.038	487
5.444	90	27	0.750	0.600	0.200	0.500	90	36.9	0	5.2	42.18	0.715	35	**102**	**BTG OK**	**0.26**	**0.10**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.24	0.556	1.039	488
5.747	96	25	0.750	0.600	0.200	0.500	90	36.9	0	5.2	42.18	0.715	35	**102**	**BTG OK**	**0.25**	**0.10**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.22	0.556	1.037	486
6.049	104	25	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.24**	**0.10**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.22	0.556	1.036	486
6.351	114	24	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.24**	**0.11**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.21	0.556	1.036	486
6.654	127	23	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.23**	**0.11**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.21	0.556	1.039	487
6.956	135	24	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.23**	**0.12**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.21	0.556	1.036	486
7.259	145	25	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.25**	**0.13**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.22	0.556	1.035	486
7.561	157	26	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.26**	**0.14**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.23	0.556	1.037	486
7.864	167	27	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.27**	**0.14**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.24	0.556	1.033	485
8.166	177	29	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.29**	**0.17**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.26	0.556	1.032	484
8.469	189	32	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.31**	**0.18**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.28	0.556	1.033	484
8.771	201	34	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.34**	**0.19**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.30	0.556	1.027	482
9.073	212	36	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.36**	**0.21**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.32	0.556	1.025	481
9.376	224	38	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.38**	**0.22**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.34	0.556	1.022	479
9.678	238	40	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.39**	**0.23**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.35	0.556	1.016	476
9.981	250	41	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.40**	**0.24**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.36	0.556	1.019	478
10.28	264	42	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.42**	**0.25**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.37	0.556	1.016	477
10.59	279	43	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.43**	**0.27**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.38	0.556	1.005	472
10.89	293	44	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.44**	**0.28**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.39	0.556	1.009	473
11.19	310	45	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.44**	**0.29**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.40	0.556	1.004	471
11.49	328	46	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.45**	**0.30**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.41	0.556	1.001	470
11.8	344	47	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.46**	**0.31**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.41	0.556	1.005	471
12.1	362	47	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.46**	**0.33**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.41	0.556	0.993	466
12.4	386	47	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.46**	**0.35**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.42	0.556	0.991	465
12.7	407	48	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.47**	**0.36**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.42	0.556	0.993	466
13.01	426	49	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.48**	**0.38**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.43	0.556	0.983	461
13.31	453	51	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.50**	**0.40**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.45	0.556	0.983	461
13.61	481	52	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.51**	**0.42**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.46	0.556	0.986	463
13.91	501	53	0.750	0.600	0.200	0.500	90	46.2	0	5.2	51.42	0.715	35	**102**	**BTG OK**	**0.52**	**0.44**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.47	0.556	0.983	461
14.22	532	53	0.750	0.600	0.200	0.500	90	46.2	0	10.5	56.65	0.715	35	**102**	**BTG OK**	**0.52**	**0.45**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.47	0.556	0.984	462
14.52	563	61	0.750	0.600	0.200	0.500	90	46.2	0	10.5	56.65	0.715	35	**102**	**BTG OK**	**0.60**	**0.49**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.54	0.556	0.983	461
14.82	341	39	0.750	0.600	0.200	0.500	90	46.2	0	10.5	56.65	0.715	35	**102**	**BTG OK**	**0.38**	**0.27**	0.143478	0.071429	0.41	0.46	0.13	0.43	0.2	0.055	1.7	1.1	0.34	0.556	1.002	470

Dimensionering av vridarmering - Balk

Projekt: **Islandsbron**

Balk 3

Indata: f_{ck} 35.5 MPa f_{yk} 410 MPa
f_{ctk} 2.5 MPa γ_s 1.15
γ_c 1.5

θ 21.8 deg (tryckströvans lutning)
ν 0.5148 - (6.6N) 0.96
ν_1 0.600 - (6.10N)

Delresultat

x	$V_{Ed,LKA}$	T_{Ed}	h	bw	t_f	b_f	α	$A_{s,längs}$	$A_{sw,b}$	$A_{sw,h}$	A_{tot}	d_{s0}	e_{s0}	$T_{Rd,c}$	Kontroll	n	Interak	$t_{ef,1}$	$t_{ef,2}$	Z_{h1}	ZB3	Z_{h2}	ZB3	$A_{k,1}$	$A_{k,2}$	u_{k1}	u_{k2}	$A_{sL,T}$	v1	α_{cw}	$T_{Rd,s,max}$
m	kN	kNm	m	m	m	m	deg	cm^2	cm^2	cm^2	cm^2	m	mm	kNm	-	-	-	m	m	m	m	m	m	m	m	m	m	cm^2	-	-	kN
0	217	44	0.800	0.500	0.200	0.500	90	27.7	0	10.5	38.18	0.765	35	**90**	**BTG OK**	**0.49**	**0.23**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.41	0.556	1.018	429
0.302	421	100	0.800	0.500	0.200	0.500	90	27.7	0	10.5	38.18	0.765	35	**90**	**ARM OK**	**0.02**	**0.54**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.93	0.556	0.996	420
0.605	398	111	0.800	0.500	0.200	0.500	90	27.7	0	10.5	38.18	0.765	35	**90**	**ARM OK**	**0.03**	**0.55**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	1.03	0.556	0.992	418
0.907	374	108	0.800	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.765	35	**90**	**ARM OK**	**0.03**	**0.53**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	1.00	0.556	0.988	416
1.21	350	104	0.800	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.765	35	**90**	**ARM OK**	**0.03**	**0.50**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.96	0.556	0.983	414
1.512	331	101	0.800	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.765	35	**90**	**ARM OK**	**0.03**	**0.48**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.94	0.556	0.979	413
1.815	312	97	0.800	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.765	35	**90**	**ARM OK**	**0.03**	**0.46**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.90	0.556	0.975	411
2.117	290	94	0.800	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.765	35	**90**	**ARM OK**	**0.03**	**0.44**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.87	0.556	0.972	410
2.42	272	91	0.800	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.765	35	**90**	**ARM OK**	**0.03**	**0.42**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.84	0.556	0.970	409
2.722	254	86	0.800	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.765	35	**90**	**BTG OK**	**0.96**	**0.40**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.80	0.556	0.969	408
3.024	234	82	0.800	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.765	35	**90**	**BTG OK**	**0.91**	**0.37**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.76	0.556	0.968	408
3.327	217	77	0.800	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.765	35	**90**	**BTG OK**	**0.86**	**0.35**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.72	0.556	0.971	409
3.629	199	72	0.800	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.765	35	**90**	**BTG OK**	**0.80**	**0.32**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.67	0.556	0.973	410
3.932	181	67	0.800	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.765	35	**90**	**BTG OK**	**0.75**	**0.30**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.62	0.556	0.973	410
4.234	165	62	0.800	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.765	35	**90**	**BTG OK**	**0.69**	**0.25**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.58	0.556	0.973	410
4.537	148	56	0.800	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.765	35	**90**	**BTG OK**	**0.63**	**0.23**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.52	0.556	0.973	410
4.839	131	52	0.800	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.765	35	**90**	**BTG OK**	**0.57**	**0.21**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.48	0.556	0.973	410
5.142	114	47	0.800	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.765	35	**90**	**BTG OK**	**0.52**	**0.18**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.43	0.556	0.973	410
5.444	98	41	0.800	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.765	35	**90**	**BTG OK**	**0.46**	**0.16**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.38	0.556	0.974	411
5.747	95	37	0.800	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.765	35	**90**	**BTG OK**	**0.41**	**0.15**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.34	0.556	0.970	409
6.049	115	33	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.37**	**0.15**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.31	0.556	0.969	409
6.351	131	29	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.32**	**0.15**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.27	0.556	0.971	409
6.654	147	30	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.33**	**0.16**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.28	0.556	0.971	409
6.956	167	33	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.37**	**0.19**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.31	0.556	0.971	409
7.259	183	37	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.41**	**0.22**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.34	0.556	0.973	410
7.561	199	40	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.45**	**0.24**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.37	0.556	0.973	410
7.864	219	44	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.49**	**0.27**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.41	0.556	0.974	411
8.166	234	48	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.54**	**0.29**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.45	0.556	0.976	412
8.469	251	52	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.58**	**0.31**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.48	0.556	0.977	412
8.771	271	55	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.61**	**0.33**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.51	0.556	0.978	412
9.073	287	59	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.66**	**0.35**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.55	0.556	0.981	413
9.376	304	63	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.70**	**0.37**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.59	0.556	0.982	414
9.678	324	66	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.73**	**0.39**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.61	0.556	0.984	415
9.981	340	69	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.77**	**0.41**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.64	0.556	0.987	416
10.28	358	72	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.80**	**0.43**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.67	0.556	0.989	417
10.59	377	74	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.83**	**0.45**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.69	0.556	0.991	418
10.89	394	76	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.85**	**0.46**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.71	0.556	0.995	420
11.19	412	78	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.87**	**0.48**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.73	0.556	0.998	421
11.49	433	79	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.88**	**0.49**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.74	0.556	1.002	423
11.8	452	81	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.90**	**0.51**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.75	0.556	1.009	425
12.1	469	82	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.91**	**0.52**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.76	0.556	1.011	426
12.4	492	81	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.90**	**0.53**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.75	0.556	1.015	428
12.7	515	81	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.90**	**0.54**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.75	0.556	1.024	432
13.01	530	80	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.89**	**0.55**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.74	0.556	1.028	433
13.31	555	77	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.86**	**0.56**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.72	0.556	1.033	436
13.61	582	76	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.84**	**0.57**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.70	0.556	1.039	438
13.91	599	73	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.81**	**0.57**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.68	0.556	1.043	440
14.22	627	69	0.800	0.500	0.200	0.500	90	46.2	0	10.5	56.65	0.765	35	**90**	**BTG OK**	**0.77**	**0.58**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.64	0.556	1.048	442
14.52	657	66	0.800	0.500	0.200	0.500	90	46.2	0	10.5	56.65	0.765	35	**90**	**BTG OK**	**0.73**	**0.59**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.61	0.556	1.051	443
14.82	311	38	0.800	0.500	0.200	0.500	90	46.2	0	10.5	56.65	0.765	35	**90**	**BTG OK**	**0.42**	**0.26**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.35	0.556	1.055	445

Dimensionering av vridarmering - Balk

Projekt: **Islandsbron**

Balk 4

Indata: f_{ck} 35.5 MPa f_{yk} 410 MPa
f_{ctk} 2.5 MPa γ_s 1.15
γ_c 1.5

θ 21.8 deg (tryckströvans lutning)
ν 0.5148 - (6.6N) 0.97
ν_1 0.600 - (6.10N)

Delresultat

x	$V_{Ed,LKA}$	T_{Ed}	h	bw	t_f	b_f	α	$A_{s,längs}$	$A_{sw,b}$	$A_{sw,h}$	A_{tot}	d_{s0}	e_{s0}	$T_{Rd,c}$	Kontroll	n	Interak	$t_{ef,1}$	$t_{ef,2}$	Z_{h1}	ZB4	Z_{h2}	ZB4	$A_{k,1}$	$A_{k,2}$	u_{k1}	u_{k2}	$A_{sL,T}$	v1	α_{cw}	$T_{Rd,s,max}$
m	kN	kNm	m	m	m	m	deg	cm^2	cm^2	cm^2	cm^2	m	mm	kNm	-	-	-	m	m	m	m	m	m	m	m	m	m	cm^2	-	-	kN
0	217	44	0.800	0.500	0.200	0.500	90	27.7	0	10.5	38.18	0.765	35	**90**	**BTG OK**	**0.50**	**0.23**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.41	0.556	1.011	426
0.302	421	101	0.800	0.500	0.200	0.500	90	27.7	0	10.5	38.18	0.765	35	**90**	**ARM OK**	**0.02**	**0.54**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.94	0.556	0.996	420
0.605	398	112	0.800	0.500	0.200	0.500	90	27.7	0	10.5	38.18	0.765	35	**90**	**ARM OK**	**0.03**	**0.55**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	1.04	0.556	0.992	418
0.907	374	108	0.800	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.765	35	**90**	**ARM OK**	**0.03**	**0.53**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	1.01	0.556	0.988	416
1.21	350	105	0.800	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.765	35	**90**	**ARM OK**	**0.03**	**0.50**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.97	0.556	0.983	414
1.512	331	102	0.800	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.765	35	**90**	**ARM OK**	**0.03**	**0.49**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.95	0.556	0.979	413
1.815	311	98	0.800	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.765	35	**90**	**ARM OK**	**0.03**	**0.46**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.91	0.556	0.975	411
2.117	290	95	0.800	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.765	35	**90**	**ARM OK**	**0.03**	**0.44**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.88	0.556	0.972	410
2.42	272	91	0.800	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.765	35	**90**	**ARM OK**	**0.03**	**0.42**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.85	0.556	0.970	409
2.722	254	87	0.800	0.500	0.200	0.500	90	27.7	0	5.2	32.94	0.765	35	**90**	**BTG OK**	**0.97**	**0.40**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.80	0.556	0.969	408
3.024	234	83	0.800	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.765	35	**90**	**BTG OK**	**0.92**	**0.37**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.77	0.556	0.968	408
3.327	217	78	0.800	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.765	35	**90**	**BTG OK**	**0.87**	**0.35**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.72	0.556	0.971	409
3.629	199	72	0.800	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.765	35	**90**	**BTG OK**	**0.81**	**0.32**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.67	0.556	0.973	410
3.932	181	68	0.800	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.765	35	**90**	**BTG OK**	**0.75**	**0.30**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.63	0.556	0.972	410
4.234	165	63	0.800	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.765	35	**90**	**BTG OK**	**0.70**	**0.26**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.58	0.556	0.973	410
4.537	148	57	0.800	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.765	35	**90**	**BTG OK**	**0.63**	**0.23**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.53	0.556	0.973	410
4.839	131	52	0.800	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.765	35	**90**	**BTG OK**	**0.58**	**0.21**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.48	0.556	0.973	410
5.142	114	47	0.800	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.765	35	**90**	**BTG OK**	**0.52**	**0.19**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.44	0.556	0.973	410
5.444	98	42	0.800	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.765	35	**90**	**BTG OK**	**0.46**	**0.16**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.39	0.556	0.974	410
5.747	95	38	0.800	0.500	0.200	0.500	90	36.9	0	5.2	42.18	0.765	35	**90**	**BTG OK**	**0.42**	**0.15**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.35	0.556	0.970	409
6.049	115	33	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.37**	**0.15**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.31	0.556	0.969	409
6.351	131	29	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.33**	**0.15**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.27	0.556	0.971	409
6.654	147	30	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.34**	**0.17**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.28	0.556	0.971	409
6.956	167	34	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.38**	**0.19**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.31	0.556	0.971	409
7.259	183	38	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.42**	**0.22**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.35	0.556	0.973	410
7.561	199	41	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.45**	**0.24**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.38	0.556	0.973	410
7.864	219	44	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.49**	**0.27**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.41	0.556	0.974	410
8.166	234	49	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.54**	**0.29**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.45	0.556	0.976	412
8.469	251	52	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.58**	**0.31**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.48	0.556	0.977	412
8.771	271	55	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.62**	**0.33**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.51	0.556	0.978	412
9.073	287	59	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.66**	**0.35**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.55	0.556	0.981	413
9.376	304	63	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.71**	**0.37**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.59	0.556	0.982	414
9.678	323	66	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.74**	**0.39**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.61	0.556	0.984	415
9.981	340	70	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.77**	**0.41**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.65	0.556	0.987	416
10.28	358	73	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.81**	**0.43**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.67	0.556	0.989	417
10.59	376	75	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.83**	**0.45**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.69	0.556	0.991	418
10.89	394	77	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.86**	**0.46**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.71	0.556	0.996	420
11.19	412	79	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.88**	**0.48**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.73	0.556	0.998	421
11.49	433	80	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.89**	**0.49**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.74	0.556	1.002	423
11.8	452	82	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.91**	**0.51**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.76	0.556	1.009	425
12.1	469	82	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.91**	**0.52**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.76	0.556	1.011	426
12.4	492	81	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.91**	**0.53**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.76	0.556	1.016	428
12.7	515	81	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.91**	**0.54**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.76	0.556	1.024	432
13.01	530	80	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.90**	**0.55**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.75	0.556	1.028	434
13.31	555	78	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.87**	**0.56**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.72	0.556	1.034	436
13.61	582	76	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.85**	**0.57**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.71	0.556	1.039	438
13.91	599	74	0.800	0.500	0.200	0.500	90	46.2	0	5.2	51.42	0.765	35	**90**	**BTG OK**	**0.82**	**0.57**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.69	0.556	1.043	440
14.22	627	70	0.800	0.500	0.200	0.500	90	46.2	0	10.5	56.65	0.765	35	**90**	**BTG OK**	**0.78**	**0.58**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.65	0.556	1.048	442
14.52	657	67	0.800	0.500	0.200	0.500	90	46.2	0	10.5	56.65	0.765	35	**90**	**BTG OK**	**0.74**	**0.59**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.62	0.556	1.051	443
14.82	312	38	0.800	0.500	0.200	0.500	90	46.2	0	10.5	56.65	0.765	35	**90**	**BTG OK**	**0.42**	**0.26**	0.136364	0.071429	0.46	0.36	0.13	0.43	0.2	0.055	1.7	1.1	0.35	0.556	1.055	445

BILAGA 7.2

Kontroll LKA och LKB:a platta

7.2 Moment och tvärkraft i platta

I detta kapitel redovisas kontrollerna för moment, sprickbredd, tvärkaft för plattan

Kontroller för plattan

Dimensionering av böjarmering - Platta LKA/LKB:a Mmax1/Mmin1
Dimensionering av böjarmering - Platta LKA/LKB:a Mmax2/Mmin2
Dimensionering av tvärkraftsarmering - Platta LKA

Sammanställning, platta

1dir:	LKA, uk	LKA, ök	n LKB:a, uk	w_k LKB:a, ök
LL	OK	OK	0.00	0.11
TL1	OK	OK	-0.07	-0.08
TL2	OK	OK	-0.07	-0.09
Max UG			**0.00**	**0.11**

2dir:	LKA, uk	LKA, ök	n LKB:a, uk	w_k LKB:a, ök
LL	1.02	OK	0.23	0.11
TL1	OK	OK	0.25	0.34
TL2	OK	OK	0.27	0.29
Max UG	1.02		**0.27**	**0.34**

	n LKA, V
LL	0.44
TL1	0.40
TL2	0.40
Max UG	**0.44**

Dimensionering av böjarmering - Platta

Projekt: **Islandsbron**

Mmax1

uk LL

Indata:

f_{ck}	35.5 MPa	f_{yk}	500	MPa	
f_{ctk}	2.25 MPa	E_s	200	GPa	
E_{cm}	34 GPa	γ_s	1.15	-	
γ_c	1.5 -				
ε_{cu3}	0.0035 %				
k_t	0.4 -	φ	2.1	-	
η	1.0 -	α	5.9	-	
λ	0.8 -	α_{eff}	18.2	-	
ω_{bal}	0.493 -	$w_{k,gräns}$	0.40	mm	

Avstånd mellan lager (från centrum armeringsjärn): 0 mm

Delresultat

Kontroll av inlagd armering: 0.00

								Inlagd armering																													
								Lag 1		Lag 1		Lag 1			Totalt																							
LL	$M_{Ed,LKA}$	$N_{tillh,LKA}$	$M_{Ed,LKB:a}$	$N_{tillh,LKB:a}$	h	b	bm	$Ø_{arm.1}$	c/c_1	$Ø_{arm.2}$	c/c_2	$Ø_{arm.3}$	c/c_3	$Ø_{eq}$	$A_{s,tNL}$	e_{arm}	A_s	w_k	Ok/	d	M_s	ω_s	σ_{st}	ρ	Ms	ξ	Ac,eff	ρeff	σ_s	e_{sm}-e_{cm}	s_{rmax}						
	kNm/m	kN/m	kNm/m	kN/m	m	m	mm	mm	mm	mm	mm	mm	mm	mm	cm^2/m	mm	cm^2/m	mm	Ej ok	m	kNm/m	-	Mpa	%	kNm/m	-	m2	%	MPa	-	mm						
0.00	9	-345	8	-246	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-3.3**	**0.00**	Ok	0.175	35	0.049	435	0.00280	27	1.000	0.008	0.0589	-37	-0.00011	32					
0.45	6	-344	5	-238	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-3.7**	**-0.01**	Ok	0.175	31	0.044	435	0.00280	23	1.000	0.008	0.0589	-85	-0.00026	32					
0.75	12	-357	10	-239	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-3.0**	**0.00**	Ok	0.175	39	0.055	435	0.00280	28	1.000	0.008	0.0589	7	0.00002	32					
1.05	20	-496	17	-347	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-3.6**	**0.00**	Ok	0.175	57	0.082	435	0.00280	43	0.891	0.015	0.0334	10	0.00003	57					
1.36	5	-694	5	-501	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-8.2**	**-0.03**	Ok	0.175	57	0.082	435	0.00280	42	1.000	0.008	0.0589	-285	-0.00086	32					
1.66	6	-804	6	-583	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-9.3**	**-0.03**	Ok	0.175	66	0.096	435	0.00280	49	1.000	0.008	0.0589	-325	-0.00098	32					
1.96	12	-937	11	-773	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-10.0**	**-0.04**	Ok	0.175	83	0.121	435	0.00280	69	1.000	0.008	0.0589	-376	-0.00113	32					
2.26	15	-1079	13	-975	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-11.2**	**-0.05**	Ok	0.175	96	0.143	435	0.00280	86	1.000	0.008	0.0589	-484	-0.00145	32					
2.57	16	-1140	13	-1027	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-11.8**	**-0.05**	Ok	0.175	101	0.151	435	0.00280	90	1.000	0.008	0.0589	-523	-0.00157	32					
2.87	15	-1212	12	-1091	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-12.8**	**-0.06**	Ok	0.175	106	0.159	435	0.00280	94	1.000	0.008	0.0589	-578	-0.00173	32					
3.17	15	-1291	12	-1156	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-13.7**	**-0.06**	Ok	0.175	112	0.168	435	0.00280	98	1.000	0.008	0.0589	-640	-0.00192	32					
3.47	14	-1321	11	-1179	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-14.1**	**-0.07**	Ok	0.175	113	0.171	435	0.00280	99	1.000	0.008	0.0589	-669	-0.00201	32					
3.78	13	-1334	10	-1189	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-14.4**	**-0.07**	Ok	0.175	113	0.170	435	0.00280	99	1.000	0.008	0.0589	-692	-0.00208	32					
4.08	12	-1349	9	-1205	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-14.7**	**-0.07**	Ok	0.175	114	0.171	435	0.00280	100	1.000	0.008	0.0589	-716	-0.00215	32					
4.38	12	-1386	9	-1236	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.1**	**-0.07**	Ok	0.175	116	0.176	435	0.00280	102	1.000	0.008	0.0589	-737	-0.00221	32					
4.68	12	-1413	9	-1257	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.4**	**-0.07**	Ok	0.175	118	0.180	435	0.00280	104	1.000	0.008	0.0589	-754	-0.00226	32					
4.99	14	-1439	10	-1278	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.5**	**-0.07**	Ok	0.175	122	0.185	435	0.00280	106	1.000	0.008	0.0589	-755	-0.00227	32					
5.29	15	-1475	11	-1303	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.7**	**-0.07**	Ok	0.175	125	0.191	435	0.00280	109	1.000	0.008	0.0589	-754	-0.00226	32					
5.59	15	-1492	11	-1315	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.9**	**-0.07**	Ok	0.175	127	0.193	435	0.00280	110	1.000	0.008	0.0589	-758	-0.00227	32					
5.89	14	-1524	11	-1339	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.4**	**-0.08**	Ok	0.175	128	0.196	435	0.00280	111	1.000	0.008	0.0589	-784	-0.00235	32					
6.20	13	-1549	10	-1357	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.8**	**-0.08**	Ok	0.175	129	0.198	435	0.00280	112	1.000	0.008	0.0589	-814	-0.00244	32					
6.50	12	-1531	9	-1343	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.7**	**-0.08**	Ok	0.175	127	0.194	435	0.00280	110	1.000	0.008	0.0589	-817	-0.00245	32					
6.80	11	-1520	8	-1331	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.7**	**-0.08**	Ok	0.175	125	0.191	435	0.00280	108	1.000	0.008	0.0589	-822	-0.00246	32					
7.10	11	-1523	8	-1329	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.8**	**-0.08**	Ok	0.175	125	0.191	435	0.00280	108	1.000	0.008	0.0589	-825	-0.00248	32					
7.41	12	-1509	8	-1317	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.5**	**-0.08**	Ok	0.175	125	0.191	435	0.00280	107	1.000	0.008	0.0589	-810	-0.00243	32					
7.71	12	-1503	8	-1308	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.5**	**-0.08**	Ok	0.175	125	0.190	435	0.00280	107	1.000	0.008	0.0589	-804	-0.00241	32					
8.01	12	-1507	9	-1307	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.5**	**-0.08**	Ok	0.175	125	0.191	435	0.00280	107	1.000	0.008	0.0589	-801	-0.00240	32					
8.31	13	-1505	9	-1307	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.3**	**-0.08**	Ok	0.175	126	0.192	435	0.00280	107	1.000	0.008	0.0589	-791	-0.00237	32					
8.62	13	-1507	9	-1302	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.4**	**-0.08**	Ok	0.175	126	0.192	435	0.00280	107	1.000	0.008	0.0589	-792	-0.00238	32					
8.92	13	-1513	9	-1302	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.4**	**-0.08**	Ok	0.175	127	0.193	435	0.00280	107	1.000	0.008	0.0589	-790	-0.00237	32					
9.22	14	-1514	10	-1306	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.2**	**-0.08**	Ok	0.175	128	0.195	435	0.00280	108	1.000	0.008	0.0589	-782	-0.00235	32					
9.52	13	-1516	10	-1305	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.4**	**-0.08**	Ok	0.175	127	0.194	435	0.00280	108	1.000	0.008	0.0589	-780	-0.00234	32					
9.83	13	-1518	10	-1303	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.4**	**-0.08**	Ok	0.175	127	0.194	435	0.00280	107	1.000	0.008	0.0589	-778	-0.00233	32					
10.13	15	-1514	10	-1287	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.2**	**-0.07**	Ok	0.175	128	0.196	435	0.00280	106	1.000	0.008	0.0589	-767	-0.00230	32					
10.43	13	-1496	10	-1257	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.2**	**-0.07**	Ok	0.175	125	0.191	435	0.00280	104	1.000	0.008	0.0589	-747	-0.00224	32					
10.73	13	-1477	9	-1219	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.0**	**-0.07**	Ok	0.175	124	0.189	435	0.00280	101	1.000	0.008	0.0589	-723	-0.00217	32					
11.04	14	-1471	10	-1199	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.7**	**-0.07**	Ok	0.175	125	0.190	435	0.00280	100	1.000	0.008	0.0589	-704	-0.00211	32					
11.34	14	-1457	10	-1187	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.6**	**-0.07**	Ok	0.175	123	0.188	435	0.00280	99	1.000	0.008	0.0589	-694	-0.00208	32					
11.64	14	-1455	10	-1189	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.6**	**-0.07**	Ok	0.175	123	0.187	435	0.00280	99	1.000	0.008	0.0589	-698	-0.00209	32					
11.94	14	-1462	10	-1196	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.7**	**-0.07**	Ok	0.175	123	0.188	435	0.00280	99	1.000	0.008	0.0589	-703	-0.00211	32					
12.25	13	0	9	-1190	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.8**	**-0.07**	Ok	0.175	13	0.019	435	0.00280	99	1.000	0.008	0.0589	-703	-0.00211	32					
12.55	13	0	10	-1194	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.8**	**-0.07**	Ok	0.175	13	0.019	435	0.00280	99	1.000	0.008	0.0589	-696	-0.00209	32					
12.85	13	0	10	-1197	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.8**	**-0.07**	Ok	0.175	13	0.019	435	0.00280	100	1.000	0.008	0.0589	-697	-0.00209	32					
13.15	14	0	10	-1197	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.8**	**-0.07**	Ok	0.175	14	0.019	435	0.00280	100	1.000	0.008	0.0589	-695	-0.00209	32					
13.46	14	0	10	-1198	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.8**	**-0.07**	Ok	0.175	14	0.019	435	0.00280	100	1.000	0.008	0.0589	-694	-0.00208	32					
13.76	13	0	10	-1195	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.8**	**-0.07**	Ok	0.175	13	0.019	435	0.00280	100	1.000	0.008	0.0589	-692	-0.00208	32					
14.06	14	0	11	-1190	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.8**	**-0.07**	Ok	0.175	14	0.019	435	0.00280	100	1.000	0.008	0.0589	-682	-0.00205	32					
14.36	12	0	10	-1188	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.6**	**-0.07**	Ok	0.175	12	0.017	435	0.00280	99	1.000	0.008	0.0589	-696	-0.00209	32					
14.67	11	0	9	-1192	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.5**	**-0.07**	Ok	0.175	11	0.016	435	0.00280	98	1.000	0.008	0.0589	-711	-0.00213	32					
14.97	11	0	9	-1194	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.5**	**-0.07**	Ok	0.175	11	0.015	435	0.00280	99	1.000	0.008	0.0589	-713	-0.00214	32					

Dimensionering av böjarmering - Platta

Projekt: **Islandsbron**

Mmax1

uk LL

Delresultat

Indata:

f_{ck}	35.5 MPa	f_{yk}	500	MPa	
f_{ctk}	2.25 MPa	E_s	200	GPa	
E_{cm}	34 GPa	γ_s	1.15	-	
γ_c	1.5 -				
ε_{cu3}	0.0035 %				
k_t	0.4 -	φ	2.1	-	
η	1.0 -	α	5.9	-	
λ	0.8 -	α_{eff}	18.2	-	
ω_{bal}	0.493 -	$w_{k,gräns}$	0.40	mm	

Avstånd mellan lager (från centrum armeringsjärn): 0 mm

Kontroll av inlagd armering: 0.00

								Inlagd armering																																			
								Lag 1		Lag 1		Lag 1			Totalt																													
LL	$M_{Ed,LKA}$	$N_{tillh,LKA}$	$M_{Ed,LKB:a}$	$N_{tillh,LKB:a}$	h	b	bm	$Ø_{arm.1}$	c/c_1	$Ø_{arm.2}$	c/c_2	$Ø_{arm.3}$	c/c_3	$Ø_{eq}$	$A_{s,INL}$	e_{arm}	A_s	w_k	Ok/	d	M_s	ω_s	σ_{st}	ρ	Ms	ξ	Ac,eff	ρeff	σ_s	e_{sm}-e_{cm}	s_{rmax}										
	kNm/m	kN/m	kNm/m	kN/m	m	m	mm	mm	mm	mm	mm	mm	mm	mm	cm^2/m	mm	cm^2/m	mm	Ej ok	m	kNm/m	-	Mpa	%	kNm/m	-	m2	%	MPa	-	mm										
15.27	11	0	9	-1194	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.5**	**-0.07**	Ok	0.175	11	0.015	435	0.00280	99	1.000	0.008	0.0589	-713	-0.00214	32										
15.57	11	0	9	-1193	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.5**	**-0.07**	Ok	0.175	11	0.015	435	0.00280	98	1.000	0.008	0.0589	-714	-0.00214	32										
15.87	11	0	9	-1189	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.5**	**-0.07**	Ok	0.175	11	0.015	435	0.00280	98	1.000	0.008	0.0589	-712	-0.00214	32										
16.18	12	0	10	-1186	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.6**	**-0.07**	Ok	0.175	12	0.017	435	0.00280	99	1.000	0.008	0.0589	-696	-0.00209	32										
16.48	14	0	10	-1188	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.8**	**-0.07**	Ok	0.175	14	0.019	435	0.00280	100	1.000	0.008	0.0589	-683	-0.00205	32										
16.78	13	0	10	-1193	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.8**	**-0.07**	Ok	0.175	13	0.019	435	0.00280	100	1.000	0.008	0.0589	-692	-0.00208	32										
17.08	14	0	10	-1195	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.8**	**-0.07**	Ok	0.175	14	0.019	435	0.00280	100	1.000	0.008	0.0589	-693	-0.00208	32										
17.39	14	0	10	-1193	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.8**	**-0.07**	Ok	0.175	14	0.019	435	0.00280	99	1.000	0.008	0.0589	-694	-0.00208	32										
17.69	13	0	10	-1192	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.8**	**-0.07**	Ok	0.175	13	0.019	435	0.00280	99	1.000	0.008	0.0589	-696	-0.00209	32										
17.99	13	0	10	-1190	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.8**	**-0.07**	Ok	0.175	13	0.019	435	0.00280	99	1.000	0.008	0.0589	-694	-0.00208	32										
18.29	13	0	9	-1184	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**1.8**	**-0.07**	Ok	0.175	13	0.018	435	0.00280	98	1.000	0.008	0.0589	-701	-0.00210	32										
18.60	14	-1455	9	-1190	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.7**	**-0.07**	Ok	0.175	123	0.187	435	0.00280	99	1.000	0.008	0.0589	-701	-0.00210	32										
18.90	14	-1447	9	-1183	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.6**	**-0.07**	Ok	0.175	122	0.186	435	0.00280	98	1.000	0.008	0.0589	-695	-0.00209	32										
19.20	14	-1448	10	-1180	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.5**	**-0.07**	Ok	0.175	123	0.186	435	0.00280	98	1.000	0.008	0.0589	-692	-0.00208	32										
19.50	14	-1463	10	-1191	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.7**	**-0.07**	Ok	0.175	124	0.189	435	0.00280	99	1.000	0.008	0.0589	-701	-0.00210	32										
19.81	13	-1469	9	-1209	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.9**	**-0.07**	Ok	0.175	123	0.187	435	0.00280	100	1.000	0.008	0.0589	-718	-0.00215	32										
20.11	13	-1486	9	-1246	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.1**	**-0.07**	Ok	0.175	125	0.190	435	0.00280	103	1.000	0.008	0.0589	-742	-0.00222	32										
20.41	14	-1505	9	-1276	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.1**	**-0.07**	Ok	0.175	127	0.194	435	0.00280	105	1.000	0.008	0.0589	-762	-0.00229	32										
20.71	13	-1508	10	-1291	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.3**	**-0.08**	Ok	0.175	126	0.193	435	0.00280	106	1.000	0.008	0.0589	-773	-0.00232	32										
21.02	13	-1505	9	-1292	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.3**	**-0.08**	Ok	0.175	126	0.192	435	0.00280	106	1.000	0.008	0.0589	-774	-0.00232	32										
21.32	14	-1503	9	-1293	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.2**	**-0.08**	Ok	0.175	127	0.193	435	0.00280	106	1.000	0.008	0.0589	-776	-0.00233	32										
21.62	13	-1499	9	-1289	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.3**	**-0.08**	Ok	0.175	125	0.191	435	0.00280	106	1.000	0.008	0.0589	-782	-0.00235	32										
21.92	13	-1494	9	-1289	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.3**	**-0.08**	Ok	0.175	125	0.190	435	0.00280	105	1.000	0.008	0.0589	-784	-0.00235	32										
22.23	13	-1495	9	-1293	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.2**	**-0.08**	Ok	0.175	125	0.191	435	0.00280	106	1.000	0.008	0.0589	-783	-0.00235	32										
22.53	12	-1494	8	-1294	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.3**	**-0.08**	Ok	0.175	124	0.189	435	0.00280	106	1.000	0.008	0.0589	-793	-0.00238	32										
22.83	12	-1492	8	-1296	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.4**	**-0.08**	Ok	0.175	124	0.188	435	0.00280	106	1.000	0.008	0.0589	-798	-0.00239	32										
23.13	12	-1499	8	-1306	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.5**	**-0.08**	Ok	0.175	124	0.189	435	0.00280	106	1.000	0.008	0.0589	-806	-0.00242	32										
23.44	11	-1511	8	-1316	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.7**	**-0.08**	Ok	0.175	124	0.189	435	0.00280	106	1.000	0.008	0.0589	-822	-0.00247	32										
23.74	11	-1513	8	-1324	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.7**	**-0.08**	Ok	0.175	124	0.190	435	0.00280	107	1.000	0.008	0.0589	-823	-0.00247	32										
24.04	12	-1530	9	-1341	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.8**	**-0.08**	Ok	0.175	127	0.193	435	0.00280	109	1.000	0.008	0.0589	-820	-0.00246	32										
24.34	13	-1553	10	-1360	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.9**	**-0.08**	Ok	0.175	129	0.198	435	0.00280	112	1.000	0.008	0.0589	-821	-0.00246	32										
24.65	13	-1549	10	-1362	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.7**	**-0.08**	Ok	0.175	130	0.199	435	0.00280	113	1.000	0.008	0.0589	-809	-0.00243	32										
24.95	14	-1512	11	-1334	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.2**	**-0.08**	Ok	0.175	128	0.195	435	0.00280	111	1.000	0.008	0.0589	-779	-0.00234	32										
25.25	14	-1478	11	-1305	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.8**	**-0.07**	Ok	0.175	125	0.191	435	0.00280	109	1.000	0.008	0.0589	-759	-0.00228	32										
25.55	14	-1471	10	-1303	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.8**	**-0.07**	Ok	0.175	124	0.189	435	0.00280	108	1.000	0.008	0.0589	-769	-0.00231	32										
25.86	14	-1427	10	-1269	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.4**	**-0.07**	Ok	0.175	121	0.183	435	0.00280	105	1.000	0.008	0.0589	-755	-0.00226	32										
26.16	13	-1386	10	-1235	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.0**	**-0.07**	Ok	0.175	117	0.177	435	0.00280	102	1.000	0.008	0.0589	-731	-0.00219	32										
26.46	13	-1368	9	-1221	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-14.9**	**-0.07**	Ok	0.175	115	0.174	435	0.00280	101	1.000	0.008	0.0589	-724	-0.00217	32										
26.76	13	-1344	10	-1200	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-14.6**	**-0.07**	Ok	0.175	114	0.172	435	0.00280	100	1.000	0.008	0.0589	-700	-0.00210	32										
27.07	14	-1327	11	-1186	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-14.2**	**-0.07**	Ok	0.175	114	0.171	435	0.00280	100	1.000	0.008	0.0589	-676	-0.00203	32										
27.37	14	-1282	11	-1151	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-13.6**	**-0.06**	Ok	0.175	111	0.166	435	0.00280	97	1.000	0.008	0.0589	-643	-0.00193	32										
27.67	14	-1231	12	-1107	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-13.1**	**-0.06**	Ok	0.175	107	0.160	435	0.00280	95	1.000	0.008	0.0589	-602	-0.00181	32										
27.97	15	-1140	12	-1028	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-11.9**	**-0.05**	Ok	0.175	101	0.150	435	0.00280	89	1.000	0.008	0.0589	-537	-0.00161	32										
28.28	16	-1025	13	-929	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-10.5**	**-0.04**	Ok	0.175	93	0.137	435	0.00280	82	1.000	0.008	0.0589	-455	-0.00137	32										
28.58	13	-922	11	-759	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-9.7**	**-0.03**	Ok	0.175	82	0.121	435	0.00280	68	1.000	0.008	0.0589	-355	-0.00106	32										
28.88	8	-754	7	-541	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-8.5**	**-0.03**	Ok	0.175	64	0.093	435	0.00280	48	1.000	0.008	0.0589	-272	-0.00082	32										
29.18	2	-590	2	-415	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-7.2**	**-0.03**	Ok	0.175	46	0.066	435	0.00280	33	1.000	0.008	0.0589	-261	-0.00078	32										
29.49	15	-435	14	-297	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-3.5**	**0.00**	Ok	0.175	48	0.069	435	0.00280	36	0.938	0.012	0.0411	4	0.00001	47										
29.79	9	-332	8	-216	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-3.1**	**0.00**	Ok	0.175	34	0.048	435	0.00280	24	1.000	0.008	0.0589	-17	-0.00005	32										
30.09	6	-305	5	-206	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-3.2**	**-0.01**	Ok	0.175	28	0.040	435	0.00280	21	1.000	0.008	0.0589	-62	-0.00019	32										
30.54	8	-285	8	-205	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-2.6**	**0.00**	Ok	0.175	29	0.041	435	0.00280	23	1.000	0.008	0.0589	-15	-0.00004	32										

Dimensionering av böjarmering - Platta

Projekt: **Islandsbron**

Mmax1

Indata:

f_{ck}	35.5 MPa	f_{yk}	500	MPa	uk LL
f_{ctk}	2.25 MPa	E_s	200	GPa	
E_{cm}	34 GPa	γ_s	1.15	-	
γ_c	1.5 -				
ε_{cu3}	0.0035 %				
k_t	0.4 -	φ	2.1	-	
η	1.0 -	α	5.9	-	
λ	0.8 -	α_{eff}	18.2	-	
ω_{bal}	0.493 -	$w_{k,gräns}$	0.40	mm	

Avstånd mellan lager (från centrum armeringsjärn): 0 mm

Delresultat

Kontroll av inlagd armering: -0.07

								Inlagd armering																													
								Lag 1		Lag 1		Lag 1			Totalt																							
TL1	$M_{Ed,LKA}$	$N_{tillh,LKA}$	$M_{Ed,LKB:a}$	$N_{tillh,LKB:a}$	h	b	bm	$Ø_{arm.1}$	c/c_1	$Ø_{arm.2}$	c/c_2	$Ø_{arm.3}$	c/c_3	$Ø_{eq}$	$A_{s,tNL}$	e_{arm}	A_s	w_k	Ok/	d	M_s	ω_s	σ_{st}	ρ	Ms	ξ	Ac,eff	ρeff	σ_s	e_{sm}-e_{cm}	s_{rmax}						
	kNm/m	kN/m	kNm/m	kN/m	m	m	mm	mm	mm	mm	mm	mm	mm	mm	cm^2/m	mm	cm^2/m	mm	Ej ok	m	kNm/m	-	Mpa	%	kNm/m	-	m2	%	MPa	-	mm						
0.00	4	-1324	4	-1362	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.8**	**-0.09**	Ok	0.175	103	0.154	435	0.00280	106	1.000	0.008	0.0589	-916	-0.00275	32					
0.31	4	-1312	4	-1348	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.7**	**-0.09**	Ok	0.175	102	0.152	435	0.00280	105	1.000	0.008	0.0589	-909	-0.00273	32					
0.62	3	-1291	3	-1321	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.5**	**-0.09**	Ok	0.175	100	0.149	435	0.00280	103	1.000	0.008	0.0589	-901	-0.00270	32					
0.93	3	-1335	2	-1296	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.1**	**-0.09**	Ok	0.175	103	0.153	435	0.00280	100	1.000	0.008	0.0589	-902	-0.00271	32					
1.24	2	-1389	1	-1271	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.8**	**-0.09**	Ok	0.175	106	0.159	435	0.00280	96	1.000	0.008	0.0589	-912	-0.00274	32					
1.60	1	-1388	1	-1243	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-17.0**	**-0.09**	Ok	0.175	105	0.157	435	0.00280	94	1.000	0.008	0.0589	-882	-0.00265	32					
1.95	3	-1387	3	-1208	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.6**	**-0.08**	Ok	0.175	107	0.160	435	0.00280	94	1.000	0.008	0.0589	-821	-0.00246	32					
2.20	3	-1368	3	-1178	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.4**	**-0.08**	Ok	0.175	106	0.158	435	0.00280	92	1.000	0.008	0.0589	-797	-0.00239	32					
2.45	2	-1370	2	-1171	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.6**	**-0.08**	Ok	0.175	104	0.156	435	0.00280	90	1.000	0.008	0.0589	-813	-0.00244	32					
2.79	1	-1399	1	-1172	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-17.1**	**-0.08**	Ok	0.175	106	0.158	435	0.00280	89	1.000	0.008	0.0589	-840	-0.00252	32					
3.12	5	-1414	2	-1165	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.6**	**-0.08**	Ok	0.175	111	0.167	435	0.00280	89	1.000	0.008	0.0589	-811	-0.00243	32					
3.47	7	-1417	4	-1152	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.3**	**-0.08**	Ok	0.175	114	0.171	435	0.00280	90	1.000	0.008	0.0589	-774	-0.00232	32					
3.82	6	-1413	3	-1141	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.5**	**-0.08**	Ok	0.175	112	0.168	435	0.00280	88	1.000	0.008	0.0589	-785	-0.00235	32					
4.12	4	-1394	1	-1128	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.6**	**-0.08**	Ok	0.175	108	0.162	435	0.00280	86	1.000	0.008	0.0589	-796	-0.00239	32					
4.42	6	-1398	3	-1144	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.3**	**-0.08**	Ok	0.175	111	0.166	435	0.00280	89	1.000	0.008	0.0589	-781	-0.00234	32					
4.75	8	-1442	5	-1198	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.4**	**-0.08**	Ok	0.175	116	0.176	435	0.00280	95	1.000	0.008	0.0589	-787	-0.00236	32					
5.08	9	-1466	6	-1234	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.5**	**-0.08**	Ok	0.175	119	0.181	435	0.00280	98	1.000	0.008	0.0589	-799	-0.00240	32					
5.44	10	-1470	6	-1248	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.5**	**-0.08**	Ok	0.175	120	0.182	435	0.00280	100	1.000	0.008	0.0589	-798	-0.00239	32					
5.79	8	-1475	6	-1259	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.8**	**-0.08**	Ok	0.175	119	0.180	435	0.00280	100	1.000	0.008	0.0589	-814	-0.00244	32					
6.04	6	-1488	5	-1276	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-17.2**	**-0.08**	Ok	0.175	118	0.179	435	0.00280	100	1.000	0.008	0.0589	-845	-0.00253	32					
6.29	9	-1507	6	-1300	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-17.0**	**-0.08**	Ok	0.175	122	0.186	435	0.00280	104	1.000	0.008	0.0589	-840	-0.00252	32					
6.66	11	-1521	8	-1321	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.8**	**-0.08**	Ok	0.175	125	0.191	435	0.00280	107	1.000	0.008	0.0589	-822	-0.00247	32					
7.02	11	-1519	8	-1326	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.7**	**-0.08**	Ok	0.175	125	0.191	435	0.00280	108	1.000	0.008	0.0589	-821	-0.00246	32					
7.37	12	-1514	8	-1317	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.6**	**-0.08**	Ok	0.175	125	0.191	435	0.00280	107	1.000	0.008	0.0589	-814	-0.00244	32					
7.71	10	-1501	6	-1296	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.8**	**-0.08**	Ok	0.175	122	0.186	435	0.00280	104	1.000	0.008	0.0589	-831	-0.00249	32					
7.96	7	-1489	5	-1277	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-17.2**	**-0.08**	Ok	0.175	118	0.179	435	0.00280	101	1.000	0.008	0.0589	-844	-0.00253	32					
8.21	8	-1479	6	-1262	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.8**	**-0.08**	Ok	0.175	119	0.181	435	0.00280	101	1.000	0.008	0.0589	-810	-0.00243	32					
8.57	11	-1469	7	-1247	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.3**	**-0.08**	Ok	0.175	121	0.184	435	0.00280	101	1.000	0.008	0.0589	-784	-0.00235	32					
8.92	10	-1464	6	-1232	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.3**	**-0.08**	Ok	0.175	120	0.182	435	0.00280	99	1.000	0.008	0.0589	-786	-0.00236	32					
9.25	9	-1438	5	-1194	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.2**	**-0.08**	Ok	0.175	117	0.177	435	0.00280	95	1.000	0.008	0.0589	-773	-0.00232	32					
9.58	6	-1390	4	-1137	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.1**	**-0.07**	Ok	0.175	111	0.167	435	0.00280	89	1.000	0.008	0.0589	-766	-0.00230	32					
9.88	4	-1398	2	-1132	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.5**	**-0.08**	Ok	0.175	109	0.164	435	0.00280	87	1.000	0.008	0.0589	-788	-0.00236	32					
10.18	6	-1426	3	-1152	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.5**	**-0.08**	Ok	0.175	113	0.171	435	0.00280	90	1.000	0.008	0.0589	-781	-0.00234	32					
10.55	8	-1419	4	-1158	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.1**	**-0.07**	Ok	0.175	115	0.173	435	0.00280	91	1.000	0.008	0.0589	-766	-0.00230	32					
10.92	5	-1409	3	-1169	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.5**	**-0.08**	Ok	0.175	111	0.167	435	0.00280	90	1.000	0.008	0.0589	-806	-0.00242	32					
11.24	1	-1390	1	-1175	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-17.0**	**-0.08**	Ok	0.175	105	0.158	435	0.00280	89	1.000	0.008	0.0589	-846	-0.00254	32					
11.55	1	-1355	2	-1173	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.5**	**-0.08**	Ok	0.175	103	0.154	435	0.00280	90	1.000	0.008	0.0589	-819	-0.00246	32					
11.80	3	-1361	3	-1171	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.3**	**-0.08**	Ok	0.175	105	0.157	435	0.00280	91	1.000	0.008	0.0589	-799	-0.00240	32					
12.05	3	-1385	3	-1194	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.6**	**-0.08**	Ok	0.175	107	0.160	435	0.00280	93	1.000	0.008	0.0589	-815	-0.00245	32					
12.41	0	-1374	1	-1227	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.9**	**-0.09**	Ok	0.175	103	0.155	435	0.00280	93	1.000	0.008	0.0589	-874	-0.00262	32					
12.76	2	-1361	1	-1251	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.5**	**-0.09**	Ok	0.175	104	0.156	435	0.00280	95	1.000	0.008	0.0589	-893	-0.00268	32					
13.07	4	-1356	3	-1268	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-16.1**	**-0.09**	Ok	0.175	106	0.158	435	0.00280	98	1.000	0.008	0.0589	-879	-0.00264	32					
13.38	4	-1304	4	-1287	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.5**	**-0.08**	Ok	0.175	102	0.152	435	0.00280	100	1.000	0.008	0.0589	-872	-0.00262	32					
13.69	4	-1261	4	-1308	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.0**	**-0.09**	Ok	0.175	98	0.147	435	0.00280	102	1.000	0.008	0.0589	-875	-0.00263	32					
14.00	4	-1270	5	-1318	0.20	1.00	20	10	160	0	0	0	0	10	**4.91**	0	**-15.1**	**-0.09**	Ok	0.175	99	0.148	435	0.00280	103	1.000	0.008	0.0589	-880	-0.00264	32					

Dimensionering av böjarmering - Platta

Projekt: **Islandsbron**

Mmax1

uk LL

Delresultat

Indata:

f_{ck}	35.5 MPa	f_{yk}	500	MPa	
f_{ctk}	2.25 MPa	E_s	200	GPa	
E_{cm}	34 GPa	γ_s	1.15	-	
γ_c	1.5 -				
ε_{cu3}	0.0035 %				
k_t	0.4 -	φ	2.1	-	
η	1.0 -	α	5.9	-	
λ	0.8 -	α_{eff}	18.2	-	
ω_{bal}	0.493 -	$w_{k,gräns}$	0.40	mm	

Avstånd mellan lager (från centrum armeringsjärn): 0 mm

Kontroll av inlagd armering: -0.07

								Inlagd armering																													
								Lag 1		Lag 1		Lag 1																										
TL2	$M_{Ed,LKA}$	$N_{tillh,LKA}$	$M_{Ed,LKB:a}$	$N_{tillh,LKB:a}$	h	b	bm	$Ø_{arm.1}$	c/c_1	$Ø_{arm.2}$	c/c_2	$Ø_{arm.3}$	c/c_3		$Ø_{eq}$	Totalt	e_{arm}	A_s	w_k	Ok/	d	M_s	ω_s	σ_{st}	ρ	Ms	ξ	Ac,eff	ρeff	σ_s	e_{sm}-e_{cm}	s_{rmax}					
	kNm/m	kN/m	kNm/m	kN/m	m	m	mm	mm	mm	mm	mm	mm	mm		mm	cm^2/m	mm	cm^2/m	mm	Ej ok	m	kNm/m	-	Mpa	%	kNm/m	-	m2	%	MPa	-	mm					
0.00	2	-1348	4	-1335	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.2**	**-0.09**	Ok	0.175	104	0.155	435	0.00280	104	1.000	0.008	0.0589	-902	-0.00271	32					
0.31	2	-1338	4	-1321	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.2**	**-0.09**	Ok	0.175	103	0.153	435	0.00280	103	1.000	0.008	0.0589	-896	-0.00269	32					
0.62	1	-1319	3	-1296	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.1**	**-0.09**	Ok	0.175	100	0.150	435	0.00280	100	1.000	0.008	0.0589	-889	-0.00267	32					
0.93	1	-1364	2	-1274	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.6**	**-0.09**	Ok	0.175	103	0.155	435	0.00280	98	1.000	0.008	0.0589	-892	-0.00267	32					
1.24	1	-1413	1	-1252	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-17.3**	**-0.09**	Ok	0.175	107	0.160	435	0.00280	95	1.000	0.008	0.0589	-899	-0.00270	32					
1.60	1	-1406	1	-1232	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-17.1**	**-0.09**	Ok	0.175	107	0.160	435	0.00280	94	1.000	0.008	0.0589	-873	-0.00262	32					
1.95	3	-1400	3	-1208	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.7**	**-0.08**	Ok	0.175	108	0.162	435	0.00280	94	1.000	0.008	0.0589	-821	-0.00246	32					
2.20	3	-1399	3	-1172	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.7**	**-0.08**	Ok	0.175	108	0.163	435	0.00280	91	1.000	0.008	0.0589	-798	-0.00239	32					
2.45	2	-1413	2	-1155	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-17.1**	**-0.08**	Ok	0.175	108	0.162	435	0.00280	89	1.000	0.008	0.0589	-808	-0.00243	32					
2.79	1	-1425	0	-1159	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-17.4**	**-0.08**	Ok	0.175	107	0.161	435	0.00280	87	1.000	0.008	0.0589	-835	-0.00251	32					
3.12	5	-1422	2	-1152	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.7**	**-0.08**	Ok	0.175	112	0.168	435	0.00280	89	1.000	0.008	0.0589	-801	-0.00240	32					
3.47	7	-1420	4	-1146	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.3**	**-0.07**	Ok	0.175	114	0.172	435	0.00280	90	1.000	0.008	0.0589	-768	-0.00230	32					
3.82	6	-1417	3	-1136	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.5**	**-0.08**	Ok	0.175	112	0.168	435	0.00280	88	1.000	0.008	0.0589	-778	-0.00233	32					
4.12	4	-1413	1	-1110	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.8**	**-0.08**	Ok	0.175	110	0.165	435	0.00280	85	1.000	0.008	0.0589	-782	-0.00235	32					
4.42	6	-1425	3	-1134	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.6**	**-0.08**	Ok	0.175	113	0.170	435	0.00280	88	1.000	0.008	0.0589	-776	-0.00233	32					
4.75	8	-1448	5	-1194	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.5**	**-0.08**	Ok	0.175	116	0.176	435	0.00280	94	1.000	0.008	0.0589	-790	-0.00237	32					
5.08	9	-1460	6	-1221	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.5**	**-0.08**	Ok	0.175	119	0.180	435	0.00280	97	1.000	0.008	0.0589	-788	-0.00237	32					
5.44	10	-1460	7	-1231	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.3**	**-0.08**	Ok	0.175	120	0.181	435	0.00280	99	1.000	0.008	0.0589	-779	-0.00234	32					
5.79	8	-1474	6	-1248	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.8**	**-0.08**	Ok	0.175	118	0.180	435	0.00280	99	1.000	0.008	0.0589	-810	-0.00243	32					
6.04	6	-1507	5	-1282	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-17.4**	**-0.08**	Ok	0.175	119	0.181	435	0.00280	101	1.000	0.008	0.0589	-851	-0.00255	32					
6.29	9	-1520	6	-1303	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-17.1**	**-0.08**	Ok	0.175	123	0.188	435	0.00280	104	1.000	0.008	0.0589	-837	-0.00251	32					
6.66	12	-1512	8	-1301	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.6**	**-0.08**	Ok	0.175	125	0.191	435	0.00280	106	1.000	0.008	0.0589	-802	-0.00240	32					
7.02	12	-1494	9	-1293	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.3**	**-0.08**	Ok	0.175	124	0.190	435	0.00280	106	1.000	0.008	0.0589	-790	-0.00237	32					
7.37	12	-1484	9	-1286	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.2**	**-0.08**	Ok	0.175	124	0.188	435	0.00280	105	1.000	0.008	0.0589	-785	-0.00235	32					
7.71	10	-1489	7	-1281	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.7**	**-0.08**	Ok	0.175	121	0.185	435	0.00280	103	1.000	0.008	0.0589	-815	-0.00244	32					
7.96	7	-1474	5	-1255	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-17.0**	**-0.08**	Ok	0.175	117	0.178	435	0.00280	99	1.000	0.008	0.0589	-826	-0.00248	32					
8.21	9	-1443	6	-1222	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.3**	**-0.08**	Ok	0.175	117	0.177	435	0.00280	98	1.000	0.008	0.0589	-781	-0.00234	32					
8.57	11	-1431	7	-1208	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-15.8**	**-0.07**	Ok	0.175	119	0.180	435	0.00280	98	1.000	0.008	0.0589	-751	-0.00225	32					
8.92	10	-1430	6	-1196	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.0**	**-0.07**	Ok	0.175	117	0.177	435	0.00280	96	1.000	0.008	0.0589	-762	-0.00229	32					
9.25	8	-1411	5	-1164	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.0**	**-0.07**	Ok	0.175	114	0.173	435	0.00280	92	1.000	0.008	0.0589	-761	-0.00228	32					
9.58	6	-1387	3	-1106	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.1**	**-0.07**	Ok	0.175	110	0.166	435	0.00280	86	1.000	0.008	0.0589	-748	-0.00224	32					
9.88	4	-1378	2	-1089	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.3**	**-0.07**	Ok	0.175	108	0.161	435	0.00280	84	1.000	0.008	0.0589	-759	-0.00228	32					
10.18	6	-1390	3	-1115	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.1**	**-0.07**	Ok	0.175	110	0.166	435	0.00280	87	1.000	0.008	0.0589	-752	-0.00226	32					
10.55	8	-1401	5	-1128	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-15.9**	**-0.07**	Ok	0.175	113	0.171	435	0.00280	89	1.000	0.008	0.0589	-741	-0.00222	32					
10.92	5	-1403	3	-1138	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.4**	**-0.08**	Ok	0.175	111	0.167	435	0.00280	88	1.000	0.008	0.0589	-783	-0.00235	32					
11.24	1	-1401	0	-1146	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-17.1**	**-0.08**	Ok	0.175	106	0.159	435	0.00280	86	1.000	0.008	0.0589	-829	-0.00249	32					
11.55	1	-1389	1	-1136	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.9**	**-0.08**	Ok	0.175	105	0.158	435	0.00280	87	1.000	0.008	0.0589	-802	-0.00241	32					
11.80	2	-1377	2	-1148	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.6**	**-0.08**	Ok	0.175	106	0.158	435	0.00280	89	1.000	0.008	0.0589	-793	-0.00238	32					
12.05	3	-1381	3	-1183	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.6**	**-0.08**	Ok	0.175	106	0.159	435	0.00280	91	1.000	0.008	0.0589	-813	-0.00244	32					
12.41	1	-1393	1	-1204	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-17.0**	**-0.08**	Ok	0.175	106	0.158	435	0.00280	91	1.000	0.008	0.0589	-859	-0.00258	32					
12.76	1	-1398	1	-1226	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-17.0**	**-0.09**	Ok	0.175	106	0.159	435	0.00280	93	1.000	0.008	0.0589	-877	-0.00263	32					
13.07	3	-1403	2	-1249	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.9**	**-0.08**	Ok	0.175	108	0.162	435	0.00280	96	1.000	0.008	0.0589	-869	-0.00261	32					
13.38	3	-1355	3	-1273	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-16.3**	**-0.08**	Ok	0.175	104	0.156	435	0.00280	99	1.000	0.008	0.0589	-870	-0.00261	32					
13.69	2	-1315	4	-1300	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-15.9**	**-0.09**	Ok	0.175	101	0.151	435	0.00280	101	1.000	0.008	0.0589	-878	-0.00264	32					
14.00	3	-1324	4	-1314	0.20	1.00	20	10	160	0	0	0	0		10	**4.91**	0	**-15.9**	**-0.09**	Ok	0.175	102	0.152	435	0.00280	103	1.000	0.008	0.0589	-886	-0.00266	32					

Dimensionering av böjarmering - Platta

Projekt: **Islandsbron**

Mmin1

Indata: f_{ck} 35.5 MPa, f_{yk} 500 MPa, f_{ctk} 2.25 MPa, E_s 200 GPa, E_{cm} 34 GPa, γ_s 1.15 -, γ_c 1.5 -, ε_{cu3} 0.0035 %

ök LL

Delresultat

k_t 0.4 -, φ 2.1 -, η 1.0 -, α 5.9 -, λ 0.8 -, α_{eff} 18.2 -, ω_{bal} 0.493 -, $w_{k,gräns}$ 0.40 mm

Avstånd mellan lager (från centrum armeringsjärn): 0 mm

Kontroll av inlagd armering: 0.11

								Inlagd armering																													
								Lag 1		Lag 1		Lag 1																											
LL	$M_{Ed,LKA}$	$N_{tillh,LKA}$	$M_{Ed,LKB:a}$	$N_{tillh,LKB:a}$	h	b	bm	$Ø_{arm.1}$	c/c_1	$Ø_{arm.2}$	c/c_2	$Ø_{arm.3}$	c/c_3		$Ø_{eq}$	Totalt	e_{arm}	A_s	w_k	Ok/	d	M_s	ω_s	σ_{st}	ρ	Ms	ξ	Ac,eff	ρeff	σ_s	e_{sm}-e_{cm}	s_{rmax}
	kNm/m	kN/m	kNm/m	kN/m	m	m	mm	mm	mm	mm	mm	mm	mm		mm	cm^2/m	mm	cm^2/m	mm	Ej ok	m	kNm/m	-	Mpa	%	kNm/m	-	m2	%	MPa	-	mm
0.00	54	-404	44	-350	0.20	1.00	20	10	384	0	0	12	384		11.09	**4.99**	0	**2.5**	**0.11**	Ok	0.175	84	0.124	435	0.00285	70	0.464	0.040	0.0126	244	0.00073	154
0.45	54	-391	44	-351	0.20	1.00	20	10	384	0	0	12	384		11.09	**4.99**	0	**2.7**	**0.11**	Ok	0.175	83	0.122	435	0.00285	70	0.464	0.040	0.0126	245	0.00073	154
0.75	53	-393	43	-370	0.20	1.00	20	10	384	0	0	12	384		11.09	**4.99**	0	**2.5**	**0.10**	Ok	0.175	83	0.121	435	0.00285	71	0.482	0.039	0.0129	224	0.00067	150
1.05	46	-519	37	-478	0.20	1.00	20	10	384	0	0	12	384		11.09	**4.99**	0	**0.0**	**0.04**	Ok	0.175	85	0.125	435	0.00285	73	0.632	0.030	0.0167	101	0.00030	116
1.36	25	-688	21	-622	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-5.2**	**-0.02**	Ok	0.175	77	0.112	435	0.00117	67	1.000	0.008	0.0246	-226	-0.00068	32
1.66	6	-770	5	-699	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-8.9**	**-0.10**	Ok	0.175	64	0.093	435	0.00117	58	1.000	0.008	0.0246	-992	-0.00298	32
1.96	0	-806	0	-644	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-10.2**	**-0.11**	Ok	0.175	61	0.087	435	0.00117	48	1.000	0.008	0.0246	-1120	-0.00336	32
2.26	2	-822	2	-566	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-10.1**	**-0.09**	Ok	0.175	64	0.093	435	0.00117	44	1.000	0.008	0.0246	-907	-0.00272	32
2.57	3	-831	2	-574	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-10.1**	**-0.09**	Ok	0.175	65	0.094	435	0.00117	45	1.000	0.008	0.0246	-910	-0.00273	32
2.87	2	-878	2	-608	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-10.8**	**-0.10**	Ok	0.175	68	0.099	435	0.00117	47	1.000	0.008	0.0246	-994	-0.00298	32
3.17	1	-918	0	-633	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-11.4**	**-0.11**	Ok	0.175	70	0.101	435	0.00117	48	1.000	0.008	0.0246	-1085	-0.00325	32
3.47	0	-911	1	-625	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-11.4**	**-0.10**	Ok	0.175	69	0.100	435	0.00117	48	1.000	0.008	0.0246	-1062	-0.00319	32
3.78	2	-900	2	-615	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-11.1**	**-0.10**	Ok	0.175	69	0.101	435	0.00117	48	1.000	0.008	0.0246	-992	-0.00298	32
4.08	3	-897	3	-613	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-10.9**	**-0.09**	Ok	0.175	70	0.102	435	0.00117	49	1.000	0.008	0.0246	-944	-0.00283	32
4.38	4	-917	4	-632	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-11.0**	**-0.09**	Ok	0.175	72	0.105	435	0.00117	51	1.000	0.008	0.0246	-956	-0.00287	32
4.68	3	-936	3	-650	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-11.3**	**-0.10**	Ok	0.175	74	0.107	435	0.00117	52	1.000	0.008	0.0246	-990	-0.00297	32
4.99	3	-953	3	-665	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-11.6**	**-0.10**	Ok	0.175	74	0.109	435	0.00117	53	1.000	0.008	0.0246	-1034	-0.00310	32
5.29	2	-976	3	-687	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-11.9**	**-0.11**	Ok	0.175	76	0.110	435	0.00117	54	1.000	0.008	0.0246	-1094	-0.00328	32
5.59	2	-991	2	-703	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-12.1**	**-0.11**	Ok	0.175	77	0.112	435	0.00117	55	1.000	0.008	0.0246	-1131	-0.00339	32
5.89	3	-1017	3	-730	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-12.4**	**-0.11**	Ok	0.175	79	0.116	435	0.00117	58	1.000	0.008	0.0246	-1158	-0.00347	32
6.20	4	-1042	4	-755	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-12.5**	**-0.11**	Ok	0.175	82	0.120	435	0.00117	60	1.000	0.008	0.0246	-1167	-0.00350	32
6.50	5	-1043	4	-761	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-12.4**	**-0.11**	Ok	0.175	83	0.122	435	0.00117	61	1.000	0.008	0.0246	-1143	-0.00343	32
6.80	5	-1035	5	-758	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-12.2**	**-0.11**	Ok	0.175	83	0.122	435	0.00117	62	1.000	0.008	0.0246	-1118	-0.00335	32
7.10	6	-1027	5	-757	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-12.1**	**-0.11**	Ok	0.175	83	0.121	435	0.00117	62	1.000	0.008	0.0246	-1112	-0.00334	32
7.41	5	-1023	5	-760	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-12.1**	**-0.11**	Ok	0.175	82	0.120	435	0.00117	62	1.000	0.008	0.0246	-1124	-0.00337	32
7.71	5	-1024	5	-766	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-12.1**	**-0.11**	Ok	0.175	82	0.120	435	0.00117	62	1.000	0.008	0.0246	-1148	-0.00344	32
8.01	5	-1029	4	-775	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-12.2**	**-0.11**	Ok	0.175	82	0.120	435	0.00117	62	1.000	0.008	0.0246	-1178	-0.00354	32
8.31	4	-1038	4	-788	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-12.4**	**-0.12**	Ok	0.175	82	0.121	435	0.00117	63	1.000	0.008	0.0246	-1216	-0.00365	32
8.62	4	-1051	3	-804	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-12.6**	**-0.12**	Ok	0.175	83	0.122	435	0.00117	64	1.000	0.008	0.0246	-1259	-0.00378	32
8.92	3	-1066	3	-822	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-12.8**	**-0.13**	Ok	0.175	83	0.123	435	0.00117	65	1.000	0.008	0.0246	-1307	-0.00392	32
9.22	3	-1083	3	-841	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-13.1**	**-0.13**	Ok	0.175	84	0.124	435	0.00117	66	1.000	0.008	0.0246	-1358	-0.00407	32
9.52	3	-1101	2	-861	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-13.4**	**-0.14**	Ok	0.175	85	0.125	435	0.00117	67	1.000	0.008	0.0246	-1411	-0.00423	32
9.83	2	-1119	2	-881	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-13.7**	**-0.14**	Ok	0.175	86	0.127	435	0.00117	68	1.000	0.008	0.0246	-1462	-0.00439	32
10.13	2	-1139	1	-927	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-13.9**	**-0.15**	Ok	0.175	87	0.129	435	0.00117	71	1.000	0.008	0.0246	-1556	-0.00467	32
10.43	1	-1176	1	-985	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**-14.4**	**-0.16**	Ok	0.175	90	0.132	435	0.00117	75	1.000	0.008	0.0246	-1671	-0.00501	32
10.73	1	0	1	-1015	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**0.1**	**-0.17**	Ok	0.175	1	0.002	435	0.00117	77	1.000	0.008	0.0246	-1735	-0.00520	32
11.04	1	0	1	-1040	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**0.1**	**-0.17**	Ok	0.175	1	0.001	435	0.00117	79	1.000	0.008	0.0246	-1788	-0.00537	32
11.34	1	0	0	-1064	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**0.1**	**-0.18**	Ok	0.175	1	0.001	435	0.00117	80	1.000	0.008	0.0246	-1839	-0.00552	32
11.64	0	0	0	-1075	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**0.0**	**-0.18**	Ok	0.175	0	0.000	435	0.00117	81	1.000	0.008	0.0246	-1867	-0.00560	32
11.94	0	0	1	-1075	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**0.0**	**-0.18**	Ok	0.175	0	0.000	435	0.00117	81	1.000	0.008	0.0246	-1856	-0.00557	32
12.25	0	0	0	-1068	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**0.0**	**-0.18**	Ok	0.175	0	0.000	435	0.00117	81	1.000	0.008	0.0246	-1845	-0.00554	32
12.55	0	0	0	-1060	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**0.1**	**-0.18**	Ok	0.175	0	0.001	435	0.00117	80	1.000	0.008	0.0246	-1846	-0.00554	32
12.85	1	0	0	-1043	0.20	1.00	20	10	384	0	0	0	0		10	**2.05**	0	**0.1**	**-0.18**	Ok	0.175	1	0.001	435	0.00117	79	1.000	0.008	0.0246	-1808	-0.00542	32
13.15	1	0	1	-1023	0.20	1.00	20	10	384	16	384	0	0		13.69	**7.28**	0	**0.1**	**-0.05**	Ok	0.175	1	0.002	435	0.00416	78	1.000	0.008	0.0874	-493	-0.00148	32
13.46	2	0	2	-1002	0.20	1.00	20	10	384	16	384	0	0		13.69	**7.28**	0	**0.2**	**-0.05**	Ok	0.175	2	0.002	435	0.00416	77	1.000	0.008	0.0874	-473	-0.00142	32
13.76	3	0	2	-963	0.20	1.00	20	10	384	16	384	0	0		13.69	**7.28**	0	**0.3**	**-0.04**	Ok	0.175	3	0.003	435	0.00416	75	1.000	0.008	0.0874	-445	-0.00134	32
14.06	4	0	3	-918	0.20	1.00	20	10	384	16	384	0	0		13.69	**7.28**	0	**0.5**	**-0.04**	Ok	0.175	4	0.006	435	0.00416	72	1.000	0.008	0.0874	-411	-0.00123	32
14.36	6	0	5	-920	0.20	1.00	20	10	384	16	384	0	0		13.69	**7.28**	0	**0.8**	**-0.04**	Ok	0.175	6	0.009	435	0.00416	74	1.000	0.008	0.0874	-391	-0.00117	32
14.67	9	0	7	-933	0.20	1.00	20	10	384	16	384	0	0		13.69	**7.28**	0	**1.2**	**-0.04**	Ok	0.175	9	0.012	435	0.00416	77	1.000	0.008	0.0874	-376	-0.00113	32
14.97	10	0	8	-921	0.20	1.00	20	10	384	16	384	0	0		13.69	**7.28**	0	**1.3**	**-0.03**	Ok	0.175	10	0.013	435	0.00416	77	1.000	0.008	0.0874	-356	-0.00107	32

Dimensionering av böjarmering - Platta

Projekt: **Islandsbron**

Mmin1

Indata:

f_{ck}	35.5 MPa	f_{yk}	500	MPa	ök LL
f_{ctk}	2.25 MPa	E_s	200	GPa	
E_{cm}	34 GPa	γ_s	1.15	-	
γ_c	1.5 -				
ε_{cu3}	0.0035 %				
k_t	0.4 -	φ	2.1	-	
η	1.0 -	α	5.9	-	
λ	0.8 -	α_{eff}	18.2	-	
ω_{bal}	0.493 -	$w_{k,gräns}$	0.40	mm	

Avstånd mellan lager (från centrum armeringsjärn): 0 mm

Delresultat

Kontroll av inlagd armering: 0.11

								Inlagd armering																																			
								Lag 1		Lag 1		Lag 1			Totalt																													
LL	$M_{Ed,LKA}$	$N_{tillh,LKA}$	$M_{Ed,LKB:a}$	$N_{tillh,LKB:a}$	h	b	bm	$Ø_{arm.1}$	c/c_1	$Ø_{arm.2}$	c/c_2	$Ø_{arm.3}$	c/c_3	$Ø_{eq}$	$A_{s,INL}$	e_{arm}	A_s	w_k	Ok/	d	M_s	ω_s	σ_{st}	ρ	Ms	ξ	Ac,eff	ρeff	σ_s	e_{sm}-e_{cm}	s_{rmax}										
	kNm/m	kN/m	kNm/m	kN/m	m	m	mm	mm	mm	mm	mm	mm	mm	mm	cm^2/m	mm	cm^2/m	mm	Ej ok	m	kNm/m	-	Mpa	%	kNm/m	-	m2	%	MPa	-	mm										
15.27	10	0	9	-918	0.20	1.00	20	10	384	16	384	0	0	13.69	**7.28**	0	**1.3**	**-0.03**	Ok	0.175	10	0.013	435	0.00416	77	1.000	0.008	0.0874	-350	-0.00105	32										
15.57	10	0	8	-921	0.20	1.00	20	10	384	16	384	0	0	13.69	**7.28**	0	**1.3**	**-0.03**	Ok	0.175	10	0.013	435	0.00416	77	1.000	0.008	0.0874	-355	-0.00106	32										
15.87	9	0	7	-933	0.20	1.00	20	10	384	16	384	0	0	13.69	**7.28**	0	**1.2**	**-0.04**	Ok	0.175	9	0.012	435	0.00416	77	1.000	0.008	0.0874	-374	-0.00112	32										
16.18	7	0	5	-919	0.20	1.00	20	10	384	16	384	0	0	13.69	**7.28**	0	**0.9**	**-0.04**	Ok	0.175	7	0.009	435	0.00416	74	1.000	0.008	0.0874	-389	-0.00117	32										
16.48	4	0	3	-916	0.20	1.00	20	10	384	16	384	0	0	13.69	**7.28**	0	**0.5**	**-0.04**	Ok	0.175	4	0.006	435	0.00416	72	1.000	0.008	0.0874	-409	-0.00123	32										
16.78	3	0	2	-961	0.20	1.00	20	10	384	16	384	0	0	13.69	**7.28**	0	**0.3**	**-0.04**	Ok	0.175	3	0.004	435	0.00416	75	1.000	0.008	0.0874	-443	-0.00133	32										
17.08	2	0	2	-999	0.20	1.00	20	10	384	16	384	0	0	13.69	**7.28**	0	**0.2**	**-0.05**	Ok	0.175	2	0.002	435	0.00416	77	1.000	0.008	0.0874	-471	-0.00141	32										
17.39	1	0	1	-1020	0.20	1.00	20	10	384	16	384	0	0	13.69	**7.28**	0	**0.2**	**-0.05**	Ok	0.175	1	0.002	435	0.00416	77	1.000	0.008	0.0874	-490	-0.00147	32										
17.69	1	0	0	-1038	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**0.1**	**-0.17**	Ok	0.175	1	0.001	435	0.00117	78	1.000	0.008	0.0246	-1796	-0.00539	32										
17.99	1	0	0	-1054	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**0.1**	**-0.18**	Ok	0.175	1	0.001	435	0.00117	79	1.000	0.008	0.0246	-1831	-0.00549	32										
18.29	0	0	1	-1062	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**0.1**	**-0.18**	Ok	0.175	0	0.001	435	0.00117	80	1.000	0.008	0.0246	-1831	-0.00549	32										
18.60	0	0	1	-1069	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**0.0**	**-0.18**	Ok	0.175	0	0.000	435	0.00117	81	1.000	0.008	0.0246	-1840	-0.00552	32										
18.90	0	0	0	-1067	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**0.1**	**-0.18**	Ok	0.175	0	0.001	435	0.00117	80	1.000	0.008	0.0246	-1849	-0.00555	32										
19.20	1	0	1	-1056	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**0.1**	**-0.18**	Ok	0.175	1	0.001	435	0.00117	80	1.000	0.008	0.0246	-1819	-0.00546	32										
19.50	1	0	1	-1032	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**0.1**	**-0.17**	Ok	0.175	1	0.001	435	0.00117	78	1.000	0.008	0.0246	-1768	-0.00530	32										
19.81	1	0	1	-1007	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**0.2**	**-0.17**	Ok	0.175	1	0.002	435	0.00117	77	1.000	0.008	0.0246	-1713	-0.00514	32										
20.11	2	-1165	1	-976	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-14.3**	**-0.16**	Ok	0.175	89	0.132	435	0.00117	75	1.000	0.008	0.0246	-1648	-0.00494	32										
20.41	2	-1128	2	-918	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-13.8**	**-0.15**	Ok	0.175	87	0.128	435	0.00117	70	1.000	0.008	0.0246	-1533	-0.00460	32										
20.71	2	-1108	2	-872	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-13.5**	**-0.14**	Ok	0.175	86	0.126	435	0.00117	67	1.000	0.008	0.0246	-1438	-0.00431	32										
21.02	3	-1090	2	-852	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-13.2**	**-0.14**	Ok	0.175	85	0.124	435	0.00117	66	1.000	0.008	0.0246	-1386	-0.00416	32										
21.32	3	-1072	3	-832	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.9**	**-0.13**	Ok	0.175	84	0.123	435	0.00117	65	1.000	0.008	0.0246	-1335	-0.00400	32										
21.62	4	-1055	3	-813	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.7**	**-0.13**	Ok	0.175	83	0.122	435	0.00117	64	1.000	0.008	0.0246	-1284	-0.00385	32										
21.92	4	-1040	4	-795	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.4**	**-0.12**	Ok	0.175	82	0.121	435	0.00117	63	1.000	0.008	0.0246	-1236	-0.00371	32										
22.23	5	-1027	4	-779	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.2**	**-0.12**	Ok	0.175	82	0.120	435	0.00117	62	1.000	0.008	0.0246	-1192	-0.00358	32										
22.53	5	-1017	4	-764	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.0**	**-0.11**	Ok	0.175	81	0.119	435	0.00117	62	1.000	0.008	0.0246	-1153	-0.00346	32										
22.83	5	-1010	5	-753	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.9**	**-0.11**	Ok	0.175	81	0.119	435	0.00117	61	1.000	0.008	0.0246	-1120	-0.00336	32										
23.13	6	-1008	5	-746	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.8**	**-0.11**	Ok	0.175	81	0.119	435	0.00117	61	1.000	0.008	0.0246	-1092	-0.00327	32										
23.44	6	-1011	5	-744	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.8**	**-0.10**	Ok	0.175	82	0.120	435	0.00117	61	1.000	0.008	0.0246	-1073	-0.00322	32										
23.74	6	-1019	5	-746	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.9**	**-0.10**	Ok	0.175	82	0.121	435	0.00117	61	1.000	0.008	0.0246	-1077	-0.00323	32										
24.04	5	-1032	5	-751	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.2**	**-0.11**	Ok	0.175	83	0.121	435	0.00117	61	1.000	0.008	0.0246	-1110	-0.00333	32										
24.34	4	-1046	4	-758	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.5**	**-0.11**	Ok	0.175	83	0.121	435	0.00117	61	1.000	0.008	0.0246	-1160	-0.00348	32										
24.65	3	-1060	3	-765	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.8**	**-0.12**	Ok	0.175	83	0.121	435	0.00117	60	1.000	0.008	0.0246	-1210	-0.00363	32										
24.95	2	-1022	2	-730	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.5**	**-0.11**	Ok	0.175	79	0.116	435	0.00117	57	1.000	0.008	0.0246	-1170	-0.00351	32										
25.25	2	-976	2	-687	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.0**	**-0.11**	Ok	0.175	75	0.110	435	0.00117	54	1.000	0.008	0.0246	-1103	-0.00331	32										
25.55	2	-989	2	-694	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.1**	**-0.11**	Ok	0.175	77	0.112	435	0.00117	55	1.000	0.008	0.0246	-1107	-0.00332	32										
25.86	3	-955	3	-664	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.6**	**-0.10**	Ok	0.175	75	0.109	435	0.00117	53	1.000	0.008	0.0246	-1029	-0.00309	32										
26.16	3	-916	3	-629	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.1**	**-0.09**	Ok	0.175	72	0.105	435	0.00117	50	1.000	0.008	0.0246	-964	-0.00289	32										
26.46	3	-916	3	-630	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.2**	**-0.10**	Ok	0.175	71	0.104	435	0.00117	50	1.000	0.008	0.0246	-988	-0.00296	32										
26.76	2	-911	2	-626	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.2**	**-0.10**	Ok	0.175	70	0.102	435	0.00117	49	1.000	0.008	0.0246	-1013	-0.00304	32										
27.07	1	-920	1	-633	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.5**	**-0.10**	Ok	0.175	70	0.101	435	0.00117	48	1.000	0.008	0.0246	-1065	-0.00319	32										
27.37	0	-914	0	-633	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.5**	**-0.11**	Ok	0.175	69	0.100	435	0.00117	48	1.000	0.008	0.0246	-1104	-0.00331	32										
27.67	1	-900	1	-624	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.2**	**-0.10**	Ok	0.175	69	0.100	435	0.00117	48	1.000	0.008	0.0246	-1049	-0.00315	32										
27.97	2	-838	2	-577	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.3**	**-0.09**	Ok	0.175	65	0.094	435	0.00117	45	1.000	0.008	0.0246	-933	-0.00280	32										
28.28	2	-770	2	-527	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-9.5**	**-0.08**	Ok	0.175	60	0.086	435	0.00117	41	1.000	0.008	0.0246	-846	-0.00254	32										
28.58	0	-787	0	-628	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-9.9**	**-0.11**	Ok	0.175	59	0.086	435	0.00117	47	1.000	0.008	0.0246	-1083	-0.00325	32										
28.88	4	-720	4	-657	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-8.5**	**-0.10**	Ok	0.175	58	0.084	435	0.00117	53	1.000	0.008	0.0246	-987	-0.00296	32										
29.18	20	-584	17	-536	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-4.6**	**-0.02**	Ok	0.175	64	0.093	435	0.00117	57	1.000	0.008	0.0246	-241	-0.00072	32										
29.49	38	-459	31	-428	0.20	1.00	20	10	384	0	0	12	384	11.09	**4.99**	0	**-0.5**	**0.02**	Ok	0.175	72	0.106	435	0.00285	63	0.675	0.027	0.0183	69	0.00021	107										
29.79	44	-375	36	-354	0.20	1.00	20	10	384	0	0	12	384	11.09	**4.99**	0	**1.5**	**0.07**	Ok	0.175	73	0.106	435	0.00285	62	0.525	0.036	0.0139	154	0.00046	140										
30.09	46	-343	37	-319	0.20	1.00	20	10	384	0	0	12	384	11.09	**4.99**	0	**2.0**	**0.09**	Ok	0.175	72	0.104	435	0.00285	61	0.483	0.038	0.0130	191	0.00057	150										
30.54	46	-316	37	-290	0.20	1.00	20	10	384	0	0	12	384	11.09	**4.99**	0	**2.5**	**0.10**	Ok	0.175	70	0.102	435	0.00285	59	0.457	0.040	0.0125	215	0.00064	156										

Dimensionering av böjarmering - Platta

Projekt: **Islandsbron**

Mmin1

Indata:

f_{ck}	35.5 MPa	f_{yk}	500	MPa	ök LL
f_{ctk}	2.25 MPa	E_s	200	GPa	
E_{cm}	34 GPa	γ_s	1.15	-	
γ_c	1.5 -				
ε_{cu3}	0.0035 %				
k_t	0.4 -	φ	2.1	-	
η	1.0 -	α	5.9	-	
λ	0.8 -	α_{eff}	18.2	-	
ω_{bal}	0.493 -	$w_{k,gräns}$	0.40	mm	

Avstånd mellan lager (från centrum armeringsjärn): 0 mm

Delresultat

Kontroll av inlagd armering

-0.08

								Inlagd armering																													
								Lag 1		Lag 1		Lag 1			Totalt																							
TL1	$M_{Ed,LKA}$	$N_{tillh,LKA}$	$M_{Ed,LKB:a}$	$N_{tillh,LKB:a}$	h	b	bm	$Ø_{arm.1}$	c/c_1	$Ø_{arm.2}$	c/c_2	$Ø_{arm.3}$	c/c_3	$Ø_{eq}$	$A_{s,tot}$	e_{arm}	A_s	w_k	Ok/	d	M_s	ω_s	σ_{st}	ρ	Ms	ξ	Ac,eff	ρeff	σ_s	e_{sm}-e_{cm}	s_{rmax}						
	kNm/m	kN/m	kNm/m	kN/m	m	m	mm	mm	mm	mm	mm	mm	mm	mm	cm^2/m	mm	cm^2/m	mm	Ej ok	m	kNm/m	-	Mpa	%	kNm/m	-	m2	%	MPa	-	mm						
0.00	3	-985	3	-720	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.9**	**-0.11**	Ok	0.175	77	0.112	435	0.00117	57	1.000	0.008	0.0246	-1140	-0.00342	32					
0.31	4	-974	3	-712	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.7**	**-0.11**	Ok	0.175	77	0.112	435	0.00117	57	1.000	0.008	0.0246	-1106	-0.00332	32					
0.62	5	-956	4	-701	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.4**	**-0.10**	Ok	0.175	76	0.111	435	0.00117	57	1.000	0.008	0.0246	-1053	-0.00316	32					
0.93	6	-944	5	-696	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.1**	**-0.10**	Ok	0.175	76	0.112	435	0.00117	57	1.000	0.008	0.0246	-1005	-0.00301	32					
1.24	7	-935	6	-695	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.7**	**-0.09**	Ok	0.175	77	0.113	435	0.00117	58	1.000	0.008	0.0246	-950	-0.00285	32					
1.60	9	-924	8	-695	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.3**	**-0.09**	Ok	0.175	79	0.115	435	0.00117	60	1.000	0.008	0.0246	-875	-0.00262	32					
1.95	11	-911	10	-695	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-9.9**	**-0.08**	Ok	0.175	80	0.117	435	0.00117	62	1.000	0.008	0.0246	-812	-0.00244	32					
2.20	11	-903	10	-700	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-9.7**	**-0.08**	Ok	0.175	79	0.116	435	0.00117	62	1.000	0.008	0.0246	-816	-0.00245	32					
2.45	11	-918	9	-720	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.0**	**-0.09**	Ok	0.175	80	0.116	435	0.00117	63	1.000	0.008	0.0246	-875	-0.00262	32					
2.79	10	-950	9	-753	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.5**	**-0.09**	Ok	0.175	81	0.119	435	0.00117	65	1.000	0.008	0.0246	-951	-0.00285	32					
3.12	10	-973	8	-788	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.8**	**-0.10**	Ok	0.175	83	0.121	435	0.00117	67	1.000	0.008	0.0246	-1031	-0.00309	32					
3.47	10	-993	8	-804	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.1**	**-0.10**	Ok	0.175	84	0.124	435	0.00117	68	1.000	0.008	0.0246	-1073	-0.00322	32					
3.82	10	-999	8	-785	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.1**	**-0.10**	Ok	0.175	85	0.124	435	0.00117	67	1.000	0.008	0.0246	-1035	-0.00310	32					
4.12	9	-979	8	-774	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.0**	**-0.10**	Ok	0.175	83	0.121	435	0.00117	66	1.000	0.008	0.0246	-1031	-0.00309	32					
4.42	9	-980	7	-779	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.0**	**-0.10**	Ok	0.175	82	0.121	435	0.00117	66	1.000	0.008	0.0246	-1050	-0.00315	32					
4.75	8	-1006	7	-773	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.4**	**-0.10**	Ok	0.175	84	0.123	435	0.00117	65	1.000	0.008	0.0246	-1058	-0.00318	32					
5.08	7	-1018	6	-768	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.7**	**-0.10**	Ok	0.175	84	0.123	435	0.00117	64	1.000	0.008	0.0246	-1073	-0.00322	32					
5.44	7	-1011	6	-755	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.7**	**-0.10**	Ok	0.175	83	0.122	435	0.00117	63	1.000	0.008	0.0246	-1064	-0.00319	32					
5.79	7	-993	6	-740	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.5**	**-0.10**	Ok	0.175	81	0.119	435	0.00117	61	1.000	0.008	0.0246	-1044	-0.00313	32					
6.04	7	-977	6	-721	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.3**	**-0.10**	Ok	0.175	80	0.117	435	0.00117	60	1.000	0.008	0.0246	-1014	-0.00304	32					
6.29	6	-983	6	-720	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.4**	**-0.10**	Ok	0.175	80	0.117	435	0.00117	60	1.000	0.008	0.0246	-1019	-0.00306	32					
6.66	6	-1007	5	-741	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.8**	**-0.10**	Ok	0.175	81	0.120	435	0.00117	61	1.000	0.008	0.0246	-1071	-0.00321	32					
7.02	5	-1027	5	-759	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.1**	**-0.11**	Ok	0.175	82	0.121	435	0.00117	62	1.000	0.008	0.0246	-1118	-0.00335	32					
7.37	6	-1027	5	-759	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.0**	**-0.11**	Ok	0.175	83	0.122	435	0.00117	62	1.000	0.008	0.0246	-1110	-0.00333	32					
7.71	6	-1002	5	-743	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.7**	**-0.10**	Ok	0.175	81	0.119	435	0.00117	61	1.000	0.008	0.0246	-1074	-0.00322	32					
7.96	6	-988	6	-741	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.5**	**-0.10**	Ok	0.175	80	0.118	435	0.00117	61	1.000	0.008	0.0246	-1062	-0.00319	32					
8.21	7	-1002	6	-761	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.6**	**-0.11**	Ok	0.175	82	0.120	435	0.00117	63	1.000	0.008	0.0246	-1086	-0.00326	32					
8.57	7	-1016	6	-779	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.7**	**-0.11**	Ok	0.175	83	0.122	435	0.00117	64	1.000	0.008	0.0246	-1111	-0.00333	32					
8.92	7	-1017	6	-791	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.7**	**-0.11**	Ok	0.175	83	0.122	435	0.00117	65	1.000	0.008	0.0246	-1124	-0.00337	32					
9.25	8	-1002	7	-798	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.5**	**-0.11**	Ok	0.175	83	0.122	435	0.00117	66	1.000	0.008	0.0246	-1119	-0.00336	32					
9.58	8	-973	7	-797	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.1**	**-0.11**	Ok	0.175	81	0.119	435	0.00117	66	1.000	0.008	0.0246	-1111	-0.00333	32					
9.88	8	-983	7	-785	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.2**	**-0.11**	Ok	0.175	82	0.120	435	0.00117	66	1.000	0.008	0.0246	-1079	-0.00324	32					
10.18	9	-1012	7	-803	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.4**	**-0.11**	Ok	0.175	85	0.125	435	0.00117	68	1.000	0.008	0.0246	-1093	-0.00328	32					
10.55	9	-996	7	-816	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.2**	**-0.11**	Ok	0.175	84	0.123	435	0.00117	69	1.000	0.008	0.0246	-1115	-0.00335	32					
10.92	9	-968	8	-782	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.8**	**-0.10**	Ok	0.175	82	0.120	435	0.00117	66	1.000	0.008	0.0246	-1038	-0.00312	32					
11.24	10	-940	8	-745	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.4**	**-0.09**	Ok	0.175	80	0.118	435	0.00117	64	1.000	0.008	0.0246	-948	-0.00284	32					
11.55	10	-906	9	-710	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-9.9**	**-0.08**	Ok	0.175	78	0.115	435	0.00117	62	1.000	0.008	0.0246	-867	-0.00260	32					
11.80	11	-899	9	-696	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-9.7**	**-0.08**	Ok	0.175	78	0.115	435	0.00117	62	1.000	0.008	0.0246	-823	-0.00247	32					
12.05	11	-911	9	-695	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-9.9**	**-0.08**	Ok	0.175	79	0.116	435	0.00117	61	1.000	0.008	0.0246	-824	-0.00247	32					
12.41	9	-912	8	-685	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.2**	**-0.08**	Ok	0.175	78	0.113	435	0.00117	59	1.000	0.008	0.0246	-866	-0.00260	32					
12.76	7	-909	6	-674	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.5**	**-0.09**	Ok	0.175	75	0.110	435	0.00117	57	1.000	0.008	0.0246	-923	-0.00277	32					
13.07	5	-909	5	-667	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.7**	**-0.09**	Ok	0.175	74	0.107	435	0.00117	55	1.000	0.008	0.0246	-965	-0.00290	32					
13.38	4	-914	4	-666	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.9**	**-0.10**	Ok	0.175	73	0.106	435	0.00117	54	1.000	0.008	0.0246	-1004	-0.00301	32					
13.69	3	-926	3	-672	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.2**	**-0.10**	Ok	0.175	73	0.106	435	0.00117	53	1.000	0.008	0.0246	-1050	-0.00315	32					
14.00	3	-934	2	-677	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.4**	**-0.11**	Ok	0.175	73	0.106	435	0.00117	53	1.000	0.008	0.0246	-1079	-0.00324	32					

Dimensionering av böjarmering - Platta

Projekt: **Islandsbron**

Mmin1

Indata:

f_{ck}	35.5 MPa	f_{yk}	500	MPa	ök LL
f_{ctk}	2.25 MPa	E_s	200	GPa	
E_{cm}	34 GPa	γ_s	1.15	-	
γ_c	1.5 -				
ε_{cu3}	0.0035 %				
k_t	0.4 -	φ	2.1	-	
η	1.0 -	α	5.9	-	
λ	0.8 -	α_{eff}	18.2	-	
ω_{bal}	0.493 -	$w_{k,gräns}$	0.40	mm	

Avstånd mellan lager (från centrum armeringsjärn): 0 mm

Delresultat

Kontroll av inlagd armering: -0.09

								Inlagd armering																													
								Lag 1		Lag 1		Lag 1			Totalt																							
TL2	$M_{Ed,LKA}$	$N_{tillh,LKA}$	$M_{Ed,LKB:a}$	$N_{tillh,LKB:a}$	h	b	bm	$Ø_{arm.1}$	c/c_1	$Ø_{arm.2}$	c/c_2	$Ø_{arm.3}$	c/c_3	$Ø_{eq}$	$A_{s,INL}$	e_{arm}	A_s	w_k	Ok/	d	M_s	ω_s	σ_{st}	ρ	Ms	ξ	Ac,eff	ρeff	σ_s	e_{sm}-e_{cm}	s_{rmax}						
	kNm/m	kN/m	kNm/m	kN/m	m	m	mm	mm	mm	mm	mm	mm	mm	mm	cm^2/m	mm	cm^2/m	mm	Ej ok	m	kNm/m	-	Mpa	%	kNm/m	-	m2	%	MPa	-	mm						
0.00	3	-1042	3	-790	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.7**	**-0.12**	Ok	0.175	81	0.119	435	0.00117	62	1.000	0.008	0.0246	-1267	-0.00380	32					
0.31	3	-1030	3	-781	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.5**	**-0.12**	Ok	0.175	80	0.118	435	0.00117	62	1.000	0.008	0.0246	-1238	-0.00371	32					
0.62	4	-1008	4	-764	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.1**	**-0.12**	Ok	0.175	79	0.116	435	0.00117	61	1.000	0.008	0.0246	-1185	-0.00356	32					
0.93	5	-988	4	-750	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.7**	**-0.11**	Ok	0.175	79	0.116	435	0.00117	61	1.000	0.008	0.0246	-1130	-0.00339	32					
1.24	6	-969	5	-739	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.3**	**-0.10**	Ok	0.175	79	0.115	435	0.00117	61	1.000	0.008	0.0246	-1063	-0.00319	32					
1.60	8	-945	7	-725	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.7**	**-0.09**	Ok	0.175	79	0.116	435	0.00117	62	1.000	0.008	0.0246	-966	-0.00290	32					
1.95	10	-920	9	-740	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.1**	**-0.09**	Ok	0.175	79	0.116	435	0.00117	64	1.000	0.008	0.0246	-925	-0.00278	32					
2.20	10	-939	9	-764	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.3**	**-0.09**	Ok	0.175	81	0.118	435	0.00117	66	1.000	0.008	0.0246	-973	-0.00292	32					
2.45	10	-977	8	-775	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.9**	**-0.10**	Ok	0.175	83	0.122	435	0.00117	66	1.000	0.008	0.0246	-1020	-0.00306	32					
2.79	9	-983	8	-786	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.0**	**-0.10**	Ok	0.175	83	0.122	435	0.00117	67	1.000	0.008	0.0246	-1045	-0.00314	32					
3.12	9	-981	8	-790	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.0**	**-0.10**	Ok	0.175	83	0.121	435	0.00117	67	1.000	0.008	0.0246	-1061	-0.00318	32					
3.47	9	-972	8	-790	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.9**	**-0.10**	Ok	0.175	82	0.121	435	0.00117	67	1.000	0.008	0.0246	-1056	-0.00317	32					
3.82	9	-962	8	-796	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.8**	**-0.10**	Ok	0.175	81	0.119	435	0.00117	67	1.000	0.008	0.0246	-1067	-0.00320	32					
4.12	9	-995	7	-836	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.2**	**-0.11**	Ok	0.175	83	0.122	435	0.00117	70	1.000	0.008	0.0246	-1160	-0.00348	32					
4.42	8	-1026	7	-823	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.6**	**-0.11**	Ok	0.175	85	0.126	435	0.00117	69	1.000	0.008	0.0246	-1145	-0.00343	32					
4.75	8	-1028	6	-778	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.8**	**-0.11**	Ok	0.175	85	0.125	435	0.00117	65	1.000	0.008	0.0246	-1089	-0.00327	32					
5.08	7	-1030	6	-782	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.0**	**-0.11**	Ok	0.175	84	0.123	435	0.00117	64	1.000	0.008	0.0246	-1131	-0.00339	32					
5.44	6	-1021	5	-791	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.9**	**-0.11**	Ok	0.175	83	0.122	435	0.00117	65	1.000	0.008	0.0246	-1158	-0.00347	32					
5.79	6	-1004	5	-784	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.7**	**-0.11**	Ok	0.175	81	0.119	435	0.00117	64	1.000	0.008	0.0246	-1156	-0.00347	32					
6.04	6	-979	5	-745	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.5**	**-0.11**	Ok	0.175	79	0.116	435	0.00117	61	1.000	0.008	0.0246	-1091	-0.00327	32					
6.29	6	-977	5	-729	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.5**	**-0.10**	Ok	0.175	79	0.116	435	0.00117	60	1.000	0.008	0.0246	-1062	-0.00319	32					
6.66	5	-999	5	-749	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.8**	**-0.11**	Ok	0.175	80	0.117	435	0.00117	61	1.000	0.008	0.0246	-1117	-0.00335	32					
7.02	5	-1020	4	-769	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.1**	**-0.11**	Ok	0.175	81	0.119	435	0.00117	62	1.000	0.008	0.0246	-1166	-0.00350	32					
7.37	5	-1023	4	-769	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.1**	**-0.11**	Ok	0.175	82	0.120	435	0.00117	62	1.000	0.008	0.0246	-1158	-0.00347	32					
7.71	6	-996	5	-745	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.7**	**-0.11**	Ok	0.175	80	0.118	435	0.00117	61	1.000	0.008	0.0246	-1095	-0.00328	32					
7.96	6	-967	5	-735	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.3**	**-0.10**	Ok	0.175	78	0.115	435	0.00117	60	1.000	0.008	0.0246	-1073	-0.00322	32					
8.21	6	-971	5	-758	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.4**	**-0.11**	Ok	0.175	78	0.115	435	0.00117	62	1.000	0.008	0.0246	-1116	-0.00335	32					
8.57	6	-993	5	-782	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.6**	**-0.11**	Ok	0.175	80	0.118	435	0.00117	64	1.000	0.008	0.0246	-1152	-0.00345	32					
8.92	6	-1001	6	-786	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.6**	**-0.11**	Ok	0.175	82	0.120	435	0.00117	64	1.000	0.008	0.0246	-1142	-0.00342	32					
9.25	7	-998	6	-779	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.5**	**-0.11**	Ok	0.175	82	0.121	435	0.00117	65	1.000	0.008	0.0246	-1102	-0.00330	32					
9.58	8	-993	7	-808	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.3**	**-0.11**	Ok	0.175	83	0.121	435	0.00117	67	1.000	0.008	0.0246	-1130	-0.00339	32					
9.88	8	-960	7	-804	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.8**	**-0.11**	Ok	0.175	80	0.118	435	0.00117	67	1.000	0.008	0.0246	-1110	-0.00333	32					
10.18	9	-936	7	-771	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.5**	**-0.10**	Ok	0.175	79	0.115	435	0.00117	65	1.000	0.008	0.0246	-1043	-0.00313	32					
10.55	9	-956	7	-776	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.8**	**-0.10**	Ok	0.175	80	0.118	435	0.00117	65	1.000	0.008	0.0246	-1051	-0.00315	32					
10.92	9	-963	7	-774	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.9**	**-0.10**	Ok	0.175	81	0.119	435	0.00117	65	1.000	0.008	0.0246	-1049	-0.00315	32					
11.24	9	-961	8	-767	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.8**	**-0.10**	Ok	0.175	81	0.119	435	0.00117	65	1.000	0.008	0.0246	-1022	-0.00307	32					
11.55	9	-956	8	-758	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.7**	**-0.10**	Ok	0.175	81	0.119	435	0.00117	65	1.000	0.008	0.0246	-997	-0.00299	32					
11.80	10	-919	8	-747	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.1**	**-0.09**	Ok	0.175	79	0.116	435	0.00117	65	1.000	0.008	0.0246	-949	-0.00285	32					
12.05	10	-903	8	-725	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-9.9**	**-0.09**	Ok	0.175	78	0.114	435	0.00117	63	1.000	0.008	0.0246	-913	-0.00274	32					
12.41	8	-934	7	-716	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-10.6**	**-0.09**	Ok	0.175	78	0.114	435	0.00117	60	1.000	0.008	0.0246	-967	-0.00290	32					
12.76	6	-956	5	-728	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.2**	**-0.10**	Ok	0.175	78	0.113	435	0.00117	60	1.000	0.008	0.0246	-1055	-0.00316	32					
13.07	4	-972	4	-737	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.6**	**-0.11**	Ok	0.175	77	0.113	435	0.00117	59	1.000	0.008	0.0246	-1122	-0.00336	32					
13.38	3	-988	3	-747	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-11.9**	**-0.11**	Ok	0.175	77	0.113	435	0.00117	59	1.000	0.008	0.0246	-1171	-0.00351	32					
13.69	3	-1007	3	-761	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.3**	**-0.12**	Ok	0.175	78	0.114	435	0.00117	60	1.000	0.008	0.0246	-1221	-0.00366	32					
14.00	2	-1018	2	-770	0.20	1.00	20	10	384	0	0	0	0	10	**2.05**	0	**-12.4**	**-0.12**	Ok	0.175	79	0.115	435	0.00117	60	1.000	0.008	0.0246	-1247	-0.00374	32					

Dimensionering av böjarmering - Platta

Projekt: **Islandsbron**

Mmax2

TL uk

Indata:

f_{ck}	35.5 MPa	f_{yk}	500	MPa	
f_{ctk}	2.25 MPa	E_s	200	GPa	
E_{cm}	34 GPa	γ_s	1.15	-	
γ_c	1.5 -				
ε_{cu3}	0.0035 %				
k_t	0.4 -	φ	2.1	-	
η	1.0 -	α	5.9	-	
λ	0.8 -	α_{eff}	18.2	-	
ω_{bal}	0.493 -	$w_{k,gräns}$	0.40	mm	

Avstånd mellan lager (från centrum armeringsjärn): 0 mm

Delresultat

Kontroll av inlagd armering: 1.02 0.23

								Inlagd armering																													
								Lag 1		Lag 1		Lag 1																										
LL	$M_{Ed,LKA}$	$N_{tillh,LKA}$	$M_{Ed,LKB:a}$	$N_{tillh,LKB:a}$	h	b	bm	$Ø_{arm.1}$	c/c_1	$Ø_{arm.2}$	c/c_2	$Ø_{arm.3}$	c/c_3	$Ø_{eq}$	Totalt	e_{arm}	A_s	w_k	Ok/	d	M_s	ω_s	σ_{st}	ρ	Ms	ξ	Ac,eff	ρeff	σ_s	e_{sm}-e_{cm}	s_{rmax}						
	kNm/m	kN/m	kNm/m	kN/m	m	m	mm	mm	mm	mm	mm	mm	mm	mm	cm^2/m	mm	cm^2/m	mm	Ej ok	m	kNm/m	-	Mpa	%	kNm/m	-	m2	%	MPa	-	mm						
0.00	23	669	20	1401	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**error**	**0.23**	Ej ok	0.175	-27	-0.036	-16084	0.00266	-85	1.000	0.008	0.0559	1447	0.00708	32					
0.45	27	0	22	1312	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**3.6**	**0.23**	Ok	0.175	27	0.038	435	0.00266	-76	1.000	0.008	0.0559	1419	0.00694	32					
0.75	23	0	19	1175	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**3.1**	**0.20**	Ok	0.175	23	0.033	435	0.00266	-70	1.000	0.008	0.0559	1244	0.00606	32					
1.05	13	0	10	1071	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**1.7**	**0.16**	Ok	0.175	13	0.018	435	0.00266	-71	1.000	0.008	0.0559	998	0.00484	32					
1.36	6	0	4	980	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**0.8**	**0.13**	Ok	0.175	6	0.009	435	0.00266	-70	1.000	0.008	0.0559	820	0.00395	32					
1.66	6	0	3	902	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**0.7**	**0.12**	Ok	0.175	6	0.008	435	0.00266	-65	1.000	0.008	0.0559	745	0.00357	32					
1.96	10	0	6	380	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**1.3**	**0.06**	Ok	0.175	10	0.014	435	0.00266	-22	1.000	0.008	0.0559	406	0.00188	32					
2.26	14	0	9	-159	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**1.8**	**0.00**	Ok	0.175	14	0.019	435	0.00266	21	0.818	0.019	0.0245	9	0.00003	74					
2.57	16	0	11	-195	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.1**	**0.00**	Ok	0.175	16	0.022	435	0.00266	25	0.826	0.018	0.0252	11	0.00003	72					
2.87	17	0	12	-163	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.3**	**0.01**	Ok	0.175	17	0.024	435	0.00266	24	0.657	0.028	0.0164	29	0.00009	111					
3.17	19	0	13	-124	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.5**	**0.03**	Ok	0.175	19	0.026	435	0.00266	22	0.508	0.037	0.0126	60	0.00018	144					
3.47	19	0	13	-71	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.6**	**0.06**	Ok	0.175	19	0.027	435	0.00266	19	0.379	0.045	0.0104	111	0.00033	174					
3.78	21	0	14	-23	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.8**	**0.10**	Ok	0.175	21	0.029	435	0.00266	16	0.297	0.049	0.0094	169	0.00051	192					
4.08	22	0	15	23	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.9**	**0.14**	Ok	0.175	22	0.030	435	0.00266	13	0.240	0.053	0.0088	226	0.00068	205					
4.38	21	0	15	49	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.9**	**0.16**	Ok	0.175	21	0.030	435	0.00266	11	0.212	0.054	0.0086	257	0.00077	212					
4.68	23	0	16	58	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**3.0**	**0.18**	Ok	0.175	23	0.032	435	0.00266	12	0.206	0.055	0.0085	276	0.00083	213					
4.99	23	122	16	53	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.66**	**0.17**	Ej ok	0.175	14	0.020	435	0.00266	12	0.212	0.054	0.0086	274	0.00082	212					
5.29	22	91	16	39	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.1**	**0.16**	Ok	0.175	15	0.021	435	0.00266	13	0.224	0.054	0.0087	254	0.00076	209					
5.59	23	73	16	34	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.0**	**0.16**	Ok	0.175	17	0.024	435	0.00266	13	0.230	0.053	0.0087	252	0.00076	208					
5.89	23	68	16	38	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**3.9**	**0.16**	Ok	0.175	18	0.025	435	0.00266	13	0.227	0.053	0.0087	261	0.00078	208					
6.20	23	84	16	58	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.1**	**0.18**	Ok	0.175	16	0.023	435	0.00266	12	0.207	0.055	0.0085	283	0.00085	213					
6.50	23	107	17	83	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.5**	**0.21**	Ok	0.175	15	0.021	435	0.00266	10	0.185	0.056	0.0083	314	0.00094	218					
6.80	23	114	16	93	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.5**	**0.21**	Ok	0.175	14	0.020	435	0.00266	9	0.174	0.057	0.0082	323	0.00097	220					
7.10	23	116	16	98	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.5**	**0.22**	Ok	0.175	14	0.019	435	0.00266	9	0.168	0.057	0.0082	324	0.00097	222					
7.41	23	123	16	105	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.67**	**0.22**	Ej ok	0.175	14	0.019	435	0.00266	8	0.163	0.057	0.0081	335	0.00101	223					
7.71	23	126	17	106	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.73**	**0.23**	Ej ok	0.175	14	0.019	435	0.00266	9	0.163	0.057	0.0081	341	0.00102	223					
8.01	23	123	17	105	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.70**	**0.23**	Ej ok	0.175	14	0.020	435	0.00266	9	0.165	0.057	0.0082	339	0.00102	222					
8.31	24	120	17	103	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.73**	**0.22**	Ej ok	0.175	15	0.021	435	0.00266	9	0.167	0.057	0.0082	338	0.00101	222					
8.62	23	117	17	101	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.6**	**0.22**	Ok	0.175	14	0.020	435	0.00266	9	0.169	0.057	0.0082	334	0.00100	222					
8.92	23	113	16	97	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.5**	**0.22**	Ok	0.175	15	0.020	435	0.00266	9	0.171	0.057	0.0082	328	0.00098	221					
9.22	24	111	17	93	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.6**	**0.21**	Ok	0.175	15	0.022	435	0.00266	10	0.175	0.056	0.0082	325	0.00098	220					
9.52	23	109	16	90	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.4**	**0.21**	Ok	0.175	14	0.020	435	0.00266	9	0.176	0.056	0.0083	317	0.00095	220					
9.83	22	106	16	87	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.3**	**0.20**	Ok	0.175	14	0.020	435	0.00266	9	0.178	0.056	0.0083	309	0.00093	220					
10.13	23	106	16	84	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.5**	**0.20**	Ok	0.175	15	0.021	435	0.00266	10	0.181	0.056	0.0083	309	0.00093	219					
10.43	22	105	15	81	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.2**	**0.19**	Ok	0.175	14	0.019	435	0.00266	9	0.180	0.056	0.0083	295	0.00088	219					
10.73	21	102	15	76	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.1**	**0.18**	Ok	0.175	13	0.018	435	0.00266	9	0.182	0.056	0.0083	282	0.00084	219					
11.04	22	0	15	73	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.9**	**0.18**	Ok	0.175	22	0.030	435	0.00266	10	0.187	0.056	0.0083	281	0.00084	217					
11.34	21	0	15	69	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.8**	**0.18**	Ok	0.175	21	0.030	435	0.00266	9	0.189	0.056	0.0084	272	0.00082	217					
11.64	19	0	13	68	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.6**	**0.17**	Ok	0.175	19	0.027	435	0.00266	8	0.184	0.056	0.0083	255	0.00076	218					
11.94	19	0	13	81	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.5**	**0.18**	Ok	0.175	19	0.026	435	0.00266	7	0.167	0.057	0.0082	266	0.00080	222					
12.25	19	0	14	100	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.6**	**0.20**	Ok	0.175	19	0.027	435	0.00266	6	0.148	0.058	0.0080	292	0.00088	226					
12.55	18	0	12	113	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.3**	**0.20**	Ok	0.175	18	0.024	435	0.00266	4	0.121	0.060	0.0078	293	0.00088	232					
12.85	17	0	12	125	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.2**	**0.22**	Ok	0.175	17	0.023	435	0.00266	3	0.100	0.061	0.0077	303	0.00091	237					
13.15	16	0	12	126	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.2**	**0.22**	Ok	0.175	16	0.023	435	0.00266	3	0.097	0.061	0.0076	304	0.00091	238					
13.46	15	0	12	132	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.0**	**0.22**	Ok	0.175	15	0.021	435	0.00266	2	0.082	0.062	0.0075	307	0.00092	241					
13.76	15	0	12	150	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.0**	**0.25**	Ok	0.175	15	0.021	435	0.00266	1	0.053	0.063	0.0074	334	0.00100	248					
14.06	15	0	12	173	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.0**	**0.05**	Ok	0.175	15	0.021	435	0.00266	-1	1.000	0.008	0.0559	361	0.00165	32					
14.36	15	0	13	204	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**1.9**	**0.06**	Ok	0.175	15	0.020	435	0.00266	-3	1.000	0.008	0.0559	391	0.00180	32					
14.67	15	0	13	237	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.0**	**0.06**	Ok	0.175	15	0.021	435	0.00266	-4	1.000	0.008	0.0559	428	0.00199	32					
14.97	15	0	14	256	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.0**	**0.07**	Ok	0.175	15	0.021	435	0.00266	-5	1.000	0.008	0.0559	449	0.00209	32					

Dimensionering av böjarmering - Platta

Projekt: **Islandsbron**

Mmax2

TL uk

Indata:

f_{ck}	35.5 MPa	f_{yk}	500	MPa	
f_{ctk}	2.25 MPa	E_s	200	GPa	
E_{cm}	34 GPa	γ_s	1.15	-	
γ_c	1.5 -				
ε_{cu3}	0.0035 %				
k_t	0.4 -	φ	2.1	-	
η	1.0 -	α	5.9	-	
λ	0.8 -	α_{eff}	18.2	-	
ω_{bal}	0.493 -	$w_{k,gräns}$	0.40	mm	

Avstånd mellan lager (från centrum armeringsjärn): 0 mm

Delresultat

Kontroll av inlagd armering: 1.02 0.23

| | | | | | | | | Inlagd armering | | | | | | | |

Dimensionering av böjarmering - Platta

Projekt: **Islandsbron**

Mmax2

TL uk

Delresultat

Indata:

f_{ck}	35.5 MPa	f_{yk}	500	MPa	
f_{ctk}	2.25 MPa	E_s	200	GPa	
E_{cm}	34 GPa	γ_s	1.15	-	
γ_c	1.5 -				
ε_{cu3}	0.0035 %				
k_t	0.4 -	φ	2.1	-	
η	1.0 -	α	5.9	-	
λ	0.8 -	α_{eff}	18.2	-	
ω_{bal}	0.493 -	$w_{k,gräns}$	0.40	mm	

Avstånd mellan lager (från centrum armeringsjärn): 0 mm

Kontroll av inlagd armering

0.25

| | | | | | | | | Inlagd armering | | | | | | | |

Dimensionering av böjarmering - Platta

Projekt: **Islandsbron**

Mmax2

TL uk

Delresultat

Indata:

f_{ck}	35.5 MPa	f_{yk}	500	MPa	
f_{ctk}	2.25 MPa	E_s	200	GPa	
E_{cm}	34 GPa	γ_s	1.15	-	
γ_c	1.5 -				
ε_{cu3}	0.0035 %				
k_t	0.4 -	φ	2.1	-	
η	1.0 -	α	5.9	-	
λ	0.8 -	α_{eff}	18.2	-	
ω_{bal}	0.493 -	$w_{k,gräns}$	0.40	mm	

Avstånd mellan lager (från centrum armeringsjärn): 0 mm

Kontroll av inlagd armering

0.27

								Inlagd armering																																	
								Lag 1		Lag 1		Lag 1			Totalt																											
TL2	$M_{Ed,LKA}$	$N_{tillh,LKA}$	$M_{Ed,LKB:a}$	$N_{tillh,LKB:a}$	h	b	bm	$Ø_{arm.1}$	c/c_1	$Ø_{arm.2}$	c/c_2	$Ø_{arm.3}$	c/c_3	$Ø_{eq}$	$A_{s,tNL}$	e_{arm}	A_s	w_k	Ok/	d	M_s	ω_s	σ_{st}	ρ	Ms	ξ	Ac,eff	ρeff	σ_s	e_{sm}-e_{cm}	s_{rmax}									
	kNm/m	kN/m	kNm/m	kN/m	m	m	mm	mm	mm	mm	mm	mm	mm	mm	cm^2/m	mm	cm^2/m	mm	Ej ok	m	kNm/m	-	Mpa	%	kNm/m	-	m2	%	MPa	-	mm									
0.00	0	0	0	1	0.20	1.00	20	10	300	0	0	0	0	10	**2.62**	0	**0.0**	**0.01**	Ok	0.175	0	0.000	435	0.00150	0	0.154	0.058	0.0045	9	0.00003	225									
0.31	0	0	0	2	0.20	1.00	20	10	300	0	0	0	0	10	**2.62**	0	**0.1**	**0.00**	Ok	0.175	0	0.001	435	0.00150	0	1.000	0.008	0.0314	3	0.00001	32									
0.62	2	0	1	2	0.20	1.00	20	10	300	0	0	0	0	10	**2.62**	0	**0.3**	**0.02**	Ok	0.175	2	0.003	435	0.00150	1	0.181	0.056	0.0047	36	0.00011	219									
0.93	6	0	4	1	0.20	1.00	20	10	300	0	0	0	0	10	**2.62**	0	**0.8**	**0.06**	Ok	0.175	6	0.008	435	0.00150	4	0.203	0.055	0.0048	101	0.00030	214									
1.24	11	0	9	1	0.20	1.00	20	10	300	0	0	0	0	10	**2.62**	0	**1.5**	**0.13**	Ok	0.175	11	0.016	435	0.00150	9	0.205	0.055	0.0048	207	0.00062	213									
1.60	19	0	15	5	0.20	1.00	20	10	300	0	0	0	0	10	**2.62**	0	**2.6**	**0.24**	Ok	0.175	19	0.027	435	0.00150	15	0.203	0.055	0.0048	370	0.00111	214									
1.95	27	0	22	6	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**3.6**	**0.18**	Ok	0.175	27	0.038	435	0.00266	21	0.262	0.051	0.0091	301	0.00090	200									
2.20	25	0	19	21	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**3.3**	**0.17**	Ok	0.175	25	0.035	435	0.00266	18	0.247	0.052	0.0089	285	0.00086	204									
2.45	19	42	14	43	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**3.0**	**0.15**	Ok	0.175	16	0.022	435	0.00266	11	0.213	0.054	0.0086	232	0.00070	211									
2.79	13	67	10	47	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.5**	**0.12**	Ok	0.175	8	0.011	435	0.00266	6	0.186	0.056	0.0083	180	0.00054	218									
3.12	2	0	2	46	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**0.2**	**0.01**	Ok	0.175	2	0.002	435	0.00266	-1	1.000	0.008	0.0559	77	0.00023	32									
3.47	6	0	3	46	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**0.8**	**0.01**	Ok	0.175	6	0.009	435	0.00266	-1	1.000	0.008	0.0559	89	0.00029	32									
3.82	7	0	3	39	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**0.9**	**0.07**	Ok	0.175	7	0.010	435	0.00266	0	0.078	0.062	0.0075	90	0.00027	242									
4.12	6	0	3	38	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**0.8**	**0.06**	Ok	0.175	6	0.008	435	0.00266	0	0.019	0.063	0.0074	82	0.00025	256									
4.42	10	76	6	51	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.3**	**0.09**	Ok	0.175	4	0.006	435	0.00266	2	0.127	0.059	0.0079	135	0.00041	231									
4.75	15	91	9	60	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**3.2**	**0.13**	Ok	0.175	8	0.011	435	0.00266	5	0.164	0.057	0.0081	193	0.00058	223									
5.08	19	116	13	99	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.0**	**0.19**	Ok	0.175	10	0.014	435	0.00266	5	0.140	0.058	0.0080	279	0.00084	228									
5.44	23	136	15	138	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.8**	**0.25**	Ej ok	0.175	12	0.017	435	0.00266	5	0.122	0.060	0.0078	358	0.00107	232									
5.79	20	138	14	135	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.5**	**0.24**	Ok	0.175	10	0.014	435	0.00266	4	0.112	0.060	0.0077	340	0.00102	235									
6.04	19	122	13	114	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.1**	**0.21**	Ok	0.175	9	0.013	435	0.00266	4	0.126	0.059	0.0078	301	0.00090	231									
6.29	22	0	15	96	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.9**	**0.21**	Ok	0.175	22	0.031	435	0.00266	8	0.164	0.057	0.0082	310	0.00093	223									
6.66	24	110	17	100	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.6**	**0.22**	Ok	0.175	15	0.021	435	0.00266	9	0.169	0.057	0.0082	332	0.00100	222									
7.02	23	125	16	111	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.7**	**0.23**	Ej ok	0.175	14	0.019	435	0.00266	8	0.158	0.057	0.0081	345	0.00103	224									
7.37	24	142	17	122	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**5.1**	**0.25**	Ej ok	0.175	14	0.019	435	0.00266	8	0.153	0.058	0.0081	365	0.00110	225									
7.71	23	0	16	117	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**3.1**	**0.23**	Ok	0.175	23	0.032	435	0.00266	7	0.150	0.058	0.0080	346	0.00104	226									
7.96	20	143	14	131	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.4**	**0.23**	Ok	0.175	9	0.012	435	0.00266	4	0.113	0.060	0.0077	331	0.00099	234									
8.21	21	155	14	150	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.8**	**0.26**	Ej ok	0.175	9	0.013	435	0.00266	3	0.099	0.061	0.0076	363	0.00109	237									
8.57	24	151	16	150	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**5.1**	**0.27**	Ej ok	0.175	12	0.017	435	0.00266	5	0.116	0.060	0.0078	382	0.00115	234									
8.92	20	134	13	99	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**4.4**	**0.20**	Ok	0.175	10	0.014	435	0.00266	6	0.149	0.058	0.0080	290	0.00087	226									
9.25	16	112	11	44	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**3.6**	**0.12**	Ok	0.175	8	0.011	435	0.00266	7	0.197	0.055	0.0084	190	0.00057	215									
9.58	12	90	8	37	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.8**	**0.09**	Ok	0.175	5	0.007	435	0.00266	5	0.187	0.056	0.0083	143	0.00043	217									
9.88	8	0	5	29	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**1.1**	**0.06**	Ok	0.175	8	0.011	435	0.00266	3	0.168	0.057	0.0082	95	0.00029	222									
10.18	9	0	5	37	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**1.1**	**0.07**	Ok	0.175	9	0.012	435	0.00266	2	0.137	0.059	0.0079	102	0.00031	229									
10.55	7	0	4	48	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**1.0**	**0.08**	Ok	0.175	7	0.010	435	0.00266	0	0.032	0.063	0.0074	105	0.00031	253									
10.92	1	0	2	46	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**0.1**	**0.01**	Ok	0.175	1	0.001	435	0.00266	-2	1.000	0.008	0.0559	65	0.00020	32									
11.24	12	75	9	47	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**2.6**	**0.11**	Ok	0.175	6	0.009	435	0.00266	6	0.184	0.056	0.0083	175	0.00053	218									
11.55	18	46	13	45	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**3.0**	**0.15**	Ok	0.175	15	0.020	435	0.00266	10	0.210	0.054	0.0086	229	0.00069	212									
11.80	24	0	19	24	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**3.3**	**0.17**	Ok	0.175	24	0.034	435	0.00266	18	0.245	0.052	0.0089	285	0.00085	204									
12.05	27	0	22	2	0.20	1.00	20	10	225	10	675	0	0	10	**4.65**	0	**3.6**	**0.18**	Ok	0.175	27	0.038	435	0.00266	22	0.265	0.051	0.0091	296	0.00089	200									
12.41	19	0	15	0	0.20	1.00	20	10	300	0	0	0	0	10	**2.62**	0	**2.6**	**0.23**	Ok	0.175	19	0.027	435	0.00150	15	0.207	0.055	0.0048	358	0.00107	213									
12.76	11	0	9	4	0.20	1.00	20	10	300	0	0	0	0	10	**2.62**	0	**1.5**	**0.14**	Ok	0.175	11	0.016	435	0.00150	8	0.200	0.055	0.0048	212	0.00064	214									
13.07	6	0	4	7	0.20	1.00	20	10	300	0	0	0	0	10	**2.62**	0	**0.8**	**0.07**	Ok	0.175	6	0.008	435	0.00150	4	0.184	0.056	0.0047	108	0.00032	218									
13.38	2	0	1	6	0.20	1.00	20	10	300	0	0	0	0	10	**2.62**	0	**0.3**	**0.03**	Ok	0.175	2	0.003	435	0.00150	1	0.141	0.058	0.0045	40	0.00012	228									
13.69	0	0	0	4	0.20	1.00	20	10	300	0	0	0	0	10	**2.62**	0	**0.1**	**0.00**	Ok	0.175	0	0.001	435	0.00150	0	1.000	0.008	0.0314	8	0.00002	32									
14.00	0	0	0	2	0.20	1.00	20	10	300	0	0	0	0	10	**2.62**	0	**0.0**	**0.01**	Ok	0.175	0	0.000	435	0.00150	0	0.133	0.059	0.0044	12	0.00004	230									

Dimensionering av böjarmering - Platta

Projekt: **Islandsbron**

Mmin2

Indata:

f_{ck}	35.5 MPa	f_{yk}	500	MPa	TL ök
f_{ctk}	2.25 MPa	E_s	200	GPa	
E_{cm}	34 GPa	γ_s	1.15	-	
γ_c	1.5 -				
ε_{cu3}	0.0035 %				
k_t	0.4 -	φ	2.1	-	
η	1.0 -	α	5.9	-	
λ	0.8 -	α_{eff}	18.2	-	
ω_{bal}	0.493 -	$w_{k,gräns}$	0.40	mm	

Avstånd mellan lager (från centrum armeringsjärn): 0 mm

Delresultat

Kontroll av inlagd armering

0.11

	Inlagd armering																																	
								Lag 1		Lag 2		Lag 3			Totalt																					
LL	$M_{Ed,LKA}$	$N_{tillh,LKA}$	$M_{Ed,LKB:a}$	$N_{tillh,LKB:a}$	h	b	bm	$Ø_{arm.1}$	c/c_1	$Ø_{arm.2}$	c/c_2	$Ø_{arm.3}$	c/c_3	$Ø_{eq}$	$A_{s,INL}$	e_{arm}	A_s	w_k	Ok/	d	M_s	ω_s	σ_{st}	ρ	Ms	ξ	Ac,eff	ρeff	σ_s	e_{sm}-e_{cm}	s_{rmax}					
	kNm/m	kN/m	kNm/m	kN/m	m	m	mm	mm	mm	mm	mm	mm	mm	mm	cm^2/m	mm	cm^2/m	mm	Ej ok	m	kNm/m	-	Mpa	%	kNm/m	-	m2	%	MPa	-	mm					
0.00	22	0	19	-438	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**3.2**	**0.00**	**Ok**	0.164	22	0.035	435	0.00377	47	1.000	0.012	0.0516	-9	-0.00003	47				
0.45	18	0	16	-412	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**2.5**	**-0.01**	**Ok**	0.164	18	0.028	435	0.00377	42	1.000	0.012	0.0516	-44	-0.00013	47				
0.75	9	0	9	-354	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**1.3**	**-0.01**	**Ok**	0.164	9	0.014	435	0.00377	32	1.000	0.012	0.0516	-101	-0.00030	47				
1.05	11	0	10	-304	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**1.6**	**-0.01**	**Ok**	0.164	11	0.018	435	0.00377	29	1.000	0.012	0.0516	-63	-0.00019	47				
1.36	13	0	11	-268	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**1.9**	**0.00**	**Ok**	0.164	13	0.021	435	0.00377	28	1.000	0.012	0.0516	-20	-0.00006	47				
1.66	10	0	7	-217	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**1.4**	**-0.01**	**Ok**	0.164	10	0.015	435	0.00377	21	1.000	0.012	0.0516	-39	-0.00012	47				
1.96	8	208	4	272	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.05**	**Ej ok**	0.164	-5	-0.008	-71105	0.00377	-13	1.000	0.012	0.0516	246	0.00107	47				
2.26	6	303	3	665	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.11**	**Ej ok**	0.164	-14	-0.021	-27367	0.00377	-39	1.000	0.012	0.0516	494	0.00231	47				
2.57	4	250	3	567	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.09**	**Ej ok**	0.164	-12	-0.018	-31670	0.00377	-33	1.000	0.012	0.0516	424	0.00196	47				
2.87	3	224	2	498	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.08**	**Ej ok**	0.164	-11	-0.017	-32714	0.00377	-30	1.000	0.012	0.0516	363	0.00165	47				
3.17	2	212	2	444	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.07**	**Ej ok**	0.164	-11	-0.017	-32988	0.00377	-27	1.000	0.012	0.0516	321	0.00144	47				
3.47	2	216	1	407	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.06**	**Ej ok**	0.164	-12	-0.018	-31168	0.00377	-25	1.000	0.012	0.0516	292	0.00130	47				
3.78	2	220	1	375	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.06**	**Ej ok**	0.164	-12	-0.019	-29712	0.00377	-23	1.000	0.012	0.0516	268	0.00118	47				
4.08	2	224	1	346	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.05**	**Ej ok**	0.164	-13	-0.020	-28798	0.00377	-21	1.000	0.012	0.0516	247	0.00107	47				
4.38	1	214	1	308	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.04**	**Ej ok**	0.164	-12	-0.019	-29630	0.00377	-19	1.000	0.012	0.0516	220	0.00094	47				
4.68	1	0	1	263	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.1**	**0.04**	**Ok**	0.164	1	0.001	435	0.00377	-16	1.000	0.012	0.0516	185	0.00076	47				
4.99	0	0	1	210	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.1**	**0.03**	**Ok**	0.164	0	0.001	435	0.00377	-13	1.000	0.012	0.0516	148	0.00058	47				
5.29	0	0	1	152	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.0**	**0.02**	**Ok**	0.164	0	0.000	435	0.00377	-9	1.000	0.012	0.0516	114	0.00041	47				
5.59	0	0	1	111	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.0**	**0.01**	**Ok**	0.164	0	0.000	435	0.00377	-6	1.000	0.012	0.0516	88	0.00028	47				
5.89	1	0	1	88	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.1**	**0.01**	**Ok**	0.164	1	0.001	435	0.00377	-5	1.000	0.012	0.0516	70	0.00021	47				
6.20	1	0	0	74	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.2**	**0.01**	**Ok**	0.164	1	0.002	435	0.00377	-4	1.000	0.012	0.0516	57	0.00017	47				
6.50	1	64	0	66	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-3	-0.004	-129656	0.00377	-4	1.000	0.012	0.0516	49	0.00015	47				
6.80	1	67	0	61	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-3	-0.005	-117481	0.00377	-4	1.000	0.012	0.0516	46	0.00014	47				
7.10	1	68	0	55	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-3	-0.005	-112537	0.00377	-3	1.000	0.012	0.0516	43	0.00013	47				
7.41	1	69	0	50	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-3	-0.005	-111734	0.00377	-3	1.000	0.012	0.0516	41	0.00012	47				
7.71	1	68	0	46	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-3	-0.005	-114486	0.00377	-2	1.000	0.012	0.0516	37	0.00011	47				
8.01	1	69	0	42	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.00**	**Ej ok**	0.164	-4	-0.006	-102429	0.00377	-2	1.000	0.012	0.0516	34	0.00010	47				
8.31	0	71	0	39	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.00**	**Ej ok**	0.164	-4	-0.007	-83065	0.00377	-2	1.000	0.012	0.0516	31	0.00009	47				
8.62	0	72	0	37	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.00**	**Ej ok**	0.164	-4	-0.007	-81009	0.00377	-2	1.000	0.012	0.0516	28	0.00008	47				
8.92	0	72	0	37	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.00**	**Ej ok**	0.164	-4	-0.007	-84426	0.00377	-2	1.000	0.012	0.0516	29	0.00009	47				
9.22	1	73	0	38	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.00**	**Ej ok**	0.164	-4	-0.006	-87350	0.00377	-2	1.000	0.012	0.0516	31	0.00009	47				
9.52	0	72	0	39	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.00**	**Ej ok**	0.164	-4	-0.006	-87483	0.00377	-2	1.000	0.012	0.0516	31	0.00009	47				
9.83	0	72	0	41	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.00**	**Ej ok**	0.164	-4	-0.006	-87150	0.00377	-2	1.000	0.012	0.0516	31	0.00009	47				
10.13	1	75	0	46	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.006	-89672	0.00377	-3	1.000	0.012	0.0516	36	0.00011	47				
10.43	1	77	0	51	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.006	-87642	0.00377	-3	1.000	0.012	0.0516	40	0.00012	47				
10.73	1	79	0	57	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.007	-84375	0.00377	-3	1.000	0.012	0.0516	42	0.00013	47				
11.04	1	82	0	65	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.007	-84380	0.00377	-4	1.000	0.012	0.0516	48	0.00015	47				
11.34	1	83	0	69	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.007	-86379	0.00377	-4	1.000	0.012	0.0516	51	0.00015	47				
11.64	1	82	0	72	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.007	-84004	0.00377	-5	1.000	0.012	0.0516	49	0.00015	47				
11.94	1	75	0	57	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.006	-89708	0.00377	-4	1.000	0.012	0.0516	38	0.00012	47				
12.25	1	67	0	35	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.00**	**Ej ok**	0.164	-3	-0.005	-108223	0.00377	-2	1.000	0.012	0.0516	26	0.00008	47				
12.55	1	62	0	19	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.00**	**Ej ok**	0.164	-3	-0.005	-122337	0.00377	-1	1.000	0.012	0.0516	15	0.00004	47				
12.85	1	53	0	3	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.00**	**Ej ok**	0.164	-2	-0.004	-149028	0.00377	0	0.185	0.057	0.0109	6	0.00002	221				
13.15	1	0	0	-5	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.1**	**0.00**	**Ok**	0.164	1	0.001	435	0.00377	0	1.000	0.012	0.0516	-3	-0.00001	47				
13.46	1	0	0	-9	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.1**	**0.00**	**Ok**	0.164	1	0.001	435	0.00377	1	1.000	0.012	0.0516	-5	-0.00001	47				
13.76	0	0	0	-12	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.1**	**0.00**	**Ok**	0.164	0	0.001	435	0.00377	1	1.000	0.012	0.0516	-4	-0.00001	47				
14.06	1	0	1	-16	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.1**	**0.00**	**Ok**	0.164	1	0.001	435	0.00377	2	1.000	0.012	0.0516	-2	-0.00001	47				
14.36	1	0	1	-20	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.1**	**0.00**	**Ok**	0.164	1	0.001	435	0.00377	2	1.000	0.012	0.0516	-2	-0.00001	47				
14.67	0	0	1	-25	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.0**	**0.00**	**Ok**	0.164	0	0.000	435	0.00377	2	1.000	0.012	0.0516	-9	-0.00003	47				
14.97	1	0	0	-18	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.2**	**0.00**	**Ok**	0.164	1	0.002	435	0.00377	1	1.000	0.012	0.0516	-10	-0.00003	47				

Dimensionering av böjarmering - Platta

Projekt: **Islandsbron**

Mmin2

Indata:

f_{ck}	35.5 MPa	f_{yk}	500	MPa	TL ök
f_{ctk}	2.25 MPa	E_s	200	GPa	
E_{cm}	34 GPa	γ_s	1.15	-	
γ_c	1.5 -				
ε_{cu3}	0.0035 %				
k_t	0.4 -	φ	2.1	-	
η	1.0 -	α	5.9	-	
λ	0.8 -	α_{eff}	18.2	-	
ω_{bal}	0.493 -	$w_{k,gräns}$	0.40	mm	

Avstånd mellan lager (från centrum armeringsjärn): 0 mm

Delresultat

Kontroll av inlagd armering: 0.11

	Inlagd armering																																		
	Lag 1		Lag 2		Lag 3			Totalt																												
LL	$M_{Ed,LKA}$	$N_{tillh,LKA}$	$M_{Ed,LKB:a}$	$N_{tillh,LKB:a}$	h	b	bm	$Ø_{arm,1}$	c/c_1	$Ø_{arm,2}$	c/c_2	$Ø_{arm,3}$	c/c_3	$Ø_{eq}$	$A_{s,INL}$	e_{arm}	A_s	w_k	Ok/	d	M_s	ω_s	σ_{st}	ρ	Ms	ξ	Ac,eff	ρeff	σ_s	e_{sm}-e_{cm}	s_{rmax}					
	kNm/m	kN/m	kNm/m	kN/m	m	m	mm	mm	mm	mm	mm	mm	mm	mm	cm^2/m	mm	cm^2/m	mm	Ej ok	m	kNm/m	-	Mpa	%	kNm/m	-	m2	%	MPa	-	mm					
15.27	2	0	0	-11	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.2**	**0.00**	**Ok**	0.164	2	0.003	435	0.00377	1	1.000	0.012	0.0516	-6	-0.00002	47				
15.57	1	0	0	-18	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.2**	**0.00**	**Ok**	0.164	1	0.002	435	0.00377	1	1.000	0.012	0.0516	-9	-0.00003	47				
15.87	0	0	1	-24	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.0**	**0.00**	**Ok**	0.164	0	0.000	435	0.00377	2	1.000	0.012	0.0516	-7	-0.00002	47				
16.18	1	0	1	-21	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.1**	**0.00**	**Ok**	0.164	1	0.001	435	0.00377	2	1.000	0.012	0.0516	-1	0.00000	47				
16.48	1	0	1	-16	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.1**	**0.00**	**Ok**	0.164	1	0.001	435	0.00377	2	1.000	0.012	0.0516	0	0.00000	47				
16.78	1	0	0	-13	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.1**	**0.00**	**Ok**	0.164	1	0.001	435	0.00377	1	1.000	0.012	0.0516	-3	-0.00001	47				
17.08	1	0	0	-9	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.1**	**0.00**	**Ok**	0.164	1	0.001	435	0.00377	1	1.000	0.012	0.0516	-3	-0.00001	47				
17.39	1	0	0	-4	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.1**	**0.00**	**Ok**	0.164	1	0.001	435	0.00377	0	1.000	0.012	0.0516	-2	-0.00001	47				
17.69	1	52	0	4	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.00**	**Ej ok**	0.164	-2	-0.004	-158246	0.00377	0	0.081	0.062	0.0099	6	0.00002	243				
17.99	1	62	0	19	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.00**	**Ej ok**	0.164	-3	-0.004	-129244	0.00377	-1	1.000	0.012	0.0516	13	0.00004	47				
18.29	1	66	0	34	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.00**	**Ej ok**	0.164	-3	-0.005	-113939	0.00377	-2	1.000	0.012	0.0516	27	0.00008	47				
18.60	1	74	0	56	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.006	-93592	0.00377	-4	1.000	0.012	0.0516	39	0.00012	47				
18.90	1	81	0	71	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.006	-87175	0.00377	-4	1.000	0.012	0.0516	50	0.00015	47				
19.20	1	82	0	68	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.006	-89334	0.00377	-4	1.000	0.012	0.0516	52	0.00016	47				
19.50	1	82	0	65	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.007	-86747	0.00377	-4	1.000	0.012	0.0516	50	0.00015	47				
19.81	1	79	0	57	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.007	-86272	0.00377	-3	1.000	0.012	0.0516	44	0.00013	47				
20.11	1	77	0	52	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.006	-89168	0.00377	-3	1.000	0.012	0.0516	41	0.00012	47				
20.41	1	75	0	47	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.006	-90701	0.00377	-3	1.000	0.012	0.0516	38	0.00011	47				
20.71	1	72	0	42	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.00**	**Ej ok**	0.164	-4	-0.006	-87591	0.00377	-2	1.000	0.012	0.0516	32	0.00010	47				
21.02	1	73	0	40	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.00**	**Ej ok**	0.164	-4	-0.006	-87508	0.00377	-2	1.000	0.012	0.0516	32	0.00010	47				
21.32	1	74	0	39	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.00**	**Ej ok**	0.164	-4	-0.006	-87053	0.00377	-2	1.000	0.012	0.0516	33	0.00010	47				
21.62	0	74	0	38	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.00**	**Ej ok**	0.164	-4	-0.007	-83909	0.00377	-2	1.000	0.012	0.0516	31	0.00009	47				
21.92	0	74	0	39	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.00**	**Ej ok**	0.164	-4	-0.007	-81712	0.00377	-2	1.000	0.012	0.0516	32	0.00009	47				
22.23	0	74	0	41	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.00**	**Ej ok**	0.164	-5	-0.007	-76329	0.00377	-2	1.000	0.012	0.0516	35	0.00010	47				
22.53	1	73	0	43	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.006	-92786	0.00377	-2	1.000	0.012	0.0516	36	0.00011	47				
22.83	1	75	1	47	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.006	-94906	0.00377	-2	1.000	0.012	0.0516	41	0.00012	47				
23.13	1	79	1	53	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.007	-85771	0.00377	-3	1.000	0.012	0.0516	47	0.00014	47				
23.44	1	82	1	60	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.007	-81616	0.00377	-3	1.000	0.012	0.0516	51	0.00015	47				
23.74	1	84	1	69	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.007	-81229	0.00377	-4	1.000	0.012	0.0516	55	0.00017	47				
24.04	1	85	1	78	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.007	-82043	0.00377	-4	1.000	0.012	0.0516	61	0.00018	47				
24.34	1	0	1	87	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.1**	**0.01**	**Ok**	0.164	1	0.001	435	0.00377	-5	1.000	0.012	0.0516	68	0.00020	47				
24.65	1	0	1	94	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.1**	**0.01**	**Ok**	0.164	1	0.001	435	0.00377	-5	1.000	0.012	0.0516	73	0.00022	47				
24.95	0	0	1	118	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.0**	**0.01**	**Ok**	0.164	0	0.000	435	0.00377	-7	1.000	0.012	0.0516	90	0.00029	47				
25.25	0	0	1	139	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.0**	**0.02**	**Ok**	0.164	0	0.001	435	0.00377	-8	1.000	0.012	0.0516	105	0.00036	47				
25.55	1	0	1	180	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.1**	**0.02**	**Ok**	0.164	1	0.001	435	0.00377	-11	1.000	0.012	0.0516	131	0.00049	47				
25.86	1	0	0	277	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.1**	**0.04**	**Ok**	0.164	1	0.001	435	0.00377	-17	1.000	0.012	0.0516	192	0.00080	47				
26.16	1	242	1	332	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.05**	**Ej ok**	0.164	-15	-0.023	-25378	0.00377	-21	1.000	0.012	0.0516	231	0.00099	47				
26.46	1	227	1	346	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.05**	**Ej ok**	0.164	-13	-0.021	-27862	0.00377	-21	1.000	0.012	0.0516	244	0.00106	47				
26.76	1	221	1	374	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.05**	**Ej ok**	0.164	-13	-0.020	-28984	0.00377	-23	1.000	0.012	0.0516	264	0.00116	47				
27.07	2	216	1	405	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.06**	**Ej ok**	0.164	-12	-0.019	-30688	0.00377	-25	1.000	0.012	0.0516	288	0.00128	47				
27.37	2	211	1	443	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.07**	**Ej ok**	0.164	-11	-0.018	-32344	0.00377	-27	1.000	0.012	0.0516	316	0.00142	47				
27.67	2	212	2	489	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.07**	**Ej ok**	0.164	-11	-0.017	-33124	0.00377	-30	1.000	0.012	0.0516	350	0.00159	47				
27.97	3	255	2	571	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.09**	**Ej ok**	0.164	-13	-0.020	-28156	0.00377	-35	1.000	0.012	0.0516	411	0.00189	47				
28.28	5	310	2	668	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.10**	**Ej ok**	0.164	-15	-0.024	-24443	0.00377	-40	1.000	0.012	0.0516	481	0.00224	47				
28.58	7	0	3	250	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**1.0**	**0.04**	**Ok**	0.164	7	0.011	435	0.00377	-13	1.000	0.012	0.0516	216	0.00092	47				
28.88	7	0	5	-198	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**1.0**	**-0.01**	**Ok**	0.164	7	0.012	435	0.00377	18	1.000	0.012	0.0516	-54	-0.00016	47				
29.18	10	0	8	-239	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**1.4**	**-0.01**	**Ok**	0.164	10	0.016	435	0.00377	23	1.000	0.012	0.0516	-43	-0.00013	47				
29.49	8	0	7	-305	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**1.1**	**-0.01**	**Ok**	0.164	8	0.012	435	0.00377	26	1.000	0.012	0.0516	-104	-0.00031	47				
29.79	6	0	7	-342	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**0.8**	**-0.02**	**Ok**	0.164	6	0.009	435	0.00377	28	1.000	0.012	0.0516	-133	-0.00040	47				
30.09	13	0	12	-384	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**1.9**	**-0.01**	**Ok**	0.164	13	0.021	435	0.00377	37	1.000	0.012	0.0516	-76	-0.00023	47				
30.54	18	0	15	-403	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**2.5**	**-0.01**	**Ok**	0.164	18	0.028	435	0.00377	41	1.000	0.012	0.0516	-41	-0.00012	47				

Dimensionering av böjarmering - Platta

Projekt: **Islandsbron**

Mmin2

Indata:

f_{ck}	35.5 MPa	f_{yk}	500	MPa	TL ök
f_{ctk}	2.25 MPa	E_s	200	GPa	
E_{cm}	34 GPa	γ_s	1.15	-	
γ_c	1.5 -				
ε_{cu3}	0.0035 %				
k_t	0.4 -	φ	2.1	-	
η	1.0 -	α	5.9	-	
λ	0.8 -	α_{eff}	18.2	-	
ω_{bal}	0.493 -	$w_{k,gräns}$	0.40	mm	

Avstånd mellan lager (från centrum armeringsjärn): 0 mm

Delresultat

Kontroll av inlagd armering: 0.34

								Inlagd armering																														
								Lag 1		Lag 2		Lag 3			Totalt																								
TL1	$M_{Ed,LKA}$	$N_{tillh,LKA}$	$M_{Ed,LKB:a}$	$N_{tillh,LKB:a}$	h	b	bm	$Ø_{arm.1}$	c/c_1	$Ø_{arm.2}$	c/c_2	$Ø_{arm.3}$	c/c_3	$Ø_{eq}$	$A_{s,INL}$	e_{arm}	A_s	w_k	Ok/	d	M_s	ω_s	σ_{st}	ρ	Ms	ξ	Ac,eff	ρeff	σ_s	e_{sm}-e_{cm}	s_{rmax}							
	kNm/m	kN/m	kNm/m	kN/m	m	m	mm	mm	mm	mm	mm	mm	mm	mm	cm^2/m	mm	cm^2/m	mm	Ej ok	m	kNm/m	-	Mpa	%	kNm/m	-	m2	%	MPa	-	mm							
0.00	1	14	1	15	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**0.4**	**0.02**	**Ok**	0.164	1	0.001	435	0.00460	0	0.150	0.058	0.0129	24	0.00007	228							
0.31	2	27	2	30	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**0.7**	**0.03**	**Ok**	0.164	1	0.001	435	0.00460	0	0.110	0.061	0.0124	43	0.00013	237							
0.62	5	52	4	57	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**1.4**	**0.06**	**Ok**	0.164	1	0.002	435	0.00460	1	0.109	0.061	0.0124	83	0.00025	237							
0.93	9	76	8	83	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**2.3**	**0.09**	**Ok**	0.164	4	0.006	435	0.00460	3	0.154	0.058	0.0129	132	0.00040	227							
1.24	15	96	13	105	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**3.4**	**0.13**	**Ok**	0.164	9	0.014	435	0.00460	6	0.196	0.056	0.0135	195	0.00059	218							
1.60	24	110	21	122	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**4.9**	**0.19**	**Ok**	0.164	17	0.026	435	0.00460	13	0.232	0.054	0.0140	277	0.00089	211							
1.95	33	110	29	126	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**6.2**	**0.26**	**Ok**	0.164	26	0.041	435	0.00460	21	0.255	0.053	0.0143	350	0.00126	206							
2.20	36	119	31	134	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**6.9**	**0.29**	**Ok**	0.164	29	0.046	435	0.00460	23	0.257	0.053	0.0143	378	0.00140	205							
2.45	33	138	28	150	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**6.6**	**0.34**	**Ej ok**	0.164	24	0.038	435	0.00377	18	0.218	0.055	0.0113	436	0.00157	213							
2.79	25	140	22	155	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**5.4**	**0.28**	**Ok**	0.164	16	0.025	435	0.00377	12	0.194	0.056	0.0110	378	0.00127	219							
3.12	19	135	18	150	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**4.5**	**0.22**	**Ok**	0.164	10	0.016	435	0.00377	8	0.171	0.057	0.0108	327	0.00100	223							
3.47	18	127	17	140	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**4.3**	**0.20**	**Ok**	0.164	10	0.015	435	0.00377	8	0.172	0.057	0.0108	306	0.00092	223							
3.82	18	107	16	122	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**4.0**	**0.19**	**Ok**	0.164	11	0.017	435	0.00377	8	0.187	0.056	0.0110	285	0.00086	220							
4.12	19	101	17	120	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**4.1**	**0.19**	**Ok**	0.164	13	0.020	435	0.00377	9	0.190	0.056	0.0110	287	0.00086	219							
4.42	19	109	15	125	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**4.2**	**0.18**	**Ok**	0.164	12	0.019	435	0.00377	7	0.175	0.057	0.0108	277	0.00083	223							
4.75	13	101	10	112	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**3.3**	**0.15**	**Ok**	0.164	7	0.011	435	0.00377	3	0.132	0.059	0.0104	212	0.00064	232							
5.08	8	74	6	81	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**2.2**	**0.10**	**Ok**	0.164	4	0.006	435	0.00377	1	0.104	0.061	0.0102	144	0.00043	238							
5.44	6	53	5	54	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**1.6**	**0.07**	**Ok**	0.164	3	0.005	435	0.00377	2	0.141	0.059	0.0105	105	0.00032	230							
5.79	6	57	6	49	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**1.7**	**0.07**	**Ok**	0.164	3	0.004	435	0.00377	3	0.181	0.057	0.0109	111	0.00033	221							
6.04	10	65	9	52	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**2.3**	**0.09**	**Ok**	0.164	6	0.009	435	0.00377	5	0.210	0.055	0.0112	140	0.00042	215							
6.29	10	79	8	62	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**2.5**	**0.09**	**Ok**	0.164	5	0.008	435	0.00377	4	0.176	0.057	0.0109	139	0.00042	222							
6.66	3	81	3	63	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-2	-0.004	-152251	0.00377	-1	1.000	0.012	0.0516	85	0.00026	47							
7.02	1	68	0	53	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-3	-0.005	-122956	0.00377	-3	1.000	0.012	0.0516	40	0.00012	47							
7.37	2	69	3	53	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-2	-0.003	-176278	0.00377	-1	1.000	0.012	0.0516	73	0.00022	47							
7.71	9	69	7	50	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**2.2**	**0.08**	**Ok**	0.164	4	0.007	435	0.00377	3	0.185	0.057	0.0109	117	0.00035	220							
7.96	10	73	8	44	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**2.4**	**0.08**	**Ok**	0.164	5	0.008	435	0.00377	5	0.215	0.055	0.0113	124	0.00037	214							
8.21	7	70	6	44	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**1.9**	**0.07**	**Ok**	0.164	2	0.004	435	0.00377	3	0.188	0.056	0.0110	104	0.00031	220							
8.57	6	61	5	44	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**1.7**	**0.06**	**Ok**	0.164	2	0.003	435	0.00377	2	0.158	0.058	0.0107	91	0.00027	226							
8.92	7	83	6	79	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**2.2**	**0.10**	**Ok**	0.164	2	0.003	435	0.00377	1	0.074	0.063	0.0099	134	0.00040	244							
9.25	12	115	9	123	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**3.3**	**0.15**	**Ok**	0.164	4	0.007	435	0.00377	1	0.083	0.062	0.0100	211	0.00063	242							
9.58	17	129	13	142	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**4.2**	**0.19**	**Ok**	0.164	9	0.013	435	0.00377	4	0.139	0.059	0.0105	274	0.00082	230							
9.88	17	112	15	131	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**4.0**	**0.19**	**Ok**	0.164	10	0.016	435	0.00377	7	0.168	0.058	0.0108	281	0.00084	224							
10.18	16	105	15	122	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**3.7**	**0.18**	**Ok**	0.164	9	0.015	435	0.00377	7	0.178	0.057	0.0109	273	0.00082	222							
10.55	17	125	16	138	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**4.1**	**0.20**	**Ok**	0.164	9	0.013	435	0.00377	7	0.165	0.058	0.0107	293	0.00088	225							
10.92	19	133	17	150	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**4.5**	**0.22**	**Ok**	0.164	11	0.017	435	0.00377	8	0.168	0.057	0.0108	322	0.00097	224							
11.24	25	143	22	158	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**5.6**	**0.28**	**Ok**	0.164	16	0.026	435	0.00377	12	0.191	0.056	0.0110	380	0.00128	219							
11.55	33	148	28	158	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**6.7**	**0.34**	**Ej ok**	0.164	23	0.037	435	0.00377	18	0.213	0.055	0.0113	441	0.00160	215							
11.80	36	122	31	137	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**6.8**	**0.28**	**Ok**	0.164	28	0.045	435	0.00460	22	0.254	0.053	0.0143	374	0.00138	206							
12.05	32	107	28	123	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**6.1**	**0.25**	**Ok**	0.164	25	0.040	435	0.00460	20	0.255	0.053	0.0143	342	0.00122	206							
12.41	23	110	21	122	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**4.9**	**0.18**	**Ok**	0.164	16	0.026	435	0.00460	13	0.230	0.054	0.0139	275	0.00087	211							
12.76	14	98	13	107	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**3.4**	**0.13**	**Ok**	0.164	8	0.013	435	0.00460	6	0.191	0.056	0.0134	194	0.00058	219							
13.07	9	76	8	84	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**2.3**	**0.09**	**Ok**	0.164	4	0.006	435	0.00460	2	0.146	0.059	0.0128	131	0.00039	229							
13.38	5	51	4	58	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**1.4**	**0.06**	**Ok**	0.164	2	0.002	435	0.00460	1	0.099	0.061	0.0123	82	0.00025	239							
13.69	2	26	2	30	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**0.7**	**0.03**	**Ok**	0.164	1	0.001	435	0.00460	0	0.100	0.061	0.0123	42	0.00013	239							
14.00	1	13	1	15	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**0.4**	**0.02**	**Ok**	0.164	1	0.001	435	0.00460	0	0.147	0.059	0.0129	24	0.00007	229							

Dimensionering av böjarmering - Platta

Projekt: **Islandsbron**

Mmin2

Indata:

f_{ck}	35.5 MPa	f_{yk}	500	MPa	TL ök
f_{ctk}	2.25 MPa	E_s	200	GPa	
E_{cm}	34 GPa	γ_s	1.15	-	
γ_c	1.5 -				
ε_{cu3}	0.0035 %				
k_t	0.4 -	φ	2.1	-	Avstånd mellan lager (från centrum armeringsjärn): 0 mm
η	1.0 -	α	5.9	-	
λ	0.8 -	α_{eff}	18.2	-	
ω_{bal}	0.493 -	$w_{k,gräns}$	0.40	mm	

Delresultat

Kontroll av inlagd armering

0.29

								Inlagd armering																																
								Lag 1		Lag 2		Lag 3			Totalt																										
TL2	$M_{Ed,LKA}$	$N_{tillh,LKA}$	$M_{Ed,LKB:a}$	$N_{tillh,LKB:a}$	h	b	bm	$Ø_{arm.1}$	c/c_1	$Ø_{arm.2}$	c/c_2	$Ø_{arm.3}$	c/c_3	$Ø_{eq}$	$A_{s,INL}$	e_{arm}	A_s	w_k	Ok/	d	M_s	ω_s	σ_{st}	ρ	Ms	ξ	Ac,eff	ρeff	σ_s	e_{sm}-e_{cm}	s_{rmax}								
	kNm/m	kN/m	kNm/m	kN/m	m	m	mm	mm	mm	mm	mm	mm	mm	mm	cm^2/m	mm	cm^2/m	mm	Ej ok	m	kNm/m	-	Mpa	%	kNm/m	-	m2	%	MPa	-	mm								
0.00	1	0	1	11	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**0.1**	**0.01**	**Ok**	0.164	1	0.001	435	0.00460	0	0.147	0.059	0.0129	17	0.00005	229								
0.31	2	0	2	22	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**0.2**	**0.02**	**Ok**	0.164	2	0.003	435	0.00460	0	0.129	0.060	0.0126	32	0.00010	233								
0.62	4	39	4	43	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**1.1**	**0.05**	**Ok**	0.164	1	0.002	435	0.00460	1	0.147	0.059	0.0129	68	0.00020	229								
0.93	8	59	7	64	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**1.9**	**0.08**	**Ok**	0.164	4	0.006	435	0.00460	3	0.186	0.057	0.0133	114	0.00034	220								
1.24	14	79	13	85	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**3.1**	**0.11**	**Ok**	0.164	9	0.014	435	0.00460	7	0.219	0.055	0.0138	178	0.00053	213								
1.60	23	99	21	105	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**4.7**	**0.17**	**Ok**	0.164	17	0.027	435	0.00460	14	0.244	0.053	0.0141	263	0.00082	208								
1.95	32	113	28	120	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**6.1**	**0.25**	**Ok**	0.164	25	0.040	435	0.00460	21	0.258	0.053	0.0143	342	0.00122	205								
2.20	35	101	30	114	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**6.4**	**0.26**	**Ok**	0.164	28	0.046	435	0.00460	23	0.265	0.052	0.0145	354	0.00129	203								
2.45	32	94	27	113	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**5.8**	**0.29**	**Ok**	0.164	26	0.041	435	0.00377	20	0.237	0.054	0.0115	392	0.00137	209								
2.79	24	108	22	127	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**5.0**	**0.25**	**Ok**	0.164	18	0.028	435	0.00377	14	0.213	0.055	0.0112	353	0.00115	215								
3.12	19	117	18	134	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**4.3**	**0.21**	**Ok**	0.164	12	0.018	435	0.00377	10	0.188	0.056	0.0110	316	0.00096	220								
3.47	18	126	17	138	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**4.3**	**0.21**	**Ok**	0.164	10	0.016	435	0.00377	8	0.178	0.057	0.0109	311	0.00093	222								
3.82	18	127	17	137	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**4.3**	**0.20**	**Ok**	0.164	10	0.015	435	0.00377	8	0.175	0.057	0.0108	304	0.00091	223								
4.12	19	90	16	112	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**3.9**	**0.18**	**Ok**	0.164	13	0.021	435	0.00377	9	0.196	0.056	0.0111	277	0.00083	218								
4.42	19	61	15	90	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**3.5**	**0.16**	**Ok**	0.164	15	0.023	435	0.00377	9	0.209	0.055	0.0112	242	0.00073	215								
4.75	14	71	11	92	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**2.9**	**0.13**	**Ok**	0.164	9	0.014	435	0.00377	5	0.169	0.057	0.0108	198	0.00059	224								
5.08	9	62	7	70	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**2.1**	**0.09**	**Ok**	0.164	5	0.008	435	0.00377	2	0.140	0.059	0.0105	135	0.00041	230								
5.44	7	51	5	39	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**1.6**	**0.06**	**Ok**	0.164	3	0.005	435	0.00377	3	0.182	0.057	0.0109	89	0.00027	221								
5.79	5	67	5	29	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**1.7**	**0.05**	**Ok**	0.164	1	0.002	435	0.00377	3	0.215	0.055	0.0113	83	0.00025	214								
6.04	8	98	7	54	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**2.6**	**0.08**	**Ok**	0.164	2	0.003	435	0.00377	4	0.186	0.056	0.0110	127	0.00038	220								
6.29	9	115	7	81	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**2.9**	**0.10**	**Ok**	0.164	2	0.003	435	0.00377	2	0.122	0.060	0.0103	149	0.00045	234								
6.66	3	101	3	68	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-4	-0.006	-98503	0.00377	-2	1.000	0.012	0.0516	86	0.00027	47								
7.02	1	71	0	41	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.00**	**Ej ok**	0.164	-4	-0.006	-95034	0.00377	-2	1.000	0.012	0.0516	33	0.00010	47								
7.37	3	71	2	40	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**error**	**0.01**	**Ej ok**	0.164	-2	-0.003	-203595	0.00377	0	1.000	0.012	0.0516	62	0.00019	47								
7.71	8	86	6	56	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**2.4**	**0.08**	**Ok**	0.164	3	0.005	435	0.00377	3	0.165	0.058	0.0107	119	0.00036	225								
7.96	9	100	7	53	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**2.6**	**0.08**	**Ok**	0.164	2	0.004	435	0.00377	4	0.186	0.056	0.0110	125	0.00037	220								
8.21	6	89	5	33	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**2.1**	**0.05**	**Ok**	0.164	0	0.000	435	0.00377	3	0.199	0.056	0.0111	84	0.00025	218								
8.57	5	61	4	27	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**1.6**	**0.04**	**Ok**	0.164	1	0.002	435	0.00377	2	0.194	0.056	0.0110	67	0.00020	219								
8.92	7	74	5	72	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**2.1**	**0.09**	**Ok**	0.164	3	0.004	435	0.00377	1	0.090	0.062	0.0100	124	0.00037	241								
9.25	12	89	9	107	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**2.9**	**0.14**	**Ok**	0.164	6	0.010	435	0.00377	2	0.121	0.060	0.0103	198	0.00059	234								
9.58	17	73	14	101	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**3.4**	**0.16**	**Ok**	0.164	12	0.019	435	0.00377	7	0.188	0.056	0.0110	237	0.00071	220								
9.88	17	98	15	122	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**3.7**	**0.18**	**Ok**	0.164	10	0.017	435	0.00377	7	0.175	0.057	0.0108	270	0.00081	223								
10.18	16	132	15	143	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**4.1**	**0.20**	**Ok**	0.164	8	0.012	435	0.00377	6	0.156	0.058	0.0107	293	0.00088	227								
10.55	17	125	16	137	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**4.2**	**0.20**	**Ok**	0.164	9	0.014	435	0.00377	7	0.171	0.057	0.0108	299	0.00090	224								
10.92	19	119	17	136	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**4.3**	**0.21**	**Ok**	0.164	11	0.018	435	0.00377	9	0.182	0.057	0.0109	312	0.00094	221								
11.24	25	112	22	131	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**5.1**	**0.25**	**Ok**	0.164	17	0.028	435	0.00377	13	0.209	0.055	0.0112	354	0.00116	215								
11.55	31	95	27	113	0.20	1.00	30	12	225	10	675	0	0	11.57	**6.19**	0	**5.8**	**0.28**	**Ok**	0.164	25	0.041	435	0.00377	19	0.236	0.054	0.0115	389	0.00135	210								
11.80	35	99	30	112	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**6.3**	**0.26**	**Ok**	0.164	28	0.046	435	0.00460	23	0.266	0.052	0.0145	349	0.00126	203								
12.05	32	108	28	116	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**6.0**	**0.24**	**Ok**	0.164	25	0.039	435	0.00460	20	0.259	0.053	0.0144	335	0.00119	205								
12.41	23	91	20	99	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**4.5**	**0.16**	**Ok**	0.164	17	0.027	435	0.00460	14	0.247	0.053	0.0142	253	0.00077	207								
12.76	14	73	13	80	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**3.0**	**0.11**	**Ok**	0.164	9	0.014	435	0.00460	7	0.223	0.054	0.0138	172	0.00051	212								
13.07	8	53	7	61	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**1.9**	**0.07**	**Ok**	0.164	5	0.007	435	0.00460	3	0.190	0.056	0.0134	110	0.00033	220								
13.38	4	33	4	41	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**1.1**	**0.04**	**Ok**	0.164	2	0.003	435	0.00460	1	0.153	0.058	0.0129	65	0.00020	227								
13.69	2	0	2	21	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**0.3**	**0.02**	**Ok**	0.164	2	0.003	435	0.00460	0	0.136	0.059	0.0127	31	0.00009	231								
14.00	1	0	1	10	0.20	1.00	30	12	300	12	300	0	0	12	**7.54**	0	**0.1**	**0.01**	**Ok**	0.164	1	0.001	435	0.00460	0	0.156	0.058	0.0130	17	0.00005	227								

Dimensionering av tvärkraftsarmering - Platta

Projekt: **Islandsbron**

Indata: f_{ck} 35.5 MPa f_{yk} 500 MPa LL

f_{ctk} 2.25 MPa γ_s 1.15

γ_c 1.5

θ 21.8 deg (trycksträvans lutning)

ν 0.5148 - (6.6N)

ν_1 0.600 - (6.10N)

Delresultat

											0.44	(6.2.a)	(6.2.b)	(6.4)	(6.5)				(6.3N)	(6.11N)	(6.13)	(6.14)
Snitt	$V_{Ed,LKA}$	$N_{Ed,tillh}$	h	b_w	d	A_{sl}	α	$A_{sw}/s/m$	$V_{Rd,c}$	$V_{Rd,s}$	n	$V_{Rd,c}$	$V_{Rd,c,min}$	$V_{Rd,c}$	$V_{Rd,c,max}$	ρ	k	σ_{cp}	v_{min}	α_{cw}	$V_{Rd,s}$	$V_{Rd,s,max}$
LL	kN/m	kN/m	m	m	m	cm^2/m	deg	cm^2/m^2	kN/m	kN/m	-	kN/m	kN/m	kN/m	kN/m	%	-	MPa	-	-	kN/m	kN/m
0.00	226	-412	0.200	1.000	0.175	6.2	90	0.0	**157**	**0**	**1.44**	152	157	308	1066	0.00354	2.000	2.06	0.590	1.087	0	719
0.45	259	-407	0.200	1.000	0.175	6.2	90	0.0	**157**	**0**	**1.65**	151	157	307	1066	0.00354	2.000	2.03	0.590	1.086	0	719
0.75	204	-476	0.200	1.000	0.175	6.2	90	0.0	**166**	**0**	**1.23**	160	166	322	1066	0.00354	2.000	2.38	0.590	1.101	0	728
1.05	85	-671	0.200	1.000	0.175	6.2	90	0.0	**191**	**0**	0.44	186	191	360	1066	0.00354	2.000	3.35	0.590	1.142	0	0
1.36	87	-828	0.200	1.000	0.175	6.2	90	0.0	**212**	**0**	0.41	206	212	388	1066	0.00354	2.000	4.14	0.590	1.175	0	0
1.66	73	-916	0.200	1.000	0.175	6.2	90	0.0	**223**	**0**	0.33	218	223	403	1066	0.00354	2.000	4.58	0.590	1.193	0	0
1.96	56	-990	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.25	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
2.26	47	-1071	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.21	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
2.57	41	-1129	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.18	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
2.87	38	-1180	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.17	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
3.17	37	-1262	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.16	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
3.47	37	-1271	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.16	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
3.78	37	-1230	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.16	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
4.08	37	-1295	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.16	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
4.38	37	-1310	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.16	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
4.68	40	-1262	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.18	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
4.99	39	-1303	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.17	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
5.29	39	-1283	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.17	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
5.59	41	-1315	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.18	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
5.89	43	-1335	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
6.20	39	-1353	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.17	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
6.50	39	-1353	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.17	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
6.80	42	-1343	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.18	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
7.10	39	-1354	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.17	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
7.41	42	-1344	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
7.71	42	-1316	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
8.01	41	-1344	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.18	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
8.31	45	-1368	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.20	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
8.62	43	-1370	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
8.92	44	-1435	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
9.22	47	-1446	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.21	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
9.52	44	-1400	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
9.83	44	-1458	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
10.13	47	-1467	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.21	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
10.43	44	-1428	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
10.73	44	-1470	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
11.04	47	-1476	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.21	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
11.34	44	-1446	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
11.64	43	-1467	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
11.94	47	-1468	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.21	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
12.25	45	-1445	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.20	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
12.55	44	-1455	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
12.85	47	-1465	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.21	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
13.15	47	-1466	0.200	1.000	0.175	7.3	90	0.0	**227**	**0**	0.21	227	227	408	1066	0.00416	2.000	4.73	0.590	1.200	0	0
13.46	45	-1466	0.200	1.000	0.175	7.3	90	0.0	**227**	**0**	0.20	227	227	408	1066	0.00416	2.000	4.73	0.590	1.200	0	0
13.76	46	-1463	0.200	1.000	0.175	7.3	90	0.0	**227**	**0**	0.20	227	227	408	1066	0.00416	2.000	4.73	0.590	1.200	0	0
14.06	49	-1456	0.200	1.000	0.175	7.3	90	0.0	**227**	**0**	0.22	227	227	408	1066	0.00416	2.000	4.73	0.590	1.200	0	0
14.36	45	-1439	0.200	1.000	0.175	7.3	90	0.0	**227**	**0**	0.20	227	227	408	1066	0.00416	2.000	4.73	0.590	1.200	0	0
14.67	46	-1424	0.200	1.000	0.175	7.3	90	0.0	**227**	**0**	0.20	227	227	408	1066	0.00416	2.000	4.73	0.590	1.200	0	0
14.97	48	-1409	0.200	1.000	0.175	7.3	90	0.0	**227**	**0**	0.21	227	227	408	1066	0.00416	2.000	4.73	0.590	1.200	0	0

Dimensionering av tvärkraftsarmering - Platta

Projekt: **Islandsbron**

Indata: f_{ck} 35.5 MPa f_{yk} 500 MPa LL

f_{ctk} 2.25 MPa γ_s 1.15

γ_c 1.5

θ 21.8 deg (trycksträvans lutning)

ν 0.5148 - (6.6N)

ν_1 0.600 - (6.10N)

Delresultat

0.44

Snitt	$V_{Ed,LKA}$	$N_{Ed,tillh}$	h	b_w	d	A_{sl}	α	$A_{sw}/s/m$	$V_{Rd,c}$	$V_{Rd,s}$	n	(6.2.a) $V_{Rd,c}$	(6.2.b) $V_{Rd,c,min}$	(6.4) $V_{Rd,c}$	(6.5) $V_{Rd,c,max}$	ρ	k	σ_{cp}	(6.3N) v_{min}	(6.11N) α_{cw}	(6.13) $V_{Rd,s}$	(6.14) $V_{Rd,s,max}$
LL	kN/m	kN/m	m	m	m	cm^2/m	deg	cm^2/m^2	kN/m	kN/m	-	kN/m	kN/m	kN/m	kN/m	%	-	MPa	-	-	kN/m	kN/m
15.27	43	-1356	0.200	1.000	0.175	7.3	90	0.0	**227**	**0**	0.19	227	227	408	1066	0.00416	2.000	4.73	0.590	1.200	0	0
15.57	47	-1408	0.200	1.000	0.175	7.3	90	0.0	**227**	**0**	0.21	227	227	408	1066	0.00416	2.000	4.73	0.590	1.200	0	0
15.87	47	-1423	0.200	1.000	0.175	7.3	90	0.0	**227**	**0**	0.20	227	227	408	1066	0.00416	2.000	4.73	0.590	1.200	0	0
16.18	45	-1438	0.200	1.000	0.175	7.3	90	0.0	**227**	**0**	0.20	227	227	408	1066	0.00416	2.000	4.73	0.590	1.200	0	0
16.48	49	-1453	0.200	1.000	0.175	7.3	90	0.0	**227**	**0**	0.22	227	227	408	1066	0.00416	2.000	4.73	0.590	1.200	0	0
16.78	46	-1461	0.200	1.000	0.175	7.3	90	0.0	**227**	**0**	0.20	227	227	408	1066	0.00416	2.000	4.73	0.590	1.200	0	0
17.08	45	-1462	0.200	1.000	0.175	7.3	90	0.0	**227**	**0**	0.20	227	227	408	1066	0.00416	2.000	4.73	0.590	1.200	0	0
17.39	47	-1462	0.200	1.000	0.175	7.3	90	0.0	**227**	**0**	0.21	227	227	408	1066	0.00416	2.000	4.73	0.590	1.200	0	0
17.69	47	-1460	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.21	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
17.99	44	-1450	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
18.29	45	-1439	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.20	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
18.60	47	-1462	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.21	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
18.90	43	-1460	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
19.20	44	-1438	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
19.50	47	-1468	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.21	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
19.81	44	-1461	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
20.11	44	-1418	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
20.41	47	-1457	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.21	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
20.71	44	-1447	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
21.02	44	-1389	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
21.32	47	-1436	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.21	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
21.62	44	-1426	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
21.92	43	-1359	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
22.23	45	-1359	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.20	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
22.53	42	-1335	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
22.83	42	-1309	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.18	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
23.13	43	-1339	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
23.44	39	-1352	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.17	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
23.74	42	-1344	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
24.04	39	-1358	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.17	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
24.34	39	-1368	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.17	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
24.65	43	-1375	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
24.95	40	-1365	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.18	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
25.25	39	-1326	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.17	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
25.55	38	-1286	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.17	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
25.86	39	-1267	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.17	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
26.16	38	-1318	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.17	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
26.46	37	-1304	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.16	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
26.76	37	-1235	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.16	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
27.07	37	-1271	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.16	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
27.37	37	-1258	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.16	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
27.67	37	-1184	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.16	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
27.97	39	-1141	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.17	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
28.28	46	-1048	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.20	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
28.58	54	-959	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.24	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
28.88	69	-885	0.200	1.000	0.175	6.2	90	0.0	**219**	**0**	0.32	214	219	397	1066	0.00354	2.000	4.42	0.590	1.187	0	0
29.18	83	-753	0.200	1.000	0.175	6.2	90	0.0	**202**	**0**	0.41	196	202	375	1066	0.00354	2.000	3.77	0.590	1.159	0	0
29.49	72	-589	0.200	1.000	0.175	6.2	90	0.0	**181**	**0**	0.40	175	181	344	1066	0.00354	2.000	2.94	0.590	1.124	0	0
29.79	165	-432	0.200	1.000	0.175	6.2	90	0.0	**160**	**0**	**1.03**	154	160	312	1066	0.00354	2.000	2.16	0.590	1.091	0	722
30.09	212	-364	0.200	1.000	0.175	6.2	90	0.0	**151**	**0**	**1.40**	145	151	298	1066	0.00354	2.000	1.82	0.590	1.077	0	713
30.54	185	-348	0.200	1.000	0.175	6.2	90	0.0	**149**	**0**	**1.25**	143	149	294	1066	0.00354	2.000	1.74	0.590	1.073	0	710

Dimensionering av tvärkraftsarmering - Platta

Projekt: **Islandsbron**

Indata: f_{ck} 35.5 MPa f_{yk} 500 MPa TL1 Delresultat

f_{ctk} 2.25 MPa γ_s 1.15

γ_c 1.5

θ 21.8 deg (trycksträvans lutning)

ν 0.5148 - (6.6N)

ν_1 0.600 - (6.10N)

0.40

												(6.2.a)	(6.2.b)	(6.4)	(6.5)				(6.3N)	(6.11N)	(6.13)	(6.14)
Snitt	$V_{Ed,LKA}$	$N_{Ed,tillh}$	h	b_w	d	A_{sl}	α	$A_{sw}/s/m$	$V_{Rd,c}$	$V_{Rd,s}$	n	$V_{Rd,c}$	$V_{Rd,c,min}$	$V_{Rd,c}$	$V_{Rd,c,max}$	ρ	k	σ_{cp}	v_{min}	α_{cw}	$V_{Rd,s}$	$V_{Rd,s,max}$
TL1	kN/m	kN/m	m	m	m	cm^2/m	deg	cm^2/m^2	kN/m	kN/m	-	kN/m	kN/m	kN/m	kN/m	%	-	MPa	-	-	kN/m	kN/m
0.00	11	-1255	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.05	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
0.31	9	-1190	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.04	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
0.62	11	-1187	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.05	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
0.93	17	-1187	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.08	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
1.24	24	-1207	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.10	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
1.60	31	-1180	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.14	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
1.95	26	-1215	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.11	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
2.20	18	-1250	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.08	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
2.45	33	-1296	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.15	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
2.79	41	-1293	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.18	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
3.12	44	-1285	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
3.47	53	-1306	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.23	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
3.82	62	-1326	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.27	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
4.12	73	-1312	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.32	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
4.42	77	-1302	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.34	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
4.75	45	-1318	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.20	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
5.08	51	-1293	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.22	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
5.44	69	-1302	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.30	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
5.79	90	-1351	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.40	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
6.04	84	-1381	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.37	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
6.29	76	-1376	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.33	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
6.66	53	-1353	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.23	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
7.02	39	-1351	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.17	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
7.37	55	-1363	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.24	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
7.71	75	-1390	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.33	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
7.96	73	-1394	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.32	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
8.21	85	-1363	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.37	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
8.57	69	-1314	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.30	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
8.92	50	-1305	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.22	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
9.25	42	-1331	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
9.58	74	-1317	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.33	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
9.88	72	-1318	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.32	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
10.18	59	-1331	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.26	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
10.55	55	-1312	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.24	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
10.92	48	-1284	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.21	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
11.24	44	-1304	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
11.55	33	-1295	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.14	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
11.80	17	-1246	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.07	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
12.05	25	-1205	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.11	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
12.41	31	-1164	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.14	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
12.76	24	-1173	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.10	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
13.07	17	-1154	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.07	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
13.38	11	-1146	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.05	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
13.69	9	-1141	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.04	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
14.00	10	-1204	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.04	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0

Dimensionering av tvärkraftsarmering - Platta

Projekt: **Islandsbron**

Indata: f_{ck} 35.5 MPa f_{yk} 500 MPa TL2

f_{ctk} 2.25 MPa γ_s 1.15

γ_c 1.5

θ 21.8 deg (trycksträvans lutning)

ν 0.5148 - (6.6N)

ν_1 0.600 - (6.10N)

Delresultat

0.40

Snitt	$V_{Ed,LKA}$	$N_{Ed,tillh}$	h	b_w	d	A_{sl}	α	$A_{sw}/s/m$	$V_{Rd,c}$	$V_{Rd,s}$	n	(6.2.a) $V_{Rd,c}$	(6.2.b) $V_{Rd,c,min}$	(6.4) $V_{Rd,c}$	(6.5) $V_{Rd,c,max}$	ρ	k	σ_{cp}	(6.3N) v_{min}	(6.11N) α_{cw}	(6.13) $V_{Rd,s}$	(6.14) $V_{Rd,s,max}$
TL2	kN/m	kN/m	m	m	m	cm^2/m	deg	cm^2/m^2	kN/m	kN/m	-	kN/m	kN/m	kN/m	kN/m	%	-	MPa	-	-	kN/m	kN/m
0.00	8	-1266	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.03	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
0.31	8	-1226	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.03	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
0.62	11	-1216	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.05	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
0.93	17	-1227	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.07	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
1.24	23	-1201	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.10	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
1.60	30	-1210	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.13	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
1.95	30	-1233	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.13	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
2.20	28	-1246	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.12	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
2.45	31	-1306	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.14	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
2.79	39	-1300	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.17	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
3.12	43	-1289	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
3.47	55	-1326	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.24	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
3.82	62	-1367	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.27	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
4.12	81	-1359	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.36	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
4.42	82	-1361	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.36	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
4.75	47	-1334	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.21	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
5.08	52	-1282	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.23	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
5.44	70	-1306	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.31	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
5.79	91	-1367	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.40	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
6.04	89	-1404	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.39	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
6.29	76	-1410	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.33	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
6.66	54	-1371	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.24	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
7.02	42	-1339	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
7.37	55	-1365	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.24	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
7.71	76	-1399	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.34	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
7.96	81	-1390	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.35	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
8.21	84	-1352	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.37	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
8.57	69	-1293	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.31	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
8.92	52	-1268	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.23	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
9.25	43	-1317	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.19	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
9.58	74	-1335	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.32	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
9.88	72	-1316	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.31	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
10.18	57	-1329	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.25	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
10.55	56	-1306	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.25	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
10.92	47	-1271	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.21	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
11.24	41	-1290	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.18	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
11.55	31	-1288	0.200	1.000	0.175	6.2	90	0.0	**227**	**0**	0.14	222	227	408	1066	0.00354	2.000	4.73	0.590	1.200	0	0
11.80	15	-1223	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.07	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
12.05	24	-1209	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.10	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
12.41	30	-1188	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.13	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
12.76	23	-1180	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.10	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
13.07	17	-1205	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.07	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
13.38	11	-1193	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.05	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
13.69	7	-1202	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.03	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0
14.00	7	-1241	0.200	1.000	0.175	7.5	90	0.0	**229**	**0**	0.03	229	227	408	1066	0.00431	2.000	4.73	0.590	1.200	0	0

BILAGA 7.3

Kontroll LKB:a balkar

Bilaga 7.3 Spänningar LKB:a

Materialparametrar betong:

$f_{ctk} := 2.3\ MPa$ Karakteristisk draghållfasthet betong K50

$f_{ctd} := f_{ctk} = 2.3\ MPa$ Dimensionerande draghållfasthet, kontroll i bruksgränstillstånd

$\zeta_{uk} := 1.5$ $\zeta_{ök} := 1.5$ Spricksäkerhetsfaktor
Förutsätter tätskikt överkant farbana

Reducerad dimensionerande draghållfasthet, underkant

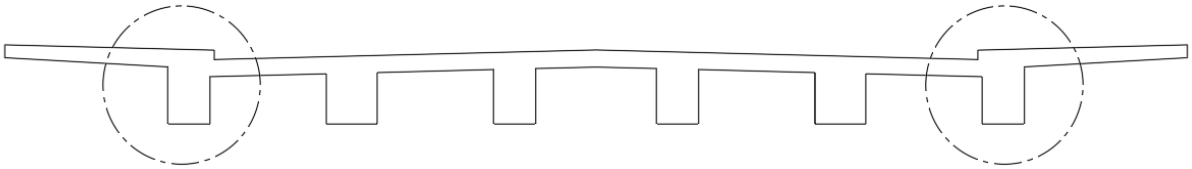
$$f_{cdj_uk} := \frac{f_{ctd}}{\zeta_{uk}} = 1.533\ MPa$$

Reducerad dimensionerande draghållfasthet, överkant

$$f_{cdj_ök} := \frac{f_{ctd}}{\zeta_{ök}} = 1.533\ MPa$$

B7.1 Balk 1 och 6

Huvuddragpåkänning och kantspänning kontrolleras med handberäkning i fält och över stöd.
Utdata är lika för symmetriska balkar så beräkning gäller för båda balkar nedan.



För snitt kontrolleras:
Nivå 1 - 100mm snitt över spännkablarnas TP-nivå
Nivå 2 - Spännkablarnas TP-nivå
Nivå 3 - 100mm snitt under spännkablarnas TP-nivå

Indata hämtas från RKFM, ritningar och beräkning.

Resultat Mmax/Mmin och VEd, TEd hämtas från modell utan hänsyn till spännarmering.
Se resultat bilaga 4.
Lastkombinering B:a.

Höjd balk

$$h_1 := 830\ mm$$

Tyngdpunkt balk

$$T_{P.balk} := 415\ mm$$

Bredd balk

$$b_1 := 500\ mm$$

Effektiv spännkraft per kabel m.h.t långtidseffekter

$$P_{eff} := 557.41\ kN \cdot (1 - 0.18) = 457\ kN$$

Area betong

$$A_c := h_1 \cdot b_1 = \left(4.15 \cdot 10^5\right)\ mm^2$$

Tröghetsmoment

$$I := \frac{\left(b_1\right)\ \left(h_1\right)^3}{12} = \left(2.382 \cdot 10^{10}\right)\ mm^4$$

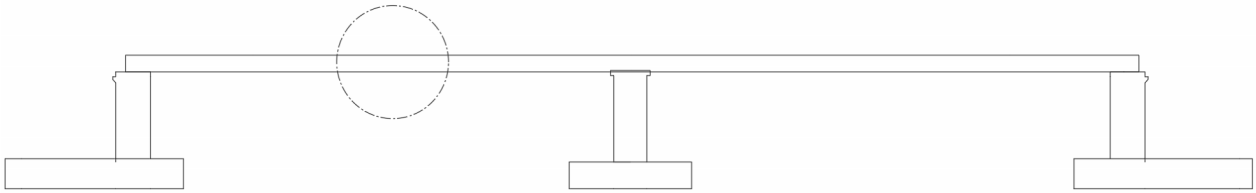
Elastiskt vridmotstånd

$\eta_2 := 0.24$ ur diagram beroende på $\frac{h_1}{b_1} = 1.66$

$$W_v := \eta_2 \cdot h_1 \cdot {b_1}^2 = \left(4.98 \cdot 10^7\right)\ mm^3$$

B7.1.1 Fältmitt balk 1 och 6

Vid snitt x = 5,747m
Max, spännkablar i underkant



Antal kablar $n_{kablar} := 8$

Total effektiv spännkraft $P_{eff_tot} := P_{eff} \cdot n_{kablar} = 3657\ kN$

$M_{max} := 892\ kN \cdot m$ $M_{min} := 490\ kN \cdot m$

$V_{tillh_Mmax} := 35\ kN$ $V_{tillh_Mmin} := 20\ kN$

$T_{tillh_Mmax} := 2\ kN \cdot m$ $T_{tillh_Mmin} := 11\ kN \cdot m$

$V_{max} := 55\ kN$ $V_{min} := 38\ kN$

$M_{tillh_Vmax} := 816\ kN \cdot m$ $M_{tillh_Vmin} := 680\ kN \cdot m$

$T_{tillh_Vmax} := 5\ kN \cdot m$ $T_{tillh_Vmin} := 15\ kN \cdot m$

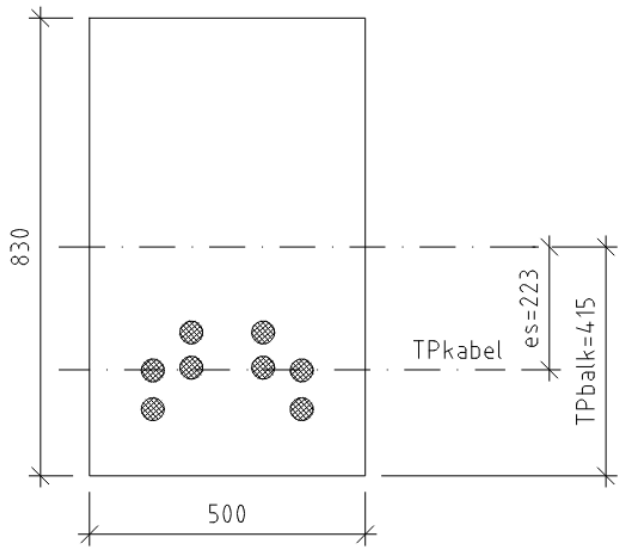
$V_{Ed} := V_{max}$ *används på säker sida*

$T_{max} := 26\ kN \cdot m$ $T_{min} := 16\ kN \cdot m$

$M_{tillh_Tmax} := 717\ kN \cdot m$ $M_{tillh_Tmin} := 746\ kN \cdot m$

$V_{tillh_Tmax} := 15\ kN$ $V_{tillh_Tmin} := 33\ kN$

$T_{Ed} := T_{max}$ *används på säker sida*



Tyngdpunkter kablar $e_s := 223\ mm$

Beräkning - Kantspänningar inklusive trafik, Mmax o Mmin

$$\sigma_{uk_kant} := \frac{-P_{eff_tot}}{A_c} + \frac{M_{max}}{I} \cdot \frac{h_1}{2} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -7.477\ MPa$$ OK

$$\sigma_{uk_kant} := \frac{-P_{eff_tot}}{A_c} + \frac{M_{min}}{I} \cdot \frac{h_1}{2} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -14.48\ MPa$$ OK

$$\sigma_{ök_kant} := \frac{-P_{eff_tot}}{A_c} - \frac{M_{max}}{I} \cdot \frac{h_1}{2} + \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -10.145\ MPa$$ OK

$$\sigma_{ök_kant} := \frac{-P_{eff_tot}}{A_c} - \frac{M_{min}}{I} \cdot \frac{h_1}{2} + \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -3.143\ MPa$$ OK

Beräkning - Huvudspänningar inklusive trafik, Mmax o Mmin, VEd, TEd

Nivå 1

Från balkens tyngdpunkt till kontrollerat snitt:

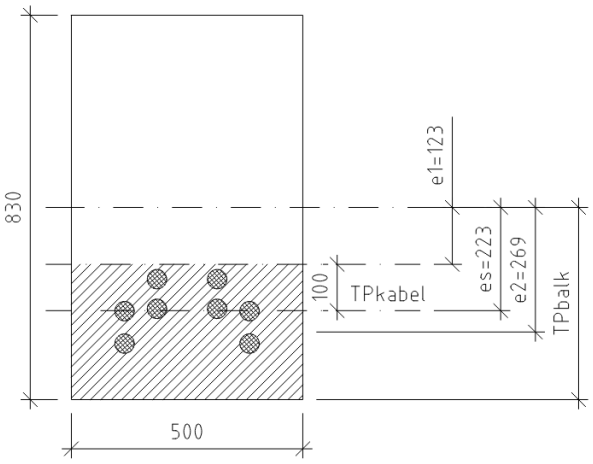
$$e_{1_1} := e_s - 100\ mm = 123\ mm$$

Från balkens tyngdpunkt till tyngdpunkt av kontrollerat snitt:

$$e_{2_1} := e_{1_1} + \frac{\left(T_{P.balk} - e_{1_1}\right)}{2} = 269\ mm$$

Statiskt moment:

$$S_1 := b_1 \cdot \left(T_{P.balk} - e_{1_1}\right) \cdot e_{2_1} = \left(3.927 \cdot 10^7\right)\ mm^3$$



Figur - Nivå 1

Nivå 2

Från balkens tyngdpunkt till kontrollerat snitt:

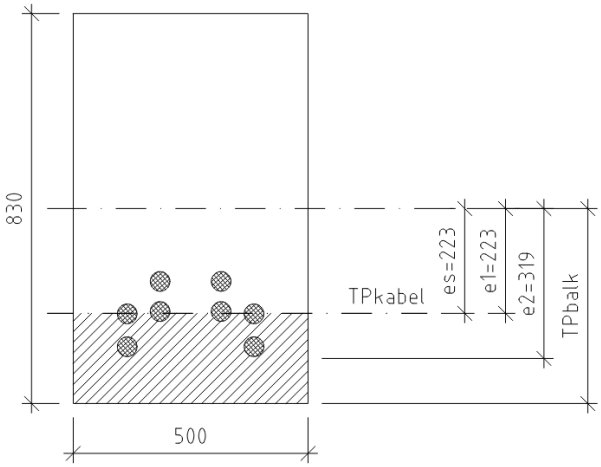
$$e_{1_2} := e_s = 223\ mm$$

Från balkens tyngdpunkt till tyngdpunkt av kontrollerat snitt:

$$e_{2_2} := e_{1_2} + \frac{\left(T_{P.balk} - e_{1_2}\right)}{2} = 319\ mm$$

Statiskt moment:

$$S_2 := b_1 \cdot \left(T_{P.balk} - e_{1_2}\right) \cdot e_{2_2} = \left(3.062 \cdot 10^7\right)\ mm^3$$



Figur - Nivå 2

Nivå 3

Från balkens tyngdpunkt till kontrollerat snitt:

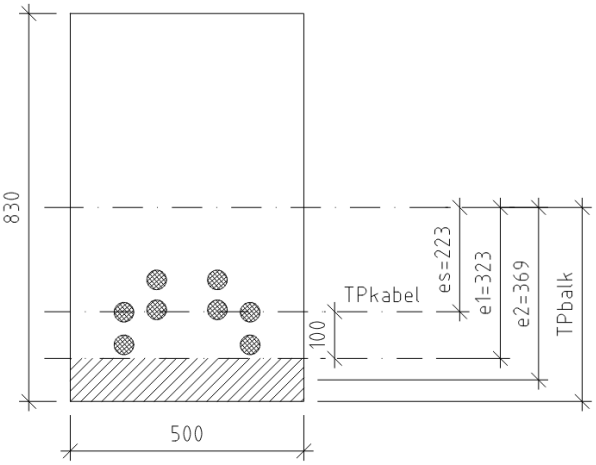
$$e_{1_3} := e_s + 100\ mm = 323\ mm$$

Från balkens tyngdpunkt till tyngdpunkt av kontrollerat snitt:

$$e_{2_3} := e_{1_3} + \frac{\left(T_{P.balk} - e_{1_3}\right)}{2} = 369\ mm$$

Statiskt moment:

$$S_3 := b_1 \cdot \left(T_{P.balk} - e_{1_3}\right) \cdot e_{2_3} = \left(1.697 \cdot 10^7\right)\ mm^3$$



Figur - Nivå 3

$$\sigma_{uk_Mmax} := \frac{-P_{eff_tot}}{A_c} + \frac{M_{max}}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} = \begin{bmatrix} -8.4 \\ -8.1 \\ -7.8 \end{bmatrix} MPa$$

Nivå 1
Nivå 2
Nivå 3

$$\sigma_{uk_Mmin} := \frac{-P_{eff_tot}}{A_c} + \frac{M_{min}}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} = \begin{bmatrix} -10.5 \\ -11.9 \\ -13.2 \end{bmatrix} MPa$$

Nivå 1
Nivå 2
Nivå 3

$$\tau_u := \frac{V_{Ed} \cdot \begin{bmatrix} S_1 \\ S_2 \\ S_3 \end{bmatrix}}{I \cdot b_1} = \begin{bmatrix} 0.181 \\ 0.141 \\ 0.078 \end{bmatrix} MPa$$

$$\tau_t := \frac{T_{Ed}}{W_v} = 0.522 \ \boldsymbol{MPa}$$

$$\sigma_{u_max} := \frac{\sigma_{uk_Mmax}}{2} + \sqrt{\frac{\sigma_{uk_Mmax}^{\ 2}}{4} + (\tau_u + \tau_t)^2} = \begin{bmatrix} 0.058 \\ 0.054 \\ 0.046 \end{bmatrix} MPa$$

Nivå 1
Nivå 2
Nivå 3

$$\sigma_{u_min} := \frac{\sigma_{uk_Mmin}}{2} + \sqrt{\frac{\sigma_{uk_Mmin}^{\ 2}}{4} + (\tau_u + \tau_t)^2} = \begin{bmatrix} 0.047 \\ 0.037 \\ 0.027 \end{bmatrix} MPa$$

Nivå 1
Nivå 2
Nivå 3

$$\sigma_u := \text{if } \sigma_{u_max_0} > \sigma_{u_min_0} \ \| \ \sigma_{u_max} \ \text{else} \ \| \ \sigma_{u_min} = \begin{bmatrix} 0.058 \\ 0.054 \\ 0.046 \end{bmatrix} \boldsymbol{MPa}$$

Nivå 1
Nivå 2
Nivå 3

Utnyttjandegrad uk balk 1 och 6:

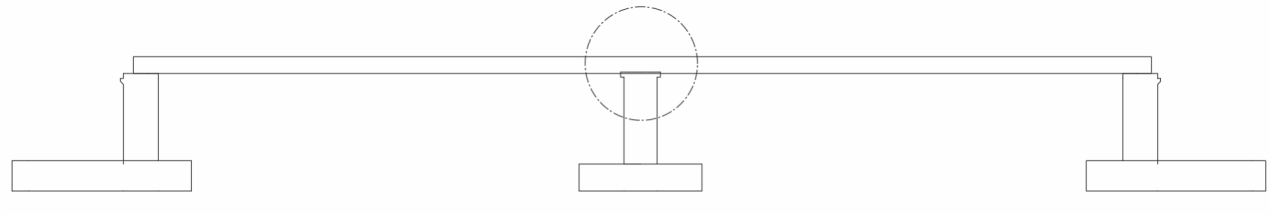
$$\frac{\sigma_u}{f_{cdj_uk}} \cdot 100 = \begin{bmatrix} 3.8 \\ 3.5 \\ 3 \end{bmatrix} \%$$

OK

Nivå 1
Nivå 2
Nivå 3

B7.1.2 Stöd Balk 1 och 6

Vid snitt x = 14,518m
Min, spännkablar i överkant



Antal kablar $n_{kablar} := 10$

Total effektiv spännkraft $P_{eff_tot} := P_{eff} \cdot n_{kablar} = 4571\ kN$

$M_{max} := -1183\ kN \cdot m$ $M_{min} := -807\ kN \cdot m$

$V_{tillh_Mmax} := 499\ kN$ $V_{tillh_Mmin} := 370\ kN$

$T_{tillh_Mmax} := 54\ kN \cdot m$ $T_{tillh_Mmin} := 33\ kN \cdot m$

$V_{max} := 569\ kN$ $V_{min} := 306\ kN$

$M_{tillh_Vmax} := -1085\ kN \cdot m$ $M_{tillh_Vmin} := -879\ kN \cdot m$

$T_{tillh_Vmax} := 2\ kN \cdot m$ $T_{tillh_Vmin} := 96\ kN \cdot m$

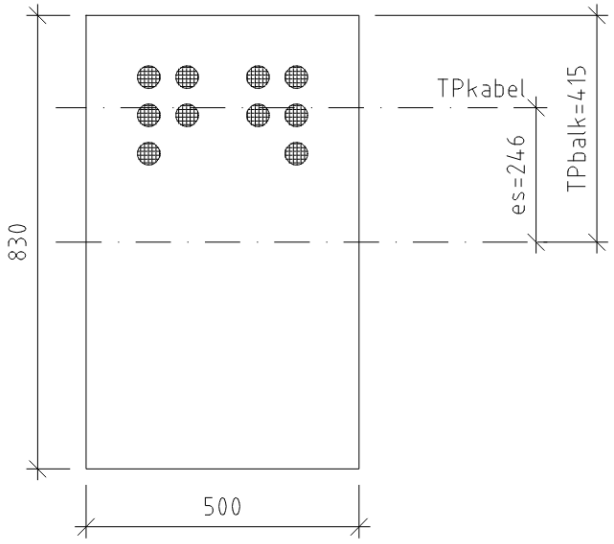
$V_{Ed} := V_{max}$ *används på säker sida*

$T_{max} := 119\ kN \cdot m$ $T_{min} := 17\ kN \cdot m$

$M_{tillh_Tmax} := -985\ kN \cdot m$ $M_{tillh_Tmin} := -860\ kN \cdot m$

$V_{tillh_Tmax} := 351\ kN$ $V_{tillh_Tmin} := 458\ kN$

$T_{Ed} := T_{max}$ *används på säker sida*



Tyngdpunkter kablar och balk $e_s := 246\ mm$

Beräkning - Kantspänningar inklusive trafik, Mmin o Mmax

$$\sigma_{uk_kant} := \frac{-P_{eff_tot}}{A_c} + \frac{M_{min}}{I} \cdot \frac{h_1}{2} + \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -5.485\ MPa$$ OK

$$\sigma_{uk_kant} := \frac{-P_{eff_tot}}{A_c} + \frac{M_{max}}{I} \cdot \frac{h_1}{2} + \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -12.035\ MPa$$ OK

$$\sigma_{ök_kant} := \frac{-P_{eff_tot}}{A_c} - \frac{M_{min}}{I} \cdot \frac{h_1}{2} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -16.543\ MPa$$ OK

$$\sigma_{ök_kant} := \frac{-P_{eff_tot}}{A_c} - \frac{M_{max}}{I} \cdot \frac{h_1}{2} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -9.993\ MPa$$ OK

Beräkning - Huvudspänningar inklusive trafik, Mmin o Mmax, VEd, TEd

Nivå 1

Från balkens tyngdpunkt till kontrollerat snitt:

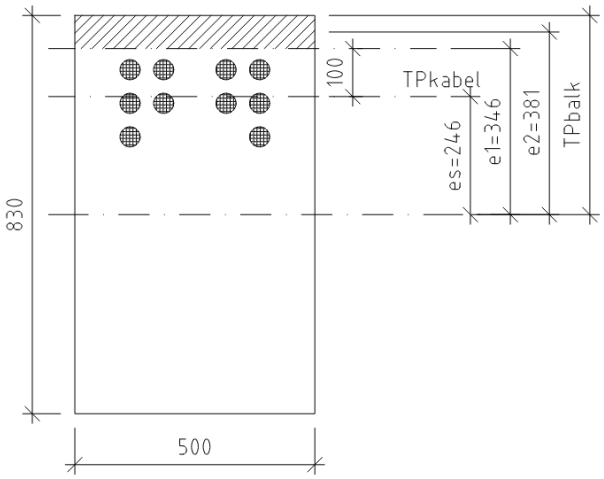
$$e_{1_1} := e_s + 100\ mm = 346\ mm$$

Från balkens tyngdpunkt till tyngdpunkt av kontrollerat snitt:

$$e_{2_1} := e_{1_1} + \frac{\left(T_{P.balk} - e_{1_1}\right)}{2} = 381\ mm$$

Statiskt moment:

$$S_1 := b_1 \cdot \left(T_{P.balk} - e_{1_1}\right) \cdot e_{2_1} = \left(1.313 \cdot 10^7\right)\ mm^3$$



Figur - Nivå 1

Nivå 2

Från balkens tyngdpunkt till kontrollerat snitt:

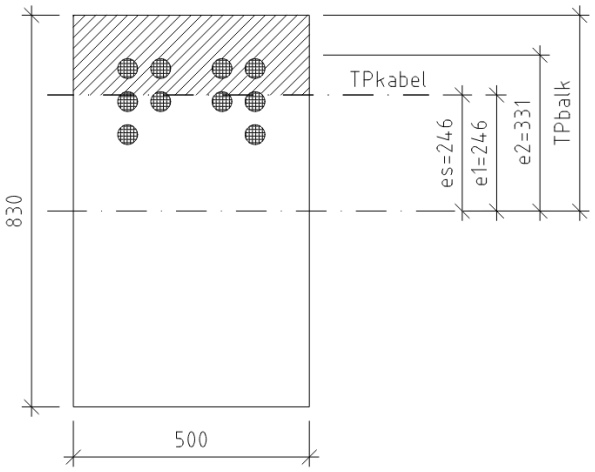
$$e_{1_2} := e_s = 246\ mm$$

Från balkens tyngdpunkt till tyngdpunkt av kontrollerat snitt:

$$e_{2_2} := e_{1_2} + \frac{\left(T_{P.balk} - e_{1_2}\right)}{2} = 331\ mm$$

Statiskt moment:

$$S_2 := b_1 \cdot \left(T_{P.balk} - e_{1_2}\right) \cdot e_{2_2} = \left(2.793 \cdot 10^7\right)\ mm^3$$



Figur - Nivå 2

Nivå 3

Från balkens tyngdpunkt till kontrollerat snitt:

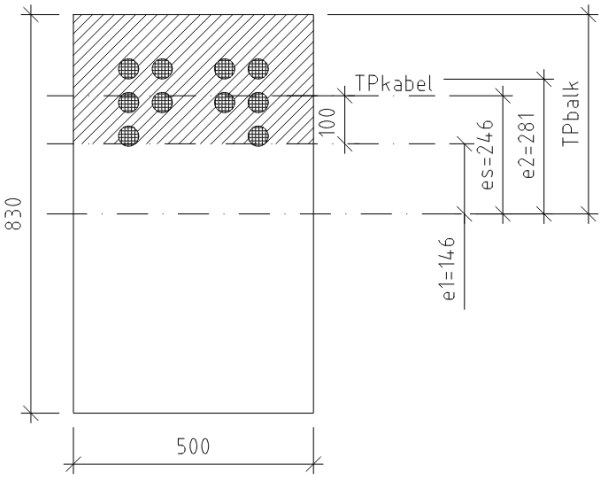
$$e_{1_3} := e_s - 100\ mm = 146\ mm$$

Från balkens tyngdpunkt till tyngdpunkt av kontrollerat snitt:

$$e_{2_3} := e_{1_3} + \frac{\left(T_{P.balk} - e_{1_3}\right)}{2} = 281\ mm$$

Statiskt moment:

$$S_3 := b_1 \cdot \left(T_{P.balk} - e_{1_3}\right) \cdot e_{2_3} = \left(3.773 \cdot 10^7\right)\ mm^3$$



Figur - Nivå 3

$$\sigma_{ök_Mmin} := \frac{-P_{eff_tot}}{A_c} - \frac{M_{min}}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} = \begin{bmatrix} -15.624 \\ -14.291 \\ -12.959 \end{bmatrix} MPa$$ Nivå 1 Nivå 2 Nivå 3

$$\sigma_{ök_Mmax} := \frac{-P_{eff_tot}}{A_c} - \frac{M_{max}}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} = \begin{bmatrix} -10.163 \\ -10.409 \\ -10.655 \end{bmatrix} MPa$$ Nivå 1 Nivå 2 Nivå 3

$$\tau_{ö} := \frac{V_{Ed} \cdot \begin{bmatrix} S_1 \\ S_2 \\ S_3 \end{bmatrix}}{I \cdot b_1} = \begin{bmatrix} 0.627 \\ 1.334 \\ 1.802 \end{bmatrix} \boldsymbol{MPa}$$

$$\tau_t := \frac{T_{Ed}}{W_v} = 2.39 \ \boldsymbol{MPa}$$

$$\sigma_{ö_max} := \frac{\sigma_{ök_Mmax}}{2} + \sqrt{\frac{\sigma_{ök_Mmax}^{\ 2}}{4} + \left(\tau_{ö} + \tau_t\right)^2} = \begin{bmatrix} 0.828 \\ 1.195 \\ 1.451 \end{bmatrix} MPa$$ Nivå 1 Nivå 2 Nivå 3

$$\sigma_{ö_min} := \frac{\sigma_{ök_Mmin}}{2} + \sqrt{\frac{\sigma_{ök_Mmin}^{\ 2}}{4} + \left(\tau_{ö} + \tau_t\right)^2} = \begin{bmatrix} 0.562 \\ 0.912 \\ 1.238 \end{bmatrix} MPa$$ Nivå 1 Nivå 2 Nivå 3

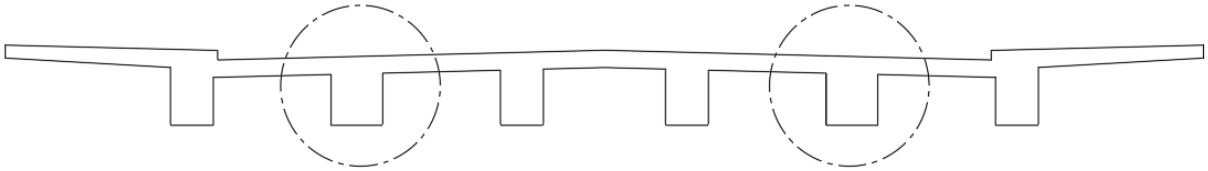
$$\sigma_{ö} := \text{if } \sigma_{ö_max_0} > \sigma_{ö_min_0} \left\| \sigma_{ö_max} \right| \text{else} \left\| \sigma_{ö_min} \right| = \begin{bmatrix} 0.828 \\ 1.195 \\ 1.451 \end{bmatrix} \boldsymbol{MPa}$$ Nivå 1 Nivå 2 Nivå 3

Utnyttjandegrad ök balk 1 och 6:

$$\frac{\sigma_{ö}}{f_{cdj_ök}} \cdot 100 = \begin{bmatrix} 54 \\ 77.9 \\ 94.7 \end{bmatrix} \%$$ OK Nivå 1 Nivå 2 Nivå 3

B7.2 Balk 2 och 5

Huvuddragpåkänning och kantspänning kontrolleras med handberäkning i fält och över stöd.
Utdata är lika för symmetriska balkar så beräkning gäller för båda balkar nedan.



För snitt kontrolleras:
Nivå 1 - 100mm snitt över spännkablarnas TP-nivå
Nivå 2 - Spännkablarnas TP-nivå
Nivå 3 - 100mm snitt under spännkablarnas TP-nivå

Indata hämtas från RKFM, ritningar och beräkning.

Resultat Mmax/Mmin och VEd, TEd hämtas från modell utan hänsyn till spännarmering.
Se resultat bilaga 4.
Lastkombinering B:a.

Höjd balk $h_1 := 750\ mm$

Tyngdpunkt balk $T_{P.balk} := 375\ mm$

Bredd balk $b_1 := 600\ mm$

Effektiv spännkraft m.h.t långtidseffekter $P_{eff} := 557.41\ kN \cdot (1 - 0.18) = 457\ kN$

Area betong $A_c := h_1 \cdot b_1 = (4.5 \cdot 10^5)\ mm^2$

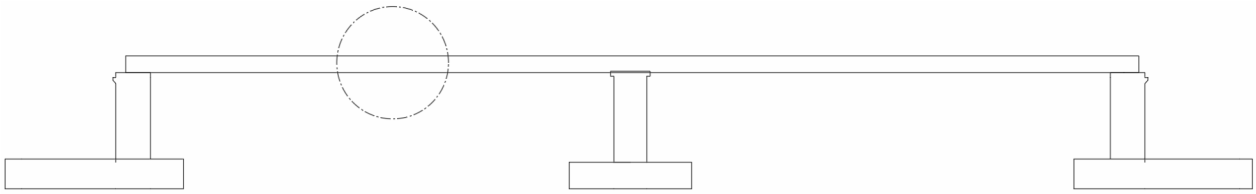
Tröghetsmoment $I := \frac{(b_1)\ (h_1)^3}{12} = (2.109 \cdot 10^{10})\ mm^4$

Elastiskt vridmotstånd $\eta_2 := 0.22$ ur diagram beroende på $\frac{h_1}{b_1} = 1.25$

$W_v := \eta_2 \cdot h_1 \cdot {b_1}^2 = (5.94 \cdot 10^7)\ mm^3$

B7.2.1 Fältmitt balk 2 och 5

Vid snitt x = 5,747m
Max, spännkablar i underkant



Antal kablar $n_{kablar} := 8$

Total effektiv spännkraft $P_{eff_tot} := P_{eff} \cdot n_{kablar} = 3657\ kN$

$M_{max} := 711\ kN \cdot m$ $M_{min} := 382\ kN \cdot m$

$V_{tillh_Mmax} := 6\ kN$ $V_{tillh_Mmin} := 1\ kN$

$T_{tillh_Mmax} := 5\ kN \cdot m$ $T_{tillh_Mmin} := 5\ kN \cdot m$

$V_{max} := 69\ kN$ $V_{min} := 49\ kN$

$M_{tillh_Vmax} := 648\ kN \cdot m$ $M_{tillh_Vmin} := 584\ kN \cdot m$

$T_{tillh_Vmax} := 7\ kN \cdot m$ $T_{tillh_Vmin} := 16\ kN \cdot m$

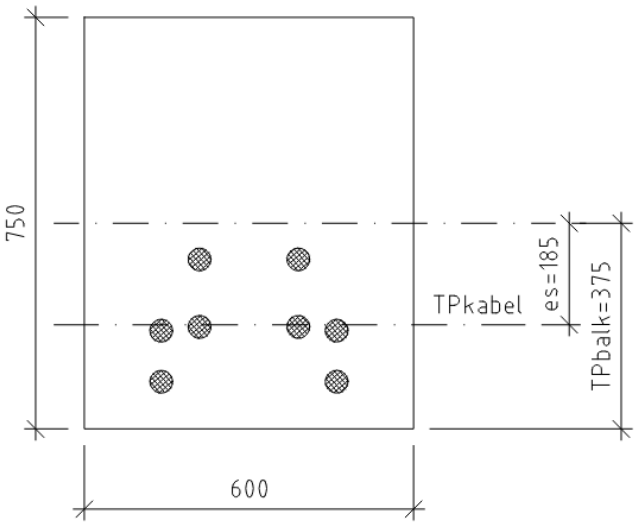
$V_{Ed} := V_{max}$ *används på säker sida*

$T_{max} := 25\ kN \cdot m$ $T_{min} := 22\ kN \cdot m$

$M_{tillh_Tmax} := 588\ kN \cdot m$ $M_{tillh_Tmin} := 568\ kN \cdot m$

$V_{tillh_Tmax} := 48\ kN$ $V_{tillh_Tmin} := 30\ kN$

$T_{Ed} := T_{max}$ *används på säker sida*



Tyngdpunkter kablar $e_s := 185\ mm$

Beräkning - Kantspänningar inklusive trafik, Mmax o Mmin

$$\sigma_{uk_kant} := \frac{-P_{eff_tot}}{A_c} + \frac{M_{max}}{I} \cdot \frac{h_1}{2} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -7.512\ MPa$$ OK

$$\sigma_{uk_kant} := \frac{-P_{eff_tot}}{A_c} + \frac{M_{min}}{I} \cdot \frac{h_1}{2} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -13.361\ MPa$$ OK

$$\sigma_{ök_kant} := \frac{-P_{eff_tot}}{A_c} - \frac{M_{max}}{I} \cdot \frac{h_1}{2} + \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -8.74\ MPa$$ OK

$$\sigma_{ök_kant} := \frac{-P_{eff_tot}}{A_c} - \frac{M_{min}}{I} \cdot \frac{h_1}{2} + \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -2.891\ MPa$$ OK

Beräkning - Huvudspänningar inklusive trafik, Mmax o Mmin, VEd, TEd

Nivå 1

Från balkens tyngdpunkt till kontrollerat snitt:

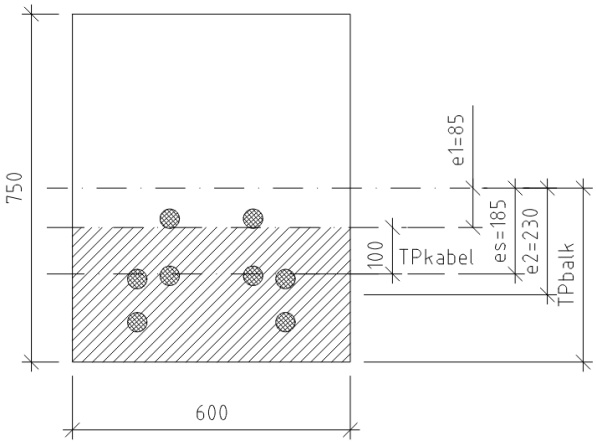
$$e_{1_1} := e_s - 100\ mm = 85\ mm$$

Från balkens tyngdpunkt till tyngdpunkt av kontrollerat snitt:

$$e_{2_1} := e_{1_1} + \frac{\left(T_{P.balk} - e_{1_1}\right)}{2} = 230\ mm$$

Statiskt moment:

$$S_1 := b_1 \cdot \left(T_{P.balk} - e_{1_1}\right) \cdot e_{2_1} = \left(4.002 \cdot 10^7\right)\ mm^3$$



Figur - Nivå 1

Nivå 2

Från balkens tyngdpunkt till kontrollerat snitt:

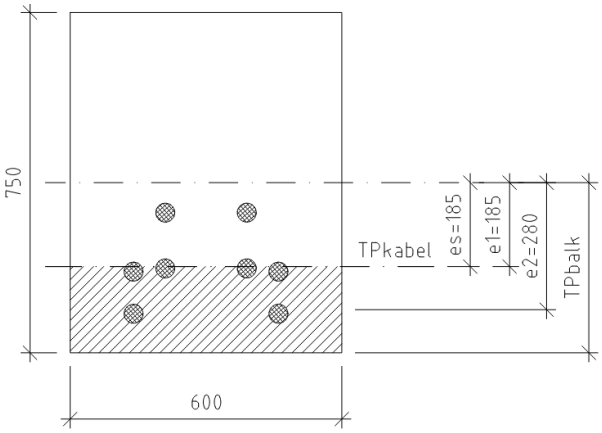
$$e_{1_2} := e_s = 185\ mm$$

Från balkens tyngdpunkt till tyngdpunkt av kontrollerat snitt:

$$e_{2_2} := e_{1_2} + \frac{\left(T_{P.balk} - e_{1_2}\right)}{2} = 280\ mm$$

Statiskt moment:

$$S_2 := b_1 \cdot \left(T_{P.balk} - e_{1_2}\right) \cdot e_{2_2} = \left(3.192 \cdot 10^7\right)\ mm^3$$



Figur - Nivå 2

Nivå 3

Från balkens tyngdpunkt till kontrollerat snitt:

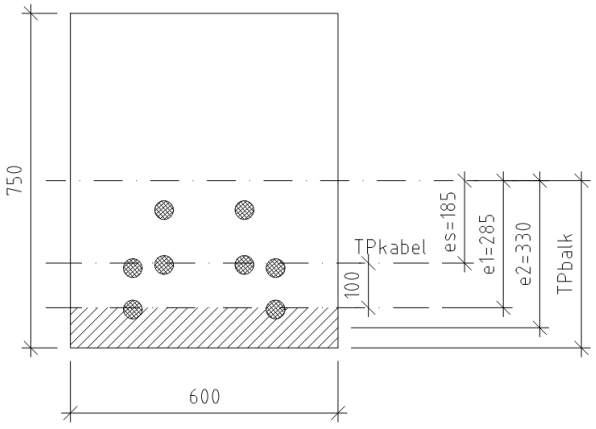
$$e_{1_3} := e_s + 100\ mm = 285\ mm$$

Från balkens tyngdpunkt till tyngdpunkt av kontrollerat snitt:

$$e_{2_3} := e_{1_3} + \frac{\left(T_{P.balk} - e_{1_3}\right)}{2} = 330\ mm$$

Statiskt moment:

$$S_3 := b_1 \cdot \left(T_{P.balk} - e_{1_3}\right) \cdot e_{2_3} = \left(1.782 \cdot 10^7\right)\ mm^3$$



Figur - Nivå 3

$$\sigma_{uk_Mmax} := \frac{-P_{eff_tot}}{A_c} + \frac{M_{max}}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} = \begin{bmatrix} -8 \\ -7.8 \\ -7.7 \end{bmatrix} MPa$$

Nivå 1
Nivå 2
Nivå 3

$$\sigma_{uk_Mmin} := \frac{-P_{eff_tot}}{A_c} + \frac{M_{min}}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} = \begin{bmatrix} -9.3 \\ -10.7 \\ -12.1 \end{bmatrix} MPa$$

Nivå 1
Nivå 2
Nivå 3

$$\tau_u := \frac{V_{Ed} \cdot \begin{bmatrix} S_1 \\ S_2 \\ S_3 \end{bmatrix}}{I \cdot b_1} = \begin{bmatrix} 0.218 \\ 0.174 \\ 0.097 \end{bmatrix} MPa$$

$$\tau_t := \frac{T_{Ed}}{W_v} = 0.421 \ \boldsymbol{MPa}$$

$$\sigma_{u_max} := \frac{\sigma_{uk_Mmax}}{2} + \sqrt{\frac{\sigma_{uk_Mmax}^{\ 2}}{4} + (\tau_u + \tau_t)^2} = \begin{bmatrix} 0.051 \\ 0.045 \\ 0.035 \end{bmatrix} MPa$$

Nivå 1
Nivå 2
Nivå 3

$$\sigma_{u_min} := \frac{\sigma_{uk_Mmin}}{2} + \sqrt{\frac{\sigma_{uk_Mmin}^{\ 2}}{4} + (\tau_u + \tau_t)^2} = \begin{bmatrix} 0.044 \\ 0.033 \\ 0.022 \end{bmatrix} MPa$$

Nivå 1
Nivå 2
Nivå 3

$$\sigma_u := \text{if } \sigma_{u_max_0} > \sigma_{u_min_0} \left\| \sigma_{u_max} \right. \text{ else } \left\| \sigma_{u_min} \right. = \begin{bmatrix} 0.051 \\ 0.045 \\ 0.035 \end{bmatrix} \boldsymbol{MPa}$$

Nivå 1
Nivå 2
Nivå 3

Utnyttjandegrad uk balk 2 och 5:

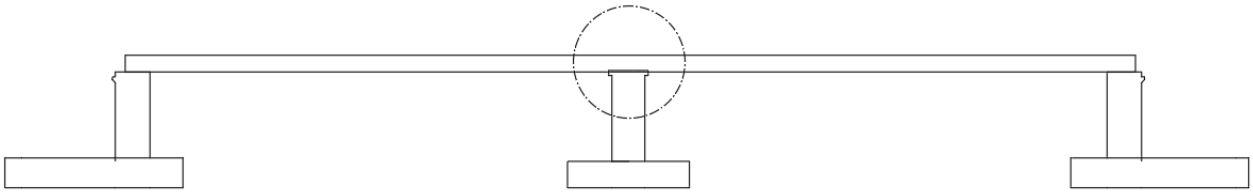
$$\frac{\sigma_u}{f_{cdj_uk}} \cdot 100 = \begin{bmatrix} 3.3 \\ 2.9 \\ 2.3 \end{bmatrix} \%$$

OK

Nivå 1
Nivå 2
Nivå 3

B7.2.2 Stöd Balk 2 och 5

Vid snitt x = 14,518m
Min, spännkablar i överkant



Antal kablar $n_{kablar} := 10$

Total effektiv spännkraft $P_{eff_tot} := P_{eff} \cdot n_{kablar} = 4571\ kN$

$M_{max} := -930\ kN \cdot m$ $M_{min} := -602\ kN \cdot m$

$V_{tillh_Mmax} := 381\ kN$ $V_{tillh_Mmin} := 196\ kN$

$T_{tillh_Mmax} := 70\ kN \cdot m$ $T_{tillh_Mmin} := 36\ kN \cdot m$

$V_{max} := 452\ kN$ $V_{min} := 195\ kN$

$M_{tillh_Vmax} := -873\ kN \cdot m$ $M_{tillh_Vmin} := -610\ kN \cdot m$

$T_{tillh_Vmax} := 85\ kN \cdot m$ $T_{tillh_Vmin} := 40\ kN \cdot m$

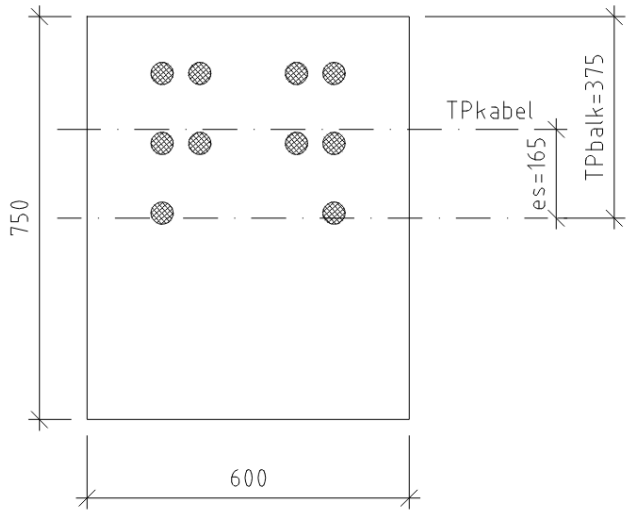
$V_{Ed} := V_{max}$ *används på säker sida*

$T_{max} := 95\ kN \cdot m$ $T_{min} := 57\ kN \cdot m$

$M_{tillh_Tmax} := -773\ kN \cdot m$ $M_{tillh_Tmin} := -642\ kN \cdot m$

$V_{tillh_Tmax} := 295\ kN$ $V_{tillh_Tmin} := 208\ kN$

$T_{Ed} := T_{max}$ *används på säker sida*



Tyngdpunkter kablar och balk $e_s := 165\ mm$

Beräkning - Kantspänningar inklusive trafik, Mmin o Mmax

$$\sigma_{uk_kant} := \frac{-P_{eff_tot}}{A_c} + \frac{M_{min}}{I} \cdot \frac{h_1}{2} + \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -7.452\ MPa$$ OK

$$\sigma_{uk_kant} := \frac{-P_{eff_tot}}{A_c} + \frac{M_{max}}{I} \cdot \frac{h_1}{2} + \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -13.283\ MPa$$ OK

$$\sigma_{ök_kant} := \frac{-P_{eff_tot}}{A_c} - \frac{M_{min}}{I} \cdot \frac{h_1}{2} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -12.863\ MPa$$ OK

$$\sigma_{ök_kant} := \frac{-P_{eff_tot}}{A_c} - \frac{M_{max}}{I} \cdot \frac{h_1}{2} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -7.031\ MPa$$ OK

Beräkning - Huvudspänningar inklusive trafik, Mmin o Mmax, VEd, TEd

Nivå 1

Från balkens tyngdpunkt till kontrollerat snitt:

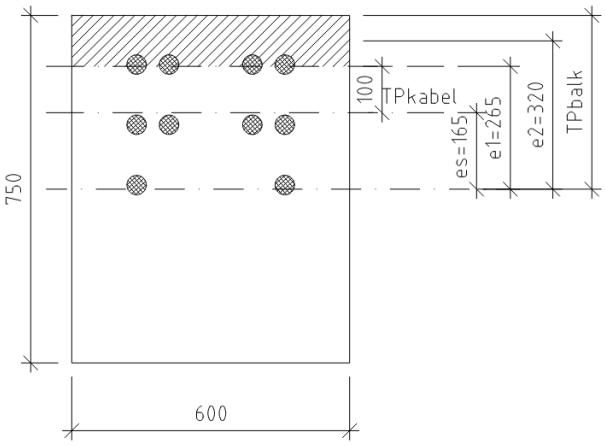
$$e_{1_1} := e_s + 100\ mm = 265\ mm$$

Från balkens tyngdpunkt till tyngdpunkt av kontrollerat snitt:

$$e_{2_1} := e_{1_1} + \frac{\left(T_{P.balk} - e_{1_1}\right)}{2} = 320\ mm$$

Statiskt moment:

$$S_1 := b_1 \cdot \left(T_{P.balk} - e_{1_1}\right) \cdot e_{2_1} = \left(2.112 \cdot 10^7\right)\ mm^3$$



Figur - Nivå 1

Nivå 2

Från balkens tyngdpunkt till kontrollerat snitt:

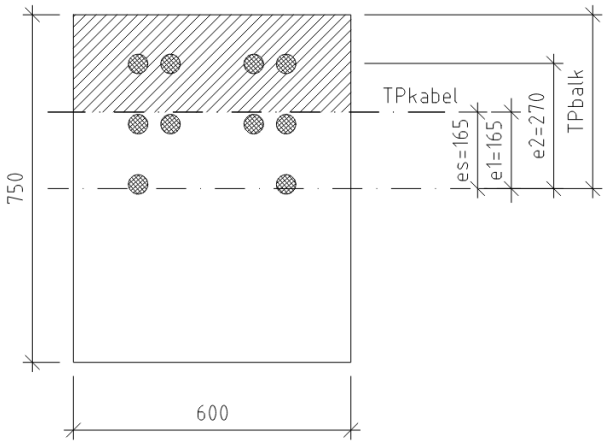
$$e_{1_2} := e_s = 165\ mm$$

Från balkens tyngdpunkt till tyngdpunkt av kontrollerat snitt:

$$e_{2_2} := e_{1_2} + \frac{\left(T_{P.balk} - e_{1_2}\right)}{2} = 270\ mm$$

Statiskt moment:

$$S_2 := b_1 \cdot \left(T_{P.balk} - e_{1_2}\right) \cdot e_{2_2} = \left(3.402 \cdot 10^7\right)\ mm^3$$



Figur - Nivå 2

Nivå 3

Från balkens tyngdpunkt till kontrollerat snitt:

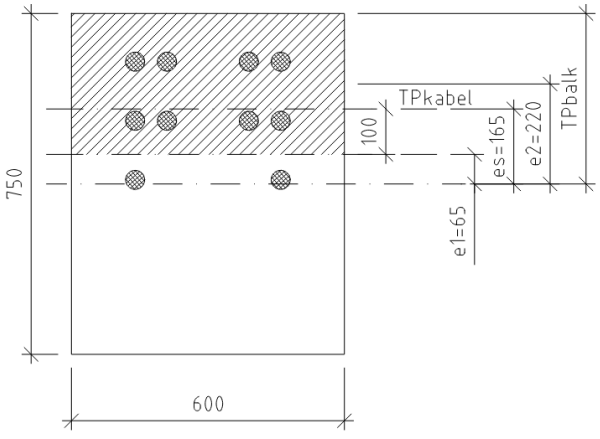
$$e_{1_3} := e_s - 100\ mm = 65\ mm$$

Från balkens tyngdpunkt till tyngdpunkt av kontrollerat snitt:

$$e_{2_3} := e_{1_3} + \frac{\left(T_{P.balk} - e_{1_3}\right)}{2} = 220\ mm$$

Statiskt moment:

$$S_3 := b_1 \cdot \left(T_{P.balk} - e_{1_3}\right) \cdot e_{2_3} = \left(4.092 \cdot 10^7\right)\ mm^3$$



Figur - Nivå 3

$$\sigma_{ök_Mmin} := \frac{-P_{eff_tot}}{A_c} - \frac{M_{min}}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} = \begin{bmatrix} -12.069 \\ -11.348 \\ -10.626 \end{bmatrix} MPa$$ Nivå 1 / Nivå 2 / Nivå 3

$$\sigma_{ök_Mmax} := \frac{-P_{eff_tot}}{A_c} - \frac{M_{max}}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} = \begin{bmatrix} -7.948 \\ -8.782 \\ -9.615 \end{bmatrix} MPa$$ Nivå 1 / Nivå 2 / Nivå 3

$$\tau_ö := \frac{V_{Ed} \cdot \begin{bmatrix} S_1 \\ S_2 \\ S_3 \end{bmatrix}}{I \cdot b_1} = \begin{bmatrix} 0.754 \\ 1.215 \\ 1.461 \end{bmatrix} \textbf{MPa}$$

$$\tau_t := \frac{T_{Ed}}{W_v} = 1.599 \textbf{ MPa}$$

$$\sigma_{ö_max} := \frac{\sigma_{ök_Mmax}}{2} + \sqrt{\frac{\sigma_{ök_Mmax}^{\ 2}}{4} + (\tau_ö + \tau_t)^2} = \begin{bmatrix} 0.645 \\ 0.824 \\ 0.892 \end{bmatrix} MPa$$ Nivå 1 / Nivå 2 / Nivå 3

$$\sigma_{ö_min} := \frac{\sigma_{ök_Mmin}}{2} + \sqrt{\frac{\sigma_{ök_Mmin}^{\ 2}}{4} + (\tau_ö + \tau_t)^2} = \begin{bmatrix} 0.443 \\ 0.66 \\ 0.819 \end{bmatrix} MPa$$ Nivå 1 / Nivå 2 / Nivå 3

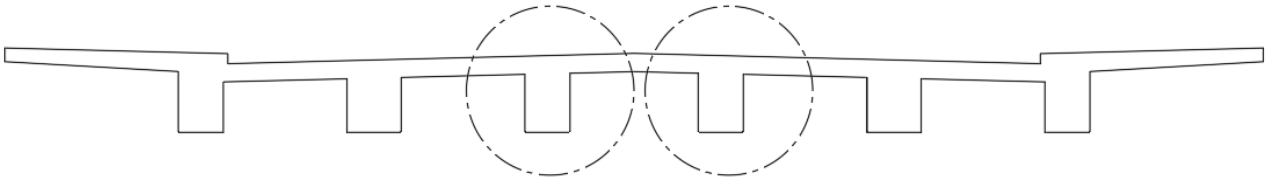
$$\sigma_ö := \text{if } \sigma_{ö_max_0} > \sigma_{ö_min_0} \left\| \sigma_{ö_max} \right| \text{else} \left\| \sigma_{ö_min} \right| = \begin{bmatrix} 0.645 \\ 0.824 \\ 0.892 \end{bmatrix} \textbf{MPa}$$ Nivå 1 / Nivå 2 / Nivå 3

Utnyttjandegrad ök balk 2 och 5:

$$\frac{\sigma_ö}{f_{cdj_ök}} \cdot 100 = \begin{bmatrix} 42 \\ 53.8 \\ 58.1 \end{bmatrix} \%$$ OK Nivå 1 / Nivå 2 / Nivå 3

B7.3 Balk 3 och 4

Huvuddragpåkänning och kantspänning kontrolleras med handberäkning i fält och över stöd.
Utdata är lika för symmetriska balkar så beräkning gäller för båda balkar nedan.



För snitt kontrolleras:
Nivå 1 - 100mm snitt över spännkablarnas TP-nivå
Nivå 2 - Spännkablarnas TP-nivå
Nivå 3 - 100mm snitt under spännkablarnas TP-nivå

Indata hämtas från RKFM, ritningar och beräkning.

Resultat Mmax/Mmin och VEd, TEd hämtas från modell utan hänsyn till spännarmering.
Se resultat bilaga 4.
Lastkombinering B:a.

Höjd balk $h_1 := 800\ mm$

Tyngdpunkt balk $T_{P.balk} := 400\ mm$

Bredd balk $b_1 := 500\ mm$

Effektiv spännkraft m.h.t långtidseffekter $P_{eff} := 557.41\ kN \cdot (1 - 0.18) = 457\ kN$

Area betong $A_c := h_1 \cdot b_1 = \left(4 \cdot 10^5\right)\ mm^2$

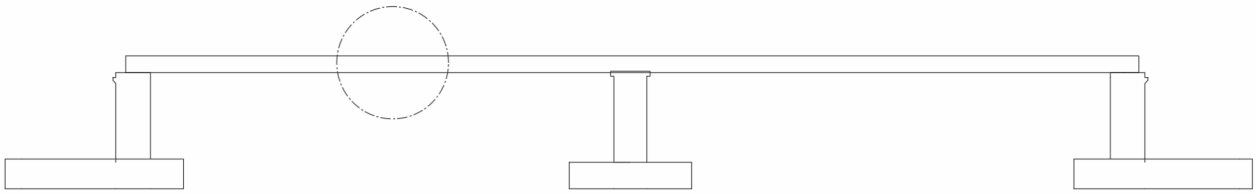
Tröghetsmoment $I := \frac{\left(b_1\right)\ \left(h_1\right)^3}{12} = \left(2.133 \cdot 10^{10}\right)\ mm^4$

Elastiskt vridmotstånd $\eta_2 := 0.24$ ur diagram beroende på $\frac{h_1}{b_1} = 1.6$

$W_v := \eta_2 \cdot h_1 \cdot {b_1}^2 = \left(4.8 \cdot 10^7\right)\ mm^3$

B7.3.1 Fältmitt balk 3 och 4

Vid snitt x = 5,747m
Max, spännkablar i underkant



Antal kablar $n_{kablar} := 8$

Total effektiv spännkraft $P_{eff_tot} := P_{eff} \cdot n_{kablar} = 3657\ kN$

$M_{max} := 740\ kN \cdot m$ $M_{min} := 408\ kN \cdot m$

$V_{tillh_Mmax} := 4\ kN$ $V_{tillh_Mmin} := 13\ kN$

$T_{tillh_Mmax} := 4\ kN \cdot m$ $T_{tillh_Mmin} := 1\ kN \cdot m$

$V_{max} := 67\ kN$ $V_{min} := 58\ kN$

$M_{tillh_Vmax} := 686\ kN \cdot m$ $M_{tillh_Vmin} := 560\ kN \cdot m$

$T_{tillh_Vmax} := 2\ kN \cdot m$ $T_{tillh_Vmin} := 2\ kN \cdot m$

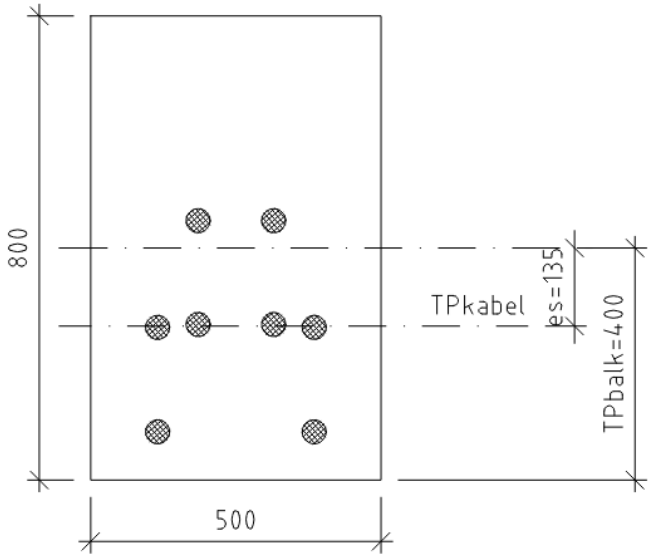
$V_{Ed} := V_{max}$ *används på säker sida*

$T_{max} := 26\ kN \cdot m$ $T_{min} := 23\ kN \cdot m$

$M_{tillh_Tmax} := 618\ kN \cdot m$ $M_{tillh_Tmin} := 623\ kN \cdot m$

$V_{tillh_Tmax} := 40\ kN$ $V_{tillh_Tmin} := 23\ kN$

$T_{Ed} := T_{max}$ *används på säker sida*



Tyngdpunkter kablar $e_s := 135\ mm$

Beräkning - Kantspänningar inklusive trafik, Mmax o Mmin

$$\sigma_{uk_kant} := \frac{-P_{eff_tot}}{A_c} + \frac{M_{max}}{I} \cdot \frac{h_1}{2} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -4.522\ MPa$$ OK

$$\sigma_{uk_kant} := \frac{-P_{eff_tot}}{A_c} + \frac{M_{min}}{I} \cdot \frac{h_1}{2} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -10.747\ MPa$$ OK

$$\sigma_{ök_kant} := \frac{-P_{eff_tot}}{A_c} - \frac{M_{max}}{I} \cdot \frac{h_1}{2} + \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -13.761\ MPa$$ OK

$$\sigma_{ök_kant} := \frac{-P_{eff_tot}}{A_c} - \frac{M_{min}}{I} \cdot \frac{h_1}{2} + \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -7.536\ MPa$$ OK

Beräkning - Huvudspänningar inklusive trafik, Mmax o Mmin, VEd, TEd

Nivå 1

Från balkens tyngdpunkt till kontrollerat snitt:

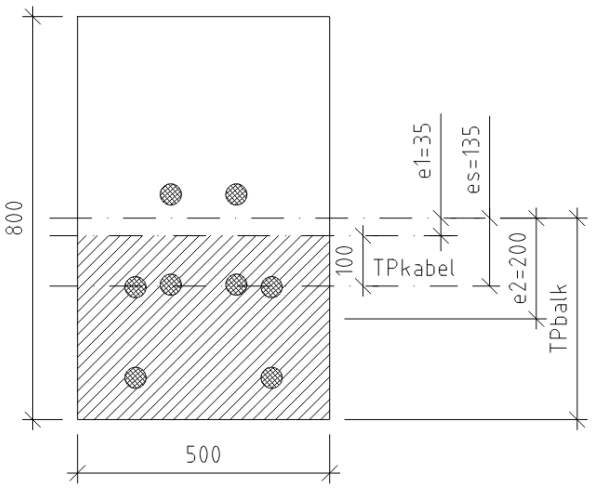
$$e_{1_1} := e_s - 100\ mm = 35\ mm$$

Från balkens tyngdpunkt till tyngdpunkt av kontrollerat snitt:

$$e_{2_1} := e_{1_1} + \frac{\left(T_{P.balk} - e_{1_1}\right)}{2} = 217.5\ mm$$

Statiskt moment:

$$S_1 := b_1 \cdot \left(T_{P.balk} - e_{1_1}\right) \cdot e_{2_1} = \left(3.969 \cdot 10^7\right)\ mm^3$$



Figur - Nivå 1

Nivå 2

Från balkens tyngdpunkt till kontrollerat snitt:

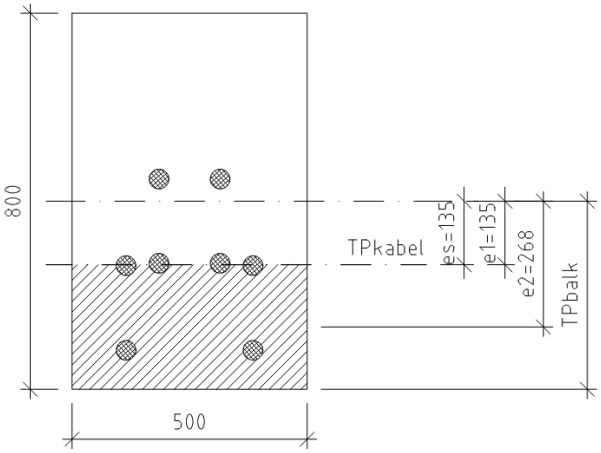
$$e_{1_2} := e_s = 135\ mm$$

Från balkens tyngdpunkt till tyngdpunkt av kontrollerat snitt:

$$e_{2_2} := e_{1_2} + \frac{\left(T_{P.balk} - e_{1_2}\right)}{2} = 267.5\ mm$$

Statiskt moment:

$$S_2 := b_1 \cdot \left(T_{P.balk} - e_{1_2}\right) \cdot e_{2_2} = \left(3.544 \cdot 10^7\right)\ mm^3$$



Figur - Nivå 2

Nivå 3

Från balkens tyngdpunkt till kontrollerat snitt:

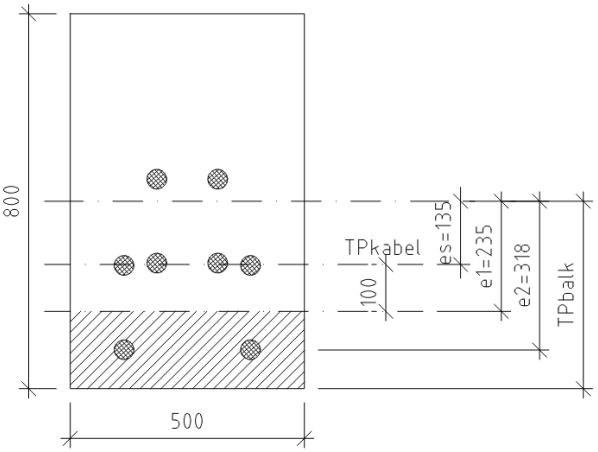
$$e_{1_3} := e_s + 100\ mm = 235\ mm$$

Från balkens tyngdpunkt till tyngdpunkt av kontrollerat snitt:

$$e_{2_3} := e_{1_3} + \frac{\left(T_{P.balk} - e_{1_3}\right)}{2} = 317.5\ mm$$

Statiskt moment:

$$S_3 := b_1 \cdot \left(T_{P.balk} - e_{1_3}\right) \cdot e_{2_3} = \left(2.619 \cdot 10^7\right)\ mm^3$$



Figur - Nivå 3

$$\sigma_{uk_Mmax} := \frac{-P_{eff_tot}}{A_c} + \frac{M_{max}}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} = \begin{bmatrix} -8.7 \\ -7.6 \\ -6.4 \end{bmatrix} MPa$$ Nivå 1 Nivå 2 Nivå 3

$$\sigma_{uk_Mmin} := \frac{-P_{eff_tot}}{A_c} + \frac{M_{min}}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} = \begin{bmatrix} -9.3 \\ -9.7 \\ -10.1 \end{bmatrix} MPa$$ Nivå 1 Nivå 2 Nivå 3

$$\tau_u := \frac{V_{Ed} \cdot \begin{bmatrix} S_1 \\ S_2 \\ S_3 \end{bmatrix}}{I \cdot b_1} = \begin{bmatrix} 0.249 \\ 0.223 \\ 0.165 \end{bmatrix} MPa$$

$$\tau_t := \frac{T_{Ed}}{W_v} = 0.542 \ \boldsymbol{MPa}$$

$$\sigma_{u_max} := \frac{\sigma_{uk_Mmax}}{2} + \sqrt{\frac{\sigma_{uk_Mmax}^{\ 2}}{4} + (\tau_u + \tau_t)^2} = \begin{bmatrix} 0.071 \\ 0.076 \\ 0.077 \end{bmatrix} MPa$$ Nivå 1 Nivå 2 Nivå 3

$$\sigma_{u_min} := \frac{\sigma_{uk_Mmin}}{2} + \sqrt{\frac{\sigma_{uk_Mmin}^{\ 2}}{4} + (\tau_u + \tau_t)^2} = \begin{bmatrix} 0.067 \\ 0.06 \\ 0.049 \end{bmatrix} MPa$$ Nivå 1 Nivå 2 Nivå 3

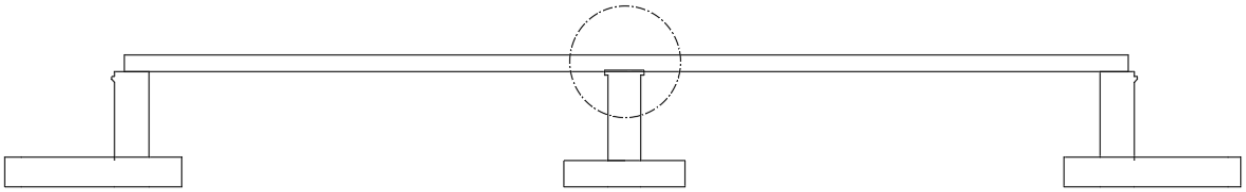
$$\sigma_u := \text{if } \sigma_{u_max_0} > \sigma_{u_min_0} \left\| \sigma_{u_max} \right. \text{ else } \left\| \sigma_{u_min} \right. = \begin{bmatrix} 0.071 \\ 0.076 \\ 0.077 \end{bmatrix} \boldsymbol{MPa}$$ Nivå 1 Nivå 2 Nivå 3

Utnyttjandegrad uk balk 3 och 4:

$$\frac{\sigma_u}{f_{cdj_uk}} \cdot 100 = \begin{bmatrix} 4.6 \\ 5 \\ 5 \end{bmatrix}$$ % OK Nivå 1 Nivå 2 Nivå 3

B7.3.2 Stöd Balk 3 och 4

Vid snitt x = 14,518m
Min, spännkablar i överkant



Antal kablar $n_{kablar} := 10$

Total effektiv spännkraft $P_{eff_tot} := P_{eff} \cdot n_{kablar} = 4571\ kN$

$M_{max} := -971\ kN \cdot m$ $M_{min} := -652\ kN \cdot m$

$V_{tillh_Mmax} := 455\ kN$ $V_{tillh_Mmin} := 252\ kN$

$T_{tillh_Mmax} := 27\ kN \cdot m$ $T_{tillh_Mmin} := 9\ kN \cdot m$

$V_{max} := 523\ kN$ $V_{min} := 250\ kN$

$M_{tillh_Vmax} := -916\ kN \cdot m$ $M_{tillh_Vmin} := -655\ kN \cdot m$

$T_{tillh_Vmax} := 28\ kN \cdot m$ $T_{tillh_Vmin} := 11\ kN \cdot m$

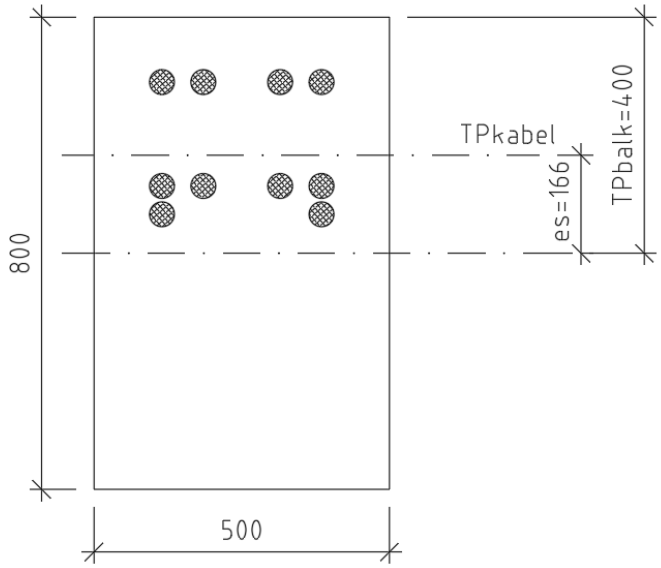
$V_{Ed} := V_{max}$ *används på säker sida*

$T_{max} := 59\ kN \cdot m$ $T_{min} := 42\ kN \cdot m$

$M_{tillh_Tmax} := -867\ kN \cdot m$ $M_{tillh_Tmin} := -766\ kN \cdot m$

$V_{tillh_Tmax} := 482\ kN$ $V_{tillh_Tmin} := 327\ kN$

$T_{Ed} := T_{max}$ *används på säker sida*



Tyngdpunkter kablar och balk $e_s := 166\ mm$

Beräkning - Kantspänningar inklusive trafik, Mmin o Mmax

$$\sigma_{uk_kant} := \frac{-P_{eff_tot}}{A_c} + \frac{M_{min}}{I} \cdot \frac{h_1}{2} + \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -9.425\ MPa$$ OK

$$\sigma_{uk_kant} := \frac{-P_{eff_tot}}{A_c} + \frac{M_{max}}{I} \cdot \frac{h_1}{2} + \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -15.407\ MPa$$ OK

$$\sigma_{ök_kant} := \frac{-P_{eff_tot}}{A_c} - \frac{M_{min}}{I} \cdot \frac{h_1}{2} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -13.428\ MPa$$ OK

$$\sigma_{ök_kant} := \frac{-P_{eff_tot}}{A_c} - \frac{M_{max}}{I} \cdot \frac{h_1}{2} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \frac{h_1}{2} = -7.447\ MPa$$ OK

Beräkning - Huvudspänningar inklusive trafik, Mmin o Mmax, VEd, TEd

Nivå 1

Från balkens tyngdpunkt till kontrollerat snitt:

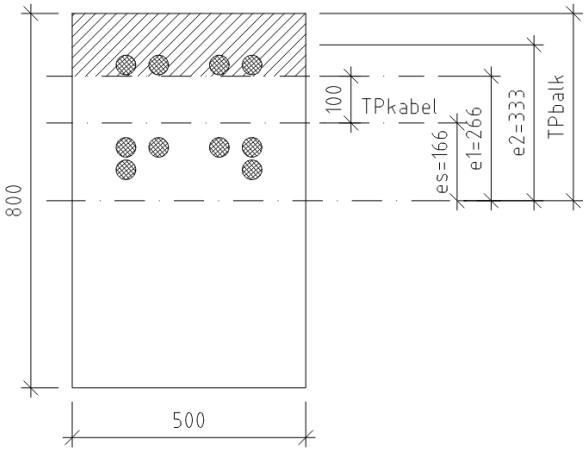
$$e_{1_1} := e_s + 100\ mm = 266\ mm$$

Från balkens tyngdpunkt till tyngdpunkt av kontrollerat snitt:

$$e_{2_1} := e_{1_1} + \frac{\left(T_{P.balk} - e_{1_1}\right)}{2} = 333\ mm$$

Statiskt moment:

$$S_1 := b_1 \cdot \left(T_{P.balk} - e_{1_1}\right) \cdot e_{2_1} = \left(2.231 \cdot 10^7\right)\ mm^3$$



Figur - Nivå 1

Nivå 2

Från balkens tyngdpunkt till kontrollerat snitt:

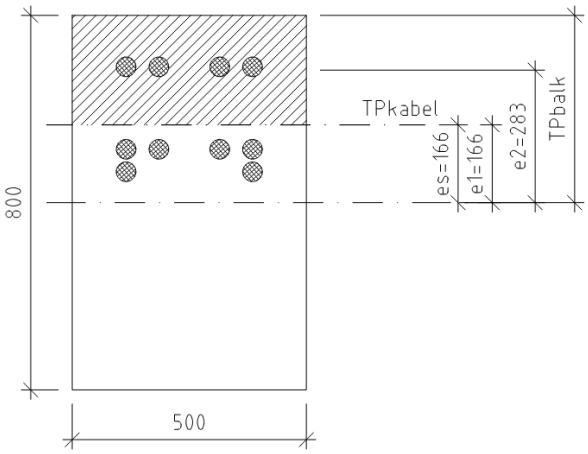
$$e_{1_2} := e_s = 166\ mm$$

Från balkens tyngdpunkt till tyngdpunkt av kontrollerat snitt:

$$e_{2_2} := e_{1_2} + \frac{\left(T_{P.balk} - e_{1_2}\right)}{2} = 283\ mm$$

Statiskt moment:

$$S_2 := b_1 \cdot \left(T_{P.balk} - e_{1_2}\right) \cdot e_{2_2} = \left(3.311 \cdot 10^7\right)\ mm^3$$



Figur - Nivå 2

Nivå 3

Från balkens tyngdpunkt till kontrollerat snitt:

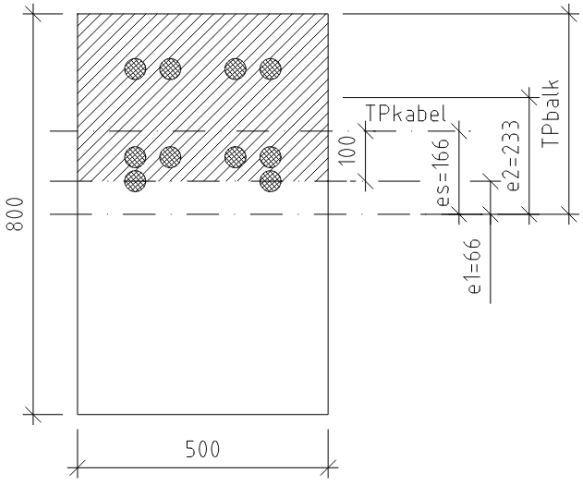
$$e_{1_3} := e_s - 100\ mm = 66\ mm$$

Från balkens tyngdpunkt till tyngdpunkt av kontrollerat snitt:

$$e_{2_3} := e_{1_3} + \frac{\left(T_{P.balk} - e_{1_3}\right)}{2} = 233\ mm$$

Statiskt moment:

$$S_3 := b_1 \cdot \left(T_{P.balk} - e_{1_3}\right) \cdot e_{2_3} = \left(3.891 \cdot 10^7\right)\ mm^3$$



Figur - Nivå 3

$$\sigma_{ök_Mmin} := \frac{-P_{eff_tot}}{A_c} - \frac{M_{min}}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} = \begin{bmatrix} -12.758 \\ -12.258 \\ -11.757 \end{bmatrix} MPa$$ Nivå 1 / Nivå 2 / Nivå 3

$$\sigma_{ök_Mmax} := \frac{-P_{eff_tot}}{A_c} - \frac{M_{max}}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} - \frac{P_{eff_tot} \cdot e_s}{I} \cdot \begin{bmatrix} e_{1_1} \\ e_{1_2} \\ e_{1_3} \end{bmatrix} = \begin{bmatrix} -8.78 \\ -9.775 \\ -10.77 \end{bmatrix} MPa$$ Nivå 1 / Nivå 2 / Nivå 3

$$\tau_ö := \frac{V_{Ed} \cdot \begin{bmatrix} S_1 \\ S_2 \\ S_3 \end{bmatrix}}{I \cdot b_1} = \begin{bmatrix} 1.094 \\ 1.623 \\ 1.908 \end{bmatrix} \boldsymbol{MPa}$$

$$\tau_t := \frac{T_{Ed}}{W_v} = 1.229 \ \boldsymbol{MPa}$$

$$\sigma_{ö_max} := \frac{\sigma_{ök_Mmax}}{2} + \sqrt{\frac{\sigma_{ök_Mmax}^{\ 2}}{4} + \left(\tau_ö + \tau_t\right)^2} = \begin{bmatrix} 0.577 \\ 0.772 \\ 0.847 \end{bmatrix} MPa$$ Nivå 1 / Nivå 2 / Nivå 3

$$\sigma_{ö_min} := \frac{\sigma_{ök_Mmin}}{2} + \sqrt{\frac{\sigma_{ök_Mmin}^{\ 2}}{4} + \left(\tau_ö + \tau_t\right)^2} = \begin{bmatrix} 0.41 \\ 0.631 \\ 0.785 \end{bmatrix} MPa$$ Nivå 1 / Nivå 2 / Nivå 3

$$\sigma_ö := \text{if } \sigma_{ö_max_0} > \sigma_{ö_min_0} \left\| \sigma_{ö_max} \right| \text{else} \left\| \sigma_{ö_min} \right| = \begin{bmatrix} 0.577 \\ 0.772 \\ 0.847 \end{bmatrix} \boldsymbol{MPa}$$ Nivå 1 / Nivå 2 / Nivå 3

Utnyttjandegrad ök balk 3 och 4:

$$\frac{\sigma_ö}{f_{cdj_ök}} \cdot 100 = \begin{bmatrix} 37.6 \\ 50.3 \\ 55.2 \end{bmatrix} \%$$ OK Nivå 1 / Nivå 2 / Nivå 3

BILAGA 8

Kontroll utmattning

8 Kontroll utmattning (Enkel kontroll)

Sammanställning, utmattning enkel kontroll

Dimensionerande för utmattning enligt denna bilaga enkel kontroll är tvärkraft för balkar.
Resterande kontroller avseende utmattning anses OK.

Kontrollerar tvärkraft enligt lambdametoden med årlig trafik för balkar.

Se bilaga 10 för Utmattning enligt lambdametoden.

Utmattning - Enkel kontroll

Moment med tillhörande normalkraft

Enligt SS-EN 1992-1-1, 6.8.

E_s =	200	GPa	f_{ck} =	35.5	MPa
E_{cm} =	34.0	GPa	$f_{cd.fat}$ =	22.4	MPa
φ =	1.6		f_{yd} =	410	MPa

Snitt

B1

x [m]	h [m]	b_w [m]	$A_{s.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s.uk}$ [cm^2]	d_{uk} [m]	$φ_{viktad}$	$α_{eff}$	$e´_N$ fr. ök [m]
0.00	0.830	0.500	32.7	0.770	33.7	0.770	0.96	11.0	0.415
0.30	0.830	0.500	32.7	0.770	33.7	0.770	0.96	11.0	0.415
0.61	0.830	0.500	32.7	0.770	33.7	0.770	0.96	11.0	0.415
0.91	0.830	0.500	30.3	0.770	33.7	0.770	0.96	11.0	0.415
1.21	0.830	0.500	29.8	0.770	33.7	0.770	0.96	11.0	0.415
1.51	0.830	0.500	29.8	0.770	33.7	0.770	0.96	11.0	0.415
1.82	0.830	0.500	29.8	0.770	33.7	0.770	0.96	11.0	0.415
2.12	0.830	0.500	29.8	0.770	33.7	0.770	0.96	11.0	0.415
2.42	0.830	0.500	29.8	0.770	33.7	0.770	0.96	11.0	0.415
2.72	0.830	0.500	29.8	0.770	33.7	0.770	0.96	11.0	0.415
3.02	0.830	0.500	39.0	0.770	43.0	0.770	0.96	11.0	0.415
3.33	0.830	0.500	39.0	0.770	43.0	0.770	0.96	11.0	0.415
3.63	0.830	0.500	39.0	0.770	43.0	0.770	0.96	11.0	0.415
3.93	0.830	0.500	39.0	0.770	43.0	0.770	0.96	11.0	0.415
4.23	0.830	0.500	39.0	0.770	43.0	0.770	0.96	11.0	0.415
4.54	0.830	0.500	39.0	0.770	43.0	0.770	0.96	11.0	0.415
4.84	0.830	0.500	39.0	0.770	43.0	0.770	0.96	11.0	0.415
5.14	0.830	0.500	39.0	0.770	43.0	0.770	0.96	11.0	0.415
5.44	0.830	0.500	39.0	0.770	43.0	0.770	0.96	11.0	0.415
5.75	0.830	0.500	39.0	0.770	43.0	0.770	0.96	11.0	0.415
6.05	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
6.35	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
6.65	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
6.96	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
7.26	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
7.56	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
7.86	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
8.17	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
8.47	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
8.77	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
9.07	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
9.38	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
9.68	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
9.98	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
10.28	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
10.59	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
10.89	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
11.19	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
11.49	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
11.80	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
12.10	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
12.40	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
12.70	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
13.01	0.830	0.500	50.4	0.770	52.2	0.770	0.96	11.0	0.415
13.31	0.830	0.500	53.5	0.770	52.2	0.770	0.96	11.0	0.415
13.61	0.830	0.500	53.5	0.770	52.2	0.770	0.96	11.0	0.415
13.91	0.830	0.500	53.5	0.770	52.2	0.770	0.96	11.0	0.415
14.22	0.830	0.500	53.5	0.770	52.2	0.770	0.96	11.0	0.415
14.52	0.830	0.500	53.5	0.770	52.2	0.770	0.96	11.0	0.415
14.82	0.830	0.500	53.5	0.770	52.2	0.770	0.96	11.0	0.415

Moment	**Normalkraft**	**Spänningar**
Negativ = drag ök	Negativ = tryck	Negativ = tryck
Positiv = drag uk	Positiv = drag	Positiv = drag

Snitt	**Lastkombination (6.69) enligt SS-EN 1992-1-1**											
B1	**PERMANENTA**				**VARIABLA**				**CYKLISKA**			
x [m]	**M_{max}** [kNm]	**N** [kN]	**M_{min}** [kNm]	**N** [kN]	**M_{max}** [kNm]	**N** [kN]	**M_{min}** [kNm]	**N** [kN]	**M_{max}** [kNm]	**N** [kN]	**M_{min}** [kNm]	**N** [kN]
0.00	-4	-614	-5	-606	0	0	0	0	1	2	0	1
0.30	-20	-996	-23	-985	0	0	0	0	4	17	-1	-1
0.61	-39	-1251	-41	-1238	0	0	0	0	6	36	-1	-5
0.91	-42	-1297	-44	-1282	0	0	0	0	9	57	-1	-6
1.21	-39	-1267	-40	-1252	0	0	0	0	12	74	-1	-7
1.51	-36	-1226	-37	-1209	0	0	0	0	14	91	-1	-8
1.82	-25	-1220	-25	-1221	0	0	0	0	17	107	-1	-10
2.12	8	-1327	8	-1346	0	0	0	0	19	123	-1	-12
2.42	18	-1405	18	-1426	0	0	0	0	21	137	-1	-13
2.72	1	-1391	1	-1413	0	0	0	0	23	150	-2	-14
3.02	-7	-1401	-7	-1425	0	0	0	0	25	162	-2	-13
3.33	-16	-1417	-16	-1442	0	0	0	0	27	172	-2	-12
3.63	-24	-1436	-24	-1462	0	0	0	0	28	180	-2	-14
3.93	-32	-1450	-32	-1478	0	0	0	0	29	188	-2	-15
4.23	-44	-1465	-44	-1494	0	0	0	0	30	194	-3	-16
4.54	-28	-1578	-29	-1607	0	0	0	0	31	199	-3	-18
4.84	-1	-1731	-2	-1760	0	0	0	0	31	203	-3	-19
5.14	-5	-1786	-6	-1816	0	0	0	0	32	206	-3	-21
5.44	-18	-1803	-18	-1832	0	0	0	0	32	208	-3	-22
5.75	-27	-1830	-28	-1860	0	0	0	0	33	208	-4	-23
6.05	-36	-1861	-36	-1891	0	0	0	0	32	207	-4	-25
6.35	-42	-1889	-42	-1919	0	0	0	0	32	205	-4	-26
6.65	-44	-1907	-45	-1937	0	0	0	0	32	202	-4	-28
6.96	-44	-1913	-44	-1943	0	0	0	0	31	198	-4	-29
7.26	-42	-1907	-42	-1937	0	0	0	0	30	192	-5	-31
7.56	-38	-1892	-39	-1921	0	0	0	0	30	186	-5	-32
7.86	-34	-1870	-34	-1899	0	0	0	0	28	179	-5	-34
8.17	-28	-1842	-29	-1871	0	0	0	0	27	170	-5	-36
8.47	-23	-1810	-23	-1839	0	0	0	0	26	160	-5	-37
8.77	-17	-1777	-18	-1806	0	0	0	0	24	149	-6	-39
9.07	-12	-1745	-13	-1773	0	0	0	0	22	137	-6	-41
9.38	-7	-1714	-8	-1742	0	0	0	0	20	124	-6	-43
9.68	-3	-1684	-4	-1712	0	0	0	0	18	110	-6	-45
9.98	2	-1656	0	-1683	0	0	0	0	16	94	-7	-46
10.28	5	-1628	4	-1655	0	0	0	0	13	78	-7	-48
10.59	9	-1601	8	-1628	0	0	0	0	11	65	-7	-50
10.89	13	-1575	12	-1601	0	0	0	0	10	56	-7	-52
11.19	17	-1549	15	-1574	0	0	0	0	8	48	-8	-54
11.49	21	-1524	19	-1547	0	0	0	0	7	39	-8	-61
11.80	25	-1498	24	-1520	0	0	0	0	5	31	-10	-75
12.10	30	-1474	29	-1495	0	0	0	0	4	31	-12	-91
12.40	35	-1454	33	-1472	0	0	0	0	3	36	-15	-106
12.70	38	-1441	37	-1455	0	0	0	0	3	37	-17	-121
13.01	41	-1436	40	-1447	0	0	0	0	3	36	-19	-136
13.31	41	-1447	40	-1450	0	0	0	0	3	36	-22	-153
13.61	38	-1471	38	-1471	0	0	0	0	3	37	-26	-174
13.91	32	-1510	30	-1516	0	0	0	0	3	38	-29	-193
14.22	20	-1571	17	-1585	0	0	0	0	3	39	-33	-212
14.52	-10	-1652	-15	-1674	0	0	0	0	4	39	-39	-215
14.82	-22	-1438	-27	-1473	0	0	0	0	19	18	-45	-147

0.1

Komb A1: $\Sigma M_{A1} = M_{max.per + var} + M_{max.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
B1												
x	ΣM_{A1}	N_{A1}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	-2	-612	0.830	0.485	0.417	3.3E-02	-1.22	0.0	-1.3	-13.5	-14.3	OK
0.30	-16	-979	0.830	0.485	0.417	3.3E-02	-1.80	0.0	-2.2	-20.1	-24.3	OK
0.61	-32	-1215	0.830	0.485	0.417	3.3E-02	-2.07	0.0	-2.9	-23.5	-31.7	OK
0.91	-33	-1240	0.830	0.482	0.415	3.2E-02	-2.15	0.0	-3.0	-24.3	-32.2	OK
1.21	-27	-1193	0.830	0.481	0.414	3.2E-02	-2.13	0.0	-2.8	-24.0	-30.4	OK
1.51	-22	-1135	0.830	0.481	0.414	3.2E-02	-2.08	0.0	-2.6	-23.3	-28.5	OK
1.82	-8	-1114	0.830	0.481	0.414	3.2E-02	-2.22	0.0	-2.4	-24.5	-26.3	OK
2.12	27	-1204	0.830	0.482	0.420	3.2E-02	-2.08	-2.9	0.0	-31.5	-23.5	OK
2.42	39	-1268	0.830	0.482	0.420	3.2E-02	-2.04	-3.2	0.0	-34.6	-23.4	OK
2.72	24	-1241	0.830	0.482	0.420	3.2E-02	-2.18	-3.0	0.0	-32.1	-24.6	OK
3.02	18	-1240	0.830	0.501	0.421	3.5E-02	-2.18	-2.8	0.0	-30.0	-24.4	OK
3.33	11	-1245	0.830	0.501	0.421	3.5E-02	-2.27	-2.7	0.0	-29.4	-25.3	OK
3.63	4	-1255	0.830	0.501	0.421	3.5E-02	-2.37	-2.6	0.0	-28.9	-26.2	OK
3.93	-3	-1263	0.830	0.501	0.415	3.5E-02	-2.48	0.0	-2.6	-27.3	-28.0	OK
4.23	-14	-1272	0.830	0.501	0.415	3.5E-02	-2.37	0.0	-2.7	-26.3	-29.5	OK
4.54	2	-1379	0.830	0.501	0.421	3.5E-02	-2.63	-2.9	0.0	-31.4	-29.1	OK
4.84	30	-1528	0.830	0.501	0.421	3.5E-02	-2.59	-3.5	0.0	-37.9	-29.2	OK
5.14	27	-1580	0.830	0.501	0.421	3.5E-02	-2.73	-3.6	0.0	-38.7	-30.7	OK
5.44	14	-1595	0.830	0.501	0.421	3.5E-02	-2.90	-3.5	0.0	-37.7	-32.3	OK
5.75	5	-1622	0.830	0.501	0.421	3.5E-02	-3.07	-3.4	0.0	-37.2	-33.9	OK
6.05	-4	-1655	0.830	0.520	0.416	3.7E-02	-3.13	0.0	-3.2	-34.4	-35.4	OK
6.35	-10	-1685	0.830	0.520	0.416	3.7E-02	-3.12	0.0	-3.4	-34.4	-36.7	OK
6.65	-13	-1706	0.830	0.520	0.416	3.7E-02	-3.13	0.0	-3.4	-34.6	-37.4	OK
6.96	-13	-1715	0.830	0.520	0.416	3.7E-02	-3.14	0.0	-3.5	-34.8	-37.7	OK
7.26	-11	-1715	0.830	0.520	0.416	3.7E-02	-3.16	0.0	-3.4	-34.9	-37.5	OK
7.56	-9	-1706	0.830	0.520	0.416	3.7E-02	-3.17	0.0	-3.4	-35.0	-37.0	OK
7.86	-5	-1691	0.830	0.520	0.416	3.7E-02	-3.18	0.0	-3.3	-35.0	-36.4	OK
8.17	-1	-1671	0.830	0.520	0.416	3.7E-02	-3.19	0.0	-3.2	-35.1	-35.5	OK
8.47	3	-1650	0.830	0.520	0.421	3.7E-02	-3.02	-3.3	0.0	-36.2	-33.4	OK
8.77	7	-1628	0.830	0.520	0.421	3.7E-02	-2.94	-3.3	0.0	-36.2	-32.6	OK
9.07	10	-1608	0.830	0.520	0.421	3.7E-02	-2.86	-3.3	0.0	-36.1	-31.8	OK
9.38	13	-1590	0.830	0.520	0.421	3.7E-02	-2.80	-3.3	0.0	-36.0	-31.1	OK
9.68	16	-1575	0.830	0.520	0.421	3.7E-02	-2.75	-3.3	0.0	-35.9	-30.6	OK
9.98	17	-1561	0.830	0.520	0.421	3.7E-02	-2.70	-3.3	0.0	-35.8	-30.1	OK
10.28	19	-1550	0.830	0.520	0.421	3.7E-02	-2.67	-3.3	0.0	-35.7	-29.8	OK
10.59	20	-1537	0.830	0.520	0.421	3.7E-02	-2.62	-3.3	0.0	-35.6	-29.3	OK
10.89	23	-1519	0.830	0.520	0.421	3.7E-02	-2.57	-3.3	0.0	-35.5	-28.7	OK
11.19	25	-1502	0.830	0.520	0.421	3.7E-02	-2.51	-3.3	0.0	-35.4	-28.1	OK
11.49	28	-1484	0.830	0.520	0.421	3.7E-02	-2.45	-3.3	0.0	-35.3	-27.5	OK
11.80	30	-1468	0.830	0.520	0.421	3.7E-02	-2.38	-3.3	0.0	-35.2	-26.9	OK
12.10	34	-1443	0.830	0.520	0.421	3.7E-02	-2.30	-3.3	0.0	-35.0	-26.0	OK
12.40	38	-1418	0.830	0.520	0.421	3.7E-02	-2.21	-3.3	0.0	-34.9	-25.1	OK
12.70	42	-1404	0.830	0.520	0.421	3.7E-02	-2.14	-3.3	0.0	-35.0	-24.4	OK
13.01	44	-1400	0.830	0.523	0.420	3.7E-02	-2.12	-3.2	0.0	-34.8	-24.2	OK
13.31	44	-1411	0.830	0.526	0.418	3.8E-02	-2.16	-3.2	0.0	-34.4	-24.6	OK
13.61	42	-1435	0.830	0.526	0.418	3.8E-02	-2.23	-3.2	0.0	-34.7	-25.3	OK
13.91	35	-1472	0.830	0.526	0.418	3.8E-02	-2.37	-3.2	0.0	-34.8	-26.7	OK
14.22	24	-1532	0.830	0.526	0.418	3.8E-02	-2.61	-3.2	0.0	-34.9	-29.2	OK
14.52	-6	-1613	0.830	0.526	0.419	3.8E-02	-2.93	0.0	-3.2	-32.4	-35.0	OK
14.82	-3	-1420	0.830	0.526	0.419	3.8E-02	-2.60	0.0	-2.8	-28.7	-30.6	OK

Komb A2: $\Sigma M_{A2} = M_{max.per + var} + M_{min.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
B1												
x	ΣM_{A2}	N_{A2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	-4	-613	0.830	0.485	0.417	3.3E-02	-1.20	0.0	-1.3	-13.3	-14.5	OK
0.30	-21	-998	0.830	0.485	0.417	3.3E-02	-1.78	0.0	-2.3	-20.0	-25.3	OK
0.61	-40	-1257	0.830	0.485	0.417	3.3E-02	-2.07	0.0	-3.1	-23.5	-33.5	OK
0.91	-43	-1303	0.830	0.482	0.415	3.2E-02	-2.16	0.0	-3.3	-24.5	-34.8	OK
1.21	-40	-1274	0.830	0.481	0.414	3.2E-02	-2.14	0.0	-3.2	-24.3	-33.8	OK
1.51	-38	-1234	0.830	0.481	0.414	3.2E-02	-2.09	0.0	-3.0	-23.7	-32.6	OK
1.82	-26	-1231	0.830	0.481	0.414	3.2E-02	-2.23	0.0	-2.9	-25.0	-31.1	OK
2.12	6	-1338	0.830	0.482	0.420	3.2E-02	-2.60	-3.0	0.0	-32.2	-28.9	OK
2.42	17	-1418	0.830	0.482	0.420	3.2E-02	-2.63	-3.3	0.0	-35.3	-29.4	OK
2.72	-1	-1405	0.830	0.481	0.414	3.2E-02	-2.93	0.0	-2.9	-32.1	-32.0	OK
3.02	-9	-1415	0.830	0.501	0.415	3.5E-02	-2.72	0.0	-2.9	-30.0	-32.0	OK
3.33	-17	-1429	0.830	0.501	0.415	3.5E-02	-2.65	0.0	-3.1	-29.4	-33.3	OK
3.63	-26	-1449	0.830	0.501	0.415	3.5E-02	-2.59	0.0	-3.2	-28.9	-34.7	OK
3.93	-35	-1465	0.830	0.501	0.415	3.5E-02	-2.51	0.0	-3.3	-28.2	-36.0	OK
4.23	-47	-1482	0.830	0.501	0.415	3.5E-02	-2.40	0.0	-3.5	-27.3	-37.7	OK
4.54	-31	-1596	0.830	0.501	0.415	3.5E-02	-2.82	0.0	-3.6	-31.5	-38.5	OK
4.84	-4	-1750	0.830	0.501	0.415	3.5E-02	-3.44	0.0	-3.5	-37.9	-38.9	OK
5.14	-9	-1807	0.830	0.501	0.415	3.5E-02	-3.51	0.0	-3.7	-38.7	-40.6	OK
5.44	-21	-1824	0.830	0.501	0.415	3.5E-02	-3.39	0.0	-3.9	-37.6	-42.4	OK
5.75	-31	-1853	0.830	0.501	0.415	3.5E-02	-3.33	0.0	-4.1	-37.2	-44.1	OK
6.05	-40	-1886	0.830	0.520	0.416	3.7E-02	-3.17	0.0	-4.1	-35.5	-44.1	OK
6.35	-46	-1916	0.830	0.520	0.416	3.7E-02	-3.16	0.0	-4.2	-35.5	-45.4	OK
6.65	-48	-1935	0.830	0.520	0.416	3.7E-02	-3.17	0.0	-4.3	-35.7	-46.1	OK
6.96	-48	-1942	0.830	0.520	0.416	3.7E-02	-3.18	0.0	-4.3	-35.8	-46.2	OK
7.26	-46	-1938	0.830	0.520	0.416	3.7E-02	-3.19	0.0	-4.3	-35.9	-45.9	OK
7.56	-43	-1924	0.830	0.520	0.416	3.7E-02	-3.21	0.0	-4.2	-36.0	-45.3	OK
7.86	-39	-1903	0.830	0.520	0.416	3.7E-02	-3.21	0.0	-4.1	-36.0	-44.4	OK
8.17	-34	-1877	0.830	0.520	0.416	3.7E-02	-3.22	0.0	-4.0	-36.0	-43.3	OK
8.47	-28	-1847	0.830	0.520	0.416	3.7E-02	-3.23	0.0	-3.9	-35.9	-42.1	OK
8.77	-23	-1816	0.830	0.520	0.416	3.7E-02	-3.23	0.0	-3.8	-35.9	-40.9	OK
9.07	-18	-1786	0.830	0.520	0.416	3.7E-02	-3.23	0.0	-3.6	-35.7	-39.7	OK
9.38	-13	-1757	0.830	0.520	0.416	3.7E-02	-3.22	0.0	-3.5	-35.6	-38.6	OK
9.68	-9	-1729	0.830	0.520	0.416	3.7E-02	-3.21	0.0	-3.4	-35.5	-37.5	OK
9.98	-5	-1702	0.830	0.520	0.416	3.7E-02	-3.21	0.0	-3.3	-35.3	-36.6	OK
10.28	-1	-1676	0.830	0.520	0.416	3.7E-02	-3.20	0.0	-3.2	-35.1	-35.6	OK
10.59	2	-1652	0.830	0.520	0.421	3.7E-02	-3.04	-3.3	0.0	-36.2	-33.6	OK
10.89	6	-1627	0.830	0.520	0.421	3.7E-02	-2.95	-3.3	0.0	-36.0	-32.7	OK
11.19	9	-1603	0.830	0.520	0.421	3.7E-02	-2.87	-3.3	0.0	-35.9	-31.8	OK
11.49	13	-1585	0.830	0.520	0.421	3.7E-02	-2.80	-3.3	0.0	-35.8	-31.1	OK
11.80	15	-1573	0.830	0.520	0.421	3.7E-02	-2.75	-3.3	0.0	-35.9	-30.6	OK
12.10	17	-1565	0.830	0.520	0.421	3.7E-02	-2.71	-3.3	0.0	-35.9	-30.2	OK
12.40	20	-1560	0.830	0.520	0.421	3.7E-02	-2.67	-3.3	0.0	-36.1	-29.9	OK
12.70	21	-1562	0.830	0.520	0.421	3.7E-02	-2.66	-3.4	0.0	-36.3	-29.7	OK
13.01	21	-1572	0.830	0.523	0.420	3.7E-02	-2.69	-3.3	0.0	-36.1	-30.1	OK
13.31	18	-1600	0.830	0.526	0.418	3.8E-02	-2.80	-3.3	0.0	-35.8	-31.1	OK
13.61	13	-1645	0.830	0.526	0.418	3.8E-02	-2.94	-3.3	0.0	-36.1	-32.6	OK
13.91	3	-1703	0.830	0.526	0.418	3.8E-02	-3.16	-3.3	0.0	-36.3	-34.8	OK
14.22	-13	-1783	0.830	0.526	0.419	3.8E-02	-3.16	0.0	-3.6	-35.1	-39.4	OK
14.52	-49	-1867	0.830	0.526	0.419	3.8E-02	-2.93	0.0	-4.2	-33.2	-44.9	OK
14.82	-67	-1585	0.830	0.526	0.419	3.8E-02	-2.21	0.0	-3.8	-25.5	-40.8	OK

Komb B1: $\Sigma M_{B1} = M_{min.per + var} + M_{max.cyk}$

Snitt B1	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
x [m]	ΣM_{B1} [kNm]	N_{B1} [kN]	x_{tryck} [m]	A_{ekv} [m²]	$x_{tp.ekv}$ [m]	I_{ekv} [m⁴]	$\sigma_{c.neutral}$ [MPa]	$\sigma_{c.ök}$ [MPa]	$\sigma_{c.uk}$ [MPa]	$\sigma_{s.ök}$ [MPa]	$\sigma_{s.uk}$ [MPa]	Kontroll $\sigma_s \leq f_{yd}$
0.00	-4	-603	0.830	0.485	0.417	3.3E-02	-1.18	0.0	-1.3	-13.1	-14.3	OK
0.30	-19	-967	0.830	0.485	0.417	3.3E-02	-1.73	0.0	-2.3	-19.4	-24.4	OK
0.61	-35	-1202	0.830	0.485	0.417	3.3E-02	-2.01	0.0	-3.0	-22.8	-31.7	OK
0.91	-35	-1225	0.830	0.482	0.415	3.2E-02	-2.10	0.0	-3.0	-23.8	-32.1	OK
1.21	-28	-1177	0.830	0.481	0.414	3.2E-02	-2.09	0.0	-2.8	-23.5	-30.2	OK
1.51	-23	-1118	0.830	0.481	0.414	3.2E-02	-2.04	0.0	-2.6	-22.9	-28.2	OK
1.82	-9	-1114	0.830	0.481	0.414	3.2E-02	-2.21	0.0	-2.4	-24.5	-26.4	OK
2.12	26	-1224	0.830	0.482	0.420	3.2E-02	-2.12	-3.0	0.0	-32.0	-24.0	OK
2.42	39	-1289	0.830	0.482	0.420	3.2E-02	-2.09	-3.3	0.0	-35.0	-23.9	OK
2.72	24	-1263	0.830	0.482	0.420	3.2E-02	-2.23	-3.0	0.0	-32.6	-25.1	OK
3.02	17	-1264	0.830	0.501	0.421	3.5E-02	-2.23	-2.8	0.0	-30.5	-24.9	OK
3.33	11	-1270	0.830	0.501	0.421	3.5E-02	-2.32	-2.8	0.0	-29.9	-25.8	OK
3.63	4	-1282	0.830	0.501	0.421	3.5E-02	-2.42	-2.7	0.0	-29.4	-26.8	OK
3.93	-3	-1290	0.830	0.501	0.415	3.5E-02	-2.54	0.0	-2.6	-27.9	-28.7	OK
4.23	-14	-1300	0.830	0.501	0.415	3.5E-02	-2.43	0.0	-2.8	-26.9	-30.1	OK
4.54	2	-1408	0.830	0.501	0.421	3.5E-02	-2.68	-2.9	0.0	-32.1	-29.7	OK
4.84	30	-1557	0.830	0.501	0.421	3.5E-02	-2.65	-3.6	0.0	-38.6	-29.8	OK
5.14	26	-1609	0.830	0.501	0.421	3.5E-02	-2.79	-3.6	0.0	-39.4	-31.3	OK
5.44	14	-1625	0.830	0.501	0.421	3.5E-02	-2.96	-3.5	0.0	-38.3	-33.0	OK
5.75	5	-1652	0.830	0.501	0.421	3.5E-02	-3.13	-3.5	0.0	-37.9	-34.6	OK
6.05	-4	-1685	0.830	0.520	0.416	3.7E-02	-3.18	0.0	-3.3	-35.0	-36.1	OK
6.35	-10	-1715	0.830	0.520	0.416	3.7E-02	-3.17	0.0	-3.4	-35.0	-37.4	OK
6.65	-13	-1736	0.830	0.520	0.416	3.7E-02	-3.18	0.0	-3.5	-35.2	-38.1	OK
6.96	-13	-1745	0.830	0.520	0.416	3.7E-02	-3.20	0.0	-3.5	-35.3	-38.3	OK
7.26	-12	-1744	0.830	0.520	0.416	3.7E-02	-3.21	0.0	-3.5	-35.5	-38.2	OK
7.56	-9	-1735	0.830	0.520	0.416	3.7E-02	-3.22	0.0	-3.5	-35.5	-37.7	OK
7.86	-6	-1720	0.830	0.520	0.416	3.7E-02	-3.23	0.0	-3.4	-35.6	-37.0	OK
8.17	-2	-1700	0.830	0.520	0.416	3.7E-02	-3.24	0.0	-3.3	-35.6	-36.2	OK
8.47	2	-1678	0.830	0.520	0.421	3.7E-02	-3.08	-3.4	0.0	-36.8	-34.1	OK
8.77	6	-1656	0.830	0.520	0.421	3.7E-02	-3.00	-3.4	0.0	-36.7	-33.2	OK
9.07	10	-1636	0.830	0.520	0.421	3.7E-02	-2.93	-3.4	0.0	-36.6	-32.5	OK
9.38	12	-1618	0.830	0.520	0.421	3.7E-02	-2.86	-3.4	0.0	-36.5	-31.8	OK
9.68	14	-1602	0.830	0.520	0.421	3.7E-02	-2.81	-3.4	0.0	-36.4	-31.3	OK
9.98	16	-1589	0.830	0.520	0.421	3.7E-02	-2.76	-3.3	0.0	-36.3	-30.8	OK
10.28	17	-1577	0.830	0.520	0.421	3.7E-02	-2.73	-3.3	0.0	-36.2	-30.4	OK
10.59	19	-1563	0.830	0.520	0.421	3.7E-02	-2.68	-3.3	0.0	-36.1	-30.0	OK
10.89	21	-1545	0.830	0.520	0.421	3.7E-02	-2.63	-3.3	0.0	-35.9	-29.4	OK
11.19	24	-1526	0.830	0.520	0.421	3.7E-02	-2.57	-3.3	0.0	-35.7	-28.8	OK
11.49	26	-1508	0.830	0.520	0.421	3.7E-02	-2.50	-3.3	0.0	-35.6	-28.1	OK
11.80	29	-1490	0.830	0.520	0.421	3.7E-02	-2.44	-3.3	0.0	-35.5	-27.5	OK
12.10	32	-1463	0.830	0.520	0.421	3.7E-02	-2.35	-3.3	0.0	-35.3	-26.6	OK
12.40	37	-1436	0.830	0.520	0.421	3.7E-02	-2.26	-3.3	0.0	-35.2	-25.6	OK
12.70	41	-1419	0.830	0.520	0.421	3.7E-02	-2.18	-3.3	0.0	-35.2	-24.8	OK
13.01	43	-1411	0.830	0.523	0.420	3.7E-02	-2.15	-3.3	0.0	-34.9	-24.5	OK
13.31	44	-1414	0.830	0.526	0.418	3.8E-02	-2.17	-3.2	0.0	-34.5	-24.7	OK
13.61	41	-1434	0.830	0.526	0.418	3.8E-02	-2.24	-3.2	0.0	-34.6	-25.4	OK
13.91	34	-1478	0.830	0.526	0.418	3.8E-02	-2.40	-3.2	0.0	-34.8	-27.0	OK
14.22	20	-1546	0.830	0.526	0.418	3.8E-02	-2.67	-3.2	0.0	-34.9	-29.8	OK
14.52	-11	-1635	0.830	0.526	0.419	3.8E-02	-2.91	0.0	-3.3	-32.3	-36.1	OK
14.82	-8	-1455	0.830	0.526	0.419	3.8E-02	-2.61	0.0	-2.9	-28.9	-31.9	OK

Komb B2: $\Sigma M_{B2} = M_{min.per + var} + M_{min.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
B1												
x	ΣM_{B2}	N_{B2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	-6	-604	0.830	0.485	0.417	3.3E-02	-1.16	0.0	-1.3	-12.9	-14.5	OK
0.30	-24	-986	0.830	0.485	0.417	3.3E-02	-1.71	0.0	-2.4	-19.3	-25.4	OK
0.61	-42	-1243	0.830	0.485	0.417	3.3E-02	-2.01	0.0	-3.1	-22.9	-33.5	OK
0.91	-45	-1289	0.830	0.482	0.415	3.2E-02	-2.10	0.0	-3.2	-24.0	-34.7	OK
1.21	-41	-1259	0.830	0.481	0.414	3.2E-02	-2.10	0.0	-3.1	-23.8	-33.6	OK
1.51	-38	-1218	0.830	0.481	0.414	3.2E-02	-2.05	0.0	-3.0	-23.3	-32.3	OK
1.82	-26	-1231	0.830	0.481	0.414	3.2E-02	-2.23	0.0	-2.9	-25.0	-31.2	OK
2.12	6	-1358	0.830	0.482	0.420	3.2E-02	-2.65	-3.0	0.0	-32.6	-29.3	OK
2.42	17	-1439	0.830	0.482	0.420	3.2E-02	-2.68	-3.3	0.0	-35.8	-29.9	OK
2.72	-1	-1428	0.830	0.481	0.414	3.2E-02	-2.97	0.0	-3.0	-32.6	-32.5	OK
3.02	-9	-1439	0.830	0.501	0.415	3.5E-02	-2.76	0.0	-3.0	-30.5	-32.6	OK
3.33	-18	-1454	0.830	0.501	0.415	3.5E-02	-2.69	0.0	-3.1	-29.9	-33.9	OK
3.63	-26	-1476	0.830	0.501	0.415	3.5E-02	-2.64	0.0	-3.3	-29.5	-35.3	OK
3.93	-35	-1493	0.830	0.501	0.415	3.5E-02	-2.57	0.0	-3.4	-28.8	-36.6	OK
4.23	-47	-1510	0.830	0.501	0.415	3.5E-02	-2.46	0.0	-3.6	-27.9	-38.4	OK
4.54	-31	-1625	0.830	0.501	0.415	3.5E-02	-2.87	0.0	-3.6	-32.1	-39.1	OK
4.84	-5	-1779	0.830	0.501	0.415	3.5E-02	-3.50	0.0	-3.6	-38.5	-39.5	OK
5.14	-9	-1836	0.830	0.501	0.415	3.5E-02	-3.56	0.0	-3.8	-39.3	-41.2	OK
5.44	-21	-1854	0.830	0.501	0.415	3.5E-02	-3.45	0.0	-4.0	-38.3	-43.1	OK
5.75	-31	-1883	0.830	0.501	0.415	3.5E-02	-3.39	0.0	-4.1	-37.8	-44.8	OK
6.05	-40	-1916	0.830	0.520	0.416	3.7E-02	-3.22	0.0	-4.1	-36.1	-44.8	OK
6.35	-46	-1946	0.830	0.520	0.416	3.7E-02	-3.21	0.0	-4.3	-36.1	-46.1	OK
6.65	-49	-1965	0.830	0.520	0.416	3.7E-02	-3.22	0.0	-4.3	-36.3	-46.7	OK
6.96	-49	-1972	0.830	0.520	0.416	3.7E-02	-3.23	0.0	-4.4	-36.4	-46.9	OK
7.26	-47	-1967	0.830	0.520	0.416	3.7E-02	-3.25	0.0	-4.3	-36.5	-46.6	OK
7.56	-44	-1954	0.830	0.520	0.416	3.7E-02	-3.26	0.0	-4.3	-36.5	-46.0	OK
7.86	-39	-1933	0.830	0.520	0.416	3.7E-02	-3.26	0.0	-4.2	-36.6	-45.1	OK
8.17	-34	-1906	0.830	0.520	0.416	3.7E-02	-3.27	0.0	-4.1	-36.5	-44.0	OK
8.47	-29	-1876	0.830	0.520	0.416	3.7E-02	-3.27	0.0	-3.9	-36.5	-42.8	OK
8.77	-24	-1845	0.830	0.520	0.416	3.7E-02	-3.27	0.0	-3.8	-36.4	-41.5	OK
9.07	-19	-1814	0.830	0.520	0.416	3.7E-02	-3.27	0.0	-3.7	-36.2	-40.4	OK
9.38	-14	-1785	0.830	0.520	0.416	3.7E-02	-3.26	0.0	-3.6	-36.1	-39.3	OK
9.68	-10	-1756	0.830	0.520	0.416	3.7E-02	-3.25	0.0	-3.5	-35.9	-38.2	OK
9.98	-6	-1729	0.830	0.520	0.416	3.7E-02	-3.24	0.0	-3.4	-35.8	-37.3	OK
10.28	-3	-1703	0.830	0.520	0.416	3.7E-02	-3.23	0.0	-3.3	-35.6	-36.3	OK
10.59	1	-1678	0.830	0.520	0.421	3.7E-02	-3.10	-3.4	0.0	-36.6	-34.2	OK
10.89	4	-1653	0.830	0.520	0.421	3.7E-02	-3.01	-3.3	0.0	-36.4	-33.3	OK
11.19	8	-1628	0.830	0.520	0.421	3.7E-02	-2.93	-3.3	0.0	-36.3	-32.5	OK
11.49	11	-1608	0.830	0.520	0.421	3.7E-02	-2.86	-3.3	0.0	-36.2	-31.7	OK
11.80	14	-1595	0.830	0.520	0.421	3.7E-02	-2.80	-3.3	0.0	-36.2	-31.2	OK
12.10	16	-1585	0.830	0.520	0.421	3.7E-02	-2.76	-3.3	0.0	-36.2	-30.7	OK
12.40	19	-1578	0.830	0.520	0.421	3.7E-02	-2.72	-3.4	0.0	-36.3	-30.4	OK
12.70	20	-1577	0.830	0.520	0.421	3.7E-02	-2.70	-3.4	0.0	-36.5	-30.1	OK
13.01	21	-1583	0.830	0.523	0.420	3.7E-02	-2.72	-3.3	0.0	-36.2	-30.4	OK
13.31	18	-1603	0.830	0.526	0.418	3.8E-02	-2.81	-3.3	0.0	-35.8	-31.2	OK
13.61	12	-1644	0.830	0.526	0.418	3.8E-02	-2.95	-3.3	0.0	-36.0	-32.7	OK
13.91	1	-1709	0.830	0.526	0.418	3.8E-02	-3.19	-3.3	0.0	-36.3	-35.1	OK
14.22	-16	-1797	0.830	0.526	0.419	3.8E-02	-3.16	0.0	-3.7	-35.1	-40.0	OK
14.52	-54	-1889	0.830	0.526	0.419	3.8E-02	-2.91	0.0	-4.3	-33.1	-46.0	OK
14.82	-72	-1620	0.830	0.526	0.419	3.8E-02	-2.22	0.0	-4.0	-25.8	-42.1	OK

Komb A, Jmf Komb A1 med A2

Snitt	Armering				Betong					
B1	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0.00	0.2	OK	0.2	OK	0.00	0.50	OK	0.06	0.53	OK
0.30	0.1	OK	1.0	OK	0.00	0.50	OK	0.10	0.55	OK
0.61	0.1	OK	1.8	OK	0.00	0.50	OK	0.14	0.56	OK
0.91	0.3	OK	2.6	OK	0.00	0.50	OK	0.15	0.56	OK
1.21	0.3	OK	3.4	OK	0.00	0.50	OK	0.14	0.56	OK
1.51	0.4	OK	4.1	OK	0.00	0.50	OK	0.14	0.55	OK
1.82	0.5	OK	4.8	OK	0.00	0.50	OK	0.13	0.55	OK
2.12	0.7	OK	5.4	OK	0.13	0.56	OK	0.00	0.50	OK
2.42	0.8	OK	6.0	OK	0.15	0.56	OK	0.00	0.50	OK
2.72	0.0	OK	7.4	OK	0.13	0.50	OK	0.13	0.50	OK
3.02	0.0	OK	7.6	OK	0.12	0.50	OK	0.13	0.50	OK
3.33	0.0	OK	8.0	OK	0.12	0.50	OK	0.14	0.50	OK
3.63	0.1	OK	8.5	OK	0.12	0.50	OK	0.14	0.50	OK
3.93	0.9	OK	8.0	OK	0.00	0.50	OK	0.15	0.55	OK
4.23	0.9	OK	8.3	OK	0.00	0.50	OK	0.16	0.55	OK
4.54	0.1	OK	9.4	OK	0.13	0.50	OK	0.16	0.50	OK
4.84	0.0	OK	9.7	OK	0.16	0.50	OK	0.16	0.50	OK
5.14	0.0	OK	9.9	OK	0.16	0.50	OK	0.17	0.50	OK
5.44	0.0	OK	10.1	OK	0.15	0.50	OK	0.17	0.50	OK
5.75	0.0	OK	10.2	OK	0.15	0.50	OK	0.18	0.50	OK
6.05	1.1	OK	8.7	OK	0.00	0.50	OK	0.18	0.56	OK
6.35	1.1	OK	8.7	OK	0.00	0.50	OK	0.19	0.57	OK
6.65	1.1	OK	8.6	OK	0.00	0.50	OK	0.19	0.57	OK
6.96	1.0	OK	8.5	OK	0.00	0.50	OK	0.19	0.57	OK
7.26	1.0	OK	8.4	OK	0.00	0.50	OK	0.19	0.57	OK
7.56	1.0	OK	8.2	OK	0.00	0.50	OK	0.19	0.57	OK
7.86	1.0	OK	8.0	OK	0.00	0.50	OK	0.18	0.57	OK
8.17	0.9	OK	7.8	OK	0.00	0.50	OK	0.18	0.57	OK
8.47	0.3	OK	8.7	OK	0.15	0.50	OK	0.17	0.50	OK
8.77	0.3	OK	8.3	OK	0.15	0.50	OK	0.17	0.50	OK
9.07	0.4	OK	7.9	OK	0.15	0.50	OK	0.16	0.50	OK
9.38	0.4	OK	7.4	OK	0.15	0.50	OK	0.16	0.50	OK
9.68	0.5	OK	7.0	OK	0.15	0.50	OK	0.15	0.50	OK
9.98	0.5	OK	6.4	OK	0.15	0.50	OK	0.15	0.50	OK
10.28	0.6	OK	5.9	OK	0.15	0.50	OK	0.15	0.50	OK
10.59	0.6	OK	4.2	OK	0.15	0.57	OK	0.00	0.50	OK
10.89	0.6	OK	4.0	OK	0.15	0.57	OK	0.00	0.50	OK
11.19	0.5	OK	3.7	OK	0.15	0.57	OK	0.00	0.50	OK
11.49	0.6	OK	3.6	OK	0.15	0.57	OK	0.00	0.50	OK
11.80	0.7	OK	3.7	OK	0.15	0.57	OK	0.00	0.50	OK
12.10	0.9	OK	4.2	OK	0.15	0.57	OK	0.00	0.50	OK
12.40	1.2	OK	4.8	OK	0.15	0.57	OK	0.00	0.50	OK
12.70	1.3	OK	5.3	OK	0.15	0.57	OK	0.00	0.50	OK
13.01	1.3	OK	5.9	OK	0.15	0.57	OK	0.00	0.50	OK
13.31	1.3	OK	6.5	OK	0.15	0.56	OK	0.00	0.50	OK
13.61	1.4	OK	7.3	OK	0.15	0.56	OK	0.00	0.50	OK
13.91	1.5	OK	8.1	OK	0.15	0.56	OK	0.00	0.50	OK
14.22	0.2	OK	10.2	OK	0.14	0.50	OK	0.16	0.50	OK
14.52	0.8	OK	9.9	OK	0.00	0.50	OK	0.19	0.56	OK
14.82	3.2	OK	10.2	OK	0.00	0.50	OK	0.17	0.56	OK

Komb B, Jmf Komb B1 med B2

Snitt	Armering				Betong					
B1	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0.00	0.2	OK	0.2	OK	0.00	0.50	OK	0.06	0.53	OK
0.30	0.1	OK	1.0	OK	0.00	0.50	OK	0.11	0.55	OK
0.61	0.1	OK	1.8	OK	0.00	0.50	OK	0.14	0.56	OK
0.91	0.3	OK	2.6	OK	0.00	0.50	OK	0.14	0.56	OK
1.21	0.3	OK	3.4	OK	0.00	0.50	OK	0.14	0.56	OK
1.51	0.4	OK	4.1	OK	0.00	0.50	OK	0.13	0.55	OK
1.82	0.5	OK	4.8	OK	0.00	0.50	OK	0.13	0.55	OK
2.12	0.7	OK	5.4	OK	0.13	0.56	OK	0.00	0.50	OK
2.42	0.8	OK	6.0	OK	0.15	0.57	OK	0.00	0.50	OK
2.72	0.0	OK	7.4	OK	0.13	0.50	OK	0.13	0.50	OK
3.02	0.0	OK	7.6	OK	0.13	0.50	OK	0.13	0.50	OK
3.33	0.0	OK	8.1	OK	0.12	0.50	OK	0.14	0.50	OK
3.63	0.0	OK	8.5	OK	0.12	0.50	OK	0.15	0.50	OK
3.93	0.9	OK	8.0	OK	0.00	0.50	OK	0.15	0.55	OK
4.23	0.9	OK	8.3	OK	0.00	0.50	OK	0.16	0.56	OK
4.54	0.1	OK	9.5	OK	0.13	0.50	OK	0.16	0.50	OK
4.84	0.0	OK	9.7	OK	0.16	0.50	OK	0.16	0.50	OK
5.14	0.1	OK	9.9	OK	0.16	0.50	OK	0.17	0.50	OK
5.44	0.1	OK	10.1	OK	0.16	0.50	OK	0.18	0.50	OK
5.75	0.1	OK	10.2	OK	0.16	0.50	OK	0.18	0.50	OK
6.05	1.1	OK	8.7	OK	0.00	0.50	OK	0.19	0.57	OK
6.35	1.1	OK	8.7	OK	0.00	0.50	OK	0.19	0.57	OK
6.65	1.1	OK	8.6	OK	0.00	0.50	OK	0.19	0.57	OK
6.96	1.0	OK	8.5	OK	0.00	0.50	OK	0.19	0.57	OK
7.26	1.0	OK	8.4	OK	0.00	0.50	OK	0.19	0.57	OK
7.56	1.0	OK	8.2	OK	0.00	0.50	OK	0.19	0.57	OK
7.86	1.0	OK	8.0	OK	0.00	0.50	OK	0.19	0.57	OK
8.17	0.9	OK	7.8	OK	0.00	0.50	OK	0.18	0.57	OK
8.47	0.3	OK	8.7	OK	0.15	0.50	OK	0.18	0.50	OK
8.77	0.4	OK	8.3	OK	0.15	0.50	OK	0.17	0.50	OK
9.07	0.4	OK	7.9	OK	0.15	0.50	OK	0.17	0.50	OK
9.38	0.4	OK	7.4	OK	0.15	0.50	OK	0.16	0.50	OK
9.68	0.5	OK	7.0	OK	0.15	0.50	OK	0.16	0.50	OK
9.98	0.6	OK	6.5	OK	0.15	0.50	OK	0.15	0.50	OK
10.28	0.6	OK	5.9	OK	0.15	0.50	OK	0.15	0.50	OK
10.59	0.6	OK	4.2	OK	0.15	0.57	OK	0.00	0.50	OK
10.89	0.6	OK	4.0	OK	0.15	0.57	OK	0.00	0.50	OK
11.19	0.5	OK	3.7	OK	0.15	0.57	OK	0.00	0.50	OK
11.49	0.6	OK	3.6	OK	0.15	0.57	OK	0.00	0.50	OK
11.80	0.7	OK	3.7	OK	0.15	0.57	OK	0.00	0.50	OK
12.10	0.9	OK	4.2	OK	0.15	0.57	OK	0.00	0.50	OK
12.40	1.2	OK	4.8	OK	0.15	0.57	OK	0.00	0.50	OK
12.70	1.3	OK	5.3	OK	0.15	0.57	OK	0.00	0.50	OK
13.01	1.3	OK	5.9	OK	0.15	0.57	OK	0.00	0.50	OK
13.31	1.3	OK	6.5	OK	0.15	0.56	OK	0.00	0.50	OK
13.61	1.4	OK	7.3	OK	0.15	0.56	OK	0.00	0.50	OK
13.91	1.5	OK	8.1	OK	0.15	0.56	OK	0.00	0.50	OK
14.22	0.2	OK	10.3	OK	0.14	0.50	OK	0.16	0.50	OK
14.52	0.8	OK	9.9	OK	0.00	0.50	OK	0.19	0.57	OK
14.82	3.2	OK	10.2	OK	0.00	0.50	OK	0.18	0.56	OK

Utmattning - Enkel kontroll

Moment med tillhörande normalkraft

Enligt SS-EN 1992-1-1, 6.8.

E_s =	200	GPa	f_{ck} =	35.5	MPa
E_{cm} =	34.0	GPa	$f_{cd.fat}$ =	22.4	MPa
φ =	1.6		f_{yd} =	410	MPa

Snitt

B6

x [m]	h [m]	b_w [m]	$A_{s.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s.uk}$ [cm^2]	d_{uk} [m]	$φ_{viktad}$	$α_{eff}$	$e´_N$ fr. ök [m]
0.00	0.830	0.500	32.7	0.770	33.7	0.770	0.96	11.0	0.415
0.30	0.830	0.500	32.7	0.770	33.7	0.770	0.96	11.0	0.415
0.61	0.830	0.500	32.7	0.770	33.7	0.770	0.96	11.0	0.415
0.91	0.830	0.500	30.3	0.770	33.7	0.770	0.96	11.0	0.415
1.21	0.830	0.500	29.8	0.770	33.7	0.770	0.96	11.0	0.415
1.51	0.830	0.500	29.8	0.770	33.7	0.770	0.96	11.0	0.415
1.82	0.830	0.500	29.8	0.770	33.7	0.770	0.96	11.0	0.415
2.12	0.830	0.500	29.8	0.770	33.7	0.770	0.96	11.0	0.415
2.42	0.830	0.500	29.8	0.770	33.7	0.770	0.96	11.0	0.415
2.72	0.830	0.500	29.8	0.770	33.7	0.770	0.96	11.0	0.415
3.02	0.830	0.500	39.0	0.770	43.0	0.770	0.96	11.0	0.415
3.33	0.830	0.500	39.0	0.770	43.0	0.770	0.96	11.0	0.415
3.63	0.830	0.500	39.0	0.770	43.0	0.770	0.96	11.0	0.415
3.93	0.830	0.500	39.0	0.770	43.0	0.770	0.96	11.0	0.415
4.23	0.830	0.500	39.0	0.770	43.0	0.770	0.96	11.0	0.415
4.54	0.830	0.500	39.0	0.770	43.0	0.770	0.96	11.0	0.415
4.84	0.830	0.500	39.0	0.770	43.0	0.770	0.96	11.0	0.415
5.14	0.830	0.500	39.0	0.770	43.0	0.770	0.96	11.0	0.415
5.44	0.830	0.500	39.0	0.770	43.0	0.770	0.96	11.0	0.415
5.75	0.830	0.500	39.0	0.770	43.0	0.770	0.96	11.0	0.415
6.05	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
6.35	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
6.65	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
6.96	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
7.26	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
7.56	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
7.86	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
8.17	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
8.47	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
8.77	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
9.07	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
9.38	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
9.68	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
9.98	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
10.28	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
10.59	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
10.89	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
11.19	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
11.49	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
11.80	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
12.10	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
12.40	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
12.70	0.830	0.500	48.2	0.770	52.2	0.770	0.96	11.0	0.415
13.01	0.830	0.500	50.4	0.770	52.2	0.770	0.96	11.0	0.415
13.31	0.830	0.500	53.5	0.770	52.2	0.770	0.96	11.0	0.415
13.61	0.830	0.500	53.5	0.770	52.2	0.770	0.96	11.0	0.415
13.91	0.830	0.500	53.5	0.770	52.2	0.770	0.96	11.0	0.415
14.22	0.830	0.500	53.5	0.770	52.2	0.770	0.96	11.0	0.415
14.52	0.830	0.500	53.5	0.770	52.2	0.770	0.96	11.0	0.415
14.82	0.830	0.500	53.5	0.770	52.2	0.770	0.96	11.0	0.415

Moment	Normalkraft	Spänningar
Negativ = drag ök	Negativ = tryck	Negativ = tryck
Positiv = drag uk	Positiv = drag	Positiv = drag

Snitt	Lastkombination (6.69) enligt SS-EN 1992-1-1											
B6	PERMANENTA				VARIABLA				CYKLISKA			
x	M_{max}	N	M_{min}	N	M_{max}	N	M_{min}	N	M_{max}	N	M_{min}	N
[m]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]
0.00	-8	-565	-10	-557	0	0	0	0	1	2	0	1
0.30	-27	-897	-30	-885	0	0	0	0	4	17	-1	-1
0.61	-42	-1126	-45	-1112	0	0	0	0	6	36	-1	-5
0.91	-42	-1157	-44	-1142	0	0	0	0	9	58	-1	-6
1.21	-37	-1115	-38	-1099	0	0	0	0	12	75	-1	-7
1.51	-33	-1063	-34	-1047	0	0	0	0	14	92	-1	-8
1.82	-19	-1057	-19	-1058	0	0	0	0	17	109	-1	-10
2.12	21	-1186	20	-1205	0	0	0	0	19	125	-1	-12
2.42	34	-1280	34	-1301	0	0	0	0	21	140	-1	-13
2.72	14	-1264	14	-1286	0	0	0	0	23	153	-2	-14
3.02	4	-1278	4	-1303	0	0	0	0	25	165	-2	-13
3.33	-6	-1300	-6	-1325	0	0	0	0	27	175	-2	-12
3.63	-15	-1328	-15	-1355	0	0	0	0	28	184	-2	-14
3.93	-24	-1353	-24	-1380	0	0	0	0	30	192	-2	-15
4.23	-31	-1368	-31	-1396	0	0	0	0	31	198	-3	-16
4.54	-41	-1349	-41	-1378	0	0	0	0	31	203	-3	-18
4.84	-29	-1421	-29	-1450	0	0	0	0	32	207	-3	-19
5.14	4	-1607	3	-1637	0	0	0	0	32	210	-3	-21
5.44	7	-1721	6	-1751	0	0	0	0	33	212	-3	-22
5.75	-14	-1766	-15	-1796	0	0	0	0	33	212	-4	-23
6.05	-29	-1806	-29	-1836	0	0	0	0	33	211	-4	-25
6.35	-36	-1831	-36	-1861	0	0	0	0	33	209	-4	-26
6.65	-39	-1841	-40	-1871	0	0	0	0	32	206	-4	-28
6.96	-39	-1841	-40	-1871	0	0	0	0	32	202	-4	-29
7.26	-38	-1832	-38	-1862	0	0	0	0	31	197	-5	-31
7.56	-34	-1814	-35	-1844	0	0	0	0	30	190	-5	-32
7.86	-30	-1791	-30	-1820	0	0	0	0	29	183	-5	-34
8.17	-24	-1763	-25	-1792	0	0	0	0	28	174	-5	-36
8.47	-19	-1734	-20	-1763	0	0	0	0	26	164	-5	-37
8.77	-14	-1704	-14	-1733	0	0	0	0	24	153	-6	-39
9.07	-9	-1676	-10	-1704	0	0	0	0	23	140	-6	-41
9.38	-5	-1648	-6	-1676	0	0	0	0	21	126	-6	-43
9.68	-1	-1623	-2	-1651	0	0	0	0	18	112	-6	-44
9.98	3	-1599	2	-1627	0	0	0	0	16	96	-7	-46
10.28	6	-1577	5	-1604	0	0	0	0	13	79	-7	-48
10.59	9	-1556	8	-1582	0	0	0	0	11	66	-7	-50
10.89	12	-1535	11	-1561	0	0	0	0	10	57	-7	-52
11.19	15	-1514	14	-1539	0	0	0	0	8	48	-8	-54
11.49	19	-1493	17	-1517	0	0	0	0	7	40	-8	-61
11.80	23	-1472	21	-1494	0	0	0	0	5	31	-10	-76
12.10	27	-1452	25	-1473	0	0	0	0	4	31	-13	-91
12.40	31	-1436	30	-1455	0	0	0	0	3	36	-15	-107
12.70	34	-1427	33	-1442	0	0	0	0	3	36	-17	-123
13.01	36	-1428	35	-1439	0	0	0	0	3	36	-20	-139
13.31	36	-1443	35	-1446	0	0	0	0	3	36	-23	-157
13.61	33	-1472	32	-1472	0	0	0	0	3	37	-26	-178
13.91	25	-1516	24	-1522	0	0	0	0	3	38	-30	-199
14.22	13	-1583	9	-1597	0	0	0	0	3	39	-34	-218
14.52	-18	-1670	-24	-1692	0	0	0	0	4	39	-40	-221
14.82	-28	-1478	-33	-1478	0	0	0	0	20	18	-47	-151

0.1

Komb A1: $\Sigma M_{A1} = M_{max.per + var} + M_{max.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
B6												
x	ΣM_{A1}	N_{A1}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	-7	-563	0.830	0.485	0.417	3.3E-02	-1.07	0.0	-1.3	-11.9	-13.7	OK
0.30	-23	-880	0.830	0.485	0.417	3.3E-02	-1.51	0.0	-2.1	-17.0	-22.9	OK
0.61	-36	-1089	0.830	0.485	0.417	3.3E-02	-1.77	0.0	-2.7	-20.2	-29.2	OK
0.91	-33	-1099	0.830	0.482	0.415	3.2E-02	-1.86	0.0	-2.7	-21.1	-29.0	OK
1.21	-26	-1039	0.830	0.481	0.414	3.2E-02	-1.84	0.0	-2.5	-20.7	-26.7	OK
1.51	-19	-971	0.830	0.481	0.414	3.2E-02	-1.78	0.0	-2.3	-19.9	-24.4	OK
1.82	-2	-949	0.830	0.481	0.414	3.2E-02	-1.95	0.0	-2.0	-21.4	-21.8	OK
2.12	40	-1061	0.830	0.482	0.420	3.2E-02	-1.62	-2.8	0.0	-29.8	-18.8	OK
2.42	55	-1140	0.830	0.482	0.420	3.2E-02	-1.59	-3.2	0.0	-33.5	-18.7	OK
2.72	37	-1111	0.830	0.482	0.420	3.2E-02	-1.76	-2.9	0.0	-30.6	-20.2	OK
3.02	29	-1114	0.830	0.501	0.421	3.5E-02	-1.80	-2.7	0.0	-28.5	-20.4	OK
3.33	21	-1125	0.830	0.501	0.421	3.5E-02	-1.92	-2.6	0.0	-27.8	-21.6	OK
3.63	14	-1144	0.830	0.501	0.421	3.5E-02	-2.04	-2.5	0.0	-27.4	-22.8	OK
3.93	6	-1161	0.830	0.501	0.421	3.5E-02	-2.17	-2.5	0.0	-26.9	-24.0	OK
4.23	0	-1170	0.830	0.501	0.415	3.5E-02	-2.33	0.0	-2.3	-25.6	-25.7	OK
4.54	-9	-1147	0.830	0.501	0.415	3.5E-02	-2.18	0.0	-2.4	-24.1	-26.2	OK
4.84	3	-1214	0.830	0.501	0.421	3.5E-02	-2.31	-2.5	0.0	-27.7	-25.5	OK
5.14	36	-1397	0.830	0.501	0.421	3.5E-02	-2.27	-3.3	0.0	-35.7	-25.7	OK
5.44	39	-1509	0.830	0.501	0.421	3.5E-02	-2.44	-3.6	0.0	-38.6	-27.7	OK
5.75	19	-1554	0.830	0.501	0.421	3.5E-02	-2.77	-3.4	0.0	-37.2	-31.0	OK
6.05	4	-1595	0.830	0.520	0.421	3.7E-02	-2.91	-3.2	0.0	-35.2	-32.2	OK
6.35	-3	-1622	0.830	0.520	0.416	3.7E-02	-3.07	0.0	-3.2	-33.8	-34.7	OK
6.65	-7	-1635	0.830	0.520	0.416	3.7E-02	-3.06	0.0	-3.2	-33.7	-35.4	OK
6.96	-8	-1640	0.830	0.520	0.416	3.7E-02	-3.06	0.0	-3.2	-33.7	-35.5	OK
7.26	-7	-1635	0.830	0.520	0.416	3.7E-02	-3.06	0.0	-3.2	-33.7	-35.3	OK
7.56	-4	-1624	0.830	0.520	0.416	3.7E-02	-3.07	0.0	-3.2	-33.8	-34.8	OK
7.86	-1	-1608	0.830	0.520	0.416	3.7E-02	-3.07	0.0	-3.1	-33.8	-34.1	OK
8.17	3	-1589	0.830	0.520	0.421	3.7E-02	-2.91	-3.2	0.0	-34.9	-32.2	OK
8.47	7	-1570	0.830	0.520	0.421	3.7E-02	-2.83	-3.2	0.0	-34.9	-31.4	OK
8.77	11	-1552	0.830	0.520	0.421	3.7E-02	-2.76	-3.2	0.0	-34.9	-30.6	OK
9.07	14	-1536	0.830	0.520	0.421	3.7E-02	-2.69	-3.2	0.0	-34.9	-30.0	OK
9.38	16	-1522	0.830	0.520	0.421	3.7E-02	-2.64	-3.2	0.0	-34.8	-29.5	OK
9.68	18	-1511	0.830	0.520	0.421	3.7E-02	-2.60	-3.2	0.0	-34.8	-29.1	OK
9.98	19	-1503	0.830	0.520	0.421	3.7E-02	-2.58	-3.2	0.0	-34.7	-28.8	OK
10.28	19	-1498	0.830	0.520	0.421	3.7E-02	-2.56	-3.2	0.0	-34.7	-28.6	OK
10.59	20	-1490	0.830	0.520	0.421	3.7E-02	-2.54	-3.2	0.0	-34.6	-28.4	OK
10.89	22	-1478	0.830	0.520	0.421	3.7E-02	-2.50	-3.2	0.0	-34.5	-28.0	OK
11.19	24	-1466	0.830	0.520	0.421	3.7E-02	-2.45	-3.2	0.0	-34.4	-27.5	OK
11.49	26	-1453	0.830	0.520	0.421	3.7E-02	-2.41	-3.2	0.0	-34.4	-27.1	OK
11.80	28	-1442	0.830	0.520	0.421	3.7E-02	-2.36	-3.2	0.0	-34.4	-26.6	OK
12.10	31	-1421	0.830	0.520	0.421	3.7E-02	-2.30	-3.2	0.0	-34.2	-25.9	OK
12.40	34	-1400	0.830	0.520	0.421	3.7E-02	-2.22	-3.2	0.0	-34.1	-25.1	OK
12.70	37	-1391	0.830	0.520	0.421	3.7E-02	-2.16	-3.2	0.0	-34.3	-24.6	OK
13.01	39	-1391	0.830	0.523	0.420	3.7E-02	-2.16	-3.2	0.0	-34.1	-24.5	OK
13.31	39	-1407	0.830	0.526	0.418	3.8E-02	-2.21	-3.1	0.0	-33.8	-25.0	OK
13.61	36	-1436	0.830	0.526	0.418	3.8E-02	-2.30	-3.2	0.0	-34.1	-25.9	OK
13.91	29	-1478	0.830	0.526	0.418	3.8E-02	-2.45	-3.2	0.0	-34.3	-27.5	OK
14.22	16	-1545	0.830	0.526	0.418	3.8E-02	-2.72	-3.2	0.0	-34.4	-30.2	OK
14.52	-14	-1631	0.830	0.526	0.419	3.8E-02	-2.87	0.0	-3.3	-31.9	-36.3	OK
14.82	-8	-1460	0.830	0.526	0.419	3.8E-02	-2.61	0.0	-2.9	-29.0	-32.1	OK

Komb A2: $\Sigma M_{A2} = M_{max.per + var} + M_{min.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
B6												
x	ΣM_{A2}	N_{A2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	-8	-564	0.830	0.485	0.417	3.3E-02	-1.05	0.0	-1.3	-11.7	-13.9	OK
0.30	-28	-898	0.830	0.485	0.417	3.3E-02	-1.48	0.0	-2.2	-16.9	-23.8	OK
0.61	-43	-1131	0.830	0.485	0.417	3.3E-02	-1.76	0.0	-2.9	-20.3	-31.0	OK
0.91	-43	-1163	0.830	0.482	0.415	3.2E-02	-1.86	0.0	-3.0	-21.3	-31.7	OK
1.21	-39	-1122	0.830	0.481	0.414	3.2E-02	-1.84	0.0	-2.8	-21.0	-30.1	OK
1.51	-34	-1072	0.830	0.481	0.414	3.2E-02	-1.79	0.0	-2.7	-20.4	-28.5	OK
1.82	-20	-1068	0.830	0.481	0.414	3.2E-02	-1.97	0.0	-2.5	-22.0	-26.7	OK
2.12	19	-1198	0.830	0.482	0.420	3.2E-02	-2.16	-2.8	0.0	-30.5	-24.2	OK
2.42	33	-1293	0.830	0.482	0.420	3.2E-02	-2.18	-3.2	0.0	-34.3	-24.8	OK
2.72	12	-1278	0.830	0.482	0.420	3.2E-02	-2.41	-2.9	0.0	-31.5	-26.8	OK
3.02	2	-1292	0.830	0.501	0.421	3.5E-02	-2.46	-2.7	0.0	-29.4	-27.2	OK
3.33	-8	-1312	0.830	0.501	0.415	3.5E-02	-2.53	0.0	-2.7	-27.9	-29.6	OK
3.63	-17	-1342	0.830	0.501	0.415	3.5E-02	-2.48	0.0	-2.9	-27.5	-31.3	OK
3.93	-26	-1368	0.830	0.501	0.415	3.5E-02	-2.42	0.0	-3.0	-27.1	-32.9	OK
4.23	-33	-1384	0.830	0.501	0.415	3.5E-02	-2.37	0.0	-3.2	-26.6	-34.1	OK
4.54	-43	-1367	0.830	0.501	0.415	3.5E-02	-2.21	0.0	-3.2	-25.1	-34.9	OK
4.84	-32	-1440	0.830	0.501	0.415	3.5E-02	-2.49	0.0	-3.3	-28.0	-35.2	OK
5.14	0	-1628	0.830	0.501	0.421	3.5E-02	-3.13	-3.4	0.0	-36.8	-34.6	OK
5.44	3	-1743	0.830	0.501	0.421	3.5E-02	-3.32	-3.6	0.0	-39.7	-36.7	OK
5.75	-18	-1789	0.830	0.501	0.415	3.5E-02	-3.36	0.0	-3.8	-37.2	-41.2	OK
6.05	-32	-1830	0.830	0.520	0.416	3.7E-02	-3.15	0.0	-3.9	-35.1	-42.2	OK
6.35	-40	-1857	0.830	0.520	0.416	3.7E-02	-3.11	0.0	-4.0	-34.9	-43.5	OK
6.65	-43	-1869	0.830	0.520	0.416	3.7E-02	-3.10	0.0	-4.1	-34.8	-44.1	OK
6.96	-44	-1870	0.830	0.520	0.416	3.7E-02	-3.10	0.0	-4.1	-34.8	-44.2	OK
7.26	-42	-1863	0.830	0.520	0.416	3.7E-02	-3.10	0.0	-4.1	-34.8	-43.9	OK
7.56	-39	-1847	0.830	0.520	0.416	3.7E-02	-3.10	0.0	-4.0	-34.8	-43.2	OK
7.86	-35	-1825	0.830	0.520	0.416	3.7E-02	-3.11	0.0	-3.9	-34.8	-42.3	OK
8.17	-30	-1799	0.830	0.520	0.416	3.7E-02	-3.12	0.0	-3.8	-34.8	-41.2	OK
8.47	-24	-1771	0.830	0.520	0.416	3.7E-02	-3.12	0.0	-3.7	-34.7	-40.1	OK
8.77	-19	-1743	0.830	0.520	0.416	3.7E-02	-3.12	0.0	-3.6	-34.7	-39.0	OK
9.07	-15	-1716	0.830	0.520	0.416	3.7E-02	-3.12	0.0	-3.5	-34.6	-37.9	OK
9.38	-11	-1691	0.830	0.520	0.416	3.7E-02	-3.12	0.0	-3.4	-34.5	-36.9	OK
9.68	-7	-1667	0.830	0.520	0.416	3.7E-02	-3.12	0.0	-3.3	-34.4	-36.1	OK
9.98	-4	-1646	0.830	0.520	0.416	3.7E-02	-3.11	0.0	-3.2	-34.2	-35.3	OK
10.28	-1	-1625	0.830	0.520	0.416	3.7E-02	-3.10	0.0	-3.1	-34.1	-34.5	OK
10.59	2	-1606	0.830	0.520	0.421	3.7E-02	-2.95	-3.2	0.0	-35.2	-32.6	OK
10.89	5	-1587	0.830	0.520	0.421	3.7E-02	-2.89	-3.2	0.0	-35.1	-31.9	OK
11.19	8	-1568	0.830	0.520	0.421	3.7E-02	-2.82	-3.2	0.0	-35.0	-31.3	OK
11.49	10	-1554	0.830	0.520	0.421	3.7E-02	-2.76	-3.2	0.0	-34.9	-30.7	OK
11.80	12	-1548	0.830	0.520	0.421	3.7E-02	-2.73	-3.2	0.0	-35.0	-30.4	OK
12.10	14	-1544	0.830	0.520	0.421	3.7E-02	-2.70	-3.2	0.0	-35.1	-30.1	OK
12.40	16	-1544	0.830	0.520	0.421	3.7E-02	-2.68	-3.3	0.0	-35.3	-29.9	OK
12.70	17	-1550	0.830	0.520	0.421	3.7E-02	-2.68	-3.3	0.0	-35.6	-29.9	OK
13.01	16	-1566	0.830	0.523	0.420	3.7E-02	-2.74	-3.3	0.0	-35.4	-30.5	OK
13.31	13	-1601	0.830	0.526	0.418	3.8E-02	-2.86	-3.2	0.0	-35.2	-31.7	OK
13.61	6	-1651	0.830	0.526	0.418	3.8E-02	-3.02	-3.3	0.0	-35.6	-33.4	OK
13.91	-5	-1715	0.830	0.526	0.419	3.8E-02	-3.13	0.0	-3.4	-34.6	-37.1	OK
14.22	-21	-1801	0.830	0.526	0.419	3.8E-02	-3.11	0.0	-3.8	-34.6	-40.7	OK
14.52	-58	-1892	0.830	0.526	0.419	3.8E-02	-2.87	0.0	-4.3	-32.7	-46.5	OK
14.82	-75	-1630	0.830	0.526	0.419	3.8E-02	-2.21	0.0	-4.0	-25.7	-42.6	OK

Komb B1: $\Sigma M_{B1} = M_{min.per + var} + M_{max.cyk}$

Snitt
B6

Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)												
x [m]	**ΣM_{B1}** [kNm]	**N_{B1}** [kN]	**x_{tryck}** [m]	**A_{ekv}** [m²]	**$x_{tp.ekv}$** [m]	**I_{ekv}** [m⁴]	**$\sigma_{c.neutral}$** [MPa]	**$\sigma_{c.ök}$** [MPa]	**$\sigma_{c.uk}$** [MPa]	**$\sigma_{s.ök}$** [MPa]	**$\sigma_{s.uk}$** [MPa]	Kontroll $\sigma_s \leq f_{yd}$
0.00	-8	-555	0.830	0.485	0.417	3.3E-02	-1.03	0.0	-1.3	-11.5	-13.7	OK
0.30	-26	-868	0.830	0.485	0.417	3.3E-02	-1.44	0.0	-2.1	-16.4	-23.0	OK
0.61	-38	-1076	0.830	0.485	0.417	3.3E-02	-1.71	0.0	-2.7	-19.6	-29.2	OK
0.91	-35	-1085	0.830	0.482	0.415	3.2E-02	-1.81	0.0	-2.7	-20.5	-28.9	OK
1.21	-27	-1023	0.830	0.481	0.414	3.2E-02	-1.79	0.0	-2.5	-20.2	-26.5	OK
1.51	-19	-954	0.830	0.481	0.414	3.2E-02	-1.74	0.0	-2.2	-19.5	-24.0	OK
1.82	-3	-949	0.830	0.481	0.414	3.2E-02	-1.95	0.0	-2.0	-21.4	-21.9	OK
2.12	40	-1081	0.830	0.482	0.420	3.2E-02	-1.67	-2.8	0.0	-30.2	-19.2	OK
2.42	55	-1161	0.830	0.482	0.420	3.2E-02	-1.63	-3.2	0.0	-34.0	-19.2	OK
2.72	37	-1133	0.830	0.482	0.420	3.2E-02	-1.81	-2.9	0.0	-31.1	-20.7	OK
3.02	29	-1138	0.830	0.501	0.421	3.5E-02	-1.85	-2.7	0.0	-29.0	-21.0	OK
3.33	21	-1150	0.830	0.501	0.421	3.5E-02	-1.97	-2.6	0.0	-28.4	-22.1	OK
3.63	13	-1171	0.830	0.501	0.421	3.5E-02	-2.10	-2.6	0.0	-28.0	-23.4	OK
3.93	6	-1188	0.830	0.501	0.421	3.5E-02	-2.22	-2.5	0.0	-27.5	-24.6	OK
4.23	0	-1198	0.830	0.501	0.415	3.5E-02	-2.39	0.0	-2.4	-26.2	-26.3	OK
4.54	-9	-1175	0.830	0.501	0.415	3.5E-02	-2.23	0.0	-2.5	-24.7	-26.8	OK
4.84	3	-1243	0.830	0.501	0.421	3.5E-02	-2.36	-2.6	0.0	-28.4	-26.1	OK
5.14	36	-1427	0.830	0.501	0.421	3.5E-02	-2.32	-3.4	0.0	-36.3	-26.4	OK
5.44	39	-1539	0.830	0.501	0.421	3.5E-02	-2.50	-3.7	0.0	-39.2	-28.4	OK
5.75	19	-1584	0.830	0.501	0.421	3.5E-02	-2.83	-3.5	0.0	-37.9	-31.6	OK
6.05	4	-1625	0.830	0.520	0.421	3.7E-02	-2.96	-3.3	0.0	-35.8	-32.8	OK
6.35	-4	-1652	0.830	0.520	0.416	3.7E-02	-3.13	0.0	-3.2	-34.4	-35.4	OK
6.65	-7	-1666	0.830	0.520	0.416	3.7E-02	-3.11	0.0	-3.3	-34.3	-36.0	OK
6.96	-8	-1669	0.830	0.520	0.416	3.7E-02	-3.11	0.0	-3.3	-34.3	-36.2	OK
7.26	-7	-1665	0.830	0.520	0.416	3.7E-02	-3.11	0.0	-3.3	-34.3	-36.0	OK
7.56	-5	-1654	0.830	0.520	0.416	3.7E-02	-3.12	0.0	-3.2	-34.3	-35.5	OK
7.86	-1	-1637	0.830	0.520	0.416	3.7E-02	-3.12	0.0	-3.2	-34.3	-34.8	OK
8.17	3	-1618	0.830	0.520	0.421	3.7E-02	-2.97	-3.3	0.0	-35.5	-32.8	OK
8.47	6	-1599	0.830	0.520	0.421	3.7E-02	-2.89	-3.3	0.0	-35.5	-32.0	OK
8.77	10	-1581	0.830	0.520	0.421	3.7E-02	-2.82	-3.3	0.0	-35.5	-31.3	OK
9.07	13	-1564	0.830	0.520	0.421	3.7E-02	-2.76	-3.3	0.0	-35.4	-30.7	OK
9.38	15	-1550	0.830	0.520	0.421	3.7E-02	-2.70	-3.3	0.0	-35.4	-30.1	OK
9.68	17	-1539	0.830	0.520	0.421	3.7E-02	-2.67	-3.3	0.0	-35.3	-29.8	OK
9.98	18	-1530	0.830	0.520	0.421	3.7E-02	-2.64	-3.2	0.0	-35.2	-29.5	OK
10.28	18	-1525	0.830	0.520	0.421	3.7E-02	-2.62	-3.2	0.0	-35.1	-29.3	OK
10.59	19	-1516	0.830	0.520	0.421	3.7E-02	-2.60	-3.2	0.0	-35.0	-29.0	OK
10.89	21	-1504	0.830	0.520	0.421	3.7E-02	-2.56	-3.2	0.0	-34.9	-28.6	OK
11.19	22	-1490	0.830	0.520	0.421	3.7E-02	-2.52	-3.2	0.0	-34.8	-28.2	OK
11.49	24	-1477	0.830	0.520	0.421	3.7E-02	-2.47	-3.2	0.0	-34.7	-27.7	OK
11.80	26	-1464	0.830	0.520	0.421	3.7E-02	-2.42	-3.2	0.0	-34.7	-27.2	OK
12.10	29	-1442	0.830	0.520	0.421	3.7E-02	-2.35	-3.2	0.0	-34.5	-26.5	OK
12.40	33	-1418	0.830	0.520	0.421	3.7E-02	-2.26	-3.2	0.0	-34.4	-25.6	OK
12.70	36	-1406	0.830	0.520	0.421	3.7E-02	-2.20	-3.2	0.0	-34.5	-25.0	OK
13.01	39	-1403	0.830	0.523	0.420	3.7E-02	-2.19	-3.2	0.0	-34.3	-24.8	OK
13.31	39	-1410	0.830	0.526	0.418	3.8E-02	-2.22	-3.1	0.0	-33.8	-25.1	OK
13.61	35	-1435	0.830	0.526	0.418	3.8E-02	-2.30	-3.2	0.0	-34.0	-26.0	OK
13.91	27	-1484	0.830	0.526	0.418	3.8E-02	-2.48	-3.2	0.0	-34.2	-27.8	OK
14.22	13	-1559	0.830	0.526	0.418	3.8E-02	-2.78	-3.2	0.0	-34.3	-30.8	OK
14.52	-20	-1653	0.830	0.526	0.419	3.8E-02	-2.85	0.0	-3.4	-31.7	-37.4	OK
14.82	-13	-1460	0.830	0.526	0.419	3.8E-02	-2.56	0.0	-3.0	-28.5	-32.5	OK

Komb B2: $\Sigma M_{B2} = M_{min.per + var} + M_{min.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
B6												
x	ΣM_{B2}	N_{B2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	-10	-555	0.830	0.485	0.417	3.3E-02	-1.01	0.0	-1.3	-11.3	-13.9	OK
0.30	-31	-886	0.830	0.485	0.417	3.3E-02	-1.42	0.0	-2.2	-16.2	-24.0	OK
0.61	-46	-1117	0.830	0.485	0.417	3.3E-02	-1.70	0.0	-2.9	-19.7	-31.0	OK
0.91	-45	-1149	0.830	0.482	0.415	3.2E-02	-1.81	0.0	-3.0	-20.8	-31.6	OK
1.21	-39	-1106	0.830	0.481	0.414	3.2E-02	-1.80	0.0	-2.8	-20.5	-29.9	OK
1.51	-35	-1055	0.830	0.481	0.414	3.2E-02	-1.75	0.0	-2.6	-19.9	-28.2	OK
1.82	-20	-1068	0.830	0.481	0.414	3.2E-02	-1.96	0.0	-2.5	-22.0	-26.7	OK
2.12	19	-1217	0.830	0.482	0.420	3.2E-02	-2.20	-2.9	0.0	-30.9	-24.7	OK
2.42	32	-1314	0.830	0.482	0.420	3.2E-02	-2.23	-3.2	0.0	-34.8	-25.3	OK
2.72	12	-1301	0.830	0.482	0.420	3.2E-02	-2.46	-2.9	0.0	-32.0	-27.4	OK
3.02	2	-1316	0.830	0.501	0.421	3.5E-02	-2.51	-2.7	0.0	-30.0	-27.7	OK
3.33	-8	-1338	0.830	0.501	0.415	3.5E-02	-2.58	0.0	-2.8	-28.5	-30.2	OK
3.63	-17	-1368	0.830	0.501	0.415	3.5E-02	-2.53	0.0	-2.9	-28.1	-31.9	OK
3.93	-26	-1395	0.830	0.501	0.415	3.5E-02	-2.47	0.0	-3.1	-27.6	-33.5	OK
4.23	-33	-1412	0.830	0.501	0.415	3.5E-02	-2.42	0.0	-3.2	-27.2	-34.7	OK
4.54	-44	-1396	0.830	0.501	0.415	3.5E-02	-2.27	0.0	-3.3	-25.7	-35.5	OK
4.84	-32	-1469	0.830	0.501	0.415	3.5E-02	-2.55	0.0	-3.3	-28.6	-35.8	OK
5.14	0	-1658	0.830	0.501	0.421	3.5E-02	-3.19	-3.4	0.0	-37.5	-35.2	OK
5.44	3	-1773	0.830	0.501	0.421	3.5E-02	-3.38	-3.7	0.0	-40.4	-37.4	OK
5.75	-18	-1819	0.830	0.501	0.415	3.5E-02	-3.42	0.0	-3.8	-37.9	-41.9	OK
6.05	-32	-1861	0.830	0.520	0.416	3.7E-02	-3.20	0.0	-4.0	-35.8	-42.8	OK
6.35	-40	-1887	0.830	0.520	0.416	3.7E-02	-3.17	0.0	-4.1	-35.5	-44.2	OK
6.65	-44	-1899	0.830	0.520	0.416	3.7E-02	-3.15	0.0	-4.2	-35.4	-44.8	OK
6.96	-44	-1900	0.830	0.520	0.416	3.7E-02	-3.15	0.0	-4.2	-35.4	-44.9	OK
7.26	-43	-1892	0.830	0.520	0.416	3.7E-02	-3.15	0.0	-4.1	-35.4	-44.6	OK
7.56	-39	-1876	0.830	0.520	0.416	3.7E-02	-3.16	0.0	-4.1	-35.4	-43.9	OK
7.86	-35	-1854	0.830	0.520	0.416	3.7E-02	-3.16	0.0	-4.0	-35.3	-43.0	OK
8.17	-30	-1828	0.830	0.520	0.416	3.7E-02	-3.17	0.0	-3.9	-35.3	-41.9	OK
8.47	-25	-1800	0.830	0.520	0.416	3.7E-02	-3.17	0.0	-3.8	-35.3	-40.8	OK
8.77	-20	-1772	0.830	0.520	0.416	3.7E-02	-3.17	0.0	-3.6	-35.2	-39.6	OK
9.07	-16	-1745	0.830	0.520	0.416	3.7E-02	-3.17	0.0	-3.5	-35.1	-38.6	OK
9.38	-12	-1719	0.830	0.520	0.416	3.7E-02	-3.16	0.0	-3.4	-35.0	-37.6	OK
9.68	-8	-1695	0.830	0.520	0.416	3.7E-02	-3.16	0.0	-3.4	-34.8	-36.8	OK
9.98	-5	-1673	0.830	0.520	0.416	3.7E-02	-3.15	0.0	-3.3	-34.7	-36.0	OK
10.28	-2	-1652	0.830	0.520	0.416	3.7E-02	-3.14	0.0	-3.2	-34.6	-35.2	OK
10.59	1	-1632	0.830	0.520	0.421	3.7E-02	-3.02	-3.3	0.0	-35.6	-33.3	OK
10.89	4	-1612	0.830	0.520	0.421	3.7E-02	-2.95	-3.3	0.0	-35.5	-32.6	OK
11.19	6	-1593	0.830	0.520	0.421	3.7E-02	-2.88	-3.2	0.0	-35.4	-31.9	OK
11.49	9	-1578	0.830	0.520	0.421	3.7E-02	-2.82	-3.2	0.0	-35.3	-31.3	OK
11.80	11	-1570	0.830	0.520	0.421	3.7E-02	-2.79	-3.3	0.0	-35.4	-31.0	OK
12.10	13	-1564	0.830	0.520	0.421	3.7E-02	-2.76	-3.3	0.0	-35.4	-30.7	OK
12.40	15	-1562	0.830	0.520	0.421	3.7E-02	-2.73	-3.3	0.0	-35.6	-30.4	OK
12.70	16	-1565	0.830	0.520	0.421	3.7E-02	-2.72	-3.3	0.0	-35.8	-30.4	OK
13.01	16	-1578	0.830	0.523	0.420	3.7E-02	-2.76	-3.3	0.0	-35.6	-30.8	OK
13.31	12	-1603	0.830	0.526	0.418	3.8E-02	-2.87	-3.2	0.0	-35.2	-31.8	OK
13.61	6	-1650	0.830	0.526	0.418	3.8E-02	-3.03	-3.2	0.0	-35.5	-33.4	OK
13.91	-6	-1721	0.830	0.526	0.419	3.8E-02	-3.12	0.0	-3.4	-34.5	-37.4	OK
14.22	-24	-1815	0.830	0.526	0.419	3.8E-02	-3.10	0.0	-3.8	-34.6	-41.3	OK
14.52	-64	-1914	0.830	0.526	0.419	3.8E-02	-2.85	0.0	-4.4	-32.6	-47.6	OK
14.82	-80	-1629	0.830	0.526	0.419	3.8E-02	-2.16	0.0	-4.1	-25.2	-43.1	OK

Komb A, Jmf Komb A1 med A2

Snitt	Armering				Betong					
B6	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0.00	0.2	OK	0.2	OK	0.00	0.50	OK	0.06	0.53	OK
0.30	0.1	OK	1.0	OK	0.00	0.50	OK	0.10	0.54	OK
0.61	0.1	OK	1.8	OK	0.00	0.50	OK	0.13	0.55	OK
0.91	0.3	OK	2.7	OK	0.00	0.50	OK	0.13	0.55	OK
1.21	0.3	OK	3.4	OK	0.00	0.50	OK	0.13	0.55	OK
1.51	0.4	OK	4.2	OK	0.00	0.50	OK	0.12	0.55	OK
1.82	0.5	OK	4.9	OK	0.00	0.50	OK	0.11	0.54	OK
2.12	0.7	OK	5.5	OK	0.13	0.56	OK	0.00	0.50	OK
2.42	0.8	OK	6.1	OK	0.14	0.56	OK	0.00	0.50	OK
2.72	0.9	OK	6.7	OK	0.13	0.56	OK	0.00	0.50	OK
3.02	0.9	OK	6.8	OK	0.12	0.55	OK	0.00	0.50	OK
3.33	0.1	OK	8.1	OK	0.12	0.50	OK	0.12	0.50	OK
3.63	0.1	OK	8.5	OK	0.11	0.50	OK	0.13	0.50	OK
3.93	0.2	OK	8.9	OK	0.11	0.50	OK	0.14	0.50	OK
4.23	1.0	OK	8.4	OK	0.00	0.50	OK	0.14	0.55	OK
4.54	1.0	OK	8.7	OK	0.00	0.50	OK	0.15	0.55	OK
4.84	0.2	OK	9.7	OK	0.11	0.50	OK	0.15	0.50	OK
5.14	1.1	OK	8.8	OK	0.15	0.57	OK	0.00	0.50	OK
5.44	1.1	OK	9.0	OK	0.16	0.57	OK	0.00	0.50	OK
5.75	0.0	OK	10.3	OK	0.15	0.50	OK	0.17	0.50	OK
6.05	0.0	OK	10.0	OK	0.14	0.50	OK	0.17	0.50	OK
6.35	1.1	OK	8.8	OK	0.00	0.50	OK	0.18	0.56	OK
6.65	1.1	OK	8.8	OK	0.00	0.50	OK	0.18	0.56	OK
6.96	1.1	OK	8.7	OK	0.00	0.50	OK	0.18	0.57	OK
7.26	1.1	OK	8.5	OK	0.00	0.50	OK	0.18	0.56	OK
7.56	1.0	OK	8.4	OK	0.00	0.50	OK	0.18	0.56	OK
7.86	1.0	OK	8.2	OK	0.00	0.50	OK	0.17	0.56	OK
8.17	0.2	OK	9.0	OK	0.14	0.50	OK	0.17	0.50	OK
8.47	0.2	OK	8.7	OK	0.14	0.50	OK	0.16	0.50	OK
8.77	0.3	OK	8.3	OK	0.14	0.50	OK	0.16	0.50	OK
9.07	0.3	OK	7.9	OK	0.14	0.50	OK	0.16	0.50	OK
9.38	0.4	OK	7.5	OK	0.14	0.50	OK	0.15	0.50	OK
9.68	0.4	OK	7.0	OK	0.14	0.50	OK	0.15	0.50	OK
9.98	0.5	OK	6.5	OK	0.14	0.50	OK	0.14	0.50	OK
10.28	0.6	OK	5.9	OK	0.14	0.50	OK	0.14	0.50	OK
10.59	0.6	OK	4.3	OK	0.14	0.56	OK	0.00	0.50	OK
10.89	0.6	OK	4.0	OK	0.14	0.56	OK	0.00	0.50	OK
11.19	0.5	OK	3.7	OK	0.14	0.56	OK	0.00	0.50	OK
11.49	0.6	OK	3.6	OK	0.14	0.56	OK	0.00	0.50	OK
11.80	0.7	OK	3.8	OK	0.14	0.56	OK	0.00	0.50	OK
12.10	0.9	OK	4.2	OK	0.14	0.56	OK	0.00	0.50	OK
12.40	1.2	OK	4.8	OK	0.15	0.56	OK	0.00	0.50	OK
12.70	1.3	OK	5.4	OK	0.15	0.56	OK	0.00	0.50	OK
13.01	1.3	OK	5.9	OK	0.15	0.56	OK	0.00	0.50	OK
13.31	1.4	OK	6.7	OK	0.14	0.56	OK	0.00	0.50	OK
13.61	1.5	OK	7.5	OK	0.15	0.56	OK	0.00	0.50	OK
13.91	0.3	OK	9.6	OK	0.14	0.50	OK	0.15	0.50	OK
14.22	0.3	OK	10.5	OK	0.14	0.50	OK	0.17	0.50	OK
14.52	0.8	OK	10.2	OK	0.00	0.50	OK	0.19	0.57	OK
14.82	3.3	OK	10.5	OK	0.00	0.50	OK	0.18	0.56	OK

Komb B, Jmf Komb B1 med B2

Snitt	Armering				Betong					
B6	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0.00	0.2	OK	0.2	OK	0.00	0.50	OK	0.06	0.53	OK
0.30	0.1	OK	1.0	OK	0.00	0.50	OK	0.10	0.54	OK
0.61	0.1	OK	1.8	OK	0.00	0.50	OK	0.13	0.55	OK
0.91	0.3	OK	2.7	OK	0.00	0.50	OK	0.13	0.55	OK
1.21	0.3	OK	3.4	OK	0.00	0.50	OK	0.12	0.55	OK
1.51	0.4	OK	4.2	OK	0.00	0.50	OK	0.12	0.54	OK
1.82	0.5	OK	4.9	OK	0.00	0.50	OK	0.11	0.54	OK
2.12	0.7	OK	5.5	OK	0.13	0.56	OK	0.00	0.50	OK
2.42	0.8	OK	6.1	OK	0.14	0.56	OK	0.00	0.50	OK
2.72	0.9	OK	6.7	OK	0.13	0.56	OK	0.00	0.50	OK
3.02	0.9	OK	6.8	OK	0.12	0.55	OK	0.00	0.50	OK
3.33	0.1	OK	8.1	OK	0.12	0.50	OK	0.12	0.50	OK
3.63	0.1	OK	8.5	OK	0.12	0.50	OK	0.13	0.50	OK
3.93	0.2	OK	8.9	OK	0.11	0.50	OK	0.14	0.50	OK
4.23	1.0	OK	8.4	OK	0.00	0.50	OK	0.14	0.55	OK
4.54	1.0	OK	8.7	OK	0.00	0.50	OK	0.15	0.55	OK
4.84	0.2	OK	9.7	OK	0.12	0.50	OK	0.15	0.50	OK
5.14	1.1	OK	8.8	OK	0.15	0.57	OK	0.00	0.50	OK
5.44	1.1	OK	9.0	OK	0.17	0.57	OK	0.00	0.50	OK
5.75	0.0	OK	10.3	OK	0.16	0.50	OK	0.17	0.50	OK
6.05	0.1	OK	10.0	OK	0.15	0.50	OK	0.18	0.50	OK
6.35	1.1	OK	8.8	OK	0.00	0.50	OK	0.18	0.56	OK
6.65	1.1	OK	8.8	OK	0.00	0.50	OK	0.19	0.57	OK
6.96	1.1	OK	8.7	OK	0.00	0.50	OK	0.19	0.57	OK
7.26	1.1	OK	8.5	OK	0.00	0.50	OK	0.18	0.57	OK
7.56	1.0	OK	8.4	OK	0.00	0.50	OK	0.18	0.57	OK
7.86	1.0	OK	8.2	OK	0.00	0.50	OK	0.18	0.56	OK
8.17	0.2	OK	9.1	OK	0.15	0.50	OK	0.17	0.50	OK
8.47	0.2	OK	8.7	OK	0.15	0.50	OK	0.17	0.50	OK
8.77	0.3	OK	8.4	OK	0.15	0.50	OK	0.16	0.50	OK
9.07	0.3	OK	7.9	OK	0.15	0.50	OK	0.16	0.50	OK
9.38	0.4	OK	7.5	OK	0.15	0.50	OK	0.15	0.50	OK
9.68	0.4	OK	7.0	OK	0.15	0.50	OK	0.15	0.50	OK
9.98	0.5	OK	6.5	OK	0.15	0.50	OK	0.15	0.50	OK
10.28	0.6	OK	5.9	OK	0.14	0.50	OK	0.14	0.50	OK
10.59	0.6	OK	4.3	OK	0.15	0.57	OK	0.00	0.50	OK
10.89	0.6	OK	4.0	OK	0.15	0.56	OK	0.00	0.50	OK
11.19	0.5	OK	3.7	OK	0.14	0.56	OK	0.00	0.50	OK
11.49	0.6	OK	3.6	OK	0.14	0.56	OK	0.00	0.50	OK
11.80	0.7	OK	3.8	OK	0.15	0.56	OK	0.00	0.50	OK
12.10	0.9	OK	4.2	OK	0.15	0.56	OK	0.00	0.50	OK
12.40	1.2	OK	4.8	OK	0.15	0.56	OK	0.00	0.50	OK
12.70	1.3	OK	5.4	OK	0.15	0.56	OK	0.00	0.50	OK
13.01	1.3	OK	5.9	OK	0.15	0.56	OK	0.00	0.50	OK
13.31	1.4	OK	6.7	OK	0.14	0.56	OK	0.00	0.50	OK
13.61	1.5	OK	7.5	OK	0.15	0.56	OK	0.00	0.50	OK
13.91	0.3	OK	9.6	OK	0.14	0.50	OK	0.15	0.50	OK
14.22	0.3	OK	10.5	OK	0.14	0.50	OK	0.17	0.50	OK
14.52	0.8	OK	10.2	OK	0.00	0.50	OK	0.20	0.57	OK
14.82	3.3	OK	10.5	OK	0.00	0.50	OK	0.18	0.56	OK

Utmattning - Enkel kontroll

Moment med tillhörande normalkraft

Enligt SS-EN 1992-1-1, 6.8.

E_s =	200	GPa	f_{ck} =	35.5	MPa
E_{cm} =	34.0	GPa	$f_{cd.fat}$ =	22.4	MPa
φ =	1.6		f_{yd} =	410	MPa

Snitt

B2

x [m]	h [m]	b_w [m]	$A_{s.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s.uk}$ [cm^2]	d_{uk} [m]	$φ_{viktad}$	$α_{eff}$	$e´_N$ fr. ök [m]
0.00	0.750	0.600	32.7	0.690	33.7	0.690	0.96	11.0	0.375
0.30	0.750	0.600	32.7	0.690	33.7	0.690	0.96	11.0	0.375
0.61	0.750	0.600	32.7	0.690	33.7	0.690	0.96	11.0	0.375
0.91	0.750	0.600	30.3	0.690	33.7	0.690	0.96	11.0	0.375
1.21	0.750	0.600	29.8	0.690	33.7	0.690	0.96	11.0	0.375
1.51	0.750	0.600	29.8	0.690	33.7	0.690	0.96	11.0	0.375
1.82	0.750	0.600	29.8	0.690	33.7	0.690	0.96	11.0	0.375
2.12	0.750	0.600	29.8	0.690	33.7	0.690	0.96	11.0	0.375
2.42	0.750	0.600	29.8	0.690	33.7	0.690	0.96	11.0	0.375
2.72	0.750	0.600	29.8	0.690	33.7	0.690	0.96	11.0	0.375
3.02	0.750	0.600	39.0	0.690	43.0	0.690	0.96	11.0	0.375
3.33	0.750	0.600	39.0	0.690	43.0	0.690	0.96	11.0	0.375
3.63	0.750	0.600	39.0	0.690	43.0	0.690	0.96	11.0	0.375
3.93	0.750	0.600	39.0	0.690	43.0	0.690	0.96	11.0	0.375
4.23	0.750	0.600	39.0	0.690	43.0	0.690	0.96	11.0	0.375
4.54	0.750	0.600	39.0	0.690	43.0	0.690	0.96	11.0	0.375
4.84	0.750	0.600	39.0	0.690	43.0	0.690	0.96	11.0	0.375
5.14	0.750	0.600	39.0	0.690	43.0	0.690	0.96	11.0	0.375
5.44	0.750	0.600	39.0	0.690	43.0	0.690	0.96	11.0	0.375
5.75	0.750	0.600	39.0	0.690	43.0	0.690	0.96	11.0	0.375
6.05	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
6.35	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
6.65	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
6.96	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
7.26	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
7.56	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
7.86	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
8.17	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
8.47	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
8.77	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
9.07	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
9.38	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
9.68	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
9.98	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
10.28	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
10.59	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
10.89	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
11.19	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
11.49	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
11.80	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
12.10	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
12.40	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
12.70	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
13.01	0.750	0.600	50.4	0.690	52.2	0.690	0.96	11.0	0.375
13.31	0.750	0.600	53.5	0.690	52.2	0.690	0.96	11.0	0.375
13.61	0.750	0.600	53.5	0.690	52.2	0.690	0.96	11.0	0.375
13.91	0.750	0.600	53.5	0.690	52.2	0.690	0.96	11.0	0.375
14.22	0.750	0.600	53.5	0.690	52.2	0.690	0.96	11.0	0.375
14.52	0.750	0.600	53.5	0.690	52.2	0.690	0.96	11.0	0.375
14.82	0.750	0.600	53.5	0.690	52.2	0.690	0.96	11.0	0.375

Moment	**Normalkraft**	**Spänningar**
Negativ = drag ök	Negativ = tryck	Negativ = tryck
Positiv = drag uk	Positiv = drag	Positiv = drag

Snitt	**Lastkombination (6.69) enligt SS-EN 1992-1-1**											
B2	**PERMANENTA**				**VARIABLA**				**CYKLISKA**			
x	**M_{max}**	**N**	**M_{min}**	**N**	**M_{max}**	**N**	**M_{min}**	**N**	**M_{max}**	**N**	**M_{min}**	**N**
[m]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]
0.00	2	-538	1	-538	0	0	0	0	1	-60	-3	13
0.30	-8	-1031	-9	-1029	0	0	0	0	4	30	-4	8
0.61	-27	-1299	-28	-1299	0	0	0	0	8	68	-2	-1
0.91	-33	-1363	-34	-1366	0	0	0	0	13	99	-1	-5
1.21	-36	-1356	-36	-1361	0	0	0	0	17	137	-1	-7
1.51	-40	-1327	-40	-1326	0	0	0	0	22	177	-1	-7
1.82	-2	-1416	-2	-1406	0	0	0	0	25	207	-1	-7
2.12	32	-1506	32	-1494	0	0	0	0	28	227	-1	-7
2.42	21	-1503	20	-1490	0	0	0	0	31	245	-1	-8
2.72	9	-1533	8	-1519	0	0	0	0	33	268	-1	-9
3.02	-6	-1589	-7	-1574	0	0	0	0	35	286	-1	-10
3.33	-22	-1657	-23	-1641	0	0	0	0	37	298	-2	-11
3.63	-35	-1718	-36	-1701	0	0	0	0	38	310	-2	-12
3.93	-44	-1761	-45	-1744	0	0	0	0	39	321	-2	-13
4.23	-59	-1765	-60	-1747	0	0	0	0	41	327	-2	-14
4.54	-39	-1854	-40	-1836	0	0	0	0	40	330	-2	-15
4.84	-5	-1982	-6	-1965	0	0	0	0	41	334	-2	-16
5.14	-5	-2026	-6	-2009	0	0	0	0	42	336	-2	-17
5.44	-14	-2060	-15	-2043	0	0	0	0	41	334	-3	-18
5.75	-26	-2094	-27	-2078	0	0	0	0	41	331	-3	-19
6.05	-37	-2137	-38	-2121	0	0	0	0	41	328	-3	-20
6.35	-45	-2177	-46	-2161	0	0	0	0	41	326	-3	-21
6.65	-50	-2204	-50	-2189	0	0	0	0	41	325	-3	-22
6.96	-51	-2217	-52	-2202	0	0	0	0	40	317	-3	-23
7.26	-50	-2215	-51	-2200	0	0	0	0	39	312	-3	-24
7.56	-48	-2202	-48	-2187	0	0	0	0	39	311	-4	-25
7.86	-44	-2179	-44	-2164	0	0	0	0	38	303	-4	-26
8.17	-39	-2148	-40	-2134	0	0	0	0	37	292	-4	-28
8.47	-34	-2113	-34	-2099	0	0	0	0	36	282	-4	-29
8.77	-29	-2074	-29	-2061	0	0	0	0	34	269	-4	-30
9.07	-24	-2028	-24	-2028	0	0	0	0	32	252	-4	-31
9.38	-19	-1981	-19	-1995	0	0	0	0	31	236	-5	-33
9.68	-14	-1942	-14	-1956	0	0	0	0	29	218	-5	-34
9.98	-10	-1904	-10	-1917	0	0	0	0	26	194	-5	-35
10.28	-6	-1865	-6	-1878	0	0	0	0	24	171	-5	-36
10.59	-1	-1827	-2	-1839	0	0	0	0	23	158	-6	-38
10.89	3	-1787	2	-1800	0	0	0	0	21	143	-6	-39
11.19	7	-1747	6	-1760	0	0	0	0	19	127	-7	-49
11.49	12	-1706	11	-1718	0	0	0	0	17	112	-9	-66
11.80	17	-1663	16	-1675	0	0	0	0	15	89	-12	-86
12.10	22	-1620	21	-1630	0	0	0	0	12	68	-15	-115
12.40	28	-1577	27	-1586	0	0	0	0	10	47	-19	-153
12.70	34	-1536	32	-1544	0	0	0	0	7	18	-23	-193
13.01	39	-1499	38	-1505	0	0	0	0	4	-2	-28	-236
13.31	43	-1469	42	-1472	0	0	0	0	2	9	-34	-284
13.61	46	-1449	46	-1448	0	0	0	0	1	23	-41	-336
13.91	48	-1440	48	-1435	0	0	0	0	1	22	-49	-389
14.22	47	-1442	47	-1445	0	0	0	0	1	22	-57	-441
14.52	36	-1461	35	-1475	0	0	0	0	1	-27	-73	-478
14.82	17	-1151	16	-1152	0	0	0	0	26	-78	-80	-352

0.1

Komb A1: $\Sigma M_{A1} = M_{max.per + var} + M_{max.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
B2												
x	ΣM_{A1}	N_{A1}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	4	-598	0.750	0.520	0.378	2.8E-02	-1.08	-1.2	0.0	-13.3	-12.0	OK
0.30	-4	-1001	0.750	0.520	0.376	2.8E-02	-1.86	0.0	-2.0	-20.5	-21.8	OK
0.61	-19	-1231	0.750	0.520	0.376	2.8E-02	-2.09	0.0	-2.7	-23.4	-28.6	OK
0.91	-21	-1264	0.750	0.517	0.375	2.8E-02	-2.17	0.0	-2.7	-24.3	-29.4	OK
1.21	-18	-1219	0.750	0.516	0.374	2.8E-02	-2.12	0.0	-2.6	-23.7	-28.1	OK
1.51	-18	-1150	0.750	0.516	0.374	2.8E-02	-1.99	0.0	-2.5	-22.3	-26.6	OK
1.82	24	-1209	0.750	0.517	0.379	2.8E-02	-1.95	-2.7	0.0	-29.4	-22.1	OK
2.12	60	-1280	0.750	0.517	0.379	2.8E-02	-1.60	-3.4	0.0	-35.5	-19.2	OK
2.42	51	-1258	0.750	0.517	0.379	2.8E-02	-1.67	-3.2	0.0	-33.9	-19.7	OK
2.72	42	-1265	0.750	0.517	0.379	2.8E-02	-1.81	-3.1	0.0	-32.9	-21.0	OK
3.02	29	-1303	0.750	0.536	0.380	3.0E-02	-1.99	-2.9	0.0	-30.9	-22.6	OK
3.33	15	-1359	0.750	0.536	0.380	3.0E-02	-2.26	-2.8	0.0	-30.4	-25.3	OK
3.63	3	-1408	0.750	0.536	0.380	3.0E-02	-2.50	-2.8	0.0	-30.1	-27.7	OK
3.93	-4	-1440	0.750	0.536	0.375	3.0E-02	-2.63	0.0	-2.7	-29.0	-30.0	OK
4.23	-18	-1438	0.750	0.536	0.375	3.0E-02	-2.45	0.0	-2.9	-27.3	-31.6	OK
4.54	2	-1524	0.750	0.536	0.380	3.0E-02	-2.73	-3.0	0.0	-32.3	-30.2	OK
4.84	36	-1648	0.750	0.536	0.380	3.0E-02	-2.53	-3.6	0.0	-39.0	-28.7	OK
5.14	37	-1690	0.750	0.536	0.380	3.0E-02	-2.59	-3.7	0.0	-39.9	-29.5	OK
5.44	27	-1726	0.750	0.536	0.380	3.0E-02	-2.77	-3.7	0.0	-39.6	-31.2	OK
5.75	15	-1763	0.750	0.536	0.380	3.0E-02	-3.00	-3.6	0.0	-38.9	-33.5	OK
6.05	4	-1809	0.750	0.555	0.380	3.2E-02	-3.10	-3.4	0.0	-37.3	-34.3	OK
6.35	-4	-1850	0.750	0.555	0.375	3.2E-02	-3.27	0.0	-3.4	-36.0	-37.2	OK
6.65	-9	-1879	0.750	0.555	0.375	3.2E-02	-3.27	0.0	-3.5	-36.1	-38.2	OK
6.96	-11	-1900	0.750	0.555	0.375	3.2E-02	-3.28	0.0	-3.6	-36.3	-38.9	OK
7.26	-11	-1903	0.750	0.555	0.375	3.2E-02	-3.29	0.0	-3.6	-36.4	-38.9	OK
7.56	-8	-1891	0.750	0.555	0.375	3.2E-02	-3.30	0.0	-3.5	-36.4	-38.4	OK
7.86	-6	-1876	0.750	0.555	0.375	3.2E-02	-3.30	0.0	-3.5	-36.4	-37.8	OK
8.17	-2	-1856	0.750	0.555	0.375	3.2E-02	-3.31	0.0	-3.4	-36.4	-37.1	OK
8.47	2	-1831	0.750	0.555	0.380	3.2E-02	-3.16	-3.4	0.0	-37.5	-34.9	OK
8.77	6	-1805	0.750	0.555	0.380	3.2E-02	-3.07	-3.4	0.0	-37.4	-34.1	OK
9.07	9	-1775	0.750	0.555	0.380	3.2E-02	-2.98	-3.4	0.0	-37.1	-33.1	OK
9.38	12	-1745	0.750	0.555	0.380	3.2E-02	-2.89	-3.4	0.0	-36.9	-32.2	OK
9.68	15	-1724	0.750	0.555	0.380	3.2E-02	-2.83	-3.4	0.0	-36.7	-31.5	OK
9.98	16	-1709	0.750	0.555	0.380	3.2E-02	-2.78	-3.4	0.0	-36.6	-31.1	OK
10.28	18	-1694	0.750	0.555	0.380	3.2E-02	-2.73	-3.4	0.0	-36.5	-30.5	OK
10.59	21	-1668	0.750	0.555	0.380	3.2E-02	-2.65	-3.4	0.0	-36.3	-29.7	OK
10.89	24	-1645	0.750	0.555	0.380	3.2E-02	-2.58	-3.4	0.0	-36.1	-29.0	OK
11.19	26	-1621	0.750	0.555	0.380	3.2E-02	-2.51	-3.3	0.0	-35.9	-28.3	OK
11.49	29	-1594	0.750	0.555	0.380	3.2E-02	-2.43	-3.3	0.0	-35.7	-27.5	OK
11.80	32	-1574	0.750	0.555	0.380	3.2E-02	-2.36	-3.3	0.0	-35.6	-26.8	OK
12.10	34	-1552	0.750	0.555	0.380	3.2E-02	-2.30	-3.3	0.0	-35.4	-26.1	OK
12.40	38	-1530	0.750	0.555	0.380	3.2E-02	-2.22	-3.3	0.0	-35.3	-25.3	OK
12.70	41	-1518	0.750	0.555	0.380	3.2E-02	-2.16	-3.3	0.0	-35.4	-24.8	OK
13.01	42	-1501	0.750	0.558	0.379	3.2E-02	-2.13	-3.3	0.0	-34.9	-24.4	OK
13.31	45	-1461	0.750	0.561	0.377	3.2E-02	-2.05	-3.2	0.0	-33.8	-23.5	OK
13.61	48	-1426	0.750	0.561	0.377	3.2E-02	-1.95	-3.1	0.0	-33.4	-22.5	OK
13.91	49	-1417	0.750	0.561	0.377	3.2E-02	-1.92	-3.1	0.0	-33.4	-22.2	OK
14.22	48	-1420	0.750	0.561	0.377	3.2E-02	-1.94	-3.1	0.0	-33.4	-22.3	OK
14.52	38	-1488	0.750	0.561	0.377	3.2E-02	-2.18	-3.1	0.0	-33.6	-24.8	OK
14.82	43	-1228	0.750	0.561	0.377	3.2E-02	-1.66	-2.7	0.0	-29.0	-19.2	OK

Komb A2: $\Sigma M_{A2} = M_{max.per + var} + M_{min.cyk}$

Snitt B2	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
x [m]	ΣM_{A2} [kNm]	N_{A2} [kN]	x_{tryck} [m]	A_{ekv} [m²]	$x_{tp.ekv}$ [m]	I_{ekv} [m^4]	$\sigma_{c.neutral}$ [MPa]	$\sigma_{c.ök}$ [MPa]	$\sigma_{c.uk}$ [MPa]	$\sigma_{s.ök}$ [MPa]	$\sigma_{s.uk}$ [MPa]	Kontroll $\sigma_s \leq f_{yd}$
0.00	-1	-525	0.750	0.520	0.376	2.8E-02	-0.99	0.0	-1.0	-10.9	-11.3	OK
0.30	-11	-1023	0.750	0.520	0.376	2.8E-02	-1.80	0.0	-2.1	-20.0	-23.2	OK
0.61	-29	-1300	0.750	0.520	0.376	2.8E-02	-2.09	0.0	-2.9	-23.7	-31.3	OK
0.91	-35	-1369	0.750	0.517	0.375	2.8E-02	-2.18	0.0	-3.1	-24.8	-33.4	OK
1.21	-37	-1362	0.750	0.516	0.374	2.8E-02	-2.15	0.0	-3.1	-24.5	-33.4	OK
1.51	-41	-1334	0.750	0.516	0.374	2.8E-02	-2.04	0.0	-3.1	-23.3	-33.4	OK
1.82	-2	-1423	0.750	0.516	0.374	2.8E-02	-2.73	0.0	-2.8	-30.1	-30.4	OK
2.12	31	-1513	0.750	0.517	0.379	2.8E-02	-2.42	-3.4	0.0	-37.0	-27.5	OK
2.42	20	-1512	0.750	0.517	0.379	2.8E-02	-2.57	-3.3	0.0	-35.5	-28.9	OK
2.72	8	-1543	0.750	0.517	0.379	2.8E-02	-2.79	-3.2	0.0	-34.6	-31.0	OK
3.02	-7	-1600	0.750	0.536	0.375	3.0E-02	-2.89	0.0	-3.1	-31.9	-33.7	OK
3.33	-23	-1668	0.750	0.536	0.375	3.0E-02	-2.82	0.0	-3.4	-31.5	-36.9	OK
3.63	-36	-1730	0.750	0.536	0.375	3.0E-02	-2.77	0.0	-3.7	-31.2	-39.7	OK
3.93	-46	-1774	0.750	0.536	0.375	3.0E-02	-2.74	0.0	-3.9	-31.1	-41.7	OK
4.23	-61	-1779	0.750	0.536	0.375	3.0E-02	-2.55	0.0	-4.1	-29.3	-43.6	OK
4.54	-41	-1869	0.750	0.536	0.375	3.0E-02	-2.97	0.0	-4.0	-33.6	-43.1	OK
4.84	-7	-1998	0.750	0.536	0.375	3.0E-02	-3.64	0.0	-3.8	-40.1	-41.8	OK
5.14	-8	-2043	0.750	0.536	0.375	3.0E-02	-3.72	0.0	-3.9	-41.0	-42.8	OK
5.44	-16	-2078	0.750	0.536	0.375	3.0E-02	-3.67	0.0	-4.1	-40.7	-44.5	OK
5.75	-29	-2113	0.750	0.536	0.375	3.0E-02	-3.58	0.0	-4.3	-40.0	-46.7	OK
6.05	-40	-2158	0.750	0.555	0.375	3.2E-02	-3.40	0.0	-4.4	-38.2	-47.2	OK
6.35	-48	-2198	0.750	0.555	0.375	3.2E-02	-3.37	0.0	-4.5	-38.1	-48.9	OK
6.65	-53	-2226	0.750	0.555	0.375	3.2E-02	-3.37	0.0	-4.7	-38.2	-50.0	OK
6.96	-54	-2240	0.750	0.555	0.375	3.2E-02	-3.38	0.0	-4.7	-38.3	-50.4	OK
7.26	-53	-2240	0.750	0.555	0.375	3.2E-02	-3.39	0.0	-4.7	-38.3	-50.3	OK
7.56	-51	-2227	0.750	0.555	0.375	3.2E-02	-3.39	0.0	-4.6	-38.3	-49.8	OK
7.86	-48	-2205	0.750	0.555	0.375	3.2E-02	-3.40	0.0	-4.6	-38.3	-49.0	OK
8.17	-43	-2176	0.750	0.555	0.375	3.2E-02	-3.40	0.0	-4.4	-38.2	-47.9	OK
8.47	-38	-2142	0.750	0.555	0.375	3.2E-02	-3.39	0.0	-4.3	-38.1	-46.7	OK
8.77	-33	-2104	0.750	0.555	0.375	3.2E-02	-3.39	0.0	-4.2	-37.9	-45.4	OK
9.07	-28	-2059	0.750	0.555	0.375	3.2E-02	-3.36	0.0	-4.1	-37.6	-43.9	OK
9.38	-23	-2014	0.750	0.555	0.375	3.2E-02	-3.34	0.0	-3.9	-37.2	-42.5	OK
9.68	-19	-1976	0.750	0.555	0.375	3.2E-02	-3.32	0.0	-3.8	-36.9	-41.3	OK
9.98	-15	-1939	0.750	0.555	0.375	3.2E-02	-3.31	0.0	-3.7	-36.6	-40.1	OK
10.28	-11	-1902	0.750	0.555	0.375	3.2E-02	-3.29	0.0	-3.6	-36.3	-38.9	OK
10.59	-7	-1864	0.750	0.555	0.375	3.2E-02	-3.27	0.0	-3.5	-36.0	-37.7	OK
10.89	-3	-1827	0.750	0.555	0.375	3.2E-02	-3.25	0.0	-3.3	-35.7	-36.6	OK
11.19	0	-1796	0.750	0.555	0.380	3.2E-02	-3.12	-3.3	0.0	-36.6	-34.5	OK
11.49	3	-1772	0.750	0.555	0.380	3.2E-02	-3.05	-3.3	0.0	-36.4	-33.7	OK
11.80	5	-1749	0.750	0.555	0.380	3.2E-02	-2.98	-3.3	0.0	-36.2	-33.0	OK
12.10	8	-1736	0.750	0.555	0.380	3.2E-02	-2.93	-3.3	0.0	-36.2	-32.5	OK
12.40	9	-1730	0.750	0.555	0.380	3.2E-02	-2.90	-3.3	0.0	-36.2	-32.2	OK
12.70	10	-1729	0.750	0.555	0.380	3.2E-02	-2.89	-3.3	0.0	-36.3	-32.1	OK
13.01	10	-1736	0.750	0.558	0.379	3.2E-02	-2.91	-3.3	0.0	-36.1	-32.3	OK
13.31	9	-1753	0.750	0.561	0.377	3.2E-02	-2.98	-3.3	0.0	-35.7	-33.0	OK
13.61	6	-1784	0.750	0.561	0.377	3.2E-02	-3.07	-3.3	0.0	-36.0	-33.9	OK
13.91	-1	-1828	0.750	0.561	0.379	3.2E-02	-3.18	0.0	-3.3	-35.0	-36.6	OK
14.22	-10	-1883	0.750	0.561	0.379	3.2E-02	-3.16	0.0	-3.6	-35.0	-38.8	OK
14.52	-36	-1939	0.750	0.561	0.379	3.2E-02	-2.96	0.0	-4.0	-33.3	-42.7	OK
14.82	-63	-1503	0.750	0.561	0.379	3.2E-02	-1.89	0.0	-3.5	-22.1	-36.9	OK

Komb B1: $\Sigma M_{B1} = M_{min.per + var} + M_{max.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
B2												
x	ΣM_{B1}	N_{B1}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	3	-598	0.750	0.520	0.378	2.8E-02	-1.09	-1.2	0.0	-13.2	-12.1	OK
0.30	-5	-999	0.750	0.520	0.376	2.8E-02	-1.83	0.0	-2.0	-20.3	-21.9	OK
0.61	-21	-1231	0.750	0.520	0.376	2.8E-02	-2.07	0.0	-2.7	-23.2	-28.8	OK
0.91	-22	-1267	0.750	0.517	0.375	2.8E-02	-2.16	0.0	-2.7	-24.2	-29.6	OK
1.21	-19	-1224	0.750	0.516	0.374	2.8E-02	-2.12	0.0	-2.6	-23.7	-28.3	OK
1.51	-18	-1149	0.750	0.516	0.374	2.8E-02	-1.99	0.0	-2.5	-22.2	-26.6	OK
1.82	24	-1199	0.750	0.517	0.379	2.8E-02	-1.93	-2.7	0.0	-29.2	-21.9	OK
2.12	59	-1268	0.750	0.517	0.379	2.8E-02	-1.59	-3.3	0.0	-35.1	-19.0	OK
2.42	50	-1245	0.750	0.517	0.379	2.8E-02	-1.66	-3.2	0.0	-33.5	-19.5	OK
2.72	41	-1251	0.750	0.517	0.379	2.8E-02	-1.80	-3.1	0.0	-32.5	-20.8	OK
3.02	28	-1288	0.750	0.536	0.380	3.0E-02	-1.97	-2.8	0.0	-30.4	-22.4	OK
3.33	14	-1343	0.750	0.536	0.380	3.0E-02	-2.25	-2.8	0.0	-30.0	-25.1	OK
3.63	2	-1391	0.750	0.536	0.380	3.0E-02	-2.48	-2.7	0.0	-29.6	-27.5	OK
3.93	-6	-1423	0.750	0.536	0.375	3.0E-02	-2.58	0.0	-2.7	-28.5	-29.8	OK
4.23	-20	-1420	0.750	0.536	0.375	3.0E-02	-2.40	0.0	-2.9	-26.8	-31.4	OK
4.54	1	-1506	0.750	0.536	0.380	3.0E-02	-2.71	-2.9	0.0	-31.8	-30.0	OK
4.84	35	-1631	0.750	0.536	0.380	3.0E-02	-2.51	-3.6	0.0	-38.5	-28.5	OK
5.14	35	-1673	0.750	0.536	0.380	3.0E-02	-2.58	-3.7	0.0	-39.4	-29.3	OK
5.44	26	-1709	0.750	0.536	0.380	3.0E-02	-2.76	-3.6	0.0	-39.1	-31.0	OK
5.75	14	-1747	0.750	0.536	0.380	3.0E-02	-2.98	-3.5	0.0	-38.4	-33.2	OK
6.05	3	-1793	0.750	0.555	0.380	3.2E-02	-3.08	-3.4	0.0	-36.9	-34.1	OK
6.35	-5	-1834	0.750	0.555	0.375	3.2E-02	-3.23	0.0	-3.4	-35.6	-36.9	OK
6.65	-9	-1864	0.750	0.555	0.375	3.2E-02	-3.23	0.0	-3.5	-35.7	-38.0	OK
6.96	-12	-1885	0.750	0.555	0.375	3.2E-02	-3.25	0.0	-3.5	-35.9	-38.6	OK
7.26	-11	-1888	0.750	0.555	0.375	3.2E-02	-3.26	0.0	-3.5	-36.0	-38.7	OK
7.56	-9	-1876	0.750	0.555	0.375	3.2E-02	-3.27	0.0	-3.5	-36.1	-38.1	OK
7.86	-6	-1861	0.750	0.555	0.375	3.2E-02	-3.27	0.0	-3.4	-36.1	-37.6	OK
8.17	-3	-1842	0.750	0.555	0.375	3.2E-02	-3.28	0.0	-3.4	-36.0	-36.8	OK
8.47	2	-1817	0.750	0.555	0.380	3.2E-02	-3.14	-3.4	0.0	-37.2	-34.7	OK
8.77	6	-1791	0.750	0.555	0.380	3.2E-02	-3.05	-3.4	0.0	-37.1	-33.8	OK
9.07	9	-1775	0.750	0.555	0.380	3.2E-02	-2.98	-3.4	0.0	-37.1	-33.1	OK
9.38	12	-1759	0.750	0.555	0.380	3.2E-02	-2.91	-3.4	0.0	-37.2	-32.5	OK
9.68	14	-1737	0.750	0.555	0.380	3.2E-02	-2.85	-3.4	0.0	-37.0	-31.8	OK
9.98	16	-1723	0.750	0.555	0.380	3.2E-02	-2.81	-3.4	0.0	-36.8	-31.4	OK
10.28	18	-1707	0.750	0.555	0.380	3.2E-02	-2.76	-3.4	0.0	-36.8	-30.8	OK
10.59	21	-1681	0.750	0.555	0.380	3.2E-02	-2.68	-3.4	0.0	-36.5	-30.1	OK
10.89	23	-1657	0.750	0.555	0.380	3.2E-02	-2.61	-3.4	0.0	-36.3	-29.3	OK
11.19	25	-1633	0.750	0.555	0.380	3.2E-02	-2.54	-3.3	0.0	-36.0	-28.6	OK
11.49	28	-1605	0.750	0.555	0.380	3.2E-02	-2.46	-3.3	0.0	-35.8	-27.8	OK
11.80	31	-1585	0.750	0.555	0.380	3.2E-02	-2.39	-3.3	0.0	-35.7	-27.1	OK
12.10	33	-1563	0.750	0.555	0.380	3.2E-02	-2.33	-3.3	0.0	-35.5	-26.4	OK
12.40	37	-1539	0.750	0.555	0.380	3.2E-02	-2.25	-3.3	0.0	-35.4	-25.6	OK
12.70	39	-1525	0.750	0.555	0.380	3.2E-02	-2.19	-3.3	0.0	-35.4	-25.0	OK
13.01	41	-1507	0.750	0.558	0.379	3.2E-02	-2.15	-3.3	0.0	-34.9	-24.6	OK
13.31	44	-1464	0.750	0.561	0.377	3.2E-02	-2.06	-3.2	0.0	-33.8	-23.6	OK
13.61	47	-1426	0.750	0.561	0.377	3.2E-02	-1.96	-3.1	0.0	-33.3	-22.6	OK
13.91	49	-1413	0.750	0.561	0.377	3.2E-02	-1.92	-3.1	0.0	-33.3	-22.1	OK
14.22	47	-1422	0.750	0.561	0.377	3.2E-02	-1.95	-3.1	0.0	-33.4	-22.4	OK
14.52	36	-1502	0.750	0.561	0.377	3.2E-02	-2.22	-3.1	0.0	-33.7	-25.2	OK
14.82	41	-1229	0.750	0.561	0.377	3.2E-02	-1.68	-2.7	0.0	-28.9	-19.3	OK

Komb B2: $\Sigma M_{B2} = M_{min.per + var} + M_{min.cyk}$

Snitt B2	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
x [m]	ΣM_{B2} [kNm]	N_{B2} [kN]	x_{tryck} [m]	A_{ekv} [m²]	$x_{tp.ekv}$ [m]	I_{ekv} [m⁴]	$\sigma_{c.neutral}$ [MPa]	$\sigma_{c.ök}$ [MPa]	$\sigma_{c.uk}$ [MPa]	$\sigma_{s.ök}$ [MPa]	$\sigma_{s.uk}$ [MPa]	Kontroll $\sigma_s \leq f_{yd}$
0.00	-1	-525	0.750	0.520	0.376	2.8E-02	-0.98	0.0	-1.0	-10.8	-11.3	OK
0.30	-13	-1021	0.750	0.520	0.376	2.8E-02	-1.77	0.0	-2.2	-19.8	-23.3	OK
0.61	-30	-1300	0.750	0.520	0.376	2.8E-02	-2.08	0.0	-2.9	-23.5	-31.4	OK
0.91	-36	-1372	0.750	0.517	0.375	2.8E-02	-2.18	0.0	-3.1	-24.7	-33.5	OK
1.21	-37	-1367	0.750	0.516	0.374	2.8E-02	-2.15	0.0	-3.1	-24.5	-33.6	OK
1.51	-41	-1332	0.750	0.516	0.374	2.8E-02	-2.03	0.0	-3.1	-23.3	-33.4	OK
1.82	-3	-1413	0.750	0.516	0.374	2.8E-02	-2.71	0.0	-2.8	-29.8	-30.3	OK
2.12	31	-1501	0.750	0.517	0.379	2.8E-02	-2.41	-3.4	0.0	-36.6	-27.3	OK
2.42	19	-1498	0.750	0.517	0.379	2.8E-02	-2.56	-3.3	0.0	-35.1	-28.7	OK
2.72	7	-1528	0.750	0.517	0.379	2.8E-02	-2.77	-3.1	0.0	-34.2	-30.8	OK
3.02	-9	-1584	0.750	0.536	0.375	3.0E-02	-2.85	0.0	-3.1	-31.5	-33.5	OK
3.33	-25	-1652	0.750	0.536	0.375	3.0E-02	-2.77	0.0	-3.4	-31.0	-36.7	OK
3.63	-37	-1713	0.750	0.536	0.375	3.0E-02	-2.72	0.0	-3.7	-30.7	-39.5	OK
3.93	-47	-1757	0.750	0.536	0.375	3.0E-02	-2.69	0.0	-3.9	-30.6	-41.5	OK
4.23	-62	-1761	0.750	0.536	0.375	3.0E-02	-2.50	0.0	-4.1	-28.8	-43.4	OK
4.54	-42	-1852	0.750	0.536	0.375	3.0E-02	-2.93	0.0	-4.0	-33.1	-42.8	OK
4.84	-8	-1981	0.750	0.536	0.375	3.0E-02	-3.60	0.0	-3.8	-39.7	-41.5	OK
5.14	-9	-2026	0.750	0.536	0.375	3.0E-02	-3.67	0.0	-3.9	-40.5	-42.5	OK
5.44	-17	-2061	0.750	0.536	0.375	3.0E-02	-3.63	0.0	-4.1	-40.2	-44.3	OK
5.75	-30	-2097	0.750	0.536	0.375	3.0E-02	-3.54	0.0	-4.3	-39.5	-46.5	OK
6.05	-41	-2141	0.750	0.555	0.375	3.2E-02	-3.36	0.0	-4.4	-37.8	-46.9	OK
6.35	-49	-2182	0.750	0.555	0.375	3.2E-02	-3.34	0.0	-4.5	-37.7	-48.7	OK
6.65	-53	-2211	0.750	0.555	0.375	3.2E-02	-3.33	0.0	-4.6	-37.8	-49.7	OK
6.96	-55	-2225	0.750	0.555	0.375	3.2E-02	-3.34	0.0	-4.7	-37.9	-50.2	OK
7.26	-54	-2224	0.750	0.555	0.375	3.2E-02	-3.35	0.0	-4.7	-38.0	-50.1	OK
7.56	-52	-2212	0.750	0.555	0.375	3.2E-02	-3.36	0.0	-4.6	-38.0	-49.6	OK
7.86	-48	-2191	0.750	0.555	0.375	3.2E-02	-3.36	0.0	-4.5	-38.0	-48.7	OK
8.17	-43	-2162	0.750	0.555	0.375	3.2E-02	-3.37	0.0	-4.4	-37.9	-47.7	OK
8.47	-38	-2128	0.750	0.555	0.375	3.2E-02	-3.37	0.0	-4.3	-37.8	-46.4	OK
8.77	-33	-2091	0.750	0.555	0.375	3.2E-02	-3.36	0.0	-4.2	-37.6	-45.1	OK
9.07	-28	-2059	0.750	0.555	0.375	3.2E-02	-3.36	0.0	-4.1	-37.5	-43.9	OK
9.38	-23	-2027	0.750	0.555	0.375	3.2E-02	-3.36	0.0	-3.9	-37.4	-42.8	OK
9.68	-19	-1990	0.750	0.555	0.375	3.2E-02	-3.35	0.0	-3.8	-37.2	-41.6	OK
9.98	-15	-1952	0.750	0.555	0.375	3.2E-02	-3.33	0.0	-3.7	-36.9	-40.4	OK
10.28	-11	-1915	0.750	0.555	0.375	3.2E-02	-3.31	0.0	-3.6	-36.5	-39.2	OK
10.59	-7	-1877	0.750	0.555	0.375	3.2E-02	-3.28	0.0	-3.5	-36.2	-38.1	OK
10.89	-4	-1839	0.750	0.555	0.375	3.2E-02	-3.26	0.0	-3.4	-35.9	-36.9	OK
11.19	0	-1809	0.750	0.555	0.375	3.2E-02	-3.24	0.0	-3.3	-35.6	-35.9	OK
11.49	2	-1784	0.750	0.555	0.380	3.2E-02	-3.08	-3.3	0.0	-36.5	-34.1	OK
11.80	4	-1761	0.750	0.555	0.380	3.2E-02	-3.01	-3.3	0.0	-36.3	-33.4	OK
12.10	6	-1746	0.750	0.555	0.380	3.2E-02	-2.96	-3.3	0.0	-36.3	-32.8	OK
12.40	8	-1739	0.750	0.555	0.380	3.2E-02	-2.93	-3.3	0.0	-36.3	-32.5	OK
12.70	9	-1737	0.750	0.555	0.380	3.2E-02	-2.91	-3.3	0.0	-36.4	-32.4	OK
13.01	9	-1741	0.750	0.558	0.379	3.2E-02	-2.93	-3.3	0.0	-36.1	-32.5	OK
13.31	8	-1756	0.750	0.561	0.377	3.2E-02	-2.99	-3.3	0.0	-35.7	-33.1	OK
13.61	5	-1784	0.750	0.561	0.377	3.2E-02	-3.08	-3.3	0.0	-35.9	-34.0	OK
13.91	-1	-1824	0.750	0.561	0.379	3.2E-02	-3.16	0.0	-3.3	-34.9	-36.5	OK
14.22	-11	-1886	0.750	0.561	0.379	3.2E-02	-3.16	0.0	-3.6	-35.0	-38.9	OK
14.52	-38	-1952	0.750	0.561	0.379	3.2E-02	-2.96	0.0	-4.0	-33.4	-43.1	OK
14.82	-64	-1504	0.750	0.561	0.379	3.2E-02	-1.87	0.0	-3.5	-22.0	-37.1	OK

Komb A, Jmf Komb A1 med A2

Snitt	Armering				Betong					
B2	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0.00	2.3	OK	0.7	OK	0.05	0.50	OK	0.05	0.50	OK
0.30	0.5	OK	1.4	OK	0.00	0.50	OK	0.10	0.54	OK
0.61	0.3	OK	2.6	OK	0.00	0.50	OK	0.13	0.55	OK
0.91	0.5	OK	3.9	OK	0.00	0.50	OK	0.14	0.55	OK
1.21	0.8	OK	5.3	OK	0.00	0.50	OK	0.14	0.55	OK
1.51	1.0	OK	6.7	OK	0.00	0.50	OK	0.14	0.55	OK
1.82	0.7	OK	8.3	OK	0.12	0.50	OK	0.12	0.50	OK
2.12	1.5	OK	8.3	OK	0.15	0.57	OK	0.00	0.50	OK
2.42	1.5	OK	9.1	OK	0.15	0.56	OK	0.00	0.50	OK
2.72	1.7	OK	10.0	OK	0.14	0.56	OK	0.00	0.50	OK
3.02	1.0	OK	11.0	OK	0.13	0.50	OK	0.14	0.50	OK
3.33	1.0	OK	11.6	OK	0.13	0.50	OK	0.15	0.50	OK
3.63	1.2	OK	12.0	OK	0.12	0.50	OK	0.16	0.50	OK
3.93	2.0	OK	11.7	OK	0.00	0.50	OK	0.17	0.56	OK
4.23	2.0	OK	12.0	OK	0.00	0.50	OK	0.18	0.56	OK
4.54	1.3	OK	12.9	OK	0.13	0.50	OK	0.18	0.50	OK
4.84	1.2	OK	13.1	OK	0.16	0.50	OK	0.17	0.50	OK
5.14	1.1	OK	13.3	OK	0.17	0.50	OK	0.17	0.50	OK
5.44	1.1	OK	13.2	OK	0.16	0.50	OK	0.18	0.50	OK
5.75	1.1	OK	13.2	OK	0.16	0.50	OK	0.19	0.50	OK
6.05	0.9	OK	12.9	OK	0.15	0.50	OK	0.20	0.50	OK
6.35	2.0	OK	11.7	OK	0.00	0.50	OK	0.20	0.57	OK
6.65	2.0	OK	11.7	OK	0.00	0.50	OK	0.21	0.57	OK
6.96	2.0	OK	11.5	OK	0.00	0.50	OK	0.21	0.57	OK
7.26	1.9	OK	11.4	OK	0.00	0.50	OK	0.21	0.57	OK
7.56	1.9	OK	11.4	OK	0.00	0.50	OK	0.21	0.57	OK
7.86	1.9	OK	11.1	OK	0.00	0.50	OK	0.20	0.57	OK
8.17	1.8	OK	10.8	OK	0.00	0.50	OK	0.20	0.57	OK
8.47	0.6	OK	11.7	OK	0.15	0.50	OK	0.19	0.50	OK
8.77	0.5	OK	11.3	OK	0.15	0.50	OK	0.19	0.50	OK
9.07	0.4	OK	10.8	OK	0.15	0.50	OK	0.18	0.50	OK
9.38	0.3	OK	10.3	OK	0.15	0.50	OK	0.17	0.50	OK
9.68	0.2	OK	9.7	OK	0.15	0.50	OK	0.17	0.50	OK
9.98	0.0	OK	9.0	OK	0.15	0.50	OK	0.16	0.50	OK
10.28	0.2	OK	8.4	OK	0.15	0.50	OK	0.16	0.50	OK
10.59	0.3	OK	8.0	OK	0.15	0.50	OK	0.15	0.50	OK
10.89	0.4	OK	7.6	OK	0.15	0.50	OK	0.15	0.50	OK
11.19	0.7	OK	6.2	OK	0.15	0.57	OK	0.00	0.50	OK
11.49	0.7	OK	6.3	OK	0.15	0.57	OK	0.00	0.50	OK
11.80	0.6	OK	6.3	OK	0.15	0.57	OK	0.00	0.50	OK
12.10	0.7	OK	6.4	OK	0.15	0.57	OK	0.00	0.50	OK
12.40	0.9	OK	6.9	OK	0.15	0.57	OK	0.00	0.50	OK
12.70	0.9	OK	7.3	OK	0.15	0.57	OK	0.00	0.50	OK
13.01	1.2	OK	8.0	OK	0.15	0.57	OK	0.00	0.50	OK
13.31	1.9	OK	9.5	OK	0.15	0.56	OK	0.00	0.50	OK
13.61	2.6	OK	11.4	OK	0.15	0.56	OK	0.00	0.50	OK
13.91	1.6	OK	14.4	OK	0.14	0.50	OK	0.15	0.50	OK
14.22	1.7	OK	16.4	OK	0.14	0.50	OK	0.16	0.50	OK
14.52	0.2	OK	17.9	OK	0.14	0.50	OK	0.18	0.50	OK
14.82	6.9	OK	17.7	OK	0.12	0.50	OK	0.16	0.50	OK

Komb B, Jmf Komb B1 med B2

Snitt	Armering				Betong					
B2	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0.00	2.3	OK	0.7	OK	0.05	0.50	OK	0.05	0.50	OK
0.30	0.5	OK	1.4	OK	0.00	0.50	OK	0.10	0.54	OK
0.61	0.3	OK	2.6	OK	0.00	0.50	OK	0.13	0.55	OK
0.91	0.5	OK	3.9	OK	0.00	0.50	OK	0.14	0.56	OK
1.21	0.8	OK	5.3	OK	0.00	0.50	OK	0.14	0.55	OK
1.51	1.0	OK	6.7	OK	0.00	0.50	OK	0.14	0.55	OK
1.82	0.7	OK	8.3	OK	0.12	0.50	OK	0.12	0.50	OK
2.12	1.5	OK	8.3	OK	0.15	0.57	OK	0.00	0.50	OK
2.42	1.5	OK	9.1	OK	0.15	0.56	OK	0.00	0.50	OK
2.72	1.7	OK	10.0	OK	0.14	0.56	OK	0.00	0.50	OK
3.02	1.0	OK	11.0	OK	0.13	0.50	OK	0.14	0.50	OK
3.33	1.1	OK	11.6	OK	0.12	0.50	OK	0.15	0.50	OK
3.63	1.2	OK	12.0	OK	0.12	0.50	OK	0.16	0.50	OK
3.93	2.0	OK	11.7	OK	0.00	0.50	OK	0.17	0.55	OK
4.23	2.0	OK	12.0	OK	0.00	0.50	OK	0.18	0.56	OK
4.54	1.3	OK	12.9	OK	0.13	0.50	OK	0.18	0.50	OK
4.84	1.2	OK	13.0	OK	0.16	0.50	OK	0.17	0.50	OK
5.14	1.1	OK	13.3	OK	0.16	0.50	OK	0.17	0.50	OK
5.44	1.1	OK	13.2	OK	0.16	0.50	OK	0.18	0.50	OK
5.75	1.1	OK	13.2	OK	0.16	0.50	OK	0.19	0.50	OK
6.05	0.9	OK	12.9	OK	0.15	0.50	OK	0.19	0.50	OK
6.35	2.0	OK	11.7	OK	0.00	0.50	OK	0.20	0.57	OK
6.65	2.0	OK	11.7	OK	0.00	0.50	OK	0.21	0.57	OK
6.96	2.0	OK	11.5	OK	0.00	0.50	OK	0.21	0.57	OK
7.26	1.9	OK	11.4	OK	0.00	0.50	OK	0.21	0.57	OK
7.56	1.9	OK	11.4	OK	0.00	0.50	OK	0.21	0.57	OK
7.86	1.9	OK	11.1	OK	0.00	0.50	OK	0.20	0.57	OK
8.17	1.8	OK	10.8	OK	0.00	0.50	OK	0.20	0.57	OK
8.47	0.6	OK	11.7	OK	0.15	0.50	OK	0.19	0.50	OK
8.77	0.5	OK	11.3	OK	0.15	0.50	OK	0.19	0.50	OK
9.07	0.4	OK	10.8	OK	0.15	0.50	OK	0.18	0.50	OK
9.38	0.3	OK	10.3	OK	0.15	0.50	OK	0.18	0.50	OK
9.68	0.2	OK	9.7	OK	0.15	0.50	OK	0.17	0.50	OK
9.98	0.0	OK	9.0	OK	0.15	0.50	OK	0.17	0.50	OK
10.28	0.2	OK	8.4	OK	0.15	0.50	OK	0.16	0.50	OK
10.59	0.3	OK	8.0	OK	0.15	0.50	OK	0.16	0.50	OK
10.89	0.4	OK	7.6	OK	0.15	0.50	OK	0.15	0.50	OK
11.19	0.4	OK	7.3	OK	0.15	0.50	OK	0.15	0.50	OK
11.49	0.7	OK	6.3	OK	0.15	0.57	OK	0.00	0.50	OK
11.80	0.6	OK	6.3	OK	0.15	0.57	OK	0.00	0.50	OK
12.10	0.7	OK	6.4	OK	0.15	0.57	OK	0.00	0.50	OK
12.40	0.9	OK	6.9	OK	0.15	0.57	OK	0.00	0.50	OK
12.70	0.9	OK	7.3	OK	0.15	0.57	OK	0.00	0.50	OK
13.01	1.2	OK	8.0	OK	0.15	0.57	OK	0.00	0.50	OK
13.31	1.9	OK	9.5	OK	0.15	0.56	OK	0.00	0.50	OK
13.61	2.6	OK	11.4	OK	0.15	0.56	OK	0.00	0.50	OK
13.91	1.6	OK	14.4	OK	0.14	0.50	OK	0.15	0.50	OK
14.22	1.7	OK	16.4	OK	0.14	0.50	OK	0.16	0.50	OK
14.52	0.2	OK	17.9	OK	0.14	0.50	OK	0.18	0.50	OK
14.82	6.9	OK	17.7	OK	0.12	0.50	OK	0.16	0.50	OK

Utmattning - Enkel kontroll

Moment med tillhörande normalkraft

Enligt SS-EN 1992-1-1, 6.8.

E_s =	200	GPa	f_{ck} =	35.5	MPa
E_{cm} =	34.0	GPa	$f_{cd.fat}$ =	22.4	MPa
φ =	1.6		f_{yd} =	410	MPa

Snitt

B5

x [m]	h [m]	b_w [m]	$A_{s.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s.uk}$ [cm^2]	d_{uk} [m]	$φ_{viktad}$	$α_{eff}$	$e´_N$ fr. ök [m]
0.00	0.750	0.600	32.7	0.690	33.7	0.690	0.96	11.0	0.375
0.30	0.750	0.600	32.7	0.690	33.7	0.690	0.96	11.0	0.375
0.61	0.750	0.600	32.7	0.690	33.7	0.690	0.96	11.0	0.375
0.91	0.750	0.600	30.3	0.690	33.7	0.690	0.96	11.0	0.375
1.21	0.750	0.600	29.8	0.690	33.7	0.690	0.96	11.0	0.375
1.51	0.750	0.600	29.8	0.690	33.7	0.690	0.96	11.0	0.375
1.82	0.750	0.600	29.8	0.690	33.7	0.690	0.96	11.0	0.375
2.12	0.750	0.600	29.8	0.690	33.7	0.690	0.96	11.0	0.375
2.42	0.750	0.600	29.8	0.690	33.7	0.690	0.96	11.0	0.375
2.72	0.750	0.600	29.8	0.690	33.7	0.690	0.96	11.0	0.375
3.02	0.750	0.600	39.0	0.690	43.0	0.690	0.96	11.0	0.375
3.33	0.750	0.600	39.0	0.690	43.0	0.690	0.96	11.0	0.375
3.63	0.750	0.600	39.0	0.690	43.0	0.690	0.96	11.0	0.375
3.93	0.750	0.600	39.0	0.690	43.0	0.690	0.96	11.0	0.375
4.23	0.750	0.600	39.0	0.690	43.0	0.690	0.96	11.0	0.375
4.54	0.750	0.600	39.0	0.690	43.0	0.690	0.96	11.0	0.375
4.84	0.750	0.600	39.0	0.690	43.0	0.690	0.96	11.0	0.375
5.14	0.750	0.600	39.0	0.690	43.0	0.690	0.96	11.0	0.375
5.44	0.750	0.600	39.0	0.690	43.0	0.690	0.96	11.0	0.375
5.75	0.750	0.600	39.0	0.690	43.0	0.690	0.96	11.0	0.375
6.05	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
6.35	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
6.65	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
6.96	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
7.26	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
7.56	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
7.86	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
8.17	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
8.47	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
8.77	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
9.07	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
9.38	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
9.68	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
9.98	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
10.28	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
10.59	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
10.89	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
11.19	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
11.49	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
11.80	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
12.10	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
12.40	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
12.70	0.750	0.600	48.2	0.690	52.2	0.690	0.96	11.0	0.375
13.01	0.750	0.600	50.4	0.690	52.2	0.690	0.96	11.0	0.375
13.31	0.750	0.600	53.5	0.690	52.2	0.690	0.96	11.0	0.375
13.61	0.750	0.600	53.5	0.690	52.2	0.690	0.96	11.0	0.375
13.91	0.750	0.600	53.5	0.690	52.2	0.690	0.96	11.0	0.375
14.22	0.750	0.600	53.5	0.690	52.2	0.690	0.96	11.0	0.375
14.52	0.750	0.600	53.5	0.690	52.2	0.690	0.96	11.0	0.375
14.82	0.750	0.600	53.5	0.690	52.2	0.690	0.96	11.0	0.375

Moment	**Normalkraft**	**Spänningar**
Negativ = drag ök	Negativ = tryck	Negativ = tryck
Positiv = drag uk	Positiv = drag	Positiv = drag

Snitt	**Lastkombination (6.69) enligt SS-EN 1992-1-1**											
B5	**PERMANENTA**				**VARIABLA**				**CYKLISKA**			
x [m]	**M_{max}** [kNm]	**N** [kN]	**M_{min}** [kNm]	**N** [kN]	**M_{max}** [kNm]	**N** [kN]	**M_{min}** [kNm]	**N** [kN]	**M_{max}** [kNm]	**N** [kN]	**M_{min}** [kNm]	**N** [kN]
0.00	-2	-502	-2	-502	0	0	0	0	1	-61	-3	-19
0.30	-14	-934	-15	-932	0	0	0	0	4	31	-4	8
0.61	-30	-1180	-31	-1180	0	0	0	0	8	70	-2	-2
0.91	-34	-1237	-35	-1239	0	0	0	0	13	101	-1	-6
1.21	-34	-1223	-35	-1228	0	0	0	0	18	139	-1	-7
1.51	-37	-1191	-37	-1190	0	0	0	0	22	179	-1	-7
1.82	-9	-1249	-9	-1239	0	0	0	0	26	209	-1	-7
2.12	35	-1377	34	-1365	0	0	0	0	28	229	-1	-7
2.42	38	-1433	38	-1419	0	0	0	0	31	248	-1	-8
2.72	19	-1456	18	-1441	0	0	0	0	33	271	-1	-9
3.02	3	-1511	2	-1496	0	0	0	0	35	289	-1	-10
3.33	-13	-1571	-14	-1555	0	0	0	0	38	302	-2	-11
3.63	-25	-1627	-26	-1610	0	0	0	0	38	313	-2	-12
3.93	-33	-1666	-35	-1649	0	0	0	0	40	325	-2	-13
4.23	-39	-1689	-41	-1672	0	0	0	0	41	331	-2	-14
4.54	-45	-1692	-46	-1675	0	0	0	0	41	333	-2	-15
4.84	-53	-1679	-54	-1661	0	0	0	0	41	336	-2	-16
5.14	-17	-1811	-18	-1794	0	0	0	0	42	339	-2	-17
5.44	14	-1978	13	-1962	0	0	0	0	41	331	-2	-18
5.75	-9	-2028	-10	-2011	0	0	0	0	41	328	-3	-19
6.05	-27	-2077	-28	-2061	0	0	0	0	42	331	-3	-20
6.35	-38	-2122	-38	-2106	0	0	0	0	41	329	-3	-21
6.65	-44	-2147	-45	-2132	0	0	0	0	41	328	-3	-22
6.96	-47	-2158	-47	-2142	0	0	0	0	41	320	-3	-23
7.26	-47	-2154	-47	-2139	0	0	0	0	40	315	-3	-24
7.56	-44	-2140	-45	-2125	0	0	0	0	40	314	-4	-25
7.86	-41	-2117	-41	-2102	0	0	0	0	38	301	-4	-27
8.17	-36	-2087	-37	-2073	0	0	0	0	37	290	-4	-28
8.47	-31	-2053	-31	-2039	0	0	0	0	37	284	-4	-29
8.77	-26	-2016	-26	-2002	0	0	0	0	35	267	-4	-30
9.07	-21	-1971	-21	-1971	0	0	0	0	33	250	-4	-31
9.38	-16	-1927	-16	-1940	0	0	0	0	31	238	-5	-33
9.68	-12	-1890	-12	-1904	0	0	0	0	29	221	-5	-34
9.98	-8	-1855	-8	-1868	0	0	0	0	26	197	-5	-35
10.28	-4	-1820	-5	-1833	0	0	0	0	24	173	-5	-37
10.59	0	-1785	-1	-1798	0	0	0	0	23	160	-5	-38
10.89	4	-1750	3	-1763	0	0	0	0	22	145	-6	-40
11.19	7	-1715	7	-1727	0	0	0	0	19	129	-7	-50
11.49	12	-1678	11	-1690	0	0	0	0	17	114	-9	-67
11.80	16	-1641	15	-1652	0	0	0	0	15	91	-12	-87
12.10	21	-1603	20	-1613	0	0	0	0	12	69	-15	-117
12.40	26	-1566	24	-1575	0	0	0	0	10	48	-19	-155
12.70	30	-1532	29	-1539	0	0	0	0	7	19	-23	-195
13.01	35	-1502	33	-1507	0	0	0	0	4	-1	-29	-239
13.31	38	-1479	37	-1481	0	0	0	0	2	9	-34	-287
13.61	41	-1464	40	-1463	0	0	0	0	1	22	-41	-339
13.91	42	-1460	41	-1456	0	0	0	0	1	22	-49	-393
14.22	40	-1467	40	-1469	0	0	0	0	1	22	-58	-446
14.52	29	-1488	27	-1502	0	0	0	0	1	-31	-74	-483
14.82	12	-1168	11	-1169	0	0	0	0	27	-84	-82	-356

0.1

Komb A1: $\Sigma M_{A1} = M_{max.per + var} + M_{max.cyk}$

Snitt

B5

Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)												
x [m]	**ΣM_{A1}** [kNm]	**N_{A1}** [kN]	**x_{tryck}** [m]	**A_{ekv}** [m²]	**$x_{tp.ekv}$** [m]	**I_{ekv}** [m⁴]	**$\sigma_{c.neutral}$** [MPa]	**$\sigma_{c.ök}$** [MPa]	**$\sigma_{c.uk}$** [MPa]	**$\sigma_{s.ök}$** [MPa]	**$\sigma_{s.uk}$** [MPa]	Kontroll $\sigma_s \leq f_{yd}$
0.00	0	-563	0.750	0.520	0.376	2.8E-02	-1.07	0.0	-1.1	-11.8	-12.0	OK
0.30	-10	-904	0.750	0.520	0.376	2.8E-02	-1.60	0.0	-1.9	-17.8	-20.4	OK
0.61	-22	-1110	0.750	0.520	0.376	2.8E-02	-1.82	0.0	-2.5	-20.5	-26.4	OK
0.91	-21	-1135	0.750	0.517	0.375	2.8E-02	-1.92	0.0	-2.5	-21.5	-26.7	OK
1.21	-17	-1084	0.750	0.516	0.374	2.8E-02	-1.88	0.0	-2.3	-21.1	-25.0	OK
1.51	-14	-1012	0.750	0.516	0.374	2.8E-02	-1.78	0.0	-2.1	-19.8	-23.2	OK
1.82	17	-1040	0.750	0.517	0.379	2.8E-02	-1.73	-2.3	0.0	-24.8	-19.5	OK
2.12	63	-1148	0.750	0.517	0.379	2.8E-02	-1.32	-3.1	0.0	-33.0	-16.1	OK
2.42	69	-1184	0.750	0.517	0.379	2.8E-02	-1.30	-3.3	0.0	-34.6	-16.0	OK
2.72	52	-1185	0.750	0.517	0.379	2.8E-02	-1.53	-3.1	0.0	-32.4	-18.1	OK
3.02	38	-1222	0.750	0.536	0.380	3.0E-02	-1.73	-2.8	0.0	-30.3	-19.9	OK
3.33	25	-1269	0.750	0.536	0.380	3.0E-02	-1.98	-2.8	0.0	-29.6	-22.5	OK
3.63	13	-1314	0.750	0.536	0.380	3.0E-02	-2.20	-2.7	0.0	-29.3	-24.6	OK
3.93	6	-1342	0.750	0.536	0.380	3.0E-02	-2.34	-2.7	0.0	-29.0	-26.0	OK
4.23	2	-1359	0.750	0.536	0.380	3.0E-02	-2.43	-2.6	0.0	-28.8	-26.9	OK
4.54	-4	-1359	0.750	0.536	0.375	3.0E-02	-2.49	0.0	-2.6	-27.4	-28.3	OK
4.84	-12	-1343	0.750	0.536	0.375	3.0E-02	-2.35	0.0	-2.7	-26.1	-28.9	OK
5.14	25	-1472	0.750	0.536	0.380	3.0E-02	-2.34	-3.2	0.0	-34.0	-26.4	OK
5.44	55	-1647	0.750	0.536	0.380	3.0E-02	-2.28	-3.9	0.0	-41.2	-26.5	OK
5.75	33	-1700	0.750	0.536	0.380	3.0E-02	-2.66	-3.7	0.0	-39.7	-30.1	OK
6.05	15	-1747	0.750	0.555	0.380	3.2E-02	-2.86	-3.4	0.0	-37.2	-31.9	OK
6.35	4	-1792	0.750	0.555	0.380	3.2E-02	-3.07	-3.4	0.0	-36.9	-34.0	OK
6.65	-3	-1820	0.750	0.555	0.375	3.2E-02	-3.24	0.0	-3.3	-35.6	-36.4	OK
6.96	-6	-1838	0.750	0.555	0.375	3.2E-02	-3.23	0.0	-3.4	-35.6	-37.1	OK
7.26	-7	-1839	0.750	0.555	0.375	3.2E-02	-3.22	0.0	-3.4	-35.6	-37.2	OK
7.56	-5	-1826	0.750	0.555	0.375	3.2E-02	-3.22	0.0	-3.4	-35.5	-36.7	OK
7.86	-2	-1816	0.750	0.555	0.375	3.2E-02	-3.23	0.0	-3.3	-35.6	-36.3	OK
8.17	1	-1797	0.750	0.555	0.380	3.2E-02	-3.12	-3.4	0.0	-36.6	-34.4	OK
8.47	5	-1768	0.750	0.555	0.380	3.2E-02	-3.01	-3.4	0.0	-36.6	-33.4	OK
8.77	9	-1749	0.750	0.555	0.380	3.2E-02	-2.94	-3.4	0.0	-36.6	-32.6	OK
9.07	12	-1721	0.750	0.555	0.380	3.2E-02	-2.86	-3.3	0.0	-36.3	-31.8	OK
9.38	15	-1689	0.750	0.555	0.380	3.2E-02	-2.76	-3.3	0.0	-36.0	-30.8	OK
9.68	17	-1670	0.750	0.555	0.380	3.2E-02	-2.71	-3.3	0.0	-35.9	-30.3	OK
9.98	18	-1659	0.750	0.555	0.380	3.2E-02	-2.67	-3.3	0.0	-35.8	-29.9	OK
10.28	20	-1647	0.750	0.555	0.380	3.2E-02	-2.63	-3.3	0.0	-35.8	-29.4	OK
10.59	23	-1625	0.750	0.555	0.380	3.2E-02	-2.56	-3.3	0.0	-35.6	-28.8	OK
10.89	25	-1606	0.750	0.555	0.380	3.2E-02	-2.50	-3.3	0.0	-35.5	-28.1	OK
11.19	26	-1586	0.750	0.555	0.380	3.2E-02	-2.45	-3.3	0.0	-35.2	-27.6	OK
11.49	29	-1564	0.750	0.555	0.380	3.2E-02	-2.38	-3.3	0.0	-35.1	-26.9	OK
11.80	31	-1550	0.750	0.555	0.380	3.2E-02	-2.33	-3.3	0.0	-35.0	-26.4	OK
12.10	33	-1534	0.750	0.555	0.380	3.2E-02	-2.28	-3.3	0.0	-34.9	-25.9	OK
12.40	35	-1518	0.750	0.555	0.380	3.2E-02	-2.22	-3.3	0.0	-34.8	-25.3	OK
12.70	37	-1512	0.750	0.555	0.380	3.2E-02	-2.19	-3.3	0.0	-35.0	-25.0	OK
13.01	38	-1503	0.750	0.558	0.379	3.2E-02	-2.18	-3.2	0.0	-34.5	-24.8	OK
13.31	40	-1470	0.750	0.561	0.377	3.2E-02	-2.12	-3.1	0.0	-33.5	-24.1	OK
13.61	42	-1441	0.750	0.561	0.377	3.2E-02	-2.05	-3.1	0.0	-33.1	-23.4	OK
13.91	43	-1438	0.750	0.561	0.377	3.2E-02	-2.03	-3.1	0.0	-33.1	-23.3	OK
14.22	41	-1445	0.750	0.561	0.377	3.2E-02	-2.06	-3.1	0.0	-33.1	-23.6	OK
14.52	30	-1519	0.750	0.561	0.377	3.2E-02	-2.32	-3.1	0.0	-33.4	-26.2	OK
14.82	39	-1251	0.750	0.561	0.377	3.2E-02	-1.74	-2.7	0.0	-29.1	-20.0	OK

Komb A2: $\Sigma M_{A2} = M_{max.per + var} + M_{min.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
B5												
x	ΣM_{A2}	N_{A2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	-4	-522	0.750	0.520	0.376	2.8E-02	-0.94	0.0	-1.1	-10.4	-11.6	OK
0.30	-17	-926	0.750	0.520	0.376	2.8E-02	-1.53	0.0	-2.0	-17.3	-21.9	OK
0.61	-32	-1181	0.750	0.520	0.376	2.8E-02	-1.83	0.0	-2.7	-20.9	-29.1	OK
0.91	-35	-1242	0.750	0.517	0.375	2.8E-02	-1.93	0.0	-2.9	-22.1	-30.7	OK
1.21	-35	-1229	0.750	0.516	0.374	2.8E-02	-1.91	0.0	-2.8	-21.8	-30.4	OK
1.51	-37	-1198	0.750	0.516	0.374	2.8E-02	-1.82	0.0	-2.8	-20.9	-30.1	OK
1.82	-10	-1256	0.750	0.516	0.374	2.8E-02	-2.31	0.0	-2.6	-25.5	-27.8	OK
2.12	34	-1384	0.750	0.517	0.379	2.8E-02	-2.14	-3.2	0.0	-34.5	-24.5	OK
2.42	37	-1441	0.750	0.517	0.379	2.8E-02	-2.20	-3.4	0.0	-36.1	-25.2	OK
2.72	17	-1465	0.750	0.517	0.379	2.8E-02	-2.51	-3.2	0.0	-34.2	-28.2	OK
3.02	2	-1521	0.750	0.536	0.380	3.0E-02	-2.73	-3.0	0.0	-32.2	-30.1	OK
3.33	-15	-1582	0.750	0.536	0.375	3.0E-02	-2.77	0.0	-3.1	-30.7	-34.1	OK
3.63	-27	-1639	0.750	0.536	0.375	3.0E-02	-2.72	0.0	-3.4	-30.5	-36.7	OK
3.93	-35	-1680	0.750	0.536	0.375	3.0E-02	-2.69	0.0	-3.6	-30.3	-38.5	OK
4.23	-41	-1703	0.750	0.536	0.375	3.0E-02	-2.66	0.0	-3.7	-30.1	-39.7	OK
4.54	-47	-1707	0.750	0.536	0.375	3.0E-02	-2.59	0.0	-3.8	-29.5	-40.5	OK
4.84	-56	-1695	0.750	0.536	0.375	3.0E-02	-2.46	0.0	-3.9	-28.3	-41.2	OK
5.14	-19	-1828	0.750	0.536	0.375	3.0E-02	-3.17	0.0	-3.7	-35.2	-39.7	OK
5.44	11	-1997	0.750	0.536	0.380	3.0E-02	-3.46	-4.0	0.0	-43.4	-38.5	OK
5.75	-11	-2047	0.750	0.536	0.375	3.0E-02	-3.68	0.0	-4.0	-40.7	-43.3	OK
6.05	-30	-2098	0.750	0.555	0.375	3.2E-02	-3.42	0.0	-4.1	-38.1	-44.9	OK
6.35	-40	-2143	0.750	0.555	0.375	3.2E-02	-3.37	0.0	-4.4	-37.8	-46.9	OK
6.65	-47	-2170	0.750	0.555	0.375	3.2E-02	-3.34	0.0	-4.5	-37.6	-48.2	OK
6.96	-50	-2181	0.750	0.555	0.375	3.2E-02	-3.32	0.0	-4.5	-37.6	-48.7	OK
7.26	-50	-2179	0.750	0.555	0.375	3.2E-02	-3.32	0.0	-4.5	-37.5	-48.7	OK
7.56	-48	-2165	0.750	0.555	0.375	3.2E-02	-3.32	0.0	-4.5	-37.5	-48.2	OK
7.86	-45	-2143	0.750	0.555	0.375	3.2E-02	-3.32	0.0	-4.4	-37.4	-47.4	OK
8.17	-40	-2115	0.750	0.555	0.375	3.2E-02	-3.32	0.0	-4.3	-37.3	-46.4	OK
8.47	-35	-2081	0.750	0.555	0.375	3.2E-02	-3.32	0.0	-4.2	-37.2	-45.2	OK
8.77	-30	-2046	0.750	0.555	0.375	3.2E-02	-3.31	0.0	-4.1	-37.0	-43.9	OK
9.07	-25	-2002	0.750	0.555	0.375	3.2E-02	-3.29	0.0	-3.9	-36.7	-42.5	OK
9.38	-21	-1959	0.750	0.555	0.375	3.2E-02	-3.27	0.0	-3.8	-36.3	-41.2	OK
9.68	-17	-1924	0.750	0.555	0.375	3.2E-02	-3.25	0.0	-3.7	-36.1	-40.0	OK
9.98	-13	-1890	0.750	0.555	0.375	3.2E-02	-3.24	0.0	-3.6	-35.9	-38.9	OK
10.28	-9	-1857	0.750	0.555	0.375	3.2E-02	-3.22	0.0	-3.5	-35.6	-37.9	OK
10.59	-6	-1823	0.750	0.555	0.375	3.2E-02	-3.21	0.0	-3.4	-35.3	-36.8	OK
10.89	-2	-1790	0.750	0.555	0.375	3.2E-02	-3.19	0.0	-3.3	-35.1	-35.8	OK
11.19	0	-1764	0.750	0.555	0.380	3.2E-02	-3.06	-3.3	0.0	-36.0	-33.8	OK
11.49	2	-1745	0.750	0.555	0.380	3.2E-02	-3.01	-3.3	0.0	-35.8	-33.3	OK
11.80	4	-1727	0.750	0.555	0.380	3.2E-02	-2.96	-3.3	0.0	-35.6	-32.7	OK
12.10	6	-1720	0.750	0.555	0.380	3.2E-02	-2.92	-3.3	0.0	-35.6	-32.4	OK
12.40	7	-1721	0.750	0.555	0.380	3.2E-02	-2.91	-3.3	0.0	-35.8	-32.3	OK
12.70	7	-1727	0.750	0.555	0.380	3.2E-02	-2.92	-3.3	0.0	-35.9	-32.4	OK
13.01	6	-1741	0.750	0.558	0.379	3.2E-02	-2.97	-3.3	0.0	-35.7	-32.9	OK
13.31	4	-1765	0.750	0.561	0.377	3.2E-02	-3.06	-3.2	0.0	-35.4	-33.7	OK
13.61	0	-1803	0.750	0.561	0.379	3.2E-02	-3.13	0.0	-3.3	-34.5	-36.1	OK
13.91	-7	-1853	0.750	0.561	0.379	3.2E-02	-3.14	0.0	-3.5	-34.8	-37.8	OK
14.22	-18	-1912	0.750	0.561	0.379	3.2E-02	-3.12	0.0	-3.7	-34.8	-40.2	OK
14.52	-45	-1971	0.750	0.561	0.379	3.2E-02	-2.91	0.0	-4.1	-33.1	-44.2	OK
14.82	-69	-1523	0.750	0.561	0.379	3.2E-02	-1.85	0.0	-3.6	-21.8	-38.0	OK

Komb B1: $\Sigma M_{B1} = M_{min.per + var} + M_{max.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
B5												
x	ΣM_{B1}	N_{B1}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	-1	-563	0.750	0.520	0.376	2.8E-02	-1.06	0.0	-1.1	-11.7	-12.1	OK
0.30	-11	-901	0.750	0.520	0.376	2.8E-02	-1.57	0.0	-1.9	-17.5	-20.6	OK
0.61	-24	-1110	0.750	0.520	0.376	2.8E-02	-1.80	0.0	-2.5	-20.4	-26.6	OK
0.91	-22	-1138	0.750	0.517	0.375	2.8E-02	-1.91	0.0	-2.5	-21.5	-26.9	OK
1.21	-17	-1089	0.750	0.516	0.374	2.8E-02	-1.89	0.0	-2.3	-21.1	-25.2	OK
1.51	-14	-1011	0.750	0.516	0.374	2.8E-02	-1.77	0.0	-2.1	-19.8	-23.2	OK
1.82	16	-1030	0.750	0.517	0.379	2.8E-02	-1.71	-2.3	0.0	-24.5	-19.3	OK
2.12	62	-1136	0.750	0.517	0.379	2.8E-02	-1.30	-3.1	0.0	-32.6	-15.9	OK
2.42	68	-1171	0.750	0.517	0.379	2.8E-02	-1.28	-3.3	0.0	-34.2	-15.8	OK
2.72	51	-1170	0.750	0.517	0.379	2.8E-02	-1.51	-3.0	0.0	-32.0	-17.9	OK
3.02	37	-1207	0.750	0.536	0.380	3.0E-02	-1.71	-2.8	0.0	-29.8	-19.7	OK
3.33	23	-1253	0.750	0.536	0.380	3.0E-02	-1.97	-2.7	0.0	-29.2	-22.3	OK
3.63	12	-1297	0.750	0.536	0.380	3.0E-02	-2.19	-2.7	0.0	-28.8	-24.4	OK
3.93	5	-1325	0.750	0.536	0.380	3.0E-02	-2.33	-2.6	0.0	-28.5	-25.8	OK
4.23	1	-1341	0.750	0.536	0.380	3.0E-02	-2.41	-2.6	0.0	-28.3	-26.7	OK
4.54	-5	-1342	0.750	0.536	0.375	3.0E-02	-2.44	0.0	-2.6	-26.9	-28.1	OK
4.84	-13	-1325	0.750	0.536	0.375	3.0E-02	-2.31	0.0	-2.6	-25.6	-28.7	OK
5.14	24	-1455	0.750	0.536	0.380	3.0E-02	-2.32	-3.1	0.0	-33.5	-26.2	OK
5.44	54	-1630	0.750	0.536	0.380	3.0E-02	-2.27	-3.8	0.0	-40.8	-26.3	OK
5.75	32	-1683	0.750	0.536	0.380	3.0E-02	-2.64	-3.7	0.0	-39.2	-29.9	OK
6.05	14	-1730	0.750	0.555	0.380	3.2E-02	-2.84	-3.4	0.0	-36.8	-31.7	OK
6.35	3	-1777	0.750	0.555	0.380	3.2E-02	-3.05	-3.3	0.0	-36.5	-33.8	OK
6.65	-3	-1804	0.750	0.555	0.375	3.2E-02	-3.20	0.0	-3.3	-35.2	-36.2	OK
6.96	-7	-1823	0.750	0.555	0.375	3.2E-02	-3.19	0.0	-3.4	-35.2	-36.9	OK
7.26	-7	-1824	0.750	0.555	0.375	3.2E-02	-3.19	0.0	-3.4	-35.2	-37.0	OK
7.56	-5	-1811	0.750	0.555	0.375	3.2E-02	-3.19	0.0	-3.3	-35.2	-36.5	OK
7.86	-3	-1801	0.750	0.555	0.375	3.2E-02	-3.20	0.0	-3.3	-35.2	-36.0	OK
8.17	0	-1783	0.750	0.555	0.380	3.2E-02	-3.10	-3.3	0.0	-36.3	-34.2	OK
8.47	5	-1754	0.750	0.555	0.380	3.2E-02	-2.99	-3.3	0.0	-36.3	-33.1	OK
8.77	9	-1735	0.750	0.555	0.380	3.2E-02	-2.92	-3.3	0.0	-36.3	-32.4	OK
9.07	12	-1721	0.750	0.555	0.380	3.2E-02	-2.86	-3.3	0.0	-36.3	-31.8	OK
9.38	15	-1702	0.750	0.555	0.380	3.2E-02	-2.79	-3.4	0.0	-36.3	-31.1	OK
9.68	17	-1683	0.750	0.555	0.380	3.2E-02	-2.73	-3.3	0.0	-36.1	-30.5	OK
9.98	18	-1672	0.750	0.555	0.380	3.2E-02	-2.70	-3.3	0.0	-36.0	-30.2	OK
10.28	20	-1660	0.750	0.555	0.380	3.2E-02	-2.65	-3.3	0.0	-36.0	-29.7	OK
10.59	22	-1638	0.750	0.555	0.380	3.2E-02	-2.59	-3.3	0.0	-35.8	-29.1	OK
10.89	24	-1618	0.750	0.555	0.380	3.2E-02	-2.53	-3.3	0.0	-35.7	-28.4	OK
11.19	26	-1598	0.750	0.555	0.380	3.2E-02	-2.48	-3.3	0.0	-35.4	-27.9	OK
11.49	28	-1576	0.750	0.555	0.380	3.2E-02	-2.41	-3.3	0.0	-35.2	-27.2	OK
11.80	30	-1561	0.750	0.555	0.380	3.2E-02	-2.36	-3.3	0.0	-35.2	-26.7	OK
12.10	32	-1544	0.750	0.555	0.380	3.2E-02	-2.31	-3.3	0.0	-35.0	-26.2	OK
12.40	34	-1527	0.750	0.555	0.380	3.2E-02	-2.25	-3.3	0.0	-34.9	-25.6	OK
12.70	36	-1520	0.750	0.555	0.380	3.2E-02	-2.22	-3.3	0.0	-35.0	-25.3	OK
13.01	37	-1508	0.750	0.558	0.379	3.2E-02	-2.20	-3.2	0.0	-34.5	-25.0	OK
13.31	39	-1472	0.750	0.561	0.377	3.2E-02	-2.13	-3.1	0.0	-33.4	-24.3	OK
13.61	41	-1441	0.750	0.561	0.377	3.2E-02	-2.06	-3.1	0.0	-33.0	-23.5	OK
13.91	42	-1434	0.750	0.561	0.377	3.2E-02	-2.03	-3.1	0.0	-33.0	-23.2	OK
14.22	40	-1447	0.750	0.561	0.377	3.2E-02	-2.07	-3.1	0.0	-33.1	-23.7	OK
14.52	29	-1533	0.750	0.561	0.377	3.2E-02	-2.36	-3.1	0.0	-33.5	-26.6	OK
14.82	38	-1253	0.750	0.561	0.377	3.2E-02	-1.76	-2.7	0.0	-28.9	-20.2	OK

Komb B2: $\Sigma M_{B2} = M_{min.per + var} + M_{min.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
B5												
x	ΣM_{B2}	N_{B2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	-5	-522	0.750	0.520	0.376	2.8E-02	-0.93	0.0	-1.1	-10.3	-11.7	OK
0.30	-19	-924	0.750	0.520	0.376	2.8E-02	-1.51	0.0	-2.0	-17.0	-22.0	OK
0.61	-33	-1181	0.750	0.520	0.376	2.8E-02	-1.81	0.0	-2.7	-20.7	-29.3	OK
0.91	-36	-1245	0.750	0.517	0.375	2.8E-02	-1.93	0.0	-2.9	-22.0	-30.9	OK
1.21	-36	-1235	0.750	0.516	0.374	2.8E-02	-1.92	0.0	-2.9	-21.9	-30.6	OK
1.51	-38	-1197	0.750	0.516	0.374	2.8E-02	-1.82	0.0	-2.8	-20.8	-30.1	OK
1.82	-10	-1246	0.750	0.516	0.374	2.8E-02	-2.28	0.0	-2.5	-25.3	-27.7	OK
2.12	33	-1372	0.750	0.517	0.379	2.8E-02	-2.13	-3.2	0.0	-34.1	-24.3	OK
2.42	36	-1428	0.750	0.517	0.379	2.8E-02	-2.19	-3.3	0.0	-35.8	-25.1	OK
2.72	17	-1450	0.750	0.517	0.379	2.8E-02	-2.50	-3.1	0.0	-33.7	-28.0	OK
3.02	1	-1506	0.750	0.536	0.380	3.0E-02	-2.71	-2.9	0.0	-31.8	-29.9	OK
3.33	-16	-1566	0.750	0.536	0.375	3.0E-02	-2.73	0.0	-3.1	-30.3	-33.9	OK
3.63	-28	-1622	0.750	0.536	0.375	3.0E-02	-2.68	0.0	-3.4	-30.0	-36.5	OK
3.93	-36	-1663	0.750	0.536	0.375	3.0E-02	-2.64	0.0	-3.6	-29.8	-38.3	OK
4.23	-43	-1686	0.750	0.536	0.375	3.0E-02	-2.61	0.0	-3.7	-29.6	-39.5	OK
4.54	-48	-1690	0.750	0.536	0.375	3.0E-02	-2.54	0.0	-3.8	-29.0	-40.3	OK
4.84	-57	-1677	0.750	0.536	0.375	3.0E-02	-2.41	0.0	-3.8	-27.8	-41.0	OK
5.14	-20	-1811	0.750	0.536	0.375	3.0E-02	-3.12	0.0	-3.6	-34.7	-39.5	OK
5.44	10	-1980	0.750	0.536	0.380	3.0E-02	-3.44	-3.9	0.0	-42.9	-38.3	OK
5.75	-12	-2031	0.750	0.536	0.375	3.0E-02	-3.64	0.0	-3.9	-40.2	-43.0	OK
6.05	-30	-2081	0.750	0.555	0.375	3.2E-02	-3.38	0.0	-4.1	-37.7	-44.6	OK
6.35	-41	-2127	0.750	0.555	0.375	3.2E-02	-3.33	0.0	-4.3	-37.4	-46.7	OK
6.65	-48	-2154	0.750	0.555	0.375	3.2E-02	-3.30	0.0	-4.5	-37.3	-48.0	OK
6.96	-51	-2166	0.750	0.555	0.375	3.2E-02	-3.29	0.0	-4.5	-37.2	-48.5	OK
7.26	-51	-2164	0.750	0.555	0.375	3.2E-02	-3.28	0.0	-4.5	-37.1	-48.5	OK
7.56	-49	-2151	0.750	0.555	0.375	3.2E-02	-3.29	0.0	-4.5	-37.1	-48.0	OK
7.86	-45	-2129	0.750	0.555	0.375	3.2E-02	-3.29	0.0	-4.4	-37.1	-47.2	OK
8.17	-41	-2100	0.750	0.555	0.375	3.2E-02	-3.29	0.0	-4.3	-37.0	-46.1	OK
8.47	-36	-2067	0.750	0.555	0.375	3.2E-02	-3.29	0.0	-4.2	-36.9	-44.9	OK
8.77	-30	-2032	0.750	0.555	0.375	3.2E-02	-3.29	0.0	-4.0	-36.8	-43.6	OK
9.07	-26	-2002	0.750	0.555	0.375	3.2E-02	-3.29	0.0	-3.9	-36.7	-42.5	OK
9.38	-21	-1973	0.750	0.555	0.375	3.2E-02	-3.29	0.0	-3.8	-36.6	-41.5	OK
9.68	-17	-1938	0.750	0.555	0.375	3.2E-02	-3.28	0.0	-3.7	-36.4	-40.3	OK
9.98	-13	-1903	0.750	0.555	0.375	3.2E-02	-3.26	0.0	-3.6	-36.1	-39.2	OK
10.28	-10	-1870	0.750	0.555	0.375	3.2E-02	-3.24	0.0	-3.5	-35.8	-38.2	OK
10.59	-6	-1836	0.750	0.555	0.375	3.2E-02	-3.22	0.0	-3.4	-35.5	-37.1	OK
10.89	-3	-1803	0.750	0.555	0.375	3.2E-02	-3.20	0.0	-3.3	-35.3	-36.1	OK
11.19	0	-1777	0.750	0.555	0.375	3.2E-02	-3.19	0.0	-3.2	-35.0	-35.3	OK
11.49	2	-1757	0.750	0.555	0.380	3.2E-02	-3.04	-3.3	0.0	-35.9	-33.6	OK
11.80	3	-1739	0.750	0.555	0.380	3.2E-02	-2.99	-3.3	0.0	-35.7	-33.0	OK
12.10	5	-1730	0.750	0.555	0.380	3.2E-02	-2.95	-3.3	0.0	-35.7	-32.7	OK
12.40	6	-1730	0.750	0.555	0.380	3.2E-02	-2.94	-3.3	0.0	-35.8	-32.6	OK
12.70	6	-1734	0.750	0.555	0.380	3.2E-02	-2.95	-3.3	0.0	-35.9	-32.7	OK
13.01	5	-1746	0.750	0.558	0.379	3.2E-02	-2.99	-3.3	0.0	-35.7	-33.1	OK
13.31	3	-1768	0.750	0.561	0.377	3.2E-02	-3.08	-3.2	0.0	-35.3	-33.9	OK
13.61	-1	-1803	0.750	0.561	0.379	3.2E-02	-3.12	0.0	-3.3	-34.5	-36.2	OK
13.91	-8	-1848	0.750	0.561	0.379	3.2E-02	-3.13	0.0	-3.5	-34.6	-37.8	OK
14.22	-18	-1915	0.750	0.561	0.379	3.2E-02	-3.12	0.0	-3.7	-34.8	-40.3	OK
14.52	-46	-1984	0.750	0.561	0.379	3.2E-02	-2.92	0.0	-4.2	-33.1	-44.7	OK
14.82	-71	-1524	0.750	0.561	0.379	3.2E-02	-1.83	0.0	-3.6	-21.7	-38.2	OK

Komb A, Jmf Komb A1 med A2

Snitt	Armering				Betong					
B5	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0.00	1.4	OK	0.4	OK	0.00	0.50	OK	0.05	0.52	OK
0.30	0.5	OK	1.5	OK	0.00	0.50	OK	0.09	0.54	OK
0.61	0.3	OK	2.7	OK	0.00	0.50	OK	0.12	0.55	OK
0.91	0.5	OK	4.0	OK	0.00	0.50	OK	0.13	0.55	OK
1.21	0.8	OK	5.4	OK	0.00	0.50	OK	0.13	0.55	OK
1.51	1.1	OK	6.8	OK	0.00	0.50	OK	0.13	0.54	OK
1.82	0.8	OK	8.4	OK	0.10	0.50	OK	0.11	0.50	OK
2.12	1.5	OK	8.4	OK	0.14	0.56	OK	0.00	0.50	OK
2.42	1.5	OK	9.2	OK	0.15	0.57	OK	0.00	0.50	OK
2.72	1.7	OK	10.1	OK	0.14	0.56	OK	0.00	0.50	OK
3.02	1.9	OK	10.2	OK	0.13	0.56	OK	0.00	0.50	OK
3.33	1.1	OK	11.7	OK	0.12	0.50	OK	0.14	0.50	OK
3.63	1.2	OK	12.1	OK	0.12	0.50	OK	0.15	0.50	OK
3.93	1.3	OK	12.5	OK	0.12	0.50	OK	0.16	0.50	OK
4.23	1.3	OK	12.9	OK	0.12	0.50	OK	0.17	0.50	OK
4.54	2.1	OK	12.1	OK	0.00	0.50	OK	0.17	0.55	OK
4.84	2.1	OK	12.3	OK	0.00	0.50	OK	0.17	0.55	OK
5.14	1.2	OK	13.3	OK	0.14	0.50	OK	0.16	0.50	OK
5.44	2.2	OK	12.0	OK	0.18	0.58	OK	0.00	0.50	OK
5.75	1.0	OK	13.1	OK	0.16	0.50	OK	0.18	0.50	OK
6.05	0.9	OK	12.9	OK	0.15	0.50	OK	0.18	0.50	OK
6.35	0.9	OK	13.0	OK	0.15	0.50	OK	0.19	0.50	OK
6.65	2.0	OK	11.8	OK	0.00	0.50	OK	0.20	0.57	OK
6.96	2.0	OK	11.6	OK	0.00	0.50	OK	0.20	0.57	OK
7.26	2.0	OK	11.5	OK	0.00	0.50	OK	0.20	0.57	OK
7.56	1.9	OK	11.5	OK	0.00	0.50	OK	0.20	0.57	OK
7.86	1.8	OK	11.1	OK	0.00	0.50	OK	0.20	0.57	OK
8.17	0.7	OK	11.9	OK	0.15	0.50	OK	0.19	0.50	OK
8.47	0.6	OK	11.8	OK	0.15	0.50	OK	0.19	0.50	OK
8.77	0.5	OK	11.3	OK	0.15	0.50	OK	0.18	0.50	OK
9.07	0.4	OK	10.7	OK	0.15	0.50	OK	0.18	0.50	OK
9.38	0.3	OK	10.4	OK	0.15	0.50	OK	0.17	0.50	OK
9.68	0.3	OK	9.8	OK	0.15	0.50	OK	0.16	0.50	OK
9.98	0.1	OK	9.0	OK	0.15	0.50	OK	0.16	0.50	OK
10.28	0.2	OK	8.4	OK	0.15	0.50	OK	0.15	0.50	OK
10.59	0.3	OK	8.0	OK	0.15	0.50	OK	0.15	0.50	OK
10.89	0.4	OK	7.6	OK	0.15	0.50	OK	0.15	0.50	OK
11.19	0.7	OK	6.2	OK	0.15	0.57	OK	0.00	0.50	OK
11.49	0.7	OK	6.3	OK	0.15	0.57	OK	0.00	0.50	OK
11.80	0.6	OK	6.4	OK	0.15	0.57	OK	0.00	0.50	OK
12.10	0.8	OK	6.5	OK	0.15	0.57	OK	0.00	0.50	OK
12.40	0.9	OK	7.0	OK	0.15	0.57	OK	0.00	0.50	OK
12.70	0.9	OK	7.4	OK	0.15	0.57	OK	0.00	0.50	OK
13.01	1.2	OK	8.1	OK	0.15	0.56	OK	0.00	0.50	OK
13.31	1.9	OK	9.6	OK	0.14	0.56	OK	0.00	0.50	OK
13.61	1.4	OK	12.7	OK	0.14	0.50	OK	0.15	0.50	OK
13.91	1.6	OK	14.6	OK	0.14	0.50	OK	0.15	0.50	OK
14.22	1.7	OK	16.6	OK	0.14	0.50	OK	0.17	0.50	OK
14.52	0.3	OK	18.1	OK	0.14	0.50	OK	0.18	0.50	OK
14.82	7.2	OK	18.0	OK	0.12	0.50	OK	0.16	0.50	OK

Komb B, Jmf Komb B1 med B2

Snitt	Armering				Betong					
B5	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0.00	1.4	OK	0.4	OK	0.00	0.50	OK	0.05	0.52	OK
0.30	0.5	OK	1.5	OK	0.00	0.50	OK	0.09	0.54	OK
0.61	0.3	OK	2.7	OK	0.00	0.50	OK	0.12	0.55	OK
0.91	0.5	OK	4.0	OK	0.00	0.50	OK	0.13	0.55	OK
1.21	0.8	OK	5.4	OK	0.00	0.50	OK	0.13	0.55	OK
1.51	1.1	OK	6.8	OK	0.00	0.50	OK	0.13	0.54	OK
1.82	0.8	OK	8.4	OK	0.10	0.50	OK	0.11	0.50	OK
2.12	1.5	OK	8.4	OK	0.14	0.56	OK	0.00	0.50	OK
2.42	1.5	OK	9.2	OK	0.15	0.57	OK	0.00	0.50	OK
2.72	1.7	OK	10.1	OK	0.14	0.56	OK	0.00	0.50	OK
3.02	1.9	OK	10.2	OK	0.13	0.56	OK	0.00	0.50	OK
3.33	1.1	OK	11.7	OK	0.12	0.50	OK	0.14	0.50	OK
3.63	1.3	OK	12.1	OK	0.12	0.50	OK	0.15	0.50	OK
3.93	1.3	OK	12.5	OK	0.12	0.50	OK	0.16	0.50	OK
4.23	1.3	OK	12.9	OK	0.12	0.50	OK	0.16	0.50	OK
4.54	2.1	OK	12.1	OK	0.00	0.50	OK	0.17	0.55	OK
4.84	2.1	OK	12.3	OK	0.00	0.50	OK	0.17	0.55	OK
5.14	1.3	OK	13.3	OK	0.14	0.50	OK	0.16	0.50	OK
5.44	2.2	OK	12.0	OK	0.18	0.58	OK	0.00	0.50	OK
5.75	1.0	OK	13.1	OK	0.16	0.50	OK	0.18	0.50	OK
6.05	0.9	OK	12.9	OK	0.15	0.50	OK	0.18	0.50	OK
6.35	0.9	OK	12.9	OK	0.15	0.50	OK	0.19	0.50	OK
6.65	2.0	OK	11.8	OK	0.00	0.50	OK	0.20	0.57	OK
6.96	2.0	OK	11.6	OK	0.00	0.50	OK	0.20	0.57	OK
7.26	2.0	OK	11.5	OK	0.00	0.50	OK	0.20	0.57	OK
7.56	1.9	OK	11.5	OK	0.00	0.50	OK	0.20	0.57	OK
7.86	1.8	OK	11.1	OK	0.00	0.50	OK	0.20	0.57	OK
8.17	0.7	OK	11.9	OK	0.15	0.50	OK	0.19	0.50	OK
8.47	0.6	OK	11.8	OK	0.15	0.50	OK	0.19	0.50	OK
8.77	0.5	OK	11.2	OK	0.15	0.50	OK	0.18	0.50	OK
9.07	0.4	OK	10.7	OK	0.15	0.50	OK	0.18	0.50	OK
9.38	0.3	OK	10.4	OK	0.15	0.50	OK	0.17	0.50	OK
9.68	0.2	OK	9.8	OK	0.15	0.50	OK	0.17	0.50	OK
9.98	0.1	OK	9.1	OK	0.15	0.50	OK	0.16	0.50	OK
10.28	0.2	OK	8.4	OK	0.15	0.50	OK	0.16	0.50	OK
10.59	0.3	OK	8.1	OK	0.15	0.50	OK	0.15	0.50	OK
10.89	0.4	OK	7.6	OK	0.15	0.50	OK	0.15	0.50	OK
11.19	0.4	OK	7.4	OK	0.15	0.50	OK	0.14	0.50	OK
11.49	0.7	OK	6.3	OK	0.15	0.57	OK	0.00	0.50	OK
11.80	0.6	OK	6.4	OK	0.15	0.57	OK	0.00	0.50	OK
12.10	0.8	OK	6.5	OK	0.15	0.57	OK	0.00	0.50	OK
12.40	0.9	OK	7.0	OK	0.15	0.57	OK	0.00	0.50	OK
12.70	0.9	OK	7.4	OK	0.15	0.57	OK	0.00	0.50	OK
13.01	1.2	OK	8.1	OK	0.15	0.56	OK	0.00	0.50	OK
13.31	1.9	OK	9.6	OK	0.14	0.56	OK	0.00	0.50	OK
13.61	1.4	OK	12.7	OK	0.14	0.50	OK	0.15	0.50	OK
13.91	1.6	OK	14.6	OK	0.14	0.50	OK	0.15	0.50	OK
14.22	1.7	OK	16.6	OK	0.14	0.50	OK	0.17	0.50	OK
14.52	0.4	OK	18.1	OK	0.14	0.50	OK	0.19	0.50	OK
14.82	7.2	OK	18.0	OK	0.12	0.50	OK	0.16	0.50	OK

Utmattning - Enkel kontroll

Moment med tillhörande normalkraft

Enligt SS-EN 1992-1-1, 6.8.

E_s =	200	GPa	f_{ck} =	35.5	MPa
E_{cm} =	34.0	GPa	$f_{cd.fat}$ =	22.4	MPa
φ =	1.6		f_{yd} =	410	MPa

Snitt

B3

x [m]	h [m]	b_w [m]	$A_{s.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s.uk}$ [cm^2]	d_{uk} [m]	$φ_{viktad}$	$α_{eff}$	$e´_N$ fr. ök [m]
0.00	0.800	0.500	32.7	0.740	33.7	0.740	0.96	11.0	0.400
0.30	0.800	0.500	32.7	0.740	33.7	0.740	0.96	11.0	0.400
0.61	0.800	0.500	32.7	0.740	33.7	0.740	0.96	11.0	0.400
0.91	0.800	0.500	30.3	0.740	33.7	0.740	0.96	11.0	0.400
1.21	0.800	0.500	29.8	0.740	33.7	0.740	0.96	11.0	0.400
1.51	0.800	0.500	29.8	0.740	33.7	0.740	0.96	11.0	0.400
1.82	0.800	0.500	29.8	0.740	33.7	0.740	0.96	11.0	0.400
2.12	0.800	0.500	29.8	0.740	33.7	0.740	0.96	11.0	0.400
2.42	0.800	0.500	29.8	0.740	33.7	0.740	0.96	11.0	0.400
2.72	0.800	0.500	29.8	0.740	33.7	0.740	0.96	11.0	0.400
3.02	0.800	0.500	39.0	0.740	43.0	0.740	0.96	11.0	0.400
3.33	0.800	0.500	39.0	0.740	43.0	0.740	0.96	11.0	0.400
3.63	0.800	0.500	39.0	0.740	43.0	0.740	0.96	11.0	0.400
3.93	0.800	0.500	39.0	0.740	43.0	0.740	0.96	11.0	0.400
4.23	0.800	0.500	39.0	0.740	43.0	0.740	0.96	11.0	0.400
4.54	0.800	0.500	39.0	0.740	43.0	0.740	0.96	11.0	0.400
4.84	0.800	0.500	39.0	0.740	43.0	0.740	0.96	11.0	0.400
5.14	0.800	0.500	39.0	0.740	43.0	0.740	0.96	11.0	0.400
5.44	0.800	0.500	39.0	0.740	43.0	0.740	0.96	11.0	0.400
5.75	0.800	0.500	39.0	0.740	43.0	0.740	0.96	11.0	0.400
6.05	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
6.35	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
6.65	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
6.96	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
7.26	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
7.56	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
7.86	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
8.17	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
8.47	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
8.77	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
9.07	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
9.38	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
9.68	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
9.98	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
10.28	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
10.59	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
10.89	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
11.19	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
11.49	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
11.80	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
12.10	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
12.40	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
12.70	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
13.01	0.800	0.500	50.4	0.740	52.2	0.740	0.96	11.0	0.400
13.31	0.800	0.500	53.5	0.740	52.2	0.740	0.96	11.0	0.400
13.61	0.800	0.500	53.5	0.740	52.2	0.740	0.96	11.0	0.400
13.91	0.800	0.500	53.5	0.740	52.2	0.740	0.96	11.0	0.400
14.22	0.800	0.500	53.5	0.740	52.2	0.740	0.96	11.0	0.400
14.52	0.800	0.500	53.5	0.740	52.2	0.740	0.96	11.0	0.400
14.82	0.800	0.500	53.5	0.740	52.2	0.740	0.96	11.0	0.400

Moment	**Normalkraft**	**Spänningar**
Negativ = drag ök	Negativ = tryck	Negativ = tryck
Positiv = drag uk	Positiv = drag	Positiv = drag

Snitt	**Lastkombination (6.69) enligt SS-EN 1992-1-1**											
B3	**PERMANENTA**				**VARIABLA**				**CYKLISKA**			
x [m]	**M_{max}** [kNm]	**N** [kN]	**M_{min}** [kNm]	**N** [kN]	**M_{max}** [kNm]	**N** [kN]	**M_{min}** [kNm]	**N** [kN]	**M_{max}** [kNm]	**N** [kN]	**M_{min}** [kNm]	**N** [kN]
0.00	-1	-508	-2	-509	0	0	0	0	1	-43	-2	9
0.30	-16	-1026	-17	-1024	0	0	0	0	3	27	-3	10
0.61	-38	-1287	-39	-1288	0	0	0	0	7	62	-2	1
0.91	-43	-1333	-44	-1337	0	0	0	0	12	90	-1	-4
1.21	-52	-1283	-53	-1290	0	0	0	0	17	127	-1	-6
1.51	-26	-1316	-26	-1314	0	0	0	0	22	166	-1	-6
1.82	18	-1418	18	-1405	0	0	0	0	25	195	-1	-6
2.12	22	-1440	21	-1425	0	0	0	0	28	214	-1	-7
2.42	11	-1444	10	-1427	0	0	0	0	31	232	-1	-8
2.72	0	-1457	-1	-1438	0	0	0	0	33	255	-1	-9
3.02	-9	-1484	-10	-1463	0	0	0	0	36	273	-1	-10
3.33	-19	-1515	-20	-1493	0	0	0	0	38	285	-2	-11
3.63	-31	-1543	-33	-1519	0	0	0	0	39	297	-2	-12
3.93	-43	-1573	-45	-1548	0	0	0	0	40	309	-2	-13
4.23	-44	-1633	-45	-1606	0	0	0	0	41	315	-2	-14
4.54	-9	-1787	-11	-1760	0	0	0	0	41	318	-2	-15
4.84	5	-1890	3	-1862	0	0	0	0	42	322	-2	-16
5.14	-17	-1898	-19	-1870	0	0	0	0	43	324	-2	-17
5.44	-27	-1932	-29	-1904	0	0	0	0	42	322	-3	-18
5.75	-37	-1966	-39	-1937	0	0	0	0	42	320	-3	-19
6.05	-45	-1999	-46	-1970	0	0	0	0	42	316	-3	-20
6.35	-49	-2024	-50	-1994	0	0	0	0	42	314	-3	-21
6.65	-50	-2036	-51	-2006	0	0	0	0	42	313	-3	-22
6.96	-49	-2036	-50	-2006	0	0	0	0	41	308	-3	-23
7.26	-47	-2026	-48	-1997	0	0	0	0	40	305	-3	-24
7.56	-44	-2009	-45	-1980	0	0	0	0	40	300	-4	-25
7.86	-40	-1986	-41	-1956	0	0	0	0	39	292	-4	-26
8.17	-36	-1957	-36	-1928	0	0	0	0	38	282	-4	-27
8.47	-31	-1924	-32	-1895	0	0	0	0	37	270	-4	-28
8.77	-26	-1887	-26	-1859	0	0	0	0	35	258	-4	-29
9.07	-21	-1835	-21	-1835	0	0	0	0	33	242	-5	-31
9.38	-16	-1783	-16	-1810	0	0	0	0	31	224	-5	-32
9.68	-11	-1745	-11	-1772	0	0	0	0	29	207	-5	-33
9.98	-6	-1707	-6	-1734	0	0	0	0	26	185	-5	-34
10.28	-1	-1670	-2	-1696	0	0	0	0	24	165	-5	-35
10.59	4	-1634	3	-1659	0	0	0	0	22	149	-6	-37
10.89	8	-1598	8	-1623	0	0	0	0	20	131	-6	-38
11.19	13	-1563	12	-1587	0	0	0	0	18	116	-7	-47
11.49	18	-1529	17	-1551	0	0	0	0	17	102	-10	-63
11.80	23	-1495	22	-1517	0	0	0	0	14	79	-12	-82
12.10	27	-1464	26	-1484	0	0	0	0	11	59	-15	-111
12.40	32	-1435	31	-1454	0	0	0	0	9	40	-19	-146
12.70	36	-1411	35	-1428	0	0	0	0	6	13	-24	-184
13.01	39	-1393	38	-1408	0	0	0	0	3	-5	-29	-224
13.31	41	-1383	40	-1395	0	0	0	0	1	-3	-35	-268
13.61	41	-1383	40	-1392	0	0	0	0	0	2	-41	-316
13.91	40	-1394	39	-1399	0	0	0	0	0	2	-49	-366
14.22	35	-1418	35	-1420	0	0	0	0	0	2	-58	-413
14.52	22	-1453	21	-1455	0	0	0	0	0	-33	-72	-447
14.82	8	-1125	7	-1136	0	0	0	0	24	-71	-78	-330

0.1

Komb A1: $\Sigma M_{A1} = M_{max.per + var} + M_{max.cyk}$

Snitt
B3

Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)												
x [m]	**ΣM_{A1}** [kNm]	**N_{A1}** [kN]	**x_{tryck}** [m]	**A_{ekv}** [m²]	**$x_{tp.ekv}$** [m]	**I_{ekv}** [m^4]	**$\sigma_{c.neutral}$** [MPa]	**$\sigma_{c.ök}$** [MPa]	**$\sigma_{c.uk}$** [MPa]	**$\sigma_{s.ök}$** [MPa]	**$\sigma_{s.uk}$** [MPa]	Kontroll $\sigma_s \leq f_{yd}$
0.00	0	-551	0.800	0.470	0.402	2.9E-02	-1.16	0.0	-1.2	-12.7	-13.0	OK
0.30	-13	-998	0.800	0.470	0.402	2.9E-02	-1.93	0.0	-2.3	-21.5	-25.2	OK
0.61	-30	-1225	0.800	0.470	0.402	2.9E-02	-2.17	0.0	-3.1	-24.5	-32.8	OK
0.91	-31	-1243	0.800	0.467	0.400	2.9E-02	-2.23	0.0	-3.1	-25.2	-33.2	OK
1.21	-35	-1156	0.800	0.466	0.399	2.9E-02	-2.01	0.0	-2.9	-22.8	-31.6	OK
1.51	-4	-1150	0.800	0.466	0.399	2.9E-02	-2.42	0.0	-2.5	-26.7	-27.5	OK
1.82	44	-1223	0.800	0.467	0.405	2.9E-02	-1.93	-3.3	0.0	-35.4	-22.4	OK
2.12	50	-1226	0.800	0.467	0.405	2.9E-02	-1.86	-3.4	0.0	-36.2	-21.7	OK
2.42	42	-1212	0.800	0.467	0.405	2.9E-02	-1.94	-3.3	0.0	-34.8	-22.4	OK
2.72	34	-1203	0.800	0.467	0.405	2.9E-02	-2.03	-3.1	0.0	-33.5	-23.2	OK
3.02	27	-1211	0.800	0.486	0.406	3.1E-02	-2.06	-2.9	0.0	-31.5	-23.4	OK
3.33	19	-1230	0.800	0.486	0.406	3.1E-02	-2.20	-2.9	0.0	-31.0	-24.7	OK
3.63	8	-1246	0.800	0.486	0.406	3.1E-02	-2.38	-2.8	0.0	-30.0	-26.4	OK
3.93	-3	-1264	0.800	0.486	0.400	3.1E-02	-2.57	0.0	-2.6	-28.2	-28.9	OK
4.23	-2	-1318	0.800	0.486	0.400	3.1E-02	-2.69	0.0	-2.7	-29.6	-30.0	OK
4.54	33	-1468	0.800	0.486	0.406	3.1E-02	-2.50	-3.6	0.0	-38.2	-28.3	OK
4.84	47	-1567	0.800	0.486	0.406	3.1E-02	-2.52	-3.9	0.0	-42.2	-28.9	OK
5.14	26	-1575	0.800	0.486	0.406	3.1E-02	-2.80	-3.7	0.0	-39.8	-31.5	OK
5.44	15	-1610	0.800	0.486	0.406	3.1E-02	-3.00	-3.6	0.0	-39.3	-33.5	OK
5.75	5	-1647	0.800	0.486	0.406	3.1E-02	-3.21	-3.6	0.0	-38.9	-35.5	OK
6.05	-3	-1683	0.800	0.505	0.401	3.3E-02	-3.29	0.0	-3.4	-36.2	-37.0	OK
6.35	-7	-1709	0.800	0.505	0.401	3.3E-02	-3.29	0.0	-3.5	-36.3	-38.0	OK
6.65	-8	-1723	0.800	0.505	0.401	3.3E-02	-3.31	0.0	-3.5	-36.5	-38.4	OK
6.96	-8	-1727	0.800	0.505	0.401	3.3E-02	-3.32	0.0	-3.5	-36.6	-38.5	OK
7.26	-6	-1721	0.800	0.505	0.401	3.3E-02	-3.32	0.0	-3.5	-36.6	-38.2	OK
7.56	-4	-1709	0.800	0.505	0.401	3.3E-02	-3.33	0.0	-3.4	-36.6	-37.7	OK
7.86	-1	-1694	0.800	0.505	0.401	3.3E-02	-3.33	0.0	-3.4	-36.6	-37.1	OK
8.17	2	-1675	0.800	0.505	0.406	3.4E-02	-3.17	-3.5	0.0	-37.8	-35.1	OK
8.47	5	-1653	0.800	0.505	0.406	3.4E-02	-3.09	-3.5	0.0	-37.7	-34.2	OK
8.77	9	-1629	0.800	0.505	0.406	3.4E-02	-3.00	-3.5	0.0	-37.5	-33.3	OK
9.07	12	-1593	0.800	0.505	0.406	3.4E-02	-2.90	-3.4	0.0	-37.1	-32.3	OK
9.38	15	-1559	0.800	0.505	0.406	3.4E-02	-2.79	-3.4	0.0	-36.7	-31.2	OK
9.68	18	-1538	0.800	0.505	0.406	3.4E-02	-2.72	-3.4	0.0	-36.5	-30.4	OK
9.98	20	-1523	0.800	0.505	0.406	3.4E-02	-2.67	-3.4	0.0	-36.4	-29.9	OK
10.28	22	-1506	0.800	0.505	0.406	3.4E-02	-2.61	-3.4	0.0	-36.3	-29.2	OK
10.59	26	-1485	0.800	0.505	0.406	3.4E-02	-2.53	-3.4	0.0	-36.2	-28.4	OK
10.89	29	-1467	0.800	0.505	0.406	3.4E-02	-2.46	-3.4	0.0	-36.2	-27.7	OK
11.19	31	-1447	0.800	0.505	0.406	3.4E-02	-2.39	-3.4	0.0	-36.0	-27.0	OK
11.49	34	-1427	0.800	0.505	0.406	3.4E-02	-2.31	-3.3	0.0	-35.9	-26.3	OK
11.80	37	-1416	0.800	0.505	0.406	3.4E-02	-2.27	-3.4	0.0	-35.9	-25.8	OK
12.10	39	-1405	0.800	0.505	0.406	3.4E-02	-2.22	-3.4	0.0	-35.9	-25.3	OK
12.40	41	-1395	0.800	0.505	0.406	3.4E-02	-2.18	-3.4	0.0	-35.9	-24.9	OK
12.70	42	-1398	0.800	0.505	0.406	3.4E-02	-2.17	-3.4	0.0	-36.1	-24.9	OK
13.01	42	-1399	0.800	0.508	0.405	3.4E-02	-2.19	-3.3	0.0	-35.7	-25.0	OK
13.31	42	-1386	0.800	0.511	0.403	3.4E-02	-2.19	-3.3	0.0	-34.8	-24.9	OK
13.61	42	-1381	0.800	0.511	0.403	3.4E-02	-2.18	-3.2	0.0	-34.7	-24.8	OK
13.91	40	-1392	0.800	0.511	0.403	3.4E-02	-2.22	-3.2	0.0	-34.7	-25.2	OK
14.22	35	-1416	0.800	0.511	0.403	3.4E-02	-2.32	-3.2	0.0	-34.8	-26.2	OK
14.52	23	-1485	0.800	0.511	0.403	3.4E-02	-2.60	-3.2	0.0	-34.9	-29.0	OK
14.82	32	-1197	0.800	0.511	0.403	3.4E-02	-1.94	-2.8	0.0	-29.6	-21.9	OK

Komb A2: $\Sigma M_{A2} = M_{max.per + var} + M_{min.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
B3												
x	ΣM_{A2}	N_{A2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	-3	-500	0.800	0.470	0.402	2.9E-02	-1.01	0.0	-1.1	-11.2	-12.2	OK
0.30	-19	-1016	0.800	0.470	0.402	2.9E-02	-1.88	0.0	-2.4	-21.1	-26.4	OK
0.61	-39	-1286	0.800	0.470	0.402	2.9E-02	-2.18	0.0	-3.3	-24.8	-35.4	OK
0.91	-45	-1337	0.800	0.467	0.400	2.9E-02	-2.26	0.0	-3.5	-25.8	-37.1	OK
1.21	-53	-1289	0.800	0.466	0.399	2.9E-02	-2.04	0.0	-3.5	-23.6	-37.0	OK
1.51	-27	-1322	0.800	0.466	0.399	2.9E-02	-2.48	0.0	-3.2	-27.8	-34.4	OK
1.82	18	-1424	0.800	0.467	0.405	2.9E-02	-2.71	-3.4	0.0	-36.8	-30.3	OK
2.12	21	-1447	0.800	0.467	0.405	2.9E-02	-2.71	-3.5	0.0	-37.8	-30.4	OK
2.42	10	-1452	0.800	0.467	0.405	2.9E-02	-2.87	-3.4	0.0	-36.5	-31.9	OK
2.72	-1	-1467	0.800	0.466	0.399	2.9E-02	-3.15	0.0	-3.1	-34.5	-34.5	OK
3.02	-10	-1494	0.800	0.486	0.400	3.1E-02	-2.95	0.0	-3.2	-32.6	-35.0	OK
3.33	-20	-1526	0.800	0.486	0.400	3.1E-02	-2.88	0.0	-3.4	-32.1	-36.9	OK
3.63	-33	-1555	0.800	0.486	0.400	3.1E-02	-2.78	0.0	-3.6	-31.3	-39.1	OK
3.93	-45	-1586	0.800	0.486	0.400	3.1E-02	-2.69	0.0	-3.8	-30.5	-41.2	OK
4.23	-46	-1647	0.800	0.486	0.400	3.1E-02	-2.81	0.0	-4.0	-31.8	-42.7	OK
4.54	-11	-1802	0.800	0.486	0.400	3.1E-02	-3.57	0.0	-3.8	-39.5	-42.0	OK
4.84	3	-1906	0.800	0.486	0.406	3.1E-02	-3.75	-4.1	0.0	-44.7	-41.4	OK
5.14	-19	-1915	0.800	0.486	0.400	3.1E-02	-3.70	0.0	-4.2	-41.0	-45.6	OK
5.44	-30	-1950	0.800	0.486	0.400	3.1E-02	-3.64	0.0	-4.4	-40.6	-47.6	OK
5.75	-40	-1985	0.800	0.486	0.400	3.1E-02	-3.57	0.0	-4.6	-40.1	-49.7	OK
6.05	-48	-2019	0.800	0.505	0.401	3.3E-02	-3.42	0.0	-4.6	-38.5	-49.3	OK
6.35	-52	-2044	0.800	0.505	0.401	3.3E-02	-3.42	0.0	-4.7	-38.6	-50.4	OK
6.65	-53	-2058	0.800	0.505	0.401	3.3E-02	-3.43	0.0	-4.7	-38.7	-50.7	OK
6.96	-52	-2059	0.800	0.505	0.401	3.3E-02	-3.44	0.0	-4.7	-38.8	-50.7	OK
7.26	-50	-2050	0.800	0.505	0.401	3.3E-02	-3.45	0.0	-4.7	-38.9	-50.3	OK
7.56	-47	-2034	0.800	0.505	0.401	3.3E-02	-3.45	0.0	-4.6	-38.8	-49.6	OK
7.86	-44	-2012	0.800	0.505	0.401	3.3E-02	-3.44	0.0	-4.5	-38.7	-48.8	OK
8.17	-40	-1984	0.800	0.505	0.401	3.3E-02	-3.44	0.0	-4.4	-38.6	-47.7	OK
8.47	-35	-1952	0.800	0.505	0.401	3.3E-02	-3.43	0.0	-4.3	-38.4	-46.5	OK
8.77	-31	-1917	0.800	0.505	0.401	3.3E-02	-3.42	0.0	-4.2	-38.1	-45.2	OK
9.07	-26	-1866	0.800	0.505	0.401	3.3E-02	-3.37	0.0	-4.0	-37.6	-43.5	OK
9.38	-21	-1815	0.800	0.505	0.401	3.3E-02	-3.33	0.0	-3.9	-37.0	-41.9	OK
9.68	-16	-1778	0.800	0.505	0.401	3.3E-02	-3.32	0.0	-3.7	-36.8	-40.6	OK
9.98	-11	-1742	0.800	0.505	0.401	3.3E-02	-3.30	0.0	-3.6	-36.5	-39.2	OK
10.28	-7	-1706	0.800	0.505	0.401	3.3E-02	-3.29	0.0	-3.5	-36.2	-37.9	OK
10.59	-2	-1671	0.800	0.505	0.401	3.3E-02	-3.27	0.0	-3.3	-36.0	-36.7	OK
10.89	2	-1636	0.800	0.505	0.406	3.4E-02	-3.09	-3.4	0.0	-37.0	-34.2	OK
11.19	6	-1610	0.800	0.505	0.406	3.4E-02	-3.00	-3.4	0.0	-36.8	-33.2	OK
11.49	8	-1592	0.800	0.505	0.406	3.4E-02	-2.94	-3.4	0.0	-36.6	-32.6	OK
11.80	10	-1578	0.800	0.505	0.406	3.4E-02	-2.88	-3.4	0.0	-36.6	-32.1	OK
12.10	12	-1574	0.800	0.505	0.406	3.4E-02	-2.86	-3.4	0.0	-36.7	-31.8	OK
12.40	13	-1582	0.800	0.505	0.406	3.4E-02	-2.86	-3.4	0.0	-36.9	-31.9	OK
12.70	12	-1595	0.800	0.505	0.406	3.4E-02	-2.90	-3.4	0.0	-37.1	-32.3	OK
13.01	10	-1618	0.800	0.508	0.405	3.4E-02	-2.98	-3.4	0.0	-37.0	-33.1	OK
13.31	6	-1651	0.800	0.511	0.403	3.4E-02	-3.11	-3.4	0.0	-36.7	-34.4	OK
13.61	0	-1699	0.800	0.511	0.404	3.4E-02	-3.24	0.0	-3.4	-35.7	-37.4	OK
13.91	-9	-1759	0.800	0.511	0.404	3.4E-02	-3.25	0.0	-3.6	-36.0	-39.7	OK
14.22	-23	-1832	0.800	0.511	0.404	3.4E-02	-3.23	0.0	-3.9	-36.1	-42.8	OK
14.52	-50	-1899	0.800	0.511	0.404	3.4E-02	-3.05	0.0	-4.4	-34.6	-47.2	OK
14.82	-70	-1455	0.800	0.511	0.404	3.4E-02	-1.96	0.0	-3.8	-23.0	-39.8	OK

Komb B1: $\Sigma M_{B1} = M_{min.per + var} + M_{max.cyk}$

Snitt B3	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
x [m]	ΣM_{B1} [kNm]	N_{B1} [kN]	x_{tryck} [m]	A_{ekv} [m²]	$x_{tp.ekv}$ [m]	I_{ekv} [m^4]	$\sigma_{c.neutral}$ [MPa]	$\sigma_{c.ök}$ [MPa]	$\sigma_{c.uk}$ [MPa]	$\sigma_{s.ök}$ [MPa]	$\sigma_{s.uk}$ [MPa]	Kontroll $\sigma_s \leq f_{yd}$
0.00	-1	-552	0.800	0.470	0.402	2.9E-02	-1.15	0.0	-1.2	-12.7	-13.2	OK
0.30	-14	-997	0.800	0.470	0.402	2.9E-02	-1.91	0.0	-2.3	-21.3	-25.3	OK
0.61	-32	-1226	0.800	0.470	0.402	2.9E-02	-2.15	0.0	-3.1	-24.4	-33.0	OK
0.91	-32	-1247	0.800	0.467	0.400	2.9E-02	-2.23	0.0	-3.1	-25.2	-33.4	OK
1.21	-36	-1163	0.800	0.466	0.399	2.9E-02	-2.01	0.0	-3.0	-22.9	-31.8	OK
1.51	-4	-1149	0.800	0.466	0.399	2.9E-02	-2.42	0.0	-2.5	-26.6	-27.5	OK
1.82	44	-1210	0.800	0.467	0.405	2.9E-02	-1.91	-3.3	0.0	-35.0	-22.1	OK
2.12	49	-1211	0.800	0.467	0.405	2.9E-02	-1.84	-3.4	0.0	-35.7	-21.5	OK
2.42	41	-1194	0.800	0.467	0.405	2.9E-02	-1.92	-3.2	0.0	-34.3	-22.1	OK
2.72	32	-1184	0.800	0.467	0.405	2.9E-02	-2.01	-3.1	0.0	-32.9	-22.9	OK
3.02	25	-1190	0.800	0.486	0.406	3.1E-02	-2.04	-2.9	0.0	-30.8	-23.1	OK
3.33	17	-1208	0.800	0.486	0.406	3.1E-02	-2.18	-2.8	0.0	-30.2	-24.4	OK
3.63	6	-1222	0.800	0.486	0.406	3.1E-02	-2.35	-2.7	0.0	-29.2	-26.1	OK
3.93	-5	-1239	0.800	0.486	0.400	3.1E-02	-2.49	0.0	-2.6	-27.4	-28.6	OK
4.23	-4	-1292	0.800	0.486	0.400	3.1E-02	-2.61	0.0	-2.7	-28.7	-29.7	OK
4.54	31	-1441	0.800	0.486	0.406	3.1E-02	-2.47	-3.5	0.0	-37.3	-28.0	OK
4.84	45	-1540	0.800	0.486	0.406	3.1E-02	-2.49	-3.9	0.0	-41.3	-28.5	OK
5.14	24	-1546	0.800	0.486	0.406	3.1E-02	-2.76	-3.6	0.0	-38.9	-31.1	OK
5.44	13	-1581	0.800	0.486	0.406	3.1E-02	-2.97	-3.5	0.0	-38.5	-33.1	OK
5.75	3	-1617	0.800	0.486	0.406	3.1E-02	-3.17	-3.5	0.0	-38.0	-35.1	OK
6.05	-4	-1654	0.800	0.505	0.401	3.3E-02	-3.21	0.0	-3.3	-35.4	-36.5	OK
6.35	-8	-1680	0.800	0.505	0.401	3.3E-02	-3.22	0.0	-3.4	-35.5	-37.5	OK
6.65	-9	-1693	0.800	0.505	0.401	3.3E-02	-3.23	0.0	-3.5	-35.7	-37.9	OK
6.96	-9	-1698	0.800	0.505	0.401	3.3E-02	-3.25	0.0	-3.5	-35.8	-38.0	OK
7.26	-7	-1692	0.800	0.505	0.401	3.3E-02	-3.25	0.0	-3.4	-35.9	-37.7	OK
7.56	-4	-1680	0.800	0.505	0.401	3.3E-02	-3.26	0.0	-3.4	-35.9	-37.1	OK
7.86	-2	-1665	0.800	0.505	0.401	3.3E-02	-3.26	0.0	-3.3	-35.9	-36.5	OK
8.17	1	-1646	0.800	0.505	0.406	3.4E-02	-3.12	-3.4	0.0	-37.1	-34.5	OK
8.47	5	-1625	0.800	0.505	0.406	3.4E-02	-3.04	-3.4	0.0	-37.0	-33.6	OK
8.77	8	-1601	0.800	0.505	0.406	3.4E-02	-2.95	-3.4	0.0	-36.9	-32.8	OK
9.07	12	-1593	0.800	0.505	0.406	3.4E-02	-2.90	-3.4	0.0	-37.0	-32.3	OK
9.38	15	-1586	0.800	0.505	0.406	3.4E-02	-2.85	-3.4	0.0	-37.3	-31.8	OK
9.68	17	-1565	0.800	0.505	0.406	3.4E-02	-2.78	-3.4	0.0	-37.1	-31.0	OK
9.98	19	-1549	0.800	0.505	0.406	3.4E-02	-2.72	-3.4	0.0	-36.9	-30.5	OK
10.28	22	-1532	0.800	0.505	0.406	3.4E-02	-2.66	-3.4	0.0	-36.8	-29.8	OK
10.59	25	-1510	0.800	0.505	0.406	3.4E-02	-2.58	-3.4	0.0	-36.7	-29.0	OK
10.89	28	-1492	0.800	0.505	0.406	3.4E-02	-2.51	-3.4	0.0	-36.6	-28.3	OK
11.19	30	-1471	0.800	0.505	0.406	3.4E-02	-2.45	-3.4	0.0	-36.4	-27.6	OK
11.49	33	-1449	0.800	0.505	0.406	3.4E-02	-2.37	-3.4	0.0	-36.3	-26.8	OK
11.80	36	-1438	0.800	0.505	0.406	3.4E-02	-2.32	-3.4	0.0	-36.3	-26.3	OK
12.10	38	-1425	0.800	0.505	0.406	3.4E-02	-2.27	-3.4	0.0	-36.2	-25.9	OK
12.40	40	-1414	0.800	0.505	0.406	3.4E-02	-2.23	-3.4	0.0	-36.2	-25.4	OK
12.70	41	-1415	0.800	0.505	0.406	3.4E-02	-2.22	-3.4	0.0	-36.3	-25.3	OK
13.01	40	-1413	0.800	0.508	0.405	3.4E-02	-2.23	-3.3	0.0	-35.8	-25.4	OK
13.31	41	-1398	0.800	0.511	0.403	3.4E-02	-2.22	-3.3	0.0	-34.9	-25.3	OK
13.61	41	-1390	0.800	0.511	0.403	3.4E-02	-2.21	-3.2	0.0	-34.8	-25.1	OK
13.91	39	-1397	0.800	0.511	0.403	3.4E-02	-2.24	-3.2	0.0	-34.8	-25.4	OK
14.22	35	-1418	0.800	0.511	0.403	3.4E-02	-2.33	-3.2	0.0	-34.8	-26.3	OK
14.52	22	-1488	0.800	0.511	0.403	3.4E-02	-2.61	-3.2	0.0	-34.8	-29.2	OK
14.82	31	-1207	0.800	0.511	0.403	3.4E-02	-1.97	-2.8	0.0	-29.7	-22.3	OK

Komb B2: $\Sigma M_{B2} = M_{min.per + var} + M_{min.cyk}$

Snitt B3	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
x [m]	ΣM_{B2} [kNm]	N_{B2} [kN]	x_{tryck} [m]	A_{ekv} [m²]	$x_{tp.ekv}$ [m]	I_{ekv} [m⁴]	$\sigma_{c.neutral}$ [MPa]	$\sigma_{c.ök}$ [MPa]	$\sigma_{c.uk}$ [MPa]	$\sigma_{s.ök}$ [MPa]	$\sigma_{s.uk}$ [MPa]	Kontroll $\sigma_s \leq f_{yd}$
0.00	-4	-500	0.800	0.470	0.402	2.9E-02	-1.00	0.0	-1.1	-11.1	-12.3	OK
0.30	-21	-1014	0.800	0.470	0.402	2.9E-02	-1.86	0.0	-2.5	-20.9	-26.6	OK
0.61	-41	-1287	0.800	0.470	0.402	2.9E-02	-2.16	0.0	-3.3	-24.7	-35.6	OK
0.91	-46	-1341	0.800	0.467	0.400	2.9E-02	-2.25	0.0	-3.5	-25.7	-37.3	OK
1.21	-54	-1296	0.800	0.466	0.399	2.9E-02	-2.05	0.0	-3.5	-23.7	-37.3	OK
1.51	-27	-1320	0.800	0.466	0.399	2.9E-02	-2.48	0.0	-3.2	-27.8	-34.4	OK
1.82	17	-1411	0.800	0.467	0.405	2.9E-02	-2.69	-3.4	0.0	-36.4	-30.1	OK
2.12	20	-1432	0.800	0.467	0.405	2.9E-02	-2.69	-3.5	0.0	-37.3	-30.2	OK
2.42	9	-1435	0.800	0.467	0.405	2.9E-02	-2.85	-3.3	0.0	-36.0	-31.6	OK
2.72	-2	-1447	0.800	0.466	0.399	2.9E-02	-3.09	0.0	-3.1	-33.9	-34.2	OK
3.02	-12	-1473	0.800	0.486	0.400	3.1E-02	-2.88	0.0	-3.2	-31.9	-34.7	OK
3.33	-22	-1504	0.800	0.486	0.400	3.1E-02	-2.82	0.0	-3.4	-31.4	-36.6	OK
3.63	-35	-1531	0.800	0.486	0.400	3.1E-02	-2.71	0.0	-3.6	-30.5	-38.7	OK
3.93	-47	-1561	0.800	0.486	0.400	3.1E-02	-2.61	0.0	-3.8	-29.7	-40.9	OK
4.23	-47	-1620	0.800	0.486	0.400	3.1E-02	-2.73	0.0	-3.9	-31.0	-42.3	OK
4.54	-13	-1775	0.800	0.486	0.400	3.1E-02	-3.49	0.0	-3.8	-38.6	-41.6	OK
4.84	1	-1878	0.800	0.486	0.406	3.1E-02	-3.72	-4.0	0.0	-43.8	-41.1	OK
5.14	-21	-1887	0.800	0.486	0.400	3.1E-02	-3.62	0.0	-4.2	-40.2	-45.2	OK
5.44	-31	-1922	0.800	0.486	0.400	3.1E-02	-3.56	0.0	-4.4	-39.7	-47.2	OK
5.75	-42	-1956	0.800	0.486	0.400	3.1E-02	-3.49	0.0	-4.6	-39.2	-49.2	OK
6.05	-49	-1990	0.800	0.505	0.401	3.3E-02	-3.34	0.0	-4.5	-37.7	-48.9	OK
6.35	-53	-2015	0.800	0.505	0.401	3.3E-02	-3.34	0.0	-4.6	-37.8	-49.9	OK
6.65	-54	-2028	0.800	0.505	0.401	3.3E-02	-3.36	0.0	-4.7	-38.0	-50.2	OK
6.96	-53	-2029	0.800	0.505	0.401	3.3E-02	-3.37	0.0	-4.7	-38.1	-50.2	OK
7.26	-51	-2021	0.800	0.505	0.401	3.3E-02	-3.38	0.0	-4.6	-38.1	-49.8	OK
7.56	-48	-2005	0.800	0.505	0.401	3.3E-02	-3.38	0.0	-4.6	-38.1	-49.1	OK
7.86	-45	-1982	0.800	0.505	0.401	3.3E-02	-3.38	0.0	-4.5	-38.0	-48.2	OK
8.17	-40	-1955	0.800	0.505	0.401	3.3E-02	-3.38	0.0	-4.4	-37.9	-47.1	OK
8.47	-36	-1923	0.800	0.505	0.401	3.3E-02	-3.37	0.0	-4.2	-37.7	-45.9	OK
8.77	-31	-1888	0.800	0.505	0.401	3.3E-02	-3.36	0.0	-4.1	-37.5	-44.6	OK
9.07	-26	-1865	0.800	0.505	0.401	3.3E-02	-3.37	0.0	-4.0	-37.6	-43.6	OK
9.38	-21	-1842	0.800	0.505	0.401	3.3E-02	-3.38	0.0	-3.9	-37.6	-42.5	OK
9.68	-16	-1805	0.800	0.505	0.401	3.3E-02	-3.37	0.0	-3.8	-37.3	-41.2	OK
9.98	-12	-1768	0.800	0.505	0.401	3.3E-02	-3.35	0.0	-3.7	-37.0	-39.9	OK
10.28	-7	-1732	0.800	0.505	0.401	3.3E-02	-3.33	0.0	-3.5	-36.7	-38.6	OK
10.59	-3	-1696	0.800	0.505	0.401	3.3E-02	-3.31	0.0	-3.4	-36.5	-37.3	OK
10.89	2	-1660	0.800	0.505	0.406	3.4E-02	-3.14	-3.4	0.0	-37.4	-34.8	OK
11.19	5	-1633	0.800	0.505	0.406	3.4E-02	-3.05	-3.4	0.0	-37.2	-33.8	OK
11.49	7	-1614	0.800	0.505	0.406	3.4E-02	-2.99	-3.4	0.0	-37.0	-33.2	OK
11.80	9	-1599	0.800	0.505	0.406	3.4E-02	-2.94	-3.4	0.0	-36.9	-32.6	OK
12.10	11	-1595	0.800	0.505	0.406	3.4E-02	-2.91	-3.4	0.0	-37.0	-32.4	OK
12.40	12	-1600	0.800	0.505	0.406	3.4E-02	-2.91	-3.4	0.0	-37.2	-32.4	OK
12.70	11	-1612	0.800	0.505	0.406	3.4E-02	-2.95	-3.4	0.0	-37.4	-32.7	OK
13.01	9	-1632	0.800	0.508	0.405	3.4E-02	-3.02	-3.4	0.0	-37.2	-33.5	OK
13.31	5	-1663	0.800	0.511	0.403	3.4E-02	-3.15	-3.4	0.0	-36.8	-34.7	OK
13.61	-1	-1708	0.800	0.511	0.404	3.4E-02	-3.25	0.0	-3.4	-35.8	-37.7	OK
13.91	-10	-1765	0.800	0.511	0.404	3.4E-02	-3.25	0.0	-3.7	-36.0	-39.9	OK
14.22	-23	-1834	0.800	0.511	0.404	3.4E-02	-3.23	0.0	-4.0	-36.1	-42.8	OK
14.52	-50	-1902	0.800	0.511	0.404	3.4E-02	-3.04	0.0	-4.4	-34.5	-47.4	OK
14.82	-71	-1466	0.800	0.511	0.404	3.4E-02	-1.97	0.0	-3.8	-23.1	-40.1	OK

Komb A, Jmf Komb A1 med A2

Snitt	Armering				Betong					
B3	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0.00	1.6	OK	0.8	OK	0.00	0.50	OK	0.05	0.52	OK
0.30	0.4	OK	1.2	OK	0.00	0.50	OK	0.11	0.55	OK
0.61	0.3	OK	2.6	OK	0.00	0.50	OK	0.15	0.56	OK
0.91	0.5	OK	3.9	OK	0.00	0.50	OK	0.15	0.56	OK
1.21	0.8	OK	5.4	OK	0.00	0.50	OK	0.16	0.56	OK
1.51	1.1	OK	6.9	OK	0.00	0.50	OK	0.14	0.55	OK
1.82	1.4	OK	7.9	OK	0.15	0.57	OK	0.00	0.50	OK
2.12	1.6	OK	8.7	OK	0.16	0.57	OK	0.00	0.50	OK
2.42	1.7	OK	9.5	OK	0.15	0.57	OK	0.00	0.50	OK
2.72	1.0	OK	11.3	OK	0.14	0.50	OK	0.14	0.50	OK
3.02	1.1	OK	11.6	OK	0.13	0.50	OK	0.14	0.50	OK
3.33	1.1	OK	12.2	OK	0.13	0.50	OK	0.15	0.50	OK
3.63	1.3	OK	12.7	OK	0.12	0.50	OK	0.16	0.50	OK
3.93	2.2	OK	12.3	OK	0.00	0.50	OK	0.17	0.55	OK
4.23	2.2	OK	12.6	OK	0.00	0.50	OK	0.18	0.56	OK
4.54	1.3	OK	13.7	OK	0.16	0.50	OK	0.17	0.50	OK
4.84	2.5	OK	12.6	OK	0.18	0.58	OK	0.00	0.50	OK
5.14	1.2	OK	14.1	OK	0.16	0.50	OK	0.19	0.50	OK
5.44	1.2	OK	14.1	OK	0.16	0.50	OK	0.20	0.50	OK
5.75	1.2	OK	14.1	OK	0.16	0.50	OK	0.21	0.50	OK
6.05	2.3	OK	12.4	OK	0.00	0.50	OK	0.20	0.57	OK
6.35	2.3	OK	12.3	OK	0.00	0.50	OK	0.21	0.57	OK
6.65	2.3	OK	12.3	OK	0.00	0.50	OK	0.21	0.57	OK
6.96	2.3	OK	12.2	OK	0.00	0.50	OK	0.21	0.57	OK
7.26	2.2	OK	12.1	OK	0.00	0.50	OK	0.21	0.57	OK
7.56	2.2	OK	12.0	OK	0.00	0.50	OK	0.21	0.57	OK
7.86	2.1	OK	11.7	OK	0.00	0.50	OK	0.20	0.57	OK
8.17	0.8	OK	12.6	OK	0.15	0.50	OK	0.20	0.50	OK
8.47	0.7	OK	12.3	OK	0.15	0.50	OK	0.19	0.50	OK
8.77	0.6	OK	11.9	OK	0.15	0.50	OK	0.19	0.50	OK
9.07	0.5	OK	11.3	OK	0.15	0.50	OK	0.18	0.50	OK
9.38	0.4	OK	10.7	OK	0.15	0.50	OK	0.17	0.50	OK
9.68	0.3	OK	10.1	OK	0.15	0.50	OK	0.17	0.50	OK
9.98	0.1	OK	9.4	OK	0.15	0.50	OK	0.16	0.50	OK
10.28	0.1	OK	8.7	OK	0.15	0.50	OK	0.15	0.50	OK
10.59	0.2	OK	8.2	OK	0.15	0.50	OK	0.15	0.50	OK
10.89	0.8	OK	6.4	OK	0.15	0.57	OK	0.00	0.50	OK
11.19	0.8	OK	6.2	OK	0.15	0.57	OK	0.00	0.50	OK
11.49	0.8	OK	6.3	OK	0.15	0.57	OK	0.00	0.50	OK
11.80	0.6	OK	6.3	OK	0.15	0.57	OK	0.00	0.50	OK
12.10	0.8	OK	6.5	OK	0.15	0.57	OK	0.00	0.50	OK
12.40	1.0	OK	7.0	OK	0.15	0.57	OK	0.00	0.50	OK
12.70	1.0	OK	7.4	OK	0.15	0.57	OK	0.00	0.50	OK
13.01	1.3	OK	8.1	OK	0.15	0.57	OK	0.00	0.50	OK
13.31	1.9	OK	9.5	OK	0.15	0.57	OK	0.00	0.50	OK
13.61	1.0	OK	12.6	OK	0.14	0.50	OK	0.15	0.50	OK
13.91	1.2	OK	14.5	OK	0.14	0.50	OK	0.16	0.50	OK
14.22	1.3	OK	16.5	OK	0.14	0.50	OK	0.18	0.50	OK
14.52	0.3	OK	18.2	OK	0.14	0.50	OK	0.20	0.50	OK
14.82	6.6	OK	17.9	OK	0.12	0.50	OK	0.17	0.50	OK

Komb B, Jmf Komb B1 med B2

Snitt	Armering				Betong					
B3	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0.00	1.6	OK	0.8	OK	0.00	0.50	OK	0.05	0.52	OK
0.30	0.4	OK	1.2	OK	0.00	0.50	OK	0.11	0.55	OK
0.61	0.3	OK	2.6	OK	0.00	0.50	OK	0.15	0.56	OK
0.91	0.5	OK	3.9	OK	0.00	0.50	OK	0.16	0.56	OK
1.21	0.8	OK	5.4	OK	0.00	0.50	OK	0.16	0.56	OK
1.51	1.1	OK	6.9	OK	0.00	0.50	OK	0.14	0.55	OK
1.82	1.4	OK	7.9	OK	0.15	0.57	OK	0.00	0.50	OK
2.12	1.6	OK	8.7	OK	0.15	0.57	OK	0.00	0.50	OK
2.42	1.7	OK	9.5	OK	0.15	0.56	OK	0.00	0.50	OK
2.72	1.0	OK	11.3	OK	0.14	0.50	OK	0.14	0.50	OK
3.02	1.1	OK	11.6	OK	0.13	0.50	OK	0.14	0.50	OK
3.33	1.2	OK	12.2	OK	0.12	0.50	OK	0.15	0.50	OK
3.63	1.3	OK	12.7	OK	0.12	0.50	OK	0.16	0.50	OK
3.93	2.2	OK	12.3	OK	0.00	0.50	OK	0.17	0.55	OK
4.23	2.2	OK	12.6	OK	0.00	0.50	OK	0.18	0.55	OK
4.54	1.3	OK	13.7	OK	0.16	0.50	OK	0.17	0.50	OK
4.84	2.5	OK	12.6	OK	0.18	0.58	OK	0.00	0.50	OK
5.14	1.2	OK	14.1	OK	0.16	0.50	OK	0.19	0.50	OK
5.44	1.3	OK	14.1	OK	0.16	0.50	OK	0.19	0.50	OK
5.75	1.2	OK	14.1	OK	0.16	0.50	OK	0.20	0.50	OK
6.05	2.3	OK	12.4	OK	0.00	0.50	OK	0.20	0.57	OK
6.35	2.3	OK	12.3	OK	0.00	0.50	OK	0.21	0.57	OK
6.65	2.3	OK	12.3	OK	0.00	0.50	OK	0.21	0.57	OK
6.96	2.3	OK	12.2	OK	0.00	0.50	OK	0.21	0.57	OK
7.26	2.2	OK	12.1	OK	0.00	0.50	OK	0.21	0.57	OK
7.56	2.2	OK	12.0	OK	0.00	0.50	OK	0.20	0.57	OK
7.86	2.1	OK	11.7	OK	0.00	0.50	OK	0.20	0.57	OK
8.17	0.8	OK	12.6	OK	0.15	0.50	OK	0.19	0.50	OK
8.47	0.7	OK	12.3	OK	0.15	0.50	OK	0.19	0.50	OK
8.77	0.6	OK	11.8	OK	0.15	0.50	OK	0.18	0.50	OK
9.07	0.5	OK	11.3	OK	0.15	0.50	OK	0.18	0.50	OK
9.38	0.3	OK	10.8	OK	0.15	0.50	OK	0.17	0.50	OK
9.68	0.2	OK	10.1	OK	0.15	0.50	OK	0.17	0.50	OK
9.98	0.1	OK	9.4	OK	0.15	0.50	OK	0.16	0.50	OK
10.28	0.1	OK	8.7	OK	0.15	0.50	OK	0.16	0.50	OK
10.59	0.3	OK	8.3	OK	0.15	0.50	OK	0.15	0.50	OK
10.89	0.8	OK	6.4	OK	0.15	0.57	OK	0.00	0.50	OK
11.19	0.8	OK	6.2	OK	0.15	0.57	OK	0.00	0.50	OK
11.49	0.8	OK	6.3	OK	0.15	0.57	OK	0.00	0.50	OK
11.80	0.6	OK	6.3	OK	0.15	0.57	OK	0.00	0.50	OK
12.10	0.8	OK	6.5	OK	0.15	0.57	OK	0.00	0.50	OK
12.40	1.0	OK	7.0	OK	0.15	0.57	OK	0.00	0.50	OK
12.70	1.0	OK	7.4	OK	0.15	0.57	OK	0.00	0.50	OK
13.01	1.3	OK	8.1	OK	0.15	0.57	OK	0.00	0.50	OK
13.31	1.9	OK	9.5	OK	0.15	0.57	OK	0.00	0.50	OK
13.61	1.0	OK	12.6	OK	0.14	0.50	OK	0.15	0.50	OK
13.91	1.2	OK	14.5	OK	0.14	0.50	OK	0.16	0.50	OK
14.22	1.3	OK	16.5	OK	0.14	0.50	OK	0.18	0.50	OK
14.52	0.3	OK	18.2	OK	0.14	0.50	OK	0.20	0.50	OK
14.82	6.6	OK	17.9	OK	0.12	0.50	OK	0.17	0.50	OK

Utmattning - Enkel kontroll

Moment med tillhörande normalkraft

Enligt SS-EN 1992-1-1, 6.8.

E_s =	200	GPa	f_{ck} =	35.5	MPa
E_{cm} =	34.0	GPa	$f_{cd.fat}$ =	22.4	MPa
φ =	1.6		f_{yd} =	410	MPa

Snitt

B4

x [m]	h [m]	b_w [m]	$A_{s.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s.uk}$ [cm^2]	d_{uk} [m]	φ_{viktad}	α_{eff}	e'_N fr. ök [m]
0.00	0.800	0.500	32.7	0.740	33.7	0.740	0.96	11.0	0.400
0.30	0.800	0.500	32.7	0.740	33.7	0.740	0.96	11.0	0.400
0.61	0.800	0.500	32.7	0.740	33.7	0.740	0.96	11.0	0.400
0.91	0.800	0.500	30.3	0.740	33.7	0.740	0.96	11.0	0.400
1.21	0.800	0.500	29.8	0.740	33.7	0.740	0.96	11.0	0.400
1.51	0.800	0.500	29.8	0.740	33.7	0.740	0.96	11.0	0.400
1.82	0.800	0.500	29.8	0.740	33.7	0.740	0.96	11.0	0.400
2.12	0.800	0.500	29.8	0.740	33.7	0.740	0.96	11.0	0.400
2.42	0.800	0.500	29.8	0.740	33.7	0.740	0.96	11.0	0.400
2.72	0.800	0.500	29.8	0.740	33.7	0.740	0.96	11.0	0.400
3.02	0.800	0.500	39.0	0.740	43.0	0.740	0.96	11.0	0.400
3.33	0.800	0.500	39.0	0.740	43.0	0.740	0.96	11.0	0.400
3.63	0.800	0.500	39.0	0.740	43.0	0.740	0.96	11.0	0.400
3.93	0.800	0.500	39.0	0.740	43.0	0.740	0.96	11.0	0.400
4.23	0.800	0.500	39.0	0.740	43.0	0.740	0.96	11.0	0.400
4.54	0.800	0.500	39.0	0.740	43.0	0.740	0.96	11.0	0.400
4.84	0.800	0.500	39.0	0.740	43.0	0.740	0.96	11.0	0.400
5.14	0.800	0.500	39.0	0.740	43.0	0.740	0.96	11.0	0.400
5.44	0.800	0.500	39.0	0.740	43.0	0.740	0.96	11.0	0.400
5.75	0.800	0.500	39.0	0.740	43.0	0.740	0.96	11.0	0.400
6.05	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
6.35	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
6.65	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
6.96	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
7.26	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
7.56	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
7.86	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
8.17	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
8.47	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
8.77	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
9.07	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
9.38	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
9.68	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
9.98	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
10.28	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
10.59	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
10.89	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
11.19	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
11.49	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
11.80	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
12.10	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
12.40	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
12.70	0.800	0.500	48.2	0.740	52.2	0.740	0.96	11.0	0.400
13.01	0.800	0.500	50.4	0.740	52.2	0.740	0.96	11.0	0.400
13.31	0.800	0.500	53.5	0.740	52.2	0.740	0.96	11.0	0.400
13.61	0.800	0.500	53.5	0.740	52.2	0.740	0.96	11.0	0.400
13.91	0.800	0.500	53.5	0.740	52.2	0.740	0.96	11.0	0.400
14.22	0.800	0.500	53.5	0.740	52.2	0.740	0.96	11.0	0.400
14.52	0.800	0.500	53.5	0.740	52.2	0.740	0.96	11.0	0.400
14.82	0.800	0.500	53.5	0.740	52.2	0.740	0.96	11.0	0.400

Moment	**Normalkraft**	**Spänningar**
Negativ = drag ök	Negativ = tryck	Negativ = tryck
Positiv = drag uk	Positiv = drag	Positiv = drag

Snitt	**Lastkombination (6.69) enligt SS-EN 1992-1-1**											
B4	**PERMANENTA**				**VARIABLA**				**CYKLISKA**			
x [m]	**M_{max}** [kNm]	**N** [kN]	**M_{min}** [kNm]	**N** [kN]	**M_{max}** [kNm]	**N** [kN]	**M_{min}** [kNm]	**N** [kN]	**M_{max}** [kNm]	**N** [kN]	**M_{min}** [kNm]	**N** [kN]
0.00	-3	-493	-4	-493	0	0	0	0	1	-50	-2	9
0.30	-20	-968	-21	-967	0	0	0	0	3	27	-3	10
0.61	-40	-1218	-41	-1218	0	0	0	0	7	60	-1	1
0.91	-44	-1260	-45	-1264	0	0	0	0	12	88	-1	-4
1.21	-54	-1204	-54	-1210	0	0	0	0	17	124	-1	-6
1.51	-24	-1244	-24	-1242	0	0	0	0	22	163	-1	-6
1.82	26	-1361	26	-1349	0	0	0	0	25	192	-1	-6
2.12	30	-1390	29	-1375	0	0	0	0	28	216	-1	-7
2.42	19	-1397	18	-1380	0	0	0	0	30	234	-1	-8
2.72	7	-1415	5	-1396	0	0	0	0	33	251	-1	-9
3.02	-3	-1448	-4	-1427	0	0	0	0	35	269	-1	-10
3.33	-13	-1487	-14	-1464	0	0	0	0	37	281	-2	-11
3.63	-23	-1527	-25	-1503	0	0	0	0	38	294	-2	-12
3.93	-34	-1564	-36	-1539	0	0	0	0	40	306	-2	-13
4.23	-47	-1586	-49	-1559	0	0	0	0	41	311	-2	-14
4.54	-60	-1597	-62	-1570	0	0	0	0	41	314	-2	-15
4.84	-18	-1757	-19	-1730	0	0	0	0	41	319	-2	-16
5.14	12	-1910	10	-1882	0	0	0	0	42	321	-2	-17
5.44	-15	-1928	-16	-1899	0	0	0	0	42	319	-3	-18
5.75	-31	-1965	-32	-1936	0	0	0	0	42	316	-3	-19
6.05	-40	-2001	-42	-1972	0	0	0	0	42	313	-3	-20
6.35	-45	-2023	-47	-1993	0	0	0	0	41	311	-3	-21
6.65	-47	-2028	-48	-1998	0	0	0	0	41	310	-3	-22
6.96	-47	-2021	-48	-1992	0	0	0	0	41	305	-3	-23
7.26	-45	-2006	-46	-1977	0	0	0	0	40	302	-3	-24
7.56	-42	-1985	-43	-1955	0	0	0	0	40	297	-4	-25
7.86	-38	-1958	-39	-1929	0	0	0	0	39	289	-4	-26
8.17	-34	-1927	-34	-1898	0	0	0	0	37	279	-4	-27
8.47	-29	-1893	-30	-1864	0	0	0	0	36	268	-4	-28
8.77	-24	-1856	-24	-1828	0	0	0	0	34	255	-4	-29
9.07	-19	-1805	-19	-1805	0	0	0	0	32	239	-5	-31
9.38	-14	-1754	-14	-1781	0	0	0	0	31	222	-5	-32
9.68	-9	-1717	-10	-1744	0	0	0	0	28	204	-5	-33
9.98	-5	-1682	-5	-1708	0	0	0	0	26	183	-5	-34
10.28	0	-1647	0	-1673	0	0	0	0	23	162	-5	-35
10.59	5	-1613	4	-1638	0	0	0	0	22	147	-6	-37
10.89	9	-1580	8	-1604	0	0	0	0	20	129	-6	-37
11.19	14	-1548	13	-1571	0	0	0	0	18	114	-7	-46
11.49	18	-1517	17	-1539	0	0	0	0	16	100	-9	-63
11.80	22	-1487	21	-1508	0	0	0	0	14	78	-12	-81
12.10	27	-1459	25	-1479	0	0	0	0	11	58	-15	-109
12.40	31	-1434	29	-1453	0	0	0	0	9	39	-19	-145
12.70	34	-1414	33	-1431	0	0	0	0	6	12	-24	-182
13.01	37	-1399	36	-1414	0	0	0	0	2	-6	-29	-222
13.31	38	-1393	37	-1405	0	0	0	0	1	-4	-35	-265
13.61	38	-1395	37	-1404	0	0	0	0	0	2	-41	-313
13.91	36	-1408	36	-1413	0	0	0	0	0	2	-49	-361
14.22	32	-1433	31	-1435	0	0	0	0	0	2	-57	-408
14.52	19	-1468	18	-1470	0	0	0	0	1	-33	-71	-441
14.82	5	-1136	4	-1147	0	0	0	0	24	-71	-78	-325

0.1

Komb A1: $\Sigma M_{A1} = M_{max.per + var} + M_{max.cyk}$

Snitt
B4

Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)

x [m]	ΣM_{A1} [kNm]	N_{A1} [kN]	x_{tryck} [m]	A_{ekv} [m²]	$x_{tp.ekv}$ [m]	I_{ekv} [m⁴]	$\sigma_{c.neutral}$ [MPa]	$\sigma_{c.ök}$ [MPa]	$\sigma_{c.uk}$ [MPa]	$\sigma_{s.ök}$ [MPa]	$\sigma_{s.uk}$ [MPa]	Kontroll $\sigma_s \leq f_{yd}$
0.00	-3	-542	0.800	0.470	0.402	2.9E-02	-1.10	0.0	-1.2	-12.2	-13.2	OK
0.30	-17	-941	0.800	0.470	0.402	2.9E-02	-1.75	0.0	-2.3	-19.7	-24.4	OK
0.61	-33	-1157	0.800	0.470	0.402	2.9E-02	-1.99	0.0	-2.9	-22.7	-31.5	OK
0.91	-33	-1172	0.800	0.467	0.400	2.9E-02	-2.07	0.0	-3.0	-23.4	-31.7	OK
1.21	-37	-1079	0.800	0.466	0.399	2.9E-02	-1.81	0.0	-2.8	-20.7	-30.1	OK
1.51	-2	-1081	0.800	0.466	0.399	2.9E-02	-2.30	0.0	-2.3	-25.2	-25.6	OK
1.82	51	-1169	0.800	0.467	0.405	2.9E-02	-1.73	-3.3	0.0	-35.0	-20.3	OK
2.12	58	-1174	0.800	0.467	0.405	2.9E-02	-1.65	-3.4	0.0	-36.0	-19.5	OK
2.42	49	-1163	0.800	0.467	0.405	2.9E-02	-1.74	-3.3	0.0	-34.6	-20.4	OK
2.72	40	-1164	0.800	0.467	0.405	2.9E-02	-1.87	-3.1	0.0	-33.4	-21.6	OK
3.02	33	-1179	0.800	0.486	0.406	3.1E-02	-1.93	-2.9	0.0	-31.4	-22.0	OK
3.33	25	-1205	0.800	0.486	0.406	3.1E-02	-2.08	-2.9	0.0	-31.1	-23.5	OK
3.63	15	-1233	0.800	0.486	0.406	3.1E-02	-2.25	-2.8	0.0	-30.6	-25.2	OK
3.93	6	-1259	0.800	0.486	0.406	3.1E-02	-2.42	-2.8	0.0	-30.0	-26.9	OK
4.23	-6	-1275	0.800	0.486	0.400	3.1E-02	-2.54	0.0	-2.7	-28.1	-29.6	OK
4.54	-19	-1283	0.800	0.486	0.400	3.1E-02	-2.40	0.0	-2.9	-26.7	-31.3	OK
4.84	24	-1439	0.800	0.486	0.406	3.1E-02	-2.55	-3.4	0.0	-36.4	-28.7	OK
5.14	54	-1589	0.800	0.486	0.406	3.1E-02	-2.47	-4.1	0.0	-43.6	-28.4	OK
5.44	27	-1608	0.800	0.486	0.406	3.1E-02	-2.85	-3.8	0.0	-40.7	-32.1	OK
5.75	11	-1649	0.800	0.486	0.406	3.1E-02	-3.13	-3.7	0.0	-39.7	-34.8	OK
6.05	2	-1688	0.800	0.505	0.406	3.4E-02	-3.20	-3.5	0.0	-38.0	-35.4	OK
6.35	-4	-1711	0.800	0.505	0.401	3.3E-02	-3.33	0.0	-3.4	-36.7	-37.8	OK
6.65	-6	-1718	0.800	0.505	0.401	3.3E-02	-3.32	0.0	-3.5	-36.6	-38.1	OK
6.96	-6	-1716	0.800	0.505	0.401	3.3E-02	-3.31	0.0	-3.5	-36.5	-38.1	OK
7.26	-5	-1705	0.800	0.505	0.401	3.3E-02	-3.30	0.0	-3.4	-36.4	-37.7	OK
7.56	-2	-1688	0.800	0.505	0.401	3.3E-02	-3.30	0.0	-3.4	-36.3	-37.1	OK
7.86	0	-1669	0.800	0.505	0.406	3.4E-02	-3.18	-3.4	0.0	-37.5	-35.1	OK
8.17	3	-1648	0.800	0.505	0.406	3.4E-02	-3.10	-3.4	0.0	-37.3	-34.3	OK
8.47	7	-1625	0.800	0.505	0.406	3.4E-02	-3.01	-3.4	0.0	-37.2	-33.4	OK
8.77	10	-1601	0.800	0.505	0.406	3.4E-02	-2.93	-3.4	0.0	-37.1	-32.6	OK
9.07	13	-1566	0.800	0.505	0.406	3.4E-02	-2.83	-3.4	0.0	-36.6	-31.5	OK
9.38	16	-1532	0.800	0.505	0.406	3.4E-02	-2.73	-3.3	0.0	-36.2	-30.4	OK
9.68	19	-1513	0.800	0.505	0.406	3.4E-02	-2.66	-3.3	0.0	-36.1	-29.8	OK
9.98	21	-1499	0.800	0.505	0.406	3.4E-02	-2.61	-3.3	0.0	-36.0	-29.3	OK
10.28	23	-1485	0.800	0.505	0.406	3.4E-02	-2.55	-3.3	0.0	-36.0	-28.7	OK
10.59	27	-1466	0.800	0.505	0.406	3.4E-02	-2.48	-3.3	0.0	-35.9	-28.0	OK
10.89	29	-1451	0.800	0.505	0.406	3.4E-02	-2.42	-3.3	0.0	-35.9	-27.3	OK
11.19	31	-1434	0.800	0.505	0.406	3.4E-02	-2.36	-3.3	0.0	-35.7	-26.7	OK
11.49	34	-1417	0.800	0.505	0.406	3.4E-02	-2.30	-3.3	0.0	-35.6	-26.1	OK
11.80	36	-1409	0.800	0.505	0.406	3.4E-02	-2.26	-3.3	0.0	-35.7	-25.7	OK
12.10	38	-1401	0.800	0.505	0.406	3.4E-02	-2.23	-3.3	0.0	-35.7	-25.4	OK
12.40	39	-1395	0.800	0.505	0.406	3.4E-02	-2.20	-3.3	0.0	-35.7	-25.1	OK
12.70	40	-1402	0.800	0.505	0.406	3.4E-02	-2.20	-3.4	0.0	-35.9	-25.2	OK
13.01	39	-1405	0.800	0.508	0.405	3.4E-02	-2.23	-3.3	0.0	-35.5	-25.4	OK
13.31	39	-1396	0.800	0.511	0.403	3.4E-02	-2.24	-3.2	0.0	-34.7	-25.4	OK
13.61	39	-1393	0.800	0.511	0.403	3.4E-02	-2.24	-3.2	0.0	-34.6	-25.4	OK
13.91	37	-1406	0.800	0.511	0.403	3.4E-02	-2.28	-3.2	0.0	-34.7	-25.8	OK
14.22	32	-1431	0.800	0.511	0.403	3.4E-02	-2.39	-3.2	0.0	-34.7	-26.9	OK
14.52	19	-1501	0.800	0.511	0.403	3.4E-02	-2.67	-3.2	0.0	-34.8	-29.7	OK
14.82	30	-1208	0.800	0.511	0.403	3.4E-02	-1.98	-2.8	0.0	-29.6	-22.4	OK

Komb A2: $\Sigma M_{A2} = M_{max.per + var} + M_{min.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
B4												
x	ΣM_{A2}	N_{A2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	-6	-484	0.800	0.470	0.402	2.9E-02	-0.94	0.0	-1.1	-10.5	-12.1	OK
0.30	-23	-959	0.800	0.470	0.402	2.9E-02	-1.71	0.0	-2.4	-19.3	-25.5	OK
0.61	-41	-1217	0.800	0.470	0.402	2.9E-02	-2.00	0.0	-3.2	-23.0	-34.0	OK
0.91	-46	-1264	0.800	0.467	0.400	2.9E-02	-2.09	0.0	-3.3	-23.9	-35.5	OK
1.21	-55	-1209	0.800	0.466	0.399	2.9E-02	-1.85	0.0	-3.3	-21.5	-35.4	OK
1.51	-25	-1250	0.800	0.466	0.399	2.9E-02	-2.35	0.0	-3.0	-26.4	-32.5	OK
1.82	25	-1368	0.800	0.467	0.405	2.9E-02	-2.49	-3.4	0.0	-36.4	-28.1	OK
2.12	29	-1397	0.800	0.467	0.405	2.9E-02	-2.50	-3.5	0.0	-37.7	-28.2	OK
2.42	17	-1406	0.800	0.467	0.405	2.9E-02	-2.67	-3.4	0.0	-36.3	-29.9	OK
2.72	5	-1424	0.800	0.467	0.405	2.9E-02	-2.87	-3.2	0.0	-35.2	-31.9	OK
3.02	-4	-1458	0.800	0.486	0.400	3.1E-02	-2.95	0.0	-3.1	-32.5	-33.4	OK
3.33	-14	-1498	0.800	0.486	0.400	3.1E-02	-2.90	0.0	-3.3	-32.2	-35.5	OK
3.63	-25	-1539	0.800	0.486	0.400	3.1E-02	-2.85	0.0	-3.5	-31.9	-37.7	OK
3.93	-36	-1578	0.800	0.486	0.400	3.1E-02	-2.79	0.0	-3.7	-31.4	-39.9	OK
4.23	-49	-1600	0.800	0.486	0.400	3.1E-02	-2.66	0.0	-3.9	-30.3	-42.1	OK
4.54	-63	-1612	0.800	0.486	0.400	3.1E-02	-2.52	0.0	-4.1	-29.0	-43.9	OK
4.84	-20	-1773	0.800	0.486	0.400	3.1E-02	-3.40	0.0	-3.9	-37.7	-42.5	OK
5.14	10	-1927	0.800	0.486	0.406	3.1E-02	-3.70	-4.2	0.0	-46.1	-41.1	OK
5.44	-17	-1946	0.800	0.486	0.400	3.1E-02	-3.79	0.0	-4.2	-41.9	-46.0	OK
5.75	-33	-1984	0.800	0.486	0.400	3.1E-02	-3.66	0.0	-4.5	-40.9	-48.8	OK
6.05	-43	-2021	0.800	0.505	0.401	3.3E-02	-3.47	0.0	-4.5	-39.0	-48.9	OK
6.35	-48	-2044	0.800	0.505	0.401	3.3E-02	-3.46	0.0	-4.6	-38.9	-50.0	OK
6.65	-50	-2050	0.800	0.505	0.401	3.3E-02	-3.44	0.0	-4.7	-38.8	-50.3	OK
6.96	-50	-2044	0.800	0.505	0.401	3.3E-02	-3.44	0.0	-4.7	-38.7	-50.2	OK
7.26	-48	-2030	0.800	0.505	0.401	3.3E-02	-3.43	0.0	-4.6	-38.6	-49.7	OK
7.56	-46	-2010	0.800	0.505	0.401	3.3E-02	-3.42	0.0	-4.5	-38.5	-48.9	OK
7.86	-42	-1984	0.800	0.505	0.401	3.3E-02	-3.41	0.0	-4.4	-38.3	-48.0	OK
8.17	-38	-1954	0.800	0.505	0.401	3.3E-02	-3.40	0.0	-4.3	-38.1	-46.9	OK
8.47	-33	-1921	0.800	0.505	0.401	3.3E-02	-3.39	0.0	-4.2	-37.9	-45.6	OK
8.77	-29	-1885	0.800	0.505	0.401	3.3E-02	-3.38	0.0	-4.1	-37.7	-44.3	OK
9.07	-24	-1835	0.800	0.505	0.401	3.3E-02	-3.34	0.0	-3.9	-37.1	-42.7	OK
9.38	-19	-1785	0.800	0.505	0.401	3.3E-02	-3.30	0.0	-3.8	-36.6	-41.0	OK
9.68	-14	-1750	0.800	0.505	0.401	3.3E-02	-3.28	0.0	-3.6	-36.3	-39.8	OK
9.98	-10	-1716	0.800	0.505	0.401	3.3E-02	-3.27	0.0	-3.5	-36.1	-38.5	OK
10.28	-5	-1682	0.800	0.505	0.401	3.3E-02	-3.26	0.0	-3.4	-35.9	-37.3	OK
10.59	-1	-1650	0.800	0.505	0.401	3.3E-02	-3.24	0.0	-3.3	-35.6	-36.1	OK
10.89	3	-1617	0.800	0.505	0.406	3.4E-02	-3.04	-3.4	0.0	-36.6	-33.7	OK
11.19	6	-1594	0.800	0.505	0.406	3.4E-02	-2.96	-3.4	0.0	-36.5	-32.8	OK
11.49	9	-1579	0.800	0.505	0.406	3.4E-02	-2.91	-3.3	0.0	-36.4	-32.3	OK
11.80	10	-1568	0.800	0.505	0.406	3.4E-02	-2.87	-3.3	0.0	-36.3	-31.9	OK
12.10	11	-1568	0.800	0.505	0.406	3.4E-02	-2.85	-3.4	0.0	-36.5	-31.8	OK
12.40	12	-1579	0.800	0.505	0.406	3.4E-02	-2.87	-3.4	0.0	-36.7	-32.0	OK
12.70	10	-1596	0.800	0.505	0.406	3.4E-02	-2.92	-3.4	0.0	-37.0	-32.4	OK
13.01	8	-1621	0.800	0.508	0.405	3.4E-02	-3.01	-3.4	0.0	-36.8	-33.4	OK
13.31	4	-1658	0.800	0.511	0.403	3.4E-02	-3.15	-3.3	0.0	-36.5	-34.8	OK
13.61	-3	-1708	0.800	0.511	0.404	3.4E-02	-3.22	0.0	-3.5	-35.6	-37.8	OK
13.91	-12	-1769	0.800	0.511	0.404	3.4E-02	-3.23	0.0	-3.7	-35.9	-40.2	OK
14.22	-25	-1842	0.800	0.511	0.404	3.4E-02	-3.22	0.0	-4.0	-36.0	-43.3	OK
14.52	-52	-1909	0.800	0.511	0.404	3.4E-02	-3.03	0.0	-4.5	-34.5	-47.8	OK
14.82	-72	-1461	0.800	0.511	0.404	3.4E-02	-1.95	0.0	-3.8	-22.9	-40.1	OK

Komb B1: $\Sigma M_{B1} = M_{min.per + var} + M_{max.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
B4												
x	ΣM_{B1}	N_{B1}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	-4	-543	0.800	0.470	0.402	2.9E-02	-1.10	0.0	-1.2	-12.1	-13.3	OK
0.30	-18	-940	0.800	0.470	0.402	2.9E-02	-1.73	0.0	-2.3	-19.4	-24.5	OK
0.61	-34	-1158	0.800	0.470	0.402	2.9E-02	-1.98	0.0	-3.0	-22.5	-31.7	OK
0.91	-34	-1176	0.800	0.467	0.400	2.9E-02	-2.06	0.0	-3.0	-23.4	-31.9	OK
1.21	-38	-1086	0.800	0.466	0.399	2.9E-02	-1.82	0.0	-2.8	-20.8	-30.3	OK
1.51	-3	-1079	0.800	0.466	0.399	2.9E-02	-2.29	0.0	-2.3	-25.2	-25.6	OK
1.82	51	-1157	0.800	0.467	0.405	2.9E-02	-1.70	-3.3	0.0	-34.7	-20.0	OK
2.12	57	-1159	0.800	0.467	0.405	2.9E-02	-1.62	-3.4	0.0	-35.5	-19.3	OK
2.42	48	-1146	0.800	0.467	0.405	2.9E-02	-1.72	-3.2	0.0	-34.0	-20.1	OK
2.72	38	-1144	0.800	0.467	0.405	2.9E-02	-1.85	-3.1	0.0	-32.8	-21.3	OK
3.02	31	-1158	0.800	0.486	0.406	3.1E-02	-1.90	-2.9	0.0	-30.8	-21.7	OK
3.33	23	-1183	0.800	0.486	0.406	3.1E-02	-2.06	-2.8	0.0	-30.3	-23.2	OK
3.63	14	-1209	0.800	0.486	0.406	3.1E-02	-2.23	-2.8	0.0	-29.8	-24.9	OK
3.93	4	-1234	0.800	0.486	0.406	3.1E-02	-2.40	-2.7	0.0	-29.2	-26.5	OK
4.23	-8	-1248	0.800	0.486	0.400	3.1E-02	-2.46	0.0	-2.7	-27.2	-29.2	OK
4.54	-21	-1256	0.800	0.486	0.400	3.1E-02	-2.32	0.0	-2.9	-25.9	-30.9	OK
4.84	22	-1411	0.800	0.486	0.406	3.1E-02	-2.52	-3.3	0.0	-35.5	-28.3	OK
5.14	53	-1561	0.800	0.486	0.406	3.1E-02	-2.43	-4.0	0.0	-42.7	-28.0	OK
5.44	25	-1580	0.800	0.486	0.406	3.1E-02	-2.81	-3.7	0.0	-39.9	-31.6	OK
5.75	9	-1620	0.800	0.486	0.406	3.1E-02	-3.09	-3.6	0.0	-38.9	-34.4	OK
6.05	0	-1659	0.800	0.505	0.406	3.4E-02	-3.16	-3.4	0.0	-37.2	-34.9	OK
6.35	-5	-1682	0.800	0.505	0.401	3.3E-02	-3.26	0.0	-3.4	-35.9	-37.3	OK
6.65	-7	-1689	0.800	0.505	0.401	3.3E-02	-3.25	0.0	-3.4	-35.8	-37.6	OK
6.96	-7	-1686	0.800	0.505	0.401	3.3E-02	-3.24	0.0	-3.4	-35.7	-37.6	OK
7.26	-6	-1675	0.800	0.505	0.401	3.3E-02	-3.24	0.0	-3.4	-35.7	-37.2	OK
7.56	-3	-1658	0.800	0.505	0.401	3.3E-02	-3.24	0.0	-3.3	-35.6	-36.5	OK
7.86	0	-1640	0.800	0.505	0.401	3.3E-02	-3.23	0.0	-3.3	-35.5	-35.8	OK
8.17	3	-1619	0.800	0.505	0.406	3.4E-02	-3.05	-3.4	0.0	-36.6	-33.8	OK
8.47	7	-1597	0.800	0.505	0.406	3.4E-02	-2.96	-3.4	0.0	-36.6	-32.9	OK
8.77	10	-1573	0.800	0.505	0.406	3.4E-02	-2.88	-3.4	0.0	-36.4	-32.0	OK
9.07	13	-1566	0.800	0.505	0.406	3.4E-02	-2.83	-3.4	0.0	-36.6	-31.5	OK
9.38	16	-1559	0.800	0.505	0.406	3.4E-02	-2.78	-3.4	0.0	-36.8	-31.0	OK
9.68	19	-1540	0.800	0.505	0.406	3.4E-02	-2.71	-3.4	0.0	-36.6	-30.4	OK
9.98	21	-1525	0.800	0.505	0.406	3.4E-02	-2.66	-3.4	0.0	-36.5	-29.9	OK
10.28	23	-1511	0.800	0.505	0.406	3.4E-02	-2.61	-3.4	0.0	-36.5	-29.3	OK
10.59	26	-1491	0.800	0.505	0.406	3.4E-02	-2.54	-3.4	0.0	-36.4	-28.6	OK
10.89	28	-1476	0.800	0.505	0.406	3.4E-02	-2.48	-3.4	0.0	-36.3	-27.9	OK
11.19	31	-1458	0.800	0.505	0.406	3.4E-02	-2.42	-3.4	0.0	-36.2	-27.3	OK
11.49	33	-1439	0.800	0.505	0.406	3.4E-02	-2.35	-3.4	0.0	-36.0	-26.7	OK
11.80	35	-1431	0.800	0.505	0.406	3.4E-02	-2.31	-3.4	0.0	-36.1	-26.3	OK
12.10	36	-1421	0.800	0.505	0.406	3.4E-02	-2.28	-3.4	0.0	-36.0	-25.9	OK
12.40	38	-1414	0.800	0.505	0.406	3.4E-02	-2.25	-3.4	0.0	-36.0	-25.6	OK
12.70	39	-1419	0.800	0.505	0.406	3.4E-02	-2.25	-3.4	0.0	-36.2	-25.6	OK
13.01	38	-1420	0.800	0.508	0.405	3.4E-02	-2.28	-3.3	0.0	-35.7	-25.9	OK
13.31	38	-1408	0.800	0.511	0.403	3.4E-02	-2.27	-3.2	0.0	-34.8	-25.8	OK
13.61	38	-1402	0.800	0.511	0.403	3.4E-02	-2.27	-3.2	0.0	-34.7	-25.7	OK
13.91	36	-1411	0.800	0.511	0.403	3.4E-02	-2.30	-3.2	0.0	-34.7	-26.0	OK
14.22	32	-1433	0.800	0.511	0.403	3.4E-02	-2.39	-3.2	0.0	-34.7	-27.0	OK
14.52	19	-1503	0.800	0.511	0.403	3.4E-02	-2.68	-3.2	0.0	-34.8	-29.9	OK
14.82	29	-1218	0.800	0.511	0.403	3.4E-02	-2.02	-2.8	0.0	-29.7	-22.7	OK

Komb B2: $\Sigma M_{B2} = M_{min.per + var} + M_{min.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
B4												
x	ΣM_{B2}	N_{B2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	-6	-485	0.800	0.470	0.402	2.9E-02	-0.93	0.0	-1.1	-10.4	-12.3	OK
0.30	-25	-957	0.800	0.470	0.402	2.9E-02	-1.68	0.0	-2.4	-19.1	-25.7	OK
0.61	-43	-1218	0.800	0.470	0.402	2.9E-02	-1.98	0.0	-3.2	-22.8	-34.2	OK
0.91	-47	-1268	0.800	0.467	0.400	2.9E-02	-2.08	0.0	-3.4	-23.9	-35.7	OK
1.21	-55	-1216	0.800	0.466	0.399	2.9E-02	-1.86	0.0	-3.4	-21.6	-35.6	OK
1.51	-25	-1248	0.800	0.466	0.399	2.9E-02	-2.34	0.0	-3.0	-26.3	-32.5	OK
1.82	25	-1355	0.800	0.467	0.405	2.9E-02	-2.47	-3.4	0.0	-36.1	-27.8	OK
2.12	28	-1382	0.800	0.467	0.405	2.9E-02	-2.47	-3.5	0.0	-37.2	-28.0	OK
2.42	16	-1388	0.800	0.467	0.405	2.9E-02	-2.65	-3.3	0.0	-35.8	-29.6	OK
2.72	4	-1405	0.800	0.467	0.405	2.9E-02	-2.85	-3.2	0.0	-34.6	-31.6	OK
3.02	-5	-1437	0.800	0.486	0.400	3.1E-02	-2.89	0.0	-3.0	-31.9	-33.1	OK
3.33	-16	-1475	0.800	0.486	0.400	3.1E-02	-2.84	0.0	-3.2	-31.5	-35.2	OK
3.63	-27	-1515	0.800	0.486	0.400	3.1E-02	-2.78	0.0	-3.5	-31.1	-37.4	OK
3.93	-38	-1552	0.800	0.486	0.400	3.1E-02	-2.72	0.0	-3.7	-30.6	-39.6	OK
4.23	-51	-1574	0.800	0.486	0.400	3.1E-02	-2.58	0.0	-3.9	-29.4	-41.7	OK
4.54	-64	-1585	0.800	0.486	0.400	3.1E-02	-2.44	0.0	-4.1	-28.1	-43.5	OK
4.84	-22	-1746	0.800	0.486	0.400	3.1E-02	-3.32	0.0	-3.9	-36.9	-42.0	OK
5.14	8	-1899	0.800	0.486	0.406	3.1E-02	-3.67	-4.2	0.0	-45.2	-40.6	OK
5.44	-19	-1917	0.800	0.486	0.400	3.1E-02	-3.70	0.0	-4.2	-41.1	-45.6	OK
5.75	-35	-1955	0.800	0.486	0.400	3.1E-02	-3.58	0.0	-4.5	-40.0	-48.3	OK
6.05	-45	-1992	0.800	0.505	0.401	3.3E-02	-3.40	0.0	-4.5	-38.2	-48.4	OK
6.35	-50	-2014	0.800	0.505	0.401	3.3E-02	-3.38	0.0	-4.6	-38.1	-49.5	OK
6.65	-52	-2020	0.800	0.505	0.401	3.3E-02	-3.37	0.0	-4.6	-38.1	-49.8	OK
6.96	-51	-2015	0.800	0.505	0.401	3.3E-02	-3.36	0.0	-4.6	-38.0	-49.6	OK
7.26	-49	-2001	0.800	0.505	0.401	3.3E-02	-3.36	0.0	-4.6	-37.9	-49.1	OK
7.56	-46	-1980	0.800	0.505	0.401	3.3E-02	-3.35	0.0	-4.5	-37.8	-48.4	OK
7.86	-43	-1955	0.800	0.505	0.401	3.3E-02	-3.35	0.0	-4.4	-37.6	-47.4	OK
8.17	-39	-1925	0.800	0.505	0.401	3.3E-02	-3.34	0.0	-4.3	-37.4	-46.3	OK
8.47	-34	-1892	0.800	0.505	0.401	3.3E-02	-3.33	0.0	-4.2	-37.3	-45.0	OK
8.77	-29	-1857	0.800	0.505	0.401	3.3E-02	-3.32	0.0	-4.0	-37.1	-43.7	OK
9.07	-24	-1835	0.800	0.505	0.401	3.3E-02	-3.34	0.0	-3.9	-37.1	-42.7	OK
9.38	-19	-1813	0.800	0.505	0.401	3.3E-02	-3.35	0.0	-3.8	-37.2	-41.7	OK
9.68	-15	-1777	0.800	0.505	0.401	3.3E-02	-3.33	0.0	-3.7	-36.9	-40.4	OK
9.98	-10	-1742	0.800	0.505	0.401	3.3E-02	-3.32	0.0	-3.6	-36.6	-39.1	OK
10.28	-6	-1708	0.800	0.505	0.401	3.3E-02	-3.30	0.0	-3.5	-36.4	-37.9	OK
10.59	-2	-1675	0.800	0.505	0.401	3.3E-02	-3.28	0.0	-3.3	-36.1	-36.7	OK
10.89	2	-1642	0.800	0.505	0.406	3.4E-02	-3.10	-3.4	0.0	-37.1	-34.3	OK
11.19	6	-1618	0.800	0.505	0.406	3.4E-02	-3.02	-3.4	0.0	-36.9	-33.4	OK
11.49	8	-1602	0.800	0.505	0.406	3.4E-02	-2.96	-3.4	0.0	-36.8	-32.9	OK
11.80	9	-1590	0.800	0.505	0.406	3.4E-02	-2.92	-3.4	0.0	-36.7	-32.4	OK
12.10	10	-1589	0.800	0.505	0.406	3.4E-02	-2.91	-3.4	0.0	-36.8	-32.3	OK
12.40	10	-1597	0.800	0.505	0.406	3.4E-02	-2.92	-3.4	0.0	-37.0	-32.5	OK
12.70	9	-1613	0.800	0.505	0.406	3.4E-02	-2.97	-3.4	0.0	-37.2	-32.9	OK
13.01	7	-1636	0.800	0.508	0.405	3.4E-02	-3.05	-3.4	0.0	-37.0	-33.8	OK
13.31	3	-1670	0.800	0.511	0.403	3.4E-02	-3.19	-3.4	0.0	-36.7	-35.1	OK
13.61	-4	-1717	0.800	0.511	0.404	3.4E-02	-3.23	0.0	-3.5	-35.7	-38.1	OK
13.91	-13	-1774	0.800	0.511	0.404	3.4E-02	-3.23	0.0	-3.7	-35.9	-40.4	OK
14.22	-25	-1844	0.800	0.511	0.404	3.4E-02	-3.22	0.0	-4.0	-36.0	-43.4	OK
14.52	-53	-1911	0.800	0.511	0.404	3.4E-02	-3.03	0.0	-4.5	-34.4	-47.9	OK
14.82	-73	-1472	0.800	0.511	0.404	3.4E-02	-1.96	0.0	-3.8	-23.0	-40.5	OK

Komb A, Jmf Komb A1 med A2

Snitt	Armering				Betong					
B4	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0.00	1.7	OK	1.0	OK	0.00	0.50	OK	0.05	0.52	OK
0.30	0.4	OK	1.2	OK	0.00	0.50	OK	0.11	0.55	OK
0.61	0.3	OK	2.5	OK	0.00	0.50	OK	0.14	0.56	OK
0.91	0.5	OK	3.8	OK	0.00	0.50	OK	0.15	0.56	OK
1.21	0.8	OK	5.3	OK	0.00	0.50	OK	0.15	0.56	OK
1.51	1.1	OK	6.8	OK	0.00	0.50	OK	0.13	0.55	OK
1.82	1.4	OK	7.8	OK	0.15	0.57	OK	0.00	0.50	OK
2.12	1.7	OK	8.7	OK	0.16	0.57	OK	0.00	0.50	OK
2.42	1.8	OK	9.5	OK	0.15	0.57	OK	0.00	0.50	OK
2.72	1.8	OK	10.3	OK	0.14	0.56	OK	0.00	0.50	OK
3.02	1.1	OK	11.4	OK	0.13	0.50	OK	0.14	0.50	OK
3.33	1.1	OK	12.0	OK	0.13	0.50	OK	0.15	0.50	OK
3.63	1.3	OK	12.5	OK	0.13	0.50	OK	0.16	0.50	OK
3.93	1.4	OK	13.0	OK	0.12	0.50	OK	0.17	0.50	OK
4.23	2.2	OK	12.5	OK	0.00	0.50	OK	0.18	0.55	OK
4.54	2.3	OK	12.6	OK	0.00	0.50	OK	0.18	0.56	OK
4.84	1.3	OK	13.7	OK	0.15	0.50	OK	0.17	0.50	OK
5.14	2.5	OK	12.6	OK	0.19	0.58	OK	0.00	0.50	OK
5.44	1.2	OK	14.0	OK	0.17	0.50	OK	0.19	0.50	OK
5.75	1.1	OK	14.0	OK	0.16	0.50	OK	0.20	0.50	OK
6.05	1.0	OK	13.5	OK	0.16	0.50	OK	0.20	0.50	OK
6.35	2.2	OK	12.2	OK	0.00	0.50	OK	0.21	0.57	OK
6.65	2.2	OK	12.2	OK	0.00	0.50	OK	0.21	0.57	OK
6.96	2.2	OK	12.1	OK	0.00	0.50	OK	0.21	0.57	OK
7.26	2.2	OK	12.0	OK	0.00	0.50	OK	0.21	0.57	OK
7.56	2.1	OK	11.9	OK	0.00	0.50	OK	0.20	0.57	OK
7.86	0.9	OK	12.9	OK	0.15	0.50	OK	0.20	0.50	OK
8.17	0.8	OK	12.5	OK	0.15	0.50	OK	0.19	0.50	OK
8.47	0.7	OK	12.2	OK	0.15	0.50	OK	0.19	0.50	OK
8.77	0.6	OK	11.7	OK	0.15	0.50	OK	0.18	0.50	OK
9.07	0.5	OK	11.2	OK	0.15	0.50	OK	0.18	0.50	OK
9.38	0.4	OK	10.6	OK	0.15	0.50	OK	0.17	0.50	OK
9.68	0.3	OK	10.0	OK	0.15	0.50	OK	0.16	0.50	OK
9.98	0.1	OK	9.3	OK	0.15	0.50	OK	0.16	0.50	OK
10.28	0.1	OK	8.6	OK	0.15	0.50	OK	0.15	0.50	OK
10.59	0.2	OK	8.1	OK	0.15	0.50	OK	0.15	0.50	OK
10.89	0.8	OK	6.3	OK	0.15	0.57	OK	0.00	0.50	OK
11.19	0.7	OK	6.1	OK	0.15	0.57	OK	0.00	0.50	OK
11.49	0.7	OK	6.2	OK	0.15	0.57	OK	0.00	0.50	OK
11.80	0.6	OK	6.2	OK	0.15	0.57	OK	0.00	0.50	OK
12.10	0.8	OK	6.4	OK	0.15	0.57	OK	0.00	0.50	OK
12.40	1.0	OK	6.9	OK	0.15	0.57	OK	0.00	0.50	OK
12.70	1.0	OK	7.3	OK	0.15	0.57	OK	0.00	0.50	OK
13.01	1.3	OK	8.0	OK	0.15	0.57	OK	0.00	0.50	OK
13.31	1.8	OK	9.4	OK	0.15	0.57	OK	0.00	0.50	OK
13.61	1.0	OK	12.5	OK	0.14	0.50	OK	0.15	0.50	OK
13.91	1.2	OK	14.4	OK	0.14	0.50	OK	0.17	0.50	OK
14.22	1.3	OK	16.4	OK	0.14	0.50	OK	0.18	0.50	OK
14.52	0.4	OK	18.0	OK	0.14	0.50	OK	0.20	0.50	OK
14.82	6.7	OK	17.7	OK	0.12	0.50	OK	0.17	0.50	OK

Komb B, Jmf Komb B1 med B2

Snitt	Armering				Betong					
B4	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0.00	1.7	OK	1.0	OK	0.00	0.50	OK	0.05	0.52	OK
0.30	0.4	OK	1.2	OK	0.00	0.50	OK	0.11	0.55	OK
0.61	0.3	OK	2.5	OK	0.00	0.50	OK	0.14	0.56	OK
0.91	0.5	OK	3.8	OK	0.00	0.50	OK	0.15	0.56	OK
1.21	0.8	OK	5.3	OK	0.00	0.50	OK	0.15	0.56	OK
1.51	1.1	OK	6.8	OK	0.00	0.50	OK	0.13	0.55	OK
1.82	1.4	OK	7.8	OK	0.15	0.57	OK	0.00	0.50	OK
2.12	1.7	OK	8.7	OK	0.15	0.57	OK	0.00	0.50	OK
2.42	1.8	OK	9.5	OK	0.15	0.56	OK	0.00	0.50	OK
2.72	1.8	OK	10.3	OK	0.14	0.56	OK	0.00	0.50	OK
3.02	1.1	OK	11.4	OK	0.13	0.50	OK	0.14	0.50	OK
3.33	1.1	OK	12.0	OK	0.13	0.50	OK	0.14	0.50	OK
3.63	1.3	OK	12.5	OK	0.12	0.50	OK	0.15	0.50	OK
3.93	1.4	OK	13.0	OK	0.12	0.50	OK	0.16	0.50	OK
4.23	2.2	OK	12.5	OK	0.00	0.50	OK	0.17	0.55	OK
4.54	2.3	OK	12.6	OK	0.00	0.50	OK	0.18	0.56	OK
4.84	1.3	OK	13.7	OK	0.15	0.50	OK	0.17	0.50	OK
5.14	2.5	OK	12.6	OK	0.19	0.58	OK	0.00	0.50	OK
5.44	1.2	OK	14.0	OK	0.17	0.50	OK	0.19	0.50	OK
5.75	1.2	OK	14.0	OK	0.16	0.50	OK	0.20	0.50	OK
6.05	1.0	OK	13.5	OK	0.15	0.50	OK	0.20	0.50	OK
6.35	2.2	OK	12.2	OK	0.00	0.50	OK	0.21	0.57	OK
6.65	2.2	OK	12.2	OK	0.00	0.50	OK	0.21	0.57	OK
6.96	2.2	OK	12.1	OK	0.00	0.50	OK	0.21	0.57	OK
7.26	2.2	OK	12.0	OK	0.00	0.50	OK	0.20	0.57	OK
7.56	2.1	OK	11.9	OK	0.00	0.50	OK	0.20	0.57	OK
7.86	2.1	OK	11.6	OK	0.00	0.50	OK	0.20	0.57	OK
8.17	0.8	OK	12.5	OK	0.15	0.50	OK	0.19	0.50	OK
8.47	0.7	OK	12.2	OK	0.15	0.50	OK	0.19	0.50	OK
8.77	0.6	OK	11.7	OK	0.15	0.50	OK	0.18	0.50	OK
9.07	0.5	OK	11.2	OK	0.15	0.50	OK	0.18	0.50	OK
9.38	0.3	OK	10.6	OK	0.15	0.50	OK	0.17	0.50	OK
9.68	0.2	OK	10.0	OK	0.15	0.50	OK	0.17	0.50	OK
9.98	0.1	OK	9.3	OK	0.15	0.50	OK	0.16	0.50	OK
10.28	0.1	OK	8.6	OK	0.15	0.50	OK	0.15	0.50	OK
10.59	0.3	OK	8.1	OK	0.15	0.50	OK	0.15	0.50	OK
10.89	0.8	OK	6.3	OK	0.15	0.57	OK	0.00	0.50	OK
11.19	0.7	OK	6.1	OK	0.15	0.57	OK	0.00	0.50	OK
11.49	0.7	OK	6.2	OK	0.15	0.57	OK	0.00	0.50	OK
11.80	0.6	OK	6.2	OK	0.15	0.57	OK	0.00	0.50	OK
12.10	0.8	OK	6.4	OK	0.15	0.57	OK	0.00	0.50	OK
12.40	1.0	OK	6.9	OK	0.15	0.57	OK	0.00	0.50	OK
12.70	1.0	OK	7.3	OK	0.15	0.57	OK	0.00	0.50	OK
13.01	1.3	OK	8.0	OK	0.15	0.57	OK	0.00	0.50	OK
13.31	1.8	OK	9.4	OK	0.15	0.57	OK	0.00	0.50	OK
13.61	1.0	OK	12.5	OK	0.14	0.50	OK	0.16	0.50	OK
13.91	1.2	OK	14.4	OK	0.14	0.50	OK	0.17	0.50	OK
14.22	1.3	OK	16.4	OK	0.14	0.50	OK	0.18	0.50	OK
14.52	0.4	OK	18.0	OK	0.14	0.50	OK	0.20	0.50	OK
14.82	6.7	OK	17.7	OK	0.12	0.50	OK	0.17	0.50	OK

Utmattning - Enkel kontroll

Moment med tillhörande normalkraft

Enligt SS-EN 1992-1-1, 6.8.

E_s =	200	GPa	f_{ck} =	35.5	MPa
E_{cm} =	34.0	GPa	$f_{cd.fat}$ =	22.4	MPa
φ =	1.6		f_{yd} =	410	MPa

Snitt

TL1

x [m]	h [m]	b_w [m]	$A_{s.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s.uk}$ [cm^2]	d_{uk} [m]	$φ_{viktad}$	$α_{eff}$	$e´_N$ fr. ök [m]
0.00	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
0.31	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
0.62	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
0.93	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
1.24	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
1.60	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
1.95	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
2.20	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
2.45	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
2.79	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
3.12	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
3.47	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
3.82	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
4.12	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
4.42	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
4.75	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
5.08	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
5.44	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
5.79	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
6.04	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
6.29	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
6.66	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
7.02	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
7.37	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
7.71	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
7.96	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
8.21	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
8.57	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
8.92	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
9.25	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
9.58	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
9.88	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
10.18	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
10.55	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
10.92	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
11.24	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
11.55	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
11.80	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
12.05	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
12.41	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
12.76	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
13.07	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
13.38	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
13.69	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
14.00	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100

Moment	Normalkraft	Spänningar
Negativ = drag ök	Negativ = tryck	Negativ = tryck
Positiv = drag uk	Positiv = drag	Positiv = drag

Snitt	Lastkombination (6.69) enligt SS-EN 1992-1-1											
TL1	PERMANENTA				VARIABLA				CYKLISKA			
x	M_{max}	N	M_{min}	N	M_{max}	N	M_{min}	N	M_{max}	N	M_{min}	N
[m]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]
0.00	1	-942	-2	-876	0	0	0	0	1	-71	0	19
0.31	0	-930	-2	-866	0	0	0	0	1	-72	0	19
0.62	0	-909	-3	-848	0	0	0	0	1	-76	0	19
0.93	-1	-892	-4	-834	0	0	0	0	2	-80	0	19
1.24	-3	-876	-5	-823	0	0	0	0	2	-86	0	20
1.60	-5	-858	-7	-810	0	0	0	0	2	-93	0	20
1.95	-7	-838	-9	-797	0	0	0	0	2	-102	0	20
2.20	-7	-829	-9	-794	0	0	0	0	2	-114	0	18
2.45	-6	-843	-8	-813	0	0	0	0	2	-122	0	16
2.79	-6	-864	-8	-839	0	0	0	0	2	-123	0	16
3.12	-6	-874	-7	-856	0	0	0	0	3	-124	0	17
3.47	-6	-869	-7	-865	0	0	0	0	4	-130	0	18
3.82	-6	-856	-7	-860	0	0	0	0	5	-143	0	18
4.12	-6	-846	-7	-846	0	0	0	0	5	-153	0	17
4.42	-6	-865	-6	-860	0	0	0	0	6	-149	0	16
4.75	-5	-901	-6	-891	0	0	0	0	7	-139	0	16
5.08	-4	-916	-5	-902	0	0	0	0	7	-136	0	17
5.44	-4	-915	-5	-897	0	0	0	0	7	-138	0	17
5.79	-4	-903	-4	-881	0	0	0	0	6	-146	0	18
6.04	-4	-907	-4	-880	0	0	0	0	5	-143	0	17
6.29	-4	-931	-4	-900	0	0	0	0	4	-128	0	15
6.66	-3	-955	-4	-922	0	0	0	0	4	-114	0	16
7.02	-3	-964	-4	-932	0	0	0	0	3	-109	0	16
7.37	-3	-955	-4	-926	0	0	0	0	4	-114	0	16
7.71	-3	-931	-4	-904	0	0	0	0	4	-127	0	15
7.96	-3	-909	-4	-885	0	0	0	0	5	-142	0	16
8.21	-3	-908	-4	-886	0	0	0	0	6	-145	0	18
8.57	-3	-917	-5	-898	0	0	0	0	8	-138	0	17
8.92	-4	-915	-5	-901	0	0	0	0	7	-136	0	17
9.25	-4	-898	-5	-888	0	0	0	0	7	-140	0	16
9.58	-5	-860	-6	-854	0	0	0	0	6	-149	0	16
9.88	-5	-850	-6	-850	0	0	0	0	5	-154	0	17
10.18	-6	-868	-6	-872	0	0	0	0	5	-144	0	18
10.55	-6	-872	-6	-868	0	0	0	0	4	-131	0	18
10.92	-6	-870	-7	-851	0	0	0	0	3	-125	0	17
11.24	-6	-856	-7	-831	0	0	0	0	2	-124	0	16
11.55	-6	-833	-8	-802	0	0	0	0	2	-123	0	16
11.80	-7	-825	-8	-790	0	0	0	0	2	-115	0	18
12.05	-6	-837	-8	-796	0	0	0	0	2	-103	0	20
12.41	-5	-847	-7	-800	0	0	0	0	2	-95	0	20
12.76	-3	-854	-5	-801	0	0	0	0	2	-87	0	20
13.07	-1	-862	-4	-804	0	0	0	0	2	-81	0	19
13.38	0	-874	-3	-812	0	0	0	0	1	-77	0	19
13.69	1	-890	-2	-825	0	0	0	0	1	-74	0	19
14.00	1	-899	-1	-833	0	0	0	0	1	-72	0	19

0.1

Komb A1: $\Sigma M_{A1} = M_{max.per + var} + M_{max.cyk}$

Snitt
TL1

Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)												
x [m]	**ΣM_{A1}** [kNm]	**N_{A1}** [kN]	**x_{tryck}** [m]	**A_{ekv}** [m²]	**$x_{tp.ekv}$** [m]	**I_{ekv}** [m^4]	**$\sigma_{c.neutral}$** [MPa]	**$\sigma_{c.ök}$** [MPa]	**$\sigma_{c.uk}$** [MPa]	**$\sigma_{s.ök}$** [MPa]	**$\sigma_{s.uk}$** [MPa]	Kontroll $\sigma_s \leq f_{yd}$
0.00	2	-1013	0.200	0.207	0.101	7.1E-04	-4.46	-5.3	0.0	-57.2	-50.1	OK
0.31	2	-1002	0.200	0.207	0.101	7.1E-04	-4.41	-5.3	0.0	-56.6	-49.6	OK
0.62	1	-985	0.200	0.207	0.101	7.1E-04	-4.40	-5.1	0.0	-55.1	-49.3	OK
0.93	0	-972	0.200	0.207	0.101	7.1E-04	-4.49	-4.9	0.0	-53.1	-49.8	OK
1.24	-1	-962	0.200	0.207	0.099	7.1E-04	-4.61	0.0	-4.7	-50.7	-51.3	OK
1.60	-3	-951	0.200	0.207	0.099	7.1E-04	-4.29	0.0	-4.9	-47.9	-52.8	OK
1.95	-5	-940	0.200	0.207	0.099	7.1E-04	-3.97	0.0	-5.1	-45.2	-54.3	OK
2.20	-5	-943	0.200	0.207	0.099	7.1E-04	-3.93	0.0	-5.2	-44.9	-55.0	OK
2.45	-5	-965	0.200	0.207	0.099	7.1E-04	-4.12	0.0	-5.2	-46.7	-55.5	OK
2.79	-4	-987	0.200	0.207	0.099	7.1E-04	-4.35	0.0	-5.2	-48.9	-55.7	OK
3.12	-3	-998	0.200	0.207	0.099	7.1E-04	-4.55	0.0	-5.1	-50.7	-55.1	OK
3.47	-2	-999	0.200	0.207	0.099	7.1E-04	-4.64	0.0	-5.0	-51.4	-54.4	OK
3.82	-2	-999	0.200	0.207	0.099	7.1E-04	-4.74	0.0	-4.9	-52.3	-53.6	OK
4.12	-1	-999	0.200	0.207	0.099	7.1E-04	-4.87	0.0	-4.8	-53.3	-52.6	OK
4.42	1	-1014	0.200	0.207	0.101	7.1E-04	-4.61	-5.2	0.0	-56.1	-51.4	OK
4.75	2	-1041	0.200	0.207	0.101	7.1E-04	-4.57	-5.5	0.0	-58.8	-51.5	OK
5.08	3	-1052	0.200	0.207	0.101	7.1E-04	-4.49	-5.7	0.0	-60.7	-50.9	OK
5.44	4	-1053	0.200	0.207	0.101	7.1E-04	-4.40	-5.8	0.0	-61.4	-50.2	OK
5.79	3	-1049	0.200	0.207	0.101	7.1E-04	-4.51	-5.6	0.0	-60.2	-51.0	OK
6.04	1	-1050	0.200	0.207	0.101	7.1E-04	-4.69	-5.4	0.0	-58.8	-52.5	OK
6.29	1	-1059	0.200	0.207	0.101	7.1E-04	-4.83	-5.4	0.0	-58.4	-53.8	OK
6.66	0	-1068	0.200	0.207	0.101	7.1E-04	-4.93	-5.4	0.0	-58.4	-54.8	OK
7.02	0	-1072	0.200	0.207	0.099	7.1E-04	-5.32	0.0	-5.0	-58.0	-55.7	OK
7.37	0	-1069	0.200	0.207	0.101	7.1E-04	-4.94	-5.4	0.0	-58.4	-54.9	OK
7.71	1	-1058	0.200	0.207	0.101	7.1E-04	-4.81	-5.4	0.0	-58.4	-53.6	OK
7.96	1	-1051	0.200	0.207	0.101	7.1E-04	-4.68	-5.5	0.0	-58.9	-52.5	OK
8.21	3	-1053	0.200	0.207	0.101	7.1E-04	-4.48	-5.7	0.0	-60.8	-50.9	OK
8.57	4	-1055	0.200	0.207	0.101	7.1E-04	-4.30	-5.9	0.0	-62.4	-49.4	OK
8.92	4	-1051	0.200	0.207	0.101	7.1E-04	-4.38	-5.8	0.0	-61.5	-50.0	OK
9.25	2	-1038	0.200	0.207	0.101	7.1E-04	-4.48	-5.5	0.0	-59.3	-50.7	OK
9.58	1	-1009	0.200	0.207	0.101	7.1E-04	-4.51	-5.2	0.0	-56.4	-50.5	OK
9.88	0	-1004	0.200	0.207	0.101	7.1E-04	-4.66	-5.0	0.0	-54.7	-51.7	OK
10.18	-1	-1012	0.200	0.207	0.099	7.1E-04	-4.90	0.0	-4.9	-53.8	-53.5	OK
10.55	-2	-1003	0.200	0.207	0.099	7.1E-04	-4.73	0.0	-5.0	-52.2	-54.1	OK
10.92	-3	-995	0.200	0.207	0.099	7.1E-04	-4.58	0.0	-5.0	-50.9	-54.5	OK
11.24	-4	-980	0.200	0.207	0.099	7.1E-04	-4.35	0.0	-5.1	-48.8	-55.0	OK
11.55	-4	-956	0.200	0.207	0.099	7.1E-04	-4.12	0.0	-5.1	-46.6	-54.7	OK
11.80	-5	-940	0.200	0.207	0.099	7.1E-04	-3.96	0.0	-5.1	-45.1	-54.4	OK
12.05	-5	-940	0.200	0.207	0.099	7.1E-04	-4.01	0.0	-5.1	-45.5	-54.1	OK
12.41	-3	-941	0.200	0.207	0.099	7.1E-04	-4.27	0.0	-4.8	-47.7	-52.1	OK
12.76	-1	-941	0.200	0.207	0.099	7.1E-04	-4.54	0.0	-4.5	-49.9	-49.9	OK
13.07	1	-943	0.200	0.207	0.101	7.1E-04	-4.31	-4.8	0.0	-51.9	-48.0	OK
13.38	2	-950	0.200	0.207	0.101	7.1E-04	-4.20	-5.0	0.0	-53.6	-47.2	OK
13.69	2	-963	0.200	0.207	0.101	7.1E-04	-4.18	-5.1	0.0	-54.9	-47.2	OK
14.00	2	-971	0.200	0.207	0.101	7.1E-04	-4.22	-5.2	0.0	-55.3	-47.6	OK

Komb A2: $\Sigma M_{A2} = M_{max.per + var} + M_{min.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
TL1												
x	ΣM_{A2}	N_{A2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	0	-923	0.200	0.207	0.101	7.1E-04	-4.26	-4.6	0.0	-50.4	-47.3	OK
0.31	0	-911	0.200	0.207	0.101	7.1E-04	-4.22	-4.6	0.0	-49.7	-46.8	OK
0.62	0	-890	0.200	0.207	0.099	7.1E-04	-4.36	0.0	-4.2	-47.7	-46.7	OK
0.93	-2	-873	0.200	0.207	0.099	7.1E-04	-4.11	0.0	-4.3	-45.4	-47.1	OK
1.24	-3	-856	0.200	0.207	0.099	7.1E-04	-3.81	0.0	-4.4	-42.7	-48.0	OK
1.60	-5	-838	0.200	0.207	0.099	7.1E-04	-3.44	0.0	-4.6	-39.4	-49.2	OK
1.95	-7	-817	0.200	0.207	0.099	7.1E-04	-3.06	0.0	-4.8	-36.0	-50.4	OK
2.20	-7	-811	0.200	0.207	0.099	7.1E-04	-3.02	0.0	-4.8	-35.6	-50.3	OK
2.45	-7	-828	0.200	0.207	0.099	7.1E-04	-3.18	0.0	-4.8	-37.1	-50.5	OK
2.79	-6	-848	0.200	0.207	0.099	7.1E-04	-3.29	0.0	-4.9	-38.3	-51.4	OK
3.12	-6	-857	0.200	0.207	0.099	7.1E-04	-3.36	0.0	-4.9	-39.0	-51.7	OK
3.47	-6	-852	0.200	0.207	0.099	7.1E-04	-3.30	0.0	-4.9	-38.5	-51.6	OK
3.82	-7	-838	0.200	0.207	0.099	7.1E-04	-3.22	0.0	-4.8	-37.6	-51.0	OK
4.12	-6	-829	0.200	0.207	0.099	7.1E-04	-3.21	0.0	-4.8	-37.4	-50.3	OK
4.42	-6	-850	0.200	0.207	0.099	7.1E-04	-3.39	0.0	-4.8	-39.1	-50.8	OK
4.75	-5	-885	0.200	0.207	0.099	7.1E-04	-3.65	0.0	-4.9	-41.8	-51.9	OK
5.08	-4	-900	0.200	0.207	0.099	7.1E-04	-3.83	0.0	-4.8	-43.4	-51.8	OK
5.44	-4	-897	0.200	0.207	0.099	7.1E-04	-3.85	0.0	-4.8	-43.6	-51.4	OK
5.79	-4	-885	0.200	0.207	0.099	7.1E-04	-3.82	0.0	-4.7	-43.1	-50.6	OK
6.04	-4	-890	0.200	0.207	0.099	7.1E-04	-3.86	0.0	-4.7	-43.6	-50.7	OK
6.29	-4	-916	0.200	0.207	0.099	7.1E-04	-3.99	0.0	-4.8	-45.0	-52.0	OK
6.66	-4	-939	0.200	0.207	0.099	7.1E-04	-4.15	0.0	-4.9	-46.6	-52.9	OK
7.02	-3	-948	0.200	0.207	0.099	7.1E-04	-4.22	0.0	-4.9	-47.3	-53.1	OK
7.37	-4	-940	0.200	0.207	0.099	7.1E-04	-4.15	0.0	-4.9	-46.7	-52.9	OK
7.71	-4	-916	0.200	0.207	0.099	7.1E-04	-4.02	0.0	-4.8	-45.2	-51.8	OK
7.96	-4	-892	0.200	0.207	0.099	7.1E-04	-3.91	0.0	-4.7	-44.0	-50.5	OK
8.21	-4	-890	0.200	0.207	0.099	7.1E-04	-3.88	0.0	-4.7	-43.8	-50.5	OK
8.57	-4	-899	0.200	0.207	0.099	7.1E-04	-3.93	0.0	-4.7	-44.3	-51.0	OK
8.92	-4	-898	0.200	0.207	0.099	7.1E-04	-3.91	0.0	-4.8	-44.1	-51.1	OK
9.25	-5	-882	0.200	0.207	0.099	7.1E-04	-3.73	0.0	-4.8	-42.4	-51.0	OK
9.58	-5	-844	0.200	0.207	0.099	7.1E-04	-3.45	0.0	-4.7	-39.6	-49.8	OK
9.88	-6	-833	0.200	0.207	0.099	7.1E-04	-3.33	0.0	-4.7	-38.5	-49.7	OK
10.18	-6	-850	0.200	0.207	0.099	7.1E-04	-3.36	0.0	-4.8	-38.9	-51.0	OK
10.55	-6	-855	0.200	0.207	0.099	7.1E-04	-3.38	0.0	-4.9	-39.2	-51.3	OK
10.92	-6	-853	0.200	0.207	0.099	7.1E-04	-3.40	0.0	-4.8	-39.2	-51.1	OK
11.24	-6	-840	0.200	0.207	0.099	7.1E-04	-3.29	0.0	-4.8	-38.2	-50.7	OK
11.55	-6	-817	0.200	0.207	0.099	7.1E-04	-3.16	0.0	-4.7	-36.8	-49.6	OK
11.80	-7	-807	0.200	0.207	0.099	7.1E-04	-3.03	0.0	-4.7	-35.6	-49.7	OK
12.05	-7	-817	0.200	0.207	0.099	7.1E-04	-3.09	0.0	-4.8	-36.2	-50.2	OK
12.41	-5	-827	0.200	0.207	0.099	7.1E-04	-3.41	0.0	-4.6	-39.1	-48.5	OK
12.76	-3	-834	0.200	0.207	0.099	7.1E-04	-3.74	0.0	-4.3	-41.8	-46.6	OK
13.07	-1	-843	0.200	0.207	0.099	7.1E-04	-4.00	0.0	-4.1	-44.1	-45.2	OK
13.38	0	-855	0.200	0.207	0.099	7.1E-04	-4.22	0.0	-4.0	-46.1	-44.5	OK
13.69	0	-871	0.200	0.207	0.101	7.1E-04	-3.99	-4.4	0.0	-47.9	-44.4	OK
14.00	1	-880	0.200	0.207	0.101	7.1E-04	-4.02	-4.5	0.0	-48.5	-44.8	OK

Komb B1: $\Sigma M_{B1} = M_{min.per + var} + M_{max.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
TL1												
x	ΣM_{B1}	N_{B1}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	0	-947	0.200	0.207	0.099	7.1E-04	-4.66	0.0	-4.5	-50.9	-49.5	OK
0.31	-1	-938	0.200	0.207	0.099	7.1E-04	-4.55	0.0	-4.5	-49.9	-49.5	OK
0.62	-1	-923	0.200	0.207	0.099	7.1E-04	-4.37	0.0	-4.5	-48.3	-49.6	OK
0.93	-2	-914	0.200	0.207	0.099	7.1E-04	-4.20	0.0	-4.6	-46.7	-50.2	OK
1.24	-4	-909	0.200	0.207	0.099	7.1E-04	-4.00	0.0	-4.8	-45.0	-51.3	OK
1.60	-5	-904	0.200	0.207	0.099	7.1E-04	-3.73	0.0	-5.0	-42.7	-53.0	OK
1.95	-7	-899	0.200	0.207	0.099	7.1E-04	-3.50	0.0	-5.2	-40.8	-54.4	OK
2.20	-7	-908	0.200	0.207	0.099	7.1E-04	-3.51	0.0	-5.2	-40.9	-55.1	OK
2.45	-6	-935	0.200	0.207	0.099	7.1E-04	-3.74	0.0	-5.3	-43.2	-55.8	OK
2.79	-5	-962	0.200	0.207	0.099	7.1E-04	-4.03	0.0	-5.3	-45.9	-56.0	OK
3.12	-4	-980	0.200	0.207	0.099	7.1E-04	-4.29	0.0	-5.2	-48.3	-55.5	OK
3.47	-3	-995	0.200	0.207	0.099	7.1E-04	-4.49	0.0	-5.1	-50.2	-55.2	OK
3.82	-2	-1003	0.200	0.207	0.099	7.1E-04	-4.65	0.0	-5.0	-51.6	-54.7	OK
4.12	-1	-999	0.200	0.207	0.099	7.1E-04	-4.79	0.0	-4.9	-52.7	-53.2	OK
4.42	0	-1009	0.200	0.207	0.099	7.1E-04	-5.01	0.0	-4.7	-54.6	-52.4	OK
4.75	1	-1031	0.200	0.207	0.101	7.1E-04	-4.64	-5.3	0.0	-57.3	-51.9	OK
5.08	2	-1038	0.200	0.207	0.101	7.1E-04	-4.55	-5.5	0.0	-58.8	-51.2	OK
5.44	3	-1035	0.200	0.207	0.101	7.1E-04	-4.43	-5.6	0.0	-59.5	-50.2	OK
5.79	2	-1028	0.200	0.207	0.101	7.1E-04	-4.50	-5.4	0.0	-58.2	-50.7	OK
6.04	1	-1024	0.200	0.207	0.101	7.1E-04	-4.67	-5.2	0.0	-56.4	-52.0	OK
6.29	0	-1028	0.200	0.207	0.101	7.1E-04	-4.77	-5.1	0.0	-56.0	-52.9	OK
6.66	0	-1036	0.200	0.207	0.099	7.1E-04	-5.10	0.0	-4.9	-55.7	-54.1	OK
7.02	0	-1041	0.200	0.207	0.099	7.1E-04	-5.11	0.0	-4.9	-55.9	-54.5	OK
7.37	0	-1040	0.200	0.207	0.099	7.1E-04	-5.13	0.0	-4.9	-56.0	-54.2	OK
7.71	0	-1031	0.200	0.207	0.101	7.1E-04	-4.75	-5.2	0.0	-56.4	-52.8	OK
7.96	1	-1027	0.200	0.207	0.101	7.1E-04	-4.66	-5.2	0.0	-56.8	-52.0	OK
8.21	2	-1032	0.200	0.207	0.101	7.1E-04	-4.50	-5.5	0.0	-58.6	-50.8	OK
8.57	3	-1036	0.200	0.207	0.101	7.1E-04	-4.38	-5.6	0.0	-60.1	-49.8	OK
8.92	2	-1037	0.200	0.207	0.101	7.1E-04	-4.49	-5.5	0.0	-59.2	-50.7	OK
9.25	1	-1028	0.200	0.207	0.101	7.1E-04	-4.59	-5.3	0.0	-57.5	-51.4	OK
9.58	1	-1004	0.200	0.207	0.101	7.1E-04	-4.59	-5.1	0.0	-55.2	-51.1	OK
9.88	0	-1004	0.200	0.207	0.099	7.1E-04	-4.93	0.0	-4.8	-53.9	-52.6	OK
10.18	-2	-1016	0.200	0.207	0.099	7.1E-04	-4.83	0.0	-5.0	-53.2	-54.5	OK
10.55	-3	-998	0.200	0.207	0.099	7.1E-04	-4.60	0.0	-5.0	-51.1	-54.7	OK
10.92	-4	-976	0.200	0.207	0.099	7.1E-04	-4.33	0.0	-5.1	-48.6	-54.8	OK
11.24	-5	-955	0.200	0.207	0.099	7.1E-04	-4.03	0.0	-5.2	-45.8	-55.3	OK
11.55	-6	-925	0.200	0.207	0.099	7.1E-04	-3.73	0.0	-5.2	-42.9	-55.0	OK
11.80	-7	-905	0.200	0.207	0.099	7.1E-04	-3.55	0.0	-5.2	-41.2	-54.6	OK
12.05	-6	-899	0.200	0.207	0.099	7.1E-04	-3.55	0.0	-5.1	-41.2	-54.0	OK
12.41	-5	-894	0.200	0.207	0.099	7.1E-04	-3.72	0.0	-4.9	-42.5	-52.2	OK
12.76	-3	-888	0.200	0.207	0.099	7.1E-04	-3.94	0.0	-4.6	-44.2	-49.9	OK
13.07	-2	-885	0.200	0.207	0.099	7.1E-04	-4.10	0.0	-4.4	-45.5	-48.3	OK
13.38	-1	-889	0.200	0.207	0.099	7.1E-04	-4.25	0.0	-4.3	-46.8	-47.5	OK
13.69	0	-899	0.200	0.207	0.099	7.1E-04	-4.41	0.0	-4.3	-48.2	-47.1	OK
14.00	0	-906	0.200	0.207	0.101	7.1E-04	-4.21	-4.5	0.0	-49.3	-46.7	OK

Komb B2: $\Sigma M_{B2} = M_{min.per + var} + M_{min.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
TL1												
x	ΣM_{B2}	N_{B2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	-2	-858	0.200	0.207	0.099	7.1E-04	-3.99	0.0	-4.3	-44.2	-46.7	OK
0.31	-2	-847	0.200	0.207	0.099	7.1E-04	-3.87	0.0	-4.3	-43.1	-46.7	OK
0.62	-3	-829	0.200	0.207	0.099	7.1E-04	-3.66	0.0	-4.3	-41.1	-46.7	OK
0.93	-4	-815	0.200	0.207	0.099	7.1E-04	-3.45	0.0	-4.4	-39.2	-47.1	OK
1.24	-5	-803	0.200	0.207	0.099	7.1E-04	-3.21	0.0	-4.5	-37.0	-48.0	OK
1.60	-7	-790	0.200	0.207	0.099	7.1E-04	-2.88	0.0	-4.7	-34.2	-49.4	OK
1.95	-9	-776	0.200	0.207	0.099	7.1E-04	-2.59	0.0	-4.9	-31.6	-50.5	OK
2.20	-9	-776	0.200	0.207	0.099	7.1E-04	-2.60	0.0	-4.9	-31.6	-50.4	OK
2.45	-8	-797	0.200	0.207	0.099	7.1E-04	-2.79	0.0	-4.9	-33.5	-50.8	OK
2.79	-8	-823	0.200	0.207	0.099	7.1E-04	-2.97	0.0	-5.0	-35.3	-51.7	OK
3.12	-7	-839	0.200	0.207	0.099	7.1E-04	-3.11	0.0	-5.0	-36.7	-52.1	OK
3.47	-7	-847	0.200	0.207	0.099	7.1E-04	-3.16	0.0	-5.0	-37.2	-52.4	OK
3.82	-7	-842	0.200	0.207	0.099	7.1E-04	-3.14	0.0	-5.0	-37.0	-52.1	OK
4.12	-7	-829	0.200	0.207	0.099	7.1E-04	-3.14	0.0	-4.8	-36.8	-50.9	OK
4.42	-7	-844	0.200	0.207	0.099	7.1E-04	-3.25	0.0	-4.9	-37.9	-51.4	OK
4.75	-6	-875	0.200	0.207	0.099	7.1E-04	-3.48	0.0	-5.0	-40.3	-52.4	OK
5.08	-5	-886	0.200	0.207	0.099	7.1E-04	-3.63	0.0	-4.9	-41.6	-52.2	OK
5.44	-5	-879	0.200	0.207	0.099	7.1E-04	-3.65	0.0	-4.8	-41.7	-51.4	OK
5.79	-5	-864	0.200	0.207	0.099	7.1E-04	-3.61	0.0	-4.7	-41.2	-50.3	OK
6.04	-5	-864	0.200	0.207	0.099	7.1E-04	-3.62	0.0	-4.7	-41.3	-50.2	OK
6.29	-5	-885	0.200	0.207	0.099	7.1E-04	-3.75	0.0	-4.8	-42.6	-51.1	OK
6.66	-4	-907	0.200	0.207	0.099	7.1E-04	-3.90	0.0	-4.8	-44.2	-51.9	OK
7.02	-4	-916	0.200	0.207	0.099	7.1E-04	-4.00	0.0	-4.8	-45.1	-52.0	OK
7.37	-4	-910	0.200	0.207	0.099	7.1E-04	-3.94	0.0	-4.8	-44.5	-51.9	OK
7.71	-4	-889	0.200	0.207	0.099	7.1E-04	-3.81	0.0	-4.8	-43.2	-51.0	OK
7.96	-4	-868	0.200	0.207	0.099	7.1E-04	-3.69	0.0	-4.7	-41.9	-50.1	OK
8.21	-5	-869	0.200	0.207	0.099	7.1E-04	-3.65	0.0	-4.7	-41.6	-50.4	OK
8.57	-5	-881	0.200	0.207	0.099	7.1E-04	-3.67	0.0	-4.8	-41.9	-51.4	OK
8.92	-5	-884	0.200	0.207	0.099	7.1E-04	-3.66	0.0	-4.9	-41.8	-51.8	OK
9.25	-6	-872	0.200	0.207	0.099	7.1E-04	-3.53	0.0	-4.9	-40.6	-51.7	OK
9.58	-6	-839	0.200	0.207	0.099	7.1E-04	-3.32	0.0	-4.8	-38.5	-50.3	OK
9.88	-6	-833	0.200	0.207	0.099	7.1E-04	-3.27	0.0	-4.8	-37.9	-50.3	OK
10.18	-7	-854	0.200	0.207	0.099	7.1E-04	-3.29	0.0	-4.9	-38.4	-52.0	OK
10.55	-7	-850	0.200	0.207	0.099	7.1E-04	-3.25	0.0	-4.9	-38.0	-51.9	OK
10.92	-7	-834	0.200	0.207	0.099	7.1E-04	-3.14	0.0	-4.9	-36.9	-51.4	OK
11.24	-8	-815	0.200	0.207	0.099	7.1E-04	-2.97	0.0	-4.9	-35.2	-51.0	OK
11.55	-8	-786	0.200	0.207	0.099	7.1E-04	-2.77	0.0	-4.8	-33.2	-50.0	OK
11.80	-8	-772	0.200	0.207	0.099	7.1E-04	-2.62	0.0	-4.8	-31.7	-49.8	OK
12.05	-9	-776	0.200	0.207	0.099	7.1E-04	-2.63	0.0	-4.8	-31.9	-50.1	OK
12.41	-7	-780	0.200	0.207	0.099	7.1E-04	-2.86	0.0	-4.6	-33.9	-48.6	OK
12.76	-5	-781	0.200	0.207	0.099	7.1E-04	-3.13	0.0	-4.4	-36.1	-46.6	OK
13.07	-4	-785	0.200	0.207	0.099	7.1E-04	-3.34	0.0	-4.2	-37.9	-45.2	OK
13.38	-3	-793	0.200	0.207	0.099	7.1E-04	-3.52	0.0	-4.1	-39.5	-44.5	OK
13.69	-2	-807	0.200	0.207	0.099	7.1E-04	-3.71	0.0	-4.1	-41.2	-44.3	OK
14.00	-2	-815	0.200	0.207	0.099	7.1E-04	-3.82	0.0	-4.0	-42.2	-44.1	OK

Komb A, Jmf Komb A1 med A2

Snitt	Armering				Betong					
TL1	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0.00	6.7	OK	2.8	OK	0.24	0.59	OK	0.00	0.50	OK
0.31	6.9	OK	2.8	OK	0.23	0.59	OK	0.00	0.50	OK
0.62	7.4	OK	2.6	OK	0.23	0.50	OK	0.19	0.50	OK
0.93	7.7	OK	2.7	OK	0.22	0.50	OK	0.19	0.50	OK
1.24	7.9	OK	3.3	OK	0.00	0.50	OK	0.21	0.59	OK
1.60	8.5	OK	3.6	OK	0.00	0.50	OK	0.22	0.59	OK
1.95	9.1	OK	3.9	OK	0.00	0.50	OK	0.23	0.60	OK
2.20	9.3	OK	4.7	OK	0.00	0.50	OK	0.23	0.60	OK
2.45	9.6	OK	5.0	OK	0.00	0.50	OK	0.23	0.60	OK
2.79	10.6	OK	4.3	OK	0.00	0.50	OK	0.23	0.60	OK
3.12	11.6	OK	3.4	OK	0.00	0.50	OK	0.23	0.60	OK
3.47	13.0	OK	2.8	OK	0.00	0.50	OK	0.22	0.60	OK
3.82	14.6	OK	2.6	OK	0.00	0.50	OK	0.22	0.60	OK
4.12	15.9	OK	2.3	OK	0.00	0.50	OK	0.21	0.60	OK
4.42	16.9	OK	0.6	OK	0.23	0.50	OK	0.21	0.50	OK
4.75	17.1	OK	0.5	OK	0.24	0.50	OK	0.22	0.50	OK
5.08	17.2	OK	0.9	OK	0.25	0.50	OK	0.22	0.50	OK
5.44	17.8	OK	1.2	OK	0.26	0.50	OK	0.21	0.50	OK
5.79	17.1	OK	0.4	OK	0.25	0.50	OK	0.21	0.50	OK
6.04	15.2	OK	1.8	OK	0.24	0.50	OK	0.21	0.50	OK
6.29	13.4	OK	1.8	OK	0.24	0.50	OK	0.22	0.50	OK
6.66	11.8	OK	1.9	OK	0.24	0.50	OK	0.22	0.50	OK
7.02	10.8	OK	2.5	OK	0.00	0.50	OK	0.22	0.60	OK
7.37	11.7	OK	2.0	OK	0.24	0.50	OK	0.22	0.50	OK
7.71	13.2	OK	1.8	OK	0.24	0.50	OK	0.22	0.50	OK
7.96	14.9	OK	1.9	OK	0.24	0.50	OK	0.21	0.50	OK
8.21	17.0	OK	0.4	OK	0.25	0.50	OK	0.21	0.50	OK
8.57	18.1	OK	1.5	OK	0.26	0.50	OK	0.21	0.50	OK
8.92	17.4	OK	1.1	OK	0.26	0.50	OK	0.21	0.50	OK
9.25	16.9	OK	0.3	OK	0.25	0.50	OK	0.21	0.50	OK
9.58	16.8	OK	0.8	OK	0.23	0.50	OK	0.21	0.50	OK
9.88	16.2	OK	1.9	OK	0.22	0.50	OK	0.21	0.50	OK
10.18	14.8	OK	2.5	OK	0.00	0.50	OK	0.22	0.60	OK
10.55	13.1	OK	2.8	OK	0.00	0.50	OK	0.22	0.60	OK
10.92	11.7	OK	3.5	OK	0.00	0.50	OK	0.22	0.60	OK
11.24	10.6	OK	4.3	OK	0.00	0.50	OK	0.23	0.60	OK
11.55	9.7	OK	5.0	OK	0.00	0.50	OK	0.23	0.59	OK
11.80	9.4	OK	4.7	OK	0.00	0.50	OK	0.23	0.60	OK
12.05	9.2	OK	3.9	OK	0.00	0.50	OK	0.23	0.60	OK
12.41	8.6	OK	3.6	OK	0.00	0.50	OK	0.21	0.59	OK
12.76	8.1	OK	3.3	OK	0.00	0.50	OK	0.20	0.59	OK
13.07	7.8	OK	2.8	OK	0.21	0.50	OK	0.18	0.50	OK
13.38	7.5	OK	2.6	OK	0.22	0.50	OK	0.18	0.50	OK
13.69	7.0	OK	2.8	OK	0.23	0.59	OK	0.00	0.50	OK
14.00	6.9	OK	2.8	OK	0.23	0.59	OK	0.00	0.50	OK

Komb B, Jmf Komb B1 med B2

Snitt	Armering				Betong					
TL1	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0.00	6.7	OK	2.8	OK	0.00	0.50	OK	0.20	0.59	OK
0.31	6.9	OK	2.8	OK	0.00	0.50	OK	0.20	0.59	OK
0.62	7.2	OK	2.9	OK	0.00	0.50	OK	0.20	0.59	OK
0.93	7.5	OK	3.1	OK	0.00	0.50	OK	0.21	0.59	OK
1.24	7.9	OK	3.3	OK	0.00	0.50	OK	0.21	0.59	OK
1.60	8.5	OK	3.6	OK	0.00	0.50	OK	0.22	0.60	OK
1.95	9.1	OK	3.9	OK	0.00	0.50	OK	0.23	0.60	OK
2.20	9.3	OK	4.7	OK	0.00	0.50	OK	0.23	0.60	OK
2.45	9.6	OK	5.0	OK	0.00	0.50	OK	0.24	0.60	OK
2.79	10.6	OK	4.3	OK	0.00	0.50	OK	0.23	0.60	OK
3.12	11.6	OK	3.4	OK	0.00	0.50	OK	0.23	0.60	OK
3.47	13.0	OK	2.8	OK	0.00	0.50	OK	0.23	0.60	OK
3.82	14.6	OK	2.6	OK	0.00	0.50	OK	0.22	0.60	OK
4.12	15.9	OK	2.3	OK	0.00	0.50	OK	0.22	0.60	OK
4.42	16.7	OK	1.0	OK	0.00	0.50	OK	0.22	0.60	OK
4.75	17.1	OK	0.5	OK	0.24	0.50	OK	0.22	0.50	OK
5.08	17.2	OK	0.9	OK	0.24	0.50	OK	0.22	0.50	OK
5.44	17.8	OK	1.2	OK	0.25	0.50	OK	0.22	0.50	OK
5.79	17.1	OK	0.4	OK	0.24	0.50	OK	0.21	0.50	OK
6.04	15.2	OK	1.8	OK	0.23	0.50	OK	0.21	0.50	OK
6.29	13.4	OK	1.8	OK	0.23	0.50	OK	0.21	0.50	OK
6.66	11.6	OK	2.3	OK	0.00	0.50	OK	0.22	0.60	OK
7.02	10.8	OK	2.5	OK	0.00	0.50	OK	0.22	0.60	OK
7.37	11.5	OK	2.4	OK	0.00	0.50	OK	0.22	0.60	OK
7.71	13.2	OK	1.8	OK	0.23	0.50	OK	0.21	0.50	OK
7.96	14.9	OK	1.9	OK	0.23	0.50	OK	0.21	0.50	OK
8.21	17.0	OK	0.4	OK	0.24	0.50	OK	0.21	0.50	OK
8.57	18.1	OK	1.5	OK	0.25	0.50	OK	0.22	0.50	OK
8.92	17.4	OK	1.1	OK	0.25	0.50	OK	0.22	0.50	OK
9.25	16.9	OK	0.3	OK	0.24	0.50	OK	0.22	0.50	OK
9.58	16.8	OK	0.8	OK	0.23	0.50	OK	0.21	0.50	OK
9.88	16.0	OK	2.3	OK	0.00	0.50	OK	0.21	0.60	OK
10.18	14.8	OK	2.5	OK	0.00	0.50	OK	0.22	0.60	OK
10.55	13.1	OK	2.8	OK	0.00	0.50	OK	0.22	0.60	OK
10.92	11.7	OK	3.5	OK	0.00	0.50	OK	0.23	0.60	OK
11.24	10.6	OK	4.3	OK	0.00	0.50	OK	0.23	0.60	OK
11.55	9.7	OK	5.0	OK	0.00	0.50	OK	0.23	0.60	OK
11.80	9.4	OK	4.7	OK	0.00	0.50	OK	0.23	0.60	OK
12.05	9.2	OK	3.9	OK	0.00	0.50	OK	0.23	0.60	OK
12.41	8.6	OK	3.6	OK	0.00	0.50	OK	0.22	0.59	OK
12.76	8.1	OK	3.3	OK	0.00	0.50	OK	0.21	0.59	OK
13.07	7.6	OK	3.1	OK	0.00	0.50	OK	0.20	0.58	OK
13.38	7.3	OK	2.9	OK	0.00	0.50	OK	0.19	0.58	OK
13.69	7.0	OK	2.9	OK	0.00	0.50	OK	0.19	0.58	OK
14.00	7.0	OK	2.5	OK	0.20	0.50	OK	0.18	0.50	OK

Utmattning - Enkel kontroll

Moment med tillhörande normalkraft

Enligt SS-EN 1992-1-1, 6.8.

E_s =	200	GPa	f_{ck} =	35.5	MPa
E_{cm} =	34.0	GPa	$f_{cd.fat}$ =	22.4	MPa
φ =	1.6		f_{yd} =	410	MPa

Snitt

LL

x [m]	h [m]	b_w [m]	$A_{s.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s.uk}$ [cm^2]	d_{uk} [m]	$φ_{viktad}$	$α_{eff}$	$e´_N$ fr. ök [m]
0.00	0.200	1.000	5.0	0.175	4.9	0.175	0.96	11.0	0.100
0.45	0.200	1.000	5.0	0.175	4.9	0.175	0.96	11.0	0.100
0.75	0.200	1.000	5.0	0.175	4.9	0.175	0.96	11.0	0.100
1.05	0.200	1.000	5.0	0.175	4.9	0.175	0.96	11.0	0.100
1.36	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
1.66	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
1.96	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
2.26	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
2.57	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
2.87	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
3.17	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
3.47	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
3.78	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
4.08	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
4.38	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
4.68	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
4.99	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
5.29	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
5.59	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
5.89	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
6.20	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
6.50	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
6.80	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
7.10	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
7.41	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
7.71	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
8.01	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
8.31	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
8.62	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
8.92	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
9.22	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
9.52	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
9.83	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
10.13	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
10.43	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
10.73	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
11.04	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
11.34	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
11.64	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
11.94	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
12.25	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
12.55	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
12.85	0.200	1.000	2.0	0.175	4.9	0.175	0.96	11.0	0.100
13.15	0.200	1.000	7.3	0.175	4.9	0.175	0.96	11.0	0.100
13.46	0.200	1.000	7.3	0.175	4.9	0.175	0.96	11.0	0.100
13.76	0.200	1.000	7.3	0.175	4.9	0.175	0.96	11.0	0.100
14.06	0.200	1.000	7.3	0.175	4.9	0.175	0.96	11.0	0.100
14.36	0.200	1.000	7.3	0.175	4.9	0.175	0.96	11.0	0.100
14.67	0.200	1.000	7.3	0.175	4.9	0.175	0.96	11.0	0.100
14.97	0.200	1.000	7.3	0.175	4.9	0.175	0.96	11.0	0.100

Moment	Normalkraft	Spänningar
Negativ = drag ök	Negativ = tryck	Negativ = tryck
Positiv = drag uk	Positiv = drag	Positiv = drag

Snitt	Lastkombination (6.69) enligt SS-EN 1992-1-1											
LL	PERMANENTA				VARIABLA				CYKLISKA			
x	M_{max}	N	M_{min}	N	M_{max}	N	M_{min}	N	M_{max}	N	M_{min}	N
[m]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]
0.00	5	-297	-30	-311	0	0	0	0	0	1	-6	21
0.45	0	-296	-33	-311	0	0	0	0	0	2	-5	16
0.75	-16	-304	-37	-322	0	0	0	0	0	-2	-4	7
1.05	-22	-408	-34	-431	0	0	0	0	1	-9	-3	5
1.36	-12	-555	-19	-583	0	0	0	0	3	-14	-1	4
1.66	-3	-625	-5	-657	0	0	0	0	4	-22	0	4
1.96	2	-704	0	-702	0	0	0	0	4	-34	0	4
2.26	4	-774	2	-736	0	0	0	0	4	-45	0	5
2.57	4	-793	3	-752	0	0	0	0	4	-56	0	7
2.87	3	-836	2	-794	0	0	0	0	4	-65	0	7
3.17	2	-871	1	-828	0	0	0	0	5	-73	0	8
3.47	1	-869	0	-825	0	0	0	0	4	-83	0	9
3.78	0	-862	-1	-817	0	0	0	0	4	-92	0	9
4.08	-1	-864	-2	-820	0	0	0	0	4	-100	0	10
4.38	-2	-883	-2	-839	0	0	0	0	4	-106	0	10
4.68	-2	-899	-2	-856	0	0	0	0	4	-112	0	11
4.99	-1	-914	-2	-871	0	0	0	0	4	-116	0	11
5.29	0	-929	-1	-888	0	0	0	0	4	-119	0	12
5.59	0	-942	-1	-902	0	0	0	0	4	-122	0	12
5.89	-1	-966	-1	-926	0	0	0	0	4	-122	0	13
6.20	-2	-982	-2	-945	0	0	0	0	4	-119	0	14
6.50	-3	-978	-3	-944	0	0	0	0	3	-117	0	14
6.80	-3	-971	-4	-938	0	0	0	0	3	-114	0	15
7.10	-3	-964	-4	-932	0	0	0	0	3	-109	0	16
7.41	-3	-961	-3	-930	0	0	0	0	3	-107	0	16
7.71	-3	-961	-3	-933	0	0	0	0	3	-104	0	17
8.01	-3	-966	-3	-939	0	0	0	0	3	-99	0	18
8.31	-2	-975	-2	-949	0	0	0	0	4	-93	0	19
8.62	-2	-986	-2	-962	0	0	0	0	4	-88	0	19
8.92	-1	-998	-2	-975	0	0	0	0	4	-82	0	20
9.22	-1	-1012	-1	-991	0	0	0	0	4	-75	0	21
9.52	-1	-1027	-1	-1007	0	0	0	0	4	-67	0	22
9.83	0	-1043	0	-1024	0	0	0	0	3	-59	0	23
10.13	0	-1059	0	-1042	0	0	0	0	3	-49	0	24
10.43	1	-1068	0	-1068	0	0	0	0	3	-39	0	25
10.73	1	-1078	1	-1093	0	0	0	0	3	-29	0	26
11.04	1	-1096	1	-1109	0	0	0	0	3	-28	0	28
11.34	2	-1114	1	-1126	0	0	0	0	2	-27	0	29
11.64	2	-1131	1	-1142	0	0	0	0	2	-21	0	30
11.94	2	-1148	2	-1158	0	0	0	0	2	-15	-1	42
12.25	3	-1165	2	-1174	0	0	0	0	2	-5	-2	59
12.55	3	-1180	2	-1188	0	0	0	0	2	2	-2	69
12.85	3	-1193	3	-1200	0	0	0	0	1	8	-2	79
13.15	4	-1202	3	-1209	0	0	0	0	1	19	-3	97
13.46	4	-1209	3	-1215	0	0	0	0	1	12	-3	118
13.76	4	-1212	3	-1218	0	0	0	0	0	-1	-4	132
14.06	4	-1211	3	-1216	0	0	0	0	0	-1	-4	145
14.36	3	-1208	3	-1213	0	0	0	0	0	-1	-4	153
14.67	3	-1207	2	-1211	0	0	0	0	0	-1	-5	155
14.97	3	-1207	2	-1210	0	0	0	0	0	-1	-4	157

0.1

Komb A1: $\Sigma M_{A1} = M_{max.per + var} + M_{max.cyk}$

Snitt
LL

Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)												
x [m]	**ΣM_{A1}** [kNm]	**N_{A1}** [kN]	**x_{tryck}** [m]	**A_{ekv}** [m²]	**$x_{tp.ekv}$** [m]	**I_{ekv}** [m^4]	**$\sigma_{c.neutral}$** [MPa]	**$\sigma_{c.ök}$** [MPa]	**$\sigma_{c.uk}$** [MPa]	**$\sigma_{s.ök}$** [MPa]	**$\sigma_{s.uk}$** [MPa]	Kontroll $\sigma_s \leq f_{yd}$
0.00	5	-295	0.200	0.210	0.100	7.2E-04	-0.70	-2.1	0.0	-21.3	-9.6	OK
0.45	0	-294	0.200	0.210	0.100	7.2E-04	-1.36	-1.4	0.0	-15.7	-15.0	OK
0.75	-16	-306	0.151	0.161	0.077	3.5E-04	0.00	0.0	-3.9	6.8	-35.6	OK
1.05	-21	-417	0.154	0.165	0.079	3.7E-04	0.00	0.0	-5.2	7.7	-47.7	OK
1.36	-9	-569	0.200	0.207	0.099	7.1E-04	-1.56	0.0	-3.9	-20.4	-39.7	OK
1.66	1	-647	0.200	0.207	0.101	7.1E-04	-2.86	-3.4	0.0	-36.5	-32.1	OK
1.96	6	-738	0.200	0.207	0.101	7.1E-04	-2.58	-4.6	0.0	-47.3	-31.0	OK
2.26	8	-820	0.200	0.207	0.101	7.1E-04	-2.69	-5.2	0.0	-54.0	-33.1	OK
2.57	8	-849	0.200	0.207	0.101	7.1E-04	-2.80	-5.4	0.0	-55.9	-34.3	OK
2.87	7	-901	0.200	0.207	0.101	7.1E-04	-3.16	-5.6	0.0	-57.7	-38.0	OK
3.17	6	-944	0.200	0.207	0.101	7.1E-04	-3.52	-5.6	0.0	-58.7	-41.5	OK
3.47	5	-952	0.200	0.207	0.101	7.1E-04	-3.72	-5.5	0.0	-57.7	-43.3	OK
3.78	4	-954	0.200	0.207	0.101	7.1E-04	-3.88	-5.3	0.0	-56.6	-44.6	OK
4.08	3	-964	0.200	0.207	0.101	7.1E-04	-4.04	-5.3	0.0	-56.2	-46.0	OK
4.38	3	-989	0.200	0.207	0.101	7.1E-04	-4.23	-5.3	0.0	-56.9	-48.0	OK
4.68	3	-1011	0.200	0.207	0.101	7.1E-04	-4.34	-5.4	0.0	-58.1	-49.1	OK
4.99	3	-1029	0.200	0.207	0.101	7.1E-04	-4.33	-5.6	0.0	-59.8	-49.3	OK
5.29	4	-1048	0.200	0.207	0.101	7.1E-04	-4.34	-5.8	0.0	-61.5	-49.6	OK
5.59	4	-1064	0.200	0.207	0.101	7.1E-04	-4.43	-5.8	0.0	-62.2	-50.6	OK
5.89	3	-1087	0.200	0.207	0.101	7.1E-04	-4.66	-5.8	0.0	-62.5	-52.8	OK
6.20	2	-1101	0.200	0.207	0.101	7.1E-04	-4.89	-5.7	0.0	-61.8	-54.9	OK
6.50	1	-1096	0.200	0.207	0.101	7.1E-04	-5.00	-5.6	0.0	-60.4	-55.7	OK
6.80	0	-1085	0.200	0.207	0.101	7.1E-04	-5.03	-5.4	0.0	-59.1	-55.7	OK
7.10	0	-1074	0.200	0.207	0.099	7.1E-04	-5.32	0.0	-5.0	-58.1	-55.8	OK
7.41	0	-1068	0.200	0.207	0.101	7.1E-04	-4.95	-5.4	0.0	-58.2	-54.9	OK
7.71	0	-1065	0.200	0.207	0.101	7.1E-04	-4.89	-5.4	0.0	-58.5	-54.4	OK
8.01	1	-1066	0.200	0.207	0.101	7.1E-04	-4.83	-5.5	0.0	-59.0	-53.9	OK
8.31	1	-1068	0.200	0.207	0.101	7.1E-04	-4.78	-5.5	0.0	-59.7	-53.5	OK
8.62	2	-1074	0.200	0.207	0.101	7.1E-04	-4.75	-5.6	0.0	-60.4	-53.3	OK
8.92	2	-1081	0.200	0.207	0.101	7.1E-04	-4.72	-5.7	0.0	-61.3	-53.2	OK
9.22	3	-1087	0.200	0.207	0.101	7.1E-04	-4.68	-5.8	0.0	-62.3	-52.9	OK
9.52	3	-1094	0.200	0.207	0.101	7.1E-04	-4.66	-5.9	0.0	-63.1	-52.9	OK
9.83	3	-1102	0.200	0.207	0.101	7.1E-04	-4.66	-6.0	0.0	-63.9	-52.9	OK
10.13	4	-1109	0.200	0.207	0.101	7.1E-04	-4.63	-6.1	0.0	-64.7	-52.9	OK
10.43	4	-1107	0.200	0.207	0.101	7.1E-04	-4.58	-6.1	0.0	-65.0	-52.4	OK
10.73	4	-1107	0.200	0.207	0.101	7.1E-04	-4.56	-6.1	0.0	-65.2	-52.2	OK
11.04	4	-1124	0.200	0.207	0.101	7.1E-04	-4.66	-6.2	0.0	-65.9	-53.3	OK
11.34	4	-1141	0.200	0.207	0.101	7.1E-04	-4.75	-6.3	0.0	-66.8	-54.2	OK
11.64	4	-1152	0.200	0.207	0.101	7.1E-04	-4.78	-6.4	0.0	-67.6	-54.6	OK
11.94	4	-1164	0.200	0.207	0.101	7.1E-04	-4.81	-6.4	0.0	-68.4	-55.0	OK
12.25	5	-1170	0.200	0.207	0.101	7.1E-04	-4.79	-6.5	0.0	-69.1	-54.9	OK
12.55	5	-1178	0.200	0.207	0.101	7.1E-04	-4.81	-6.6	0.0	-69.7	-55.2	OK
12.85	5	-1185	0.200	0.207	0.101	7.1E-04	-4.82	-6.6	0.0	-70.2	-55.4	OK
13.15	5	-1184	0.200	0.213	0.099	7.4E-04	-4.98	-6.1	0.0	-65.9	-56.3	OK
13.46	5	-1197	0.200	0.213	0.099	7.4E-04	-5.12	-6.1	0.0	-65.9	-57.6	OK
13.76	4	-1213	0.200	0.213	0.099	7.4E-04	-5.28	-6.1	0.0	-66.0	-59.2	OK
14.06	4	-1212	0.200	0.213	0.099	7.4E-04	-5.31	-6.1	0.0	-65.7	-59.4	OK
14.36	3	-1209	0.200	0.213	0.099	7.4E-04	-5.34	-6.0	0.0	-65.2	-59.6	OK
14.67	3	-1208	0.200	0.213	0.099	7.4E-04	-5.38	-6.0	0.0	-64.8	-59.9	OK
14.97	3	-1208	0.200	0.213	0.099	7.4E-04	-5.40	-6.0	0.0	-64.6	-60.1	OK

Komb A2: $\Sigma M_{A2} = M_{max.per + var} + M_{min.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
LL												
x	ΣM_{A2}	N_{A2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	-1	-275	0.200	0.210	0.100	7.3E-04	-1.15	0.0	-1.5	-13.0	-15.7	OK
0.45	-5	-280	0.200	0.210	0.100	7.3E-04	-0.62	0.0	-2.0	-8.7	-20.5	OK
0.75	-20	-297	0.115	0.126	0.062	2.1E-04	0.00	0.0	-5.1	28.6	-43.5	OK
1.05	-25	-403	0.129	0.139	0.067	2.5E-04	0.00	0.0	-6.1	23.9	-53.7	OK
1.36	-12	-551	0.200	0.207	0.099	7.1E-04	-0.97	0.0	-4.3	-15.3	-42.8	OK
1.66	-3	-621	0.200	0.207	0.099	7.1E-04	-2.67	0.0	-3.3	-30.2	-35.6	OK
1.96	2	-700	0.200	0.207	0.101	7.1E-04	-2.99	-3.8	0.0	-40.3	-33.9	OK
2.26	4	-769	0.200	0.207	0.101	7.1E-04	-3.06	-4.4	0.0	-46.2	-35.4	OK
2.57	4	-786	0.200	0.207	0.101	7.1E-04	-3.12	-4.5	0.0	-47.2	-36.1	OK
2.87	3	-829	0.200	0.207	0.101	7.1E-04	-3.45	-4.5	0.0	-48.4	-39.4	OK
3.17	2	-863	0.200	0.207	0.101	7.1E-04	-3.79	-4.5	0.0	-48.8	-42.7	OK
3.47	0	-860	0.200	0.207	0.101	7.1E-04	-3.95	-4.4	0.0	-47.2	-43.9	OK
3.78	-1	-853	0.200	0.207	0.099	7.1E-04	-4.15	0.0	-4.1	-45.5	-44.9	OK
4.08	-1	-854	0.200	0.207	0.099	7.1E-04	-4.05	0.0	-4.2	-44.6	-45.9	OK
4.38	-2	-873	0.200	0.207	0.099	7.1E-04	-4.07	0.0	-4.4	-45.1	-47.4	OK
4.68	-2	-889	0.200	0.207	0.099	7.1E-04	-4.17	0.0	-4.4	-46.1	-48.1	OK
4.99	-1	-902	0.200	0.207	0.099	7.1E-04	-4.34	0.0	-4.4	-47.7	-48.0	OK
5.29	0	-917	0.200	0.207	0.099	7.1E-04	-4.50	0.0	-4.4	-49.2	-48.1	OK
5.59	0	-930	0.200	0.207	0.099	7.1E-04	-4.55	0.0	-4.4	-49.8	-48.7	OK
5.89	-1	-953	0.200	0.207	0.099	7.1E-04	-4.57	0.0	-4.6	-50.3	-50.7	OK
6.20	-2	-968	0.200	0.207	0.099	7.1E-04	-4.50	0.0	-4.8	-49.9	-52.7	OK
6.50	-3	-964	0.200	0.207	0.099	7.1E-04	-4.37	0.0	-4.9	-48.7	-53.4	OK
6.80	-3	-956	0.200	0.207	0.099	7.1E-04	-4.26	0.0	-5.0	-47.8	-53.5	OK
7.10	-3	-949	0.200	0.207	0.099	7.1E-04	-4.21	0.0	-4.9	-47.3	-53.2	OK
7.41	-3	-944	0.200	0.207	0.099	7.1E-04	-4.21	0.0	-4.9	-47.2	-52.9	OK
7.71	-3	-944	0.200	0.207	0.099	7.1E-04	-4.24	0.0	-4.9	-47.4	-52.6	OK
8.01	-3	-949	0.200	0.207	0.099	7.1E-04	-4.30	0.0	-4.9	-47.9	-52.5	OK
8.31	-3	-956	0.200	0.207	0.099	7.1E-04	-4.38	0.0	-4.8	-48.7	-52.6	OK
8.62	-2	-966	0.200	0.207	0.099	7.1E-04	-4.48	0.0	-4.8	-49.7	-52.7	OK
8.92	-2	-978	0.200	0.207	0.099	7.1E-04	-4.60	0.0	-4.8	-50.9	-52.8	OK
9.22	-1	-991	0.200	0.207	0.099	7.1E-04	-4.73	0.0	-4.8	-52.1	-52.9	OK
9.52	-1	-1005	0.200	0.207	0.099	7.1E-04	-4.87	0.0	-4.8	-53.4	-53.2	OK
9.83	0	-1020	0.200	0.207	0.099	7.1E-04	-5.00	0.0	-4.9	-54.7	-53.5	OK
10.13	0	-1035	0.200	0.207	0.099	7.1E-04	-5.13	0.0	-4.9	-55.9	-53.8	OK
10.43	0	-1043	0.200	0.207	0.101	7.1E-04	-4.82	-5.2	0.0	-57.0	-53.5	OK
10.73	1	-1052	0.200	0.207	0.101	7.1E-04	-4.81	-5.3	0.0	-57.9	-53.5	OK
11.04	1	-1069	0.200	0.207	0.101	7.1E-04	-4.84	-5.5	0.0	-59.2	-54.0	OK
11.34	1	-1085	0.200	0.207	0.101	7.1E-04	-4.87	-5.6	0.0	-60.4	-54.5	OK
11.64	2	-1101	0.200	0.207	0.101	7.1E-04	-4.91	-5.7	0.0	-61.7	-55.0	OK
11.94	1	-1106	0.200	0.207	0.101	7.1E-04	-4.97	-5.7	0.0	-61.6	-55.6	OK
12.25	1	-1106	0.200	0.207	0.101	7.1E-04	-5.02	-5.6	0.0	-61.2	-56.0	OK
12.55	1	-1111	0.200	0.207	0.101	7.1E-04	-5.03	-5.7	0.0	-61.5	-56.1	OK
12.85	1	-1114	0.200	0.207	0.101	7.1E-04	-5.03	-5.7	0.0	-61.8	-56.1	OK
13.15	1	-1106	0.200	0.213	0.099	7.4E-04	-5.18	-5.2	0.0	-57.3	-56.9	OK
13.46	0	-1091	0.200	0.213	0.099	7.4E-04	-5.18	-5.1	0.0	-56.0	-56.7	OK
13.76	0	-1080	0.200	0.213	0.099	7.4E-04	-5.17	-5.0	0.0	-55.0	-56.5	OK
14.06	-1	-1066	0.200	0.213	0.101	7.4E-04	-4.78	0.0	-5.2	-53.1	-56.9	OK
14.36	-1	-1056	0.200	0.213	0.101	7.4E-04	-4.65	0.0	-5.3	-51.9	-57.0	OK
14.67	-2	-1052	0.200	0.213	0.101	7.4E-04	-4.57	0.0	-5.3	-51.2	-57.4	OK
14.97	-2	-1050	0.200	0.213	0.101	7.4E-04	-4.56	0.0	-5.3	-51.1	-57.3	OK

Komb B1: $\Sigma M_{B1} = M_{min.per + var} + M_{max.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
LL												
x	ΣM_{B1}	N_{B1}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	-30	-310	0.083	0.093	0.048	1.4E-04	0.00	0.0	-8.0	98.7	-61.6	OK
0.45	-33	-309	0.076	0.086	0.046	1.3E-04	0.00	0.0	-9.1	131.0	-66.9	OK
0.75	-37	-324	0.072	0.082	0.044	1.3E-04	0.00	0.0	-10.4	165.6	-74.5	OK
1.05	-33	-440	0.107	0.117	0.058	1.8E-04	0.00	0.0	-8.2	57.4	-68.9	OK
1.36	-16	-597	0.200	0.207	0.099	7.1E-04	-0.71	0.0	-5.0	-13.7	-49.1	OK
1.66	-1	-679	0.200	0.207	0.099	7.1E-04	-3.23	0.0	-3.3	-35.6	-36.4	OK
1.96	4	-736	0.200	0.207	0.101	7.1E-04	-2.82	-4.3	0.0	-45.2	-33.0	OK
2.26	7	-781	0.200	0.207	0.101	7.1E-04	-2.72	-4.8	0.0	-50.2	-32.8	OK
2.57	7	-809	0.200	0.207	0.101	7.1E-04	-2.78	-5.0	0.0	-52.2	-33.7	OK
2.87	7	-859	0.200	0.207	0.101	7.1E-04	-3.06	-5.3	0.0	-54.6	-36.6	OK
3.17	6	-901	0.200	0.207	0.101	7.1E-04	-3.37	-5.3	0.0	-55.9	-39.7	OK
3.47	5	-908	0.200	0.207	0.101	7.1E-04	-3.56	-5.2	0.0	-55.0	-41.3	OK
3.78	4	-909	0.200	0.207	0.101	7.1E-04	-3.73	-5.1	0.0	-53.7	-42.8	OK
4.08	3	-919	0.200	0.207	0.101	7.1E-04	-3.93	-5.0	0.0	-53.0	-44.5	OK
4.38	2	-945	0.200	0.207	0.101	7.1E-04	-4.12	-5.0	0.0	-53.8	-46.5	OK
4.68	2	-968	0.200	0.207	0.101	7.1E-04	-4.23	-5.1	0.0	-54.9	-47.6	OK
4.99	2	-987	0.200	0.207	0.101	7.1E-04	-4.27	-5.3	0.0	-56.4	-48.2	OK
5.29	3	-1007	0.200	0.207	0.101	7.1E-04	-4.29	-5.4	0.0	-58.1	-48.7	OK
5.59	3	-1023	0.200	0.207	0.101	7.1E-04	-4.35	-5.5	0.0	-59.1	-49.4	OK
5.89	2	-1048	0.200	0.207	0.101	7.1E-04	-4.55	-5.6	0.0	-59.7	-51.4	OK
6.20	1	-1064	0.200	0.207	0.101	7.1E-04	-4.77	-5.5	0.0	-59.4	-53.4	OK
6.50	0	-1061	0.200	0.207	0.101	7.1E-04	-4.89	-5.4	0.0	-58.1	-54.3	OK
6.80	0	-1051	0.200	0.207	0.099	7.1E-04	-5.18	0.0	-5.0	-56.6	-54.9	OK
7.10	0	-1042	0.200	0.207	0.099	7.1E-04	-5.10	0.0	-5.0	-55.8	-54.6	OK
7.41	0	-1037	0.200	0.207	0.099	7.1E-04	-5.12	0.0	-4.9	-55.9	-54.1	OK
7.71	0	-1037	0.200	0.207	0.101	7.1E-04	-4.79	-5.2	0.0	-56.6	-53.2	OK
8.01	1	-1039	0.200	0.207	0.101	7.1E-04	-4.74	-5.3	0.0	-57.3	-52.8	OK
8.31	1	-1043	0.200	0.207	0.101	7.1E-04	-4.69	-5.4	0.0	-58.0	-52.4	OK
8.62	2	-1049	0.200	0.207	0.101	7.1E-04	-4.67	-5.5	0.0	-58.8	-52.4	OK
8.92	2	-1058	0.200	0.207	0.101	7.1E-04	-4.65	-5.6	0.0	-59.7	-52.3	OK
9.22	2	-1065	0.200	0.207	0.101	7.1E-04	-4.62	-5.7	0.0	-60.7	-52.2	OK
9.52	3	-1074	0.200	0.207	0.101	7.1E-04	-4.62	-5.8	0.0	-61.6	-52.3	OK
9.83	3	-1083	0.200	0.207	0.101	7.1E-04	-4.62	-5.8	0.0	-62.4	-52.4	OK
10.13	3	-1092	0.200	0.207	0.101	7.1E-04	-4.61	-5.9	0.0	-63.3	-52.4	OK
10.43	4	-1106	0.200	0.207	0.101	7.1E-04	-4.64	-6.0	0.0	-64.5	-52.9	OK
10.73	4	-1121	0.200	0.207	0.101	7.1E-04	-4.69	-6.1	0.0	-65.4	-53.5	OK
11.04	4	-1137	0.200	0.207	0.101	7.1E-04	-4.80	-6.2	0.0	-66.0	-54.6	OK
11.34	3	-1153	0.200	0.207	0.101	7.1E-04	-4.88	-6.3	0.0	-66.8	-55.5	OK
11.64	4	-1164	0.200	0.207	0.101	7.1E-04	-4.91	-6.3	0.0	-67.5	-55.9	OK
11.94	4	-1174	0.200	0.207	0.101	7.1E-04	-4.94	-6.4	0.0	-68.2	-56.2	OK
12.25	4	-1179	0.200	0.207	0.101	7.1E-04	-4.92	-6.5	0.0	-68.9	-56.1	OK
12.55	4	-1186	0.200	0.207	0.101	7.1E-04	-4.94	-6.5	0.0	-69.4	-56.4	OK
12.85	4	-1192	0.200	0.207	0.101	7.1E-04	-4.95	-6.6	0.0	-69.8	-56.5	OK
13.15	4	-1190	0.200	0.213	0.099	7.4E-04	-5.10	-6.1	0.0	-65.5	-57.3	OK
13.46	4	-1203	0.200	0.213	0.099	7.4E-04	-5.24	-6.1	0.0	-65.6	-58.6	OK
13.76	3	-1218	0.200	0.213	0.099	7.4E-04	-5.39	-6.1	0.0	-65.6	-60.2	OK
14.06	3	-1217	0.200	0.213	0.099	7.4E-04	-5.41	-6.0	0.0	-65.4	-60.3	OK
14.36	3	-1214	0.200	0.213	0.099	7.4E-04	-5.45	-6.0	0.0	-64.8	-60.5	OK
14.67	2	-1212	0.200	0.213	0.099	7.4E-04	-5.49	-5.9	0.0	-64.3	-60.8	OK
14.97	2	-1210	0.200	0.213	0.099	7.4E-04	-5.51	-5.9	0.0	-63.9	-61.0	OK

Komb B2: $\Sigma M_{B2} = M_{min.per + var} + M_{min.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
LL												
x	ΣM_{B2}	N_{B2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0.00	-36	-290	0.068	0.078	0.043	1.3E-04	0.00	0.0	-10.3	179.3	-71.2	OK
0.45	-38	-295	0.066	0.076	0.043	1.3E-04	0.00	0.0	-11.0	200.4	-74.9	OK
0.75	-42	-315	0.065	0.075	0.042	1.3E-04	0.00	0.0	-12.0	222.4	-81.0	OK
1.05	-36	-426	0.093	0.103	0.052	1.6E-04	0.00	0.0	-9.5	92.7	-75.9	OK
1.36	-19	-578	0.200	0.207	0.099	7.1E-04	-0.12	0.0	-5.4	-8.6	-52.2	OK
1.66	-5	-653	0.200	0.207	0.099	7.1E-04	-2.53	0.0	-3.8	-29.4	-39.7	OK
1.96	0	-699	0.200	0.207	0.101	7.1E-04	-3.23	-3.5	0.0	-38.2	-35.9	OK
2.26	2	-731	0.200	0.207	0.101	7.1E-04	-3.09	-4.0	0.0	-42.4	-35.1	OK
2.57	3	-745	0.200	0.207	0.101	7.1E-04	-3.10	-4.1	0.0	-43.6	-35.4	OK
2.87	2	-787	0.200	0.207	0.101	7.1E-04	-3.36	-4.2	0.0	-45.4	-38.1	OK
3.17	1	-820	0.200	0.207	0.101	7.1E-04	-3.65	-4.3	0.0	-46.0	-40.9	OK
3.47	0	-816	0.200	0.207	0.101	7.1E-04	-3.78	-4.1	0.0	-44.5	-41.9	OK
3.78	-1	-808	0.200	0.207	0.099	7.1E-04	-3.86	0.0	-3.9	-42.5	-43.2	OK
4.08	-2	-810	0.200	0.207	0.099	7.1E-04	-3.73	0.0	-4.1	-41.4	-44.4	OK
4.38	-2	-829	0.200	0.207	0.099	7.1E-04	-3.76	0.0	-4.2	-41.9	-45.9	OK
4.68	-2	-845	0.200	0.207	0.099	7.1E-04	-3.86	0.0	-4.3	-42.9	-46.6	OK
4.99	-2	-860	0.200	0.207	0.099	7.1E-04	-3.99	0.0	-4.3	-44.2	-46.9	OK
5.29	-1	-876	0.200	0.207	0.099	7.1E-04	-4.15	0.0	-4.3	-45.8	-47.1	OK
5.59	-1	-889	0.200	0.207	0.099	7.1E-04	-4.24	0.0	-4.3	-46.7	-47.5	OK
5.89	-2	-913	0.200	0.207	0.099	7.1E-04	-4.30	0.0	-4.5	-47.5	-49.3	OK
6.20	-2	-931	0.200	0.207	0.099	7.1E-04	-4.27	0.0	-4.7	-47.5	-51.2	OK
6.50	-3	-929	0.200	0.207	0.099	7.1E-04	-4.15	0.0	-4.8	-46.4	-52.0	OK
6.80	-4	-923	0.200	0.207	0.099	7.1E-04	-4.04	0.0	-4.9	-45.5	-52.3	OK
7.10	-4	-917	0.200	0.207	0.099	7.1E-04	-3.99	0.0	-4.8	-45.0	-52.1	OK
7.41	-4	-914	0.200	0.207	0.099	7.1E-04	-4.01	0.0	-4.8	-45.1	-51.7	OK
7.71	-3	-916	0.200	0.207	0.099	7.1E-04	-4.05	0.0	-4.8	-45.5	-51.5	OK
8.01	-3	-922	0.200	0.207	0.099	7.1E-04	-4.13	0.0	-4.8	-46.2	-51.4	OK
8.31	-3	-931	0.200	0.207	0.099	7.1E-04	-4.22	0.0	-4.8	-47.1	-51.5	OK
8.62	-2	-942	0.200	0.207	0.099	7.1E-04	-4.33	0.0	-4.8	-48.1	-51.7	OK
8.92	-2	-955	0.200	0.207	0.099	7.1E-04	-4.45	0.0	-4.8	-49.3	-51.9	OK
9.22	-2	-970	0.200	0.207	0.099	7.1E-04	-4.58	0.0	-4.8	-50.6	-52.2	OK
9.52	-1	-985	0.200	0.207	0.099	7.1E-04	-4.72	0.0	-4.8	-51.9	-52.5	OK
9.83	-1	-1001	0.200	0.207	0.099	7.1E-04	-4.85	0.0	-4.8	-53.2	-52.9	OK
10.13	0	-1018	0.200	0.207	0.099	7.1E-04	-4.99	0.0	-4.8	-54.6	-53.4	OK
10.43	0	-1043	0.200	0.207	0.099	7.1E-04	-5.15	0.0	-4.9	-56.2	-54.3	OK
10.73	0	-1066	0.200	0.207	0.101	7.1E-04	-4.94	-5.3	0.0	-58.1	-54.8	OK
11.04	0	-1082	0.200	0.207	0.101	7.1E-04	-4.98	-5.5	0.0	-59.3	-55.3	OK
11.34	1	-1097	0.200	0.207	0.101	7.1E-04	-5.01	-5.6	0.0	-60.5	-55.8	OK
11.64	1	-1112	0.200	0.207	0.101	7.1E-04	-5.04	-5.7	0.0	-61.6	-56.2	OK
11.94	1	-1116	0.200	0.207	0.101	7.1E-04	-5.10	-5.7	0.0	-61.4	-56.8	OK
12.25	0	-1115	0.200	0.207	0.101	7.1E-04	-5.16	-5.6	0.0	-60.9	-57.2	OK
12.55	0	-1119	0.200	0.207	0.101	7.1E-04	-5.16	-5.6	0.0	-61.2	-57.3	OK
12.85	0	-1121	0.200	0.207	0.101	7.1E-04	-5.15	-5.7	0.0	-61.5	-57.3	OK
13.15	0	-1113	0.200	0.213	0.099	7.4E-04	-5.30	-5.2	0.0	-56.9	-58.0	OK
13.46	0	-1097	0.200	0.213	0.101	7.4E-04	-4.96	0.0	-5.3	-55.0	-58.2	OK
13.76	-1	-1085	0.200	0.213	0.101	7.4E-04	-4.86	0.0	-5.3	-54.0	-58.0	OK
14.06	-1	-1071	0.200	0.213	0.101	7.4E-04	-4.73	0.0	-5.3	-52.8	-57.8	OK
14.36	-2	-1060	0.200	0.213	0.101	7.4E-04	-4.59	0.0	-5.4	-51.5	-58.0	OK
14.67	-2	-1056	0.200	0.213	0.101	7.4E-04	-4.49	0.0	-5.4	-50.6	-58.4	OK
14.97	-2	-1053	0.200	0.213	0.101	7.4E-04	-4.47	0.0	-5.4	-50.4	-58.3	OK

Komb A, Jmf Komb A1 med A2

Snitt	Armering				Betong					
LL	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0.00	8.2	OK	6.1	OK	0.09	0.50	OK	0.07	0.50	OK
0.45	6.9	OK	5.5	OK	0.06	0.50	OK	0.09	0.50	OK
0.75	21.8	OK	7.8	OK	0.00	0.50	OK	0.23	0.58	OK
1.05	16.2	OK	6.1	OK	0.00	0.50	OK	0.27	0.60	OK
1.36	5.1	OK	3.1	OK	0.00	0.50	OK	0.19	0.58	OK
1.66	6.3	OK	3.5	OK	0.15	0.50	OK	0.15	0.50	OK
1.96	7.0	OK	2.9	OK	0.20	0.58	OK	0.00	0.50	OK
2.26	7.9	OK	2.4	OK	0.23	0.59	OK	0.00	0.50	OK
2.57	8.6	OK	1.8	OK	0.24	0.59	OK	0.00	0.50	OK
2.87	9.3	OK	1.5	OK	0.25	0.59	OK	0.00	0.50	OK
3.17	9.9	OK	1.2	OK	0.25	0.59	OK	0.00	0.50	OK
3.47	10.5	OK	0.6	OK	0.24	0.59	OK	0.00	0.50	OK
3.78	11.1	OK	0.4	OK	0.24	0.50	OK	0.18	0.50	OK
4.08	11.5	OK	0.1	OK	0.24	0.50	OK	0.19	0.50	OK
4.38	11.8	OK	0.6	OK	0.24	0.50	OK	0.19	0.50	OK
4.68	12.0	OK	1.0	OK	0.24	0.50	OK	0.20	0.50	OK
4.99	12.1	OK	1.3	OK	0.25	0.50	OK	0.20	0.50	OK
5.29	12.3	OK	1.6	OK	0.26	0.50	OK	0.19	0.50	OK
5.59	12.4	OK	1.9	OK	0.26	0.50	OK	0.20	0.50	OK
5.89	12.2	OK	2.1	OK	0.26	0.50	OK	0.21	0.50	OK
6.20	11.9	OK	2.2	OK	0.26	0.50	OK	0.22	0.50	OK
6.50	11.7	OK	2.3	OK	0.25	0.50	OK	0.22	0.50	OK
6.80	11.3	OK	2.3	OK	0.24	0.50	OK	0.22	0.50	OK
7.10	10.8	OK	2.6	OK	0.00	0.50	OK	0.23	0.60	OK
7.41	11.1	OK	2.0	OK	0.24	0.50	OK	0.22	0.50	OK
7.71	11.1	OK	1.7	OK	0.24	0.50	OK	0.22	0.50	OK
8.01	11.1	OK	1.3	OK	0.24	0.50	OK	0.22	0.50	OK
8.31	10.9	OK	0.9	OK	0.25	0.50	OK	0.22	0.50	OK
8.62	10.7	OK	0.7	OK	0.25	0.50	OK	0.22	0.50	OK
8.92	10.4	OK	0.4	OK	0.25	0.50	OK	0.22	0.50	OK
9.22	10.2	OK	0.0	OK	0.26	0.50	OK	0.22	0.50	OK
9.52	9.7	OK	0.3	OK	0.26	0.50	OK	0.22	0.50	OK
9.83	9.2	OK	0.5	OK	0.27	0.50	OK	0.22	0.50	OK
10.13	8.8	OK	1.0	OK	0.27	0.50	OK	0.22	0.50	OK
10.43	8.0	OK	1.1	OK	0.27	0.61	OK	0.00	0.50	OK
10.73	7.3	OK	1.3	OK	0.27	0.61	OK	0.00	0.50	OK
11.04	6.7	OK	0.7	OK	0.28	0.61	OK	0.00	0.50	OK
11.34	6.3	OK	0.3	OK	0.28	0.61	OK	0.00	0.50	OK
11.64	5.9	OK	0.4	OK	0.28	0.61	OK	0.00	0.50	OK
11.94	6.8	OK	0.6	OK	0.29	0.61	OK	0.00	0.50	OK
12.25	8.0	OK	1.1	OK	0.29	0.61	OK	0.00	0.50	OK
12.55	8.2	OK	0.9	OK	0.29	0.61	OK	0.00	0.50	OK
12.85	8.4	OK	0.7	OK	0.30	0.61	OK	0.00	0.50	OK
13.15	8.6	OK	0.7	OK	0.27	0.60	OK	0.00	0.50	OK
13.46	10.0	OK	0.9	OK	0.27	0.60	OK	0.00	0.50	OK
13.76	11.0	OK	2.6	OK	0.27	0.60	OK	0.00	0.50	OK
14.06	12.6	OK	2.5	OK	0.27	0.50	OK	0.23	0.50	OK
14.36	13.3	OK	2.5	OK	0.27	0.50	OK	0.24	0.50	OK
14.67	13.6	OK	2.4	OK	0.27	0.50	OK	0.24	0.50	OK
14.97	13.5	OK	2.7	OK	0.27	0.50	OK	0.24	0.50	OK

Komb B, Jmf Komb B1 med B2

Snitt	Armering				Betong					
LL	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0.00	80.6	ej OK	9.6	OK	0.00	0.50	OK	0.46	0.66	OK
0.45	69.4	OK	8.0	OK	0.00	0.50	OK	0.49	0.68	OK
0.75	56.8	OK	6.5	OK	0.00	0.50	OK	0.53	0.71	OK
1.05	35.4	OK	7.1	OK	0.00	0.50	OK	0.42	0.66	OK
1.36	5.1	OK	3.1	OK	0.00	0.50	OK	0.24	0.60	OK
1.66	6.2	OK	3.3	OK	0.00	0.50	OK	0.17	0.57	OK
1.96	7.0	OK	2.9	OK	0.19	0.57	OK	0.00	0.50	OK
2.26	7.9	OK	2.4	OK	0.22	0.58	OK	0.00	0.50	OK
2.57	8.6	OK	1.8	OK	0.22	0.58	OK	0.00	0.50	OK
2.87	9.3	OK	1.5	OK	0.23	0.59	OK	0.00	0.50	OK
3.17	9.9	OK	1.2	OK	0.24	0.59	OK	0.00	0.50	OK
3.47	10.5	OK	0.6	OK	0.23	0.58	OK	0.00	0.50	OK
3.78	11.1	OK	0.4	OK	0.23	0.50	OK	0.18	0.50	OK
4.08	11.5	OK	0.1	OK	0.22	0.50	OK	0.18	0.50	OK
4.38	11.8	OK	0.6	OK	0.22	0.50	OK	0.19	0.50	OK
4.68	12.0	OK	1.0	OK	0.23	0.50	OK	0.19	0.50	OK
4.99	12.1	OK	1.4	OK	0.23	0.50	OK	0.19	0.50	OK
5.29	12.3	OK	1.6	OK	0.24	0.50	OK	0.19	0.50	OK
5.59	12.4	OK	1.9	OK	0.25	0.50	OK	0.19	0.50	OK
5.89	12.2	OK	2.1	OK	0.25	0.50	OK	0.20	0.50	OK
6.20	11.9	OK	2.2	OK	0.25	0.50	OK	0.21	0.50	OK
6.50	11.7	OK	2.3	OK	0.24	0.50	OK	0.22	0.50	OK
6.80	11.1	OK	2.7	OK	0.00	0.50	OK	0.22	0.60	OK
7.10	10.8	OK	2.6	OK	0.00	0.50	OK	0.22	0.60	OK
7.41	10.8	OK	2.4	OK	0.00	0.50	OK	0.22	0.60	OK
7.71	11.1	OK	1.7	OK	0.23	0.50	OK	0.21	0.50	OK
8.01	11.1	OK	1.3	OK	0.24	0.50	OK	0.21	0.50	OK
8.31	10.9	OK	0.9	OK	0.24	0.50	OK	0.21	0.50	OK
8.62	10.7	OK	0.7	OK	0.24	0.50	OK	0.21	0.50	OK
8.92	10.4	OK	0.4	OK	0.25	0.50	OK	0.21	0.50	OK
9.22	10.2	OK	0.0	OK	0.25	0.50	OK	0.21	0.50	OK
9.52	9.7	OK	0.3	OK	0.26	0.50	OK	0.21	0.50	OK
9.83	9.2	OK	0.5	OK	0.26	0.50	OK	0.21	0.50	OK
10.13	8.8	OK	1.0	OK	0.26	0.50	OK	0.22	0.50	OK
10.43	8.2	OK	1.4	OK	0.27	0.50	OK	0.22	0.50	OK
10.73	7.3	OK	1.3	OK	0.27	0.61	OK	0.00	0.50	OK
11.04	6.7	OK	0.7	OK	0.28	0.61	OK	0.00	0.50	OK
11.34	6.3	OK	0.3	OK	0.28	0.61	OK	0.00	0.50	OK
11.64	5.9	OK	0.4	OK	0.28	0.61	OK	0.00	0.50	OK
11.94	6.8	OK	0.6	OK	0.29	0.61	OK	0.00	0.50	OK
12.25	8.0	OK	1.1	OK	0.29	0.61	OK	0.00	0.50	OK
12.55	8.2	OK	0.9	OK	0.29	0.61	OK	0.00	0.50	OK
12.85	8.4	OK	0.7	OK	0.29	0.61	OK	0.00	0.50	OK
13.15	8.6	OK	0.7	OK	0.27	0.60	OK	0.00	0.50	OK
13.46	10.5	OK	0.4	OK	0.27	0.50	OK	0.24	0.50	OK
13.76	11.6	OK	2.2	OK	0.27	0.50	OK	0.24	0.50	OK
14.06	12.6	OK	2.5	OK	0.27	0.50	OK	0.24	0.50	OK
14.36	13.3	OK	2.5	OK	0.27	0.50	OK	0.24	0.50	OK
14.67	13.6	OK	2.4	OK	0.26	0.50	OK	0.24	0.50	OK
14.97	13.5	OK	2.7	OK	0.26	0.50	OK	0.24	0.50	OK

Utmattning - Enkel kontroll

Tvärkraft

Enligt SS-EN 1992-1-1, 6.8.

f_{ck} =	35.5	MPa	ν =	0.51	
$f_{cd.fat}$ =	22.4	MPa	$f_{cd.fat.red}$ =	11.5	MPa
θ_{fat} =	32.3	°	α_{cw} =	1.0	

Snitt B1

x [m]	h [m]	b_w [m]	$A_{s0.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s0.uk}$ [cm^2]	d_{uk} [m]	A_{sw} [cm^2/m]	$V_{Rd,c}$ [kN]
0.00	0.83	0.50	32.7	0.77	33.7	0.77	10.5	-
0.30	0.83	0.50	32.7	0.77	33.7	0.77	10.5	-
0.61	0.83	0.50	32.7	0.77	33.7	0.77	10.5	-
0.91	0.83	0.50	30.3	0.77	33.7	0.77	5.2	-
1.21	0.83	0.50	29.8	0.77	33.7	0.77	5.2	-
1.51	0.83	0.50	29.8	0.77	33.7	0.77	5.2	-
1.82	0.83	0.50	29.8	0.77	33.7	0.77	5.2	-
2.12	0.83	0.50	29.8	0.77	33.7	0.77	5.2	-
2.42	0.83	0.50	29.8	0.77	33.7	0.77	5.2	-
2.72	0.83	0.50	29.8	0.77	33.7	0.77	5.2	-
3.02	0.83	0.50	39.0	0.77	43.0	0.77	5.2	-
3.33	0.83	0.50	39.0	0.77	43.0	0.77	5.2	-
3.63	0.83	0.50	39.0	0.77	43.0	0.77	5.2	-
3.93	0.83	0.50	39.0	0.77	43.0	0.77	5.2	-
4.23	0.83	0.50	39.0	0.77	43.0	0.77	5.2	-
4.54	0.83	0.50	39.0	0.77	43.0	0.77	5.2	-
4.84	0.83	0.50	39.0	0.77	43.0	0.77	5.2	-
5.14	0.83	0.50	39.0	0.77	43.0	0.77	5.2	-
5.44	0.83	0.50	39.0	0.77	43.0	0.77	5.2	-
5.75	0.83	0.50	39.0	0.77	43.0	0.77	5.2	-
6.05	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
6.35	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
6.65	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
6.96	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
7.26	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
7.56	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
7.86	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
8.17	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
8.47	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
8.77	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
9.07	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
9.38	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
9.68	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
9.98	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
10.28	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
10.59	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
10.89	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
11.19	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
11.49	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
11.80	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
12.10	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
12.40	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
12.70	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
13.01	0.83	0.50	50.4	0.77	52.2	0.77	5.2	-
13.31	0.83	0.50	53.5	0.77	52.2	0.77	5.2	-
13.61	0.83	0.50	53.5	0.77	52.2	0.77	5.2	-
13.91	0.83	0.50	53.5	0.77	52.2	0.77	5.2	-
14.22	0.83	0.50	53.5	0.77	52.2	0.77	10.5	-
14.52	0.83	0.50	53.5	0.77	52.2	0.77	10.5	-
14.82	0.83	0.50	53.5	0.77	52.2	0.77	10.5	-

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$
Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$
Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Snitt B1	Lastkombination (6.69) enligt SS-EN 1992-1-1									
	Permanenta		Variabla		Cykliska					
x [m]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	ΣV_{A1} [kN]	ΣV_{A2} [kN]	ΣV_{B1} [kN]	ΣV_{B2} [kN]
0.00	-17	-226	0	0	17	-7	0	-24	-209	-233
0.30	19	-332	0	0	30	-6	48	12	-302	-338
0.61	12	-105	0	0	31	-4	43	8	-73	-108
0.91	36	8	0	0	31	-4	67	32	39	4
1.21	71	8	0	0	30	-4	101	67	38	4
1.51	69	9	0	0	29	-5	98	64	38	4
1.82	38	10	0	0	27	-4	66	34	37	5
2.12	11	-9	0	0	26	-4	36	6	16	-14
2.42	11	-32	0	0	24	-4	35	7	-8	-36
2.72	12	-35	0	0	22	-4	34	8	-13	-39
3.02	12	-42	0	0	20	-4	32	8	-22	-46
3.33	11	-46	0	0	18	-4	30	8	-28	-50
3.63	10	-45	0	0	16	-3	27	7	-29	-48
3.93	9	-39	0	0	14	-3	24	6	-25	-42
4.23	8	-32	0	0	13	-3	21	5	-20	-35
4.54	7	-40	0	0	11	-3	18	4	-29	-43
4.84	6	-47	0	0	10	-3	16	3	-37	-49
5.14	6	-43	0	0	8	-3	14	3	-35	-46
5.44	6	-53	0	0	7	-4	12	2	-46	-56
5.75	6	-65	0	0	6	-5	11	1	-59	-70
6.05	5	-54	0	0	5	-6	11	-1	-49	-60
6.35	5	-28	0	0	5	-8	10	-3	-24	-36
6.65	4	-4	0	0	4	-9	8	-5	0	-13
6.96	16	3	0	0	3	-11	19	6	6	-8
7.26	32	2	0	0	2	-13	34	19	4	-11
7.56	45	1	0	0	1	-14	46	30	3	-13
7.86	54	0	0	0	2	-16	56	38	2	-16
8.17	60	0	0	0	2	-18	62	42	1	-19
8.47	63	-1	0	0	2	-21	65	42	1	-22
8.77	62	-2	0	0	2	-23	64	39	1	-24
9.07	58	-2	0	0	2	-25	61	34	0	-27
9.38	55	-3	0	0	3	-27	57	28	0	-29
9.68	51	-3	0	0	3	-29	54	23	0	-32
9.98	49	-3	0	0	3	-30	52	18	0	-34
10.28	47	-4	0	0	3	-32	50	14	-1	-36
10.59	45	-4	0	0	3	-34	48	11	-1	-38
10.89	44	-5	0	0	3	-35	48	9	-1	-40
11.19	45	-5	0	0	4	-36	48	8	-1	-41
11.49	46	-5	0	0	4	-37	49	8	-2	-43
11.80	47	-6	0	0	4	-38	51	8	-2	-44
12.10	45	-6	0	0	4	-39	49	6	-2	-45
12.40	39	-7	0	0	4	-40	43	-1	-3	-46
12.70	27	-8	0	0	4	-40	31	-13	-3	-47
13.01	8	-10	0	0	4	-39	13	-31	-5	-49
13.31	-11	-25	0	0	5	-38	-6	-49	-20	-64
13.61	-16	-59	0	0	6	-37	-11	-54	-53	-96
13.91	-26	-100	0	0	7	-36	-19	-62	-93	-136
14.22	-46	-157	0	0	10	-35	-36	-80	-147	-192
14.52	-73	-268	0	0	14	-34	-59	-107	-254	-302
14.82	4	-118	0	0	43	-43	47	-39	-75	-161

Komb A, Jmf Komb A1 med A2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
75.4

Snitt B1	Kontroll - Tryckstråva					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0.00	0.0	-0.3	0.03	0.50	OK	20.8	OK
0.30	0.6	0.2	0.05	0.51	OK	31.2	OK
0.61	0.5	0.1	0.05	0.50	OK	30.6	OK
0.91	0.8	0.4	0.07	0.52	OK	60.9	OK
1.21	1.3	0.8	0.11	0.53	OK	59.8	OK
1.51	1.2	0.8	0.11	0.53	OK	58.2	OK
1.82	0.8	0.4	0.07	0.52	OK	55.7	OK
2.12	0.5	0.1	0.04	0.50	OK	52.6	OK
2.42	0.4	0.1	0.04	0.50	OK	49.1	OK
2.72	0.4	0.1	0.04	0.50	OK	45.5	OK
3.02	0.4	0.1	0.03	0.50	OK	41.7	OK
3.33	0.4	0.1	0.03	0.50	OK	37.9	OK
3.63	0.3	0.1	0.03	0.50	OK	34.1	OK
3.93	0.3	0.1	0.03	0.50	OK	30.6	OK
4.23	0.3	0.1	0.02	0.50	OK	27.3	OK
4.54	0.2	0.1	0.02	0.50	OK	24.3	OK
4.84	0.2	0.0	0.02	0.50	OK	21.4	OK
5.14	0.2	0.0	0.02	0.50	OK	19.2	OK
5.44	0.2	0.0	0.01	0.50	OK	18.4	OK
5.75	0.1	0.0	0.01	0.50	OK	19.1	OK
6.05	0.1	0.0	0.01	0.50	OK	18.6	OK
6.35	0.1	0.0	0.01	0.50	OK	16.6	OK
6.65	0.1	-0.1	0.01	0.50	OK	14.4	OK
6.96	0.2	0.1	0.02	0.50	OK	24.1	OK
7.26	0.4	0.2	0.04	0.51	OK	25.8	OK
7.56	0.6	0.4	0.05	0.51	OK	27.6	OK
7.86	0.7	0.5	0.06	0.52	OK	31.3	OK
8.17	0.8	0.5	0.07	0.52	OK	35.3	OK
8.47	0.8	0.5	0.07	0.52	OK	39.4	OK
8.77	0.8	0.5	0.07	0.52	OK	43.3	OK
9.07	0.8	0.4	0.07	0.52	OK	47.1	OK
9.38	0.7	0.3	0.06	0.51	OK	50.9	OK
9.68	0.7	0.3	0.06	0.51	OK	54.7	OK
9.98	0.6	0.2	0.06	0.51	OK	58.2	OK
10.28	0.6	0.2	0.05	0.51	OK	61.5	OK
10.59	0.6	0.1	0.05	0.51	OK	64.4	OK
10.89	0.6	0.1	0.05	0.50	OK	67.2	OK
11.19	0.6	0.1	0.05	0.50	OK	69.8	OK
11.49	0.6	0.1	0.05	0.50	OK	71.9	ej OK
11.80	0.6	0.1	0.05	0.50	OK	73.7	ej OK
12.10	0.6	0.1	0.05	0.50	OK	75.2	ej OK
12.40	0.5	0.0	0.05	0.50	OK	75.1	ej OK
12.70	0.4	-0.2	0.03	0.50	OK	53.8	OK
13.01	0.2	-0.4	0.03	0.50	OK	54.2	OK
13.31	-0.1	-0.6	0.05	0.50	OK	75.4	ej OK
13.61	-0.1	-0.7	0.06	0.51	OK	74.8	ej OK
13.91	-0.2	-0.8	0.07	0.51	OK	75.0	ej OK
14.22	-0.4	-1.0	0.09	0.52	OK	38.8	OK
14.52	-0.7	-1.3	0.12	0.53	OK	42.2	OK
14.82	0.6	-0.5	0.05	0.50	OK	40.8	OK

Komb A, Jmf Komb A1 med A2

Snitt	Kontroll - Betong utan tvärkraftsarmering			
B1		$V_{min} / V_{max} \geq 0$	$V_{min} / V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert / \lvert V_{Rdc} \rvert$	$0,5 + 0,45 \cdot \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	$0,5 - \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	Kontroll
0.00	-	-	-	-
0.30	-	-	-	-
0.61	-	-	-	-
0.91	-	-	-	-
1.21	-	-	-	-
1.51	-	-	-	-
1.82	-	-	-	-
2.12	-	-	-	-
2.42	-	-	-	-
2.72	-	-	-	-
3.02	-	-	-	-
3.33	-	-	-	-
3.63	-	-	-	-
3.93	-	-	-	-
4.23	-	-	-	-
4.54	-	-	-	-
4.84	-	-	-	-
5.14	-	-	-	-
5.44	-	-	-	-
5.75	-	-	-	-
6.05	-	-	-	-
6.35	-	-	-	-
6.65	-	-	-	-
6.96	-	-	-	-
7.26	-	-	-	-
7.56	-	-	-	-
7.86	-	-	-	-
8.17	-	-	-	-
8.47	-	-	-	-
8.77	-	-	-	-
9.07	-	-	-	-
9.38	-	-	-	-
9.68	-	-	-	-
9.98	-	-	-	-
10.28	-	-	-	-
10.59	-	-	-	-
10.89	-	-	-	-
11.19	-	-	-	-
11.49	-	-	-	-
11.80	-	-	-	-
12.10	-	-	-	-
12.40	-	-	-	-
12.70	-	-	-	-
13.01	-	-	-	-
13.31	-	-	-	-
13.61	-	-	-	-
13.91	-	-	-	-
14.22	-	-	-	-
14.52	-	-	-	-
14.82	-	-	-	-

Komb B, Jmf Komb B1 med B2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
76.3

Snitt B1	Kontroll - Tryckstråva					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0.00	-2.6	-2.9	0.25	0.60	OK	20.9	OK
0.30	-3.8	-4.2	0.36	0.65	OK	31.2	OK
0.61	-0.9	-1.3	0.12	0.54	OK	30.6	OK
0.91	0.5	0.0	0.04	0.50	OK	60.9	OK
1.21	0.5	0.1	0.04	0.50	OK	59.8	OK
1.51	0.5	0.1	0.04	0.50	OK	58.2	OK
1.82	0.5	0.1	0.04	0.50	OK	55.7	OK
2.12	0.2	-0.2	0.02	0.50	OK	28.5	OK
2.42	-0.1	-0.5	0.04	0.50	OK	49.1	OK
2.72	-0.2	-0.5	0.04	0.51	OK	45.5	OK
3.02	-0.3	-0.6	0.05	0.51	OK	41.7	OK
3.33	-0.3	-0.6	0.05	0.51	OK	37.9	OK
3.63	-0.4	-0.6	0.05	0.51	OK	34.1	OK
3.93	-0.3	-0.5	0.05	0.51	OK	30.6	OK
4.23	-0.2	-0.4	0.04	0.51	OK	27.3	OK
4.54	-0.4	-0.5	0.05	0.51	OK	24.3	OK
4.84	-0.5	-0.6	0.05	0.52	OK	21.4	OK
5.14	-0.4	-0.6	0.05	0.52	OK	19.2	OK
5.44	-0.6	-0.7	0.06	0.52	OK	18.4	OK
5.75	-0.7	-0.9	0.07	0.53	OK	19.1	OK
6.05	-0.6	-0.8	0.07	0.52	OK	20.2	OK
6.35	-0.3	-0.4	0.04	0.51	OK	21.3	OK
6.65	0.0	-0.2	0.01	0.50	OK	21.9	OK
6.96	0.1	-0.1	0.01	0.50	OK	13.9	OK
7.26	0.1	-0.1	0.01	0.50	OK	18.5	OK
7.56	0.0	-0.2	0.01	0.50	OK	23.2	OK
7.86	0.0	-0.2	0.02	0.50	OK	27.9	OK
8.17	0.0	-0.2	0.02	0.50	OK	32.8	OK
8.47	0.0	-0.3	0.02	0.50	OK	37.6	OK
8.77	0.0	-0.3	0.03	0.50	OK	42.1	OK
9.07	0.0	-0.3	0.03	0.50	OK	46.4	OK
9.38	0.0	-0.4	0.03	0.50	OK	50.7	OK
9.68	0.0	-0.4	0.03	0.50	OK	54.7	OK
9.98	0.0	-0.4	0.04	0.50	OK	58.2	OK
10.28	0.0	-0.4	0.04	0.50	OK	61.5	OK
10.59	0.0	-0.5	0.04	0.50	OK	64.4	OK
10.89	0.0	-0.5	0.04	0.50	OK	67.2	OK
11.19	0.0	-0.5	0.04	0.50	OK	69.8	OK
11.49	0.0	-0.5	0.05	0.50	OK	71.9	ej OK
11.80	0.0	-0.5	0.05	0.50	OK	73.7	ej OK
12.10	0.0	-0.6	0.05	0.50	OK	75.2	ej OK
12.40	0.0	-0.6	0.05	0.50	OK	76.0	ej OK
12.70	0.0	-0.6	0.05	0.50	OK	76.3	ej OK
13.01	-0.1	-0.6	0.05	0.50	OK	76.0	ej OK
13.31	-0.3	-0.8	0.07	0.51	OK	75.4	ej OK
13.61	-0.7	-1.2	0.10	0.53	OK	74.8	ej OK
13.91	-1.2	-1.7	0.15	0.55	OK	75.0	ej OK
14.22	-1.8	-2.4	0.21	0.57	OK	38.8	OK
14.52	-3.2	-3.8	0.33	0.62	OK	42.2	OK
14.82	-0.9	-2.0	0.17	0.54	OK	75.2	ej OK

Komb B, Jmf Komb B1 med B2

Snitt	Kontroll - Betong utan tvärkraftsarmering			
B1		$V_{min} / V_{max} \geq 0$	$V_{min} / V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert / \lvert V_{Rdc} \rvert$	$0,5 + 0,45 \cdot \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	$0,5 - \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	Kontroll
0.00	-	-	-	-
0.30	-	-	-	-
0.61	-	-	-	-
0.91	-	-	-	-
1.21	-	-	-	-
1.51	-	-	-	-
1.82	-	-	-	-
2.12	-	-	-	-
2.42	-	-	-	-
2.72	-	-	-	-
3.02	-	-	-	-
3.33	-	-	-	-
3.63	-	-	-	-
3.93	-	-	-	-
4.23	-	-	-	-
4.54	-	-	-	-
4.84	-	-	-	-
5.14	-	-	-	-
5.44	-	-	-	-
5.75	-	-	-	-
6.05	-	-	-	-
6.35	-	-	-	-
6.65	-	-	-	-
6.96	-	-	-	-
7.26	-	-	-	-
7.56	-	-	-	-
7.86	-	-	-	-
8.17	-	-	-	-
8.47	-	-	-	-
8.77	-	-	-	-
9.07	-	-	-	-
9.38	-	-	-	-
9.68	-	-	-	-
9.98	-	-	-	-
10.28	-	-	-	-
10.59	-	-	-	-
10.89	-	-	-	-
11.19	-	-	-	-
11.49	-	-	-	-
11.80	-	-	-	-
12.10	-	-	-	-
12.40	-	-	-	-
12.70	-	-	-	-
13.01	-	-	-	-
13.31	-	-	-	-
13.61	-	-	-	-
13.91	-	-	-	-
14.22	-	-	-	-
14.52	-	-	-	-
14.82	-	-	-	-

Utmattning - Enkel kontroll

Tvärkraft

Enligt SS-EN 1992-1-1, 6.8.

f_{ck} =	35.5	MPa	ν =	0.51	
$f_{cd.fat}$ =	22.4	MPa	$f_{cd.fat.red}$ =	11.5	MPa
θ_{fat} =	32.3	°	α_{cw} =	1.0	

Snitt B2

x [m]	h [m]	b_w [m]	$A_{s0.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s0.uk}$ [cm^2]	d_{uk} [m]	A_{sw} [cm^2/m]	$V_{Rd,c}$ [kN]
0.00	0.75	0.60	32.7	0.69	33.7	0.69	10.5	-
0.30	0.75	0.60	32.7	0.69	33.7	0.69	10.5	-
0.61	0.75	0.60	32.7	0.69	33.7	0.69	10.5	-
0.91	0.75	0.60	30.3	0.69	33.7	0.69	5.2	-
1.21	0.75	0.60	29.8	0.69	33.7	0.69	5.2	-
1.51	0.75	0.60	29.8	0.69	33.7	0.69	5.2	-
1.82	0.75	0.60	29.8	0.69	33.7	0.69	5.2	-
2.12	0.75	0.60	29.8	0.69	33.7	0.69	5.2	-
2.42	0.75	0.60	29.8	0.69	33.7	0.69	5.2	-
2.72	0.75	0.60	29.8	0.69	33.7	0.69	5.2	-
3.02	0.75	0.60	39.0	0.69	43.0	0.69	5.2	-
3.33	0.75	0.60	39.0	0.69	43.0	0.69	5.2	-
3.63	0.75	0.60	39.0	0.69	43.0	0.69	5.2	-
3.93	0.75	0.60	39.0	0.69	43.0	0.69	5.2	-
4.23	0.75	0.60	39.0	0.69	43.0	0.69	5.2	-
4.54	0.75	0.60	39.0	0.69	43.0	0.69	5.2	-
4.84	0.75	0.60	39.0	0.69	43.0	0.69	5.2	-
5.14	0.75	0.60	39.0	0.69	43.0	0.69	5.2	-
5.44	0.75	0.60	39.0	0.69	43.0	0.69	5.2	-
5.75	0.75	0.60	39.0	0.69	43.0	0.69	5.2	-
6.05	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
6.35	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
6.65	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
6.96	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
7.26	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
7.56	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
7.86	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
8.17	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
8.47	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
8.77	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
9.07	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
9.38	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
9.68	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
9.98	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
10.28	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
10.59	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
10.89	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
11.19	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
11.49	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
11.80	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
12.10	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
12.40	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
12.70	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
13.01	0.75	0.60	50.4	0.69	52.2	0.69	5.2	-
13.31	0.75	0.60	53.5	0.69	52.2	0.69	5.2	-
13.61	0.75	0.60	53.5	0.69	52.2	0.69	5.2	-
13.91	0.75	0.60	53.5	0.69	52.2	0.69	5.2	-
14.22	0.75	0.60	53.5	0.69	52.2	0.69	10.5	-
14.52	0.75	0.60	53.5	0.69	52.2	0.69	10.5	-
14.82	0.75	0.60	53.5	0.69	52.2	0.69	10.5	-

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$
Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$
Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Snitt B2	Lastkombination (6.69) enligt SS-EN 1992-1-1									
	Permanenta		Variabla		Cykliska					
x [m]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	ΣV_{A1} [kN]	ΣV_{A2} [kN]	ΣV_{B1} [kN]	ΣV_{B2} [kN]
0.00	7	-238	0	0	35	-9	42	-2	-204	-248
0.30	0	-355	0	0	67	-9	67	-9	-288	-364
0.61	1	-137	0	0	64	-5	65	-4	-73	-143
0.91	1	-15	0	0	65	-5	66	-4	50	-20
1.21	21	0	0	0	64	-5	85	16	64	-5
1.51	28	0	0	0	59	-5	87	23	60	-4
1.82	12	1	0	0	57	-6	68	5	58	-5
2.12	2	-15	0	0	54	-8	56	-6	39	-22
2.42	3	-45	0	0	49	-10	52	-7	4	-55
2.72	3	-92	0	0	48	-12	50	-10	-44	-104
3.02	3	-124	0	0	45	-15	47	-12	-79	-139
3.33	2	-113	0	0	41	-18	43	-15	-72	-131
3.63	2	-80	0	0	40	-20	43	-17	-40	-100
3.93	2	-51	0	0	38	-21	40	-19	-13	-72
4.23	2	-28	0	0	35	-23	38	-21	7	-51
4.54	2	-27	0	0	36	-24	38	-22	8	-52
4.84	2	-40	0	0	34	-26	36	-23	-6	-65
5.14	2	-52	0	0	31	-27	34	-24	-21	-79
5.44	2	-69	0	0	32	-28	34	-26	-37	-97
5.75	2	-83	0	0	30	-30	32	-28	-53	-113
6.05	2	-78	0	0	28	-31	30	-29	-50	-109
6.35	2	-52	0	0	28	-33	30	-31	-24	-85
6.65	2	-22	0	0	26	-34	28	-32	4	-56
6.96	2	1	0	0	25	-35	27	-33	26	-35
7.26	22	1	0	0	24	-37	46	-15	25	-37
7.56	37	0	0	0	23	-38	61	-1	24	-38
7.86	49	0	0	0	23	-41	72	9	23	-40
8.17	58	0	0	0	21	-44	79	14	21	-44
8.47	63	0	0	0	21	-45	84	18	21	-45
8.77	64	0	0	0	20	-47	84	17	20	-48
9.07	63	0	0	0	18	-51	81	12	17	-51
9.38	61	-1	0	0	17	-52	77	8	16	-53
9.68	59	-1	0	0	15	-55	74	4	14	-56
9.98	58	-1	0	0	14	-59	71	-1	13	-60
10.28	57	-1	0	0	12	-61	70	-4	11	-62
10.59	57	-1	0	0	11	-64	68	-7	10	-65
10.89	58	-1	0	0	10	-68	68	-10	9	-69
11.19	60	-1	0	0	7	-71	68	-10	7	-72
11.49	63	-1	0	0	6	-75	68	-12	5	-76
11.80	66	-1	0	0	5	-79	71	-13	4	-80
12.10	67	-1	0	0	5	-81	72	-14	4	-82
12.40	67	0	0	0	5	-87	72	-20	5	-87
12.70	63	0	0	0	5	-92	68	-29	5	-92
13.01	56	0	0	0	5	-95	61	-39	5	-95
13.31	45	0	0	0	6	-101	51	-56	6	-101
13.61	30	1	0	0	7	-107	37	-77	7	-106
13.91	14	1	0	0	8	-112	22	-98	9	-111
14.22	26	-33	0	0	11	-118	37	-92	-21	-151
14.52	44	-107	0	0	15	-125	60	-81	-91	-232
14.82	60	-13	0	0	84	-84	143	-24	71	-96

Komb A, Jmf Komb A1 med A2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
189.9

Snitt B2	Kontroll - Tryckstråva					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0.00	0.5	0.0	0.04	0.50	OK	40.4	OK
0.30	0.8	-0.1	0.07	0.50	OK	65.1	OK
0.61	0.8	-0.1	0.07	0.50	OK	63.3	OK
0.91	0.8	0.0	0.07	0.50	OK	129.0	ej OK
1.21	1.0	0.2	0.09	0.51	OK	134.0	ej OK
1.51	1.0	0.3	0.09	0.51	OK	125.1	ej OK
1.82	0.8	0.1	0.07	0.50	OK	122.7	ej OK
2.12	0.6	-0.1	0.06	0.50	OK	109.1	ej OK
2.42	0.6	-0.1	0.05	0.50	OK	101.1	ej OK
2.72	0.6	-0.1	0.05	0.50	OK	97.5	ej OK
3.02	0.5	-0.1	0.05	0.50	OK	92.1	ej OK
3.33	0.5	-0.2	0.04	0.50	OK	84.5	ej OK
3.63	0.5	-0.2	0.04	0.50	OK	82.7	ej OK
3.93	0.5	-0.2	0.04	0.50	OK	78.2	ej OK
4.23	0.4	-0.2	0.04	0.50	OK	73.0	ej OK
4.54	0.4	-0.3	0.04	0.50	OK	74.0	ej OK
4.84	0.4	-0.3	0.04	0.50	OK	69.7	OK
5.14	0.4	-0.3	0.03	0.50	OK	65.8	OK
5.44	0.4	-0.3	0.03	0.50	OK	66.3	OK
5.75	0.4	-0.3	0.03	0.50	OK	62.4	OK
6.05	0.3	-0.3	0.03	0.50	OK	58.9	OK
6.35	0.3	-0.4	0.03	0.50	OK	59.9	OK
6.65	0.3	-0.4	0.03	0.50	OK	63.1	OK
6.96	0.3	-0.4	0.03	0.50	OK	64.0	OK
7.26	0.5	-0.2	0.05	0.50	OK	89.6	ej OK
7.56	0.7	0.0	0.06	0.50	OK	118.1	ej OK
7.86	0.8	0.1	0.07	0.50	OK	122.8	ej OK
8.17	0.9	0.2	0.08	0.51	OK	126.3	ej OK
8.47	1.0	0.2	0.08	0.51	OK	128.2	ej OK
8.77	1.0	0.2	0.08	0.51	OK	131.0	ej OK
9.07	0.9	0.1	0.08	0.51	OK	133.5	ej OK
9.38	0.9	0.1	0.08	0.50	OK	134.4	ej OK
9.68	0.9	0.0	0.07	0.50	OK	136.6	ej OK
9.98	0.8	0.0	0.07	0.50	OK	138.7	ej OK
10.28	0.8	0.0	0.07	0.50	OK	135.2	ej OK
10.59	0.8	-0.1	0.07	0.50	OK	132.2	ej OK
10.89	0.8	-0.1	0.07	0.50	OK	132.2	ej OK
11.19	0.8	-0.1	0.07	0.50	OK	131.7	ej OK
11.49	0.8	-0.1	0.07	0.50	OK	133.1	ej OK
11.80	0.8	-0.2	0.07	0.50	OK	137.5	ej OK
12.10	0.8	-0.2	0.07	0.50	OK	140.5	ej OK
12.40	0.8	-0.2	0.07	0.50	OK	139.7	ej OK
12.70	0.8	-0.3	0.07	0.50	OK	132.9	ej OK
13.01	0.7	-0.5	0.06	0.50	OK	118.5	ej OK
13.31	0.6	-0.7	0.06	0.50	OK	109.5	ej OK
13.61	0.4	-0.9	0.08	0.50	OK	149.3	ej OK
13.91	0.3	-1.1	0.10	0.50	OK	189.9	ej OK
14.22	0.4	-1.1	0.09	0.50	OK	89.8	ej OK
14.52	0.7	-0.9	0.08	0.50	OK	78.5	ej OK
14.82	1.7	-0.3	0.14	0.50	OK	139.4	ej OK

Komb A, Jmf Komb A1 med A2

Snitt	Kontroll - Betong utan tvärkraftsarmering			
B2		$V_{min} / V_{max} \geq 0$	$V_{min} / V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert / \lvert V_{Rdc} \rvert$	$0,5 + 0,45 \cdot \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	$0,5 - \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	Kontroll
0.00	-	-	-	-
0.30	-	-	-	-
0.61	-	-	-	-
0.91	-	-	-	-
1.21	-	-	-	-
1.51	-	-	-	-
1.82	-	-	-	-
2.12	-	-	-	-
2.42	-	-	-	-
2.72	-	-	-	-
3.02	-	-	-	-
3.33	-	-	-	-
3.63	-	-	-	-
3.93	-	-	-	-
4.23	-	-	-	-
4.54	-	-	-	-
4.84	-	-	-	-
5.14	-	-	-	-
5.44	-	-	-	-
5.75	-	-	-	-
6.05	-	-	-	-
6.35	-	-	-	-
6.65	-	-	-	-
6.96	-	-	-	-
7.26	-	-	-	-
7.56	-	-	-	-
7.86	-	-	-	-
8.17	-	-	-	-
8.47	-	-	-	-
8.77	-	-	-	-
9.07	-	-	-	-
9.38	-	-	-	-
9.68	-	-	-	-
9.98	-	-	-	-
10.28	-	-	-	-
10.59	-	-	-	-
10.89	-	-	-	-
11.19	-	-	-	-
11.49	-	-	-	-
11.80	-	-	-	-
12.10	-	-	-	-
12.40	-	-	-	-
12.70	-	-	-	-
13.01	-	-	-	-
13.31	-	-	-	-
13.61	-	-	-	-
13.91	-	-	-	-
14.22	-	-	-	-
14.52	-	-	-	-
14.82	-	-	-	-

Komb B, Jmf Komb B1 med B2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
214.9

Snitt B2	Kontroll - Tryckstråva					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0.00	-2.4	-2.9	0.25	0.59	OK	42.6	OK
0.30	-3.3	-4.2	0.36	0.63	OK	73.7	ej OK
0.61	-0.8	-1.6	0.14	0.53	OK	67.5	OK
0.91	0.6	-0.2	0.05	0.50	OK	96.5	ej OK
1.21	0.7	-0.1	0.06	0.50	OK	124.0	ej OK
1.51	0.7	-0.1	0.06	0.50	OK	116.4	ej OK
1.82	0.7	-0.1	0.06	0.50	OK	112.6	ej OK
2.12	0.5	-0.3	0.04	0.50	OK	76.5	ej OK
2.42	0.1	-0.6	0.05	0.50	OK	106.7	ej OK
2.72	-0.5	-1.2	0.10	0.52	OK	116.0	ej OK
3.02	-0.9	-1.6	0.14	0.54	OK	115.9	ej OK
3.33	-0.8	-1.5	0.13	0.53	OK	114.0	ej OK
3.63	-0.5	-1.2	0.10	0.52	OK	116.4	ej OK
3.93	-0.1	-0.8	0.07	0.51	OK	115.3	ej OK
4.23	0.1	-0.6	0.05	0.50	OK	100.1	ej OK
4.54	0.1	-0.6	0.05	0.50	OK	100.3	ej OK
4.84	-0.1	-0.8	0.07	0.50	OK	114.9	ej OK
5.14	-0.2	-0.9	0.08	0.51	OK	113.0	ej OK
5.44	-0.4	-1.1	0.10	0.52	OK	116.4	ej OK
5.75	-0.6	-1.3	0.11	0.52	OK	116.2	ej OK
6.05	-0.6	-1.3	0.11	0.52	OK	115.3	ej OK
6.35	-0.3	-1.0	0.08	0.51	OK	117.3	ej OK
6.65	0.0	-0.7	0.06	0.50	OK	109.7	ej OK
6.96	0.3	-0.4	0.03	0.50	OK	67.2	OK
7.26	0.3	-0.4	0.04	0.50	OK	71.0	ej OK
7.56	0.3	-0.4	0.04	0.50	OK	74.0	ej OK
7.86	0.3	-0.5	0.04	0.50	OK	78.4	ej OK
8.17	0.2	-0.5	0.04	0.50	OK	84.6	ej OK
8.47	0.2	-0.5	0.05	0.50	OK	87.8	ej OK
8.77	0.2	-0.6	0.05	0.50	OK	92.8	ej OK
9.07	0.2	-0.6	0.05	0.50	OK	99.6	ej OK
9.38	0.2	-0.6	0.05	0.50	OK	103.2	ej OK
9.68	0.2	-0.6	0.06	0.50	OK	108.7	ej OK
9.98	0.1	-0.7	0.06	0.50	OK	116.0	ej OK
10.28	0.1	-0.7	0.06	0.50	OK	120.0	ej OK
10.59	0.1	-0.7	0.06	0.50	OK	126.2	ej OK
10.89	0.1	-0.8	0.07	0.50	OK	134.6	ej OK
11.19	0.1	-0.8	0.07	0.50	OK	139.3	ej OK
11.49	0.1	-0.9	0.08	0.50	OK	147.2	ej OK
11.80	0.0	-0.9	0.08	0.50	OK	155.3	ej OK
12.10	0.0	-0.9	0.08	0.50	OK	159.0	ej OK
12.40	0.1	-1.0	0.09	0.50	OK	169.4	ej OK
12.70	0.1	-1.1	0.09	0.50	OK	179.7	ej OK
13.01	0.1	-1.1	0.10	0.50	OK	184.6	ej OK
13.31	0.1	-1.2	0.10	0.50	OK	196.3	ej OK
13.61	0.1	-1.2	0.11	0.50	OK	206.6	ej OK
13.91	0.1	-1.3	0.11	0.50	OK	214.9	ej OK
14.22	-0.2	-1.7	0.15	0.51	OK	126.1	ej OK
14.52	-1.1	-2.7	0.23	0.54	OK	136.6	ej OK
14.82	0.8	-1.1	0.10	0.50	OK	93.5	ej OK

Komb B, Jmf Komb B1 med B2

Snitt	Kontroll - Betong utan tvärkraftsarmering			
B2		$V_{min} / V_{max} \geq 0$	$V_{min} / V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert / \lvert V_{Rdc} \rvert$	$0,5 + 0,45 \cdot \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	$0,5 - \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	Kontroll
0.00	-	-	-	-
0.30	-	-	-	-
0.61	-	-	-	-
0.91	-	-	-	-
1.21	-	-	-	-
1.51	-	-	-	-
1.82	-	-	-	-
2.12	-	-	-	-
2.42	-	-	-	-
2.72	-	-	-	-
3.02	-	-	-	-
3.33	-	-	-	-
3.63	-	-	-	-
3.93	-	-	-	-
4.23	-	-	-	-
4.54	-	-	-	-
4.84	-	-	-	-
5.14	-	-	-	-
5.44	-	-	-	-
5.75	-	-	-	-
6.05	-	-	-	-
6.35	-	-	-	-
6.65	-	-	-	-
6.96	-	-	-	-
7.26	-	-	-	-
7.56	-	-	-	-
7.86	-	-	-	-
8.17	-	-	-	-
8.47	-	-	-	-
8.77	-	-	-	-
9.07	-	-	-	-
9.38	-	-	-	-
9.68	-	-	-	-
9.98	-	-	-	-
10.28	-	-	-	-
10.59	-	-	-	-
10.89	-	-	-	-
11.19	-	-	-	-
11.49	-	-	-	-
11.80	-	-	-	-
12.10	-	-	-	-
12.40	-	-	-	-
12.70	-	-	-	-
13.01	-	-	-	-
13.31	-	-	-	-
13.61	-	-	-	-
13.91	-	-	-	-
14.22	-	-	-	-
14.52	-	-	-	-
14.82	-	-	-	-

Utmattning - Enkel kontroll

Tvärkraft

Enligt SS-EN 1992-1-1, 6.8.

f_{ck} =	35.5	MPa	ν =	0.51	
$f_{cd.fat}$ =	22.4	MPa	$f_{cd.fat.red}$ =	11.5	MPa
θ_{fat} =	32.3	°	α_{cw} =	1.0	

Snitt B3

x [m]	h [m]	b_w [m]	$A_{s0.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s0.uk}$ [cm^2]	d_{uk} [m]	A_{sw} [cm^2/m]	$V_{Rd,c}$ [kN]
0.00	0.80	0.50	32.7	0.74	33.7	0.74	10.5	-
0.30	0.80	0.50	32.7	0.74	33.7	0.74	10.5	-
0.61	0.80	0.50	32.7	0.74	33.7	0.74	10.5	-
0.91	0.80	0.50	30.3	0.74	33.7	0.74	5.2	-
1.21	0.80	0.50	29.8	0.74	33.7	0.74	5.2	-
1.51	0.80	0.50	29.8	0.74	33.7	0.74	5.2	-
1.82	0.80	0.50	29.8	0.74	33.7	0.74	5.2	-
2.12	0.80	0.50	29.8	0.74	33.7	0.74	5.2	-
2.42	0.80	0.50	29.8	0.74	33.7	0.74	5.2	-
2.72	0.80	0.50	29.8	0.74	33.7	0.74	5.2	-
3.02	0.80	0.50	39.0	0.74	43.0	0.74	5.2	-
3.33	0.80	0.50	39.0	0.74	43.0	0.74	5.2	-
3.63	0.80	0.50	39.0	0.74	43.0	0.74	5.2	-
3.93	0.80	0.50	39.0	0.74	43.0	0.74	5.2	-
4.23	0.80	0.50	39.0	0.74	43.0	0.74	5.2	-
4.54	0.80	0.50	39.0	0.74	43.0	0.74	5.2	-
4.84	0.80	0.50	39.0	0.74	43.0	0.74	5.2	-
5.14	0.80	0.50	39.0	0.74	43.0	0.74	5.2	-
5.44	0.80	0.50	39.0	0.74	43.0	0.74	5.2	-
5.75	0.80	0.50	39.0	0.74	43.0	0.74	5.2	-
6.05	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
6.35	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
6.65	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
6.96	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
7.26	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
7.56	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
7.86	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
8.17	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
8.47	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
8.77	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
9.07	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
9.38	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
9.68	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
9.98	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
10.28	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
10.59	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
10.89	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
11.19	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
11.49	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
11.80	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
12.10	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
12.40	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
12.70	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
13.01	0.80	0.50	50.4	0.74	52.2	0.74	5.2	-
13.31	0.80	0.50	53.5	0.74	52.2	0.74	5.2	-
13.61	0.80	0.50	53.5	0.74	52.2	0.74	5.2	-
13.91	0.80	0.50	53.5	0.74	52.2	0.74	5.2	-
14.22	0.80	0.50	53.5	0.74	52.2	0.74	10.5	-
14.52	0.80	0.50	53.5	0.74	52.2	0.74	10.5	-
14.82	0.80	0.50	53.5	0.74	52.2	0.74	10.5	-

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$
Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$
Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Snitt B3	Lastkombination (6.69) enligt SS-EN 1992-1-1									
	Permanenta		Variabla		Cykliska					
x [m]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	ΣV_{A1} [kN]	ΣV_{A2} [kN]	ΣV_{B1} [kN]	ΣV_{B2} [kN]
0.00	7	-241	0	0	34	-23	41	-16	-207	-264
0.30	-2	-351	0	0	64	-6	61	-8	-288	-357
0.61	-1	-115	0	0	61	-4	60	-5	-54	-119
0.91	21	-2	0	0	64	-5	85	17	62	-6
1.21	55	-2	0	0	61	-5	116	50	60	-7
1.51	38	-1	0	0	57	-5	95	33	56	-6
1.82	-1	-6	0	0	56	-5	55	-6	50	-11
2.12	-1	-31	0	0	52	-7	51	-8	21	-38
2.42	-1	-43	0	0	48	-9	47	-9	4	-52
2.72	-1	-54	0	0	47	-10	47	-11	-7	-64
3.02	-1	-64	0	0	43	-12	43	-13	-20	-76
3.33	0	-70	0	0	40	-15	40	-16	-30	-85
3.63	0	-71	0	0	40	-18	40	-18	-31	-88
3.93	0	-67	0	0	37	-19	37	-19	-30	-86
4.23	0	-67	0	0	35	-21	35	-21	-33	-88
4.54	0	-74	0	0	35	-23	35	-23	-39	-97
4.84	0	-70	0	0	32	-24	32	-24	-38	-94
5.14	0	-63	0	0	30	-25	30	-25	-33	-89
5.44	0	-68	0	0	31	-27	30	-27	-38	-95
5.75	0	-67	0	0	29	-28	29	-28	-38	-95
6.05	0	-47	0	0	27	-30	27	-30	-20	-76
6.35	0	-19	0	0	26	-31	26	-31	8	-50
6.65	4	0	0	0	25	-32	29	-28	24	-33
6.96	19	0	0	0	23	-34	43	-15	23	-34
7.26	31	0	0	0	22	-35	54	-4	22	-36
7.56	41	0	0	0	21	-37	63	4	21	-37
7.86	50	0	0	0	20	-40	70	10	21	-40
8.17	56	0	0	0	20	-42	76	14	20	-42
8.47	61	0	0	0	19	-45	80	17	19	-44
8.77	64	1	0	0	17	-47	81	17	18	-47
9.07	64	1	0	0	16	-50	79	14	16	-49
9.38	63	1	0	0	14	-52	77	11	15	-52
9.68	62	1	0	0	13	-55	75	7	14	-54
9.98	61	1	0	0	11	-58	73	3	12	-57
10.28	60	1	0	0	10	-61	70	-1	11	-60
10.59	59	1	0	0	8	-64	68	-5	9	-63
10.89	58	1	0	0	8	-68	66	-9	9	-67
11.19	57	1	0	0	6	-70	63	-13	7	-69
11.49	56	1	0	0	5	-74	61	-18	6	-73
11.80	55	1	0	0	4	-78	59	-23	5	-77
12.10	52	1	0	0	4	-80	56	-28	5	-79
12.40	47	1	0	0	4	-85	51	-37	5	-83
12.70	39	1	0	0	4	-90	43	-51	5	-89
13.01	28	1	0	0	4	-92	32	-64	5	-91
13.31	14	1	0	0	4	-97	18	-83	6	-96
13.61	3	-8	0	0	5	-103	8	-100	-4	-111
13.91	5	-30	0	0	5	-107	10	-103	-25	-138
14.22	8	-60	0	0	8	-112	15	-105	-52	-172
14.52	13	-116	0	0	11	-119	24	-106	-105	-235
14.82	17	-6	0	0	82	-82	99	-65	76	-88

Komb A, Jmf Komb A1 med A2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
185.9

Snitt B3	Kontroll - Tryckstråva					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0.00	0.5	-0.2	0.05	0.50	OK	36.8	OK
0.30	0.8	-0.1	0.07	0.50	OK	55.6	OK
0.61	0.8	-0.1	0.07	0.50	OK	54.3	OK
0.91	1.1	0.2	0.10	0.51	OK	124.6	ej OK
1.21	1.5	0.7	0.13	0.53	OK	119.7	ej OK
1.51	1.2	0.4	0.11	0.52	OK	112.5	ej OK
1.82	0.7	-0.1	0.06	0.50	OK	100.4	ej OK
2.12	0.7	-0.1	0.06	0.50	OK	92.4	ej OK
2.42	0.6	-0.1	0.05	0.50	OK	85.0	ej OK
2.72	0.6	-0.1	0.05	0.50	OK	84.7	ej OK
3.02	0.6	-0.2	0.05	0.50	OK	77.6	ej OK
3.33	0.5	-0.2	0.04	0.50	OK	71.9	ej OK
3.63	0.5	-0.2	0.04	0.50	OK	72.0	ej OK
3.93	0.5	-0.3	0.04	0.50	OK	66.5	OK
4.23	0.4	-0.3	0.04	0.50	OK	62.6	OK
4.54	0.4	-0.3	0.04	0.50	OK	63.0	OK
4.84	0.4	-0.3	0.04	0.50	OK	58.7	OK
5.14	0.4	-0.3	0.03	0.50	OK	54.9	OK
5.44	0.4	-0.3	0.03	0.50	OK	55.1	OK
5.75	0.4	-0.4	0.03	0.50	OK	51.9	OK
6.05	0.3	-0.4	0.03	0.50	OK	54.3	OK
6.35	0.3	-0.4	0.03	0.50	OK	56.4	OK
6.65	0.4	-0.4	0.03	0.50	OK	51.9	OK
6.96	0.6	-0.2	0.05	0.50	OK	77.3	ej OK
7.26	0.7	-0.1	0.06	0.50	OK	97.2	ej OK
7.56	0.8	0.0	0.07	0.50	OK	106.7	ej OK
7.86	0.9	0.1	0.08	0.50	OK	109.1	ej OK
8.17	1.0	0.2	0.08	0.51	OK	112.3	ej OK
8.47	1.0	0.2	0.09	0.51	OK	115.2	ej OK
8.77	1.0	0.2	0.09	0.51	OK	117.1	ej OK
9.07	1.0	0.2	0.09	0.51	OK	118.8	ej OK
9.38	1.0	0.1	0.09	0.51	OK	120.5	ej OK
9.68	1.0	0.1	0.08	0.50	OK	123.0	ej OK
9.98	0.9	0.0	0.08	0.50	OK	126.2	ej OK
10.28	0.9	0.0	0.08	0.50	OK	126.7	ej OK
10.59	0.9	-0.1	0.08	0.50	OK	122.6	ej OK
10.89	0.9	-0.1	0.07	0.50	OK	119.3	ej OK
11.19	0.8	-0.2	0.07	0.50	OK	114.4	ej OK
11.49	0.8	-0.2	0.07	0.50	OK	110.3	ej OK
11.80	0.8	-0.3	0.07	0.50	OK	106.7	ej OK
12.10	0.7	-0.4	0.06	0.50	OK	102.0	ej OK
12.40	0.7	-0.5	0.06	0.50	OK	92.7	ej OK
12.70	0.6	-0.7	0.06	0.50	OK	92.9	ej OK
13.01	0.4	-0.8	0.07	0.50	OK	116.2	ej OK
13.31	0.2	-1.1	0.09	0.50	OK	151.0	ej OK
13.61	0.1	-1.3	0.11	0.50	OK	181.2	ej OK
13.91	0.1	-1.3	0.11	0.50	OK	185.9	ej OK
14.22	0.2	-1.4	0.12	0.50	OK	94.8	ej OK
14.52	0.3	-1.4	0.12	0.50	OK	95.9	ej OK
14.82	1.3	-0.8	0.11	0.50	OK	89.8	ej OK

Komb A, Jmf Komb A1 med A2

Snitt	Kontroll - Betong utan tvärkraftsarmering			
B3		$V_{min} / V_{max} \geq 0$	$V_{min} / V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert / \lvert V_{Rdc} \rvert$	$0,5 + 0,45 \cdot \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	$0,5 - \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	Kontroll
0.00	-	-	-	-
0.30	-	-	-	-
0.61	-	-	-	-
0.91	-	-	-	-
1.21	-	-	-	-
1.51	-	-	-	-
1.82	-	-	-	-
2.12	-	-	-	-
2.42	-	-	-	-
2.72	-	-	-	-
3.02	-	-	-	-
3.33	-	-	-	-
3.63	-	-	-	-
3.93	-	-	-	-
4.23	-	-	-	-
4.54	-	-	-	-
4.84	-	-	-	-
5.14	-	-	-	-
5.44	-	-	-	-
5.75	-	-	-	-
6.05	-	-	-	-
6.35	-	-	-	-
6.65	-	-	-	-
6.96	-	-	-	-
7.26	-	-	-	-
7.56	-	-	-	-
7.86	-	-	-	-
8.17	-	-	-	-
8.47	-	-	-	-
8.77	-	-	-	-
9.07	-	-	-	-
9.38	-	-	-	-
9.68	-	-	-	-
9.98	-	-	-	-
10.28	-	-	-	-
10.59	-	-	-	-
10.89	-	-	-	-
11.19	-	-	-	-
11.49	-	-	-	-
11.80	-	-	-	-
12.10	-	-	-	-
12.40	-	-	-	-
12.70	-	-	-	-
13.01	-	-	-	-
13.31	-	-	-	-
13.61	-	-	-	-
13.91	-	-	-	-
14.22	-	-	-	-
14.52	-	-	-	-
14.82	-	-	-	-

Komb B, Jmf Komb B1 med B2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
204.2

Snitt B3	Kontroll - Tryckstråva					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0.00	-2.7	-3.4	0.30	0.60	OK	51.5	OK
0.30	-3.7	-4.6	0.40	0.64	OK	63.0	OK
0.61	-0.7	-1.5	0.13	0.53	OK	59.2	OK
0.91	0.8	-0.1	0.07	0.50	OK	112.9	ej OK
1.21	0.8	-0.1	0.07	0.50	OK	107.9	ej OK
1.51	0.7	-0.1	0.06	0.50	OK	100.9	ej OK
1.82	0.6	-0.1	0.06	0.50	OK	91.2	ej OK
2.12	0.3	-0.5	0.04	0.50	OK	68.5	OK
2.42	0.1	-0.7	0.06	0.50	OK	94.1	ej OK
2.72	-0.1	-0.8	0.07	0.50	OK	104.3	ej OK
3.02	-0.3	-1.0	0.08	0.51	OK	100.6	ej OK
3.33	-0.4	-1.1	0.10	0.52	OK	100.0	ej OK
3.63	-0.4	-1.1	0.10	0.52	OK	104.2	ej OK
3.93	-0.4	-1.1	0.10	0.52	OK	101.8	ej OK
4.23	-0.4	-1.1	0.10	0.52	OK	100.6	ej OK
4.54	-0.5	-1.3	0.11	0.52	OK	103.9	ej OK
4.84	-0.5	-1.2	0.11	0.52	OK	102.2	ej OK
5.14	-0.4	-1.1	0.10	0.52	OK	101.1	ej OK
5.44	-0.5	-1.2	0.11	0.52	OK	103.7	ej OK
5.75	-0.5	-1.2	0.11	0.52	OK	103.3	ej OK
6.05	-0.3	-1.0	0.09	0.51	OK	103.0	ej OK
6.35	0.1	-0.6	0.06	0.50	OK	89.9	ej OK
6.65	0.3	-0.4	0.04	0.50	OK	59.2	OK
6.96	0.3	-0.4	0.04	0.50	OK	61.7	OK
7.26	0.3	-0.5	0.04	0.50	OK	64.4	OK
7.56	0.3	-0.5	0.04	0.50	OK	67.8	OK
7.86	0.3	-0.5	0.04	0.50	OK	71.8	ej OK
8.17	0.3	-0.5	0.05	0.50	OK	76.3	ej OK
8.47	0.3	-0.6	0.05	0.50	OK	80.1	ej OK
8.77	0.2	-0.6	0.05	0.50	OK	84.5	ej OK
9.07	0.2	-0.6	0.06	0.50	OK	89.6	ej OK
9.38	0.2	-0.7	0.06	0.50	OK	93.6	ej OK
9.68	0.2	-0.7	0.06	0.50	OK	98.5	ej OK
9.98	0.2	-0.7	0.06	0.50	OK	104.2	ej OK
10.28	0.1	-0.8	0.07	0.50	OK	108.6	ej OK
10.59	0.1	-0.8	0.07	0.50	OK	114.2	ej OK
10.89	0.1	-0.9	0.07	0.50	OK	120.8	ej OK
11.19	0.1	-0.9	0.08	0.50	OK	125.6	ej OK
11.49	0.1	-0.9	0.08	0.50	OK	132.5	ej OK
11.80	0.1	-1.0	0.09	0.50	OK	139.6	ej OK
12.10	0.1	-1.0	0.09	0.50	OK	142.4	ej OK
12.40	0.1	-1.1	0.09	0.50	OK	150.8	ej OK
12.70	0.1	-1.1	0.10	0.50	OK	161.0	ej OK
13.01	0.1	-1.2	0.10	0.50	OK	164.2	ej OK
13.31	0.1	-1.2	0.11	0.50	OK	173.5	ej OK
13.61	0.0	-1.4	0.12	0.50	OK	195.0	ej OK
13.91	-0.3	-1.8	0.15	0.51	OK	204.2	ej OK
14.22	-0.7	-2.2	0.19	0.53	OK	108.7	ej OK
14.52	-1.4	-3.0	0.26	0.55	OK	117.4	ej OK
14.82	1.0	-1.1	0.10	0.50	OK	79.9	ej OK

Komb B, Jmf Komb B1 med B2

Snitt	Kontroll - Betong utan tvärkraftsarmering			
B3		$V_{min} / V_{max} \geq 0$	$V_{min} / V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert / \lvert V_{Rdc} \rvert$	$0,5 + 0,45 \cdot \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	$0,5 - \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	Kontroll
0.00	-	-	-	-
0.30	-	-	-	-
0.61	-	-	-	-
0.91	-	-	-	-
1.21	-	-	-	-
1.51	-	-	-	-
1.82	-	-	-	-
2.12	-	-	-	-
2.42	-	-	-	-
2.72	-	-	-	-
3.02	-	-	-	-
3.33	-	-	-	-
3.63	-	-	-	-
3.93	-	-	-	-
4.23	-	-	-	-
4.54	-	-	-	-
4.84	-	-	-	-
5.14	-	-	-	-
5.44	-	-	-	-
5.75	-	-	-	-
6.05	-	-	-	-
6.35	-	-	-	-
6.65	-	-	-	-
6.96	-	-	-	-
7.26	-	-	-	-
7.56	-	-	-	-
7.86	-	-	-	-
8.17	-	-	-	-
8.47	-	-	-	-
8.77	-	-	-	-
9.07	-	-	-	-
9.38	-	-	-	-
9.68	-	-	-	-
9.98	-	-	-	-
10.28	-	-	-	-
10.59	-	-	-	-
10.89	-	-	-	-
11.19	-	-	-	-
11.49	-	-	-	-
11.80	-	-	-	-
12.10	-	-	-	-
12.40	-	-	-	-
12.70	-	-	-	-
13.01	-	-	-	-
13.31	-	-	-	-
13.61	-	-	-	-
13.91	-	-	-	-
14.22	-	-	-	-
14.52	-	-	-	-
14.82	-	-	-	-

Utmattning - Enkel kontroll

Tvärkraft

Enligt SS-EN 1992-1-1, 6.8.

f_{ck} =	35.5	MPa	ν =	0.51	
$f_{cd.fat}$ =	22.4	MPa	$f_{cd.fat.red}$ =	11.5	MPa
θ_{fat} =	32.3	°	α_{cw} =	1.0	

Snitt B4

x [m]	h [m]	b_w [m]	$A_{s0.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s0.uk}$ [cm^2]	d_{uk} [m]	A_{sw} [cm^2/m]	$V_{Rd,c}$ [kN]
0.00	0.80	0.50	32.7	0.74	33.7	0.74	10.5	-
0.30	0.80	0.50	32.7	0.74	33.7	0.74	10.5	-
0.61	0.80	0.50	32.7	0.74	33.7	0.74	10.5	-
0.91	0.80	0.50	30.3	0.74	33.7	0.74	5.2	-
1.21	0.80	0.50	29.8	0.74	33.7	0.74	5.2	-
1.51	0.80	0.50	29.8	0.74	33.7	0.74	5.2	-
1.82	0.80	0.50	29.8	0.74	33.7	0.74	5.2	-
2.12	0.80	0.50	29.8	0.74	33.7	0.74	5.2	-
2.42	0.80	0.50	29.8	0.74	33.7	0.74	5.2	-
2.72	0.80	0.50	29.8	0.74	33.7	0.74	5.2	-
3.02	0.80	0.50	39.0	0.74	43.0	0.74	5.2	-
3.33	0.80	0.50	39.0	0.74	43.0	0.74	5.2	-
3.63	0.80	0.50	39.0	0.74	43.0	0.74	5.2	-
3.93	0.80	0.50	39.0	0.74	43.0	0.74	5.2	-
4.23	0.80	0.50	39.0	0.74	43.0	0.74	5.2	-
4.54	0.80	0.50	39.0	0.74	43.0	0.74	5.2	-
4.84	0.80	0.50	39.0	0.74	43.0	0.74	5.2	-
5.14	0.80	0.50	39.0	0.74	43.0	0.74	5.2	-
5.44	0.80	0.50	39.0	0.74	43.0	0.74	5.2	-
5.75	0.80	0.50	39.0	0.74	43.0	0.74	5.2	-
6.05	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
6.35	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
6.65	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
6.96	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
7.26	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
7.56	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
7.86	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
8.17	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
8.47	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
8.77	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
9.07	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
9.38	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
9.68	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
9.98	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
10.28	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
10.59	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
10.89	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
11.19	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
11.49	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
11.80	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
12.10	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
12.40	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
12.70	0.80	0.50	48.2	0.74	52.2	0.74	5.2	-
13.01	0.80	0.50	50.4	0.74	52.2	0.74	5.2	-
13.31	0.80	0.50	53.5	0.74	52.2	0.74	5.2	-
13.61	0.80	0.50	53.5	0.74	52.2	0.74	5.2	-
13.91	0.80	0.50	53.5	0.74	52.2	0.74	5.2	-
14.22	0.80	0.50	53.5	0.74	52.2	0.74	10.5	-
14.52	0.80	0.50	53.5	0.74	52.2	0.74	10.5	-
14.82	0.80	0.50	53.5	0.74	52.2	0.74	10.5	-

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$
Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$
Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Snitt B4	Lastkombination (6.69) enligt SS-EN 1992-1-1									
	Permanenta		Variabla		Cykliska					
x [m]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	ΣV_{A1} [kN]	ΣV_{A2} [kN]	ΣV_{B1} [kN]	ΣV_{B2} [kN]
0.00	228	0	0	0	23	-33	251	195	23	-34
0.30	332	-2	0	0	6	-62	338	270	4	-64
0.61	105	-1	0	0	4	-60	109	45	3	-61
0.91	-1	-27	0	0	5	-63	4	-63	-22	-90
1.21	-1	-60	0	0	5	-60	4	-61	-55	-120
1.51	-1	-39	0	0	5	-56	4	-57	-34	-95
1.82	10	-1	0	0	5	-55	15	-45	4	-57
2.12	38	-1	0	0	6	-51	44	-13	5	-52
2.42	51	-1	0	0	8	-47	59	4	7	-48
2.72	62	0	0	0	10	-46	72	16	9	-47
3.02	73	0	0	0	11	-42	84	30	11	-43
3.33	79	0	0	0	14	-39	93	40	15	-39
3.63	78	1	0	0	17	-39	95	39	17	-38
3.93	69	0	0	0	19	-36	88	33	19	-36
4.23	54	0	0	0	20	-34	74	20	20	-34
4.54	42	-1	0	0	22	-34	64	9	21	-34
4.84	80	-1	0	0	23	-32	103	49	22	-32
5.14	114	-1	0	0	24	-30	138	84	23	-31
5.44	102	-1	0	0	26	-30	127	72	24	-31
5.75	84	-1	0	0	27	-28	111	56	26	-29
6.05	55	-1	0	0	29	-26	84	29	28	-27
6.35	24	0	0	0	30	-25	54	-1	30	-25
6.65	1	0	0	0	31	-24	32	-23	31	-24
6.96	0	-17	0	0	33	-22	33	-22	16	-39
7.26	0	-30	0	0	34	-21	35	-21	5	-51
7.56	0	-40	0	0	36	-20	37	-20	-4	-61
7.86	0	-49	0	0	39	-19	39	-19	-10	-68
8.17	0	-55	0	0	41	-19	41	-19	-14	-73
8.47	0	-59	0	0	44	-18	43	-18	-15	-77
8.77	0	-60	0	0	46	-16	46	-16	-14	-77
9.07	0	-60	0	0	49	-15	49	-15	-11	-75
9.38	0	-59	0	0	51	-13	51	-14	-8	-72
9.68	0	-58	0	0	54	-12	54	-12	-4	-70
9.98	0	-56	0	0	57	-11	57	-11	1	-67
10.28	0	-55	0	0	60	-9	59	-9	5	-64
10.59	0	-54	0	0	63	-8	62	-8	9	-62
10.89	0	-52	0	0	66	-7	66	-7	14	-59
11.19	0	-51	0	0	69	-5	69	-5	18	-56
11.49	0	-50	0	0	73	-4	73	-5	23	-54
11.80	0	-48	0	0	77	-4	77	-4	29	-52
12.10	-1	-45	0	0	79	-4	78	-5	33	-49
12.40	-1	-40	0	0	83	-4	83	-5	43	-44
12.70	-1	-32	0	0	89	-4	88	-5	56	-36
13.01	-1	-22	0	0	91	-4	90	-5	69	-26
13.31	-1	-8	0	0	95	-4	94	-6	87	-12
13.61	13	-4	0	0	101	-5	114	8	97	-9
13.91	33	-7	0	0	105	-6	138	28	98	-13
14.22	62	-13	0	0	110	-8	172	54	97	-21
14.52	119	-22	0	0	116	-11	235	107	94	-34
14.82	5	-28	0	0	80	-80	85	-74	52	-107

Komb A, Jmf Komb A1 med A2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
200.8

Snitt B4	Kontroll - Tryckstråva					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0.00	3.2	2.5	0.28	0.60	OK	51.0	OK
0.30	4.4	3.5	0.38	0.64	OK	61.7	OK
0.61	1.4	0.6	0.12	0.52	OK	58.2	OK
0.91	0.1	-0.8	0.07	0.50	OK	114.8	ej OK
1.21	0.1	-0.8	0.07	0.50	OK	109.8	ej OK
1.51	0.1	-0.7	0.06	0.50	OK	103.2	ej OK
1.82	0.2	-0.6	0.05	0.50	OK	81.8	ej OK
2.12	0.6	-0.2	0.05	0.50	OK	79.6	ej OK
2.42	0.8	0.0	0.07	0.50	OK	100.0	ej OK
2.72	0.9	0.2	0.08	0.51	OK	101.4	ej OK
3.02	1.1	0.4	0.09	0.52	OK	97.7	ej OK
3.33	1.2	0.5	0.10	0.52	OK	97.5	ej OK
3.63	1.2	0.5	0.11	0.52	OK	101.1	ej OK
3.93	1.1	0.4	0.10	0.52	OK	98.8	ej OK
4.23	1.0	0.3	0.08	0.51	OK	97.9	ej OK
4.54	0.8	0.1	0.07	0.50	OK	100.7	ej OK
4.84	1.3	0.6	0.12	0.52	OK	99.1	ej OK
5.14	1.8	1.1	0.15	0.54	OK	98.3	ej OK
5.44	1.6	0.9	0.14	0.54	OK	100.4	ej OK
5.75	1.4	0.7	0.12	0.53	OK	100.0	ej OK
6.05	1.1	0.4	0.09	0.51	OK	99.8	ej OK
6.35	0.7	0.0	0.06	0.50	OK	98.4	ej OK
6.65	0.4	-0.3	0.04	0.50	OK	57.6	OK
6.96	0.4	-0.3	0.04	0.50	OK	60.5	OK
7.26	0.4	-0.3	0.04	0.50	OK	63.1	OK
7.56	0.5	-0.3	0.04	0.50	OK	66.6	OK
7.86	0.5	-0.2	0.04	0.50	OK	70.6	ej OK
8.17	0.5	-0.2	0.05	0.50	OK	74.7	ej OK
8.47	0.6	-0.2	0.05	0.50	OK	78.8	ej OK
8.77	0.6	-0.2	0.05	0.50	OK	83.2	ej OK
9.07	0.6	-0.2	0.05	0.50	OK	88.0	ej OK
9.38	0.7	-0.2	0.06	0.50	OK	92.4	ej OK
9.68	0.7	-0.2	0.06	0.50	OK	97.4	ej OK
9.98	0.7	-0.1	0.06	0.50	OK	102.8	ej OK
10.28	0.8	-0.1	0.07	0.50	OK	107.7	ej OK
10.59	0.8	-0.1	0.07	0.50	OK	113.3	ej OK
10.89	0.9	-0.1	0.07	0.50	OK	119.5	ej OK
11.19	0.9	-0.1	0.08	0.50	OK	124.8	ej OK
11.49	0.9	-0.1	0.08	0.50	OK	131.7	ej OK
11.80	1.0	-0.1	0.09	0.50	OK	138.7	ej OK
12.10	1.0	-0.1	0.09	0.50	OK	142.0	ej OK
12.40	1.1	-0.1	0.09	0.50	OK	149.7	ej OK
12.70	1.1	-0.1	0.10	0.50	OK	159.4	ej OK
13.01	1.2	-0.1	0.10	0.50	OK	162.7	ej OK
13.31	1.2	-0.1	0.11	0.50	OK	170.4	ej OK
13.61	1.5	0.1	0.13	0.50	OK	191.7	ej OK
13.91	1.8	0.4	0.15	0.51	OK	200.8	ej OK
14.22	2.2	0.7	0.19	0.53	OK	106.7	ej OK
14.52	3.0	1.4	0.26	0.55	OK	115.7	ej OK
14.82	1.1	-1.0	0.10	0.50	OK	77.1	ej OK

Komb A, Jmf Komb A1 med A2

Snitt	Kontroll - Betong utan tvärkraftsarmering			
B4		$V_{min} / V_{max} \geq 0$	$V_{min} / V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert / \lvert V_{Rdc} \rvert$	$0,5 + 0,45 \cdot \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	$0,5 - \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	Kontroll
0.00	-	-	-	-
0.30	-	-	-	-
0.61	-	-	-	-
0.91	-	-	-	-
1.21	-	-	-	-
1.51	-	-	-	-
1.82	-	-	-	-
2.12	-	-	-	-
2.42	-	-	-	-
2.72	-	-	-	-
3.02	-	-	-	-
3.33	-	-	-	-
3.63	-	-	-	-
3.93	-	-	-	-
4.23	-	-	-	-
4.54	-	-	-	-
4.84	-	-	-	-
5.14	-	-	-	-
5.44	-	-	-	-
5.75	-	-	-	-
6.05	-	-	-	-
6.35	-	-	-	-
6.65	-	-	-	-
6.96	-	-	-	-
7.26	-	-	-	-
7.56	-	-	-	-
7.86	-	-	-	-
8.17	-	-	-	-
8.47	-	-	-	-
8.77	-	-	-	-
9.07	-	-	-	-
9.38	-	-	-	-
9.68	-	-	-	-
9.98	-	-	-	-
10.28	-	-	-	-
10.59	-	-	-	-
10.89	-	-	-	-
11.19	-	-	-	-
11.49	-	-	-	-
11.80	-	-	-	-
12.10	-	-	-	-
12.40	-	-	-	-
12.70	-	-	-	-
13.01	-	-	-	-
13.31	-	-	-	-
13.61	-	-	-	-
13.91	-	-	-	-
14.22	-	-	-	-
14.52	-	-	-	-
14.82	-	-	-	-

Komb B, Jmf Komb B1 med B2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
178.0

Snitt B4	Kontroll - Tryckstråva					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0.00	0.3	-0.4	0.04	0.50	OK	30.4	OK
0.30	0.1	-0.8	0.07	0.50	OK	57.9	OK
0.61	0.0	-0.8	0.07	0.50	OK	55.4	OK
0.91	-0.3	-1.2	0.10	0.51	OK	122.4	ej OK
1.21	-0.7	-1.5	0.13	0.53	OK	117.5	ej OK
1.51	-0.4	-1.2	0.11	0.52	OK	110.9	ej OK
1.82	0.0	-0.7	0.06	0.50	OK	102.6	ej OK
2.12	0.1	-0.7	0.06	0.50	OK	94.1	ej OK
2.42	0.1	-0.6	0.05	0.50	OK	86.8	ej OK
2.72	0.1	-0.6	0.05	0.50	OK	84.7	ej OK
3.02	0.1	-0.5	0.05	0.50	OK	77.1	ej OK
3.33	0.2	-0.5	0.04	0.50	OK	70.6	ej OK
3.63	0.2	-0.5	0.04	0.50	OK	69.6	OK
3.93	0.2	-0.5	0.04	0.50	OK	64.4	OK
4.23	0.3	-0.4	0.04	0.50	OK	60.9	OK
4.54	0.3	-0.4	0.04	0.50	OK	62.2	OK
4.84	0.3	-0.4	0.04	0.50	OK	58.8	OK
5.14	0.3	-0.4	0.04	0.50	OK	56.7	OK
5.44	0.3	-0.4	0.03	0.50	OK	56.2	OK
5.75	0.3	-0.4	0.03	0.50	OK	52.6	OK
6.05	0.4	-0.3	0.03	0.50	OK	50.9	OK
6.35	0.4	-0.3	0.03	0.50	OK	53.8	OK
6.65	0.4	-0.3	0.04	0.50	OK	56.8	OK
6.96	0.2	-0.5	0.04	0.50	OK	71.3	ej OK
7.26	0.1	-0.7	0.06	0.50	OK	93.1	ej OK
7.56	0.0	-0.8	0.07	0.50	OK	103.2	ej OK
7.86	-0.1	-0.9	0.08	0.50	OK	105.2	ej OK
8.17	-0.2	-0.9	0.08	0.51	OK	108.4	ej OK
8.47	-0.2	-1.0	0.09	0.51	OK	111.6	ej OK
8.77	-0.2	-1.0	0.09	0.51	OK	113.1	ej OK
9.07	-0.1	-1.0	0.08	0.51	OK	114.9	ej OK
9.38	-0.1	-0.9	0.08	0.50	OK	116.9	ej OK
9.68	0.0	-0.9	0.08	0.50	OK	119.5	ej OK
9.98	0.0	-0.9	0.07	0.50	OK	121.1	ej OK
10.28	0.1	-0.8	0.07	0.50	OK	115.6	ej OK
10.59	0.1	-0.8	0.07	0.50	OK	111.5	ej OK
10.89	0.2	-0.8	0.07	0.50	OK	107.5	ej OK
11.19	0.2	-0.7	0.06	0.50	OK	102.2	ej OK
11.49	0.3	-0.7	0.06	0.50	OK	98.2	ej OK
11.80	0.4	-0.7	0.06	0.50	OK	94.6	ej OK
12.10	0.4	-0.6	0.06	0.50	OK	89.4	ej OK
12.40	0.6	-0.6	0.05	0.50	OK	80.0	ej OK
12.70	0.7	-0.5	0.06	0.50	OK	102.3	ej OK
13.01	0.9	-0.3	0.08	0.50	OK	125.3	ej OK
13.31	1.1	-0.2	0.10	0.50	OK	158.1	ej OK
13.61	1.3	-0.1	0.11	0.50	OK	176.2	ej OK
13.91	1.3	-0.2	0.11	0.50	OK	178.0	ej OK
14.22	1.3	-0.3	0.11	0.50	OK	88.0	ej OK
14.52	1.2	-0.4	0.11	0.50	OK	85.2	ej OK
14.82	0.7	-1.4	0.12	0.50	OK	97.4	ej OK

Komb B, Jmf Komb B1 med B2

Snitt	Kontroll - Betong utan tvärkraftsarmering			
B4		$V_{min} / V_{max} \geq 0$	$V_{min} / V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert / \lvert V_{Rdc} \rvert$	$0,5 + 0,45 \cdot \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	$0,5 - \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	Kontroll
0.00	-	-	-	-
0.30	-	-	-	-
0.61	-	-	-	-
0.91	-	-	-	-
1.21	-	-	-	-
1.51	-	-	-	-
1.82	-	-	-	-
2.12	-	-	-	-
2.42	-	-	-	-
2.72	-	-	-	-
3.02	-	-	-	-
3.33	-	-	-	-
3.63	-	-	-	-
3.93	-	-	-	-
4.23	-	-	-	-
4.54	-	-	-	-
4.84	-	-	-	-
5.14	-	-	-	-
5.44	-	-	-	-
5.75	-	-	-	-
6.05	-	-	-	-
6.35	-	-	-	-
6.65	-	-	-	-
6.96	-	-	-	-
7.26	-	-	-	-
7.56	-	-	-	-
7.86	-	-	-	-
8.17	-	-	-	-
8.47	-	-	-	-
8.77	-	-	-	-
9.07	-	-	-	-
9.38	-	-	-	-
9.68	-	-	-	-
9.98	-	-	-	-
10.28	-	-	-	-
10.59	-	-	-	-
10.89	-	-	-	-
11.19	-	-	-	-
11.49	-	-	-	-
11.80	-	-	-	-
12.10	-	-	-	-
12.40	-	-	-	-
12.70	-	-	-	-
13.01	-	-	-	-
13.31	-	-	-	-
13.61	-	-	-	-
13.91	-	-	-	-
14.22	-	-	-	-
14.52	-	-	-	-
14.82	-	-	-	-

Utmattning - Enkel kontroll

Tvärkraft

Enligt SS-EN 1992-1-1, 6.8.

f_{ck} =	35.5	MPa	ν =	0.51	
$f_{cd.fat}$ =	22.4	MPa	$f_{cd.fat.red}$ =	11.5	MPa
θ_{fat} =	32.3	°	α_{cw} =	1.0	

Snitt B5

x [m]	h [m]	b_w [m]	$A_{s0.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s0.uk}$ [cm^2]	d_{uk} [m]	A_{sw} [cm^2/m]	$V_{Rd,c}$ [kN]
0.00	0.75	0.60	32.7	0.69	33.7	0.69	10.5	-
0.30	0.75	0.60	32.7	0.69	33.7	0.69	10.5	-
0.61	0.75	0.60	32.7	0.69	33.7	0.69	10.5	-
0.91	0.75	0.60	30.3	0.69	33.7	0.69	5.2	-
1.21	0.75	0.60	29.8	0.69	33.7	0.69	5.2	-
1.51	0.75	0.60	29.8	0.69	33.7	0.69	5.2	-
1.82	0.75	0.60	29.8	0.69	33.7	0.69	5.2	-
2.12	0.75	0.60	29.8	0.69	33.7	0.69	5.2	-
2.42	0.75	0.60	29.8	0.69	33.7	0.69	5.2	-
2.72	0.75	0.60	29.8	0.69	33.7	0.69	5.2	-
3.02	0.75	0.60	39.0	0.69	43.0	0.69	5.2	-
3.33	0.75	0.60	39.0	0.69	43.0	0.69	5.2	-
3.63	0.75	0.60	39.0	0.69	43.0	0.69	5.2	-
3.93	0.75	0.60	39.0	0.69	43.0	0.69	5.2	-
4.23	0.75	0.60	39.0	0.69	43.0	0.69	5.2	-
4.54	0.75	0.60	39.0	0.69	43.0	0.69	5.2	-
4.84	0.75	0.60	39.0	0.69	43.0	0.69	5.2	-
5.14	0.75	0.60	39.0	0.69	43.0	0.69	5.2	-
5.44	0.75	0.60	39.0	0.69	43.0	0.69	5.2	-
5.75	0.75	0.60	39.0	0.69	43.0	0.69	5.2	-
6.05	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
6.35	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
6.65	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
6.96	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
7.26	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
7.56	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
7.86	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
8.17	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
8.47	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
8.77	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
9.07	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
9.38	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
9.68	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
9.98	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
10.28	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
10.59	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
10.89	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
11.19	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
11.49	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
11.80	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
12.10	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
12.40	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
12.70	0.75	0.60	48.2	0.69	52.2	0.69	5.2	-
13.01	0.75	0.60	50.4	0.69	52.2	0.69	5.2	-
13.31	0.75	0.60	53.5	0.69	52.2	0.69	5.2	-
13.61	0.75	0.60	53.5	0.69	52.2	0.69	5.2	-
13.91	0.75	0.60	53.5	0.69	52.2	0.69	5.2	-
14.22	0.75	0.60	53.5	0.69	52.2	0.69	10.5	-
14.52	0.75	0.60	53.5	0.69	52.2	0.69	10.5	-
14.82	0.75	0.60	53.5	0.69	52.2	0.69	10.5	-

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$
Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$
Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Snitt B5	Lastkombination (6.69) enligt SS-EN 1992-1-1									
	Permanenta		Variabla		Cykliska					
x [m]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	ΣV_{A1} [kN]	ΣV_{A2} [kN]	ΣV_{B1} [kN]	ΣV_{B2} [kN]
0.00	216	-2	0	0	9	-35	225	181	7	-37
0.30	320	-4	0	0	8	-69	328	251	5	-72
0.61	117	-3	0	0	5	-66	122	51	2	-68
0.91	2	-2	0	0	5	-66	7	-64	2	-68
1.21	-1	-32	0	0	4	-66	4	-66	-28	-98
1.51	-1	-36	0	0	5	-61	4	-62	-31	-97
1.82	-2	-9	0	0	7	-57	5	-59	-2	-66
2.12	36	-3	0	0	8	-55	45	-19	5	-58
2.42	69	-3	0	0	10	-51	79	18	7	-54
2.72	101	-3	0	0	13	-48	114	53	10	-51
3.02	124	-3	0	0	16	-46	140	78	13	-49
3.33	116	-3	0	0	19	-42	134	73	16	-45
3.63	89	-3	0	0	21	-41	109	48	18	-44
3.93	61	-3	0	0	22	-39	83	21	20	-42
4.23	35	-2	0	0	24	-37	59	-1	22	-39
4.54	15	-2	0	0	26	-36	40	-21	23	-38
4.84	6	-2	0	0	27	-35	33	-29	25	-37
5.14	67	-2	0	0	28	-33	95	35	25	-35
5.44	132	-2	0	0	29	-33	161	99	27	-35
5.75	124	-2	0	0	31	-31	154	93	29	-33
6.05	98	-2	0	0	32	-29	130	69	30	-31
6.35	67	-2	0	0	33	-28	101	39	32	-30
6.65	37	-1	0	0	35	-27	72	10	34	-28
6.96	10	-1	0	0	36	-26	47	-15	35	-27
7.26	0	-12	0	0	38	-25	38	-25	26	-37
7.56	0	-30	0	0	39	-24	39	-24	10	-54
7.86	0	-43	0	0	41	-23	41	-23	-2	-66
8.17	0	-53	0	0	45	-22	45	-22	-8	-75
8.47	0	-58	0	0	46	-21	46	-21	-12	-79
8.77	1	-59	0	0	48	-21	49	-20	-11	-80
9.07	1	-57	0	0	52	-19	52	-18	-6	-76
9.38	1	-55	0	0	53	-17	54	-16	-2	-72
9.68	1	-53	0	0	56	-16	57	-15	3	-69
9.98	1	-51	0	0	60	-14	61	-13	8	-66
10.28	1	-51	0	0	62	-13	63	-12	11	-63
10.59	1	-50	0	0	65	-11	66	-10	14	-61
10.89	1	-51	0	0	69	-10	70	-9	18	-61
11.19	1	-52	0	0	72	-8	73	-7	19	-60
11.49	1	-54	0	0	76	-6	77	-5	22	-60
11.80	1	-56	0	0	80	-5	81	-4	24	-62
12.10	1	-58	0	0	83	-4	84	-4	25	-62
12.40	0	-56	0	0	89	-5	89	-4	32	-61
12.70	0	-52	0	0	93	-5	94	-5	41	-57
13.01	0	-45	0	0	97	-5	97	-5	52	-50
13.31	-1	-35	0	0	103	-5	102	-6	69	-40
13.61	-2	-21	0	0	109	-6	106	-9	88	-27
13.91	5	-18	0	0	114	-8	119	-2	96	-26
14.22	40	-33	0	0	120	-11	160	29	87	-44
14.52	111	-56	0	0	127	-15	238	96	71	-71
14.82	6	-71	0	0	84	-84	90	-79	13	-156

Komb A, Jmf Komb A1 med A2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
231.4

Snitt B5	Kontroll - Tryckstråva					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0.00	2.6	2.1	0.23	0.58	OK	42.9	OK
0.30	3.8	2.9	0.33	0.61	OK	74.9	ej OK
0.61	1.4	0.6	0.12	0.52	OK	68.7	OK
0.91	0.1	-0.7	0.06	0.50	OK	123.9	ej OK
1.21	0.0	-0.8	0.07	0.50	OK	128.9	ej OK
1.51	0.0	-0.7	0.06	0.50	OK	120.7	ej OK
1.82	0.1	-0.7	0.06	0.50	OK	115.3	ej OK
2.12	0.5	-0.2	0.04	0.50	OK	86.8	ej OK
2.42	0.9	0.2	0.08	0.51	OK	118.6	ej OK
2.72	1.3	0.6	0.11	0.52	OK	118.4	ej OK
3.02	1.6	0.9	0.14	0.54	OK	120.7	ej OK
3.33	1.6	0.8	0.13	0.53	OK	118.7	ej OK
3.63	1.3	0.6	0.11	0.52	OK	119.5	ej OK
3.93	1.0	0.2	0.08	0.51	OK	120.1	ej OK
4.23	0.7	0.0	0.06	0.50	OK	115.3	ej OK
4.54	0.5	-0.2	0.04	0.50	OK	78.7	ej OK
4.84	0.4	-0.3	0.03	0.50	OK	63.6	OK
5.14	1.1	0.4	0.10	0.52	OK	117.6	ej OK
5.44	1.9	1.1	0.16	0.54	OK	119.6	ej OK
5.75	1.8	1.1	0.15	0.54	OK	119.8	ej OK
6.05	1.5	0.8	0.13	0.53	OK	118.5	ej OK
6.35	1.2	0.4	0.10	0.52	OK	120.3	ej OK
6.65	0.8	0.1	0.07	0.50	OK	120.6	ej OK
6.96	0.5	-0.2	0.05	0.50	OK	90.7	ej OK
7.26	0.4	-0.3	0.04	0.50	OK	73.4	ej OK
7.56	0.5	-0.3	0.04	0.50	OK	76.1	ej OK
7.86	0.5	-0.3	0.04	0.50	OK	80.5	ej OK
8.17	0.5	-0.3	0.04	0.50	OK	87.0	ej OK
8.47	0.5	-0.2	0.05	0.50	OK	89.9	ej OK
8.77	0.6	-0.2	0.05	0.50	OK	94.9	ej OK
9.07	0.6	-0.2	0.05	0.50	OK	102.0	ej OK
9.38	0.6	-0.2	0.05	0.50	OK	105.3	ej OK
9.68	0.7	-0.2	0.06	0.50	OK	110.8	ej OK
9.98	0.7	-0.2	0.06	0.50	OK	118.5	ej OK
10.28	0.7	-0.1	0.06	0.50	OK	122.2	ej OK
10.59	0.8	-0.1	0.07	0.50	OK	128.4	ej OK
10.89	0.8	-0.1	0.07	0.50	OK	137.1	ej OK
11.19	0.8	-0.1	0.07	0.50	OK	141.5	ej OK
11.49	0.9	-0.1	0.08	0.50	OK	149.5	ej OK
11.80	0.9	-0.1	0.08	0.50	OK	157.6	ej OK
12.10	1.0	0.0	0.08	0.50	OK	162.5	ej OK
12.40	1.0	0.0	0.09	0.50	OK	173.1	ej OK
12.70	1.1	-0.1	0.09	0.50	OK	181.8	ej OK
13.01	1.1	-0.1	0.10	0.50	OK	187.8	ej OK
13.31	1.2	-0.1	0.10	0.50	OK	198.9	ej OK
13.61	1.2	-0.1	0.11	0.50	OK	206.3	ej OK
13.91	1.4	0.0	0.12	0.50	OK	231.4	ej OK
14.22	1.9	0.3	0.16	0.51	OK	127.5	ej OK
14.52	2.7	1.1	0.24	0.54	OK	138.0	ej OK
14.82	1.0	-0.9	0.09	0.50	OK	87.5	ej OK

Komb A, Jmf Komb A1 med A2

Snitt	Kontroll - Betong utan tvärkraftsarmering			
B5		$V_{min} / V_{max} \geq 0$	$V_{min} / V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert / \lvert V_{Rdc} \rvert$	$0,5 + 0,45 \cdot \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	$0,5 - \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	Kontroll
0.00	-	-	-	-
0.30	-	-	-	-
0.61	-	-	-	-
0.91	-	-	-	-
1.21	-	-	-	-
1.51	-	-	-	-
1.82	-	-	-	-
2.12	-	-	-	-
2.42	-	-	-	-
2.72	-	-	-	-
3.02	-	-	-	-
3.33	-	-	-	-
3.63	-	-	-	-
3.93	-	-	-	-
4.23	-	-	-	-
4.54	-	-	-	-
4.84	-	-	-	-
5.14	-	-	-	-
5.44	-	-	-	-
5.75	-	-	-	-
6.05	-	-	-	-
6.35	-	-	-	-
6.65	-	-	-	-
6.96	-	-	-	-
7.26	-	-	-	-
7.56	-	-	-	-
7.86	-	-	-	-
8.17	-	-	-	-
8.47	-	-	-	-
8.77	-	-	-	-
9.07	-	-	-	-
9.38	-	-	-	-
9.68	-	-	-	-
9.98	-	-	-	-
10.28	-	-	-	-
10.59	-	-	-	-
10.89	-	-	-	-
11.19	-	-	-	-
11.49	-	-	-	-
11.80	-	-	-	-
12.10	-	-	-	-
12.40	-	-	-	-
12.70	-	-	-	-
13.01	-	-	-	-
13.31	-	-	-	-
13.61	-	-	-	-
13.91	-	-	-	-
14.22	-	-	-	-
14.52	-	-	-	-
14.82	-	-	-	-

Komb B, Jmf Komb B1 med B2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
186.3

Snitt B5	Kontroll - Tryckstråva					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0.00	0.1	-0.4	0.04	0.50	OK	36.0	OK
0.30	0.1	-0.8	0.07	0.50	OK	70.3	ej OK
0.61	0.0	-0.8	0.07	0.50	OK	66.3	OK
0.91	0.0	-0.8	0.07	0.50	OK	132.8	ej OK
1.21	-0.3	-1.1	0.10	0.51	OK	136.4	ej OK
1.51	-0.4	-1.1	0.10	0.51	OK	128.3	ej OK
1.82	0.0	-0.8	0.07	0.50	OK	124.8	ej OK
2.12	0.1	-0.7	0.06	0.50	OK	113.3	ej OK
2.42	0.1	-0.6	0.05	0.50	OK	104.9	ej OK
2.72	0.1	-0.6	0.05	0.50	OK	99.8	ej OK
3.02	0.1	-0.6	0.05	0.50	OK	96.0	ej OK
3.33	0.2	-0.5	0.05	0.50	OK	88.4	ej OK
3.63	0.2	-0.5	0.04	0.50	OK	85.0	ej OK
3.93	0.2	-0.5	0.04	0.50	OK	81.4	ej OK
4.23	0.3	-0.5	0.04	0.50	OK	75.9	ej OK
4.54	0.3	-0.4	0.04	0.50	OK	74.6	ej OK
4.84	0.3	-0.4	0.04	0.50	OK	71.8	ej OK
5.14	0.3	-0.4	0.04	0.50	OK	68.2	OK
5.44	0.3	-0.4	0.03	0.50	OK	67.4	OK
5.75	0.3	-0.4	0.03	0.50	OK	64.2	OK
6.05	0.3	-0.4	0.03	0.50	OK	60.4	OK
6.35	0.4	-0.3	0.03	0.50	OK	61.6	OK
6.65	0.4	-0.3	0.03	0.50	OK	65.3	OK
6.96	0.4	-0.3	0.04	0.50	OK	68.3	OK
7.26	0.3	-0.4	0.04	0.50	OK	71.3	ej OK
7.56	0.1	-0.6	0.05	0.50	OK	104.1	ej OK
7.86	0.0	-0.8	0.07	0.50	OK	125.6	ej OK
8.17	-0.1	-0.9	0.07	0.50	OK	129.3	ej OK
8.47	-0.1	-0.9	0.08	0.51	OK	130.9	ej OK
8.77	-0.1	-0.9	0.08	0.50	OK	133.8	ej OK
9.07	-0.1	-0.9	0.08	0.50	OK	136.6	ej OK
9.38	0.0	-0.8	0.07	0.50	OK	137.2	ej OK
9.68	0.0	-0.8	0.07	0.50	OK	133.5	ej OK
9.98	0.1	-0.8	0.07	0.50	OK	127.6	ej OK
10.28	0.1	-0.7	0.06	0.50	OK	123.4	ej OK
10.59	0.2	-0.7	0.06	0.50	OK	119.4	ej OK
10.89	0.2	-0.7	0.06	0.50	OK	118.5	ej OK
11.19	0.2	-0.7	0.06	0.50	OK	116.9	ej OK
11.49	0.2	-0.7	0.06	0.50	OK	116.9	ej OK
11.80	0.3	-0.7	0.06	0.50	OK	120.1	ej OK
12.10	0.3	-0.7	0.06	0.50	OK	120.7	ej OK
12.40	0.4	-0.7	0.06	0.50	OK	118.7	ej OK
12.70	0.5	-0.7	0.06	0.50	OK	111.4	ej OK
13.01	0.6	-0.6	0.05	0.50	OK	100.6	ej OK
13.31	0.8	-0.5	0.07	0.50	OK	133.4	ej OK
13.61	1.0	-0.3	0.09	0.50	OK	170.5	ej OK
13.91	1.1	-0.3	0.10	0.50	OK	186.3	ej OK
14.22	1.0	-0.5	0.09	0.50	OK	84.9	ej OK
14.52	0.8	-0.8	0.07	0.50	OK	69.2	OK
14.82	0.2	-1.8	0.16	0.50	OK	151.2	ej OK

Komb B, Jmf Komb B1 med B2

Snitt	Kontroll - Betong utan tvärkraftsarmering			
B5		$V_{min} / V_{max} \geq 0$	$V_{min} / V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert / \lvert V_{Rdc} \rvert$	$0,5 + 0,45 \cdot \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	$0,5 - \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	Kontroll
0.00	-	-	-	-
0.30	-	-	-	-
0.61	-	-	-	-
0.91	-	-	-	-
1.21	-	-	-	-
1.51	-	-	-	-
1.82	-	-	-	-
2.12	-	-	-	-
2.42	-	-	-	-
2.72	-	-	-	-
3.02	-	-	-	-
3.33	-	-	-	-
3.63	-	-	-	-
3.93	-	-	-	-
4.23	-	-	-	-
4.54	-	-	-	-
4.84	-	-	-	-
5.14	-	-	-	-
5.44	-	-	-	-
5.75	-	-	-	-
6.05	-	-	-	-
6.35	-	-	-	-
6.65	-	-	-	-
6.96	-	-	-	-
7.26	-	-	-	-
7.56	-	-	-	-
7.86	-	-	-	-
8.17	-	-	-	-
8.47	-	-	-	-
8.77	-	-	-	-
9.07	-	-	-	-
9.38	-	-	-	-
9.68	-	-	-	-
9.98	-	-	-	-
10.28	-	-	-	-
10.59	-	-	-	-
10.89	-	-	-	-
11.19	-	-	-	-
11.49	-	-	-	-
11.80	-	-	-	-
12.10	-	-	-	-
12.40	-	-	-	-
12.70	-	-	-	-
13.01	-	-	-	-
13.31	-	-	-	-
13.61	-	-	-	-
13.91	-	-	-	-
14.22	-	-	-	-
14.52	-	-	-	-
14.82	-	-	-	-

Utmattning - Enkel kontroll

Tvärkraft

Enligt SS-EN 1992-1-1, 6.8.

f_{ck} =	35.5	MPa	ν =	0.51	
$f_{cd.fat}$ =	22.4	MPa	$f_{cd.fat.red}$ =	11.5	MPa
θ_{fat} =	32.3	°	α_{cw} =	1.0	

Snitt B6

x [m]	h [m]	b_w [m]	$A_{s0.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s0.uk}$ [cm^2]	d_{uk} [m]	A_{sw} [cm^2/m]	$V_{Rd,c}$ [kN]
0.00	0.83	0.50	32.7	0.77	33.7	0.77	10.5	-
0.30	0.83	0.50	32.7	0.77	33.7	0.77	10.5	-
0.61	0.83	0.50	32.7	0.77	33.7	0.77	10.5	-
0.91	0.83	0.50	30.3	0.77	33.7	0.77	5.2	-
1.21	0.83	0.50	29.8	0.77	33.7	0.77	5.2	-
1.51	0.83	0.50	29.8	0.77	33.7	0.77	5.2	-
1.82	0.83	0.50	29.8	0.77	33.7	0.77	5.2	-
2.12	0.83	0.50	29.8	0.77	33.7	0.77	5.2	-
2.42	0.83	0.50	29.8	0.77	33.7	0.77	5.2	-
2.72	0.83	0.50	29.8	0.77	33.7	0.77	5.2	-
3.02	0.83	0.50	39.0	0.77	43.0	0.77	5.2	-
3.33	0.83	0.50	39.0	0.77	43.0	0.77	5.2	-
3.63	0.83	0.50	39.0	0.77	43.0	0.77	5.2	-
3.93	0.83	0.50	39.0	0.77	43.0	0.77	5.2	-
4.23	0.83	0.50	39.0	0.77	43.0	0.77	5.2	-
4.54	0.83	0.50	39.0	0.77	43.0	0.77	5.2	-
4.84	0.83	0.50	39.0	0.77	43.0	0.77	5.2	-
5.14	0.83	0.50	39.0	0.77	43.0	0.77	5.2	-
5.44	0.83	0.50	39.0	0.77	43.0	0.77	5.2	-
5.75	0.83	0.50	39.0	0.77	43.0	0.77	5.2	-
6.05	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
6.35	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
6.65	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
6.96	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
7.26	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
7.56	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
7.86	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
8.17	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
8.47	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
8.77	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
9.07	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
9.38	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
9.68	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
9.98	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
10.28	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
10.59	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
10.89	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
11.19	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
11.49	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
11.80	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
12.10	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
12.40	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
12.70	0.83	0.50	48.2	0.77	52.2	0.77	5.2	-
13.01	0.83	0.50	50.4	0.77	52.2	0.77	5.2	-
13.31	0.83	0.50	53.5	0.77	52.2	0.77	5.2	-
13.61	0.83	0.50	53.5	0.77	52.2	0.77	5.2	-
13.91	0.83	0.50	53.5	0.77	52.2	0.77	5.2	-
14.22	0.83	0.50	53.5	0.77	52.2	0.77	10.5	-
14.52	0.83	0.50	53.5	0.77	52.2	0.77	10.5	-
14.82	0.83	0.50	53.5	0.77	52.2	0.77	10.5	-

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$
Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$
Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Snitt B6	Lastkombination (6.69) enligt SS-EN 1992-1-1									
	Permanenta		Variabla		Cykliska					
x [m]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	ΣV_{A1} [kN]	ΣV_{A2} [kN]	ΣV_{B1} [kN]	ΣV_{B2} [kN]
0.00	31	-203	0	0	14	-17	46	14	-189	-220
0.30	-13	-291	0	0	30	-3	17	-16	-261	-295
0.61	-8	-75	0	0	32	-3	24	-11	-43	-78
0.91	59	-11	0	0	31	-3	91	57	21	-13
1.21	92	-10	0	0	31	-2	122	89	21	-12
1.51	86	-9	0	0	30	-2	115	83	20	-12
1.82	48	-9	0	0	28	-2	76	46	19	-12
2.12	-6	-10	0	0	26	-2	20	-8	16	-12
2.42	-11	-37	0	0	25	-2	14	-13	-12	-39
2.72	-11	-43	0	0	23	-2	12	-13	-20	-45
3.02	-11	-53	0	0	21	-2	9	-14	-33	-56
3.33	-11	-61	0	0	19	-2	8	-13	-42	-63
3.63	-10	-59	0	0	17	-2	7	-13	-42	-61
3.93	-9	-46	0	0	15	-2	6	-11	-32	-49
4.23	-7	-24	0	0	13	-2	6	-10	-11	-26
4.54	3	-7	0	0	11	-2	14	0	4	-10
4.84	-5	-18	0	0	10	-3	5	-8	-8	-21
5.14	-4	-94	0	0	9	-3	4	-7	-85	-97
5.44	-4	-126	0	0	7	-4	3	-8	-119	-130
5.75	-4	-102	0	0	6	-5	2	-9	-96	-107
6.05	-4	-73	0	0	5	-7	1	-10	-68	-79
6.35	-4	-43	0	0	5	-8	1	-12	-38	-51
6.65	-3	-16	0	0	4	-9	1	-13	-11	-25
6.96	6	-4	0	0	3	-11	9	-5	0	-15
7.26	23	-3	0	0	2	-13	25	10	0	-16
7.56	37	-2	0	0	1	-15	38	22	-1	-17
7.86	46	-1	0	0	1	-17	47	30	0	-18
8.17	52	0	0	0	1	-19	53	33	0	-19
8.47	54	0	0	0	1	-21	54	33	1	-21
8.77	52	1	0	0	1	-23	53	29	2	-22
9.07	48	1	0	0	1	-25	49	23	2	-24
9.38	44	2	0	0	0	-27	44	17	2	-25
9.68	40	2	0	0	0	-29	41	11	3	-27
9.98	37	3	0	0	0	-31	38	6	3	-28
10.28	35	3	0	0	0	-33	36	2	4	-30
10.59	34	3	0	0	0	-34	35	0	4	-31
10.89	34	4	0	0	0	-36	35	-2	4	-32
11.19	35	4	0	0	1	-37	35	-3	5	-33
11.49	36	5	0	0	1	-38	37	-2	5	-34
11.80	38	5	0	0	1	-39	38	-2	5	-35
12.10	37	5	0	0	1	-40	37	-4	6	-35
12.40	31	6	0	0	1	-41	31	-10	6	-35
12.70	18	6	0	0	1	-41	19	-22	7	-35
13.01	9	-7	0	0	1	-40	10	-31	-6	-47
13.31	13	-34	0	0	1	-40	14	-27	-33	-74
13.61	21	-68	0	0	1	-39	22	-18	-67	-107
13.91	35	-111	0	0	1	-37	36	-2	-109	-148
14.22	62	-169	0	0	2	-36	64	27	-168	-205
14.52	104	-282	0	0	3	-35	107	69	-279	-317
14.82	110	-11	0	0	44	-44	154	66	33	-55

Komb A, Jmf Komb A1 med A2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
76.9

Snitt B6	Kontroll - Tryckstråva					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0.00	0.6	0.2	0.05	0.51	OK	27.6	OK
0.30	0.2	-0.2	0.02	0.50	OK	15.2	OK
0.61	0.3	-0.1	0.03	0.50	OK	20.9	OK
0.91	1.1	0.7	0.10	0.53	OK	59.4	OK
1.21	1.5	1.1	0.13	0.54	OK	57.8	OK
1.51	1.4	1.0	0.12	0.54	OK	55.5	OK
1.82	0.9	0.6	0.08	0.52	OK	52.9	OK
2.12	0.3	-0.1	0.02	0.50	OK	35.3	OK
2.42	0.2	-0.2	0.02	0.50	OK	24.4	OK
2.72	0.1	-0.2	0.01	0.50	OK	23.4	OK
3.02	0.1	-0.2	0.01	0.50	OK	23.8	OK
3.33	0.1	-0.2	0.01	0.50	OK	23.2	OK
3.63	0.1	-0.2	0.01	0.50	OK	21.8	OK
3.93	0.1	-0.1	0.01	0.50	OK	19.7	OK
4.23	0.1	-0.1	0.01	0.50	OK	17.2	OK
4.54	0.2	0.0	0.02	0.50	OK	24.3	OK
4.84	0.1	-0.1	0.01	0.50	OK	13.2	OK
5.14	0.1	-0.1	0.01	0.50	OK	12.5	OK
5.44	0.0	-0.1	0.01	0.50	OK	13.8	OK
5.75	0.0	-0.1	0.01	0.50	OK	16.0	OK
6.05	0.0	-0.1	0.01	0.50	OK	18.3	OK
6.35	0.0	-0.1	0.01	0.50	OK	20.3	OK
6.65	0.0	-0.2	0.01	0.50	OK	22.0	OK
6.96	0.1	-0.1	0.01	0.50	OK	15.8	OK
7.26	0.3	0.1	0.03	0.50	OK	26.5	OK
7.56	0.5	0.3	0.04	0.51	OK	28.0	OK
7.86	0.6	0.4	0.05	0.51	OK	30.7	OK
8.17	0.7	0.4	0.06	0.52	OK	34.3	OK
8.47	0.7	0.4	0.06	0.52	OK	37.9	OK
8.77	0.7	0.4	0.06	0.51	OK	41.4	OK
9.07	0.6	0.3	0.05	0.51	OK	44.8	OK
9.38	0.6	0.2	0.05	0.51	OK	48.2	OK
9.68	0.5	0.1	0.04	0.51	OK	51.7	OK
9.98	0.5	0.1	0.04	0.50	OK	55.0	OK
10.28	0.4	0.0	0.04	0.50	OK	58.1	OK
10.59	0.4	0.0	0.04	0.50	OK	60.7	OK
10.89	0.4	0.0	0.04	0.50	OK	60.4	OK
11.19	0.4	0.0	0.04	0.50	OK	61.4	OK
11.49	0.5	0.0	0.04	0.50	OK	64.0	OK
11.80	0.5	0.0	0.04	0.50	OK	66.6	OK
12.10	0.5	0.0	0.04	0.50	OK	64.9	OK
12.40	0.4	-0.1	0.03	0.50	OK	54.5	OK
12.70	0.2	-0.3	0.02	0.50	OK	38.6	OK
13.01	0.1	-0.4	0.03	0.50	OK	54.2	OK
13.31	0.2	-0.3	0.03	0.50	OK	46.4	OK
13.61	0.3	-0.2	0.02	0.50	OK	38.2	OK
13.91	0.5	0.0	0.04	0.50	OK	63.4	OK
14.22	0.8	0.3	0.07	0.51	OK	32.8	OK
14.52	1.3	0.9	0.12	0.53	OK	33.1	OK
14.82	1.9	0.8	0.17	0.53	OK	76.9	ej OK

Komb A, Jmf Komb A1 med A2

Snitt	Kontroll - Betong utan tvärkraftsarmering			
B6		$V_{min} / V_{max} \geq 0$	$V_{min} / V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert / \lvert V_{Rdc} \rvert$	$0,5 + 0,45 \cdot \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	$0,5 - \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	Kontroll
0.00	-	-	-	-
0.30	-	-	-	-
0.61	-	-	-	-
0.91	-	-	-	-
1.21	-	-	-	-
1.51	-	-	-	-
1.82	-	-	-	-
2.12	-	-	-	-
2.42	-	-	-	-
2.72	-	-	-	-
3.02	-	-	-	-
3.33	-	-	-	-
3.63	-	-	-	-
3.93	-	-	-	-
4.23	-	-	-	-
4.54	-	-	-	-
4.84	-	-	-	-
5.14	-	-	-	-
5.44	-	-	-	-
5.75	-	-	-	-
6.05	-	-	-	-
6.35	-	-	-	-
6.65	-	-	-	-
6.96	-	-	-	-
7.26	-	-	-	-
7.56	-	-	-	-
7.86	-	-	-	-
8.17	-	-	-	-
8.47	-	-	-	-
8.77	-	-	-	-
9.07	-	-	-	-
9.38	-	-	-	-
9.68	-	-	-	-
9.98	-	-	-	-
10.28	-	-	-	-
10.59	-	-	-	-
10.89	-	-	-	-
11.19	-	-	-	-
11.49	-	-	-	-
11.80	-	-	-	-
12.10	-	-	-	-
12.40	-	-	-	-
12.70	-	-	-	-
13.01	-	-	-	-
13.31	-	-	-	-
13.61	-	-	-	-
13.91	-	-	-	-
14.22	-	-	-	-
14.52	-	-	-	-
14.82	-	-	-	-

Komb B, Jmf Komb B1 med B2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
71.9

Snitt B6	Kontroll - Tryckstråva					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0.00	-2.3	-2.7	0.24	0.59	OK	27.6	OK
0.30	-3.2	-3.7	0.32	0.63	OK	29.2	OK
0.61	-0.5	-1.0	0.08	0.52	OK	30.3	OK
0.91	0.3	-0.2	0.02	0.50	OK	36.2	OK
1.21	0.3	-0.1	0.02	0.50	OK	36.8	OK
1.51	0.3	-0.1	0.02	0.50	OK	35.3	OK
1.82	0.2	-0.1	0.02	0.50	OK	32.5	OK
2.12	0.2	-0.2	0.02	0.50	OK	28.2	OK
2.42	-0.2	-0.5	0.04	0.51	OK	46.8	OK
2.72	-0.2	-0.6	0.05	0.51	OK	43.6	OK
3.02	-0.4	-0.7	0.06	0.52	OK	40.1	OK
3.33	-0.5	-0.8	0.07	0.52	OK	36.5	OK
3.63	-0.5	-0.8	0.07	0.52	OK	33.1	OK
3.93	-0.4	-0.6	0.05	0.52	OK	29.9	OK
4.23	-0.1	-0.3	0.03	0.51	OK	26.9	OK
4.54	0.1	-0.1	0.01	0.50	OK	16.6	OK
4.84	-0.1	-0.3	0.02	0.50	OK	21.8	OK
5.14	-1.1	-1.2	0.10	0.54	OK	19.9	OK
5.44	-1.5	-1.6	0.14	0.56	OK	19.1	OK
5.75	-1.2	-1.3	0.12	0.55	OK	19.6	OK
6.05	-0.8	-1.0	0.09	0.53	OK	20.8	OK
6.35	-0.5	-0.6	0.05	0.52	OK	22.0	OK
6.65	-0.1	-0.3	0.03	0.51	OK	23.1	OK
6.96	0.0	-0.2	0.02	0.50	OK	24.7	OK
7.26	0.0	-0.2	0.02	0.50	OK	26.5	OK
7.56	0.0	-0.2	0.02	0.50	OK	28.0	OK
7.86	0.0	-0.2	0.02	0.50	OK	30.7	OK
8.17	0.0	-0.2	0.02	0.50	OK	33.4	OK
8.47	0.0	-0.3	0.02	0.50	OK	36.0	OK
8.77	0.0	-0.3	0.02	0.50	OK	38.7	OK
9.07	0.0	-0.3	0.03	0.50	OK	41.3	OK
9.38	0.0	-0.3	0.03	0.50	OK	44.1	OK
9.68	0.0	-0.3	0.03	0.50	OK	46.9	OK
9.98	0.0	-0.4	0.03	0.50	OK	49.5	OK
10.28	0.0	-0.4	0.03	0.50	OK	51.9	OK
10.59	0.0	-0.4	0.03	0.50	OK	53.9	OK
10.89	0.1	-0.4	0.03	0.50	OK	55.8	OK
11.19	0.1	-0.4	0.04	0.50	OK	57.6	OK
11.49	0.1	-0.4	0.04	0.50	OK	59.1	OK
11.80	0.1	-0.4	0.04	0.50	OK	60.3	OK
12.10	0.1	-0.4	0.04	0.50	OK	61.1	OK
12.40	0.1	-0.4	0.04	0.50	OK	61.1	OK
12.70	0.1	-0.4	0.04	0.50	OK	60.2	OK
13.01	-0.1	-0.6	0.05	0.50	OK	71.9	ej OK
13.31	-0.4	-0.9	0.08	0.52	OK	70.9	ej OK
13.61	-0.8	-1.3	0.11	0.53	OK	69.3	OK
13.91	-1.4	-1.8	0.16	0.55	OK	67.4	OK
14.22	-2.1	-2.5	0.22	0.58	OK	32.8	OK
14.52	-3.5	-3.9	0.34	0.64	OK	33.1	OK
14.82	0.4	-0.7	0.06	0.50	OK	48.3	OK

Komb B, Jmf Komb B1 med B2

Snitt	Kontroll - Betong utan tvärkraftsarmering			
B6		$V_{min} / V_{max} \geq 0$	$V_{min} / V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert / \lvert V_{Rdc} \rvert$	$0,5 + 0,45 \cdot \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	$0,5 - \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	Kontroll
0.00	-	-	-	-
0.30	-	-	-	-
0.61	-	-	-	-
0.91	-	-	-	-
1.21	-	-	-	-
1.51	-	-	-	-
1.82	-	-	-	-
2.12	-	-	-	-
2.42	-	-	-	-
2.72	-	-	-	-
3.02	-	-	-	-
3.33	-	-	-	-
3.63	-	-	-	-
3.93	-	-	-	-
4.23	-	-	-	-
4.54	-	-	-	-
4.84	-	-	-	-
5.14	-	-	-	-
5.44	-	-	-	-
5.75	-	-	-	-
6.05	-	-	-	-
6.35	-	-	-	-
6.65	-	-	-	-
6.96	-	-	-	-
7.26	-	-	-	-
7.56	-	-	-	-
7.86	-	-	-	-
8.17	-	-	-	-
8.47	-	-	-	-
8.77	-	-	-	-
9.07	-	-	-	-
9.38	-	-	-	-
9.68	-	-	-	-
9.98	-	-	-	-
10.28	-	-	-	-
10.59	-	-	-	-
10.89	-	-	-	-
11.19	-	-	-	-
11.49	-	-	-	-
11.80	-	-	-	-
12.10	-	-	-	-
12.40	-	-	-	-
12.70	-	-	-	-
13.01	-	-	-	-
13.31	-	-	-	-
13.61	-	-	-	-
13.91	-	-	-	-
14.22	-	-	-	-
14.52	-	-	-	-
14.82	-	-	-	-

Utmattning - Enkel kontroll

Tvärkraft

Enligt SS-EN 1992-1-1, 6.8.

f_{ck} =	35.5	MPa	ν =	0.51	
$f_{cd.fat}$ =	22.4	MPa	$f_{cd.fat.red}$ =	11.5	MPa
θ_{fat} =	32.3	°	α_{cw} =	1.0	

Snitt TL1

x [m]	h [m]	b_w [m]	$A_{s0.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s0.uk}$ [cm^2]	d_{uk} [m]	A_{sw} [cm^2/m]	$V_{Rd,c}$ [kN]
0.00	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
0.31	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
0.62	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
0.93	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
1.24	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
1.60	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
1.95	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
2.20	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
2.45	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
2.79	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
3.12	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
3.47	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
3.82	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
4.12	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
4.42	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
4.75	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
5.08	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
5.44	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
5.79	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
6.04	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
6.29	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
6.66	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
7.02	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
7.37	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
7.71	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
7.96	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
8.21	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
8.57	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
8.92	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
9.25	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
9.58	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
9.88	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
10.18	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
10.55	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
10.92	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
11.24	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
11.55	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
11.80	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
12.05	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
12.41	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
12.76	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
13.07	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
13.38	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
13.69	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
14.00	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$
Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$
Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Snitt	Lastkombination (6.69) enligt SS-EN 1992-1-1									
TL1	Permanenta		Variabla		Cykliska					
x	V_{max}	V_{min}	V_{max}	V_{min}	V_{max}	V_{min}	ΣV_{A1}	ΣV_{A2}	ΣV_{B1}	ΣV_{B2}
[m]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]
0.00	6	5	0	0	1	0	6	6	6	5
0.31	6	6	0	0	1	0	7	6	6	6
0.62	8	8	0	0	0	0	9	9	9	8
0.93	13	13	0	0	0	0	13	13	13	13
1.24	18	18	0	0	0	0	18	18	18	18
1.60	24	24	0	0	0	0	24	24	24	24
1.95	20	20	0	0	1	1	20	21	20	21
2.20	11	11	0	0	2	6	13	16	13	16
2.45	11	11	0	0	4	7	15	18	15	18
2.79	11	11	0	0	5	5	16	16	16	16
3.12	5	5	0	0	5	5	10	10	10	10
3.47	4	4	0	0	6	6	10	10	10	10
3.82	9	9	0	0	9	10	18	19	18	19
4.12	8	8	0	0	27	28	35	36	35	36
4.42	10	10	0	0	31	25	41	35	41	35
4.75	12	12	0	0	12	5	24	17	25	17
5.08	6	7	0	0	6	3	12	10	12	10
5.44	5	5	0	0	17	14	23	19	23	20
5.79	11	11	0	0	47	13	58	24	57	24
6.04	14	14	0	0	40	5	54	19	54	19
6.29	12	12	0	0	9	8	22	20	21	20
6.66	7	7	0	0	9	6	16	13	16	13
7.02	3	3	0	0	8	5	12	8	12	8
7.37	6	6	0	0	8	5	14	11	14	11
7.71	9	9	0	0	8	9	17	18	17	18
7.96	10	10	0	0	35	37	45	47	45	47
8.21	8	8	0	0	44	38	53	46	53	46
8.57	4	4	0	0	18	7	22	11	22	11
8.92	5	5	0	0	6	2	11	8	11	7
9.25	11	11	0	0	10	7	21	18	21	18
9.58	11	11	0	0	25	8	36	19	36	19
9.88	12	11	0	0	24	2	35	13	35	13
10.18	9	9	0	0	11	0	21	10	21	10
10.55	4	4	0	0	9	0	13	4	13	4
10.92	7	6	0	0	9	0	16	7	16	6
11.24	12	12	0	0	9	0	21	12	21	12
11.55	11	11	0	0	9	0	21	12	21	12
11.80	7	7	0	0	6	1	13	8	13	8
12.05	17	17	0	0	1	0	18	17	18	17
12.41	24	24	0	0	0	0	24	24	24	24
12.76	18	18	0	0	0	0	18	18	18	18
13.07	13	13	0	0	0	0	13	13	13	13
13.38	9	9	0	0	0	0	9	9	9	9
13.69	6	6	0	0	0	1	6	7	6	6
14.00	6	5	0	0	1	1	6	6	6	6

Komb A, Jmf Komb A1 med A2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Snitt TL1	Kontroll - Tryckstråva					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0.00	-	-	-	-	-	-	-
0.31	-	-	-	-	-	-	-
0.62	-	-	-	-	-	-	-
0.93	-	-	-	-	-	-	-
1.24	-	-	-	-	-	-	-
1.60	-	-	-	-	-	-	-
1.95	-	-	-	-	-	-	-
2.20	-	-	-	-	-	-	-
2.45	-	-	-	-	-	-	-
2.79	-	-	-	-	-	-	-
3.12	-	-	-	-	-	-	-
3.47	-	-	-	-	-	-	-
3.82	-	-	-	-	-	-	-
4.12	-	-	-	-	-	-	-
4.42	-	-	-	-	-	-	-
4.75	-	-	-	-	-	-	-
5.08	-	-	-	-	-	-	-
5.44	-	-	-	-	-	-	-
5.79	-	-	-	-	-	-	-
6.04	-	-	-	-	-	-	-
6.29	-	-	-	-	-	-	-
6.66	-	-	-	-	-	-	-
7.02	-	-	-	-	-	-	-
7.37	-	-	-	-	-	-	-
7.71	-	-	-	-	-	-	-
7.96	-	-	-	-	-	-	-
8.21	-	-	-	-	-	-	-
8.57	-	-	-	-	-	-	-
8.92	-	-	-	-	-	-	-
9.25	-	-	-	-	-	-	-
9.58	-	-	-	-	-	-	-
9.88	-	-	-	-	-	-	-
10.18	-	-	-	-	-	-	-
10.55	-	-	-	-	-	-	-
10.92	-	-	-	-	-	-	-
11.24	-	-	-	-	-	-	-
11.55	-	-	-	-	-	-	-
11.80	-	-	-	-	-	-	-
12.05	-	-	-	-	-	-	-
12.41	-	-	-	-	-	-	-
12.76	-	-	-	-	-	-	-
13.07	-	-	-	-	-	-	-
13.38	-	-	-	-	-	-	-
13.69	-	-	-	-	-	-	-
14.00	-	-	-	-	-	-	-

Komb A, Jmf Komb A1 med A2

Snitt	Kontroll - Betong utan tvärkraftsarmering			
TL1		$V_{min} / V_{max} \geq 0$	$V_{min} / V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert / \lvert V_{Rdc} \rvert$	$0,5 + 0,45 \cdot \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	$0,5 - \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	Kontroll
0.00	0.06	0.52	-	OK
0.31	0.06	0.53	-	OK
0.62	0.09	0.54	-	OK
0.93	0.13	0.56	-	OK
1.24	0.18	0.58	-	OK
1.60	0.23	0.60	-	OK
1.95	0.20	0.59	-	OK
2.20	0.16	0.56	-	OK
2.45	0.18	0.57	-	OK
2.79	0.15	0.57	-	OK
3.12	0.10	0.54	-	OK
3.47	0.10	0.54	-	OK
3.82	0.18	0.58	-	OK
4.12	0.35	0.65	-	OK
4.42	0.40	0.65	-	OK
4.75	0.24	0.57	-	OK
5.08	0.12	0.54	-	OK
5.44	0.22	0.58	-	OK
5.79	0.56	0.61	-	OK
6.04	0.53	0.58	-	OK
6.29	0.21	0.59	-	OK
6.66	0.15	0.56	-	OK
7.02	0.11	0.54	-	OK
7.37	0.14	0.55	-	OK
7.71	0.18	0.58	-	OK
7.96	0.46	0.70	-	OK
8.21	0.51	0.70	-	OK
8.57	0.21	0.55	-	OK
8.92	0.11	0.53	-	OK
9.25	0.21	0.58	-	OK
9.58	0.35	0.58	-	OK
9.88	0.34	0.56	-	OK
10.18	0.20	0.54	-	OK
10.55	0.13	0.52	-	OK
10.92	0.15	0.53	-	OK
11.24	0.21	0.55	-	OK
11.55	0.20	0.55	-	OK
11.80	0.13	0.53	-	OK
12.05	0.18	0.58	-	OK
12.41	0.24	0.61	-	OK
12.76	0.18	0.58	-	OK
13.07	0.13	0.56	-	OK
13.38	0.09	0.54	-	OK
13.69	0.06	0.53	-	OK
14.00	0.06	0.53	-	OK

Komb B, Jmf Komb B1 med B2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Snitt TL1	Kontroll - Tryckstråva					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0.00	-	-	-	-	-	-	-
0.31	-	-	-	-	-	-	-
0.62	-	-	-	-	-	-	-
0.93	-	-	-	-	-	-	-
1.24	-	-	-	-	-	-	-
1.60	-	-	-	-	-	-	-
1.95	-	-	-	-	-	-	-
2.20	-	-	-	-	-	-	-
2.45	-	-	-	-	-	-	-
2.79	-	-	-	-	-	-	-
3.12	-	-	-	-	-	-	-
3.47	-	-	-	-	-	-	-
3.82	-	-	-	-	-	-	-
4.12	-	-	-	-	-	-	-
4.42	-	-	-	-	-	-	-
4.75	-	-	-	-	-	-	-
5.08	-	-	-	-	-	-	-
5.44	-	-	-	-	-	-	-
5.79	-	-	-	-	-	-	-
6.04	-	-	-	-	-	-	-
6.29	-	-	-	-	-	-	-
6.66	-	-	-	-	-	-	-
7.02	-	-	-	-	-	-	-
7.37	-	-	-	-	-	-	-
7.71	-	-	-	-	-	-	-
7.96	-	-	-	-	-	-	-
8.21	-	-	-	-	-	-	-
8.57	-	-	-	-	-	-	-
8.92	-	-	-	-	-	-	-
9.25	-	-	-	-	-	-	-
9.58	-	-	-	-	-	-	-
9.88	-	-	-	-	-	-	-
10.18	-	-	-	-	-	-	-
10.55	-	-	-	-	-	-	-
10.92	-	-	-	-	-	-	-
11.24	-	-	-	-	-	-	-
11.55	-	-	-	-	-	-	-
11.80	-	-	-	-	-	-	-
12.05	-	-	-	-	-	-	-
12.41	-	-	-	-	-	-	-
12.76	-	-	-	-	-	-	-
13.07	-	-	-	-	-	-	-
13.38	-	-	-	-	-	-	-
13.69	-	-	-	-	-	-	-
14.00	-	-	-	-	-	-	-

Komb B, Jmf Komb B1 med B2

Snitt	Kontroll - Betong utan tvärkraftsarmering			
TL1		$V_{min} / V_{max} \geq 0$	$V_{min} / V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert / \lvert V_{Rdc} \rvert$	$0,5 + 0,45 \cdot \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	$0,5 - \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	Kontroll
0.00	0.06	0.52	-	OK
0.31	0.06	0.52	-	OK
0.62	0.08	0.54	-	OK
0.93	0.13	0.56	-	OK
1.24	0.18	0.58	-	OK
1.60	0.23	0.60	-	OK
1.95	0.20	0.59	-	OK
2.20	0.16	0.56	-	OK
2.45	0.18	0.57	-	OK
2.79	0.15	0.57	-	OK
3.12	0.10	0.55	-	OK
3.47	0.10	0.54	-	OK
3.82	0.18	0.58	-	OK
4.12	0.35	0.65	-	OK
4.42	0.40	0.65	-	OK
4.75	0.24	0.57	-	OK
5.08	0.12	0.54	-	OK
5.44	0.22	0.59	-	OK
5.79	0.56	0.61	-	OK
6.04	0.53	0.58	-	OK
6.29	0.21	0.59	-	OK
6.66	0.15	0.56	-	OK
7.02	0.11	0.54	-	OK
7.37	0.14	0.55	-	OK
7.71	0.17	0.57	-	OK
7.96	0.46	0.70	-	OK
8.21	0.51	0.70	-	OK
8.57	0.21	0.55	-	OK
8.92	0.11	0.53	-	OK
9.25	0.20	0.58	-	OK
9.58	0.35	0.58	-	OK
9.88	0.34	0.56	-	OK
10.18	0.20	0.54	-	OK
10.55	0.13	0.52	-	OK
10.92	0.15	0.53	-	OK
11.24	0.21	0.55	-	OK
11.55	0.20	0.55	-	OK
11.80	0.13	0.53	-	OK
12.05	0.18	0.58	-	OK
12.41	0.24	0.61	-	OK
12.76	0.18	0.58	-	OK
13.07	0.13	0.56	-	OK
13.38	0.09	0.54	-	OK
13.69	0.06	0.53	-	OK
14.00	0.06	0.52	-	OK

Utmattning - Enkel kontroll

Tvärkraft

Enligt SS-EN 1992-1-1, 6.8.

f_{ck} =	35.5	MPa	ν =	0.51	
$f_{cd.fat}$ =	22.4	MPa	$f_{cd.fat.red}$ =	11.5	MPa
θ_{fat} =	32.3	°	α_{cw} =	1.0	

Snitt LL

x [m]	h [m]	b_w [m]	$A_{s0.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s0.uk}$ [cm^2]	d_{uk} [m]	A_{sw} [cm^2/m]	$V_{Rd,c}$ [kN]
0.00	0.200	1.000	5.0	0.175	4.9	0.175	0.0	103
0.45	0.200	1.000	5.0	0.175	4.9	0.175	0.0	103
0.75	0.200	1.000	5.0	0.175	4.9	0.175	0.0	103
1.05	0.200	1.000	5.0	0.175	4.9	0.175	0.0	103
1.36	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
1.66	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
1.96	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
2.26	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
2.57	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
2.87	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
3.17	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
3.47	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
3.78	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
4.08	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
4.38	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
4.68	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
4.99	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
5.29	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
5.59	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
5.89	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
6.20	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
6.50	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
6.80	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
7.10	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
7.41	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
7.71	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
8.01	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
8.31	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
8.62	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
8.92	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
9.22	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
9.52	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
9.83	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
10.13	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
10.43	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
10.73	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
11.04	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
11.34	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
11.64	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
11.94	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
12.25	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
12.55	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
12.85	0.200	1.000	2.0	0.175	4.9	0.175	0.0	103
13.15	0.200	1.000	7.3	0.175	4.9	0.175	0.0	103
13.46	0.200	1.000	7.3	0.175	4.9	0.175	0.0	103
13.76	0.200	1.000	7.3	0.175	4.9	0.175	0.0	103
14.06	0.200	1.000	7.3	0.175	4.9	0.175	0.0	103
14.36	0.200	1.000	7.3	0.175	4.9	0.175	0.0	103
14.67	0.200	1.000	7.3	0.175	4.9	0.175	0.0	103
14.97	0.200	1.000	7.3	0.175	4.9	0.175	0.0	103

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$
Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$
Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Snitt	Lastkombination (6.69) enligt SS-EN 1992-1-1									
LL	Permanenta		Variabla		Cykliska					
x	V_{max}	V_{min}	V_{max}	V_{min}	V_{max}	V_{min}	ΣV_{A1}	ΣV_{A2}	ΣV_{B1}	ΣV_{B2}
[m]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]
0.00	185	185	0	0	9	1	193	186	193	185
0.45	205	205	0	0	8	1	213	207	213	206
0.75	159	159	0	0	5	1	165	161	165	161
1.05	73	73	0	0	4	1	77	74	77	74
1.36	46	46	0	0	4	1	50	47	50	47
1.66	29	29	0	0	4	1	33	30	33	30
1.96	14	14	0	0	4	0	18	15	18	15
2.26	7	7	0	0	4	0	12	8	11	8
2.57	4	4	0	0	5	0	9	4	9	4
2.87	3	3	0	0	5	0	9	3	9	3
3.17	5	4	0	0	6	1	10	5	10	5
3.47	5	5	0	0	6	2	11	6	11	6
3.78	5	5	0	0	7	2	12	7	12	7
4.08	4	4	0	0	7	3	12	7	12	7
4.38	4	4	0	0	8	3	12	7	12	7
4.68	4	4	0	0	8	3	11	7	11	7
4.99	3	3	0	0	8	4	11	7	11	7
5.29	3	3	0	0	8	4	11	7	11	7
5.59	3	3	0	0	8	4	12	7	12	7
5.89	4	4	0	0	8	4	12	8	12	8
6.20	4	4	0	0	8	5	13	9	13	9
6.50	4	4	0	0	8	5	13	9	13	9
6.80	4	4	0	0	8	5	13	9	13	9
7.10	4	4	0	0	8	4	12	8	12	8
7.41	3	3	0	0	8	4	12	7	12	7
7.71	3	3	0	0	8	4	11	7	11	7
8.01	3	3	0	0	8	4	11	7	11	7
8.31	3	3	0	0	8	4	11	7	11	7
8.62	3	3	0	0	8	4	11	7	11	7
8.92	3	3	0	0	8	4	11	7	11	7
9.22	3	3	0	0	7	4	11	7	11	7
9.52	3	3	0	0	7	3	10	7	10	7
9.83	3	3	0	0	7	2	10	6	10	5
10.13	3	3	0	0	7	1	10	4	10	4
10.43	3	3	0	0	6	0	9	3	9	3
10.73	3	3	0	0	6	0	9	3	9	3
11.04	3	3	0	0	5	0	8	3	8	3
11.34	3	3	0	0	5	0	8	3	8	3
11.64	3	3	0	0	4	0	7	3	7	3
11.94	3	3	0	0	4	0	7	3	7	3
12.25	3	3	0	0	3	0	6	3	6	3
12.55	3	3	0	0	3	0	6	3	6	3
12.85	3	3	0	0	3	0	6	3	5	3
13.15	3	3	0	0	3	0	5	3	5	3
13.46	2	2	0	0	3	0	5	3	5	2
13.76	2	2	0	0	3	0	5	3	5	2
14.06	3	2	0	0	3	0	6	3	6	3
14.36	3	3	0	0	4	0	7	3	7	3
14.67	3	3	0	0	3	1	6	4	6	4
14.97	3	3	0	0	3	1	6	4	6	4

Komb A, Jmf Komb A1 med A2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
0.0

Snitt LL	Kontroll - Tryckstråva					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0.00	-	-	-	-	-	-	-
0.45	-	-	-	-	-	-	-
0.75	-	-	-	-	-	-	-
1.05	-	-	-	-	-	-	-
1.36	-	-	-	-	-	-	-
1.66	-	-	-	-	-	-	-
1.96	-	-	-	-	-	-	-
2.26	-	-	-	-	-	-	-
2.57	-	-	-	-	-	-	-
2.87	-	-	-	-	-	-	-
3.17	-	-	-	-	-	-	-
3.47	-	-	-	-	-	-	-
3.78	-	-	-	-	-	-	-
4.08	-	-	-	-	-	-	-
4.38	-	-	-	-	-	-	-
4.68	-	-	-	-	-	-	-
4.99	-	-	-	-	-	-	-
5.29	-	-	-	-	-	-	-
5.59	-	-	-	-	-	-	-
5.89	-	-	-	-	-	-	-
6.20	-	-	-	-	-	-	-
6.50	-	-	-	-	-	-	-
6.80	-	-	-	-	-	-	-
7.10	-	-	-	-	-	-	-
7.41	-	-	-	-	-	-	-
7.71	-	-	-	-	-	-	-
8.01	-	-	-	-	-	-	-
8.31	-	-	-	-	-	-	-
8.62	-	-	-	-	-	-	-
8.92	-	-	-	-	-	-	-
9.22	-	-	-	-	-	-	-
9.52	-	-	-	-	-	-	-
9.83	-	-	-	-	-	-	-
10.13	-	-	-	-	-	-	-
10.43	-	-	-	-	-	-	-
10.73	-	-	-	-	-	-	-
11.04	-	-	-	-	-	-	-
11.34	-	-	-	-	-	-	-
11.64	-	-	-	-	-	-	-
11.94	-	-	-	-	-	-	-
12.25	-	-	-	-	-	-	-
12.55	-	-	-	-	-	-	-
12.85	-	-	-	-	-	-	-
13.15	-	-	-	-	-	-	-
13.46	-	-	-	-	-	-	-
13.76	-	-	-	-	-	-	-
14.06	-	-	-	-	-	-	-
14.36	-	-	-	-	-	-	-
14.67	-	-	-	-	-	-	-
14.97	-	-	-	-	-	-	-

Komb A, Jmf Komb A1 med A2

Snitt	Kontroll - Betong utan tvärkraftsarmering			
LL		$V_{min} / V_{max} \geq 0$	$V_{min} / V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert / \lvert V_{Rdc} \rvert$	$0,5 + 0,45 \cdot \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	$0,5 - \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	Kontroll
0.00	1.87	1.31	-	ej OK
0.45	2.07	1.40	-	ej OK
0.75	1.60	1.20	-	ej OK
1.05	0.75	0.82	-	OK
1.36	0.48	0.70	-	OK
1.66	0.32	0.63	-	OK
1.96	0.18	0.56	-	OK
2.26	0.11	0.53	-	OK
2.57	0.08	0.52	-	OK
2.87	0.08	0.52	-	OK
3.17	0.10	0.52	-	OK
3.47	0.11	0.53	-	OK
3.78	0.11	0.53	-	OK
4.08	0.11	0.53	-	OK
4.38	0.11	0.53	-	OK
4.68	0.11	0.53	-	OK
4.99	0.11	0.53	-	OK
5.29	0.11	0.53	-	OK
5.59	0.11	0.53	-	OK
5.89	0.12	0.53	-	OK
6.20	0.12	0.54	-	OK
6.50	0.13	0.54	-	OK
6.80	0.12	0.54	-	OK
7.10	0.12	0.53	-	OK
7.41	0.11	0.53	-	OK
7.71	0.11	0.53	-	OK
8.01	0.11	0.53	-	OK
8.31	0.11	0.53	-	OK
8.62	0.11	0.53	-	OK
8.92	0.11	0.53	-	OK
9.22	0.10	0.53	-	OK
9.52	0.10	0.53	-	OK
9.83	0.10	0.52	-	OK
10.13	0.09	0.52	-	OK
10.43	0.09	0.51	-	OK
10.73	0.08	0.51	-	OK
11.04	0.08	0.51	-	OK
11.34	0.08	0.51	-	OK
11.64	0.07	0.51	-	OK
11.94	0.07	0.51	-	OK
12.25	0.06	0.51	-	OK
12.55	0.06	0.51	-	OK
12.85	0.05	0.51	-	OK
13.15	0.05	0.51	-	OK
13.46	0.05	0.51	-	OK
13.76	0.05	0.51	-	OK
14.06	0.06	0.51	-	OK
14.36	0.07	0.51	-	OK
14.67	0.06	0.52	-	OK
14.97	0.06	0.52	-	OK

Komb B, Jmf Komb B1 med B2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
0.0

Snitt LL	Kontroll - Tryckstråva					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0.00	-	-	-	-	-	-	-
0.45	-	-	-	-	-	-	-
0.75	-	-	-	-	-	-	-
1.05	-	-	-	-	-	-	-
1.36	-	-	-	-	-	-	-
1.66	-	-	-	-	-	-	-
1.96	-	-	-	-	-	-	-
2.26	-	-	-	-	-	-	-
2.57	-	-	-	-	-	-	-
2.87	-	-	-	-	-	-	-
3.17	-	-	-	-	-	-	-
3.47	-	-	-	-	-	-	-
3.78	-	-	-	-	-	-	-
4.08	-	-	-	-	-	-	-
4.38	-	-	-	-	-	-	-
4.68	-	-	-	-	-	-	-
4.99	-	-	-	-	-	-	-
5.29	-	-	-	-	-	-	-
5.59	-	-	-	-	-	-	-
5.89	-	-	-	-	-	-	-
6.20	-	-	-	-	-	-	-
6.50	-	-	-	-	-	-	-
6.80	-	-	-	-	-	-	-
7.10	-	-	-	-	-	-	-
7.41	-	-	-	-	-	-	-
7.71	-	-	-	-	-	-	-
8.01	-	-	-	-	-	-	-
8.31	-	-	-	-	-	-	-
8.62	-	-	-	-	-	-	-
8.92	-	-	-	-	-	-	-
9.22	-	-	-	-	-	-	-
9.52	-	-	-	-	-	-	-
9.83	-	-	-	-	-	-	-
10.13	-	-	-	-	-	-	-
10.43	-	-	-	-	-	-	-
10.73	-	-	-	-	-	-	-
11.04	-	-	-	-	-	-	-
11.34	-	-	-	-	-	-	-
11.64	-	-	-	-	-	-	-
11.94	-	-	-	-	-	-	-
12.25	-	-	-	-	-	-	-
12.55	-	-	-	-	-	-	-
12.85	-	-	-	-	-	-	-
13.15	-	-	-	-	-	-	-
13.46	-	-	-	-	-	-	-
13.76	-	-	-	-	-	-	-
14.06	-	-	-	-	-	-	-
14.36	-	-	-	-	-	-	-
14.67	-	-	-	-	-	-	-
14.97	-	-	-	-	-	-	-

Komb B, Jmf Komb B1 med B2

Snitt	Kontroll - Betong utan tvärkraftsarmering			
LL		$V_{min} / V_{max} \geq 0$	$V_{min} / V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert / \lvert V_{Rdc} \rvert$	$0,5 + 0,45 \cdot \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	$0,5 - \lvert V_{min} \rvert / \lvert V_{Rdc} \rvert$	Kontroll
0.00	1.87	1.31	-	ej OK
0.45	2.06	1.40	-	ej OK
0.75	1.60	1.20	-	ej OK
1.05	0.75	0.82	-	OK
1.36	0.48	0.70	-	OK
1.66	0.32	0.63	-	OK
1.96	0.17	0.56	-	OK
2.26	0.11	0.53	-	OK
2.57	0.08	0.52	-	OK
2.87	0.08	0.51	-	OK
3.17	0.10	0.52	-	OK
3.47	0.11	0.53	-	OK
3.78	0.11	0.53	-	OK
4.08	0.11	0.53	-	OK
4.38	0.11	0.53	-	OK
4.68	0.11	0.53	-	OK
4.99	0.11	0.53	-	OK
5.29	0.11	0.53	-	OK
5.59	0.11	0.53	-	OK
5.89	0.12	0.53	-	OK
6.20	0.12	0.54	-	OK
6.50	0.13	0.54	-	OK
6.80	0.12	0.54	-	OK
7.10	0.12	0.53	-	OK
7.41	0.11	0.53	-	OK
7.71	0.11	0.53	-	OK
8.01	0.11	0.53	-	OK
8.31	0.11	0.53	-	OK
8.62	0.11	0.53	-	OK
8.92	0.11	0.53	-	OK
9.22	0.10	0.53	-	OK
9.52	0.10	0.53	-	OK
9.83	0.10	0.52	-	OK
10.13	0.09	0.52	-	OK
10.43	0.09	0.51	-	OK
10.73	0.08	0.51	-	OK
11.04	0.08	0.51	-	OK
11.34	0.07	0.51	-	OK
11.64	0.07	0.51	-	OK
11.94	0.06	0.51	-	OK
12.25	0.06	0.51	-	OK
12.55	0.06	0.51	-	OK
12.85	0.05	0.51	-	OK
13.15	0.05	0.51	-	OK
13.46	0.05	0.51	-	OK
13.76	0.05	0.51	-	OK
14.06	0.06	0.51	-	OK
14.36	0.06	0.51	-	OK
14.67	0.06	0.52	-	OK
14.97	0.06	0.52	-	OK

BILAGA 9
Pålgrundläggning

BILAGA 9 - PÅLGRUNDLÄGGNING

Denna bilaga avser pålgrundlagt landfäste samt mellanstöd för Islandsbron och upprättas för att verifiera pålarna.

B9.1 Allmänt

B9.1.1 Sammanfattning

Kontroll av pålgrupp och pålelement avseende nya pålkrafter anses OK.

Utnyttjandegrad för pålgrupp:

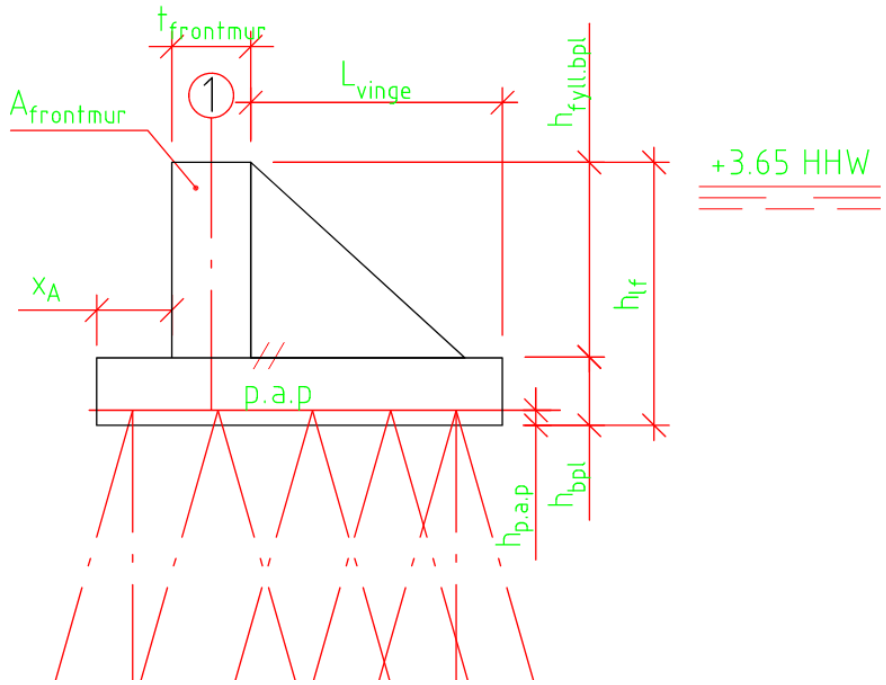
	n Landfäste	n Mellanstöd
P max	0.85	0.97
P min	0.00	0.00
Max UG	0.85	0.97

Pålkraft max och pålkraft min

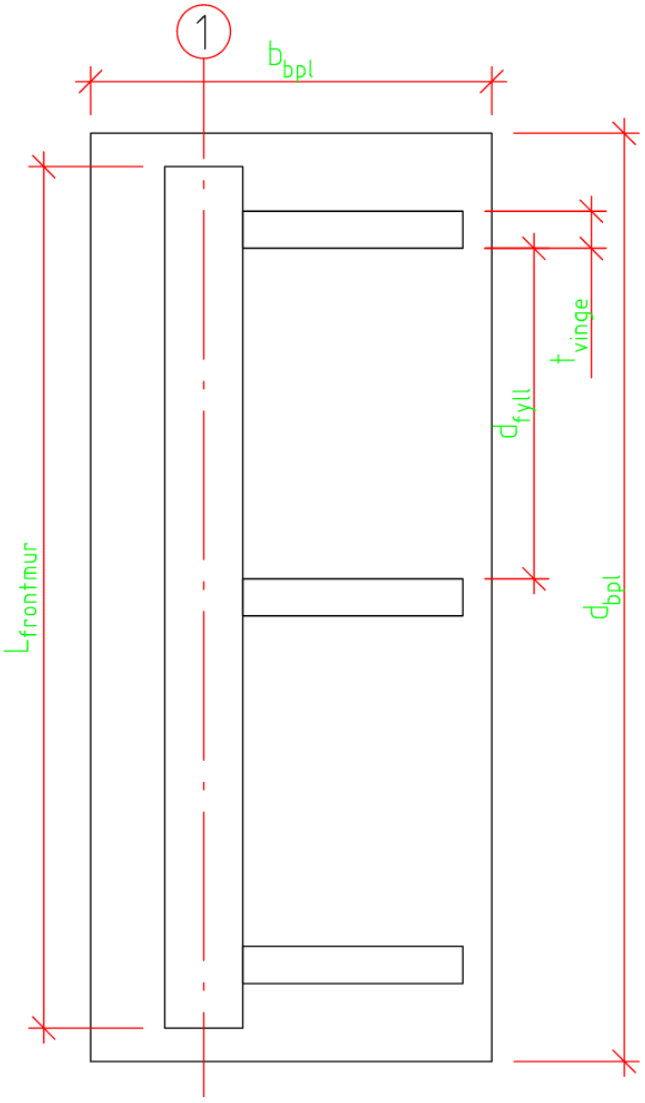
B9.1.2 Geometri

Två pålgrundlagda landfästen och ett pålgrundlagt mellanstöd. Beräknas endast laster för ett landfäste, då de är geometriskt liknande.
Se figurer B9-1 till B9-3 för geometri landfäste.
Se figurer B9-4 till B9-5 för geometri mittstöd.

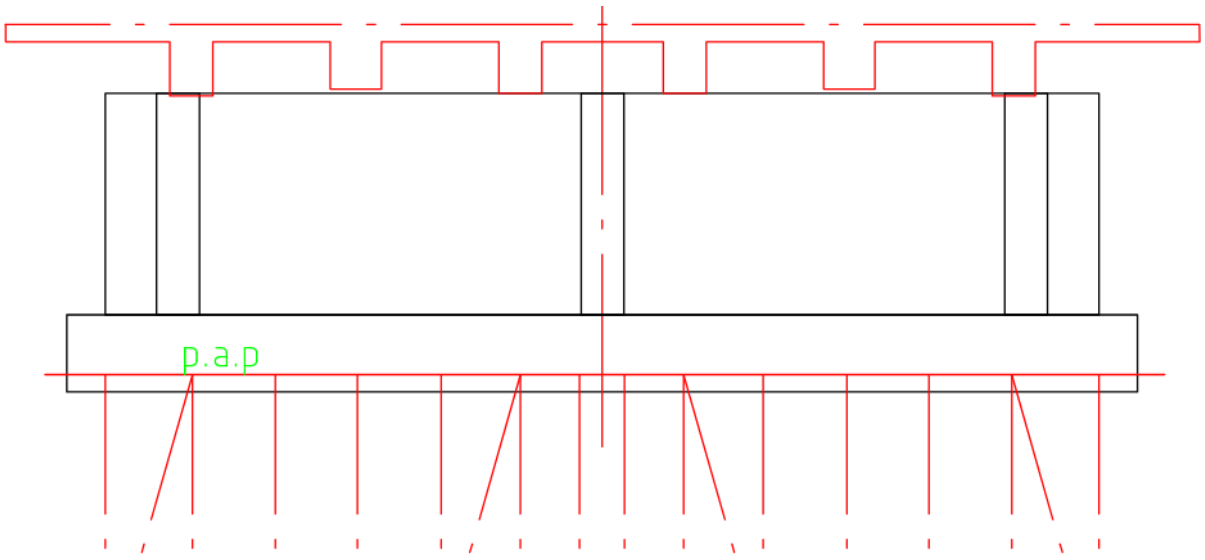
Landfäste



Figur B9-1: Sektion landfäste



Figur B9-2: Plan landfäste



Figur B9-3: Vy landfäste

Indata mått landfäste, se Figur B9-1 till B9-3 föregående sida för förklaring av beteckningar

$b_{bpl} := 5.4 \cdot m$ Bredd bottenplatta

$d_{bpl} := 12.45\ m$ Djup bottenplatta

$h_{bpl} := 0.9 \cdot m$ Höjd bottenplatta

$h_{lf} := 3.5 \cdot m$ Höjd landfäste

$h_{fyll.bpl} := h_{lf} - h_{bpl} = 2.600\ m$ Höjd fyllning på bottenplatta

$d_{fyll} := 4.45\ m$ Bredd grusskift/fyllning mellan vingar

$h_{p.a.p} := 0.6 \cdot m - 0.4\ m = 0.2\ m$ Höjd pålavskärningsplan

$x_A := 1 \cdot m$

$t_{vinge} := 0.5 \cdot m$ Tjocklek vinge

$L_{vinge} := 2.85\ m$ Längd vinge

$A_{vinge} := \frac{L_{vinge} \cdot h_{fyll.bpl}}{2} = 3705000\ mm^2$ Area vinge

$L_{frontmur} := 11.6 \cdot m$ Längd frontmur

$t_{frontmur} := 1.05 \cdot m$ Tjocklek frontmur

$V_{frontmur} := t_{frontmur} \cdot h_{fyll.bpl} \cdot L_{frontmur} = 31.7\ m^3$ Volym frontmur

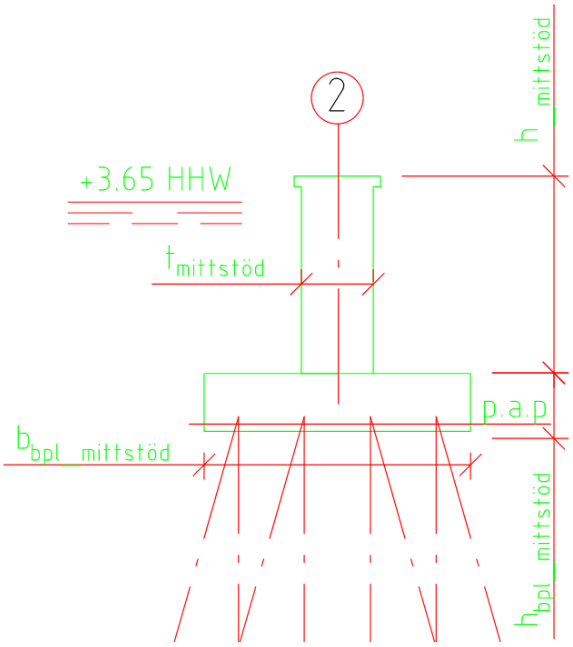
$e_{landfäste.LLV} := 1.4\ m$ P.a.p till LLV

$e_{landfäste.HHV} := 3.15\ m$ P.a.p till HHV, antar HHV på hela höjden p.s.s.

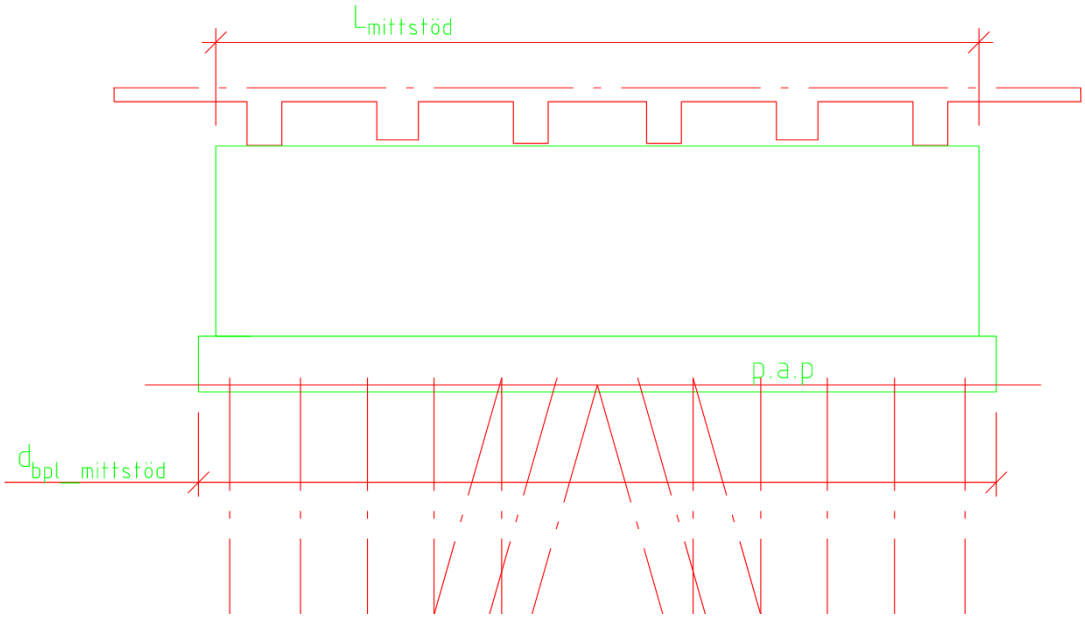
$V_{frontmur.LLV} := t_{frontmur} \cdot \left(e_{landfäste.LLV} - \left(h_{bpl} - h_{p.a.p}\right)\right) \cdot L_{frontmur} = 8.5\ m^3$

$A_{vinge.LLV} := 1726890.68\ mm^2$ Från AutoCAD

Mittstöd



Figur B9-4: Sektion mellanstöd



Figur B9-5: Vy mellanstöd

Indata mått mittstöd, se Figur B9-4 till B9-5 föregående sida för förklaring av beteckningar

$b_{bpl_mittstöd} := 3.7\ m$ Bredd bottenplatta

$d_{bpl_mittstöd} := 11.6\ m$ Djup bottenplatta

$h_{bpl_mittstöd} := 0.8\ m$ Höjd bottenplatta

$h_{mittstöd} := 2.74\ m$ Höjd mittstöd

$L_{mittstöd} := 11.1\ m$ Längd mittstöd

$t_{mittstöd} := 1\ m$ Tjocklek mittstöd

$h_{tot.mittstöd} := h_{mittstöd} + h_{bpl_mittstöd} = 3.5\ m$ Total höjd mittstöd

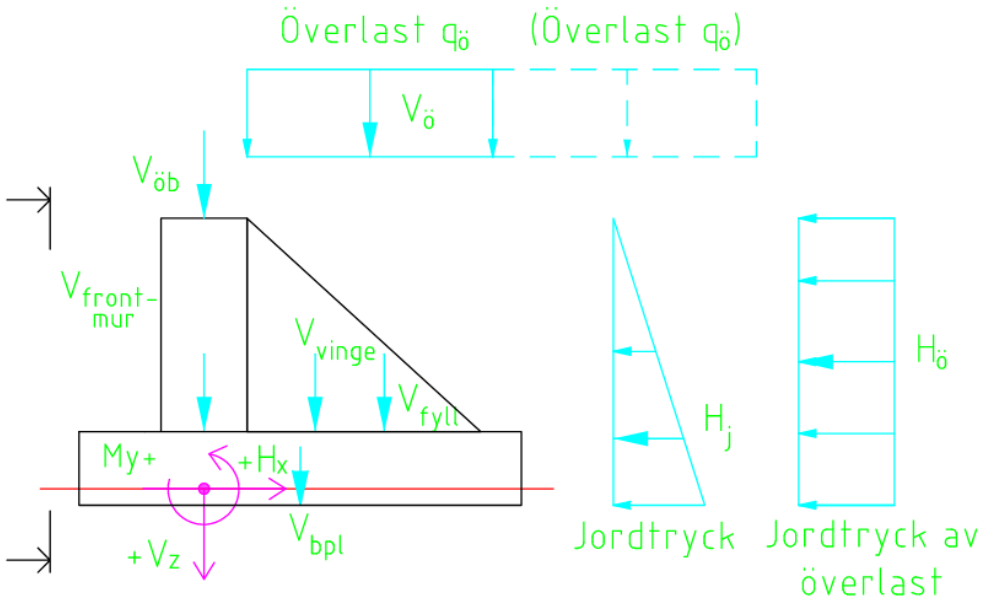
$e_{mittstöd.LLV} := 1.5\ m$ P.a.p till LLV

$e_{mittstöd.HHV} := 3.08\ m$ P.a.p till HHV

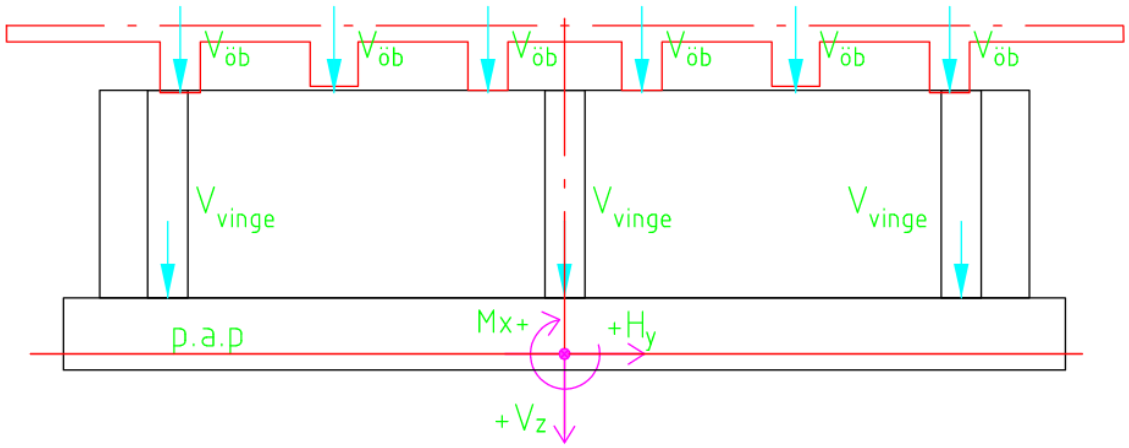
B9.2 Grundläggning

B9.2.1 Beteckningar och lastfigur

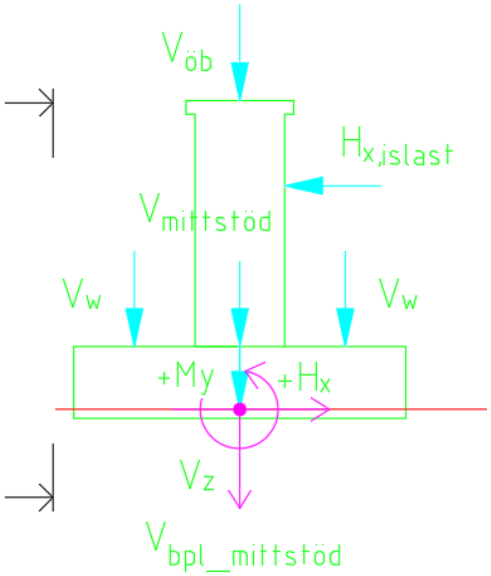
Lastdata landfäste enligt Figur B9-6 till B9-9.



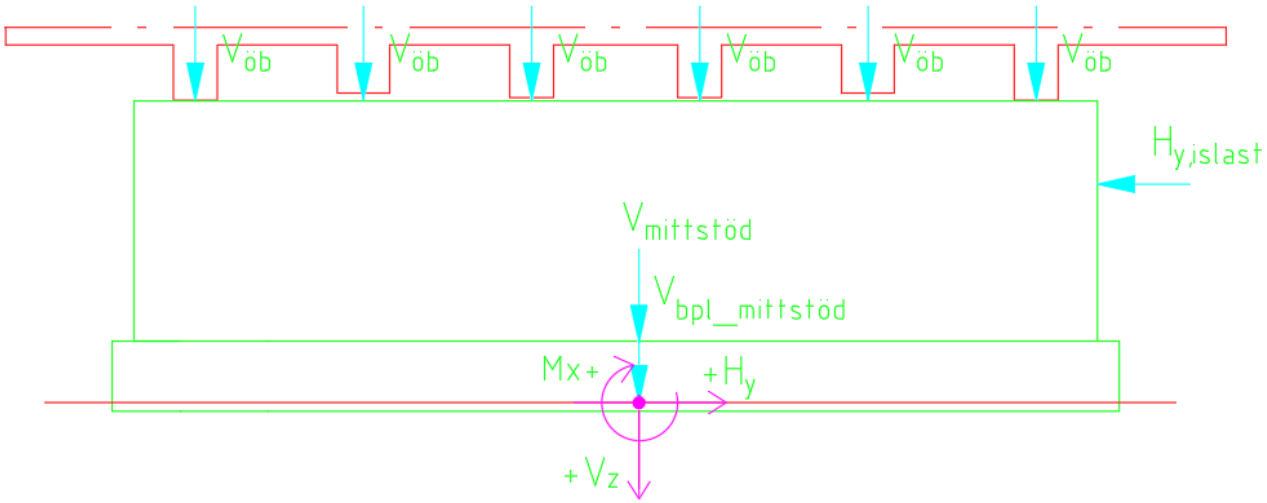
Figur B9-6: Lastfigur sektion landfäste



Figur B9-7: Lastfigur vy landfäste



Figur B9-8: Lastfigur sektion mittstöd



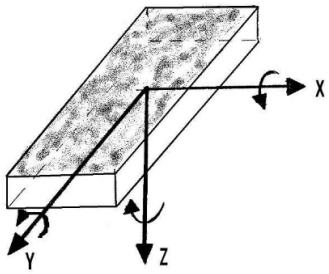
Figur B9-9: Lastfigur vy mittstöd

B9.2.2 Permanenta laster

Egentyngd landfäste

$\gamma_{btg} := 24 \cdot \frac{kN}{m^3}$ Enligt RKFM 5.2.1

$\gamma'_{btg} := 14 \cdot \frac{kN}{m^3}$ under vatten



Figur B9-10: Teckenregler caEc701 Rymdpålgrupp

$V_{vinge.eg.LLV} := \gamma'_{btg} \cdot A_{vinge.LLV} \cdot t_{vinge} + \gamma_{btg} \cdot \left(A_{vinge} - A_{vinge.LLV}\right) \cdot t_{vinge}$ $V_{vinge.eg.LLV} = 35.8\ kN$

$V_{vinge.eg.HHV} := \gamma'_{btg} \cdot A_{vinge} \cdot t_{vinge}$ $V_{vinge.eg.HHV} = 25.9\ kN$

$V_{frontmur.eg.LLV} := \gamma'_{btg} \cdot V_{frontmur.LLV} + \gamma_{btg} \cdot \left(V_{frontmur} - V_{frontmur.LLV}\right)$ $V_{frontmur.eg.LLV} = 675\ kN$

$V_{frontmur.eg.HHV} := \gamma'_{btg} \cdot V_{frontmur}$ $V_{frontmur.eg.HHV} = 443\ kN$

$V_{bpl.eg} := \gamma'_{btg} \cdot b_{bpl} \cdot h_{bpl} \cdot d_{bpl}$ $V_{bpl.eg} = 847\ kN$

Totalt:

$V_{z.eg.LLV} := V_{vinge.eg.LLV} \cdot 3 + V_{frontmur.eg.LLV} + V_{bpl.eg} = 1629\ kN$

$V_{z.eg.HHV} := V_{vinge.eg.HHV} \cdot 3 + V_{frontmur.eg.HHV} + V_{bpl.eg} = 1368\ kN$

$$M_{y.eg.LLV} := V_{frontmur.eg.LLV} \cdot 0 \cdot m \hookleft + -V_{vinge.eg.LLV} \cdot \left(\frac{t_{frontmur}}{2} + \frac{L_{vinge}}{3}\right) \cdot 3 \hookleft + -V_{bpl.eg} \cdot \left(\frac{b_{bpl}}{2} - x_A - \frac{t_{frontmur}}{2}\right) = -1154\ kN \cdot m$$

$$M_{y.eg.HHV} := V_{frontmur.eg.HHV} \cdot 0 \cdot m \hookleft + -V_{vinge.eg.HHV} \cdot \left(\frac{t_{frontmur}}{2} + \frac{L_{vinge}}{3}\right) \cdot 3 \hookleft + -V_{bpl.eg} \cdot \left(\frac{b_{bpl}}{2} - x_A - \frac{t_{frontmur}}{2}\right) = -1110\ kN \cdot m$$

Jordlast på bottenplatta landfäste

Inklusive över vingar och utanför bottenplatta. Utan jordlast framsida landfäste.

$\gamma_{fyll} := 18 \cdot \frac{kN}{m^3}$ Enligt RKFM 5.2.3

$\gamma'_{fyll} := 10 \frac{kN}{m^3}$ Under gvy

$V_{z.fyll.HHV} := \gamma'_{fyll} \cdot h_{fyll.bpl} \cdot L_{vinge} \cdot d_{fyll} \cdot 2 = 659\ kN$

$V_{z.fyll.LLV} := \gamma'_{fyll} \cdot \left(e_{landfäste.LLV} - \left(h_{bpl} - h_{p.a.p}\right)\right) \cdot L_{vinge} \cdot d_{fyll} \cdot 2 \dots = 1045\ kN$
$\dots + \gamma_{fyll} \cdot \left(h_{fyll.bpl} - \left(e_{landfäste.LLV} - \left(h_{bpl} - h_{p.a.p}\right)\right)\right) \cdot L_{vinge} \cdot d_{fyll} \cdot 2$

$V_{ovanför.vingar} := 5005078.84\ mm^2 \cdot t_{vinge} \cdot 3 = 7.5\ m^3$ Från AutoCAD, se figur nedan

$V_{ovanför.vingar.LLV} := 618744.01\ mm^2 \cdot t_{vinge} \cdot 3 = 0.9\ m^3$ Från AutoCAD, se figur nedan

$A_{extra.bpl} := 3517500.00\ mm^2 \cdot 2 = 7.0\ m^2$ Från AutoCAD, se figur nedan

$V_{extra.bpl.LLV} := A_{extra.bpl} \cdot \left(e_{landfäste.LLV} - \left(h_{bpl} - h_{p.a.p}\right)\right) = 4.9\ m^3$

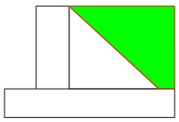
$V_{extra.bpl} := A_{extra.bpl} \cdot h_{fyll.bpl} = 18.3\ m^3$

$V_{z.fyll.utanför.LLV} := \gamma'_{fyll} \cdot V_{ovanför.vingar.LLV} + \gamma_{fyll} \cdot \left(V_{ovanför.vingar} - V_{ovanför.vingar.LLV}\right) = 128\ kN$

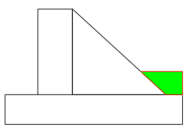
$V_{z.fyll.utanför.HHV} := \gamma'_{fyll} \cdot V_{ovanför.vingar} = 75\ kN$

$V_{z.extra.bpl.LLV} := \gamma'_{fyll} \cdot V_{extra.bpl.LLV} + \gamma_{fyll} \cdot \left(V_{extra.bpl} - V_{extra.bpl.LLV}\right) = 290\ kN$

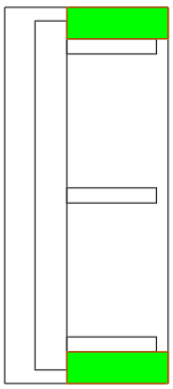
$V_{z.extra.bpl.HHV} := \gamma'_{fyll} \cdot V_{extra.bpl} = 183\ kN$



A ovanför vingar



A ovanför vingar, LLV



A extra bottenplatta

$V_{z.fyll.tot} := V_{z.fyll.HHV} + V_{z.fyll.utanför.HHV} + V_{z.extra.bpl.HHV}$ $V_{z.fyll.tot} = 917\ kN$

$V_{z.fyll.tot.LLV} := V_{z.fyll.LLV} + V_{z.fyll.utanför.LLV} + V_{z.extra.bpl.LLV}$ $V_{z.fyll.tot.LLV} = 1463\ kN$

$M_{y.fyll.HHV} := -V_{z.fyll.tot} \cdot \left(\frac{b_{bpl} - x_A}{2} \right)$ $M_{y.fyll.HHV} = -2018\ kN \cdot m$

$M_{y.fyll.LLV} := -V_{z.fyll.tot.LLV} \cdot \left(\frac{b_{bpl} - x_A}{2} \right)$ $M_{y.fyll.LLV} = -3218\ kN \cdot m$

Jordtryck landfäste

Jordtryck räknat till P.A.P. Utan jordtryck utsida landfäste

$K_0 := 0.43$ Vilojordtrycksskoefficient enligt RKFM 5.2.3

$H_{x.j.HHV} := -K_0 \cdot \frac{\langle h_{lf} - h_{p.a.p} \rangle}{2} \cdot d_{bpl} \cdot \left(\gamma'_{fyll} \cdot \langle h_{lf} - h_{p.a.p} \rangle \right)$ $H_{x.j.HHV} = -291\ kN$

$M_{y.j.HHV} := -H_{x.j.HHV} \cdot \left(\frac{\langle h_{lf} - h_{p.a.p} \rangle}{3} \right)$ $M_{y.j.HHV} = 321\ kN \cdot m$

$H_{x.j.LLV} := -K_0 \cdot \frac{\langle h_{lf} - h_{p.a.p} \rangle}{2} \cdot d_{bpl} \cdot \begin{pmatrix} \gamma_{fyll} \cdot \langle h_{lf} - h_{p.a.p} - e_{landfäste.LLV} \rangle \\ + \gamma'_{fyll} \cdot \langle e_{landfäste.LLV} \rangle \end{pmatrix}$ $H_{x.j.LLV} = -426\ kN$

$M_{y.j.LLV} := -H_{x.j.LLV} \cdot \left(\frac{\langle h_{lf} - h_{p.a.p} \rangle}{3} \right)$ $M_{y.j.LLV} = 468\ kN \cdot m$

Egentyngd mittstöd

$\gamma_{btg} = 24.0 \frac{kN}{m^3}$ Enligt RKFM 5.2.1

$\gamma'_{btg} = 14.0 \frac{kN}{m^3}$ under vatten

$V_{bpl.mittstöd.eg} := \gamma'_{btg} \cdot b_{bpl_mittstöd} \cdot d_{bpl_mittstöd} \cdot h_{bpl_mittstöd}$ $V_{bpl.mittstöd.eg} = 481\ kN$

$V_{mittstöd.eg.HHV} := \gamma'_{btg} \cdot h_{mittstöd} \cdot L_{mittstöd} \cdot t_{mittstöd}$ $V_{mittstöd.eg.HHV} = 426\ kN$

$V_{mittstöd.eg.LLV} := \gamma_{btg} \cdot \left(h_{mittstöd} - \left(e_{mittstöd.LLV} - \left(h_{bpl_mittstöd} - h_{p.a.p}\right)\right)\right) \cdot L_{mittstöd} \cdot t_{mittstöd}$
$+ \gamma'_{btg} \cdot \left(e_{mittstöd.LLV} - \left(h_{bpl_mittstöd} - h_{p.a.p}\right)\right) \cdot L_{mittstöd} \cdot t_{mittstöd}$

$V_{mittstöd.eg.LLV} = 630\ kN$

Totalt:

$V_{z.eg.mittstöd.HHV} := V_{bpl.mittstöd.eg} + V_{mittstöd.eg.HHV} = 907\ kN$

$M_{y.eg.HHV} := V_{bpl.mittstöd.eg} \cdot (0\ m)$
$+ V_{mittstöd.eg.HHV} \cdot (0\ m) = 0.0\ kN \cdot m$

$V_{z.eg.mittstöd.LLV} := V_{bpl.mittstöd.eg} + V_{mittstöd.eg.LLV} = 1111\ kN$

$M_{y.eg.LLV} := V_{bpl.mittstöd.eg} \cdot (0\ m)$
$+ V_{mittstöd.eg.LLV} \cdot (0\ m) = 0.0\ kN \cdot m$

B9.2.3 Variabla laster

Överlast landfäste

Vertikal överlast

$q_{ö} := 17 \cdot \frac{kN}{m^2}$ Enligt RKFM 5.3.4

$V_{z.ö} := q_{ö} \cdot L_{vinge} \cdot d_{bpl}$ $V_{z.ö} = 603\ kN$

$M_{y.ö} := -V_{z.ö} \cdot \left(\frac{b_{bpl} - x_A}{2} \right)$ $M_{y.ö} = -1327\ kN \cdot m$

Jordtryck av överlast

$H_{x.ö} := -K_0 \cdot q_{ö} \cdot \left(h_{lf} - h_{p.a.p} \right) \cdot d_{bpl}$ $H_{x.ö} = -300\ kN$

$M_{y.ö} := -H_{x.ö} \cdot \left(\frac{h_{lf} - h_{p.a.p}}{2} \right)$ $M_{y.ö} = 496\ kN \cdot m$

Broms- och accelerationskraft mot frontmur

Kraften ska verka på en längd i spårets riktning

$L = \alpha \cdot h$

$\alpha := 1.5$

$h := h_{lf} - h_{p.a.p} = 3.3\ m$

Accelerationskraften på ett spår och bromskraft på det andra:

$Q := \left(3\ \frac{kN}{m} + 5\ \frac{kN}{m} \right) \cdot \alpha \cdot h = 39.6\ kN$

Medför lastintensiteten:

$q := \frac{Q}{h} = 12.0\ \frac{kN}{m}$

Ger reaktioner enligt:

$H := -q \cdot h = -39.6\ kN$ $M := \left(q \cdot \frac{h^2}{2} \right) = 65.3\ kN \cdot m$

Istryck mittstöd

Enligt [2] 5.3.6.

$$F_{is} := 200000\ \boldsymbol{N} = 200.0\ \boldsymbol{kN}$$

Verkar antingen i tvärled eller längsled mot stöd 2. Angriper dels vid MHW och dels vid MLW.

$$h_{MHW} := 2.7\ \boldsymbol{m}$$

$$M_{is} := F_{is} \cdot \left(h_{MHW} - h_{p.a.p}\right) = 500.0\ \boldsymbol{kN \cdot m}$$

B9.2.4 Överbyggnad, reaktioner från FE-modell

Lastresultat från överbyggnad tas ut från reaktioner vid lager ur FEM-modell. Se sista sidor för sammanställning.
Dynamikfaktor beaktas inte enligt TRVINFRA-00331, 8.3.3.2.5.

B9.2.5 Överbyggnad, tillkommande laster

$e_{y.lf} := h_{lf} - h_{p.a.p} = 3.30\ m$ Avstånd från P.A.P till lager

$e_{y.mittstöd} := h_{tot.mittstöd} - h_{p.a.p} = 3.3\ m$ Avstånd från P.A.P till lager

Vindlast

Enligt SS-EN 1991-1-4, kapitel 8 och tillhörande delar i TSFS 2018:57.
Nedan beräknas vindlasten mot sidan av bro eller mot trafik+bro (x-led) samt vertikal vindlast (z-led).

Luftens densitet:

$\rho := 1.25\ \frac{kg}{m^3}$ *Enligt 1991-1-4, 4.5*

Referensvindhastighet Uppsala:

$v_b := 24\ \frac{m}{s}$ *Enligt TSFS 2018:57, figur 7.1.*

Framtagande av exponeringsfaktorn ce:

$Terrängtyp := 3$ *Enligt 1991-1-4, bilaga A*

$h := 2\ m$ *Brons höjd över omgivande vatten. Andra brodelar som räcke försummas. Värde antaget.*

$q_p := 0.41\ kPa$ *Enligt TSFS 2018:57, tabell 7.2.*

$q_b := 0.5 \cdot \rho \cdot v_b^{\ 2} = 0.36\ kPa$ *Enligt 1991-1-4, ekvation 4.10*

$c_e := \frac{q_p}{q_b} = 1.1$ *Enligt 1991-1-4, ekvation 4.9*

Framtagande av formfaktorn cfx:

$Fall := 2$ *Fall 1 innebär vindlast under byggskede eller öppna räcken (mer än 50% öppen)*
Fall 2 innebär vindlast med räcken, skärmar eller fordon i trafik

$b := 14\ m$ *Bredd på överbyggnaden enligt SS-EN 1991-1-4, figur 8.3*

Vindlast i x-led tas fram för överbyggnad med vind mot bro+trafik: *observera, Hy i lastkombinering*

$d_{tot} := (1+2)\ m = 3\ m$ *Höjd på överbyggnaden med trafik enligt SS-EN 1991-1-4, figur 8.3 Inklusive antagen beläggning*

$$n := \frac{b}{d_{tot}} = 4.7$$

Fall 1

$n_1 := [0 \ \ 0.5 \ \ 4 \ \ 12]$ $c_{fx.1.0} := [2.4 \ \ 2.4 \ \ 1.3 \ \ 1.3]$

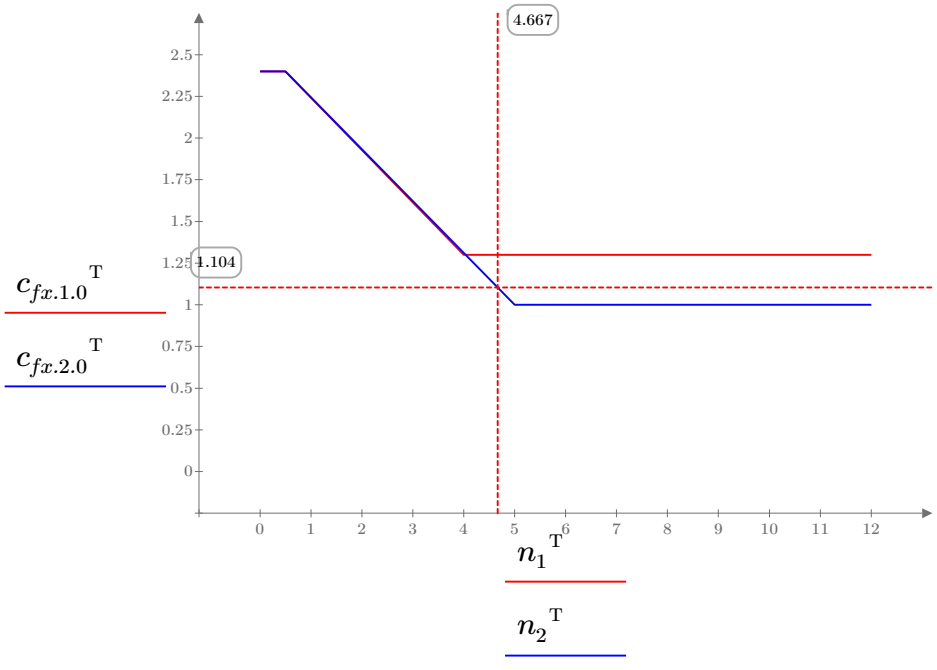
$c_{fx.1} := \text{linterp}\left(n_1^{\ T}, c_{fx.1.0}^{\ T}, n\right)$ $c_{fx.1} = 1.3$

Fall 2

$n_2 := [0 \ \ 0.5 \ \ 5 \ \ 12]$ $c_{fx.2.0} := [2.4 \ \ 2.4 \ \ 1.0 \ \ 1.0]$

$c_{fx.2} := \text{linterp}\left(n_2^{\ T}, c_{fx.2.0}^{\ T}, n\right)$ $c_{fx.2} = 1.1$

$c_{fx} := \left\| \begin{array}{l} \text{if } Fall = 1 \\ \quad \| \ c_{fx.1} \\ \text{else} \\ \quad \| \ c_{fx.2} \end{array} \right\| = 1.1$ *Enligt SS-EN 1991-1-4, figur 8.3, se diagram nedan*



Justering av cfx pga lovartväggens lutning i vertikalled och/eller överbyggnadens lutning i tvärled:

$\alpha_1 := 0\ °$ *Lutning av lovartväggen enligt SS-EN 1991-1-4, 8.3.1(2)*

$$\Delta c_{fx.\alpha 1} := min\left(\alpha_1 \cdot 0.5 \cdot \frac{1\%}{°} \cdot c_{fx}, 30\% \cdot c_{fx}\right) = 0$$

$\beta := 0\ °$ *Lutning av överbyggnad enligt SS-EN 1991-1-4, 8.3.1(3)*

$$\Delta c_{fx.\beta} := min\left(\beta \cdot 3 \cdot \frac{1\%}{°} \cdot c_{fx}, 25\% \cdot c_{fx}\right) = 0$$

$c_{fx.d} := c_{fx} - \Delta c_{fx.\alpha 1} + \Delta c_{fx.\beta} = 1.1$ *Slutlig formfaktor efter justering pga lutning*

Formfaktor och vindlast i x-led:

$$C_x := c_e \cdot c_{fx.d} = 1.3$$

$f_{w.x} := q_b \cdot C_x = 0.45\ \frac{kN}{m^2}$ *Enligt SS-EN 1991-1-4, ekvation 8.2*

$$F_{w.x} := f_{w.x} \cdot d_{tot} = 1.36\ \frac{kN}{m}$$

Detta ger vindlast per lager, landfäste/mittstöd: $L_{spann} := 14.82\ m$

$\frac{3 \cdot F_{w.x} \cdot L_{spann}}{8} = 7.5\ kN$ $\frac{5 \cdot F_{w.x} \cdot L_{spann}}{4} = 25.1\ kN$ *observera, Hy i lastkombinering*

Framtagande av formfaktorn cfz:

$c_{fz} := 0.9$ *Förenkling enligt SS-EN 1991-1-4, 8.3.3 ANM.1.*
Lasten kan vara uppåt eller nedåtriktad.

Formfaktor och vindlast i z-led:

$$C_z := c_e \cdot c_{fz} = 1$$

Enligt SS-EN 1991-1-4, ekvation 8.2

$$f_{w.z} := q_b \cdot C_z = 0.37\ \frac{kN}{m^2}$$

Tas ej med för z-led på säker sida

Lagerfriktion landfäste

Vid rörligt lager

Lagerfriktion räknas som 5% av Vmax och beräknas i lastkombineringsarket.

$\mu := 0.05$

Last från övergångskonstruktion landfäste

Vid rörligt lager

$q_{fog} := 10 \cdot \frac{kN}{m}$

$H_{x.fog.LF} := q_{fog} \cdot 14\ m = 140.0\ kN$

$M_{y.fog.LF} := -H_{x.fog.LF} \cdot e_{y.lf} = -462.0\ kN \cdot m$

Bromslast

Max av tåg och trafik

Tåg:

$q_{broms_acc} := 5\ \frac{kN}{m} + 3\ \frac{kN}{m}$

$q_{broms_acc} \cdot L_{spann} \cdot 2 = 237.1\ kN$

Trafik:

Tas från kapitel 5

$186 \cdot kN$

Sidokraft

Max av tåg och trafik

Tåg:

Tas från kapitel 5

$80\ kN$

Trafik:

Tas från kapitel 5

$46.2 \cdot kN$

B9.2.6 Lastkombinering

Se sista sidorna för lastkombinering.

Partialkoefficienter

Enligt TRVINFRA-00331, 8.5.2 Tabell 8-12.

Brottgränstillståndet LKA landfäste, summering lastfall

	Lastfall nr:	H_x [kN]	H_y [kN]	V_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]
LKA	1	-908	35	7122	169	-4651	0
Landfäste	2	-535	-35	6700	-154	-4953	0
	3	-908	35	7122	169	-4651	0
	4	-535	-35	6700	-154	-4953	0
	5	-352	3	4187	22	-3360	0
	6	-347	-3	4187	-7	-3377	0
	7	-352	3	4187	22	-3360	0
	8	-347	-3	4187	-7	-3377	0
	9	-880	35	7058	180	-5802	0
	10	-802	-35	6153	-164	-4466	0
	11	-880	35	7058	180	-5802	0
	12	-802	-35	6153	-164	-4466	0
	13	-564	3	4146	22	-3006	0
	14	-345	-3	4146	-7	-3384	0
	15	-564	3	4146	22	-3006	0
	16	-345	-3	4146	-7	-3384	0
	17	-392	0	3977	8	-3227	0
	18	-392	0	3977	8	-3227	0
	19	-562	3	4187	22	-3013	0
	20	-347	-3	4187	-7	-3377	0
	21	-562	3	4187	22	-3013	0
	22	-347	-3	4187	-7	-3377	0
	23	-1120	35	6575	180	-4344	0
	24	-802	-35	6153	-164	-4466	0
	25	-1120	35	6575	180	-4344	0
	26	-802	-35	6153	-164	-4466	0

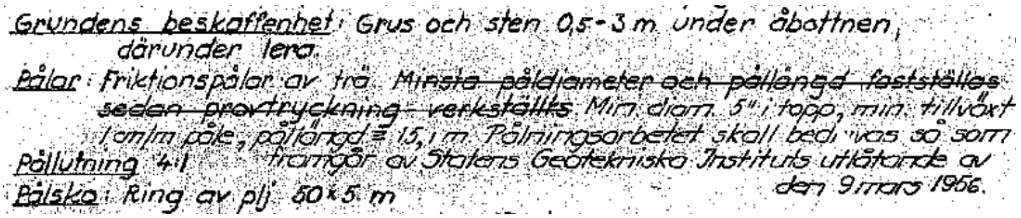
Brottgränstillståndet LKA mittstöd, summering lastfall

	Lastfall nr:	H_x [kN]	H_y [kN]	V_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]
LKA	1	194	42	7310	198	-546	0
mittstöd	2	-194	-42	7310	-267	546	0
	3	74	162	7310	498	-246	0
	4	-74	-162	7310	-567	246	0
	5	300	10	3553	-34	-750	0
	6	-300	-10	3553	-35	750	0
	7	0	310	3553	716	0	0
	8	0	-310	3553	-785	0	0
	9	374	42	6324	211	-996	0
	10	-374	-42	6324	-280	996	0
	11	74	342	6324	961	-246	0
	12	-74	-342	6324	-1030	246	0
	13	120	10	3541	-34	-300	0
	14	-120	-10	3541	-35	300	0
	15	0	130	3541	266	0	0
	16	0	-130	3541	-335	0	0
	17	0	0	3022	-33	0	0
	18	0	0	3022	-37	0	0

B9.3 Kontroll av pålgrupp

B9.3.1 Förutsättningar och antaganden

Från ritning


Grundens beskaffenhet: Grus och sten 0,5-3 m under åbottnen, därunder lera.
Pålar: Friktionspålar av trä. Minsta påldiameter och pållängd fastställes sedan provtryckning verkställts. Min diam. 5" i topp, min. tillväxt 1 cm/m påle, pållängd ≅ 15,1 m. Pålningsarbetet skall bedrivas så som framgår av Statens Geotekniska Instituts utlåtande av den 9 mars 1956.
Pållutning 4:1
Pålsko: Ring av plj 50×5 m

Sidomotstånd antas till 200kPa, p.g.a. lera utan materialparametrar på ritning.

Bron är grundlagd på träpålgrundlagda landfästen med ensidigt rörliga lager (stöd 1 och stöd 3) samt fast lager på träpålgrundlagt mellanstöd (stöd 2).

Antagen pålgrupp från relationshandling och infört i rymdpålgrupp CaeApp, se sista sidorna för rapport.

Antar träpåle enligt ritning med diameter 5" samt en ökning per meter vilket ger

$$\frac{\left((5 \cdot 25)\ mm + \left((5 \cdot 25)\ mm + 10\ mm \cdot 15.1\right)\right)}{2} = 200.5\ mm$$

Enligt supplement 2 till Pålkommisionens rapport 96:1, kap. 3.7 kan träpålar med rundvirke antas en hållfasthetsklass på C30.

SS-EN 338, tabell 1:

Table 1 — Strength classes - Characteristic values

		Poplar and softwood species												Hardwood species					
		C14	C16	C18	C20	C22	C24	C27	C30	C35	C40	C45	C50	D30	D35	D40	D50	D60	D70
Strength properties (in N/mm²)																			
Bending	$f_{m,k}$	14	16	18	20	22	24	27	30	35	40	45	50	30	35	40	50	60	70
Tension parallel	$f_{t,0,k}$	8	10	11	12	13	14	16	18	21	24	27	30	18	21	24	30	36	42
Tension perpendicular	$f_{t,90,k}$	0,4	0,5	0,5	0,5	0,5	0,5	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,6
Compression parallel	$f_{c,0,k}$	16	17	18	19	20	21	22	23	25	26	27	29	23	25	26	29	32	34
Compression perpendicular	$f_{c,90,k}$	2,0	2,2	2,2	2,3	2,4	2,5	2,6	2,7	2,8	2,9	3,1	3,2	8,0	8,4	8,8	9,7	10,5	13,5
Shear	$f_{v,k}$	1,7	1,8	2,0	2,2	2,4	2,5	2,8	3,0	3,4	3,8	3,8	3,8	3,0	3,4	3,8	4,6	5,3	6,0
Stiffness properties (in kN/mm²)																			
Mean modulus of elasticity parallel	$E_{0,mean}$	7	8	9	9,5	10	11	11,5	12	13	14	15	16	10	10	11	14	17	20
5% modulus of elasticity parallel	$E_{0,05}$	4,7	5,4	6,0	6,4	6,7	7,4	7,7	8,0	8,7	9,4	10,0	10,7	8,0	8,7	9,4	11,8	14,3	16,8
Mean modulus of elasticity perpendicular	$E_{90,mean}$	0,23	0,27	0,30	0,32	0,33	0,37	0,38	0,40	0,43	0,47	0,50	0,53	0,64	0,69	0,75	0,93	1,13	1,33
Mean shear modulus	G_{mean}	0,44	0,5	0,56	0,59	0,63	0,69	0,72	0,75	0,81	0,88	0,94	1,00	0,60	0,65	0,70	0,88	1,06	1,25

$E_{t.påle} := 12 \cdot GPa$ Elasticitetsmodul trä

$G_t := 5 \cdot GPa$ (minsta värde i caE-programmet)

B9.3.2 Pålkrafter

Från ritning:

Största pålkraft:		Landfäste	Mellanpelare
Normalt	max.	15,4 ton	15,1 ton
	min.	0,0 -"-	
Exceptionellt	max.	16,8 -"-	16,5 ton (vid istryck 19,3ton)
	min.	-2,0 -"-	

$$P_{max_0} := 19300 \cdot kg \cdot 10 \frac{m}{s^2} = 193.0\ kN$$

$$P_{min_0} := -2000\ kg \cdot 10 \frac{m}{s^2} = -20.0\ kN$$

Ovan är framräknade laster enligt ursprunglig beräkning, taget från ritning. Antar att pålar ska klara det.
Se även uträkning kap. B.9.3.4.

Från program CaeApp caeEc701 Rymdpålgrupp, för rapport samt sammanställning utdata pålkrafter, se sista sidor:

Brottgränstillståndet LKA landfäste

$P_{max} := 164 \cdot kN$ Lastkombinering 1, 3

$P_{min} := 19 \cdot kN$ Lastkombinering 13, 19. Gäller påle 66, 67, 68 som ej är dragförankrade.

$\frac{P_{max}}{P_{max_0}} = 0.85$ OK

$\frac{P_{min}}{P_{min_0}} = -1.0$ OK. Se även beräkning kap. B.9.3.5.

Brottgränstillståndet LKA mittstöd

$P_{max} := 187 \cdot kN$ Lastkombinering 1, 2, 11, 12

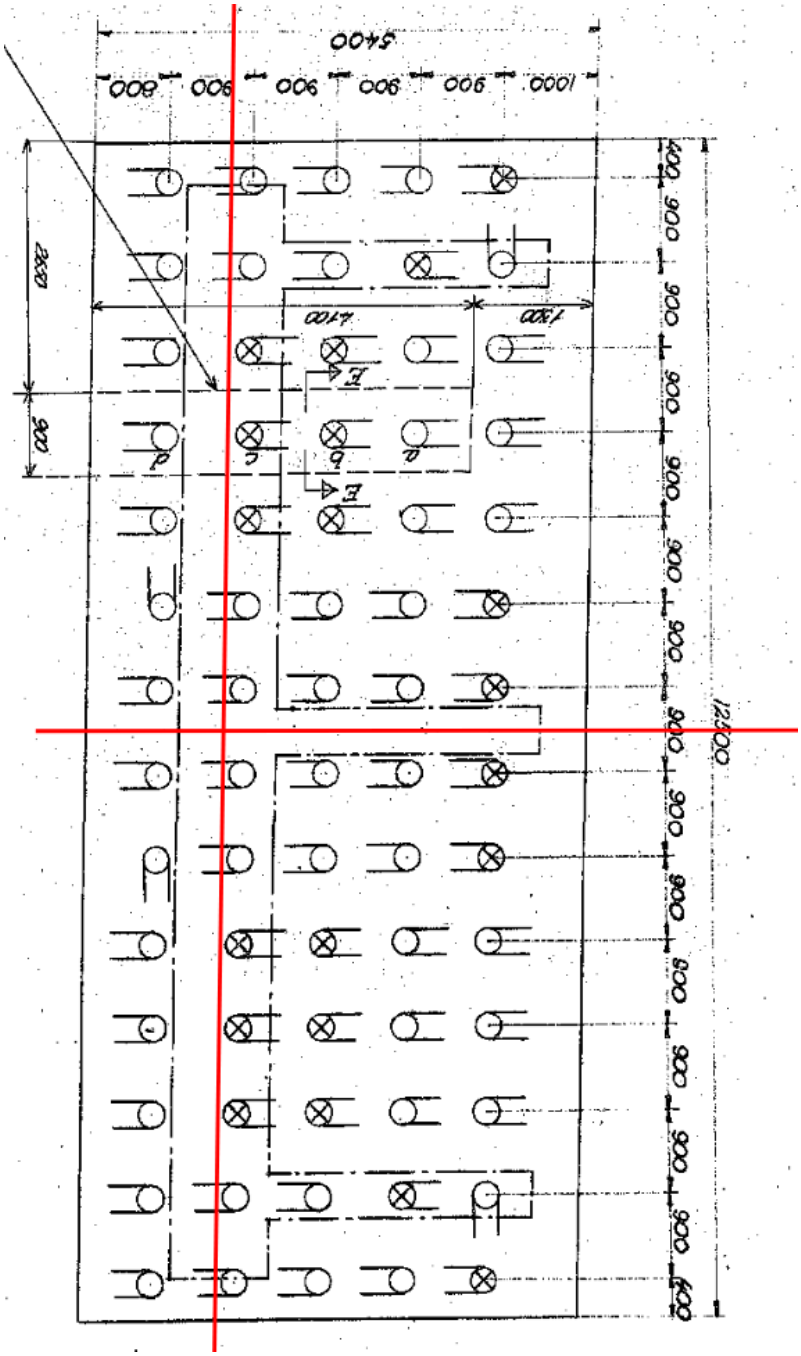
$P_{min} := 15 \cdot kN$ Lastkombinering 7, 8

$\frac{P_{max}}{P_{max_0}} = 0.97$ OK

$\frac{P_{min}}{P_{min_0}} = -0.8$ OK. . Se även beräkning kap. B.9.3.5.

B9.3.3 Pålgrupp

Landfäste pålgrupp från ritning

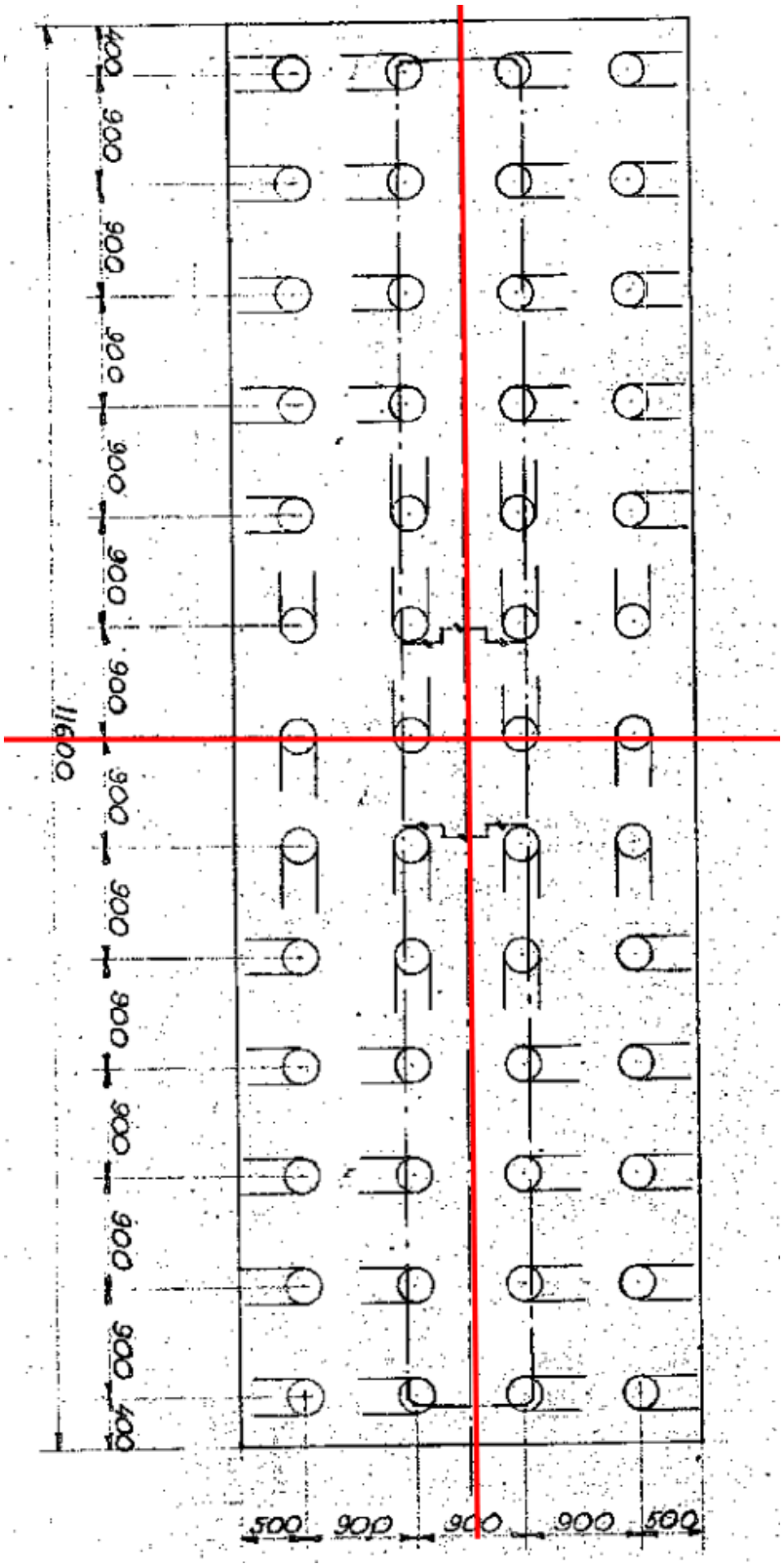


Tabell Indata pålar landfäste

påle		alpha	x	y	z	N:1
1	1_C201_N_K200,0_15	180	-0,725	5,85	0	4
2	1_C201_N_K200,0_15	180	-0,725	4,95	0	4
3	1_C201_N_K200,0_15	180	-0,725	4,05	0	4
4	1_C201_N_K200,0_15	180	-0,725	3,15	0	4
5	1_C201_N_K200,0_15	180	-0,725	2,25	0	4
6	1_C201_N_K200,0_15	90	-0,725	1,35	0	4
7	1_C201_N_K200,0_15	180	-0,725	0,45	0	4
8	1_C201_N_K200,0_15	180	-0,725	-0,45	0	4
9	1_C201_N_K200,0_15	270	-0,725	-1,35	0	4
10	1_C201_N_K200,0_15	180	-0,725	-2,25	0	4
11	1_C201_N_K200,0_15	180	-0,725	-3,15	0	4
12	1_C201_N_K200,0_15	180	-0,725	-4,05	0	4
13	1_C201_N_K200,0_15	180	-0,725	-4,95	0	4
14	1_C201_N_K200,0_15	180	-0,725	-5,85	0	4
15	1_C201_N_K200,0_15	180	0,175	5,85	0	4
16	1_C201_N_K200,0_15	180	0,175	4,95	0	4
17	2_C201_J_K200,0_15	0	0,175	4,05	0	4
18	2_C201_J_K200,0_15	0	0,175	3,15	0	4
19	2_C201_J_K200,0_15	0	0,175	2,25	0	4
20	1_C201_N_K200,0_15	180	0,175	1,35	0	4
21	1_C201_N_K200,0_15	180	0,175	0,45	0	4
22	1_C201_N_K200,0_15	180	0,175	-0,45	0	4
23	1_C201_N_K200,0_15	180	0,175	-1,35	0	4
24	2_C201_J_K200,0_15	0	0,175	-2,25	0	4
25	2_C201_J_K200,0_15	0	0,175	-3,15	0	4
26	2_C201_J_K200,0_15	0	0,175	-4,05	0	4
27	1_C201_N_K200,0_15	180	0,175	-4,95	0	4
28	1_C201_N_K200,0_15	180	0,175	-5,85	0	4
29	1_C201_N_K200,0_15	180	1,075	5,85	0	4
30	1_C201_N_K200,0_15	180	1,075	4,95	0	4
31	2_C201_J_K200,0_15	0	1,075	4,05	0	4
32	2_C201_J_K200,0_15	0	1,075	3,15	0	4
33	2_C201_J_K200,0_15	0	1,075	2,25	0	4
34	1_C201_N_K200,0_15	180	1,075	1,35	0	4
35	1_C201_N_K200,0_15	180	1,075	0,45	0	4
36	1_C201_N_K200,0_15	180	1,075	-0,45	0	4
37	1_C201_N_K200,0_15	180	1,075	-1,35	0	4
38	2_C201_J_K200,0_15	0	1,075	-2,25	0	4
39	2_C201_J_K200,0_15	0	1,075	-3,15	0	4
40	2_C201_J_K200,0_15	0	1,075	-4,05	0	4

41	1_C201_N_K200,0_15	180	1,075	-4,95	0	4
42	1_C201_N_K200,0_15	180	1,075	-5,85	0	4
43	1_C201_N_K200,0_15	180	1,975	5,85	0	4
44	2_C201_J_K200,0_15	0	1,975	4,95	0	4
45	1_C201_N_K200,0_15	0	1,975	4,05	0	4
46	1_C201_N_K200,0_15	0	1,975	3,15	0	4
47	1_C201_N_K200,0_15	0	1,975	2,25	0	4
48	1_C201_N_K200,0_15	180	1,975	1,35	0	4
49	1_C201_N_K200,0_15	180	1,975	0,45	0	4
50	1_C201_N_K200,0_15	180	1,975	-0,45	0	4
51	1_C201_N_K200,0_15	180	1,975	-1,35	0	4
52	1_C201_N_K200,0_15	0	1,975	-2,25	0	4
53	1_C201_N_K200,0_15	0	1,975	-3,15	0	4
54	1_C201_N_K200,0_15	0	1,975	-4,05	0	4
55	2_C201_J_K200,0_15	0	1,975	-4,95	0	4
56	1_C201_N_K200,0_15	180	1,975	-5,85	0	4
57	2_C201_J_K200,0_15	180	2,875	5,85	0	4
58	1_C201_N_K200,0_15	90	2,875	4,95	0	4
59	1_C201_N_K200,0_15	0	2,875	4,05	0	4
60	1_C201_N_K200,0_15	0	2,875	3,15	0	4
61	1_C201_N_K200,0_15	0	2,875	2,25	0	4
62	2_C201_J_K200,0_15	180	2,875	1,35	0	4
63	2_C201_J_K200,0_15	180	2,875	0,45	0	4
64	2_C201_J_K200,0_15	180	2,875	-0,45	0	4
65	2_C201_J_K200,0_15	180	2,875	-1,35	0	4
66	1_C201_N_K200,0_15	0	2,875	-2,25	0	4
67	1_C201_N_K200,0_15	0	2,875	-3,15	0	4
68	1_C201_N_K200,0_15	0	2,875	-4,05	0	4
69	1_C201_N_K200,0_15	270	2,875	-4,95	0	4
70	2_C201_J_K200,0_15	180	2,875	-5,85	0	4

Mittstöd pålgrupp från ritning



Tabell Indata pålar mittstöd

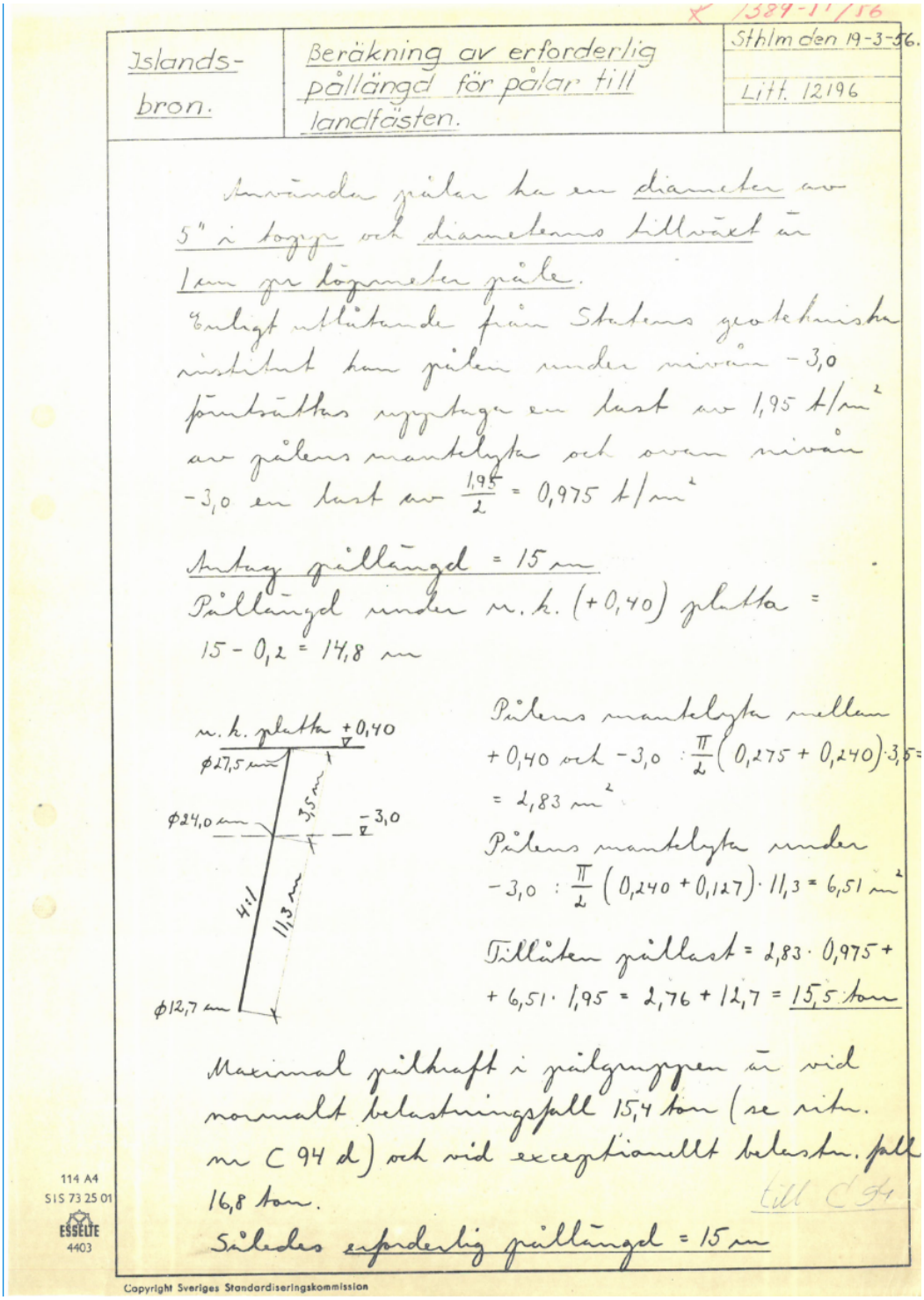
påle		alpha	x	y	z	N:1
1	1_C201_N_K200,0_15	0	1,35	5,4	0	4
2	1_C201_N_K200,0_15	0	1,35	4,5	0	4
3	1_C201_N_K200,0_15	0	1,35	3,6	0	4
4	1_C201_N_K200,0_15	0	1,35	2,7	0	4
5	1_C201_N_K200,0_15	0	1,35	1,8	0	4
6	1_C201_N_K200,0_15	90	1,35	0,9	0	4
7	1_C201_N_K200,0_15	270	1,35	0	0	4
8	1_C201_N_K200,0_15	270	1,35	-0,9	0	4
9	1_C201_N_K200,0_15	0	1,35	-1,8	0	4
10	1_C201_N_K200,0_15	0	1,35	-2,7	0	4
11	1_C201_N_K200,0_15	0	1,35	-3,6	0	4
12	1_C201_N_K200,0_15	0	1,35	-4,5	0	4
13	1_C201_N_K200,0_15	0	1,35	-5,4	0	4
14	1_C201_N_K200,0_15	0	0,45	5,4	0	4
15	1_C201_N_K200,0_15	0	0,45	4,5	0	4
16	1_C201_N_K200,0_15	0	0,45	3,6	0	4
17	1_C201_N_K200,0_15	0	0,45	2,7	0	4
18	1_C201_N_K200,0_15	90	0,45	1,8	0	4
19	1_C201_N_K200,0_15	90	0,45	0,9	0	4
20	1_C201_N_K200,0_15	90	0,45	0	0	4
21	1_C201_N_K200,0_15	270	0,45	-0,9	0	4
22	1_C201_N_K200,0_15	270	0,45	-1,8	0	4
23	1_C201_N_K200,0_15	0	0,45	-2,7	0	4
24	1_C201_N_K200,0_15	0	0,45	-3,6	0	4
25	1_C201_N_K200,0_15	0	0,45	-4,5	0	4
26	1_C201_N_K200,0_15	0	0,45	-5,4	0	4
27	1_C201_N_K200,0_15	180	-0,45	5,4	0	4
28	1_C201_N_K200,0_15	180	-0,45	4,5	0	4
29	1_C201_N_K200,0_15	180	-0,45	3,6	0	4
30	1_C201_N_K200,0_15	180	-0,45	2,7	0	4
31	1_C201_N_K200,0_15	90	-0,45	1,8	0	4
32	1_C201_N_K200,0_15	90	-0,45	0,9	0	4
33	1_C201_N_K200,0_15	90	-0,45	0	0	4
34	1_C201_N_K200,0_15	270	-0,45	-0,9	0	4
35	1_C201_N_K200,0_15	270	-0,45	-1,8	0	4
36	1_C201_N_K200,0_15	180	-0,45	-2,7	0	4
37	1_C201_N_K200,0_15	180	-0,45	-3,6	0	4
38	1_C201_N_K200,0_15	180	-0,45	-4,5	0	4
39	1_C201_N_K200,0_15	180	-0,45	-5,4	0	4
40	1_C201_N_K200,0_15	180	-1,35	5,4	0	4

41	1_C201_N_K200,0_15	180	-1,35	4,5	0	4
42	1_C201_N_K200,0_15	180	-1,35	3,6	0	4
43	1_C201_N_K200,0_15	180	-1,35	2,7	0	4
44	1_C201_N_K200,0_15	180	-1,35	1,8	0	4
45	1_C201_N_K200,0_15	90	-1,35	0,9	0	4
46	1_C201_N_K200,0_15	270	-1,35	0	0	4
47	1_C201_N_K200,0_15	270	-1,35	-0,9	0	4
48	1_C201_N_K200,0_15	180	-1,35	-1,8	0	4
49	1_C201_N_K200,0_15	180	-1,35	-2,7	0	4
50	1_C201_N_K200,0_15	180	-1,35	-3,6	0	4
51	1_C201_N_K200,0_15	180	-1,35	-4,5	0	4
52	1_C201_N_K200,0_15	180	-1,35	-5,4	0	4

B9.3.4 Pålelement

Använda pålar har en diameter av 5" = 127mm i topp och diameterns tillväxt är 1cm per längdmeter påle.

Enligt utlåtande från Statens geotekniska institut kan pålen under nivån -3.0 förutsättas upptaga en last av 1,95t/m^2 av pålens mantelyta och ovan nivån -3.0 en last av 1,95/2 = 0,975 t/m ^2
Enligt ursprunglig beräkning. Se nedan.



Islands-bron.

Beräkning av erforderlig pållängd för pålar till landfästen.

Sthlm den 19-3-56.

Litt. 12196

Använda pålar ha en diameter av 5" i toppen och diameterns tillväxt är 1 cm pr löpmeter påle.
Enligt utlåtande från Statens geotekniska institut kan pålen under nivån -3,0 förutsättas upptaga en last av 1,95 t/m² av pålens mantelyta och ovan nivån -3,0 en last av $\frac{1,95}{2} = 0,975$ t/m²

Antag pållängd = 15 m
Pållängd under n.k. (+0,40) platta = 15 - 0,2 = 14,8 m

n.k. platta +0,40
φ27,5 cm
φ24,0 cm
3,5 m
-3,0
4:1
11,3 m
φ12,7 cm

Pålens mantelyta mellan +0,40 och -3,0 : $\frac{\pi}{2}(0,275 + 0,240) \cdot 3,5 = 2,83$ m²

Pålens mantelyta under -3,0 : $\frac{\pi}{2}(0,240 + 0,127) \cdot 11,3 = 6,51$ m²

Tillåten pållast = 2,83 · 0,975 + 6,51 · 1,95 = 2,76 + 12,7 = 15,5 ton

Maximal pålkraft i pålgruppen är vid normalt belastningsfall 15,4 ton (se ritn. nr C 94 d) och vid exceptionellt belastn. fall 16,8 ton.
till C 94
Således erforderlig pållängd = 15 m

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SIS 73 25 01
ESSELTE 4403

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Skärmklipp ur beräkning

Pållängd enligt ritning=

$$P_{längd} := 15.1\ m$$

Pållängd under uk platta (+0.40)

$$P_{längd} - 0.2\ m = 14.9\ m$$

Radie i topp

$$r_0 := \frac{(127\ mm)}{2} = 63.5\ mm$$

Radie vid 3m

$$r_1 := r_0 + \frac{10\ mm \cdot 3}{2} = 78.5\ mm$$

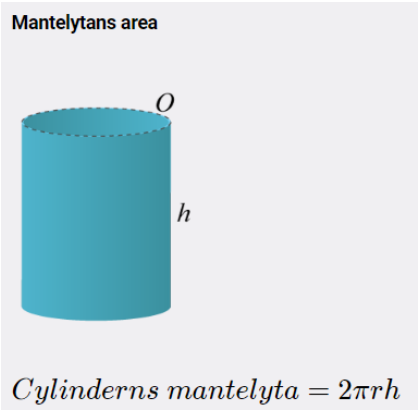
Radie i botten

$$r_2 := r_0 + \frac{10\ mm \cdot \frac{P_{längd}}{m}}{2} = 139.0\ mm$$

Pålens mantelyta mellan

+0.40 och -3.0: $2 \cdot \pi \cdot \frac{(r_0 + r_1)}{2} \cdot 3.4\ m = 1.5\ m^2$

-3.0 till uk påle: $2 \cdot \pi \cdot \frac{(r_1 + r_2)}{2} \cdot (P_{längd} - 3.4\ m) = 8.0\ m^2$



(Bildkälla Google)

Ger beräknad tillåten pållast:

$$1.517\ m^2 \cdot 0.975\ \frac{tonne}{m^2} + 7.995\ m^2 \cdot 1.95\ \frac{tonne}{m^2} = 17.1\ tonne$$

$$17.069\ tonne \cdot 10\ \frac{m}{s^2} = 170.7\ kN$$

B9.3.5 Kontroll av dragna pålar

$N_{ULS} := 15\ kN$ (blir ej drag i påle men har kvar kontroll)

$H := 15.1\ m$ Pållängd

$A_T := \left(\frac{200.5\ mm}{2}\right)^2 \cdot \pi = 31573\ mm^2$ Area pålelement medeldiameter

SS-EN 338, tabell 1:

Table 1 (*continued*)

Density (in kg/m^3)																			
Density	ρ_k	290	310	320	330	340	350	370	380	400	420	440	460	530	560	590	650	700	900
Mean density	ρ_{mean}	350	370	380	390	410	420	450	460	480	500	520	550	640	670	700	780	840	1080

NOTE a Values given above for tension strength, compression strength, shear strength, 5% modulus of elasticity, mean modulus of elasticity perpendicular to grain and mean shear modulus, have been calculated using the equations given in annex A

b The tabulated properties are compatible with timber at a moisture content consistent with a temperature of 20°C and a relative humidity of 65%

c Timber conforming to classes C45 and C50 may not be readily available.

$\rho := 380 \cdot \frac{kg}{m^3}$ Densitet trä C30

$g := 10\ \frac{m}{s^2}$ Tyngdacceleration.

Pålens effektiva tyngd:

$W_{eff} := A_T \cdot \rho \cdot H \cdot g = \left(2 \cdot 10^3\right)\ N$

Antar lerans skjuvhållfasthet till 5,4 kPa och ökar sedan med 0.1kPa/m (mycket dålig lera)

$c_{u.d} := 5.4\ kPa + H \cdot 0.1 \cdot \frac{kPa}{m} = 6.9\ kPa$

$\alpha := 0.7$

$f_m := c_{u.d} \cdot \alpha = 4.8\ kPa$

$r := \frac{138.0\ mm}{2}$

$A_{mantel} := 2 \cdot \pi \cdot r \cdot H = 6546451\ mm^2$

$R_m := A_{mantel} \cdot f_m = 31.7\ kN$

$k := 1.0$

$R_L := k \cdot R_m + W_{eff} = 33.5\ \textbf{\textit{kN}}$

$$Kontroll := \left\| \begin{array}{l} \text{if } N_{ULS} + R_L > 0 \\ \quad \| \text{“OK”} \\ \text{else} \\ \quad \| \text{“Ej OK”} \end{array} \right\|$$

$N_{ULS} + R_L > 0$ $\qquad$ $Kontroll = \text{“OK”}$

Inget drag fås i pålen efter tillägg av egentyngd och kohesion.

Landfäste		**Lager 1**						**Lager 2**						**Lager 3**						**Lager 4**					
Utdata FEM		V_z [kN]	H_x [kN]	H_y [kN]	M_y [kNm]	M_x [kNm]	M_z [kNm]	V_z [kN]	H_x [kN]	H_y [kN]	M_y [kNm]	M_x [kNm]	M_z [kNm]	V_z [kN]	H_x [kN]	H_y [kN]	M_y [kNm]	M_x [kNm]	M_z [kNm]	V_z [kN]	H_x [kN]	H_y [kN]	M_y [kNm]	M_x [kNm]	M_z [kNm]
Egentygd + beläggning	max	303						170						159						159					
	min	204						115						110						110					
Krympning	max	0						16						22						22					
	min	-44						0						0						0					
Left train	max	12						118						113						110					
	min	-4						-11						-2						-2					
Left traffic	max	45						145						150						150					
	min	-9						-14						-4						-4					
Pedestrian	max	92						6						0						0					
	min	-4						-2						-14						-14					
Broms tåg	max		0						0						0						0				
	min		0						0						0						0				
Sidokraft	max			13						13						13						13			
	min			-13						-13						-13						-13			
Prestress t2	max	51						71						40						24					
Vind , med trafik *(Från Mathcad)*	max			1.3						1.3						1.3						1.3			
	min			-1.3						-1.3						-1.3						-1.3			
Temperatur T_k	max	27						-10						-13						-13					
	min	-50						18						24						25					

Lager 5

V_z [kN]	H_x [kN]	H_y [kN]	M_y [kNm]	M_x [kNm]	M_z [kNm]
170					
115					
16					
0					
121					
-11					
146					
-14					
4					
-3					
	0				
	0				
		13			
		-13			
77					
		1.3			
		-1.3			
-10					
18					

Lager 6

V_z [kN]	H_x [kN]	H_y [kN]	M_y [kNm]	M_x [kNm]	M_z [kNm]
303					
204					
0					
-45					
13					
-4					
47					
-9					
78					
-4					
	0				
	0				
		13			
		-13			
50					
		1.3			
		-1.3			
27					
-50					

ök fb till lager
1.0 m

lageravstånd
9.60 m
5.76 m
1.92 m

Ihopsummerade laster från alla lagren

		V_z [kN]	H_x [kN]	H_y [kN]	M_y [kNm]	M_x [kNm]	M_z [kNm]	
Egentygd	max	1263	0	0		0		*inkl. extra beläggning*
+ overburden	min	858	0	0		0		*exkl. extra beläggning*
Krympning	max	76	0	0		0		
	min	-89	0	0		2		
Train	max	487	0	0		-10		
- dynamik	min	-34	0	0		0		
Traffic	max	683	0	0		-13		
- dynamik	min	-52	0	0		0		
Pedestrian	max	180	0	0		77		
	min	-40	0	0		3		
Broms	max	0	0	0		0		
	min	0	0	0		0		
Sidokraft	max	0	0	80		80		
	min	0	0	-80		-80		
Prestress t2	max	314	0	0		6		
Vind , med trafik	max	0	0	8		8		
	min	0	0	-8		-8		
(Från Mathcad)								
Temperatur	max	8	0	0		-1		
T_k	min	-15	0	0		2		

Mellanstöd **Lager 1** **Lager 2** **Lager 3** **Lager 4**

Utdata FEM

		V_z [kN]	H_x [kN]	H_y [kN]	M_y [kNm]	M_x [kNm]	M_z [kNm]	V_z [kN]	H_x [kN]	H_y [kN]	M_y [kNm]	M_x [kNm]	M_z [kNm]	V_z [kN]	H_x [kN]	H_y [kN]	M_y [kNm]	M_x [kNm]	M_z [kNm]	V_z [kN]	H_x [kN]	H_y [kN]	M_y [kNm]	M_x [kNm]	M_z [kNm]
Egentygd + beläggning	max	851						546						563						563					
	min	578						375						390						390					
Krympning	max	-291						166						138						136					
	min	0						0						0						0					
Train	max	53						183						174						171					
	min	-4						0						0						0					
Traffic	max	116						248						250						250					
	min	-6						-1						-1						-1					
Pedestrian	max	222						19						2						2					
	min	-6						-1						-3						-3					
Broms -delning 50 %	max		20						20						20						20				
	min		-20						-20						-20						-20				
Sidokraft	max			13						13						13						13			
	min			-13						-13						-13						-13			
Prestress t2	max	-49						-104						-165						-160					
Vind , med trafik *(Från Mathcad)*	max			4.2						4.2						4.2						4.2			
	min			-4.2						-4.2						-4.2						-4.2			
Temperatur T_k	max	175						-100						-83						-82					
	min	-326						186						155						153					

Lager 5 | **Lager 6**

V_z [kN]	H_x [kN]	H_y [kN]	M_y [kNm]	M_x [kNm]	M_z [kNm]	V_z [kN]	H_x [kN]	H_y [kN]	M_y [kNm]	M_x [kNm]	M_z [kNm]
546						850					
375						578					
162						-299					
0						0					
186						55					
0						-4					
249						119					
-1						-6					
16						192					
-2						-7					
	20						20				
	-20						-20				
		13						13			
		-13						-13			
-106						-43					
		4.2						4.2			
		-4.2						-4.2			
-97						179					
182						-335					

ök fb till lager	1.0 m
lageravstånd	9.60 m
	5.76 m
	1.92 m

Ihopsummerade laster från alla lagren

		V_z [kN]	H_x [kN]	H_y [kN]	M_y [kNm]	M_x [kNm]	M_z [kNm]	
Egentygd	max	3920	0	0		3		*inkl. beläggning*
+ beläggning	min	2687	0	0		2		*reduc. beläggning*
Krympning	max	13	0	0		51		
	min	0	0	0		0		
Train	max	821	0	0		-14		
- dynamik	min	-9	0	0		0		
Traffic	max	1232	0	0		-16		
- dynamik	min	-15	0	0		0		
Pedestrian	max	452	0	0		151		
	min	-23	0	0		8		
Broms	max	0	119	0		0		
-delning 50 %	min	0	-119	0		0		
Sidokraft	max	0	0	80		80		
	min	0	0	-80		-80		
Prestress t2	max	-627	0	0		-29		
Vind , med trafik	max	0	0	25		25		
	min	0	0	-25		-25		
(Från Mathcad)								
Temperatur	max	-8	0	0		-30		
T_k	min	15	0	0		57		

Lastkombinering
Bottenplatta landfäste
3.30 m (Från ök lager till P.A.P)
OBS! Samma hävarm används för Vmin egentyngd stöd

Lastkomb: **LKA**

Laster		V_z [kN]	H_x [kN]	H_y [kN]	M_y [kNm]	M_x [kNm]	M_z [kNm]	Traffic 1				Överlast 2				Överlast 3				Traffic 4				Deadweight 5		Lagerfriktion 6				Vägöverlast 7			
								V_{max}				V_{min}				V_{max}				V_{min}				V_{min}		V_{min}				V_{max}			
								H_{max}	H_{min}	H_{max}	H_{min}	H_{max}	H_{min}	H_{max}	H_{min}	H_{max}	H_{min}	H_{max}	H_{min}	H_{max}	H_{min}	H_{max}	H_{min}	H_{max}	H_{min}	H_{max}	H_{min}	H_{max}	H_{min}	H_{max}	H_{min}	H_{max}	H_{min}
								1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Permanenta laster								LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA
Egentyngd landfäste	Max	1629			-1154			1.2	1.2	1.2	1.2					1.2	1.2	1.2	1.2											1.2	1.2	1.2	1.2
	Min	1368			-1110							1.2	1.2	1.2	1.2					1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2				
Jordlast	Max	1463			-3218			1.2	1.2	1.2	1.2					1.2	1.2	1.2	1.2											1.2	1.2	1.2	1.2
	Min	917			-2018							1.2	1.2	1.2	1.2					1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2				
Jordtryck	Max		-426		468			1.2	1.2	1.2	1.2					1.2	1.2	1.2	1.2											1.2	1.2	1.2	1.2
	Min		-291		321							1.2	1.2	1.2	1.2					1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2				
Spännkraft		314				6		1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Variabla laster																																	
Vertikal överlast		603			-1327			0.7		0.7						1.5		1.5												0.7		0.7	
Jordtryck av överlast			-300		496			0.7	0.7	0.7	0.7					0.7	1.5	0.7	1.5	0.7		0.7				0.7		0.7		1.5	1.5	1.5	1.5
Överbyggnad																																	
Egentyngd+beläggning	Max	1263				0		1.2		1.2						1.2		1.2												1.2		1.2	
		1263				0			1.2		1.2						1.2		1.2												1.2		1.2
	Min	858				0						1.2		1.2						1.2		1.2		1		1.2		1.2					
		858				0							1.2		1.2						1.2		1.2		1		1.2		1.2				
Krympning	Max	76				0						1.2		1.2						1.2		1.2				1.2		1.2					
	Min	76				0							1.2		1.2						1.2		1.2				1.2		1.2				
Traffic	Max	683				-13		1.5		1.5						0.7		0.7												0.7		0.7	
		683				13			1.5		1.5						0.7		0.7												0.7		0.7
	Min	-52				0						0.7		0.7						1.5		1.5				0.7		0.7					
		-52				0							0.7		0.7						1.5		1.5				0.7		0.7				
Pedestrian	Max	180				77		0.4		0.4						0.4		0.4												0.4		0.4	
		180				-77			0.4		0.4						0.4		0.4												0.4		0.4
	Min	-40				3						0.4		0.4						0.4		0.4				0.4		0.4					
		-40				-3							0.4		0.4						0.4		0.4				0.4		0.4				
Bromskraft	Max		0		0	0																											
	Min		0		0	0																											
Sidokraft	Max			80		344		0.4		0.4						0.4		0.4												0.4		0.4	
	Min			-80		-344			0.4		0.4						0.4		0.4												0.4		0.4
Temperatur	Max	8				1																											
		8				-1																											
	Min	-15				2																											
		-15				-2																											
Överbyggnad, kompletterande																																	
Vindlast, y-riktning	Max			8		32		0.4		0.4		0.4		0.4		0.4		0.4		0.4		0.4				0.4		0.4		0.4		0.4	
	Min			-8		-32			0.4		0.4		0.4		0.4		0.4		0.4		0.4		0.4				0.4		0.4		0.4		0.4
Övergångskonstruktion	Min		-140		462			0.4		0.4		0.4		0.4		0.4		0.4		0.4		0.4				0.4		0.4		0.4			
	Max		140		-462				0.4		0.4		0.4		0.4		0.4		0.4		0.4		0.4				0.4		0.4		0.4		0.4
V								7122	6700	7122	6700	4187	4187	4187	4187	7058	6153	7058	6153	4146	4146	4146	4146	3977	3977	4187	4187	4187	4187	6575	6153	6575	6153
H_x								-777	-665	-777	-665	-405	-293	-405	-293	-777	-905	-777	-905	-615	-293	-615	-293	-349	-349	-615	-293	-615	-293	-1017	-905	-1017	-905
H_y								35	-35	35	-35	3	-3	3	-3	35	-35	35	-35	3	-3	3	-3	0	0	3	-3	3	-3	35	-35	35	-35
M_y								-5082	-4522	-5082	-4522	-3184	-3553	-3184	-3553	-6143	-4126	-6143	-4126	-2836	-3553	-2836	-3553	-3368	-3368	-2836	-3553	-2836	-3553	-4685	-4126	-4685	-4126
M_x								169	-154	169	-154	22	-7	22	-7	180	-164	180	-164	22	-7	22	-7	8	8	22	-7	22	-7	180	-164	180	-164
M_z								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
μ								0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050
$V_{ob.}$								2612	2612	2612	2612	1068	1068	1068	1068	2066	2066	2066	2066	1027	1027	1027	1027	858	858	1068	1068	1068	1068	2066	2066	2066	2066
Lagerfriktion								-1.0	1.0	-1.0	1.0	1.0	-1.0	1.0	-1.0	-1.0	1.0	-1.0	1.0	1.0	-1.0	1.0	-1.0	-1.0	-1.0	1	-1	1	-1	-1.0	1.0	-1.0	1.0
$P_{x.frik}$								-131	131	-131	131	53	-53	53	-53	-103	103	-103	103	51	-51	51	-51	-43	-43	53	-53	53	-53	-103	103	-103	103
$M_{y.frik}$								431	-431	431	-431	-176	176	-176	176	341	-341	341	-341	-169	169	-169	169	142	142	-176	176	-176	176	341	-341	341	-341
c_{tal}								1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$M_{y.imp}$																																	
$V_{.tot}$								**7122**	**6700**	**7122**	**6700**	**4187**	**4187**	**4187**	**4187**	**7058**	**6153**	**7058**	**6153**	**4146**	**4146**	**4146**	**4146**	**3977**	**3977**	**4187**	**4187**	**4187**	**4187**	**6575**	**6153**	**6575**	**6153**
$H_{x.tot}$								**-908**	**-535**	**-908**	**-535**	**-352**	**-347**	**-352**	**-347**	**-880**	**-802**	**-880**	**-802**	**-564**	**-345**	**-564**	**-345**	**-392**	**-392**	**-562**	**-347**	**-562**	**-347**	**-1120**	**-802**	**-1120**	**-802**
$H_{y.tot}$								**35**	**-35**	**35**	**-35**	**3**	**-3**	**3**	**-3**	**35**	**-35**	**35**	**-35**	**3**	**-3**	**3**	**-3**	**0**	**0**	**3**	**-3**	**3**	**-3**	**35**	**-35**	**35**	**-35**
$M_{y.tot}$								**-4651**	**-4953**	**-4651**	**-4953**	**-3360**	**-3377**	**-3360**	**-3377**	**-5802**	**-4466**	**-5802**	**-4466**	**-3006**	**-3384**	**-3006**	**-3384**	**-3227**	**-3227**	**-3013**	**-3377**	**-3013**	**-3377**	**-4344**	**-4466**	**-4344**	**-4466**
$M_{x.tot}$								**169**	**-154**	**169**	**-154**	**22**	**-7**	**22**	**-7**	**180**	**-164**	**180**	**-164**	**22**	**-7**	**22**	**-7**	**8**	**8**	**22**	**-7**	**22**	**-7**	**180**	**-164**	**180**	**-164**
$M_{z.tot}$								**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

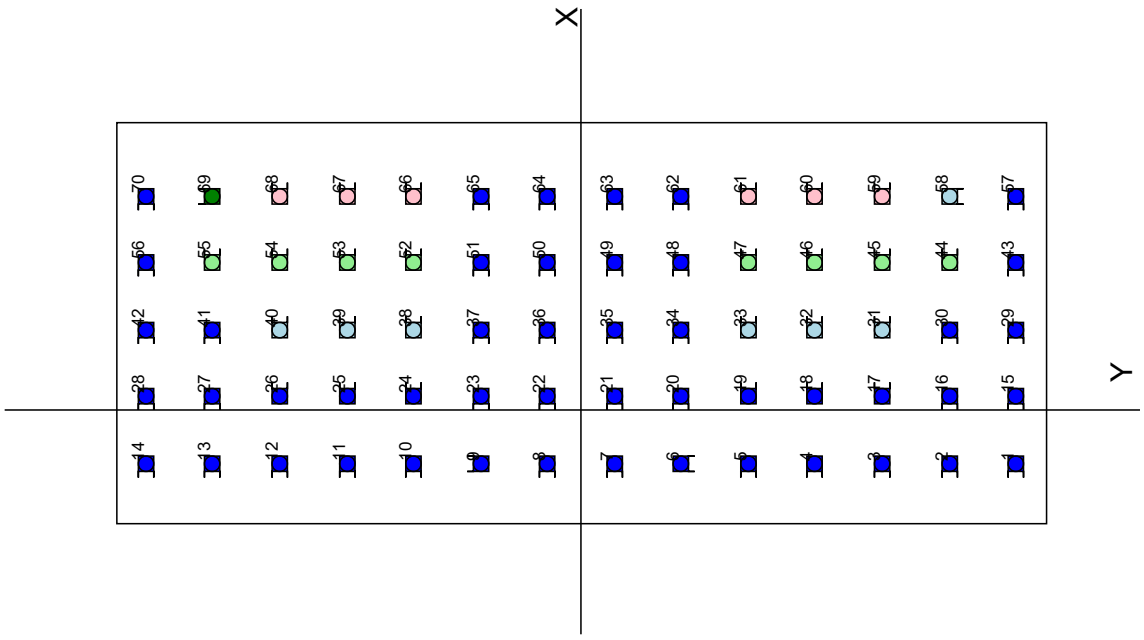
Lastkombinering
Bottenplatta mittstöd
3.30 m (Från ök lager till P.A.P)
OBS! Samma hävarm används för Vmin egentyngd stöd

								Traffic				Islast				Islast				Traffic					
								1				2				3				4				5	
Lastkomb:	**LKA**																								
								V_{max}				V_{min}				V_{max}				V_{min}				V_{min}	
		V_z	H_x	H_y	M_y	M_x	M_z	H_{max}	H_{min}	H_{max}	H_{min}	H_{max}	H_{min}	H_{max}	H_{min}	H_{max}	H_{min}	H_{max}	H_{min}	H_{max}	H_{min}	H_{max}	H_{min}	H_{max}	H_{min}
Laster		[kN]	[kN]	[kN]	[kNm]	[kNm]	[kNm]	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Permanenta laster								LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA	LKA
Egentyngd mittstöd	Max	1111			0			1.2	1.2	1.2	1.2					1.2	1.2	1.2	1.2						
	Min	907			0							1.2	1.2	1.2	1.2					1.2	1.2	1.2	1.2	1.2	1.2
Jordtryck			0		0																				
Spännkraft		-627				-29		1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Variabla laster																									
Islast, x-led			200		-500			0.6				1.5				1.5				0.6					
			-200		500				0.6				1.5				1.5				0.6				
Islast, y-led				200		500				0.6				1.5				1.5				0.6			
				-200		-500					0.6				1.5				1.5				0.6		
Överbyggnad																									
Egentyngd+beläggning	Max	3920				3		1.2		1.2						1.2		1.2							
		3920				-3			1.2		1.2						1.2		1.2						
	Min	2687				2						1.2		1.2						1.2		1.2		1	
		2687				-2							1.2		1.2						1.2		1.2		1
Krympning	Max	13				-51						1.2		1.2						1.2		1.2			
	Min	13				51							1.2		1.2						1.2		1.2		
Traffic	Max	1232				-16		1.5		1.5						0.7		0.7							
		1232				16			1.5		1.5						0.7		0.7						
	Min	-15				0						0.7		0.7						1.5		1.5			
		-15				0							0.7		0.7						1.5		1.5		
Pedestrian	Max	452				151		0.4		0.4						0.4		0.4							
		452				-151			0.4		0.4						0.4		0.4						
	Min	-23				8						0.4		0.4						0.4		0.4			
		-23				-8							0.4		0.4						0.4		0.4		
Bromskraft	Max		186		-614	0		0.4		0.4						0.4		0.4							
	Min		-186		614	0			0.4		0.4						0.4		0.4						
Sidokraft	Max			80		344		0.4		0.4						0.4		0.4							
	Min			-80		-344			0.4		0.4						0.4		0.4						
Temperatur	Max	-8				30		0.4		0.4		0.4		0.4		0.4		0.4		0.4		0.4			
		-8				-30			0.4		0.4		0.4		0.4		0.4		0.4		0.4		0.4		
	Min	15				57																			
		15				-57																			
Överbyggnad, kompletterande																									
Vindlast, y-riktning	Max			25		108		0.4		0.4		0.4		0.4		0.4		0.4		0.4		0.4			
	Min			-25		-108			0.4		0.4		0.4		0.4		0.4		0.4		0.4		0.4		
V								7310	7310	7310	7310	3553	3553	3553	3553	6324	6324	6324	6324	3541	3541	3541	3541	3022	3022
H_x								194	-194	74	-74	300	-300	0	0	374	-374	74	-74	120	-120	0	0	0	0
H_y								42	-42	162	-162	10	-10	310	-310	42	-42	342	-342	10	-10	130	-130	0	0
M_y								-546	546	-246	246	-750	750	0	0	-996	996	-246	246	-300	300	0	0	0	0
M_x								198	-267	498	-567	-34	-35	716	-785	211	-280	961	-1030	-34	-35	266	-335	-33	-37
M_z								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8



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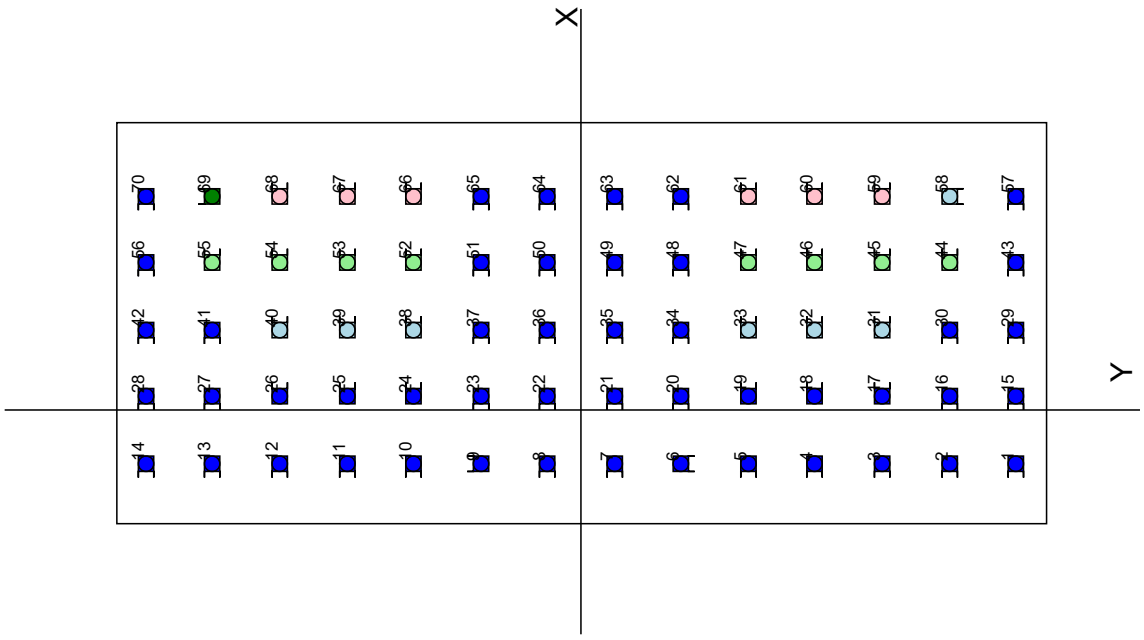
Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8



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Bilaga 9

Bjerking AB

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Rymdpålgrupp

Systemdata----------

Cirkulära påltyper----------

Data nr	Insp	E GPa	G GPa	d mm	Längd m	Lfri m	kd kPa	nh MN/m3
1	N	12,0	5,0	201	15,10	0,00	200	
2	J	12,0	5,0	201	15,10	0,00	200	

Geometri----------

Påle nr	Påltyp nr	Alpha grad	x m	y m	Lutning N: 1	Längd
1	1	180	-0,73	5,85	4,00	
2	1	180	-0,73	4,95	4,00	
3	1	180	-0,73	4,05	4,00	
4	1	180	-0,73	3,15	4,00	
5	1	180	-0,73	2,25	4,00	
6	1	90	-0,73	1,35	4,00	
7	1	180	-0,73	0,45	4,00	
8	1	180	-0,73	-0,45	4,00	
9	1	270	-0,73	-1,35	4,00	
10	1	180	-0,73	-2,25	4,00	
11	1	180	-0,73	-3,15	4,00	
12	1	180	-0,73	-4,05	4,00	
13	1	180	-0,73	-4,95	4,00	
14	1	180	-0,73	-5,85	4,00	
15	1	180	0,18	5,85	4,00	
16	1	180	0,18	4,95	4,00	
17	2	0	0,18	4,05	4,00	
18	2	0	0,18	3,15	4,00	
19	2	0	0,18	2,25	4,00	
20	1	180	0,18	1,35	4,00	
21	1	180	0,18	0,45	4,00	
22	1	180	0,18	-0,45	4,00	
23	1	180	0,18	-1,35	4,00	
24	2	0	0,18	-2,25	4,00	
25	2	0	0,18	-3,15	4,00	
26	2	0	0,18	-4,05	4,00	
27	1	180	0,18	-4,95	4,00	
28	1	180	0,18	-5,85	4,00	
29	1	180	1,08	5,85	4,00	
30	1	180	1,08	4,95	4,00	
31	2	0	1,08	4,05	4,00	
32	2	0	1,08	3,15	4,00	
33	2	0	1,08	2,25	4,00	
34	1	180	1,08	1,35	4,00	
35	1	180	1,08	0,45	4,00	
36	1	180	1,08	-0,45	4,00	
37	1	180	1,08	-1,35	4,00	
38	2	0	1,08	-2,25	4,00	
39	2	0	1,08	-3,15	4,00	
40	2	0	1,08	-4,05	4,00	
41	1	180	1,08	-4,95	4,00	
42	1	180	1,08	-5,85	4,00	
43	1	180	1,98	5,85	4,00	
44	2	0	1,98	4,95	4,00	
45	1	0	1,98	4,05	4,00	
46	1	0	1,98	3,15	4,00	
47	1	0	1,98	2,25	4,00	
48	1	180	1,98	1,35	4,00	
49	1	180	1,98	0,45	4,00	

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Beräkningen utförd av:ALM 2023-10-24 00:18:49
...kning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning_revD\isbron_LF.xml

Bjerking AB Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Geometri----------

Påle nr	Páltyp nr	Alpha grad	x m	y m	Lutning N: 1	Längd
50	1	180	1,98	-0,45	4,00	
51	1	180	1,98	-1,35	4,00	
52	1	0	1,98	-2,25	4,00	
53	1	0	1,98	-3,15	4,00	
54	1	0	1,98	-4,05	4,00	
55	2	0	1,98	-4,95	4,00	
56	1	180	1,98	-5,85	4,00	
57	2	180	2,88	5,85	4,00	
58	1	90	2,88	4,95	4,00	
59	1	0	2,88	4,05	4,00	
60	1	0	2,88	3,15	4,00	
61	1	0	2,88	2,25	4,00	
62	2	180	2,88	1,35	4,00	
63	2	180	2,88	0,45	4,00	
64	2	180	2,88	-0,45	4,00	
65	2	180	2,88	-1,35	4,00	
66	1	0	2,88	-2,25	4,00	
67	1	0	2,88	-3,15	4,00	
68	1	0	2,88	-4,05	4,00	
69	1	270	2,88	-4,95	4,00	
70	2	180	2,88	-5,85	4,00	

Laster----------

Nr	Krafter PxEd kN	PyEd kN	PzEd kN	Moment MxEd kNm	MyEd kNm	MzEd kNm
1	-908,0	35,0	7122,0	169,0	-4651,0	0,0
2	-535,0	-35,0	6700,0	-154,0	-4953,0	0,0
3	-908,0	35,0	7122,0	169,0	-4651,0	0,0
4	-535,0	-35,0	6700,0	-154,0	-4953,0	0,0
5	-352,0	3,0	4187,0	22,0	-3360,0	0,0
6	-347,0	-3,0	4187,0	-7,0	-3377,0	0,0
7	-352,0	3,0	4187,0	22,0	-3360,0	0,0
8	-347,0	-3,0	4187,0	-7,0	-3377,0	0,0
9	-880,0	35,0	7058,0	180,0	-5802,0	0,0
10	-802,0	-35,0	6153,0	-164,0	-4466,0	0,0
11	-880,0	35,0	7058,0	180,0	-5802,0	0,0
12	-802,0	-35,0	6153,0	-164,0	-4466,0	0,0
13	-564,0	3,0	4146,0	22,0	-3006,0	0,0
14	-345,0	-3,0	4146,0	-7,0	-3384,0	0,0
15	-564,0	3,0	4146,0	22,0	-3006,0	0,0
16	-345,0	-3,0	4146,0	-7,0	-3384,0	0,0
17	-392,0	0,0	3977,0	8,0	-3227,0	0,0
18	-392,0	0,0	3977,0	8,0	-3227,0	0,0
19	-562,0	3,0	4187,0	22,0	-3013,0	0,0
20	-347,0	-3,0	4187,0	-7,0	-3377,0	0,0
21	-562,0	3,0	4187,0	22,0	-3013,0	0,0
22	-347,0	-3,0	4187,0	-7,0	-3377,0	0,0
23	-1120,0	35,0	6575,0	180,0	-4344,0	0,0
24	-802,0	-35,0	6153,0	-164,0	-4466,0	0,0
25	-1120,0	35,0	6575,0	180,0	-4344,0	0,0
26	-802,0	-35,0	6153,0	-164,0	-4466,0	0,0

Bilaga 9

Bjerking AB

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Lastkombinationer enligt BFS 2019:1 - EKS 11----------

Pålcentrum för resp lastriktning.....

Lastriktning	x m	y m	z
X		0,00	-1,26
Y	1,17		-2,65
Z	1,14	0,00	

Pålgruppens deformationer redovisas i plintorigo----------

Last nr	Förskjutningar x mm	y mm	z mm	Rotationer promille x %.	y %.	z %.
1	-3,82	1,44	5,11	0,01	0,92	-0,03
2	-0,80	-1,44	4,87	-0,01	0,80	0,03
3	-3,82	1,44	5,11	0,01	0,92	-0,03
4	-0,80	-1,44	4,87	-0,01	0,80	0,03
5	-0,81	0,12	2,91	0,00	0,39	0,00
6	-0,77	-0,12	2,90	0,00	0,38	0,00
7	-0,81	0,12	2,91	0,00	0,39	0,00
8	-0,77	-0,12	2,90	0,00	0,38	0,00
9	-4,19	1,44	4,55	0,01	0,45	-0,03
10	-3,69	-1,44	4,19	-0,01	0,61	0,03
11	-4,19	1,44	4,55	0,01	0,45	-0,03
12	-3,69	-1,44	4,19	-0,01	0,61	0,03
13	-2,71	0,12	2,80	0,00	0,40	0,00
14	-0,79	-0,12	2,86	0,00	0,36	0,00
15	-2,71	0,12	2,80	0,00	0,40	0,00
16	-0,79	-0,12	2,86	0,00	0,36	0,00
17	-1,34	0,00	2,69	0,00	0,32	0,00
18	-1,34	0,00	2,69	0,00	0,32	0,00
19	-2,66	0,12	2,85	0,00	0,42	0,00
20	-0,77	-0,12	2,90	0,00	0,38	0,00
21	-2,66	0,12	2,85	0,00	0,42	0,00
22	-0,77	-0,12	2,90	0,00	0,38	0,00
23	-6,27	1,44	4,41	0,01	0,69	-0,03
24	-3,69	-1,44	4,19	-0,01	0,61	0,03
25	-6,27	1,44	4,41	0,01	0,69	-0,03
26	-3,69	-1,44	4,19	-0,01	0,61	0,03

Utskrift krafter----------

Last nr	Påle nr	Kraft Vx kN	Vy kN	Vmax kN	N kN	Moment Mx kNm	My kNm	Minsp Mmax kNm	kNm	z m	T kN
1	1	0	0	1	164	0	0	0	0	1,6	0
1	2	0	0	1	164	0	0	0	0	1,6	0
1	3	0	0	1	164	0	0	0	0	1,6	0
1	4	0	0	1	164	0	0	0	0	1,6	0
1	5	0	0	1	164	0	0	0	0	1,6	0
1	6	0	1	1	150	0	0	0	1	1,6	0
1	7	0	0	1	164	0	0	0	0	1,6	0
1	8	0	0	1	164	0	0	0	0	1,6	0
1	9	-1	-1	1	132	0	0	0	1	1,6	0
1	10	0	0	1	164	0	0	0	0	1,6	0
1	11	1	0	1	164	0	0	0	0	1,6	0

Beräkningen utförd av:ALM 2023-10-24 00:18:49
...kning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning_revD\isbron_LF.xml

Bjerking AB Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
1	12	1	0	1	164	0	0	0	0	1,6	0
1	13	1	0	1	164	0	0	0	0	1,6	0
1	14	1	0	1	164	0	0	0	0	1,6	0
1	15	0	0	1	143	0	0	0	0	1,6	0
1	16	0	0	1	143	0	0	0	0	1,6	0
1	17	-2	1	2	98	-1	-1	1	1	0,0	0
1	18	-2	1	2	98	-1	-1	1	1	0,0	0
1	19	-2	1	2	98	-1	-1	1	1	0,0	0
1	20	1	0	1	144	0	0	0	0	1,6	0
1	21	1	0	1	144	0	0	0	0	1,6	0
1	22	1	0	1	144	0	0	0	0	1,6	0
1	23	1	0	1	144	0	0	0	0	1,6	0
1	24	-2	1	2	96	-1	-1	1	1	0,0	0
1	25	-2	1	2	96	-1	-1	1	1	0,0	0
1	26	-2	1	2	96	-1	-1	1	1	0,0	0
1	27	1	0	1	144	0	0	0	0	1,6	0
1	28	1	0	1	144	0	0	0	0	1,6	0
1	29	1	0	1	123	0	0	0	0	1,6	0
1	30	1	0	1	123	0	0	0	0	1,6	0
1	31	-2	1	2	78	-1	-1	1	1	0,0	0
1	32	-2	1	2	78	-1	-1	1	1	0,0	0
1	33	-2	1	2	78	-1	-1	1	1	0,0	0
1	34	1	0	1	123	0	0	0	0	1,6	0
1	35	1	0	1	123	0	0	0	0	1,6	0
1	36	1	0	1	123	0	0	0	0	1,6	0
1	37	1	0	1	123	0	0	0	0	1,6	0
1	38	-2	1	2	76	-1	-1	1	1	0,0	0
1	39	-2	1	2	76	-1	-1	1	1	0,0	0
1	40	-2	1	2	76	-1	-1	1	1	0,0	0
1	41	1	0	1	124	0	0	0	0	1,6	0
1	42	1	0	1	124	0	0	0	0	1,6	0
1	43	1	0	1	103	0	0	0	0	1,6	0
1	44	-1	1	2	58	-1	-1	1	1	0,0	0
1	45	-1	0	1	58	0	0	0	1	1,6	0
1	46	-1	0	1	58	0	0	0	1	1,6	0
1	47	-1	0	1	57	0	0	0	1	1,6	0
1	48	1	0	1	103	0	0	0	0	1,6	0
1	49	1	0	1	103	0	0	0	0	1,6	0
1	50	1	0	1	103	0	0	0	0	1,6	0
1	51	1	0	1	103	0	0	0	0	1,6	0
1	52	-1	0	1	56	0	0	0	1	1,6	0
1	53	-1	0	1	56	0	0	0	1	1,6	0
1	54	-1	0	1	55	0	0	0	1	1,6	0
1	55	-2	1	2	55	-1	-1	1	1	0,0	0
1	56	1	0	1	103	0	0	0	0	1,6	0
1	57	1	-1	1	83	1	0	1	1	0,0	0
1	58	0	1	1	69	0	0	0	1	1,6	0
1	59	-1	0	1	38	0	0	0	1	1,6	0
1	60	-1	0	1	38	0	0	0	1	1,6	0
1	61	-1	0	1	37	0	0	0	1	1,6	0
1	62	1	-1	1	83	1	0	1	1	0,0	0
1	63	1	-1	1	83	1	1	1	1	0,0	0
1	64	1	-1	1	83	1	1	1	1	0,0	0
1	65	1	-1	1	83	1	1	1	1	0,0	0
1	66	-1	0	1	36	0	0	0	1	1,6	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
1	67	-1	0	1	35	0	0	0	1	1,6	0
1	68	-1	0	1	35	0	0	0	1	1,6	0
1	69	0	-1	1	51	0	0	0	1	1,6	0
1	70	1	-1	1	83	1	1	1	1	0,0	0
1	min	-2	-1	1	35	-1	-1	0	0	1,6	0
1	max	1	1	2	164	1	1	1	1	0,0	0
2	1	0	0	0	138	0	0	0	0	1,6	0
2	2	0	0	0	138	0	0	0	0	1,6	0
2	3	0	0	0	138	0	0	0	0	1,6	0
2	4	0	0	0	138	0	0	0	0	1,6	0
2	5	0	0	0	138	0	0	0	0	1,6	0
2	6	-1	0	1	124	0	0	0	0	1,6	0
2	7	0	0	0	138	0	0	0	0	1,6	0
2	8	0	0	0	138	0	0	0	0	1,6	0
2	9	0	0	0	142	0	0	0	0	1,6	0
2	10	0	0	0	138	0	0	0	0	1,6	0
2	11	0	0	0	137	0	0	0	0	1,6	0
2	12	0	0	0	137	0	0	0	0	1,6	0
2	13	0	0	0	137	0	0	0	0	1,6	0
2	14	0	0	0	137	0	0	0	0	1,6	0
2	15	0	0	0	120	0	0	0	0	1,6	0
2	16	0	0	0	120	0	0	0	0	1,6	0
2	17	-1	-1	1	109	1	0	1	1	0,0	0
2	18	0	-1	1	109	1	0	1	1	0,0	0
2	19	0	-1	1	109	1	0	1	1	0,0	0
2	20	0	0	0	120	0	0	0	0	1,6	0
2	21	0	0	0	120	0	0	0	0	1,6	0
2	22	0	0	0	120	0	0	0	0	1,6	0
2	23	0	0	0	120	0	0	0	0	1,6	0
2	24	0	-1	1	111	1	0	1	1	0,0	0
2	25	0	-1	1	111	1	0	1	1	0,0	0
2	26	0	-1	1	111	1	0	1	1	0,0	0
2	27	0	0	0	120	0	0	0	0	1,6	0
2	28	0	0	0	120	0	0	0	0	1,6	0
2	29	0	0	0	103	0	0	0	0	1,6	0
2	30	0	0	0	103	0	0	0	0	1,6	0
2	31	0	-1	1	91	1	0	1	1	0,0	0
2	32	0	-1	1	92	1	0	1	1	0,0	0
2	33	0	-1	1	92	1	0	1	1	0,0	0
2	34	0	0	0	103	0	0	0	0	1,6	0
2	35	0	0	0	103	0	0	0	0	1,6	0
2	36	0	0	0	102	0	0	0	0	1,6	0
2	37	0	0	0	102	0	0	0	0	1,6	0
2	38	0	-1	1	93	1	0	1	1	0,0	0
2	39	0	-1	1	94	1	0	1	1	0,0	0
2	40	0	-1	1	94	1	0	1	1	0,0	0
2	41	0	0	0	102	0	0	0	0	1,6	0
2	42	0	0	0	102	0	0	0	0	1,6	0
2	43	0	0	0	85	0	0	0	0	1,6	0
2	44	0	-1	1	74	1	0	1	1	0,0	0
2	45	0	0	0	74	0	0	0	0	1,6	0
2	46	0	0	0	74	0	0	0	0	1,6	0
2	47	0	0	0	74	0	0	0	0	1,6	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
2	48	0	0	0	85	0	0	0	0	1,6	0
2	49	0	0	0	85	0	0	0	0	1,6	0
2	50	0	0	0	85	0	0	0	0	1,6	0
2	51	0	0	0	85	0	0	0	0	1,6	0
2	52	0	0	0	76	0	0	0	0	1,6	0
2	53	0	0	0	76	0	0	0	0	1,6	0
2	54	0	0	0	77	0	0	0	0	1,6	0
2	55	0	-1	1	77	1	0	1	1	0,0	0
2	56	0	0	0	85	0	0	0	0	1,6	0
2	57	0	1	1	68	-1	-1	1	1	0,0	0
2	58	0	0	0	54	0	0	0	0	1,6	0
2	59	0	0	0	56	0	0	0	0	1,6	0
2	60	0	0	0	57	0	0	0	0	1,6	0
2	61	0	0	0	57	0	0	0	0	1,6	0
2	62	0	1	1	68	-1	-1	1	1	0,0	0
2	63	0	1	1	68	-1	-1	1	1	0,0	0
2	64	0	1	1	67	-1	-1	1	1	0,0	0
2	65	0	1	1	67	-1	-1	1	1	0,0	0
2	66	0	0	0	58	0	0	0	0	1,6	0
2	67	0	0	0	59	0	0	0	0	1,6	0
2	68	0	0	0	59	0	0	0	0	1,6	0
2	69	0	0	0	71	0	0	0	0	1,6	0
2	70	0	1	1	67	-1	-1	1	1	0,0	0
2	min	-1	-1	0	54	-1	-1	0	0	1,6	0
2	max	0	1	1	142	1	1	1	1	0,0	0
3	1	0	0	1	164	0	0	0	0	1,6	0
3	2	0	0	1	164	0	0	0	0	1,6	0
3	3	0	0	1	164	0	0	0	0	1,6	0
3	4	0	0	1	164	0	0	0	0	1,6	0
3	5	0	0	1	164	0	0	0	0	1,6	0
3	6	0	1	1	150	0	0	0	1	1,6	0
3	7	0	0	1	164	0	0	0	0	1,6	0
3	8	0	0	1	164	0	0	0	0	1,6	0
3	9	-1	-1	1	132	0	0	0	1	1,6	0
3	10	0	0	1	164	0	0	0	0	1,6	0
3	11	1	0	1	164	0	0	0	0	1,6	0
3	12	1	0	1	164	0	0	0	0	1,6	0
3	13	1	0	1	164	0	0	0	0	1,6	0
3	14	1	0	1	164	0	0	0	0	1,6	0
3	15	0	0	1	143	0	0	0	0	1,6	0
3	16	0	0	1	143	0	0	0	0	1,6	0
3	17	-2	1	2	98	-1	-1	1	1	0,0	0
3	18	-2	1	2	98	-1	-1	1	1	0,0	0
3	19	-2	1	2	98	-1	-1	1	1	0,0	0
3	20	1	0	1	144	0	0	0	0	1,6	0
3	21	1	0	1	144	0	0	0	0	1,6	0
3	22	1	0	1	144	0	0	0	0	1,6	0
3	23	1	0	1	144	0	0	0	0	1,6	0
3	24	-2	1	2	96	-1	-1	1	1	0,0	0
3	25	-2	1	2	96	-1	-1	1	1	0,0	0
3	26	-2	1	2	96	-1	-1	1	1	0,0	0
3	27	1	0	1	144	0	0	0	0	1,6	0
3	28	1	0	1	144	0	0	0	0	1,6	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
3	29	1	0	1	123	0	0	0	0	1,6	0
3	30	1	0	1	123	0	0	0	0	1,6	0
3	31	-2	1	2	78	-1	-1	1	1	0,0	0
3	32	-2	1	2	78	-1	-1	1	1	0,0	0
3	33	-2	1	2	78	-1	-1	1	1	0,0	0
3	34	1	0	1	123	0	0	0	0	1,6	0
3	35	1	0	1	123	0	0	0	0	1,6	0
3	36	1	0	1	123	0	0	0	0	1,6	0
3	37	1	0	1	123	0	0	0	0	1,6	0
3	38	-2	1	2	76	-1	-1	1	1	0,0	0
3	39	-2	1	2	76	-1	-1	1	1	0,0	0
3	40	-2	1	2	76	-1	-1	1	1	0,0	0
3	41	1	0	1	124	0	0	0	0	1,6	0
3	42	1	0	1	124	0	0	0	0	1,6	0
3	43	1	0	1	103	0	0	0	0	1,6	0
3	44	-1	1	2	58	-1	-1	1	1	0,0	0
3	45	-1	0	1	58	0	0	0	1	1,6	0
3	46	-1	0	1	58	0	0	0	1	1,6	0
3	47	-1	0	1	57	0	0	0	1	1,6	0
3	48	1	0	1	103	0	0	0	0	1,6	0
3	49	1	0	1	103	0	0	0	0	1,6	0
3	50	1	0	1	103	0	0	0	0	1,6	0
3	51	1	0	1	103	0	0	0	0	1,6	0
3	52	-1	0	1	56	0	0	0	1	1,6	0
3	53	-1	0	1	56	0	0	0	1	1,6	0
3	54	-1	0	1	55	0	0	0	1	1,6	0
3	55	-2	1	2	55	-1	-1	1	1	0,0	0
3	56	1	0	1	103	0	0	0	0	1,6	0
3	57	1	-1	1	83	1	0	1	1	0,0	0
3	58	0	1	1	69	0	0	0	1	1,6	0
3	59	-1	0	1	38	0	0	0	1	1,6	0
3	60	-1	0	1	38	0	0	0	1	1,6	0
3	61	-1	0	1	37	0	0	0	1	1,6	0
3	62	1	-1	1	83	1	0	1	1	0,0	0
3	63	1	-1	1	83	1	1	1	1	0,0	0
3	64	1	-1	1	83	1	1	1	1	0,0	0
3	65	1	-1	1	83	1	1	1	1	0,0	0
3	66	-1	0	1	36	0	0	0	1	1,6	0
3	67	-1	0	1	35	0	0	0	1	1,6	0
3	68	-1	0	1	35	0	0	0	1	1,6	0
3	69	0	-1	1	51	0	0	0	1	1,6	0
3	70	1	-1	1	83	1	1	1	1	0,0	0
3	min	-2	-1	1	35	-1	-1	0	0	1,6	0
3	max	1	1	2	164	1	1	1	1	0,0	0
4	1	0	0	0	138	0	0	0	0	1,6	0
4	2	0	0	0	138	0	0	0	0	1,6	0
4	3	0	0	0	138	0	0	0	0	1,6	0
4	4	0	0	0	138	0	0	0	0	1,6	0
4	5	0	0	0	138	0	0	0	0	1,6	0
4	6	-1	0	1	124	0	0	0	0	1,6	0
4	7	0	0	0	138	0	0	0	0	1,6	0
4	8	0	0	0	138	0	0	0	0	1,6	0
4	9	0	0	0	142	0	0	0	0	1,6	0

Beräkningen utförd av:ALM 2023-10-24 00:18:49
...kning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning_revD\isbron_LF.xml

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
4	10	0	0	0	138	0	0	0	0	1,6	0
4	11	0	0	0	137	0	0	0	0	1,6	0
4	12	0	0	0	137	0	0	0	0	1,6	0
4	13	0	0	0	137	0	0	0	0	1,6	0
4	14	0	0	0	137	0	0	0	0	1,6	0
4	15	0	0	0	120	0	0	0	0	1,6	0
4	16	0	0	0	120	0	0	0	0	1,6	0
4	17	-1	-1	1	109	1	0	1	1	0,0	0
4	18	0	-1	1	109	1	0	1	1	0,0	0
4	19	0	-1	1	109	1	0	1	1	0,0	0
4	20	0	0	0	120	0	0	0	0	1,6	0
4	21	0	0	0	120	0	0	0	0	1,6	0
4	22	0	0	0	120	0	0	0	0	1,6	0
4	23	0	0	0	120	0	0	0	0	1,6	0
4	24	0	-1	1	111	1	0	1	1	0,0	0
4	25	0	-1	1	111	1	0	1	1	0,0	0
4	26	0	-1	1	111	1	0	1	1	0,0	0
4	27	0	0	0	120	0	0	0	0	1,6	0
4	28	0	0	0	120	0	0	0	0	1,6	0
4	29	0	0	0	103	0	0	0	0	1,6	0
4	30	0	0	0	103	0	0	0	0	1,6	0
4	31	0	-1	1	91	1	0	1	1	0,0	0
4	32	0	-1	1	92	1	0	1	1	0,0	0
4	33	0	-1	1	92	1	0	1	1	0,0	0
4	34	0	0	0	103	0	0	0	0	1,6	0
4	35	0	0	0	103	0	0	0	0	1,6	0
4	36	0	0	0	102	0	0	0	0	1,6	0
4	37	0	0	0	102	0	0	0	0	1,6	0
4	38	0	-1	1	93	1	0	1	1	0,0	0
4	39	0	-1	1	94	1	0	1	1	0,0	0
4	40	0	-1	1	94	1	0	1	1	0,0	0
4	41	0	0	0	102	0	0	0	0	1,6	0
4	42	0	0	0	102	0	0	0	0	1,6	0
4	43	0	0	0	85	0	0	0	0	1,6	0
4	44	0	-1	1	74	1	0	1	1	0,0	0
4	45	0	0	0	74	0	0	0	0	1,6	0
4	46	0	0	0	74	0	0	0	0	1,6	0
4	47	0	0	0	74	0	0	0	0	1,6	0
4	48	0	0	0	85	0	0	0	0	1,6	0
4	49	0	0	0	85	0	0	0	0	1,6	0
4	50	0	0	0	85	0	0	0	0	1,6	0
4	51	0	0	0	85	0	0	0	0	1,6	0
4	52	0	0	0	76	0	0	0	0	1,6	0
4	53	0	0	0	76	0	0	0	0	1,6	0
4	54	0	0	0	77	0	0	0	0	1,6	0
4	55	0	-1	1	77	1	0	1	1	0,0	0
4	56	0	0	0	85	0	0	0	0	1,6	0
4	57	0	1	1	68	-1	-1	1	1	0,0	0
4	58	0	0	0	54	0	0	0	0	1,6	0
4	59	0	0	0	56	0	0	0	0	1,6	0
4	60	0	0	0	57	0	0	0	0	1,6	0
4	61	0	0	0	57	0	0	0	0	1,6	0
4	62	0	1	1	68	-1	-1	1	1	0,0	0
4	63	0	1	1	68	-1	-1	1	1	0,0	0
4	64	0	1	1	67	-1	-1	1	1	0,0	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
4	65	0	1	1	67	-1	-1	1	1	0,0	0
4	66	0	0	0	58	0	0	0	0	1,6	0
4	67	0	0	0	59	0	0	0	0	1,6	0
4	68	0	0	0	59	0	0	0	0	1,6	0
4	69	0	0	0	71	0	0	0	0	1,6	0
4	70	0	1	1	67	-1	-1	1	1	0,0	0
4	min	-1	-1	0	54	-1	-1	0	0	1,6	0
4	max	0	1	1	142	1	1	1	1	0,0	0
5	1	0	0	0	83	0	0	0	0	1,6	0
5	2	0	0	0	83	0	0	0	0	1,6	0
5	3	0	0	0	83	0	0	0	0	1,6	0
5	4	0	0	0	83	0	0	0	0	1,6	0
5	5	0	0	0	83	0	0	0	0	1,6	0
5	6	0	0	0	78	0	0	0	0	1,6	0
5	7	0	0	0	83	0	0	0	0	1,6	0
5	8	0	0	0	83	0	0	0	0	1,6	0
5	9	0	0	0	77	0	0	0	0	1,6	0
5	10	0	0	0	82	0	0	0	0	1,6	0
5	11	0	0	0	82	0	0	0	0	1,6	0
5	12	0	0	0	82	0	0	0	0	1,6	0
5	13	0	0	0	82	0	0	0	0	1,6	0
5	14	0	0	0	82	0	0	0	0	1,6	0
5	15	0	0	0	74	0	0	0	0	1,6	0
5	16	0	0	0	74	0	0	0	0	1,6	0
5	17	0	0	0	64	0	0	0	0	0,0	0
5	18	0	0	0	64	0	0	0	0	0,0	0
5	19	0	0	0	64	0	0	0	0	0,0	0
5	20	0	0	0	74	0	0	0	0	1,6	0
5	21	0	0	0	74	0	0	0	0	1,6	0
5	22	0	0	0	74	0	0	0	0	1,6	0
5	23	0	0	0	74	0	0	0	0	1,6	0
5	24	0	0	0	64	0	0	0	0	0,0	0
5	25	0	0	0	64	0	0	0	0	0,0	0
5	26	0	0	0	64	0	0	0	0	0,0	0
5	27	0	0	0	74	0	0	0	0	1,6	0
5	28	0	0	0	74	0	0	0	0	1,6	0
5	29	0	0	0	66	0	0	0	0	1,6	0
5	30	0	0	0	66	0	0	0	0	1,6	0
5	31	0	0	0	56	0	0	0	0	0,0	0
5	32	0	0	0	56	0	0	0	0	0,0	0
5	33	0	0	0	56	0	0	0	0	0,0	0
5	34	0	0	0	66	0	0	0	0	1,6	0
5	35	0	0	0	66	0	0	0	0	1,6	0
5	36	0	0	0	66	0	0	0	0	1,6	0
5	37	0	0	0	66	0	0	0	0	1,6	0
5	38	0	0	0	56	0	0	0	0	0,0	0
5	39	0	0	0	56	0	0	0	0	0,0	0
5	40	0	0	0	56	0	0	0	0	0,0	0
5	41	0	0	0	66	0	0	0	0	1,6	0
5	42	0	0	0	66	0	0	0	0	1,6	0
5	43	0	0	0	57	0	0	0	0	1,6	0
5	44	0	0	0	47	0	0	0	0	0,0	0
5	45	0	0	0	47	0	0	0	0	1,6	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
5	46	0	0	0	47	0	0	0	0	1,6	0
5	47	0	0	0	47	0	0	0	0	1,6	0
5	48	0	0	0	57	0	0	0	0	1,6	0
5	49	0	0	0	57	0	0	0	0	1,6	0
5	50	0	0	0	57	0	0	0	0	1,6	0
5	51	0	0	0	57	0	0	0	0	1,6	0
5	52	0	0	0	47	0	0	0	0	1,6	0
5	53	0	0	0	47	0	0	0	0	1,6	0
5	54	0	0	0	47	0	0	0	0	1,6	0
5	55	0	0	0	47	0	0	0	0	0,0	0
5	56	0	0	0	57	0	0	0	0	1,6	0
5	57	0	0	0	49	0	0	0	0	0,0	0
5	58	0	0	0	45	0	0	0	0	1,6	0
5	59	0	0	0	39	0	0	0	0	1,6	0
5	60	0	0	0	39	0	0	0	0	1,6	0
5	61	0	0	0	39	0	0	0	0	1,6	0
5	62	0	0	0	49	0	0	0	0	0,0	0
5	63	0	0	0	49	0	0	0	0	0,0	0
5	64	0	0	0	49	0	0	0	0	0,0	0
5	65	0	0	0	49	0	0	0	0	0,0	0
5	66	0	0	0	39	0	0	0	0	1,6	0
5	67	0	0	0	39	0	0	0	0	1,6	0
5	68	0	0	0	39	0	0	0	0	1,6	0
5	69	0	0	0	43	0	0	0	0	1,6	0
5	70	0	0	0	49	0	0	0	0	0,0	0
5	min	0	0	0	39	0	-1	0	0	1,6	0
5	max	0	0	0	83	0	1	0	0	0,0	0
6	1	0	0	0	82	0	0	0	0	1,6	0
6	2	0	0	0	82	0	0	0	0	1,6	0
6	3	0	0	0	82	0	0	0	0	1,6	0
6	4	0	0	0	82	0	0	0	0	1,6	0
6	5	0	0	0	82	0	0	0	0	1,6	0
6	6	0	0	0	77	0	0	0	0	1,6	0
6	7	0	0	0	82	0	0	0	0	1,6	0
6	8	0	0	0	82	0	0	0	0	1,6	0
6	9	0	0	0	78	0	0	0	0	1,6	0
6	10	0	0	0	82	0	0	0	0	1,6	0
6	11	0	0	0	82	0	0	0	0	1,6	0
6	12	0	0	0	82	0	0	0	0	1,6	0
6	13	0	0	0	82	0	0	0	0	1,6	0
6	14	0	0	0	82	0	0	0	0	1,6	0
6	15	0	0	0	74	0	0	0	0	1,6	0
6	16	0	0	0	74	0	0	0	0	1,6	0
6	17	0	0	0	64	0	0	0	0	0,0	0
6	18	0	0	0	64	0	0	0	0	0,0	0
6	19	0	0	0	64	0	0	0	0	0,0	0
6	20	0	0	0	74	0	0	0	0	1,6	0
6	21	0	0	0	74	0	0	0	0	1,6	0
6	22	0	0	0	74	0	0	0	0	1,6	0
6	23	0	0	0	74	0	0	0	0	1,6	0
6	24	0	0	0	64	0	0	0	0	0,0	0
6	25	0	0	0	64	0	0	0	0	0,0	0
6	26	0	0	0	64	0	0	0	0	0,0	0

Beräkningen utförd av:ALM 2023-10-24 00:18:49
...kning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning_revD\isbron_LF.xml

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
6	27	0	0	0	74	0	0	0	0	1,6	0
6	28	0	0	0	74	0	0	0	0	1,6	0
6	29	0	0	0	65	0	0	0	0	1,6	0
6	30	0	0	0	65	0	0	0	0	1,6	0
6	31	0	0	0	56	0	0	0	0	0,0	0
6	32	0	0	0	56	0	0	0	0	0,0	0
6	33	0	0	0	56	0	0	0	0	0,0	0
6	34	0	0	0	65	0	0	0	0	1,6	0
6	35	0	0	0	65	0	0	0	0	1,6	0
6	36	0	0	0	65	0	0	0	0	1,6	0
6	37	0	0	0	65	0	0	0	0	1,6	0
6	38	0	0	0	56	0	0	0	0	0,0	0
6	39	0	0	0	56	0	0	0	0	0,0	0
6	40	0	0	0	56	0	0	0	0	0,0	0
6	41	0	0	0	65	0	0	0	0	1,6	0
6	42	0	0	0	65	0	0	0	0	1,6	0
6	43	0	0	0	57	0	0	0	0	1,6	0
6	44	0	0	0	48	0	0	0	0	0,0	0
6	45	0	0	0	48	0	0	0	0	1,6	0
6	46	0	0	0	48	0	0	0	0	1,6	0
6	47	0	0	0	48	0	0	0	0	1,6	0
6	48	0	0	0	57	0	0	0	0	1,6	0
6	49	0	0	0	57	0	0	0	0	1,6	0
6	50	0	0	0	57	0	0	0	0	1,6	0
6	51	0	0	0	57	0	0	0	0	1,6	0
6	52	0	0	0	48	0	0	0	0	1,6	0
6	53	0	0	0	48	0	0	0	0	1,6	0
6	54	0	0	0	48	0	0	0	0	1,6	0
6	55	0	0	0	48	0	0	0	0	0,0	0
6	56	0	0	0	57	0	0	0	0	1,6	0
6	57	0	0	0	49	0	0	0	0	0,0	0
6	58	0	0	0	43	0	0	0	0	1,6	0
6	59	0	0	0	39	0	0	0	0	1,6	0
6	60	0	0	0	39	0	0	0	0	1,6	0
6	61	0	0	0	39	0	0	0	0	1,6	0
6	62	0	0	0	49	0	0	0	0	0,0	0
6	63	0	0	0	49	0	0	0	0	0,0	0
6	64	0	0	0	49	0	0	0	0	0,0	0
6	65	0	0	0	49	0	0	0	0	0,0	0
6	66	0	0	0	39	0	0	0	0	1,6	0
6	67	0	0	0	39	0	0	0	0	1,6	0
6	68	0	0	0	39	0	0	0	0	1,6	0
6	69	0	0	0	45	0	0	0	0	1,6	0
6	70	0	0	0	49	0	0	0	0	0,0	0
6	min	0	0	0	39	0	-1	0	0	1,6	0
6	max	0	0	0	82	0	1	0	0	0,0	0
7	1	0	0	0	83	0	0	0	0	1,6	0
7	2	0	0	0	83	0	0	0	0	1,6	0
7	3	0	0	0	83	0	0	0	0	1,6	0
7	4	0	0	0	83	0	0	0	0	1,6	0
7	5	0	0	0	83	0	0	0	0	1,6	0
7	6	0	0	0	78	0	0	0	0	1,6	0
7	7	0	0	0	83	0	0	0	0	1,6	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
7	8	0	0	0	83	0	0	0	0	1,6	0
7	9	0	0	0	77	0	0	0	0	1,6	0
7	10	0	0	0	82	0	0	0	0	1,6	0
7	11	0	0	0	82	0	0	0	0	1,6	0
7	12	0	0	0	82	0	0	0	0	1,6	0
7	13	0	0	0	82	0	0	0	0	1,6	0
7	14	0	0	0	82	0	0	0	0	1,6	0
7	15	0	0	0	74	0	0	0	0	1,6	0
7	16	0	0	0	74	0	0	0	0	1,6	0
7	17	0	0	0	64	0	0	0	0	0,0	0
7	18	0	0	0	64	0	0	0	0	0,0	0
7	19	0	0	0	64	0	0	0	0	0,0	0
7	20	0	0	0	74	0	0	0	0	1,6	0
7	21	0	0	0	74	0	0	0	0	1,6	0
7	22	0	0	0	74	0	0	0	0	1,6	0
7	23	0	0	0	74	0	0	0	0	1,6	0
7	24	0	0	0	64	0	0	0	0	0,0	0
7	25	0	0	0	64	0	0	0	0	0,0	0
7	26	0	0	0	64	0	0	0	0	0,0	0
7	27	0	0	0	74	0	0	0	0	1,6	0
7	28	0	0	0	74	0	0	0	0	1,6	0
7	29	0	0	0	66	0	0	0	0	1,6	0
7	30	0	0	0	66	0	0	0	0	1,6	0
7	31	0	0	0	56	0	0	0	0	0,0	0
7	32	0	0	0	56	0	0	0	0	0,0	0
7	33	0	0	0	56	0	0	0	0	0,0	0
7	34	0	0	0	66	0	0	0	0	1,6	0
7	35	0	0	0	66	0	0	0	0	1,6	0
7	36	0	0	0	66	0	0	0	0	1,6	0
7	37	0	0	0	66	0	0	0	0	1,6	0
7	38	0	0	0	56	0	0	0	0	0,0	0
7	39	0	0	0	56	0	0	0	0	0,0	0
7	40	0	0	0	56	0	0	0	0	0,0	0
7	41	0	0	0	66	0	0	0	0	1,6	0
7	42	0	0	0	66	0	0	0	0	1,6	0
7	43	0	0	0	57	0	0	0	0	1,6	0
7	44	0	0	0	47	0	0	0	0	0,0	0
7	45	0	0	0	47	0	0	0	0	1,6	0
7	46	0	0	0	47	0	0	0	0	1,6	0
7	47	0	0	0	47	0	0	0	0	1,6	0
7	48	0	0	0	57	0	0	0	0	1,6	0
7	49	0	0	0	57	0	0	0	0	1,6	0
7	50	0	0	0	57	0	0	0	0	1,6	0
7	51	0	0	0	57	0	0	0	0	1,6	0
7	52	0	0	0	47	0	0	0	0	1,6	0
7	53	0	0	0	47	0	0	0	0	1,6	0
7	54	0	0	0	47	0	0	0	0	1,6	0
7	55	0	0	0	47	0	0	0	0	0,0	0
7	56	0	0	0	57	0	0	0	0	1,6	0
7	57	0	0	0	49	0	0	0	0	0,0	0
7	58	0	0	0	45	0	0	0	0	1,6	0
7	59	0	0	0	39	0	0	0	0	1,6	0
7	60	0	0	0	39	0	0	0	0	1,6	0
7	61	0	0	0	39	0	0	0	0	1,6	0
7	62	0	0	0	49	0	0	0	0	0,0	0

Beräkningen utförd av:ALM 2023-10-24 00:18:49
...kning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning_revD\isbron_LF.xml

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
7	63	0	0	0	49	0	0	0	0	0,0	0
7	64	0	0	0	49	0	0	0	0	0,0	0
7	65	0	0	0	49	0	0	0	0	0,0	0
7	66	0	0	0	39	0	0	0	0	1,6	0
7	67	0	0	0	39	0	0	0	0	1,6	0
7	68	0	0	0	39	0	0	0	0	1,6	0
7	69	0	0	0	43	0	0	0	0	1,6	0
7	70	0	0	0	49	0	0	0	0	0,0	0
7	min	0	0	0	39	0	-1	0	0	1,6	0
7	max	0	0	0	83	0	1	0	0	0,0	0
8	1	0	0	0	82	0	0	0	0	1,6	0
8	2	0	0	0	82	0	0	0	0	1,6	0
8	3	0	0	0	82	0	0	0	0	1,6	0
8	4	0	0	0	82	0	0	0	0	1,6	0
8	5	0	0	0	82	0	0	0	0	1,6	0
8	6	0	0	0	77	0	0	0	0	1,6	0
8	7	0	0	0	82	0	0	0	0	1,6	0
8	8	0	0	0	82	0	0	0	0	1,6	0
8	9	0	0	0	78	0	0	0	0	1,6	0
8	10	0	0	0	82	0	0	0	0	1,6	0
8	11	0	0	0	82	0	0	0	0	1,6	0
8	12	0	0	0	82	0	0	0	0	1,6	0
8	13	0	0	0	82	0	0	0	0	1,6	0
8	14	0	0	0	82	0	0	0	0	1,6	0
8	15	0	0	0	74	0	0	0	0	1,6	0
8	16	0	0	0	74	0	0	0	0	1,6	0
8	17	0	0	0	64	0	0	0	0	0,0	0
8	18	0	0	0	64	0	0	0	0	0,0	0
8	19	0	0	0	64	0	0	0	0	0,0	0
8	20	0	0	0	74	0	0	0	0	1,6	0
8	21	0	0	0	74	0	0	0	0	1,6	0
8	22	0	0	0	74	0	0	0	0	1,6	0
8	23	0	0	0	74	0	0	0	0	1,6	0
8	24	0	0	0	64	0	0	0	0	0,0	0
8	25	0	0	0	64	0	0	0	0	0,0	0
8	26	0	0	0	64	0	0	0	0	0,0	0
8	27	0	0	0	74	0	0	0	0	1,6	0
8	28	0	0	0	74	0	0	0	0	1,6	0
8	29	0	0	0	65	0	0	0	0	1,6	0
8	30	0	0	0	65	0	0	0	0	1,6	0
8	31	0	0	0	56	0	0	0	0	0,0	0
8	32	0	0	0	56	0	0	0	0	0,0	0
8	33	0	0	0	56	0	0	0	0	0,0	0
8	34	0	0	0	65	0	0	0	0	1,6	0
8	35	0	0	0	65	0	0	0	0	1,6	0
8	36	0	0	0	65	0	0	0	0	1,6	0
8	37	0	0	0	65	0	0	0	0	1,6	0
8	38	0	0	0	56	0	0	0	0	0,0	0
8	39	0	0	0	56	0	0	0	0	0,0	0
8	40	0	0	0	56	0	0	0	0	0,0	0
8	41	0	0	0	65	0	0	0	0	1,6	0
8	42	0	0	0	65	0	0	0	0	1,6	0
8	43	0	0	0	57	0	0	0	0	1,6	0

Beräkningen utförd av:ALM 2023-10-24 00:18:49
...kning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning_revD\isbron_LF.xml

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
8	44	0	0	0	48	0	0	0	0	0,0	0
8	45	0	0	0	48	0	0	0	0	1,6	0
8	46	0	0	0	48	0	0	0	0	1,6	0
8	47	0	0	0	48	0	0	0	0	1,6	0
8	48	0	0	0	57	0	0	0	0	1,6	0
8	49	0	0	0	57	0	0	0	0	1,6	0
8	50	0	0	0	57	0	0	0	0	1,6	0
8	51	0	0	0	57	0	0	0	0	1,6	0
8	52	0	0	0	48	0	0	0	0	1,6	0
8	53	0	0	0	48	0	0	0	0	1,6	0
8	54	0	0	0	48	0	0	0	0	1,6	0
8	55	0	0	0	48	0	0	0	0	0,0	0
8	56	0	0	0	57	0	0	0	0	1,6	0
8	57	0	0	0	49	0	0	0	0	0,0	0
8	58	0	0	0	43	0	0	0	0	1,6	0
8	59	0	0	0	39	0	0	0	0	1,6	0
8	60	0	0	0	39	0	0	0	0	1,6	0
8	61	0	0	0	39	0	0	0	0	1,6	0
8	62	0	0	0	49	0	0	0	0	0,0	0
8	63	0	0	0	49	0	0	0	0	0,0	0
8	64	0	0	0	49	0	0	0	0	0,0	0
8	65	0	0	0	49	0	0	0	0	0,0	0
8	66	0	0	0	39	0	0	0	0	1,6	0
8	67	0	0	0	39	0	0	0	0	1,6	0
8	68	0	0	0	39	0	0	0	0	1,6	0
8	69	0	0	0	45	0	0	0	0	1,6	0
8	70	0	0	0	49	0	0	0	0	0,0	0
8	min	0	0	0	39	0	-1	0	0	1,6	0
8	max	0	0	0	82	0	1	0	0	0,0	0
9	1	1	0	1	144	0	0	0	0	1,6	0
9	2	1	0	1	144	0	0	0	0	1,6	0
9	3	1	0	1	144	0	0	0	0	1,6	0
9	4	1	0	1	144	0	0	0	0	1,6	0
9	5	1	0	1	144	0	0	0	0	1,6	0
9	6	0	1	1	128	0	0	0	1	1,6	0
9	7	1	0	1	144	0	0	0	0	1,6	0
9	8	1	0	1	144	0	0	0	0	1,6	0
9	9	-1	-1	1	110	0	0	0	1	1,6	0
9	10	1	0	1	144	0	0	0	0	1,6	0
9	11	1	0	1	144	0	0	0	0	1,6	0
9	12	1	0	1	144	0	0	0	0	1,6	0
9	13	1	0	1	144	0	0	0	0	1,6	0
9	14	1	0	1	144	0	0	0	0	1,6	0
9	15	1	0	1	134	0	0	0	0	1,6	0
9	16	1	0	1	134	0	0	0	0	1,6	0
9	17	-2	1	2	85	-1	-2	2	2	0,0	0
9	18	-2	1	2	84	-1	-2	2	2	0,0	0
9	19	-2	1	2	84	-1	-2	2	2	0,0	0
9	20	1	0	1	134	0	0	0	0	1,6	0
9	21	1	0	1	134	0	0	0	0	1,6	0
9	22	1	0	1	134	0	0	0	0	1,6	0
9	23	1	0	1	134	0	0	0	0	1,6	0
9	24	-2	1	2	82	-1	-2	2	2	0,0	0

Beräkningen utförd av:ALM 2023-10-24 00:18:49
...kning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning_revD\isbron_LF.xml

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
9	25	-2	1	2	82	-1	-2	2	2	0,0	0
9	26	-2	1	2	82	-1	-2	2	2	0,0	0
9	27	1	0	1	134	0	0	0	0	1,6	0
9	28	1	0	1	134	0	0	0	0	1,6	0
9	29	1	0	1	124	0	0	0	0	1,6	0
9	30	1	0	1	124	0	0	0	0	1,6	0
9	31	-2	1	2	75	-1	-2	2	2	0,0	0
9	32	-2	1	2	74	-1	-2	2	2	0,0	0
9	33	-2	1	2	74	-1	-2	2	2	0,0	0
9	34	1	0	1	124	0	0	0	0	1,6	0
9	35	1	0	1	124	0	0	0	0	1,6	0
9	36	1	0	1	124	0	0	0	0	1,6	0
9	37	1	0	1	124	0	0	0	0	1,6	0
9	38	-2	1	2	72	-1	-2	2	2	0,0	0
9	39	-2	1	2	72	-1	-2	2	2	0,0	0
9	40	-2	1	2	72	-1	-2	2	2	0,0	0
9	41	1	0	1	124	0	0	0	0	1,6	0
9	42	1	0	1	125	0	0	0	1	1,6	0
9	43	1	0	1	114	0	0	0	0	1,6	0
9	44	-2	1	2	65	-1	-2	2	2	0,0	0
9	45	-1	0	1	65	0	0	0	1	1,6	0
9	46	-1	0	1	65	0	0	0	1	1,6	0
9	47	-1	0	1	64	0	0	0	1	1,6	0
9	48	1	0	1	114	0	0	0	0	1,6	0
9	49	1	0	1	114	0	0	0	0	1,6	0
9	50	1	0	1	114	0	0	0	0	1,6	0
9	51	1	0	1	114	0	0	0	0	1,6	0
9	52	-1	0	1	63	0	0	0	1	1,6	0
9	53	-1	0	1	62	0	0	0	1	1,6	0
9	54	-1	0	1	62	0	0	0	1	1,6	0
9	55	-2	1	2	62	-1	-2	2	2	0,0	0
9	56	1	0	1	115	0	0	0	1	1,6	0
9	57	1	-1	1	104	1	1	1	1	0,0	0
9	58	0	1	1	88	0	0	0	1	1,6	0
9	59	-1	0	1	55	0	0	0	1	1,6	0
9	60	-1	0	1	55	0	0	0	1	1,6	0
9	61	-1	0	1	54	0	0	0	1	1,6	0
9	62	1	-1	1	104	1	1	1	1	0,0	0
9	63	1	-1	1	104	1	1	1	1	0,0	0
9	64	1	-1	1	104	1	1	1	1	0,0	0
9	65	1	-1	1	105	1	1	1	1	0,0	0
9	66	-1	0	1	53	0	0	0	1	1,6	0
9	67	-1	0	1	52	0	0	0	1	1,6	0
9	68	-1	0	1	52	0	0	0	1	1,6	0
9	69	0	-1	1	70	0	0	0	1	1,6	0
9	70	1	-1	1	105	1	1	1	1	0,0	0
9	min	-2	-1	1	52	-1	-2	0	0	1,6	0
9	max	1	1	2	144	1	1	2	2	0,0	0
10	1	1	0	1	136	0	0	0	0	1,6	0
10	2	1	0	1	136	0	0	0	0	1,6	0
10	3	1	0	1	136	0	0	0	0	1,6	0
10	4	1	0	1	136	0	0	0	0	1,6	0
10	5	1	0	1	136	0	0	0	0	1,6	0

Beräkningen utförd av:ALM 2023-10-24 00:18:49
...kning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning_revD\isbron_LF.xml

Bjerking AB Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
10	6	-1	1	1	104	0	0	0	1	1,6	0
10	7	1	0	1	135	0	0	0	0	1,6	0
10	8	1	0	1	135	0	0	0	0	1,6	0
10	9	0	-1	1	122	0	0	0	1	1,6	0
10	10	0	0	1	135	0	0	0	0	1,6	0
10	11	0	0	1	135	0	0	0	0	1,6	0
10	12	0	0	1	135	0	0	0	0	1,6	0
10	13	0	0	1	135	0	0	0	0	1,6	0
10	14	0	0	1	135	0	0	0	0	1,6	0
10	15	1	0	1	122	0	0	0	0	1,6	0
10	16	1	0	1	122	0	0	0	0	1,6	0
10	17	-2	-1	2	76	1	-1	2	2	0,0	0
10	18	-2	-1	2	76	1	-1	2	2	0,0	0
10	19	-2	-1	2	76	1	-1	2	2	0,0	0
10	20	1	0	1	122	0	0	0	0	1,6	0
10	21	1	0	1	122	0	0	0	0	1,6	0
10	22	1	0	1	122	0	0	0	0	1,6	0
10	23	1	0	1	122	0	0	0	0	1,6	0
10	24	-2	-1	2	78	1	-1	2	2	0,0	0
10	25	-2	-1	2	78	1	-1	2	2	0,0	0
10	26	-2	-1	2	78	1	-1	2	2	0,0	0
10	27	1	0	1	122	0	0	0	0	1,6	0
10	28	1	0	1	122	0	0	0	0	1,6	0
10	29	1	0	1	109	0	0	0	0	1,6	0
10	30	1	0	1	109	0	0	0	0	1,6	0
10	31	-2	-1	2	62	1	-1	2	2	0,0	0
10	32	-2	-1	2	63	1	-1	2	2	0,0	0
10	33	-2	-1	2	63	1	-1	2	2	0,0	0
10	34	1	0	1	109	0	0	0	0	1,6	0
10	35	1	0	1	109	0	0	0	0	1,6	0
10	36	1	0	1	108	0	0	0	0	1,6	0
10	37	1	0	1	108	0	0	0	0	1,6	0
10	38	-2	-1	2	64	1	-1	1	1	0,0	0
10	39	-2	-1	2	65	1	-1	1	1	0,0	0
10	40	-2	-1	2	65	1	-1	1	1	0,0	0
10	41	1	0	1	108	0	0	0	0	1,6	0
10	42	1	0	1	108	0	0	0	0	1,6	0
10	43	1	0	1	95	0	0	0	0	1,6	0
10	44	-2	-1	2	49	1	-1	2	2	0,0	0
10	45	-1	0	1	49	0	0	0	1	1,6	0
10	46	-1	0	1	49	0	0	0	1	1,6	0
10	47	-1	0	1	49	0	0	0	1	1,6	0
10	48	1	0	1	95	0	0	0	0	1,6	0
10	49	1	0	1	95	0	0	0	0	1,6	0
10	50	1	0	1	95	0	0	0	0	1,6	0
10	51	1	0	1	95	0	0	0	0	1,6	0
10	52	-1	0	1	51	0	0	0	1	1,6	0
10	53	-1	0	1	51	0	0	0	1	1,6	0
10	54	-1	0	1	52	0	0	0	1	1,6	0
10	55	-1	-1	2	52	1	-1	1	1	0,0	0
10	56	1	0	1	95	0	0	0	0	1,6	0
10	57	1	1	1	82	-1	1	1	1	0,0	0
10	58	0	1	1	50	0	0	0	1	1,6	0
10	59	-1	0	1	35	0	0	0	1	1,6	0
10	60	-1	0	1	36	0	0	0	1	1,6	0

Beräkningen utförd av:ALM 2023-10-24 00:18:49
...kning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning_revD\isbron_LF.xml

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
10	61	-1	0	1	36	0	0	0	1	1,6	0
10	62	1	1	1	82	-1	1	1	1	0,0	0
10	63	1	1	1	82	-1	1	1	1	0,0	0
10	64	1	1	1	82	-1	1	1	1	0,0	0
10	65	1	1	1	82	-1	1	1	1	0,0	0
10	66	-1	0	1	38	0	0	0	1	1,6	0
10	67	-1	0	1	38	0	0	0	1	1,6	0
10	68	-1	0	1	38	0	0	0	1	1,6	0
10	69	0	-1	1	68	0	0	0	1	1,6	0
10	70	1	1	1	81	-1	1	1	1	0,0	0
10	min	-2	-1	1	35	-1	-2	0	0	1,6	0
10	max	1	1	2	136	1	1	2	2	0,0	0
11	1	1	0	1	144	0	0	0	0	1,6	0
11	2	1	0	1	144	0	0	0	0	1,6	0
11	3	1	0	1	144	0	0	0	0	1,6	0
11	4	1	0	1	144	0	0	0	0	1,6	0
11	5	1	0	1	144	0	0	0	0	1,6	0
11	6	0	1	1	128	0	0	0	1	1,6	0
11	7	1	0	1	144	0	0	0	0	1,6	0
11	8	1	0	1	144	0	0	0	0	1,6	0
11	9	-1	-1	1	110	0	0	0	1	1,6	0
11	10	1	0	1	144	0	0	0	0	1,6	0
11	11	1	0	1	144	0	0	0	0	1,6	0
11	12	1	0	1	144	0	0	0	0	1,6	0
11	13	1	0	1	144	0	0	0	0	1,6	0
11	14	1	0	1	144	0	0	0	0	1,6	0
11	15	1	0	1	134	0	0	0	0	1,6	0
11	16	1	0	1	134	0	0	0	0	1,6	0
11	17	-2	1	2	85	-1	-2	2	2	0,0	0
11	18	-2	1	2	84	-1	-2	2	2	0,0	0
11	19	-2	1	2	84	-1	-2	2	2	0,0	0
11	20	1	0	1	134	0	0	0	0	1,6	0
11	21	1	0	1	134	0	0	0	0	1,6	0
11	22	1	0	1	134	0	0	0	0	1,6	0
11	23	1	0	1	134	0	0	0	0	1,6	0
11	24	-2	1	2	82	-1	-2	2	2	0,0	0
11	25	-2	1	2	82	-1	-2	2	2	0,0	0
11	26	-2	1	2	82	-1	-2	2	2	0,0	0
11	27	1	0	1	134	0	0	0	0	1,6	0
11	28	1	0	1	134	0	0	0	0	1,6	0
11	29	1	0	1	124	0	0	0	0	1,6	0
11	30	1	0	1	124	0	0	0	0	1,6	0
11	31	-2	1	2	75	-1	-2	2	2	0,0	0
11	32	-2	1	2	74	-1	-2	2	2	0,0	0
11	33	-2	1	2	74	-1	-2	2	2	0,0	0
11	34	1	0	1	124	0	0	0	0	1,6	0
11	35	1	0	1	124	0	0	0	0	1,6	0
11	36	1	0	1	124	0	0	0	0	1,6	0
11	37	1	0	1	124	0	0	0	0	1,6	0
11	38	-2	1	2	72	-1	-2	2	2	0,0	0
11	39	-2	1	2	72	-1	-2	2	2	0,0	0
11	40	-2	1	2	72	-1	-2	2	2	0,0	0
11	41	1	0	1	124	0	0	0	0	1,6	0

Beräkningen utförd av:ALM 2023-10-24 00:18:49
...kning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning_revD\isbron_LF.xml

Bjerking AB Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
11	42	1	0	1	125	0	0	0	1	1,6	0
11	43	1	0	1	114	0	0	0	0	1,6	0
11	44	-2	1	2	65	-1	-2	2	2	0,0	0
11	45	-1	0	1	65	0	0	0	1	1,6	0
11	46	-1	0	1	65	0	0	0	1	1,6	0
11	47	-1	0	1	64	0	0	0	1	1,6	0
11	48	1	0	1	114	0	0	0	0	1,6	0
11	49	1	0	1	114	0	0	0	0	1,6	0
11	50	1	0	1	114	0	0	0	0	1,6	0
11	51	1	0	1	114	0	0	0	0	1,6	0
11	52	-1	0	1	63	0	0	0	1	1,6	0
11	53	-1	0	1	62	0	0	0	1	1,6	0
11	54	-1	0	1	62	0	0	0	1	1,6	0
11	55	-2	1	2	62	-1	-2	2	2	0,0	0
11	56	1	0	1	115	0	0	0	1	1,6	0
11	57	1	-1	1	104	1	1	1	1	0,0	0
11	58	0	1	1	88	0	0	0	1	1,6	0
11	59	-1	0	1	55	0	0	0	1	1,6	0
11	60	-1	0	1	55	0	0	0	1	1,6	0
11	61	-1	0	1	54	0	0	0	1	1,6	0
11	62	1	-1	1	104	1	1	1	1	0,0	0
11	63	1	-1	1	104	1	1	1	1	0,0	0
11	64	1	-1	1	104	1	1	1	1	0,0	0
11	65	1	-1	1	105	1	1	1	1	0,0	0
11	66	-1	0	1	53	0	0	0	1	1,6	0
11	67	-1	0	1	52	0	0	0	1	1,6	0
11	68	-1	0	1	52	0	0	0	1	1,6	0
11	69	0	-1	1	70	0	0	0	1	1,6	0
11	70	1	-1	1	105	1	1	1	1	0,0	0
11	min	-2	-1	1	52	-1	-2	0	0	1,6	0
11	max	1	1	2	144	1	1	2	2	0,0	0
12	1	1	0	1	136	0	0	0	0	1,6	0
12	2	1	0	1	136	0	0	0	0	1,6	0
12	3	1	0	1	136	0	0	0	0	1,6	0
12	4	1	0	1	136	0	0	0	0	1,6	0
12	5	1	0	1	136	0	0	0	0	1,6	0
12	6	-1	1	1	104	0	0	0	1	1,6	0
12	7	1	0	1	135	0	0	0	0	1,6	0
12	8	1	0	1	135	0	0	0	0	1,6	0
12	9	0	-1	1	122	0	0	0	1	1,6	0
12	10	0	0	1	135	0	0	0	0	1,6	0
12	11	0	0	1	135	0	0	0	0	1,6	0
12	12	0	0	1	135	0	0	0	0	1,6	0
12	13	0	0	1	135	0	0	0	0	1,6	0
12	14	0	0	1	135	0	0	0	0	1,6	0
12	15	1	0	1	122	0	0	0	0	1,6	0
12	16	1	0	1	122	0	0	0	0	1,6	0
12	17	-2	-1	2	76	1	-1	2	2	0,0	0
12	18	-2	-1	2	76	1	-1	2	2	0,0	0
12	19	-2	-1	2	76	1	-1	2	2	0,0	0
12	20	1	0	1	122	0	0	0	0	1,6	0
12	21	1	0	1	122	0	0	0	0	1,6	0
12	22	1	0	1	122	0	0	0	0	1,6	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
12	23	1	0	1	122	0	0	0	0	1,6	0
12	24	-2	-1	2	78	1	-1	2	2	0,0	0
12	25	-2	-1	2	78	1	-1	2	2	0,0	0
12	26	-2	-1	2	78	1	-1	2	2	0,0	0
12	27	1	0	1	122	0	0	0	0	1,6	0
12	28	1	0	1	122	0	0	0	0	1,6	0
12	29	1	0	1	109	0	0	0	0	1,6	0
12	30	1	0	1	109	0	0	0	0	1,6	0
12	31	-2	-1	2	62	1	-1	2	2	0,0	0
12	32	-2	-1	2	63	1	-1	2	2	0,0	0
12	33	-2	-1	2	63	1	-1	2	2	0,0	0
12	34	1	0	1	109	0	0	0	0	1,6	0
12	35	1	0	1	109	0	0	0	0	1,6	0
12	36	1	0	1	108	0	0	0	0	1,6	0
12	37	1	0	1	108	0	0	0	0	1,6	0
12	38	-2	-1	2	64	1	-1	1	1	0,0	0
12	39	-2	-1	2	65	1	-1	1	1	0,0	0
12	40	-2	-1	2	65	1	-1	1	1	0,0	0
12	41	1	0	1	108	0	0	0	0	1,6	0
12	42	1	0	1	108	0	0	0	0	1,6	0
12	43	1	0	1	95	0	0	0	0	1,6	0
12	44	-2	-1	2	49	1	-1	2	2	0,0	0
12	45	-1	0	1	49	0	0	0	1	1,6	0
12	46	-1	0	1	49	0	0	0	1	1,6	0
12	47	-1	0	1	49	0	0	0	1	1,6	0
12	48	1	0	1	95	0	0	0	0	1,6	0
12	49	1	0	1	95	0	0	0	0	1,6	0
12	50	1	0	1	95	0	0	0	0	1,6	0
12	51	1	0	1	95	0	0	0	0	1,6	0
12	52	-1	0	1	51	0	0	0	1	1,6	0
12	53	-1	0	1	51	0	0	0	1	1,6	0
12	54	-1	0	1	52	0	0	0	1	1,6	0
12	55	-1	-1	2	52	1	-1	1	1	0,0	0
12	56	1	0	1	95	0	0	0	0	1,6	0
12	57	1	1	1	82	-1	1	1	1	0,0	0
12	58	0	1	1	50	0	0	0	1	1,6	0
12	59	-1	0	1	35	0	0	0	1	1,6	0
12	60	-1	0	1	36	0	0	0	1	1,6	0
12	61	-1	0	1	36	0	0	0	1	1,6	0
12	62	1	1	1	82	-1	1	1	1	0,0	0
12	63	1	1	1	82	-1	1	1	1	0,0	0
12	64	1	1	1	82	-1	1	1	1	0,0	0
12	65	1	1	1	82	-1	1	1	1	0,0	0
12	66	-1	0	1	38	0	0	0	1	1,6	0
12	67	-1	0	1	38	0	0	0	1	1,6	0
12	68	-1	0	1	38	0	0	0	1	1,6	0
12	69	0	-1	1	68	0	0	0	1	1,6	0
12	70	1	1	1	81	-1	1	1	1	0,0	0
12	min	-2	-1	1	35	-1	-2	0	0	1,6	0
12	max	1	1	2	136	1	1	2	2	0,0	0
13	1	0	0	0	92	0	0	0	0	1,6	0
13	2	0	0	0	92	0	0	0	0	1,6	0
13	3	0	0	0	92	0	0	0	0	1,6	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
13	4	0	0	0	92	0	0	0	0	1,6	0
13	5	0	0	0	92	0	0	0	0	1,6	0
13	6	0	1	1	76	0	0	0	0	1,6	0
13	7	0	0	0	92	0	0	0	0	1,6	0
13	8	0	0	0	92	0	0	0	0	1,6	0
13	9	0	-1	1	75	0	0	0	0	1,6	0
13	10	0	0	0	92	0	0	0	0	1,6	0
13	11	0	0	0	92	0	0	0	0	1,6	0
13	12	0	0	0	92	0	0	0	0	1,6	0
13	13	0	0	0	92	0	0	0	0	1,6	0
13	14	0	0	0	92	0	0	0	0	1,6	0
13	15	0	0	0	83	0	0	0	0	1,6	0
13	16	0	0	0	83	0	0	0	0	1,6	0
13	17	-1	0	1	50	0	-1	1	1	0,0	0
13	18	-1	0	1	50	0	-1	1	1	0,0	0
13	19	-1	0	1	50	0	-1	1	1	0,0	0
13	20	0	0	0	83	0	0	0	0	1,6	0
13	21	0	0	0	83	0	0	0	0	1,6	0
13	22	0	0	0	83	0	0	0	0	1,6	0
13	23	0	0	0	83	0	0	0	0	1,6	0
13	24	-1	0	1	50	0	-1	1	1	0,0	0
13	25	-1	0	1	50	0	-1	1	1	0,0	0
13	26	-1	0	1	50	0	-1	1	1	0,0	0
13	27	0	0	0	83	0	0	0	0	1,6	0
13	28	0	0	0	83	0	0	0	0	1,6	0
13	29	0	0	0	74	0	0	0	0	1,6	0
13	30	0	0	0	74	0	0	0	0	1,6	0
13	31	-1	0	1	41	0	-1	1	1	0,0	0
13	32	-1	0	1	41	0	-1	1	1	0,0	0
13	33	-1	0	1	41	0	-1	1	1	0,0	0
13	34	0	0	0	74	0	0	0	0	1,6	0
13	35	0	0	0	74	0	0	0	0	1,6	0
13	36	0	0	0	74	0	0	0	0	1,6	0
13	37	0	0	0	74	0	0	0	0	1,6	0
13	38	-1	0	1	41	0	-1	1	1	0,0	0
13	39	-1	0	1	41	0	-1	1	1	0,0	0
13	40	-1	0	1	41	0	-1	1	1	0,0	0
13	41	0	0	0	74	0	0	0	0	1,6	0
13	42	0	0	0	74	0	0	0	0	1,6	0
13	43	0	0	0	65	0	0	0	0	1,6	0
13	44	-1	0	1	33	0	-1	1	1	0,0	0
13	45	-1	0	1	33	0	0	0	0	1,6	0
13	46	-1	0	1	33	0	0	0	0	1,6	0
13	47	-1	0	1	33	0	0	0	0	1,6	0
13	48	0	0	0	65	0	0	0	0	1,6	0
13	49	0	0	0	65	0	0	0	0	1,6	0
13	50	0	0	0	65	0	0	0	0	1,6	0
13	51	0	0	0	65	0	0	0	0	1,6	0
13	52	-1	0	1	32	0	0	0	0	1,6	0
13	53	-1	0	1	32	0	0	0	0	1,6	0
13	54	-1	0	1	32	0	0	0	0	1,6	0
13	55	-1	0	1	32	0	-1	1	1	0,0	0
13	56	0	0	0	65	0	0	0	0	1,6	0
13	57	1	0	1	57	0	1	1	1	0,0	0
13	58	0	1	1	41	0	0	0	0	1,6	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
13	59	-1	0	1	24	0	0	0	0	1,6	0
13	60	-1	0	1	24	0	0	0	0	1,6	0
13	61	-1	0	1	24	0	0	0	0	1,6	0
13	62	1	0	1	57	0	1	1	1	0,0	0
13	63	1	0	1	57	0	1	1	1	0,0	0
13	64	1	0	1	57	0	1	1	1	0,0	0
13	65	1	0	1	57	0	1	1	1	0,0	0
13	66	-1	0	1	24	0	0	0	0	1,6	0
13	67	-1	0	1	24	0	0	0	0	1,6	0
13	68	-1	0	1	23	0	0	0	0	1,6	0
13	69	0	-1	1	39	0	0	0	0	1,6	0
13	70	1	0	1	57	0	1	1	1	0,0	0
13	min	-1	-1	0	23	0	-2	0	0	1,6	0
13	max	1	1	1	92	0	1	1	1	0,0	0
14	1	0	0	0	81	0	0	0	0	1,6	0
14	2	0	0	0	81	0	0	0	0	1,6	0
14	3	0	0	0	81	0	0	0	0	1,6	0
14	4	0	0	0	81	0	0	0	0	1,6	0
14	5	0	0	0	81	0	0	0	0	1,6	0
14	6	0	0	0	75	0	0	0	0	1,6	0
14	7	0	0	0	81	0	0	0	0	1,6	0
14	8	0	0	0	81	0	0	0	0	1,6	0
14	9	0	0	0	77	0	0	0	0	1,6	0
14	10	0	0	0	81	0	0	0	0	1,6	0
14	11	0	0	0	81	0	0	0	0	1,6	0
14	12	0	0	0	81	0	0	0	0	1,6	0
14	13	0	0	0	81	0	0	0	0	1,6	0
14	14	0	0	0	81	0	0	0	0	1,6	0
14	15	0	0	0	73	0	0	0	0	1,6	0
14	16	0	0	0	73	0	0	0	0	1,6	0
14	17	0	0	0	63	0	0	0	0	0,0	0
14	18	0	0	0	63	0	0	0	0	0,0	0
14	19	0	0	0	63	0	0	0	0	0,0	0
14	20	0	0	0	73	0	0	0	0	1,6	0
14	21	0	0	0	73	0	0	0	0	1,6	0
14	22	0	0	0	73	0	0	0	0	1,6	0
14	23	0	0	0	73	0	0	0	0	1,6	0
14	24	0	0	0	63	0	0	0	0	0,0	0
14	25	0	0	0	63	0	0	0	0	0,0	0
14	26	0	0	0	63	0	0	0	0	0,0	0
14	27	0	0	0	73	0	0	0	0	1,6	0
14	28	0	0	0	73	0	0	0	0	1,6	0
14	29	0	0	0	65	0	0	0	0	1,6	0
14	30	0	0	0	65	0	0	0	0	1,6	0
14	31	0	0	0	55	0	0	0	0	0,0	0
14	32	0	0	0	55	0	0	0	0	0,0	0
14	33	0	0	0	55	0	0	0	0	0,0	0
14	34	0	0	0	65	0	0	0	0	1,6	0
14	35	0	0	0	65	0	0	0	0	1,6	0
14	36	0	0	0	65	0	0	0	0	1,6	0
14	37	0	0	0	65	0	0	0	0	1,6	0
14	38	0	0	0	55	0	0	0	0	0,0	0
14	39	0	0	0	55	0	0	0	0	0,0	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
14	40	0	0	0	55	0	0	0	0	0,0	0
14	41	0	0	0	65	0	0	0	0	1,6	0
14	42	0	0	0	65	0	0	0	0	1,6	0
14	43	0	0	0	57	0	0	0	0	1,6	0
14	44	0	0	0	47	0	0	0	0	0,0	0
14	45	0	0	0	47	0	0	0	0	1,6	0
14	46	0	0	0	47	0	0	0	0	1,6	0
14	47	0	0	0	47	0	0	0	0	1,6	0
14	48	0	0	0	57	0	0	0	0	1,6	0
14	49	0	0	0	57	0	0	0	0	1,6	0
14	50	0	0	0	57	0	0	0	0	1,6	0
14	51	0	0	0	57	0	0	0	0	1,6	0
14	52	0	0	0	47	0	0	0	0	1,6	0
14	53	0	0	0	47	0	0	0	0	1,6	0
14	54	0	0	0	47	0	0	0	0	1,6	0
14	55	0	0	0	47	0	0	0	0	0,0	0
14	56	0	0	0	57	0	0	0	0	1,6	0
14	57	0	0	0	49	0	0	0	0	0,0	0
14	58	0	0	0	44	0	0	0	0	1,6	0
14	59	0	0	0	39	0	0	0	0	1,6	0
14	60	0	0	0	39	0	0	0	0	1,6	0
14	61	0	0	0	39	0	0	0	0	1,6	0
14	62	0	0	0	49	0	0	0	0	0,0	0
14	63	0	0	0	49	0	0	0	0	0,0	0
14	64	0	0	0	49	0	0	0	0	0,0	0
14	65	0	0	0	49	0	0	0	0	0,0	0
14	66	0	0	0	39	0	0	0	0	1,6	0
14	67	0	0	0	39	0	0	0	0	1,6	0
14	68	0	0	0	39	0	0	0	0	1,6	0
14	69	0	0	0	45	0	0	0	0	1,6	0
14	70	0	0	0	49	0	0	0	0	0,0	0
14	min	0	0	0	39	0	-2	0	0	1,6	0
14	max	0	0	0	81	0	1	0	0	0,0	0
15	1	0	0	0	92	0	0	0	0	1,6	0
15	2	0	0	0	92	0	0	0	0	1,6	0
15	3	0	0	0	92	0	0	0	0	1,6	0
15	4	0	0	0	92	0	0	0	0	1,6	0
15	5	0	0	0	92	0	0	0	0	1,6	0
15	6	0	1	1	76	0	0	0	0	1,6	0
15	7	0	0	0	92	0	0	0	0	1,6	0
15	8	0	0	0	92	0	0	0	0	1,6	0
15	9	0	-1	1	75	0	0	0	0	1,6	0
15	10	0	0	0	92	0	0	0	0	1,6	0
15	11	0	0	0	92	0	0	0	0	1,6	0
15	12	0	0	0	92	0	0	0	0	1,6	0
15	13	0	0	0	92	0	0	0	0	1,6	0
15	14	0	0	0	92	0	0	0	0	1,6	0
15	15	0	0	0	83	0	0	0	0	1,6	0
15	16	0	0	0	83	0	0	0	0	1,6	0
15	17	-1	0	1	50	0	-1	1	1	0,0	0
15	18	-1	0	1	50	0	-1	1	1	0,0	0
15	19	-1	0	1	50	0	-1	1	1	0,0	0
15	20	0	0	0	83	0	0	0	0	1,6	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
15	21	0	0	0	83	0	0	0	0	1,6	0
15	22	0	0	0	83	0	0	0	0	1,6	0
15	23	0	0	0	83	0	0	0	0	1,6	0
15	24	-1	0	1	50	0	-1	1	1	0,0	0
15	25	-1	0	1	50	0	-1	1	1	0,0	0
15	26	-1	0	1	50	0	-1	1	1	0,0	0
15	27	0	0	0	83	0	0	0	0	1,6	0
15	28	0	0	0	83	0	0	0	0	1,6	0
15	29	0	0	0	74	0	0	0	0	1,6	0
15	30	0	0	0	74	0	0	0	0	1,6	0
15	31	-1	0	1	41	0	-1	1	1	0,0	0
15	32	-1	0	1	41	0	-1	1	1	0,0	0
15	33	-1	0	1	41	0	-1	1	1	0,0	0
15	34	0	0	0	74	0	0	0	0	1,6	0
15	35	0	0	0	74	0	0	0	0	1,6	0
15	36	0	0	0	74	0	0	0	0	1,6	0
15	37	0	0	0	74	0	0	0	0	1,6	0
15	38	-1	0	1	41	0	-1	1	1	0,0	0
15	39	-1	0	1	41	0	-1	1	1	0,0	0
15	40	-1	0	1	41	0	-1	1	1	0,0	0
15	41	0	0	0	74	0	0	0	0	1,6	0
15	42	0	0	0	74	0	0	0	0	1,6	0
15	43	0	0	0	65	0	0	0	0	1,6	0
15	44	-1	0	1	33	0	-1	1	1	0,0	0
15	45	-1	0	1	33	0	0	0	0	1,6	0
15	46	-1	0	1	33	0	0	0	0	1,6	0
15	47	-1	0	1	33	0	0	0	0	1,6	0
15	48	0	0	0	65	0	0	0	0	1,6	0
15	49	0	0	0	65	0	0	0	0	1,6	0
15	50	0	0	0	65	0	0	0	0	1,6	0
15	51	0	0	0	65	0	0	0	0	1,6	0
15	52	-1	0	1	32	0	0	0	0	1,6	0
15	53	-1	0	1	32	0	0	0	0	1,6	0
15	54	-1	0	1	32	0	0	0	0	1,6	0
15	55	-1	0	1	32	0	-1	1	1	0,0	0
15	56	0	0	0	65	0	0	0	0	1,6	0
15	57	1	0	1	57	0	1	1	1	0,0	0
15	58	0	1	1	41	0	0	0	0	1,6	0
15	59	-1	0	1	24	0	0	0	0	1,6	0
15	60	-1	0	1	24	0	0	0	0	1,6	0
15	61	-1	0	1	24	0	0	0	0	1,6	0
15	62	1	0	1	57	0	1	1	1	0,0	0
15	63	1	0	1	57	0	1	1	1	0,0	0
15	64	1	0	1	57	0	1	1	1	0,0	0
15	65	1	0	1	57	0	1	1	1	0,0	0
15	66	-1	0	1	24	0	0	0	0	1,6	0
15	67	-1	0	1	24	0	0	0	0	1,6	0
15	68	-1	0	1	23	0	0	0	0	1,6	0
15	69	0	-1	1	39	0	0	0	0	1,6	0
15	70	1	0	1	57	0	1	1	1	0,0	0
15	min	-1	-1	0	23	0	-2	0	0	1,6	0
15	max	1	1	1	92	0	1	1	1	0,0	0
16	1	0	0	0	81	0	0	0	0	1,6	0

Beräkningen utförd av:ALM 2023-10-24 00:18:49
...kning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning_revD\isbron_LF.xml

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
16	2	0	0	0	81	0	0	0	0	1,6	0
16	3	0	0	0	81	0	0	0	0	1,6	0
16	4	0	0	0	81	0	0	0	0	1,6	0
16	5	0	0	0	81	0	0	0	0	1,6	0
16	6	0	0	0	75	0	0	0	0	1,6	0
16	7	0	0	0	81	0	0	0	0	1,6	0
16	8	0	0	0	81	0	0	0	0	1,6	0
16	9	0	0	0	77	0	0	0	0	1,6	0
16	10	0	0	0	81	0	0	0	0	1,6	0
16	11	0	0	0	81	0	0	0	0	1,6	0
16	12	0	0	0	81	0	0	0	0	1,6	0
16	13	0	0	0	81	0	0	0	0	1,6	0
16	14	0	0	0	81	0	0	0	0	1,6	0
16	15	0	0	0	73	0	0	0	0	1,6	0
16	16	0	0	0	73	0	0	0	0	1,6	0
16	17	0	0	0	63	0	0	0	0	0,0	0
16	18	0	0	0	63	0	0	0	0	0,0	0
16	19	0	0	0	63	0	0	0	0	0,0	0
16	20	0	0	0	73	0	0	0	0	1,6	0
16	21	0	0	0	73	0	0	0	0	1,6	0
16	22	0	0	0	73	0	0	0	0	1,6	0
16	23	0	0	0	73	0	0	0	0	1,6	0
16	24	0	0	0	63	0	0	0	0	0,0	0
16	25	0	0	0	63	0	0	0	0	0,0	0
16	26	0	0	0	63	0	0	0	0	0,0	0
16	27	0	0	0	73	0	0	0	0	1,6	0
16	28	0	0	0	73	0	0	0	0	1,6	0
16	29	0	0	0	65	0	0	0	0	1,6	0
16	30	0	0	0	65	0	0	0	0	1,6	0
16	31	0	0	0	55	0	0	0	0	0,0	0
16	32	0	0	0	55	0	0	0	0	0,0	0
16	33	0	0	0	55	0	0	0	0	0,0	0
16	34	0	0	0	65	0	0	0	0	1,6	0
16	35	0	0	0	65	0	0	0	0	1,6	0
16	36	0	0	0	65	0	0	0	0	1,6	0
16	37	0	0	0	65	0	0	0	0	1,6	0
16	38	0	0	0	55	0	0	0	0	0,0	0
16	39	0	0	0	55	0	0	0	0	0,0	0
16	40	0	0	0	55	0	0	0	0	0,0	0
16	41	0	0	0	65	0	0	0	0	1,6	0
16	42	0	0	0	65	0	0	0	0	1,6	0
16	43	0	0	0	57	0	0	0	0	1,6	0
16	44	0	0	0	47	0	0	0	0	0,0	0
16	45	0	0	0	47	0	0	0	0	1,6	0
16	46	0	0	0	47	0	0	0	0	1,6	0
16	47	0	0	0	47	0	0	0	0	1,6	0
16	48	0	0	0	57	0	0	0	0	1,6	0
16	49	0	0	0	57	0	0	0	0	1,6	0
16	50	0	0	0	57	0	0	0	0	1,6	0
16	51	0	0	0	57	0	0	0	0	1,6	0
16	52	0	0	0	47	0	0	0	0	1,6	0
16	53	0	0	0	47	0	0	0	0	1,6	0
16	54	0	0	0	47	0	0	0	0	1,6	0
16	55	0	0	0	47	0	0	0	0	0,0	0
16	56	0	0	0	57	0	0	0	0	1,6	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
16	57	0	0	0	49	0	0	0	0	0,0	0
16	58	0	0	0	44	0	0	0	0	1,6	0
16	59	0	0	0	39	0	0	0	0	1,6	0
16	60	0	0	0	39	0	0	0	0	1,6	0
16	61	0	0	0	39	0	0	0	0	1,6	0
16	62	0	0	0	49	0	0	0	0	0,0	0
16	63	0	0	0	49	0	0	0	0	0,0	0
16	64	0	0	0	49	0	0	0	0	0,0	0
16	65	0	0	0	49	0	0	0	0	0,0	0
16	66	0	0	0	39	0	0	0	0	1,6	0
16	67	0	0	0	39	0	0	0	0	1,6	0
16	68	0	0	0	39	0	0	0	0	1,6	0
16	69	0	0	0	45	0	0	0	0	1,6	0
16	70	0	0	0	49	0	0	0	0	0,0	0
16	min	0	0	0	39	0	-2	0	0	1,6	0
16	max	0	0	0	81	0	1	0	0	0,0	0
17	1	0	0	0	79	0	0	0	0	1,6	0
17	2	0	0	0	79	0	0	0	0	1,6	0
17	3	0	0	0	79	0	0	0	0	1,6	0
17	4	0	0	0	79	0	0	0	0	1,6	0
17	5	0	0	0	79	0	0	0	0	1,6	0
17	6	0	0	0	71	0	0	0	0	1,6	0
17	7	0	0	0	79	0	0	0	0	1,6	0
17	8	0	0	0	79	0	0	0	0	1,6	0
17	9	0	0	0	71	0	0	0	0	1,6	0
17	10	0	0	0	79	0	0	0	0	1,6	0
17	11	0	0	0	79	0	0	0	0	1,6	0
17	12	0	0	0	79	0	0	0	0	1,6	0
17	13	0	0	0	79	0	0	0	0	1,6	0
17	14	0	0	0	79	0	0	0	0	1,6	0
17	15	0	0	0	72	0	0	0	0	1,6	0
17	16	0	0	0	72	0	0	0	0	1,6	0
17	17	-1	0	1	56	0	-1	1	1	0,0	0
17	18	-1	0	1	56	0	-1	1	1	0,0	0
17	19	-1	0	1	56	0	-1	1	1	0,0	0
17	20	0	0	0	72	0	0	0	0	1,6	0
17	21	0	0	0	72	0	0	0	0	1,6	0
17	22	0	0	0	72	0	0	0	0	1,6	0
17	23	0	0	0	72	0	0	0	0	1,6	0
17	24	-1	0	1	56	0	-1	1	1	0,0	0
17	25	-1	0	1	56	0	-1	1	1	0,0	0
17	26	-1	0	1	56	0	-1	1	1	0,0	0
17	27	0	0	0	72	0	0	0	0	1,6	0
17	28	0	0	0	72	0	0	0	0	1,6	0
17	29	0	0	0	65	0	0	0	0	1,6	0
17	30	0	0	0	65	0	0	0	0	1,6	0
17	31	-1	0	1	49	0	-1	1	1	0,0	0
17	32	-1	0	1	49	0	-1	1	1	0,0	0
17	33	-1	0	1	49	0	-1	1	1	0,0	0
17	34	0	0	0	65	0	0	0	0	1,6	0
17	35	0	0	0	65	0	0	0	0	1,6	0
17	36	0	0	0	65	0	0	0	0	1,6	0
17	37	0	0	0	65	0	0	0	0	1,6	0

Beräkningen utförd av:ALM 2023-10-24 00:18:49
...kning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning_revD\isbron_LF.xml

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
17	38	-1	0	1	49	0	-1	1	1	0,0	0
17	39	-1	0	1	49	0	-1	1	1	0,0	0
17	40	-1	0	1	49	0	-1	1	1	0,0	0
17	41	0	0	0	65	0	0	0	0	1,6	0
17	42	0	0	0	65	0	0	0	0	1,6	0
17	43	0	0	0	58	0	0	0	0	1,6	0
17	44	-1	0	1	42	0	0	0	0	0,0	0
17	45	0	0	0	42	0	0	0	0	1,6	0
17	46	0	0	0	42	0	0	0	0	1,6	0
17	47	0	0	0	42	0	0	0	0	1,6	0
17	48	0	0	0	58	0	0	0	0	1,6	0
17	49	0	0	0	58	0	0	0	0	1,6	0
17	50	0	0	0	58	0	0	0	0	1,6	0
17	51	0	0	0	58	0	0	0	0	1,6	0
17	52	0	0	0	42	0	0	0	0	1,6	0
17	53	0	0	0	42	0	0	0	0	1,6	0
17	54	0	0	0	42	0	0	0	0	1,6	0
17	55	-1	0	1	42	0	0	0	0	0,0	0
17	56	0	0	0	58	0	0	0	0	1,6	0
17	57	0	0	0	51	0	0	0	0	2,2	0
17	58	0	0	0	43	0	0	0	0	1,6	0
17	59	0	0	0	35	0	0	0	0	1,6	0
17	60	0	0	0	35	0	0	0	0	1,6	0
17	61	0	0	0	35	0	0	0	0	1,6	0
17	62	0	0	0	51	0	0	0	0	2,2	0
17	63	0	0	0	51	0	0	0	0	2,2	0
17	64	0	0	0	51	0	0	0	0	2,2	0
17	65	0	0	0	51	0	0	0	0	2,2	0
17	66	0	0	0	35	0	0	0	0	1,6	0
17	67	0	0	0	35	0	0	0	0	1,6	0
17	68	0	0	0	35	0	0	0	0	1,6	0
17	69	0	0	0	43	0	0	0	0	1,6	0
17	70	0	0	0	51	0	0	0	0	2,2	0
17	min	-1	0	0	35	0	-2	0	0	1,6	0
17	max	0	0	1	79	0	1	1	1	0,0	0
18	1	0	0	0	79	0	0	0	0	1,6	0
18	2	0	0	0	79	0	0	0	0	1,6	0
18	3	0	0	0	79	0	0	0	0	1,6	0
18	4	0	0	0	79	0	0	0	0	1,6	0
18	5	0	0	0	79	0	0	0	0	1,6	0
18	6	0	0	0	71	0	0	0	0	1,6	0
18	7	0	0	0	79	0	0	0	0	1,6	0
18	8	0	0	0	79	0	0	0	0	1,6	0
18	9	0	0	0	71	0	0	0	0	1,6	0
18	10	0	0	0	79	0	0	0	0	1,6	0
18	11	0	0	0	79	0	0	0	0	1,6	0
18	12	0	0	0	79	0	0	0	0	1,6	0
18	13	0	0	0	79	0	0	0	0	1,6	0
18	14	0	0	0	79	0	0	0	0	1,6	0
18	15	0	0	0	72	0	0	0	0	1,6	0
18	16	0	0	0	72	0	0	0	0	1,6	0
18	17	-1	0	1	56	0	-1	1	1	0,0	0
18	18	-1	0	1	56	0	-1	1	1	0,0	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
18	19	-1	0	1	56	0	-1	1	1	0,0	0
18	20	0	0	0	72	0	0	0	0	1,6	0
18	21	0	0	0	72	0	0	0	0	1,6	0
18	22	0	0	0	72	0	0	0	0	1,6	0
18	23	0	0	0	72	0	0	0	0	1,6	0
18	24	-1	0	1	56	0	-1	1	1	0,0	0
18	25	-1	0	1	56	0	-1	1	1	0,0	0
18	26	-1	0	1	56	0	-1	1	1	0,0	0
18	27	0	0	0	72	0	0	0	0	1,6	0
18	28	0	0	0	72	0	0	0	0	1,6	0
18	29	0	0	0	65	0	0	0	0	1,6	0
18	30	0	0	0	65	0	0	0	0	1,6	0
18	31	-1	0	1	49	0	-1	1	1	0,0	0
18	32	-1	0	1	49	0	-1	1	1	0,0	0
18	33	-1	0	1	49	0	-1	1	1	0,0	0
18	34	0	0	0	65	0	0	0	0	1,6	0
18	35	0	0	0	65	0	0	0	0	1,6	0
18	36	0	0	0	65	0	0	0	0	1,6	0
18	37	0	0	0	65	0	0	0	0	1,6	0
18	38	-1	0	1	49	0	-1	1	1	0,0	0
18	39	-1	0	1	49	0	-1	1	1	0,0	0
18	40	-1	0	1	49	0	-1	1	1	0,0	0
18	41	0	0	0	65	0	0	0	0	1,6	0
18	42	0	0	0	65	0	0	0	0	1,6	0
18	43	0	0	0	58	0	0	0	0	1,6	0
18	44	-1	0	1	42	0	0	0	0	0,0	0
18	45	0	0	0	42	0	0	0	0	1,6	0
18	46	0	0	0	42	0	0	0	0	1,6	0
18	47	0	0	0	42	0	0	0	0	1,6	0
18	48	0	0	0	58	0	0	0	0	1,6	0
18	49	0	0	0	58	0	0	0	0	1,6	0
18	50	0	0	0	58	0	0	0	0	1,6	0
18	51	0	0	0	58	0	0	0	0	1,6	0
18	52	0	0	0	42	0	0	0	0	1,6	0
18	53	0	0	0	42	0	0	0	0	1,6	0
18	54	0	0	0	42	0	0	0	0	1,6	0
18	55	-1	0	1	42	0	0	0	0	0,0	0
18	56	0	0	0	58	0	0	0	0	1,6	0
18	57	0	0	0	51	0	0	0	0	2,2	0
18	58	0	0	0	43	0	0	0	0	1,6	0
18	59	0	0	0	35	0	0	0	0	1,6	0
18	60	0	0	0	35	0	0	0	0	1,6	0
18	61	0	0	0	35	0	0	0	0	1,6	0
18	62	0	0	0	51	0	0	0	0	2,2	0
18	63	0	0	0	51	0	0	0	0	2,2	0
18	64	0	0	0	51	0	0	0	0	2,2	0
18	65	0	0	0	51	0	0	0	0	2,2	0
18	66	0	0	0	35	0	0	0	0	1,6	0
18	67	0	0	0	35	0	0	0	0	1,6	0
18	68	0	0	0	35	0	0	0	0	1,6	0
18	69	0	0	0	43	0	0	0	0	1,6	0
18	70	0	0	0	51	0	0	0	0	2,2	0
18	min	-1	0	0	35	0	-2	0	0	1,6	0
18	max	0	0	1	79	0	1	1	1	0,0	0

Beräkningen utförd av:ALM 2023-10-24 00:18:49
...kning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning_revD\isbron_LF.xml

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
19	1	0	0	0	93	0	0	0	0	1,6	0
19	2	0	0	0	93	0	0	0	0	1,6	0
19	3	0	0	0	93	0	0	0	0	1,6	0
19	4	0	0	0	93	0	0	0	0	1,6	0
19	5	0	0	0	93	0	0	0	0	1,6	0
19	6	0	1	1	78	0	0	0	0	1,6	0
19	7	0	0	0	93	0	0	0	0	1,6	0
19	8	0	0	0	93	0	0	0	0	1,6	0
19	9	0	-1	1	76	0	0	0	0	1,6	0
19	10	0	0	0	93	0	0	0	0	1,6	0
19	11	0	0	0	93	0	0	0	0	1,6	0
19	12	0	0	0	93	0	0	0	0	1,6	0
19	13	0	0	0	93	0	0	0	0	1,6	0
19	14	0	0	0	93	0	0	0	0	1,6	0
19	15	0	0	0	84	0	0	0	0	1,6	0
19	16	0	0	0	84	0	0	0	0	1,6	0
19	17	-1	0	1	52	0	-1	1	1	0,0	0
19	18	-1	0	1	51	0	-1	1	1	0,0	0
19	19	-1	0	1	51	0	-1	1	1	0,0	0
19	20	0	0	0	84	0	0	0	0	1,6	0
19	21	0	0	0	84	0	0	0	0	1,6	0
19	22	0	0	0	84	0	0	0	0	1,6	0
19	23	0	0	0	84	0	0	0	0	1,6	0
19	24	-1	0	1	51	0	-1	1	1	0,0	0
19	25	-1	0	1	51	0	-1	1	1	0,0	0
19	26	-1	0	1	51	0	-1	1	1	0,0	0
19	27	0	0	0	84	0	0	0	0	1,6	0
19	28	0	0	0	84	0	0	0	0	1,6	0
19	29	0	0	0	75	0	0	0	0	1,6	0
19	30	0	0	0	75	0	0	0	0	1,6	0
19	31	-1	0	1	42	0	-1	1	1	0,0	0
19	32	-1	0	1	42	0	-1	1	1	0,0	0
19	33	-1	0	1	42	0	-1	1	1	0,0	0
19	34	0	0	0	75	0	0	0	0	1,6	0
19	35	0	0	0	75	0	0	0	0	1,6	0
19	36	0	0	0	75	0	0	0	0	1,6	0
19	37	0	0	0	75	0	0	0	0	1,6	0
19	38	-1	0	1	42	0	-1	1	1	0,0	0
19	39	-1	0	1	42	0	-1	1	1	0,0	0
19	40	-1	0	1	42	0	-1	1	1	0,0	0
19	41	0	0	0	75	0	0	0	0	1,6	0
19	42	0	0	0	75	0	0	0	0	1,6	0
19	43	0	0	0	65	0	0	0	0	1,6	0
19	44	-1	0	1	33	0	-1	1	1	0,0	0
19	45	-1	0	1	33	0	0	0	0	1,6	0
19	46	-1	0	1	33	0	0	0	0	1,6	0
19	47	-1	0	1	33	0	0	0	0	1,6	0
19	48	0	0	0	65	0	0	0	0	1,6	0
19	49	0	0	0	65	0	0	0	0	1,6	0
19	50	0	0	0	65	0	0	0	0	1,6	0
19	51	0	0	0	65	0	0	0	0	1,6	0
19	52	-1	0	1	33	0	0	0	0	1,6	0
19	53	-1	0	1	33	0	0	0	0	1,6	0
19	54	-1	0	1	33	0	0	0	0	1,6	0
19	55	-1	0	1	33	0	-1	1	1	0,0	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
19	56	0	0	0	65	0	0	0	0	1,6	0
19	57	1	0	1	56	0	1	1	1	0,0	0
19	58	0	1	1	41	0	0	0	0	1,6	0
19	59	-1	0	1	24	0	0	0	0	1,6	0
19	60	-1	0	1	24	0	0	0	0	1,6	0
19	61	-1	0	1	24	0	0	0	0	1,6	0
19	62	1	0	1	56	0	1	1	1	0,0	0
19	63	1	0	1	56	0	1	1	1	0,0	0
19	64	1	0	1	56	0	1	1	1	0,0	0
19	65	1	0	1	56	0	1	1	1	0,0	0
19	66	-1	0	1	24	0	0	0	0	1,6	0
19	67	-1	0	1	24	0	0	0	0	1,6	0
19	68	-1	0	1	24	0	0	0	0	1,6	0
19	69	0	-1	1	39	0	0	0	0	1,6	0
19	70	1	0	1	56	0	1	1	1	0,0	0
19	min	-1	-1	0	24	0	-2	0	0	1,6	0
19	max	1	1	1	93	0	1	1	1	0,0	0
20	1	0	0	0	82	0	0	0	0	1,6	0
20	2	0	0	0	82	0	0	0	0	1,6	0
20	3	0	0	0	82	0	0	0	0	1,6	0
20	4	0	0	0	82	0	0	0	0	1,6	0
20	5	0	0	0	82	0	0	0	0	1,6	0
20	6	0	0	0	77	0	0	0	0	1,6	0
20	7	0	0	0	82	0	0	0	0	1,6	0
20	8	0	0	0	82	0	0	0	0	1,6	0
20	9	0	0	0	78	0	0	0	0	1,6	0
20	10	0	0	0	82	0	0	0	0	1,6	0
20	11	0	0	0	82	0	0	0	0	1,6	0
20	12	0	0	0	82	0	0	0	0	1,6	0
20	13	0	0	0	82	0	0	0	0	1,6	0
20	14	0	0	0	82	0	0	0	0	1,6	0
20	15	0	0	0	74	0	0	0	0	1,6	0
20	16	0	0	0	74	0	0	0	0	1,6	0
20	17	0	0	0	64	0	0	0	0	0,0	0
20	18	0	0	0	64	0	0	0	0	0,0	0
20	19	0	0	0	64	0	0	0	0	0,0	0
20	20	0	0	0	74	0	0	0	0	1,6	0
20	21	0	0	0	74	0	0	0	0	1,6	0
20	22	0	0	0	74	0	0	0	0	1,6	0
20	23	0	0	0	74	0	0	0	0	1,6	0
20	24	0	0	0	64	0	0	0	0	0,0	0
20	25	0	0	0	64	0	0	0	0	0,0	0
20	26	0	0	0	64	0	0	0	0	0,0	0
20	27	0	0	0	74	0	0	0	0	1,6	0
20	28	0	0	0	74	0	0	0	0	1,6	0
20	29	0	0	0	65	0	0	0	0	1,6	0
20	30	0	0	0	65	0	0	0	0	1,6	0
20	31	0	0	0	56	0	0	0	0	0,0	0
20	32	0	0	0	56	0	0	0	0	0,0	0
20	33	0	0	0	56	0	0	0	0	0,0	0
20	34	0	0	0	65	0	0	0	0	1,6	0
20	35	0	0	0	65	0	0	0	0	1,6	0
20	36	0	0	0	65	0	0	0	0	1,6	0

Beräkningen utförd av:ALM 2023-10-24 00:18:49
...kning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning_revD\isbron_LF.xml

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
20	37	0	0	0	65	0	0	0	0	1,6	0
20	38	0	0	0	56	0	0	0	0	0,0	0
20	39	0	0	0	56	0	0	0	0	0,0	0
20	40	0	0	0	56	0	0	0	0	0,0	0
20	41	0	0	0	65	0	0	0	0	1,6	0
20	42	0	0	0	65	0	0	0	0	1,6	0
20	43	0	0	0	57	0	0	0	0	1,6	0
20	44	0	0	0	48	0	0	0	0	0,0	0
20	45	0	0	0	48	0	0	0	0	1,6	0
20	46	0	0	0	48	0	0	0	0	1,6	0
20	47	0	0	0	48	0	0	0	0	1,6	0
20	48	0	0	0	57	0	0	0	0	1,6	0
20	49	0	0	0	57	0	0	0	0	1,6	0
20	50	0	0	0	57	0	0	0	0	1,6	0
20	51	0	0	0	57	0	0	0	0	1,6	0
20	52	0	0	0	48	0	0	0	0	1,6	0
20	53	0	0	0	48	0	0	0	0	1,6	0
20	54	0	0	0	48	0	0	0	0	1,6	0
20	55	0	0	0	48	0	0	0	0	0,0	0
20	56	0	0	0	57	0	0	0	0	1,6	0
20	57	0	0	0	49	0	0	0	0	0,0	0
20	58	0	0	0	43	0	0	0	0	1,6	0
20	59	0	0	0	39	0	0	0	0	1,6	0
20	60	0	0	0	39	0	0	0	0	1,6	0
20	61	0	0	0	39	0	0	0	0	1,6	0
20	62	0	0	0	49	0	0	0	0	0,0	0
20	63	0	0	0	49	0	0	0	0	0,0	0
20	64	0	0	0	49	0	0	0	0	0,0	0
20	65	0	0	0	49	0	0	0	0	0,0	0
20	66	0	0	0	39	0	0	0	0	1,6	0
20	67	0	0	0	39	0	0	0	0	1,6	0
20	68	0	0	0	39	0	0	0	0	1,6	0
20	69	0	0	0	45	0	0	0	0	1,6	0
20	70	0	0	0	49	0	0	0	0	0,0	0
20	min	0	0	0	39	0	-2	0	0	1,6	0
20	max	0	0	0	82	0	1	0	0	0,0	0
21	1	0	0	0	93	0	0	0	0	1,6	0
21	2	0	0	0	93	0	0	0	0	1,6	0
21	3	0	0	0	93	0	0	0	0	1,6	0
21	4	0	0	0	93	0	0	0	0	1,6	0
21	5	0	0	0	93	0	0	0	0	1,6	0
21	6	0	1	1	78	0	0	0	0	1,6	0
21	7	0	0	0	93	0	0	0	0	1,6	0
21	8	0	0	0	93	0	0	0	0	1,6	0
21	9	0	-1	1	76	0	0	0	0	1,6	0
21	10	0	0	0	93	0	0	0	0	1,6	0
21	11	0	0	0	93	0	0	0	0	1,6	0
21	12	0	0	0	93	0	0	0	0	1,6	0
21	13	0	0	0	93	0	0	0	0	1,6	0
21	14	0	0	0	93	0	0	0	0	1,6	0
21	15	0	0	0	84	0	0	0	0	1,6	0
21	16	0	0	0	84	0	0	0	0	1,6	0
21	17	-1	0	1	52	0	-1	1	1	0,0	0

Beräkningen utförd av:ALM 2023-10-24 00:18:49
...kning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning_revD\isbron_LF.xml

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
21	18	-1	0	1	51	0	-1	1	1	0,0	0
21	19	-1	0	1	51	0	-1	1	1	0,0	0
21	20	0	0	0	84	0	0	0	0	1,6	0
21	21	0	0	0	84	0	0	0	0	1,6	0
21	22	0	0	0	84	0	0	0	0	1,6	0
21	23	0	0	0	84	0	0	0	0	1,6	0
21	24	-1	0	1	51	0	-1	1	1	0,0	0
21	25	-1	0	1	51	0	-1	1	1	0,0	0
21	26	-1	0	1	51	0	-1	1	1	0,0	0
21	27	0	0	0	84	0	0	0	0	1,6	0
21	28	0	0	0	84	0	0	0	0	1,6	0
21	29	0	0	0	75	0	0	0	0	1,6	0
21	30	0	0	0	75	0	0	0	0	1,6	0
21	31	-1	0	1	42	0	-1	1	1	0,0	0
21	32	-1	0	1	42	0	-1	1	1	0,0	0
21	33	-1	0	1	42	0	-1	1	1	0,0	0
21	34	0	0	0	75	0	0	0	0	1,6	0
21	35	0	0	0	75	0	0	0	0	1,6	0
21	36	0	0	0	75	0	0	0	0	1,6	0
21	37	0	0	0	75	0	0	0	0	1,6	0
21	38	-1	0	1	42	0	-1	1	1	0,0	0
21	39	-1	0	1	42	0	-1	1	1	0,0	0
21	40	-1	0	1	42	0	-1	1	1	0,0	0
21	41	0	0	0	75	0	0	0	0	1,6	0
21	42	0	0	0	75	0	0	0	0	1,6	0
21	43	0	0	0	65	0	0	0	0	1,6	0
21	44	-1	0	1	33	0	-1	1	1	0,0	0
21	45	-1	0	1	33	0	0	0	0	1,6	0
21	46	-1	0	1	33	0	0	0	0	1,6	0
21	47	-1	0	1	33	0	0	0	0	1,6	0
21	48	0	0	0	65	0	0	0	0	1,6	0
21	49	0	0	0	65	0	0	0	0	1,6	0
21	50	0	0	0	65	0	0	0	0	1,6	0
21	51	0	0	0	65	0	0	0	0	1,6	0
21	52	-1	0	1	33	0	0	0	0	1,6	0
21	53	-1	0	1	33	0	0	0	0	1,6	0
21	54	-1	0	1	33	0	0	0	0	1,6	0
21	55	-1	0	1	33	0	-1	1	1	0,0	0
21	56	0	0	0	65	0	0	0	0	1,6	0
21	57	1	0	1	56	0	1	1	1	0,0	0
21	58	0	1	1	41	0	0	0	0	1,6	0
21	59	-1	0	1	24	0	0	0	0	1,6	0
21	60	-1	0	1	24	0	0	0	0	1,6	0
21	61	-1	0	1	24	0	0	0	0	1,6	0
21	62	1	0	1	56	0	1	1	1	0,0	0
21	63	1	0	1	56	0	1	1	1	0,0	0
21	64	1	0	1	56	0	1	1	1	0,0	0
21	65	1	0	1	56	0	1	1	1	0,0	0
21	66	-1	0	1	24	0	0	0	0	1,6	0
21	67	-1	0	1	24	0	0	0	0	1,6	0
21	68	-1	0	1	24	0	0	0	0	1,6	0
21	69	0	-1	1	39	0	0	0	0	1,6	0
21	70	1	0	1	56	0	1	1	1	0,0	0
21	min	-1	-1	0	24	0	-2	0	0	1,6	0
21	max	1	1	1	93	0	1	1	1	0,0	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
22	1	0	0	0	82	0	0	0	0	1,6	0
22	2	0	0	0	82	0	0	0	0	1,6	0
22	3	0	0	0	82	0	0	0	0	1,6	0
22	4	0	0	0	82	0	0	0	0	1,6	0
22	5	0	0	0	82	0	0	0	0	1,6	0
22	6	0	0	0	77	0	0	0	0	1,6	0
22	7	0	0	0	82	0	0	0	0	1,6	0
22	8	0	0	0	82	0	0	0	0	1,6	0
22	9	0	0	0	78	0	0	0	0	1,6	0
22	10	0	0	0	82	0	0	0	0	1,6	0
22	11	0	0	0	82	0	0	0	0	1,6	0
22	12	0	0	0	82	0	0	0	0	1,6	0
22	13	0	0	0	82	0	0	0	0	1,6	0
22	14	0	0	0	82	0	0	0	0	1,6	0
22	15	0	0	0	74	0	0	0	0	1,6	0
22	16	0	0	0	74	0	0	0	0	1,6	0
22	17	0	0	0	64	0	0	0	0	0,0	0
22	18	0	0	0	64	0	0	0	0	0,0	0
22	19	0	0	0	64	0	0	0	0	0,0	0
22	20	0	0	0	74	0	0	0	0	1,6	0
22	21	0	0	0	74	0	0	0	0	1,6	0
22	22	0	0	0	74	0	0	0	0	1,6	0
22	23	0	0	0	74	0	0	0	0	1,6	0
22	24	0	0	0	64	0	0	0	0	0,0	0
22	25	0	0	0	64	0	0	0	0	0,0	0
22	26	0	0	0	64	0	0	0	0	0,0	0
22	27	0	0	0	74	0	0	0	0	1,6	0
22	28	0	0	0	74	0	0	0	0	1,6	0
22	29	0	0	0	65	0	0	0	0	1,6	0
22	30	0	0	0	65	0	0	0	0	1,6	0
22	31	0	0	0	56	0	0	0	0	0,0	0
22	32	0	0	0	56	0	0	0	0	0,0	0
22	33	0	0	0	56	0	0	0	0	0,0	0
22	34	0	0	0	65	0	0	0	0	1,6	0
22	35	0	0	0	65	0	0	0	0	1,6	0
22	36	0	0	0	65	0	0	0	0	1,6	0
22	37	0	0	0	65	0	0	0	0	1,6	0
22	38	0	0	0	56	0	0	0	0	0,0	0
22	39	0	0	0	56	0	0	0	0	0,0	0
22	40	0	0	0	56	0	0	0	0	0,0	0
22	41	0	0	0	65	0	0	0	0	1,6	0
22	42	0	0	0	65	0	0	0	0	1,6	0
22	43	0	0	0	57	0	0	0	0	1,6	0
22	44	0	0	0	48	0	0	0	0	0,0	0
22	45	0	0	0	48	0	0	0	0	1,6	0
22	46	0	0	0	48	0	0	0	0	1,6	0
22	47	0	0	0	48	0	0	0	0	1,6	0
22	48	0	0	0	57	0	0	0	0	1,6	0
22	49	0	0	0	57	0	0	0	0	1,6	0
22	50	0	0	0	57	0	0	0	0	1,6	0
22	51	0	0	0	57	0	0	0	0	1,6	0
22	52	0	0	0	48	0	0	0	0	1,6	0
22	53	0	0	0	48	0	0	0	0	1,6	0
22	54	0	0	0	48	0	0	0	0	1,6	0
22	55	0	0	0	48	0	0	0	0	0,0	0

Beräkningen utförd av:ALM 2023-10-24 00:18:49
...kning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning_revD\isbron_LF.xml

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
22	56	0	0	0	57	0	0	0	0	1,6	0
22	57	0	0	0	49	0	0	0	0	0,0	0
22	58	0	0	0	43	0	0	0	0	1,6	0
22	59	0	0	0	39	0	0	0	0	1,6	0
22	60	0	0	0	39	0	0	0	0	1,6	0
22	61	0	0	0	39	0	0	0	0	1,6	0
22	62	0	0	0	49	0	0	0	0	0,0	0
22	63	0	0	0	49	0	0	0	0	0,0	0
22	64	0	0	0	49	0	0	0	0	0,0	0
22	65	0	0	0	49	0	0	0	0	0,0	0
22	66	0	0	0	39	0	0	0	0	1,6	0
22	67	0	0	0	39	0	0	0	0	1,6	0
22	68	0	0	0	39	0	0	0	0	1,6	0
22	69	0	0	0	45	0	0	0	0	1,6	0
22	70	0	0	0	49	0	0	0	0	0,0	0
22	min	0	0	0	39	0	-2	0	0	1,6	0
22	max	0	0	0	82	0	1	0	0	0,0	0
23	1	1	0	1	157	0	0	0	1	1,6	0
23	2	1	0	1	157	0	0	0	1	1,6	0
23	3	1	0	1	158	0	0	0	1	1,6	0
23	4	1	0	1	158	0	0	0	1	1,6	0
23	5	1	0	1	158	0	0	0	1	1,6	0
23	6	0	1	1	129	0	0	0	1	1,6	0
23	7	1	0	1	158	0	0	0	1	1,6	0
23	8	1	0	1	158	0	0	0	1	1,6	0
23	9	-1	-1	1	110	0	0	0	1	1,6	0
23	10	1	0	1	158	0	0	0	1	1,6	0
23	11	1	0	1	158	0	0	0	1	1,6	0
23	12	1	0	1	158	0	0	0	1	1,6	0
23	13	1	0	1	158	0	0	0	1	1,6	0
23	14	1	0	1	158	0	0	0	1	1,6	0
23	15	1	0	1	142	0	0	0	1	1,6	0
23	16	1	0	1	142	0	0	0	1	1,6	0
23	17	-3	1	3	68	-1	-2	2	2	0,0	0
23	18	-3	1	3	67	-1	-2	3	3	0,0	0
23	19	-3	1	3	67	-1	-2	3	3	0,0	0
23	20	1	0	1	142	0	0	0	1	1,6	0
23	21	1	0	1	142	0	0	0	1	1,6	0
23	22	1	0	1	142	0	0	0	1	1,6	0
23	23	1	0	1	142	0	0	0	1	1,6	0
23	24	-3	1	3	65	-1	-3	3	3	0,0	0
23	25	-3	1	3	65	-1	-3	3	3	0,0	0
23	26	-3	1	3	65	-1	-3	3	3	0,0	0
23	27	1	0	1	143	0	0	0	1	1,6	0
23	28	1	0	1	143	0	0	0	1	1,6	0
23	29	1	0	1	127	0	0	0	1	1,6	0
23	30	1	0	1	127	0	0	0	1	1,6	0
23	31	-3	1	3	52	-1	-2	2	2	0,0	0
23	32	-3	1	3	52	-1	-2	2	2	0,0	0
23	33	-3	1	3	52	-1	-2	2	2	0,0	0
23	34	1	0	1	127	0	0	0	1	1,6	0
23	35	1	0	1	127	0	0	0	1	1,6	0
23	36	1	0	1	127	0	0	0	1	1,6	0

Beräkningen utförd av:ALM 2023-10-24 00:18:49
...kning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning_revD\isbron_LF.xml

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
23	37	1	0	1	127	0	0	0	1	1,6	0
23	38	-3	1	3	50	-1	-2	3	3	0,0	0
23	39	-3	1	3	50	-1	-2	3	3	0,0	0
23	40	-3	1	3	50	-1	-2	3	3	0,0	0
23	41	1	0	1	127	0	0	0	1	1,6	0
23	42	1	0	1	128	0	0	0	1	1,6	0
23	43	1	0	1	112	0	0	0	1	1,6	0
23	44	-2	1	3	38	-1	-2	2	2	0,0	0
23	45	-1	0	1	37	0	0	0	1	1,6	0
23	46	-1	0	1	37	0	0	0	1	1,6	0
23	47	-1	0	1	37	0	0	0	1	1,6	0
23	48	1	0	1	112	0	0	0	1	1,6	0
23	49	1	0	1	112	0	0	0	1	1,6	0
23	50	1	0	1	112	0	0	0	1	1,6	0
23	51	1	0	1	112	0	0	0	1	1,6	0
23	52	-1	0	1	35	0	0	0	1	1,6	0
23	53	-1	0	1	35	0	0	0	1	1,6	0
23	54	-1	0	1	34	0	0	0	1	1,6	0
23	55	-3	1	3	34	-1	-2	2	2	0,0	0
23	56	1	0	1	112	0	0	0	1	1,6	0
23	57	2	-1	2	97	1	2	2	2	0,0	0
23	58	0	1	1	68	0	0	0	1	1,6	0
23	59	-1	0	1	22	0	0	0	1	1,6	0
23	60	-1	0	1	22	0	0	0	1	1,6	0
23	61	-1	0	1	22	0	0	0	1	1,6	0
23	62	2	-1	2	97	1	2	2	2	0,0	0
23	63	2	-1	2	97	1	2	2	2	0,0	0
23	64	2	-1	2	97	1	2	2	2	0,0	0
23	65	2	-1	2	97	1	2	2	2	0,0	0
23	66	-1	0	1	20	0	0	0	1	1,6	0
23	67	-1	0	1	20	0	0	0	1	1,6	0
23	68	-1	0	1	19	0	0	0	1	1,6	0
23	69	0	-1	1	50	0	0	0	1	1,6	0
23	70	2	-1	2	97	1	2	2	2	0,0	0
23	min	-3	-1	1	19	-1	-3	0	1	1,6	0
23	max	2	1	3	158	1	2	3	3	0,0	0
24	1	1	0	1	136	0	0	0	0	1,6	0
24	2	1	0	1	136	0	0	0	0	1,6	0
24	3	1	0	1	136	0	0	0	0	1,6	0
24	4	1	0	1	136	0	0	0	0	1,6	0
24	5	1	0	1	136	0	0	0	0	1,6	0
24	6	-1	1	1	104	0	0	0	1	1,6	0
24	7	1	0	1	135	0	0	0	0	1,6	0
24	8	1	0	1	135	0	0	0	0	1,6	0
24	9	0	-1	1	122	0	0	0	1	1,6	0
24	10	0	0	1	135	0	0	0	0	1,6	0
24	11	0	0	1	135	0	0	0	0	1,6	0
24	12	0	0	1	135	0	0	0	0	1,6	0
24	13	0	0	1	135	0	0	0	0	1,6	0
24	14	0	0	1	135	0	0	0	0	1,6	0
24	15	1	0	1	122	0	0	0	0	1,6	0
24	16	1	0	1	122	0	0	0	0	1,6	0
24	17	-2	-1	2	76	1	-1	2	2	0,0	0

Beräkningen utförd av:ALM 2023-10-24 00:18:49
...kning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning_revD\isbron_LF.xml

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
24	18	-2	-1	2	76	1	-1	2	2	0,0	0
24	19	-2	-1	2	76	1	-1	2	2	0,0	0
24	20	1	0	1	122	0	0	0	0	1,6	0
24	21	1	0	1	122	0	0	0	0	1,6	0
24	22	1	0	1	122	0	0	0	0	1,6	0
24	23	1	0	1	122	0	0	0	0	1,6	0
24	24	-2	-1	2	78	1	-1	2	2	0,0	0
24	25	-2	-1	2	78	1	-1	2	2	0,0	0
24	26	-2	-1	2	78	1	-1	2	2	0,0	0
24	27	1	0	1	122	0	0	0	0	1,6	0
24	28	1	0	1	122	0	0	0	0	1,6	0
24	29	1	0	1	109	0	0	0	0	1,6	0
24	30	1	0	1	109	0	0	0	0	1,6	0
24	31	-2	-1	2	62	1	-1	2	2	0,0	0
24	32	-2	-1	2	63	1	-1	2	2	0,0	0
24	33	-2	-1	2	63	1	-1	2	2	0,0	0
24	34	1	0	1	109	0	0	0	0	1,6	0
24	35	1	0	1	109	0	0	0	0	1,6	0
24	36	1	0	1	108	0	0	0	0	1,6	0
24	37	1	0	1	108	0	0	0	0	1,6	0
24	38	-2	-1	2	64	1	-1	1	1	0,0	0
24	39	-2	-1	2	65	1	-1	1	1	0,0	0
24	40	-2	-1	2	65	1	-1	1	1	0,0	0
24	41	1	0	1	108	0	0	0	0	1,6	0
24	42	1	0	1	108	0	0	0	0	1,6	0
24	43	1	0	1	95	0	0	0	0	1,6	0
24	44	-2	-1	2	49	1	-1	2	2	0,0	0
24	45	-1	0	1	49	0	0	0	1	1,6	0
24	46	-1	0	1	49	0	0	0	1	1,6	0
24	47	-1	0	1	49	0	0	0	1	1,6	0
24	48	1	0	1	95	0	0	0	0	1,6	0
24	49	1	0	1	95	0	0	0	0	1,6	0
24	50	1	0	1	95	0	0	0	0	1,6	0
24	51	1	0	1	95	0	0	0	0	1,6	0
24	52	-1	0	1	51	0	0	0	1	1,6	0
24	53	-1	0	1	51	0	0	0	1	1,6	0
24	54	-1	0	1	52	0	0	0	1	1,6	0
24	55	-1	-1	2	52	1	-1	1	1	0,0	0
24	56	1	0	1	95	0	0	0	0	1,6	0
24	57	1	1	1	82	-1	1	1	1	0,0	0
24	58	0	1	1	50	0	0	0	1	1,6	0
24	59	-1	0	1	35	0	0	0	1	1,6	0
24	60	-1	0	1	36	0	0	0	1	1,6	0
24	61	-1	0	1	36	0	0	0	1	1,6	0
24	62	1	1	1	82	-1	1	1	1	0,0	0
24	63	1	1	1	82	-1	1	1	1	0,0	0
24	64	1	1	1	82	-1	1	1	1	0,0	0
24	65	1	1	1	82	-1	1	1	1	0,0	0
24	66	-1	0	1	38	0	0	0	1	1,6	0
24	67	-1	0	1	38	0	0	0	1	1,6	0
24	68	-1	0	1	38	0	0	0	1	1,6	0
24	69	0	-1	1	68	0	0	0	1	1,6	0
24	70	1	1	1	81	-1	1	1	1	0,0	0
24	min	-2	-1	1	35	-1	-3	0	0	1,6	0
24	max	1	1	2	136	1	2	2	2	0,0	0

Bjerking AB Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
25	1	1	0	1	157	0	0	0	1	1,6	0
25	2	1	0	1	157	0	0	0	1	1,6	0
25	3	1	0	1	158	0	0	0	1	1,6	0
25	4	1	0	1	158	0	0	0	1	1,6	0
25	5	1	0	1	158	0	0	0	1	1,6	0
25	6	0	1	1	129	0	0	0	1	1,6	0
25	7	1	0	1	158	0	0	0	1	1,6	0
25	8	1	0	1	158	0	0	0	1	1,6	0
25	9	-1	-1	1	110	0	0	0	1	1,6	0
25	10	1	0	1	158	0	0	0	1	1,6	0
25	11	1	0	1	158	0	0	0	1	1,6	0
25	12	1	0	1	158	0	0	0	1	1,6	0
25	13	1	0	1	158	0	0	0	1	1,6	0
25	14	1	0	1	158	0	0	0	1	1,6	0
25	15	1	0	1	142	0	0	0	1	1,6	0
25	16	1	0	1	142	0	0	0	1	1,6	0
25	17	-3	1	3	68	-1	-2	2	2	0,0	0
25	18	-3	1	3	67	-1	-2	3	3	0,0	0
25	19	-3	1	3	67	-1	-2	3	3	0,0	0
25	20	1	0	1	142	0	0	0	1	1,6	0
25	21	1	0	1	142	0	0	0	1	1,6	0
25	22	1	0	1	142	0	0	0	1	1,6	0
25	23	1	0	1	142	0	0	0	1	1,6	0
25	24	-3	1	3	65	-1	-3	3	3	0,0	0
25	25	-3	1	3	65	-1	-3	3	3	0,0	0
25	26	-3	1	3	65	-1	-3	3	3	0,0	0
25	27	1	0	1	143	0	0	0	1	1,6	0
25	28	1	0	1	143	0	0	0	1	1,6	0
25	29	1	0	1	127	0	0	0	1	1,6	0
25	30	1	0	1	127	0	0	0	1	1,6	0
25	31	-3	1	3	52	-1	-2	2	2	0,0	0
25	32	-3	1	3	52	-1	-2	2	2	0,0	0
25	33	-3	1	3	52	-1	-2	2	2	0,0	0
25	34	1	0	1	127	0	0	0	1	1,6	0
25	35	1	0	1	127	0	0	0	1	1,6	0
25	36	1	0	1	127	0	0	0	1	1,6	0
25	37	1	0	1	127	0	0	0	1	1,6	0
25	38	-3	1	3	50	-1	-2	3	3	0,0	0
25	39	-3	1	3	50	-1	-2	3	3	0,0	0
25	40	-3	1	3	50	-1	-2	3	3	0,0	0
25	41	1	0	1	127	0	0	0	1	1,6	0
25	42	1	0	1	128	0	0	0	1	1,6	0
25	43	1	0	1	112	0	0	0	1	1,6	0
25	44	-2	1	3	38	-1	-2	2	2	0,0	0
25	45	-1	0	1	37	0	0	0	1	1,6	0
25	46	-1	0	1	37	0	0	0	1	1,6	0
25	47	-1	0	1	37	0	0	0	1	1,6	0
25	48	1	0	1	112	0	0	0	1	1,6	0
25	49	1	0	1	112	0	0	0	1	1,6	0
25	50	1	0	1	112	0	0	0	1	1,6	0
25	51	1	0	1	112	0	0	0	1	1,6	0
25	52	-1	0	1	35	0	0	0	1	1,6	0
25	53	-1	0	1	35	0	0	0	1	1,6	0
25	54	-1	0	1	34	0	0	0	1	1,6	0
25	55	-3	1	3	34	-1	-2	2	2	0,0	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
25	56	1	0	1	112	0	0	0	1	1,6	0
25	57	2	-1	2	97	1	2	2	2	0,0	0
25	58	0	1	1	68	0	0	0	1	1,6	0
25	59	-1	0	1	22	0	0	0	1	1,6	0
25	60	-1	0	1	22	0	0	0	1	1,6	0
25	61	-1	0	1	22	0	0	0	1	1,6	0
25	62	2	-1	2	97	1	2	2	2	0,0	0
25	63	2	-1	2	97	1	2	2	2	0,0	0
25	64	2	-1	2	97	1	2	2	2	0,0	0
25	65	2	-1	2	97	1	2	2	2	0,0	0
25	66	-1	0	1	20	0	0	0	1	1,6	0
25	67	-1	0	1	20	0	0	0	1	1,6	0
25	68	-1	0	1	19	0	0	0	1	1,6	0
25	69	0	-1	1	50	0	0	0	1	1,6	0
25	70	2	-1	2	97	1	2	2	2	0,0	0
25	min	-3	-1	1	19	-1	-3	0	1	1,6	0
25	max	2	1	3	158	1	2	3	3	0,0	0
26	1	1	0	1	136	0	0	0	0	1,6	0
26	2	1	0	1	136	0	0	0	0	1,6	0
26	3	1	0	1	136	0	0	0	0	1,6	0
26	4	1	0	1	136	0	0	0	0	1,6	0
26	5	1	0	1	136	0	0	0	0	1,6	0
26	6	-1	1	1	104	0	0	0	1	1,6	0
26	7	1	0	1	135	0	0	0	0	1,6	0
26	8	1	0	1	135	0	0	0	0	1,6	0
26	9	0	-1	1	122	0	0	0	1	1,6	0
26	10	0	0	1	135	0	0	0	0	1,6	0
26	11	0	0	1	135	0	0	0	0	1,6	0
26	12	0	0	1	135	0	0	0	0	1,6	0
26	13	0	0	1	135	0	0	0	0	1,6	0
26	14	0	0	1	135	0	0	0	0	1,6	0
26	15	1	0	1	122	0	0	0	0	1,6	0
26	16	1	0	1	122	0	0	0	0	1,6	0
26	17	-2	-1	2	76	1	-1	2	2	0,0	0
26	18	-2	-1	2	76	1	-1	2	2	0,0	0
26	19	-2	-1	2	76	1	-1	2	2	0,0	0
26	20	1	0	1	122	0	0	0	0	1,6	0
26	21	1	0	1	122	0	0	0	0	1,6	0
26	22	1	0	1	122	0	0	0	0	1,6	0
26	23	1	0	1	122	0	0	0	0	1,6	0
26	24	-2	-1	2	78	1	-1	2	2	0,0	0
26	25	-2	-1	2	78	1	-1	2	2	0,0	0
26	26	-2	-1	2	78	1	-1	2	2	0,0	0
26	27	1	0	1	122	0	0	0	0	1,6	0
26	28	1	0	1	122	0	0	0	0	1,6	0
26	29	1	0	1	109	0	0	0	0	1,6	0
26	30	1	0	1	109	0	0	0	0	1,6	0
26	31	-2	-1	2	62	1	-1	2	2	0,0	0
26	32	-2	-1	2	63	1	-1	2	2	0,0	0
26	33	-2	-1	2	63	1	-1	2	2	0,0	0
26	34	1	0	1	109	0	0	0	0	1,6	0
26	35	1	0	1	109	0	0	0	0	1,6	0
26	36	1	0	1	108	0	0	0	0	1,6	0

Beräkningen utförd av:ALM 2023-10-24 00:18:49
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Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Landfäste
caeEc701----------Version 2.1.8

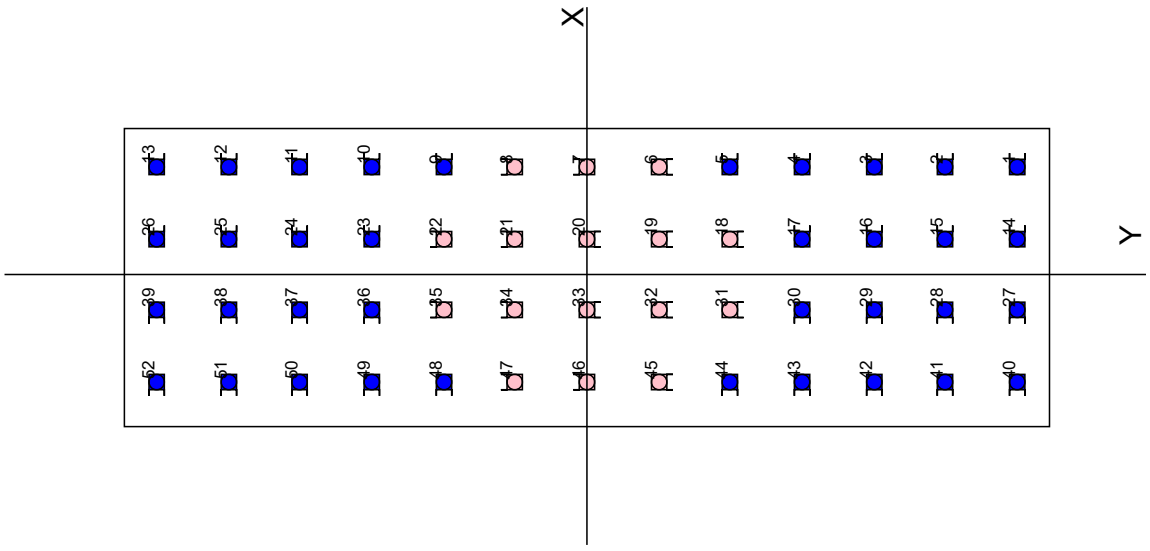
Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
26	37	1	0	1	108	0	0	0	0	1,6	0
26	38	-2	-1	2	64	1	-1	1	1	0,0	0
26	39	-2	-1	2	65	1	-1	1	1	0,0	0
26	40	-2	-1	2	65	1	-1	1	1	0,0	0
26	41	1	0	1	108	0	0	0	0	1,6	0
26	42	1	0	1	108	0	0	0	0	1,6	0
26	43	1	0	1	95	0	0	0	0	1,6	0
26	44	-2	-1	2	49	1	-1	2	2	0,0	0
26	45	-1	0	1	49	0	0	0	1	1,6	0
26	46	-1	0	1	49	0	0	0	1	1,6	0
26	47	-1	0	1	49	0	0	0	1	1,6	0
26	48	1	0	1	95	0	0	0	0	1,6	0
26	49	1	0	1	95	0	0	0	0	1,6	0
26	50	1	0	1	95	0	0	0	0	1,6	0
26	51	1	0	1	95	0	0	0	0	1,6	0
26	52	-1	0	1	51	0	0	0	1	1,6	0
26	53	-1	0	1	51	0	0	0	1	1,6	0
26	54	-1	0	1	52	0	0	0	1	1,6	0
26	55	-1	-1	2	52	1	-1	1	1	0,0	0
26	56	1	0	1	95	0	0	0	0	1,6	0
26	57	1	1	1	82	-1	1	1	1	0,0	0
26	58	0	1	1	50	0	0	0	1	1,6	0
26	59	-1	0	1	35	0	0	0	1	1,6	0
26	60	-1	0	1	36	0	0	0	1	1,6	0
26	61	-1	0	1	36	0	0	0	1	1,6	0
26	62	1	1	1	82	-1	1	1	1	0,0	0
26	63	1	1	1	82	-1	1	1	1	0,0	0
26	64	1	1	1	82	-1	1	1	1	0,0	0
26	65	1	1	1	82	-1	1	1	1	0,0	0
26	66	-1	0	1	38	0	0	0	1	1,6	0
26	67	-1	0	1	38	0	0	0	1	1,6	0
26	68	-1	0	1	38	0	0	0	1	1,6	0
26	69	0	-1	1	68	0	0	0	1	1,6	0
26	70	1	1	1	81	-1	1	1	1	0,0	0
26	min	-2	-1	1	35	-1	-3	0	0	1,6	0
26	max	1	1	2	136	1	2	2	2	0,0	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8



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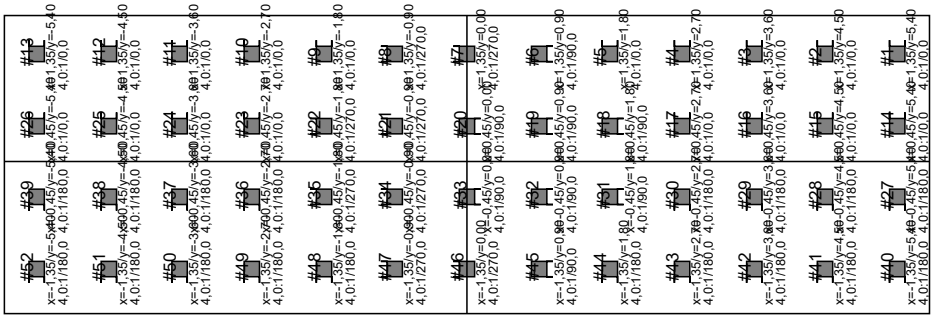
Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8



Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Rymdpålgrupp

Systemdata----------

Cirkulära påltyper----------

Data nr	Insp	E GPa	G GPa	d mm	Längd m	Lfri m	kd kPa	nh MN/m3
1	N	12,0	5,0	201	15,10	0,00	200	

Geometri----------

Påle nr	Påltyp nr	Alpha grad	x m	y m	Lutning N: 1	Längd
1	1	0	1,35	5,40	4,00	
2	1	0	1,35	4,50	4,00	
3	1	0	1,35	3,60	4,00	
4	1	0	1,35	2,70	4,00	
5	1	0	1,35	1,80	4,00	
6	1	90	1,35	0,90	4,00	
7	1	270	1,35	0,00	4,00	
8	1	270	1,35	-0,90	4,00	
9	1	0	1,35	-1,80	4,00	
10	1	0	1,35	-2,70	4,00	
11	1	0	1,35	-3,60	4,00	
12	1	0	1,35	-4,50	4,00	
13	1	0	1,35	-5,40	4,00	
14	1	0	0,45	5,40	4,00	
15	1	0	0,45	4,50	4,00	
16	1	0	0,45	3,60	4,00	
17	1	0	0,45	2,70	4,00	
18	1	90	0,45	1,80	4,00	
19	1	90	0,45	0,90	4,00	
20	1	90	0,45	0,00	4,00	
21	1	270	0,45	-0,90	4,00	
22	1	270	0,45	-1,80	4,00	
23	1	0	0,45	-2,70	4,00	
24	1	0	0,45	-3,60	4,00	
25	1	0	0,45	-4,50	4,00	
26	1	0	0,45	-5,40	4,00	
27	1	180	-0,45	5,40	4,00	
28	1	180	-0,45	4,50	4,00	
29	1	180	-0,45	3,60	4,00	
30	1	180	-0,45	2,70	4,00	
31	1	90	-0,45	1,80	4,00	
32	1	90	-0,45	0,90	4,00	
33	1	90	-0,45	0,00	4,00	
34	1	270	-0,45	-0,90	4,00	
35	1	270	-0,45	-1,80	4,00	
36	1	180	-0,45	-2,70	4,00	
37	1	180	-0,45	-3,60	4,00	
38	1	180	-0,45	-4,50	4,00	
39	1	180	-0,45	-5,40	4,00	
40	1	180	-1,35	5,40	4,00	
41	1	180	-1,35	4,50	4,00	
42	1	180	-1,35	3,60	4,00	
43	1	180	-1,35	2,70	4,00	
44	1	180	-1,35	1,80	4,00	
45	1	90	-1,35	0,90	4,00	
46	1	270	-1,35	0,00	4,00	
47	1	270	-1,35	-0,90	4,00	
48	1	180	-1,35	-1,80	4,00	
49	1	180	-1,35	-2,70	4,00	
50	1	180	-1,35	-3,60	4,00	

Bjerking AB Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Geometri----------

Påle nr	Påltyp nr	Alpha grad	x m	y m	Lutning N: 1	Längd
51	1	180	-1,35	-4,50	4,00	
52	1	180	-1,35	-5,40	4,00	

Laster----------

Nr	Krafter PxEd kN	PyEd kN	PzEd kN	Moment MxEd kNm	MyEd kNm	MzEd kNm
1	194,0	42,0	7310,0	198,0	-546,0	0,0
2	-194,0	-42,0	7310,0	-267,0	546,0	0,0
3	74,0	162,0	7310,0	498,0	-246,0	0,0
4	-74,0	-162,0	7310,0	-567,0	246,0	0,0
5	300,0	10,0	3553,0	-34,0	-750,0	0,0
6	-300,0	-10,0	3553,0	-35,0	750,0	0,0
7	0,0	310,0	3553,0	716,0	0,0	0,0
8	0,0	-310,0	3553,0	-785,0	0,0	0,0
9	374,0	42,0	6324,0	211,0	-996,0	0,0
10	-374,0	-42,0	6324,0	-280,0	996,0	0,0
11	74,0	342,0	6324,0	961,0	-246,0	0,0
12	-74,0	-342,0	6324,0	-1030,0	246,0	0,0
13	120,0	10,0	3541,0	-34,0	-300,0	0,0
14	-120,0	-10,0	3541,0	-35,0	300,0	0,0
15	0,0	130,0	3541,0	266,0	0,0	0,0
16	0,0	-130,0	3541,0	-335,0	0,0	0,0
17	0,0	0,0	3022,0	-33,0	0,0	0,0
18	0,0	0,0	3022,0	-37,0	0,0	0,0

Lastkombinationer enligt BFS 2019:1 - EKS 11----------

Pålcentrum för resp lastriktning.....

Lastriktning	x m	y m	z
X		0,00	-3,15
Y	0,00		-2,46
Z	0,00	0,00	

Pålgruppens deformationer redovisas i plintorigo----------

Last nr	Förskjutningar x mm	y mm	z mm	Rotationer promille x %.	y %.	z %.
1	3,39	1,21	5,95	0,01	0,11	0,00
2	-3,39	-1,20	5,95	-0,01	-0,11	0,00
3	1,10	4,71	5,95	0,01	-0,02	0,00
4	-1,10	-4,70	5,95	-0,01	0,02	0,00
5	5,72	0,30	2,89	0,00	0,32	-0,01
6	-5,72	-0,29	2,89	0,00	-0,32	0,01
7	0,00	9,05	2,89	0,00	0,00	0,00
8	0,00	-9,04	2,89	0,00	0,00	0,00
9	6,82	1,21	5,15	0,01	0,30	-0,01
10	-6,82	-1,19	5,15	-0,01	-0,30	0,01
11	1,10	9,95	5,15	0,01	-0,02	0,00
12	-1,10	-9,94	5,15	-0,01	0,02	0,00
13	2,29	0,30	2,88	0,00	0,13	0,00
14	-2,29	-0,29	2,88	0,00	-0,13	0,00
15	0,00	3,80	2,88	0,00	0,00	0,00

Bjerking AB Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Pålgruppens deformationer redovisas i plintorigo----------

Last Förskjutningar..... Rotationer promille.....

	x	y	z	x	y	z
nr	mm	mm	mm	%.	%.	%.
16	0,00	-3,79	2,88	0,00	0,00	0,00
17	0,00	0,01	2,46	0,00	0,00	0,00
18	0,00	0,01	2,46	0,00	0,00	0,00

Utskrift krafter----------

		Kraft.....				Moment.....					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
1	1	0	0	0	163	0	0	0	0	1,6	0
1	2	0	0	0	163	0	0	0	0	1,6	0
1	3	0	0	0	163	0	0	0	0	1,6	0
1	4	0	0	0	162	0	0	0	0	1,6	0
1	5	0	0	0	162	0	0	0	0	1,6	0
1	6	0	-1	1	149	0	0	0	0	1,6	0
1	7	-1	1	1	134	0	0	0	1	1,6	0
1	8	-1	1	1	134	0	0	0	1	1,6	0
1	9	0	0	0	162	0	0	0	0	1,6	0
1	10	0	0	0	161	0	0	0	0	1,6	0
1	11	0	0	0	161	0	0	0	0	1,6	0
1	12	0	0	0	161	0	0	0	0	1,6	0
1	13	0	0	0	161	0	0	0	0	1,6	0
1	14	0	0	0	165	0	0	0	0	1,6	0
1	15	0	0	0	165	0	0	0	0	1,6	0
1	16	0	0	0	165	0	0	0	0	1,6	0
1	17	0	0	0	165	0	0	0	0	1,6	0
1	18	0	-1	1	151	0	0	0	0	1,6	0
1	19	0	-1	1	151	0	0	0	0	1,6	0
1	20	0	-1	1	151	0	0	0	0	1,6	0
1	21	-1	1	1	136	0	0	0	1	1,6	0
1	22	-1	1	1	136	0	0	0	1	1,6	0
1	23	0	0	0	164	0	0	0	0	1,6	0
1	24	0	0	0	164	0	0	0	0	1,6	0
1	25	0	0	0	163	0	0	0	0	1,6	0
1	26	0	0	0	163	0	0	0	0	1,6	0
1	27	-1	0	1	126	0	0	0	1	1,6	0
1	28	-1	0	1	126	0	0	0	1	1,6	0
1	29	-1	0	1	126	0	0	0	1	1,6	0
1	30	-1	0	1	126	0	0	0	1	1,6	0
1	31	0	-1	1	154	0	0	0	0	1,6	0
1	32	0	-1	1	154	0	0	0	0	1,6	0
1	33	0	-1	1	153	0	0	0	0	1,6	0
1	34	-1	1	1	138	0	0	0	1	1,6	0
1	35	-1	1	1	138	0	0	0	1	1,6	0
1	36	-1	0	1	125	0	0	0	1	1,6	0
1	37	-1	0	1	125	0	0	0	1	1,6	0
1	38	-1	0	1	125	0	0	0	1	1,6	0
1	39	-1	0	1	125	0	0	0	1	1,6	0
1	40	-1	0	1	129	0	0	0	1	1,6	0
1	41	-1	0	1	128	0	0	0	1	1,6	0
1	42	-1	0	1	128	0	0	0	1	1,6	0
1	43	-1	0	1	128	0	0	0	1	1,6	0
1	44	-1	0	1	128	0	0	0	1	1,6	0
1	45	0	-1	1	156	0	0	0	0	1,6	0

Bjerking AB Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
1	46	-1	1	1	141	0	0	0	1	1,6	0
1	47	-1	1	1	141	0	0	0	1	1,6	0
1	48	-1	0	1	127	0	0	0	1	1,6	0
1	49	-1	0	1	127	0	0	0	1	1,6	0
1	50	-1	0	1	127	0	0	0	1	1,6	0
1	51	-1	0	1	127	0	0	0	1	1,6	0
1	52	-1	0	1	127	0	0	0	1	1,6	0
1	min	-1	-1	0	125	0	0	0	0	1,6	0
1	max	0	1	1	165	0	0	0	1	1,6	0
2	1	-1	0	1	126	0	0	0	1	1,6	0
2	2	-1	0	1	126	0	0	0	1	1,6	0
2	3	-1	0	1	127	0	0	0	1	1,6	0
2	4	-1	0	1	127	0	0	0	1	1,6	0
2	5	-1	0	1	127	0	0	0	1	1,6	0
2	6	-1	1	1	141	0	0	0	1	1,6	0
2	7	0	-1	1	156	0	0	0	0	1,6	0
2	8	0	-1	1	156	0	0	0	0	1,6	0
2	9	-1	0	1	128	0	0	0	1	1,6	0
2	10	-1	0	1	129	0	0	0	1	1,6	0
2	11	-1	0	1	129	0	0	0	1	1,6	0
2	12	-1	0	1	129	0	0	0	1	1,6	0
2	13	-1	0	1	129	0	0	0	1	1,6	0
2	14	-1	0	1	124	0	0	0	1	1,6	0
2	15	-1	0	1	124	0	0	0	1	1,6	0
2	16	-1	0	1	124	0	0	0	1	1,6	0
2	17	-1	0	1	125	0	0	0	1	1,6	0
2	18	-1	1	1	138	0	0	0	1	1,6	0
2	19	-1	1	1	138	0	0	0	1	1,6	0
2	20	-1	1	1	139	0	0	0	1	1,6	0
2	21	0	-1	1	154	0	0	0	0	1,6	0
2	22	0	-1	1	154	0	0	0	0	1,6	0
2	23	-1	0	1	126	0	0	0	1	1,6	0
2	24	-1	0	1	126	0	0	0	1	1,6	0
2	25	-1	0	1	127	0	0	0	1	1,6	0
2	26	-1	0	1	127	0	0	0	1	1,6	0
2	27	0	0	0	163	0	0	0	0	1,6	0
2	28	0	0	0	163	0	0	0	0	1,6	0
2	29	0	0	0	163	0	0	0	0	1,6	0
2	30	0	0	0	164	0	0	0	0	1,6	0
2	31	-1	1	1	136	0	0	0	1	1,6	0
2	32	-1	1	1	136	0	0	0	1	1,6	0
2	33	-1	1	1	136	0	0	0	1	1,6	0
2	34	0	-1	1	151	0	0	0	0	1,6	0
2	35	0	-1	1	151	0	0	0	0	1,6	0
2	36	0	0	0	165	0	0	0	0	1,6	0
2	37	0	0	0	165	0	0	0	0	1,6	0
2	38	0	0	0	166	0	0	0	0	1,6	0
2	39	0	0	0	166	0	0	0	0	1,6	0
2	40	0	0	0	160	0	0	0	0	1,6	0
2	41	0	0	0	161	0	0	0	0	1,6	0
2	42	0	0	0	161	0	0	0	0	1,6	0
2	43	0	0	0	161	0	0	0	0	1,6	0
2	44	0	0	0	161	0	0	0	0	1,6	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
2	45	-1	1	1	134	0	0	0	1	1,6	0
2	46	0	-1	1	149	0	0	0	0	1,6	0
2	47	0	-1	1	149	0	0	0	0	1,6	0
2	48	0	0	0	162	0	0	0	0	1,6	0
2	49	0	0	0	163	0	0	0	0	1,6	0
2	50	0	0	0	163	0	0	0	0	1,6	0
2	51	0	0	0	163	0	0	0	0	1,6	0
2	52	0	0	0	163	0	0	0	0	1,6	0
2	min	-1	-1	0	124	0	0	0	0	1,6	0
2	max	0	1	1	166	0	0	0	1	1,6	0
3	1	0	1	1	153	0	0	0	1	1,6	0
3	2	0	1	1	153	0	0	0	1	1,6	0
3	3	0	1	1	153	0	0	0	1	1,6	0
3	4	0	1	1	153	0	0	0	1	1,6	0
3	5	0	1	1	153	0	0	0	1	1,6	0
3	6	1	0	1	174	0	0	0	0	1,6	0
3	7	-1	0	1	117	0	0	0	1	1,6	0
3	8	-1	0	1	117	0	0	0	1	1,6	0
3	9	0	1	1	152	0	0	0	1	1,6	0
3	10	0	1	1	152	0	0	0	1	1,6	0
3	11	0	1	1	152	0	0	0	1	1,6	0
3	12	0	1	1	151	0	0	0	1	1,6	0
3	13	0	1	1	151	0	0	0	1	1,6	0
3	14	0	1	1	153	0	0	0	1	1,6	0
3	15	0	1	1	153	0	0	0	1	1,6	0
3	16	0	1	1	152	0	0	0	1	1,6	0
3	17	0	1	1	152	0	0	0	1	1,6	0
3	18	1	0	1	174	0	0	0	0	1,6	0
3	19	1	0	1	174	0	0	0	0	1,6	0
3	20	1	0	1	174	0	0	0	0	1,6	0
3	21	-1	0	1	116	0	0	0	1	1,6	0
3	22	-1	0	1	116	0	0	0	1	1,6	0
3	23	0	1	1	151	0	0	0	1	1,6	0
3	24	0	1	1	151	0	0	0	1	1,6	0
3	25	0	1	1	151	0	0	0	1	1,6	0
3	26	0	1	1	151	0	0	0	1	1,6	0
3	27	-1	-1	1	139	0	0	0	1	1,6	0
3	28	-1	-1	1	139	0	0	0	1	1,6	0
3	29	-1	-1	1	139	0	0	0	1	1,6	0
3	30	-1	-1	1	138	0	0	0	1	1,6	0
3	31	1	0	1	174	0	0	0	0	1,6	0
3	32	1	0	1	173	0	0	0	0	1,6	0
3	33	1	0	1	173	0	0	0	0	1,6	0
3	34	-1	0	1	116	0	0	0	1	1,6	0
3	35	-1	0	1	116	0	0	0	1	1,6	0
3	36	-1	-1	1	137	0	0	0	1	1,6	0
3	37	-1	-1	1	137	0	0	0	1	1,6	0
3	38	-1	-1	1	137	0	0	0	1	1,6	0
3	39	-1	-1	1	137	0	0	0	1	1,6	0
3	40	-1	-1	1	138	0	0	0	1	1,6	0
3	41	-1	-1	1	138	0	0	0	1	1,6	0
3	42	-1	-1	1	138	0	0	0	1	1,6	0
3	43	-1	-1	1	138	0	0	0	1	1,6	0

Bjerking AB Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
3	44	-1	-1	1	138	0	0	0	1	1,6	0
3	45	1	0	1	173	0	0	0	0	1,6	0
3	46	-1	0	1	115	0	0	0	1	1,6	0
3	47	-1	0	1	115	0	0	0	1	1,6	0
3	48	-1	-1	1	137	0	0	0	1	1,6	0
3	49	-1	-1	1	137	0	0	0	1	1,6	0
3	50	-1	-1	1	137	0	0	0	1	1,6	0
3	51	-1	-1	1	137	0	0	0	1	1,6	0
3	52	-1	-1	1	136	0	0	0	1	1,6	0
3	min	-1	-1	1	115	0	0	0	0	1,6	0
3	max	1	1	1	174	0	0	0	1	1,6	0
4	1	-1	-1	1	136	0	0	0	1	1,6	0
4	2	-1	-1	1	136	0	0	0	1	1,6	0
4	3	-1	-1	1	136	0	0	0	1	1,6	0
4	4	-1	-1	1	137	0	0	0	1	1,6	0
4	5	-1	-1	1	137	0	0	0	1	1,6	0
4	6	-1	0	1	115	0	0	0	1	1,6	0
4	7	1	0	1	173	0	0	0	0	1,6	0
4	8	1	0	1	173	0	0	0	0	1,6	0
4	9	-1	-1	1	138	0	0	0	1	1,6	0
4	10	-1	-1	1	138	0	0	0	1	1,6	0
4	11	-1	-1	1	139	0	0	0	1	1,6	0
4	12	-1	-1	1	139	0	0	0	1	1,6	0
4	13	-1	-1	1	139	0	0	0	1	1,6	0
4	14	-1	-1	1	136	0	0	0	1	1,6	0
4	15	-1	-1	1	137	0	0	0	1	1,6	0
4	16	-1	-1	1	137	0	0	0	1	1,6	0
4	17	-1	-1	1	137	0	0	0	1	1,6	0
4	18	-1	0	1	115	0	0	0	1	1,6	0
4	19	-1	0	1	116	0	0	0	1	1,6	0
4	20	-1	0	1	116	0	0	0	1	1,6	0
4	21	1	0	1	173	0	0	0	0	1,6	0
4	22	1	0	1	174	0	0	0	0	1,6	0
4	23	-1	-1	1	139	0	0	0	1	1,6	0
4	24	-1	-1	1	139	0	0	0	1	1,6	0
4	25	-1	-1	1	139	0	0	0	1	1,6	0
4	26	-1	-1	1	140	0	0	0	1	1,6	0
4	27	0	1	1	150	0	0	0	1	1,6	0
4	28	0	1	1	150	0	0	0	1	1,6	0
4	29	0	1	1	151	0	0	0	1	1,6	0
4	30	0	1	1	151	0	0	0	1	1,6	0
4	31	-1	0	1	116	0	0	0	1	1,6	0
4	32	-1	0	1	116	0	0	0	1	1,6	0
4	33	-1	0	1	116	0	0	0	1	1,6	0
4	34	1	0	1	174	0	0	0	0	1,6	0
4	35	1	0	1	174	0	0	0	0	1,6	0
4	36	0	1	1	153	0	0	0	1	1,6	0
4	37	0	1	1	153	0	0	0	1	1,6	0
4	38	0	1	1	153	0	0	0	1	1,6	0
4	39	0	1	1	153	0	0	0	1	1,6	0
4	40	0	1	1	151	0	0	0	1	1,6	0
4	41	0	1	1	151	0	0	0	1	1,6	0
4	42	0	1	1	151	0	0	0	1	1,6	0

Bjerking AB Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
4	43	0	1	1	151	0	0	0	1	1,6	0
4	44	0	1	1	152	0	0	0	1	1,6	0
4	45	-1	0	1	117	0	0	0	1	1,6	0
4	46	1	0	1	174	0	0	0	0	1,6	0
4	47	1	0	1	174	0	0	0	0	1,6	0
4	48	0	1	1	153	0	0	0	1	1,6	0
4	49	0	1	1	153	0	0	0	1	1,6	0
4	50	0	1	1	153	0	0	0	1	1,6	0
4	51	0	1	1	154	0	0	0	1	1,6	0
4	52	0	1	1	154	0	0	0	1	1,6	0
4	min	-1	-1	1	115	0	0	0	0	1,6	0
4	max	1	1	1	174	0	0	0	1	1,6	0
5	1	1	0	1	94	0	0	0	1	1,6	0
5	2	1	0	1	94	0	0	0	1	1,6	0
5	3	1	0	1	95	0	0	0	1	1,6	0
5	4	1	0	1	95	0	0	0	1	1,6	0
5	5	1	0	1	95	0	0	0	1	1,6	0
5	6	0	-1	1	62	0	0	0	1	1,6	0
5	7	0	1	1	58	0	0	0	1	1,6	0
5	8	0	1	1	58	0	0	0	1	1,6	0
5	9	1	0	1	95	0	0	0	1	1,6	0
5	10	1	0	1	95	0	0	0	1	1,6	0
5	11	1	0	1	95	0	0	0	1	1,6	0
5	12	1	0	1	95	0	0	0	1	1,6	0
5	13	1	0	1	95	0	0	0	1	1,6	0
5	14	1	0	1	101	0	0	0	1	1,6	0
5	15	1	0	1	101	0	0	0	1	1,6	0
5	16	1	0	1	101	0	0	0	1	1,6	0
5	17	1	0	1	102	0	0	0	1	1,6	0
5	18	0	-1	1	69	0	0	0	1	1,6	0
5	19	0	-1	1	69	0	0	0	1	1,6	0
5	20	0	-1	1	69	0	0	0	1	1,6	0
5	21	0	1	1	65	0	0	0	1	1,6	0
5	22	0	1	1	65	0	0	0	1	1,6	0
5	23	1	0	1	102	0	0	0	1	1,6	0
5	24	1	0	1	102	0	0	0	1	1,6	0
5	25	1	0	1	102	0	0	0	1	1,6	0
5	26	1	0	1	102	0	0	0	1	1,6	0
5	27	-1	0	1	38	0	0	0	1	1,6	0
5	28	-1	0	1	38	0	0	0	1	1,6	0
5	29	-1	0	1	39	0	0	0	1	1,6	0
5	30	-1	0	1	39	0	0	0	1	1,6	0
5	31	0	-1	1	76	0	0	0	1	1,6	0
5	32	0	-1	1	76	0	0	0	1	1,6	0
5	33	0	-1	1	76	0	0	0	1	1,6	0
5	34	0	1	1	72	0	0	0	1	1,6	0
5	35	0	1	1	72	0	0	0	1	1,6	0
5	36	-1	0	1	39	0	0	0	1	1,6	0
5	37	-1	0	1	40	0	0	0	1	1,6	0
5	38	-1	0	1	40	0	0	0	1	1,6	0
5	39	-1	0	1	40	0	0	0	1	1,6	0
5	40	-1	0	1	45	0	0	0	1	1,6	0
5	41	-1	0	1	45	0	0	0	1	1,6	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
5	42	-1	0	1	46	0	0	0	1	1,6	0
5	43	-1	0	1	46	0	0	0	1	1,6	0
5	44	-1	0	1	46	0	0	0	1	1,6	0
5	45	0	-1	1	83	0	0	0	1	1,6	0
5	46	0	1	1	79	0	0	0	1	1,6	0
5	47	0	1	1	79	0	0	0	1	1,6	0
5	48	-1	0	1	46	0	0	0	1	1,6	0
5	49	-1	0	1	46	0	0	0	1	1,6	0
5	50	-1	0	1	47	0	0	0	1	1,6	0
5	51	-1	0	1	47	0	0	0	1	1,6	0
5	52	-1	0	1	47	0	0	0	1	1,6	0
5	min	-1	-1	1	38	0	0	0	1	1,6	0
5	max	1	1	1	102	0	0	0	1	1,6	0
6	1	-1	0	1	46	0	0	0	1	1,6	0
6	2	-1	0	1	46	0	0	0	1	1,6	0
6	3	-1	0	1	46	0	0	0	1	1,6	0
6	4	-1	0	1	46	0	0	0	1	1,6	0
6	5	-1	0	1	46	0	0	0	1	1,6	0
6	6	0	1	1	79	0	0	0	1	1,6	0
6	7	0	-1	1	83	0	0	0	1	1,6	0
6	8	0	-1	1	83	0	0	0	1	1,6	0
6	9	-1	0	1	46	0	0	0	1	1,6	0
6	10	-1	0	1	46	0	0	0	1	1,6	0
6	11	-1	0	1	46	0	0	0	1	1,6	0
6	12	-1	0	1	46	0	0	0	1	1,6	0
6	13	-1	0	1	46	0	0	0	1	1,6	0
6	14	-1	0	1	39	0	0	0	1	1,6	0
6	15	-1	0	1	39	0	0	0	1	1,6	0
6	16	-1	0	1	39	0	0	0	1	1,6	0
6	17	-1	0	1	39	0	0	0	1	1,6	0
6	18	0	1	1	72	0	0	0	1	1,6	0
6	19	0	1	1	72	0	0	0	1	1,6	0
6	20	0	1	1	72	0	0	0	1	1,6	0
6	21	0	-1	1	76	0	0	0	1	1,6	0
6	22	0	-1	1	76	0	0	0	1	1,6	0
6	23	-1	0	1	39	0	0	0	1	1,6	0
6	24	-1	0	1	39	0	0	0	1	1,6	0
6	25	-1	0	1	39	0	0	0	1	1,6	0
6	26	-1	0	1	39	0	0	0	1	1,6	0
6	27	1	0	1	102	0	0	0	1	1,6	0
6	28	1	0	1	102	0	0	0	1	1,6	0
6	29	1	0	1	102	0	0	0	1	1,6	0
6	30	1	0	1	102	0	0	0	1	1,6	0
6	31	0	1	1	65	0	0	0	1	1,6	0
6	32	0	1	1	65	0	0	0	1	1,6	0
6	33	0	1	1	65	0	0	0	1	1,6	0
6	34	0	-1	1	69	0	0	0	1	1,6	0
6	35	0	-1	1	69	0	0	0	1	1,6	0
6	36	1	0	1	102	0	0	0	1	1,6	0
6	37	1	0	1	102	0	0	0	1	1,6	0
6	38	1	0	1	102	0	0	0	1	1,6	0
6	39	1	0	1	102	0	0	0	1	1,6	0
6	40	1	0	1	95	0	0	0	1	1,6	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
6	41	1	0	1	95	0	0	0	1	1,6	0
6	42	1	0	1	95	0	0	0	1	1,6	0
6	43	1	0	1	95	0	0	0	1	1,6	0
6	44	1	0	1	95	0	0	0	1	1,6	0
6	45	0	1	1	58	0	0	0	1	1,6	0
6	46	0	-1	1	62	0	0	0	1	1,6	0
6	47	0	-1	1	62	0	0	0	1	1,6	0
6	48	1	0	1	95	0	0	0	1	1,6	0
6	49	1	0	1	95	0	0	0	1	1,6	0
6	50	1	0	1	95	0	0	0	1	1,6	0
6	51	1	0	1	95	0	0	0	1	1,6	0
6	52	1	0	1	95	0	0	0	1	1,6	0
6	min	-1	-1	1	39	0	0	0	1	1,6	0
6	max	1	1	1	102	0	0	0	1	1,6	0
7	1	0	2	2	70	0	0	0	1	1,6	0
7	2	0	2	2	70	0	0	0	1	1,6	0
7	3	0	2	2	70	0	0	0	1	1,6	0
7	4	0	2	2	70	0	0	0	1	1,6	0
7	5	0	2	2	70	0	0	0	1	1,6	0
7	6	2	0	2	125	0	0	0	1	1,6	0
7	7	-2	0	2	15	0	0	0	1	1,6	0
7	8	-2	0	2	15	0	0	0	1	1,6	0
7	9	0	2	2	71	0	0	0	1	1,6	0
7	10	0	2	2	71	0	0	0	1	1,6	0
7	11	0	2	2	71	0	0	0	1	1,6	0
7	12	0	2	2	71	0	0	0	1	1,6	0
7	13	0	2	2	71	0	0	0	1	1,6	0
7	14	0	2	2	70	0	0	0	1	1,6	0
7	15	0	2	2	70	0	0	0	1	1,6	0
7	16	0	2	2	70	0	0	0	1	1,6	0
7	17	0	2	2	70	0	0	0	1	1,6	0
7	18	2	0	2	125	0	0	0	1	1,6	0
7	19	2	0	2	125	0	0	0	1	1,6	0
7	20	2	0	2	125	0	0	0	1	1,6	0
7	21	-2	0	2	15	0	0	0	1	1,6	0
7	22	-2	0	2	15	0	0	0	1	1,6	0
7	23	0	2	2	71	0	0	0	1	1,6	0
7	24	0	2	2	71	0	0	0	1	1,6	0
7	25	0	2	2	71	0	0	0	1	1,6	0
7	26	0	2	2	71	0	0	0	1	1,6	0
7	27	0	-2	2	70	0	0	0	1	1,6	0
7	28	0	-2	2	70	0	0	0	1	1,6	0
7	29	0	-2	2	70	0	0	0	1	1,6	0
7	30	0	-2	2	70	0	0	0	1	1,6	0
7	31	2	0	2	125	0	0	0	1	1,6	0
7	32	2	0	2	125	0	0	0	1	1,6	0
7	33	2	0	2	125	0	0	0	1	1,6	0
7	34	-2	0	2	15	0	0	0	1	1,6	0
7	35	-2	0	2	15	0	0	0	1	1,6	0
7	36	0	-2	2	71	0	0	0	1	1,6	0
7	37	0	-2	2	71	0	0	0	1	1,6	0
7	38	0	-2	2	71	0	0	0	1	1,6	0
7	39	0	-2	2	71	0	0	0	1	1,6	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
7	40	0	-2	2	70	0	0	0	1	1,6	0
7	41	0	-2	2	70	0	0	0	1	1,6	0
7	42	0	-2	2	70	0	0	0	1	1,6	0
7	43	0	-2	2	70	0	0	0	1	1,6	0
7	44	0	-2	2	70	0	0	0	1	1,6	0
7	45	2	0	2	125	0	0	0	1	1,6	0
7	46	-2	0	2	15	0	0	0	1	1,6	0
7	47	-2	0	2	15	0	0	0	1	1,6	0
7	48	0	-2	2	71	0	0	0	1	1,6	0
7	49	0	-2	2	71	0	0	0	1	1,6	0
7	50	0	-2	2	71	0	0	0	1	1,6	0
7	51	0	-2	2	71	0	0	0	1	1,6	0
7	52	0	-2	2	71	0	0	0	1	1,6	0
7	min	-2	-2	2	15	0	0	0	1	1,6	0
7	max	2	2	2	125	0	0	0	1	1,6	0
8	1	0	-2	2	70	0	0	0	1	1,6	0
8	2	0	-2	2	70	0	0	0	1	1,6	0
8	3	0	-2	2	70	0	0	0	1	1,6	0
8	4	0	-2	2	70	0	0	0	1	1,6	0
8	5	0	-2	2	70	0	0	0	1	1,6	0
8	6	-2	0	2	15	0	0	0	1	1,6	0
8	7	2	0	2	125	0	0	0	1	1,6	0
8	8	2	0	2	125	0	0	0	1	1,6	0
8	9	0	-2	2	70	0	0	0	1	1,6	0
8	10	0	-2	2	71	0	0	0	1	1,6	0
8	11	0	-2	2	71	0	0	0	1	1,6	0
8	12	0	-2	2	71	0	0	0	1	1,6	0
8	13	0	-2	2	71	0	0	0	1	1,6	0
8	14	0	-2	2	70	0	0	0	1	1,6	0
8	15	0	-2	2	70	0	0	0	1	1,6	0
8	16	0	-2	2	70	0	0	0	1	1,6	0
8	17	0	-2	2	70	0	0	0	1	1,6	0
8	18	-2	0	2	15	0	0	0	1	1,6	0
8	19	-2	0	2	15	0	0	0	1	1,6	0
8	20	-2	0	2	15	0	0	0	1	1,6	0
8	21	2	0	2	125	0	0	0	1	1,6	0
8	22	2	0	2	125	0	0	0	1	1,6	0
8	23	0	-2	2	71	0	0	0	1	1,6	0
8	24	0	-2	2	71	0	0	0	1	1,6	0
8	25	0	-2	2	71	0	0	0	1	1,6	0
8	26	0	-2	2	71	0	0	0	1	1,6	0
8	27	0	2	2	70	0	0	0	1	1,6	0
8	28	0	2	2	70	0	0	0	1	1,6	0
8	29	0	2	2	70	0	0	0	1	1,6	0
8	30	0	2	2	70	0	0	0	1	1,6	0
8	31	-2	0	2	15	0	0	0	1	1,6	0
8	32	-2	0	2	15	0	0	0	1	1,6	0
8	33	-2	0	2	15	0	0	0	1	1,6	0
8	34	2	0	2	125	0	0	0	1	1,6	0
8	35	2	0	2	125	0	0	0	1	1,6	0
8	36	0	2	2	71	0	0	0	1	1,6	0
8	37	0	2	2	71	0	0	0	1	1,6	0
8	38	0	2	2	71	0	0	0	1	1,6	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
8	39	0	2	2	71	0	0	0	1	1,6	0
8	40	0	2	2	70	0	0	0	1	1,6	0
8	41	0	2	2	70	0	0	0	1	1,6	0
8	42	0	2	2	70	0	0	0	1	1,6	0
8	43	0	2	2	70	0	0	0	1	1,6	0
8	44	0	2	2	70	0	0	0	1	1,6	0
8	45	-2	0	2	15	0	0	0	1	1,6	0
8	46	2	0	2	125	0	0	0	1	1,6	0
8	47	2	0	2	125	0	0	0	1	1,6	0
8	48	0	2	2	70	0	0	0	1	1,6	0
8	49	0	2	2	71	0	0	0	1	1,6	0
8	50	0	2	2	71	0	0	0	1	1,6	0
8	51	0	2	2	71	0	0	0	1	1,6	0
8	52	0	2	2	71	0	0	0	1	1,6	0
8	min	-2	-2	2	15	0	0	0	1	1,6	0
8	max	2	2	2	125	0	0	0	1	1,6	0
9	1	1	0	1	158	0	0	0	1	1,6	0
9	2	1	0	1	158	0	0	0	1	1,6	0
9	3	1	0	1	158	0	0	0	1	1,6	0
9	4	1	0	1	158	0	0	0	1	1,6	0
9	5	1	0	1	157	0	0	0	1	1,6	0
9	6	0	-1	1	123	0	0	0	1	1,6	0
9	7	0	1	2	108	0	0	0	1	1,6	0
9	8	0	1	2	108	0	0	0	1	1,6	0
9	9	1	0	1	157	0	0	0	1	1,6	0
9	10	1	0	1	156	0	0	0	1	1,6	0
9	11	1	0	1	156	0	0	0	1	1,6	0
9	12	1	0	1	156	0	0	0	1	1,6	0
9	13	1	0	1	156	0	0	0	1	1,6	0
9	14	1	0	1	165	0	0	0	1	1,6	0
9	15	1	0	1	165	0	0	0	1	1,6	0
9	16	1	0	1	164	0	0	0	1	1,6	0
9	17	1	0	1	164	0	0	0	1	1,6	0
9	18	0	-1	1	130	0	0	0	1	1,6	0
9	19	0	-1	1	130	0	0	0	1	1,6	0
9	20	0	-1	1	129	0	0	0	1	1,6	0
9	21	0	1	2	115	0	0	0	1	1,6	0
9	22	0	1	2	114	0	0	0	1	1,6	0
9	23	1	0	1	163	0	0	0	1	1,6	0
9	24	1	0	1	163	0	0	0	1	1,6	0
9	25	1	0	1	163	0	0	0	1	1,6	0
9	26	1	0	1	162	0	0	0	1	1,6	0
9	27	-2	0	2	88	0	0	0	1	1,6	0
9	28	-2	0	2	88	0	0	0	1	1,6	0
9	29	-2	0	2	88	0	0	0	1	1,6	0
9	30	-2	0	2	87	0	0	0	1	1,6	0
9	31	0	-1	1	136	0	0	0	1	1,6	0
9	32	0	-1	1	136	0	0	0	1	1,6	0
9	33	0	-1	1	136	0	0	0	1	1,6	0
9	34	-1	1	2	121	0	0	0	1	1,6	0
9	35	-1	1	2	121	0	0	0	1	1,6	0
9	36	-2	0	2	87	0	0	0	1	1,6	0
9	37	-2	0	2	86	0	0	0	1	1,6	0

Beräkningen utförd av:ALM 2023-08-29 06:41:35
...ment\Beräkning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning\isbron_mitt.xml

Bjerking AB Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
9	38	-2	0	2	86	0	0	0	1	1,6	0
9	39	-2	0	2	86	0	0	0	1	1,6	0
9	40	-2	0	2	94	0	0	0	1	1,6	0
9	41	-2	0	2	94	0	0	0	1	1,6	0
9	42	-2	0	2	94	0	0	0	1	1,6	0
9	43	-2	0	2	94	0	0	0	1	1,6	0
9	44	-2	0	2	94	0	0	0	1	1,6	0
9	45	0	-1	1	143	0	0	0	1	1,6	0
9	46	-1	1	2	128	0	0	0	1	1,6	0
9	47	-1	1	2	128	0	0	0	1	1,6	0
9	48	-2	0	2	93	0	0	0	1	1,6	0
9	49	-2	0	2	93	0	0	0	1	1,6	0
9	50	-2	0	2	93	0	0	0	1	1,6	0
9	51	-2	0	2	93	0	0	0	1	1,6	0
9	52	-2	0	2	93	0	0	0	1	1,6	0
9	min	-2	-1	1	86	0	0	0	1	1,6	0
9	max	1	1	2	165	0	0	0	1	1,6	0
10	1	-2	0	2	92	0	0	0	1	1,6	0
10	2	-2	0	2	92	0	0	0	1	1,6	0
10	3	-2	0	2	92	0	0	0	1	1,6	0
10	4	-2	0	2	93	0	0	0	1	1,6	0
10	5	-2	0	2	93	0	0	0	1	1,6	0
10	6	-1	1	2	128	0	0	0	1	1,6	0
10	7	0	-1	1	142	0	0	0	1	1,6	0
10	8	0	-1	1	143	0	0	0	1	1,6	0
10	9	-2	0	2	94	0	0	0	1	1,6	0
10	10	-2	0	2	94	0	0	0	1	1,6	0
10	11	-2	0	2	95	0	0	0	1	1,6	0
10	12	-2	0	2	95	0	0	0	1	1,6	0
10	13	-2	0	2	95	0	0	0	1	1,6	0
10	14	-2	0	2	85	0	0	0	1	1,6	0
10	15	-2	0	2	85	0	0	0	1	1,6	0
10	16	-2	0	2	86	0	0	0	1	1,6	0
10	17	-2	0	2	86	0	0	0	1	1,6	0
10	18	-1	1	2	121	0	0	0	1	1,6	0
10	19	-1	1	2	121	0	0	0	1	1,6	0
10	20	-1	1	2	121	0	0	0	1	1,6	0
10	21	0	-1	1	136	0	0	0	1	1,6	0
10	22	0	-1	1	136	0	0	0	1	1,6	0
10	23	-2	0	2	88	0	0	0	1	1,6	0
10	24	-2	0	2	88	0	0	0	1	1,6	0
10	25	-2	0	2	89	0	0	0	1	1,6	0
10	26	-2	0	2	89	0	0	0	1	1,6	0
10	27	1	0	1	162	0	0	0	1	1,6	0
10	28	1	0	1	162	0	0	0	1	1,6	0
10	29	1	0	1	163	0	0	0	1	1,6	0
10	30	1	0	1	163	0	0	0	1	1,6	0
10	31	0	1	2	114	0	0	0	1	1,6	0
10	32	0	1	2	114	0	0	0	1	1,6	0
10	33	0	1	2	115	0	0	0	1	1,6	0
10	34	0	-1	1	130	0	0	0	1	1,6	0
10	35	0	-1	1	130	0	0	0	1	1,6	0
10	36	1	0	1	164	0	0	0	1	1,6	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
10	37	1	0	1	165	0	0	0	1	1,6	0
10	38	1	0	1	165	0	0	0	1	1,6	0
10	39	1	0	1	165	0	0	0	1	1,6	0
10	40	1	0	1	156	0	0	0	1	1,6	0
10	41	1	0	1	156	0	0	0	1	1,6	0
10	42	1	0	1	156	0	0	0	1	1,6	0
10	43	1	0	1	156	0	0	0	1	1,6	0
10	44	1	0	1	157	0	0	0	1	1,6	0
10	45	0	1	2	108	0	0	0	1	1,6	0
10	46	0	-1	1	123	0	0	0	1	1,6	0
10	47	0	-1	1	123	0	0	0	1	1,6	0
10	48	1	0	1	158	0	0	0	1	1,6	0
10	49	1	0	1	158	0	0	0	1	1,6	0
10	50	1	0	1	158	0	0	0	1	1,6	0
10	51	1	0	1	158	0	0	0	1	1,6	0
10	52	1	0	1	159	0	0	0	1	1,6	0
10	min	-2	-1	1	85	0	0	0	1	1,6	0
10	max	1	1	2	165	0	0	0	1	1,6	0
11	1	0	2	2	134	0	0	0	1	1,6	0
11	2	0	2	2	134	0	0	0	1	1,6	0
11	3	0	2	2	133	0	0	0	1	1,6	0
11	4	0	2	2	133	0	0	0	1	1,6	0
11	5	0	2	2	133	0	0	0	1	1,6	0
11	6	2	0	2	187	0	0	0	1	1,6	0
11	7	-2	0	2	65	0	0	0	2	1,6	0
11	8	-2	0	2	65	0	0	0	2	1,6	0
11	9	0	2	2	132	0	0	0	1	1,6	0
11	10	0	2	2	132	0	0	0	1	1,6	0
11	11	0	2	2	132	0	0	0	1	1,6	0
11	12	0	2	2	132	0	0	0	1	1,6	0
11	13	0	2	2	132	0	0	0	1	1,6	0
11	14	0	2	2	133	0	0	0	1	1,6	0
11	15	0	2	2	133	0	0	0	1	1,6	0
11	16	0	2	2	133	0	0	0	1	1,6	0
11	17	0	2	2	133	0	0	0	1	1,6	0
11	18	2	0	2	186	0	0	0	1	1,6	0
11	19	2	0	2	186	0	0	0	1	1,6	0
11	20	2	0	2	186	0	0	0	1	1,6	0
11	21	-2	0	2	65	0	0	0	2	1,6	0
11	22	-2	0	2	65	0	0	0	2	1,6	0
11	23	0	2	2	132	0	0	0	1	1,6	0
11	24	0	2	2	131	0	0	0	1	1,6	0
11	25	0	2	2	131	0	0	0	1	1,6	0
11	26	0	2	2	131	0	0	0	1	1,6	0
11	27	0	-2	2	120	0	0	0	1	1,6	0
11	28	0	-2	2	119	0	0	0	1	1,6	0
11	29	0	-2	2	119	0	0	0	1	1,6	0
11	30	0	-2	2	119	0	0	0	1	1,6	0
11	31	2	0	2	186	0	0	0	1	1,6	0
11	32	2	0	2	186	0	0	0	1	1,6	0
11	33	2	0	2	186	0	0	0	1	1,6	0
11	34	-2	0	2	64	0	0	0	2	1,6	0
11	35	-2	0	2	64	0	0	0	2	1,6	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
11	36	0	-2	2	118	0	0	0	1	1,6	0
11	37	0	-2	2	118	0	0	0	1	1,6	0
11	38	0	-2	2	117	0	0	0	1	1,6	0
11	39	0	-2	2	117	0	0	0	1	1,6	0
11	40	0	-2	2	119	0	0	0	1	1,6	0
11	41	0	-2	2	119	0	0	0	1	1,6	0
11	42	0	-2	2	119	0	0	0	1	1,6	0
11	43	0	-2	2	119	0	0	0	1	1,6	0
11	44	0	-2	2	118	0	0	0	1	1,6	0
11	45	2	0	2	185	0	0	0	1	1,6	0
11	46	-2	0	2	64	0	0	0	2	1,6	0
11	47	-2	0	2	64	0	0	0	2	1,6	0
11	48	0	-2	2	118	0	0	0	1	1,6	0
11	49	0	-2	2	117	0	0	0	1	1,6	0
11	50	0	-2	2	117	0	0	0	1	1,6	0
11	51	0	-2	2	117	0	0	0	1	1,6	0
11	52	0	-2	2	117	0	0	0	1	1,6	0
11	min	-2	-2	2	64	0	0	0	1	1,6	0
11	max	2	2	2	187	0	0	0	2	1,6	0
12	1	0	-2	2	116	0	0	0	1	1,6	0
12	2	0	-2	2	116	0	0	0	1	1,6	0
12	3	0	-2	2	117	0	0	0	1	1,6	0
12	4	0	-2	2	117	0	0	0	1	1,6	0
12	5	0	-2	2	117	0	0	0	1	1,6	0
12	6	-2	0	2	64	0	0	0	2	1,6	0
12	7	2	0	2	185	0	0	0	1	1,6	0
12	8	2	0	2	185	0	0	0	1	1,6	0
12	9	0	-2	2	119	0	0	0	1	1,6	0
12	10	0	-2	2	119	0	0	0	1	1,6	0
12	11	0	-2	2	119	0	0	0	1	1,6	0
12	12	0	-2	2	119	0	0	0	1	1,6	0
12	13	0	-2	2	120	0	0	0	1	1,6	0
12	14	0	-2	2	117	0	0	0	1	1,6	0
12	15	0	-2	2	117	0	0	0	1	1,6	0
12	16	0	-2	2	117	0	0	0	1	1,6	0
12	17	0	-2	2	117	0	0	0	1	1,6	0
12	18	-2	0	2	64	0	0	0	2	1,6	0
12	19	-2	0	2	64	0	0	0	2	1,6	0
12	20	-2	0	2	65	0	0	0	2	1,6	0
12	21	2	0	2	186	0	0	0	1	1,6	0
12	22	2	0	2	186	0	0	0	1	1,6	0
12	23	0	-2	2	119	0	0	0	1	1,6	0
12	24	0	-2	2	120	0	0	0	1	1,6	0
12	25	0	-2	2	120	0	0	0	1	1,6	0
12	26	0	-2	2	120	0	0	0	1	1,6	0
12	27	0	2	2	130	0	0	0	1	1,6	0
12	28	0	2	2	131	0	0	0	1	1,6	0
12	29	0	2	2	131	0	0	0	1	1,6	0
12	30	0	2	2	131	0	0	0	1	1,6	0
12	31	-2	0	2	64	0	0	0	2	1,6	0
12	32	-2	0	2	65	0	0	0	2	1,6	0
12	33	-2	0	2	65	0	0	0	2	1,6	0
12	34	2	0	2	186	0	0	0	1	1,6	0

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
12	35	2	0	2	187	0	0	0	1	1,6	0
12	36	0	2	2	133	0	0	0	1	1,6	0
12	37	0	2	2	133	0	0	0	1	1,6	0
12	38	0	2	2	134	0	0	0	1	1,6	0
12	39	0	2	2	134	0	0	0	1	1,6	0
12	40	0	2	2	131	0	0	0	1	1,6	0
12	41	0	2	2	131	0	0	0	1	1,6	0
12	42	0	2	2	131	0	0	0	1	1,6	0
12	43	0	2	2	132	0	0	0	1	1,6	0
12	44	0	2	2	132	0	0	0	1	1,6	0
12	45	-2	0	2	65	0	0	0	2	1,6	0
12	46	2	0	2	186	0	0	0	1	1,6	0
12	47	2	0	2	187	0	0	0	1	1,6	0
12	48	0	2	2	133	0	0	0	1	1,6	0
12	49	0	2	2	134	0	0	0	1	1,6	0
12	50	0	2	2	134	0	0	0	1	1,6	0
12	51	0	2	2	134	0	0	0	1	1,6	0
12	52	0	2	2	134	0	0	0	1	1,6	0
12	min	-2	-2	2	64	0	0	0	1	1,6	0
12	max	2	2	2	187	0	0	0	2	1,6	0
13	1	0	0	0	79	0	0	0	0	1,6	0
13	2	0	0	0	80	0	0	0	0	1,6	0
13	3	0	0	0	80	0	0	0	0	1,6	0
13	4	0	0	0	80	0	0	0	0	1,6	0
13	5	0	0	0	80	0	0	0	0	1,6	0
13	6	0	0	0	68	0	0	0	0	1,6	0
13	7	0	0	1	64	0	0	0	0	1,6	0
13	8	0	0	1	64	0	0	0	0	1,6	0
13	9	0	0	0	80	0	0	0	0	1,6	0
13	10	0	0	0	80	0	0	0	0	1,6	0
13	11	0	0	0	80	0	0	0	0	1,6	0
13	12	0	0	0	80	0	0	0	0	1,6	0
13	13	0	0	0	80	0	0	0	0	1,6	0
13	14	0	0	0	82	0	0	0	0	1,6	0
13	15	0	0	0	82	0	0	0	0	1,6	0
13	16	0	0	0	82	0	0	0	0	1,6	0
13	17	0	0	0	82	0	0	0	0	1,6	0
13	18	0	0	0	70	0	0	0	0	1,6	0
13	19	0	0	0	70	0	0	0	0	1,6	0
13	20	0	0	0	71	0	0	0	0	1,6	0
13	21	0	0	1	67	0	0	0	0	1,6	0
13	22	0	0	1	67	0	0	0	0	1,6	0
13	23	0	0	0	83	0	0	0	0	1,6	0
13	24	0	0	0	83	0	0	0	0	1,6	0
13	25	0	0	0	83	0	0	0	0	1,6	0
13	26	0	0	0	83	0	0	0	0	1,6	0
13	27	-1	0	1	57	0	0	0	0	1,6	0
13	28	-1	0	1	57	0	0	0	0	1,6	0
13	29	-1	0	1	57	0	0	0	0	1,6	0
13	30	-1	0	1	57	0	0	0	0	1,6	0
13	31	0	0	0	73	0	0	0	0	1,6	0
13	32	0	0	0	73	0	0	0	0	1,6	0
13	33	0	0	0	73	0	0	0	0	1,6	0

Beräkningen utförd av:ALM 2023-08-29 06:41:35
...ment\Beräkning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning\isbron_mitt.xml

Bjerking AB Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
13	34	0	0	1	70	0	0	0	0	1,6	0
13	35	0	0	1	70	0	0	0	0	1,6	0
13	36	-1	0	1	58	0	0	0	0	1,6	0
13	37	-1	0	1	58	0	0	0	0	1,6	0
13	38	-1	0	1	58	0	0	0	0	1,6	0
13	39	-1	0	1	58	0	0	0	0	1,6	0
13	40	-1	0	1	60	0	0	0	0	1,6	0
13	41	-1	0	1	60	0	0	0	0	1,6	0
13	42	-1	0	1	60	0	0	0	0	1,6	0
13	43	-1	0	1	60	0	0	0	0	1,6	0
13	44	-1	0	1	60	0	0	0	0	1,6	0
13	45	0	0	0	76	0	0	0	0	1,6	0
13	46	0	0	1	72	0	0	0	0	1,6	0
13	47	0	0	1	73	0	0	0	0	1,6	0
13	48	-1	0	1	61	0	0	0	0	1,6	0
13	49	-1	0	1	61	0	0	0	0	1,6	0
13	50	-1	0	1	61	0	0	0	0	1,6	0
13	51	-1	0	1	61	0	0	0	0	1,6	0
13	52	-1	0	1	61	0	0	0	0	1,6	0
13	min	-1	0	0	57	0	0	0	0	1,6	0
13	max	0	0	1	83	0	0	0	0	1,6	0
14	1	-1	0	1	60	0	0	0	0	1,6	0
14	2	-1	0	1	60	0	0	0	0	1,6	0
14	3	-1	0	1	60	0	0	0	0	1,6	0
14	4	-1	0	1	60	0	0	0	0	1,6	0
14	5	-1	0	1	60	0	0	0	0	1,6	0
14	6	0	0	1	73	0	0	0	0	1,6	0
14	7	0	0	0	76	0	0	0	0	1,6	0
14	8	0	0	0	76	0	0	0	0	1,6	0
14	9	-1	0	1	60	0	0	0	0	1,6	0
14	10	-1	0	1	60	0	0	0	0	1,6	0
14	11	-1	0	1	61	0	0	0	0	1,6	0
14	12	-1	0	1	61	0	0	0	0	1,6	0
14	13	-1	0	1	61	0	0	0	0	1,6	0
14	14	-1	0	1	57	0	0	0	0	1,6	0
14	15	-1	0	1	57	0	0	0	0	1,6	0
14	16	-1	0	1	57	0	0	0	0	1,6	0
14	17	-1	0	1	58	0	0	0	0	1,6	0
14	18	0	0	1	70	0	0	0	0	1,6	0
14	19	0	0	1	70	0	0	0	0	1,6	0
14	20	0	0	1	70	0	0	0	0	1,6	0
14	21	0	0	0	73	0	0	0	0	1,6	0
14	22	0	0	0	73	0	0	0	0	1,6	0
14	23	-1	0	1	58	0	0	0	0	1,6	0
14	24	-1	0	1	58	0	0	0	0	1,6	0
14	25	-1	0	1	58	0	0	0	0	1,6	0
14	26	-1	0	1	58	0	0	0	0	1,6	0
14	27	0	0	0	83	0	0	0	0	1,6	0
14	28	0	0	0	83	0	0	0	0	1,6	0
14	29	0	0	0	83	0	0	0	0	1,6	0
14	30	0	0	0	83	0	0	0	0	1,6	0
14	31	0	0	1	67	0	0	0	0	1,6	0
14	32	0	0	1	67	0	0	0	0	1,6	0

Beräkningen utförd av:ALM 2023-08-29 06:41:35
...ment\Beräkning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning\isbron_mitt.xml

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
14	33	0	0	1	67	0	0	0	0	1,6	0
14	34	0	0	0	71	0	0	0	0	1,6	0
14	35	0	0	0	71	0	0	0	0	1,6	0
14	36	0	0	0	83	0	0	0	0	1,6	0
14	37	0	0	0	83	0	0	0	0	1,6	0
14	38	0	0	0	83	0	0	0	0	1,6	0
14	39	0	0	0	83	0	0	0	0	1,6	0
14	40	0	0	0	80	0	0	0	0	1,6	0
14	41	0	0	0	80	0	0	0	0	1,6	0
14	42	0	0	0	80	0	0	0	0	1,6	0
14	43	0	0	0	80	0	0	0	0	1,6	0
14	44	0	0	0	80	0	0	0	0	1,6	0
14	45	0	0	1	64	0	0	0	0	1,6	0
14	46	0	0	0	68	0	0	0	0	1,6	0
14	47	0	0	0	68	0	0	0	0	1,6	0
14	48	0	0	0	80	0	0	0	0	1,6	0
14	49	0	0	0	80	0	0	0	0	1,6	0
14	50	0	0	0	80	0	0	0	0	1,6	0
14	51	0	0	0	80	0	0	0	0	1,6	0
14	52	0	0	0	80	0	0	0	0	1,6	0
14	min	-1	0	0	57	0	0	0	0	1,6	0
14	max	0	0	1	83	0	0	0	0	1,6	0
15	1	0	1	1	70	0	0	0	1	1,6	0
15	2	0	1	1	70	0	0	0	1	1,6	0
15	3	0	1	1	70	0	0	0	1	1,6	0
15	4	0	1	1	70	0	0	0	1	1,6	0
15	5	0	1	1	70	0	0	0	1	1,6	0
15	6	1	0	1	93	0	0	0	0	1,6	0
15	7	-1	0	1	47	0	0	0	1	1,6	0
15	8	-1	0	1	47	0	0	0	1	1,6	0
15	9	0	1	1	70	0	0	0	1	1,6	0
15	10	0	1	1	70	0	0	0	1	1,6	0
15	11	0	1	1	70	0	0	0	1	1,6	0
15	12	0	1	1	71	0	0	0	1	1,6	0
15	13	0	1	1	71	0	0	0	1	1,6	0
15	14	0	1	1	70	0	0	0	1	1,6	0
15	15	0	1	1	70	0	0	0	1	1,6	0
15	16	0	1	1	70	0	0	0	1	1,6	0
15	17	0	1	1	70	0	0	0	1	1,6	0
15	18	1	0	1	93	0	0	0	0	1,6	0
15	19	1	0	1	93	0	0	0	0	1,6	0
15	20	1	0	1	93	0	0	0	0	1,6	0
15	21	-1	0	1	47	0	0	0	1	1,6	0
15	22	-1	0	1	47	0	0	0	1	1,6	0
15	23	0	1	1	70	0	0	0	1	1,6	0
15	24	0	1	1	70	0	0	0	1	1,6	0
15	25	0	1	1	71	0	0	0	1	1,6	0
15	26	0	1	1	71	0	0	0	1	1,6	0
15	27	0	-1	1	70	0	0	0	1	1,6	0
15	28	0	-1	1	70	0	0	0	1	1,6	0
15	29	0	-1	1	70	0	0	0	1	1,6	0
15	30	0	-1	1	70	0	0	0	1	1,6	0
15	31	1	0	1	93	0	0	0	0	1,6	0

Beräkningen utförd av:ALM 2023-08-29 06:41:35
...ment\Beräkning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning\isbron_mitt.xml

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
15	32	1	0	1	93	0	0	0	0	1,6	0
15	33	1	0	1	93	0	0	0	0	1,6	0
15	34	-1	0	1	47	0	0	0	1	1,6	0
15	35	-1	0	1	47	0	0	0	1	1,6	0
15	36	0	-1	1	70	0	0	0	1	1,6	0
15	37	0	-1	1	70	0	0	0	1	1,6	0
15	38	0	-1	1	71	0	0	0	1	1,6	0
15	39	0	-1	1	71	0	0	0	1	1,6	0
15	40	0	-1	1	70	0	0	0	1	1,6	0
15	41	0	-1	1	70	0	0	0	1	1,6	0
15	42	0	-1	1	70	0	0	0	1	1,6	0
15	43	0	-1	1	70	0	0	0	1	1,6	0
15	44	0	-1	1	70	0	0	0	1	1,6	0
15	45	1	0	1	93	0	0	0	0	1,6	0
15	46	-1	0	1	47	0	0	0	1	1,6	0
15	47	-1	0	1	47	0	0	0	1	1,6	0
15	48	0	-1	1	70	0	0	0	1	1,6	0
15	49	0	-1	1	70	0	0	0	1	1,6	0
15	50	0	-1	1	70	0	0	0	1	1,6	0
15	51	0	-1	1	71	0	0	0	1	1,6	0
15	52	0	-1	1	71	0	0	0	1	1,6	0
15	min	-1	-1	1	47	0	0	0	0	1,6	0
15	max	1	1	1	93	0	0	0	1	1,6	0
16	1	0	-1	1	70	0	0	0	1	1,6	0
16	2	0	-1	1	70	0	0	0	1	1,6	0
16	3	0	-1	1	70	0	0	0	1	1,6	0
16	4	0	-1	1	70	0	0	0	1	1,6	0
16	5	0	-1	1	70	0	0	0	1	1,6	0
16	6	-1	0	1	47	0	0	0	1	1,6	0
16	7	1	0	1	93	0	0	0	0	1,6	0
16	8	1	0	1	93	0	0	0	0	1,6	0
16	9	0	-1	1	70	0	0	0	1	1,6	0
16	10	0	-1	1	70	0	0	0	1	1,6	0
16	11	0	-1	1	70	0	0	0	1	1,6	0
16	12	0	-1	1	70	0	0	0	1	1,6	0
16	13	0	-1	1	70	0	0	0	1	1,6	0
16	14	0	-1	1	70	0	0	0	1	1,6	0
16	15	0	-1	1	70	0	0	0	1	1,6	0
16	16	0	-1	1	70	0	0	0	1	1,6	0
16	17	0	-1	1	70	0	0	0	1	1,6	0
16	18	-1	0	1	47	0	0	0	1	1,6	0
16	19	-1	0	1	47	0	0	0	1	1,6	0
16	20	-1	0	1	47	0	0	0	1	1,6	0
16	21	1	0	1	93	0	0	0	0	1,6	0
16	22	1	0	1	93	0	0	0	0	1,6	0
16	23	0	-1	1	70	0	0	0	1	1,6	0
16	24	0	-1	1	70	0	0	0	1	1,6	0
16	25	0	-1	1	70	0	0	0	1	1,6	0
16	26	0	-1	1	70	0	0	0	1	1,6	0
16	27	0	1	1	70	0	0	0	1	1,6	0
16	28	0	1	1	70	0	0	0	1	1,6	0
16	29	0	1	1	70	0	0	0	1	1,6	0
16	30	0	1	1	70	0	0	0	1	1,6	0

Beräkningen utförd av:ALM 2023-08-29 06:41:35
...ment\Beräkning\Islandsbron_Bärighetsberäkning\Bilaga 9 Grundläggning\isbron_mitt.xml

Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
16	31	-1	0	1	47	0	0	0	1	1,6	0
16	32	-1	0	1	47	0	0	0	1	1,6	0
16	33	-1	0	1	47	0	0	0	1	1,6	0
16	34	1	0	1	93	0	0	0	0	1,6	0
16	35	1	0	1	93	0	0	0	0	1,6	0
16	36	0	1	1	70	0	0	0	1	1,6	0
16	37	0	1	1	70	0	0	0	1	1,6	0
16	38	0	1	1	70	0	0	0	1	1,6	0
16	39	0	1	1	70	0	0	0	1	1,6	0
16	40	0	1	1	70	0	0	0	1	1,6	0
16	41	0	1	1	70	0	0	0	1	1,6	0
16	42	0	1	1	70	0	0	0	1	1,6	0
16	43	0	1	1	70	0	0	0	1	1,6	0
16	44	0	1	1	70	0	0	0	1	1,6	0
16	45	-1	0	1	47	0	0	0	1	1,6	0
16	46	1	0	1	93	0	0	0	0	1,6	0
16	47	1	0	1	93	0	0	0	0	1,6	0
16	48	0	1	1	70	0	0	0	1	1,6	0
16	49	0	1	1	70	0	0	0	1	1,6	0
16	50	0	1	1	70	0	0	0	1	1,6	0
16	51	0	1	1	70	0	0	0	1	1,6	0
16	52	0	1	1	70	0	0	0	1	1,6	0
16	min	-1	-1	1	47	0	0	0	0	1,6	0
16	max	1	1	1	93	0	0	0	1	1,6	0
17	1	0	0	0	60	0	0	0	0	1,6	0
17	2	0	0	0	60	0	0	0	0	1,6	0
17	3	0	0	0	60	0	0	0	0	1,6	0
17	4	0	0	0	60	0	0	0	0	1,6	0
17	5	0	0	0	60	0	0	0	0	1,6	0
17	6	0	0	0	60	0	0	0	0	1,6	0
17	7	0	0	0	60	0	0	0	0	1,6	0
17	8	0	0	0	60	0	0	0	0	1,6	0
17	9	0	0	0	60	0	0	0	0	1,6	0
17	10	0	0	0	60	0	0	0	0	1,6	0
17	11	0	0	0	60	0	0	0	0	1,6	0
17	12	0	0	0	60	0	0	0	0	1,6	0
17	13	0	0	0	60	0	0	0	0	1,6	0
17	14	0	0	0	60	0	0	0	0	1,6	0
17	15	0	0	0	60	0	0	0	0	1,6	0
17	16	0	0	0	60	0	0	0	0	1,6	0
17	17	0	0	0	60	0	0	0	0	1,6	0
17	18	0	0	0	60	0	0	0	0	1,6	0
17	19	0	0	0	60	0	0	0	0	1,6	0
17	20	0	0	0	60	0	0	0	0	1,6	0
17	21	0	0	0	60	0	0	0	0	1,6	0
17	22	0	0	0	60	0	0	0	0	1,6	0
17	23	0	0	0	60	0	0	0	0	1,6	0
17	24	0	0	0	60	0	0	0	0	1,6	0
17	25	0	0	0	60	0	0	0	0	1,6	0
17	26	0	0	0	60	0	0	0	0	1,6	0
17	27	0	0	0	60	0	0	0	0	1,6	0
17	28	0	0	0	60	0	0	0	0	1,6	0
17	29	0	0	0	60	0	0	0	0	1,6	0

Beräkningen utförd av:ALM 2023-08-29 06:41:35
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Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
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17	31	0	0	0	60	0	0	0	0	1,6	0
17	32	0	0	0	60	0	0	0	0	1,6	0
17	33	0	0	0	60	0	0	0	0	1,6	0
17	34	0	0	0	60	0	0	0	0	1,6	0
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17	38	0	0	0	60	0	0	0	0	1,6	0
17	39	0	0	0	60	0	0	0	0	1,6	0
17	40	0	0	0	60	0	0	0	0	1,6	0
17	41	0	0	0	60	0	0	0	0	1,6	0
17	42	0	0	0	60	0	0	0	0	1,6	0
17	43	0	0	0	60	0	0	0	0	1,6	0
17	44	0	0	0	60	0	0	0	0	1,6	0
17	45	0	0	0	60	0	0	0	0	1,6	0
17	46	0	0	0	60	0	0	0	0	1,6	0
17	47	0	0	0	60	0	0	0	0	1,6	0
17	48	0	0	0	60	0	0	0	0	1,6	0
17	49	0	0	0	60	0	0	0	0	1,6	0
17	50	0	0	0	60	0	0	0	0	1,6	0
17	51	0	0	0	60	0	0	0	0	1,6	0
17	52	0	0	0	60	0	0	0	0	1,6	0
17	min	0	0	0	60	0	0	0	0	1,6	0
17	max	0	0	0	60	0	0	0	0	1,6	0
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18	26	0	0	0	60	0	0	0	0	1,6	0
18	27	0	0	0	60	0	0	0	0	1,6	0
18	28	0	0	0	60	0	0	0	0	1,6	0

Beräkningen utförd av:ALM 2023-08-29 06:41:35
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Bjerking AB

Bilaga 9

Box 1351 751 43 UPPSALA
Projekt: Bro över Fyrisån (Islandsbron)
Position: Mellanstöd
caeEc701----------Version 2.1.8

Utskrift krafter----------

		Kraft				Moment					
Last	Påle	Vx	Vy	Vmax	N	Mx	My	Minsp	Mmax	z	T
nr	nr	kN	kN	kN	kN	kNm	kNm	kNm	kNm	m	kN
18	29	0	0	0	60	0	0	0	0	1,6	0
18	30	0	0	0	60	0	0	0	0	1,6	0
18	31	0	0	0	60	0	0	0	0	1,6	0
18	32	0	0	0	60	0	0	0	0	1,6	0
18	33	0	0	0	60	0	0	0	0	1,6	0
18	34	0	0	0	60	0	0	0	0	1,6	0
18	35	0	0	0	60	0	0	0	0	1,6	0
18	36	0	0	0	60	0	0	0	0	1,6	0
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18	38	0	0	0	60	0	0	0	0	1,6	0
18	39	0	0	0	60	0	0	0	0	1,6	0
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18	41	0	0	0	60	0	0	0	0	1,6	0
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18	43	0	0	0	60	0	0	0	0	1,6	0
18	44	0	0	0	60	0	0	0	0	1,6	0
18	45	0	0	0	60	0	0	0	0	1,6	0
18	46	0	0	0	60	0	0	0	0	1,6	0
18	47	0	0	0	60	0	0	0	0	1,6	0
18	48	0	0	0	60	0	0	0	0	1,6	0
18	49	0	0	0	60	0	0	0	0	1,6	0
18	50	0	0	0	60	0	0	0	0	1,6	0
18	51	0	0	0	60	0	0	0	0	1,6	0
18	52	0	0	0	60	0	0	0	0	1,6	0
18	min	0	0	0	60	0	0	0	0	1,6	0
18	max	0	0	0	60	0	0	0	0	1,6	0

LANDFÄSTE - Utdata pålkrafter

Påle/Last nr	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1	164	138	164	138	83	82	83	82	144	136	144	136	92	81	92	81	79	79	93	82	93	82	157	136	157	136
2	164	138	164	138	83	82	83	82	144	136	144	136	92	81	92	81	79	79	93	82	93	82	157	136	157	136
3	164	138	164	138	83	82	83	82	144	136	144	136	92	81	92	81	79	79	93	82	93	82	158	136	158	136
4	164	138	164	138	83	82	83	82	144	136	144	136	92	81	92	81	79	79	93	82	93	82	158	136	158	136
5	164	138	164	138	83	82	83	82	144	136	144	136	92	81	92	81	79	79	93	82	93	82	158	136	158	136
6	150	124	150	124	78	77	78	77	128	104	128	104	76	75	76	75	71	71	78	77	78	77	129	104	129	104
7	164	138	164	138	83	82	83	82	144	135	144	135	92	81	92	81	79	79	93	82	93	82	158	135	158	135
8	164	138	164	138	83	82	83	82	144	135	144	135	92	81	92	81	79	79	93	82	93	82	158	135	158	135
9	132	142	132	142	77	78	77	78	110	122	110	122	75	77	75	77	71	71	76	78	76	78	110	122	110	122
10	164	138	164	138	82	82	82	82	144	135	144	135	92	81	92	81	79	79	93	82	93	82	158	135	158	135
11	164	137	164	137	82	82	82	82	144	135	144	135	92	81	92	81	79	79	93	82	93	82	158	135	158	135
12	164	137	164	137	82	82	82	82	144	135	144	135	92	81	92	81	79	79	93	82	93	82	158	135	158	135
13	164	137	164	137	82	82	82	82	144	135	144	135	92	81	92	81	79	79	93	82	93	82	158	135	158	135
14	164	137	164	137	82	82	82	82	144	135	144	135	92	81	92	81	79	79	93	82	93	82	158	135	158	135
15	143	120	143	120	74	74	74	74	134	122	134	122	83	73	83	73	72	72	84	74	84	74	142	122	142	122
16	143	120	143	120	74	74	74	74	134	122	134	122	83	73	83	73	72	72	84	74	84	74	142	122	142	122
17	98	109	98	109	64	64	64	64	85	76	85	76	50	63	50	63	56	56	52	64	52	64	68	76	68	76
18	98	109	98	109	64	64	64	64	84	76	84	76	50	63	50	63	56	56	51	64	51	64	67	76	67	76
19	98	109	98	109	64	64	64	64	84	76	84	76	50	63	50	63	56	56	51	64	51	64	67	76	67	76
20	144	120	144	120	74	74	74	74	134	122	134	122	83	73	83	73	72	72	84	74	84	74	142	122	142	122
21	144	120	144	120	74	74	74	74	134	122	134	122	83	73	83	73	72	72	84	74	84	74	142	122	142	122
22	144	120	144	120	74	74	74	74	134	122	134	122	83	73	83	73	72	72	84	74	84	74	142	122	142	122
23	144	120	144	120	74	74	74	74	134	122	134	122	83	73	83	73	72	72	84	74	84	74	142	122	142	122
24	96	111	96	111	64	64	64	64	82	78	82	78	50	63	50	63	56	56	51	64	51	64	65	78	65	78
25	96	111	96	111	64	64	64	64	82	78	82	78	50	63	50	63	56	56	51	64	51	64	65	78	65	78
26	96	111	96	111	64	64	64	64	82	78	82	78	50	63	50	63	56	56	51	64	51	64	65	78	65	78
27	144	120	144	120	74	74	74	74	134	122	134	122	83	73	83	73	72	72	84	74	84	74	143	122	143	122
28	144	120	144	120	74	74	74	74	134	122	134	122	83	73	83	73	72	72	84	74	84	74	143	122	143	122
29	123	103	123	103	66	65	66	65	124	109	124	109	74	65	74	65	65	65	75	65	75	65	127	109	127	109
30	123	103	123	103	66	65	66	65	124	109	124	109	74	65	74	65	65	65	75	65	75	65	127	109	127	109
31	78	91	78	91	56	56	56	56	75	62	75	62	41	55	41	55	49	49	42	56	42	56	52	62	52	62
32	78	92	78	92	56	56	56	56	74	63	74	63	41	55	41	55	49	49	42	56	42	56	52	63	52	63
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34	123	103	123	103	66	65	66	65	124	109	124	109	74	65	74	65	65	65	75	65	75	65	127	109	127	109
35	123	103	123	103	66	65	66	65	124	109	124	109	74	65	74	65	65	65	75	65	75	65	127	109	127	109
36	123	102	123	102	66	65	66	65	124	108	124	108	74	65	74	65	65	65	75	65	75	65	127	108	127	108
37	123	102	123	102	66	65	66	65	124	108	124	108	74	65	74	65	65	65	75	65	75	65	127	108	127	108
38	76	93	76	93	56	56	56	56	72	64	72	64	41	55	41	55	49	49	42	56	42	56	50	64	50	64
39	76	94	76	94	56	56	56	56	72	65	72	65	41	55	41	55	49	49	42	56	42	56	50	65	50	65
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41	124	102	124	102	66	65	66	65	124	108	124	108	74	65	74	65	65	65	75	65	75	65	127	108	127	108
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43	103	85	103	85	57	57	57	57	114	95	114	95	65	57	65	57	58	58	65	57	65	57	112	95	112	95
44	58	74	58	74	47	48	47	48	65	49	65	49	33	47	33	47	42	42	33	48	33	48	38	49	38	49
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47	57	74	57	74	47	48	47	48	64	49	64	49	33	47	33	47	42	42	33	48	33	48	37	49	37	49
48	103	85	103	85	57	57	57	57	114	95	114	95	65	57	65	57	58	58	65	57	65	57	112	95	112	95
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52	56	76	56	76	47	48	47	48	63	51	63	51	32	47	32	47	42	42	33	48	33	48	35	51	35	51
53	56	76	56	76	47	48	47	48	62	51	62	51	32	47	32	47	42	42	33	48	33	48	35	51	35	51
54	55	77	55	77	47	48	47	48	62	52	62	52	32	47	32	47	42	42	33	48	33	48	34	52	34	52
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56	103	85	103	85	57	57	57	57	115	95	115	95	65	57	65	57	58	58	65	57	65	57	112	95	112	95
57	83	68	83	68	49	49	49	49	104	82	104	82	57	49	57	49	51	51	56	49	56	49	97	82	97	82
58	69	54	69	54	45	43	45	43	88	50	88	50	41	44	41	44	43	43	41	43	41	43	68	50	68	50
59	38	56	38	56	39	39	39	39	55	35	55	35	24	39	24	39	35	35	24	39	24	39	22	35	22	35
60	38	57	38	57	39	39	39	39	55	36	55	36	24	39	24	39	35	35	24	39	24	39	22	36	22	36
61	37	57	37	57	39	39	39	39	54	36	54	36	24	39	24	39	35	35	24	39	24	39	22	36	22	36
62	83	68	83	68	49	49	49	49	104	82	104	82	57	49	57	49	51	51	56	49	56	49	97	82	97	82
63	83	68	83	68	49	49	49	49	104	82	104	82	57	49	57	49	51	51	56	49	56	49	97	82	97	82
64	83	67	83	67	49	49	49	49	104	82	104	82	57	49	57	49	51	51	56	49	56	49	97	82	97	82
65	83	67	83	67	49	49	49	49	105	82	105	82	57	49	57	49	51	51	56	49	56	49	97	82	97	82
66	36	58	36	58	39	39	39	39	53	38	53	38	24	39	24	39	35	35	24	39	24	39	20	38	20	38
67	35	59	35	59	39	39	39	39	52	38	52	38	24	39	24	39	35	35	24	39	24	39	20	38	20	38
68	35	59	35	59	39	39	39	39	52	38	52	38	23	39	23	39	35	35	24	39	24	39	19	38	19	38
69	51	71	51	71	43	45	43	45	70	68	70	68	39	45	39	45	43	43	39	45	39	45	50	68	50	68
70	83	67	83	67	49	49	49	49	105	81	105	81	57	49	57	49	51	51	56	49	56	49	97	81	97	81
Max	164	142	164	142	83	82	83	82	144	136	144	136	92	81	92	81	79	79	93	82	93	82	158	136	158	136
Min	35	54	35	54	39	39	39	39	52	35	52	35	23	39	23	39	35	35	24	39	24	39	19	35	19	35
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**

MELLANSTÖD - Utdata pålkrafter

Påle/Last nr	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	163	126	153	136	94	46	70	70	158	92	134	116	79	60	70	70	60	60
2	163	126	153	136	94	46	70	70	158	92	134	116	80	60	70	70	60	60
3	163	127	153	136	95	46	70	70	158	92	133	117	80	60	70	70	60	60
4	162	127	153	137	95	46	70	70	158	93	133	117	80	60	70	70	60	60
5	162	127	153	137	95	46	70	70	157	93	133	117	80	60	70	70	60	60
6	149	141	174	115	62	79	125	15	123	128	187	64	68	73	93	47	60	60
7	134	156	117	173	58	83	15	125	108	142	65	185	64	76	47	93	60	60
8	134	156	117	173	58	83	15	125	108	143	65	185	64	76	47	93	60	60
9	162	128	152	138	95	46	71	70	157	94	132	119	80	60	70	70	60	60
10	161	129	152	138	95	46	71	71	156	94	132	119	80	60	70	70	60	60
11	161	129	152	139	95	46	71	71	156	95	132	119	80	61	70	70	60	60
12	161	129	151	139	95	46	71	71	156	95	132	119	80	61	71	70	60	60
13	161	129	151	139	95	46	71	71	156	95	132	120	80	61	71	70	60	60
14	165	124	153	136	101	39	70	70	165	85	133	117	82	57	70	70	60	60
15	165	124	153	137	101	39	70	70	165	85	133	117	82	57	70	70	60	60
16	165	124	152	137	101	39	70	70	164	86	133	117	82	57	70	70	60	60
17	165	125	152	137	102	39	70	70	164	86	133	117	82	58	70	70	60	60
18	151	138	174	115	69	72	125	15	130	121	186	64	70	70	93	47	60	60
19	151	138	174	116	69	72	125	15	130	121	186	64	70	70	93	47	60	60
20	151	139	174	116	69	72	125	15	129	121	186	65	71	70	93	47	60	60
21	136	154	116	173	65	76	15	125	115	136	65	186	67	73	47	93	60	60
22	136	154	116	174	65	76	15	125	114	136	65	186	67	73	47	93	60	60
23	164	126	151	139	102	39	71	71	163	88	132	119	83	58	70	70	60	60
24	164	126	151	139	102	39	71	71	163	88	131	120	83	58	70	70	60	60
25	163	127	151	139	102	39	71	71	163	89	131	120	83	58	71	70	60	60
26	163	127	151	140	102	39	71	71	162	89	131	120	83	58	71	70	60	60
27	126	163	139	150	38	102	70	70	88	162	120	130	57	83	70	70	60	60
28	126	163	139	150	38	102	70	70	88	162	119	131	57	83	70	70	60	60
29	126	163	139	151	39	102	70	70	88	163	119	131	57	83	70	70	60	60
30	126	164	138	151	39	102	70	70	87	163	119	131	57	83	70	70	60	60
31	154	136	174	116	76	65	125	15	136	114	186	64	73	67	93	47	60	60
32	154	136	173	116	76	65	125	15	136	114	186	65	73	67	93	47	60	60
33	153	136	173	116	76	65	125	15	136	115	186	65	73	67	93	47	60	60
34	138	151	116	174	72	69	15	125	121	130	64	186	70	71	47	93	60	60
35	138	151	116	174	72	69	15	125	121	130	64	187	70	71	47	93	60	60
36	125	165	137	153	39	102	71	71	87	164	118	133	58	83	70	70	60	60
37	125	165	137	153	40	102	71	71	86	165	118	133	58	83	70	70	60	60
38	125	166	137	153	40	102	71	71	86	165	117	134	58	83	71	70	60	60
39	125	166	137	153	40	102	71	71	86	165	117	134	58	83	71	70	60	60
40	129	160	138	151	45	95	70	70	94	156	119	131	60	80	70	70	60	60
41	128	161	138	151	45	95	70	70	94	156	119	131	60	80	70	70	60	60
42	128	161	138	151	46	95	70	70	94	156	119	131	60	80	70	70	60	60
43	128	161	138	151	46	95	70	70	94	156	119	132	60	80	70	70	60	60
44	128	161	138	152	46	95	70	70	94	157	118	132	60	80	70	70	60	60
45	156	134	173	117	83	58	125	15	143	108	185	65	76	64	93	47	60	60
46	141	149	115	174	79	62	15	125	128	123	64	186	72	68	47	93	60	60
47	141	149	115	174	79	62	15	125	128	123	64	187	73	68	47	93	60	60
48	127	162	137	153	46	95	71	70	93	158	118	133	61	80	70	70	60	60
49	127	163	137	153	46	95	71	71	93	158	117	134	61	80	70	70	60	60
50	127	163	137	153	47	95	71	71	93	158	117	134	61	80	70	70	60	60
51	127	163	137	154	47	95	71	71	93	158	117	134	61	80	71	70	60	60
52	127	163	136	154	47	95	71	71	93	159	117	134	61	80	71	70	60	60
Max	165	166	174	174	102	102	125	125	165	165	187	187	83	83	93	93	60	60
Min	125	124	115	115	38	39	15	15	86	85	64	64	57	57	47	47	60	60
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**

BILAGA 10

Kontroll utmattning lambdametoden

Utmattningsverifiering med Lambdametoden för tvärkraft i järnvägsbroar

Armering

* Karakteristisk lastkombination där trafiken är huvudlast.
* Övriga variabla laster än trafiken ska beaktas.
* Dynamikfaktorn Φ ska beaktas för lasteffekter dock inte alfa, α.

Betong

* Karakteristisk lastkombination där trafiken är huvudlast.
* Inga variabla laster förutom trafiken ska beaktas. Lasteffekterna från de variabla lasterna har satts till 0 då betongen utmattningsverifieras.
* Dynamikfaktorn Φ ska beaktas på lasteffekter dock inte alfa, α.

Övrig info lambdametoden

* Lastmodeller som används vid beräkning av lasteffekter är LM71 och SW/0.
* För en icke kontinuerlig bro används LM71.
* För en kontinuerlig bro görs kontroller både med LM71 och SW/0.
* Lambdametoden för tvärkraft tillgrips endast i områden med tvärkraftsarmering
* Om tvärkraften ändrar tecken i samma punkt i snittet blir det problem att beräkna de skadeekvivalenta spänningsnivåerna för tryckströvan med Lambdametoden.
* Vad som definieras som stöd och fältområde vid val av Lambdafaktorer klargörs i EN 1993-2, figur 9,7.

Enkel kontroll - snitt utan tvärkraftsarmering

* "Vanlig" frekvent lastkombination

Sammanställning, balk, tvärkraft lambdametoden

	UG
Balk 1	0.39
Balk 2	1.10
Balk 3	1.04
Balk 4	1.03
Balk 5	1.18
Balk 6	0.39
Max UG	**1.18**

BILTRAFIK

Uppmätta och beräknade årsflöden

Uppmätta värden har erhållits från beställare.

Värden markerat i grått har uppskattats på grund av ingen data eller på grund av framtida uppskattning.

Vikt typfordon o: 18.86 ton

År	Årsflöde	Andel tung trafik	Tung trafik	Lätt trafik
1957	1770250	0.100	177025	1593225
1958	2226500	0.100	222650	2003850
1959	2184525	0.100	218453	1966073
1960	2142550	0.100	214255	1928295
1961	2644425	0.100	264443	2379983
1962	3033606	0.100	303361	2730246
1963	3422788	0.100	342279	3080509
1964	4201150	0.100	420115	3781035
1965	4524175	0.100	452418	4071758
1966	4847200	0.100	484720	4362480
1967	5018750	0.100	501875	4516875
1968	4453000	0.100	445300	4007700
1969	6168500	0.100	616850	5551650
1970	6205000	0.100	620500	5584500
1971	6420350	0.100	642035	5778315
1972	7716100	0.100	771610	6944490
1973	7161300	0.100	716130	6445170
1974	7373000	0.100	737300	6635700
1975	7464250	0.100	746425	6717825
1976	7884000	0.100	788400	7095600
1977	7887650	0.100	788765	7098885
1978	8106650	0.100	810665	7295985
1979	7413150	0.100	741315	6671835
1980	6971500	0.100	697150	6274350
1981	6982450	0.100	698245	6284205
1982	7033550	0.100	703355	6330195
1983	5391050	0.100	539105	4851945
1984	5646550	0.100	564655	5081895
1985	5431200	0.100	543120	4888080
1986	5555300	0.100	555530	4999770
1987	6920400	0.100	692040	6228360
1988	6489700	0.100	648970	5840730
1989	6059000	0.100	605900	5453100
1990	5438500	0.100	543850	4894650
1991	5556030	0.100	555603	5000427
1992	6407210	0.100	640721	5766489
1993	6466340	0.100	646634	5819706
1994	6158645	0.100	615865	5542781
1995	6086740	0.100	608674	5478066
1996	5425360	0.100	542536	4882824
1997	5860075	0.100	586008	5274068
1998	4824205	0.100	482421	4341785
1999	5145405	0.100	514541	4630865
2000	5254540	0.100	525454	4729086
2001	5480840	0.100	548084	4932756
2002	5516610	0.100	551661	4964949
2003	5424265	0.100	542427	4881839
2004	5034080	0.100	503408	4530672
2005	5486315	0.100	548632	4937684
2006	5696920	0.100	569692	5127228
2007	5249795	0.100	524980	4724816
2008	4432560	0.100	443256	3989304
2009	4376350	0.100	437635	3938715
2010	4449350	0.100	444935	4004415
2011	4351530	0.100	435153	3916377
2012	5098320	0.100	509832	4588488
2013	4109535	0.100	410954	3698582
2014	4046025	0.095	384372	3661653
2015	3440125	0.113	388734	3051391
2016	3682485	0.084	309329	3373156
2017	3830675	0.086	329438	3501237
2018	4357005	0.092	400844	3956161
2019	3452535	0.075	258940	3193595
2020	3950395	0.168	663666	3286729
2021	4454825	0.15	668224	3786601
2022	4282545	0.176	753728	3528817
2023	3440125	0.100	344013	3096113
2024	3440125	0.100	344013	3096113

2025	3440125	0.100	344013	3096113	
2026	3440125	0.100	344013	3096113	
2027	3440125	0.100	344013	3096113	
2028	3440125	0.100	344013	3096113	
2029	3440125	0.100	344013	3096113	
2030	3440125	0.100	344013	3096113	
2031	3440125	0.100	344013	3096113	
2032	3440125	0.100	344013	3096113	
2033	3440125	0.100	344013	3096113	
2034	3440125	0.100	344013	3096113	
2035	3440125	0.100	344013	3096113	
2036	3440125	0.100	344013	3096113	
2037	3440125	0.100	344013	3096113	
2038	3440125	0.100	344013	3096113	
2039	3440125	0.100	344013	3096113	
2040	3440125	0.100	344013	3096113	
2041	3440125	0.100	344013	3096113	
2042	3440125	0.100	344013	3096113	
2043	3440125	0.100	344013	3096113	
2044	3440125	0.100	344013	3096113	
2045	3440125	0.100	344013	3096113	
2046	3440125	0.100	344013	3096113	
2047	3440125	0.100	344013	3096113	
2048	3440125	0.100	344013	3096113	
2049	3440125	0.100	344013	3096113	
2050	3440125	0.100	344013	3096113	
2051	3440125	0.100	344013	3096113	
2052	3440125	0.100	344013	3096113	
2053	3440125	0.100	344013	3096113	
2054	3440125	0.100	344013	3096113	
2055	3440125	0.100	344013	3096113	
2056	3440125	0.100	344013	3096113	
2057	3440125	0.100	344013	3096113	
2058	3440125	0.100	344013	3096113	
2059	3440125	0.100	344013	3096113	
2060	3440125	0.100	344013	3096113	
2061	3440125	0.100	344013	3096113	
2062	3440125	0.100	344013	3096113	
2063	3440125	0.100	344013	3096113	
2064	3440125	0.100	344013	3096113	
Summa	490060954		49613710	440447244	
			4.59E+05 per år		

Lambda-metoden *5.00E+05 antal lastbilar per år* *(för referens)*

4.57E+05 *snitt senaste 10 åren*

SPÅRTRAFIK

Beräknade årsflöden

Uppskattade värden har erhållits från beställare.

Vikt tåg: 110 ton

Framtida spårväg:

Tid	tåg/h/riktning	tåg/spår/dygn	tåg/spår/år
05-06	8		
06-09	24		
09-15	16		
15-19	24		
19-22	16		
22-02	8		
		96	**35040**

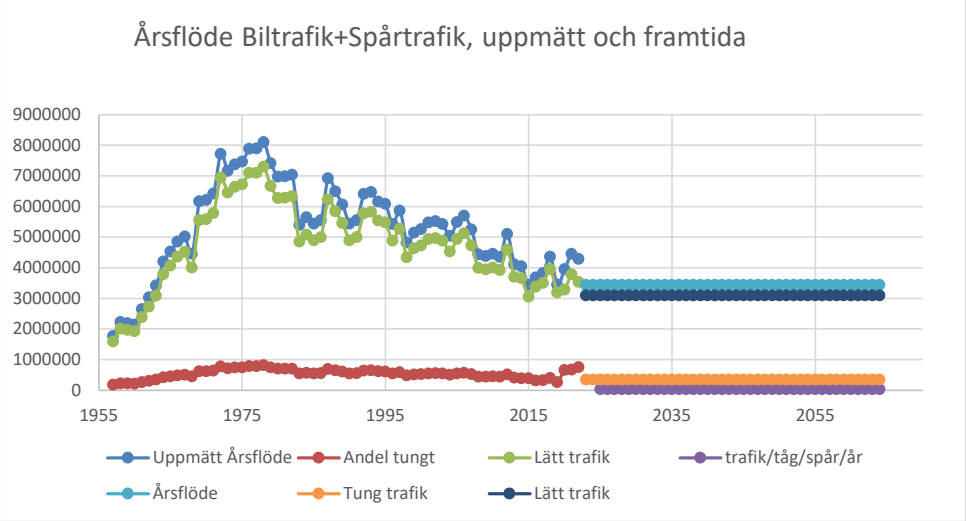
År	trafik/tåg/spår/år
2025	35040
2026	35040
2027	35040
2028	35040
2029	35040
2030	35040
2031	35040
2032	35040
2033	35040
2034	35040
2035	35040
2036	35040
2037	35040
2038	35040
2039	35040
2040	35040
2041	35040
2042	35040
2043	35040
2044	35040
2045	35040
2046	35040
2047	35040
2048	35040
2049	35040
2050	35040
2051	35040
2052	35040
2053	35040
2054	35040
2055	35040
2056	35040
2057	35040
2058	35040
2059	35040
2060	35040
2061	35040
2062	35040
2063	35040
2064	35040
Summa	1401600
	3.50E+04 trafik per år

Lambda-metoden *2.51E+07 trafik/tåg/år* *(för referens)*

Antar att tung biltrafik läggs till för brons livslängd för beräkning av utmattning av spårväg
Skalar om biltrafik med vikt till spårtrafik med faktor = typfordon/tåg
= 4.59E+05 tung biltrafik/år *(19 ton/110 ton) + 3.03E+05 spårtrafik/år/spår

1.14E+05 per år Används i beräkning av utmattning enligt lambdametoden

Livslängdklass L100 (120 år)
Ger något övertramp i vissa punkter
Antar att spårtrafik samt tung biltrafik kan trafikeras utan behov av åtgärdsförslag på grund av utmattning



SKADEEKVIVALENTFAKTOR λ_s

Enligt SS-EN 1992-2, Bilaga NN

Indata		Enhet	Kommentar	Hänvisning
Spännvidd, L1	14.82	[m]	Studerat fält/spann	SS-EN 1993-2, Figur 9.7
Spännvidd, L2	14.82	[m]	Angränsande fält/spann	SS-EN 1993-2, Figur 9.7
$\Delta\sigma_{Rsk}(N^*)$	185	[Mpa]	Skadeekvivalent spänningsvidd	SS-EN 1992-1-1, Tabell 6.3N och 6.4N,
k_2	9		Spänningsexponent	SS-EN 1992-1-1, Tabell 6.3N eller 6.4N
$\gamma_{S,fat}$	1.15		Partialkoefficient, utmattninglaster	SS-EN 1992-1-1, Tabell 2.1N
γ_{Sd}	1		Partialkoeff. för modellosäkerheten	SS-EN 1990, bilaga C.9
Livslängdsklass	L100		Välj: [L20] [L50] [L100]	TRVK Bro 11, B.1.2 och D.1.3.1
α	-		Välj: [1,33] [1,6]	TRVK Bro 11, B.3.2.1.4b
Antal spår	2		Välj: [1]=1 spår [2]= minst 2 spår	
Förspänning	Ja		Välj: [Ja] [Nej]	
$\lambda_{s,1,\ 2m,\ fält}$	1.05		Tung trafik väljs för L=2m	SS-EN 1992-2, Tabell NN.2, TRVK BRO, D.2.1g
$\lambda_{s,1,\ 20m,\ fält}$	0.55			4 SS-EN 1992-2, Tabell NN.2, TRVK BRO, D.2.1g
$\lambda_{s,1,\ 2m,\ stöd}$	0.85		Tung trafik väljs för L=2m	SS-EN 1992-2, Tabell NN.2, TRVK BRO, D.2.1g
$\lambda_{s,1,\ 20m,\ stöd}$	0.75		Tung trafik väljs för L=20m	SS-EN 1992-2, Tabell NN.2, TRVK BRO, D.2.1g
$\lambda_{c,1,\ 2m,\ fält}$	0.90		Tung trafik väljs för L=2m	SS-EN 1992-2, Tabell NN.3, TRVK BRO, D.2.1g
$\lambda_{c,1,\ 20m,\ fält}$	0.55		Tung trafik väljs för L=20m	SS-EN 1992-2, Tabell NN.3, TRVK BRO, D.2.1g
$\lambda_{c,1,\ 2m,\ stöd}$	0.75		Tung trafik väljs för L=2m	SS-EN 1992-2, Tabell NN.3, TRVK BRO, D.2.1g
$\lambda_{c,1,\ 20m,\ stöd}$	0.85		Tung trafik väljs för L=20m	SS-EN 1992-2, Tabell NN.3, TRVK BRO, D.2.1g
n	0.12		Andel trafik som passerar bron	SS-EN 1992-2, NN.3.1 och NN.3.2
Delresultat				
Vol	1.14E+05	[t/år/spår]	Trafikvolym från tågtrafik	se uträkning
$\lambda_{s,1,fält}$	0.615	[-]	Grundvärde, justeras om L<10m	SS-EN 1992-2, (NN.108)
$\lambda_{s,1,stöd}$	0.763	[-]	Grundvärde, justeras om L<10m	SS-EN 1992-2, (NN.108)
$\lambda_{c,1,fält}$	0.595	[-]	Grundvärde, justeras om L<10m	SS-EN 1992-2, (NN.108)
$\lambda_{c,1,stöd}$	0.837	[-]	Grundvärde, justeras om L<10m	SS-EN 1992-2, (NN.108)
$s_1=s_2$	1	[-]	Antagen förenkling	SS-EN 1992-2 (NN.111)
a	1	[-]	Antagen förenkling	SS-EN 1992-2 (NN.118)
Influenslinjens längd, mellanstöd	14.8	[m]	Baseras på spännvidd L1 och L2	SS-EN 1993-2, 9.5.3(4a), TRVR Bro 11, D.2.1g
Influenslinjens längd, fält L1	14.82	[m]	Baseras på spännvidd L1	SS-EN 1993-2, 9.5.3(4a), TRVR Bro 11, D.2.1g
N_{Years}	120	[år]	Livslängd	BFS 2011:10,EKS 8,1.2,par.14

Delresultat

Armering

Komb A (ANM. Förtydligande återfinns vid spänningsberäkning)

Snitt $\lambda_s = \lambda_{s,1,justerat} \cdot \lambda_{s,2} \cdot \lambda_{s,3} \cdot \lambda_{s,4}$

Spann 1

[m]	[FÄLT] [M.STÖD]	$\lambda_{s,1,justerat}$ [-]	$\lambda_{s,2}$ [-]	$\lambda_{s,3}$ [-]	$\lambda_{s,4}$ [-]	λ_s [-]
0.00	M.STÖD	0.76	0.55	1.02	1.07	0.46
0.30	M.STÖD	0.76	0.55	1.02	1.07	0.46
0.60	M.STÖD	0.76	0.55	1.02	1.07	0.46
0.91	M.STÖD	0.76	0.55	1.02	1.07	0.46
1.21	M.STÖD	0.76	0.55	1.02	1.07	0.46
1.51	M.STÖD	0.76	0.55	1.02	1.07	0.46
1.81	M.STÖD	0.76	0.55	1.02	1.07	0.46
2.12	M.STÖD	0.76	0.55	1.02	1.07	0.46
2.42	FÄLT	0.61	0.55	1.02	1.07	0.37
2.72	FÄLT	0.61	0.55	1.02	1.07	0.37
3.02	FÄLT	0.61	0.55	1.02	1.07	0.37
3.33	FÄLT	0.61	0.55	1.02	1.07	0.37
3.63	FÄLT	0.61	0.55	1.02	1.07	0.37
3.93	FÄLT	0.61	0.55	1.02	1.07	0.37
4.23	FÄLT	0.61	0.55	1.02	1.07	0.37
4.54	FÄLT	0.61	0.55	1.02	1.07	0.37
4.84	FÄLT	0.61	0.55	1.02	1.07	0.37
5.14	FÄLT	0.61	0.55	1.02	1.07	0.37
5.44	FÄLT	0.61	0.55	1.02	1.07	0.37
5.75	FÄLT	0.61	0.55	1.02	1.07	0.37
6.05	FÄLT	0.61	0.55	1.02	1.07	0.37
6.35	FÄLT	0.61	0.55	1.02	1.07	0.37
6.65	FÄLT	0.61	0.55	1.02	1.07	0.37
6.96	FÄLT	0.61	0.55	1.02	1.07	0.37
7.26	FÄLT	0.61	0.55	1.02	1.07	0.37
7.56	FÄLT	0.61	0.55	1.02	1.07	0.37
7.86	FÄLT	0.61	0.55	1.02	1.07	0.37
8.17	FÄLT	0.61	0.55	1.02	1.07	0.37
8.47	FÄLT	0.61	0.55	1.02	1.07	0.37
8.77	FÄLT	0.61	0.55	1.02	1.07	0.37
9.07	FÄLT	0.61	0.55	1.02	1.07	0.37
9.38	FÄLT	0.61	0.55	1.02	1.07	0.37
9.68	FÄLT	0.61	0.55	1.02	1.07	0.37
9.98	FÄLT	0.61	0.55	1.02	1.07	0.37
10.28	FÄLT	0.61	0.55	1.02	1.07	0.37
10.59	FÄLT	0.61	0.55	1.02	1.07	0.37
10.89	FÄLT	0.61	0.55	1.02	1.07	0.37
11.19	FÄLT	0.61	0.55	1.02	1.07	0.37
11.49	FÄLT	0.61	0.55	1.02	1.07	0.37
11.80	FÄLT	0.61	0.55	1.02	1.07	0.37
12.10	FÄLT	0.61	0.55	1.02	1.07	0.37
12.40	FÄLT	0.61	0.55	1.02	1.07	0.37
12.70	M.STÖD	0.76	0.55	1.02	1.07	0.46
13.01	M.STÖD	0.76	0.55	1.02	1.07	0.46
13.31	M.STÖD	0.76	0.55	1.02	1.07	0.46
13.61	M.STÖD	0.76	0.55	1.02	1.07	0.46
13.91	M.STÖD	0.76	0.55	1.02	1.07	0.46
14.22	M.STÖD	0.76	0.55	1.02	1.07	0.46
14.52	M.STÖD	0.76	0.55	1.02	1.07	0.46
14.82	M.STÖD	0.76	0.55	1.02	1.07	0.46

Armering
Komb B (ANM. Förtydligande återfinns vid spänningsberäkning)

Snitt
Spann 1

x [m]	[FÄLT] [M.STÖD]	$\lambda_{s,1,justerat}$ [-]	$\lambda_{s,2}$ [-]	$\lambda_{s,3}$ [-]	$\lambda_{s,4}$ [-]	λ_s [-]
0.00	M.STÖD	0.76	0.55	1.02	1.07	0.46
0.30	M.STÖD	0.76	0.55	1.02	1.07	0.46
0.60	M.STÖD	0.76	0.55	1.02	1.07	0.46
0.91	M.STÖD	0.76	0.55	1.02	1.07	0.46
1.21	M.STÖD	0.76	0.55	1.02	1.07	0.46
1.51	M.STÖD	0.76	0.55	1.02	1.07	0.46
1.81	M.STÖD	0.76	0.55	1.02	1.07	0.46
2.12	M.STÖD	0.76	0.55	1.02	1.07	0.46
2.42	FÄLT	0.61	0.55	1.02	1.07	0.37
2.72	FÄLT	0.61	0.55	1.02	1.07	0.37
3.02	FÄLT	0.61	0.55	1.02	1.07	0.37
3.33	FÄLT	0.61	0.55	1.02	1.07	0.37
3.63	FÄLT	0.61	0.55	1.02	1.07	0.37
3.93	FÄLT	0.61	0.55	1.02	1.07	0.37
4.23	FÄLT	0.61	0.55	1.02	1.07	0.37
4.54	FÄLT	0.61	0.55	1.02	1.07	0.37
4.84	FÄLT	0.61	0.55	1.02	1.07	0.37
5.14	FÄLT	0.61	0.55	1.02	1.07	0.37
5.44	FÄLT	0.61	0.55	1.02	1.07	0.37
5.75	FÄLT	0.61	0.55	1.02	1.07	0.37
6.05	FÄLT	0.61	0.55	1.02	1.07	0.37
6.35	FÄLT	0.61	0.55	1.02	1.07	0.37
6.65	FÄLT	0.61	0.55	1.02	1.07	0.37
6.96	FÄLT	0.61	0.55	1.02	1.07	0.37
7.26	FÄLT	0.61	0.55	1.02	1.07	0.37
7.56	FÄLT	0.61	0.55	1.02	1.07	0.37
7.86	FÄLT	0.61	0.55	1.02	1.07	0.37
8.17	FÄLT	0.61	0.55	1.02	1.07	0.37
8.47	FÄLT	0.61	0.55	1.02	1.07	0.37
8.77	FÄLT	0.61	0.55	1.02	1.07	0.37
9.07	FÄLT	0.61	0.55	1.02	1.07	0.37
9.38	FÄLT	0.61	0.55	1.02	1.07	0.37
9.68	FÄLT	0.61	0.55	1.02	1.07	0.37
9.98	FÄLT	0.61	0.55	1.02	1.07	0.37
10.28	FÄLT	0.61	0.55	1.02	1.07	0.37
10.59	FÄLT	0.61	0.55	1.02	1.07	0.37
10.89	FÄLT	0.61	0.55	1.02	1.07	0.37
11.19	FÄLT	0.61	0.55	1.02	1.07	0.37
11.49	FÄLT	0.61	0.55	1.02	1.07	0.37
11.80	FÄLT	0.61	0.55	1.02	1.07	0.37
12.10	FÄLT	0.61	0.55	1.02	1.07	0.37
12.40	FÄLT	0.61	0.55	1.02	1.07	0.37
12.70	M.STÖD	0.76	0.55	1.02	1.07	0.46
13.01	M.STÖD	0.76	0.55	1.02	1.07	0.46
13.31	M.STÖD	0.76	0.55	1.02	1.07	0.46
13.61	M.STÖD	0.76	0.55	1.02	1.07	0.46
13.91	M.STÖD	0.76	0.55	1.02	1.07	0.46
14.22	M.STÖD	0.76	0.55	1.02	1.07	0.46
14.52	M.STÖD	0.76	0.55	1.02	1.07	0.46
14.82	M.STÖD	0.76	0.55	1.02	1.07	0.46

Betong
Komb A (ANM. Förtydligande återfinns vid spänningsberäkning)

Snitt

$\lambda_c = \lambda_{c,0} \cdot \lambda_{c,1,justerat} \cdot \lambda_{c,2,3} \cdot \lambda_{c,4}$

Spann 1

x [m]	[FÄLT] [M.STÖD]	$\lambda_{c,0}$ [-]	$\lambda_{c,1,justerat}$ [-]	$\lambda_{c,2,3}$ [-]	$\lambda_{c,4}$ [-]	λ_c [-]
0.00	M.STÖD	1.00	0.84	0.72	1.00	0.60
0.30	M.STÖD	1.00	0.84	0.72	1.00	0.60
0.60	M.STÖD	1.00	0.84	0.72	1.00	0.60
0.91	M.STÖD	1.00	0.84	0.72	1.00	0.60
1.21	M.STÖD	1.00	0.84	0.72	1.00	0.60
1.51	M.STÖD	1.00	0.84	0.72	1.00	0.60
1.81	M.STÖD	1.00	0.84	0.72	1.00	0.60
2.12	M.STÖD	1.00	0.84	0.72	1.00	0.60
2.42	FÄLT	1.00	0.60	0.72	1.00	0.43
2.72	FÄLT	1.00	0.60	0.72	1.00	0.43
3.02	FÄLT	1.00	0.60	0.72	1.00	0.43
3.33	FÄLT	1.00	0.60	0.72	1.00	0.43
3.63	FÄLT	1.00	0.60	0.72	1.00	0.43
3.93	FÄLT	1.00	0.60	0.72	1.00	0.43
4.23	FÄLT	1.00	0.60	0.72	1.00	0.43
4.54	FÄLT	1.00	0.60	0.72	1.00	0.43
4.84	FÄLT	1.00	0.60	0.72	1.00	0.43
5.14	FÄLT	1.00	0.60	0.72	1.00	0.43
5.44	FÄLT	1.00	0.60	0.72	1.00	0.43
5.75	FÄLT	1.00	0.60	0.72	1.00	0.43
6.05	FÄLT	1.00	0.60	0.72	1.00	0.43
6.35	FÄLT	1.00	0.60	0.72	1.00	0.43
6.65	FÄLT	1.00	0.60	0.72	1.00	0.43
6.96	FÄLT	1.00	0.60	0.72	1.00	0.43
7.26	FÄLT	1.00	0.60	0.72	1.00	0.43
7.56	FÄLT	1.00	0.60	0.72	1.00	0.43
7.86	FÄLT	1.00	0.60	0.72	1.00	0.43
8.17	FÄLT	1.00	0.60	0.72	1.00	0.43
8.47	FÄLT	1.00	0.60	0.72	1.00	0.43
8.77	FÄLT	1.00	0.60	0.72	1.00	0.43
9.07	FÄLT	1.00	0.60	0.72	1.00	0.43
9.38	FÄLT	1.00	0.60	0.72	1.00	0.43
9.68	FÄLT	1.00	0.60	0.72	1.00	0.43
9.98	FÄLT	1.00	0.60	0.72	1.00	0.43
10.28	FÄLT	1.00	0.60	0.72	1.00	0.43
10.59	FÄLT	1.00	0.60	0.72	1.00	0.43
10.89	FÄLT	1.00	0.60	0.72	1.00	0.43
11.19	FÄLT	1.00	0.60	0.72	1.00	0.43
11.49	FÄLT	1.00	0.60	0.72	1.00	0.43
11.80	FÄLT	1.00	0.60	0.72	1.00	0.43
12.10	FÄLT	1.00	0.60	0.72	1.00	0.43
12.40	FÄLT	1.00	0.60	0.72	1.00	0.43
12.70	M.STÖD	1.00	0.84	0.72	1.00	0.60
13.01	M.STÖD	1.00	0.84	0.72	1.00	0.60
13.31	M.STÖD	1.00	0.84	0.72	1.00	0.60
13.61	M.STÖD	1.00	0.84	0.72	1.00	0.60
13.91	M.STÖD	1.00	0.84	0.72	1.00	0.60
14.22	M.STÖD	1.00	0.84	0.72	1.00	0.60
14.52	M.STÖD	1.00	0.84	0.72	1.00	0.60
14.82	M.STÖD	1.00	0.84	0.72	1.00	0.60

Betong
Komb B (ANM. Förtydligande återfinns vid spänningsberäkning)

Snitt
Spann 1

x [m]	[FÄLT] [M.STÖD]	$\lambda_{c,0}$ [-]	$\lambda_{c,1,justerat}$ [-]	$\lambda_{c,2,3}$ [-]	$\lambda_{c,4}$ [-]	λ_c [-]
0.00	M.STÖD	1.00	0.84	0.72	1.00	0.60
0.30	M.STÖD	1.00	0.84	0.72	1.00	0.60
0.60	M.STÖD	1.00	0.84	0.72	1.00	0.60
0.91	M.STÖD	1.00	0.84	0.72	1.00	0.60
1.21	M.STÖD	1.00	0.84	0.72	1.00	0.60
1.51	M.STÖD	1.00	0.84	0.72	1.00	0.60
1.81	M.STÖD	1.00	0.84	0.72	1.00	0.60
2.12	M.STÖD	1.00	0.84	0.72	1.00	0.60
2.42	FÄLT	1.00	0.60	0.72	1.00	0.43
2.72	FÄLT	1.00	0.60	0.72	1.00	0.43
3.02	FÄLT	1.00	0.60	0.72	1.00	0.43
3.33	FÄLT	1.00	0.60	0.72	1.00	0.43
3.63	FÄLT	1.00	0.60	0.72	1.00	0.43
3.93	FÄLT	1.00	0.60	0.72	1.00	0.43
4.23	FÄLT	1.00	0.60	0.72	1.00	0.43
4.54	FÄLT	1.00	0.60	0.72	1.00	0.43
4.84	FÄLT	1.00	0.60	0.72	1.00	0.43
5.14	FÄLT	1.00	0.60	0.72	1.00	0.43
5.44	FÄLT	1.00	0.60	0.72	1.00	0.43
5.75	FÄLT	1.00	0.60	0.72	1.00	0.43
6.05	FÄLT	1.00	0.60	0.72	1.00	0.43
6.35	FÄLT	1.00	0.60	0.72	1.00	0.43
6.65	FÄLT	1.00	0.60	0.72	1.00	0.43
6.96	FÄLT	1.00	0.60	0.72	1.00	0.43
7.26	FÄLT	1.00	0.60	0.72	1.00	0.43
7.56	FÄLT	1.00	0.60	0.72	1.00	0.43
7.86	FÄLT	1.00	0.60	0.72	1.00	0.43
8.17	FÄLT	1.00	0.60	0.72	1.00	0.43
8.47	FÄLT	1.00	0.60	0.72	1.00	0.43
8.77	FÄLT	1.00	0.60	0.72	1.00	0.43
9.07	FÄLT	1.00	0.60	0.72	1.00	0.43
9.38	FÄLT	1.00	0.60	0.72	1.00	0.43
9.68	FÄLT	1.00	0.60	0.72	1.00	0.43
9.98	FÄLT	1.00	0.60	0.72	1.00	0.43
10.28	FÄLT	1.00	0.60	0.72	1.00	0.43
10.59	FÄLT	1.00	0.60	0.72	1.00	0.43
10.89	FÄLT	1.00	0.60	0.72	1.00	0.43
11.19	FÄLT	1.00	0.60	0.72	1.00	0.43
11.49	FÄLT	1.00	0.60	0.72	1.00	0.43
11.80	FÄLT	1.00	0.60	0.72	1.00	0.43
12.10	FÄLT	1.00	0.60	0.72	1.00	0.43
12.40	FÄLT	1.00	0.60	0.72	1.00	0.43
12.70	M.STÖD	1.00	0.84	0.72	1.00	0.60
13.01	M.STÖD	1.00	0.84	0.72	1.00	0.60
13.31	M.STÖD	1.00	0.84	0.72	1.00	0.60
13.61	M.STÖD	1.00	0.84	0.72	1.00	0.60
13.91	M.STÖD	1.00	0.84	0.72	1.00	0.60
14.22	M.STÖD	1.00	0.84	0.72	1.00	0.60
14.52	M.STÖD	1.00	0.84	0.72	1.00	0.60
14.82	M.STÖD	1.00	0.84	0.72	1.00	0.60

Utmattning av järnvägsbroar- Tvärkraft

Tvärkraftsarmering Balk 1

θ_{fat} = 32.3 °

ζ = 0,35+0,026*D/Φ

(SS-EN 1992-1-1, Tabell 6.3N, ANM.1)

Snitt B1

x [m]	h [m]	b_w [m]	$d_{ök}$ [m]	d_{uk} [m]	A_{sw} [cm^2/m]	ζ
0.00	0.830	0.500	0.770	0.770	10.5	0.56
0.30	0.830	0.500	0.770	0.770	10.5	0.56
0.60	0.830	0.500	0.770	0.770	10.5	0.56
0.91	0.830	0.500	0.770	0.770	5.2	0.56
1.21	0.830	0.500	0.770	0.770	5.2	0.56
1.51	0.830	0.500	0.770	0.770	5.2	0.56
1.81	0.830	0.500	0.770	0.770	5.2	0.56
2.12	0.830	0.500	0.770	0.770	5.2	0.56
2.42	0.830	0.500	0.770	0.770	5.2	0.56
2.72	0.830	0.500	0.770	0.770	5.2	0.56
3.02	0.830	0.500	0.770	0.770	5.2	0.56
3.33	0.830	0.500	0.770	0.770	5.2	0.56
3.63	0.830	0.500	0.770	0.770	5.2	0.56
3.93	0.830	0.500	0.770	0.770	5.2	0.56
4.23	0.830	0.500	0.770	0.770	5.2	0.56
4.54	0.830	0.500	0.770	0.770	5.2	0.56
4.84	0.830	0.500	0.770	0.770	5.2	0.56
5.14	0.830	0.500	0.770	0.770	5.2	0.56
5.44	0.830	0.500	0.770	0.770	5.2	0.56
5.75	0.830	0.500	0.770	0.770	5.2	0.56
6.05	0.830	0.500	0.770	0.770	5.2	0.56
6.35	0.830	0.500	0.770	0.770	5.2	0.56
6.65	0.830	0.500	0.770	0.770	5.2	0.56
6.96	0.830	0.500	0.770	0.770	5.2	0.56
7.26	0.830	0.500	0.770	0.770	5.2	0.56
7.56	0.830	0.500	0.770	0.770	5.2	0.56
7.86	0.830	0.500	0.770	0.770	5.2	0.56
8.17	0.830	0.500	0.770	0.770	5.2	0.56
8.47	0.830	0.500	0.770	0.770	5.2	0.56
8.77	0.830	0.500	0.770	0.770	5.2	0.56
9.07	0.830	0.500	0.770	0.770	5.2	0.56
9.38	0.830	0.500	0.770	0.770	5.2	0.56
9.68	0.830	0.500	0.770	0.770	5.2	0.56
9.98	0.830	0.500	0.770	0.770	5.2	0.56
10.28	0.830	0.500	0.770	0.770	5.2	0.56
10.59	0.830	0.500	0.770	0.770	5.2	0.56
10.89	0.830	0.500	0.770	0.770	5.2	0.56
11.19	0.830	0.500	0.770	0.770	5.2	0.56
11.49	0.830	0.500	0.770	0.770	5.2	0.56
11.80	0.830	0.500	0.770	0.770	5.2	0.56
12.10	0.830	0.500	0.770	0.770	5.2	0.56
12.40	0.830	0.500	0.770	0.770	5.2	0.56
12.70	0.830	0.500	0.770	0.770	5.2	0.56
13.01	0.830	0.500	0.770	0.770	5.2	0.56
13.31	0.830	0.500	0.770	0.770	5.2	0.56
13.61	0.830	0.500	0.770	0.770	5.2	0.56
13.91	0.830	0.500	0.770	0.770	5.2	0.56
14.22	0.830	0.500	0.770	0.770	10.5	0.56
14.52	0.830	0.500	0.770	0.770	10.5	0.56
14.82	0.830	0.500	0.770	0.770	10.5	0.56

Permanenta		Variabla		Cykliska	
V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]
-17	-226	0	0	17	-7
19	-332	0	0	30	-6
12	-105	0	0	31	-4
36	8	0	0	31	-4
71	8	0	0	30	-4
69	9	0	0	29	-5
38	10	0	0	27	-4
11	-9	0	0	26	-4
11	-32	0	0	24	-4
12	-35	0	0	22	-4
12	-42	0	0	20	-4
11	-46	0	0	18	-4
10	-45	0	0	16	-3
9	-39	0	0	14	-3
8	-32	0	0	13	-3
7	-40	0	0	11	-3
6	-47	0	0	10	-3
6	-43	0	0	8	-3
6	-53	0	0	7	-4
6	-65	0	0	6	-5
5	-54	0	0	5	-6
5	-28	0	0	5	-8
4	-4	0	0	4	-9
16	3	0	0	3	-11
32	2	0	0	2	-13
45	1	0	0	1	-14
54	0	0	0	2	-16
60	0	0	0	2	-18
63	-1	0	0	2	-21
62	-2	0	0	2	-23
58	-2	0	0	2	-25
55	-3	0	0	3	-27
51	-3	0	0	3	-29
49	-3	0	0	3	-30
47	-4	0	0	3	-32
45	-4	0	0	3	-34
44	-5	0	0	3	-35
45	-5	0	0	4	-36
46	-5	0	0	4	-37
47	-6	0	0	4	-38
45	-6	0	0	4	-39
39	-7	0	0	4	-40
27	-8	0	0	4	-40
8	-10	0	0	4	-39
-11	-25	0	0	5	-38
-16	-59	0	0	6	-37
-26	-100	0	0	7	-36
-46	-157	0	0	10	-35
-73	-268	0	0	14	-34
4	-118	0	0	43	-43

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$
Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$
Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Kontroll armering

Kontroll
89.8
Max
35

Komb A: Jmf Komb A1 med A2
Komb B: Jmf Komb B1 med B2

$\Delta\sigma_{V.S.equ} = \lambda_s \cdot \Phi \cdot \Delta\sigma_{V.S.trafik}$

Snitt B1

$\Delta\sigma_{V.s} = \Delta V / (A_{sw} \cdot z \cdot (1/\tan(\theta_{fat}))$

					Armeringsspänning		Komb A		Komb B	
x [m]	**ΣV_{A1}** [kN]	**ΣV_{A2}** [kN]	**ΣV_{B1}** [kN]	**ΣV_{B2}** [kN]	**$\Delta\sigma_{V.s.A}$** [MPa]	**$\Delta\sigma_{V.s.B}$** [MPa]	**$\Delta\sigma_{V.S.A.equ}$** [MPa]	**Kontroll** $\Delta\sigma_{V.S.A.equ} \leq \Delta\sigma_{Rsk} \cdot \zeta / \gamma_{S.fat}$	**$\Delta\sigma_{V.S.B.equ}$** [MPa]	**Kontroll** $\Delta\sigma_{V.S.B.equ} \leq \Delta\sigma_{Rsk} \cdot \zeta / \gamma_{S.fat}$
0.00	0	-24	-209	-233	20.8	20.9	9.5	OK	9.6	OK
0.30	48	12	-302	-338	31.2	31.2	14.3	OK	14.3	OK
0.60	43	8	-73	-108	30.6	30.6	14.0	OK	14.0	OK
0.91	67	32	39	4	60.9	60.9	27.9	OK	27.9	OK
1.21	101	67	38	4	59.8	59.8	27.5	OK	27.5	OK
1.51	98	64	38	4	58.2	58.2	26.7	OK	26.7	OK
1.81	66	34	37	5	55.7	55.7	25.5	OK	25.5	OK
2.12	36	6	16	-14	52.6	28.5	24.1	OK	13.1	OK
2.42	35	7	-8	-36	49.1	49.1	18.1	OK	18.1	OK
2.72	34	8	-13	-39	45.5	45.5	16.8	OK	16.8	OK
3.02	32	8	-22	-46	41.7	41.7	15.4	OK	15.4	OK
3.33	30	8	-28	-50	37.9	37.9	14.0	OK	14.0	OK
3.63	27	7	-29	-48	34.1	34.1	12.6	OK	12.6	OK
3.93	24	6	-25	-42	30.6	30.6	11.3	OK	11.3	OK
4.23	21	5	-20	-35	27.3	27.3	10.1	OK	10.1	OK
4.54	18	4	-29	-43	24.3	24.3	9.0	OK	9.0	OK
4.84	16	3	-37	-49	21.4	21.4	7.9	OK	7.9	OK
5.14	14	3	-35	-46	19.2	19.2	7.1	OK	7.1	OK
5.44	12	2	-46	-56	18.4	18.4	6.8	OK	6.8	OK
5.75	11	1	-59	-70	19.1	19.1	7.0	OK	7.0	OK
6.05	11	-1	-49	-60	18.6	20.2	6.9	OK	7.5	OK
6.35	10	-3	-24	-36	16.6	21.3	6.1	OK	7.9	OK
6.65	8	-5	0	-13	14.4	21.9	5.3	OK	8.1	OK
6.96	19	6	6	-8	24.1	13.9	8.9	OK	5.1	OK
7.26	34	19	4	-11	25.8	18.5	9.5	OK	6.8	OK
7.56	46	30	3	-13	27.6	23.2	10.2	OK	8.6	OK
7.86	56	38	2	-16	31.3	27.9	11.6	OK	10.3	OK
8.17	62	42	1	-19	35.3	32.8	13.0	OK	12.1	OK
8.47	65	42	1	-22	39.4	37.6	14.5	OK	13.9	OK
8.77	64	39	1	-24	43.3	42.1	16.0	OK	15.6	OK
9.07	61	34	0	-27	47.1	46.4	17.4	OK	17.2	OK
9.38	57	28	0	-29	50.9	50.7	18.8	OK	18.7	OK
9.68	54	23	0	-32	54.7	54.7	20.2	OK	20.2	OK
9.98	52	18	0	-34	58.2	58.2	21.5	OK	21.5	OK
10.28	50	14	-1	-36	61.5	61.5	22.7	OK	22.7	OK
10.59	48	11	-1	-38	64.4	64.4	23.8	OK	23.8	OK
10.89	48	9	-1	-40	67.2	67.2	24.8	OK	24.8	OK
11.19	48	8	-1	-41	69.8	69.8	25.8	OK	25.8	OK
11.49	49	8	-2	-43	71.9	71.9	26.6	OK	26.6	OK
11.80	51	8	-2	-44	73.7	73.7	27.2	OK	27.2	OK
12.10	49	6	-2	-45	75.2	75.2	27.8	OK	27.8	OK
12.40	43	-1	-3	-46	75.1	76.0	27.7	OK	28.1	OK
12.70	31	-13	-3	-47	53.8	76.3	24.7	OK	35.0	OK
13.01	13	-31	-5	-49	54.2	76.0	24.9	OK	34.9	OK
13.31	-6	-49	-20	-64	75.4	75.4	34.6	OK	34.6	OK
13.61	-11	-54	-53	-96	74.8	74.8	34.3	OK	34.3	OK
13.91	-19	-62	-93	-136	75.0	75.0	34.4	OK	34.4	OK
14.22	-36	-80	-147	-192	38.8	38.8	17.8	OK	17.8	OK
14.52	-59	-107	-254	-302	42.2	42.2	19.4	OK	19.4	OK
14.82	47	-39	-75	-161	40.8	75.2	18.7	OK	34.5	OK

Utmattning av järnvägsbroar- Tvärkraft

Tvärkraftsarmering Balk 2

θ_{fat} = 32.3 °

ζ = 0,35+0,026*D/Φ

(SS-EN 1992-1-1, Tabell 6.3N, ANM.1)

Snitt B2

x [m]	h [m]	b_w [m]	$d_{ök}$ [m]	d_{uk} [m]	A_{sw} [cm²/m]	ζ
0.00	0.750	0.600	0.690	0.690	10.5	0.56
0.30	0.750	0.600	0.690	0.690	10.5	0.56
0.60	0.750	0.600	0.690	0.690	10.5	0.56
0.91	0.750	0.600	0.690	0.690	5.2	0.56
1.21	0.750	0.600	0.690	0.690	5.2	0.56
1.51	0.750	0.600	0.690	0.690	5.2	0.56
1.81	0.750	0.600	0.690	0.690	5.2	0.56
2.12	0.750	0.600	0.690	0.690	5.2	0.56
2.42	0.750	0.600	0.690	0.690	5.2	0.56
2.72	0.750	0.600	0.690	0.690	5.2	0.56
3.02	0.750	0.600	0.690	0.690	5.2	0.56
3.33	0.750	0.600	0.690	0.690	5.2	0.56
3.63	0.750	0.600	0.690	0.690	5.2	0.56
3.93	0.750	0.600	0.690	0.690	5.2	0.56
4.23	0.750	0.600	0.690	0.690	5.2	0.56
4.54	0.750	0.600	0.690	0.690	5.2	0.56
4.84	0.750	0.600	0.690	0.690	5.2	0.56
5.14	0.750	0.600	0.690	0.690	5.2	0.56
5.44	0.750	0.600	0.690	0.690	5.2	0.56
5.75	0.750	0.600	0.690	0.690	5.2	0.56
6.05	0.750	0.600	0.690	0.690	5.2	0.56
6.35	0.750	0.600	0.690	0.690	5.2	0.56
6.65	0.750	0.600	0.690	0.690	5.2	0.56
6.96	0.750	0.600	0.690	0.690	5.2	0.56
7.26	0.750	0.600	0.690	0.690	5.2	0.56
7.56	0.750	0.600	0.690	0.690	5.2	0.56
7.86	0.750	0.600	0.690	0.690	5.2	0.56
8.17	0.750	0.600	0.690	0.690	5.2	0.56
8.47	0.750	0.600	0.690	0.690	5.2	0.56
8.77	0.750	0.600	0.690	0.690	5.2	0.56
9.07	0.750	0.600	0.690	0.690	5.2	0.56
9.38	0.750	0.600	0.690	0.690	5.2	0.56
9.68	0.750	0.600	0.690	0.690	5.2	0.56
9.98	0.750	0.600	0.690	0.690	5.2	0.56
10.28	0.750	0.600	0.690	0.690	5.2	0.56
10.59	0.750	0.600	0.690	0.690	5.2	0.56
10.89	0.750	0.600	0.690	0.690	5.2	0.56
11.19	0.750	0.600	0.690	0.690	5.2	0.56
11.49	0.750	0.600	0.690	0.690	5.2	0.56
11.80	0.750	0.600	0.690	0.690	5.2	0.56
12.10	0.750	0.600	0.690	0.690	5.2	0.56
12.40	0.750	0.600	0.690	0.690	5.2	0.56
12.70	0.750	0.600	0.690	0.690	5.2	0.56
13.01	0.750	0.600	0.690	0.690	5.2	0.56
13.31	0.750	0.600	0.690	0.690	5.2	0.56
13.61	0.750	0.600	0.690	0.690	5.2	0.56
13.91	0.750	0.600	0.690	0.690	5.2	0.56
14.22	0.750	0.600	0.690	0.690	10.5	0.56
14.52	0.750	0.600	0.690	0.690	10.5	0.56
14.82	0.750	0.600	0.690	0.690	10.5	0.56

Permanenta		Variabla		Cykliska	
V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]
7	-238	0	0	35	-9
0	-355	0	0	67	-9
1	-137	0	0	64	-5
1	-15	0	0	65	-5
21	0	0	0	64	-5
28	0	0	0	59	-5
12	1	0	0	57	-6
2	-15	0	0	54	-8
3	-45	0	0	49	-10
3	-92	0	0	48	-12
3	-124	0	0	45	-15
2	-113	0	0	41	-18
2	-80	0	0	40	-20
2	-51	0	0	38	-21
2	-28	0	0	35	-23
2	-27	0	0	36	-24
2	-40	0	0	34	-26
2	-52	0	0	31	-27
2	-69	0	0	32	-28
2	-83	0	0	30	-30
2	-78	0	0	28	-31
2	-52	0	0	28	-33
2	-22	0	0	26	-34
2	1	0	0	25	-35
22	1	0	0	24	-37
37	0	0	0	23	-38
49	0	0	0	23	-41
58	0	0	0	21	-44
63	0	0	0	21	-45
64	0	0	0	20	-47
63	0	0	0	18	-51
61	-1	0	0	17	-52
59	-1	0	0	15	-55
58	-1	0	0	14	-59
57	-1	0	0	12	-61
57	-1	0	0	11	-64
58	-1	0	0	10	-68
60	-1	0	0	7	-71
63	-1	0	0	6	-75
66	-1	0	0	5	-79
67	-1	0	0	5	-81
67	0	0	0	5	-87
63	0	0	0	5	-92
56	0	0	0	5	-95
45	0	0	0	6	-101
30	1	0	0	7	-107
14	1	0	0	8	-112
26	-33	0	0	11	-118
44	-107	0	0	15	-125
60	-13	0	0	84	-84

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$

Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$

Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Kontroll armering

Kontroll
89.8
Max
99

Komb A: Jmf Komb A1 med A2

Komb B: Jmf Komb B1 med B2

$\Delta\sigma_{V.S.equ} = \lambda_s \cdot \Phi \cdot \Delta\sigma_{V.S.trafik}$

Snitt B2

$\Delta\sigma_{V.s} = \Delta V / (A_{sw} \cdot z \cdot (1/\tan(\theta_{fat}))$

					Armeringsspänning		Komb A		Komb B	
								Kontroll		Kontroll
x	ΣV_{A1}	ΣV_{A2}	ΣV_{B1}	ΣV_{B2}	$\Delta\sigma_{V.s.A}$	$\Delta\sigma_{V.s.B}$	$\Delta\sigma_{V.S.A.equ}$	$\Delta\sigma_{V.S.A.equ} \leq$	$\Delta\sigma_{V.S.B.equ}$	$\Delta\sigma_{V.S.B.equ} \leq$
[m]	[kN]	[kN]	[kN]	[kN]	[MPa]	[MPa]	[MPa]	$\Delta\sigma_{Rsk} \cdot \zeta / \gamma_{S.fat}$	[MPa]	$\Delta\sigma_{Rsk} \cdot \zeta / \gamma_{S.fat}$
0.00	42	-2	-204	-248	40.4	42.6	18.5	OK	19.6	OK
0.30	67	-9	-288	-364	65.1	73.7	29.9	OK	33.8	OK
0.60	65	-4	-73	-143	63.3	67.5	29.0	OK	31.0	OK
0.91	66	-4	50	-20	129.0	96.5	59.2	OK	44.3	OK
1.21	85	16	64	-5	134.0	124.0	61.5	OK	56.9	OK
1.51	87	23	60	-4	125.1	116.4	57.4	OK	53.4	OK
1.81	68	5	58	-5	122.7	112.6	56.3	OK	51.7	OK
2.12	56	-6	39	-22	109.1	76.5	50.1	OK	35.1	OK
2.42	52	-7	4	-55	101.1	106.7	37.4	OK	39.4	OK
2.72	50	-10	-44	-104	97.5	116.0	36.0	OK	42.9	OK
3.02	47	-12	-79	-139	92.1	115.9	34.0	OK	42.8	OK
3.33	43	-15	-72	-131	84.5	114.0	31.2	OK	42.1	OK
3.63	43	-17	-40	-100	82.7	116.4	30.6	OK	43.0	OK
3.93	40	-19	-13	-72	78.2	115.3	28.9	OK	42.6	OK
4.23	38	-21	7	-51	73.0	100.1	27.0	OK	37.0	OK
4.54	38	-22	8	-52	74.0	100.3	27.3	OK	37.1	OK
4.84	36	-23	-6	-65	69.7	114.9	25.8	OK	42.5	OK
5.14	34	-24	-21	-79	65.8	113.0	24.3	OK	41.7	OK
5.44	34	-26	-37	-97	66.3	116.4	24.5	OK	43.0	OK
5.75	32	-28	-53	-113	62.4	116.2	23.1	OK	42.9	OK
6.05	30	-29	-50	-109	58.9	115.3	21.8	OK	42.6	OK
6.35	30	-31	-24	-85	59.9	117.3	22.1	OK	43.4	OK
6.65	28	-32	4	-56	63.1	109.7	23.3	OK	40.5	OK
6.96	27	-33	26	-35	64.0	67.2	23.6	OK	24.8	OK
7.26	46	-15	25	-37	89.6	71.0	33.1	OK	26.2	OK
7.56	61	-1	24	-38	118.1	74.0	43.6	OK	27.4	OK
7.86	72	9	23	-40	122.8	78.4	45.4	OK	29.0	OK
8.17	79	14	21	-44	126.3	84.6	46.7	OK	31.3	OK
8.47	84	18	21	-45	128.2	87.8	47.4	OK	32.5	OK
8.77	84	17	20	-48	131.0	92.8	48.4	OK	34.3	OK
9.07	81	12	17	-51	133.5	99.6	49.3	OK	36.8	OK
9.38	77	8	16	-53	134.4	103.2	49.7	OK	38.1	OK
9.68	74	4	14	-56	136.6	108.7	50.5	OK	40.2	OK
9.98	71	-1	13	-60	138.7	116.0	51.3	OK	42.9	OK
10.28	70	-4	11	-62	135.2	120.0	50.0	OK	44.4	OK
10.59	68	-7	10	-65	132.2	126.2	48.9	OK	46.6	OK
10.89	68	-10	9	-69	132.2	134.6	48.9	OK	49.7	OK
11.19	68	-10	7	-72	131.7	139.3	48.7	OK	51.5	OK
11.49	68	-12	5	-76	133.1	147.2	49.2	OK	54.4	OK
11.80	71	-13	4	-80	137.5	155.3	50.8	OK	57.4	OK
12.10	72	-14	4	-82	140.5	159.0	51.9	OK	58.8	OK
12.40	72	-20	5	-87	139.7	169.4	51.6	OK	62.6	OK
12.70	68	-29	5	-92	132.9	179.7	60.9	OK	82.4	OK
13.01	61	-39	5	-95	118.5	184.6	54.3	OK	84.7	OK
13.31	51	-56	6	-101	109.5	196.3	50.2	OK	90.1	EJ OK
13.61	37	-77	7	-106	149.3	206.6	68.5	OK	94.8	EJ OK
13.91	22	-98	9	-111	189.9	214.9	87.1	OK	98.6	EJ OK
14.22	37	-92	-21	-151	89.8	126.1	41.2	OK	57.8	OK
14.52	60	-81	-91	-232	78.5	136.6	36.0	OK	62.7	OK
14.82	143	-24	71	-96	139.4	93.5	63.9	OK	42.9	OK

Utmattning av järnvägsbroar- Tvärkraft

Tvärkraftsarmering Balk 3

θ_{fat} = 32.3 °

ζ = 0,35+0,026*D/Φ

(SS-EN 1992-1-1, Tabell 6.3N, ANM.1)

Snitt B3

x [m]	h [m]	b_w [m]	$d_{ök}$ [m]	d_{uk} [m]	A_{sw} [cm^2/m]	ζ
0.00	0.800	0.500	0.740	0.740	10.5	0.56
0.30	0.800	0.500	0.740	0.740	10.5	0.56
0.60	0.800	0.500	0.740	0.740	10.5	0.56
0.91	0.800	0.500	0.740	0.740	5.2	0.56
1.21	0.800	0.500	0.740	0.740	5.2	0.56
1.51	0.800	0.500	0.740	0.740	5.2	0.56
1.81	0.800	0.500	0.740	0.740	5.2	0.56
2.12	0.800	0.500	0.740	0.740	5.2	0.56
2.42	0.800	0.500	0.740	0.740	5.2	0.56
2.72	0.800	0.500	0.740	0.740	5.2	0.56
3.02	0.800	0.500	0.740	0.740	5.2	0.56
3.33	0.800	0.500	0.740	0.740	5.2	0.56
3.63	0.800	0.500	0.740	0.740	5.2	0.56
3.93	0.800	0.500	0.740	0.740	5.2	0.56
4.23	0.800	0.500	0.740	0.740	5.2	0.56
4.54	0.800	0.500	0.740	0.740	5.2	0.56
4.84	0.800	0.500	0.740	0.740	5.2	0.56
5.14	0.800	0.500	0.740	0.740	5.2	0.56
5.44	0.800	0.500	0.740	0.740	5.2	0.56
5.75	0.800	0.500	0.740	0.740	5.2	0.56
6.05	0.800	0.500	0.740	0.740	5.2	0.56
6.35	0.800	0.500	0.740	0.740	5.2	0.56
6.65	0.800	0.500	0.740	0.740	5.2	0.56
6.96	0.800	0.500	0.740	0.740	5.2	0.56
7.26	0.800	0.500	0.740	0.740	5.2	0.56
7.56	0.800	0.500	0.740	0.740	5.2	0.56
7.86	0.800	0.500	0.740	0.740	5.2	0.56
8.17	0.800	0.500	0.740	0.740	5.2	0.56
8.47	0.800	0.500	0.740	0.740	5.2	0.56
8.77	0.800	0.500	0.740	0.740	5.2	0.56
9.07	0.800	0.500	0.740	0.740	5.2	0.56
9.38	0.800	0.500	0.740	0.740	5.2	0.56
9.68	0.800	0.500	0.740	0.740	5.2	0.56
9.98	0.800	0.500	0.740	0.740	5.2	0.56
10.28	0.800	0.500	0.740	0.740	5.2	0.56
10.59	0.800	0.500	0.740	0.740	5.2	0.56
10.89	0.800	0.500	0.740	0.740	5.2	0.56
11.19	0.800	0.500	0.740	0.740	5.2	0.56
11.49	0.800	0.500	0.740	0.740	5.2	0.56
11.80	0.800	0.500	0.740	0.740	5.2	0.56
12.10	0.800	0.500	0.740	0.740	5.2	0.56
12.40	0.800	0.500	0.740	0.740	5.2	0.56
12.70	0.800	0.500	0.740	0.740	5.2	0.56
13.01	0.800	0.500	0.740	0.740	5.2	0.56
13.31	0.800	0.500	0.740	0.740	5.2	0.56
13.61	0.800	0.500	0.740	0.740	5.2	0.56
13.91	0.800	0.500	0.740	0.740	5.2	0.56
14.22	0.800	0.500	0.740	0.740	10.5	0.56
14.52	0.800	0.500	0.740	0.740	10.5	0.56
14.82	0.800	0.500	0.740	0.740	10.5	0.56

Permanenta		Variabla		Cykliska	
V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]
7	-241	0	0	34	-23
-2	-351	0	0	64	-6
-1	-115	0	0	61	-4
21	-2	0	0	64	-5
55	-2	0	0	61	-5
38	-1	0	0	57	-5
-1	-6	0	0	56	-5
-1	-31	0	0	52	-7
-1	-43	0	0	48	-9
-1	-54	0	0	47	-10
-1	-64	0	0	43	-12
0	-70	0	0	40	-15
0	-71	0	0	40	-18
0	-67	0	0	37	-19
0	-67	0	0	35	-21
0	-74	0	0	35	-23
0	-70	0	0	32	-24
0	-63	0	0	30	-25
0	-68	0	0	31	-27
0	-67	0	0	29	-28
0	-47	0	0	27	-30
0	-19	0	0	26	-31
4	0	0	0	25	-32
19	0	0	0	23	-34
31	0	0	0	22	-35
41	0	0	0	21	-37
50	0	0	0	20	-40
56	0	0	0	20	-42
61	0	0	0	19	-45
64	1	0	0	17	-47
64	1	0	0	16	-50
63	1	0	0	14	-52
62	1	0	0	13	-55
61	1	0	0	11	-58
60	1	0	0	10	-61
59	1	0	0	8	-64
58	1	0	0	8	-68
57	1	0	0	6	-70
56	1	0	0	5	-74
55	1	0	0	4	-78
52	1	0	0	4	-80
47	1	0	0	4	-85
39	1	0	0	4	-90
28	1	0	0	4	-92
14	1	0	0	4	-97
3	-8	0	0	5	-103
5	-30	0	0	5	-107
8	-60	0	0	8	-112
13	-116	0	0	11	-119
17	-6	0	0	82	-82

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$
Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$
Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Kontroll armering

Kontroll
89.8
Max
94

Komb A: Jmf Komb A1 med A2
Komb B: Jmf Komb B1 med B2

$\Delta\sigma_{V.S.equ} = \lambda_s \cdot \Phi \cdot \Delta\sigma_{V.S.trafik}$

Snitt B3

$\Delta\sigma_{V.s} = \Delta V / (A_{sw} \cdot z \cdot (1/\tan(\theta_{fat}))$

					Armeringsspänning		Komb A		Komb B	
x [m]	**ΣV_{A1}** [kN]	**ΣV_{A2}** [kN]	**ΣV_{B1}** [kN]	**ΣV_{B2}** [kN]	**$\Delta\sigma_{V.s.A}$** [MPa]	**$\Delta\sigma_{V.s.B}$** [MPa]	**$\Delta\sigma_{V.S.A.equ}$** [MPa]	**Kontroll** $\Delta\sigma_{V.S.A.equ} \leq \Delta\sigma_{Rsk} \cdot \zeta / \gamma_{S.fat}$	**$\Delta\sigma_{V.S.B.equ}$** [MPa]	**Kontroll** $\Delta\sigma_{V.S.B.equ} \leq \Delta\sigma_{Rsk} \cdot \zeta / \gamma_{S.fat}$
0.00	41	-16	-207	-264	36.8	51.5	16.9	OK	23.6	OK
0.30	61	-8	-288	-357	55.6	63.0	25.5	OK	28.9	OK
0.60	60	-5	-54	-119	54.3	59.2	24.9	OK	27.1	OK
0.91	85	17	62	-6	124.6	112.9	57.2	OK	51.8	OK
1.21	116	50	60	-7	119.7	107.9	54.9	OK	49.5	OK
1.51	95	33	56	-6	112.5	100.9	51.6	OK	46.3	OK
1.81	55	-6	50	-11	100.4	91.2	46.1	OK	41.8	OK
2.12	51	-8	21	-38	92.4	68.5	42.4	OK	31.4	OK
2.42	47	-9	4	-52	85.0	94.1	31.4	OK	34.8	OK
2.72	47	-11	-7	-64	84.7	104.3	31.3	OK	38.5	OK
3.02	43	-13	-20	-76	77.6	100.6	28.7	OK	37.2	OK
3.33	40	-16	-30	-85	71.9	100.0	26.6	OK	37.0	OK
3.63	40	-18	-31	-88	72.0	104.2	26.6	OK	38.5	OK
3.93	37	-19	-30	-86	66.5	101.8	24.6	OK	37.6	OK
4.23	35	-21	-33	-88	62.6	100.6	23.1	OK	37.2	OK
4.54	35	-23	-39	-97	63.0	103.9	23.3	OK	38.4	OK
4.84	32	-24	-38	-94	58.7	102.2	21.7	OK	37.8	OK
5.14	30	-25	-33	-89	54.9	101.1	20.3	OK	37.3	OK
5.44	30	-27	-38	-95	55.1	103.7	20.4	OK	38.3	OK
5.75	29	-28	-38	-95	51.9	103.3	19.2	OK	38.2	OK
6.05	27	-30	-20	-76	54.3	103.0	20.1	OK	38.1	OK
6.35	26	-31	8	-50	56.4	89.9	20.8	OK	33.2	OK
6.65	29	-28	24	-33	51.9	59.2	19.2	OK	21.9	OK
6.96	43	-15	23	-34	77.3	61.7	28.6	OK	22.8	OK
7.26	54	-4	22	-36	97.2	64.4	35.9	OK	23.8	OK
7.56	63	4	21	-37	106.7	67.8	39.4	OK	25.1	OK
7.86	70	10	21	-40	109.1	71.8	40.3	OK	26.5	OK
8.17	76	14	20	-42	112.3	76.3	41.5	OK	28.2	OK
8.47	80	17	19	-44	115.2	80.1	42.6	OK	29.6	OK
8.77	81	17	18	-47	117.1	84.5	43.3	OK	31.2	OK
9.07	79	14	16	-49	118.8	89.6	43.9	OK	33.1	OK
9.38	77	11	15	-52	120.5	93.6	44.5	OK	34.6	OK
9.68	75	7	14	-54	123.0	98.5	45.5	OK	36.4	OK
9.98	73	3	12	-57	126.2	104.2	46.6	OK	38.5	OK
10.28	70	-1	11	-60	126.7	108.6	46.8	OK	40.1	OK
10.59	68	-5	9	-63	122.6	114.2	45.3	OK	42.2	OK
10.89	66	-9	9	-67	119.3	120.8	44.1	OK	44.6	OK
11.19	63	-13	7	-69	114.4	125.6	42.3	OK	46.4	OK
11.49	61	-18	6	-73	110.3	132.5	40.8	OK	49.0	OK
11.80	59	-23	5	-77	106.7	139.6	39.4	OK	51.6	OK
12.10	56	-28	5	-79	102.0	142.4	37.7	OK	52.6	OK
12.40	51	-37	5	-83	92.7	150.8	34.2	OK	55.7	OK
12.70	43	-51	5	-89	92.9	161.0	42.6	OK	73.9	OK
13.01	32	-64	5	-91	116.2	164.2	53.3	OK	75.3	OK
13.31	18	-83	6	-96	151.0	173.5	69.3	OK	79.6	OK
13.61	8	-100	-4	-111	181.2	195.0	83.1	OK	89.4	OK
13.91	10	-103	-25	-138	185.9	204.2	85.3	OK	93.7	EJ OK
14.22	15	-105	-52	-172	94.8	108.7	43.5	OK	49.8	OK
14.52	24	-106	-105	-235	95.9	117.4	44.0	OK	53.8	OK
14.82	99	-65	76	-88	89.8	79.9	41.2	OK	36.6	OK

Utmattning av järnvägsbroar- Tvärkraft

Tvärkraftsarmering Balk 4

θ_{fat} = 32.3 °

ζ = 0,35+0,026*D/Φ

(SS-EN 1992-1-1, Tabell 6.3N, ANM.1)

Snitt B4

x [m]	h [m]	b_w [m]	$d_{ök}$ [m]	d_{uk} [m]	A_{sw} [cm^2/m]	ζ
0.00	0.800	0.500	0.740	0.740	10.5	0.56
0.30	0.800	0.500	0.740	0.740	10.5	0.56
0.60	0.800	0.500	0.740	0.740	10.5	0.56
0.91	0.800	0.500	0.740	0.740	5.2	0.56
1.21	0.800	0.500	0.740	0.740	5.2	0.56
1.51	0.800	0.500	0.740	0.740	5.2	0.56
1.81	0.800	0.500	0.740	0.740	5.2	0.56
2.12	0.800	0.500	0.740	0.740	5.2	0.56
2.42	0.800	0.500	0.740	0.740	5.2	0.56
2.72	0.800	0.500	0.740	0.740	5.2	0.56
3.02	0.800	0.500	0.740	0.740	5.2	0.56
3.33	0.800	0.500	0.740	0.740	5.2	0.56
3.63	0.800	0.500	0.740	0.740	5.2	0.56
3.93	0.800	0.500	0.740	0.740	5.2	0.56
4.23	0.800	0.500	0.740	0.740	5.2	0.56
4.54	0.800	0.500	0.740	0.740	5.2	0.56
4.84	0.800	0.500	0.740	0.740	5.2	0.56
5.14	0.800	0.500	0.740	0.740	5.2	0.56
5.44	0.800	0.500	0.740	0.740	5.2	0.56
5.75	0.800	0.500	0.740	0.740	5.2	0.56
6.05	0.800	0.500	0.740	0.740	5.2	0.56
6.35	0.800	0.500	0.740	0.740	5.2	0.56
6.65	0.800	0.500	0.740	0.740	5.2	0.56
6.96	0.800	0.500	0.740	0.740	5.2	0.56
7.26	0.800	0.500	0.740	0.740	5.2	0.56
7.56	0.800	0.500	0.740	0.740	5.2	0.56
7.86	0.800	0.500	0.740	0.740	5.2	0.56
8.17	0.800	0.500	0.740	0.740	5.2	0.56
8.47	0.800	0.500	0.740	0.740	5.2	0.56
8.77	0.800	0.500	0.740	0.740	5.2	0.56
9.07	0.800	0.500	0.740	0.740	5.2	0.56
9.38	0.800	0.500	0.740	0.740	5.2	0.56
9.68	0.800	0.500	0.740	0.740	5.2	0.56
9.98	0.800	0.500	0.740	0.740	5.2	0.56
10.28	0.800	0.500	0.740	0.740	5.2	0.56
10.59	0.800	0.500	0.740	0.740	5.2	0.56
10.89	0.800	0.500	0.740	0.740	5.2	0.56
11.19	0.800	0.500	0.740	0.740	5.2	0.56
11.49	0.800	0.500	0.740	0.740	5.2	0.56
11.80	0.800	0.500	0.740	0.740	5.2	0.56
12.10	0.800	0.500	0.740	0.740	5.2	0.56
12.40	0.800	0.500	0.740	0.740	5.2	0.56
12.70	0.800	0.500	0.740	0.740	5.2	0.56
13.01	0.800	0.500	0.740	0.740	5.2	0.56
13.31	0.800	0.500	0.740	0.740	5.2	0.56
13.61	0.800	0.500	0.740	0.740	5.2	0.56
13.91	0.800	0.500	0.740	0.740	5.2	0.56
14.22	0.800	0.500	0.740	0.740	10.5	0.56
14.52	0.800	0.500	0.740	0.740	10.5	0.56
14.82	0.800	0.500	0.740	0.740	10.5	0.56

Permanenta		Variabla		Cykliska	
V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]
228	0	0	0	23	-33
332	-2	0	0	6	-62
105	-1	0	0	4	-60
-1	-27	0	0	5	-63
-1	-60	0	0	5	-60
-1	-39	0	0	5	-56
10	-1	0	0	5	-55
38	-1	0	0	6	-51
51	-1	0	0	8	-47
62	0	0	0	10	-46
73	0	0	0	11	-42
79	0	0	0	14	-39
78	1	0	0	17	-39
69	0	0	0	19	-36
54	0	0	0	20	-34
42	-1	0	0	22	-34
80	-1	0	0	23	-32
114	-1	0	0	24	-30
102	-1	0	0	26	-30
84	-1	0	0	27	-28
55	-1	0	0	29	-26
24	0	0	0	30	-25
1	0	0	0	31	-24
0	-17	0	0	33	-22
0	-30	0	0	34	-21
0	-40	0	0	36	-20
0	-49	0	0	39	-19
0	-55	0	0	41	-19
0	-59	0	0	44	-18
0	-60	0	0	46	-16
0	-60	0	0	49	-15
0	-59	0	0	51	-13
0	-58	0	0	54	-12
0	-56	0	0	57	-11
0	-55	0	0	60	-9
0	-54	0	0	63	-8
0	-52	0	0	66	-7
0	-51	0	0	69	-5
0	-50	0	0	73	-4
0	-48	0	0	77	-4
-1	-45	0	0	79	-4
-1	-40	0	0	83	-4
-1	-32	0	0	89	-4
-1	-22	0	0	91	-4
-1	-8	0	0	95	-4
13	-4	0	0	101	-5
33	-7	0	0	105	-6
62	-13	0	0	110	-8
119	-22	0	0	116	-11
5	-28	0	0	80	-80

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$

Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$

Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Kontroll armering

Kontroll
89.8
Max
92

Komb A: Jmf Komb A1 med A2

Komb B: Jmf Komb B1 med B2

Snitt B4

$\Delta\sigma_{V.s} = \Delta V / (A_{sw} \cdot z \cdot (1/\tan(\theta_{fat}))$

					Armeringsspänning	
x [m]	**ΣV_{A1}** [kN]	**ΣV_{A2}** [kN]	**ΣV_{B1}** [kN]	**ΣV_{B2}** [kN]	**$\Delta\sigma_{V.s.A}$** [MPa]	**$\Delta\sigma_{V.s.B}$** [MPa]
0.00	251	195	23	-34	51.0	30.4
0.30	338	270	4	-64	61.7	57.9
0.60	109	45	3	-61	58.2	55.4
0.91	4	-63	-22	-90	114.8	122.4
1.21	4	-61	-55	-120	109.8	117.5
1.51	4	-57	-34	-95	103.2	110.9
1.81	15	-45	4	-57	81.8	102.6
2.12	44	-13	5	-52	79.6	94.1
2.42	59	4	7	-48	100.0	86.8
2.72	72	16	9	-47	101.4	84.7
3.02	84	30	11	-43	97.7	77.1
3.33	93	40	15	-39	97.5	70.6
3.63	95	39	17	-38	101.1	69.6
3.93	88	33	19	-36	98.8	64.4
4.23	74	20	20	-34	97.9	60.9
4.54	64	9	21	-34	100.7	62.2
4.84	103	49	22	-32	99.1	58.8
5.14	138	84	23	-31	98.3	56.7
5.44	127	72	24	-31	100.4	56.2
5.75	111	56	26	-29	100.0	52.6
6.05	84	29	28	-27	99.8	50.9
6.35	54	-1	30	-25	98.4	53.8
6.65	32	-23	31	-24	57.6	56.8
6.96	33	-22	16	-39	60.5	71.3
7.26	35	-21	5	-51	63.1	93.1
7.56	37	-20	-4	-61	66.6	103.2
7.86	39	-19	-10	-68	70.6	105.2
8.17	41	-19	-14	-73	74.7	108.4
8.47	43	-18	-15	-77	78.8	111.6
8.77	46	-16	-14	-77	83.2	113.1
9.07	49	-15	-11	-75	88.0	114.9
9.38	51	-14	-8	-72	92.4	116.9
9.68	54	-12	-4	-70	97.4	119.5
9.98	57	-11	1	-67	102.8	121.1
10.28	59	-9	5	-64	107.7	115.6
10.59	62	-8	9	-62	113.3	111.5
10.89	66	-7	14	-59	119.5	107.5
11.19	69	-5	18	-56	124.8	102.2
11.49	73	-5	23	-54	131.7	98.2
11.80	77	-4	29	-52	138.7	94.6
12.10	78	-5	33	-49	142.0	89.4
12.40	83	-5	43	-44	149.7	80.0
12.70	88	-5	56	-36	159.4	102.3
13.01	90	-5	69	-26	162.7	125.3
13.31	94	-6	87	-12	170.4	158.1
13.61	114	8	97	-9	191.7	176.2
13.91	138	28	98	-13	200.8	178.0
14.22	172	54	97	-21	106.7	88.0
14.52	235	107	94	-34	115.7	85.2
14.82	85	-74	52	-107	77.1	97.4

$\Delta\sigma_{V.S.equ} = \lambda_s \cdot \Phi \cdot \Delta\sigma_{V.S.trafik}$

Komb A		Komb B	
$\Delta\sigma_{V.S.A.equ}$ [MPa]	**Kontroll** $\Delta\sigma_{V.S.A.equ} \leq \Delta\sigma_{Rsk} \cdot \zeta / \gamma_{S.fat}$	**$\Delta\sigma_{V.S.B.equ}$** [MPa]	**Kontroll** $\Delta\sigma_{V.S.B.equ} \leq \Delta\sigma_{Rsk} \cdot \zeta / \gamma_{S.fat}$
23.4	OK	13.9	OK
28.3	OK	26.6	OK
26.7	OK	25.4	OK
52.7	OK	56.2	OK
50.4	OK	53.9	OK
47.4	OK	50.9	OK
37.5	OK	47.1	OK
36.5	OK	43.2	OK
37.0	OK	32.1	OK
37.5	OK	31.3	OK
36.1	OK	28.5	OK
36.0	OK	26.1	OK
37.4	OK	25.7	OK
36.5	OK	23.8	OK
36.2	OK	22.5	OK
37.2	OK	23.0	OK
36.6	OK	21.7	OK
36.3	OK	21.0	OK
37.1	OK	20.8	OK
37.0	OK	19.4	OK
36.9	OK	18.8	OK
36.3	OK	19.9	OK
21.3	OK	21.0	OK
22.4	OK	26.4	OK
23.3	OK	34.4	OK
24.6	OK	38.1	OK
26.1	OK	38.9	OK
27.6	OK	40.1	OK
29.1	OK	41.3	OK
30.7	OK	41.8	OK
32.5	OK	42.4	OK
34.2	OK	43.2	OK
36.0	OK	44.2	OK
38.0	OK	44.8	OK
39.8	OK	42.7	OK
41.9	OK	41.2	OK
44.2	OK	39.7	OK
46.1	OK	37.8	OK
48.7	OK	36.3	OK
51.3	OK	35.0	OK
52.5	OK	33.0	OK
55.3	OK	29.6	OK
73.1	OK	46.9	OK
74.6	OK	57.5	OK
78.2	OK	72.5	OK
87.9	OK	80.8	OK
92.1	EJ OK	81.6	OK
48.9	OK	40.4	OK
53.1	OK	39.1	OK
35.4	OK	44.7	OK

Utmattning av järnvägsbroar- Tvärkraft

Tvärkraftsarmering Balk 5

θ_{fat} = 32.3 °

ζ = 0,35+0,026*D/Φ

(SS-EN 1992-1-1, Tabell 6.3N, ANM.1)

Snitt B5

x [m]	h [m]	b_w [m]	$d_{ök}$ [m]	d_{uk} [m]	A_{sw} [cm^2/m]	ζ
0.00	0.750	0.600	0.690	0.690	10.5	0.56
0.30	0.750	0.600	0.690	0.690	10.5	0.56
0.60	0.750	0.600	0.690	0.690	10.5	0.56
0.91	0.750	0.600	0.690	0.690	5.2	0.56
1.21	0.750	0.600	0.690	0.690	5.2	0.56
1.51	0.750	0.600	0.690	0.690	5.2	0.56
1.81	0.750	0.600	0.690	0.690	5.2	0.56
2.12	0.750	0.600	0.690	0.690	5.2	0.56
2.42	0.750	0.600	0.690	0.690	5.2	0.56
2.72	0.750	0.600	0.690	0.690	5.2	0.56
3.02	0.750	0.600	0.690	0.690	5.2	0.56
3.33	0.750	0.600	0.690	0.690	5.2	0.56
3.63	0.750	0.600	0.690	0.690	5.2	0.56
3.93	0.750	0.600	0.690	0.690	5.2	0.56
4.23	0.750	0.600	0.690	0.690	5.2	0.56
4.54	0.750	0.600	0.690	0.690	5.2	0.56
4.84	0.750	0.600	0.690	0.690	5.2	0.56
5.14	0.750	0.600	0.690	0.690	5.2	0.56
5.44	0.750	0.600	0.690	0.690	5.2	0.56
5.75	0.750	0.600	0.690	0.690	5.2	0.56
6.05	0.750	0.600	0.690	0.690	5.2	0.56
6.35	0.750	0.600	0.690	0.690	5.2	0.56
6.65	0.750	0.600	0.690	0.690	5.2	0.56
6.96	0.750	0.600	0.690	0.690	5.2	0.56
7.26	0.750	0.600	0.690	0.690	5.2	0.56
7.56	0.750	0.600	0.690	0.690	5.2	0.56
7.86	0.750	0.600	0.690	0.690	5.2	0.56
8.17	0.750	0.600	0.690	0.690	5.2	0.56
8.47	0.750	0.600	0.690	0.690	5.2	0.56
8.77	0.750	0.600	0.690	0.690	5.2	0.56
9.07	0.750	0.600	0.690	0.690	5.2	0.56
9.38	0.750	0.600	0.690	0.690	5.2	0.56
9.68	0.750	0.600	0.690	0.690	5.2	0.56
9.98	0.750	0.600	0.690	0.690	5.2	0.56
10.28	0.750	0.600	0.690	0.690	5.2	0.56
10.59	0.750	0.600	0.690	0.690	5.2	0.56
10.89	0.750	0.600	0.690	0.690	5.2	0.56
11.19	0.750	0.600	0.690	0.690	5.2	0.56
11.49	0.750	0.600	0.690	0.690	5.2	0.56
11.80	0.750	0.600	0.690	0.690	5.2	0.56
12.10	0.750	0.600	0.690	0.690	5.2	0.56
12.40	0.750	0.600	0.690	0.690	5.2	0.56
12.70	0.750	0.600	0.690	0.690	5.2	0.56
13.01	0.750	0.600	0.690	0.690	5.2	0.56
13.31	0.750	0.600	0.690	0.690	5.2	0.56
13.61	0.750	0.600	0.690	0.690	5.2	0.56
13.91	0.750	0.600	0.690	0.690	5.2	0.56
14.22	0.750	0.600	0.690	0.690	10.5	0.56
14.52	0.750	0.600	0.690	0.690	10.5	0.56
14.82	0.750	0.600	0.690	0.690	10.5	0.56

Permanenta		Variabla		Cykliska	
V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]
216	-2	0	0	9	-35
320	-4	0	0	8	-69
117	-3	0	0	5	-66
2	-2	0	0	5	-66
-1	-32	0	0	4	-66
-1	-36	0	0	5	-61
-2	-9	0	0	7	-57
36	-3	0	0	8	-55
69	-3	0	0	10	-51
101	-3	0	0	13	-48
124	-3	0	0	16	-46
116	-3	0	0	19	-42
89	-3	0	0	21	-41
61	-3	0	0	22	-39
35	-2	0	0	24	-37
15	-2	0	0	26	-36
6	-2	0	0	27	-35
67	-2	0	0	28	-33
132	-2	0	0	29	-33
124	-2	0	0	31	-31
98	-2	0	0	32	-29
67	-2	0	0	33	-28
37	-1	0	0	35	-27
10	-1	0	0	36	-26
0	-12	0	0	38	-25
0	-30	0	0	39	-24
0	-43	0	0	41	-23
0	-53	0	0	45	-22
0	-58	0	0	46	-21
1	-59	0	0	48	-21
1	-57	0	0	52	-19
1	-55	0	0	53	-17
1	-53	0	0	56	-16
1	-51	0	0	60	-14
1	-51	0	0	62	-13
1	-50	0	0	65	-11
1	-51	0	0	69	-10
1	-52	0	0	72	-8
1	-54	0	0	76	-6
1	-56	0	0	80	-5
1	-58	0	0	83	-4
0	-56	0	0	89	-5
0	-52	0	0	93	-5
0	-45	0	0	97	-5
-1	-35	0	0	103	-5
-2	-21	0	0	109	-6
5	-18	0	0	114	-8
40	-33	0	0	120	-11
111	-56	0	0	127	-15
6	-71	0	0	84	-84

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$

Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$

Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Kontroll armering

Kontroll
89.8
Max
106

Komb A: Jmf Komb A1 med A2

Komb B: Jmf Komb B1 med B2

$\Delta\sigma_{V.S.equ} = \lambda_s \cdot \Phi \cdot \Delta\sigma_{V.S.trafik}$

Snitt B5

$\Delta\sigma_{V.s} = \Delta V / (A_{sw} \cdot z \cdot (1/\tan(\theta_{fat}))$

					Armeringsspänning		Komb A		Komb B	
x [m]	**ΣV_{A1}** [kN]	**ΣV_{A2}** [kN]	**ΣV_{B1}** [kN]	**ΣV_{B2}** [kN]	**$\Delta\sigma_{V.s.A}$** [MPa]	**$\Delta\sigma_{V.s.B}$** [MPa]	**$\Delta\sigma_{V.S.A.equ}$** [MPa]	Kontroll $\Delta\sigma_{V.S.A.equ} \leq \Delta\sigma_{Rsk} \cdot \zeta / \gamma_{S.fat}$	**$\Delta\sigma_{V.S.B.equ}$** [MPa]	Kontroll $\Delta\sigma_{V.S.B.equ} \leq \Delta\sigma_{Rsk} \cdot \zeta / \gamma_{S.fat}$
0.00	225	181	7	-37	42.9	36.0	19.7	OK	16.5	OK
0.30	328	251	5	-72	74.9	70.3	34.4	OK	32.2	OK
0.60	122	51	2	-68	68.7	66.3	31.5	OK	30.4	OK
0.91	7	-64	2	-68	123.9	132.8	56.9	OK	60.9	OK
1.21	4	-66	-28	-98	128.9	136.4	59.1	OK	62.6	OK
1.51	4	-62	-31	-97	120.7	128.3	55.4	OK	58.8	OK
1.81	5	-59	-2	-66	115.3	124.8	52.9	OK	57.2	OK
2.12	45	-19	5	-58	86.8	113.3	39.8	OK	52.0	OK
2.42	79	18	7	-54	118.6	104.9	43.8	OK	38.8	OK
2.72	114	53	10	-51	118.4	99.8	43.8	OK	36.9	OK
3.02	140	78	13	-49	120.7	96.0	44.6	OK	35.5	OK
3.33	134	73	16	-45	118.7	88.4	43.9	OK	32.7	OK
3.63	109	48	18	-44	119.5	85.0	44.2	OK	31.4	OK
3.93	83	21	20	-42	120.1	81.4	44.4	OK	30.1	OK
4.23	59	-1	22	-39	115.3	75.9	42.6	OK	28.1	OK
4.54	40	-21	23	-38	78.7	74.6	29.1	OK	27.6	OK
4.84	33	-29	25	-37	63.6	71.8	23.5	OK	26.5	OK
5.14	95	35	25	-35	117.6	68.2	43.5	OK	25.2	OK
5.44	161	99	27	-35	119.6	67.4	44.2	OK	24.9	OK
5.75	154	93	29	-33	119.8	64.2	44.3	OK	23.7	OK
6.05	130	69	30	-31	118.5	60.4	43.8	OK	22.3	OK
6.35	101	39	32	-30	120.3	61.6	44.4	OK	22.8	OK
6.65	72	10	34	-28	120.6	65.3	44.6	OK	24.1	OK
6.96	47	-15	35	-27	90.7	68.3	33.5	OK	25.2	OK
7.26	38	-25	26	-37	73.4	71.3	27.1	OK	26.3	OK
7.56	39	-24	10	-54	76.1	104.1	28.1	OK	38.5	OK
7.86	41	-23	-2	-66	80.5	125.6	29.7	OK	46.4	OK
8.17	45	-22	-8	-75	87.0	129.3	32.2	OK	47.8	OK
8.47	46	-21	-12	-79	89.9	130.9	33.2	OK	48.4	OK
8.77	49	-20	-11	-80	94.9	133.8	35.1	OK	49.4	OK
9.07	52	-18	-6	-76	102.0	136.6	37.7	OK	50.5	OK
9.38	54	-16	-2	-72	105.3	137.2	38.9	OK	50.7	OK
9.68	57	-15	3	-69	110.8	133.5	40.9	OK	49.3	OK
9.98	61	-13	8	-66	118.5	127.6	43.8	OK	47.2	OK
10.28	63	-12	11	-63	122.2	123.4	45.2	OK	45.6	OK
10.59	66	-10	14	-61	128.4	119.4	47.4	OK	44.1	OK
10.89	70	-9	18	-61	137.1	118.5	50.6	OK	43.8	OK
11.19	73	-7	19	-60	141.5	116.9	52.3	OK	43.2	OK
11.49	77	-5	22	-60	149.5	116.9	55.2	OK	43.2	OK
11.80	81	-4	24	-62	157.6	120.1	58.2	OK	44.4	OK
12.10	84	-4	25	-62	162.5	120.7	60.1	OK	44.6	OK
12.40	89	-4	32	-61	173.1	118.7	64.0	OK	43.9	OK
12.70	94	-5	41	-57	181.8	111.4	83.4	OK	51.1	OK
13.01	97	-5	52	-50	187.8	100.6	86.2	OK	46.2	OK
13.31	102	-6	69	-40	198.9	133.4	91.2	EJ OK	61.2	OK
13.61	106	-9	88	-27	206.3	170.5	94.6	EJ OK	78.2	OK
13.91	119	-2	96	-26	231.4	186.3	106.2	EJ OK	85.4	OK
14.22	160	29	87	-44	127.5	84.9	58.5	OK	39.0	OK
14.52	238	96	71	-71	138.0	69.2	63.3	OK	31.7	OK
14.82	90	-79	13	-156	87.5	151.2	40.1	OK	69.4	OK

Utmattning av järnvägsbroar- Tvärkraft

Tvärkraftsarmering Balk 6

θ_{fat} = 32.3 °

ζ = 0,35+0,026*D/Φ

(SS-EN 1992-1-1, Tabell 6.3N, ANM.1)

Snitt B6

x [m]	h [m]	b_w [m]	$d_{ök}$ [m]	d_{uk} [m]	A_{sw} [cm²/m]	ζ
0.00	0.830	0.500	0.770	0.770	10.5	0.56
0.30	0.830	0.500	0.770	0.770	10.5	0.56
0.60	0.830	0.500	0.770	0.770	10.5	0.56
0.91	0.830	0.500	0.770	0.770	5.2	0.56
1.21	0.830	0.500	0.770	0.770	5.2	0.56
1.51	0.830	0.500	0.770	0.770	5.2	0.56
1.81	0.830	0.500	0.770	0.770	5.2	0.56
2.12	0.830	0.500	0.770	0.770	5.2	0.56
2.42	0.830	0.500	0.770	0.770	5.2	0.56
2.72	0.830	0.500	0.770	0.770	5.2	0.56
3.02	0.830	0.500	0.770	0.770	5.2	0.56
3.33	0.830	0.500	0.770	0.770	5.2	0.56
3.63	0.830	0.500	0.770	0.770	5.2	0.56
3.93	0.830	0.500	0.770	0.770	5.2	0.56
4.23	0.830	0.500	0.770	0.770	5.2	0.56
4.54	0.830	0.500	0.770	0.770	5.2	0.56
4.84	0.830	0.500	0.770	0.770	5.2	0.56
5.14	0.830	0.500	0.770	0.770	5.2	0.56
5.44	0.830	0.500	0.770	0.770	5.2	0.56
5.75	0.830	0.500	0.770	0.770	5.2	0.56
6.05	0.830	0.500	0.770	0.770	5.2	0.56
6.35	0.830	0.500	0.770	0.770	5.2	0.56
6.65	0.830	0.500	0.770	0.770	5.2	0.56
6.96	0.830	0.500	0.770	0.770	5.2	0.56
7.26	0.830	0.500	0.770	0.770	5.2	0.56
7.56	0.830	0.500	0.770	0.770	5.2	0.56
7.86	0.830	0.500	0.770	0.770	5.2	0.56
8.17	0.830	0.500	0.770	0.770	5.2	0.56
8.47	0.830	0.500	0.770	0.770	5.2	0.56
8.77	0.830	0.500	0.770	0.770	5.2	0.56
9.07	0.830	0.500	0.770	0.770	5.2	0.56
9.38	0.830	0.500	0.770	0.770	5.2	0.56
9.68	0.830	0.500	0.770	0.770	5.2	0.56
9.98	0.830	0.500	0.770	0.770	5.2	0.56
10.28	0.830	0.500	0.770	0.770	5.2	0.56
10.59	0.830	0.500	0.770	0.770	5.2	0.56
10.89	0.830	0.500	0.770	0.770	5.2	0.56
11.19	0.830	0.500	0.770	0.770	5.2	0.56
11.49	0.830	0.500	0.770	0.770	5.2	0.56
11.80	0.830	0.500	0.770	0.770	5.2	0.56
12.10	0.830	0.500	0.770	0.770	5.2	0.56
12.40	0.830	0.500	0.770	0.770	5.2	0.56
12.70	0.830	0.500	0.770	0.770	5.2	0.56
13.01	0.830	0.500	0.770	0.770	5.2	0.56
13.31	0.830	0.500	0.770	0.770	5.2	0.56
13.61	0.830	0.500	0.770	0.770	5.2	0.56
13.91	0.830	0.500	0.770	0.770	5.2	0.56
14.22	0.830	0.500	0.770	0.770	10.5	0.56
14.52	0.830	0.500	0.770	0.770	10.5	0.56
14.82	0.830	0.500	0.770	0.770	10.5	0.56

Permanenta		Variabla		Cykliska	
V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]
31	-203	0	0	14	-17
-13	-291	0	0	30	-3
-8	-75	0	0	32	-3
59	-11	0	0	31	-3
92	-10	0	0	31	-2
86	-9	0	0	30	-2
48	-9	0	0	28	-2
-6	-10	0	0	26	-2
-11	-37	0	0	25	-2
-11	-43	0	0	23	-2
-11	-53	0	0	21	-2
-11	-61	0	0	19	-2
-10	-59	0	0	17	-2
-9	-46	0	0	15	-2
-7	-24	0	0	13	-2
3	-7	0	0	11	-2
-5	-18	0	0	10	-3
-4	-94	0	0	9	-3
-4	-126	0	0	7	-4
-4	-102	0	0	6	-5
-4	-73	0	0	5	-7
-4	-43	0	0	5	-8
-3	-16	0	0	4	-9
6	-4	0	0	3	-11
23	-3	0	0	2	-13
37	-2	0	0	1	-15
46	-1	0	0	1	-17
52	0	0	0	1	-19
54	0	0	0	1	-21
52	1	0	0	1	-23
48	1	0	0	1	-25
44	2	0	0	0	-27
40	2	0	0	0	-29
37	3	0	0	0	-31
35	3	0	0	0	-33
34	3	0	0	0	-34
34	4	0	0	0	-36
35	4	0	0	1	-37
36	5	0	0	1	-38
38	5	0	0	1	-39
37	5	0	0	1	-40
31	6	0	0	1	-41
18	6	0	0	1	-41
9	-7	0	0	1	-40
13	-34	0	0	1	-40
21	-68	0	0	1	-39
35	-111	0	0	1	-37
62	-169	0	0	2	-36
104	-282	0	0	3	-35
110	-11	0	0	44	-44

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$

Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$

Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Kontroll armering

Kontroll
89.8
Max
35

Komb A: Jmf Komb A1 med A2

Komb B: Jmf Komb B1 med B2

$\Delta\sigma_{V.s} = \Delta V / (A_{sw} \cdot z \cdot (1/\tan(\theta_{fat}))$

$\Delta\sigma_{V.S.equ} = \lambda_s \cdot \Phi \cdot \Delta\sigma_{V.S.trafik}$

Snitt B6					Armeringsspänning		Komb A		Komb B	
x [m]	ΣV_{A1} [kN]	ΣV_{A2} [kN]	ΣV_{B1} [kN]	ΣV_{B2} [kN]	$\Delta\sigma_{V.s.A}$ [MPa]	$\Delta\sigma_{V.s.B}$ [MPa]	$\Delta\sigma_{V.S.A.equ}$ [MPa]	Kontroll $\Delta\sigma_{V.S.A.equ} \leq \Delta\sigma_{Rsk} \cdot \zeta / \gamma_{S.fat}$	$\Delta\sigma_{V.S.B.equ}$ [MPa]	Kontroll $\Delta\sigma_{V.S.B.equ} \leq \Delta\sigma_{Rsk} \cdot \zeta / \gamma_{S.fat}$
0.00	46	14	-189	-220	27.6	27.6	12.7	OK	12.7	OK
0.30	17	-16	-261	-295	15.2	29.2	7.0	OK	13.4	OK
0.60	24	-11	-43	-78	20.9	30.3	9.6	OK	13.9	OK
0.91	91	57	21	-13	59.4	36.2	27.3	OK	16.6	OK
1.21	122	89	21	-12	57.8	36.8	26.5	OK	16.9	OK
1.51	115	83	20	-12	55.5	35.3	25.5	OK	16.2	OK
1.81	76	46	19	-12	52.9	32.5	24.3	OK	14.9	OK
2.12	20	-8	16	-12	35.3	28.2	16.2	OK	13.0	OK
2.42	14	-13	-12	-39	24.4	46.8	9.0	OK	17.3	OK
2.72	12	-13	-20	-45	23.4	43.6	8.7	OK	16.1	OK
3.02	9	-14	-33	-56	23.8	40.1	8.8	OK	14.8	OK
3.33	8	-13	-42	-63	23.2	36.5	8.6	OK	13.5	OK
3.63	7	-13	-42	-61	21.8	33.1	8.0	OK	12.2	OK
3.93	6	-11	-32	-49	19.7	29.9	7.3	OK	11.0	OK
4.23	6	-10	-11	-26	17.2	26.9	6.4	OK	9.9	OK
4.54	14	0	4	-10	24.3	16.6	9.0	OK	6.1	OK
4.84	5	-8	-8	-21	13.2	21.8	4.9	OK	8.1	OK
5.14	4	-7	-85	-97	12.5	19.9	4.6	OK	7.3	OK
5.44	3	-8	-119	-130	13.8	19.1	5.1	OK	7.0	OK
5.75	2	-9	-96	-107	16.0	19.6	5.9	OK	7.3	OK
6.05	1	-10	-68	-79	18.3	20.8	6.8	OK	7.7	OK
6.35	1	-12	-38	-51	20.3	22.0	7.5	OK	8.1	OK
6.65	1	-13	-11	-25	22.0	23.1	8.1	OK	8.5	OK
6.96	9	-5	0	-15	15.8	24.7	5.8	OK	9.1	OK
7.26	25	10	0	-16	26.5	26.5	9.8	OK	9.8	OK
7.56	38	22	-1	-17	28.0	28.0	10.4	OK	10.4	OK
7.86	47	30	0	-18	30.7	30.7	11.4	OK	11.4	OK
8.17	53	33	0	-19	34.3	33.4	12.7	OK	12.3	OK
8.47	54	33	1	-21	37.9	36.0	14.0	OK	13.3	OK
8.77	53	29	2	-22	41.4	38.7	15.3	OK	14.3	OK
9.07	49	23	2	-24	44.8	41.3	16.5	OK	15.3	OK
9.38	44	17	2	-25	48.2	44.1	17.8	OK	16.3	OK
9.68	41	11	3	-27	51.7	46.9	19.1	OK	17.3	OK
9.98	38	6	3	-28	55.0	49.5	20.3	OK	18.3	OK
10.28	36	2	4	-30	58.1	51.9	21.5	OK	19.2	OK
10.59	35	0	4	-31	60.7	53.9	22.4	OK	19.9	OK
10.89	35	-2	4	-32	60.4	55.8	22.3	OK	20.6	OK
11.19	35	-3	5	-33	61.4	57.6	22.7	OK	21.3	OK
11.49	37	-2	5	-34	64.0	59.1	23.6	OK	21.8	OK
11.80	38	-2	5	-35	66.6	60.3	24.6	OK	22.3	OK
12.10	37	-4	6	-35	64.9	61.1	24.0	OK	22.6	OK
12.40	31	-10	6	-35	54.5	61.1	20.1	OK	22.6	OK
12.70	19	-22	7	-35	38.6	60.2	17.7	OK	27.6	OK
13.01	10	-31	-6	-47	54.2	71.9	24.9	OK	33.0	OK
13.31	14	-27	-33	-74	46.4	70.9	21.3	OK	32.5	OK
13.61	22	-18	-67	-107	38.2	69.3	17.5	OK	31.8	OK
13.91	36	-2	-109	-148	63.4	67.4	29.1	OK	30.9	OK
14.22	64	27	-168	-205	32.8	32.8	15.0	OK	15.0	OK
14.52	107	69	-279	-317	33.1	33.1	15.2	OK	15.2	OK
14.82	154	66	33	-55	76.9	48.3	35.3	OK	22.1	OK

Utmattning av järnvägsbroar- Tvärkraft

Betongtrycksträvor Balk 5

f_{ck} =	35.5	MPa	ν =	0.51
$f_{cd.fat}$ =	22.4	MPa	α_{cw} =	1.0
θ_{fat} =	32.3	°		

Snitt B3

x [m]	h [m]	b_w [m]	$d_{ök}$ [m]	d_{uk} [m]	A_{sw} [cm^2/m]	Permanenta V_{max} [kN]	Permanenta V_{min} [kN]	Variabla V_{max} [kN]	Variabla V_{min} [kN]	Cykliska V_{max} [kN]	Cykliska V_{min} [kN]
0.00	0.750	0.600	0.690	0.690	10.5	216	-2	0	0	9	-35
0.30	0.750	0.600	0.690	0.690	10.5	320	-4	0	0	8	-69
0.60	0.750	0.600	0.690	0.690	10.5	117	-3	0	0	5	-66
0.91	0.750	0.600	0.690	0.690	5.2	2	-2	0	0	5	-66
1.21	0.750	0.600	0.690	0.690	5.2	-1	-32	0	0	4	-66
1.51	0.750	0.600	0.690	0.690	5.2	-1	-36	0	0	5	-61
1.81	0.750	0.600	0.690	0.690	5.2	-2	-9	0	0	7	-57
2.12	0.750	0.600	0.690	0.690	5.2	36	-3	0	0	8	-55
2.42	0.750	0.600	0.690	0.690	5.2	69	-3	0	0	10	-51
2.72	0.750	0.600	0.690	0.690	5.2	101	-3	0	0	13	-48
3.02	0.750	0.600	0.690	0.690	5.2	124	-3	0	0	16	-46
3.33	0.750	0.600	0.690	0.690	5.2	116	-3	0	0	19	-42
3.63	0.750	0.600	0.690	0.690	5.2	89	-3	0	0	21	-41
3.93	0.750	0.600	0.690	0.690	5.2	61	-3	0	0	22	-39
4.23	0.750	0.600	0.690	0.690	5.2	35	-2	0	0	24	-37
4.54	0.750	0.600	0.690	0.690	5.2	15	-2	0	0	26	-36
4.84	0.750	0.600	0.690	0.690	5.2	6	-2	0	0	27	-35
5.14	0.750	0.600	0.690	0.690	5.2	67	-2	0	0	28	-33
5.44	0.750	0.600	0.690	0.690	5.2	132	-2	0	0	29	-33
5.75	0.750	0.600	0.690	0.690	5.2	124	-2	0	0	31	-31
6.05	0.750	0.600	0.690	0.690	5.2	98	-2	0	0	32	-29
6.35	0.750	0.600	0.690	0.690	5.2	67	-2	0	0	33	-28
6.65	0.750	0.600	0.690	0.690	5.2	37	-1	0	0	35	-27
6.96	0.750	0.600	0.690	0.690	5.2	10	-1	0	0	36	-26
7.26	0.750	0.600	0.690	0.690	5.2	0	-12	0	0	38	-25
7.56	0.750	0.600	0.690	0.690	5.2	0	-30	0	0	39	-24
7.86	0.750	0.600	0.690	0.690	5.2	0	-43	0	0	41	-23
8.17	0.750	0.600	0.690	0.690	5.2	0	-53	0	0	45	-22
8.47	0.750	0.600	0.690	0.690	5.2	0	-58	0	0	46	-21
8.77	0.750	0.600	0.690	0.690	5.2	1	-59	0	0	48	-21
9.07	0.750	0.600	0.690	0.690	5.2	1	-57	0	0	52	-19
9.38	0.750	0.600	0.690	0.690	5.2	1	-55	0	0	53	-17
9.68	0.750	0.600	0.690	0.690	5.2	1	-53	0	0	56	-16
9.98	0.750	0.600	0.690	0.690	5.2	1	-51	0	0	60	-14
10.28	0.750	0.600	0.690	0.690	5.2	1	-51	0	0	62	-13
10.59	0.750	0.600	0.690	0.690	5.2	1	-50	0	0	65	-11
10.89	0.750	0.600	0.690	0.690	5.2	1	-51	0	0	69	-10
11.19	0.750	0.600	0.690	0.690	5.2	1	-52	0	0	72	-8
11.49	0.750	0.600	0.690	0.690	5.2	1	-54	0	0	76	-6
11.80	0.750	0.600	0.690	0.690	5.2	1	-56	0	0	80	-5
12.10	0.750	0.600	0.690	0.690	5.2	1	-58	0	0	83	-4
12.40	0.750	0.600	0.690	0.690	5.2	0	-56	0	0	89	-5
12.70	0.750	0.600	0.690	0.690	5.2	0	-52	0	0	93	-5
13.01	0.750	0.600	0.690	0.690	5.2	0	-45	0	0	97	-5
13.31	0.750	0.600	0.690	0.690	5.2	-1	-35	0	0	103	-5
13.61	0.750	0.600	0.690	0.690	5.2	-2	-21	0	0	109	-6
13.91	0.750	0.600	0.690	0.690	5.2	5	-18	0	0	114	-8
14.22	0.750	0.600	0.690	0.690	10.5	40	-33	0	0	120	-11
14.52	0.750	0.600	0.690	0.690	10.5	111	-56	0	0	127	-15
14.82	0.750	0.600	0.690	0.690	10.5	6	-71	0	0	84	-84

Komb A1: $\Sigma V_{A1} = V_{max.per} + V_{max.cyk}$

Komb A2: $\Sigma V_{A2} = V_{max.per} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per} + V_{max.cyk}$

Komb B2: $\Sigma V_{B2} = V_{min.per} + V_{min.cyk}$

$\sigma_{V.c} = V \bullet (\cot(\theta fat) + \tan(\theta_{fat})) / (\alpha_{cw} \bullet b_w \bullet 0{,}9d \bullet \nu)$

Snitt B3					Betongspänningar					
					Komb A			Komb B		
x	ΣV_{A1}	ΣV_{A2}	ΣV_{B1}	ΣV_{B2}	$\sigma_{V.c.A.max}$	$\sigma_{V.c.A.min}$	$\sigma_{V.c.A.perm}$	$\sigma_{V.c.B.max}$	$\sigma_{V.c.B.min}$	$\sigma_{V.c.B.perm}$
[m]	[kN]	[kN]	[kN]	[kN]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]
0.00	225	181	7	-37	2.6	2.1	2.5	0.1	-0.4	0.0
0.30	328	251	5	-72	3.8	2.9	3.7	0.1	-0.8	0.0
0.60	122	51	2	-68	1.4	0.6	1.4	0.0	-0.8	0.0
0.91	7	-64	2	-68	0.1	-0.7	0.0	0.0	-0.8	0.0
1.21	4	-66	-28	-98	0.0	-0.8	0.0	-0.3	-1.1	-0.4
1.51	4	-62	-31	-97	0.0	-0.7	0.0	-0.4	-1.1	-0.4
1.81	5	-59	-2	-66	0.1	-0.7	0.0	0.0	-0.8	-0.1
2.12	45	-19	5	-58	0.5	-0.2	0.4	0.1	-0.7	0.0
2.42	79	18	7	-54	0.9	0.2	0.8	0.1	-0.6	0.0
2.72	114	53	10	-51	1.3	0.6	1.2	0.1	-0.6	0.0
3.02	140	78	13	-49	1.6	0.9	1.4	0.1	-0.6	0.0
3.33	134	73	16	-45	1.6	0.8	1.3	0.2	-0.5	0.0
3.63	109	48	18	-44	1.3	0.6	1.0	0.2	-0.5	0.0
3.93	83	21	20	-42	1.0	0.2	0.7	0.2	-0.5	0.0
4.23	59	-1	22	-39	0.7	0.0	0.4	0.3	-0.5	0.0
4.54	40	-21	23	-38	0.5	-0.2	0.2	0.3	-0.4	0.0
4.84	33	-29	25	-37	0.4	-0.3	0.1	0.3	-0.4	0.0
5.14	95	35	25	-35	1.1	0.4	0.8	0.3	-0.4	0.0
5.44	161	99	27	-35	1.9	1.1	1.5	0.3	-0.4	0.0
5.75	154	93	29	-33	1.8	1.1	1.4	0.3	-0.4	0.0
6.05	130	69	30	-31	1.5	0.8	1.1	0.3	-0.4	0.0
6.35	101	39	32	-30	1.2	0.4	0.8	0.4	-0.3	0.0
6.65	72	10	34	-28	0.8	0.1	0.4	0.4	-0.3	0.0
6.96	47	-15	35	-27	0.5	-0.2	0.1	0.4	-0.3	0.0
7.26	38	-25	26	-37	0.4	-0.3	0.0	0.3	-0.4	-0.1
7.56	39	-24	10	-54	0.5	-0.3	0.0	0.1	-0.6	-0.3
7.86	41	-23	-2	-66	0.5	-0.3	0.0	0.0	-0.8	-0.5
8.17	45	-22	-8	-75	0.5	-0.3	0.0	-0.1	-0.9	-0.6
8.47	46	-21	-12	-79	0.5	-0.2	0.0	-0.1	-0.9	-0.7
8.77	49	-20	-11	-80	0.6	-0.2	0.0	-0.1	-0.9	-0.7
9.07	52	-18	-6	-76	0.6	-0.2	0.0	-0.1	-0.9	-0.7
9.38	54	-16	-2	-72	0.6	-0.2	0.0	0.0	-0.8	-0.6
9.68	57	-15	3	-69	0.7	-0.2	0.0	0.0	-0.8	-0.6
9.98	61	-13	8	-66	0.7	-0.2	0.0	0.1	-0.8	-0.6
10.28	63	-12	11	-63	0.7	-0.1	0.0	0.1	-0.7	-0.6
10.59	66	-10	14	-61	0.8	-0.1	0.0	0.2	-0.7	-0.6
10.89	70	-9	18	-61	0.8	-0.1	0.0	0.2	-0.7	-0.6
11.19	73	-7	19	-60	0.8	-0.1	0.0	0.2	-0.7	-0.6
11.49	77	-5	22	-60	0.9	-0.1	0.0	0.2	-0.7	-0.6
11.80	81	-4	24	-62	0.9	-0.1	0.0	0.3	-0.7	-0.7
12.10	84	-4	25	-62	1.0	0.0	0.0	0.3	-0.7	-0.7
12.40	89	-4	32	-61	1.0	0.0	0.0	0.4	-0.7	-0.7
12.70	94	-5	41	-57	1.1	-0.1	0.0	0.5	-0.7	-0.6
13.01	97	-5	52	-50	1.1	-0.1	0.0	0.6	-0.6	-0.5
13.31	102	-6	69	-40	1.2	-0.1	0.0	0.8	-0.5	-0.4
13.61	106	-9	88	-27	1.2	-0.1	0.0	1.0	-0.3	-0.2
13.91	119	-2	96	-26	1.4	0.0	0.1	1.1	-0.3	-0.2
14.22	160	29	87	-44	1.9	0.3	0.5	1.0	-0.5	-0.4
14.52	238	96	71	-71	2.7	1.1	1.3	0.8	-0.8	-0.6
14.82	90	-79	13	-156	1.0	-0.9	0.1	0.2	-1.8	-0.8

Kontroll Betong

Om de skadeekvivalenta spänningarna $\sigma_{cd,max,equ}$ och $\sigma_{cd,min,equ}$ har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

$\sigma_{cd.max.egu} = \sigma_{c.perm} + \lambda_c \bullet (\sigma_{c.max} - \sigma_{c.perm})$
$\sigma_{cd.min.egu} = \sigma_{c.perm} - \lambda_c \bullet (\sigma_{c.perm} - \sigma_{c.min})$
$R_{equ} = \sigma_{cd.min.egu} / \sigma_{cd.max.egu}$
$E_{cd.max.equ} = \gamma_{Sd} \bullet \sigma_{cd.max.egu} / f_{cd.fat}$

Komb A: Jmf Komb A1 med A2

Snitt B3

x [m]	$\sigma_{cd,max,equ}$ [Mpa]	$\sigma_{cd,min,equ}$ [Mpa]	R_{equ} [-]	$E_{cd,max,equ}$ [-]	Kontroll $14 \bullet (1 - E_{cd,max,equ}) / (1 - R_{equ})^{(1/2)} \geq 6$
0.00	2.6	2.3	0.880	0.114	OK
0.30	3.7	3.2	0.857	0.167	OK
0.60	1.4	0.9	0.647	0.062	OK
0.91	0.1	-0.4	0.000	0.020	OK
1.21	0.0	-0.5	0.000	0.021	OK
1.51	0.0	-0.4	0.000	0.019	OK
1.81	0.0	-0.4	0.000	0.019	OK
2.12	0.5	-0.1	0.000	0.021	OK
2.42	0.8	0.5	0.643	0.038	OK
2.72	1.2	0.9	0.756	0.055	OK
3.02	1.5	1.2	0.798	0.068	OK
3.33	1.4	1.1	0.789	0.064	OK
3.63	1.1	0.8	0.731	0.050	OK
3.93	0.8	0.5	0.624	0.036	OK
4.23	0.5	0.0	0.000	0.023	OK
4.54	0.3	-0.1	0.000	0.013	OK
4.84	0.2	-0.1	0.000	0.009	OK
5.14	0.9	0.6	0.674	0.041	OK
5.44	1.7	1.4	0.818	0.074	OK
5.75	1.6	1.3	0.808	0.070	OK
6.05	1.3	1.0	0.768	0.058	OK
6.35	0.9	0.6	0.676	0.042	OK
6.65	0.6	0.3	0.491	0.027	OK
6.96	0.3	-0.1	0.000	0.013	OK
7.26	0.2	-0.1	0.000	0.008	OK
7.56	0.2	-0.1	0.000	0.009	OK
7.86	0.2	-0.1	0.000	0.009	OK
8.17	0.2	-0.1	0.000	0.010	OK
8.47	0.2	-0.1	0.000	0.010	OK
8.77	0.2	-0.1	0.000	0.011	OK
9.07	0.3	-0.1	0.000	0.012	OK
9.38	0.3	-0.1	0.000	0.012	OK
9.68	0.3	-0.1	0.000	0.013	OK
9.98	0.3	-0.1	0.000	0.014	OK
10.28	0.3	-0.1	0.000	0.014	OK
10.59	0.3	0.0	0.000	0.015	OK
10.89	0.4	0.0	0.000	0.016	OK
11.19	0.4	0.0	0.000	0.016	OK
11.49	0.4	0.0	0.000	0.017	OK
11.80	0.4	0.0	0.000	0.018	OK
12.10	0.4	0.0	0.000	0.019	OK
12.40	0.4	0.0	0.000	0.020	OK
12.70	0.6	0.0	0.000	0.029	OK
13.01	0.7	0.0	0.000	0.030	OK
13.31	0.7	0.0	0.000	0.032	OK
13.61	0.7	-0.1	0.000	0.033	OK
13.91	0.8	0.0	0.000	0.038	OK
14.22	1.3	0.4	0.299	0.058	OK
14.52	2.2	1.2	0.545	0.097	OK
14.82	0.6	-0.5	0.000	0.029	OK

Komb B: Jmf Komb B1 med B2

Snitt B3

x [m]	$\sigma_{cd,max,equ}$ [Mpa]	$\sigma_{cd,min,equ}$ [Mpa]	R_{equ} [-]	$E_{cd,max,equ}$ [-]	Kontroll: $14 \cdot (1 - E_{cd,max,equ}) / (1 - R_{equ})^{(1/2)} \geq 6$
0.00	0.0	-0.3	0.000	0.012	OK
0.30	0.0	-0.5	0.000	0.023	OK
0.60	0.0	-0.5	0.000	0.022	OK
0.91	0.0	-0.5	0.000	0.022	OK
1.21	-0.3	-0.8	0.412	0.037	OK
1.51	-0.4	-0.8	0.456	0.038	OK
1.81	-0.1	-0.5	0.106	0.022	OK
2.12	0.0	-0.4	0.000	0.019	OK
2.42	0.0	-0.3	0.000	0.013	OK
2.72	0.0	-0.3	0.000	0.012	OK
3.02	0.1	-0.3	0.000	0.012	OK
3.33	0.1	-0.2	0.000	0.011	OK
3.63	0.1	-0.2	0.000	0.010	OK
3.93	0.1	-0.2	0.000	0.010	OK
4.23	0.1	-0.2	0.000	0.009	OK
4.54	0.1	-0.2	0.000	0.009	OK
4.84	0.1	-0.2	0.000	0.009	OK
5.14	0.1	-0.2	0.000	0.008	OK
5.44	0.1	-0.2	0.000	0.008	OK
5.75	0.1	-0.2	0.000	0.008	OK
6.05	0.1	-0.2	0.000	0.007	OK
6.35	0.2	-0.2	0.000	0.007	OK
6.65	0.2	-0.1	0.000	0.007	OK
6.96	0.2	-0.1	0.000	0.008	OK
7.26	0.1	-0.3	0.000	0.012	OK
7.56	0.0	-0.5	0.000	0.021	OK
7.86	-0.3	-0.6	0.481	0.027	OK
8.17	-0.4	-0.7	0.542	0.032	OK
8.47	-0.4	-0.8	0.571	0.035	OK
8.77	-0.4	-0.8	0.567	0.035	OK
9.07	-0.4	-0.8	0.541	0.034	OK
9.38	-0.4	-0.7	0.518	0.032	OK
9.68	0.0	-0.7	0.000	0.031	OK
9.98	0.0	-0.7	0.000	0.030	OK
10.28	0.1	-0.6	0.000	0.029	OK
10.59	0.1	-0.6	0.000	0.028	OK
10.89	0.1	-0.6	0.000	0.028	OK
11.19	0.1	-0.6	0.000	0.029	OK
11.49	0.1	-0.7	0.000	0.029	OK
11.80	0.1	-0.7	0.000	0.030	OK
12.10	0.1	-0.7	0.000	0.031	OK
12.40	0.2	-0.7	0.000	0.030	OK
12.70	0.3	-0.6	0.000	0.028	OK
13.01	0.4	-0.6	0.000	0.025	OK
13.31	0.5	-0.4	0.000	0.021	OK
13.61	0.6	-0.3	0.000	0.027	OK
13.91	0.7	-0.3	0.000	0.030	OK
14.22	0.6	-0.5	0.000	0.027	OK
14.52	0.5	-0.7	0.000	0.033	OK
14.82	0.1	-1.4	0.000	0.063	OK

BILAGA 11

Kontrollerat snitt

BILAGA 11 - KONTROLLERAT SNITT

Materialparametrar betong

$f_{ck} := 35.5\ MPa$ Betongens cylindertryckhållfasthet

$f_{ctk.0.05} := 2.25\ MPa$

$\gamma_c := 1.5$ Materialparameter för betong

$\alpha_{ct} := 1$ Koefficienter för långtidseffekter i drag

$\varepsilon_{cu} := 0.35\% = 0.0035$ Betongstukning

$$f_{cd} := \frac{f_{ck}}{\gamma_c} = 23.67\ MPa$$

$$\lambda := \left\| \begin{array}{l} \text{if } f_{ck} \le 50\ MPa \\ \quad \| 0.8 \\ \text{else} \\ \quad \| 0.8 - \frac{f_{ck} - 50\ MPa}{400} \end{array} \right\| = 0.8$$

Spännkraft

$P_{efter.t2} := 557.41\ kN \cdot (1 - 0.18) = 457.1\ kN$ 18% spännkraft långtidseffekter, vid t2, se kap.5.1.4.

$\phi_{spänn} := 7\ mm$ Diameter för en tråd i kabel

$Trådar := 12$ 12 trådar per kabel

$$A_{s.\phi} := \pi \cdot \frac{\phi_{spänn}^{\ 2}}{4} \cdot Trådar = 4.618\ cm^2$$ Spännarmeringens tvärsnittsarea per kabel

Materialparametrar spännarmering

$\gamma_s := 1.15$ Materialparameter för armering

$E_p := 200\ GPa$ Armeringens E-modul

$f_{uk} := 1500\ MPa$ Spännarmeringens brottgräns

$f_{yk} := 1250\ MPa$ Spännarmeringens sträckgräns

$$f_{st} := \frac{f_{yk}}{1.15} = 1087\ MPa$$

$$f_{stu} := \frac{f_{uk}}{1.15} = 1304\ MPa$$

$\varepsilon_g := 4\% = 0.04$ Gränstöjning

Geometri balk 1,2,3

$$h := \begin{bmatrix} 0.83 \\ 0.75 \\ 0.80 \end{bmatrix} m$$

Balk 1
Balk 2
Balk 3

Höjd

$$b_w := \begin{bmatrix} 0.50 \\ 0.60 \\ 0.50 \end{bmatrix} m$$

Balk 1
Balk 2
Balk 3

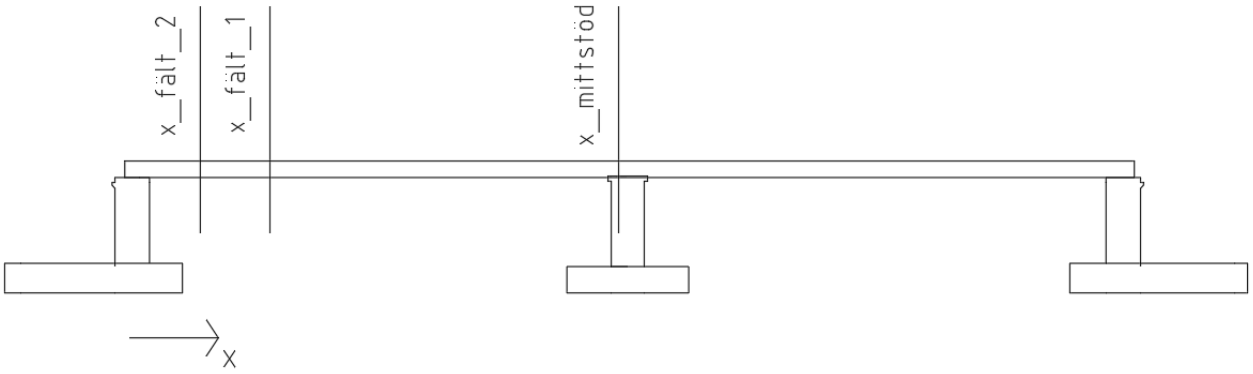
Bredd balkliv

$$b := \begin{bmatrix} 30 \\ 30 \\ 30 \end{bmatrix} mm$$

Balk 1
Balk 2
Balk 3

Basmått

Kontrollsnitt



Kontroll mittstöd “LKA_1dir_max”

$$x_mittstöd := \begin{bmatrix} 14.518 \\ 14.518 \\ 14.518 \end{bmatrix} m$$

Balk 1
Balk 2
Balk 3
(x räknat från stöd 1)

Kontroll fältmitt “LKA_1dir_min”

$$x_fält_1 := \begin{bmatrix} 3.932 \\ 3.932 \\ 3.932 \end{bmatrix} m$$

Balk 1
Balk 2
Balk 3
(x räknat från stöd 1)

Kontroll fältmitt “LKA_1dir_min”

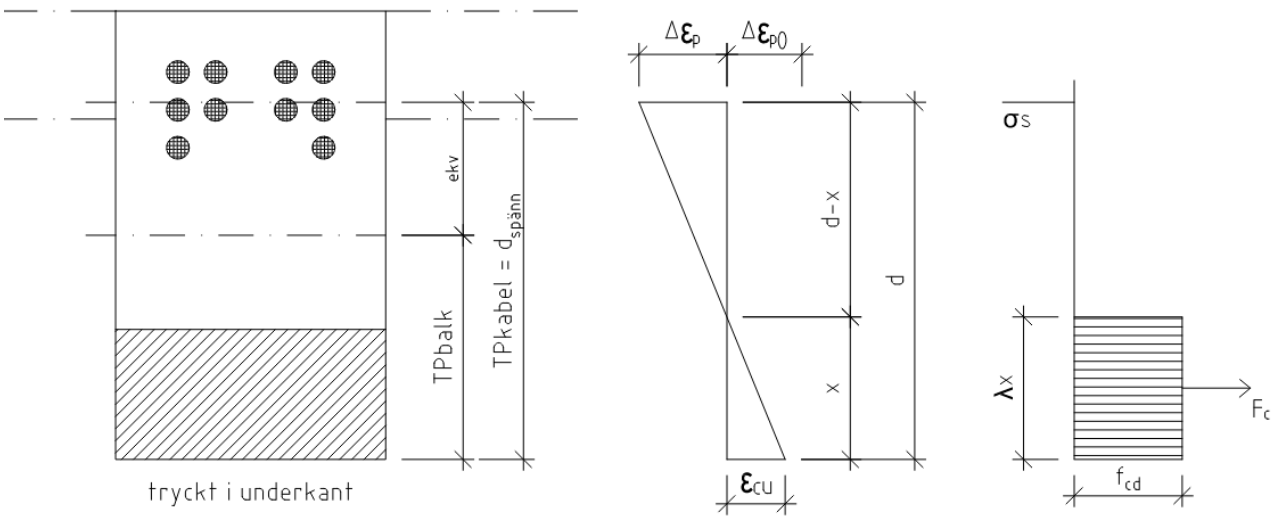
$$x_fält_2 := \begin{bmatrix} 1.815 \\ 1.815 \\ 1.815 \end{bmatrix} m$$

Balk 1
Balk 2
Balk 3
(x räknat från stöd 1)

Kontroll snitt, spännkabel i överkant, över stöd “LKA_1dir_max”

$$x_mittstöd = \begin{bmatrix} 14.518 \\ 14.518 \\ 14.518 \end{bmatrix} m$$

Balk 1
Balk 2
Balk 3



$$e_{ekv} := \begin{bmatrix} 0.241 \\ 0.165 \\ 0.146 \end{bmatrix} m$$

Balk 1
Balk 2
Balk 3

$$TP_{balk} := \begin{bmatrix} 0.415 \\ 0.375 \\ 0.400 \end{bmatrix} m$$

Balk 1
Balk 2
Balk 3

Tyngdpunkt balk från underkant
Balkens tyngdpunkt för tvärsnitt i systemanalys

$$TP_{kabel} := TP_{balk} + e_{ekv} = \begin{bmatrix} 0.656 \\ 0.54 \\ 0.546 \end{bmatrix} m$$

Balk 1
Balk 2
Balk 3

Spännarmeringens tyngdpunkt i systemanalysen

$$d_{spänn} := TP_{kabel} = \begin{bmatrix} 656 \\ 540 \\ 546 \end{bmatrix} mm$$

Balk 1
Balk 2
Balk 3

Effektiv höjd

$$Antal := 10$$

Antal kablar i valt snitt

$$A_s := A_{s.\phi} \cdot Antal = 46.18 \ cm^2$$

$$P_{spännkraft} := P_{efter.t2} \cdot Antal = 4571 \ kN$$

Beräkningen utförs genom passning

Antar spänning till: $\sigma_s := \begin{bmatrix} 1073 \\ 1072 \\ 1042 \end{bmatrix} MPa$

Balk 1
Balk 2
Balk 3

Beräkning:

Kraften i armeringen blir: $F_s := A_s \cdot \sigma_s = \begin{bmatrix} 4955 \\ 4951 \\ 4812 \end{bmatrix} kN$

Balk 1
Balk 2
Balk 3

Kraften i betongen är: $F_c = b_w \cdot \lambda \cdot x \cdot f_{cd}$

F_c = F_s och beräknas tryckzonshöjden x: $b_w \cdot \lambda \cdot x \cdot f_{cd} = F_s$ ger

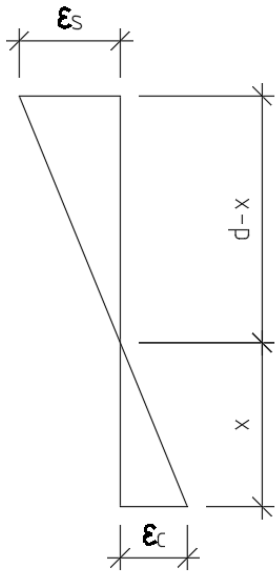
$x := \frac{F_s}{b_w \cdot \lambda \cdot f_{cd}} = \begin{bmatrix} 0.523 \\ 0.436 \\ 0.508 \end{bmatrix} m$

Balk 1
Balk 2
Balk 3

Neutrala lagrets läge

$F_c := \overrightarrow{b_w \cdot \lambda \cdot x \cdot f_{cd}} = \begin{bmatrix} 4955 \\ 4951 \\ 4812 \end{bmatrix} kN$

Balk 1
Balk 2
Balk 3



Nu beräknas $\Delta\varepsilon_s$, ε_s och σ_s

$$\frac{\Delta\varepsilon_s}{\varepsilon_{cu}} = \frac{d-x}{x}$$

$\Delta\varepsilon_s := \varepsilon_{cu} \cdot \left(\frac{d_{spänn} - x}{x} \right) = \begin{bmatrix} 0.0009 \\ 0.0008 \\ 0.0003 \end{bmatrix}$

Balk 1
Balk 2
Balk 3

$\Delta\varepsilon_{p0} := \frac{P_{spännkraft}}{A_s \cdot E_p} = 0.0049$

$\varepsilon_s := \Delta\varepsilon_{p0} + \Delta\varepsilon_s = \begin{bmatrix} 0.0058 \\ 0.0058 \\ 0.0052 \end{bmatrix}$

Balk 1
Balk 2
Balk 3

$\varepsilon_{st} := 0.2\% + \frac{f_{st}}{E_p} = 0.0074$

$$\sigma_{s_dim_balk1} := \left\| \begin{array}{l} \text{if } \varepsilon_{s_0} \le (\varepsilon_{st} - 0.2\%) \\ \quad \left\| E_p \cdot \varepsilon_{s_0} \right. \\ \text{also if } (\varepsilon_{st} - 0.2\%) < \varepsilon_{s_0} \le 0.8 \cdot \varepsilon_g \\ \quad \left\| f_{st} + \frac{\varepsilon_{s_0} - \varepsilon_{st}}{0.8 \cdot \varepsilon_g - \varepsilon_{st}} \cdot (f_{stu} - f_{st}) \right. \\ \text{else} \\ \quad \left\| f_{stu} \right. \end{array} \right.$$

$$\sigma_{s_dim_balk2} := \left\| \begin{array}{l} \text{if } \varepsilon_{s_1} \le (\varepsilon_{st} - 0.2\%) \\ \quad \left\| E_p \cdot \varepsilon_{s_1} \right. \\ \text{also if } (\varepsilon_{st} - 0.2\%) < \varepsilon_{s_0} \le 0.8 \cdot \varepsilon_g \\ \quad \left\| f_{st} + \frac{\varepsilon_{s_1} - \varepsilon_{st}}{0.8 \cdot \varepsilon_g - \varepsilon_{st}} \cdot (f_{stu} - f_{st}) \right. \\ \text{else} \\ \quad \left\| f_{stu} \right. \end{array} \right.$$

$$\sigma_{s_dim_balk3} := \left\| \begin{array}{l} \text{if } \varepsilon_{s_2} \le (\varepsilon_{st} - 0.2\%) \\ \quad \left\| E_p \cdot \varepsilon_{s_2} \right. \\ \text{also if } (\varepsilon_{st} - 0.2\%) < \varepsilon_{s_2} \le 0.8 \cdot \varepsilon_g \\ \quad \left\| f_{st} + \frac{\varepsilon_{s_2} - \varepsilon_{st}}{0.8 \cdot \varepsilon_g - \varepsilon_{st}} \cdot (f_{stu} - f_{st}) \right. \\ \text{else} \\ \quad \left\| f_{stu} \right. \end{array} \right.$$

$$\sigma_{s_dim} := \begin{bmatrix} \sigma_{s_dim_balk1} \\ \sigma_{s_dim_balk2} \\ \sigma_{s_dim_balk3} \end{bmatrix} = \begin{bmatrix} 1073 \\ 1072 \\ 1042 \end{bmatrix} \textit{MPa}$$

Balk 1
Balk 2
Balk 3

Stämmer med antaget värde på σ_s , OK

Momentkapacitet:

$$M_{Rd} := \overrightarrow{\sigma_{s_dim} \cdot A_s \cdot \left(d_{spänn} - 0.4 \cdot x\right)} = \begin{bmatrix} 2213 \\ 1811 \\ 1648 \end{bmatrix} \boldsymbol{kN \cdot m}$$

Balk 1
Balk 2
Balk 3

Utnyttjandegrad:

Kontroll av “LKA_1dir_max”

$$x_mittstöd = \begin{bmatrix} 14.518 \\ 14.518 \\ 14.518 \end{bmatrix} \boldsymbol{m}$$

$$M_{max} := \begin{bmatrix} 1780 \\ 1357 \\ 1396 \end{bmatrix} \cdot \boldsymbol{kN \cdot m}$$

Balk 1
Balk 2
Balk 3

Moment av yttre last

$$N_{tillh} := \begin{bmatrix} -438 \\ -364 \\ -458 \end{bmatrix} \cdot \boldsymbol{kN}$$

Balk 1
Balk 2
Balk 3

Normalkraft tillhörande

$$M_{Ed} := M_{max} = \begin{bmatrix} 1780 \\ 1357 \\ 1396 \end{bmatrix} \boldsymbol{kN \cdot m}$$

Balk 1
Balk 2
Balk 3

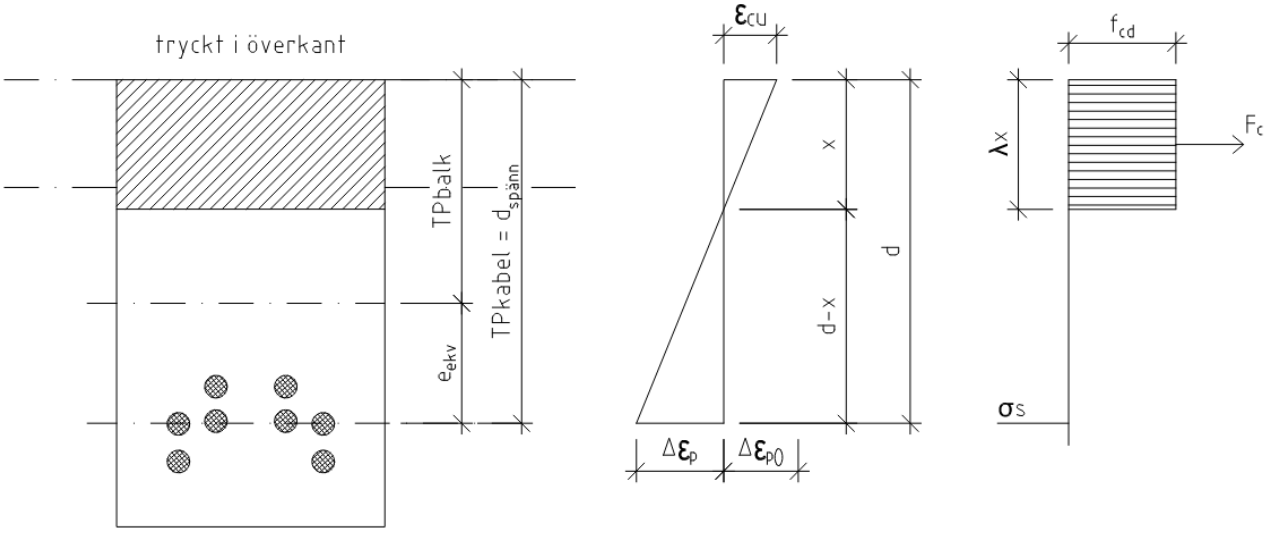
$$\mu := \frac{M_{Ed}}{M_{Rd}} = \begin{bmatrix} 0.8 \\ 0.75 \\ 0.85 \end{bmatrix} \quad < \quad 1$$

Balk 1 OK
Balk 2 OK
Balk 3 OK

Kontroll snitt, spännkabel i underkant, i fält "LKA_1dir_min"

$$x_fält_1 = \begin{bmatrix} 3.932 \\ 3.932 \\ 3.932 \end{bmatrix} m$$

Balk 1
Balk 2
Balk 3



$$e_{ekv} := \begin{bmatrix} 0.171 \\ 0.134 \\ 0.087 \end{bmatrix} m$$

Balk 1
Balk 2
Balk 3

$$TP_{balk} := \begin{bmatrix} 0.415 \\ 0.375 \\ 0.400 \end{bmatrix} m$$

Balk 1
Balk 2
Balk 3

Tyngdpunkt balk från underkant
Balkens tyngdpunkt för tvärsnitt i systemanalys

$$TP_{kabel} := TP_{balk} + e_{ekv} = \begin{bmatrix} 0.586 \\ 0.509 \\ 0.487 \end{bmatrix} m$$

Balk 1
Balk 2
Balk 3

Spännarmeringens tyngdpunkt i systemanalysen

$$d_{spänn} := TP_{kabel} = \begin{bmatrix} 586 \\ 509 \\ 487 \end{bmatrix} mm$$

Balk 1
Balk 2
Balk 3

Effektiv höjd

$$Antal := 8$$

Antal kablar i valt snitt

$$A_s := A_{s.\phi} \cdot Antal = 36.95 \ cm^2$$

$$P_{spännkraft} := P_{efter.t2} \cdot Antal = 3657 \ kN$$

Beräkningen utförs genom passning

Antar spänning till: $\sigma_s := \begin{bmatrix} 1077 \\ 1079 \\ 1070 \end{bmatrix} MPa$

Balk 1
Balk 2
Balk 3

Beräkning:

Kraften i armeringen blir: $F_s := A_s \cdot \sigma_s = \begin{bmatrix} 3979 \\ 3986 \\ 3953 \end{bmatrix} kN$

Balk 1
Balk 2
Balk 3

Kraften i betongen är: $F_c = b_w \cdot \lambda \cdot x \cdot f_{cd}$

F_c = F_s och beräknas tryckzonshöjden x: $b_w \cdot \lambda \cdot x \cdot f_{cd} = F_s$ ger

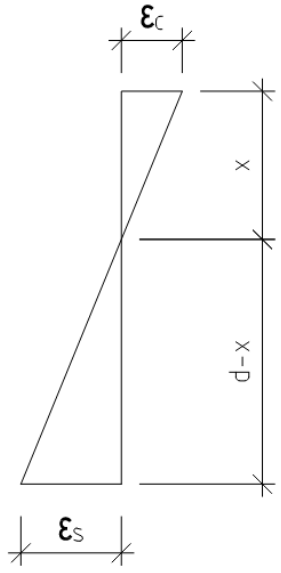
$x := \frac{F_s}{b_w \cdot \lambda \cdot f_{cd}} = \begin{bmatrix} 0.42 \\ 0.351 \\ 0.418 \end{bmatrix} m$

Balk 1
Balk 2
Balk 3

Neutrala lagrets läge

$F_c := \overrightarrow{b_w \cdot \lambda \cdot x \cdot f_{cd}} = \begin{bmatrix} 3979 \\ 3986 \\ 3953 \end{bmatrix} kN$

Balk 1
Balk 2
Balk 3



Nu beräknas $\Delta\varepsilon_s$, ε_s och σ_s

$$\frac{\Delta\varepsilon_s}{\varepsilon_{cu}} = \frac{d-x}{x}$$

$\Delta\varepsilon_s := \varepsilon_{cu} \cdot \left(\frac{d_{spänn} - x}{x} \right) = \begin{bmatrix} 0.0014 \\ 0.0016 \\ 0.0006 \end{bmatrix}$

Balk 1
Balk 2
Balk 3

$\Delta\varepsilon_{p0} := \frac{P_{spännkraft}}{A_s \cdot E_p} = 0.0049$

$\varepsilon_s := \Delta\varepsilon_{p0} + \Delta\varepsilon_s = \begin{bmatrix} 0.0063 \\ 0.0065 \\ 0.0055 \end{bmatrix}$

Balk 1
Balk 2
Balk 3

$\varepsilon_{st} := 0.2\% + \frac{f_{st}}{E_p} = 0.0074$

$$\sigma_{s_dim_balk1} := \left\| \begin{array}{l} \text{if } \varepsilon_{s_0} \le (\varepsilon_{st} - 0.2\%) \\ \quad \left\| E_p \cdot \varepsilon_{s_0} \right. \\ \text{also if } (\varepsilon_{st} - 0.2\%) < \varepsilon_{s_0} \le 0.8 \cdot \varepsilon_g \\ \quad \left\| f_{st} + \frac{\varepsilon_{s_0} - \varepsilon_{st}}{0.8 \cdot \varepsilon_g - \varepsilon_{st}} \cdot (f_{stu} - f_{st}) \right. \\ \text{else} \\ \quad \left\| f_{stu} \right. \end{array} \right.$$

$$\sigma_{s_dim_balk2} := \left\| \begin{array}{l} \text{if } \varepsilon_{s_1} \le (\varepsilon_{st} - 0.2\%) \\ \quad \left\| E_p \cdot \varepsilon_{s_1} \right. \\ \text{also if } (\varepsilon_{st} - 0.2\%) < \varepsilon_{s_0} \le 0.8 \cdot \varepsilon_g \\ \quad \left\| f_{st} + \frac{\varepsilon_{s_1} - \varepsilon_{st}}{0.8 \cdot \varepsilon_g - \varepsilon_{st}} \cdot (f_{stu} - f_{st}) \right. \\ \text{else} \\ \quad \left\| f_{stu} \right. \end{array} \right.$$

$$\sigma_{s_dim_balk3} := \left\| \begin{array}{l} \text{if } \varepsilon_{s_2} \le (\varepsilon_{st} - 0.2\%) \\ \quad \left\| E_p \cdot \varepsilon_{s_2} \right. \\ \text{also if } (\varepsilon_{st} - 0.2\%) < \varepsilon_{s_2} \le 0.8 \cdot \varepsilon_g \\ \quad \left\| f_{st} + \frac{\varepsilon_{s_2} - \varepsilon_{st}}{0.8 \cdot \varepsilon_g - \varepsilon_{st}} \cdot (f_{stu} - f_{st}) \right. \\ \text{else} \\ \quad \left\| f_{stu} \right. \end{array} \right.$$

$$\sigma_{s_dim} := \begin{bmatrix} \sigma_{s_dim_balk1} \\ \sigma_{s_dim_balk2} \\ \sigma_{s_dim_balk3} \end{bmatrix} = \begin{bmatrix} 1077 \\ 1079 \\ 1070 \end{bmatrix} \textit{MPa}$$

Balk 1
Balk 2
Balk 3

Stämmer med antaget värde på σ_s , OK

Momentkapacitet:

$$M_{Rd} := \overrightarrow{\sigma_{s_dim} \cdot A_s \cdot \left(d_{spänn} - 0.4 \cdot x\right)} = \begin{bmatrix} 1663 \\ 1469 \\ 1265 \end{bmatrix} kN \cdot m$$

Balk 1
Balk 2
Balk 3

Utnyttjandegrad:

Kontroll av "LKA_1dir_min"

$$x_fält_1 = \begin{bmatrix} 3.932 \\ 3.932 \\ 3.932 \end{bmatrix} m$$

$$M_{max} := \begin{bmatrix} 1103 \\ 878 \\ 896 \end{bmatrix} \cdot kN \cdot m$$

Balk 1
Balk 2
Balk 3

Moment av yttre last

$$N_{tillh} := \begin{bmatrix} -193 \\ -391 \\ -371 \end{bmatrix} \cdot kN$$

Balk 1
Balk 2
Balk 3

Normalkraft tillhörande

$$M_{Ed} := M_{max} = \begin{bmatrix} 1103 \\ 878 \\ 896 \end{bmatrix} kN \cdot m$$

Balk 1
Balk 2
Balk 3

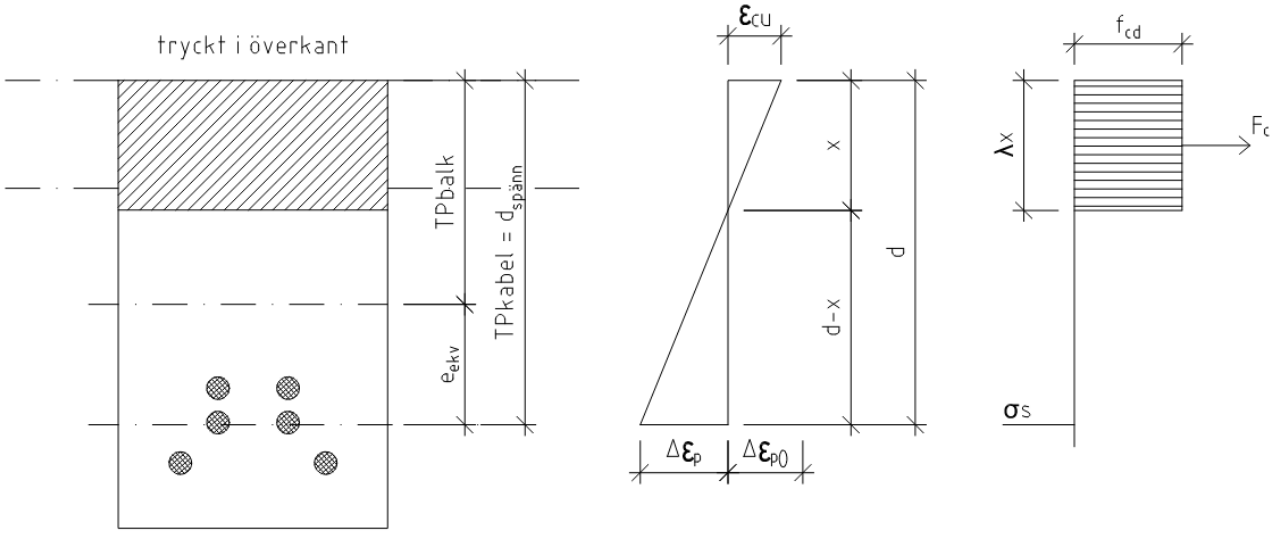
$$\mu := \frac{M_{Ed}}{M_{Rd}} = \begin{bmatrix} 0.66 \\ 0.6 \\ 0.71 \end{bmatrix} < 1$$

Balk 1 OK
Balk 2 OK
Balk 3 OK

Kontroll snitt, spännkabel i underkant, i fält "LKA_1dir_min"

$$x_fält_2 = \begin{bmatrix} 1.815 \\ 1.815 \\ 1.815 \end{bmatrix} m$$

Balk 1
Balk 2
Balk 3



$$e_{ekv} := \begin{bmatrix} 0.107 \\ 0.093 \\ 0.056 \end{bmatrix} m$$

Balk 1
Balk 2
Balk 3

$$TP_{balk} := \begin{bmatrix} 0.415 \\ 0.375 \\ 0.400 \end{bmatrix} m$$

Balk 1
Balk 2
Balk 3

Tyngdpunkt balk från underkant
Balkens tyngdpunkt för tvärsnitt i systemanalys

$$TP_{kabel} := TP_{balk} + e_{ekv} = \begin{bmatrix} 0.522 \\ 0.468 \\ 0.456 \end{bmatrix} m$$

Balk 1
Balk 2
Balk 3

Spännarmeringens tyngdpunkt i systemanalysen

$$d_{spänn} := TP_{kabel} = \begin{bmatrix} 522 \\ 468 \\ 456 \end{bmatrix} mm$$

Balk 1
Balk 2
Balk 3

Effektiv höjd

$$Antal := 6$$

Antal kablar i valt snitt

$$A_s := A_{s.\phi} \cdot Antal = 27.71 \ cm^2$$

$$P_{spännkraft} := P_{efter.t2} \cdot Antal = 2742 \ kN$$

Beräkningen utförs genom passning

Antar spänning till: $\sigma_s := \begin{bmatrix} 1085 \\ 1089 \\ 1079 \end{bmatrix} MPa$

Balk 1
Balk 2
Balk 3

Beräkning:

Kraften i armeringen blir: $F_s := A_s \cdot \sigma_s = \begin{bmatrix} 3006 \\ 3017 \\ 2990 \end{bmatrix} kN$

Balk 1
Balk 2
Balk 3

Kraften i betongen är: $F_c = b_w \cdot \lambda \cdot x \cdot f_{cd}$

F_c = F_s och beräknas tryckzonshöjden x: $b_w \cdot \lambda \cdot x \cdot f_{cd} = F_s$ ger

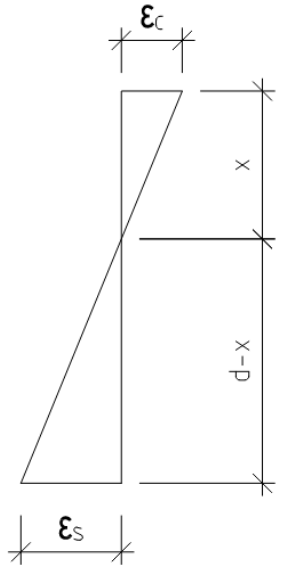
$x := \frac{F_s}{b_w \cdot \lambda \cdot f_{cd}} = \begin{bmatrix} 0.318 \\ 0.266 \\ 0.316 \end{bmatrix} m$

Balk 1
Balk 2
Balk 3

Neutrala lagrets läge

$F_c := \overrightarrow{b_w \cdot \lambda \cdot x \cdot f_{cd}} = \begin{bmatrix} 3006 \\ 3017 \\ 2990 \end{bmatrix} kN$

Balk 1
Balk 2
Balk 3



Nu beräknas $\Delta\varepsilon_s$, ε_s och σ_s

$\frac{\Delta\varepsilon_s}{\varepsilon_{cu}} = \frac{d - x}{x}$

$\Delta\varepsilon_s := \varepsilon_{cu} \cdot \left(\frac{d_{spänn} - x}{x} \right) = \begin{bmatrix} 0.0023 \\ 0.0027 \\ 0.0016 \end{bmatrix}$

Balk 1
Balk 2
Balk 3

$\Delta\varepsilon_{p0} := \frac{P_{spännkraft}}{A_s \cdot E_p} = 0.0049$

$\varepsilon_s := \Delta\varepsilon_{p0} + \Delta\varepsilon_s = \begin{bmatrix} 0.0072 \\ 0.0076 \\ 0.0065 \end{bmatrix}$

Balk 1
Balk 2
Balk 3

$\varepsilon_{st} := 0.2\% + \frac{f_{st}}{E_p} = 0.0074$

$$\sigma_{s_dim_balk1} := \left\| \begin{array}{l} \text{if } \varepsilon_{s_0} \le (\varepsilon_{st} - 0.2\%) \\ \quad \left\| E_p \cdot \varepsilon_{s_0} \right. \\ \text{also if } (\varepsilon_{st} - 0.2\%) < \varepsilon_{s_0} \le 0.8 \cdot \varepsilon_g \\ \quad \left\| f_{st} + \frac{\varepsilon_{s_0} - \varepsilon_{st}}{0.8 \cdot \varepsilon_g - \varepsilon_{st}} \cdot (f_{stu} - f_{st}) \right. \\ \text{else} \\ \quad \left\| f_{stu} \right. \end{array} \right.$$

$$\sigma_{s_dim_balk2} := \left\| \begin{array}{l} \text{if } \varepsilon_{s_1} \le (\varepsilon_{st} - 0.2\%) \\ \quad \left\| E_p \cdot \varepsilon_{s_1} \right. \\ \text{also if } (\varepsilon_{st} - 0.2\%) < \varepsilon_{s_0} \le 0.8 \cdot \varepsilon_g \\ \quad \left\| f_{st} + \frac{\varepsilon_{s_1} - \varepsilon_{st}}{0.8 \cdot \varepsilon_g - \varepsilon_{st}} \cdot (f_{stu} - f_{st}) \right. \\ \text{else} \\ \quad \left\| f_{stu} \right. \end{array} \right.$$

$$\sigma_{s_dim_balk3} := \left\| \begin{array}{l} \text{if } \varepsilon_{s_2} \le (\varepsilon_{st} - 0.2\%) \\ \quad \left\| E_p \cdot \varepsilon_{s_2} \right. \\ \text{also if } (\varepsilon_{st} - 0.2\%) < \varepsilon_{s_2} \le 0.8 \cdot \varepsilon_g \\ \quad \left\| f_{st} + \frac{\varepsilon_{s_2} - \varepsilon_{st}}{0.8 \cdot \varepsilon_g - \varepsilon_{st}} \cdot (f_{stu} - f_{st}) \right. \\ \text{else} \\ \quad \left\| f_{stu} \right. \end{array} \right.$$

$$\sigma_{s_dim} := \begin{bmatrix} \sigma_{s_dim_balk1} \\ \sigma_{s_dim_balk2} \\ \sigma_{s_dim_balk3} \end{bmatrix} = \begin{bmatrix} 1085 \\ 1089 \\ 1079 \end{bmatrix} \textit{MPa}$$

Balk 1
Balk 2
Balk 3

Stämmer med antaget värde på σ_s , OK

Momentkapacitet:

$$M_{Rd} := \overrightarrow{\sigma_{s_dim} \cdot A_s \cdot \left(d_{spänn} - 0.4 \cdot x\right)} = \begin{bmatrix} 1187 \\ 1091 \\ 985 \end{bmatrix} \; kN \cdot m$$

Balk 1
Balk 2
Balk 3

Utnyttjandegrad:

Kontroll av "LKA_1dir_min"

$$x_fält_2 = \begin{bmatrix} 1.815 \\ 1.815 \\ 1.815 \end{bmatrix} \; m$$

$$M_{max} := \begin{bmatrix} 679 \\ 534 \\ 551 \end{bmatrix} \cdot kN \cdot m$$

Balk 1
Balk 2
Balk 3

Moment av yttre last

$$N_{tillh} := \begin{bmatrix} -48 \\ -213 \\ -178 \end{bmatrix} \cdot kN$$

Balk 1
Balk 2
Balk 3

Normalkraft tillhörande

$$M_{Ed} := M_{max} = \begin{bmatrix} 679 \\ 534 \\ 551 \end{bmatrix} \; kN \cdot m$$

Balk 1
Balk 2
Balk 3

$$\mu := \frac{M_{Ed}}{M_{Rd}} = \begin{bmatrix} 0.57 \\ 0.49 \\ 0.56 \end{bmatrix} \quad < \quad 1$$

Balk 1 OK
Balk 2 OK
Balk 3 OK

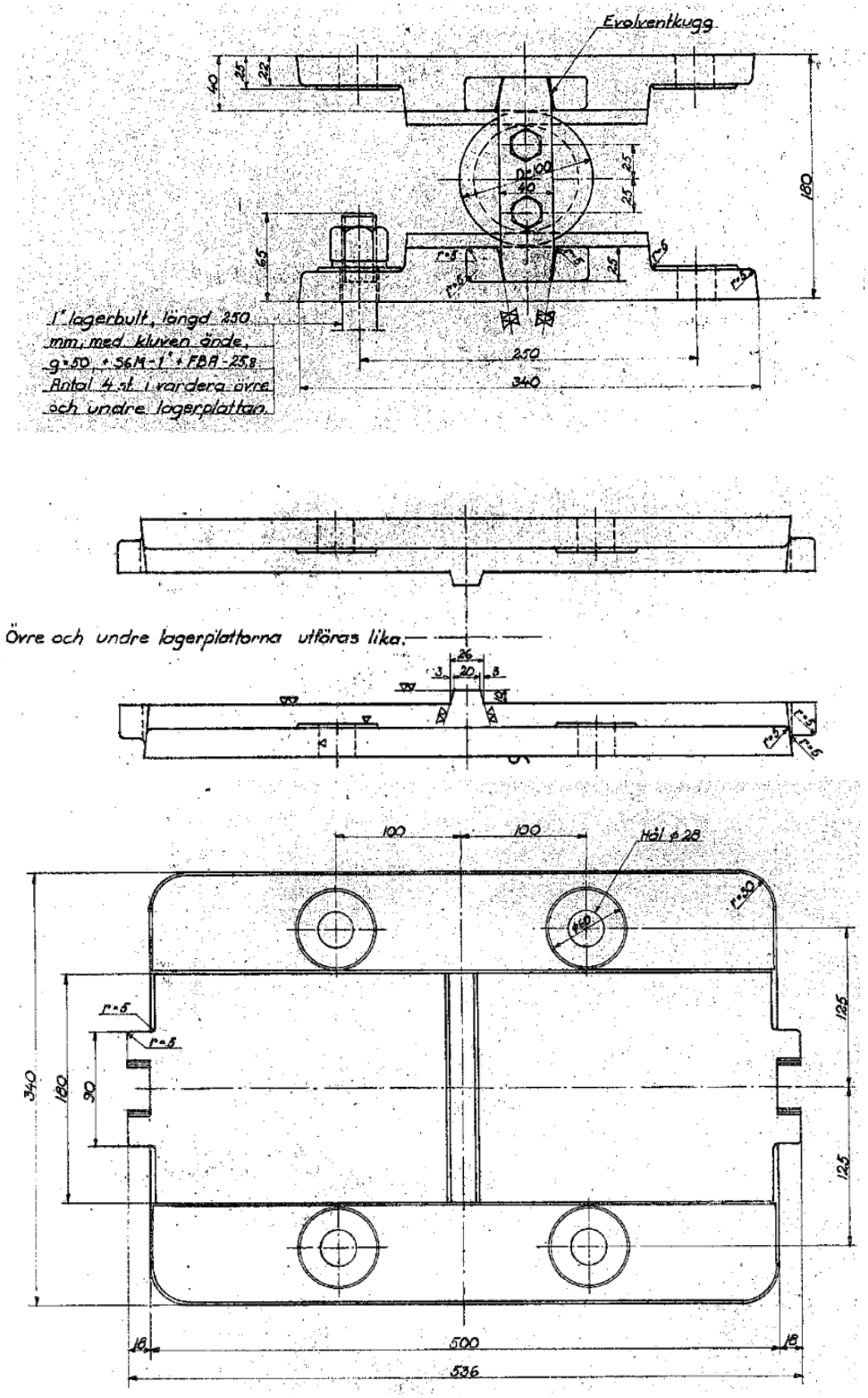
BILAGA 12

Kontroll lager

BILAGA 12 - KONTROLL LAGER

B12.1 Rörliga lager

Geometri



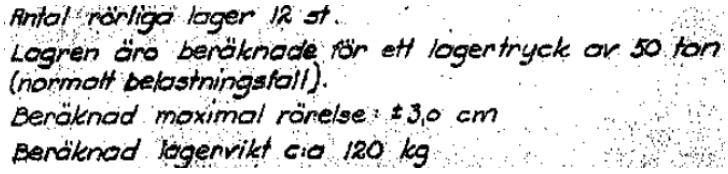
Figur B12-1: Rörligt lager, ritning

Lagerreaktioner

LKA Landfäste Lager:	Snitt (m)	Hy,max RF2	Hy,min RF2	Hx, max RF1	Hx, min RF1	Vz RF3	perm. Vz RF3
1	0	-3	-193	0	0	457	260
2	1.92	87	-132	0	0	379	146
3	3.84	98	-143	0	0	462	194
4	5.76	146	-98	0	0	462	194
5	7.68	131	-87	0	0	384	146
6	9.6	192	2	0	0	461	260
MAX		192	-193	0	0	462	260

Tabell B12-1: Utdata reaktioner landfäste, RF1 = Längsled

Från ritning, rörliga lager:



Kontroll utförs i ett första steg av lagertryck V från ritning. Ovan gäller för båda landfästen.

$V := 50\ tonne \cdot g = 490\ kN$

$\frac{V}{V_{max}}$ =

$Lager_1 := \frac{457\ kN}{490\ kN} = 0.9$

$Lager_2 := \frac{379\ kN}{490\ kN} = 0.8$

$Lager_3 := \frac{462\ kN}{490\ kN} = 0.94$

$Lager_4 := \frac{462\ kN}{490\ kN} = 0.94$

$Lager_5 := \frac{384\ kN}{490\ kN} = 0.8$

$Lager_6 := \frac{461\ kN}{490\ kN} = 0.94$

Inget lager överskrider lagertryck enligt ritning.

Kontroll av rörliga lager enligt SS-EN 1337-4:2004, avsnitt 6.7 utförs enligt nästkommande sidor.

Kontroll av rörliga lager enligt SS-EN 1337-4:2004, avsnitt 6.7

Laster

$N_{sd_LKA} := 506 \cdot kN$ Dimensionerande reaktionskraft i LKA

$N_{sd_LKA_exkl_trafik} := 272 \cdot kN$ Reaktionskraft av permanent last

$B. := 210 \cdot kN$ Startvärde B-fordon

Dimensioner

$R_{lager} := 50 \cdot mm$ Radie rulle

$L_{lager} := 500 \cdot mm$ Lagrets längd

$t_p := 40 \cdot mm$ Lagerplattans tjocklek

$b := 0 \cdot mm$ Se figur 2 i SS-EN 1337-4, 6.7.2

Betong K50

$f_{ck} := 35.5\ MPa$ $f_{cc} := \frac{f_{ck}}{1 \cdot 1.5} = 23.667\ MPa$

Stål

$E_d := 210 \cdot GPa$

$f_{yk} := 320 \cdot MPa$ Lagerplatta och lagerrulle hållfasthetsklass 1606, stg 65

$f_u := 650 \cdot MPa$ TRVINFRA-00331 Tabell 7-15:

$\lambda_{m_rulle} := 1$

$\lambda_{m_platta} := 1.1$

Tabell 7-14 Karakteristiska hållfasthetsvärden för gjutstål

Hållfasthets-klass	f_{yk} [N/mm²]	f_{uk} [N/mm²]
SIS 1305	200	380
SIS 1505	260	520
SIS1605	300	600

Tabell 7-15 Karakteristiska hållfasthetsvärden för stålgjutgods

Hållfasthets-klass	f_{yk} [N/mm²]	f_{uk} [N/mm²]
Stg 40	200	400
Stg 50	250	500
Stg 65	320	650

Kontroll av lagerrulle

Enligt 6.7.1 i SS-EN 1337-4:2004

$$N_{Rd_lagerrulle} := \frac{23 \cdot R_{lager} \cdot \frac{f_u^{\,2}}{E_d} \cdot L_{lager}}{\lambda_{m_rulle}^{\,2}} = 1157\ kN$$

Utnyttjandegrad:

$$UG_{RL_1} := \frac{N_{sd_LKA}}{N_{Rd_lagerrulle}} = 0.44$$

Kontroll av lagerplattor

Enligt 6.7.2 i SS-EN 1337-4:2004

$$N_{Rd_lagerplatta} := \frac{f_{yk} \cdot \left(2 \cdot t_p + b\right) \cdot L_{lager}}{\lambda_{m_platta}} = 11636\ kN$$

Utnyttjandegrad:

$$UG_{RL_2} := \frac{N_{sd_LKA}}{N_{Rd_lagerplatta}} = 0.043$$

Kontroll av tryckspänning mot betongen ovan lagret

$$\sigma_{btg} := \frac{N_{sd_LKA}}{L_{lager} \cdot \left(t_p + t_p\right)} = 12.65\ \textbf{\textit{MPa}} \qquad < \qquad 2 \cdot f_{cc} = 47.333\ \textbf{\textit{MPa}}$$

Utnyttjandegrad:

$$UG_{RL_3} := \frac{\sigma_{btg}}{2 \cdot f_{cc}} = 0.27$$

Kontroll av spjälkning

Kontrolleras enligt BBK04, 3.10.2

Spjälkning förutsätts inte inträffa om tryckkraften är högst lika med en kapacitet F_R, som är det största av följande värden:

$F_R = 0.75 \cdot a \cdot b \cdot f_{ct}$ (3.10.2a)

$F_R = (0.5 + \beta) \cdot A \cdot f_{cc}$ (3.10.2b)

Med nedan värden:

$a := b_{balk} = 0.5\ m$ Längden av den kortaste spjälksprickan genom tyngdpunkten för tryckytan, minsta bredd (balk 1 och 6) på säker sida

$b = b_1 \cdot 8$

$b_1 := (t_p + t_p)$

Dubbla avståndet från tryckytans tyngdpunkt till konstruktionens närmaste kant. 'b' i formel (3.10.2a) behöver inte ges mindre värde än 8 gånger tryckytans längd b_1 i samma riktning

$b := b_1 \cdot 8 = 0.64\ m$

$\beta := 0.5$ Lager centriskt under balk

$A_{rörligt} := L_{lager} \cdot (t_p + t_p)$ Tryckytans storlek

Detta ger:

$F_{R_1} := 0.75 \cdot a \cdot b \cdot f_{ct} = 360\ kN$

$F_{R_2} := (0.5 + \beta) \cdot A_{rörligt} \cdot f_{cc} = 947\ kN$

Ingen risk för spälkspricka i betongen anses föreligga.

Utnyttjandegrad:

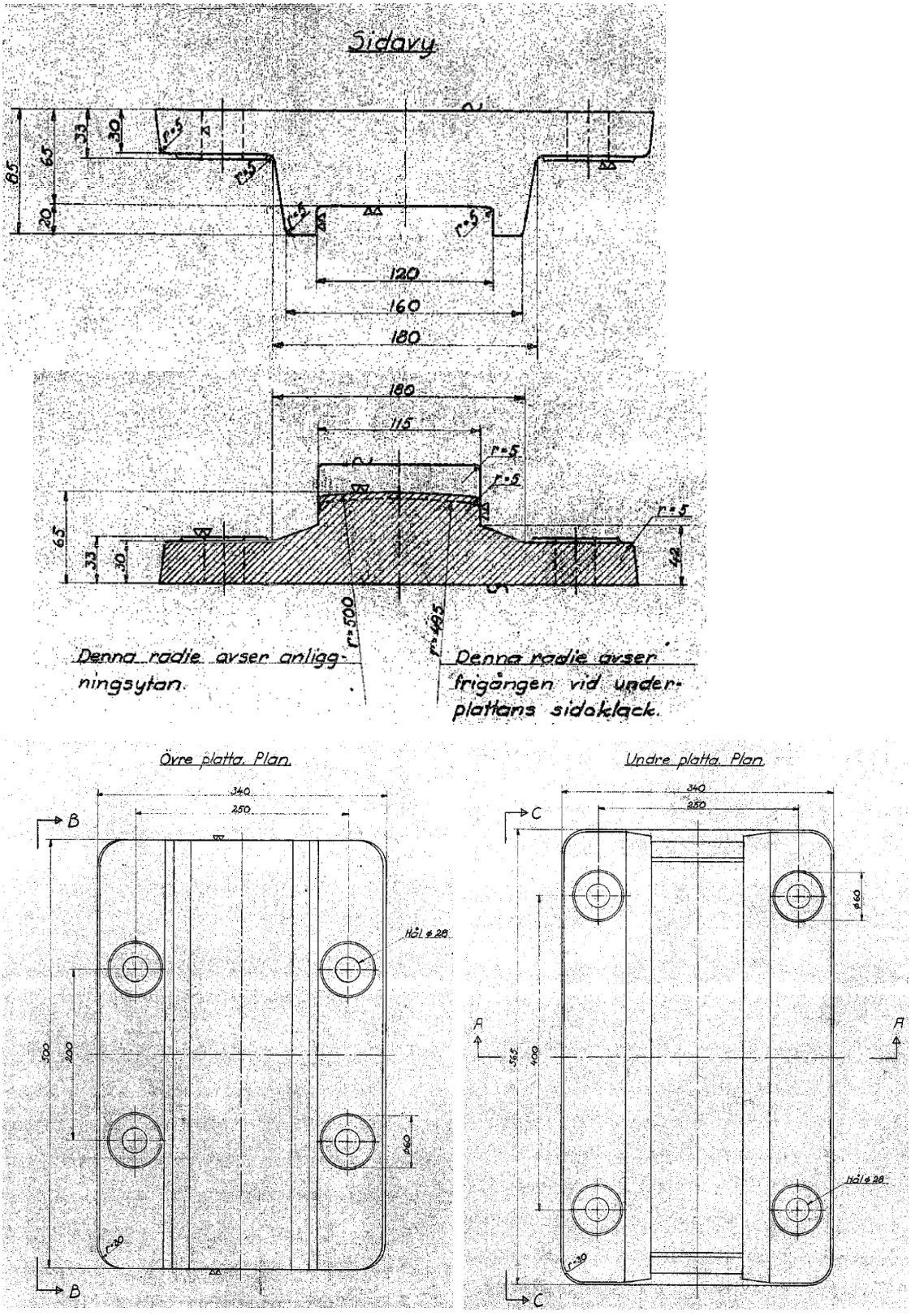
$$UG_{RL_4} := \frac{N_{sd_LKA}}{\max(F_{R_1}, F_{R_2})} = 0.535$$

Dimensionerande utnyttjandegrad rörligt lager

$u_{RL} := \max(UG_{RL_1}, UG_{RL_2}, UG_{RL_3}, UG_{RL_4}) = 0.535$

B12.2 Fasta lager

Geometri



Figur B12-2: Fast lager, ritning

Lagerreaktioner

LKA Mittstöd Lager:	Snitt (m)	Hy,max RF2	Hy,min RF2	Hx, max RF1	Hx, min RF1	Vz RF3	perm. Vz RF3
1	0	-111	-440	711	-711	1364	946
2	1.92	115	-229	681	-681	1011	554
3	3.84	83	-139	575	-575	1202	688
4	5.76	141	-83	576	-576	1202	688
5	7.68	229	-114	685	-685	1012	554
6	9.6	438	110	708	-708	1366	946
MAX		438	-440	711	-711	1366	946

Tabell B12-2: Utdata reaktioner mellanstöd, RF1 = Längsled

(Se kommentar av horisontella krafter till "Kontroll av bultar med avseende på horisontalkraft")

Från ritning, fasta lager:

Antal fasta lager 6 st.
Lagren äro beräknade för ett lagertryck av 115 ton (normalt belastningsfall).
Beräknad lagervikt c:a 135 kg.

Kontroll utförs i ett första steg av lagertryck V från ritning. Ovan gäller för båda mittstöd.

$V := 115\ tonne \cdot g = 1128\ kN$

$\frac{V}{V_{max}}$ =

$Lager_1 := \frac{1364\ kN}{1128\ kN} = 1.2$

$Lager_2 := \frac{1011\ kN}{1128\ kN} = 0.9$

$Lager_3 := \frac{1202\ kN}{1128\ kN} = 1.07$

$Lager_4 := \frac{1202\ kN}{1128\ kN} = 1.07$

$Lager_5 := \frac{1012\ kN}{1128\ kN} = 0.9$

$Lager_6 := \frac{1366\ kN}{1128\ kN} = 1.2$

Fyra av sex fasta lager överskrider lagertryck enligt ritning.
Utnyttjandegrad n = 1.2 för lager 1 och 6
Utnyttjandegrad n = 1.07 för lager 3 och 4

Kontroll av fasta lager enligt SS-EN 1337-6:2004, avsnitt 6.5 utförs enligt nästkommande sidor.

Kontroll av fasta lager enligt SS-EN 1337-6:2004, avsnitt 6.5

Laster och rotationer

$N_{sd_LKA} := 1366 \cdot kN$ Dimensionerande reaktionskraft i LKA

$N_{sd_LKA_exkl_trafik} := 946 \cdot kN$ Reaktionskraft av permanent last

$\alpha_d := 0.00947 \cdot rad$ Största vinkeländring i LKA, B=210 kN

$H_{sd_LKA_1} := 711 \cdot kN$ Dimensionerande reaktionskraft H i LKA, balk 1/6

$H_{sd_LKA_2} := 685 \cdot kN$ Dimensionerande reaktionskraft H i LKA, balk 2/5

$H_{sd_LKA_3} := 576 \cdot kN$ Dimensionerande reaktionskraft H i LKA, balk 3/4

På säker sida används lägst permanent tillhörande V:

$V_{sd_LKA_perm_1} := 991 \cdot kN$ Tillhörande min V till reaktionskraft H i LKA, balk 1/6

$V_{sd_LKA_perm_2} := 800 \cdot kN$ Tillhörande min V till reaktionskraft H i LKA, balk 2/5

$V_{sd_LKA_perm_3} := 971 \cdot kN$ Tillhörande min V till reaktionskraft H i LKA, balk 3/4

Dimensioner

$R_{konvex} := 500 \cdot mm$ Radie konvex yta

$L_{lager} := 500 \cdot mm$ Lagrets längd (övre platta)

$t_p := 65 \cdot mm$ Lagerplattans tjocklek

Betong K50

$f_{cc} = 23.667\ MPa$

Stål

$E_d = 210\ GPa$

$f_u = 650\ MPa$

Hållfasthetsklass SIS 1606, Stg 65
TRVINFRA-00331 Tabell 7-15:

$\lambda_m := 1$

Tabell 7-14 Karakteristiska hållfasthetsvärden för gjutstål

Hållfasthets-klass	f_{yk} [N/mm²]	f_{uk} [N/mm²]
SIS 1305	200	380
SIS 1505	260	520
SIS1605	300	600

Tabell 7-15 Karakteristiska hållfasthetsvärden för stålgjutgods

Hållfasthets-klass	f_{yk} [N/mm²]	f_{uk} [N/mm²]
Stg 40	200	400
Stg 50	250	500
Stg 65	320	650

Beräkning

Kontroll av linjevipplager

Enligt 6.5.1 i SS-EN 1337-6:2004

$$N_{Rd_lager} := \frac{23 \cdot \left(R_{konvex}\right) \cdot \frac{{f_u}^2}{E_d} \cdot L_{lager}}{{\lambda_m}^2} = 11568 \ \boldsymbol{kN}$$

Utnyttjandegrad:

$$UG_{FL_1} := \frac{N_{sd_LKA}}{N_{Rd_lager}} = 0.12$$

Kontroll av tryckspänning mot betongen ovan lagret

$$\sigma_{btg} := \frac{N_{sd_LKA}}{L_{lager} \cdot \left(t_p + t_p\right)} = 21.015 \ \boldsymbol{MPa} \qquad < \qquad 2 \cdot f_{cc} = 47.333 \ \boldsymbol{MPa}$$

Utnyttjandegrad:

$$UG_{FL_2} := \frac{\sigma_{btg}}{2 \cdot f_{cc}} = 0.44$$

Kontroll av spjälkning

Kontrolleras enligt BBK04, 3.10.2

Spjälkning förutsätts inte inträffa om tryckkraften är högst lika med en kapacitet F_R, som är det största av följande värden:

$F_R = 0.75 \cdot a \cdot b \cdot f_{ct}$ (3.10.2a)

$F_R = (0.5 + \beta) \cdot A \cdot f_{cc}$ (3.10.2b)

Med nedan värden:

$a := b_{balk} = 0.5\ m$ Längden av den kortaste spjälksprickan genom tyngdpunkten för tryckytan, minsta bredd (balk 1 och 6) på säker sida

$b = b_1 \cdot 8$

$b_1 := (t_p + t_p)$

Dubbla avståndet från tryckytans tyngdpunkt till konstruktionens närmaste kant
b i formel (3.10.2a) behöver inte ges mindre värde än 8 gånger tryckytans längd b_1 i samma riktning

$b := b_1 \cdot 8 = 1.04\ m$

$\beta := 0.5$ Lager centriskt under balk

$A_{fast} := L_{lager} \cdot (t_p + t_p)$ Tryckytans storlek

Detta ger:

$F_{R_1} := 0.75 \cdot a \cdot b \cdot f_{ct} = 585\ kN$

$F_{R_2} := (0.5 + \beta) \cdot A_{fast} \cdot f_{cc} = 1538\ kN$

Ingen risk för spälkspricka i betongen anses föreligga.

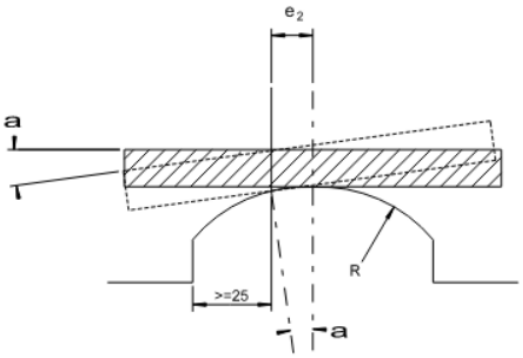
Utnyttjandegrad:

$$UG_{FL_3} := \frac{N_{sd_LKA}}{\max(F_{R_1}, F_{R_2})} = 0.89$$

Kontroll av rotationskapacitet

Enligt 6.6.3 och 6.6.7 i SS-EN 1337-6:2004

$$e_2 := \alpha_d \cdot R_{konvex} \cdot 2 = 9.47 \ mm$$



Figur 4 – Excentricitet för linjevipplager

$$e_{min} := 25 \ mm$$

$$e_{dim} := \frac{115 \cdot mm}{2} - e_2 = 48.03 \ mm$$

Större än 25 mm OK enligt Figur 4, 6.6.7 i SS-EN 1337-6:2004

Utnyttjandegrad:

$$UG_{FL_4} := \frac{e_{min}}{e_{dim}} = 0.521$$

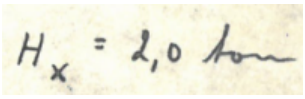
Kontroll av bultar med avseende på horisontalkraft

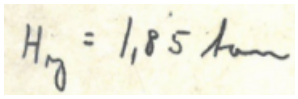
Kontroll utförs för största horisontalkraft med tillhörande minsta normalkraft för respektive lager.

Enligt SS-EN 1992-1-1:2005 avsnitt 6.2.5

Värden i tabell B12-2 för horisontalkraft är högre p.g.a 3D-effekter som uppstår av ogynnsam belastning från vertikal trafiklast, vilket ger ett tvång.
Detta tillskott sker dock inte i 2D-balkteori eller om plattan vore modellerad med isotropisk platta med låg E-modul.

Kontroll av H av endast broms i FE-modell i brons längdriktning ger likvärdigt som beräkning för pålgrupp.
Samtidigt har det i ursprunglig lagerberäkning beräknats för nedan horisontella laster:





$2\ tonne \cdot g = 19.613\ kN$ $1.85\ tonne \cdot g = 18.142\ kN$

Vilka stämmer överens med reaktioner som använts till beräkning av pålgrupp.

Kapacitet kontrolleras mot värden från FE-modell.

Hållfastheter betong och bultar:

$f_{ctd} := 1.5 \cdot MPa$ Dimensionerande draghållfasthet betong

$f_{cd} := f_{cc} = 23.667\ MPa$ Dimensionerande tryckhållfasthet betong

$f_{ck} = 35.5\ MPa$ Karakteristisk tryckhållfasthet betong

$f_{yd} := \frac{360 \cdot MPa}{1.15} = 313\ MPa$ Hållfasthetsklass SIS 1310. Antas SIS 1305.
Dimensionerande hållfasthet bultar.

TRVINFRA-00331 Tabell 7-14:

Tabell 7-14 Karakteristiska hållfasthetsvärden för gjutstål

Hållfasthets-klass	f_{yk} [N/mm²]	f_{uk} [N/mm²]
SIS 1305	200	380
SIS 1505	260	520
SIS1605	300	600

Tabell 7-15 Karakteristiska hållfasthetsvärden för stålgjutgods

Hållfasthets-klass	f_{yk} [N/mm²]	f_{uk} [N/mm²]
Stg 40	200	400
Stg 50	250	500
Stg 65	320	650

Dimensioner fogyta bultar:

$a := 500 \cdot mm$ Plåtens längd (undre plåt)

$b := 340 \cdot mm$ Plåtens bredd

$\phi_b := 24 \cdot mm$ 1 tum =25.4 lagerbult, antar som M24 med hänsyn till gängor

$A_s := 353 \cdot mm^2$ Tvärsnittsarea per bult med hänsyn till gängor

$n := 4$ Antal bultar

Parametrar:

$c_1 := 0.2$ $\mu := 0.6$ Slät yta antas

$\alpha := 90 \cdot deg$ Vinkel mellan bultar och fogyta

$A_{s_tot} := n \cdot A_s = 1412\ mm^2$ Total area bultar som korsar fogen

$$\rho := \frac{A_{s_tot}}{a \cdot b} = 0.008$$

$$\nu := 0.6 \cdot \left(1 - \frac{\frac{f_{ck}}{MPa}}{250}\right) = 0.515$$

Skjuvkapacitet:

$$\nu_{Rd} = c \cdot f_{ctd} + \mu \cdot \sigma_n + \rho \cdot f_{yd} \cdot (\mu \cdot sin(\alpha) + cos(\alpha)) \leq 0.5 \cdot \nu \cdot f_{cd}$$

Kapacitet lager 1/6:

$\sigma_n := \frac{V_{sd_LKA_perm_1}}{a \cdot b} = 5.8\ \boldsymbol{MPa}$ Tryckspänning på fogen

$\nu_{Rd} := min\left(0.5 \cdot \nu \cdot f_{cd}, c_1 \cdot f_{ctd} + \mu \cdot \sigma_n + \rho \cdot f_{yd} \cdot \left(\mu \cdot \sin\left(\alpha\right) + \cos\left(\alpha\right)\right)\right)$

$H_{Rd} := a \cdot b \cdot \nu_{Rd} = 911\ \boldsymbol{kN}$

Utnyttjandegrad:

$UG_{FL_5} := \frac{H_{sd_LKA_1}}{H_{Rd}} = 0.781$ OK, ej begränsande

Kapacitet lager 2/5:

$\sigma_n := \frac{V_{sd_LKA_perm_2}}{a \cdot b} = 4.7\ \boldsymbol{MPa}$ Tryckspänning på fogen

$\nu_{Rd} := min\left(0.5 \cdot \nu \cdot f_{cd}, c_1 \cdot f_{ctd} + \mu \cdot \sigma_n + \rho \cdot f_{yd} \cdot \left(\mu \cdot \sin\left(\alpha\right) + \cos\left(\alpha\right)\right)\right)$

$H_{Rd} := a \cdot b \cdot \nu_{Rd} = 796\ \boldsymbol{kN}$

$UG_{FL_6} := \frac{H_{sd_LKA_2}}{H_{Rd}} = 0.86$ OK, ej begränsande

Kapacitet lager 3/4:

$\sigma_n := \frac{V_{sd_LKA_perm_3}}{a \cdot b} = 5.7\ \mathbf{MPa}$ Tryckspänning på fogen

$\nu_{Rd} := min\left(0.5 \cdot \nu \cdot f_{cd}, c_1 \cdot f_{ctd} + \mu \cdot \sigma_n + \rho \cdot f_{yd} \cdot \left(\mu \cdot \sin(\alpha) + \cos(\alpha)\right)\right)$

$H_{Rd} := a \cdot b \cdot \nu_{Rd} = 899\ \mathbf{kN}$

$UG_{FL_7} := \frac{H_{sd_LKA_3}}{H_{Rd}} = 0.641$ OK, ej begränsande

Dimensionerande utnyttjandegrad fast lager

$u_{FL} := \max\left(UG_{FL_1}, UG_{FL_2}, UG_{FL_3}, UG_{FL_4}, UG_{FL_5}, UG_{FL_6}, UG_{FL_7}\right) = 0.89$

B12.3 Sammanfattning av resultat

Samtliga lager har påvisats underskrida utnyttjandegrad = 1.0 efter kontroller enligt 'SS-EN 1337-4:2004 Rullager' och 'SS-EN 1337-6:2004 Vipplager'

Utnyttjandegrad för rörligt lager, landfästen:

$u_{RL} = 0.535$

Utnyttjandegrad för fast lager, mellanstöd:

$u_{FL} = 0.89$

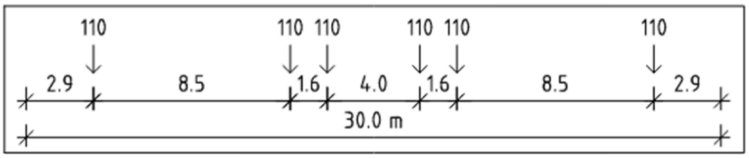
BILAGA 13 - SPÅRVAGNSLASTER. LASTEFFEKTJÄMFÖRELSE

B13.1 Förutsättningar

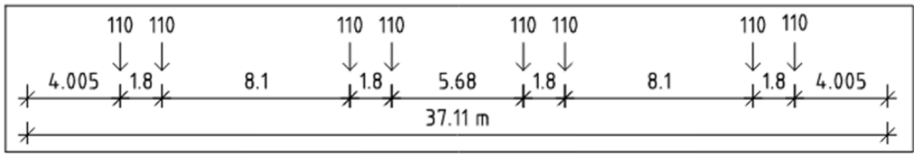
Denna lastjämförelse av spårvagnslaster görs för att bevisa eller motbevisa att denna beräkning är fortfarande aktuellt när nu då har det fastställts de aktuella spårvagnlaster på denna bro.

Det hänvisas till dokumentet "Lastförutsättningar för Uppsala spårvägs spårbärande byggnadsverk, ver 1.0"

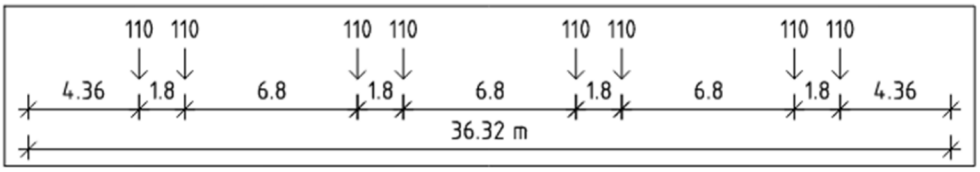
Det beaktas Spårvagn A, B och C, samt arbetståg och enstaka axelgrupper. Arbetståg och enstaka axelgrupper utgår från denna lasteffektjämförelse då lastkonfigurationen är samma som för det arbetståget och axelgrupper som redan har kontrollerats.



Figur USPV A1.a Spårvagn A. Axellaster i kN.



Figur USPV A1.b Spårvagn B. Axellaster i kN.



Figur USPV A1.c Spårvagn C. Axellaster i kN.

Max tillåten hastighet är 50km/h för alla 3 fordon.

Dynamiskt tillskott bestäms enligt SS-EN 1991-2 bilaga C, Omsorgsfullt underhållet spår enligt formel C.2

eller $1 + \varphi = 1 + \varphi' + 0{,}5\ \varphi''$ för omsorgsfullt underhållet spår (C.2)

$v := 50\ \frac{km}{hr} = 13.889\ \frac{m}{s}$ Hastigheten för verkliga tåg

$L := 17.76\ m$ Bestämmande längd [m] enligt 6.4.5.3

$n_{0.övre} := 94.76 \cdot \left(\frac{L}{m}\right)^{-0.748} \cdot Hz = 11.016\ Hz$ Brons längsta egenfrekvens för böjning vid belastning av permanenta laster [Hz]

$n_{0.undre} := \frac{80}{\left(\frac{L}{m}\right)} \cdot Hz = 4.505\ Hz$

$t_{jordlast} := 0\ m$ Ingen jordlast ovan konstruktion

$$K_{övre} := \frac{\frac{v}{\frac{m}{s}}}{2 \cdot \frac{L}{m} \cdot \frac{n_{0.övre}}{Hz}} = 0.035 \qquad K_{undre} := \frac{\frac{v}{\frac{m}{s}}}{2 \cdot \frac{L}{m} \cdot \frac{n_{0.undre}}{Hz}} = 0.087$$

$$\varphi'_{undre} := \left\| \begin{array}{l} \text{if } K_{undre} < 0.76 \\ \quad \left\| \frac{K_{undre}}{1 - K_{undre} + K_{undre}^{4}} \right. \\ \text{else} \\ \quad \| 1.325 \end{array} \right\| = 0.095 \qquad \varphi'_{övre} := \left\| \begin{array}{l} \text{if } K_{övre} < 0.76 \\ \quad \left\| \frac{K_{övre}}{1 - K_{övre} + K_{övre}^{4}} \right. \\ \text{else} \\ \quad \| 1.325 \end{array} \right\| = 0.037$$

$$\alpha := \left\| \begin{array}{l} \text{if } v \leq 22 \ \frac{m}{s} \\ \quad \left\| \frac{\frac{v}{\frac{m}{s}}}{22} \right. \\ \text{else} \\ \quad \| 1 \end{array} \right\| = 0.631$$

$$\varphi''_{undre} := \frac{\alpha}{100} \cdot \left[56 \cdot e^{-\left(\frac{L}{10\,m}\right)^2} + 50 \cdot \left(\frac{n_{0.undre} \cdot L}{80 \cdot Hz \cdot m} - 1 \right) \cdot e^{-\left(\frac{L}{20\,m}\right)^2} \right] = [0.015]$$

$$\varphi''_{övre} := \frac{\alpha}{100} \cdot \left[56 \cdot e^{-\left(\frac{L}{10\,m}\right)^2} + 50 \cdot \left(\frac{n_{0.övre} \cdot L}{80 \cdot Hz \cdot m} - 1 \right) \cdot e^{-\left(\frac{L}{20\,m}\right)^2} \right] = [0.222]$$

$$D := \max\left(1 + \varphi'_{undre} + 0.5 \cdot \varphi''_{undre},\ 1 + \varphi'_{övre} + 0.5 \cdot \varphi''_{övre}\right) = 1.148$$

Det konstateras att det blir detsamma som det som har räknats för resterande fordon.

En ny körning ska göras med samma tidigare modell och lasteffekter från envelop A32, A35 och A36 samt arbetståg och enstaka axellaster jämförs med spårvagn A, B och C.

Denna bilaga består av följande delar:

1) Jämförelse mellan A32, A35 och A36 (samt arbetståg och enstaka axellaster) och spårvagn A, B och C. Denna jämförelse görs för balkarna och redovisas genom grafer. Gäller för LKA (brott).

2) Beräkning av utmattning med A, B, C spårvagnslaster.

Beräkningen följer samma principer för benämning, hantering av resultar mm. Som den tidigare beräkningen.
Systemmodellen är samma som i senaste revidering. Det lagts till spårvarn A, B, C.

Följande lastgrupper och lastkombinationer har använts i denna bilaga:

Namn	**Består av**	**Förkortning**
Uppsala Train load env	Spårvagn A, B, C	ABC
Train Load Envelope	A_Train_Load_Env + Maintenance	A_Trains
Train Maintenance	Arbetståg + Enstaka axellaster	Maintenance
A_Train_Load_Env	A32, A35, A36	A_Train
Train Comb C_cycl_ABC	Uppsala Train load	cycl_ABC
Train Comb C_ABC	Uppsala Train load+övriga	C_ABC

Slutsats:
Jämförelsen för balkar B1-B6 visar att de lasteffekterna från spårvagn A, B och C ger inte större påverkan i konstruktionen. Dvs, anses att klassningen avgörs inte pga de nya förutsättningar. Därför det även inte kontrolleras LKA för plattan.

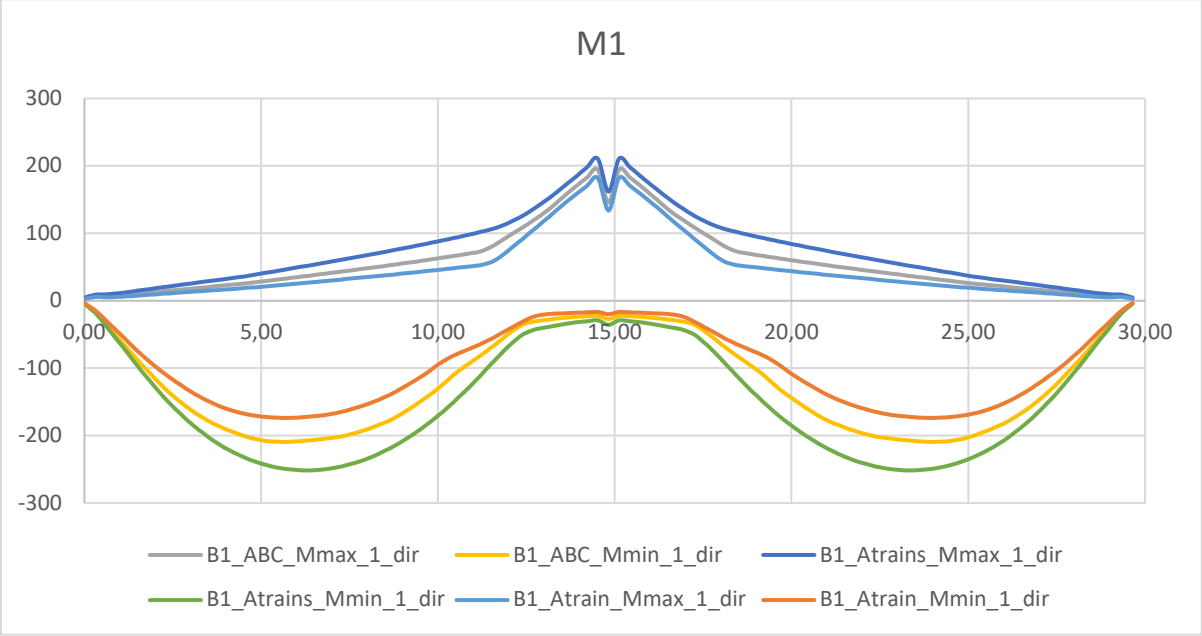
Vad som gäller utmattning ska A, B, C ge större påverkan i konstruktionen. Det orsakar även större övertramp för kontrollen utmattning tvärkraft.

B13.2 Jämförelse mellan A32, A35 och A36 (samt arbetståg och enstaka axellaster) och spårvagn A, B och C.

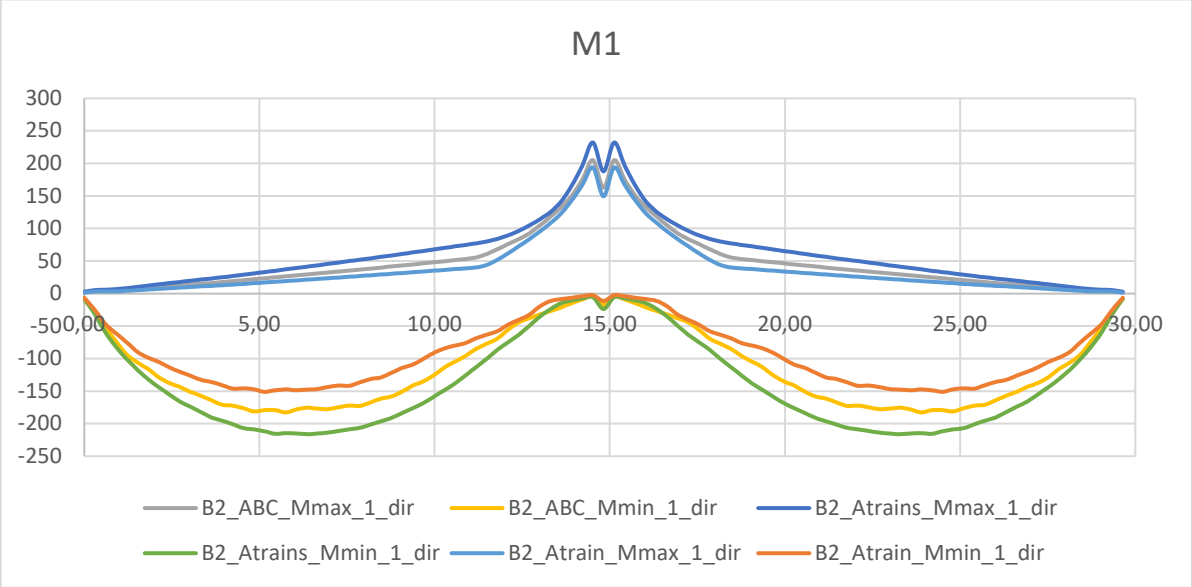
Jämförelse mellan A32, A35 och A36 (samt arbetståg och enstaka axellaster) och spårvagn A, B och C. Denna jämförelse görs för balkarna och redovisas genom grafer. Gäller för LKA (brott).

Böjmoment M1 [x axeln i m, y axeln i kN*m]

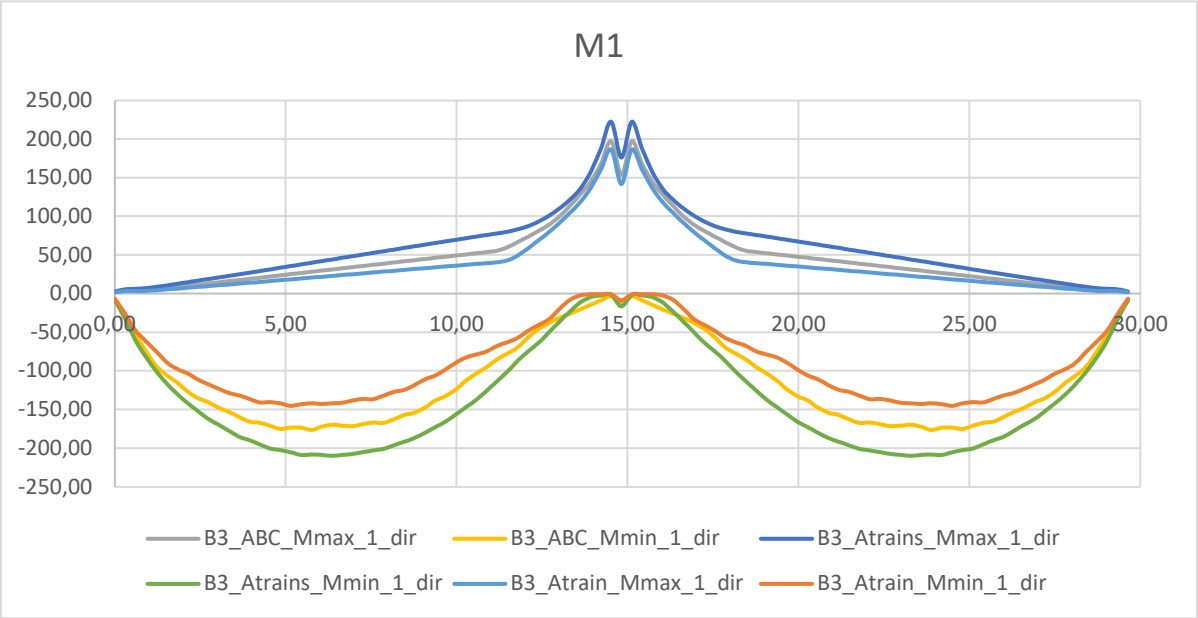
För Balk B1



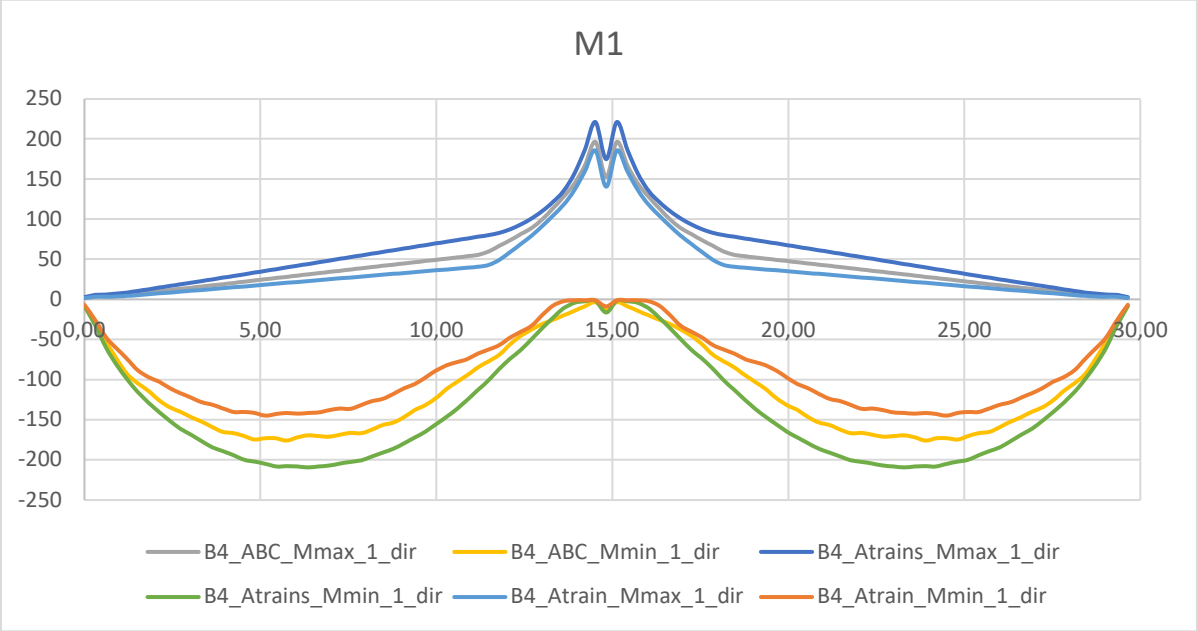
För Balk B2



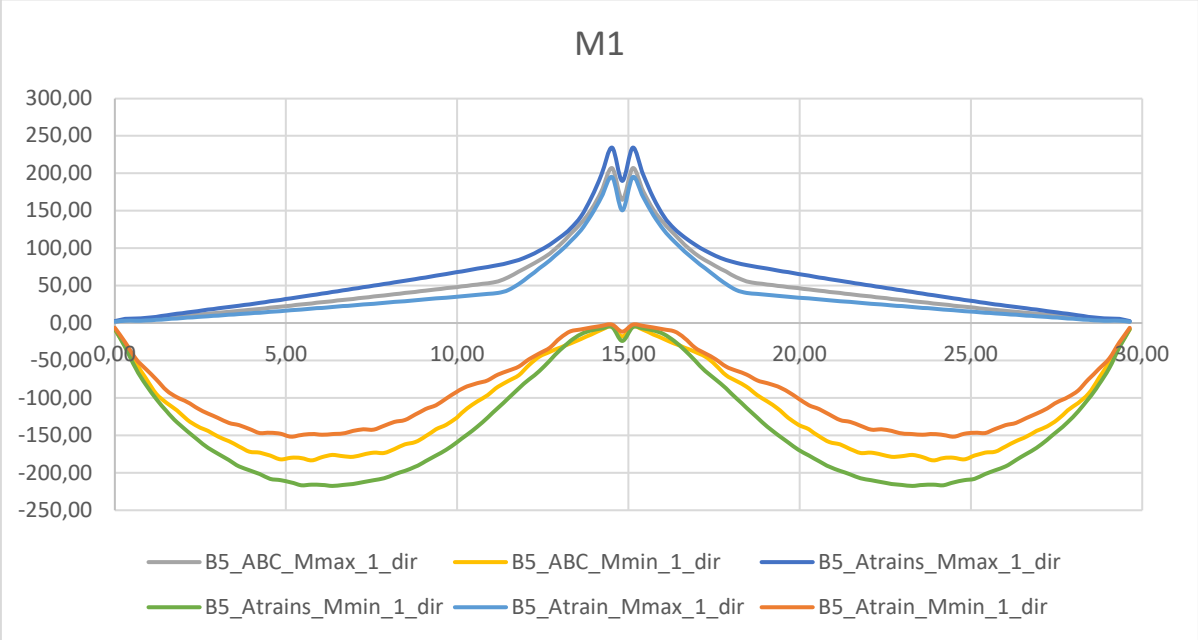
För Balk B3



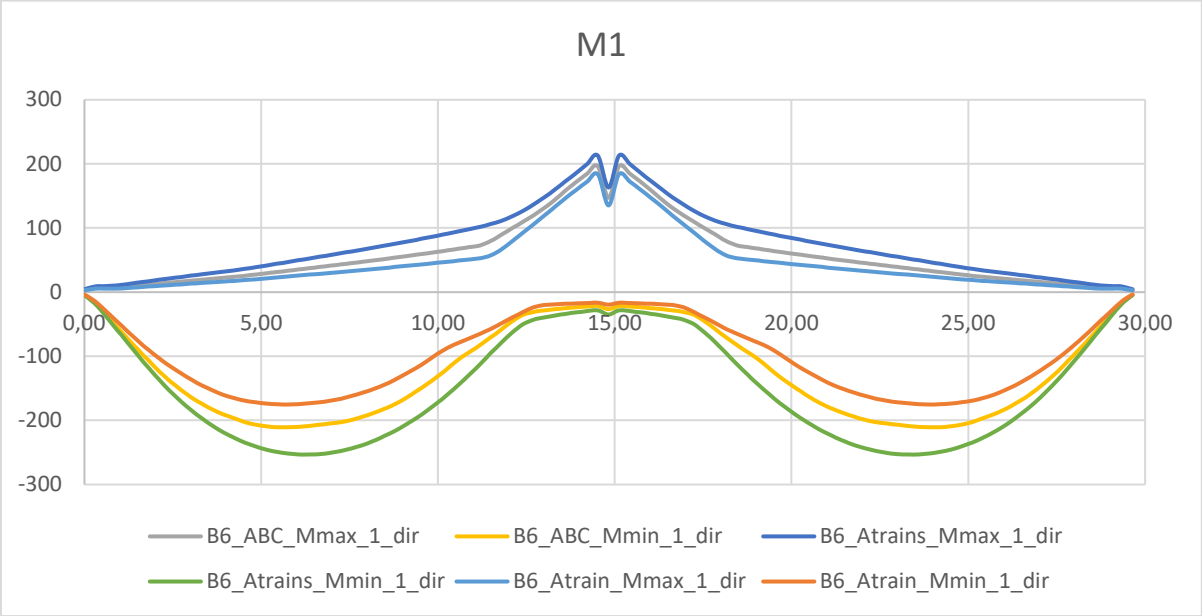
För Balk B4



För Balk B5



För Balk B6

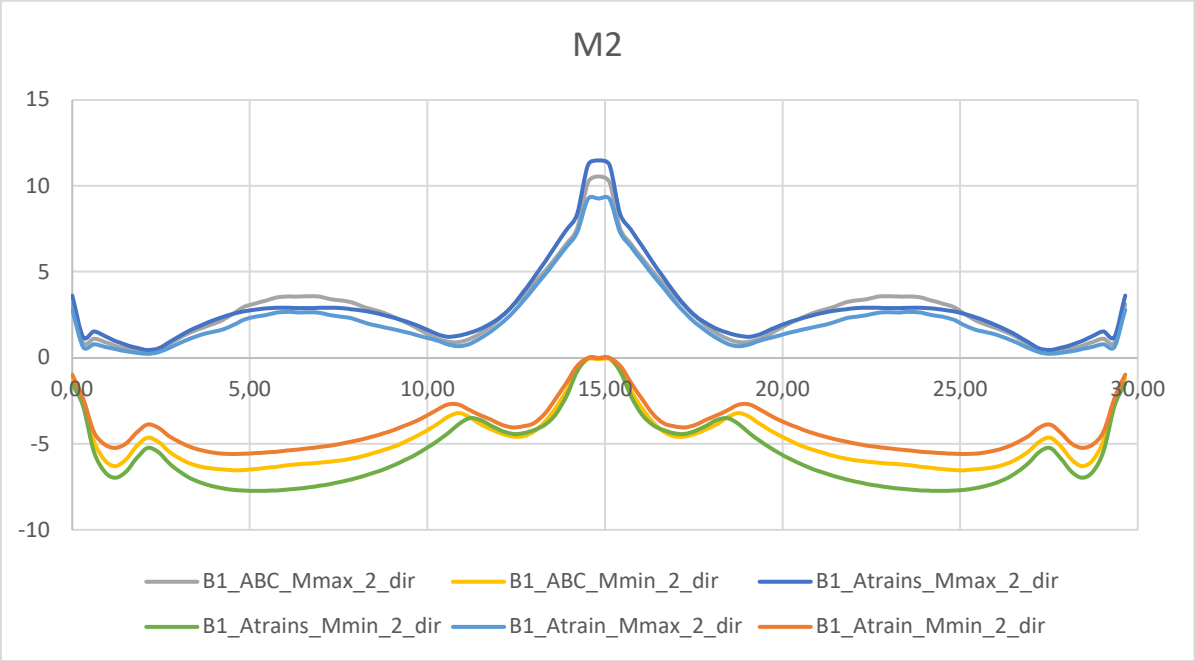


Slutsats balkarna B1-B6 mht böjmoment M1

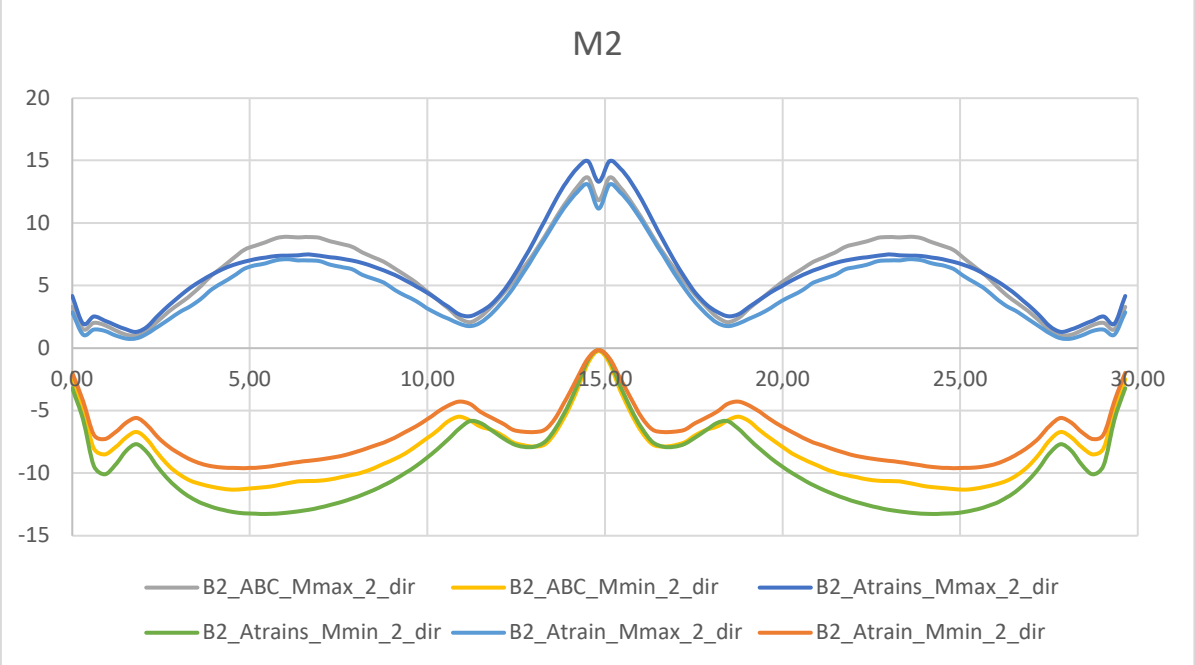
Som det kan observeras ABC tågen ger högre moment än A32, A35, A36 (Atrain). Dock envelopen som även täcker Arbetståg och enstaka axellaster (Atrains) är högre än ABC tågen och därför kan man anse att ABC tågen förvärrar inte situationen med hänsyn till denna klassning.

Böjmoment M2 [x axeln i m, y axeln i kN*m]

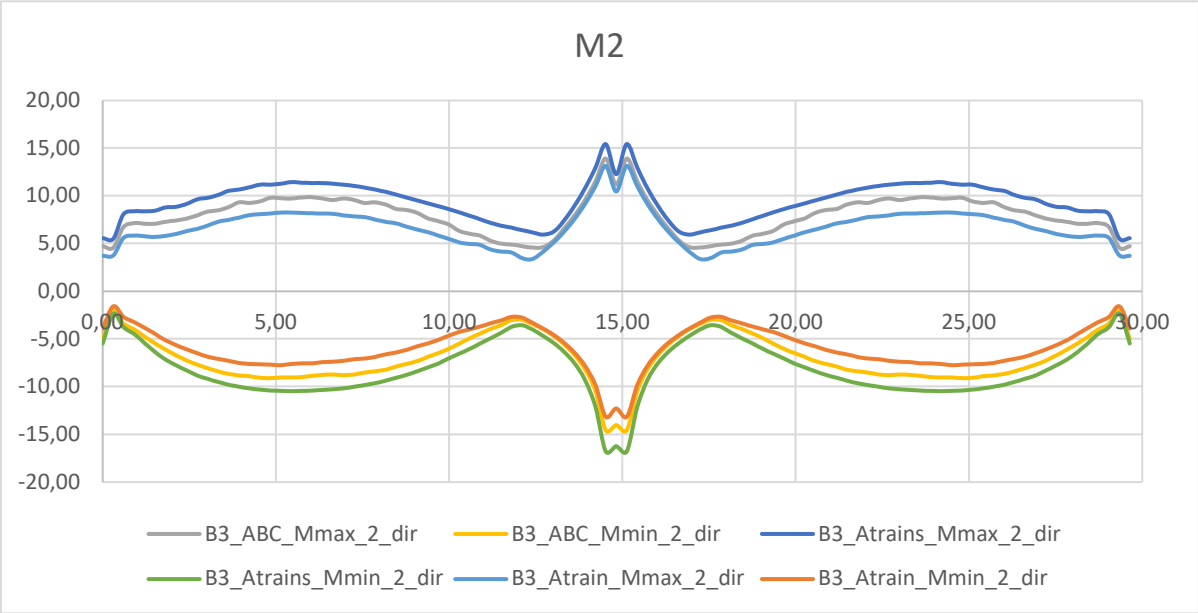
För Balk B1



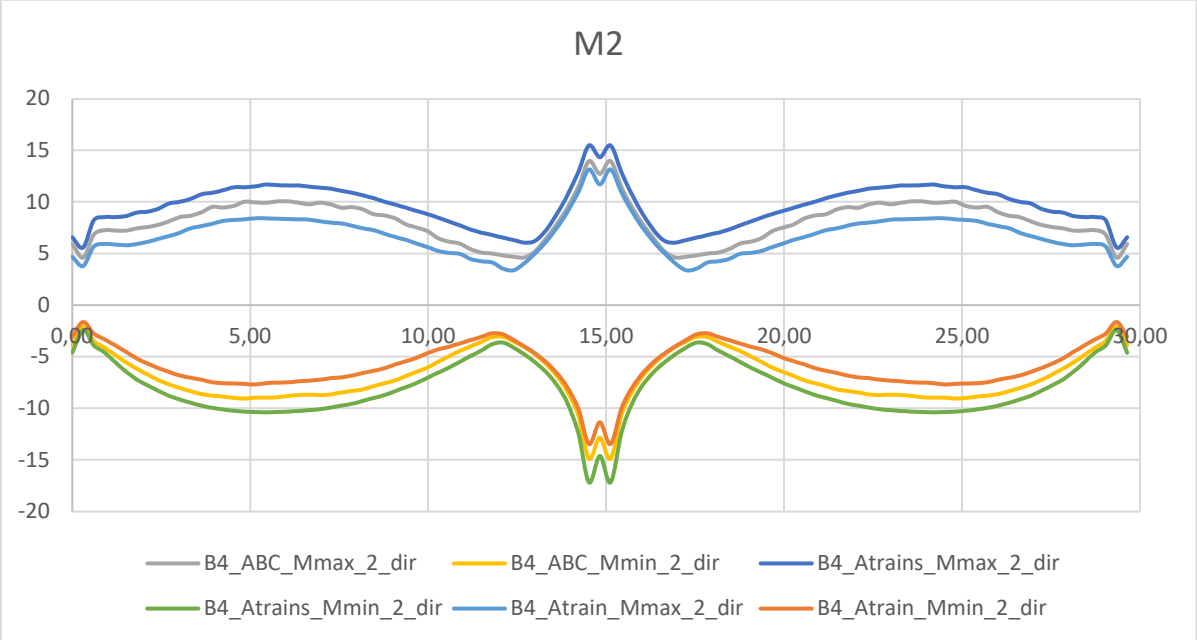
För Balk B2



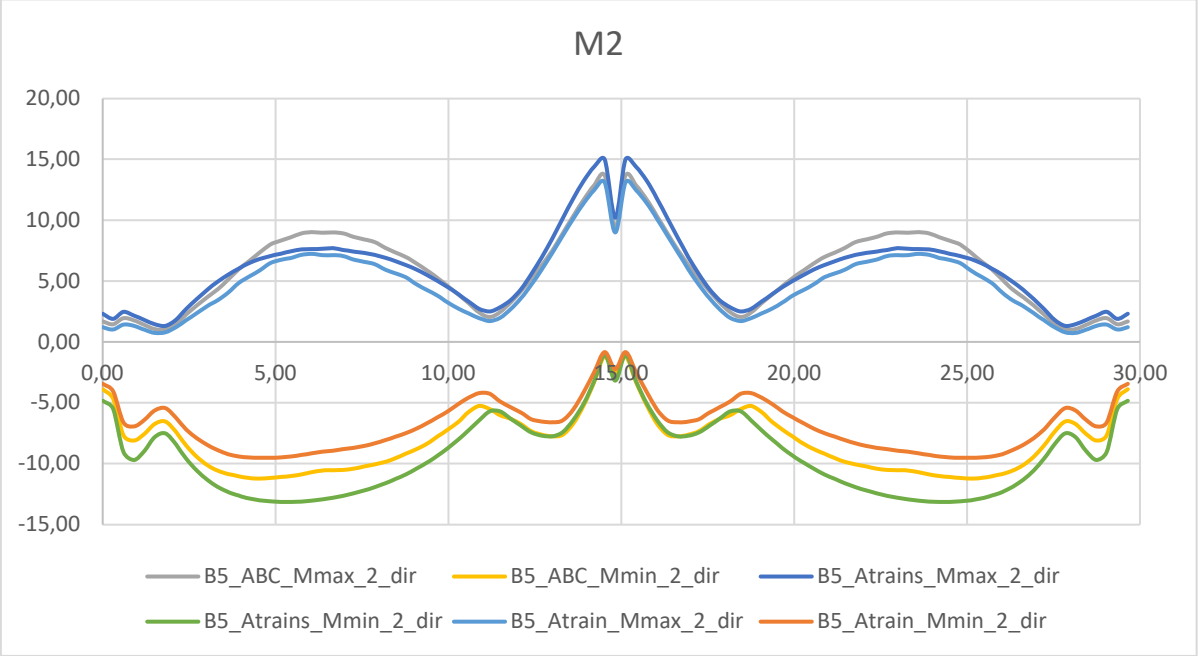
För Balk B3



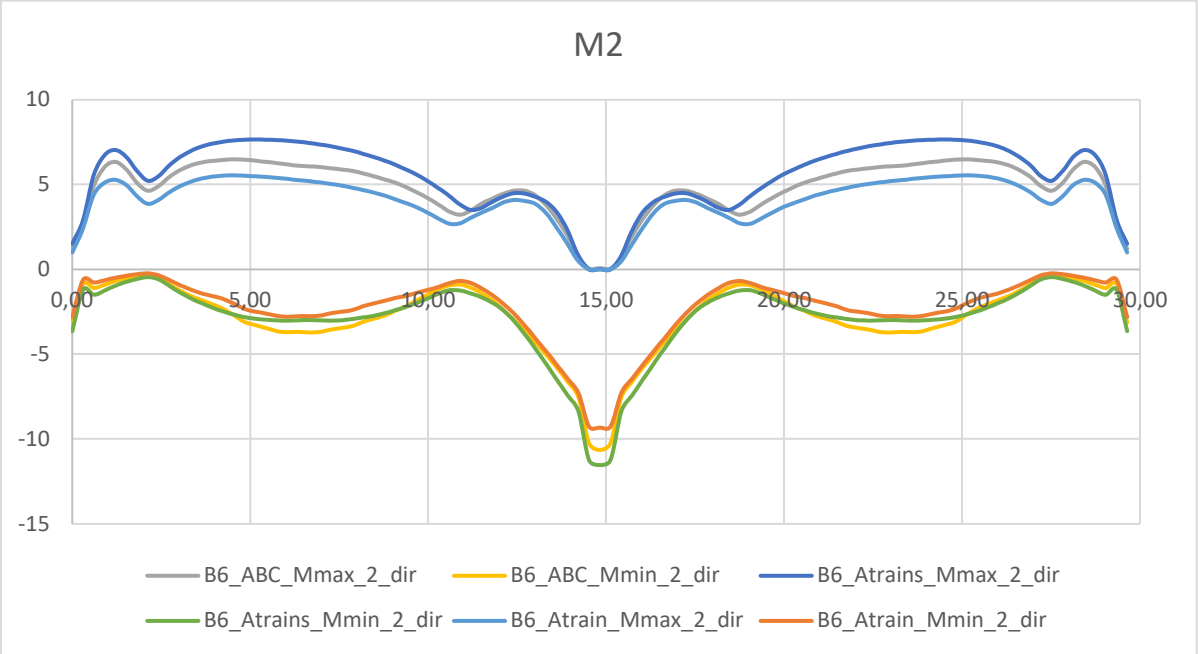
För Balk B4



För Balk B5



För Balk B6

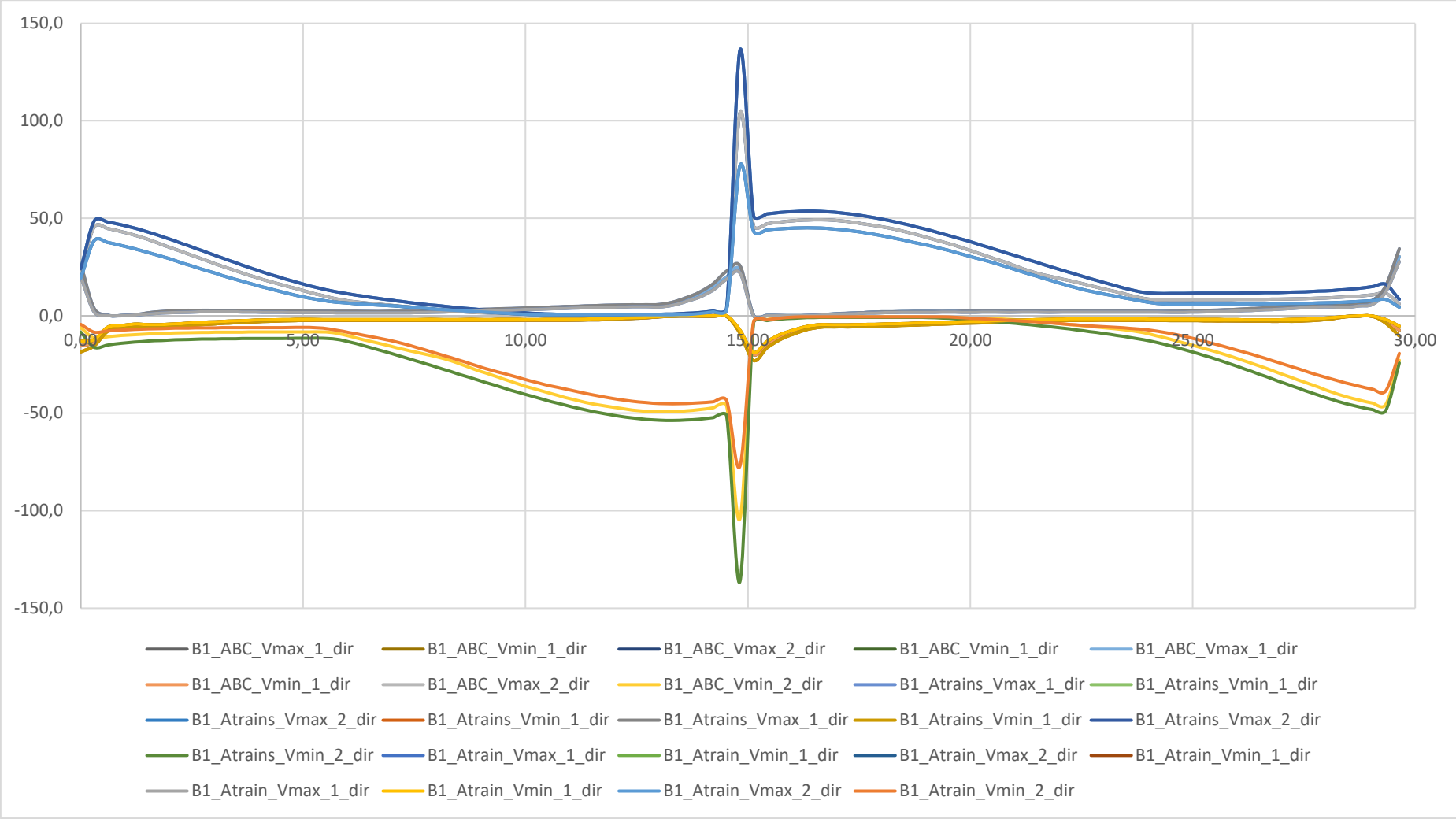


Slutsats balkarna B1-B6 mht böjmoment M2

Som det kan observeras ABC tågen ger högre moment M2 än i klassningsberäkning. Dock anses att övertrampet låg i värdena och M2 har inte varit avgörande i den befintliga beräkningen

Böjmoment V [x axeln i m, y axeln i kN]

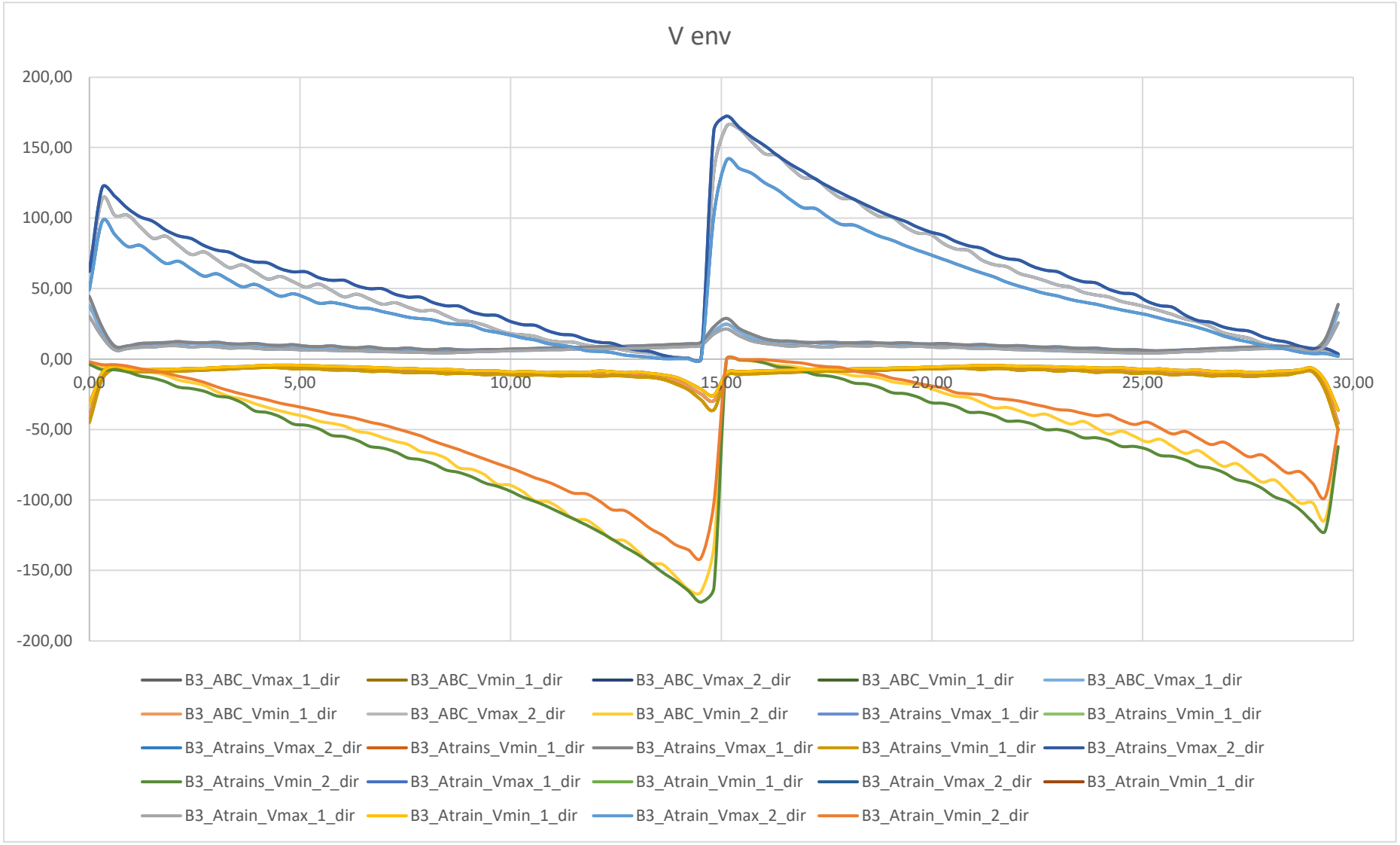
För Balk B1



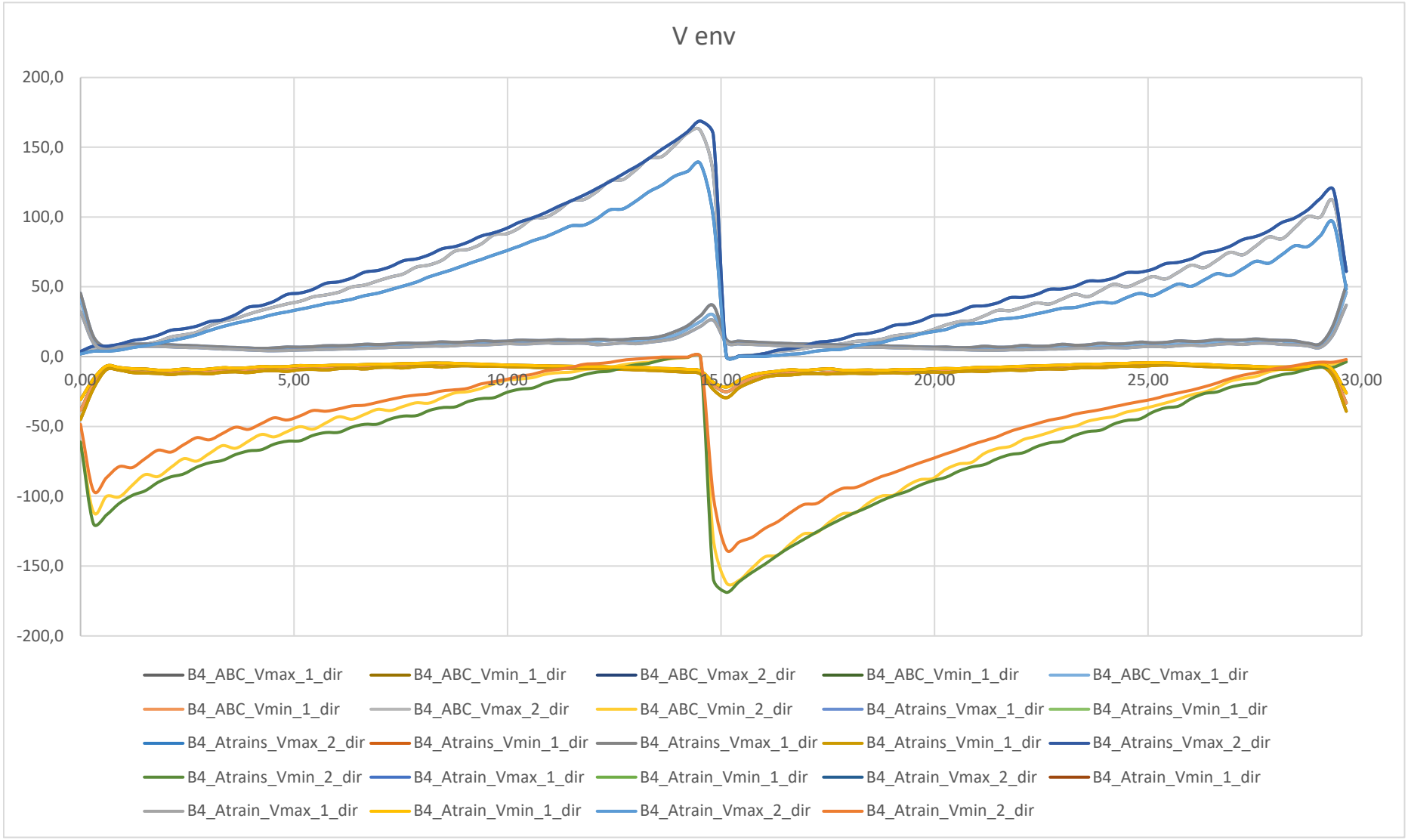
För Balk B2

V env
250,0
200,0
150,0
100,0
50,0
0,0
-50,0
-100,0
-150,0
-200,0
-250,0
0,00
5,00
10,00
15,00
20,00
25,00
30,00
B2_ABC_Vmax_1_dir
B2_ABC_Vmin_1_dir
B2_ABC_Vmax_2_dir
B2_ABC_Vmin_1_dir
B2_ABC_Vmax_1_dir
B2_ABC_Vmin_1_dir
B2_ABC_Vmax_2_dir
B2_ABC_Vmin_2_dir
B2_Atrains_Vmax_1_dir
B2_Atrains_Vmin_1_dir
B2_Atrains_Vmax_2_dir
B2_Atrains_Vmin_1_dir
B2_Atrains_Vmax_1_dir
B2_Atrains_Vmin_1_dir
B2_Atrains_Vmax_2_dir
B2_Atrains_Vmin_2_dir
B2_Atrain_Vmax_1_dir
B2_Atrain_Vmin_1_dir
B2_Atrain_Vmax_2_dir
B2_Atrain_Vmin_1_dir
B2_Atrain_Vmax_1_dir
B2_Atrain_Vmin_1_dir
B2_Atrain_Vmax_2_dir
B2_Atrain_Vmin_2_dir

För Balk B3


V env
200,00
150,00
100,00
50,00
0,00
-50,00
-100,00
-150,00
-200,00
0,00
5,00
10,00
15,00
20,00
25,00
30,00
B3_ABC_Vmax_1_dir
B3_ABC_Vmin_1_dir
B3_ABC_Vmax_2_dir
B3_ABC_Vmin_1_dir
B3_ABC_Vmax_1_dir
B3_ABC_Vmin_1_dir
B3_ABC_Vmax_2_dir
B3_ABC_Vmin_2_dir
B3_Atrains_Vmax_1_dir
B3_Atrains_Vmin_1_dir
B3_Atrains_Vmax_2_dir
B3_Atrains_Vmin_1_dir
B3_Atrains_Vmax_1_dir
B3_Atrains_Vmin_1_dir
B3_Atrains_Vmax_2_dir
B3_Atrains_Vmin_2_dir
B3_Atrain_Vmax_1_dir
B3_Atrain_Vmin_1_dir
B3_Atrain_Vmax_2_dir
B3_Atrain_Vmin_1_dir
B3_Atrain_Vmax_1_dir
B3_Atrain_Vmin_1_dir
B3_Atrain_Vmax_2_dir
B3_Atrain_Vmin_2_dir

För Balk B4



Bilaga 13
David Matos Sánchez
Bjerking AB

För Balk B5

Bilaga 13
David Matos Sánchez
Bjerking AB

För Balk B6

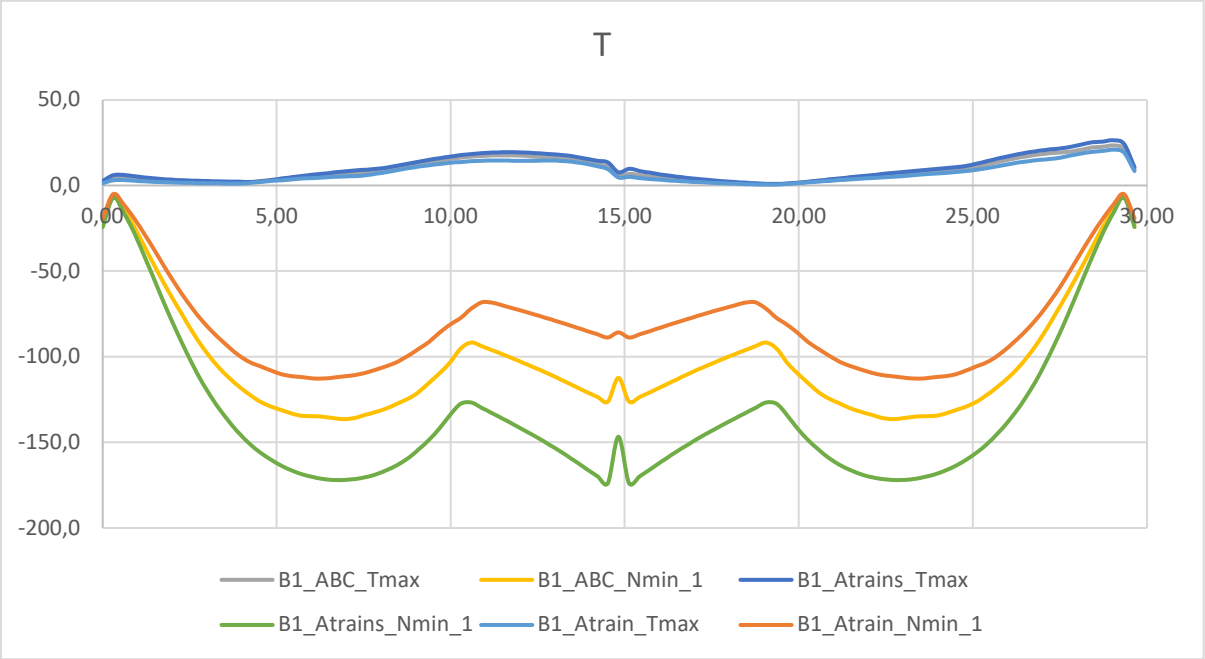
V env
200,0
150,0
100,0
50,0
0,0
-50,0
-100,0
-150,0
-200,0
0,00
5,00
10,00
15,00
20,00
25,00
30,00
B6_ABC_Vmax_1_dir
B6_ABC_Vmin_1_dir
B6_ABC_Vmax_2_dir
B6_ABC_Vmin_1_dir
B6_ABC_Vmax_1_dir
B6_ABC_Vmin_1_dir
B6_ABC_Vmax_2_dir
B6_ABC_Vmin_2_dir
B6_Atrains_Vmax_1_dir
B6_Atrains_Vmin_1_dir
B6_Atrains_Vmax_2_dir
B6_Atrains_Vmin_1_dir
B6_Atrains_Vmax_1_dir
B6_Atrains_Vmin_1_dir
B6_Atrains_Vmax_2_dir
B6_Atrains_Vmin_2_dir
B6_Atrain_Vmax_1_dir
B6_Atrain_Vmin_1_dir
B6_Atrain_Vmax_2_dir
B6_Atrain_Vmin_1_dir
B6_Atrain_Vmax_1_dir
B6_Atrain_Vmin_1_dir
B6_Atrain_Vmax_2_dir
B6_Atrain_Vmin_2_dir

Slutsats balkarna B1-B6 mht tvärkraft V

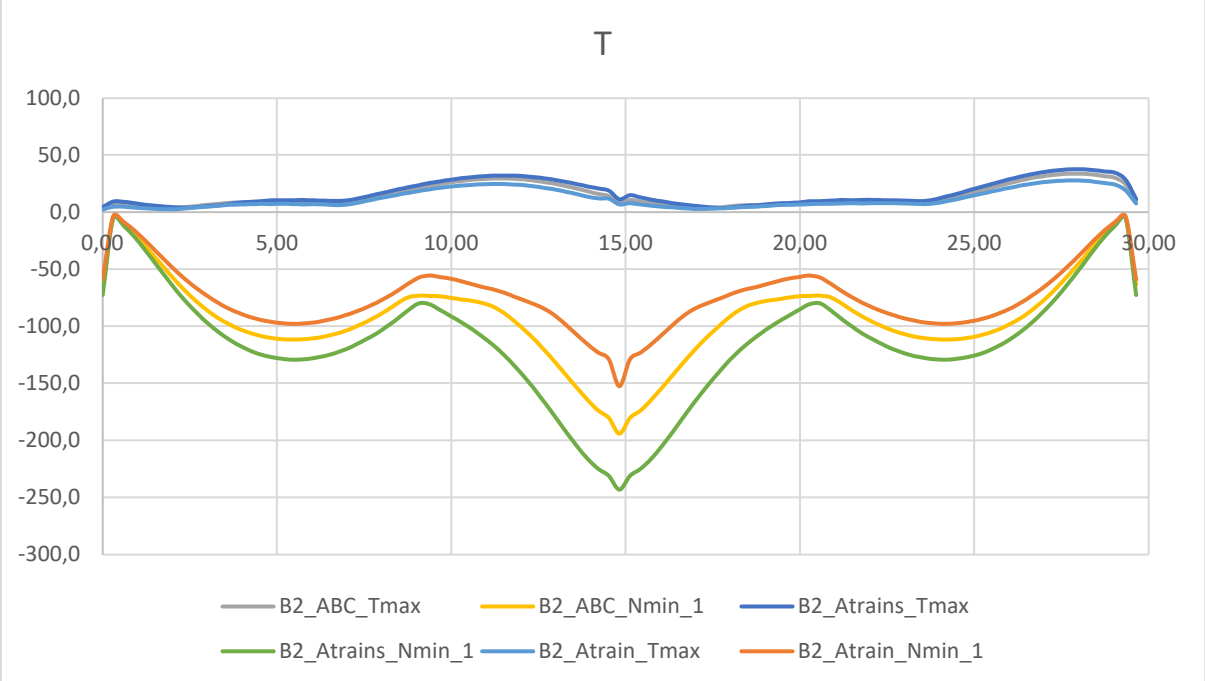
Spårvagn A, B, C överskrider inte envelopen för Atrains (A32, A35, A36, Arbetståg och enstaka axelaster) Därför anses inte bli avgörande för klassningen.

Vridningsmoment T [x axeln i m, y axeln i kN*m]

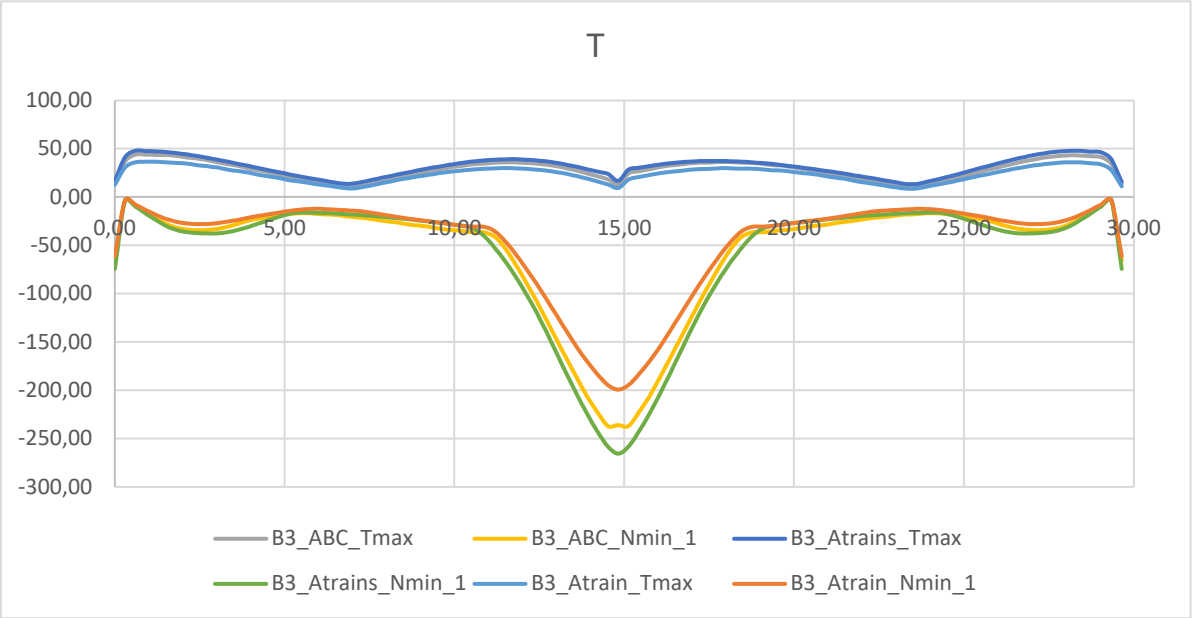
För Balk B1



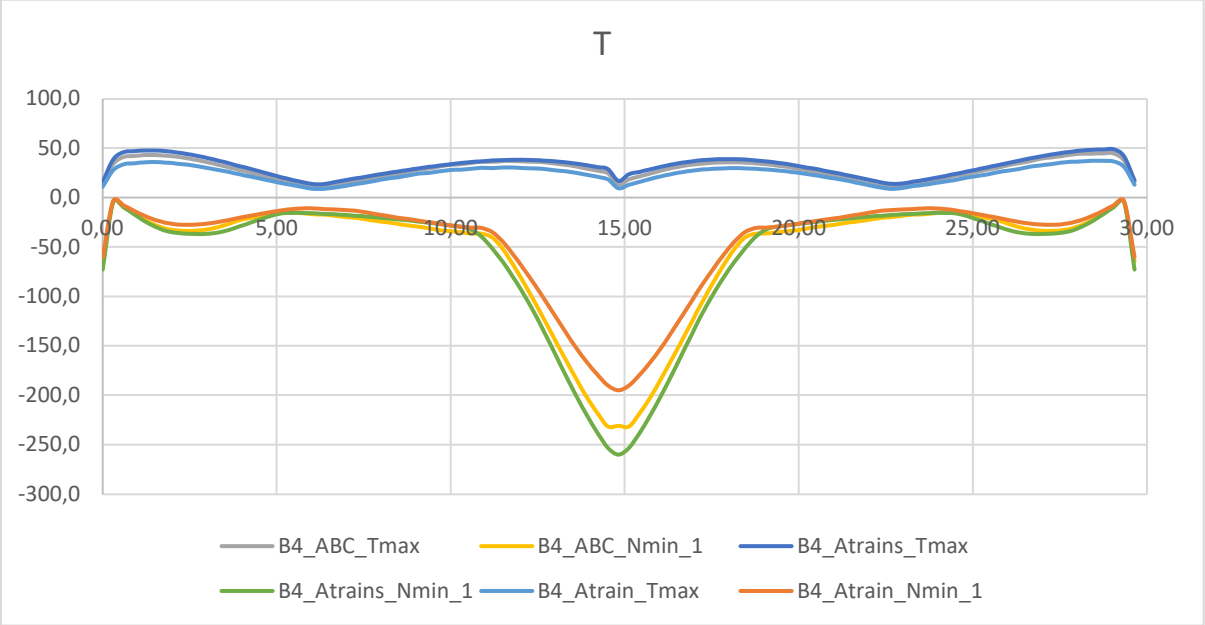
För Balk B2



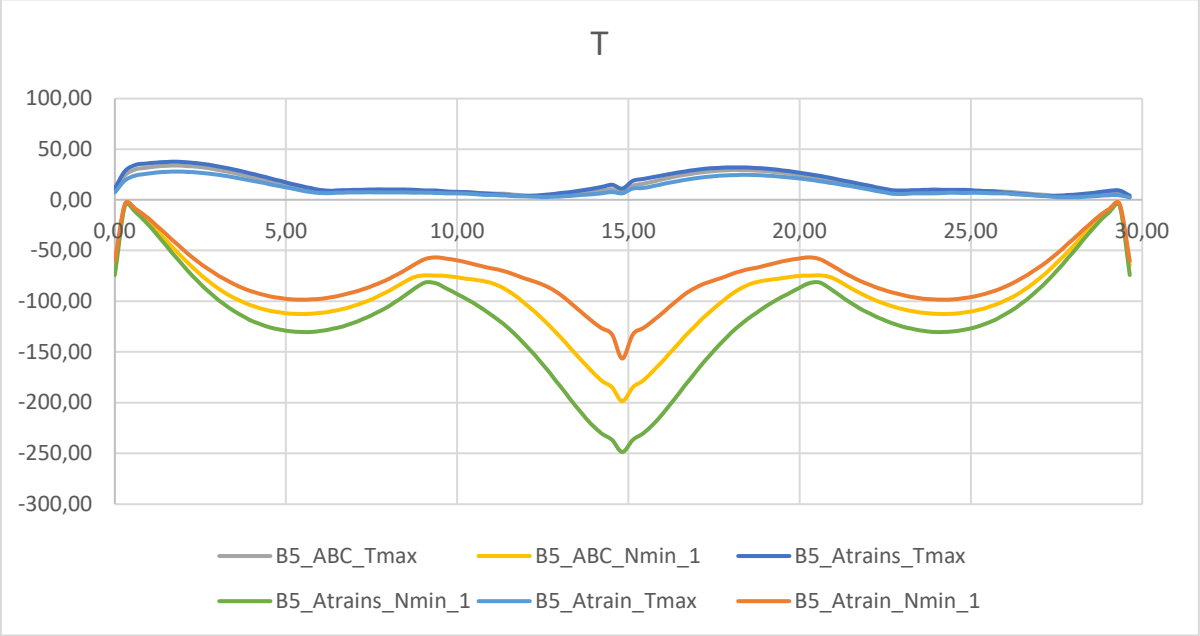
För Balk B3



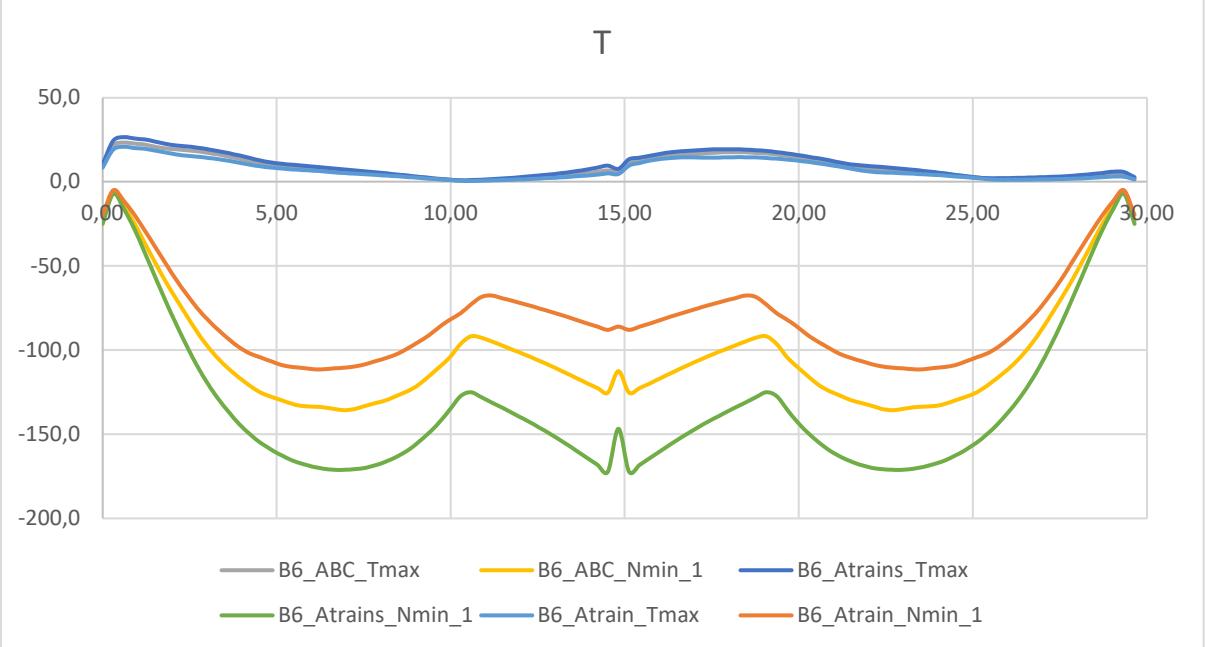
För Balk B4



För Balk B5



För Balk B6

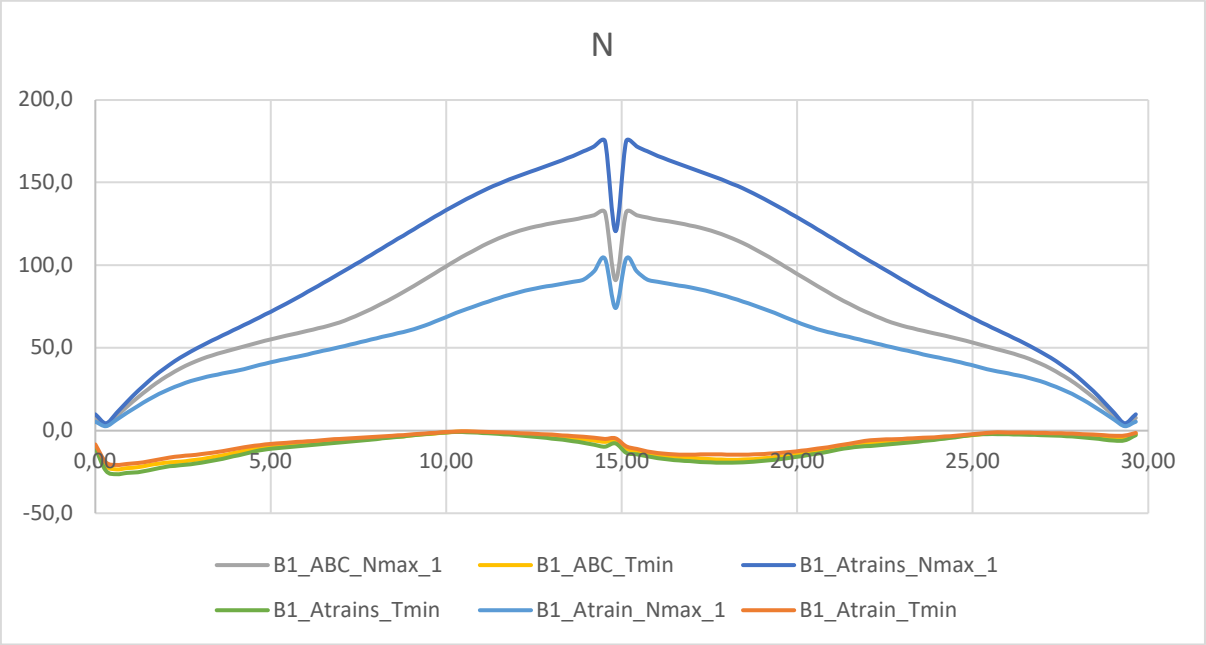


Slutsats balkarna B1-B6 mht vridmoment T

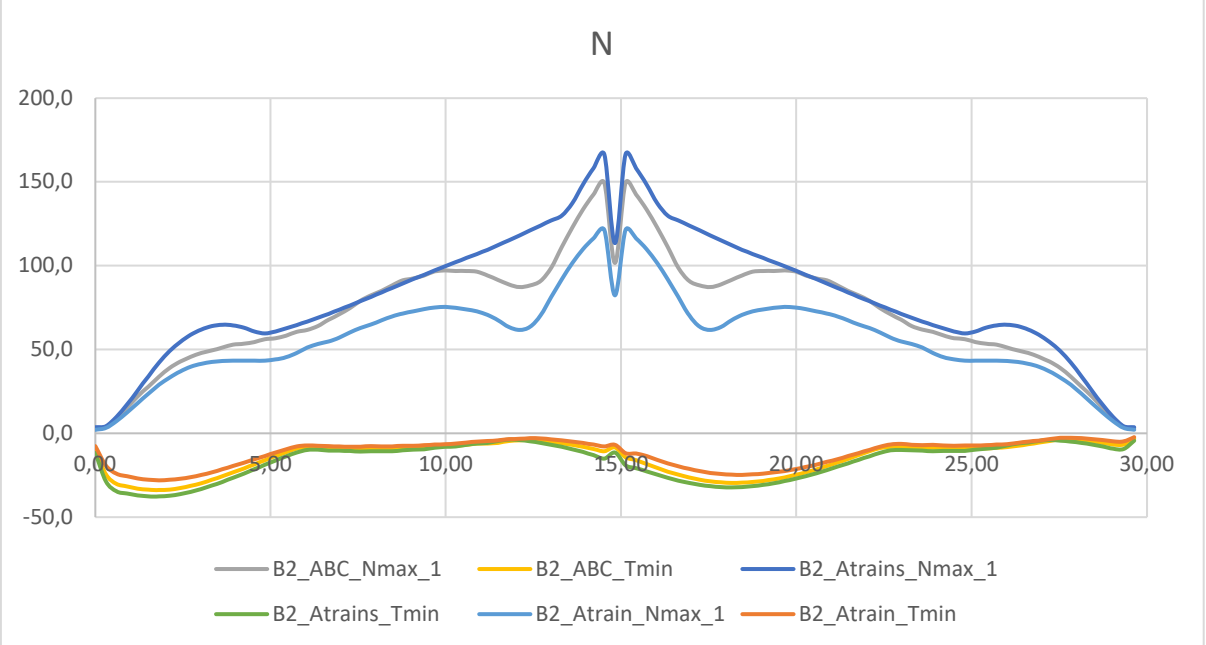
Som det kan observeras ABC tågen ger högre moment än A32, A35, A36 (Atrain). Dock envelopen som även täcker Arbetståg och enstaka axellaster (Atrains) är högre än ABC tågen och därför kan man anse att ABC tågen förvärrar inte situationen med hänsyn till denna klassning.

Vridningsmoment T [x axeln i m, y axeln i kN*m]

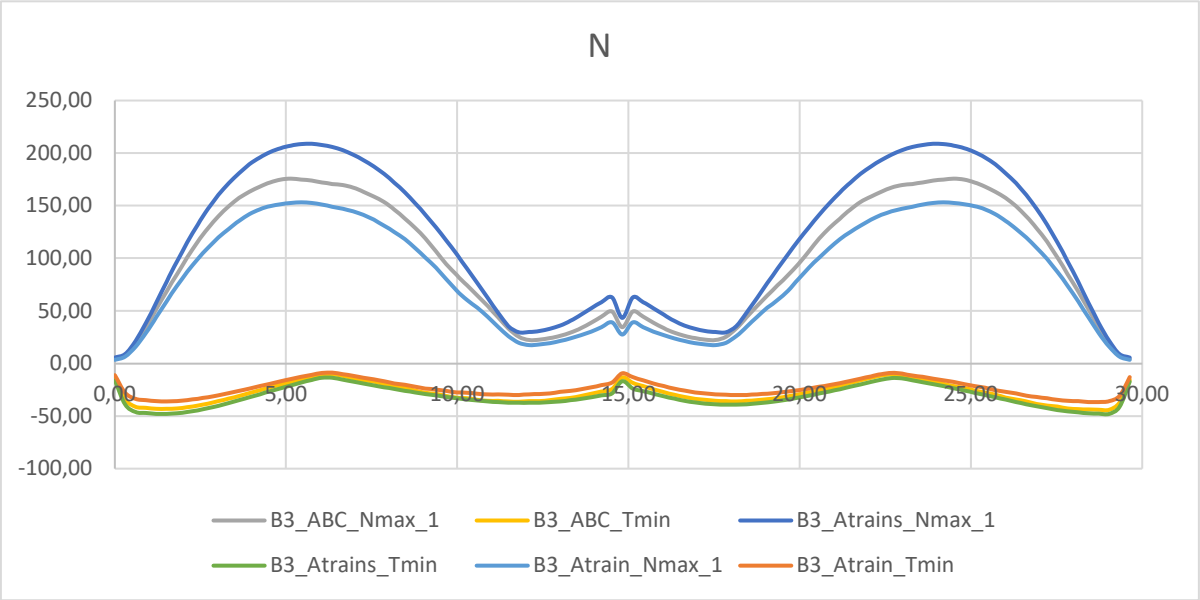
För Balk B1



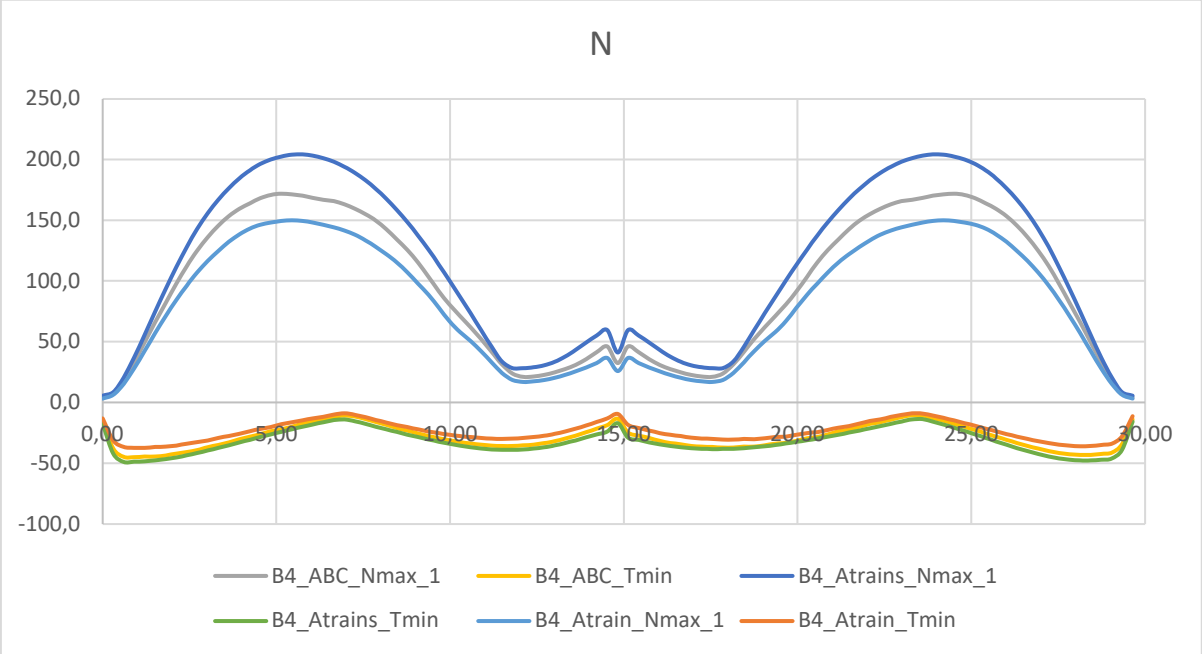
För Balk B2



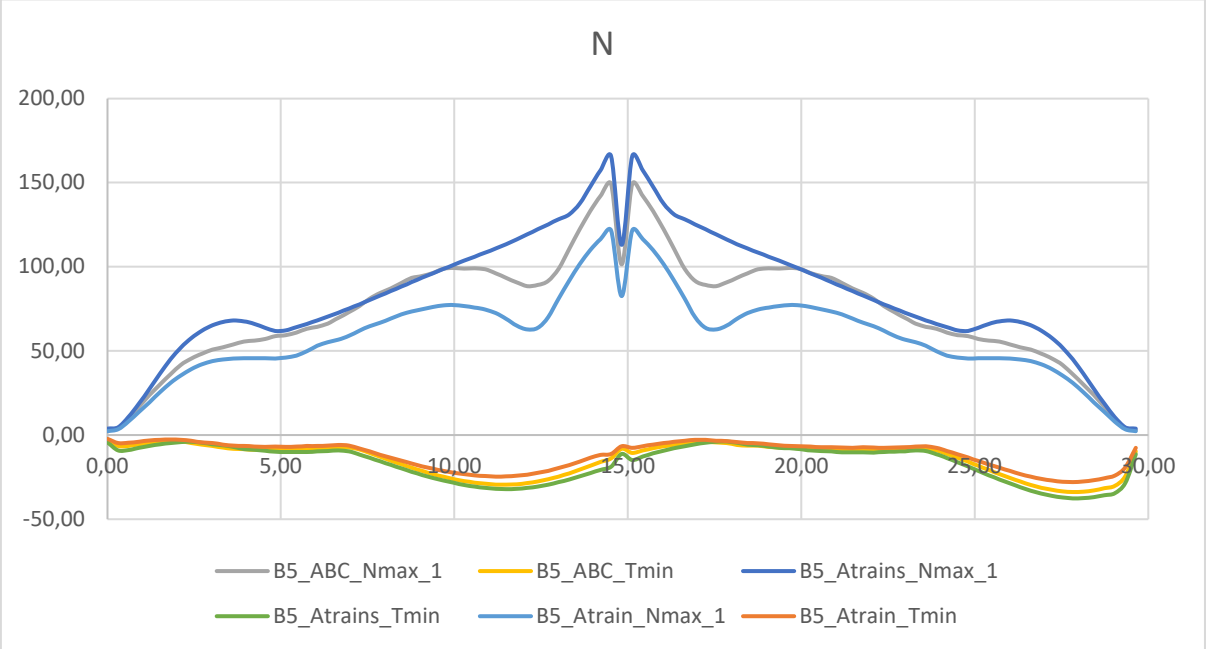
För Balk B3



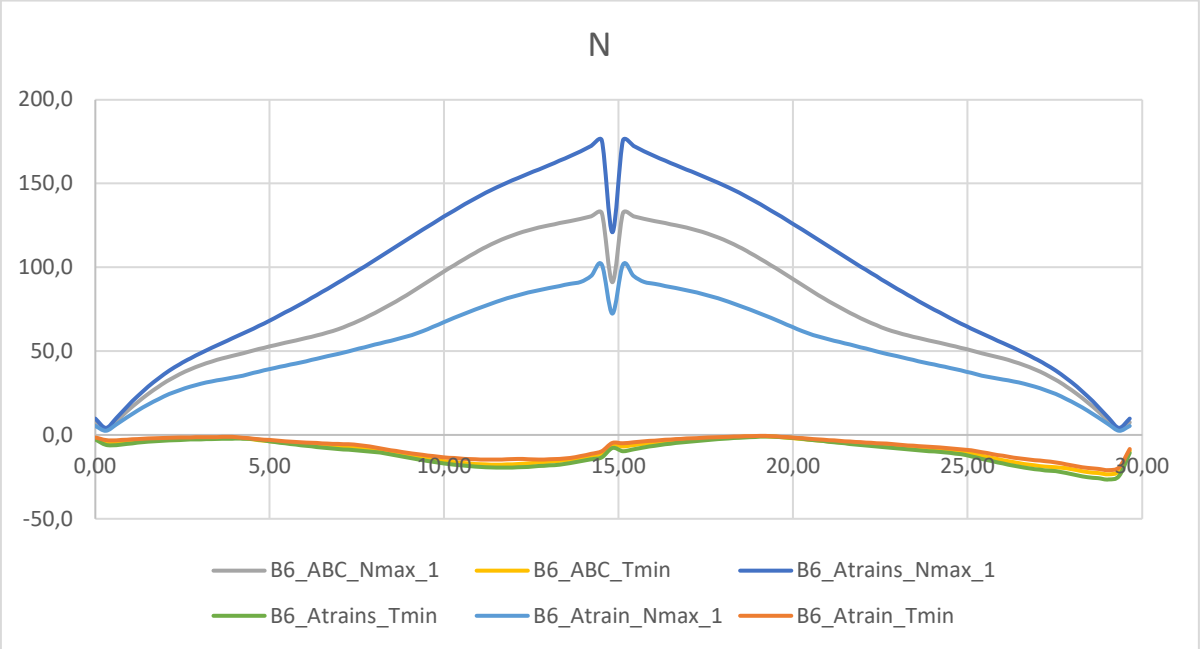
För Balk B4



För Balk B5



För Balk B6



Slutsats balkarna B1-B6 mht normalkraft N

Som det kan observeras ABC tågen ger högre normalkraft än A32, A35, A36 (Atrain). Dock envelopen som även täcker Arbetståg och enstaka axellaster (Atrains) är högre än ABC tågen och därför kan man anse att ABC tågen förvärrar inte situationen med hänsyn till denna klassning.

B13.3 Kontroll utmattning (Enkel kontroll)

Sammanställning, utmattning enkel kontroll för A, B, C spårvagn

Dimensionerande för utmattning enligt denna bilaga enkel kontroll är tvärkraft för balkar.
Resterande kontroller avseende utmattning anses OK.

Kontrollerar tvärkraft enligt lambdametoden med årlig trafik för balkar.

Se bilaga B13.4 för Utmattning enligt lambdametoden.

Utmattning - Enkel kontroll

Moment med tillhörande normalkraft

Enligt SS-EN 1992-1-1, 6.8.

E_s =	200	GPa	f_{ck} =	35,5	MPa
E_{cm} =	34,0	GPa	$f_{cd.fat}$ =	22,4	MPa
φ =	1,6		f_{yd} =	410	MPa

Snitt

B1

x [m]	h [m]	b_w [m]	$A_{s.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s.uk}$ [cm^2]	d_{uk} [m]	$φ_{viktad}$	$α_{eff}$	$e´_N$ fr. ök [m]
0,00	0,830	0,500	32,7	0,770	33,7	0,770	0,96	11,0	0,415
0,30	0,830	0,500	32,7	0,770	33,7	0,770	0,96	11,0	0,415
0,61	0,830	0,500	32,7	0,770	33,7	0,770	0,96	11,0	0,415
0,91	0,830	0,500	30,3	0,770	33,7	0,770	0,96	11,0	0,415
1,21	0,830	0,500	29,8	0,770	33,7	0,770	0,96	11,0	0,415
1,51	0,830	0,500	29,8	0,770	33,7	0,770	0,96	11,0	0,415
1,82	0,830	0,500	29,8	0,770	33,7	0,770	0,96	11,0	0,415
2,12	0,830	0,500	29,8	0,770	33,7	0,770	0,96	11,0	0,415
2,42	0,830	0,500	29,8	0,770	33,7	0,770	0,96	11,0	0,415
2,72	0,830	0,500	29,8	0,770	33,7	0,770	0,96	11,0	0,415
3,02	0,830	0,500	39,0	0,770	43,0	0,770	0,96	11,0	0,415
3,33	0,830	0,500	39,0	0,770	43,0	0,770	0,96	11,0	0,415
3,63	0,830	0,500	39,0	0,770	43,0	0,770	0,96	11,0	0,415
3,93	0,830	0,500	39,0	0,770	43,0	0,770	0,96	11,0	0,415
4,23	0,830	0,500	39,0	0,770	43,0	0,770	0,96	11,0	0,415
4,54	0,830	0,500	39,0	0,770	43,0	0,770	0,96	11,0	0,415
4,84	0,830	0,500	39,0	0,770	43,0	0,770	0,96	11,0	0,415
5,14	0,830	0,500	39,0	0,770	43,0	0,770	0,96	11,0	0,415
5,44	0,830	0,500	39,0	0,770	43,0	0,770	0,96	11,0	0,415
5,75	0,830	0,500	39,0	0,770	43,0	0,770	0,96	11,0	0,415
6,05	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
6,35	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
6,65	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
6,96	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
7,26	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
7,56	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
7,86	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
8,17	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
8,47	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
8,77	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
9,07	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
9,38	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
9,68	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
9,98	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
10,28	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
10,59	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
10,89	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
11,19	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
11,49	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
11,80	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
12,10	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
12,40	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
12,70	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
13,01	0,830	0,500	50,4	0,770	52,2	0,770	0,96	11,0	0,415
13,31	0,830	0,500	53,5	0,770	52,2	0,770	0,96	11,0	0,415
13,61	0,830	0,500	53,5	0,770	52,2	0,770	0,96	11,0	0,415
13,91	0,830	0,500	53,5	0,770	52,2	0,770	0,96	11,0	0,415
14,22	0,830	0,500	53,5	0,770	52,2	0,770	0,96	11,0	0,415
14,52	0,830	0,500	53,5	0,770	52,2	0,770	0,96	11,0	0,415
14,82	0,830	0,500	53,5	0,770	52,2	0,770	0,96	11,0	0,415

Moment	Normalkraft	Spänningar
Negativ = drag ök	Negativ = tryck	Negativ = tryck
Positiv = drag uk	Positiv = drag	Positiv = drag

Snitt	Lastkombination (6.69) enligt SS-EN 1992-1-1											
B1	PERMANENTA				VARIABLA				CYKLISKA			
x	M_{max}	N	M_{min}	N	M_{max}	N	M_{min}	N	M_{max}	N	M_{min}	N
[m]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]
0,00	-17	-147	-16	-137	0	0	0	0	-4	-23	3	1
0,30	-70	12	-67	8	0	0	0	0	-17	-6	6	0
0,61	-138	26	-134	17	0	0	0	0	-35	-13	6	0
0,91	-199	46	-196	32	0	0	0	0	-54	-23	7	-4
1,21	-255	69	-252	51	0	0	0	0	-72	-34	9	-11
1,51	-306	95	-302	72	0	0	0	0	-90	-45	10	-13
1,82	-352	121	-349	96	0	0	0	0	-107	-56	12	-16
2,12	-393	147	-391	120	0	0	0	0	-124	-69	14	-19
2,42	-431	173	-429	145	0	0	0	0	-139	-80	15	-22
2,72	-465	197	-463	168	0	0	0	0	-152	-90	17	-25
3,02	-495	220	-494	191	0	0	0	0	-164	-98	18	-27
3,33	-522	241	-521	212	0	0	0	0	-174	-105	20	-30
3,63	-545	260	-544	231	0	0	0	0	-183	-111	21	-32
3,93	-565	276	-564	249	0	0	0	0	-191	-116	22	-35
4,23	-582	291	-581	264	0	0	0	0	-197	-121	24	-38
4,54	-595	303	-594	277	0	0	0	0	-202	-125	26	-12
4,84	-604	313	-604	288	0	0	0	0	-207	-128	27	15
5,14	-610	320	-610	296	0	0	0	0	-209	-129	29	16
5,44	-613	325	-612	302	0	0	0	0	-211	-129	31	16
5,75	-612	327	-612	305	0	0	0	0	-211	-128	33	17
6,05	-608	327	-607	306	0	0	0	0	-210	-127	35	18
6,35	-600	324	-600	304	0	0	0	0	-208	-126	37	19
6,65	-589	319	-589	299	0	0	0	0	-207	-127	39	20
6,96	-575	311	-574	292	0	0	0	0	-205	-129	41	20
7,26	-556	301	-556	283	0	0	0	0	-203	-131	43	21
7,56	-535	288	-534	271	0	0	0	0	-199	-132	45	22
7,86	-510	273	-509	257	0	0	0	0	-194	-131	47	23
8,17	-481	256	-480	240	0	0	0	0	-189	-129	49	24
8,47	-449	236	-448	221	0	0	0	0	-182	-126	51	25
8,77	-413	214	-413	200	0	0	0	0	-175	-124	54	26
9,07	-374	190	-373	176	0	0	0	0	-166	-121	56	27
9,38	-331	164	-331	151	0	0	0	0	-155	-115	58	28
9,68	-285	136	-284	123	0	0	0	0	-144	-110	60	28
9,98	-235	106	-234	94	0	0	0	0	-132	-104	63	29
10,28	-181	74	-181	63	0	0	0	0	-118	-96	65	30
10,59	-124	40	-123	30	0	0	0	0	-105	-87	68	31
10,89	-63	6	-62	-3	0	0	0	0	-93	-79	70	32
11,19	2	-30	3	-37	0	0	0	0	-82	-72	73	32
11,49	71	-67	72	-72	0	0	0	0	-71	-64	80	35
11,80	144	-105	145	-107	0	0	0	0	-58	-54	90	41
12,10	221	-142	222	-142	0	0	0	0	-45	-42	100	46
12,40	303	-179	304	-175	0	0	0	0	-35	41	110	51
12,70	389	-214	391	-206	0	0	0	0	-31	118	120	56
13,01	481	-248	482	-235	0	0	0	0	-29	122	131	63
13,31	578	-279	580	-261	0	0	0	0	-27	126	144	71
13,61	682	-307	682	-283	0	0	0	0	-25	128	158	75
13,91	791	-313	792	-316	0	0	0	0	-24	129	172	78
14,22	906	-312	909	-347	0	0	0	0	-23	130	185	78
14,52	1026	-320	1034	-358	0	0	0	0	-22	132	196	77
14,82	725	-501	732	-545	0	0	0	0	-27	90	147	52

0,1

Komb A1: $\Sigma M_{A1} = M_{max.per + var} + M_{max.cyk}$

Snitt

B1

Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)

x	ΣM_{A1}	N_{A1}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-21	-169	0,830	0,485	0,417	3,3E-02	-0,08	0,0	-0,6	-1,3	-6,4	OK
0,30	-87	6	0,830	0,485	0,417	3,3E-02	1,12	0,0	-1,1	10,5	-10,3	OK
0,61	-173	13	0,830	0,485	0,417	3,3E-02	2,22	0,0	-2,2	20,9	-20,5	OK
0,91	-253	23	0,830	0,482	0,415	3,2E-02	3,31	0,0	-3,2	31,1	-30,0	OK
1,21	-327	35	0,830	0,481	0,414	3,2E-02	4,30	0,0	-4,1	40,5	-38,7	OK
1,51	-395	50	0,830	0,481	0,414	3,2E-02	5,21	0,0	-5,0	49,1	-46,7	OK
1,82	-459	65	0,830	0,481	0,414	3,2E-02	6,06	0,0	-5,8	57,1	-54,0	OK
2,12	-517	79	0,830	0,481	0,414	3,2E-02	6,84	0,0	-6,5	64,5	-60,7	OK
2,42	-570	93	0,830	0,481	0,414	3,2E-02	7,55	0,0	-7,1	71,3	-66,7	OK
2,72	-617	107	0,830	0,481	0,414	3,2E-02	8,20	0,0	-7,7	77,4	-72,2	OK
3,02	-659	122	0,830	0,501	0,415	3,5E-02	8,15	0,0	-7,7	76,9	-71,6	OK
3,33	-697	135	0,830	0,501	0,415	3,5E-02	8,62	0,0	-8,1	81,4	-75,4	OK
3,63	-729	148	0,830	0,501	0,415	3,5E-02	9,03	0,0	-8,4	85,3	-78,8	OK
3,93	-756	161	0,830	0,501	0,415	3,5E-02	9,38	0,0	-8,7	88,6	-81,6	OK
4,23	-779	170	0,830	0,501	0,415	3,5E-02	9,67	0,0	-9,0	91,4	-83,9	OK
4,54	-797	178	0,830	0,501	0,415	3,5E-02	9,91	0,0	-9,2	93,7	-85,8	OK
4,84	-811	185	0,830	0,501	0,415	3,5E-02	10,09	0,0	-9,3	95,4	-87,2	OK
5,14	-820	191	0,830	0,501	0,415	3,5E-02	10,21	0,0	-9,4	96,5	-88,1	OK
5,44	-824	196	0,830	0,501	0,415	3,5E-02	10,26	0,0	-9,5	97,0	-88,4	OK
5,75	-823	199	0,830	0,501	0,415	3,5E-02	10,26	0,0	-9,5	97,0	-88,3	OK
6,05	-818	199	0,830	0,520	0,416	3,7E-02	9,53	0,0	-8,8	90,1	-81,9	OK
6,35	-809	198	0,830	0,520	0,416	3,7E-02	9,42	0,0	-8,7	89,1	-81,0	OK
6,65	-796	192	0,830	0,520	0,416	3,7E-02	9,27	0,0	-8,6	87,6	-79,8	OK
6,96	-779	182	0,830	0,520	0,416	3,7E-02	9,06	0,0	-8,4	85,7	-78,2	OK
7,26	-759	170	0,830	0,520	0,416	3,7E-02	8,81	0,0	-8,2	83,3	-76,3	OK
7,56	-734	157	0,830	0,520	0,416	3,7E-02	8,50	0,0	-7,9	80,3	-74,0	OK
7,86	-704	142	0,830	0,520	0,416	3,7E-02	8,14	0,0	-7,6	76,9	-71,1	OK
8,17	-670	127	0,830	0,520	0,416	3,7E-02	7,73	0,0	-7,3	73,0	-67,8	OK
8,47	-631	110	0,830	0,520	0,416	3,7E-02	7,27	0,0	-6,9	68,6	-64,1	OK
8,77	-588	90	0,830	0,520	0,416	3,7E-02	6,75	0,0	-6,4	63,6	-60,0	OK
9,07	-539	70	0,830	0,520	0,416	3,7E-02	6,16	0,0	-5,9	58,1	-55,3	OK
9,38	-486	49	0,830	0,520	0,416	3,7E-02	5,53	0,0	-5,4	52,1	-50,2	OK
9,68	-428	26	0,830	0,520	0,416	3,7E-02	4,84	0,0	-4,8	45,5	-44,6	OK
9,98	-367	2	0,830	0,520	0,416	3,7E-02	4,10	0,0	-4,1	38,5	-38,6	OK
10,28	-299	-22	0,830	0,520	0,416	3,7E-02	3,30	0,0	-3,4	31,0	-32,0	OK
10,59	-229	-47	0,830	0,520	0,416	3,7E-02	2,47	0,0	-2,7	23,0	-25,1	OK
10,89	-156	-74	0,830	0,520	0,416	3,7E-02	1,61	0,0	-1,9	14,9	-18,0	OK
11,19	-80	-102	0,830	0,520	0,416	3,7E-02	0,70	0,0	-1,1	6,3	-10,6	OK
11,49	0	-131	0,830	0,520	0,421	3,7E-02	-0,24	-0,3	0,0	-2,9	-2,7	OK
11,80	86	-158	0,830	0,520	0,421	3,7E-02	0,65	-1,3	0,0	-12,6	5,6	OK
12,10	176	-184	0,830	0,520	0,421	3,7E-02	1,59	-2,4	0,0	-22,8	14,4	OK
12,40	267	-138	0,830	0,520	0,421	3,7E-02	2,69	-3,3	0,0	-31,6	24,8	OK
12,70	358	-96	0,830	0,520	0,421	3,7E-02	3,77	-4,3	0,0	-40,4	35,0	OK
13,01	452	-126	0,830	0,523	0,420	3,7E-02	4,73	-5,3	0,0	-50,5	44,0	OK
13,31	552	-153	0,830	0,526	0,418	3,8E-02	5,74	-6,4	0,0	-60,6	53,4	OK
13,61	657	-179	0,830	0,526	0,418	3,8E-02	6,84	-7,6	0,0	-72,1	63,6	OK
13,91	767	-184	0,830	0,526	0,418	3,8E-02	8,03	-8,8	0,0	-83,7	74,8	OK
14,22	883	-181	0,830	0,526	0,418	3,8E-02	9,30	-10,1	0,0	-95,7	86,7	OK
14,52	1004	-187	0,830	0,526	0,418	3,8E-02	10,61	-11,5	0,0	-108,4	99,0	OK
14,82	698	-411	0,830	0,526	0,418	3,8E-02	6,85	-8,5	0,0	-81,3	63,1	OK

Komb A2: $\Sigma M_{A2} = M_{max.per + var} + M_{min.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
B1												
x	ΣM_{A2}	N_{A2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-14	-146	0,830	0,485	0,417	3,3E-02	-0,13	0,0	-0,5	-1,7	-5,0	OK
0,30	-63	12	0,830	0,485	0,417	3,3E-02	0,83	0,0	-0,8	7,8	-7,3	OK
0,61	-132	26	0,830	0,485	0,417	3,3E-02	1,72	0,0	-1,6	16,3	-15,2	OK
0,91	-193	41	0,830	0,482	0,415	3,2E-02	2,57	0,0	-2,4	24,2	-22,3	OK
1,21	-247	59	0,830	0,481	0,414	3,2E-02	3,31	0,0	-3,1	31,3	-28,5	OK
1,51	-295	81	0,830	0,481	0,414	3,2E-02	3,98	0,0	-3,6	37,7	-33,9	OK
1,82	-340	105	0,830	0,481	0,414	3,2E-02	4,61	0,0	-4,2	43,6	-38,7	OK
2,12	-380	128	0,830	0,481	0,414	3,2E-02	5,17	0,0	-4,6	49,0	-43,0	OK
2,42	-416	151	0,830	0,481	0,414	3,2E-02	5,69	0,0	-5,0	53,9	-46,9	OK
2,72	-448	172	0,830	0,481	0,414	3,2E-02	6,15	0,0	-5,4	58,4	-50,3	OK
3,02	-477	192	0,830	0,501	0,415	3,5E-02	6,11	0,0	-5,3	58,0	-49,5	OK
3,33	-503	211	0,830	0,501	0,415	3,5E-02	6,45	0,0	-5,6	61,2	-52,0	OK
3,63	-524	227	0,830	0,501	0,415	3,5E-02	6,74	0,0	-5,8	64,0	-54,1	OK
3,93	-543	241	0,830	0,501	0,415	3,5E-02	6,99	0,0	-6,0	66,4	-55,8	OK
4,23	-558	253	0,830	0,501	0,415	3,5E-02	7,19	0,0	-6,2	68,4	-57,2	OK
4,54	-569	291	0,830	0,501	0,415	3,5E-02	7,40	0,0	-6,2	70,5	-57,7	OK
4,84	-577	327	0,830	0,501	0,415	3,5E-02	7,57	0,0	-6,3	72,1	-57,8	OK
5,14	-581	335	0,830	0,501	0,415	3,5E-02	7,64	0,0	-6,3	72,8	-58,0	OK
5,44	-582	341	0,830	0,501	0,415	3,5E-02	7,66	0,0	-6,3	73,0	-58,0	OK
5,75	-579	344	0,830	0,501	0,415	3,5E-02	7,63	0,0	-6,3	72,7	-57,6	OK
6,05	-573	345	0,830	0,520	0,416	3,7E-02	7,07	0,0	-5,8	67,4	-53,1	OK
6,35	-563	343	0,830	0,520	0,416	3,7E-02	6,95	0,0	-5,7	66,4	-52,1	OK
6,65	-550	338	0,830	0,520	0,416	3,7E-02	6,80	0,0	-5,5	64,9	-50,8	OK
6,96	-533	331	0,830	0,520	0,416	3,7E-02	6,60	0,0	-5,3	63,0	-49,2	OK
7,26	-513	322	0,830	0,520	0,416	3,7E-02	6,36	0,0	-5,1	60,7	-47,2	OK
7,56	-490	310	0,830	0,520	0,416	3,7E-02	6,07	0,0	-4,9	57,9	-45,0	OK
7,86	-462	296	0,830	0,520	0,416	3,7E-02	5,74	0,0	-4,6	54,8	-42,4	OK
8,17	-432	280	0,830	0,520	0,416	3,7E-02	5,36	0,0	-4,3	51,2	-39,5	OK
8,47	-397	261	0,830	0,520	0,416	3,7E-02	4,94	0,0	-4,0	47,2	-36,3	OK
8,77	-359	240	0,830	0,520	0,416	3,7E-02	4,48	0,0	-3,6	42,8	-32,8	OK
9,07	-318	217	0,830	0,520	0,416	3,7E-02	3,97	0,0	-3,1	37,9	-28,9	OK
9,38	-273	192	0,830	0,520	0,416	3,7E-02	3,42	0,0	-2,7	32,7	-24,7	OK
9,68	-224	164	0,830	0,520	0,416	3,7E-02	2,82	0,0	-2,2	27,0	-20,1	OK
9,98	-172	135	0,830	0,520	0,416	3,7E-02	2,18	0,0	-1,7	20,9	-15,3	OK
10,28	-116	104	0,830	0,520	0,416	3,7E-02	1,50	0,0	-1,1	14,4	-10,0	OK
10,59	-56	71	0,830	0,520	0,416	3,7E-02	0,77	0,0	-0,5	7,4	-4,4	OK
10,89	7	37	0,830	0,520	0,421	3,7E-02	0,15	0,0	0,0	0,0	1,5	OK
11,19	75	2	0,830	0,520	0,421	3,7E-02	0,83	-0,8	0,0	-8,0	7,8	OK
11,49	150	-32	0,830	0,520	0,421	3,7E-02	1,60	-1,8	0,0	-16,8	14,9	OK
11,80	233	-64	0,830	0,520	0,421	3,7E-02	2,45	-2,8	0,0	-26,3	22,8	OK
12,10	320	-96	0,830	0,520	0,421	3,7E-02	3,35	-3,8	0,0	-36,4	31,1	OK
12,40	412	-128	0,830	0,520	0,421	3,7E-02	4,31	-4,9	0,0	-46,9	39,9	OK
12,70	509	-158	0,830	0,520	0,421	3,7E-02	5,32	-6,1	0,0	-57,9	49,3	OK
13,01	612	-185	0,830	0,523	0,420	3,7E-02	6,37	-7,2	0,0	-68,7	59,2	OK
13,31	723	-209	0,830	0,526	0,418	3,8E-02	7,50	-8,4	0,0	-79,5	69,7	OK
13,61	840	-232	0,830	0,526	0,418	3,8E-02	8,74	-9,7	0,0	-92,3	81,3	OK
13,91	963	-235	0,830	0,526	0,418	3,8E-02	10,07	-11,1	0,0	-105,1	93,8	OK
14,22	1090	-233	0,830	0,526	0,418	3,8E-02	11,46	-12,5	0,0	-118,3	106,9	OK
14,52	1222	-242	0,830	0,526	0,418	3,8E-02	12,89	-14,0	0,0	-132,2	120,2	OK
14,82	872	-449	0,830	0,526	0,418	3,8E-02	8,68	-10,5	0,0	-100,2	80,1	OK

Komb B1: $\Sigma M_{B1} = M_{min.per + var} + M_{max.cyk}$

Snitt B1	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
x	ΣM_{B1}	N_{B1}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-20	-160	0,830	0,485	0,417	3,3E-02	-0,07	0,0	-0,6	-1,2	-6,1	OK
0,30	-84	2	0,830	0,485	0,417	3,3E-02	1,07	0,0	-1,1	10,1	-10,1	OK
0,61	-169	4	0,830	0,485	0,417	3,3E-02	2,16	0,0	-2,2	20,3	-20,2	OK
0,91	-249	9	0,830	0,482	0,415	3,2E-02	3,23	0,0	-3,2	30,4	-29,9	OK
1,21	-323	16	0,830	0,481	0,414	3,2E-02	4,21	0,0	-4,1	39,6	-38,7	OK
1,51	-392	28	0,830	0,481	0,414	3,2E-02	5,12	0,0	-5,0	48,2	-46,8	OK
1,82	-456	40	0,830	0,481	0,414	3,2E-02	5,97	0,0	-5,8	56,2	-54,2	OK
2,12	-514	52	0,830	0,481	0,414	3,2E-02	6,75	0,0	-6,5	63,6	-61,0	OK
2,42	-567	65	0,830	0,481	0,414	3,2E-02	7,47	0,0	-7,2	70,4	-67,1	OK
2,72	-615	79	0,830	0,481	0,414	3,2E-02	8,11	0,0	-7,8	76,5	-72,6	OK
3,02	-658	93	0,830	0,501	0,415	3,5E-02	8,07	0,0	-7,7	76,1	-72,0	OK
3,33	-695	107	0,830	0,501	0,415	3,5E-02	8,55	0,0	-8,1	80,6	-75,9	OK
3,63	-728	120	0,830	0,501	0,415	3,5E-02	8,96	0,0	-8,5	84,6	-79,3	OK
3,93	-755	133	0,830	0,501	0,415	3,5E-02	9,31	0,0	-8,8	87,9	-82,0	OK
4,23	-778	144	0,830	0,501	0,415	3,5E-02	9,61	0,0	-9,0	90,7	-84,4	OK
4,54	-796	152	0,830	0,501	0,415	3,5E-02	9,85	0,0	-9,2	93,0	-86,3	OK
4,84	-810	160	0,830	0,501	0,415	3,5E-02	10,03	0,0	-9,4	94,7	-87,7	OK
5,14	-819	167	0,830	0,501	0,415	3,5E-02	10,15	0,0	-9,5	95,9	-88,5	OK
5,44	-823	173	0,830	0,501	0,415	3,5E-02	10,21	0,0	-9,5	96,5	-88,8	OK
5,75	-822	177	0,830	0,501	0,415	3,5E-02	10,21	0,0	-9,5	96,5	-88,7	OK
6,05	-817	178	0,830	0,520	0,416	3,7E-02	9,48	0,0	-8,8	89,6	-82,3	OK
6,35	-808	177	0,830	0,520	0,416	3,7E-02	9,38	0,0	-8,7	88,6	-81,4	OK
6,65	-795	172	0,830	0,520	0,416	3,7E-02	9,22	0,0	-8,6	87,1	-80,1	OK
6,96	-779	163	0,830	0,520	0,416	3,7E-02	9,02	0,0	-8,4	85,2	-78,6	OK
7,26	-758	152	0,830	0,520	0,416	3,7E-02	8,77	0,0	-8,2	82,8	-76,7	OK
7,56	-733	140	0,830	0,520	0,416	3,7E-02	8,47	0,0	-8,0	79,9	-74,3	OK
7,86	-703	125	0,830	0,520	0,416	3,7E-02	8,11	0,0	-7,6	76,5	-71,4	OK
8,17	-669	111	0,830	0,520	0,416	3,7E-02	7,69	0,0	-7,3	72,6	-68,1	OK
8,47	-631	95	0,830	0,520	0,416	3,7E-02	7,23	0,0	-6,9	68,2	-64,4	OK
8,77	-587	76	0,830	0,520	0,416	3,7E-02	6,71	0,0	-6,4	63,3	-60,3	OK
9,07	-539	56	0,830	0,520	0,416	3,7E-02	6,13	0,0	-5,9	57,8	-55,6	OK
9,38	-486	35	0,830	0,520	0,416	3,7E-02	5,50	0,0	-5,4	51,7	-50,4	OK
9,68	-428	13	0,830	0,520	0,416	3,7E-02	4,81	0,0	-4,8	45,2	-44,8	OK
9,98	-366	-10	0,830	0,520	0,416	3,7E-02	4,07	0,0	-4,1	38,2	-38,8	OK
10,28	-299	-33	0,830	0,520	0,416	3,7E-02	3,28	0,0	-3,4	30,7	-32,2	OK
10,59	-228	-57	0,830	0,520	0,416	3,7E-02	2,44	0,0	-2,7	22,7	-25,2	OK
10,89	-156	-82	0,830	0,520	0,416	3,7E-02	1,58	0,0	-1,9	14,6	-18,1	OK
11,19	-80	-109	0,830	0,520	0,416	3,7E-02	0,68	0,0	-1,1	6,1	-10,7	OK
11,49	1	-136	0,830	0,520	0,421	3,7E-02	-0,24	-0,3	0,0	-3,1	-2,7	OK
11,80	87	-161	0,830	0,520	0,421	3,7E-02	0,66	-1,3	0,0	-12,8	5,6	OK
12,10	177	-183	0,830	0,520	0,421	3,7E-02	1,61	-2,4	0,0	-22,9	14,5	OK
12,40	269	-134	0,830	0,520	0,421	3,7E-02	2,71	-3,3	0,0	-31,6	25,0	OK
12,70	360	-88	0,830	0,520	0,421	3,7E-02	3,80	-4,3	0,0	-40,4	35,3	OK
13,01	454	-113	0,830	0,523	0,420	3,7E-02	4,77	-5,3	0,0	-50,4	44,4	OK
13,31	553	-135	0,830	0,526	0,418	3,8E-02	5,78	-6,4	0,0	-60,4	53,9	OK
13,61	657	-155	0,830	0,526	0,418	3,8E-02	6,89	-7,6	0,0	-71,6	64,1	OK
13,91	768	-187	0,830	0,526	0,418	3,8E-02	8,04	-8,9	0,0	-83,9	74,8	OK
14,22	887	-217	0,830	0,526	0,418	3,8E-02	9,27	-10,2	0,0	-96,8	86,3	OK
14,52	1012	-226	0,830	0,526	0,418	3,8E-02	10,63	-11,6	0,0	-110,1	99,0	OK
14,82	706	-455	0,830	0,526	0,418	3,8E-02	6,85	-8,7	0,0	-83,0	62,9	OK

Komb B2: $\Sigma M_{B2} = M_{min.per + var} + M_{min.cyk}$

Snitt B1	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
x	ΣM_{B2}	N_{B2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-13	-137	0,830	0,485	0,417	3,3E-02	-0,12	0,0	-0,4	-1,5	-4,7	OK
0,30	-61	8	0,830	0,485	0,417	3,3E-02	0,78	0,0	-0,8	7,4	-7,1	OK
0,61	-128	18	0,830	0,485	0,417	3,3E-02	1,66	0,0	-1,6	15,6	-15,0	OK
0,91	-189	27	0,830	0,482	0,415	3,2E-02	2,49	0,0	-2,4	23,4	-22,2	OK
1,21	-243	40	0,830	0,481	0,414	3,2E-02	3,22	0,0	-3,0	30,4	-28,4	OK
1,51	-292	59	0,830	0,481	0,414	3,2E-02	3,90	0,0	-3,6	36,8	-34,0	OK
1,82	-337	80	0,830	0,481	0,414	3,2E-02	4,52	0,0	-4,2	42,7	-38,9	OK
2,12	-377	101	0,830	0,481	0,414	3,2E-02	5,08	0,0	-4,6	48,1	-43,3	OK
2,42	-414	123	0,830	0,481	0,414	3,2E-02	5,60	0,0	-5,1	53,0	-47,2	OK
2,72	-447	144	0,830	0,481	0,414	3,2E-02	6,07	0,0	-5,5	57,5	-50,7	OK
3,02	-476	164	0,830	0,501	0,415	3,5E-02	6,03	0,0	-5,4	57,2	-50,0	OK
3,33	-501	182	0,830	0,501	0,415	3,5E-02	6,37	0,0	-5,6	60,4	-52,4	OK
3,63	-523	199	0,830	0,501	0,415	3,5E-02	6,67	0,0	-5,9	63,3	-54,5	OK
3,93	-542	214	0,830	0,501	0,415	3,5E-02	6,92	0,0	-6,1	65,7	-56,3	OK
4,23	-557	226	0,830	0,501	0,415	3,5E-02	7,13	0,0	-6,2	67,7	-57,7	OK
4,54	-568	265	0,830	0,501	0,415	3,5E-02	7,34	0,0	-6,3	69,8	-58,2	OK
4,84	-576	303	0,830	0,501	0,415	3,5E-02	7,51	0,0	-6,3	71,5	-58,2	OK
5,14	-580	312	0,830	0,501	0,415	3,5E-02	7,58	0,0	-6,3	72,2	-58,5	OK
5,44	-581	318	0,830	0,501	0,415	3,5E-02	7,60	0,0	-6,3	72,4	-58,4	OK
5,75	-578	322	0,830	0,501	0,415	3,5E-02	7,58	0,0	-6,3	72,2	-58,0	OK
6,05	-572	324	0,830	0,520	0,416	3,7E-02	7,02	0,0	-5,8	66,9	-53,4	OK
6,35	-563	323	0,830	0,520	0,416	3,7E-02	6,91	0,0	-5,7	65,9	-52,4	OK
6,65	-550	319	0,830	0,520	0,416	3,7E-02	6,76	0,0	-5,5	64,4	-51,1	OK
6,96	-533	313	0,830	0,520	0,416	3,7E-02	6,56	0,0	-5,4	62,5	-49,5	OK
7,26	-513	304	0,830	0,520	0,416	3,7E-02	6,32	0,0	-5,2	60,2	-47,6	OK
7,56	-489	293	0,830	0,520	0,416	3,7E-02	6,03	0,0	-4,9	57,5	-45,3	OK
7,86	-462	280	0,830	0,520	0,416	3,7E-02	5,70	0,0	-4,6	54,4	-42,7	OK
8,17	-431	264	0,830	0,520	0,416	3,7E-02	5,33	0,0	-4,3	50,8	-39,8	OK
8,47	-397	246	0,830	0,520	0,416	3,7E-02	4,91	0,0	-4,0	46,8	-36,6	OK
8,77	-359	226	0,830	0,520	0,416	3,7E-02	4,45	0,0	-3,6	42,4	-33,0	OK
9,07	-318	203	0,830	0,520	0,416	3,7E-02	3,94	0,0	-3,2	37,6	-29,2	OK
9,38	-273	178	0,830	0,520	0,416	3,7E-02	3,39	0,0	-2,7	32,4	-24,9	OK
9,68	-224	152	0,830	0,520	0,416	3,7E-02	2,79	0,0	-2,2	26,7	-20,4	OK
9,98	-172	123	0,830	0,520	0,416	3,7E-02	2,15	0,0	-1,7	20,6	-15,5	OK
10,28	-116	93	0,830	0,520	0,416	3,7E-02	1,47	0,0	-1,1	14,1	-10,2	OK
10,59	-56	61	0,830	0,520	0,416	3,7E-02	0,74	0,0	-0,5	7,2	-4,6	OK
10,89	8	29	0,830	0,520	0,421	3,7E-02	0,14	0,0	0,0	-0,2	1,4	OK
11,19	76	-5	0,830	0,520	0,421	3,7E-02	0,82	-0,9	0,0	-8,2	7,7	OK
11,49	151	-37	0,830	0,520	0,421	3,7E-02	1,60	-1,8	0,0	-17,0	14,9	OK
11,80	234	-66	0,830	0,520	0,421	3,7E-02	2,46	-2,8	0,0	-26,5	22,8	OK
12,10	322	-95	0,830	0,520	0,421	3,7E-02	3,37	-3,8	0,0	-36,5	31,3	OK
12,40	414	-124	0,830	0,520	0,421	3,7E-02	4,33	-4,9	0,0	-46,9	40,2	OK
12,70	511	-150	0,830	0,520	0,421	3,7E-02	5,35	-6,1	0,0	-57,9	49,6	OK
13,01	613	-172	0,830	0,523	0,420	3,7E-02	6,41	-7,2	0,0	-68,5	59,6	OK
13,31	724	-190	0,830	0,526	0,418	3,8E-02	7,54	-8,4	0,0	-79,3	70,2	OK
13,61	841	-208	0,830	0,526	0,418	3,8E-02	8,79	-9,7	0,0	-91,8	81,8	OK
13,91	964	-238	0,830	0,526	0,418	3,8E-02	10,08	-11,1	0,0	-105,3	93,8	OK
14,22	1094	-269	0,830	0,526	0,418	3,8E-02	11,44	-12,6	0,0	-119,4	106,5	OK
14,52	1231	-281	0,830	0,526	0,418	3,8E-02	12,91	-14,2	0,0	-133,9	120,2	OK
14,82	880	-493	0,830	0,526	0,418	3,8E-02	8,68	-10,7	0,0	-101,9	79,9	OK

Komb A, Jmf Komb A1 med A2

Snitt	Armering				Betong					
B1	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0,00	0,4	OK	1,4	OK	0,00	0,50	OK	0,03	0,51	OK
0,30	2,7	OK	3,0	OK	0,00	0,50	OK	0,05	0,52	OK
0,61	4,6	OK	5,3	OK	0,00	0,50	OK	0,10	0,53	OK
0,91	6,9	OK	7,7	OK	0,00	0,50	OK	0,14	0,55	OK
1,21	9,2	OK	10,3	OK	0,00	0,50	OK	0,18	0,56	OK
1,51	11,4	OK	12,8	OK	0,00	0,50	OK	0,22	0,57	OK
1,82	13,5	OK	15,3	OK	0,00	0,50	OK	0,26	0,58	OK
2,12	15,5	OK	17,7	OK	0,00	0,50	OK	0,29	0,59	OK
2,42	17,3	OK	19,9	OK	0,00	0,50	OK	0,32	0,60	OK
2,72	19,0	OK	21,9	OK	0,00	0,50	OK	0,34	0,61	OK
3,02	18,9	OK	22,0	OK	0,00	0,50	OK	0,34	0,61	OK
3,33	20,2	OK	23,5	OK	0,00	0,50	OK	0,36	0,61	OK
3,63	21,3	OK	24,7	OK	0,00	0,50	OK	0,38	0,62	OK
3,93	22,2	OK	25,7	OK	0,00	0,50	OK	0,39	0,62	OK
4,23	23,0	OK	26,7	OK	0,00	0,50	OK	0,40	0,62	OK
4,54	23,2	OK	28,1	OK	0,00	0,50	OK	0,41	0,63	OK
4,84	23,2	OK	29,5	OK	0,00	0,50	OK	0,42	0,63	OK
5,14	23,7	OK	30,0	OK	0,00	0,50	OK	0,42	0,63	OK
5,44	24,0	OK	30,4	OK	0,00	0,50	OK	0,42	0,63	OK
5,75	24,3	OK	30,6	OK	0,00	0,50	OK	0,42	0,63	OK
6,05	22,7	OK	28,9	OK	0,00	0,50	OK	0,39	0,62	OK
6,35	22,7	OK	28,9	OK	0,00	0,50	OK	0,39	0,61	OK
6,65	22,7	OK	29,0	OK	0,00	0,50	OK	0,38	0,61	OK
6,96	22,7	OK	29,1	OK	0,00	0,50	OK	0,37	0,61	OK
7,26	22,6	OK	29,1	OK	0,00	0,50	OK	0,37	0,60	OK
7,56	22,4	OK	29,0	OK	0,00	0,50	OK	0,35	0,60	OK
7,86	22,1	OK	28,7	OK	0,00	0,50	OK	0,34	0,59	OK
8,17	21,8	OK	28,3	OK	0,00	0,50	OK	0,32	0,59	OK
8,47	21,4	OK	27,8	OK	0,00	0,50	OK	0,31	0,58	OK
8,77	20,8	OK	27,2	OK	0,00	0,50	OK	0,29	0,57	OK
9,07	20,2	OK	26,4	OK	0,00	0,50	OK	0,26	0,56	OK
9,38	19,4	OK	25,5	OK	0,00	0,50	OK	0,24	0,55	OK
9,68	18,5	OK	24,4	OK	0,00	0,50	OK	0,21	0,54	OK
9,98	17,6	OK	23,3	OK	0,00	0,50	OK	0,18	0,53	OK
10,28	16,6	OK	22,0	OK	0,00	0,50	OK	0,15	0,52	OK
10,59	15,6	OK	20,7	OK	0,00	0,50	OK	0,12	0,51	OK
10,89	14,8	OK	19,5	OK	0,00	0,50	OK	0,08	0,50	OK
11,19	14,3	OK	18,4	OK	0,04	0,50	OK	0,05	0,50	OK
11,49	13,9	OK	17,5	OK	0,08	0,51	OK	0,00	0,50	OK
11,80	13,7	OK	17,2	OK	0,12	0,53	OK	0,00	0,50	OK
12,10	13,6	OK	16,8	OK	0,17	0,55	OK	0,00	0,50	OK
12,40	15,3	OK	15,2	OK	0,22	0,57	OK	0,00	0,50	OK
12,70	17,5	OK	14,3	OK	0,27	0,59	OK	0,00	0,50	OK
13,01	18,1	OK	15,2	OK	0,32	0,61	OK	0,00	0,50	OK
13,31	18,9	OK	16,3	OK	0,37	0,63	OK	0,00	0,50	OK
13,61	20,2	OK	17,7	OK	0,43	0,65	OK	0,00	0,50	OK
13,91	21,4	OK	19,0	OK	0,50	0,68	OK	0,00	0,50	OK
14,22	22,6	OK	20,1	OK	0,56	0,70	OK	0,00	0,50	OK
14,52	23,9	OK	21,2	OK	0,62	0,73	OK	0,00	0,50	OK
14,82	18,9	OK	17,0	OK	0,47	0,67	OK	0,00	0,50	OK

Komb B, Jmf Komb B1 med B2

Snitt	Armering				Betong					
B1	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0,00	0,4	OK	1,4	OK	0,00	0,50	OK	0,03	0,51	OK
0,30	2,7	OK	3,0	OK	0,00	0,50	OK	0,05	0,52	OK
0,61	4,6	OK	5,3	OK	0,00	0,50	OK	0,10	0,53	OK
0,91	6,9	OK	7,7	OK	0,00	0,50	OK	0,14	0,55	OK
1,21	9,2	OK	10,3	OK	0,00	0,50	OK	0,18	0,56	OK
1,51	11,4	OK	12,8	OK	0,00	0,50	OK	0,22	0,57	OK
1,82	13,5	OK	15,3	OK	0,00	0,50	OK	0,26	0,58	OK
2,12	15,5	OK	17,7	OK	0,00	0,50	OK	0,29	0,59	OK
2,42	17,3	OK	19,9	OK	0,00	0,50	OK	0,32	0,60	OK
2,72	19,0	OK	21,9	OK	0,00	0,50	OK	0,35	0,61	OK
3,02	18,9	OK	22,0	OK	0,00	0,50	OK	0,34	0,61	OK
3,33	20,2	OK	23,5	OK	0,00	0,50	OK	0,36	0,61	OK
3,63	21,3	OK	24,7	OK	0,00	0,50	OK	0,38	0,62	OK
3,93	22,2	OK	25,7	OK	0,00	0,50	OK	0,39	0,62	OK
4,23	23,0	OK	26,7	OK	0,00	0,50	OK	0,40	0,62	OK
4,54	23,2	OK	28,1	OK	0,00	0,50	OK	0,41	0,63	OK
4,84	23,2	OK	29,5	OK	0,00	0,50	OK	0,42	0,63	OK
5,14	23,7	OK	30,0	OK	0,00	0,50	OK	0,42	0,63	OK
5,44	24,0	OK	30,4	OK	0,00	0,50	OK	0,42	0,63	OK
5,75	24,3	OK	30,6	OK	0,00	0,50	OK	0,42	0,63	OK
6,05	22,7	OK	28,9	OK	0,00	0,50	OK	0,39	0,62	OK
6,35	22,7	OK	28,9	OK	0,00	0,50	OK	0,39	0,61	OK
6,65	22,7	OK	29,0	OK	0,00	0,50	OK	0,38	0,61	OK
6,96	22,7	OK	29,1	OK	0,00	0,50	OK	0,38	0,61	OK
7,26	22,6	OK	29,1	OK	0,00	0,50	OK	0,37	0,60	OK
7,56	22,4	OK	29,0	OK	0,00	0,50	OK	0,36	0,60	OK
7,86	22,1	OK	28,7	OK	0,00	0,50	OK	0,34	0,59	OK
8,17	21,8	OK	28,3	OK	0,00	0,50	OK	0,33	0,59	OK
8,47	21,4	OK	27,8	OK	0,00	0,50	OK	0,31	0,58	OK
8,77	20,8	OK	27,2	OK	0,00	0,50	OK	0,29	0,57	OK
9,07	20,2	OK	26,4	OK	0,00	0,50	OK	0,27	0,56	OK
9,38	19,4	OK	25,5	OK	0,00	0,50	OK	0,24	0,55	OK
9,68	18,5	OK	24,4	OK	0,00	0,50	OK	0,21	0,54	OK
9,98	17,6	OK	23,3	OK	0,00	0,50	OK	0,18	0,53	OK
10,28	16,6	OK	22,0	OK	0,00	0,50	OK	0,15	0,52	OK
10,59	15,6	OK	20,7	OK	0,00	0,50	OK	0,12	0,51	OK
10,89	14,8	OK	19,5	OK	0,00	0,50	OK	0,08	0,50	OK
11,19	14,3	OK	18,4	OK	0,04	0,50	OK	0,05	0,50	OK
11,49	13,9	OK	17,5	OK	0,08	0,51	OK	0,00	0,50	OK
11,80	13,7	OK	17,2	OK	0,12	0,53	OK	0,00	0,50	OK
12,10	13,6	OK	16,8	OK	0,17	0,55	OK	0,00	0,50	OK
12,40	15,3	OK	15,2	OK	0,22	0,57	OK	0,00	0,50	OK
12,70	17,5	OK	14,3	OK	0,27	0,59	OK	0,00	0,50	OK
13,01	18,1	OK	15,2	OK	0,32	0,61	OK	0,00	0,50	OK
13,31	18,9	OK	16,3	OK	0,37	0,63	OK	0,00	0,50	OK
13,61	20,2	OK	17,7	OK	0,43	0,65	OK	0,00	0,50	OK
13,91	21,4	OK	19,0	OK	0,50	0,68	OK	0,00	0,50	OK
14,22	22,6	OK	20,1	OK	0,56	0,71	OK	0,00	0,50	OK
14,52	23,9	OK	21,2	OK	0,63	0,73	OK	0,00	0,50	OK
14,82	18,9	OK	17,0	OK	0,48	0,67	OK	0,00	0,50	OK

Utmattning - Enkel kontroll

Moment med tillhörande normalkraft

Enligt SS-EN 1992-1-1, 6.8.

E_s =	200	GPa	f_{ck} =	35,5	MPa
E_{cm} =	34,0	GPa	$f_{cd.fat}$ =	22,4	MPa
φ =	1,6		f_{yd} =	410	MPa

Snitt

B6

x [m]	h [m]	b_w [m]	$A_{s.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s.uk}$ [cm^2]	d_{uk} [m]	$φ_{viktad}$	$α_{eff}$	$e´_N$ fr. ök [m]
0,00	0,830	0,500	32,7	0,770	33,7	0,770	0,96	11,0	0,415
0,30	0,830	0,500	32,7	0,770	33,7	0,770	0,96	11,0	0,415
0,61	0,830	0,500	32,7	0,770	33,7	0,770	0,96	11,0	0,415
0,91	0,830	0,500	30,3	0,770	33,7	0,770	0,96	11,0	0,415
1,21	0,830	0,500	29,8	0,770	33,7	0,770	0,96	11,0	0,415
1,51	0,830	0,500	29,8	0,770	33,7	0,770	0,96	11,0	0,415
1,82	0,830	0,500	29,8	0,770	33,7	0,770	0,96	11,0	0,415
2,12	0,830	0,500	29,8	0,770	33,7	0,770	0,96	11,0	0,415
2,42	0,830	0,500	29,8	0,770	33,7	0,770	0,96	11,0	0,415
2,72	0,830	0,500	29,8	0,770	33,7	0,770	0,96	11,0	0,415
3,02	0,830	0,500	39,0	0,770	43,0	0,770	0,96	11,0	0,415
3,33	0,830	0,500	39,0	0,770	43,0	0,770	0,96	11,0	0,415
3,63	0,830	0,500	39,0	0,770	43,0	0,770	0,96	11,0	0,415
3,93	0,830	0,500	39,0	0,770	43,0	0,770	0,96	11,0	0,415
4,23	0,830	0,500	39,0	0,770	43,0	0,770	0,96	11,0	0,415
4,54	0,830	0,500	39,0	0,770	43,0	0,770	0,96	11,0	0,415
4,84	0,830	0,500	39,0	0,770	43,0	0,770	0,96	11,0	0,415
5,14	0,830	0,500	39,0	0,770	43,0	0,770	0,96	11,0	0,415
5,44	0,830	0,500	39,0	0,770	43,0	0,770	0,96	11,0	0,415
5,75	0,830	0,500	39,0	0,770	43,0	0,770	0,96	11,0	0,415
6,05	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
6,35	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
6,65	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
6,96	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
7,26	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
7,56	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
7,86	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
8,17	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
8,47	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
8,77	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
9,07	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
9,38	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
9,68	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
9,98	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
10,28	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
10,59	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
10,89	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
11,19	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
11,49	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
11,80	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
12,10	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
12,40	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
12,70	0,830	0,500	48,2	0,770	52,2	0,770	0,96	11,0	0,415
13,01	0,830	0,500	50,4	0,770	52,2	0,770	0,96	11,0	0,415
13,31	0,830	0,500	53,5	0,770	52,2	0,770	0,96	11,0	0,415
13,61	0,830	0,500	53,5	0,770	52,2	0,770	0,96	11,0	0,415
13,91	0,830	0,500	53,5	0,770	52,2	0,770	0,96	11,0	0,415
14,22	0,830	0,500	53,5	0,770	52,2	0,770	0,96	11,0	0,415
14,52	0,830	0,500	53,5	0,770	52,2	0,770	0,96	11,0	0,415
14,82	0,830	0,500	53,5	0,770	52,2	0,770	0,96	11,0	0,415

Moment	Normalkraft	Spänningar
Negativ = drag ök	Negativ = tryck	Negativ = tryck
Positiv = drag uk	Positiv = drag	Positiv = drag

Snitt	Lastkombination (6.69) enligt SS-EN 1992-1-1											
B6	PERMANENTA				VARIABLA				CYKLISKA			
x	M_{max}	N	M_{min}	N	M_{max}	N	M_{min}	N	M_{max}	N	M_{min}	N
[m]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]
0,00	-17	-147	-16	-137	0	0	0	0	-4	-23	3	1
0,30	-70	12	-67	8	0	0	0	0	-17	-6	6	0
0,61	-138	26	-134	17	0	0	0	0	-35	-13	6	0
0,91	-199	46	-196	32	0	0	0	0	-54	-23	7	-4
1,21	-255	69	-252	51	0	0	0	0	-72	-34	9	-11
1,51	-306	95	-302	72	0	0	0	0	-90	-45	10	-13
1,82	-352	121	-349	96	0	0	0	0	-107	-56	12	-16
2,12	-393	147	-391	120	0	0	0	0	-124	-69	14	-19
2,42	-431	173	-429	145	0	0	0	0	-139	-80	15	-22
2,72	-465	197	-463	168	0	0	0	0	-152	-90	17	-25
3,02	-495	220	-494	191	0	0	0	0	-164	-98	18	-27
3,33	-522	241	-521	212	0	0	0	0	-174	-105	20	-30
3,63	-545	260	-544	231	0	0	0	0	-183	-111	21	-32
3,93	-565	276	-564	249	0	0	0	0	-191	-116	22	-35
4,23	-582	291	-581	264	0	0	0	0	-197	-121	24	-38
4,54	-595	303	-594	277	0	0	0	0	-202	-125	26	-12
4,84	-604	313	-604	288	0	0	0	0	-207	-128	27	15
5,14	-610	320	-610	296	0	0	0	0	-209	-129	29	16
5,44	-613	325	-612	302	0	0	0	0	-211	-129	31	16
5,75	-612	327	-612	305	0	0	0	0	-211	-128	33	17
6,05	-608	327	-607	306	0	0	0	0	-210	-127	35	18
6,35	-600	324	-600	304	0	0	0	0	-208	-126	37	19
6,65	-589	319	-589	299	0	0	0	0	-207	-127	39	20
6,96	-575	311	-574	292	0	0	0	0	-205	-129	41	20
7,26	-556	301	-556	283	0	0	0	0	-203	-131	43	21
7,56	-535	288	-534	271	0	0	0	0	-199	-132	45	22
7,86	-510	273	-509	257	0	0	0	0	-194	-131	47	23
8,17	-481	256	-480	240	0	0	0	0	-189	-129	49	24
8,47	-449	236	-448	221	0	0	0	0	-182	-126	51	25
8,77	-413	214	-413	200	0	0	0	0	-175	-124	54	26
9,07	-374	190	-373	176	0	0	0	0	-166	-121	56	27
9,38	-331	164	-331	151	0	0	0	0	-155	-115	58	28
9,68	-285	136	-284	123	0	0	0	0	-144	-110	60	28
9,98	-235	106	-234	94	0	0	0	0	-132	-104	63	29
10,28	-181	74	-181	63	0	0	0	0	-118	-96	65	30
10,59	-124	40	-123	30	0	0	0	0	-105	-87	68	31
10,89	-63	6	-62	-3	0	0	0	0	-93	-79	70	32
11,19	2	-30	3	-37	0	0	0	0	-82	-72	73	32
11,49	71	-67	72	-72	0	0	0	0	-71	-64	80	35
11,80	144	-105	145	-107	0	0	0	0	-58	-54	90	41
12,10	221	-142	222	-142	0	0	0	0	-45	-42	100	46
12,40	303	-179	304	-175	0	0	0	0	-35	41	110	51
12,70	389	-214	391	-206	0	0	0	0	-31	118	120	56
13,01	481	-248	482	-235	0	0	0	0	-29	122	131	63
13,31	578	-279	580	-261	0	0	0	0	-27	126	144	71
13,61	682	-307	682	-283	0	0	0	0	-25	128	158	75
13,91	791	-313	792	-316	0	0	0	0	-24	129	172	78
14,22	906	-312	909	-347	0	0	0	0	-23	130	185	78
14,52	1026	-320	1034	-358	0	0	0	0	-22	132	196	77
14,82	725	-501	732	-545	0	0	0	0	-27	90	147	52

0,1

Komb A1: $\Sigma M_{A1} = M_{max.per + var} + M_{max.cyk}$

Snitt

B6

Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)

x	ΣM_{A1}	N_{A1}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-21	-169	0,830	0,485	0,417	3,3E-02	-0,08	0,0	-0,6	-1,3	-6,4	OK
0,30	-87	6	0,830	0,485	0,417	3,3E-02	1,12	0,0	-1,1	10,5	-10,3	OK
0,61	-173	13	0,830	0,485	0,417	3,3E-02	2,22	0,0	-2,2	20,9	-20,5	OK
0,91	-253	23	0,830	0,482	0,415	3,2E-02	3,31	0,0	-3,2	31,1	-30,0	OK
1,21	-327	35	0,830	0,481	0,414	3,2E-02	4,30	0,0	-4,1	40,5	-38,7	OK
1,51	-395	50	0,830	0,481	0,414	3,2E-02	5,21	0,0	-5,0	49,1	-46,7	OK
1,82	-459	65	0,830	0,481	0,414	3,2E-02	6,06	0,0	-5,8	57,1	-54,0	OK
2,12	-517	79	0,830	0,481	0,414	3,2E-02	6,84	0,0	-6,5	64,5	-60,7	OK
2,42	-570	93	0,830	0,481	0,414	3,2E-02	7,55	0,0	-7,1	71,3	-66,7	OK
2,72	-617	107	0,830	0,481	0,414	3,2E-02	8,20	0,0	-7,7	77,4	-72,2	OK
3,02	-659	122	0,830	0,501	0,415	3,5E-02	8,15	0,0	-7,7	76,9	-71,6	OK
3,33	-697	135	0,830	0,501	0,415	3,5E-02	8,62	0,0	-8,1	81,4	-75,4	OK
3,63	-729	148	0,830	0,501	0,415	3,5E-02	9,03	0,0	-8,4	85,3	-78,8	OK
3,93	-756	161	0,830	0,501	0,415	3,5E-02	9,38	0,0	-8,7	88,6	-81,6	OK
4,23	-779	170	0,830	0,501	0,415	3,5E-02	9,67	0,0	-9,0	91,4	-83,9	OK
4,54	-797	178	0,830	0,501	0,415	3,5E-02	9,91	0,0	-9,2	93,7	-85,8	OK
4,84	-811	185	0,830	0,501	0,415	3,5E-02	10,09	0,0	-9,3	95,4	-87,2	OK
5,14	-820	191	0,830	0,501	0,415	3,5E-02	10,21	0,0	-9,4	96,5	-88,1	OK
5,44	-824	196	0,830	0,501	0,415	3,5E-02	10,26	0,0	-9,5	97,0	-88,4	OK
5,75	-823	199	0,830	0,501	0,415	3,5E-02	10,26	0,0	-9,5	97,0	-88,3	OK
6,05	-818	199	0,830	0,520	0,416	3,7E-02	9,53	0,0	-8,8	90,1	-81,9	OK
6,35	-809	198	0,830	0,520	0,416	3,7E-02	9,42	0,0	-8,7	89,1	-81,0	OK
6,65	-796	192	0,830	0,520	0,416	3,7E-02	9,27	0,0	-8,6	87,6	-79,8	OK
6,96	-779	182	0,830	0,520	0,416	3,7E-02	9,06	0,0	-8,4	85,7	-78,2	OK
7,26	-759	170	0,830	0,520	0,416	3,7E-02	8,81	0,0	-8,2	83,3	-76,3	OK
7,56	-734	157	0,830	0,520	0,416	3,7E-02	8,50	0,0	-7,9	80,3	-74,0	OK
7,86	-704	142	0,830	0,520	0,416	3,7E-02	8,14	0,0	-7,6	76,9	-71,1	OK
8,17	-670	127	0,830	0,520	0,416	3,7E-02	7,73	0,0	-7,3	73,0	-67,8	OK
8,47	-631	110	0,830	0,520	0,416	3,7E-02	7,27	0,0	-6,9	68,6	-64,1	OK
8,77	-588	90	0,830	0,520	0,416	3,7E-02	6,75	0,0	-6,4	63,6	-60,0	OK
9,07	-539	70	0,830	0,520	0,416	3,7E-02	6,16	0,0	-5,9	58,1	-55,3	OK
9,38	-486	49	0,830	0,520	0,416	3,7E-02	5,53	0,0	-5,4	52,1	-50,2	OK
9,68	-428	26	0,830	0,520	0,416	3,7E-02	4,84	0,0	-4,8	45,5	-44,6	OK
9,98	-367	2	0,830	0,520	0,416	3,7E-02	4,10	0,0	-4,1	38,5	-38,6	OK
10,28	-299	-22	0,830	0,520	0,416	3,7E-02	3,30	0,0	-3,4	31,0	-32,0	OK
10,59	-229	-47	0,830	0,520	0,416	3,7E-02	2,47	0,0	-2,7	23,0	-25,1	OK
10,89	-156	-74	0,830	0,520	0,416	3,7E-02	1,61	0,0	-1,9	14,9	-18,0	OK
11,19	-80	-102	0,830	0,520	0,416	3,7E-02	0,70	0,0	-1,1	6,3	-10,6	OK
11,49	0	-131	0,830	0,520	0,421	3,7E-02	-0,24	-0,3	0,0	-2,9	-2,7	OK
11,80	86	-158	0,830	0,520	0,421	3,7E-02	0,65	-1,3	0,0	-12,6	5,6	OK
12,10	176	-184	0,830	0,520	0,421	3,7E-02	1,59	-2,4	0,0	-22,8	14,4	OK
12,40	267	-138	0,830	0,520	0,421	3,7E-02	2,69	-3,3	0,0	-31,6	24,8	OK
12,70	358	-96	0,830	0,520	0,421	3,7E-02	3,77	-4,3	0,0	-40,4	35,0	OK
13,01	452	-126	0,830	0,523	0,420	3,7E-02	4,73	-5,3	0,0	-50,5	44,0	OK
13,31	552	-153	0,830	0,526	0,418	3,8E-02	5,74	-6,4	0,0	-60,6	53,4	OK
13,61	657	-179	0,830	0,526	0,418	3,8E-02	6,84	-7,6	0,0	-72,1	63,6	OK
13,91	767	-184	0,830	0,526	0,418	3,8E-02	8,03	-8,8	0,0	-83,7	74,8	OK
14,22	883	-181	0,830	0,526	0,418	3,8E-02	9,30	-10,1	0,0	-95,7	86,7	OK
14,52	1004	-187	0,830	0,526	0,418	3,8E-02	10,61	-11,5	0,0	-108,4	99,0	OK
14,82	698	-411	0,830	0,526	0,418	3,8E-02	6,85	-8,5	0,0	-81,3	63,1	OK

Komb A2: $\Sigma M_{A2} = M_{max.per + var} + M_{min.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
B6												
x	ΣM_{A2}	N_{A2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-14	-146	0,830	0,485	0,417	3,3E-02	-0,13	0,0	-0,5	-1,7	-5,0	OK
0,30	-63	12	0,830	0,485	0,417	3,3E-02	0,83	0,0	-0,8	7,8	-7,3	OK
0,61	-132	26	0,830	0,485	0,417	3,3E-02	1,72	0,0	-1,6	16,3	-15,2	OK
0,91	-193	41	0,830	0,482	0,415	3,2E-02	2,57	0,0	-2,4	24,2	-22,3	OK
1,21	-247	59	0,830	0,481	0,414	3,2E-02	3,31	0,0	-3,1	31,3	-28,5	OK
1,51	-295	81	0,830	0,481	0,414	3,2E-02	3,98	0,0	-3,6	37,7	-33,9	OK
1,82	-340	105	0,830	0,481	0,414	3,2E-02	4,61	0,0	-4,2	43,6	-38,7	OK
2,12	-380	128	0,830	0,481	0,414	3,2E-02	5,17	0,0	-4,6	49,0	-43,0	OK
2,42	-416	151	0,830	0,481	0,414	3,2E-02	5,69	0,0	-5,0	53,9	-46,9	OK
2,72	-448	172	0,830	0,481	0,414	3,2E-02	6,15	0,0	-5,4	58,4	-50,3	OK
3,02	-477	192	0,830	0,501	0,415	3,5E-02	6,11	0,0	-5,3	58,0	-49,5	OK
3,33	-503	211	0,830	0,501	0,415	3,5E-02	6,45	0,0	-5,6	61,2	-52,0	OK
3,63	-524	227	0,830	0,501	0,415	3,5E-02	6,74	0,0	-5,8	64,0	-54,1	OK
3,93	-543	241	0,830	0,501	0,415	3,5E-02	6,99	0,0	-6,0	66,4	-55,8	OK
4,23	-558	253	0,830	0,501	0,415	3,5E-02	7,19	0,0	-6,2	68,4	-57,2	OK
4,54	-569	291	0,830	0,501	0,415	3,5E-02	7,40	0,0	-6,2	70,5	-57,7	OK
4,84	-577	328	0,830	0,501	0,415	3,5E-02	7,57	0,0	-6,3	72,1	-57,8	OK
5,14	-581	335	0,830	0,501	0,415	3,5E-02	7,64	0,0	-6,3	72,8	-58,0	OK
5,44	-582	341	0,830	0,501	0,415	3,5E-02	7,66	0,0	-6,3	73,0	-58,0	OK
5,75	-579	344	0,830	0,501	0,415	3,5E-02	7,63	0,0	-6,3	72,8	-57,6	OK
6,05	-573	345	0,830	0,520	0,416	3,7E-02	7,07	0,0	-5,8	67,4	-53,1	OK
6,35	-563	343	0,830	0,520	0,416	3,7E-02	6,95	0,0	-5,7	66,4	-52,1	OK
6,65	-550	338	0,830	0,520	0,416	3,7E-02	6,80	0,0	-5,5	64,9	-50,8	OK
6,96	-533	331	0,830	0,520	0,416	3,7E-02	6,60	0,0	-5,3	63,0	-49,2	OK
7,26	-513	322	0,830	0,520	0,416	3,7E-02	6,36	0,0	-5,1	60,7	-47,2	OK
7,56	-490	310	0,830	0,520	0,416	3,7E-02	6,07	0,0	-4,9	57,9	-45,0	OK
7,86	-462	296	0,830	0,520	0,416	3,7E-02	5,74	0,0	-4,6	54,8	-42,4	OK
8,17	-432	280	0,830	0,520	0,416	3,7E-02	5,36	0,0	-4,3	51,2	-39,5	OK
8,47	-397	261	0,830	0,520	0,416	3,7E-02	4,94	0,0	-4,0	47,2	-36,3	OK
8,77	-359	240	0,830	0,520	0,416	3,7E-02	4,48	0,0	-3,6	42,8	-32,8	OK
9,07	-318	217	0,830	0,520	0,416	3,7E-02	3,97	0,0	-3,1	37,9	-28,9	OK
9,38	-273	192	0,830	0,520	0,416	3,7E-02	3,42	0,0	-2,7	32,7	-24,7	OK
9,68	-224	164	0,830	0,520	0,416	3,7E-02	2,82	0,0	-2,2	27,0	-20,1	OK
9,98	-172	135	0,830	0,520	0,416	3,7E-02	2,18	0,0	-1,7	20,9	-15,3	OK
10,28	-116	104	0,830	0,520	0,416	3,7E-02	1,50	0,0	-1,1	14,4	-10,0	OK
10,59	-56	71	0,830	0,520	0,416	3,7E-02	0,77	0,0	-0,5	7,4	-4,4	OK
10,89	7	37	0,830	0,520	0,421	3,7E-02	0,15	0,0	0,0	0,0	1,5	OK
11,19	75	2	0,830	0,520	0,421	3,7E-02	0,83	-0,8	0,0	-8,0	7,8	OK
11,49	150	-32	0,830	0,520	0,421	3,7E-02	1,60	-1,8	0,0	-16,8	14,9	OK
11,80	233	-64	0,830	0,520	0,421	3,7E-02	2,45	-2,8	0,0	-26,3	22,8	OK
12,10	320	-96	0,830	0,520	0,421	3,7E-02	3,35	-3,8	0,0	-36,4	31,1	OK
12,40	412	-128	0,830	0,520	0,421	3,7E-02	4,31	-4,9	0,0	-46,9	39,9	OK
12,70	509	-158	0,830	0,520	0,421	3,7E-02	5,32	-6,1	0,0	-57,9	49,3	OK
13,01	612	-185	0,830	0,523	0,420	3,7E-02	6,37	-7,2	0,0	-68,7	59,2	OK
13,31	723	-209	0,830	0,526	0,418	3,8E-02	7,50	-8,4	0,0	-79,5	69,7	OK
13,61	840	-232	0,830	0,526	0,418	3,8E-02	8,74	-9,7	0,0	-92,3	81,3	OK
13,91	963	-235	0,830	0,526	0,418	3,8E-02	10,07	-11,1	0,0	-105,1	93,8	OK
14,22	1090	-233	0,830	0,526	0,418	3,8E-02	11,46	-12,5	0,0	-118,3	106,9	OK
14,52	1222	-242	0,830	0,526	0,418	3,8E-02	12,89	-14,0	0,0	-132,2	120,2	OK
14,82	872	-449	0,830	0,526	0,418	3,8E-02	8,68	-10,5	0,0	-100,2	80,1	OK

Komb B1: $\Sigma M_{B1} = M_{min.per + var} + M_{max.cyk}$

Snitt
B6

Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)

x	ΣM_{B1}	N_{B1}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-20	-160	0,830	0,485	0,417	3,3E-02	-0,07	0,0	-0,6	-1,2	-6,1	OK
0,30	-84	2	0,830	0,485	0,417	3,3E-02	1,07	0,0	-1,1	10,1	-10,1	OK
0,61	-169	4	0,830	0,485	0,417	3,3E-02	2,16	0,0	-2,2	20,3	-20,2	OK
0,91	-249	9	0,830	0,482	0,415	3,2E-02	3,23	0,0	-3,2	30,4	-29,9	OK
1,21	-323	16	0,830	0,481	0,414	3,2E-02	4,21	0,0	-4,1	39,6	-38,7	OK
1,51	-392	28	0,830	0,481	0,414	3,2E-02	5,12	0,0	-5,0	48,2	-46,8	OK
1,82	-456	40	0,830	0,481	0,414	3,2E-02	5,97	0,0	-5,8	56,2	-54,2	OK
2,12	-514	52	0,830	0,481	0,414	3,2E-02	6,75	0,0	-6,5	63,6	-61,0	OK
2,42	-567	65	0,830	0,481	0,414	3,2E-02	7,47	0,0	-7,2	70,4	-67,1	OK
2,72	-615	79	0,830	0,481	0,414	3,2E-02	8,11	0,0	-7,8	76,5	-72,6	OK
3,02	-658	93	0,830	0,501	0,415	3,5E-02	8,07	0,0	-7,7	76,1	-72,0	OK
3,33	-695	107	0,830	0,501	0,415	3,5E-02	8,55	0,0	-8,1	80,6	-75,9	OK
3,63	-728	120	0,830	0,501	0,415	3,5E-02	8,96	0,0	-8,5	84,6	-79,3	OK
3,93	-755	133	0,830	0,501	0,415	3,5E-02	9,31	0,0	-8,8	87,9	-82,0	OK
4,23	-778	144	0,830	0,501	0,415	3,5E-02	9,61	0,0	-9,0	90,7	-84,4	OK
4,54	-796	152	0,830	0,501	0,415	3,5E-02	9,85	0,0	-9,2	93,0	-86,3	OK
4,84	-810	160	0,830	0,501	0,415	3,5E-02	10,03	0,0	-9,4	94,7	-87,7	OK
5,14	-819	167	0,830	0,501	0,415	3,5E-02	10,15	0,0	-9,5	95,9	-88,5	OK
5,44	-823	173	0,830	0,501	0,415	3,5E-02	10,21	0,0	-9,5	96,5	-88,8	OK
5,75	-822	177	0,830	0,501	0,415	3,5E-02	10,21	0,0	-9,5	96,5	-88,7	OK
6,05	-817	179	0,830	0,520	0,416	3,7E-02	9,48	0,0	-8,8	89,6	-82,3	OK
6,35	-808	177	0,830	0,520	0,416	3,7E-02	9,38	0,0	-8,7	88,6	-81,4	OK
6,65	-795	172	0,830	0,520	0,416	3,7E-02	9,22	0,0	-8,6	87,1	-80,1	OK
6,96	-779	163	0,830	0,520	0,416	3,7E-02	9,02	0,0	-8,4	85,2	-78,6	OK
7,26	-758	152	0,830	0,520	0,416	3,7E-02	8,77	0,0	-8,2	82,8	-76,7	OK
7,56	-733	140	0,830	0,520	0,416	3,7E-02	8,47	0,0	-8,0	79,9	-74,3	OK
7,86	-703	125	0,830	0,520	0,416	3,7E-02	8,11	0,0	-7,6	76,5	-71,4	OK
8,17	-669	111	0,830	0,520	0,416	3,7E-02	7,69	0,0	-7,3	72,6	-68,1	OK
8,47	-631	95	0,830	0,520	0,416	3,7E-02	7,23	0,0	-6,9	68,2	-64,4	OK
8,77	-587	76	0,830	0,520	0,416	3,7E-02	6,71	0,0	-6,4	63,3	-60,3	OK
9,07	-539	56	0,830	0,520	0,416	3,7E-02	6,13	0,0	-5,9	57,8	-55,6	OK
9,38	-486	35	0,830	0,520	0,416	3,7E-02	5,50	0,0	-5,4	51,7	-50,4	OK
9,68	-428	13	0,830	0,520	0,416	3,7E-02	4,81	0,0	-4,8	45,2	-44,8	OK
9,98	-366	-10	0,830	0,520	0,416	3,7E-02	4,07	0,0	-4,1	38,2	-38,8	OK
10,28	-299	-33	0,830	0,520	0,416	3,7E-02	3,28	0,0	-3,4	30,7	-32,2	OK
10,59	-228	-57	0,830	0,520	0,416	3,7E-02	2,44	0,0	-2,7	22,7	-25,2	OK
10,89	-156	-82	0,830	0,520	0,416	3,7E-02	1,58	0,0	-1,9	14,6	-18,1	OK
11,19	-80	-109	0,830	0,520	0,416	3,7E-02	0,68	0,0	-1,1	6,1	-10,7	OK
11,49	1	-136	0,830	0,520	0,421	3,7E-02	-0,24	-0,3	0,0	-3,1	-2,7	OK
11,80	87	-161	0,830	0,520	0,421	3,7E-02	0,66	-1,3	0,0	-12,8	5,6	OK
12,10	177	-183	0,830	0,520	0,421	3,7E-02	1,61	-2,4	0,0	-22,9	14,5	OK
12,40	269	-134	0,830	0,520	0,421	3,7E-02	2,71	-3,3	0,0	-31,6	25,0	OK
12,70	360	-88	0,830	0,520	0,421	3,7E-02	3,80	-4,3	0,0	-40,4	35,3	OK
13,01	454	-113	0,830	0,523	0,420	3,7E-02	4,77	-5,3	0,0	-50,4	44,4	OK
13,31	553	-135	0,830	0,526	0,418	3,8E-02	5,78	-6,4	0,0	-60,4	53,9	OK
13,61	657	-155	0,830	0,526	0,418	3,8E-02	6,89	-7,6	0,0	-71,6	64,1	OK
13,91	768	-187	0,830	0,526	0,418	3,8E-02	8,04	-8,9	0,0	-83,9	74,8	OK
14,22	887	-217	0,830	0,526	0,418	3,8E-02	9,27	-10,2	0,0	-96,8	86,3	OK
14,52	1012	-226	0,830	0,526	0,418	3,8E-02	10,63	-11,6	0,0	-110,1	99,0	OK
14,82	706	-455	0,830	0,526	0,418	3,8E-02	6,85	-8,7	0,0	-83,0	62,9	OK

Komb B2: $\Sigma M_{B2} = M_{min.per + var} + M_{min.cyk}$

Snitt B6	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
x	ΣM_{B2}	N_{B2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-13	-137	0,830	0,485	0,417	3,3E-02	-0,12	0,0	-0,4	-1,5	-4,7	OK
0,30	-61	8	0,830	0,485	0,417	3,3E-02	0,78	0,0	-0,8	7,4	-7,1	OK
0,61	-128	18	0,830	0,485	0,417	3,3E-02	1,66	0,0	-1,6	15,6	-15,0	OK
0,91	-189	27	0,830	0,482	0,415	3,2E-02	2,49	0,0	-2,4	23,4	-22,2	OK
1,21	-243	40	0,830	0,481	0,414	3,2E-02	3,22	0,0	-3,0	30,4	-28,4	OK
1,51	-292	59	0,830	0,481	0,414	3,2E-02	3,90	0,0	-3,6	36,8	-34,0	OK
1,82	-337	80	0,830	0,481	0,414	3,2E-02	4,52	0,0	-4,2	42,7	-38,9	OK
2,12	-377	101	0,830	0,481	0,414	3,2E-02	5,08	0,0	-4,6	48,1	-43,3	OK
2,42	-414	123	0,830	0,481	0,414	3,2E-02	5,60	0,0	-5,1	53,0	-47,2	OK
2,72	-447	144	0,830	0,481	0,414	3,2E-02	6,07	0,0	-5,5	57,5	-50,7	OK
3,02	-476	164	0,830	0,501	0,415	3,5E-02	6,03	0,0	-5,4	57,2	-50,0	OK
3,33	-501	182	0,830	0,501	0,415	3,5E-02	6,37	0,0	-5,6	60,4	-52,4	OK
3,63	-523	199	0,830	0,501	0,415	3,5E-02	6,67	0,0	-5,9	63,3	-54,5	OK
3,93	-542	214	0,830	0,501	0,415	3,5E-02	6,92	0,0	-6,1	65,7	-56,3	OK
4,23	-557	226	0,830	0,501	0,415	3,5E-02	7,13	0,0	-6,2	67,7	-57,7	OK
4,54	-568	265	0,830	0,501	0,415	3,5E-02	7,34	0,0	-6,3	69,8	-58,2	OK
4,84	-576	303	0,830	0,501	0,415	3,5E-02	7,51	0,0	-6,3	71,5	-58,2	OK
5,14	-580	312	0,830	0,501	0,415	3,5E-02	7,58	0,0	-6,3	72,2	-58,5	OK
5,44	-581	318	0,830	0,501	0,415	3,5E-02	7,60	0,0	-6,3	72,4	-58,4	OK
5,75	-578	322	0,830	0,501	0,415	3,5E-02	7,58	0,0	-6,3	72,2	-58,0	OK
6,05	-572	324	0,830	0,520	0,416	3,7E-02	7,02	0,0	-5,8	66,9	-53,4	OK
6,35	-563	323	0,830	0,520	0,416	3,7E-02	6,91	0,0	-5,7	65,9	-52,4	OK
6,65	-550	319	0,830	0,520	0,416	3,7E-02	6,76	0,0	-5,5	64,4	-51,1	OK
6,96	-533	313	0,830	0,520	0,416	3,7E-02	6,56	0,0	-5,4	62,5	-49,5	OK
7,26	-513	304	0,830	0,520	0,416	3,7E-02	6,32	0,0	-5,2	60,2	-47,6	OK
7,56	-489	293	0,830	0,520	0,416	3,7E-02	6,03	0,0	-4,9	57,5	-45,3	OK
7,86	-462	280	0,830	0,520	0,416	3,7E-02	5,70	0,0	-4,6	54,4	-42,7	OK
8,17	-431	264	0,830	0,520	0,416	3,7E-02	5,33	0,0	-4,3	50,8	-39,8	OK
8,47	-397	246	0,830	0,520	0,416	3,7E-02	4,91	0,0	-4,0	46,8	-36,6	OK
8,77	-359	226	0,830	0,520	0,416	3,7E-02	4,45	0,0	-3,6	42,4	-33,0	OK
9,07	-318	203	0,830	0,520	0,416	3,7E-02	3,94	0,0	-3,2	37,6	-29,2	OK
9,38	-273	178	0,830	0,520	0,416	3,7E-02	3,39	0,0	-2,7	32,4	-24,9	OK
9,68	-224	152	0,830	0,520	0,416	3,7E-02	2,79	0,0	-2,2	26,7	-20,4	OK
9,98	-172	123	0,830	0,520	0,416	3,7E-02	2,15	0,0	-1,7	20,6	-15,5	OK
10,28	-116	93	0,830	0,520	0,416	3,7E-02	1,47	0,0	-1,1	14,1	-10,2	OK
10,59	-56	61	0,830	0,520	0,416	3,7E-02	0,74	0,0	-0,5	7,2	-4,6	OK
10,89	8	29	0,830	0,520	0,421	3,7E-02	0,14	0,0	0,0	-0,2	1,4	OK
11,19	76	-5	0,830	0,520	0,421	3,7E-02	0,82	-0,9	0,0	-8,2	7,7	OK
11,49	151	-37	0,830	0,520	0,421	3,7E-02	1,60	-1,8	0,0	-17,0	14,9	OK
11,80	234	-66	0,830	0,520	0,421	3,7E-02	2,46	-2,8	0,0	-26,5	22,8	OK
12,10	322	-95	0,830	0,520	0,421	3,7E-02	3,37	-3,8	0,0	-36,5	31,3	OK
12,40	414	-124	0,830	0,520	0,421	3,7E-02	4,33	-4,9	0,0	-46,9	40,2	OK
12,70	511	-150	0,830	0,520	0,421	3,7E-02	5,35	-6,1	0,0	-57,9	49,6	OK
13,01	613	-172	0,830	0,523	0,420	3,7E-02	6,41	-7,2	0,0	-68,5	59,6	OK
13,31	724	-190	0,830	0,526	0,418	3,8E-02	7,54	-8,4	0,0	-79,3	70,2	OK
13,61	841	-208	0,830	0,526	0,418	3,8E-02	8,79	-9,7	0,0	-91,8	81,8	OK
13,91	964	-238	0,830	0,526	0,418	3,8E-02	10,08	-11,1	0,0	-105,3	93,8	OK
14,22	1094	-269	0,830	0,526	0,418	3,8E-02	11,44	-12,6	0,0	-119,4	106,5	OK
14,52	1231	-281	0,830	0,526	0,418	3,8E-02	12,91	-14,2	0,0	-133,9	120,2	OK
14,82	880	-493	0,830	0,526	0,418	3,8E-02	8,68	-10,7	0,0	-101,9	79,9	OK

Komb A, Jmf Komb A1 med A2

Snitt	Armering				Betong					
B6	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0,00	0,4	OK	1,4	OK	0,00	0,50	OK	0,03	0,51	OK
0,30	2,7	OK	3,0	OK	0,00	0,50	OK	0,05	0,52	OK
0,61	4,6	OK	5,3	OK	0,00	0,50	OK	0,10	0,53	OK
0,91	6,9	OK	7,7	OK	0,00	0,50	OK	0,14	0,55	OK
1,21	9,2	OK	10,3	OK	0,00	0,50	OK	0,18	0,56	OK
1,51	11,4	OK	12,8	OK	0,00	0,50	OK	0,22	0,57	OK
1,82	13,5	OK	15,3	OK	0,00	0,50	OK	0,26	0,58	OK
2,12	15,5	OK	17,7	OK	0,00	0,50	OK	0,29	0,59	OK
2,42	17,3	OK	19,9	OK	0,00	0,50	OK	0,32	0,60	OK
2,72	19,0	OK	21,9	OK	0,00	0,50	OK	0,34	0,61	OK
3,02	18,9	OK	22,0	OK	0,00	0,50	OK	0,34	0,61	OK
3,33	20,2	OK	23,5	OK	0,00	0,50	OK	0,36	0,61	OK
3,63	21,3	OK	24,7	OK	0,00	0,50	OK	0,38	0,62	OK
3,93	22,2	OK	25,7	OK	0,00	0,50	OK	0,39	0,62	OK
4,23	23,0	OK	26,7	OK	0,00	0,50	OK	0,40	0,62	OK
4,54	23,2	OK	28,1	OK	0,00	0,50	OK	0,41	0,63	OK
4,84	23,2	OK	29,5	OK	0,00	0,50	OK	0,42	0,63	OK
5,14	23,7	OK	30,0	OK	0,00	0,50	OK	0,42	0,63	OK
5,44	24,0	OK	30,4	OK	0,00	0,50	OK	0,42	0,63	OK
5,75	24,3	OK	30,6	OK	0,00	0,50	OK	0,42	0,63	OK
6,05	22,7	OK	28,9	OK	0,00	0,50	OK	0,39	0,62	OK
6,35	22,7	OK	28,9	OK	0,00	0,50	OK	0,39	0,61	OK
6,65	22,7	OK	29,0	OK	0,00	0,50	OK	0,38	0,61	OK
6,96	22,7	OK	29,1	OK	0,00	0,50	OK	0,37	0,61	OK
7,26	22,6	OK	29,1	OK	0,00	0,50	OK	0,37	0,60	OK
7,56	22,4	OK	29,0	OK	0,00	0,50	OK	0,35	0,60	OK
7,86	22,1	OK	28,7	OK	0,00	0,50	OK	0,34	0,59	OK
8,17	21,8	OK	28,3	OK	0,00	0,50	OK	0,32	0,59	OK
8,47	21,4	OK	27,8	OK	0,00	0,50	OK	0,31	0,58	OK
8,77	20,8	OK	27,2	OK	0,00	0,50	OK	0,29	0,57	OK
9,07	20,2	OK	26,4	OK	0,00	0,50	OK	0,26	0,56	OK
9,38	19,4	OK	25,5	OK	0,00	0,50	OK	0,24	0,55	OK
9,68	18,5	OK	24,4	OK	0,00	0,50	OK	0,21	0,54	OK
9,98	17,6	OK	23,3	OK	0,00	0,50	OK	0,18	0,53	OK
10,28	16,6	OK	22,0	OK	0,00	0,50	OK	0,15	0,52	OK
10,59	15,6	OK	20,7	OK	0,00	0,50	OK	0,12	0,51	OK
10,89	14,8	OK	19,5	OK	0,00	0,50	OK	0,08	0,50	OK
11,19	14,3	OK	18,4	OK	0,04	0,50	OK	0,05	0,50	OK
11,49	13,9	OK	17,5	OK	0,08	0,51	OK	0,00	0,50	OK
11,80	13,7	OK	17,2	OK	0,12	0,53	OK	0,00	0,50	OK
12,10	13,6	OK	16,8	OK	0,17	0,55	OK	0,00	0,50	OK
12,40	15,3	OK	15,2	OK	0,22	0,57	OK	0,00	0,50	OK
12,70	17,5	OK	14,3	OK	0,27	0,59	OK	0,00	0,50	OK
13,01	18,1	OK	15,2	OK	0,32	0,61	OK	0,00	0,50	OK
13,31	18,9	OK	16,3	OK	0,37	0,63	OK	0,00	0,50	OK
13,61	20,2	OK	17,7	OK	0,43	0,65	OK	0,00	0,50	OK
13,91	21,4	OK	19,0	OK	0,50	0,68	OK	0,00	0,50	OK
14,22	22,6	OK	20,1	OK	0,56	0,70	OK	0,00	0,50	OK
14,52	23,9	OK	21,2	OK	0,62	0,73	OK	0,00	0,50	OK
14,82	18,9	OK	17,0	OK	0,47	0,67	OK	0,00	0,50	OK

Komb B, Jmf Komb B1 med B2

Snitt	Armering				Betong					
B6	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0,00	0,4	OK	1,4	OK	0,00	0,50	OK	0,03	0,51	OK
0,30	2,7	OK	3,0	OK	0,00	0,50	OK	0,05	0,52	OK
0,61	4,6	OK	5,3	OK	0,00	0,50	OK	0,10	0,53	OK
0,91	6,9	OK	7,7	OK	0,00	0,50	OK	0,14	0,55	OK
1,21	9,2	OK	10,3	OK	0,00	0,50	OK	0,18	0,56	OK
1,51	11,4	OK	12,8	OK	0,00	0,50	OK	0,22	0,57	OK
1,82	13,5	OK	15,3	OK	0,00	0,50	OK	0,26	0,58	OK
2,12	15,5	OK	17,7	OK	0,00	0,50	OK	0,29	0,59	OK
2,42	17,3	OK	19,9	OK	0,00	0,50	OK	0,32	0,60	OK
2,72	19,0	OK	21,9	OK	0,00	0,50	OK	0,35	0,61	OK
3,02	18,9	OK	22,0	OK	0,00	0,50	OK	0,34	0,61	OK
3,33	20,2	OK	23,5	OK	0,00	0,50	OK	0,36	0,61	OK
3,63	21,3	OK	24,7	OK	0,00	0,50	OK	0,38	0,62	OK
3,93	22,2	OK	25,7	OK	0,00	0,50	OK	0,39	0,62	OK
4,23	23,0	OK	26,7	OK	0,00	0,50	OK	0,40	0,62	OK
4,54	23,2	OK	28,1	OK	0,00	0,50	OK	0,41	0,63	OK
4,84	23,2	OK	29,5	OK	0,00	0,50	OK	0,42	0,63	OK
5,14	23,7	OK	30,0	OK	0,00	0,50	OK	0,42	0,63	OK
5,44	24,0	OK	30,4	OK	0,00	0,50	OK	0,42	0,63	OK
5,75	24,3	OK	30,6	OK	0,00	0,50	OK	0,42	0,63	OK
6,05	22,7	OK	28,9	OK	0,00	0,50	OK	0,39	0,62	OK
6,35	22,7	OK	28,9	OK	0,00	0,50	OK	0,39	0,61	OK
6,65	22,7	OK	29,0	OK	0,00	0,50	OK	0,38	0,61	OK
6,96	22,7	OK	29,1	OK	0,00	0,50	OK	0,38	0,61	OK
7,26	22,6	OK	29,1	OK	0,00	0,50	OK	0,37	0,60	OK
7,56	22,4	OK	29,0	OK	0,00	0,50	OK	0,36	0,60	OK
7,86	22,1	OK	28,7	OK	0,00	0,50	OK	0,34	0,59	OK
8,17	21,8	OK	28,3	OK	0,00	0,50	OK	0,33	0,59	OK
8,47	21,4	OK	27,8	OK	0,00	0,50	OK	0,31	0,58	OK
8,77	20,8	OK	27,2	OK	0,00	0,50	OK	0,29	0,57	OK
9,07	20,2	OK	26,4	OK	0,00	0,50	OK	0,27	0,56	OK
9,38	19,4	OK	25,5	OK	0,00	0,50	OK	0,24	0,55	OK
9,68	18,5	OK	24,4	OK	0,00	0,50	OK	0,21	0,54	OK
9,98	17,6	OK	23,3	OK	0,00	0,50	OK	0,18	0,53	OK
10,28	16,6	OK	22,0	OK	0,00	0,50	OK	0,15	0,52	OK
10,59	15,6	OK	20,7	OK	0,00	0,50	OK	0,12	0,51	OK
10,89	14,8	OK	19,5	OK	0,00	0,50	OK	0,08	0,50	OK
11,19	14,3	OK	18,4	OK	0,04	0,50	OK	0,05	0,50	OK
11,49	13,9	OK	17,5	OK	0,08	0,51	OK	0,00	0,50	OK
11,80	13,7	OK	17,2	OK	0,12	0,53	OK	0,00	0,50	OK
12,10	13,6	OK	16,8	OK	0,17	0,55	OK	0,00	0,50	OK
12,40	15,3	OK	15,2	OK	0,22	0,57	OK	0,00	0,50	OK
12,70	17,5	OK	14,3	OK	0,27	0,59	OK	0,00	0,50	OK
13,01	18,1	OK	15,2	OK	0,32	0,61	OK	0,00	0,50	OK
13,31	18,9	OK	16,3	OK	0,37	0,63	OK	0,00	0,50	OK
13,61	20,2	OK	17,7	OK	0,43	0,65	OK	0,00	0,50	OK
13,91	21,4	OK	19,0	OK	0,50	0,68	OK	0,00	0,50	OK
14,22	22,6	OK	20,1	OK	0,56	0,71	OK	0,00	0,50	OK
14,52	23,9	OK	21,2	OK	0,63	0,73	OK	0,00	0,50	OK
14,82	18,9	OK	17,0	OK	0,48	0,67	OK	0,00	0,50	OK

Utmattning - Enkel kontroll

Moment med tillhörande normalkraft

Enligt SS-EN 1992-1-1, 6.8.

E_s =	200	GPa	f_{ck} =	35,5	MPa
E_{cm} =	34,0	GPa	$f_{cd.fat}$ =	22,4	MPa
φ =	1,6		f_{yd} =	410	MPa

Snitt

B2

x [m]	h [m]	b_w [m]	$A_{s.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s.uk}$ [cm^2]	d_{uk} [m]	$φ_{viktad}$	$α_{eff}$	$e´_N$ fr. ök [m]
0,00	0,750	0,600	32,7	0,690	33,7	0,690	0,96	11,0	0,375
0,30	0,750	0,600	32,7	0,690	33,7	0,690	0,96	11,0	0,375
0,61	0,750	0,600	32,7	0,690	33,7	0,690	0,96	11,0	0,375
0,91	0,750	0,600	30,3	0,690	33,7	0,690	0,96	11,0	0,375
1,21	0,750	0,600	29,8	0,690	33,7	0,690	0,96	11,0	0,375
1,51	0,750	0,600	29,8	0,690	33,7	0,690	0,96	11,0	0,375
1,82	0,750	0,600	29,8	0,690	33,7	0,690	0,96	11,0	0,375
2,12	0,750	0,600	29,8	0,690	33,7	0,690	0,96	11,0	0,375
2,42	0,750	0,600	29,8	0,690	33,7	0,690	0,96	11,0	0,375
2,72	0,750	0,600	29,8	0,690	33,7	0,690	0,96	11,0	0,375
3,02	0,750	0,600	39,0	0,690	43,0	0,690	0,96	11,0	0,375
3,33	0,750	0,600	39,0	0,690	43,0	0,690	0,96	11,0	0,375
3,63	0,750	0,600	39,0	0,690	43,0	0,690	0,96	11,0	0,375
3,93	0,750	0,600	39,0	0,690	43,0	0,690	0,96	11,0	0,375
4,23	0,750	0,600	39,0	0,690	43,0	0,690	0,96	11,0	0,375
4,54	0,750	0,600	39,0	0,690	43,0	0,690	0,96	11,0	0,375
4,84	0,750	0,600	39,0	0,690	43,0	0,690	0,96	11,0	0,375
5,14	0,750	0,600	39,0	0,690	43,0	0,690	0,96	11,0	0,375
5,44	0,750	0,600	39,0	0,690	43,0	0,690	0,96	11,0	0,375
5,75	0,750	0,600	39,0	0,690	43,0	0,690	0,96	11,0	0,375
6,05	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
6,35	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
6,65	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
6,96	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
7,26	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
7,56	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
7,86	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
8,17	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
8,47	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
8,77	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
9,07	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
9,38	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
9,68	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
9,98	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
10,28	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
10,59	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
10,89	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
11,19	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
11,49	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
11,80	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
12,10	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
12,40	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
12,70	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
13,01	0,750	0,600	50,4	0,690	52,2	0,690	0,96	11,0	0,375
13,31	0,750	0,600	53,5	0,690	52,2	0,690	0,96	11,0	0,375
13,61	0,750	0,600	53,5	0,690	52,2	0,690	0,96	11,0	0,375
13,91	0,750	0,600	53,5	0,690	52,2	0,690	0,96	11,0	0,375
14,22	0,750	0,600	53,5	0,690	52,2	0,690	0,96	11,0	0,375
14,52	0,750	0,600	53,5	0,690	52,2	0,690	0,96	11,0	0,375
14,82	0,750	0,600	53,5	0,690	52,2	0,690	0,96	11,0	0,375

Moment	Normalkraft	Spänningar
Negativ = drag ök	Negativ = tryck	Negativ = tryck
Positiv = drag uk	Positiv = drag	Positiv = drag

Snitt	Lastkombination (6.69) enligt SS-EN 1992-1-1											
B2	PERMANENTA				VARIABLA				CYKLISKA			
x	M_{max}	N	M_{min}	N	M_{max}	N	M_{min}	N	M_{max}	N	M_{min}	N
[m]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]
0,00	-10	-78	-10	-73	0	0	0	0	-8	-61	2	-2
0,30	-44	-13	-43	-15	0	0	0	0	-29	0	4	0
0,61	-90	-31	-88	-35	0	0	0	0	-52	1	4	1
0,91	-135	-54	-133	-62	0	0	0	0	-73	3	5	1
1,21	-178	-82	-177	-92	0	0	0	0	-94	7	6	2
1,51	-219	-111	-218	-122	0	0	0	0	-106	11	7	2
1,82	-258	-140	-256	-152	0	0	0	0	-116	12	9	2
2,12	-293	-168	-292	-180	0	0	0	0	-128	14	10	2
2,42	-326	-195	-324	-207	0	0	0	0	-137	17	11	3
2,72	-355	-219	-354	-231	0	0	0	0	-143	18	13	3
3,02	-381	-242	-380	-253	0	0	0	0	-151	16	14	2
3,33	-404	-262	-403	-272	0	0	0	0	-157	15	15	2
3,63	-424	-280	-423	-290	0	0	0	0	-164	16	16	2
3,93	-441	-296	-440	-305	0	0	0	0	-171	13	18	2
4,23	-455	-309	-454	-317	0	0	0	0	-172	10	19	16
4,54	-466	-320	-466	-328	0	0	0	0	-176	8	21	31
4,84	-474	-328	-474	-335	0	0	0	0	-181	4	22	34
5,14	-480	-335	-479	-341	0	0	0	0	-179	2	23	36
5,44	-482	-338	-482	-344	0	0	0	0	-179	1	25	38
5,75	-482	-340	-482	-345	0	0	0	0	-182	-2	26	41
6,05	-479	-338	-479	-343	0	0	0	0	-178	-7	28	43
6,35	-473	-335	-473	-339	0	0	0	0	-175	-6	29	45
6,65	-464	-328	-464	-332	0	0	0	0	-177	-1	31	47
6,96	-452	-320	-452	-323	0	0	0	0	-177	1	32	49
7,26	-438	-309	-438	-312	0	0	0	0	-174	1	34	52
7,56	-420	-295	-420	-299	0	0	0	0	-172	-5	35	54
7,86	-400	-279	-400	-283	0	0	0	0	-172	-9	37	56
8,17	-377	-261	-376	-265	0	0	0	0	-167	-10	39	58
8,47	-350	-241	-350	-244	0	0	0	0	-161	-14	40	60
8,77	-321	-218	-321	-222	0	0	0	0	-158	-18	42	62
9,07	-290	-193	-289	-197	0	0	0	0	-151	-18	43	64
9,38	-255	-167	-255	-170	0	0	0	0	-141	-22	45	66
9,68	-217	-138	-217	-142	0	0	0	0	-135	-26	47	69
9,98	-177	-107	-176	-111	0	0	0	0	-125	-29	48	71
10,28	-133	-75	-133	-79	0	0	0	0	-113	-34	50	73
10,59	-87	-41	-86	-45	0	0	0	0	-104	-35	52	75
10,89	-37	-5	-37	-10	0	0	0	0	-95	-38	53	77
11,19	15	31	16	27	0	0	0	0	-84	-47	56	73
11,49	70	69	71	65	0	0	0	0	-77	-46	61	67
11,80	129	108	129	105	0	0	0	0	-69	-46	69	66
12,10	190	147	190	145	0	0	0	0	-55	-57	76	66
12,40	253	187	254	186	0	0	0	0	-44	-69	84	67
12,70	320	226	321	226	0	0	0	0	-38	-45	93	35
13,01	389	264	390	266	0	0	0	0	-32	-16	105	0
13,31	460	299	461	304	0	0	0	0	-27	-19	118	-2
13,61	533	336	533	334	0	0	0	0	-21	-22	133	-2
13,91	606	370	607	358	0	0	0	0	-15	-19	151	-53
14,22	680	394	682	379	0	0	0	0	-9	-12	175	-106
14,52	753	409	757	392	0	0	0	0	-5	5	205	-115
14,82	526	113	530	111	0	0	0	0	-18	-27	163	-119

0,1

Komb A1: $\Sigma M_{A1} = M_{max.per + var} + M_{max.cyk}$

Snitt

B2

Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)

x	ΣM_{A1}	N_{A1}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-19	-138	0,750	0,520	0,376	2,8E-02	-0,01	0,0	-0,5	-0,6	-5,3	OK
0,30	-73	-13	0,750	0,520	0,376	2,8E-02	0,95	0,0	-1,0	8,7	-9,4	OK
0,61	-141	-30	0,750	0,520	0,376	2,8E-02	1,83	0,0	-2,0	16,8	-18,2	OK
0,91	-208	-51	0,750	0,517	0,375	2,8E-02	2,72	0,0	-2,9	24,9	-27,0	OK
1,21	-272	-75	0,750	0,516	0,374	2,8E-02	3,54	0,0	-3,8	32,4	-35,5	OK
1,51	-325	-101	0,750	0,516	0,374	2,8E-02	4,22	0,0	-4,6	38,6	-42,7	OK
1,82	-374	-128	0,750	0,516	0,374	2,8E-02	4,82	0,0	-5,3	44,0	-49,3	OK
2,12	-421	-154	0,750	0,516	0,374	2,8E-02	5,42	0,0	-6,0	49,5	-55,8	OK
2,42	-463	-178	0,750	0,516	0,374	2,8E-02	5,93	0,0	-6,6	54,1	-61,5	OK
2,72	-498	-201	0,750	0,516	0,374	2,8E-02	6,37	0,0	-7,1	58,0	-66,4	OK
3,02	-531	-226	0,750	0,536	0,375	3,0E-02	6,31	0,0	-7,2	57,5	-66,7	OK
3,33	-560	-247	0,750	0,536	0,375	3,0E-02	6,64	0,0	-7,6	60,4	-70,5	OK
3,63	-587	-264	0,750	0,536	0,375	3,0E-02	6,95	0,0	-7,9	63,2	-74,1	OK
3,93	-611	-283	0,750	0,536	0,375	3,0E-02	7,22	0,0	-8,3	65,7	-77,2	OK
4,23	-627	-299	0,750	0,536	0,375	3,0E-02	7,39	0,0	-8,5	67,2	-79,4	OK
4,54	-642	-312	0,750	0,536	0,375	3,0E-02	7,55	0,0	-8,7	68,7	-81,4	OK
4,84	-655	-324	0,750	0,536	0,375	3,0E-02	7,70	0,0	-8,9	70,0	-83,2	OK
5,14	-659	-332	0,750	0,536	0,375	3,0E-02	7,73	0,0	-9,0	70,2	-83,8	OK
5,44	-662	-338	0,750	0,536	0,375	3,0E-02	7,75	0,0	-9,0	70,4	-84,2	OK
5,75	-664	-342	0,750	0,536	0,375	3,0E-02	7,78	0,0	-9,1	70,6	-84,6	OK
6,05	-657	-345	0,750	0,555	0,375	3,2E-02	7,19	0,0	-8,5	65,2	-79,1	OK
6,35	-648	-341	0,750	0,555	0,375	3,2E-02	7,09	0,0	-8,3	64,3	-78,0	OK
6,65	-641	-330	0,750	0,555	0,375	3,2E-02	7,02	0,0	-8,2	63,7	-77,0	OK
6,96	-630	-319	0,750	0,555	0,375	3,2E-02	6,91	0,0	-8,1	62,7	-75,5	OK
7,26	-612	-308	0,750	0,555	0,375	3,2E-02	6,72	0,0	-7,8	61,0	-73,4	OK
7,56	-592	-300	0,750	0,555	0,375	3,2E-02	6,50	0,0	-7,6	59,0	-71,0	OK
7,86	-572	-289	0,750	0,555	0,375	3,2E-02	6,28	0,0	-7,3	57,0	-68,6	OK
8,17	-544	-271	0,750	0,555	0,375	3,2E-02	5,97	0,0	-7,0	54,2	-65,1	OK
8,47	-512	-255	0,750	0,555	0,375	3,2E-02	5,62	0,0	-6,6	51,0	-61,3	OK
8,77	-479	-236	0,750	0,555	0,375	3,2E-02	5,27	0,0	-6,1	47,9	-57,4	OK
9,07	-440	-212	0,750	0,555	0,375	3,2E-02	4,85	0,0	-5,6	44,0	-52,6	OK
9,38	-396	-189	0,750	0,555	0,375	3,2E-02	4,37	0,0	-5,1	39,7	-47,3	OK
9,68	-352	-164	0,750	0,555	0,375	3,2E-02	3,89	0,0	-4,5	35,3	-41,9	OK
9,98	-302	-136	0,750	0,555	0,375	3,2E-02	3,34	0,0	-3,8	30,4	-35,9	OK
10,28	-246	-109	0,750	0,555	0,375	3,2E-02	2,73	0,0	-3,1	24,8	-29,2	OK
10,59	-191	-76	0,750	0,555	0,375	3,2E-02	2,13	0,0	-2,4	19,4	-22,5	OK
10,89	-133	-43	0,750	0,555	0,375	3,2E-02	1,50	0,0	-1,7	13,7	-15,4	OK
11,19	-69	-16	0,750	0,555	0,375	3,2E-02	0,80	0,0	-0,9	7,3	-7,9	OK
11,49	-7	23	0,750	0,555	0,375	3,2E-02	0,12	0,0	0,0	1,2	-0,3	OK
11,80	60	62	0,750	0,555	0,380	3,2E-02	0,81	-0,6	0,0	-5,4	7,6	OK
12,10	134	90	0,750	0,555	0,380	3,2E-02	1,73	-1,4	0,0	-13,1	16,2	OK
12,40	209	118	0,750	0,555	0,380	3,2E-02	2,66	-2,3	0,0	-20,9	24,8	OK
12,70	282	181	0,750	0,555	0,380	3,2E-02	3,62	-3,1	0,0	-27,8	33,9	OK
13,01	357	248	0,750	0,558	0,379	3,2E-02	4,60	-3,8	0,0	-34,4	43,1	OK
13,31	433	280	0,750	0,561	0,377	3,2E-02	5,53	-4,6	0,0	-41,5	51,8	OK
13,61	512	314	0,750	0,561	0,377	3,2E-02	6,50	-5,5	0,0	-49,4	60,9	OK
13,91	592	351	0,750	0,561	0,377	3,2E-02	7,49	-6,3	0,0	-57,3	70,1	OK
14,22	671	382	0,750	0,561	0,377	3,2E-02	8,47	-7,2	0,0	-65,3	79,3	OK
14,52	748	414	0,750	0,561	0,377	3,2E-02	9,43	-8,1	0,0	-73,1	88,1	OK
14,82	508	87	0,750	0,561	0,377	3,2E-02	6,06	-5,8	0,0	-53,5	56,1	OK

Komb A2: $\Sigma M_{A2} = M_{max.per + var} + M_{min.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
B2												
x	ΣM_{A2}	N_{A2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-8	-80	0,750	0,520	0,376	2,8E-02	-0,04	0,0	-0,3	-0,6	-2,7	OK
0,30	-40	-13	0,750	0,520	0,376	2,8E-02	0,51	0,0	-0,6	4,6	-5,2	OK
0,61	-86	-30	0,750	0,520	0,376	2,8E-02	1,09	0,0	-1,2	9,9	-11,3	OK
0,91	-130	-53	0,750	0,517	0,375	2,8E-02	1,66	0,0	-1,9	15,1	-17,4	OK
1,21	-172	-80	0,750	0,516	0,374	2,8E-02	2,18	0,0	-2,5	19,9	-23,2	OK
1,51	-212	-109	0,750	0,516	0,374	2,8E-02	2,67	0,0	-3,1	24,2	-28,8	OK
1,82	-249	-138	0,750	0,516	0,374	2,8E-02	3,11	0,0	-3,6	28,3	-34,0	OK
2,12	-283	-166	0,750	0,516	0,374	2,8E-02	3,52	0,0	-4,2	31,9	-38,8	OK
2,42	-314	-192	0,750	0,516	0,374	2,8E-02	3,89	0,0	-4,6	35,2	-43,3	OK
2,72	-342	-217	0,750	0,516	0,374	2,8E-02	4,22	0,0	-5,0	38,2	-47,3	OK
3,02	-367	-239	0,750	0,536	0,375	3,0E-02	4,20	0,0	-5,1	38,0	-47,8	OK
3,33	-389	-260	0,750	0,536	0,375	3,0E-02	4,44	0,0	-5,4	40,1	-50,7	OK
3,63	-407	-278	0,750	0,536	0,375	3,0E-02	4,64	0,0	-5,7	41,9	-53,3	OK
3,93	-423	-293	0,750	0,536	0,375	3,0E-02	4,81	0,0	-5,9	43,4	-55,4	OK
4,23	-436	-293	0,750	0,536	0,375	3,0E-02	4,98	0,0	-6,1	44,9	-56,9	OK
4,54	-446	-289	0,750	0,536	0,375	3,0E-02	5,11	0,0	-6,2	46,2	-58,0	OK
4,84	-452	-295	0,750	0,536	0,375	3,0E-02	5,18	0,0	-6,3	46,8	-58,9	OK
5,14	-456	-299	0,750	0,536	0,375	3,0E-02	5,23	0,0	-6,3	47,2	-59,4	OK
5,44	-458	-300	0,750	0,536	0,375	3,0E-02	5,24	0,0	-6,4	47,3	-59,6	OK
5,75	-456	-299	0,750	0,536	0,375	3,0E-02	5,22	0,0	-6,3	47,1	-59,4	OK
6,05	-451	-296	0,750	0,555	0,375	3,2E-02	4,83	0,0	-5,9	43,6	-55,4	OK
6,35	-444	-290	0,750	0,555	0,375	3,2E-02	4,75	0,0	-5,8	42,9	-54,5	OK
6,65	-433	-281	0,750	0,555	0,375	3,2E-02	4,64	0,0	-5,7	41,9	-53,2	OK
6,96	-420	-270	0,750	0,555	0,375	3,2E-02	4,50	0,0	-5,5	40,7	-51,5	OK
7,26	-404	-257	0,750	0,555	0,375	3,2E-02	4,34	0,0	-5,3	39,2	-49,5	OK
7,56	-385	-241	0,750	0,555	0,375	3,2E-02	4,14	0,0	-5,0	37,4	-47,1	OK
7,86	-363	-223	0,750	0,555	0,375	3,2E-02	3,91	0,0	-4,7	35,3	-44,3	OK
8,17	-338	-203	0,750	0,555	0,375	3,2E-02	3,65	0,0	-4,4	33,0	-41,2	OK
8,47	-310	-181	0,750	0,555	0,375	3,2E-02	3,36	0,0	-4,0	30,4	-37,7	OK
8,77	-280	-156	0,750	0,555	0,375	3,2E-02	3,04	0,0	-3,6	27,6	-33,8	OK
9,07	-246	-129	0,750	0,555	0,375	3,2E-02	2,69	0,0	-3,2	24,4	-29,6	OK
9,38	-210	-100	0,750	0,555	0,375	3,2E-02	2,31	0,0	-2,7	21,0	-25,1	OK
9,68	-171	-69	0,750	0,555	0,375	3,2E-02	1,90	0,0	-2,2	17,3	-20,1	OK
9,98	-128	-37	0,750	0,555	0,375	3,2E-02	1,46	0,0	-1,6	13,3	-14,8	OK
10,28	-83	-2	0,750	0,555	0,375	3,2E-02	0,98	0,0	-1,0	9,1	-9,2	OK
10,59	-35	34	0,750	0,555	0,375	3,2E-02	0,48	0,0	-0,4	4,5	-3,2	OK
10,89	16	72	0,750	0,555	0,380	3,2E-02	0,31	-0,1	0,0	-0,3	3,1	OK
11,19	71	104	0,750	0,555	0,380	3,2E-02	1,01	-0,7	0,0	-5,8	9,6	OK
11,49	132	136	0,750	0,555	0,380	3,2E-02	1,78	-1,3	0,0	-11,9	16,8	OK
11,80	197	174	0,750	0,555	0,380	3,2E-02	2,61	-2,1	0,0	-18,4	24,6	OK
12,10	266	213	0,750	0,555	0,380	3,2E-02	3,48	-2,8	0,0	-25,3	32,7	OK
12,40	337	254	0,750	0,555	0,380	3,2E-02	4,39	-3,6	0,0	-32,4	41,2	OK
12,70	413	261	0,750	0,555	0,380	3,2E-02	5,29	-4,5	0,0	-40,7	49,5	OK
13,01	494	264	0,750	0,558	0,379	3,2E-02	6,23	-5,4	0,0	-49,1	58,1	OK
13,31	578	298	0,750	0,561	0,377	3,2E-02	7,25	-6,3	0,0	-56,9	67,7	OK
13,61	666	334	0,750	0,561	0,377	3,2E-02	8,32	-7,2	0,0	-65,7	77,7	OK
13,91	757	317	0,750	0,561	0,377	3,2E-02	9,36	-8,3	0,0	-75,9	87,2	OK
14,22	855	288	0,750	0,561	0,377	3,2E-02	10,44	-9,5	0,0	-87,2	97,1	OK
14,52	958	295	0,750	0,561	0,377	3,2E-02	11,65	-10,7	0,0	-98,2	108,3	OK
14,82	689	-5	0,750	0,561	0,377	3,2E-02	8,00	-8,1	0,0	-74,9	73,7	OK

Komb B1: $\Sigma M_{B1} = M_{min.per + var} + M_{max.cyk}$

Snitt B2	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
x	ΣM_{B1}	N_{B1}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-18	-133	0,750	0,520	0,376	2,8E-02	-0,01	0,0	-0,5	-0,5	-5,1	OK
0,30	-72	-15	0,750	0,520	0,376	2,8E-02	0,93	0,0	-1,0	8,6	-9,3	OK
0,61	-140	-34	0,750	0,520	0,376	2,8E-02	1,80	0,0	-1,9	16,5	-18,1	OK
0,91	-206	-58	0,750	0,517	0,375	2,8E-02	2,68	0,0	-2,9	24,5	-27,0	OK
1,21	-270	-85	0,750	0,516	0,374	2,8E-02	3,50	0,0	-3,8	32,0	-35,5	OK
1,51	-324	-111	0,750	0,516	0,374	2,8E-02	4,18	0,0	-4,6	38,2	-42,7	OK
1,82	-372	-140	0,750	0,516	0,374	2,8E-02	4,78	0,0	-5,3	43,6	-49,4	OK
2,12	-420	-166	0,750	0,516	0,374	2,8E-02	5,38	0,0	-6,0	49,1	-55,9	OK
2,42	-461	-190	0,750	0,516	0,374	2,8E-02	5,89	0,0	-6,6	53,7	-61,6	OK
2,72	-497	-213	0,750	0,516	0,374	2,8E-02	6,33	0,0	-7,1	57,7	-66,5	OK
3,02	-530	-237	0,750	0,536	0,375	3,0E-02	6,28	0,0	-7,2	57,1	-66,8	OK
3,33	-560	-258	0,750	0,536	0,375	3,0E-02	6,61	0,0	-7,6	60,1	-70,7	OK
3,63	-587	-274	0,750	0,536	0,375	3,0E-02	6,92	0,0	-7,9	63,0	-74,2	OK
3,93	-611	-292	0,750	0,536	0,375	3,0E-02	7,19	0,0	-8,3	65,4	-77,3	OK
4,23	-627	-307	0,750	0,536	0,375	3,0E-02	7,37	0,0	-8,5	66,9	-79,5	OK
4,54	-642	-320	0,750	0,536	0,375	3,0E-02	7,53	0,0	-8,7	68,4	-81,5	OK
4,84	-655	-331	0,750	0,536	0,375	3,0E-02	7,68	0,0	-8,9	69,8	-83,3	OK
5,14	-658	-339	0,750	0,536	0,375	3,0E-02	7,71	0,0	-9,0	70,0	-83,9	OK
5,44	-661	-343	0,750	0,536	0,375	3,0E-02	7,74	0,0	-9,0	70,2	-84,3	OK
5,75	-664	-347	0,750	0,536	0,375	3,0E-02	7,77	0,0	-9,1	70,5	-84,7	OK
6,05	-657	-350	0,750	0,555	0,375	3,2E-02	7,18	0,0	-8,5	65,1	-79,1	OK
6,35	-648	-345	0,750	0,555	0,375	3,2E-02	7,08	0,0	-8,3	64,2	-78,1	OK
6,65	-641	-334	0,750	0,555	0,375	3,2E-02	7,01	0,0	-8,2	63,6	-77,0	OK
6,96	-630	-322	0,750	0,555	0,375	3,2E-02	6,90	0,0	-8,1	62,6	-75,6	OK
7,26	-612	-311	0,750	0,555	0,375	3,2E-02	6,71	0,0	-7,9	60,9	-73,4	OK
7,56	-592	-303	0,750	0,555	0,375	3,2E-02	6,49	0,0	-7,6	58,9	-71,1	OK
7,86	-572	-292	0,750	0,555	0,375	3,2E-02	6,27	0,0	-7,3	56,9	-68,7	OK
8,17	-544	-274	0,750	0,555	0,375	3,2E-02	5,97	0,0	-7,0	54,2	-65,2	OK
8,47	-511	-258	0,750	0,555	0,375	3,2E-02	5,61	0,0	-6,6	50,9	-61,3	OK
8,77	-479	-239	0,750	0,555	0,375	3,2E-02	5,26	0,0	-6,1	47,8	-57,4	OK
9,07	-440	-216	0,750	0,555	0,375	3,2E-02	4,84	0,0	-5,6	44,0	-52,6	OK
9,38	-396	-193	0,750	0,555	0,375	3,2E-02	4,36	0,0	-5,1	39,6	-47,3	OK
9,68	-352	-168	0,750	0,555	0,375	3,2E-02	3,88	0,0	-4,5	35,2	-42,0	OK
9,98	-302	-141	0,750	0,555	0,375	3,2E-02	3,33	0,0	-3,8	30,3	-35,9	OK
10,28	-246	-113	0,750	0,555	0,375	3,2E-02	2,72	0,0	-3,1	24,7	-29,3	OK
10,59	-190	-80	0,750	0,555	0,375	3,2E-02	2,12	0,0	-2,4	19,3	-22,5	OK
10,89	-132	-47	0,750	0,555	0,375	3,2E-02	1,48	0,0	-1,7	13,5	-15,5	OK
11,19	-69	-20	0,750	0,555	0,375	3,2E-02	0,78	0,0	-0,9	7,2	-8,0	OK
11,49	-6	19	0,750	0,555	0,375	3,2E-02	0,11	0,0	0,0	1,0	-0,3	OK
11,80	60	59	0,750	0,555	0,380	3,2E-02	0,81	-0,6	0,0	-5,5	7,6	OK
12,10	135	88	0,750	0,555	0,380	3,2E-02	1,73	-1,5	0,0	-13,2	16,2	OK
12,40	210	117	0,750	0,555	0,380	3,2E-02	2,66	-2,3	0,0	-21,0	24,9	OK
12,70	283	182	0,750	0,555	0,380	3,2E-02	3,63	-3,1	0,0	-27,8	34,0	OK
13,01	357	250	0,750	0,558	0,379	3,2E-02	4,61	-3,8	0,0	-34,4	43,3	OK
13,31	434	286	0,750	0,561	0,377	3,2E-02	5,54	-4,6	0,0	-41,5	52,0	OK
13,61	512	313	0,750	0,561	0,377	3,2E-02	6,50	-5,5	0,0	-49,4	60,9	OK
13,91	592	339	0,750	0,561	0,377	3,2E-02	7,48	-6,3	0,0	-57,6	70,0	OK
14,22	673	367	0,750	0,561	0,377	3,2E-02	8,47	-7,3	0,0	-65,8	79,2	OK
14,52	752	397	0,750	0,561	0,377	3,2E-02	9,44	-8,1	0,0	-73,8	88,2	OK
14,82	512	84	0,750	0,561	0,377	3,2E-02	6,10	-5,9	0,0	-53,9	56,4	OK

Komb B2: $\Sigma M_{B2} = M_{min.per + var} + M_{min.cyk}$

Snitt B2	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
x	ΣM_{B2}	N_{B2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-8	-75	0,750	0,520	0,376	2,8E-02	-0,04	0,0	-0,3	-0,6	-2,6	OK
0,30	-39	-15	0,750	0,520	0,376	2,8E-02	0,49	0,0	-0,5	4,5	-5,1	OK
0,61	-84	-35	0,750	0,520	0,376	2,8E-02	1,06	0,0	-1,2	9,6	-11,2	OK
0,91	-129	-61	0,750	0,517	0,375	2,8E-02	1,62	0,0	-1,9	14,8	-17,3	OK
1,21	-171	-90	0,750	0,516	0,374	2,8E-02	2,14	0,0	-2,5	19,5	-23,2	OK
1,51	-211	-120	0,750	0,516	0,374	2,8E-02	2,63	0,0	-3,1	23,8	-28,8	OK
1,82	-248	-150	0,750	0,516	0,374	2,8E-02	3,07	0,0	-3,6	27,8	-34,1	OK
2,12	-282	-178	0,750	0,516	0,374	2,8E-02	3,48	0,0	-4,2	31,5	-38,9	OK
2,42	-313	-204	0,750	0,516	0,374	2,8E-02	3,85	0,0	-4,6	34,8	-43,4	OK
2,72	-341	-228	0,750	0,516	0,374	2,8E-02	4,18	0,0	-5,1	37,8	-47,4	OK
3,02	-366	-250	0,750	0,536	0,375	3,0E-02	4,17	0,0	-5,1	37,6	-47,9	OK
3,33	-388	-270	0,750	0,536	0,375	3,0E-02	4,41	0,0	-5,4	39,8	-50,8	OK
3,63	-407	-287	0,750	0,536	0,375	3,0E-02	4,61	0,0	-5,7	41,6	-53,4	OK
3,93	-422	-302	0,750	0,536	0,375	3,0E-02	4,79	0,0	-5,9	43,2	-55,6	OK
4,23	-435	-301	0,750	0,536	0,375	3,0E-02	4,95	0,0	-6,1	44,7	-57,0	OK
4,54	-445	-296	0,750	0,536	0,375	3,0E-02	5,09	0,0	-6,2	45,9	-58,1	OK
4,84	-452	-302	0,750	0,536	0,375	3,0E-02	5,16	0,0	-6,3	46,6	-59,0	OK
5,14	-456	-305	0,750	0,536	0,375	3,0E-02	5,21	0,0	-6,3	47,0	-59,5	OK
5,44	-457	-306	0,750	0,536	0,375	3,0E-02	5,22	0,0	-6,4	47,2	-59,7	OK
5,75	-455	-304	0,750	0,536	0,375	3,0E-02	5,20	0,0	-6,3	47,0	-59,5	OK
6,05	-451	-300	0,750	0,555	0,375	3,2E-02	4,82	0,0	-5,9	43,5	-55,5	OK
6,35	-443	-294	0,750	0,555	0,375	3,2E-02	4,74	0,0	-5,8	42,8	-54,6	OK
6,65	-433	-285	0,750	0,555	0,375	3,2E-02	4,63	0,0	-5,7	41,8	-53,2	OK
6,96	-420	-274	0,750	0,555	0,375	3,2E-02	4,50	0,0	-5,5	40,6	-51,6	OK
7,26	-404	-261	0,750	0,555	0,375	3,2E-02	4,33	0,0	-5,3	39,1	-49,5	OK
7,56	-385	-245	0,750	0,555	0,375	3,2E-02	4,13	0,0	-5,0	37,3	-47,1	OK
7,86	-363	-227	0,750	0,555	0,375	3,2E-02	3,90	0,0	-4,7	35,3	-44,4	OK
8,17	-338	-207	0,750	0,555	0,375	3,2E-02	3,64	0,0	-4,4	32,9	-41,2	OK
8,47	-310	-184	0,750	0,555	0,375	3,2E-02	3,36	0,0	-4,0	30,4	-37,7	OK
8,77	-280	-159	0,750	0,555	0,375	3,2E-02	3,04	0,0	-3,6	27,5	-33,9	OK
9,07	-246	-133	0,750	0,555	0,375	3,2E-02	2,69	0,0	-3,2	24,3	-29,7	OK
9,38	-210	-104	0,750	0,555	0,375	3,2E-02	2,30	0,0	-2,7	20,9	-25,1	OK
9,68	-170	-73	0,750	0,555	0,375	3,2E-02	1,89	0,0	-2,2	17,2	-20,2	OK
9,98	-128	-41	0,750	0,555	0,375	3,2E-02	1,45	0,0	-1,6	13,2	-14,9	OK
10,28	-83	-6	0,750	0,555	0,375	3,2E-02	0,97	0,0	-1,0	9,0	-9,2	OK
10,59	-35	30	0,750	0,555	0,375	3,2E-02	0,47	0,0	-0,4	4,4	-3,2	OK
10,89	16	67	0,750	0,555	0,380	3,2E-02	0,31	-0,1	0,0	-0,5	3,1	OK
11,19	71	100	0,750	0,555	0,380	3,2E-02	1,01	-0,7	0,0	-5,9	9,6	OK
11,49	132	132	0,750	0,555	0,380	3,2E-02	1,78	-1,3	0,0	-12,0	16,8	OK
11,80	198	171	0,750	0,555	0,380	3,2E-02	2,61	-2,1	0,0	-18,6	24,6	OK
12,10	266	211	0,750	0,555	0,380	3,2E-02	3,49	-2,8	0,0	-25,4	32,7	OK
12,40	338	253	0,750	0,555	0,380	3,2E-02	4,40	-3,6	0,0	-32,5	41,3	OK
12,70	413	262	0,750	0,555	0,380	3,2E-02	5,30	-4,5	0,0	-40,8	49,6	OK
13,01	494	267	0,750	0,558	0,379	3,2E-02	6,24	-5,4	0,0	-49,1	58,3	OK
13,31	579	303	0,750	0,561	0,377	3,2E-02	7,26	-6,3	0,0	-56,9	67,8	OK
13,61	666	332	0,750	0,561	0,377	3,2E-02	8,32	-7,2	0,0	-65,7	77,7	OK
13,91	758	305	0,750	0,561	0,377	3,2E-02	9,34	-8,4	0,0	-76,2	87,0	OK
14,22	857	272	0,750	0,561	0,377	3,2E-02	10,44	-9,6	0,0	-87,6	97,0	OK
14,52	962	277	0,750	0,561	0,377	3,2E-02	11,67	-10,8	0,0	-99,0	108,4	OK
14,82	693	-8	0,750	0,561	0,377	3,2E-02	8,03	-8,2	0,0	-75,4	74,0	OK

Komb A, Jmf Komb A1 med A2

Snitt	Armering				Betong					
B2	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0,00	0,0	OK	2,5	OK	0,00	0,50	OK	0,02	0,51	OK
0,30	4,1	OK	4,1	OK	0,00	0,50	OK	0,05	0,51	OK
0,61	6,9	OK	6,9	OK	0,00	0,50	OK	0,09	0,52	OK
0,91	9,8	OK	9,7	OK	0,00	0,50	OK	0,13	0,54	OK
1,21	12,6	OK	12,3	OK	0,00	0,50	OK	0,17	0,55	OK
1,51	14,3	OK	13,9	OK	0,00	0,50	OK	0,21	0,56	OK
1,82	15,8	OK	15,3	OK	0,00	0,50	OK	0,24	0,57	OK
2,12	17,5	OK	17,0	OK	0,00	0,50	OK	0,27	0,58	OK
2,42	18,9	OK	18,2	OK	0,00	0,50	OK	0,29	0,59	OK
2,72	19,8	OK	19,1	OK	0,00	0,50	OK	0,32	0,60	OK
3,02	19,5	OK	19,0	OK	0,00	0,50	OK	0,32	0,60	OK
3,33	20,3	OK	19,8	OK	0,00	0,50	OK	0,34	0,61	OK
3,63	21,3	OK	20,8	OK	0,00	0,50	OK	0,35	0,61	OK
3,93	22,2	OK	21,8	OK	0,00	0,50	OK	0,37	0,62	OK
4,23	22,2	OK	22,5	OK	0,00	0,50	OK	0,38	0,62	OK
4,54	22,5	OK	23,5	OK	0,00	0,50	OK	0,39	0,62	OK
4,84	23,1	OK	24,3	OK	0,00	0,50	OK	0,40	0,63	OK
5,14	23,0	OK	24,3	OK	0,00	0,50	OK	0,40	0,63	OK
5,44	23,1	OK	24,6	OK	0,00	0,50	OK	0,40	0,63	OK
5,75	23,5	OK	25,3	OK	0,00	0,50	OK	0,40	0,63	OK
6,05	21,6	OK	23,6	OK	0,00	0,50	OK	0,38	0,62	OK
6,35	21,4	OK	23,5	OK	0,00	0,50	OK	0,37	0,62	OK
6,65	21,8	OK	23,8	OK	0,00	0,50	OK	0,37	0,61	OK
6,96	22,0	OK	24,0	OK	0,00	0,50	OK	0,36	0,61	OK
7,26	21,8	OK	23,9	OK	0,00	0,50	OK	0,35	0,61	OK
7,56	21,6	OK	23,9	OK	0,00	0,50	OK	0,34	0,60	OK
7,86	21,7	OK	24,3	OK	0,00	0,50	OK	0,33	0,59	OK
8,17	21,2	OK	24,0	OK	0,00	0,50	OK	0,31	0,59	OK
8,47	20,6	OK	23,6	OK	0,00	0,50	OK	0,29	0,58	OK
8,77	20,3	OK	23,5	OK	0,00	0,50	OK	0,27	0,57	OK
9,07	19,6	OK	22,9	OK	0,00	0,50	OK	0,25	0,56	OK
9,38	18,6	OK	22,2	OK	0,00	0,50	OK	0,23	0,55	OK
9,68	18,0	OK	21,8	OK	0,00	0,50	OK	0,20	0,54	OK
9,98	17,1	OK	21,1	OK	0,00	0,50	OK	0,17	0,53	OK
10,28	15,8	OK	20,0	OK	0,00	0,50	OK	0,14	0,52	OK
10,59	14,9	OK	19,3	OK	0,00	0,50	OK	0,11	0,51	OK
10,89	14,0	OK	18,5	OK	0,00	0,50	OK	0,07	0,50	OK
11,19	13,1	OK	17,6	OK	0,03	0,50	OK	0,04	0,50	OK
11,49	13,1	OK	17,1	OK	0,06	0,50	OK	0,00	0,50	OK
11,80	13,1	OK	17,0	OK	0,09	0,51	OK	0,00	0,50	OK
12,10	12,1	OK	16,5	OK	0,13	0,53	OK	0,00	0,50	OK
12,40	11,5	OK	16,4	OK	0,16	0,55	OK	0,00	0,50	OK
12,70	12,9	OK	15,6	OK	0,20	0,56	OK	0,00	0,50	OK
13,01	14,7	OK	15,0	OK	0,24	0,58	OK	0,00	0,50	OK
13,31	15,4	OK	15,9	OK	0,28	0,59	OK	0,00	0,50	OK
13,61	16,3	OK	16,8	OK	0,32	0,61	OK	0,00	0,50	OK
13,91	18,6	OK	17,1	OK	0,37	0,63	OK	0,00	0,50	OK
14,22	21,8	OK	17,9	OK	0,43	0,64	OK	0,00	0,50	OK
14,52	25,2	OK	20,2	OK	0,48	0,66	OK	0,00	0,50	OK
14,82	21,4	OK	17,6	OK	0,36	0,62	OK	0,00	0,50	OK

Komb B, Jmf Komb B1 med B2

Snitt	Armering				Betong					
B2	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0,00	0,0	OK	2,5	OK	0,00	0,50	OK	0,02	0,51	OK
0,30	4,1	OK	4,1	OK	0,00	0,50	OK	0,04	0,51	OK
0,61	6,9	OK	6,9	OK	0,00	0,50	OK	0,09	0,52	OK
0,91	9,8	OK	9,7	OK	0,00	0,50	OK	0,13	0,54	OK
1,21	12,6	OK	12,3	OK	0,00	0,50	OK	0,17	0,55	OK
1,51	14,3	OK	13,9	OK	0,00	0,50	OK	0,21	0,56	OK
1,82	15,8	OK	15,3	OK	0,00	0,50	OK	0,24	0,57	OK
2,12	17,5	OK	17,0	OK	0,00	0,50	OK	0,27	0,58	OK
2,42	18,9	OK	18,2	OK	0,00	0,50	OK	0,30	0,59	OK
2,72	19,8	OK	19,1	OK	0,00	0,50	OK	0,32	0,60	OK
3,02	19,5	OK	19,0	OK	0,00	0,50	OK	0,32	0,60	OK
3,33	20,3	OK	19,8	OK	0,00	0,50	OK	0,34	0,61	OK
3,63	21,3	OK	20,8	OK	0,00	0,50	OK	0,35	0,61	OK
3,93	22,2	OK	21,8	OK	0,00	0,50	OK	0,37	0,62	OK
4,23	22,2	OK	22,5	OK	0,00	0,50	OK	0,38	0,62	OK
4,54	22,5	OK	23,5	OK	0,00	0,50	OK	0,39	0,62	OK
4,84	23,1	OK	24,3	OK	0,00	0,50	OK	0,40	0,63	OK
5,14	23,0	OK	24,3	OK	0,00	0,50	OK	0,40	0,63	OK
5,44	23,1	OK	24,6	OK	0,00	0,50	OK	0,40	0,63	OK
5,75	23,5	OK	25,3	OK	0,00	0,50	OK	0,40	0,63	OK
6,05	21,6	OK	23,6	OK	0,00	0,50	OK	0,38	0,62	OK
6,35	21,4	OK	23,5	OK	0,00	0,50	OK	0,37	0,62	OK
6,65	21,8	OK	23,8	OK	0,00	0,50	OK	0,37	0,61	OK
6,96	22,0	OK	24,0	OK	0,00	0,50	OK	0,36	0,61	OK
7,26	21,8	OK	23,9	OK	0,00	0,50	OK	0,35	0,61	OK
7,56	21,6	OK	23,9	OK	0,00	0,50	OK	0,34	0,60	OK
7,86	21,7	OK	24,3	OK	0,00	0,50	OK	0,33	0,60	OK
8,17	21,2	OK	24,0	OK	0,00	0,50	OK	0,31	0,59	OK
8,47	20,6	OK	23,6	OK	0,00	0,50	OK	0,29	0,58	OK
8,77	20,3	OK	23,5	OK	0,00	0,50	OK	0,27	0,57	OK
9,07	19,6	OK	22,9	OK	0,00	0,50	OK	0,25	0,56	OK
9,38	18,6	OK	22,2	OK	0,00	0,50	OK	0,23	0,55	OK
9,68	18,0	OK	21,8	OK	0,00	0,50	OK	0,20	0,54	OK
9,98	17,1	OK	21,1	OK	0,00	0,50	OK	0,17	0,53	OK
10,28	15,8	OK	20,0	OK	0,00	0,50	OK	0,14	0,52	OK
10,59	14,9	OK	19,3	OK	0,00	0,50	OK	0,11	0,51	OK
10,89	14,0	OK	18,5	OK	0,00	0,50	OK	0,07	0,50	OK
11,19	13,1	OK	17,6	OK	0,03	0,50	OK	0,04	0,50	OK
11,49	13,1	OK	17,1	OK	0,06	0,50	OK	0,00	0,50	OK
11,80	13,1	OK	17,0	OK	0,09	0,51	OK	0,00	0,50	OK
12,10	12,1	OK	16,5	OK	0,13	0,53	OK	0,00	0,50	OK
12,40	11,5	OK	16,4	OK	0,16	0,55	OK	0,00	0,50	OK
12,70	12,9	OK	15,6	OK	0,20	0,56	OK	0,00	0,50	OK
13,01	14,7	OK	15,0	OK	0,24	0,58	OK	0,00	0,50	OK
13,31	15,4	OK	15,9	OK	0,28	0,59	OK	0,00	0,50	OK
13,61	16,3	OK	16,8	OK	0,32	0,61	OK	0,00	0,50	OK
13,91	18,6	OK	17,1	OK	0,37	0,63	OK	0,00	0,50	OK
14,22	21,8	OK	17,9	OK	0,43	0,65	OK	0,00	0,50	OK
14,52	25,2	OK	20,2	OK	0,48	0,66	OK	0,00	0,50	OK
14,82	21,4	OK	17,6	OK	0,36	0,62	OK	0,00	0,50	OK

Utmattning - Enkel kontroll

Moment med tillhörande normalkraft

Enligt SS-EN 1992-1-1, 6.8.

E_s =	200	GPa	f_{ck} =	35,5	MPa
E_{cm} =	34,0	GPa	$f_{cd.fat}$ =	22,4	MPa
φ =	1,6		f_{yd} =	410	MPa

Snitt

B5

x [m]	h [m]	b_w [m]	$A_{s.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s.uk}$ [cm^2]	d_{uk} [m]	$φ_{viktad}$	$α_{eff}$	$e´_N$ fr. ök [m]
0,00	0,750	0,600	32,7	0,690	33,7	0,690	0,96	11,0	0,375
0,30	0,750	0,600	32,7	0,690	33,7	0,690	0,96	11,0	0,375
0,61	0,750	0,600	32,7	0,690	33,7	0,690	0,96	11,0	0,375
0,91	0,750	0,600	30,3	0,690	33,7	0,690	0,96	11,0	0,375
1,21	0,750	0,600	29,8	0,690	33,7	0,690	0,96	11,0	0,375
1,51	0,750	0,600	29,8	0,690	33,7	0,690	0,96	11,0	0,375
1,82	0,750	0,600	29,8	0,690	33,7	0,690	0,96	11,0	0,375
2,12	0,750	0,600	29,8	0,690	33,7	0,690	0,96	11,0	0,375
2,42	0,750	0,600	29,8	0,690	33,7	0,690	0,96	11,0	0,375
2,72	0,750	0,600	29,8	0,690	33,7	0,690	0,96	11,0	0,375
3,02	0,750	0,600	39,0	0,690	43,0	0,690	0,96	11,0	0,375
3,33	0,750	0,600	39,0	0,690	43,0	0,690	0,96	11,0	0,375
3,63	0,750	0,600	39,0	0,690	43,0	0,690	0,96	11,0	0,375
3,93	0,750	0,600	39,0	0,690	43,0	0,690	0,96	11,0	0,375
4,23	0,750	0,600	39,0	0,690	43,0	0,690	0,96	11,0	0,375
4,54	0,750	0,600	39,0	0,690	43,0	0,690	0,96	11,0	0,375
4,84	0,750	0,600	39,0	0,690	43,0	0,690	0,96	11,0	0,375
5,14	0,750	0,600	39,0	0,690	43,0	0,690	0,96	11,0	0,375
5,44	0,750	0,600	39,0	0,690	43,0	0,690	0,96	11,0	0,375
5,75	0,750	0,600	39,0	0,690	43,0	0,690	0,96	11,0	0,375
6,05	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
6,35	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
6,65	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
6,96	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
7,26	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
7,56	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
7,86	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
8,17	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
8,47	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
8,77	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
9,07	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
9,38	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
9,68	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
9,98	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
10,28	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
10,59	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
10,89	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
11,19	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
11,49	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
11,80	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
12,10	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
12,40	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
12,70	0,750	0,600	48,2	0,690	52,2	0,690	0,96	11,0	0,375
13,01	0,750	0,600	50,4	0,690	52,2	0,690	0,96	11,0	0,375
13,31	0,750	0,600	53,5	0,690	52,2	0,690	0,96	11,0	0,375
13,61	0,750	0,600	53,5	0,690	52,2	0,690	0,96	11,0	0,375
13,91	0,750	0,600	53,5	0,690	52,2	0,690	0,96	11,0	0,375
14,22	0,750	0,600	53,5	0,690	52,2	0,690	0,96	11,0	0,375
14,52	0,750	0,600	53,5	0,690	52,2	0,690	0,96	11,0	0,375
14,82	0,750	0,600	53,5	0,690	52,2	0,690	0,96	11,0	0,375

Moment	Normalkraft	Spänningar
Negativ = drag ök	Negativ = tryck	Negativ = tryck
Positiv = drag uk	Positiv = drag	Positiv = drag

Snitt	Lastkombination (6.69) enligt SS-EN 1992-1-1											
B5	PERMANENTA				VARIABLA				CYKLISKA			
x	M_{max}	N	M_{min}	N	M_{max}	N	M_{min}	N	M_{max}	N	M_{min}	N
[m]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]
0,00	-10	-78	-10	-73	0	0	0	0	-8	-62	2	-34
0,30	-44	-13	-43	-15	0	0	0	0	-30	0	4	0
0,61	-90	-31	-88	-35	0	0	0	0	-52	1	4	0
0,91	-135	-54	-133	-62	0	0	0	0	-74	4	5	1
1,21	-178	-82	-177	-92	0	0	0	0	-94	8	6	2
1,51	-219	-111	-218	-122	0	0	0	0	-107	13	7	2
1,82	-258	-140	-256	-152	0	0	0	0	-116	14	9	2
2,12	-293	-168	-292	-180	0	0	0	0	-129	16	10	3
2,42	-326	-195	-324	-207	0	0	0	0	-138	19	11	3
2,72	-355	-219	-354	-231	0	0	0	0	-144	20	13	3
3,02	-381	-242	-380	-253	0	0	0	0	-152	17	14	3
3,33	-404	-262	-403	-273	0	0	0	0	-158	17	15	3
3,63	-424	-280	-423	-290	0	0	0	0	-165	18	16	3
3,93	-441	-296	-440	-305	0	0	0	0	-172	15	18	3
4,23	-455	-309	-454	-317	0	0	0	0	-173	12	19	16
4,54	-466	-320	-466	-328	0	0	0	0	-177	9	21	32
4,84	-474	-328	-474	-335	0	0	0	0	-182	6	22	34
5,14	-480	-335	-479	-341	0	0	0	0	-180	4	23	36
5,44	-482	-338	-482	-344	0	0	0	0	-180	2	25	39
5,75	-482	-340	-482	-345	0	0	0	0	-183	-1	26	41
6,05	-479	-338	-479	-343	0	0	0	0	-179	-5	28	43
6,35	-473	-335	-473	-339	0	0	0	0	-176	-5	29	45
6,65	-464	-328	-464	-332	0	0	0	0	-178	0	31	48
6,96	-452	-320	-452	-323	0	0	0	0	-178	3	32	50
7,26	-438	-309	-438	-312	0	0	0	0	-175	2	34	52
7,56	-420	-295	-420	-299	0	0	0	0	-173	-3	35	54
7,86	-400	-279	-400	-283	0	0	0	0	-173	-8	37	56
8,17	-377	-261	-376	-265	0	0	0	0	-168	-8	39	59
8,47	-350	-241	-350	-244	0	0	0	0	-162	-13	40	61
8,77	-321	-218	-321	-222	0	0	0	0	-159	-17	42	63
9,07	-290	-193	-289	-197	0	0	0	0	-151	-17	43	65
9,38	-255	-167	-255	-170	0	0	0	0	-142	-21	45	67
9,68	-217	-138	-217	-142	0	0	0	0	-136	-25	47	69
9,98	-177	-107	-176	-111	0	0	0	0	-126	-28	48	71
10,28	-133	-75	-133	-79	0	0	0	0	-114	-33	50	73
10,59	-87	-41	-86	-45	0	0	0	0	-105	-34	52	76
10,89	-37	-5	-37	-10	0	0	0	0	-96	-37	53	78
11,19	15	31	16	27	0	0	0	0	-85	-46	56	73
11,49	70	69	71	65	0	0	0	0	-77	-46	61	67
11,80	129	108	129	105	0	0	0	0	-70	-45	69	66
12,10	190	148	190	145	0	0	0	0	-56	-57	76	66
12,40	253	187	254	186	0	0	0	0	-45	-69	84	67
12,70	320	226	321	226	0	0	0	0	-38	-45	93	35
13,01	389	264	390	266	0	0	0	0	-33	-16	105	-1
13,31	460	299	461	304	0	0	0	0	-27	-18	119	-3
13,61	533	336	533	334	0	0	0	0	-21	-22	133	-4
13,91	606	370	607	358	0	0	0	0	-15	-19	152	-55
14,22	680	394	682	379	0	0	0	0	-9	-12	176	-109
14,52	753	409	757	392	0	0	0	0	-5	4	207	-118
14,82	526	114	530	111	0	0	0	0	-18	-27	165	-122

0,1

Komb A1: $\Sigma M_{A1} = M_{max.per + var} + M_{max.cyk}$

Snitt

B5

Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)												
x	**ΣM_{A1}**	**N_{A1}**	**x_{tryck}**	**A_{ekv}**	**$x_{tp.ekv}$**	**I_{ekv}**	**$\sigma_{c.neutral}$**	**$\sigma_{c.ök}$**	**$\sigma_{c.uk}$**	**$\sigma_{s.ök}$**	**$\sigma_{s.uk}$**	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-19	-139	0,750	0,520	0,376	2,8E-02	-0,01	0,0	-0,5	-0,6	-5,3	OK
0,30	-74	-13	0,750	0,520	0,376	2,8E-02	0,96	0,0	-1,0	8,8	-9,4	OK
0,61	-142	-29	0,750	0,520	0,376	2,8E-02	1,84	0,0	-2,0	16,9	-18,2	OK
0,91	-209	-50	0,750	0,517	0,375	2,8E-02	2,73	0,0	-2,9	25,0	-27,1	OK
1,21	-273	-74	0,750	0,516	0,374	2,8E-02	3,56	0,0	-3,8	32,6	-35,6	OK
1,51	-326	-99	0,750	0,516	0,374	2,8E-02	4,23	0,0	-4,6	38,7	-42,8	OK
1,82	-374	-126	0,750	0,516	0,374	2,8E-02	4,84	0,0	-5,3	44,2	-49,4	OK
2,12	-422	-152	0,750	0,516	0,374	2,8E-02	5,43	0,0	-6,0	49,6	-55,9	OK
2,42	-464	-176	0,750	0,516	0,374	2,8E-02	5,95	0,0	-6,6	54,3	-61,5	OK
2,72	-499	-199	0,750	0,516	0,374	2,8E-02	6,38	0,0	-7,1	58,2	-66,4	OK
3,02	-532	-224	0,750	0,536	0,375	3,0E-02	6,33	0,0	-7,2	57,6	-66,8	OK
3,33	-561	-245	0,750	0,536	0,375	3,0E-02	6,65	0,0	-7,6	60,6	-70,6	OK
3,63	-588	-262	0,750	0,536	0,375	3,0E-02	6,97	0,0	-7,9	63,4	-74,1	OK
3,93	-612	-281	0,750	0,536	0,375	3,0E-02	7,23	0,0	-8,3	65,8	-77,3	OK
4,23	-628	-297	0,750	0,536	0,375	3,0E-02	7,40	0,0	-8,5	67,3	-79,5	OK
4,54	-643	-310	0,750	0,536	0,375	3,0E-02	7,57	0,0	-8,7	68,8	-81,5	OK
4,84	-657	-323	0,750	0,536	0,375	3,0E-02	7,72	0,0	-8,9	70,1	-83,3	OK
5,14	-660	-331	0,750	0,536	0,375	3,0E-02	7,74	0,0	-9,0	70,3	-83,9	OK
5,44	-662	-336	0,750	0,536	0,375	3,0E-02	7,77	0,0	-9,0	70,5	-84,3	OK
5,75	-665	-341	0,750	0,536	0,375	3,0E-02	7,80	0,0	-9,1	70,8	-84,7	OK
6,05	-658	-344	0,750	0,555	0,375	3,2E-02	7,20	0,0	-8,5	65,3	-79,1	OK
6,35	-649	-340	0,750	0,555	0,375	3,2E-02	7,10	0,0	-8,3	64,4	-78,1	OK
6,65	-642	-329	0,750	0,555	0,375	3,2E-02	7,03	0,0	-8,2	63,8	-77,0	OK
6,96	-631	-317	0,750	0,555	0,375	3,2E-02	6,92	0,0	-8,1	62,8	-75,6	OK
7,26	-613	-306	0,750	0,555	0,375	3,2E-02	6,73	0,0	-7,9	61,1	-73,5	OK
7,56	-593	-298	0,750	0,555	0,375	3,2E-02	6,51	0,0	-7,6	59,1	-71,1	OK
7,86	-573	-287	0,750	0,555	0,375	3,2E-02	6,29	0,0	-7,3	57,1	-68,7	OK
8,17	-545	-269	0,750	0,555	0,375	3,2E-02	5,99	0,0	-7,0	54,4	-65,2	OK
8,47	-512	-253	0,750	0,555	0,375	3,2E-02	5,63	0,0	-6,6	51,1	-61,3	OK
8,77	-480	-235	0,750	0,555	0,375	3,2E-02	5,28	0,0	-6,1	48,0	-57,4	OK
9,07	-441	-211	0,750	0,555	0,375	3,2E-02	4,86	0,0	-5,6	44,2	-52,6	OK
9,38	-397	-188	0,750	0,555	0,375	3,2E-02	4,38	0,0	-5,1	39,8	-47,3	OK
9,68	-353	-163	0,750	0,555	0,375	3,2E-02	3,90	0,0	-4,5	35,4	-42,0	OK
9,98	-303	-135	0,750	0,555	0,375	3,2E-02	3,35	0,0	-3,9	30,5	-36,0	OK
10,28	-247	-108	0,750	0,555	0,375	3,2E-02	2,74	0,0	-3,1	24,9	-29,3	OK
10,59	-191	-75	0,750	0,555	0,375	3,2E-02	2,14	0,0	-2,4	19,5	-22,5	OK
10,89	-133	-42	0,750	0,555	0,375	3,2E-02	1,51	0,0	-1,7	13,8	-15,5	OK
11,19	-70	-15	0,750	0,555	0,375	3,2E-02	0,80	0,0	-0,9	7,4	-8,0	OK
11,49	-7	24	0,750	0,555	0,375	3,2E-02	0,13	0,0	0,0	1,2	-0,3	OK
11,80	59	63	0,750	0,555	0,380	3,2E-02	0,80	-0,6	0,0	-5,3	7,6	OK
12,10	134	90	0,750	0,555	0,380	3,2E-02	1,73	-1,4	0,0	-13,1	16,2	OK
12,40	209	118	0,750	0,555	0,380	3,2E-02	2,65	-2,3	0,0	-20,9	24,8	OK
12,70	282	181	0,750	0,555	0,380	3,2E-02	3,62	-3,1	0,0	-27,7	33,9	OK
13,01	356	248	0,750	0,558	0,379	3,2E-02	4,60	-3,8	0,0	-34,3	43,1	OK
13,31	433	281	0,750	0,561	0,377	3,2E-02	5,53	-4,6	0,0	-41,5	51,8	OK
13,61	512	314	0,750	0,561	0,377	3,2E-02	6,50	-5,4	0,0	-49,3	60,9	OK
13,91	591	351	0,750	0,561	0,377	3,2E-02	7,49	-6,3	0,0	-57,3	70,1	OK
14,22	671	382	0,750	0,561	0,377	3,2E-02	8,47	-7,2	0,0	-65,3	79,2	OK
14,52	748	414	0,750	0,561	0,377	3,2E-02	9,42	-8,1	0,0	-73,1	88,1	OK
14,82	508	86	0,750	0,561	0,377	3,2E-02	6,06	-5,8	0,0	-53,5	56,1	OK

Komb A2: $\Sigma M_{A2} = M_{max.per + var} + M_{min.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
B5												
x	ΣM_{A2}	N_{A2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-8	-112	0,750	0,520	0,376	2,8E-02	-0,10	0,0	-0,3	-1,3	-3,4	OK
0,30	-40	-13	0,750	0,520	0,376	2,8E-02	0,51	0,0	-0,6	4,6	-5,2	OK
0,61	-86	-30	0,750	0,520	0,376	2,8E-02	1,09	0,0	-1,2	9,9	-11,3	OK
0,91	-130	-53	0,750	0,517	0,375	2,8E-02	1,66	0,0	-1,9	15,1	-17,4	OK
1,21	-172	-80	0,750	0,516	0,374	2,8E-02	2,18	0,0	-2,5	19,9	-23,2	OK
1,51	-212	-109	0,750	0,516	0,374	2,8E-02	2,67	0,0	-3,1	24,2	-28,8	OK
1,82	-249	-138	0,750	0,516	0,374	2,8E-02	3,11	0,0	-3,6	28,3	-34,0	OK
2,12	-283	-166	0,750	0,516	0,374	2,8E-02	3,52	0,0	-4,2	31,9	-38,8	OK
2,42	-314	-192	0,750	0,516	0,374	2,8E-02	3,89	0,0	-4,6	35,2	-43,3	OK
2,72	-342	-217	0,750	0,516	0,374	2,8E-02	4,22	0,0	-5,0	38,2	-47,3	OK
3,02	-367	-239	0,750	0,536	0,375	3,0E-02	4,20	0,0	-5,1	38,0	-47,8	OK
3,33	-389	-259	0,750	0,536	0,375	3,0E-02	4,44	0,0	-5,4	40,1	-50,7	OK
3,63	-407	-277	0,750	0,536	0,375	3,0E-02	4,64	0,0	-5,7	41,9	-53,3	OK
3,93	-423	-293	0,750	0,536	0,375	3,0E-02	4,81	0,0	-5,9	43,4	-55,4	OK
4,23	-436	-292	0,750	0,536	0,375	3,0E-02	4,98	0,0	-6,1	44,9	-56,9	OK
4,54	-446	-288	0,750	0,536	0,375	3,0E-02	5,11	0,0	-6,2	46,2	-58,0	OK
4,84	-452	-295	0,750	0,536	0,375	3,0E-02	5,18	0,0	-6,3	46,8	-58,9	OK
5,14	-456	-298	0,750	0,536	0,375	3,0E-02	5,23	0,0	-6,3	47,2	-59,4	OK
5,44	-458	-300	0,750	0,536	0,375	3,0E-02	5,24	0,0	-6,4	47,3	-59,6	OK
5,75	-456	-299	0,750	0,536	0,375	3,0E-02	5,22	0,0	-6,3	47,1	-59,4	OK
6,05	-451	-295	0,750	0,555	0,375	3,2E-02	4,83	0,0	-5,9	43,6	-55,4	OK
6,35	-444	-289	0,750	0,555	0,375	3,2E-02	4,75	0,0	-5,8	42,9	-54,5	OK
6,65	-433	-281	0,750	0,555	0,375	3,2E-02	4,64	0,0	-5,7	41,9	-53,2	OK
6,96	-420	-270	0,750	0,555	0,375	3,2E-02	4,50	0,0	-5,5	40,7	-51,5	OK
7,26	-404	-257	0,750	0,555	0,375	3,2E-02	4,34	0,0	-5,3	39,2	-49,5	OK
7,56	-385	-241	0,750	0,555	0,375	3,2E-02	4,14	0,0	-5,0	37,4	-47,1	OK
7,86	-363	-223	0,750	0,555	0,375	3,2E-02	3,91	0,0	-4,7	35,4	-44,3	OK
8,17	-338	-203	0,750	0,555	0,375	3,2E-02	3,65	0,0	-4,4	33,0	-41,2	OK
8,47	-310	-180	0,750	0,555	0,375	3,2E-02	3,36	0,0	-4,0	30,4	-37,7	OK
8,77	-280	-155	0,750	0,555	0,375	3,2E-02	3,04	0,0	-3,6	27,6	-33,8	OK
9,07	-246	-128	0,750	0,555	0,375	3,2E-02	2,70	0,0	-3,2	24,4	-29,6	OK
9,38	-210	-99	0,750	0,555	0,375	3,2E-02	2,31	0,0	-2,7	21,0	-25,0	OK
9,68	-171	-69	0,750	0,555	0,375	3,2E-02	1,90	0,0	-2,2	17,3	-20,1	OK
9,98	-128	-36	0,750	0,555	0,375	3,2E-02	1,46	0,0	-1,6	13,3	-14,8	OK
10,28	-83	-1	0,750	0,555	0,375	3,2E-02	0,98	0,0	-1,0	9,1	-9,2	OK
10,59	-35	35	0,750	0,555	0,375	3,2E-02	0,48	0,0	-0,4	4,5	-3,2	OK
10,89	16	72	0,750	0,555	0,380	3,2E-02	0,31	-0,1	0,0	-0,3	3,1	OK
11,19	71	105	0,750	0,555	0,380	3,2E-02	1,01	-0,7	0,0	-5,8	9,7	OK
11,49	132	136	0,750	0,555	0,380	3,2E-02	1,78	-1,3	0,0	-11,9	16,8	OK
11,80	197	174	0,750	0,555	0,380	3,2E-02	2,62	-2,1	0,0	-18,4	24,6	OK
12,10	266	213	0,750	0,555	0,380	3,2E-02	3,49	-2,8	0,0	-25,3	32,8	OK
12,40	337	254	0,750	0,555	0,380	3,2E-02	4,40	-3,6	0,0	-32,4	41,3	OK
12,70	413	261	0,750	0,555	0,380	3,2E-02	5,30	-4,5	0,0	-40,7	49,6	OK
13,01	494	263	0,750	0,558	0,379	3,2E-02	6,23	-5,4	0,0	-49,2	58,2	OK
13,31	579	296	0,750	0,561	0,377	3,2E-02	7,25	-6,3	0,0	-57,0	67,7	OK
13,61	666	332	0,750	0,561	0,377	3,2E-02	8,33	-7,2	0,0	-65,8	77,8	OK
13,91	758	315	0,750	0,561	0,377	3,2E-02	9,36	-8,3	0,0	-76,1	87,3	OK
14,22	856	284	0,750	0,561	0,377	3,2E-02	10,45	-9,6	0,0	-87,4	97,2	OK
14,52	960	291	0,750	0,561	0,377	3,2E-02	11,67	-10,8	0,0	-98,5	108,4	OK
14,82	691	-8	0,750	0,561	0,377	3,2E-02	8,01	-8,1	0,0	-75,2	73,8	OK

Komb B1: $\Sigma M_{B1} = M_{min.per + var} + M_{max.cyk}$

Snitt B5	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
x [m]	ΣM_{B1} [kNm]	N_{B1} [kN]	x_{tryck} [m]	A_{ekv} [m²]	$x_{tp.ekv}$ [m]	I_{ekv} [m⁴]	$\sigma_{c.neutral}$ [MPa]	$\sigma_{c.ök}$ [MPa]	$\sigma_{c.uk}$ [MPa]	$\sigma_{s.ök}$ [MPa]	$\sigma_{s.uk}$ [MPa]	Kontroll $\sigma_s \leq f_{yd}$
0,00	-19	-134	0,750	0,520	0,376	2,8E-02	-0,01	0,0	-0,5	-0,5	-5,2	OK
0,30	-72	-15	0,750	0,520	0,376	2,8E-02	0,94	0,0	-1,0	8,6	-9,3	OK
0,61	-140	-34	0,750	0,520	0,376	2,8E-02	1,81	0,0	-2,0	16,6	-18,1	OK
0,91	-207	-57	0,750	0,517	0,375	2,8E-02	2,69	0,0	-2,9	24,6	-27,0	OK
1,21	-271	-83	0,750	0,516	0,374	2,8E-02	3,52	0,0	-3,8	32,2	-35,6	OK
1,51	-325	-110	0,750	0,516	0,374	2,8E-02	4,19	0,0	-4,6	38,3	-42,8	OK
1,82	-373	-138	0,750	0,516	0,374	2,8E-02	4,79	0,0	-5,3	43,8	-49,4	OK
2,12	-421	-164	0,750	0,516	0,374	2,8E-02	5,39	0,0	-6,0	49,2	-56,0	OK
2,42	-462	-188	0,750	0,516	0,374	2,8E-02	5,91	0,0	-6,6	53,9	-61,7	OK
2,72	-498	-211	0,750	0,516	0,374	2,8E-02	6,34	0,0	-7,1	57,8	-66,5	OK
3,02	-531	-235	0,750	0,536	0,375	3,0E-02	6,29	0,0	-7,2	57,3	-66,9	OK
3,33	-560	-256	0,750	0,536	0,375	3,0E-02	6,62	0,0	-7,6	60,3	-70,7	OK
3,63	-588	-272	0,750	0,536	0,375	3,0E-02	6,94	0,0	-8,0	63,1	-74,2	OK
3,93	-612	-290	0,750	0,536	0,375	3,0E-02	7,21	0,0	-8,3	65,5	-77,4	OK
4,23	-627	-306	0,750	0,536	0,375	3,0E-02	7,38	0,0	-8,5	67,1	-79,6	OK
4,54	-643	-318	0,750	0,536	0,375	3,0E-02	7,55	0,0	-8,7	68,6	-81,6	OK
4,84	-656	-330	0,750	0,536	0,375	3,0E-02	7,70	0,0	-8,9	69,9	-83,4	OK
5,14	-659	-337	0,750	0,536	0,375	3,0E-02	7,72	0,0	-9,0	70,1	-83,9	OK
5,44	-662	-342	0,750	0,536	0,375	3,0E-02	7,75	0,0	-9,0	70,4	-84,4	OK
5,75	-665	-346	0,750	0,536	0,375	3,0E-02	7,78	0,0	-9,1	70,7	-84,8	OK
6,05	-658	-348	0,750	0,555	0,375	3,2E-02	7,19	0,0	-8,5	65,2	-79,2	OK
6,35	-649	-344	0,750	0,555	0,375	3,2E-02	7,09	0,0	-8,4	64,3	-78,1	OK
6,65	-642	-333	0,750	0,555	0,375	3,2E-02	7,03	0,0	-8,2	63,7	-77,1	OK
6,96	-631	-321	0,750	0,555	0,375	3,2E-02	6,92	0,0	-8,1	62,8	-75,7	OK
7,26	-613	-310	0,750	0,555	0,375	3,2E-02	6,73	0,0	-7,9	61,0	-73,5	OK
7,56	-593	-302	0,750	0,555	0,375	3,2E-02	6,50	0,0	-7,6	59,0	-71,1	OK
7,86	-573	-291	0,750	0,555	0,375	3,2E-02	6,29	0,0	-7,4	57,1	-68,7	OK
8,17	-545	-273	0,750	0,555	0,375	3,2E-02	5,98	0,0	-7,0	54,3	-65,3	OK
8,47	-512	-257	0,750	0,555	0,375	3,2E-02	5,63	0,0	-6,6	51,1	-61,4	OK
8,77	-480	-238	0,750	0,555	0,375	3,2E-02	5,28	0,0	-6,1	47,9	-57,5	OK
9,07	-441	-214	0,750	0,555	0,375	3,2E-02	4,85	0,0	-5,6	44,1	-52,7	OK
9,38	-397	-192	0,750	0,555	0,375	3,2E-02	4,37	0,0	-5,1	39,7	-47,4	OK
9,68	-352	-167	0,750	0,555	0,375	3,2E-02	3,89	0,0	-4,5	35,3	-42,1	OK
9,98	-302	-140	0,750	0,555	0,375	3,2E-02	3,34	0,0	-3,9	30,4	-36,0	OK
10,28	-247	-112	0,750	0,555	0,375	3,2E-02	2,73	0,0	-3,1	24,8	-29,3	OK
10,59	-191	-79	0,750	0,555	0,375	3,2E-02	2,13	0,0	-2,4	19,4	-22,6	OK
10,89	-133	-47	0,750	0,555	0,375	3,2E-02	1,49	0,0	-1,7	13,6	-15,5	OK
11,19	-69	-19	0,750	0,555	0,375	3,2E-02	0,79	0,0	-0,9	7,2	-8,0	OK
11,49	-7	20	0,750	0,555	0,375	3,2E-02	0,11	0,0	0,0	1,1	-0,3	OK
11,80	59	59	0,750	0,555	0,380	3,2E-02	0,80	-0,6	0,0	-5,4	7,6	OK
12,10	134	88	0,750	0,555	0,380	3,2E-02	1,73	-1,5	0,0	-13,2	16,2	OK
12,40	210	117	0,750	0,555	0,380	3,2E-02	2,66	-2,3	0,0	-21,0	24,8	OK
12,70	282	182	0,750	0,555	0,380	3,2E-02	3,63	-3,1	0,0	-27,8	33,9	OK
13,01	357	251	0,750	0,558	0,379	3,2E-02	4,61	-3,8	0,0	-34,3	43,2	OK
13,31	433	286	0,750	0,561	0,377	3,2E-02	5,54	-4,6	0,0	-41,4	51,9	OK
13,61	512	313	0,750	0,561	0,377	3,2E-02	6,50	-5,5	0,0	-49,4	60,9	OK
13,91	592	339	0,750	0,561	0,377	3,2E-02	7,47	-6,3	0,0	-57,5	69,9	OK
14,22	673	366	0,750	0,561	0,377	3,2E-02	8,46	-7,2	0,0	-65,8	79,1	OK
14,52	752	397	0,750	0,561	0,377	3,2E-02	9,44	-8,1	0,0	-73,8	88,2	OK
14,82	512	83	0,750	0,561	0,377	3,2E-02	6,09	-5,9	0,0	-53,9	56,4	OK

Komb B2: $\Sigma M_{B2} = M_{min.per + var} + M_{min.cyk}$

Snitt B5	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
x	ΣM_{B2}	N_{B2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-8	-107	0,750	0,520	0,376	2,8E-02	-0,10	0,0	-0,3	-1,2	-3,3	OK
0,30	-39	-15	0,750	0,520	0,376	2,8E-02	0,49	0,0	-0,5	4,5	-5,1	OK
0,61	-84	-35	0,750	0,520	0,376	2,8E-02	1,06	0,0	-1,2	9,6	-11,2	OK
0,91	-129	-61	0,750	0,517	0,375	2,8E-02	1,62	0,0	-1,9	14,8	-17,3	OK
1,21	-171	-90	0,750	0,516	0,374	2,8E-02	2,14	0,0	-2,5	19,5	-23,2	OK
1,51	-211	-120	0,750	0,516	0,374	2,8E-02	2,63	0,0	-3,1	23,8	-28,8	OK
1,82	-248	-150	0,750	0,516	0,374	2,8E-02	3,07	0,0	-3,6	27,8	-34,1	OK
2,12	-282	-178	0,750	0,516	0,374	2,8E-02	3,48	0,0	-4,2	31,5	-38,9	OK
2,42	-313	-204	0,750	0,516	0,374	2,8E-02	3,85	0,0	-4,6	34,8	-43,4	OK
2,72	-341	-228	0,750	0,516	0,374	2,8E-02	4,18	0,0	-5,1	37,8	-47,4	OK
3,02	-366	-250	0,750	0,536	0,375	3,0E-02	4,17	0,0	-5,1	37,6	-47,9	OK
3,33	-388	-270	0,750	0,536	0,375	3,0E-02	4,41	0,0	-5,4	39,8	-50,8	OK
3,63	-407	-287	0,750	0,536	0,375	3,0E-02	4,62	0,0	-5,7	41,6	-53,4	OK
3,93	-422	-302	0,750	0,536	0,375	3,0E-02	4,79	0,0	-5,9	43,2	-55,5	OK
4,23	-435	-301	0,750	0,536	0,375	3,0E-02	4,95	0,0	-6,1	44,7	-57,0	OK
4,54	-445	-296	0,750	0,536	0,375	3,0E-02	5,09	0,0	-6,2	46,0	-58,1	OK
4,84	-452	-301	0,750	0,536	0,375	3,0E-02	5,16	0,0	-6,3	46,6	-59,0	OK
5,14	-456	-305	0,750	0,536	0,375	3,0E-02	5,21	0,0	-6,3	47,1	-59,5	OK
5,44	-457	-305	0,750	0,536	0,375	3,0E-02	5,22	0,0	-6,4	47,2	-59,7	OK
5,75	-455	-304	0,750	0,536	0,375	3,0E-02	5,20	0,0	-6,3	47,0	-59,4	OK
6,05	-451	-300	0,750	0,555	0,375	3,2E-02	4,82	0,0	-5,9	43,5	-55,5	OK
6,35	-443	-293	0,750	0,555	0,375	3,2E-02	4,74	0,0	-5,8	42,8	-54,5	OK
6,65	-433	-285	0,750	0,555	0,375	3,2E-02	4,63	0,0	-5,7	41,8	-53,2	OK
6,96	-420	-274	0,750	0,555	0,375	3,2E-02	4,50	0,0	-5,5	40,6	-51,6	OK
7,26	-404	-260	0,750	0,555	0,375	3,2E-02	4,33	0,0	-5,3	39,1	-49,5	OK
7,56	-385	-244	0,750	0,555	0,375	3,2E-02	4,13	0,0	-5,0	37,3	-47,1	OK
7,86	-363	-226	0,750	0,555	0,375	3,2E-02	3,90	0,0	-4,7	35,3	-44,3	OK
8,17	-338	-206	0,750	0,555	0,375	3,2E-02	3,64	0,0	-4,4	33,0	-41,2	OK
8,47	-310	-183	0,750	0,555	0,375	3,2E-02	3,36	0,0	-4,0	30,4	-37,7	OK
8,77	-280	-159	0,750	0,555	0,375	3,2E-02	3,04	0,0	-3,6	27,5	-33,9	OK
9,07	-246	-132	0,750	0,555	0,375	3,2E-02	2,69	0,0	-3,2	24,4	-29,7	OK
9,38	-210	-103	0,750	0,555	0,375	3,2E-02	2,31	0,0	-2,7	20,9	-25,1	OK
9,68	-170	-73	0,750	0,555	0,375	3,2E-02	1,89	0,0	-2,2	17,2	-20,2	OK
9,98	-128	-40	0,750	0,555	0,375	3,2E-02	1,45	0,0	-1,6	13,2	-14,9	OK
10,28	-83	-6	0,750	0,555	0,375	3,2E-02	0,97	0,0	-1,0	9,0	-9,2	OK
10,59	-35	30	0,750	0,555	0,375	3,2E-02	0,47	0,0	-0,4	4,4	-3,2	OK
10,89	16	68	0,750	0,555	0,380	3,2E-02	0,31	-0,1	0,0	-0,5	3,1	OK
11,19	71	100	0,750	0,555	0,380	3,2E-02	1,01	-0,7	0,0	-5,9	9,6	OK
11,49	132	132	0,750	0,555	0,380	3,2E-02	1,78	-1,3	0,0	-12,0	16,8	OK
11,80	198	171	0,750	0,555	0,380	3,2E-02	2,62	-2,1	0,0	-18,6	24,6	OK
12,10	266	211	0,750	0,555	0,380	3,2E-02	3,49	-2,8	0,0	-25,4	32,8	OK
12,40	338	253	0,750	0,555	0,380	3,2E-02	4,40	-3,6	0,0	-32,5	41,3	OK
12,70	414	261	0,750	0,555	0,380	3,2E-02	5,30	-4,5	0,0	-40,8	49,6	OK
13,01	495	266	0,750	0,558	0,379	3,2E-02	6,24	-5,4	0,0	-49,2	58,3	OK
13,31	579	302	0,750	0,561	0,377	3,2E-02	7,27	-6,3	0,0	-56,9	67,9	OK
13,61	666	331	0,750	0,561	0,377	3,2E-02	8,33	-7,2	0,0	-65,8	77,8	OK
13,91	758	303	0,750	0,561	0,377	3,2E-02	9,35	-8,4	0,0	-76,4	87,1	OK
14,22	858	269	0,750	0,561	0,377	3,2E-02	10,45	-9,6	0,0	-87,8	97,1	OK
14,52	964	274	0,750	0,561	0,377	3,2E-02	11,68	-10,8	0,0	-99,2	108,5	OK
14,82	694	-11	0,750	0,561	0,377	3,2E-02	8,05	-8,2	0,0	-75,6	74,1	OK

Komb A, Jmf Komb A1 med A2

Snitt	Armering				Betong					
B5	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0,00	0,7	OK	1,9	OK	0,00	0,50	OK	0,02	0,51	OK
0,30	4,2	OK	4,2	OK	0,00	0,50	OK	0,05	0,51	OK
0,61	6,9	OK	7,0	OK	0,00	0,50	OK	0,09	0,52	OK
0,91	9,9	OK	9,7	OK	0,00	0,50	OK	0,13	0,54	OK
1,21	12,7	OK	12,4	OK	0,00	0,50	OK	0,17	0,55	OK
1,51	14,5	OK	14,0	OK	0,00	0,50	OK	0,21	0,56	OK
1,82	15,9	OK	15,4	OK	0,00	0,50	OK	0,24	0,57	OK
2,12	17,7	OK	17,1	OK	0,00	0,50	OK	0,27	0,58	OK
2,42	19,0	OK	18,3	OK	0,00	0,50	OK	0,30	0,59	OK
2,72	20,0	OK	19,2	OK	0,00	0,50	OK	0,32	0,60	OK
3,02	19,7	OK	19,0	OK	0,00	0,50	OK	0,32	0,60	OK
3,33	20,5	OK	19,9	OK	0,00	0,50	OK	0,34	0,61	OK
3,63	21,5	OK	20,9	OK	0,00	0,50	OK	0,35	0,61	OK
3,93	22,4	OK	21,9	OK	0,00	0,50	OK	0,37	0,62	OK
4,23	22,4	OK	22,6	OK	0,00	0,50	OK	0,38	0,62	OK
4,54	22,6	OK	23,5	OK	0,00	0,50	OK	0,39	0,62	OK
4,84	23,3	OK	24,4	OK	0,00	0,50	OK	0,40	0,63	OK
5,14	23,1	OK	24,4	OK	0,00	0,50	OK	0,40	0,63	OK
5,44	23,2	OK	24,7	OK	0,00	0,50	OK	0,40	0,63	OK
5,75	23,7	OK	25,4	OK	0,00	0,50	OK	0,40	0,63	OK
6,05	21,7	OK	23,7	OK	0,00	0,50	OK	0,38	0,62	OK
6,35	21,5	OK	23,6	OK	0,00	0,50	OK	0,37	0,62	OK
6,65	21,9	OK	23,9	OK	0,00	0,50	OK	0,37	0,61	OK
6,96	22,2	OK	24,1	OK	0,00	0,50	OK	0,36	0,61	OK
7,26	22,0	OK	24,0	OK	0,00	0,50	OK	0,35	0,61	OK
7,56	21,7	OK	24,0	OK	0,00	0,50	OK	0,34	0,60	OK
7,86	21,8	OK	24,4	OK	0,00	0,50	OK	0,33	0,59	OK
8,17	21,3	OK	24,0	OK	0,00	0,50	OK	0,31	0,59	OK
8,47	20,7	OK	23,7	OK	0,00	0,50	OK	0,29	0,58	OK
8,77	20,4	OK	23,6	OK	0,00	0,50	OK	0,27	0,57	OK
9,07	19,7	OK	23,0	OK	0,00	0,50	OK	0,25	0,56	OK
9,38	18,7	OK	22,3	OK	0,00	0,50	OK	0,23	0,55	OK
9,68	18,1	OK	21,9	OK	0,00	0,50	OK	0,20	0,54	OK
9,98	17,2	OK	21,1	OK	0,00	0,50	OK	0,17	0,53	OK
10,28	15,9	OK	20,1	OK	0,00	0,50	OK	0,14	0,52	OK
10,59	15,0	OK	19,4	OK	0,00	0,50	OK	0,11	0,51	OK
10,89	14,1	OK	18,6	OK	0,00	0,50	OK	0,07	0,50	OK
11,19	13,2	OK	17,6	OK	0,03	0,50	OK	0,04	0,50	OK
11,49	13,1	OK	17,1	OK	0,06	0,50	OK	0,00	0,50	OK
11,80	13,2	OK	17,1	OK	0,09	0,51	OK	0,00	0,50	OK
12,10	12,2	OK	16,6	OK	0,13	0,53	OK	0,00	0,50	OK
12,40	11,6	OK	16,5	OK	0,16	0,55	OK	0,00	0,50	OK
12,70	13,0	OK	15,7	OK	0,20	0,56	OK	0,00	0,50	OK
13,01	14,9	OK	15,1	OK	0,24	0,58	OK	0,00	0,50	OK
13,31	15,5	OK	15,9	OK	0,28	0,59	OK	0,00	0,50	OK
13,61	16,4	OK	16,9	OK	0,32	0,61	OK	0,00	0,50	OK
13,91	18,8	OK	17,1	OK	0,37	0,63	OK	0,00	0,50	OK
14,22	22,0	OK	17,9	OK	0,43	0,64	OK	0,00	0,50	OK
14,52	25,4	OK	20,3	OK	0,48	0,66	OK	0,00	0,50	OK
14,82	21,7	OK	17,7	OK	0,36	0,62	OK	0,00	0,50	OK

Komb B, Jmf Komb B1 med B2

Snitt	Armering				Betong					
B5	Överkant		Underkant		Överkant			Underkant		
x	$\Delta\sigma_{s.ök}$	Kontroll	$\Delta\sigma_{s.uk}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ /	0,5 + 0,45 •	Kontroll	$\lvert\sigma_{c.max}\rvert$ /	0,5 + 0,45 •	Kontroll
[m]	[MPa]	< 70 Mpa		< 70 Mpa	$f_{cd.fat}$	$\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$		$f_{cd.fat}$	$\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	
0,00	0,7	OK	1,9	OK	0,00	0,50	OK	0,02	0,51	OK
0,30	4,2	OK	4,2	OK	0,00	0,50	OK	0,04	0,51	OK
0,61	6,9	OK	7,0	OK	0,00	0,50	OK	0,09	0,52	OK
0,91	9,9	OK	9,7	OK	0,00	0,50	OK	0,13	0,54	OK
1,21	12,7	OK	12,4	OK	0,00	0,50	OK	0,17	0,55	OK
1,51	14,5	OK	14,0	OK	0,00	0,50	OK	0,21	0,56	OK
1,82	15,9	OK	15,4	OK	0,00	0,50	OK	0,24	0,57	OK
2,12	17,7	OK	17,1	OK	0,00	0,50	OK	0,27	0,58	OK
2,42	19,0	OK	18,3	OK	0,00	0,50	OK	0,30	0,59	OK
2,72	20,0	OK	19,2	OK	0,00	0,50	OK	0,32	0,60	OK
3,02	19,7	OK	19,0	OK	0,00	0,50	OK	0,32	0,60	OK
3,33	20,5	OK	19,9	OK	0,00	0,50	OK	0,34	0,61	OK
3,63	21,5	OK	20,9	OK	0,00	0,50	OK	0,36	0,61	OK
3,93	22,4	OK	21,9	OK	0,00	0,50	OK	0,37	0,62	OK
4,23	22,4	OK	22,6	OK	0,00	0,50	OK	0,38	0,62	OK
4,54	22,6	OK	23,5	OK	0,00	0,50	OK	0,39	0,62	OK
4,84	23,3	OK	24,4	OK	0,00	0,50	OK	0,40	0,63	OK
5,14	23,1	OK	24,4	OK	0,00	0,50	OK	0,40	0,63	OK
5,44	23,2	OK	24,7	OK	0,00	0,50	OK	0,40	0,63	OK
5,75	23,7	OK	25,4	OK	0,00	0,50	OK	0,41	0,63	OK
6,05	21,7	OK	23,7	OK	0,00	0,50	OK	0,38	0,62	OK
6,35	21,5	OK	23,6	OK	0,00	0,50	OK	0,37	0,62	OK
6,65	21,9	OK	23,9	OK	0,00	0,50	OK	0,37	0,61	OK
6,96	22,2	OK	24,1	OK	0,00	0,50	OK	0,36	0,61	OK
7,26	22,0	OK	24,0	OK	0,00	0,50	OK	0,35	0,61	OK
7,56	21,7	OK	24,0	OK	0,00	0,50	OK	0,34	0,60	OK
7,86	21,8	OK	24,4	OK	0,00	0,50	OK	0,33	0,60	OK
8,17	21,3	OK	24,0	OK	0,00	0,50	OK	0,31	0,59	OK
8,47	20,7	OK	23,7	OK	0,00	0,50	OK	0,29	0,58	OK
8,77	20,4	OK	23,6	OK	0,00	0,50	OK	0,27	0,57	OK
9,07	19,7	OK	23,0	OK	0,00	0,50	OK	0,25	0,56	OK
9,38	18,7	OK	22,3	OK	0,00	0,50	OK	0,23	0,55	OK
9,68	18,1	OK	21,9	OK	0,00	0,50	OK	0,20	0,54	OK
9,98	17,2	OK	21,1	OK	0,00	0,50	OK	0,17	0,53	OK
10,28	15,9	OK	20,1	OK	0,00	0,50	OK	0,14	0,52	OK
10,59	15,0	OK	19,4	OK	0,00	0,50	OK	0,11	0,51	OK
10,89	14,1	OK	18,6	OK	0,00	0,50	OK	0,07	0,50	OK
11,19	13,2	OK	17,6	OK	0,03	0,50	OK	0,04	0,50	OK
11,49	13,1	OK	17,1	OK	0,06	0,50	OK	0,00	0,50	OK
11,80	13,2	OK	17,1	OK	0,09	0,51	OK	0,00	0,50	OK
12,10	12,2	OK	16,6	OK	0,13	0,53	OK	0,00	0,50	OK
12,40	11,6	OK	16,5	OK	0,16	0,55	OK	0,00	0,50	OK
12,70	13,0	OK	15,7	OK	0,20	0,56	OK	0,00	0,50	OK
13,01	14,9	OK	15,1	OK	0,24	0,58	OK	0,00	0,50	OK
13,31	15,5	OK	15,9	OK	0,28	0,59	OK	0,00	0,50	OK
13,61	16,4	OK	16,9	OK	0,32	0,61	OK	0,00	0,50	OK
13,91	18,8	OK	17,1	OK	0,37	0,63	OK	0,00	0,50	OK
14,22	22,0	OK	17,9	OK	0,43	0,65	OK	0,00	0,50	OK
14,52	25,4	OK	20,3	OK	0,48	0,66	OK	0,00	0,50	OK
14,82	21,7	OK	17,7	OK	0,37	0,62	OK	0,00	0,50	OK

Utmattning - Enkel kontroll

Moment med tillhörande normalkraft

Enligt SS-EN 1992-1-1, 6.8.

E_s =	200	GPa	f_{ck} =	35,5	MPa
E_{cm} =	34,0	GPa	$f_{cd.fat}$ =	22,4	MPa
φ =	1,6		f_{yd} =	410	MPa

Snitt

B3

x [m]	h [m]	b_w [m]	$A_{s.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s.uk}$ [cm^2]	d_{uk} [m]	φ_{viktad}	α_{eff}	e'_N fr. ök [m]
0,00	0,800	0,500	32,7	0,740	33,7	0,740	0,96	11,0	0,400
0,30	0,800	0,500	32,7	0,740	33,7	0,740	0,96	11,0	0,400
0,61	0,800	0,500	32,7	0,740	33,7	0,740	0,96	11,0	0,400
0,91	0,800	0,500	30,3	0,740	33,7	0,740	0,96	11,0	0,400
1,21	0,800	0,500	29,8	0,740	33,7	0,740	0,96	11,0	0,400
1,51	0,800	0,500	29,8	0,740	33,7	0,740	0,96	11,0	0,400
1,82	0,800	0,500	29,8	0,740	33,7	0,740	0,96	11,0	0,400
2,12	0,800	0,500	29,8	0,740	33,7	0,740	0,96	11,0	0,400
2,42	0,800	0,500	29,8	0,740	33,7	0,740	0,96	11,0	0,400
2,72	0,800	0,500	29,8	0,740	33,7	0,740	0,96	11,0	0,400
3,02	0,800	0,500	39,0	0,740	43,0	0,740	0,96	11,0	0,400
3,33	0,800	0,500	39,0	0,740	43,0	0,740	0,96	11,0	0,400
3,63	0,800	0,500	39,0	0,740	43,0	0,740	0,96	11,0	0,400
3,93	0,800	0,500	39,0	0,740	43,0	0,740	0,96	11,0	0,400
4,23	0,800	0,500	39,0	0,740	43,0	0,740	0,96	11,0	0,400
4,54	0,800	0,500	39,0	0,740	43,0	0,740	0,96	11,0	0,400
4,84	0,800	0,500	39,0	0,740	43,0	0,740	0,96	11,0	0,400
5,14	0,800	0,500	39,0	0,740	43,0	0,740	0,96	11,0	0,400
5,44	0,800	0,500	39,0	0,740	43,0	0,740	0,96	11,0	0,400
5,75	0,800	0,500	39,0	0,740	43,0	0,740	0,96	11,0	0,400
6,05	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
6,35	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
6,65	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
6,96	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
7,26	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
7,56	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
7,86	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
8,17	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
8,47	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
8,77	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
9,07	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
9,38	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
9,68	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
9,98	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
10,28	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
10,59	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
10,89	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
11,19	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
11,49	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
11,80	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
12,10	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
12,40	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
12,70	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
13,01	0,800	0,500	50,4	0,740	52,2	0,740	0,96	11,0	0,400
13,31	0,800	0,500	53,5	0,740	52,2	0,740	0,96	11,0	0,400
13,61	0,800	0,500	53,5	0,740	52,2	0,740	0,96	11,0	0,400
13,91	0,800	0,500	53,5	0,740	52,2	0,740	0,96	11,0	0,400
14,22	0,800	0,500	53,5	0,740	52,2	0,740	0,96	11,0	0,400
14,52	0,800	0,500	53,5	0,740	52,2	0,740	0,96	11,0	0,400
14,82	0,800	0,500	53,5	0,740	52,2	0,740	0,96	11,0	0,400

Moment	Normalkraft	Spänningar
Negativ = drag ök	Negativ = tryck	Negativ = tryck
Positiv = drag uk	Positiv = drag	Positiv = drag

Snitt	Lastkombination (6.69) enligt SS-EN 1992-1-1											
B3	PERMANENTA				VARIABLA				CYKLISKA			
x	M_{max}	N	M_{min}	N	M_{max}	N	M_{min}	N	M_{max}	N	M_{min}	N
[m]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]
0,00	-12	-92	-12	-97	0	0	0	0	-9	-43	2	2
0,30	-50	5	-49	3	0	0	0	0	-30	7	4	0
0,61	-100	13	-97	9	0	0	0	0	-53	18	4	0
0,91	-146	23	-143	16	0	0	0	0	-74	34	5	0
1,21	-189	32	-186	22	0	0	0	0	-94	52	6	-2
1,51	-230	39	-227	28	0	0	0	0	-105	69	7	-2
1,82	-268	44	-266	31	0	0	0	0	-115	85	9	-3
2,12	-305	48	-303	33	0	0	0	0	-126	101	10	-3
2,42	-338	50	-336	34	0	0	0	0	-135	116	12	-4
2,72	-369	51	-368	34	0	0	0	0	-140	127	13	-4
3,02	-398	51	-396	33	0	0	0	0	-147	135	15	-5
3,33	-423	50	-422	32	0	0	0	0	-153	146	16	-5
3,63	-445	48	-444	30	0	0	0	0	-159	157	18	-3
3,93	-465	47	-463	28	0	0	0	0	-165	163	19	0
4,23	-481	45	-480	27	0	0	0	0	-167	168	21	0
4,54	-494	43	-493	25	0	0	0	0	-171	172	22	0
4,84	-503	41	-502	23	0	0	0	0	-175	175	24	0
5,14	-510	39	-509	21	0	0	0	0	-173	174	25	0
5,44	-513	37	-512	19	0	0	0	0	-174	174	27	0
5,75	-513	35	-512	18	0	0	0	0	-176	174	28	0
6,05	-510	33	-509	16	0	0	0	0	-172	172	30	1
6,35	-504	31	-503	15	0	0	0	0	-170	168	31	1
6,65	-494	29	-494	14	0	0	0	0	-171	167	33	1
6,96	-482	27	-481	13	0	0	0	0	-171	167	34	1
7,26	-466	26	-465	11	0	0	0	0	-169	163	36	1
7,56	-447	24	-446	10	0	0	0	0	-167	158	37	1
7,86	-425	23	-424	10	0	0	0	0	-167	154	39	1
8,17	-399	21	-399	9	0	0	0	0	-163	146	40	1
8,47	-371	20	-370	8	0	0	0	0	-157	138	42	1
8,77	-339	18	-339	7	0	0	0	0	-154	129	43	1
9,07	-305	17	-304	7	0	0	0	0	-147	119	45	1
9,38	-267	16	-266	6	0	0	0	0	-138	106	46	1
9,68	-226	15	-226	6	0	0	0	0	-132	93	48	2
9,98	-182	13	-182	6	0	0	0	0	-124	78	49	2
10,28	-135	12	-135	5	0	0	0	0	-112	62	51	2
10,59	-85	10	-85	5	0	0	0	0	-103	49	52	2
10,89	-33	8	-32	4	0	0	0	0	-95	36	54	2
11,19	23	6	23	3	0	0	0	0	-85	20	56	-1
11,49	81	3	82	2	0	0	0	0	-77	11	60	-8
11,80	142	-1	142	0	0	0	0	0	-69	3	67	-16
12,10	205	-6	206	-3	0	0	0	0	-56	-16	74	-22
12,40	270	-12	271	-7	0	0	0	0	-46	-35	81	-27
12,70	338	-20	339	-12	0	0	0	0	-38	-23	89	-32
13,01	408	-28	408	-18	0	0	0	0	-31	-4	100	-64
13,31	480	-38	480	-25	0	0	0	0	-26	-8	113	-96
13,61	554	-40	555	-41	0	0	0	0	-20	-12	128	-104
13,91	630	-40	632	-58	0	0	0	0	-15	-11	145	-143
14,22	709	-47	712	-67	0	0	0	0	-9	-8	168	-186
14,52	791	-51	796	-73	0	0	0	0	-4	-1	197	-198
14,82	555	-226	560	-250	0	0	0	0	-13	-38	154	-177

0,1

Komb A1: $\Sigma M_{A1} = M_{max.per + var} + M_{max.cyk}$

Snitt
B3

Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)												
x	ΣM_{A1}	N_{A1}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-21	-135	0,800	0,470	0,402	2,9E-02	0,00	0,0	-0,6	-0,5	-5,9	OK
0,30	-81	12	0,800	0,470	0,402	2,9E-02	1,12	0,0	-1,1	10,5	-10,0	OK
0,61	-153	31	0,800	0,470	0,402	2,9E-02	2,14	0,0	-2,0	20,1	-18,8	OK
0,91	-220	57	0,800	0,467	0,400	2,9E-02	3,15	0,0	-2,9	29,6	-26,9	OK
1,21	-283	83	0,800	0,466	0,399	2,9E-02	4,08	0,0	-3,7	38,4	-34,3	OK
1,51	-335	108	0,800	0,466	0,399	2,9E-02	4,86	0,0	-4,4	45,8	-40,5	OK
1,82	-383	129	0,800	0,466	0,399	2,9E-02	5,57	0,0	-5,0	52,5	-46,2	OK
2,12	-431	149	0,800	0,466	0,399	2,9E-02	6,27	0,0	-5,6	59,1	-51,9	OK
2,42	-473	166	0,800	0,466	0,399	2,9E-02	6,89	0,0	-6,2	65,0	-56,9	OK
2,72	-510	178	0,800	0,466	0,399	2,9E-02	7,43	0,0	-6,6	70,0	-61,3	OK
3,02	-545	186	0,800	0,486	0,400	3,1E-02	7,36	0,0	-6,6	69,3	-60,9	OK
3,33	-576	196	0,800	0,486	0,400	3,1E-02	7,78	0,0	-7,0	73,3	-64,4	OK
3,63	-605	206	0,800	0,486	0,400	3,1E-02	8,17	0,0	-7,3	76,9	-67,6	OK
3,93	-630	210	0,800	0,486	0,400	3,1E-02	8,50	0,0	-7,6	80,0	-70,5	OK
4,23	-648	213	0,800	0,486	0,400	3,1E-02	8,73	0,0	-7,9	82,2	-72,6	OK
4,54	-664	215	0,800	0,486	0,400	3,1E-02	8,95	0,0	-8,1	84,3	-74,5	OK
4,84	-678	216	0,800	0,486	0,400	3,1E-02	9,13	0,0	-8,2	86,0	-76,2	OK
5,14	-683	213	0,800	0,486	0,400	3,1E-02	9,18	0,0	-8,3	86,4	-76,8	OK
5,44	-687	210	0,800	0,486	0,400	3,1E-02	9,22	0,0	-8,4	86,8	-77,3	OK
5,75	-689	208	0,800	0,486	0,400	3,1E-02	9,26	0,0	-8,4	87,1	-77,7	OK
6,05	-682	205	0,800	0,505	0,401	3,3E-02	8,55	0,0	-7,8	80,4	-71,8	OK
6,35	-673	199	0,800	0,505	0,401	3,3E-02	8,43	0,0	-7,7	79,3	-70,9	OK
6,65	-665	196	0,800	0,505	0,401	3,3E-02	8,32	0,0	-7,6	78,3	-70,0	OK
6,96	-653	195	0,800	0,505	0,401	3,3E-02	8,18	0,0	-7,4	76,9	-68,7	OK
7,26	-635	189	0,800	0,505	0,401	3,3E-02	7,95	0,0	-7,2	74,8	-66,8	OK
7,56	-614	182	0,800	0,505	0,401	3,3E-02	7,68	0,0	-7,0	72,3	-64,6	OK
7,86	-592	176	0,800	0,505	0,401	3,3E-02	7,41	0,0	-6,7	69,7	-62,3	OK
8,17	-562	167	0,800	0,505	0,401	3,3E-02	7,04	0,0	-6,4	66,2	-59,1	OK
8,47	-528	157	0,800	0,505	0,401	3,3E-02	6,61	0,0	-6,0	62,2	-55,5	OK
8,77	-493	147	0,800	0,505	0,401	3,3E-02	6,18	0,0	-5,6	58,1	-51,9	OK
9,07	-452	136	0,800	0,505	0,401	3,3E-02	5,66	0,0	-5,1	53,3	-47,5	OK
9,38	-405	122	0,800	0,505	0,401	3,3E-02	5,08	0,0	-4,6	47,8	-42,6	OK
9,68	-358	108	0,800	0,505	0,401	3,3E-02	4,49	0,0	-4,1	42,2	-37,7	OK
9,98	-306	91	0,800	0,505	0,401	3,3E-02	3,83	0,0	-3,5	36,0	-32,2	OK
10,28	-247	74	0,800	0,505	0,401	3,3E-02	3,10	0,0	-2,8	29,1	-26,0	OK
10,59	-189	60	0,800	0,505	0,401	3,3E-02	2,37	0,0	-2,1	22,3	-19,8	OK
10,89	-127	45	0,800	0,505	0,401	3,3E-02	1,61	0,0	-1,4	15,1	-13,2	OK
11,19	-62	26	0,800	0,505	0,401	3,3E-02	0,79	0,0	-0,7	7,5	-6,3	OK
11,49	4	14	0,800	0,505	0,406	3,4E-02	0,07	0,0	0,0	-0,1	0,7	OK
11,80	73	2	0,800	0,505	0,406	3,4E-02	0,86	-0,9	0,0	-8,2	8,0	OK
12,10	149	-22	0,800	0,505	0,406	3,4E-02	1,70	-1,8	0,0	-17,4	15,8	OK
12,40	225	-47	0,800	0,505	0,406	3,4E-02	2,55	-2,8	0,0	-26,6	23,6	OK
12,70	300	-42	0,800	0,505	0,406	3,4E-02	3,44	-3,7	0,0	-35,0	31,9	OK
13,01	377	-32	0,800	0,508	0,405	3,4E-02	4,35	-4,6	0,0	-42,9	40,4	OK
13,31	454	-46	0,800	0,511	0,403	3,4E-02	5,20	-5,4	0,0	-51,1	48,3	OK
13,61	534	-52	0,800	0,511	0,403	3,4E-02	6,12	-6,4	0,0	-60,0	56,8	OK
13,91	616	-51	0,800	0,511	0,403	3,4E-02	7,07	-7,4	0,0	-69,0	65,8	OK
14,22	701	-54	0,800	0,511	0,403	3,4E-02	8,05	-8,4	0,0	-78,4	74,9	OK
14,52	787	-52	0,800	0,511	0,403	3,4E-02	9,07	-9,4	0,0	-88,0	84,4	OK
14,82	542	-265	0,800	0,511	0,403	3,4E-02	5,81	-6,9	0,0	-65,6	53,3	OK

Komb A2: $\Sigma M_{A2} = M_{max.per + var} + M_{min.cyk}$

Snitt	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
B3												
x	ΣM_{A2}	N_{A2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-10	-89	0,800	0,470	0,402	2,9E-02	-0,05	0,0	-0,3	-0,8	-3,4	OK
0,30	-46	5	0,800	0,470	0,402	2,9E-02	0,64	0,0	-0,6	6,0	-5,8	OK
0,61	-96	14	0,800	0,470	0,402	2,9E-02	1,32	0,0	-1,3	12,4	-11,9	OK
0,91	-141	22	0,800	0,467	0,400	2,9E-02	1,99	0,0	-1,9	18,6	-17,6	OK
1,21	-183	30	0,800	0,466	0,399	2,9E-02	2,59	0,0	-2,5	24,3	-22,8	OK
1,51	-222	37	0,800	0,466	0,399	2,9E-02	3,15	0,0	-3,0	29,6	-27,7	OK
1,82	-259	42	0,800	0,466	0,399	2,9E-02	3,68	0,0	-3,5	34,5	-32,3	OK
2,12	-294	45	0,800	0,466	0,399	2,9E-02	4,16	0,0	-4,0	39,0	-36,7	OK
2,42	-327	47	0,800	0,466	0,399	2,9E-02	4,61	0,0	-4,4	43,2	-40,8	OK
2,72	-356	47	0,800	0,466	0,399	2,9E-02	5,02	0,0	-4,8	47,1	-44,6	OK
3,02	-383	46	0,800	0,486	0,400	3,1E-02	5,00	0,0	-4,8	46,8	-44,7	OK
3,33	-407	45	0,800	0,486	0,400	3,1E-02	5,30	0,0	-5,1	49,6	-47,6	OK
3,63	-428	46	0,800	0,486	0,400	3,1E-02	5,57	0,0	-5,4	52,2	-50,1	OK
3,93	-445	47	0,800	0,486	0,400	3,1E-02	5,80	0,0	-5,6	54,3	-52,2	OK
4,23	-460	45	0,800	0,486	0,400	3,1E-02	5,98	0,0	-5,8	56,0	-54,0	OK
4,54	-471	43	0,800	0,486	0,400	3,1E-02	6,12	0,0	-5,9	57,3	-55,4	OK
4,84	-480	41	0,800	0,486	0,400	3,1E-02	6,23	0,0	-6,1	58,2	-56,4	OK
5,14	-485	39	0,800	0,486	0,400	3,1E-02	6,29	0,0	-6,1	58,8	-57,0	OK
5,44	-486	37	0,800	0,486	0,400	3,1E-02	6,30	0,0	-6,2	59,0	-57,3	OK
5,75	-485	35	0,800	0,486	0,400	3,1E-02	6,28	0,0	-6,1	58,8	-57,2	OK
6,05	-480	33	0,800	0,505	0,401	3,3E-02	5,80	0,0	-5,7	54,2	-52,9	OK
6,35	-473	31	0,800	0,505	0,401	3,3E-02	5,70	0,0	-5,6	53,3	-52,1	OK
6,65	-462	30	0,800	0,505	0,401	3,3E-02	5,57	0,0	-5,5	52,0	-50,9	OK
6,96	-447	28	0,800	0,505	0,401	3,3E-02	5,39	0,0	-5,3	50,4	-49,4	OK
7,26	-430	26	0,800	0,505	0,401	3,3E-02	5,18	0,0	-5,1	48,5	-47,5	OK
7,56	-410	25	0,800	0,505	0,401	3,3E-02	4,94	0,0	-4,9	46,1	-45,2	OK
7,86	-386	23	0,800	0,505	0,401	3,3E-02	4,65	0,0	-4,6	43,5	-42,6	OK
8,17	-359	22	0,800	0,505	0,401	3,3E-02	4,33	0,0	-4,3	40,5	-39,6	OK
8,47	-329	21	0,800	0,505	0,401	3,3E-02	3,97	0,0	-3,9	37,1	-36,3	OK
8,77	-296	20	0,800	0,505	0,401	3,3E-02	3,57	0,0	-3,5	33,4	-32,6	OK
9,07	-260	18	0,800	0,505	0,401	3,3E-02	3,14	0,0	-3,1	29,3	-28,6	OK
9,38	-221	17	0,800	0,505	0,401	3,3E-02	2,67	0,0	-2,6	24,9	-24,3	OK
9,68	-178	16	0,800	0,505	0,401	3,3E-02	2,16	0,0	-2,1	20,2	-19,6	OK
9,98	-133	15	0,800	0,505	0,401	3,3E-02	1,61	0,0	-1,6	15,1	-14,5	OK
10,28	-84	14	0,800	0,505	0,401	3,3E-02	1,03	0,0	-1,0	9,7	-9,1	OK
10,59	-33	13	0,800	0,505	0,401	3,3E-02	0,42	0,0	-0,4	4,0	-3,4	OK
10,89	21	11	0,800	0,505	0,406	3,4E-02	0,27	-0,2	0,0	-2,2	2,5	OK
11,19	78	5	0,800	0,505	0,406	3,4E-02	0,93	-0,9	0,0	-8,8	8,7	OK
11,49	141	-5	0,800	0,505	0,406	3,4E-02	1,65	-1,7	0,0	-16,1	15,3	OK
11,80	209	-16	0,800	0,505	0,406	3,4E-02	2,42	-2,6	0,0	-24,0	22,5	OK
12,10	279	-28	0,800	0,505	0,406	3,4E-02	3,22	-3,4	0,0	-32,3	29,9	OK
12,40	352	-39	0,800	0,505	0,406	3,4E-02	4,06	-4,3	0,0	-40,8	37,6	OK
12,70	427	-52	0,800	0,505	0,406	3,4E-02	4,92	-5,3	0,0	-49,6	45,6	OK
13,01	508	-92	0,800	0,508	0,405	3,4E-02	5,77	-6,3	0,0	-58,9	53,4	OK
13,31	593	-134	0,800	0,511	0,403	3,4E-02	6,65	-7,3	0,0	-68,3	61,6	OK
13,61	682	-144	0,800	0,511	0,403	3,4E-02	7,67	-8,3	0,0	-78,3	71,0	OK
13,91	775	-183	0,800	0,511	0,403	3,4E-02	8,67	-9,5	0,0	-89,4	80,2	OK
14,22	877	-232	0,800	0,511	0,403	3,4E-02	9,76	-10,8	0,0	-101,7	90,3	OK
14,52	988	-249	0,800	0,511	0,403	3,4E-02	11,03	-12,2	0,0	-114,4	102,0	OK
14,82	709	-403	0,800	0,511	0,403	3,4E-02	7,48	-9,2	0,0	-86,9	68,4	OK

Komb B1: $\Sigma M_{B1} = M_{min.per + var} + M_{max.cyk}$

Snitt B3	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
x	ΣM_{B1}	N_{B1}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-20	-140	0,800	0,470	0,402	2,9E-02	-0,02	0,0	-0,6	-0,7	-5,9	OK
0,30	-79	10	0,800	0,470	0,402	2,9E-02	1,09	0,0	-1,1	10,2	-9,8	OK
0,61	-151	27	0,800	0,470	0,402	2,9E-02	2,10	0,0	-2,0	19,7	-18,6	OK
0,91	-217	50	0,800	0,467	0,400	2,9E-02	3,10	0,0	-2,9	29,1	-26,7	OK
1,21	-280	74	0,800	0,466	0,399	2,9E-02	4,03	0,0	-3,7	37,9	-34,2	OK
1,51	-333	96	0,800	0,466	0,399	2,9E-02	4,80	0,0	-4,4	45,2	-40,5	OK
1,82	-381	116	0,800	0,466	0,399	2,9E-02	5,51	0,0	-5,0	51,9	-46,2	OK
2,12	-429	134	0,800	0,466	0,399	2,9E-02	6,22	0,0	-5,6	58,5	-51,9	OK
2,42	-471	150	0,800	0,466	0,399	2,9E-02	6,84	0,0	-6,2	64,3	-57,0	OK
2,72	-508	161	0,800	0,466	0,399	2,9E-02	7,37	0,0	-6,7	69,3	-61,5	OK
3,02	-543	168	0,800	0,486	0,400	3,1E-02	7,30	0,0	-6,6	68,7	-61,1	OK
3,33	-575	178	0,800	0,486	0,400	3,1E-02	7,73	0,0	-7,0	72,7	-64,6	OK
3,63	-604	188	0,800	0,486	0,400	3,1E-02	8,11	0,0	-7,3	76,4	-67,9	OK
3,93	-629	192	0,800	0,486	0,400	3,1E-02	8,45	0,0	-7,7	79,5	-70,8	OK
4,23	-647	195	0,800	0,486	0,400	3,1E-02	8,68	0,0	-7,9	81,7	-72,9	OK
4,54	-663	197	0,800	0,486	0,400	3,1E-02	8,90	0,0	-8,1	83,7	-74,8	OK
4,84	-678	198	0,800	0,486	0,400	3,1E-02	9,08	0,0	-8,3	85,4	-76,5	OK
5,14	-682	196	0,800	0,486	0,400	3,1E-02	9,14	0,0	-8,3	85,9	-77,1	OK
5,44	-686	193	0,800	0,486	0,400	3,1E-02	9,18	0,0	-8,4	86,3	-77,6	OK
5,75	-689	192	0,800	0,486	0,400	3,1E-02	9,21	0,0	-8,4	86,6	-78,0	OK
6,05	-682	189	0,800	0,505	0,401	3,3E-02	8,50	0,0	-7,8	80,0	-72,0	OK
6,35	-673	183	0,800	0,505	0,401	3,3E-02	8,39	0,0	-7,7	78,8	-71,1	OK
6,65	-664	181	0,800	0,505	0,401	3,3E-02	8,28	0,0	-7,6	77,9	-70,3	OK
6,96	-652	180	0,800	0,505	0,401	3,3E-02	8,14	0,0	-7,4	76,5	-69,0	OK
7,26	-634	174	0,800	0,505	0,401	3,3E-02	7,91	0,0	-7,2	74,4	-67,0	OK
7,56	-613	169	0,800	0,505	0,401	3,3E-02	7,65	0,0	-7,0	71,9	-64,8	OK
7,86	-591	163	0,800	0,505	0,401	3,3E-02	7,38	0,0	-6,8	69,4	-62,5	OK
8,17	-561	155	0,800	0,505	0,401	3,3E-02	7,00	0,0	-6,4	65,9	-59,3	OK
8,47	-527	146	0,800	0,505	0,401	3,3E-02	6,58	0,0	-6,0	61,9	-55,7	OK
8,77	-493	136	0,800	0,505	0,401	3,3E-02	6,15	0,0	-5,6	57,8	-52,1	OK
9,07	-451	125	0,800	0,505	0,401	3,3E-02	5,63	0,0	-5,2	53,0	-47,7	OK
9,38	-405	113	0,800	0,505	0,401	3,3E-02	5,05	0,0	-4,6	47,5	-42,8	OK
9,68	-358	99	0,800	0,505	0,401	3,3E-02	4,47	0,0	-4,1	42,0	-37,8	OK
9,98	-305	83	0,800	0,505	0,401	3,3E-02	3,81	0,0	-3,5	35,8	-32,3	OK
10,28	-247	67	0,800	0,505	0,401	3,3E-02	3,08	0,0	-2,8	28,9	-26,1	OK
10,59	-188	54	0,800	0,505	0,401	3,3E-02	2,35	0,0	-2,1	22,1	-19,8	OK
10,89	-127	41	0,800	0,505	0,401	3,3E-02	1,59	0,0	-1,4	15,0	-13,3	OK
11,19	-61	23	0,800	0,505	0,401	3,3E-02	0,78	0,0	-0,7	7,3	-6,4	OK
11,49	4	13	0,800	0,505	0,406	3,4E-02	0,07	0,0	0,0	-0,2	0,7	OK
11,80	73	2	0,800	0,505	0,406	3,4E-02	0,87	-0,9	0,0	-8,3	8,1	OK
12,10	149	-19	0,800	0,505	0,406	3,4E-02	1,72	-1,8	0,0	-17,4	15,9	OK
12,40	225	-42	0,800	0,505	0,406	3,4E-02	2,57	-2,8	0,0	-26,5	23,8	OK
12,70	301	-35	0,800	0,505	0,406	3,4E-02	3,47	-3,7	0,0	-34,9	32,2	OK
13,01	377	-22	0,800	0,508	0,405	3,4E-02	4,37	-4,6	0,0	-42,8	40,7	OK
13,31	454	-33	0,800	0,511	0,403	3,4E-02	5,23	-5,4	0,0	-50,8	48,6	OK
13,61	534	-53	0,800	0,511	0,403	3,4E-02	6,12	-6,4	0,0	-60,0	56,9	OK
13,91	617	-70	0,800	0,511	0,403	3,4E-02	7,05	-7,4	0,0	-69,6	65,5	OK
14,22	703	-74	0,800	0,511	0,403	3,4E-02	8,05	-8,4	0,0	-79,2	74,8	OK
14,52	793	-74	0,800	0,511	0,403	3,4E-02	9,09	-9,5	0,0	-89,0	84,5	OK
14,82	547	-288	0,800	0,511	0,403	3,4E-02	5,81	-7,0	0,0	-66,6	53,3	OK

Komb B2: $\Sigma M_{B2} = M_{min.per + var} + M_{min.cyk}$

Snitt
B3

Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)

x	ΣM_{B2}	N_{B2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-10	-95	0,800	0,470	0,402	2,9E-02	-0,07	0,0	-0,3	-0,9	-3,5	OK
0,30	-45	3	0,800	0,470	0,402	2,9E-02	0,61	0,0	-0,6	5,7	-5,6	OK
0,61	-93	9	0,800	0,470	0,402	2,9E-02	1,28	0,0	-1,3	12,0	-11,7	OK
0,91	-138	16	0,800	0,467	0,400	2,9E-02	1,94	0,0	-1,9	18,2	-17,4	OK
1,21	-180	21	0,800	0,466	0,399	2,9E-02	2,54	0,0	-2,4	23,8	-22,7	OK
1,51	-220	25	0,800	0,466	0,399	2,9E-02	3,09	0,0	-3,0	29,0	-27,7	OK
1,82	-257	29	0,800	0,466	0,399	2,9E-02	3,62	0,0	-3,5	33,9	-32,4	OK
2,12	-292	30	0,800	0,466	0,399	2,9E-02	4,10	0,0	-4,0	38,4	-36,8	OK
2,42	-325	31	0,800	0,466	0,399	2,9E-02	4,55	0,0	-4,4	42,6	-41,0	OK
2,72	-355	30	0,800	0,466	0,399	2,9E-02	4,96	0,0	-4,8	46,4	-44,8	OK
3,02	-382	29	0,800	0,486	0,400	3,1E-02	4,94	0,0	-4,8	46,2	-44,9	OK
3,33	-406	27	0,800	0,486	0,400	3,1E-02	5,25	0,0	-5,1	49,1	-47,9	OK
3,63	-427	27	0,800	0,486	0,400	3,1E-02	5,52	0,0	-5,4	51,6	-50,3	OK
3,93	-444	28	0,800	0,486	0,400	3,1E-02	5,75	0,0	-5,6	53,8	-52,5	OK
4,23	-459	26	0,800	0,486	0,400	3,1E-02	5,93	0,0	-5,8	55,5	-54,2	OK
4,54	-470	25	0,800	0,486	0,400	3,1E-02	6,08	0,0	-6,0	56,8	-55,7	OK
4,84	-479	23	0,800	0,486	0,400	3,1E-02	6,18	0,0	-6,1	57,7	-56,7	OK
5,14	-484	21	0,800	0,486	0,400	3,1E-02	6,24	0,0	-6,1	58,3	-57,3	OK
5,44	-486	20	0,800	0,486	0,400	3,1E-02	6,26	0,0	-6,2	58,5	-57,6	OK
5,75	-484	18	0,800	0,486	0,400	3,1E-02	6,24	0,0	-6,2	58,3	-57,4	OK
6,05	-480	17	0,800	0,505	0,401	3,3E-02	5,76	0,0	-5,7	53,8	-53,2	OK
6,35	-472	16	0,800	0,505	0,401	3,3E-02	5,66	0,0	-5,6	52,9	-52,4	OK
6,65	-461	14	0,800	0,505	0,401	3,3E-02	5,53	0,0	-5,5	51,6	-51,2	OK
6,96	-447	13	0,800	0,505	0,401	3,3E-02	5,36	0,0	-5,3	50,0	-49,6	OK
7,26	-429	12	0,800	0,505	0,401	3,3E-02	5,15	0,0	-5,1	48,1	-47,7	OK
7,56	-409	11	0,800	0,505	0,401	3,3E-02	4,90	0,0	-4,9	45,8	-45,4	OK
7,86	-385	10	0,800	0,505	0,401	3,3E-02	4,62	0,0	-4,6	43,1	-42,8	OK
8,17	-359	10	0,800	0,505	0,401	3,3E-02	4,30	0,0	-4,3	40,1	-39,8	OK
8,47	-329	9	0,800	0,505	0,401	3,3E-02	3,94	0,0	-3,9	36,8	-36,5	OK
8,77	-296	8	0,800	0,505	0,401	3,3E-02	3,54	0,0	-3,5	33,1	-32,8	OK
9,07	-259	8	0,800	0,505	0,401	3,3E-02	3,11	0,0	-3,1	29,1	-28,8	OK
9,38	-220	8	0,800	0,505	0,401	3,3E-02	2,64	0,0	-2,6	24,7	-24,4	OK
9,68	-178	8	0,800	0,505	0,401	3,3E-02	2,14	0,0	-2,1	20,0	-19,7	OK
9,98	-132	7	0,800	0,505	0,401	3,3E-02	1,59	0,0	-1,6	14,9	-14,6	OK
10,28	-84	7	0,800	0,505	0,401	3,3E-02	1,02	0,0	-1,0	9,5	-9,2	OK
10,59	-33	7	0,800	0,505	0,401	3,3E-02	0,40	0,0	-0,4	3,8	-3,5	OK
10,89	22	7	0,800	0,505	0,406	3,4E-02	0,27	-0,2	0,0	-2,3	2,5	OK
11,19	79	2	0,800	0,505	0,406	3,4E-02	0,93	-1,0	0,0	-8,9	8,7	OK
11,49	142	-7	0,800	0,505	0,406	3,4E-02	1,65	-1,7	0,0	-16,2	15,4	OK
11,80	209	-16	0,800	0,505	0,406	3,4E-02	2,43	-2,6	0,0	-24,1	22,6	OK
12,10	279	-25	0,800	0,505	0,406	3,4E-02	3,24	-3,4	0,0	-32,3	30,0	OK
12,40	352	-34	0,800	0,505	0,406	3,4E-02	4,08	-4,3	0,0	-40,7	37,8	OK
12,70	428	-45	0,800	0,505	0,406	3,4E-02	4,94	-5,3	0,0	-49,5	45,9	OK
13,01	508	-82	0,800	0,508	0,405	3,4E-02	5,79	-6,3	0,0	-58,8	53,7	OK
13,31	594	-121	0,800	0,511	0,403	3,4E-02	6,68	-7,2	0,0	-68,1	61,9	OK
13,61	683	-145	0,800	0,511	0,403	3,4E-02	7,67	-8,3	0,0	-78,4	71,0	OK
13,91	776	-202	0,800	0,511	0,403	3,4E-02	8,65	-9,6	0,0	-90,0	80,0	OK
14,22	880	-253	0,800	0,511	0,403	3,4E-02	9,76	-10,9	0,0	-102,5	90,1	OK
14,52	994	-271	0,800	0,511	0,403	3,4E-02	11,05	-12,3	0,0	-115,5	102,1	OK
14,82	713	-427	0,800	0,511	0,403	3,4E-02	7,49	-9,3	0,0	-88,0	68,4	OK

Komb A, Jmf Komb A1 med A2

Snitt	Armering				Betong					
B3	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0,00	0,3	OK	2,4	OK	0,00	0,50	OK	0,03	0,51	OK
0,30	4,5	OK	4,2	OK	0,00	0,50	OK	0,05	0,51	OK
0,61	7,7	OK	6,9	OK	0,00	0,50	OK	0,09	0,53	OK
0,91	11,0	OK	9,3	OK	0,00	0,50	OK	0,13	0,54	OK
1,21	14,1	OK	11,5	OK	0,00	0,50	OK	0,17	0,55	OK
1,51	16,2	OK	12,8	OK	0,00	0,50	OK	0,20	0,56	OK
1,82	18,0	OK	13,8	OK	0,00	0,50	OK	0,22	0,57	OK
2,12	20,1	OK	15,1	OK	0,00	0,50	OK	0,25	0,58	OK
2,42	21,7	OK	16,0	OK	0,00	0,50	OK	0,27	0,59	OK
2,72	22,9	OK	16,7	OK	0,00	0,50	OK	0,30	0,60	OK
3,02	22,5	OK	16,2	OK	0,00	0,50	OK	0,29	0,60	OK
3,33	23,6	OK	16,8	OK	0,00	0,50	OK	0,31	0,60	OK
3,63	24,8	OK	17,5	OK	0,00	0,50	OK	0,33	0,61	OK
3,93	25,7	OK	18,3	OK	0,00	0,50	OK	0,34	0,61	OK
4,23	26,2	OK	18,6	OK	0,00	0,50	OK	0,35	0,62	OK
4,54	26,9	OK	19,2	OK	0,00	0,50	OK	0,36	0,62	OK
4,84	27,7	OK	19,8	OK	0,00	0,50	OK	0,37	0,62	OK
5,14	27,6	OK	19,8	OK	0,00	0,50	OK	0,37	0,62	OK
5,44	27,8	OK	20,0	OK	0,00	0,50	OK	0,37	0,62	OK
5,75	28,4	OK	20,5	OK	0,00	0,50	OK	0,37	0,62	OK
6,05	26,2	OK	18,8	OK	0,00	0,50	OK	0,35	0,61	OK
6,35	26,0	OK	18,8	OK	0,00	0,50	OK	0,34	0,61	OK
6,65	26,3	OK	19,1	OK	0,00	0,50	OK	0,34	0,61	OK
6,96	26,5	OK	19,4	OK	0,00	0,50	OK	0,33	0,61	OK
7,26	26,3	OK	19,3	OK	0,00	0,50	OK	0,32	0,60	OK
7,56	26,1	OK	19,4	OK	0,00	0,50	OK	0,31	0,60	OK
7,86	26,2	OK	19,7	OK	0,00	0,50	OK	0,30	0,59	OK
8,17	25,7	OK	19,5	OK	0,00	0,50	OK	0,29	0,59	OK
8,47	25,1	OK	19,2	OK	0,00	0,50	OK	0,27	0,58	OK
8,77	24,7	OK	19,2	OK	0,00	0,50	OK	0,25	0,57	OK
9,07	23,9	OK	18,9	OK	0,00	0,50	OK	0,23	0,56	OK
9,38	22,8	OK	18,3	OK	0,00	0,50	OK	0,21	0,55	OK
9,68	22,0	OK	18,1	OK	0,00	0,50	OK	0,18	0,54	OK
9,98	20,9	OK	17,7	OK	0,00	0,50	OK	0,16	0,53	OK
10,28	19,4	OK	16,9	OK	0,00	0,50	OK	0,13	0,52	OK
10,59	18,3	OK	16,3	OK	0,00	0,50	OK	0,10	0,51	OK
10,89	17,3	OK	15,8	OK	0,01	0,50	OK	0,06	0,50	OK
11,19	16,2	OK	15,0	OK	0,04	0,50	OK	0,03	0,50	OK
11,49	16,0	OK	14,6	OK	0,08	0,50	OK	0,00	0,50	OK
11,80	15,8	OK	14,5	OK	0,11	0,52	OK	0,00	0,50	OK
12,10	14,9	OK	14,1	OK	0,15	0,54	OK	0,00	0,50	OK
12,40	14,2	OK	14,0	OK	0,19	0,56	OK	0,00	0,50	OK
12,70	14,7	OK	13,7	OK	0,24	0,57	OK	0,00	0,50	OK
13,01	16,0	OK	13,0	OK	0,28	0,59	OK	0,00	0,50	OK
13,31	17,3	OK	13,3	OK	0,32	0,61	OK	0,00	0,50	OK
13,61	18,4	OK	14,2	OK	0,37	0,63	OK	0,00	0,50	OK
13,91	20,4	OK	14,5	OK	0,42	0,65	OK	0,00	0,50	OK
14,22	23,3	OK	15,4	OK	0,48	0,67	OK	0,00	0,50	OK
14,52	26,4	OK	17,6	OK	0,54	0,69	OK	0,00	0,50	OK
14,82	21,4	OK	15,1	OK	0,41	0,64	OK	0,00	0,50	OK

Komb B, Jmf Komb B1 med B2

Snitt	Armering				Betong					
B3	Överkant		Underkant		Överkant			Underkant		
x	$\Delta\sigma_{s.ök}$	Kontroll	$\Delta\sigma_{s.uk}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ /	0,5 + 0,45 •	Kontroll	$\lvert\sigma_{c.max}\rvert$ /	0,5 + 0,45 •	Kontroll
[m]	[MPa]	< 70 Mpa		< 70 Mpa	$f_{cd.fat}$	$\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$		$f_{cd.fat}$	$\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	
0,00	0,3	OK	2,4	OK	0,00	0,50	OK	0,03	0,51	OK
0,30	4,5	OK	4,2	OK	0,00	0,50	OK	0,05	0,51	OK
0,61	7,7	OK	6,9	OK	0,00	0,50	OK	0,09	0,53	OK
0,91	11,0	OK	9,3	OK	0,00	0,50	OK	0,13	0,54	OK
1,21	14,1	OK	11,5	OK	0,00	0,50	OK	0,17	0,55	OK
1,51	16,2	OK	12,8	OK	0,00	0,50	OK	0,20	0,56	OK
1,82	18,0	OK	13,8	OK	0,00	0,50	OK	0,22	0,57	OK
2,12	20,1	OK	15,1	OK	0,00	0,50	OK	0,25	0,58	OK
2,42	21,7	OK	16,0	OK	0,00	0,50	OK	0,28	0,59	OK
2,72	22,9	OK	16,7	OK	0,00	0,50	OK	0,30	0,60	OK
3,02	22,5	OK	16,2	OK	0,00	0,50	OK	0,30	0,60	OK
3,33	23,6	OK	16,8	OK	0,00	0,50	OK	0,31	0,60	OK
3,63	24,8	OK	17,5	OK	0,00	0,50	OK	0,33	0,61	OK
3,93	25,7	OK	18,3	OK	0,00	0,50	OK	0,34	0,61	OK
4,23	26,2	OK	18,6	OK	0,00	0,50	OK	0,35	0,62	OK
4,54	26,9	OK	19,2	OK	0,00	0,50	OK	0,36	0,62	OK
4,84	27,7	OK	19,8	OK	0,00	0,50	OK	0,37	0,62	OK
5,14	27,6	OK	19,8	OK	0,00	0,50	OK	0,37	0,62	OK
5,44	27,8	OK	20,0	OK	0,00	0,50	OK	0,37	0,62	OK
5,75	28,4	OK	20,5	OK	0,00	0,50	OK	0,38	0,62	OK
6,05	26,2	OK	18,8	OK	0,00	0,50	OK	0,35	0,61	OK
6,35	26,0	OK	18,8	OK	0,00	0,50	OK	0,34	0,61	OK
6,65	26,3	OK	19,1	OK	0,00	0,50	OK	0,34	0,61	OK
6,96	26,5	OK	19,4	OK	0,00	0,50	OK	0,33	0,61	OK
7,26	26,3	OK	19,3	OK	0,00	0,50	OK	0,32	0,60	OK
7,56	26,1	OK	19,4	OK	0,00	0,50	OK	0,31	0,60	OK
7,86	26,2	OK	19,7	OK	0,00	0,50	OK	0,30	0,59	OK
8,17	25,7	OK	19,5	OK	0,00	0,50	OK	0,29	0,59	OK
8,47	25,1	OK	19,2	OK	0,00	0,50	OK	0,27	0,58	OK
8,77	24,7	OK	19,2	OK	0,00	0,50	OK	0,25	0,57	OK
9,07	23,9	OK	18,9	OK	0,00	0,50	OK	0,23	0,56	OK
9,38	22,8	OK	18,3	OK	0,00	0,50	OK	0,21	0,55	OK
9,68	22,0	OK	18,1	OK	0,00	0,50	OK	0,18	0,54	OK
9,98	20,9	OK	17,7	OK	0,00	0,50	OK	0,16	0,53	OK
10,28	19,4	OK	16,9	OK	0,00	0,50	OK	0,13	0,52	OK
10,59	18,3	OK	16,3	OK	0,00	0,50	OK	0,10	0,51	OK
10,89	17,3	OK	15,8	OK	0,01	0,50	OK	0,06	0,50	OK
11,19	16,2	OK	15,0	OK	0,04	0,50	OK	0,03	0,50	OK
11,49	16,0	OK	14,6	OK	0,08	0,50	OK	0,00	0,50	OK
11,80	15,8	OK	14,5	OK	0,11	0,52	OK	0,00	0,50	OK
12,10	14,9	OK	14,1	OK	0,15	0,54	OK	0,00	0,50	OK
12,40	14,2	OK	14,0	OK	0,19	0,56	OK	0,00	0,50	OK
12,70	14,7	OK	13,7	OK	0,24	0,57	OK	0,00	0,50	OK
13,01	16,0	OK	13,0	OK	0,28	0,59	OK	0,00	0,50	OK
13,31	17,3	OK	13,3	OK	0,32	0,61	OK	0,00	0,50	OK
13,61	18,4	OK	14,2	OK	0,37	0,63	OK	0,00	0,50	OK
13,91	20,4	OK	14,5	OK	0,43	0,65	OK	0,00	0,50	OK
14,22	23,3	OK	15,4	OK	0,49	0,67	OK	0,00	0,50	OK
14,52	26,4	OK	17,6	OK	0,55	0,69	OK	0,00	0,50	OK
14,82	21,4	OK	15,1	OK	0,41	0,64	OK	0,00	0,50	OK

Utmattning - Enkel kontroll

Moment med tillhörande normalkraft

Enligt SS-EN 1992-1-1, 6.8.

E_s =	200	GPa	f_{ck} =	35,5	MPa
E_{cm} =	34,0	GPa	$f_{cd.fat}$ =	22,4	MPa
φ =	1,6		f_{yd} =	410	MPa

Snitt

B4

x [m]	h [m]	b_w [m]	$A_{s.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s.uk}$ [cm^2]	d_{uk} [m]	φ_{viktad}	α_{eff}	e'_N fr. ök [m]
0,00	0,800	0,500	32,7	0,740	33,7	0,740	0,96	11,0	0,400
0,30	0,800	0,500	32,7	0,740	33,7	0,740	0,96	11,0	0,400
0,61	0,800	0,500	32,7	0,740	33,7	0,740	0,96	11,0	0,400
0,91	0,800	0,500	30,3	0,740	33,7	0,740	0,96	11,0	0,400
1,21	0,800	0,500	29,8	0,740	33,7	0,740	0,96	11,0	0,400
1,51	0,800	0,500	29,8	0,740	33,7	0,740	0,96	11,0	0,400
1,82	0,800	0,500	29,8	0,740	33,7	0,740	0,96	11,0	0,400
2,12	0,800	0,500	29,8	0,740	33,7	0,740	0,96	11,0	0,400
2,42	0,800	0,500	29,8	0,740	33,7	0,740	0,96	11,0	0,400
2,72	0,800	0,500	29,8	0,740	33,7	0,740	0,96	11,0	0,400
3,02	0,800	0,500	39,0	0,740	43,0	0,740	0,96	11,0	0,400
3,33	0,800	0,500	39,0	0,740	43,0	0,740	0,96	11,0	0,400
3,63	0,800	0,500	39,0	0,740	43,0	0,740	0,96	11,0	0,400
3,93	0,800	0,500	39,0	0,740	43,0	0,740	0,96	11,0	0,400
4,23	0,800	0,500	39,0	0,740	43,0	0,740	0,96	11,0	0,400
4,54	0,800	0,500	39,0	0,740	43,0	0,740	0,96	11,0	0,400
4,84	0,800	0,500	39,0	0,740	43,0	0,740	0,96	11,0	0,400
5,14	0,800	0,500	39,0	0,740	43,0	0,740	0,96	11,0	0,400
5,44	0,800	0,500	39,0	0,740	43,0	0,740	0,96	11,0	0,400
5,75	0,800	0,500	39,0	0,740	43,0	0,740	0,96	11,0	0,400
6,05	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
6,35	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
6,65	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
6,96	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
7,26	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
7,56	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
7,86	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
8,17	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
8,47	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
8,77	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
9,07	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
9,38	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
9,68	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
9,98	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
10,28	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
10,59	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
10,89	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
11,19	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
11,49	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
11,80	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
12,10	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
12,40	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
12,70	0,800	0,500	48,2	0,740	52,2	0,740	0,96	11,0	0,400
13,01	0,800	0,500	50,4	0,740	52,2	0,740	0,96	11,0	0,400
13,31	0,800	0,500	53,5	0,740	52,2	0,740	0,96	11,0	0,400
13,61	0,800	0,500	53,5	0,740	52,2	0,740	0,96	11,0	0,400
13,91	0,800	0,500	53,5	0,740	52,2	0,740	0,96	11,0	0,400
14,22	0,800	0,500	53,5	0,740	52,2	0,740	0,96	11,0	0,400
14,52	0,800	0,500	53,5	0,740	52,2	0,740	0,96	11,0	0,400
14,82	0,800	0,500	53,5	0,740	52,2	0,740	0,96	11,0	0,400

Moment	Normalkraft	Spänningar
Negativ = drag ök	Negativ = tryck	Negativ = tryck
Positiv = drag uk	Positiv = drag	Positiv = drag

Snitt	Lastkombination (6.69) enligt SS-EN 1992-1-1											
B4	PERMANENTA				VARIABLA				CYKLISKA			
x	M_{max}	N	M_{min}	N	M_{max}	N	M_{min}	N	M_{max}	N	M_{min}	N
[m]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]	[kNm]	[kN]
0,00	-12	-92	-12	-97	0	0	0	0	-8	-43	2	2
0,30	-50	5	-49	3	0	0	0	0	-30	7	4	0
0,61	-100	13	-97	9	0	0	0	0	-53	18	4	0
0,91	-146	23	-143	16	0	0	0	0	-74	33	5	0
1,21	-189	32	-186	22	0	0	0	0	-93	50	6	-2
1,51	-230	39	-227	28	0	0	0	0	-105	66	7	-2
1,82	-268	44	-266	31	0	0	0	0	-114	82	9	-3
2,12	-305	48	-303	33	0	0	0	0	-126	98	10	-3
2,42	-338	50	-336	34	0	0	0	0	-134	112	12	-4
2,72	-369	51	-368	34	0	0	0	0	-140	123	13	-4
3,02	-398	51	-396	33	0	0	0	0	-147	131	15	-5
3,33	-423	50	-422	32	0	0	0	0	-152	143	16	-5
3,63	-445	48	-444	30	0	0	0	0	-159	153	18	-6
3,93	-465	47	-463	28	0	0	0	0	-165	159	19	-3
4,23	-481	45	-480	27	0	0	0	0	-167	164	21	0
4,54	-494	43	-493	25	0	0	0	0	-170	168	22	0
4,84	-503	41	-502	23	0	0	0	0	-175	171	24	0
5,14	-510	39	-509	21	0	0	0	0	-173	171	25	0
5,44	-513	37	-512	19	0	0	0	0	-173	170	27	0
5,75	-513	35	-512	18	0	0	0	0	-176	170	28	1
6,05	-510	33	-509	16	0	0	0	0	-172	168	30	1
6,35	-504	31	-503	15	0	0	0	0	-169	164	31	1
6,65	-494	29	-494	14	0	0	0	0	-170	163	33	1
6,96	-482	27	-481	13	0	0	0	0	-171	163	34	1
7,26	-466	26	-465	11	0	0	0	0	-169	159	36	1
7,56	-447	24	-446	10	0	0	0	0	-166	155	37	1
7,86	-425	23	-424	10	0	0	0	0	-167	150	39	1
8,17	-399	21	-399	9	0	0	0	0	-162	143	40	1
8,47	-371	20	-370	8	0	0	0	0	-157	134	42	1
8,77	-339	18	-339	7	0	0	0	0	-153	125	43	1
9,07	-305	17	-304	7	0	0	0	0	-147	115	45	1
9,38	-267	16	-266	6	0	0	0	0	-138	103	46	2
9,68	-226	15	-226	6	0	0	0	0	-132	91	48	2
9,98	-182	13	-182	6	0	0	0	0	-123	75	49	2
10,28	-135	12	-135	5	0	0	0	0	-112	59	51	2
10,59	-85	10	-85	5	0	0	0	0	-103	47	52	2
10,89	-33	8	-32	4	0	0	0	0	-94	34	54	3
11,19	23	6	23	3	0	0	0	0	-84	18	56	-1
11,49	81	3	82	2	0	0	0	0	-77	9	60	-8
11,80	142	-1	142	0	0	0	0	0	-69	1	67	-15
12,10	205	-6	206	-3	0	0	0	0	-56	-17	74	-21
12,40	270	-12	271	-7	0	0	0	0	-45	-36	81	-26
12,70	338	-20	339	-12	0	0	0	0	-38	-23	89	-31
13,01	408	-28	408	-18	0	0	0	0	-31	-5	100	-62
13,31	480	-38	480	-25	0	0	0	0	-25	-8	113	-94
13,61	554	-40	555	-41	0	0	0	0	-20	-12	128	-102
13,91	630	-40	632	-58	0	0	0	0	-14	-11	144	-140
14,22	709	-47	712	-67	0	0	0	0	-9	-7	167	-181
14,52	791	-51	796	-73	0	0	0	0	-3	-1	196	-193
14,82	555	-226	560	-250	0	0	0	0	-12	-38	153	-173

0,1

Komb A1: $\Sigma M_{A1} = M_{max.per + var} + M_{max.cyk}$

Snitt

B4

Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)

x	ΣM_{A1}	N_{A1}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-21	-135	0,800	0,470	0,402	2,9E-02	0,00	0,0	-0,6	-0,5	-5,8	OK
0,30	-80	12	0,800	0,470	0,402	2,9E-02	1,11	0,0	-1,1	10,4	-9,9	OK
0,61	-152	31	0,800	0,470	0,402	2,9E-02	2,13	0,0	-2,0	20,0	-18,7	OK
0,91	-219	56	0,800	0,467	0,400	2,9E-02	3,14	0,0	-2,9	29,5	-26,8	OK
1,21	-282	81	0,800	0,466	0,399	2,9E-02	4,07	0,0	-3,7	38,3	-34,3	OK
1,51	-334	105	0,800	0,466	0,399	2,9E-02	4,85	0,0	-4,4	45,6	-40,5	OK
1,82	-382	127	0,800	0,466	0,399	2,9E-02	5,56	0,0	-5,0	52,3	-46,1	OK
2,12	-430	146	0,800	0,466	0,399	2,9E-02	6,26	0,0	-5,6	58,9	-51,8	OK
2,42	-472	163	0,800	0,466	0,399	2,9E-02	6,88	0,0	-6,2	64,8	-56,9	OK
2,72	-509	174	0,800	0,466	0,399	2,9E-02	7,41	0,0	-6,6	69,8	-61,3	OK
3,02	-544	182	0,800	0,486	0,400	3,1E-02	7,34	0,0	-6,6	69,2	-60,9	OK
3,33	-575	193	0,800	0,486	0,400	3,1E-02	7,76	0,0	-7,0	73,1	-64,4	OK
3,63	-604	202	0,800	0,486	0,400	3,1E-02	8,15	0,0	-7,3	76,8	-67,6	OK
3,93	-629	206	0,800	0,486	0,400	3,1E-02	8,48	0,0	-7,6	79,9	-70,5	OK
4,23	-647	209	0,800	0,486	0,400	3,1E-02	8,72	0,0	-7,9	82,1	-72,6	OK
4,54	-664	211	0,800	0,486	0,400	3,1E-02	8,94	0,0	-8,1	84,1	-74,6	OK
4,84	-678	212	0,800	0,486	0,400	3,1E-02	9,12	0,0	-8,2	85,8	-76,2	OK
5,14	-683	209	0,800	0,486	0,400	3,1E-02	9,17	0,0	-8,3	86,3	-76,8	OK
5,44	-686	206	0,800	0,486	0,400	3,1E-02	9,21	0,0	-8,4	86,7	-77,3	OK
5,75	-689	205	0,800	0,486	0,400	3,1E-02	9,25	0,0	-8,4	87,0	-77,7	OK
6,05	-682	201	0,800	0,505	0,401	3,3E-02	8,53	0,0	-7,8	80,3	-71,8	OK
6,35	-673	195	0,800	0,505	0,401	3,3E-02	8,41	0,0	-7,7	79,2	-70,9	OK
6,65	-665	192	0,800	0,505	0,401	3,3E-02	8,31	0,0	-7,6	78,2	-70,1	OK
6,96	-653	191	0,800	0,505	0,401	3,3E-02	8,16	0,0	-7,4	76,8	-68,8	OK
7,26	-634	185	0,800	0,505	0,401	3,3E-02	7,93	0,0	-7,2	74,6	-66,8	OK
7,56	-613	179	0,800	0,505	0,401	3,3E-02	7,67	0,0	-7,0	72,1	-64,6	OK
7,86	-591	172	0,800	0,505	0,401	3,3E-02	7,40	0,0	-6,7	69,6	-62,3	OK
8,17	-562	164	0,800	0,505	0,401	3,3E-02	7,02	0,0	-6,4	66,1	-59,2	OK
8,47	-527	154	0,800	0,505	0,401	3,3E-02	6,60	0,0	-6,0	62,1	-55,6	OK
8,77	-493	144	0,800	0,505	0,401	3,3E-02	6,16	0,0	-5,6	58,0	-51,9	OK
9,07	-452	132	0,800	0,505	0,401	3,3E-02	5,65	0,0	-5,1	53,1	-47,5	OK
9,38	-405	119	0,800	0,505	0,401	3,3E-02	5,07	0,0	-4,6	47,7	-42,6	OK
9,68	-358	105	0,800	0,505	0,401	3,3E-02	4,48	0,0	-4,1	42,1	-37,7	OK
9,98	-305	88	0,800	0,505	0,401	3,3E-02	3,82	0,0	-3,5	35,9	-32,2	OK
10,28	-247	71	0,800	0,505	0,401	3,3E-02	3,09	0,0	-2,8	29,0	-26,0	OK
10,59	-188	58	0,800	0,505	0,401	3,3E-02	2,36	0,0	-2,1	22,2	-19,7	OK
10,89	-127	43	0,800	0,505	0,401	3,3E-02	1,60	0,0	-1,4	15,0	-13,2	OK
11,19	-61	24	0,800	0,505	0,401	3,3E-02	0,78	0,0	-0,7	7,4	-6,3	OK
11,49	4	12	0,800	0,505	0,406	3,4E-02	0,07	0,0	0,0	-0,2	0,7	OK
11,80	73	0	0,800	0,505	0,406	3,4E-02	0,86	-0,9	0,0	-8,3	8,0	OK
12,10	149	-23	0,800	0,505	0,406	3,4E-02	1,71	-1,9	0,0	-17,4	15,8	OK
12,40	225	-48	0,800	0,505	0,406	3,4E-02	2,55	-2,8	0,0	-26,6	23,6	OK
12,70	300	-43	0,800	0,505	0,406	3,4E-02	3,45	-3,7	0,0	-35,0	32,0	OK
13,01	377	-33	0,800	0,508	0,405	3,4E-02	4,35	-4,6	0,0	-43,0	40,4	OK
13,31	455	-47	0,800	0,511	0,403	3,4E-02	5,20	-5,5	0,0	-51,1	48,4	OK
13,61	534	-52	0,800	0,511	0,403	3,4E-02	6,12	-6,4	0,0	-60,0	56,9	OK
13,91	616	-51	0,800	0,511	0,403	3,4E-02	7,08	-7,4	0,0	-69,0	65,8	OK
14,22	701	-54	0,800	0,511	0,403	3,4E-02	8,06	-8,4	0,0	-78,4	74,9	OK
14,52	788	-52	0,800	0,511	0,403	3,4E-02	9,07	-9,4	0,0	-88,0	84,4	OK
14,82	543	-264	0,800	0,511	0,403	3,4E-02	5,81	-6,9	0,0	-65,6	53,3	OK

Komb A2: $\Sigma M_{A2} = M_{max.per + var} + M_{min.cyk}$

Snitt

B4

Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)

x	ΣM_{A2}	N_{A2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-10	-89	0,800	0,470	0,402	2,9E-02	-0,05	0,0	-0,3	-0,8	-3,4	OK
0,30	-46	5	0,800	0,470	0,402	2,9E-02	0,64	0,0	-0,6	6,0	-5,8	OK
0,61	-96	14	0,800	0,470	0,402	2,9E-02	1,33	0,0	-1,3	12,4	-11,9	OK
0,91	-141	22	0,800	0,467	0,400	2,9E-02	1,99	0,0	-1,9	18,6	-17,6	OK
1,21	-183	30	0,800	0,466	0,399	2,9E-02	2,59	0,0	-2,5	24,3	-22,8	OK
1,51	-222	37	0,800	0,466	0,399	2,9E-02	3,15	0,0	-3,0	29,6	-27,7	OK
1,82	-260	42	0,800	0,466	0,399	2,9E-02	3,68	0,0	-3,5	34,5	-32,3	OK
2,12	-294	45	0,800	0,466	0,399	2,9E-02	4,16	0,0	-4,0	39,0	-36,7	OK
2,42	-327	47	0,800	0,466	0,399	2,9E-02	4,61	0,0	-4,4	43,2	-40,8	OK
2,72	-356	47	0,800	0,466	0,399	2,9E-02	5,02	0,0	-4,8	47,1	-44,6	OK
3,02	-383	46	0,800	0,486	0,400	3,1E-02	5,00	0,0	-4,8	46,8	-44,7	OK
3,33	-407	45	0,800	0,486	0,400	3,1E-02	5,30	0,0	-5,1	49,6	-47,6	OK
3,63	-428	43	0,800	0,486	0,400	3,1E-02	5,57	0,0	-5,4	52,1	-50,1	OK
3,93	-445	44	0,800	0,486	0,400	3,1E-02	5,79	0,0	-5,6	54,2	-52,2	OK
4,23	-460	45	0,800	0,486	0,400	3,1E-02	5,98	0,0	-5,8	56,0	-54,0	OK
4,54	-471	43	0,800	0,486	0,400	3,1E-02	6,12	0,0	-5,9	57,3	-55,4	OK
4,84	-480	41	0,800	0,486	0,400	3,1E-02	6,23	0,0	-6,1	58,2	-56,4	OK
5,14	-485	39	0,800	0,486	0,400	3,1E-02	6,29	0,0	-6,1	58,8	-57,0	OK
5,44	-486	37	0,800	0,486	0,400	3,1E-02	6,30	0,0	-6,2	59,0	-57,3	OK
5,75	-485	35	0,800	0,486	0,400	3,1E-02	6,28	0,0	-6,1	58,8	-57,1	OK
6,05	-480	33	0,800	0,505	0,401	3,3E-02	5,80	0,0	-5,7	54,2	-52,9	OK
6,35	-473	32	0,800	0,505	0,401	3,3E-02	5,70	0,0	-5,6	53,3	-52,1	OK
6,65	-462	30	0,800	0,505	0,401	3,3E-02	5,57	0,0	-5,5	52,0	-50,9	OK
6,96	-447	28	0,800	0,505	0,401	3,3E-02	5,39	0,0	-5,3	50,4	-49,4	OK
7,26	-430	27	0,800	0,505	0,401	3,3E-02	5,18	0,0	-5,1	48,5	-47,5	OK
7,56	-410	25	0,800	0,505	0,401	3,3E-02	4,94	0,0	-4,9	46,1	-45,2	OK
7,86	-386	24	0,800	0,505	0,401	3,3E-02	4,65	0,0	-4,6	43,5	-42,6	OK
8,17	-359	22	0,800	0,505	0,401	3,3E-02	4,33	0,0	-4,3	40,5	-39,6	OK
8,47	-329	21	0,800	0,505	0,401	3,3E-02	3,97	0,0	-3,9	37,1	-36,3	OK
8,77	-296	20	0,800	0,505	0,401	3,3E-02	3,57	0,0	-3,5	33,4	-32,6	OK
9,07	-260	19	0,800	0,505	0,401	3,3E-02	3,14	0,0	-3,1	29,3	-28,6	OK
9,38	-221	17	0,800	0,505	0,401	3,3E-02	2,67	0,0	-2,6	24,9	-24,3	OK
9,68	-178	16	0,800	0,505	0,401	3,3E-02	2,16	0,0	-2,1	20,2	-19,5	OK
9,98	-133	15	0,800	0,505	0,401	3,3E-02	1,61	0,0	-1,6	15,1	-14,5	OK
10,28	-84	14	0,800	0,505	0,401	3,3E-02	1,03	0,0	-1,0	9,7	-9,1	OK
10,59	-33	13	0,800	0,505	0,401	3,3E-02	0,42	0,0	-0,4	4,0	-3,4	OK
10,89	21	11	0,800	0,505	0,406	3,4E-02	0,27	-0,2	0,0	-2,2	2,6	OK
11,19	79	5	0,800	0,505	0,406	3,4E-02	0,93	-0,9	0,0	-8,8	8,7	OK
11,49	141	-5	0,800	0,505	0,406	3,4E-02	1,65	-1,7	0,0	-16,1	15,3	OK
11,80	209	-16	0,800	0,505	0,406	3,4E-02	2,42	-2,6	0,0	-24,0	22,5	OK
12,10	279	-27	0,800	0,505	0,406	3,4E-02	3,23	-3,4	0,0	-32,2	29,9	OK
12,40	352	-38	0,800	0,505	0,406	3,4E-02	4,06	-4,3	0,0	-40,8	37,7	OK
12,70	427	-51	0,800	0,505	0,406	3,4E-02	4,92	-5,3	0,0	-49,6	45,7	OK
13,01	508	-90	0,800	0,508	0,405	3,4E-02	5,77	-6,3	0,0	-58,9	53,4	OK
13,31	593	-132	0,800	0,511	0,403	3,4E-02	6,65	-7,3	0,0	-68,3	61,6	OK
13,61	682	-141	0,800	0,511	0,403	3,4E-02	7,67	-8,3	0,0	-78,3	71,0	OK
13,91	775	-180	0,800	0,511	0,403	3,4E-02	8,67	-9,5	0,0	-89,3	80,3	OK
14,22	876	-228	0,800	0,511	0,403	3,4E-02	9,76	-10,8	0,0	-101,6	90,3	OK
14,52	987	-244	0,800	0,511	0,403	3,4E-02	11,02	-12,1	0,0	-114,2	102,0	OK
14,82	708	-399	0,800	0,511	0,403	3,4E-02	7,47	-9,1	0,0	-86,7	68,3	OK

Komb B1: $\Sigma M_{B1} = M_{min.per + var} + M_{max.cyk}$

Snitt B4	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
x	ΣM_{B1}	N_{B1}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-20	-140	0,800	0,470	0,402	2,9E-02	-0,02	0,0	-0,6	-0,7	-5,9	OK
0,30	-79	10	0,800	0,470	0,402	2,9E-02	1,09	0,0	-1,1	10,2	-9,8	OK
0,61	-150	27	0,800	0,470	0,402	2,9E-02	2,09	0,0	-2,0	19,6	-18,5	OK
0,91	-217	49	0,800	0,467	0,400	2,9E-02	3,09	0,0	-2,9	29,0	-26,7	OK
1,21	-279	72	0,800	0,466	0,399	2,9E-02	4,01	0,0	-3,7	37,7	-34,2	OK
1,51	-332	94	0,800	0,466	0,399	2,9E-02	4,79	0,0	-4,4	45,0	-40,4	OK
1,82	-380	113	0,800	0,466	0,399	2,9E-02	5,50	0,0	-5,0	51,7	-46,2	OK
2,12	-428	131	0,800	0,466	0,399	2,9E-02	6,20	0,0	-5,6	58,3	-51,9	OK
2,42	-471	147	0,800	0,466	0,399	2,9E-02	6,82	0,0	-6,2	64,2	-57,0	OK
2,72	-508	157	0,800	0,466	0,399	2,9E-02	7,35	0,0	-6,7	69,2	-61,5	OK
3,02	-543	165	0,800	0,486	0,400	3,1E-02	7,29	0,0	-6,6	68,6	-61,1	OK
3,33	-574	175	0,800	0,486	0,400	3,1E-02	7,71	0,0	-7,0	72,6	-64,6	OK
3,63	-603	184	0,800	0,486	0,400	3,1E-02	8,10	0,0	-7,3	76,2	-67,9	OK
3,93	-628	188	0,800	0,486	0,400	3,1E-02	8,43	0,0	-7,7	79,4	-70,8	OK
4,23	-646	191	0,800	0,486	0,400	3,1E-02	8,67	0,0	-7,9	81,5	-72,9	OK
4,54	-663	193	0,800	0,486	0,400	3,1E-02	8,89	0,0	-8,1	83,6	-74,9	OK
4,84	-677	194	0,800	0,486	0,400	3,1E-02	9,07	0,0	-8,3	85,3	-76,5	OK
5,14	-682	192	0,800	0,486	0,400	3,1E-02	9,13	0,0	-8,3	85,8	-77,1	OK
5,44	-685	189	0,800	0,486	0,400	3,1E-02	9,17	0,0	-8,4	86,2	-77,6	OK
5,75	-688	188	0,800	0,486	0,400	3,1E-02	9,20	0,0	-8,4	86,5	-78,0	OK
6,05	-681	185	0,800	0,505	0,401	3,3E-02	8,49	0,0	-7,8	79,9	-72,1	OK
6,35	-672	179	0,800	0,505	0,401	3,3E-02	8,37	0,0	-7,7	78,7	-71,2	OK
6,65	-664	177	0,800	0,505	0,401	3,3E-02	8,27	0,0	-7,6	77,8	-70,3	OK
6,96	-652	176	0,800	0,505	0,401	3,3E-02	8,13	0,0	-7,5	76,4	-69,0	OK
7,26	-634	170	0,800	0,505	0,401	3,3E-02	7,90	0,0	-7,2	74,2	-67,1	OK
7,56	-613	165	0,800	0,505	0,401	3,3E-02	7,63	0,0	-7,0	71,8	-64,8	OK
7,86	-591	159	0,800	0,505	0,401	3,3E-02	7,36	0,0	-6,8	69,2	-62,5	OK
8,17	-561	151	0,800	0,505	0,401	3,3E-02	6,99	0,0	-6,4	65,7	-59,4	OK
8,47	-527	142	0,800	0,505	0,401	3,3E-02	6,57	0,0	-6,0	61,7	-55,8	OK
8,77	-492	133	0,800	0,505	0,401	3,3E-02	6,14	0,0	-5,6	57,7	-52,1	OK
9,07	-451	122	0,800	0,505	0,401	3,3E-02	5,62	0,0	-5,2	52,9	-47,7	OK
9,38	-404	110	0,800	0,505	0,401	3,3E-02	5,04	0,0	-4,6	47,4	-42,8	OK
9,68	-357	97	0,800	0,505	0,401	3,3E-02	4,45	0,0	-4,1	41,9	-37,8	OK
9,98	-305	81	0,800	0,505	0,401	3,3E-02	3,80	0,0	-3,5	35,7	-32,3	OK
10,28	-246	65	0,800	0,505	0,401	3,3E-02	3,07	0,0	-2,8	28,8	-26,1	OK
10,59	-188	52	0,800	0,505	0,401	3,3E-02	2,34	0,0	-2,1	22,0	-19,8	OK
10,89	-126	38	0,800	0,505	0,401	3,3E-02	1,58	0,0	-1,4	14,9	-13,3	OK
11,19	-61	21	0,800	0,505	0,401	3,3E-02	0,77	0,0	-0,7	7,3	-6,3	OK
11,49	5	11	0,800	0,505	0,406	3,4E-02	0,08	0,0	0,0	-0,3	0,8	OK
11,80	74	1	0,800	0,505	0,406	3,4E-02	0,87	-0,9	0,0	-8,3	8,1	OK
12,10	150	-20	0,800	0,505	0,406	3,4E-02	1,72	-1,9	0,0	-17,4	15,9	OK
12,40	226	-43	0,800	0,505	0,406	3,4E-02	2,57	-2,8	0,0	-26,6	23,8	OK
12,70	301	-35	0,800	0,505	0,406	3,4E-02	3,47	-3,7	0,0	-35,0	32,2	OK
13,01	378	-23	0,800	0,508	0,405	3,4E-02	4,38	-4,6	0,0	-42,8	40,7	OK
13,31	455	-34	0,800	0,511	0,403	3,4E-02	5,23	-5,4	0,0	-50,9	48,6	OK
13,61	535	-53	0,800	0,511	0,403	3,4E-02	6,12	-6,4	0,0	-60,1	56,9	OK
13,91	617	-69	0,800	0,511	0,403	3,4E-02	7,06	-7,4	0,0	-69,6	65,6	OK
14,22	704	-74	0,800	0,511	0,403	3,4E-02	8,05	-8,5	0,0	-79,2	74,8	OK
14,52	793	-74	0,800	0,511	0,403	3,4E-02	9,09	-9,5	0,0	-89,0	84,5	OK
14,82	547	-287	0,800	0,511	0,403	3,4E-02	5,82	-7,0	0,0	-66,6	53,3	OK

Komb B2: $\Sigma M_{B2} = M_{min.per + var} + M_{min.cyk}$

Snitt B4	Beräkning av spänningar i Stadium II (böjsprucket tvärsnitt)											
x	ΣM_{B2}	N_{B2}	x_{tryck}	A_{ekv}	$x_{tp.ekv}$	I_{ekv}	$\sigma_{c.neutral}$	$\sigma_{c.ök}$	$\sigma_{c.uk}$	$\sigma_{s.ök}$	$\sigma_{s.uk}$	Kontroll
[m]	[kNm]	[kN]	[m]	[m²]	[m]	[m⁴]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	$\sigma_s \leq f_{yd}$
0,00	-10	-95	0,800	0,470	0,402	2,9E-02	-0,07	0,0	-0,3	-0,9	-3,5	OK
0,30	-45	3	0,800	0,470	0,402	2,9E-02	0,61	0,0	-0,6	5,7	-5,6	OK
0,61	-93	9	0,800	0,470	0,402	2,9E-02	1,29	0,0	-1,3	12,0	-11,7	OK
0,91	-138	16	0,800	0,467	0,400	2,9E-02	1,94	0,0	-1,9	18,2	-17,4	OK
1,21	-180	21	0,800	0,466	0,399	2,9E-02	2,54	0,0	-2,4	23,8	-22,7	OK
1,51	-220	26	0,800	0,466	0,399	2,9E-02	3,09	0,0	-3,0	29,0	-27,7	OK
1,82	-257	29	0,800	0,466	0,399	2,9E-02	3,62	0,0	-3,5	33,9	-32,4	OK
2,12	-292	30	0,800	0,466	0,399	2,9E-02	4,10	0,0	-4,0	38,4	-36,8	OK
2,42	-325	31	0,800	0,466	0,399	2,9E-02	4,55	0,0	-4,4	42,6	-41,0	OK
2,72	-355	30	0,800	0,466	0,399	2,9E-02	4,96	0,0	-4,8	46,4	-44,8	OK
3,02	-382	29	0,800	0,486	0,400	3,1E-02	4,94	0,0	-4,8	46,3	-44,9	OK
3,33	-406	27	0,800	0,486	0,400	3,1E-02	5,25	0,0	-5,1	49,1	-47,9	OK
3,63	-427	25	0,800	0,486	0,400	3,1E-02	5,51	0,0	-5,4	51,5	-50,4	OK
3,93	-444	25	0,800	0,486	0,400	3,1E-02	5,74	0,0	-5,6	53,7	-52,5	OK
4,23	-459	27	0,800	0,486	0,400	3,1E-02	5,93	0,0	-5,8	55,5	-54,2	OK
4,54	-470	25	0,800	0,486	0,400	3,1E-02	6,08	0,0	-6,0	56,8	-55,7	OK
4,84	-479	23	0,800	0,486	0,400	3,1E-02	6,18	0,0	-6,1	57,7	-56,7	OK
5,14	-484	21	0,800	0,486	0,400	3,1E-02	6,24	0,0	-6,1	58,3	-57,3	OK
5,44	-486	20	0,800	0,486	0,400	3,1E-02	6,26	0,0	-6,2	58,5	-57,6	OK
5,75	-484	18	0,800	0,486	0,400	3,1E-02	6,24	0,0	-6,2	58,3	-57,4	OK
6,05	-480	17	0,800	0,505	0,401	3,3E-02	5,76	0,0	-5,7	53,8	-53,2	OK
6,35	-472	16	0,800	0,505	0,401	3,3E-02	5,66	0,0	-5,6	52,9	-52,4	OK
6,65	-461	15	0,800	0,505	0,401	3,3E-02	5,53	0,0	-5,5	51,6	-51,2	OK
6,96	-447	13	0,800	0,505	0,401	3,3E-02	5,36	0,0	-5,3	50,0	-49,6	OK
7,26	-429	12	0,800	0,505	0,401	3,3E-02	5,15	0,0	-5,1	48,1	-47,7	OK
7,56	-409	11	0,800	0,505	0,401	3,3E-02	4,90	0,0	-4,9	45,8	-45,4	OK
7,86	-385	11	0,800	0,505	0,401	3,3E-02	4,62	0,0	-4,6	43,1	-42,8	OK
8,17	-359	10	0,800	0,505	0,401	3,3E-02	4,30	0,0	-4,3	40,1	-39,8	OK
8,47	-329	9	0,800	0,505	0,401	3,3E-02	3,94	0,0	-3,9	36,8	-36,5	OK
8,77	-296	9	0,800	0,505	0,401	3,3E-02	3,54	0,0	-3,5	33,1	-32,8	OK
9,07	-259	8	0,800	0,505	0,401	3,3E-02	3,11	0,0	-3,1	29,1	-28,8	OK
9,38	-220	8	0,800	0,505	0,401	3,3E-02	2,64	0,0	-2,6	24,7	-24,4	OK
9,68	-178	8	0,800	0,505	0,401	3,3E-02	2,14	0,0	-2,1	20,0	-19,7	OK
9,98	-132	8	0,800	0,505	0,401	3,3E-02	1,59	0,0	-1,6	14,9	-14,6	OK
10,28	-84	7	0,800	0,505	0,401	3,3E-02	1,02	0,0	-1,0	9,5	-9,2	OK
10,59	-33	7	0,800	0,505	0,401	3,3E-02	0,40	0,0	-0,4	3,8	-3,5	OK
10,89	22	7	0,800	0,505	0,406	3,4E-02	0,27	-0,2	0,0	-2,3	2,5	OK
11,19	79	3	0,800	0,505	0,406	3,4E-02	0,93	-1,0	0,0	-8,9	8,7	OK
11,49	142	-6	0,800	0,505	0,406	3,4E-02	1,65	-1,7	0,0	-16,2	15,4	OK
11,80	209	-15	0,800	0,505	0,406	3,4E-02	2,43	-2,6	0,0	-24,1	22,6	OK
12,10	279	-24	0,800	0,505	0,406	3,4E-02	3,24	-3,4	0,0	-32,3	30,1	OK
12,40	352	-33	0,800	0,505	0,406	3,4E-02	4,08	-4,3	0,0	-40,7	37,8	OK
12,70	428	-43	0,800	0,505	0,406	3,4E-02	4,95	-5,3	0,0	-49,5	45,9	OK
13,01	508	-80	0,800	0,508	0,405	3,4E-02	5,80	-6,3	0,0	-58,7	53,7	OK
13,31	593	-119	0,800	0,511	0,403	3,4E-02	6,68	-7,2	0,0	-68,0	61,9	OK
13,61	682	-143	0,800	0,511	0,403	3,4E-02	7,67	-8,3	0,0	-78,3	71,0	OK
13,91	776	-198	0,800	0,511	0,403	3,4E-02	8,65	-9,5	0,0	-89,9	80,0	OK
14,22	879	-248	0,800	0,511	0,403	3,4E-02	9,76	-10,9	0,0	-102,3	90,1	OK
14,52	993	-266	0,800	0,511	0,403	3,4E-02	11,05	-12,2	0,0	-115,2	102,1	OK
14,82	712	-423	0,800	0,511	0,403	3,4E-02	7,48	-9,2	0,0	-87,7	68,4	OK

Komb A, Jmf Komb A1 med A2

Snitt	Armering				Betong					
B4	Överkant		Underkant		Överkant			Underkant		
x [m]	$\Delta\sigma_{s.ök}$ [MPa]	Kontroll < 70 Mpa	$\Delta\sigma_{s.uk}$	Kontroll < 70 Mpa	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ / $f_{cd.fat}$	0,5 + 0,45 • $\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	Kontroll
0,00	0,3	OK	2,4	OK	0,00	0,50	OK	0,03	0,51	OK
0,30	4,4	OK	4,2	OK	0,00	0,50	OK	0,05	0,51	OK
0,61	7,6	OK	6,8	OK	0,00	0,50	OK	0,09	0,53	OK
0,91	10,9	OK	9,3	OK	0,00	0,50	OK	0,13	0,54	OK
1,21	13,9	OK	11,5	OK	0,00	0,50	OK	0,17	0,55	OK
1,51	16,0	OK	12,8	OK	0,00	0,50	OK	0,20	0,56	OK
1,82	17,8	OK	13,8	OK	0,00	0,50	OK	0,22	0,57	OK
2,12	19,9	OK	15,1	OK	0,00	0,50	OK	0,25	0,58	OK
2,42	21,6	OK	16,0	OK	0,00	0,50	OK	0,27	0,59	OK
2,72	22,7	OK	16,7	OK	0,00	0,50	OK	0,30	0,60	OK
3,02	22,3	OK	16,2	OK	0,00	0,50	OK	0,29	0,60	OK
3,33	23,5	OK	16,8	OK	0,00	0,50	OK	0,31	0,60	OK
3,63	24,7	OK	17,5	OK	0,00	0,50	OK	0,33	0,61	OK
3,93	25,7	OK	18,3	OK	0,00	0,50	OK	0,34	0,61	OK
4,23	26,1	OK	18,7	OK	0,00	0,50	OK	0,35	0,62	OK
4,54	26,8	OK	19,2	OK	0,00	0,50	OK	0,36	0,62	OK
4,84	27,6	OK	19,8	OK	0,00	0,50	OK	0,37	0,62	OK
5,14	27,5	OK	19,8	OK	0,00	0,50	OK	0,37	0,62	OK
5,44	27,7	OK	20,1	OK	0,00	0,50	OK	0,37	0,62	OK
5,75	28,2	OK	20,6	OK	0,00	0,50	OK	0,37	0,62	OK
6,05	26,1	OK	18,9	OK	0,00	0,50	OK	0,35	0,61	OK
6,35	25,9	OK	18,8	OK	0,00	0,50	OK	0,34	0,61	OK
6,65	26,1	OK	19,2	OK	0,00	0,50	OK	0,34	0,61	OK
6,96	26,4	OK	19,4	OK	0,00	0,50	OK	0,33	0,61	OK
7,26	26,2	OK	19,4	OK	0,00	0,50	OK	0,32	0,60	OK
7,56	26,0	OK	19,4	OK	0,00	0,50	OK	0,31	0,60	OK
7,86	26,1	OK	19,7	OK	0,00	0,50	OK	0,30	0,59	OK
8,17	25,6	OK	19,5	OK	0,00	0,50	OK	0,29	0,59	OK
8,47	25,0	OK	19,3	OK	0,00	0,50	OK	0,27	0,58	OK
8,77	24,6	OK	19,3	OK	0,00	0,50	OK	0,25	0,57	OK
9,07	23,8	OK	18,9	OK	0,00	0,50	OK	0,23	0,56	OK
9,38	22,7	OK	18,4	OK	0,00	0,50	OK	0,21	0,55	OK
9,68	21,9	OK	18,1	OK	0,00	0,50	OK	0,18	0,54	OK
9,98	20,8	OK	17,7	OK	0,00	0,50	OK	0,16	0,53	OK
10,28	19,3	OK	16,9	OK	0,00	0,50	OK	0,13	0,52	OK
10,59	18,2	OK	16,3	OK	0,00	0,50	OK	0,10	0,51	OK
10,89	17,2	OK	15,8	OK	0,01	0,50	OK	0,06	0,50	OK
11,19	16,2	OK	15,0	OK	0,04	0,50	OK	0,03	0,50	OK
11,49	15,9	OK	14,6	OK	0,08	0,50	OK	0,00	0,50	OK
11,80	15,7	OK	14,5	OK	0,11	0,52	OK	0,00	0,50	OK
12,10	14,8	OK	14,1	OK	0,15	0,54	OK	0,00	0,50	OK
12,40	14,1	OK	14,0	OK	0,19	0,56	OK	0,00	0,50	OK
12,70	14,6	OK	13,7	OK	0,24	0,57	OK	0,00	0,50	OK
13,01	15,9	OK	13,0	OK	0,28	0,59	OK	0,00	0,50	OK
13,31	17,2	OK	13,2	OK	0,32	0,61	OK	0,00	0,50	OK
13,61	18,2	OK	14,1	OK	0,37	0,63	OK	0,00	0,50	OK
13,91	20,3	OK	14,5	OK	0,42	0,65	OK	0,00	0,50	OK
14,22	23,1	OK	15,3	OK	0,48	0,67	OK	0,00	0,50	OK
14,52	26,2	OK	17,6	OK	0,54	0,69	OK	0,00	0,50	OK
14,82	21,1	OK	15,0	OK	0,41	0,64	OK	0,00	0,50	OK

Komb B, Jmf Komb B1 med B2

Snitt	Armering				Betong					
B4	Överkant		Underkant		Överkant			Underkant		
x	$\Delta\sigma_{s.ök}$	Kontroll	$\Delta\sigma_{s.uk}$	Kontroll	$\lvert\sigma_{c.max}\rvert$ /	0,5 + 0,45 •	Kontroll	$\lvert\sigma_{c.max}\rvert$ /	0,5 + 0,45 •	Kontroll
[m]	[MPa]	< 70 Mpa		< 70 Mpa	$f_{cd.fat}$	$\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$		$f_{cd.fat}$	$\lvert\sigma_{c.min}\rvert$ / $f_{cd.fat}$	
0,00	0,3	OK	2,4	OK	0,00	0,50	OK	0,03	0,51	OK
0,30	4,4	OK	4,2	OK	0,00	0,50	OK	0,05	0,51	OK
0,61	7,6	OK	6,8	OK	0,00	0,50	OK	0,09	0,53	OK
0,91	10,9	OK	9,3	OK	0,00	0,50	OK	0,13	0,54	OK
1,21	13,9	OK	11,5	OK	0,00	0,50	OK	0,16	0,55	OK
1,51	16,0	OK	12,8	OK	0,00	0,50	OK	0,20	0,56	OK
1,82	17,8	OK	13,8	OK	0,00	0,50	OK	0,22	0,57	OK
2,12	19,9	OK	15,1	OK	0,00	0,50	OK	0,25	0,58	OK
2,42	21,6	OK	16,0	OK	0,00	0,50	OK	0,28	0,59	OK
2,72	22,7	OK	16,7	OK	0,00	0,50	OK	0,30	0,60	OK
3,02	22,3	OK	16,2	OK	0,00	0,50	OK	0,30	0,60	OK
3,33	23,5	OK	16,8	OK	0,00	0,50	OK	0,31	0,60	OK
3,63	24,7	OK	17,5	OK	0,00	0,50	OK	0,33	0,61	OK
3,93	25,7	OK	18,3	OK	0,00	0,50	OK	0,34	0,61	OK
4,23	26,1	OK	18,7	OK	0,00	0,50	OK	0,35	0,62	OK
4,54	26,8	OK	19,2	OK	0,00	0,50	OK	0,36	0,62	OK
4,84	27,6	OK	19,8	OK	0,00	0,50	OK	0,37	0,62	OK
5,14	27,5	OK	19,8	OK	0,00	0,50	OK	0,37	0,62	OK
5,44	27,7	OK	20,1	OK	0,00	0,50	OK	0,37	0,62	OK
5,75	28,2	OK	20,6	OK	0,00	0,50	OK	0,38	0,62	OK
6,05	26,1	OK	18,9	OK	0,00	0,50	OK	0,35	0,61	OK
6,35	25,9	OK	18,8	OK	0,00	0,50	OK	0,34	0,61	OK
6,65	26,1	OK	19,2	OK	0,00	0,50	OK	0,34	0,61	OK
6,96	26,4	OK	19,4	OK	0,00	0,50	OK	0,33	0,61	OK
7,26	26,2	OK	19,4	OK	0,00	0,50	OK	0,32	0,60	OK
7,56	26,0	OK	19,4	OK	0,00	0,50	OK	0,31	0,60	OK
7,86	26,1	OK	19,7	OK	0,00	0,50	OK	0,30	0,59	OK
8,17	25,6	OK	19,5	OK	0,00	0,50	OK	0,29	0,59	OK
8,47	25,0	OK	19,3	OK	0,00	0,50	OK	0,27	0,58	OK
8,77	24,6	OK	19,3	OK	0,00	0,50	OK	0,25	0,57	OK
9,07	23,8	OK	18,9	OK	0,00	0,50	OK	0,23	0,56	OK
9,38	22,7	OK	18,4	OK	0,00	0,50	OK	0,21	0,55	OK
9,68	21,9	OK	18,1	OK	0,00	0,50	OK	0,18	0,54	OK
9,98	20,8	OK	17,7	OK	0,00	0,50	OK	0,16	0,53	OK
10,28	19,3	OK	16,9	OK	0,00	0,50	OK	0,13	0,52	OK
10,59	18,2	OK	16,3	OK	0,00	0,50	OK	0,10	0,51	OK
10,89	17,2	OK	15,8	OK	0,01	0,50	OK	0,06	0,50	OK
11,19	16,2	OK	15,0	OK	0,04	0,50	OK	0,03	0,50	OK
11,49	15,9	OK	14,6	OK	0,08	0,50	OK	0,00	0,50	OK
11,80	15,7	OK	14,5	OK	0,11	0,52	OK	0,00	0,50	OK
12,10	14,8	OK	14,1	OK	0,15	0,54	OK	0,00	0,50	OK
12,40	14,1	OK	14,0	OK	0,19	0,56	OK	0,00	0,50	OK
12,70	14,6	OK	13,7	OK	0,24	0,57	OK	0,00	0,50	OK
13,01	15,9	OK	13,0	OK	0,28	0,59	OK	0,00	0,50	OK
13,31	17,2	OK	13,2	OK	0,32	0,61	OK	0,00	0,50	OK
13,61	18,2	OK	14,1	OK	0,37	0,63	OK	0,00	0,50	OK
13,91	20,3	OK	14,5	OK	0,43	0,65	OK	0,00	0,50	OK
14,22	23,1	OK	15,3	OK	0,49	0,67	OK	0,00	0,50	OK
14,52	26,2	OK	17,6	OK	0,55	0,69	OK	0,00	0,50	OK
14,82	21,1	OK	15,0	OK	0,41	0,64	OK	0,00	0,50	OK

Utmattning - Enkel kontroll

Tvärkraft

Enligt SS-EN 1992-1-1, 6.8.

f_{ck} =	35,5	MPa	ν =	0,51	
$f_{cd.fat}$ =	22,4	MPa	$f_{cd.fat.red}$ =	11,5	MPa
θ_{fat} =	32,3	°	α_{cw} =	1,0	

Snitt B1

x [m]	h [m]	b_w [m]	$A_{s0.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s0.uk}$ [cm^2]	d_{uk} [m]	A_{sw} [cm^2/m]	$V_{Rd,c}$ [kN]
0,00	0,83	0,50	32,7	0,77	33,7	0,77	10,5	-
0,30	0,83	0,50	32,7	0,77	33,7	0,77	10,5	-
0,61	0,83	0,50	32,7	0,77	33,7	0,77	10,5	-
0,91	0,83	0,50	30,3	0,77	33,7	0,77	5,2	-
1,21	0,83	0,50	29,8	0,77	33,7	0,77	5,2	-
1,51	0,83	0,50	29,8	0,77	33,7	0,77	5,2	-
1,82	0,83	0,50	29,8	0,77	33,7	0,77	5,2	-
2,12	0,83	0,50	29,8	0,77	33,7	0,77	5,2	-
2,42	0,83	0,50	29,8	0,77	33,7	0,77	5,2	-
2,72	0,83	0,50	29,8	0,77	33,7	0,77	5,2	-
3,02	0,83	0,50	39,0	0,77	43,0	0,77	5,2	-
3,33	0,83	0,50	39,0	0,77	43,0	0,77	5,2	-
3,63	0,83	0,50	39,0	0,77	43,0	0,77	5,2	-
3,93	0,83	0,50	39,0	0,77	43,0	0,77	5,2	-
4,23	0,83	0,50	39,0	0,77	43,0	0,77	5,2	-
4,54	0,83	0,50	39,0	0,77	43,0	0,77	5,2	-
4,84	0,83	0,50	39,0	0,77	43,0	0,77	5,2	-
5,14	0,83	0,50	39,0	0,77	43,0	0,77	5,2	-
5,44	0,83	0,50	39,0	0,77	43,0	0,77	5,2	-
5,75	0,83	0,50	39,0	0,77	43,0	0,77	5,2	-
6,05	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
6,35	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
6,65	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
6,96	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
7,26	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
7,56	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
7,86	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
8,17	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
8,47	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
8,77	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
9,07	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
9,38	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
9,68	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
9,98	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
10,28	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
10,59	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
10,89	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
11,19	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
11,49	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
11,80	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
12,10	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
12,40	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
12,70	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
13,01	0,83	0,50	50,4	0,77	52,2	0,77	5,2	-
13,31	0,83	0,50	53,5	0,77	52,2	0,77	5,2	-
13,61	0,83	0,50	53,5	0,77	52,2	0,77	5,2	-
13,91	0,83	0,50	53,5	0,77	52,2	0,77	5,2	-
14,22	0,83	0,50	53,5	0,77	52,2	0,77	10,5	-
14,52	0,83	0,50	53,5	0,77	52,2	0,77	10,5	-
14,82	0,83	0,50	53,5	0,77	52,2	0,77	10,5	-

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$
Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$
Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Snitt B1	Lastkombination (6.69) enligt SS-EN 1992-1-1									
	Permanenta		Variabla		Cykliska					
x [m]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	ΣV_{A1} [kN]	ΣV_{A2} [kN]	ΣV_{B1} [kN]	ΣV_{B2} [kN]
0,00	133	-38	0	0	23	-15	156	118	-15	-53
0,30	258	31	0	0	46	-14	303	244	76	17
0,61	242	13	0	0	45	-11	287	231	57	2
0,91	227	7	0	0	43	-10	270	217	50	-3
1,21	212	1	0	0	41	-10	254	203	43	-8
1,51	198	0	0	0	39	-9	237	189	39	-9
1,82	184	-1	0	0	37	-9	220	175	36	-10
2,12	169	-1	0	0	34	-9	203	160	33	-10
2,42	155	-1	0	0	32	-9	187	146	31	-9
2,72	141	0	0	0	29	-9	170	132	29	-9
3,02	127	0	0	0	27	-8	154	118	26	-9
3,33	113	0	0	0	24	-8	137	104	24	-8
3,63	98	0	0	0	22	-8	120	90	22	-8
3,93	84	0	0	0	20	-8	104	76	20	-8
4,23	69	0	0	0	18	-8	87	61	18	-8
4,54	55	0	0	0	16	-8	70	46	16	-8
4,84	40	0	0	0	14	-8	54	32	14	-8
5,14	25	0	0	0	12	-8	37	17	12	-8
5,44	10	0	0	0	10	-8	20	2	11	-8
5,75	0	-6	0	0	9	-9	9	-9	2	-15
6,05	0	-21	0	0	8	-11	8	-10	-14	-32
6,35	0	-36	0	0	7	-12	7	-12	-30	-49
6,65	0	-51	0	0	6	-14	6	-14	-45	-65
6,96	0	-66	0	0	5	-16	6	-15	-61	-82
7,26	0	-81	0	0	5	-17	5	-17	-77	-99
7,56	0	-96	0	0	4	-19	4	-19	-92	-115
7,86	0	-111	0	0	3	-20	4	-20	-108	-132
8,17	0	-126	0	0	3	-22	3	-22	-123	-148
8,47	0	-141	0	0	3	-24	3	-24	-139	-165
8,77	0	-156	0	0	3	-27	3	-27	-153	-183
9,07	0	-171	0	0	3	-29	3	-29	-168	-200
9,38	0	-185	0	0	3	-31	3	-32	-182	-217
9,68	0	-200	0	0	4	-34	3	-34	-197	-234
9,98	0	-215	0	0	4	-36	3	-36	-211	-251
10,28	-1	-229	0	0	4	-38	3	-39	-225	-267
10,59	-1	-244	0	0	4	-40	4	-41	-240	-284
10,89	-1	-258	0	0	4	-42	4	-43	-254	-300
11,19	-1	-273	0	0	5	-44	3	-45	-268	-316
11,49	-2	-287	0	0	5	-45	3	-47	-282	-332
11,80	-2	-301	0	0	5	-46	3	-49	-296	-348
12,10	-3	-316	0	0	5	-47	2	-50	-311	-363
12,40	-4	-330	0	0	5	-48	1	-53	-325	-379
12,70	-6	-345	0	0	5	-49	-1	-55	-340	-394
13,01	-9	-360	0	0	5	-49	-4	-59	-354	-409
13,31	-14	-375	0	0	6	-49	-8	-63	-368	-424
13,61	-22	-390	0	0	8	-49	-13	-70	-382	-439
13,91	-33	-406	0	0	11	-48	-22	-81	-395	-454
14,22	-50	-422	0	0	15	-47	-35	-97	-407	-469
14,52	-71	-439	0	0	20	-46	-51	-117	-419	-485
14,82	8	-101	0	0	104	-104	112	-96	3	-205

Komb A, Jmf Komb A1 med A2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
102,7

Snitt B1	Kontroll - Tryckspänning					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0,00	1,9	1,5	0,17	0,56	OK	33,2	OK
0,30	3,8	3,0	0,33	0,62	OK	51,5	OK
0,61	3,6	2,9	0,31	0,61	OK	48,3	OK
0,91	3,4	2,7	0,29	0,61	OK	92,9	ej OK
1,21	3,1	2,5	0,27	0,60	OK	88,9	ej OK
1,51	2,9	2,3	0,26	0,59	OK	84,4	ej OK
1,82	2,7	2,2	0,24	0,58	OK	79,5	ej OK
2,12	2,5	2,0	0,22	0,58	OK	74,8	ej OK
2,42	2,3	1,8	0,20	0,57	OK	70,3	ej OK
2,72	2,1	1,6	0,18	0,56	OK	65,7	OK
3,02	1,9	1,5	0,17	0,56	OK	61,2	OK
3,33	1,7	1,3	0,15	0,55	OK	57,0	OK
3,63	1,5	1,1	0,13	0,54	OK	52,8	OK
3,93	1,3	0,9	0,11	0,54	OK	48,8	OK
4,23	1,1	0,8	0,09	0,53	OK	45,3	OK
4,54	0,9	0,6	0,08	0,52	OK	41,9	OK
4,84	0,7	0,4	0,06	0,52	OK	38,6	OK
5,14	0,5	0,2	0,04	0,51	OK	35,3	OK
5,44	0,3	0,0	0,02	0,50	OK	32,2	OK
5,75	0,1	-0,1	0,01	0,50	OK	15,7	OK
6,05	0,1	-0,1	0,01	0,50	OK	17,8	OK
6,35	0,1	-0,1	0,01	0,50	OK	20,8	OK
6,65	0,1	-0,2	0,01	0,50	OK	23,6	OK
6,96	0,1	-0,2	0,02	0,50	OK	26,6	OK
7,26	0,1	-0,2	0,02	0,50	OK	29,6	OK
7,56	0,1	-0,2	0,02	0,50	OK	32,3	OK
7,86	0,0	-0,2	0,02	0,50	OK	35,1	OK
8,17	0,0	-0,3	0,02	0,50	OK	38,1	OK
8,47	0,0	-0,3	0,03	0,50	OK	41,9	OK
8,77	0,0	-0,3	0,03	0,50	OK	46,6	OK
9,07	0,0	-0,4	0,03	0,50	OK	50,8	OK
9,38	0,0	-0,4	0,03	0,50	OK	54,9	OK
9,68	0,0	-0,4	0,04	0,50	OK	59,2	OK
9,98	0,0	-0,5	0,04	0,50	OK	63,4	OK
10,28	0,0	-0,5	0,04	0,50	OK	67,2	OK
10,59	0,0	-0,5	0,04	0,50	OK	70,8	ej OK
10,89	0,0	-0,5	0,05	0,50	OK	74,6	ej OK
11,19	0,0	-0,6	0,05	0,50	OK	78,2	ej OK
11,49	0,0	-0,6	0,05	0,50	OK	81,5	ej OK
11,80	0,0	-0,6	0,05	0,50	OK	84,6	ej OK
12,10	0,0	-0,6	0,05	0,50	OK	88,0	ej OK
12,40	0,0	-0,7	0,06	0,50	OK	91,9	ej OK
12,70	0,0	-0,7	0,06	0,50	OK	94,7	ej OK
13,01	0,0	-0,7	0,06	0,50	OK	95,2	ej OK
13,31	-0,1	-0,8	0,07	0,50	OK	97,0	ej OK
13,61	-0,2	-0,9	0,08	0,51	OK	99,7	ej OK
13,91	-0,3	-1,0	0,09	0,51	OK	102,7	ej OK
14,22	-0,4	-1,2	0,10	0,52	OK	53,8	OK
14,52	-0,6	-1,5	0,13	0,52	OK	57,6	OK
14,82	1,4	-1,2	0,12	0,50	OK	97,6	ej OK

Komb A, Jmf Komb A1 med A2

Snitt	Kontroll - Betong utan tvärkraftsarmering			
B1		V_{min} / V_{max} ≥ 0	V_{min} / V_{max} < 0	
x [m]	$\lvert V_{max}\rvert$ / $\lvert V_{Rdc}\rvert$	0,5 + 0,45 • $\lvert V_{min}\rvert$ / $\lvert V_{Rdc}\rvert$	0,5 - $\lvert V_{min}\rvert$ / $\lvert V_{Rdc}\rvert$	Kontroll
0,00	-	-	-	-
0,30	-	-	-	-
0,61	-	-	-	-
0,91	-	-	-	-
1,21	-	-	-	-
1,51	-	-	-	-
1,82	-	-	-	-
2,12	-	-	-	-
2,42	-	-	-	-
2,72	-	-	-	-
3,02	-	-	-	-
3,33	-	-	-	-
3,63	-	-	-	-
3,93	-	-	-	-
4,23	-	-	-	-
4,54	-	-	-	-
4,84	-	-	-	-
5,14	-	-	-	-
5,44	-	-	-	-
5,75	-	-	-	-
6,05	-	-	-	-
6,35	-	-	-	-
6,65	-	-	-	-
6,96	-	-	-	-
7,26	-	-	-	-
7,56	-	-	-	-
7,86	-	-	-	-
8,17	-	-	-	-
8,47	-	-	-	-
8,77	-	-	-	-
9,07	-	-	-	-
9,38	-	-	-	-
9,68	-	-	-	-
9,98	-	-	-	-
10,28	-	-	-	-
10,59	-	-	-	-
10,89	-	-	-	-
11,19	-	-	-	-
11,49	-	-	-	-
11,80	-	-	-	-
12,10	-	-	-	-
12,40	-	-	-	-
12,70	-	-	-	-
13,01	-	-	-	-
13,31	-	-	-	-
13,61	-	-	-	-
13,91	-	-	-	-
14,22	-	-	-	-
14,52	-	-	-	-
14,82	-	-	-	-

Komb B, Jmf Komb B1 med B2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
178,3

Snitt B1	Kontroll - Tryckspänning					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0,00	-0,2	-0,7	0,06	0,51	OK	33,2	OK
0,30	0,9	0,2	0,08	0,51	OK	51,5	OK
0,61	0,7	0,0	0,06	0,50	OK	48,3	OK
0,91	0,6	0,0	0,05	0,50	OK	87,3	ej OK
1,21	0,5	-0,1	0,05	0,50	OK	74,2	ej OK
1,51	0,5	-0,1	0,04	0,50	OK	67,9	OK
1,82	0,4	-0,1	0,04	0,50	OK	62,3	OK
2,12	0,4	-0,1	0,04	0,50	OK	58,2	OK
2,42	0,4	-0,1	0,03	0,50	OK	54,2	OK
2,72	0,4	-0,1	0,03	0,50	OK	50,2	OK
3,02	0,3	-0,1	0,03	0,50	OK	46,1	OK
3,33	0,3	-0,1	0,03	0,50	OK	42,3	OK
3,63	0,3	-0,1	0,02	0,50	OK	38,3	OK
3,93	0,2	-0,1	0,02	0,50	OK	34,5	OK
4,23	0,2	-0,1	0,02	0,50	OK	31,1	OK
4,54	0,2	-0,1	0,02	0,50	OK	27,9	OK
4,84	0,2	-0,1	0,02	0,50	OK	24,6	OK
5,14	0,2	-0,1	0,01	0,50	OK	21,4	OK
5,44	0,1	-0,1	0,01	0,50	OK	18,4	OK
5,75	0,0	-0,2	0,02	0,50	OK	26,7	OK
6,05	-0,2	-0,4	0,03	0,51	OK	31,4	OK
6,35	-0,4	-0,6	0,05	0,51	OK	33,1	OK
6,65	-0,6	-0,8	0,07	0,52	OK	34,7	OK
6,96	-0,8	-1,0	0,09	0,53	OK	36,6	OK
7,26	-1,0	-1,2	0,11	0,54	OK	38,4	OK
7,56	-1,1	-1,4	0,12	0,54	OK	39,9	OK
7,86	-1,3	-1,6	0,14	0,55	OK	41,5	OK
8,17	-1,5	-1,8	0,16	0,56	OK	43,4	OK
8,47	-1,7	-2,1	0,18	0,57	OK	46,5	OK
8,77	-1,9	-2,3	0,20	0,57	OK	51,4	OK
9,07	-2,1	-2,5	0,22	0,58	OK	56,0	OK
9,38	-2,3	-2,7	0,23	0,59	OK	60,4	OK
9,68	-2,4	-2,9	0,25	0,60	OK	64,9	OK
9,98	-2,6	-3,1	0,27	0,60	OK	69,3	OK
10,28	-2,8	-3,3	0,29	0,61	OK	73,3	ej OK
10,59	-3,0	-3,5	0,31	0,62	OK	76,9	ej OK
10,89	-3,1	-3,7	0,32	0,62	OK	80,7	ej OK
11,19	-3,3	-3,9	0,34	0,63	OK	84,3	ej OK
11,49	-3,5	-4,1	0,36	0,64	OK	87,2	ej OK
11,80	-3,7	-4,3	0,37	0,64	OK	89,5	ej OK
12,10	-3,9	-4,5	0,39	0,65	OK	91,6	ej OK
12,40	-4,0	-4,7	0,41	0,66	OK	93,5	ej OK
12,70	-4,2	-4,9	0,42	0,66	OK	94,7	ej OK
13,01	-4,4	-5,1	0,44	0,67	OK	95,2	ej OK
13,31	-4,6	-5,3	0,46	0,68	OK	97,0	ej OK
13,61	-4,7	-5,4	0,47	0,68	OK	99,7	ej OK
13,91	-4,9	-5,6	0,49	0,69	OK	102,7	ej OK
14,22	-5,1	-5,8	0,50	0,70	OK	53,8	OK
14,52	-5,2	-6,0	0,52	0,70	OK	57,6	OK
14,82	0,0	-2,5	0,22	0,50	OK	178,3	ej OK

Komb B, Jmf Komb B1 med B2

Snitt B1	Kontroll - Betong utan tvärkraftsarmering			
		V_{min} / $V_{max} \geq 0$	V_{min} / $V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert$ / $\lvert V_{Rdc} \rvert$	0,5 + 0,45 • $\lvert V_{min} \rvert$ / $\lvert V_{Rdc} \rvert$	0,5 - $\lvert V_{min} \rvert$ / $\lvert V_{Rdc} \rvert$	Kontroll
0,00	-	-	-	-
0,30	-	-	-	-
0,61	-	-	-	-
0,91	-	-	-	-
1,21	-	-	-	-
1,51	-	-	-	-
1,82	-	-	-	-
2,12	-	-	-	-
2,42	-	-	-	-
2,72	-	-	-	-
3,02	-	-	-	-
3,33	-	-	-	-
3,63	-	-	-	-
3,93	-	-	-	-
4,23	-	-	-	-
4,54	-	-	-	-
4,84	-	-	-	-
5,14	-	-	-	-
5,44	-	-	-	-
5,75	-	-	-	-
6,05	-	-	-	-
6,35	-	-	-	-
6,65	-	-	-	-
6,96	-	-	-	-
7,26	-	-	-	-
7,56	-	-	-	-
7,86	-	-	-	-
8,17	-	-	-	-
8,47	-	-	-	-
8,77	-	-	-	-
9,07	-	-	-	-
9,38	-	-	-	-
9,68	-	-	-	-
9,98	-	-	-	-
10,28	-	-	-	-
10,59	-	-	-	-
10,89	-	-	-	-
11,19	-	-	-	-
11,49	-	-	-	-
11,80	-	-	-	-
12,10	-	-	-	-
12,40	-	-	-	-
12,70	-	-	-	-
13,01	-	-	-	-
13,31	-	-	-	-
13,61	-	-	-	-
13,91	-	-	-	-
14,22	-	-	-	-
14,52	-	-	-	-
14,82	-	-	-	-

Utmattning - Enkel kontroll

Tvärkraft

Enligt SS-EN 1992-1-1, 6.8.

f_{ck} =	35,5	MPa	ν =	0,51	
$f_{cd.fat}$ =	22,4	MPa	$f_{cd.fat.red}$ =	11,5	MPa
θ_{fat} =	32,3	°	α_{cw} =	1,0	

Snitt B2

x [m]	h [m]	b_w [m]	$A_{s0.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s0.uk}$ [cm^2]	d_{uk} [m]	A_{sw} [cm^2/m]	$V_{Rd,c}$ [kN]
0,00	0,75	0,60	32,7	0,69	33,7	0,69	10,5	-
0,30	0,75	0,60	32,7	0,69	33,7	0,69	10,5	-
0,61	0,75	0,60	32,7	0,69	33,7	0,69	10,5	-
0,91	0,75	0,60	30,3	0,69	33,7	0,69	5,2	-
1,21	0,75	0,60	29,8	0,69	33,7	0,69	5,2	-
1,51	0,75	0,60	29,8	0,69	33,7	0,69	5,2	-
1,82	0,75	0,60	29,8	0,69	33,7	0,69	5,2	-
2,12	0,75	0,60	29,8	0,69	33,7	0,69	5,2	-
2,42	0,75	0,60	29,8	0,69	33,7	0,69	5,2	-
2,72	0,75	0,60	29,8	0,69	33,7	0,69	5,2	-
3,02	0,75	0,60	39,0	0,69	43,0	0,69	5,2	-
3,33	0,75	0,60	39,0	0,69	43,0	0,69	5,2	-
3,63	0,75	0,60	39,0	0,69	43,0	0,69	5,2	-
3,93	0,75	0,60	39,0	0,69	43,0	0,69	5,2	-
4,23	0,75	0,60	39,0	0,69	43,0	0,69	5,2	-
4,54	0,75	0,60	39,0	0,69	43,0	0,69	5,2	-
4,84	0,75	0,60	39,0	0,69	43,0	0,69	5,2	-
5,14	0,75	0,60	39,0	0,69	43,0	0,69	5,2	-
5,44	0,75	0,60	39,0	0,69	43,0	0,69	5,2	-
5,75	0,75	0,60	39,0	0,69	43,0	0,69	5,2	-
6,05	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
6,35	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
6,65	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
6,96	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
7,26	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
7,56	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
7,86	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
8,17	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
8,47	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
8,77	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
9,07	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
9,38	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
9,68	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
9,98	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
10,28	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
10,59	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
10,89	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
11,19	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
11,49	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
11,80	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
12,10	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
12,40	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
12,70	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
13,01	0,75	0,60	50,4	0,69	52,2	0,69	5,2	-
13,31	0,75	0,60	53,5	0,69	52,2	0,69	5,2	-
13,61	0,75	0,60	53,5	0,69	52,2	0,69	5,2	-
13,91	0,75	0,60	53,5	0,69	52,2	0,69	5,2	-
14,22	0,75	0,60	53,5	0,69	52,2	0,69	10,5	-
14,52	0,75	0,60	53,5	0,69	52,2	0,69	10,5	-
14,82	0,75	0,60	53,5	0,69	52,2	0,69	10,5	-

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$
Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$
Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Snitt B2	Lastkombination (6.69) enligt SS-EN 1992-1-1									
	Permanenta		Variabla		Cykliska					
x [m]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	ΣV_{A1} [kN]	ΣV_{A2} [kN]	ΣV_{B1} [kN]	ΣV_{B2} [kN]
0,00	69	-18	0	0	58	-20	127	49	39	-39
0,30	133	1	0	0	105	-18	238	115	106	-17
0,61	123	4	0	0	92	-8	215	115	96	-4
0,91	113	6	0	0	89	-7	202	106	95	-2
1,21	104	5	0	0	84	-11	187	92	88	-7
1,51	94	3	0	0	75	-12	170	82	78	-9
1,82	86	2	0	0	75	-15	161	71	77	-13
2,12	78	1	0	0	71	-19	149	58	72	-18
2,42	70	0	0	0	65	-23	135	47	65	-23
2,72	62	-1	0	0	66	-26	128	36	65	-27
3,02	55	-1	0	0	64	-30	119	26	63	-30
3,33	48	-1	0	0	58	-33	107	15	57	-34
3,63	41	-1	0	0	59	-35	101	6	58	-36
3,93	34	-1	0	0	58	-37	92	-3	57	-38
4,23	28	-1	0	0	53	-39	81	-12	52	-40
4,54	21	-1	0	0	54	-41	75	-20	54	-42
4,84	14	-1	0	0	53	-42	67	-28	52	-43
5,14	8	-1	0	0	50	-44	57	-37	49	-45
5,44	1	-1	0	0	52	-46	53	-45	51	-47
5,75	0	-6	0	0	50	-47	50	-47	44	-53
6,05	0	-12	0	0	46	-49	46	-49	33	-61
6,35	0	-19	0	0	48	-51	48	-51	29	-70
6,65	0	-25	0	0	46	-52	46	-52	21	-77
6,96	0	-32	0	0	43	-55	43	-55	11	-87
7,26	0	-38	0	0	44	-56	44	-56	6	-94
7,56	0	-45	0	0	42	-57	42	-57	-3	-102
7,86	0	-51	0	0	40	-62	40	-62	-12	-113
8,17	0	-58	0	0	40	-62	40	-62	-18	-120
8,47	0	-65	0	0	38	-65	38	-64	-27	-130
8,77	0	-72	0	0	34	-70	35	-70	-37	-142
9,07	0	-79	0	0	34	-70	34	-70	-45	-149
9,38	0	-86	0	0	32	-74	32	-73	-54	-159
9,68	0	-93	0	0	29	-79	29	-79	-64	-173
9,98	0	-100	0	0	27	-79	27	-79	-74	-179
10,28	0	-108	0	0	26	-83	26	-83	-82	-191
10,59	0	-115	0	0	22	-90	22	-90	-93	-205
10,89	-1	-123	0	0	19	-89	18	-90	-105	-213
11,19	-1	-131	0	0	18	-95	17	-96	-113	-226
11,49	-1	-140	0	0	17	-102	16	-104	-122	-242
11,80	-2	-148	0	0	14	-102	12	-104	-135	-250
12,10	-3	-157	0	0	12	-109	9	-112	-145	-266
12,40	-4	-166	0	0	12	-118	8	-122	-154	-284
12,70	-5	-176	0	0	9	-118	4	-123	-167	-294
13,01	-7	-185	0	0	9	-127	2	-134	-176	-312
13,31	-7	-195	0	0	9	-137	2	-144	-186	-332
13,61	-6	-205	0	0	10	-138	4	-145	-195	-343
13,91	-4	-215	0	0	14	-149	10	-154	-201	-364
14,22	-1	-225	0	0	19	-161	19	-162	-206	-386
14,52	5	-235	0	0	24	-163	29	-158	-211	-398
14,82	22	-37	0	0	149	-149	171	-127	112	-186

Komb A, Jmf Komb A1 med A2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
298,8

Snitt B2	Kontroll - Tryckspänning					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0,00	1,5	0,6	0,13	0,52	OK	75,9	ej OK
0,30	2,7	1,3	0,24	0,55	OK	119,5	ej OK
0,61	2,5	1,3	0,21	0,55	OK	97,2	ej OK
0,91	2,3	1,2	0,20	0,55	OK	188,3	ej OK
1,21	2,2	1,1	0,19	0,54	OK	184,8	ej OK
1,51	2,0	0,9	0,17	0,54	OK	170,4	ej OK
1,82	1,9	0,8	0,16	0,53	OK	174,6	ej OK
2,12	1,7	0,7	0,15	0,53	OK	176,1	ej OK
2,42	1,6	0,5	0,14	0,52	OK	170,7	ej OK
2,72	1,5	0,4	0,13	0,52	OK	179,7	ej OK
3,02	1,4	0,3	0,12	0,51	OK	181,4	ej OK
3,33	1,2	0,2	0,11	0,51	OK	177,3	ej OK
3,63	1,2	0,1	0,10	0,50	OK	184,3	ej OK
3,93	1,1	0,0	0,09	0,50	OK	179,0	ej OK
4,23	0,9	-0,1	0,08	0,50	OK	157,2	ej OK
4,54	0,9	-0,2	0,08	0,50	OK	146,4	ej OK
4,84	0,8	-0,3	0,07	0,50	OK	130,8	ej OK
5,14	0,7	-0,4	0,06	0,50	OK	111,7	ej OK
5,44	0,6	-0,5	0,05	0,50	OK	103,1	ej OK
5,75	0,6	-0,5	0,05	0,50	OK	96,6	ej OK
6,05	0,5	-0,6	0,05	0,50	OK	95,5	ej OK
6,35	0,5	-0,6	0,05	0,50	OK	99,3	ej OK
6,65	0,5	-0,6	0,05	0,50	OK	100,7	ej OK
6,96	0,5	-0,6	0,05	0,50	OK	106,6	ej OK
7,26	0,5	-0,6	0,06	0,50	OK	108,5	ej OK
7,56	0,5	-0,7	0,06	0,50	OK	111,4	ej OK
7,86	0,5	-0,7	0,06	0,50	OK	120,1	ej OK
8,17	0,5	-0,7	0,06	0,50	OK	120,1	ej OK
8,47	0,4	-0,7	0,06	0,50	OK	125,3	ej OK
8,77	0,4	-0,8	0,07	0,50	OK	136,4	ej OK
9,07	0,4	-0,8	0,07	0,50	OK	135,8	ej OK
9,38	0,4	-0,8	0,07	0,50	OK	142,4	ej OK
9,68	0,3	-0,9	0,08	0,50	OK	154,1	ej OK
9,98	0,3	-0,9	0,08	0,50	OK	153,4	ej OK
10,28	0,3	-1,0	0,08	0,50	OK	162,0	ej OK
10,59	0,3	-1,0	0,09	0,50	OK	175,0	ej OK
10,89	0,2	-1,0	0,09	0,50	OK	174,8	ej OK
11,19	0,2	-1,1	0,10	0,50	OK	186,3	ej OK
11,49	0,2	-1,2	0,10	0,50	OK	201,6	ej OK
11,80	0,1	-1,2	0,10	0,50	OK	202,6	ej OK
12,10	0,1	-1,3	0,11	0,50	OK	218,1	ej OK
12,40	0,1	-1,4	0,12	0,50	OK	236,8	ej OK
12,70	0,0	-1,4	0,12	0,50	OK	240,0	ej OK
13,01	0,0	-1,5	0,13	0,50	OK	259,7	ej OK
13,31	0,0	-1,7	0,14	0,50	OK	280,0	ej OK
13,61	0,0	-1,7	0,14	0,50	OK	281,3	ej OK
13,91	0,1	-1,8	0,15	0,50	OK	298,8	ej OK
14,22	0,2	-1,9	0,16	0,50	OK	157,2	ej OK
14,52	0,3	-1,8	0,16	0,50	OK	153,7	ej OK
14,82	2,0	-1,5	0,17	0,50	OK	166,2	ej OK

Komb A, Jmf Komb A1 med A2

Snitt B2	Kontroll - Betong utan tvärkraftsarmering			
		V_{min} / $V_{max} \geq 0$	V_{min} / $V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert$ / $\lvert V_{Rdc} \rvert$	0,5 + 0,45 • $\lvert V_{min} \rvert$ / $\lvert V_{Rdc} \rvert$	0,5 - $\lvert V_{min} \rvert$ / $\lvert V_{Rdc} \rvert$	Kontroll
0,00	-	-	-	-
0,30	-	-	-	-
0,61	-	-	-	-
0,91	-	-	-	-
1,21	-	-	-	-
1,51	-	-	-	-
1,82	-	-	-	-
2,12	-	-	-	-
2,42	-	-	-	-
2,72	-	-	-	-
3,02	-	-	-	-
3,33	-	-	-	-
3,63	-	-	-	-
3,93	-	-	-	-
4,23	-	-	-	-
4,54	-	-	-	-
4,84	-	-	-	-
5,14	-	-	-	-
5,44	-	-	-	-
5,75	-	-	-	-
6,05	-	-	-	-
6,35	-	-	-	-
6,65	-	-	-	-
6,96	-	-	-	-
7,26	-	-	-	-
7,56	-	-	-	-
7,86	-	-	-	-
8,17	-	-	-	-
8,47	-	-	-	-
8,77	-	-	-	-
9,07	-	-	-	-
9,38	-	-	-	-
9,68	-	-	-	-
9,98	-	-	-	-
10,28	-	-	-	-
10,59	-	-	-	-
10,89	-	-	-	-
11,19	-	-	-	-
11,49	-	-	-	-
11,80	-	-	-	-
12,10	-	-	-	-
12,40	-	-	-	-
12,70	-	-	-	-
13,01	-	-	-	-
13,31	-	-	-	-
13,61	-	-	-	-
13,91	-	-	-	-
14,22	-	-	-	-
14,52	-	-	-	-
14,82	-	-	-	-

Komb B, Jmf Komb B1 med B2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
317,8

Snitt B2	Kontroll - Tryckspänning					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0,00	0,5	-0,4	0,04	0,50	OK	38,3	OK
0,30	1,2	-0,2	0,11	0,50	OK	103,0	ej OK
0,61	1,1	0,0	0,10	0,50	OK	93,3	ej OK
0,91	1,1	0,0	0,10	0,50	OK	185,2	ej OK
1,21	1,0	-0,1	0,09	0,50	OK	171,8	ej OK
1,51	0,9	-0,1	0,08	0,50	OK	152,6	ej OK
1,82	0,9	-0,1	0,08	0,50	OK	149,4	ej OK
2,12	0,8	-0,2	0,07	0,50	OK	140,5	ej OK
2,42	0,8	-0,3	0,07	0,50	OK	126,8	ej OK
2,72	0,8	-0,3	0,07	0,50	OK	127,2	ej OK
3,02	0,7	-0,4	0,06	0,50	OK	122,1	ej OK
3,33	0,7	-0,4	0,06	0,50	OK	111,6	ej OK
3,63	0,7	-0,4	0,06	0,50	OK	113,5	ej OK
3,93	0,7	-0,4	0,06	0,50	OK	110,2	ej OK
4,23	0,6	-0,5	0,05	0,50	OK	101,6	ej OK
4,54	0,6	-0,5	0,05	0,50	OK	104,0	ej OK
4,84	0,6	-0,5	0,05	0,50	OK	101,4	ej OK
5,14	0,6	-0,5	0,05	0,50	OK	95,3	ej OK
5,44	0,6	-0,5	0,05	0,50	OK	99,7	ej OK
5,75	0,5	-0,6	0,05	0,50	OK	102,6	ej OK
6,05	0,4	-0,7	0,06	0,50	OK	119,4	ej OK
6,35	0,3	-0,8	0,07	0,50	OK	135,8	ej OK
6,65	0,2	-0,9	0,08	0,50	OK	149,7	ej OK
6,96	0,1	-1,0	0,09	0,50	OK	168,3	ej OK
7,26	0,1	-1,1	0,09	0,50	OK	182,9	ej OK
7,56	0,0	-1,2	0,10	0,50	OK	193,5	ej OK
7,86	-0,1	-1,3	0,11	0,51	OK	197,4	ej OK
8,17	-0,2	-1,4	0,12	0,51	OK	198,4	ej OK
8,47	-0,3	-1,5	0,13	0,51	OK	198,9	ej OK
8,77	-0,4	-1,6	0,14	0,52	OK	203,7	ej OK
9,07	-0,5	-1,7	0,15	0,52	OK	201,9	ej OK
9,38	-0,6	-1,8	0,16	0,52	OK	205,1	ej OK
9,68	-0,7	-2,0	0,17	0,53	OK	210,3	ej OK
9,98	-0,9	-2,1	0,18	0,53	OK	205,5	ej OK
10,28	-0,9	-2,2	0,19	0,54	OK	212,0	ej OK
10,59	-1,1	-2,4	0,21	0,54	OK	218,1	ej OK
10,89	-1,2	-2,5	0,21	0,55	OK	210,1	ej OK
11,19	-1,3	-2,6	0,23	0,55	OK	219,9	ej OK
11,49	-1,4	-2,8	0,24	0,56	OK	232,4	ej OK
11,80	-1,6	-2,9	0,25	0,56	OK	225,1	ej OK
12,10	-1,7	-3,1	0,27	0,57	OK	235,9	ej OK
12,40	-1,8	-3,3	0,28	0,57	OK	252,4	ej OK
12,70	-1,9	-3,4	0,29	0,58	OK	246,9	ej OK
13,01	-2,0	-3,6	0,31	0,58	OK	264,2	ej OK
13,31	-2,1	-3,8	0,33	0,58	OK	284,2	ej OK
13,61	-2,2	-4,0	0,34	0,59	OK	289,2	ej OK
13,91	-2,3	-4,2	0,36	0,59	OK	317,8	ej OK
14,22	-2,4	-4,5	0,39	0,59	OK	175,3	ej OK
14,52	-2,4	-4,6	0,40	0,60	OK	182,2	ej OK
14,82	1,3	-2,2	0,19	0,50	OK	181,1	ej OK

Komb B, Jmf Komb B1 med B2

Snitt B2	Kontroll - Betong utan tvärkraftsarmering			
		V_{min} / $V_{max} \geq 0$	V_{min} / $V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert$ / $\lvert V_{Rdc} \rvert$	0,5 + 0,45 • $\lvert V_{min} \rvert$ / $\lvert V_{Rdc} \rvert$	0,5 - $\lvert V_{min} \rvert$ / $\lvert V_{Rdc} \rvert$	Kontroll
0,00	-	-	-	-
0,30	-	-	-	-
0,61	-	-	-	-
0,91	-	-	-	-
1,21	-	-	-	-
1,51	-	-	-	-
1,82	-	-	-	-
2,12	-	-	-	-
2,42	-	-	-	-
2,72	-	-	-	-
3,02	-	-	-	-
3,33	-	-	-	-
3,63	-	-	-	-
3,93	-	-	-	-
4,23	-	-	-	-
4,54	-	-	-	-
4,84	-	-	-	-
5,14	-	-	-	-
5,44	-	-	-	-
5,75	-	-	-	-
6,05	-	-	-	-
6,35	-	-	-	-
6,65	-	-	-	-
6,96	-	-	-	-
7,26	-	-	-	-
7,56	-	-	-	-
7,86	-	-	-	-
8,17	-	-	-	-
8,47	-	-	-	-
8,77	-	-	-	-
9,07	-	-	-	-
9,38	-	-	-	-
9,68	-	-	-	-
9,98	-	-	-	-
10,28	-	-	-	-
10,59	-	-	-	-
10,89	-	-	-	-
11,19	-	-	-	-
11,49	-	-	-	-
11,80	-	-	-	-
12,10	-	-	-	-
12,40	-	-	-	-
12,70	-	-	-	-
13,01	-	-	-	-
13,31	-	-	-	-
13,61	-	-	-	-
13,91	-	-	-	-
14,22	-	-	-	-
14,52	-	-	-	-
14,82	-	-	-	-

Utmattning - Enkel kontroll

Tvärkraft

Enligt SS-EN 1992-1-1, 6.8.

f_{ck} =	35,5	MPa	ν =	0,51	
$f_{cd.fat}$ =	22,4	MPa	$f_{cd.fat.red}$ =	11,5	MPa
θ_{fat} =	32,3	°	α_{cw} =	1,0	

Snitt B3

x [m]	h [m]	b_w [m]	$A_{s0.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s0.uk}$ [cm^2]	d_{uk} [m]	A_{sw} [cm^2/m]	$V_{Rd,c}$ [kN]
0,00	0,80	0,50	32,7	0,74	33,7	0,74	10,5	-
0,30	0,80	0,50	32,7	0,74	33,7	0,74	10,5	-
0,61	0,80	0,50	32,7	0,74	33,7	0,74	10,5	-
0,91	0,80	0,50	30,3	0,74	33,7	0,74	5,2	-
1,21	0,80	0,50	29,8	0,74	33,7	0,74	5,2	-
1,51	0,80	0,50	29,8	0,74	33,7	0,74	5,2	-
1,82	0,80	0,50	29,8	0,74	33,7	0,74	5,2	-
2,12	0,80	0,50	29,8	0,74	33,7	0,74	5,2	-
2,42	0,80	0,50	29,8	0,74	33,7	0,74	5,2	-
2,72	0,80	0,50	29,8	0,74	33,7	0,74	5,2	-
3,02	0,80	0,50	39,0	0,74	43,0	0,74	5,2	-
3,33	0,80	0,50	39,0	0,74	43,0	0,74	5,2	-
3,63	0,80	0,50	39,0	0,74	43,0	0,74	5,2	-
3,93	0,80	0,50	39,0	0,74	43,0	0,74	5,2	-
4,23	0,80	0,50	39,0	0,74	43,0	0,74	5,2	-
4,54	0,80	0,50	39,0	0,74	43,0	0,74	5,2	-
4,84	0,80	0,50	39,0	0,74	43,0	0,74	5,2	-
5,14	0,80	0,50	39,0	0,74	43,0	0,74	5,2	-
5,44	0,80	0,50	39,0	0,74	43,0	0,74	5,2	-
5,75	0,80	0,50	39,0	0,74	43,0	0,74	5,2	-
6,05	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
6,35	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
6,65	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
6,96	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
7,26	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
7,56	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
7,86	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
8,17	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
8,47	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
8,77	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
9,07	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
9,38	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
9,68	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
9,98	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
10,28	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
10,59	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
10,89	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
11,19	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
11,49	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
11,80	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
12,10	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
12,40	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
12,70	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
13,01	0,80	0,50	50,4	0,74	52,2	0,74	5,2	-
13,31	0,80	0,50	53,5	0,74	52,2	0,74	5,2	-
13,61	0,80	0,50	53,5	0,74	52,2	0,74	5,2	-
13,91	0,80	0,50	53,5	0,74	52,2	0,74	5,2	-
14,22	0,80	0,50	53,5	0,74	52,2	0,74	10,5	-
14,52	0,80	0,50	53,5	0,74	52,2	0,74	10,5	-
14,82	0,80	0,50	53,5	0,74	52,2	0,74	10,5	-

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$
Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$
Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Snitt B3	Lastkombination (6.69) enligt SS-EN 1992-1-1									
	Permanenta		Variabla		Cykliska					
x [m]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	ΣV_{A1} [kN]	ΣV_{A2} [kN]	ΣV_{B1} [kN]	ΣV_{B2} [kN]
0,00	91	-8	0	0	63	-40	153	50	55	-48
0,30	177	0	0	0	113	-12	290	164	113	-12
0,61	167	0	0	0	102	-6	269	161	102	-6
0,91	158	1	0	0	102	-8	260	149	104	-7
1,21	148	2	0	0	94	-9	242	139	96	-7
1,51	138	2	0	0	86	-9	224	129	88	-7
1,82	128	2	0	0	87	-11	215	117	89	-9
2,12	118	2	0	0	81	-15	198	103	82	-13
2,42	107	1	0	0	74	-17	182	91	75	-15
2,72	97	1	0	0	76	-19	173	78	77	-18
3,02	87	1	0	0	70	-23	157	64	71	-23
3,33	76	0	0	0	65	-27	141	50	65	-26
3,63	66	0	0	0	67	-28	133	37	67	-28
3,93	55	0	0	0	62	-32	117	24	62	-32
4,23	45	0	0	0	57	-34	102	11	57	-34
4,54	35	0	0	0	59	-37	93	-2	59	-37
4,84	24	0	0	0	55	-39	79	-15	55	-39
5,14	14	0	0	0	51	-41	65	-27	51	-41
5,44	3	0	0	0	53	-44	57	-41	53	-44
5,75	0	-8	0	0	49	-46	49	-46	41	-53
6,05	0	-18	0	0	44	-47	44	-48	26	-65
6,35	0	-28	0	0	46	-51	46	-51	18	-80
6,65	0	-39	0	0	43	-53	42	-53	4	-91
6,96	0	-49	0	0	39	-56	39	-56	-10	-105
7,26	0	-59	0	0	40	-58	40	-59	-19	-118
7,56	0	-70	0	0	37	-61	37	-61	-33	-130
7,86	0	-80	0	0	34	-66	34	-66	-46	-145
8,17	0	-90	0	0	35	-67	34	-67	-56	-157
8,47	0	-100	0	0	31	-70	30	-71	-70	-171
8,77	0	-111	0	0	27	-77	27	-77	-83	-188
9,07	0	-121	0	0	26	-78	26	-78	-94	-199
9,38	0	-131	0	0	24	-82	24	-82	-107	-213
9,68	0	-141	0	0	21	-89	20	-89	-120	-229
9,98	-1	-151	0	0	18	-89	17	-90	-133	-240
10,28	-1	-161	0	0	17	-94	17	-94	-143	-255
10,59	-1	-171	0	0	16	-101	15	-101	-155	-271
10,89	-1	-180	0	0	13	-101	12	-102	-167	-282
11,19	-1	-190	0	0	12	-106	11	-107	-178	-296
11,49	-1	-200	0	0	12	-114	11	-115	-188	-313
11,80	-1	-209	0	0	10	-114	9	-116	-199	-323
12,10	-2	-218	0	0	9	-120	7	-122	-210	-339
12,40	-2	-228	0	0	9	-128	7	-130	-219	-356
12,70	-2	-237	0	0	9	-129	7	-131	-228	-365
13,01	-2	-246	0	0	9	-136	7	-138	-236	-382
13,31	-2	-254	0	0	9	-144	8	-146	-245	-399
13,61	-1	-263	0	0	10	-146	9	-147	-254	-409
13,91	0	-272	0	0	10	-154	10	-154	-262	-426
14,22	1	-281	0	0	10	-163	11	-162	-271	-444
14,52	3	-290	0	0	11	-165	13	-162	-280	-455
14,82	7	-12	0	0	133	-133	140	-126	121	-145

Komb A, Jmf Komb A1 med A2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
279,4

Snitt B3	Kontroll - Tryckspänning					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0,00	2,0	0,6	0,17	0,53	OK	93,2	ej OK
0,30	3,7	2,1	0,32	0,58	OK	114,0	ej OK
0,61	3,5	2,1	0,30	0,58	OK	98,1	ej OK
0,91	3,4	1,9	0,29	0,58	OK	200,3	ej OK
1,21	3,1	1,8	0,27	0,57	OK	185,6	ej OK
1,51	2,9	1,7	0,25	0,56	OK	172,5	ej OK
1,82	2,8	1,5	0,24	0,56	OK	178,7	ej OK
2,12	2,6	1,3	0,22	0,55	OK	173,0	ej OK
2,42	2,3	1,2	0,20	0,55	OK	164,4	ej OK
2,72	2,2	1,0	0,19	0,54	OK	171,7	ej OK
3,02	2,0	0,8	0,18	0,53	OK	169,5	ej OK
3,33	1,8	0,6	0,16	0,53	OK	165,7	ej OK
3,63	1,7	0,5	0,15	0,52	OK	172,6	ej OK
3,93	1,5	0,3	0,13	0,51	OK	169,5	ej OK
4,23	1,3	0,1	0,11	0,51	OK	165,3	ej OK
4,54	1,2	0,0	0,10	0,50	OK	168,9	ej OK
4,84	1,0	-0,2	0,09	0,50	OK	143,2	ej OK
5,14	0,8	-0,4	0,07	0,50	OK	117,7	ej OK
5,44	0,7	-0,5	0,06	0,50	OK	102,6	ej OK
5,75	0,6	-0,6	0,05	0,50	OK	88,2	ej OK
6,05	0,6	-0,6	0,05	0,50	OK	86,2	ej OK
6,35	0,6	-0,7	0,06	0,50	OK	92,9	ej OK
6,65	0,5	-0,7	0,06	0,50	OK	95,6	ej OK
6,96	0,5	-0,7	0,06	0,50	OK	101,1	ej OK
7,26	0,5	-0,8	0,07	0,50	OK	106,1	ej OK
7,56	0,5	-0,8	0,07	0,50	OK	110,3	ej OK
7,86	0,4	-0,8	0,07	0,50	OK	119,3	ej OK
8,17	0,4	-0,9	0,08	0,50	OK	121,9	ej OK
8,47	0,4	-0,9	0,08	0,50	OK	128,3	ej OK
8,77	0,3	-1,0	0,09	0,50	OK	140,3	ej OK
9,07	0,3	-1,0	0,09	0,50	OK	142,3	ej OK
9,38	0,3	-1,1	0,09	0,50	OK	149,5	ej OK
9,68	0,3	-1,2	0,10	0,50	OK	161,5	ej OK
9,98	0,2	-1,2	0,10	0,50	OK	163,0	ej OK
10,28	0,2	-1,2	0,11	0,50	OK	171,3	ej OK
10,59	0,2	-1,3	0,11	0,50	OK	183,8	ej OK
10,89	0,2	-1,3	0,11	0,50	OK	185,1	ej OK
11,19	0,1	-1,4	0,12	0,50	OK	194,8	ej OK
11,49	0,1	-1,5	0,13	0,50	OK	208,1	ej OK
11,80	0,1	-1,5	0,13	0,50	OK	209,6	ej OK
12,10	0,1	-1,6	0,14	0,50	OK	221,0	ej OK
12,40	0,1	-1,7	0,15	0,50	OK	235,3	ej OK
12,70	0,1	-1,7	0,15	0,50	OK	237,0	ej OK
13,01	0,1	-1,8	0,15	0,50	OK	250,1	ej OK
13,31	0,1	-1,9	0,16	0,50	OK	265,0	ej OK
13,61	0,1	-1,9	0,16	0,50	OK	266,1	ej OK
13,91	0,1	-2,0	0,17	0,50	OK	279,4	ej OK
14,22	0,1	-2,1	0,18	0,50	OK	146,8	ej OK
14,52	0,2	-2,1	0,18	0,50	OK	147,2	ej OK
14,82	1,8	-1,6	0,16	0,50	OK	126,6	ej OK

Komb A, Jmf Komb A1 med A2

Snitt B3	Kontroll - Betong utan tvärkraftsarmering			
		V_{min} / $V_{max} \geq 0$	V_{min} / $V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert$ / $\lvert V_{Rdc} \rvert$	0,5 + 0,45 • $\lvert V_{min} \rvert$ / $\lvert V_{Rdc} \rvert$	0,5 - $\lvert V_{min} \rvert$ / $\lvert V_{Rdc} \rvert$	Kontroll
0,00	-	-	-	-
0,30	-	-	-	-
0,61	-	-	-	-
0,91	-	-	-	-
1,21	-	-	-	-
1,51	-	-	-	-
1,82	-	-	-	-
2,12	-	-	-	-
2,42	-	-	-	-
2,72	-	-	-	-
3,02	-	-	-	-
3,33	-	-	-	-
3,63	-	-	-	-
3,93	-	-	-	-
4,23	-	-	-	-
4,54	-	-	-	-
4,84	-	-	-	-
5,14	-	-	-	-
5,44	-	-	-	-
5,75	-	-	-	-
6,05	-	-	-	-
6,35	-	-	-	-
6,65	-	-	-	-
6,96	-	-	-	-
7,26	-	-	-	-
7,56	-	-	-	-
7,86	-	-	-	-
8,17	-	-	-	-
8,47	-	-	-	-
8,77	-	-	-	-
9,07	-	-	-	-
9,38	-	-	-	-
9,68	-	-	-	-
9,98	-	-	-	-
10,28	-	-	-	-
10,59	-	-	-	-
10,89	-	-	-	-
11,19	-	-	-	-
11,49	-	-	-	-
11,80	-	-	-	-
12,10	-	-	-	-
12,40	-	-	-	-
12,70	-	-	-	-
13,01	-	-	-	-
13,31	-	-	-	-
13,61	-	-	-	-
13,91	-	-	-	-
14,22	-	-	-	-
14,52	-	-	-	-
14,82	-	-	-	-

Komb B, Jmf Komb B1 med B2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
296,8

Snitt B3	Kontroll - Tryckspänning					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0,00	0,7	-0,6	0,06	0,50	OK	49,5	OK
0,30	1,5	-0,2	0,13	0,50	OK	102,7	ej OK
0,61	1,3	-0,1	0,11	0,50	OK	92,2	ej OK
0,91	1,3	-0,1	0,12	0,50	OK	187,7	ej OK
1,21	1,2	-0,1	0,11	0,50	OK	173,7	ej OK
1,51	1,1	-0,1	0,10	0,50	OK	159,4	ej OK
1,82	1,2	-0,1	0,10	0,50	OK	161,6	ej OK
2,12	1,1	-0,2	0,09	0,50	OK	148,9	ej OK
2,42	1,0	-0,2	0,08	0,50	OK	136,5	ej OK
2,72	1,0	-0,2	0,09	0,50	OK	139,4	ej OK
3,02	0,9	-0,3	0,08	0,50	OK	128,7	ej OK
3,33	0,8	-0,3	0,07	0,50	OK	118,1	ej OK
3,63	0,9	-0,4	0,08	0,50	OK	121,5	ej OK
3,93	0,8	-0,4	0,07	0,50	OK	112,4	ej OK
4,23	0,7	-0,4	0,06	0,50	OK	103,0	ej OK
4,54	0,8	-0,5	0,07	0,50	OK	106,2	ej OK
4,84	0,7	-0,5	0,06	0,50	OK	99,3	ej OK
5,14	0,7	-0,5	0,06	0,50	OK	92,5	ej OK
5,44	0,7	-0,6	0,06	0,50	OK	96,3	ej OK
5,75	0,5	-0,7	0,06	0,50	OK	96,3	ej OK
6,05	0,3	-0,8	0,07	0,50	OK	118,6	ej OK
6,35	0,2	-1,0	0,09	0,50	OK	144,1	ej OK
6,65	0,0	-1,2	0,10	0,50	OK	165,6	ej OK
6,96	-0,1	-1,4	0,12	0,51	OK	171,3	ej OK
7,26	-0,3	-1,5	0,13	0,51	OK	178,2	ej OK
7,56	-0,4	-1,7	0,15	0,52	OK	176,7	ej OK
7,86	-0,6	-1,9	0,16	0,52	OK	180,8	ej OK
8,17	-0,7	-2,0	0,18	0,53	OK	184,1	ej OK
8,47	-0,9	-2,2	0,19	0,54	OK	183,5	ej OK
8,77	-1,1	-2,4	0,21	0,54	OK	189,0	ej OK
9,07	-1,2	-2,6	0,22	0,55	OK	189,5	ej OK
9,38	-1,4	-2,7	0,24	0,55	OK	192,3	ej OK
9,68	-1,6	-3,0	0,26	0,56	OK	198,2	ej OK
9,98	-1,7	-3,1	0,27	0,57	OK	194,7	ej OK
10,28	-1,9	-3,3	0,29	0,57	OK	201,4	ej OK
10,59	-2,0	-3,5	0,30	0,58	OK	211,4	ej OK
10,89	-2,2	-3,6	0,32	0,58	OK	207,6	ej OK
11,19	-2,3	-3,8	0,33	0,59	OK	215,1	ej OK
11,49	-2,4	-4,0	0,35	0,59	OK	227,4	ej OK
11,80	-2,6	-4,2	0,36	0,60	OK	225,0	ej OK
12,10	-2,7	-4,4	0,38	0,61	OK	233,9	ej OK
12,40	-2,8	-4,6	0,40	0,61	OK	248,0	ej OK
12,70	-2,9	-4,7	0,41	0,61	OK	250,0	ej OK
13,01	-3,1	-4,9	0,43	0,62	OK	263,2	ej OK
13,31	-3,2	-5,2	0,45	0,62	OK	279,0	ej OK
13,61	-3,3	-5,3	0,46	0,63	OK	281,7	ej OK
13,91	-3,4	-5,5	0,48	0,63	OK	296,8	ej OK
14,22	-3,5	-5,7	0,50	0,64	OK	156,9	ej OK
14,52	-3,6	-5,9	0,51	0,64	OK	159,2	ej OK
14,82	1,6	-1,9	0,16	0,50	OK	131,3	ej OK

Komb B, Jmf Komb B1 med B2

Snitt B3	Kontroll - Betong utan tvärkraftsarmering			
		V_{min} / V_{max} ≥ 0	V_{min} / V_{max} < 0	
x [m]	$\lvert V_{max}\rvert$ / $\lvert V_{Rdc}\rvert$	0,5 + 0,45 • $\lvert V_{min}\rvert$ / $\lvert V_{Rdc}\rvert$	0,5 - $\lvert V_{min}\rvert$ / $\lvert V_{Rdc}\rvert$	Kontroll
0,00	-	-	-	-
0,30	-	-	-	-
0,61	-	-	-	-
0,91	-	-	-	-
1,21	-	-	-	-
1,51	-	-	-	-
1,82	-	-	-	-
2,12	-	-	-	-
2,42	-	-	-	-
2,72	-	-	-	-
3,02	-	-	-	-
3,33	-	-	-	-
3,63	-	-	-	-
3,93	-	-	-	-
4,23	-	-	-	-
4,54	-	-	-	-
4,84	-	-	-	-
5,14	-	-	-	-
5,44	-	-	-	-
5,75	-	-	-	-
6,05	-	-	-	-
6,35	-	-	-	-
6,65	-	-	-	-
6,96	-	-	-	-
7,26	-	-	-	-
7,56	-	-	-	-
7,86	-	-	-	-
8,17	-	-	-	-
8,47	-	-	-	-
8,77	-	-	-	-
9,07	-	-	-	-
9,38	-	-	-	-
9,68	-	-	-	-
9,98	-	-	-	-
10,28	-	-	-	-
10,59	-	-	-	-
10,89	-	-	-	-
11,19	-	-	-	-
11,49	-	-	-	-
11,80	-	-	-	-
12,10	-	-	-	-
12,40	-	-	-	-
12,70	-	-	-	-
13,01	-	-	-	-
13,31	-	-	-	-
13,61	-	-	-	-
13,91	-	-	-	-
14,22	-	-	-	-
14,52	-	-	-	-
14,82	-	-	-	-

Utmattning - Enkel kontroll

Tvärkraft

Enligt SS-EN 1992-1-1, 6.8.

f_{ck} =	35,5	MPa	ν =	0,51	
$f_{cd.fat}$ =	22,4	MPa	$f_{cd.fat.red}$ =	11,5	MPa
θ_{fat} =	32,3	°	α_{cw} =	1,0	

Snitt B4

x [m]	h [m]	b_w [m]	$A_{s0.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s0.uk}$ [cm^2]	d_{uk} [m]	A_{sw} [cm^2/m]	$V_{Rd,c}$ [kN]
0,00	0,80	0,50	32,7	0,74	33,7	0,74	10,5	-
0,30	0,80	0,50	32,7	0,74	33,7	0,74	10,5	-
0,61	0,80	0,50	32,7	0,74	33,7	0,74	10,5	-
0,91	0,80	0,50	30,3	0,74	33,7	0,74	5,2	-
1,21	0,80	0,50	29,8	0,74	33,7	0,74	5,2	-
1,51	0,80	0,50	29,8	0,74	33,7	0,74	5,2	-
1,82	0,80	0,50	29,8	0,74	33,7	0,74	5,2	-
2,12	0,80	0,50	29,8	0,74	33,7	0,74	5,2	-
2,42	0,80	0,50	29,8	0,74	33,7	0,74	5,2	-
2,72	0,80	0,50	29,8	0,74	33,7	0,74	5,2	-
3,02	0,80	0,50	39,0	0,74	43,0	0,74	5,2	-
3,33	0,80	0,50	39,0	0,74	43,0	0,74	5,2	-
3,63	0,80	0,50	39,0	0,74	43,0	0,74	5,2	-
3,93	0,80	0,50	39,0	0,74	43,0	0,74	5,2	-
4,23	0,80	0,50	39,0	0,74	43,0	0,74	5,2	-
4,54	0,80	0,50	39,0	0,74	43,0	0,74	5,2	-
4,84	0,80	0,50	39,0	0,74	43,0	0,74	5,2	-
5,14	0,80	0,50	39,0	0,74	43,0	0,74	5,2	-
5,44	0,80	0,50	39,0	0,74	43,0	0,74	5,2	-
5,75	0,80	0,50	39,0	0,74	43,0	0,74	5,2	-
6,05	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
6,35	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
6,65	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
6,96	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
7,26	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
7,56	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
7,86	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
8,17	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
8,47	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
8,77	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
9,07	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
9,38	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
9,68	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
9,98	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
10,28	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
10,59	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
10,89	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
11,19	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
11,49	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
11,80	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
12,10	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
12,40	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
12,70	0,80	0,50	48,2	0,74	52,2	0,74	5,2	-
13,01	0,80	0,50	50,4	0,74	52,2	0,74	5,2	-
13,31	0,80	0,50	53,5	0,74	52,2	0,74	5,2	-
13,61	0,80	0,50	53,5	0,74	52,2	0,74	5,2	-
13,91	0,80	0,50	53,5	0,74	52,2	0,74	5,2	-
14,22	0,80	0,50	53,5	0,74	52,2	0,74	10,5	-
14,52	0,80	0,50	53,5	0,74	52,2	0,74	10,5	-
14,82	0,80	0,50	53,5	0,74	52,2	0,74	10,5	-

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$
Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$
Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Snitt B4	Lastkombination (6.69) enligt SS-EN 1992-1-1									
	Permanenta		Variabla		Cykliska					
x [m]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	ΣV_{A1} [kN]	ΣV_{A2} [kN]	ΣV_{B1} [kN]	ΣV_{B2} [kN]
0,00	8	-91	0	0	41	-61	49	-53	-50	-152
0,30	0	-177	0	0	13	-111	13	-111	-164	-288
0,61	0	-167	0	0	6	-100	6	-100	-161	-267
0,91	-1	-158	0	0	8	-100	7	-102	-149	-258
1,21	-2	-148	0	0	9	-92	6	-94	-139	-240
1,51	-2	-138	0	0	9	-84	7	-87	-129	-222
1,82	-2	-128	0	0	11	-86	9	-88	-117	-214
2,12	-2	-118	0	0	14	-79	13	-81	-104	-197
2,42	-1	-107	0	0	16	-73	15	-74	-92	-181
2,72	-1	-97	0	0	18	-75	17	-76	-79	-172
3,02	-1	-87	0	0	22	-69	21	-70	-65	-156
3,33	0	-76	0	0	25	-64	25	-64	-51	-140
3,63	0	-66	0	0	27	-66	27	-66	-39	-131
3,93	0	-55	0	0	30	-61	30	-61	-25	-116
4,23	0	-45	0	0	33	-56	33	-56	-12	-101
4,54	0	-35	0	0	36	-57	36	-57	1	-92
4,84	0	-24	0	0	38	-54	38	-54	14	-78
5,14	0	-14	0	0	40	-50	40	-50	26	-64
5,44	0	-3	0	0	43	-52	43	-52	39	-55
5,75	8	0	0	0	44	-47	52	-40	44	-47
6,05	18	0	0	0	46	-43	64	-25	46	-43
6,35	28	0	0	0	50	-45	78	-16	50	-45
6,65	39	0	0	0	51	-41	90	-3	51	-41
6,96	49	0	0	0	54	-38	103	11	54	-38
7,26	59	0	0	0	57	-39	116	21	57	-38
7,56	70	0	0	0	59	-36	129	34	60	-35
7,86	80	0	0	0	64	-33	144	47	64	-33
8,17	90	0	0	0	66	-33	156	57	66	-33
8,47	100	0	0	0	69	-29	170	71	69	-29
8,77	111	0	0	0	76	-26	186	85	76	-26
9,07	121	0	0	0	77	-25	198	96	77	-25
9,38	131	0	0	0	81	-23	211	108	81	-22
9,68	141	0	0	0	87	-19	228	121	88	-19
9,98	151	1	0	0	88	-17	239	134	89	-16
10,28	161	1	0	0	92	-16	253	145	93	-15
10,59	171	1	0	0	99	-15	270	156	100	-14
10,89	180	1	0	0	100	-13	280	168	101	-12
11,19	190	1	0	0	105	-11	295	179	106	-10
11,49	200	1	0	0	112	-11	311	189	113	-10
11,80	209	1	0	0	113	-9	322	200	114	-8
12,10	218	2	0	0	118	-9	337	210	120	-7
12,40	228	2	0	0	126	-9	354	219	128	-7
12,70	237	2	0	0	127	-9	364	228	129	-7
13,01	246	2	0	0	134	-9	379	236	136	-7
13,31	254	2	0	0	142	-9	396	245	144	-8
13,61	263	1	0	0	143	-10	407	254	144	-9
13,91	272	0	0	0	151	-10	423	262	151	-10
14,22	281	-1	0	0	160	-10	441	271	159	-11
14,52	290	-3	0	0	162	-11	452	279	159	-13
14,82	12	-7	0	0	130	-130	142	-118	124	-137

Komb A, Jmf Komb A1 med A2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
291,9

Snitt B4	Kontroll - Tryckspänning					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0,00	0,6	-0,7	0,06	0,50	OK	48,3	OK
0,30	0,2	-1,4	0,12	0,50	OK	100,6	ej OK
0,61	0,1	-1,3	0,11	0,50	OK	90,6	ej OK
0,91	0,1	-1,3	0,11	0,50	OK	184,7	ej OK
1,21	0,1	-1,2	0,11	0,50	OK	170,8	ej OK
1,51	0,1	-1,1	0,10	0,50	OK	157,1	ej OK
1,82	0,1	-1,1	0,10	0,50	OK	159,1	ej OK
2,12	0,2	-1,0	0,09	0,50	OK	146,6	ej OK
2,42	0,2	-1,0	0,08	0,50	OK	134,6	ej OK
2,72	0,2	-1,0	0,08	0,50	OK	137,1	ej OK
3,02	0,3	-0,9	0,08	0,50	OK	126,4	ej OK
3,33	0,3	-0,8	0,07	0,50	OK	116,2	ej OK
3,63	0,3	-0,8	0,07	0,50	OK	119,2	ej OK
3,93	0,4	-0,8	0,07	0,50	OK	109,9	ej OK
4,23	0,4	-0,7	0,06	0,50	OK	100,8	ej OK
4,54	0,5	-0,7	0,06	0,50	OK	103,9	ej OK
4,84	0,5	-0,7	0,06	0,50	OK	97,1	ej OK
5,14	0,5	-0,6	0,06	0,50	OK	90,6	ej OK
5,44	0,6	-0,7	0,06	0,50	OK	93,9	ej OK
5,75	0,7	-0,5	0,06	0,50	OK	94,2	ej OK
6,05	0,8	-0,3	0,07	0,50	OK	116,4	ej OK
6,35	1,0	-0,2	0,09	0,50	OK	141,9	ej OK
6,65	1,2	0,0	0,10	0,50	OK	163,2	ej OK
6,96	1,3	0,1	0,12	0,51	OK	166,7	ej OK
7,26	1,5	0,3	0,13	0,51	OK	173,4	ej OK
7,56	1,7	0,4	0,14	0,52	OK	172,1	ej OK
7,86	1,9	0,6	0,16	0,52	OK	176,2	ej OK
8,17	2,0	0,7	0,17	0,53	OK	179,4	ej OK
8,47	2,2	0,9	0,19	0,54	OK	178,6	ej OK
8,77	2,4	1,1	0,21	0,54	OK	184,1	ej OK
9,07	2,6	1,2	0,22	0,55	OK	184,8	ej OK
9,38	2,7	1,4	0,24	0,55	OK	187,4	ej OK
9,68	2,9	1,6	0,26	0,56	OK	193,2	ej OK
9,98	3,1	1,7	0,27	0,57	OK	190,1	ej OK
10,28	3,3	1,9	0,28	0,57	OK	196,5	ej OK
10,59	3,5	2,0	0,30	0,58	OK	206,7	ej OK
10,89	3,6	2,2	0,31	0,58	OK	203,7	ej OK
11,19	3,8	2,3	0,33	0,59	OK	210,8	ej OK
11,49	4,0	2,4	0,35	0,60	OK	222,7	ej OK
11,80	4,2	2,6	0,36	0,60	OK	221,0	ej OK
12,10	4,4	2,7	0,38	0,61	OK	230,2	ej OK
12,40	4,6	2,8	0,40	0,61	OK	244,3	ej OK
12,70	4,7	2,9	0,41	0,61	OK	246,5	ej OK
13,01	4,9	3,1	0,42	0,62	OK	259,1	ej OK
13,31	5,1	3,2	0,44	0,62	OK	274,5	ej OK
13,61	5,3	3,3	0,46	0,63	OK	277,5	ej OK
13,91	5,5	3,4	0,47	0,63	OK	291,9	ej OK
14,22	5,7	3,5	0,49	0,64	OK	154,2	ej OK
14,52	5,8	3,6	0,51	0,64	OK	156,6	ej OK
14,82	1,8	-1,5	0,16	0,50	OK	128,8	ej OK

Komb A, Jmf Komb A1 med A2

Snitt B4	Kontroll - Betong utan tvärkraftsarmering			
		V_{min} / $V_{max} \geq 0$	V_{min} / $V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert$ / $\lvert V_{Rdc} \rvert$	0,5 + 0,45 • $\lvert V_{min} \rvert$ / $\lvert V_{Rdc} \rvert$	0,5 - $\lvert V_{min} \rvert$ / $\lvert V_{Rdc} \rvert$	Kontroll
0,00	-	-	-	-
0,30	-	-	-	-
0,61	-	-	-	-
0,91	-	-	-	-
1,21	-	-	-	-
1,51	-	-	-	-
1,82	-	-	-	-
2,12	-	-	-	-
2,42	-	-	-	-
2,72	-	-	-	-
3,02	-	-	-	-
3,33	-	-	-	-
3,63	-	-	-	-
3,93	-	-	-	-
4,23	-	-	-	-
4,54	-	-	-	-
4,84	-	-	-	-
5,14	-	-	-	-
5,44	-	-	-	-
5,75	-	-	-	-
6,05	-	-	-	-
6,35	-	-	-	-
6,65	-	-	-	-
6,96	-	-	-	-
7,26	-	-	-	-
7,56	-	-	-	-
7,86	-	-	-	-
8,17	-	-	-	-
8,47	-	-	-	-
8,77	-	-	-	-
9,07	-	-	-	-
9,38	-	-	-	-
9,68	-	-	-	-
9,98	-	-	-	-
10,28	-	-	-	-
10,59	-	-	-	-
10,89	-	-	-	-
11,19	-	-	-	-
11,49	-	-	-	-
11,80	-	-	-	-
12,10	-	-	-	-
12,40	-	-	-	-
12,70	-	-	-	-
13,01	-	-	-	-
13,31	-	-	-	-
13,61	-	-	-	-
13,91	-	-	-	-
14,22	-	-	-	-
14,52	-	-	-	-
14,82	-	-	-	-

Komb B, Jmf Komb B1 med B2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
274,3

Snitt B4	Kontroll - Tryckspänning					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0,00	-0,6	-2,0	0,17	0,53	OK	92,6	ej OK
0,30	-2,1	-3,7	0,32	0,58	OK	112,1	ej OK
0,61	-2,1	-3,5	0,30	0,58	OK	96,4	ej OK
0,91	-1,9	-3,3	0,29	0,58	OK	197,2	ej OK
1,21	-1,8	-3,1	0,27	0,57	OK	182,6	ej OK
1,51	-1,7	-2,9	0,25	0,57	OK	169,2	ej OK
1,82	-1,5	-2,8	0,24	0,56	OK	175,2	ej OK
2,12	-1,3	-2,5	0,22	0,55	OK	169,4	ej OK
2,42	-1,2	-2,3	0,20	0,55	OK	160,9	ej OK
2,72	-1,0	-2,2	0,19	0,54	OK	167,5	ej OK
3,02	-0,8	-2,0	0,17	0,53	OK	165,3	ej OK
3,33	-0,7	-1,8	0,16	0,53	OK	161,6	ej OK
3,63	-0,5	-1,7	0,15	0,52	OK	168,3	ej OK
3,93	-0,3	-1,5	0,13	0,51	OK	164,9	ej OK
4,23	-0,2	-1,3	0,11	0,51	OK	160,9	ej OK
4,54	0,0	-1,2	0,10	0,50	OK	166,7	ej OK
4,84	0,2	-1,0	0,09	0,50	OK	141,0	ej OK
5,14	0,3	-0,8	0,07	0,50	OK	115,7	ej OK
5,44	0,5	-0,7	0,06	0,50	OK	100,3	ej OK
5,75	0,6	-0,6	0,05	0,50	OK	85,8	ej OK
6,05	0,6	-0,6	0,05	0,50	OK	83,9	ej OK
6,35	0,6	-0,6	0,06	0,50	OK	90,7	ej OK
6,65	0,7	-0,5	0,06	0,50	OK	93,3	ej OK
6,96	0,7	-0,5	0,06	0,50	OK	98,7	ej OK
7,26	0,7	-0,5	0,06	0,50	OK	103,8	ej OK
7,56	0,8	-0,5	0,07	0,50	OK	108,0	ej OK
7,86	0,8	-0,4	0,07	0,50	OK	116,8	ej OK
8,17	0,9	-0,4	0,07	0,50	OK	119,7	ej OK
8,47	0,9	-0,4	0,08	0,50	OK	125,9	ej OK
8,77	1,0	-0,3	0,09	0,50	OK	137,8	ej OK
9,07	1,0	-0,3	0,09	0,50	OK	140,0	ej OK
9,38	1,0	-0,3	0,09	0,50	OK	147,0	ej OK
9,68	1,1	-0,2	0,10	0,50	OK	158,8	ej OK
9,98	1,1	-0,2	0,10	0,50	OK	160,7	ej OK
10,28	1,2	-0,2	0,10	0,50	OK	168,6	ej OK
10,59	1,3	-0,2	0,11	0,50	OK	180,9	ej OK
10,89	1,3	-0,2	0,11	0,50	OK	182,6	ej OK
11,19	1,4	-0,1	0,12	0,50	OK	191,9	ej OK
11,49	1,5	-0,1	0,13	0,50	OK	204,9	ej OK
11,80	1,5	-0,1	0,13	0,50	OK	206,7	ej OK
12,10	1,6	-0,1	0,13	0,50	OK	217,7	ej OK
12,40	1,7	-0,1	0,14	0,50	OK	231,6	ej OK
12,70	1,7	-0,1	0,14	0,50	OK	233,6	ej OK
13,01	1,8	-0,1	0,15	0,50	OK	246,1	ej OK
13,31	1,9	-0,1	0,16	0,50	OK	260,5	ej OK
13,61	1,9	-0,1	0,16	0,50	OK	261,8	ej OK
13,91	2,0	-0,1	0,17	0,50	OK	274,3	ej OK
14,22	2,1	-0,1	0,18	0,50	OK	143,9	ej OK
14,52	2,1	-0,2	0,18	0,50	OK	144,4	ej OK
14,82	1,6	-1,8	0,15	0,50	OK	124,1	ej OK

Komb B, Jmf Komb B1 med B2

Snitt B4	Kontroll - Betong utan tvärkraftsarmering			
		V_{min} / $V_{max} \geq 0$	V_{min} / $V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert$ / $\lvert V_{Rdc} \rvert$	0,5 + 0,45 • $\lvert V_{min} \rvert$ / $\lvert V_{Rdc} \rvert$	0,5 - $\lvert V_{min} \rvert$ / $\lvert V_{Rdc} \rvert$	Kontroll
0,00	-	-	-	-
0,30	-	-	-	-
0,61	-	-	-	-
0,91	-	-	-	-
1,21	-	-	-	-
1,51	-	-	-	-
1,82	-	-	-	-
2,12	-	-	-	-
2,42	-	-	-	-
2,72	-	-	-	-
3,02	-	-	-	-
3,33	-	-	-	-
3,63	-	-	-	-
3,93	-	-	-	-
4,23	-	-	-	-
4,54	-	-	-	-
4,84	-	-	-	-
5,14	-	-	-	-
5,44	-	-	-	-
5,75	-	-	-	-
6,05	-	-	-	-
6,35	-	-	-	-
6,65	-	-	-	-
6,96	-	-	-	-
7,26	-	-	-	-
7,56	-	-	-	-
7,86	-	-	-	-
8,17	-	-	-	-
8,47	-	-	-	-
8,77	-	-	-	-
9,07	-	-	-	-
9,38	-	-	-	-
9,68	-	-	-	-
9,98	-	-	-	-
10,28	-	-	-	-
10,59	-	-	-	-
10,89	-	-	-	-
11,19	-	-	-	-
11,49	-	-	-	-
11,80	-	-	-	-
12,10	-	-	-	-
12,40	-	-	-	-
12,70	-	-	-	-
13,01	-	-	-	-
13,31	-	-	-	-
13,61	-	-	-	-
13,91	-	-	-	-
14,22	-	-	-	-
14,52	-	-	-	-
14,82	-	-	-	-

Utmattning - Enkel kontroll

Tvärkraft

Enligt SS-EN 1992-1-1, 6.8.

f_{ck} =	35,5	MPa	ν =	0,51	
$f_{cd.fat}$ =	22,4	MPa	$f_{cd.fat.red}$ =	11,5	MPa
θ_{fat} =	32,3	°	α_{cw} =	1,0	

Snitt B5

x [m]	h [m]	b_w [m]	$A_{s0.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s0.uk}$ [cm^2]	d_{uk} [m]	A_{sw} [cm^2/m]	$V_{Rd,c}$ [kN]
0,00	0,75	0,60	32,7	0,69	33,7	0,69	10,5	-
0,30	0,75	0,60	32,7	0,69	33,7	0,69	10,5	-
0,61	0,75	0,60	32,7	0,69	33,7	0,69	10,5	-
0,91	0,75	0,60	30,3	0,69	33,7	0,69	5,2	-
1,21	0,75	0,60	29,8	0,69	33,7	0,69	5,2	-
1,51	0,75	0,60	29,8	0,69	33,7	0,69	5,2	-
1,82	0,75	0,60	29,8	0,69	33,7	0,69	5,2	-
2,12	0,75	0,60	29,8	0,69	33,7	0,69	5,2	-
2,42	0,75	0,60	29,8	0,69	33,7	0,69	5,2	-
2,72	0,75	0,60	29,8	0,69	33,7	0,69	5,2	-
3,02	0,75	0,60	39,0	0,69	43,0	0,69	5,2	-
3,33	0,75	0,60	39,0	0,69	43,0	0,69	5,2	-
3,63	0,75	0,60	39,0	0,69	43,0	0,69	5,2	-
3,93	0,75	0,60	39,0	0,69	43,0	0,69	5,2	-
4,23	0,75	0,60	39,0	0,69	43,0	0,69	5,2	-
4,54	0,75	0,60	39,0	0,69	43,0	0,69	5,2	-
4,84	0,75	0,60	39,0	0,69	43,0	0,69	5,2	-
5,14	0,75	0,60	39,0	0,69	43,0	0,69	5,2	-
5,44	0,75	0,60	39,0	0,69	43,0	0,69	5,2	-
5,75	0,75	0,60	39,0	0,69	43,0	0,69	5,2	-
6,05	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
6,35	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
6,65	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
6,96	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
7,26	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
7,56	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
7,86	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
8,17	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
8,47	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
8,77	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
9,07	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
9,38	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
9,68	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
9,98	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
10,28	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
10,59	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
10,89	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
11,19	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
11,49	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
11,80	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
12,10	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
12,40	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
12,70	0,75	0,60	48,2	0,69	52,2	0,69	5,2	-
13,01	0,75	0,60	50,4	0,69	52,2	0,69	5,2	-
13,31	0,75	0,60	53,5	0,69	52,2	0,69	5,2	-
13,61	0,75	0,60	53,5	0,69	52,2	0,69	5,2	-
13,91	0,75	0,60	53,5	0,69	52,2	0,69	5,2	-
14,22	0,75	0,60	53,5	0,69	52,2	0,69	10,5	-
14,52	0,75	0,60	53,5	0,69	52,2	0,69	10,5	-
14,82	0,75	0,60	53,5	0,69	52,2	0,69	10,5	-

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$
Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$
Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Snitt B5	Lastkombination (6.69) enligt SS-EN 1992-1-1									
	Permanenta		Variabla		Cykliska					
x [m]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	ΣV_{A1} [kN]	ΣV_{A2} [kN]	ΣV_{B1} [kN]	ΣV_{B2} [kN]
0,00	18	-69	0	0	20	-59	38	-41	-49	-128
0,30	-1	-133	0	0	17	-107	16	-108	-116	-240
0,61	-4	-123	0	0	8	-93	4	-98	-115	-216
0,91	-6	-113	0	0	7	-91	2	-97	-106	-204
1,21	-5	-104	0	0	12	-85	7	-90	-92	-189
1,51	-3	-94	0	0	13	-77	10	-80	-81	-171
1,82	-2	-86	0	0	16	-76	14	-78	-70	-162
2,12	-1	-78	0	0	20	-73	19	-74	-58	-150
2,42	0	-70	0	0	23	-66	23	-66	-46	-136
2,72	1	-62	0	0	28	-67	28	-67	-35	-130
3,02	1	-55	0	0	31	-65	32	-64	-25	-120
3,33	1	-48	0	0	34	-60	35	-59	-14	-108
3,63	1	-41	0	0	37	-61	38	-60	-5	-102
3,93	1	-34	0	0	38	-59	39	-58	4	-93
4,23	1	-28	0	0	41	-55	42	-54	13	-82
4,54	1	-21	0	0	42	-56	43	-55	21	-77
4,84	1	-14	0	0	43	-54	44	-53	29	-69
5,14	1	-8	0	0	46	-51	46	-50	38	-59
5,44	1	-1	0	0	47	-53	48	-53	46	-54
5,75	6	0	0	0	48	-51	54	-45	48	-51
6,05	12	0	0	0	50	-47	63	-35	50	-47
6,35	19	0	0	0	52	-49	71	-30	52	-49
6,65	25	0	0	0	53	-47	78	-22	53	-47
6,96	32	0	0	0	56	-44	88	-12	56	-44
7,26	38	0	0	0	57	-45	95	-7	57	-45
7,56	45	0	0	0	59	-43	103	1	59	-44
7,86	51	0	0	0	63	-41	115	10	63	-41
8,17	58	0	0	0	63	-41	121	17	63	-42
8,47	65	0	0	0	66	-39	131	26	66	-39
8,77	72	0	0	0	72	-36	144	36	71	-36
9,07	79	0	0	0	71	-35	150	44	71	-35
9,38	86	0	0	0	75	-33	161	53	75	-34
9,68	93	0	0	0	81	-30	174	63	81	-30
9,98	100	0	0	0	80	-28	181	72	80	-28
10,28	108	0	0	0	85	-27	193	81	85	-27
10,59	115	0	0	0	91	-23	207	92	92	-23
10,89	123	1	0	0	91	-20	214	104	91	-19
11,19	131	1	0	0	96	-19	228	112	97	-18
11,49	140	1	0	0	104	-18	244	121	105	-17
11,80	148	2	0	0	104	-14	252	134	106	-12
12,10	157	3	0	0	111	-13	268	144	114	-10
12,40	166	4	0	0	120	-13	286	153	124	-9
12,70	176	5	0	0	120	-9	295	166	125	-4
13,01	185	7	0	0	129	-9	314	176	136	-2
13,31	195	7	0	0	139	-9	334	186	146	-2
13,61	205	6	0	0	141	-10	346	195	147	-3
13,91	215	4	0	0	152	-13	367	202	156	-9
14,22	225	1	0	0	164	-18	389	207	165	-18
14,52	235	-5	0	0	166	-23	401	212	161	-28
14,82	37	-22	0	0	152	-152	189	-115	130	-174

Komb A, Jmf Komb A1 med A2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
321,4

Snitt B5	Kontroll - Tryckspänning					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0,00	0,4	-0,5	0,04	0,50	OK	39,4	OK
0,30	0,2	-1,2	0,11	0,50	OK	105,1	ej OK
0,61	0,0	-1,1	0,10	0,50	OK	94,9	ej OK
0,91	0,0	-1,1	0,10	0,50	OK	188,1	ej OK
1,21	0,1	-1,0	0,09	0,50	OK	174,8	ej OK
1,51	0,1	-0,9	0,08	0,50	OK	155,2	ej OK
1,82	0,2	-0,9	0,08	0,50	OK	151,9	ej OK
2,12	0,2	-0,9	0,07	0,50	OK	143,2	ej OK
2,42	0,3	-0,8	0,07	0,50	OK	129,1	ej OK
2,72	0,3	-0,8	0,07	0,50	OK	129,5	ej OK
3,02	0,4	-0,7	0,06	0,50	OK	124,8	ej OK
3,33	0,4	-0,7	0,06	0,50	OK	113,9	ej OK
3,63	0,4	-0,7	0,06	0,50	OK	115,8	ej OK
3,93	0,5	-0,7	0,06	0,50	OK	112,7	ej OK
4,23	0,5	-0,6	0,05	0,50	OK	104,1	ej OK
4,54	0,5	-0,6	0,05	0,50	OK	106,6	ej OK
4,84	0,5	-0,6	0,05	0,50	OK	104,0	ej OK
5,14	0,5	-0,6	0,05	0,50	OK	97,6	ej OK
5,44	0,6	-0,6	0,05	0,50	OK	102,1	ej OK
5,75	0,6	-0,5	0,05	0,50	OK	104,9	ej OK
6,05	0,7	-0,4	0,06	0,50	OK	121,7	ej OK
6,35	0,8	-0,3	0,07	0,50	OK	138,1	ej OK
6,65	0,9	-0,3	0,08	0,50	OK	152,1	ej OK
6,96	1,0	-0,1	0,09	0,50	OK	170,8	ej OK
7,26	1,1	-0,1	0,10	0,50	OK	185,3	ej OK
7,56	1,2	0,0	0,10	0,50	OK	198,5	ej OK
7,86	1,3	0,1	0,11	0,50	OK	202,5	ej OK
8,17	1,4	0,2	0,12	0,51	OK	203,3	ej OK
8,47	1,5	0,3	0,13	0,51	OK	203,9	ej OK
8,77	1,7	0,4	0,14	0,52	OK	208,8	ej OK
9,07	1,7	0,5	0,15	0,52	OK	206,8	ej OK
9,38	1,9	0,6	0,16	0,52	OK	210,2	ej OK
9,68	2,0	0,7	0,17	0,53	OK	215,5	ej OK
9,98	2,1	0,8	0,18	0,53	OK	210,4	ej OK
10,28	2,2	0,9	0,19	0,54	OK	217,0	ej OK
10,59	2,4	1,1	0,21	0,54	OK	223,0	ej OK
10,89	2,5	1,2	0,21	0,55	OK	214,6	ej OK
11,19	2,6	1,3	0,23	0,55	OK	224,9	ej OK
11,49	2,8	1,4	0,24	0,55	OK	237,4	ej OK
11,80	2,9	1,5	0,25	0,56	OK	229,2	ej OK
12,10	3,1	1,7	0,27	0,56	OK	240,5	ej OK
12,40	3,3	1,8	0,29	0,57	OK	257,4	ej OK
12,70	3,4	1,9	0,30	0,57	OK	251,3	ej OK
13,01	3,6	2,0	0,31	0,58	OK	268,2	ej OK
13,31	3,9	2,1	0,33	0,58	OK	288,1	ej OK
13,61	4,0	2,3	0,35	0,59	OK	292,2	ej OK
13,91	4,2	2,3	0,37	0,59	OK	321,4	ej OK
14,22	4,5	2,4	0,39	0,59	OK	177,2	ej OK
14,52	4,6	2,4	0,40	0,60	OK	183,9	ej OK
14,82	2,2	-1,3	0,19	0,50	OK	183,8	ej OK

Komb A, Jmf Komb A1 med A2

Snitt B5	Kontroll - Betong utan tvärkraftsarmering			
		V_{min} / $V_{max} \geq 0$	V_{min} / $V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert$ / $\lvert V_{Rdc} \rvert$	0,5 + 0,45 • $\lvert V_{min} \rvert$ / $\lvert V_{Rdc} \rvert$	0,5 - $\lvert V_{min} \rvert$ / $\lvert V_{Rdc} \rvert$	Kontroll
0,00	-	-	-	-
0,30	-	-	-	-
0,61	-	-	-	-
0,91	-	-	-	-
1,21	-	-	-	-
1,51	-	-	-	-
1,82	-	-	-	-
2,12	-	-	-	-
2,42	-	-	-	-
2,72	-	-	-	-
3,02	-	-	-	-
3,33	-	-	-	-
3,63	-	-	-	-
3,93	-	-	-	-
4,23	-	-	-	-
4,54	-	-	-	-
4,84	-	-	-	-
5,14	-	-	-	-
5,44	-	-	-	-
5,75	-	-	-	-
6,05	-	-	-	-
6,35	-	-	-	-
6,65	-	-	-	-
6,96	-	-	-	-
7,26	-	-	-	-
7,56	-	-	-	-
7,86	-	-	-	-
8,17	-	-	-	-
8,47	-	-	-	-
8,77	-	-	-	-
9,07	-	-	-	-
9,38	-	-	-	-
9,68	-	-	-	-
9,98	-	-	-	-
10,28	-	-	-	-
10,59	-	-	-	-
10,89	-	-	-	-
11,19	-	-	-	-
11,49	-	-	-	-
11,80	-	-	-	-
12,10	-	-	-	-
12,40	-	-	-	-
12,70	-	-	-	-
13,01	-	-	-	-
13,31	-	-	-	-
13,61	-	-	-	-
13,91	-	-	-	-
14,22	-	-	-	-
14,52	-	-	-	-
14,82	-	-	-	-

Komb B, Jmf Komb B1 med B2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
303,8

Snitt B5	Kontroll - Tryckspänning					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0,00	-0,6	-1,5	0,13	0,52	OK	76,3	ej OK
0,30	-1,3	-2,8	0,24	0,55	OK	120,7	ej OK
0,61	-1,3	-2,5	0,22	0,55	OK	98,6	ej OK
0,91	-1,2	-2,4	0,20	0,55	OK	191,3	ej OK
1,21	-1,1	-2,2	0,19	0,54	OK	188,9	ej OK
1,51	-0,9	-2,0	0,17	0,54	OK	174,1	ej OK
1,82	-0,8	-1,9	0,16	0,53	OK	178,3	ej OK
2,12	-0,7	-1,7	0,15	0,53	OK	180,2	ej OK
2,42	-0,5	-1,6	0,14	0,52	OK	174,8	ej OK
2,72	-0,4	-1,5	0,13	0,52	OK	184,0	ej OK
3,02	-0,3	-1,4	0,12	0,51	OK	186,1	ej OK
3,33	-0,2	-1,2	0,11	0,51	OK	181,7	ej OK
3,63	-0,1	-1,2	0,10	0,50	OK	188,9	ej OK
3,93	0,0	-1,1	0,09	0,50	OK	181,5	ej OK
4,23	0,2	-0,9	0,08	0,50	OK	159,7	ej OK
4,54	0,2	-0,9	0,08	0,50	OK	149,0	ej OK
4,84	0,3	-0,8	0,07	0,50	OK	133,3	ej OK
5,14	0,4	-0,7	0,06	0,50	OK	114,0	ej OK
5,44	0,5	-0,6	0,05	0,50	OK	105,5	ej OK
5,75	0,6	-0,6	0,05	0,50	OK	99,3	ej OK
6,05	0,6	-0,5	0,05	0,50	OK	97,8	ej OK
6,35	0,6	-0,6	0,05	0,50	OK	101,7	ej OK
6,65	0,6	-0,5	0,05	0,50	OK	103,1	ej OK
6,96	0,6	-0,5	0,06	0,50	OK	109,1	ej OK
7,26	0,7	-0,5	0,06	0,50	OK	110,9	ej OK
7,56	0,7	-0,5	0,06	0,50	OK	113,8	ej OK
7,86	0,7	-0,5	0,06	0,50	OK	122,6	ej OK
8,17	0,7	-0,5	0,06	0,50	OK	122,5	ej OK
8,47	0,8	-0,5	0,07	0,50	OK	127,7	ej OK
8,77	0,8	-0,4	0,07	0,50	OK	139,0	ej OK
9,07	0,8	-0,4	0,07	0,50	OK	138,2	ej OK
9,38	0,9	-0,4	0,07	0,50	OK	144,9	ej OK
9,68	0,9	-0,3	0,08	0,50	OK	156,8	ej OK
9,98	0,9	-0,3	0,08	0,50	OK	155,8	ej OK
10,28	1,0	-0,3	0,08	0,50	OK	164,6	ej OK
10,59	1,1	-0,3	0,09	0,50	OK	177,9	ej OK
10,89	1,1	-0,2	0,09	0,50	OK	177,4	ej OK
11,19	1,1	-0,2	0,10	0,50	OK	189,2	ej OK
11,49	1,2	-0,2	0,11	0,50	OK	204,8	ej OK
11,80	1,2	-0,1	0,11	0,50	OK	205,5	ej OK
12,10	1,3	-0,1	0,11	0,50	OK	221,4	ej OK
12,40	1,4	-0,1	0,12	0,50	OK	240,4	ej OK
12,70	1,4	0,0	0,13	0,50	OK	243,4	ej OK
13,01	1,6	0,0	0,14	0,50	OK	263,6	ej OK
13,31	1,7	0,0	0,15	0,50	OK	284,5	ej OK
13,61	1,7	0,0	0,15	0,50	OK	285,5	ej OK
13,91	1,8	-0,1	0,16	0,50	OK	303,8	ej OK
14,22	1,9	-0,2	0,16	0,50	OK	160,0	ej OK
14,52	1,9	-0,3	0,16	0,50	OK	156,5	ej OK
14,82	1,5	-2,0	0,17	0,50	OK	168,9	ej OK

Komb B, Jmf Komb B1 med B2

Snitt B5	Kontroll - Betong utan tvärkraftsarmering			
		V_{min} / $V_{max} \geq 0$	V_{min} / $V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert$ / $\lvert V_{Rdc} \rvert$	0,5 + 0,45 • $\lvert V_{min} \rvert$ / $\lvert V_{Rdc} \rvert$	0,5 - $\lvert V_{min} \rvert$ / $\lvert V_{Rdc} \rvert$	Kontroll
0,00	-	-	-	-
0,30	-	-	-	-
0,61	-	-	-	-
0,91	-	-	-	-
1,21	-	-	-	-
1,51	-	-	-	-
1,82	-	-	-	-
2,12	-	-	-	-
2,42	-	-	-	-
2,72	-	-	-	-
3,02	-	-	-	-
3,33	-	-	-	-
3,63	-	-	-	-
3,93	-	-	-	-
4,23	-	-	-	-
4,54	-	-	-	-
4,84	-	-	-	-
5,14	-	-	-	-
5,44	-	-	-	-
5,75	-	-	-	-
6,05	-	-	-	-
6,35	-	-	-	-
6,65	-	-	-	-
6,96	-	-	-	-
7,26	-	-	-	-
7,56	-	-	-	-
7,86	-	-	-	-
8,17	-	-	-	-
8,47	-	-	-	-
8,77	-	-	-	-
9,07	-	-	-	-
9,38	-	-	-	-
9,68	-	-	-	-
9,98	-	-	-	-
10,28	-	-	-	-
10,59	-	-	-	-
10,89	-	-	-	-
11,19	-	-	-	-
11,49	-	-	-	-
11,80	-	-	-	-
12,10	-	-	-	-
12,40	-	-	-	-
12,70	-	-	-	-
13,01	-	-	-	-
13,31	-	-	-	-
13,61	-	-	-	-
13,91	-	-	-	-
14,22	-	-	-	-
14,52	-	-	-	-
14,82	-	-	-	-

Utmattning - Enkel kontroll

Tvärkraft

Enligt SS-EN 1992-1-1, 6.8.

f_{ck} =	35,5	MPa	ν =	0,51	
$f_{cd.fat}$ =	22,4	MPa	$f_{cd.fat.red}$ =	11,5	MPa
θ_{fat} =	32,3	°	α_{cw} =	1,0	

Snitt B6

x [m]	h [m]	b_w [m]	$A_{s0.ök}$ [cm^2]	$d_{ök}$ [m]	$A_{s0.uk}$ [cm^2]	d_{uk} [m]	A_{sw} [cm^2/m]	$V_{Rd,c}$ [kN]
0,00	0,83	0,50	32,7	0,77	33,7	0,77	10,5	-
0,30	0,83	0,50	32,7	0,77	33,7	0,77	10,5	-
0,61	0,83	0,50	32,7	0,77	33,7	0,77	10,5	-
0,91	0,83	0,50	30,3	0,77	33,7	0,77	5,2	-
1,21	0,83	0,50	29,8	0,77	33,7	0,77	5,2	-
1,51	0,83	0,50	29,8	0,77	33,7	0,77	5,2	-
1,82	0,83	0,50	29,8	0,77	33,7	0,77	5,2	-
2,12	0,83	0,50	29,8	0,77	33,7	0,77	5,2	-
2,42	0,83	0,50	29,8	0,77	33,7	0,77	5,2	-
2,72	0,83	0,50	29,8	0,77	33,7	0,77	5,2	-
3,02	0,83	0,50	39,0	0,77	43,0	0,77	5,2	-
3,33	0,83	0,50	39,0	0,77	43,0	0,77	5,2	-
3,63	0,83	0,50	39,0	0,77	43,0	0,77	5,2	-
3,93	0,83	0,50	39,0	0,77	43,0	0,77	5,2	-
4,23	0,83	0,50	39,0	0,77	43,0	0,77	5,2	-
4,54	0,83	0,50	39,0	0,77	43,0	0,77	5,2	-
4,84	0,83	0,50	39,0	0,77	43,0	0,77	5,2	-
5,14	0,83	0,50	39,0	0,77	43,0	0,77	5,2	-
5,44	0,83	0,50	39,0	0,77	43,0	0,77	5,2	-
5,75	0,83	0,50	39,0	0,77	43,0	0,77	5,2	-
6,05	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
6,35	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
6,65	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
6,96	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
7,26	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
7,56	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
7,86	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
8,17	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
8,47	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
8,77	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
9,07	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
9,38	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
9,68	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
9,98	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
10,28	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
10,59	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
10,89	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
11,19	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
11,49	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
11,80	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
12,10	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
12,40	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
12,70	0,83	0,50	48,2	0,77	52,2	0,77	5,2	-
13,01	0,83	0,50	50,4	0,77	52,2	0,77	5,2	-
13,31	0,83	0,50	53,5	0,77	52,2	0,77	5,2	-
13,61	0,83	0,50	53,5	0,77	52,2	0,77	5,2	-
13,91	0,83	0,50	53,5	0,77	52,2	0,77	5,2	-
14,22	0,83	0,50	53,5	0,77	52,2	0,77	10,5	-
14,52	0,83	0,50	53,5	0,77	52,2	0,77	10,5	-
14,82	0,83	0,50	53,5	0,77	52,2	0,77	10,5	-

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$
Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$
Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Snitt B6	Lastkombination (6.69) enligt SS-EN 1992-1-1									
	Permanenta		Variabla		Cykliska					
x [m]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	ΣV_{A1} [kN]	ΣV_{A2} [kN]	ΣV_{B1} [kN]	ΣV_{B2} [kN]
0,00	133	9	0	0	23	-22	157	111	32	-13
0,30	258	-42	0	0	47	-11	304	247	5	-53
0,61	242	-14	0	0	46	-11	288	231	31	-25
0,91	227	-8	0	0	44	-10	271	217	36	-18
1,21	212	-2	0	0	42	-10	254	203	40	-12
1,51	198	-1	0	0	40	-9	238	189	39	-10
1,82	184	0	0	0	37	-9	221	175	37	-9
2,12	169	0	0	0	35	-9	204	160	35	-9
2,42	155	0	0	0	32	-9	187	146	32	-9
2,72	141	0	0	0	30	-9	171	132	30	-9
3,02	127	0	0	0	27	-8	154	118	27	-9
3,33	113	0	0	0	25	-8	138	104	25	-9
3,63	98	0	0	0	22	-8	121	90	22	-9
3,93	84	0	0	0	20	-8	104	76	20	-9
4,23	69	0	0	0	18	-8	87	61	18	-9
4,54	55	0	0	0	16	-8	71	46	16	-9
4,84	40	0	0	0	14	-8	54	32	14	-9
5,14	25	0	0	0	12	-8	37	17	12	-9
5,44	10	0	0	0	11	-8	21	2	10	-9
5,75	0	-6	0	0	9	-9	9	-9	2	-15
6,05	0	-21	0	0	8	-11	7	-11	-14	-32
6,35	0	-36	0	0	7	-13	6	-13	-30	-49
6,65	0	-51	0	0	6	-14	6	-14	-45	-66
6,96	0	-66	0	0	5	-16	5	-16	-61	-82
7,26	0	-81	0	0	5	-18	5	-18	-77	-99
7,56	0	-96	0	0	4	-19	4	-19	-92	-116
7,86	0	-111	0	0	3	-21	3	-21	-108	-132
8,17	0	-126	0	0	3	-22	3	-22	-123	-149
8,47	0	-141	0	0	2	-25	2	-25	-139	-166
8,77	0	-156	0	0	2	-27	2	-27	-154	-183
9,07	0	-171	0	0	2	-30	2	-30	-168	-201
9,38	0	-185	0	0	2	-32	3	-32	-183	-218
9,68	0	-200	0	0	2	-35	3	-34	-198	-235
9,98	0	-215	0	0	2	-37	3	-36	-212	-252
10,28	1	-229	0	0	2	-39	3	-38	-227	-268
10,59	1	-244	0	0	2	-41	3	-40	-241	-285
10,89	1	-258	0	0	2	-43	3	-42	-256	-301
11,19	1	-273	0	0	2	-45	4	-43	-270	-317
11,49	2	-287	0	0	2	-46	4	-44	-285	-333
11,80	2	-301	0	0	2	-47	4	-45	-299	-349
12,10	3	-316	0	0	2	-49	5	-45	-314	-364
12,40	5	-330	0	0	1	-50	6	-45	-329	-380
12,70	7	-345	0	0	1	-50	8	-44	-344	-395
13,01	10	-360	0	0	1	-51	11	-40	-359	-411
13,31	16	-375	0	0	1	-51	17	-34	-374	-426
13,61	27	-390	0	0	1	-50	27	-24	-390	-441
13,91	43	-406	0	0	1	-50	44	-7	-405	-456
14,22	69	-422	0	0	2	-49	70	20	-420	-471
14,52	102	-439	0	0	3	-48	105	54	-435	-486
14,82	101	-8	0	0	104	-104	205	-4	96	-112

Komb A, Jmf Komb A1 med A2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
178,7

Snitt B6	Kontroll - Tryckspänning					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0,00	1,9	1,4	0,17	0,55	OK	39,9	OK
0,30	3,8	3,1	0,33	0,62	OK	50,5	OK
0,61	3,6	2,9	0,31	0,61	OK	49,0	OK
0,91	3,4	2,7	0,29	0,61	OK	94,2	ej OK
1,21	3,2	2,5	0,27	0,60	OK	90,1	ej OK
1,51	3,0	2,3	0,26	0,59	OK	85,5	ej OK
1,82	2,7	2,2	0,24	0,58	OK	80,6	ej OK
2,12	2,5	2,0	0,22	0,58	OK	75,7	ej OK
2,42	2,3	1,8	0,20	0,57	OK	71,2	ej OK
2,72	2,1	1,6	0,18	0,56	OK	66,5	OK
3,02	1,9	1,5	0,17	0,56	OK	61,9	OK
3,33	1,7	1,3	0,15	0,55	OK	57,7	OK
3,63	1,5	1,1	0,13	0,54	OK	53,4	OK
3,93	1,3	0,9	0,11	0,54	OK	49,4	OK
4,23	1,1	0,8	0,09	0,53	OK	45,8	OK
4,54	0,9	0,6	0,08	0,52	OK	42,4	OK
4,84	0,7	0,4	0,06	0,52	OK	39,1	OK
5,14	0,5	0,2	0,04	0,51	OK	35,7	OK
5,44	0,3	0,0	0,02	0,50	OK	32,6	OK
5,75	0,1	-0,1	0,01	0,50	OK	16,2	OK
6,05	0,1	-0,1	0,01	0,50	OK	19,2	OK
6,35	0,1	-0,2	0,01	0,50	OK	22,3	OK
6,65	0,1	-0,2	0,02	0,50	OK	25,1	OK
6,96	0,1	-0,2	0,02	0,50	OK	28,0	OK
7,26	0,1	-0,2	0,02	0,50	OK	31,0	OK
7,56	0,0	-0,2	0,02	0,50	OK	33,6	OK
7,86	0,0	-0,3	0,02	0,50	OK	36,3	OK
8,17	0,0	-0,3	0,02	0,50	OK	39,2	OK
8,47	0,0	-0,3	0,03	0,50	OK	43,0	OK
8,77	0,0	-0,3	0,03	0,50	OK	47,6	OK
9,07	0,0	-0,4	0,03	0,50	OK	51,7	OK
9,38	0,0	-0,4	0,03	0,50	OK	55,5	OK
9,68	0,0	-0,4	0,04	0,50	OK	59,5	OK
9,98	0,0	-0,5	0,04	0,50	OK	63,4	OK
10,28	0,0	-0,5	0,04	0,50	OK	66,6	OK
10,59	0,0	-0,5	0,04	0,50	OK	69,6	OK
10,89	0,0	-0,5	0,04	0,50	OK	72,6	ej OK
11,19	0,0	-0,5	0,05	0,50	OK	75,2	ej OK
11,49	0,1	-0,5	0,05	0,50	OK	77,1	ej OK
11,80	0,1	-0,6	0,05	0,50	OK	78,2	ej OK
12,10	0,1	-0,6	0,05	0,50	OK	78,8	ej OK
12,40	0,1	-0,6	0,05	0,50	OK	78,3	ej OK
12,70	0,1	-0,5	0,05	0,50	OK	75,9	ej OK
13,01	0,1	-0,5	0,04	0,50	OK	70,1	ej OK
13,31	0,2	-0,4	0,04	0,50	OK	59,5	OK
13,61	0,3	-0,3	0,03	0,50	OK	47,5	OK
13,91	0,5	-0,1	0,05	0,50	OK	77,0	ej OK
14,22	0,9	0,2	0,08	0,51	OK	44,1	OK
14,52	1,3	0,7	0,11	0,53	OK	44,4	OK
14,82	2,5	0,0	0,22	0,50	OK	178,7	ej OK

Komb A, Jmf Komb A1 med A2

Snitt B6	Kontroll - Betong utan tvärkraftsarmering			
		V_{min} / $V_{max} \geq 0$	V_{min} / $V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert$ / $\lvert V_{Rdc} \rvert$	0,5 + 0,45 • $\lvert V_{min} \rvert$ / $\lvert V_{Rdc} \rvert$	0,5 - $\lvert V_{min} \rvert$ / $\lvert V_{Rdc} \rvert$	Kontroll
0,00	-	-	-	-
0,30	-	-	-	-
0,61	-	-	-	-
0,91	-	-	-	-
1,21	-	-	-	-
1,51	-	-	-	-
1,82	-	-	-	-
2,12	-	-	-	-
2,42	-	-	-	-
2,72	-	-	-	-
3,02	-	-	-	-
3,33	-	-	-	-
3,63	-	-	-	-
3,93	-	-	-	-
4,23	-	-	-	-
4,54	-	-	-	-
4,84	-	-	-	-
5,14	-	-	-	-
5,44	-	-	-	-
5,75	-	-	-	-
6,05	-	-	-	-
6,35	-	-	-	-
6,65	-	-	-	-
6,96	-	-	-	-
7,26	-	-	-	-
7,56	-	-	-	-
7,86	-	-	-	-
8,17	-	-	-	-
8,47	-	-	-	-
8,77	-	-	-	-
9,07	-	-	-	-
9,38	-	-	-	-
9,68	-	-	-	-
9,98	-	-	-	-
10,28	-	-	-	-
10,59	-	-	-	-
10,89	-	-	-	-
11,19	-	-	-	-
11,49	-	-	-	-
11,80	-	-	-	-
12,10	-	-	-	-
12,40	-	-	-	-
12,70	-	-	-	-
13,01	-	-	-	-
13,31	-	-	-	-
13,61	-	-	-	-
13,91	-	-	-	-
14,22	-	-	-	-
14,52	-	-	-	-
14,82	-	-	-	-

Komb B, Jmf Komb B1 med B2

Om V_{max} och V_{min} har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

Max
98,0

Snitt B6	Kontroll - Tryckspänning					Kontroll - Armering	
x [m]	$\sigma_{V.c.max}$ [MPa]	$\sigma_{V.c.min}$ [MPa]	$\lvert\sigma_{V.c.max}\rvert$ / $f_{cd.fat.red}$	0,5 + 0,45 • $\lvert\sigma_{V.c.min}\rvert$ / $f_{cd.fat.red}$	Kontroll	$\Delta\sigma_{V.s.1}$ [MPa]	Kontroll < 70 MPa
0,00	0,4	-0,2	0,03	0,50	OK	28,1	OK
0,30	0,1	-0,7	0,06	0,50	OK	46,4	OK
0,61	0,4	-0,3	0,03	0,50	OK	27,2	OK
0,91	0,5	-0,2	0,04	0,50	OK	63,2	OK
1,21	0,5	-0,1	0,04	0,50	OK	69,8	OK
1,51	0,5	-0,1	0,04	0,50	OK	68,4	OK
1,82	0,5	-0,1	0,04	0,50	OK	65,2	OK
2,12	0,4	-0,1	0,04	0,50	OK	60,7	OK
2,42	0,4	-0,1	0,03	0,50	OK	56,4	OK
2,72	0,4	-0,1	0,03	0,50	OK	51,6	OK
3,02	0,3	-0,1	0,03	0,50	OK	47,0	OK
3,33	0,3	-0,1	0,03	0,50	OK	42,8	OK
3,63	0,3	-0,1	0,02	0,50	OK	38,5	OK
3,93	0,2	-0,1	0,02	0,50	OK	34,5	OK
4,23	0,2	-0,1	0,02	0,50	OK	30,9	OK
4,54	0,2	-0,1	0,02	0,50	OK	27,5	OK
4,84	0,2	-0,1	0,01	0,50	OK	24,2	OK
5,14	0,1	-0,1	0,01	0,50	OK	20,8	OK
5,44	0,1	-0,1	0,01	0,50	OK	17,8	OK
5,75	0,0	-0,2	0,02	0,50	OK	26,9	OK
6,05	-0,2	-0,4	0,03	0,51	OK	32,0	OK
6,35	-0,4	-0,6	0,05	0,51	OK	33,6	OK
6,65	-0,6	-0,8	0,07	0,52	OK	35,2	OK
6,96	-0,8	-1,0	0,09	0,53	OK	37,1	OK
7,26	-1,0	-1,2	0,11	0,54	OK	39,0	OK
7,56	-1,1	-1,4	0,12	0,54	OK	40,5	OK
7,86	-1,3	-1,6	0,14	0,55	OK	42,1	OK
8,17	-1,5	-1,8	0,16	0,56	OK	44,1	OK
8,47	-1,7	-2,1	0,18	0,57	OK	47,0	OK
8,77	-1,9	-2,3	0,20	0,57	OK	51,7	OK
9,07	-2,1	-2,5	0,22	0,58	OK	56,0	OK
9,38	-2,3	-2,7	0,23	0,59	OK	59,9	OK
9,68	-2,5	-2,9	0,25	0,60	OK	64,2	OK
9,98	-2,6	-3,1	0,27	0,60	OK	68,3	OK
10,28	-2,8	-3,3	0,29	0,61	OK	71,8	ej OK
10,59	-3,0	-3,5	0,31	0,62	OK	75,2	ej OK
10,89	-3,2	-3,7	0,32	0,62	OK	78,6	ej OK
11,19	-3,4	-3,9	0,34	0,63	OK	81,6	ej OK
11,49	-3,5	-4,1	0,36	0,64	OK	84,2	ej OK
11,80	-3,7	-4,3	0,38	0,65	OK	86,0	ej OK
12,10	-3,9	-4,5	0,39	0,65	OK	87,4	ej OK
12,40	-4,1	-4,7	0,41	0,66	OK	88,8	ej OK
12,70	-4,3	-4,9	0,43	0,67	OK	89,5	ej OK
13,01	-4,5	-5,1	0,44	0,67	OK	89,2	ej OK
13,31	-4,6	-5,3	0,46	0,68	OK	89,2	ej OK
13,61	-4,8	-5,5	0,47	0,69	OK	88,8	ej OK
13,91	-5,0	-5,7	0,49	0,70	OK	88,4	ej OK
14,22	-5,2	-5,8	0,51	0,70	OK	44,1	OK
14,52	-5,4	-6,0	0,52	0,71	OK	44,4	OK
14,82	1,2	-1,4	0,12	0,50	OK	98,0	ej OK

Komb B, Jmf Komb B1 med B2

Snitt B6	Kontroll - Betong utan tvärkraftsarmering			
		V_{min} / $V_{max} \geq 0$	V_{min} / $V_{max} < 0$	
x [m]	$\lvert V_{max} \rvert$ / $\lvert V_{Rdc} \rvert$	0,5 + 0,45 • $\lvert V_{min} \rvert$ / $\lvert V_{Rdc} \rvert$	0,5 - $\lvert V_{min} \rvert$ / $\lvert V_{Rdc} \rvert$	Kontroll
0,00	-	-	-	-
0,30	-	-	-	-
0,61	-	-	-	-
0,91	-	-	-	-
1,21	-	-	-	-
1,51	-	-	-	-
1,82	-	-	-	-
2,12	-	-	-	-
2,42	-	-	-	-
2,72	-	-	-	-
3,02	-	-	-	-
3,33	-	-	-	-
3,63	-	-	-	-
3,93	-	-	-	-
4,23	-	-	-	-
4,54	-	-	-	-
4,84	-	-	-	-
5,14	-	-	-	-
5,44	-	-	-	-
5,75	-	-	-	-
6,05	-	-	-	-
6,35	-	-	-	-
6,65	-	-	-	-
6,96	-	-	-	-
7,26	-	-	-	-
7,56	-	-	-	-
7,86	-	-	-	-
8,17	-	-	-	-
8,47	-	-	-	-
8,77	-	-	-	-
9,07	-	-	-	-
9,38	-	-	-	-
9,68	-	-	-	-
9,98	-	-	-	-
10,28	-	-	-	-
10,59	-	-	-	-
10,89	-	-	-	-
11,19	-	-	-	-
11,49	-	-	-	-
11,80	-	-	-	-
12,10	-	-	-	-
12,40	-	-	-	-
12,70	-	-	-	-
13,01	-	-	-	-
13,31	-	-	-	-
13,61	-	-	-	-
13,91	-	-	-	-
14,22	-	-	-	-
14,52	-	-	-	-
14,82	-	-	-	-

Utmattningsverifiering med Lambdametoden för tvärkraft i järnvägsbroar

Armering

* Karakteristisk lastkombination där trafiken är huvudlast.
* Övriga variabla laster än trafiken ska beaktas.
* Dynamikfaktorn Φ ska beaktas för lasteffekter dock inte alfa, α.

Betong

* Karakteristisk lastkombination där trafiken är huvudlast.
* Inga variabla laster förutom trafiken ska beaktas. Lasteffekterna från de variabla lasterna har satts till 0 då betongen utmattningsverifieras.
* Dynamikfaktorn Φ ska beaktas på lasteffekter dock inte alfa, α.

Övrig info lambdametoden

* Lastmodeller som används vid beräkning av lasteffekter är LM71 och SW/0.
* För en icke kontinuerlig bro används LM71.
* För en kontinuerlig bro görs kontroller både med LM71 och SW/0.
* Lambdametoden för tvärkraft tillgrips endast i områden med tvärkraftsarmering
* Om tvärkraften ändrar tecken i samma punkt i snittet blir det problem att beräkna de skadeekvivalenta spänningsnivåerna för trycksträvan med Lambdametoden.
* Vad som definieras som stöd och fältområde vid val av Lambdafaktorer klargörs i EN 1993-2, figur 9,7.

Enkel kontroll - snitt utan tvärkraftsarmering

* "Vanlig" frekvent lastkombination

Sammanställning, balk, tvärkraft lambdametoden

	UG
Balk 1	0,91
Balk 2	2,81
Balk 3	2,62
Balk 4	2,58
Balk 5	2,84
Balk 6	0,83
Max UG	**2,84**

BILTRAFIK

Uppmätta och beräknade årsflöden

Uppmätta värden har erhållits från beställare.

Värden markerat i grått har uppskattats på grund av ingen data eller på grund av framtida uppskattning.

Vikt typfordon o: 18,86 ton

År	Årsflöde	Andel tung trafik	Tung trafik	Lätt trafik
1957	1770250	0,100	177025	1593225
1958	2226500	0,100	222650	2003850
1959	2184525	0,100	218453	1966073
1960	2142550	0,100	214255	1928295
1961	2644425	0,100	264443	2379983
1962	3033606	0,100	303361	2730246
1963	3422788	0,100	342279	3080509
1964	4201150	0,100	420115	3781035
1965	4524175	0,100	452418	4071758
1966	4847200	0,100	484720	4362480
1967	5018750	0,100	501875	4516875
1968	4453000	0,100	445300	4007700
1969	6168500	0,100	616850	5551650
1970	6205000	0,100	620500	5584500
1971	6420350	0,100	642035	5778315
1972	7716100	0,100	771610	6944490
1973	7161300	0,100	716130	6445170
1974	7373000	0,100	737300	6635700
1975	7464250	0,100	746425	6717825
1976	7884000	0,100	788400	7095600
1977	7887650	0,100	788765	7098885
1978	8106650	0,100	810665	7295985
1979	7413150	0,100	741315	6671835
1980	6971500	0,100	697150	6274350
1981	6982450	0,100	698245	6284205
1982	7033550	0,100	703355	6330195
1983	5391050	0,100	539105	4851945
1984	5646550	0,100	564655	5081895
1985	5431200	0,100	543120	4888080
1986	5555300	0,100	555530	4999770
1987	6920400	0,100	692040	6228360
1988	6489700	0,100	648970	5840730
1989	6059000	0,100	605900	5453100
1990	5438500	0,100	543850	4894650
1991	5556030	0,100	555603	5000427
1992	6407210	0,100	640721	5766489
1993	6466340	0,100	646634	5819706
1994	6158645	0,100	615865	5542781
1995	6086740	0,100	608674	5478066
1996	5425360	0,100	542536	4882824
1997	5860075	0,100	586008	5274068
1998	4824205	0,100	482421	4341785
1999	5145405	0,100	514541	4630865
2000	5254540	0,100	525454	4729086
2001	5480840	0,100	548084	4932756
2002	5516610	0,100	551661	4964949
2003	5424265	0,100	542427	4881839
2004	5034080	0,100	503408	4530672
2005	5486315	0,100	548632	4937684
2006	5696920	0,100	569692	5127228
2007	5249795	0,100	524980	4724816
2008	4432560	0,100	443256	3989304
2009	4376350	0,100	437635	3938715
2010	4449350	0,100	444935	4004415
2011	4351530	0,100	435153	3916377
2012	5098320	0,100	509832	4588488
2013	4109535	0,100	410954	3698582
2014	4046025	0,100	404603	3641423
2015	3440125	0,100	344013	3096113
2016	3682485	0,100	368249	3314237
2017	3830675	0,100	383068	3447608
2018	4357005	0,100	435701	3921305
2019	3452535	0,100	345254	3107282
2020	3950395	0,100	395040	3555356
2021	4454825	0,100	445483	4009343
2022	4282545	0,100	428255	3854291
2023	3440125	0,100	344013	3096113
2024	3440125	0,100	344013	3096113

2025	3440125	0,100	344013	3096113	
2026	3440125	0,100	344013	3096113	
2027	3440125	0,100	344013	3096113	
2028	3440125	0,100	344013	3096113	
2029	3440125	0,100	344013	3096113	
2030	3440125	0,100	344013	3096113	
2031	3440125	0,100	344013	3096113	
2032	3440125	0,100	344013	3096113	
2033	3440125	0,100	344013	3096113	
2034	3440125	0,100	344013	3096113	
2035	3440125	0,100	344013	3096113	
2036	3440125	0,100	344013	3096113	
2037	3440125	0,100	344013	3096113	
2038	3440125	0,100	344013	3096113	
2039	3440125	0,100	344013	3096113	
2040	3440125	0,100	344013	3096113	
2041	3440125	0,100	344013	3096113	
2042	3440125	0,100	344013	3096113	
2043	3440125	0,100	344013	3096113	
2044	3440125	0,100	344013	3096113	
2045	3440125	0,100	344013	3096113	
2046	3440125	0,100	344013	3096113	
2047	3440125	0,100	344013	3096113	
2048	3440125	0,100	344013	3096113	
2049	3440125	0,100	344013	3096113	
2050	3440125	0,100	344013	3096113	
2051	3440125	0,100	344013	3096113	
2052	3440125	0,100	344013	3096113	
2053	3440125	0,100	344013	3096113	
2054	3440125	0,100	344013	3096113	
2055	3440125	0,100	344013	3096113	
2056	3440125	0,100	344013	3096113	
2057	3440125	0,100	344013	3096113	
2058	3440125	0,100	344013	3096113	
2059	3440125	0,100	344013	3096113	
2060	3440125	0,100	344013	3096113	
2061	3440125	0,100	344013	3096113	
2062	3440125	0,100	344013	3096113	
2063	3440125	0,100	344013	3096113	
2064	3440125	0,100	344013	3096113	
Summa	490060954		49006095	441054858	
			4,54E+05	**per år**	

Lambda-metoden *5,00E+05 antal lastbilar per år* *(för referens)*

3,96E+05 *snitt senaste 10 åren*

SPÅRTRAFIK

Beräknade årsflöden

Uppskattade värden har erhållits från beställare.

Vikt tåg: 202 ton

Framtida spårväg:

Tid	tåg/riktning/interval	tåg/spår/dygn	tåg/spår/år
05-06	8		
06-09	24		
09-15	16		
15-19	24		
19-22	16		
22-02	8		
		96	**35040**

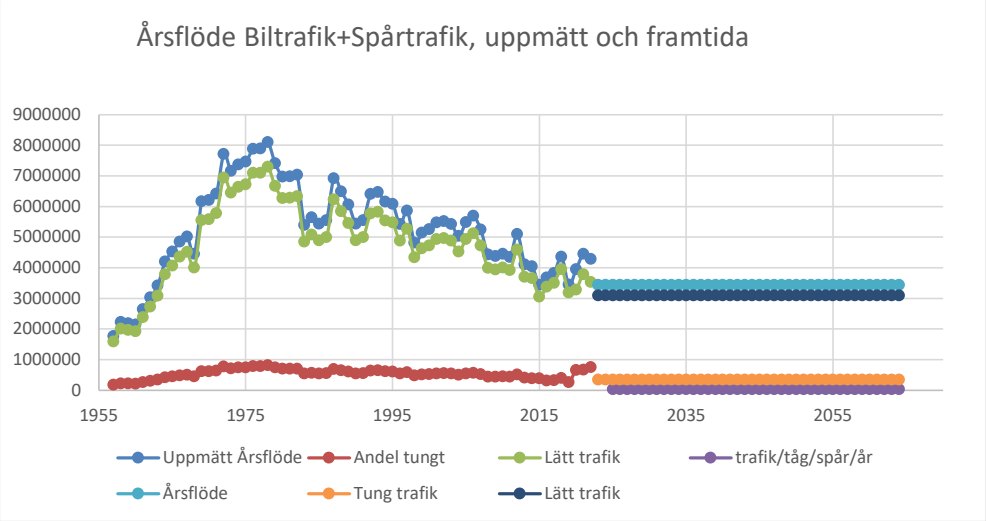
År	trafik/tåg/spår/år
2025	35040
2026	35040
2027	35040
2028	35040
2029	35040
2030	35040
2031	35040
2032	35040
2033	35040
2034	35040
2035	35040
2036	35040
2037	35040
2038	35040
2039	35040
2040	35040
2041	35040
2042	35040
2043	35040
2044	35040
2045	35040
2046	35040
2047	35040
2048	35040
2049	35040
2050	35040
2051	35040
2052	35040
2053	35040
2054	35040
2055	35040
2056	35040
2057	35040
2058	35040
2059	35040
2060	35040
2061	35040
2062	35040
2063	35040
2064	35040
Summa	1401600
	3,50E+04 trafik per år

Lambda-metoden *2,51E+07 t/tåg/år* *(för referens)*

Antar att tung biltrafik läggs till för brons livslängd för beräkning av utmattning av spårväg
Skalar om biltrafik med vikt till spårtrafik med faktor = typfordon/tåg
453760 tung biltrafik/år *(19 ton/202 ton) + 35040 spårtrafik/år/spår

7,74E+04 per år Används i beräkning av utmattning enligt lambdametoden

Livslängdklass L100 (120 år)
Ger något övertramp i vissa punkter
Antar att spårtrafik samt tung biltrafik kan trafikeras utan behov av åtgärdsförslag på grund av utmattning



SKADEEKVIVALENTFAKTOR λ_s

Enligt SS-EN 1992-2, Bilaga NN

Indata		Enhet	Kommentar	Hänvisning
Spännvidd, L1	14,82	[m]	Studerat fält/spann	SS-EN 1993-2, Figur 9.7
Spännvidd, L2	14,82	[m]	Angränsande fält/spann	SS-EN 1993-2, Figur 9.7
$\Delta\sigma_{Rsk}(N^*)$	185	[Mpa]	Skadeekvivalent spänningsvidd	SS-EN 1992-1-1, Tabell 6.3N och 6.4N,
k_2	9		Spänningsexponent	SS-EN 1992-1-1, Tabell 6.3N eller 6.4N
$\gamma_{S,fat}$	1,15		Partialkoefficient, utmattninglaster	SS-EN 1992-1-1, Tabell 2.1N
γ_{Sd}	1		Partialkoeff. för modellosäkerheten	SS-EN 1990, bilaga C.9
Livslängdsklass	L100		Välj: [L20] [L50] [L100]	TRVK Bro 11, B.1.2 och D.1.3.1
α	-		Välj: [1,33] [1,6]	TRVK Bro 11, B.3.2.1.4b
Antal spår	2		Välj: [1]=1 spår [2]= minst 2 spår	
Förspänning	Ja		Välj: [Ja] [Nej]	
$\lambda_{s,1,\ 2m,\ fält}$	1,05		Tung trafik väljs för L=2m	SS-EN 1992-2, Tabell NN.2, TRVK BRO, D.2.1g
$\lambda_{s,1,\ 20m,\ fält}$	0,55			4 SS-EN 1992-2, Tabell NN.2, TRVK BRO, D.2.1g
$\lambda_{s,1,\ 2m,\ stöd}$	0,85		Tung trafik väljs för L=2m	SS-EN 1992-2, Tabell NN.2, TRVK BRO, D.2.1g
$\lambda_{s,1,\ 20m,\ stöd}$	0,75		Tung trafik väljs för L=20m	SS-EN 1992-2, Tabell NN.2, TRVK BRO, D.2.1g
$\lambda_{c,1,\ 2m,\ fält}$	0,90		Tung trafik väljs för L=2m	SS-EN 1992-2, Tabell NN.3, TRVK BRO, D.2.1g
$\lambda_{c,1,\ 20m,\ fält}$	0,55		Tung trafik väljs för L=20m	SS-EN 1992-2, Tabell NN.3, TRVK BRO, D.2.1g
$\lambda_{c,1,\ 2m,\ stöd}$	0,75		Tung trafik väljs för L=2m	SS-EN 1992-2, Tabell NN.3, TRVK BRO, D.2.1g
$\lambda_{c,1,\ 20m,\ stöd}$	0,85		Tung trafik väljs för L=20m	SS-EN 1992-2, Tabell NN.3, TRVK BRO, D.2.1g
n	0,12		Andel trafik som passerar bron	SS-EN 1992-2, NN.3.1 och NN.3.2

Delresultat

Vol	1,56E+07	[t/år/spår]	Trafikvolym från tågtrafik	se uträkning
$\lambda_{s,1,fält}$	0,615	[-]	Grundvärde, justeras om L<10m	SS-EN 1992-2, (NN.108)
$\lambda_{s,1,stöd}$	0,763	[-]	Grundvärde, justeras om L<10m	SS-EN 1992-2, (NN.108)
$\lambda_{c,1,fält}$	0,595	[-]	Grundvärde, justeras om L<10m	SS-EN 1992-2, (NN.108)
$\lambda_{c,1,stöd}$	0,837	[-]	Grundvärde, justeras om L<10m	SS-EN 1992-2, (NN.108)
$s_1=s_2$	1	[-]	Antagen förenkling	SS-EN 1992-2 (NN.111)
a	1	[-]	Antagen förenkling	SS-EN 1992-2 (NN.118)
Influenslinjens längd, mellanstöd	14,8	[m]	Baseras på spännvidd L1 och L2	SS-EN 1993-2, 9.5.3(4a), TRVR Bro 11, D.2.1g
Influenslinjens längd, fält L1	14,82	[m]	Baseras på spännvidd L1	SS-EN 1993-2, 9.5.3(4a), TRVR Bro 11, D.2.1g
N_{Years}	120	[år]	Livslängd	BFS 2011:10,EKS 8,1.2,par.14

Delresultat

Armering

Komb A (ANM. Förtydligande återfinns vid spänningsberäkning)

Snitt $\lambda_s = \lambda_{s,1,justerat} \cdot \lambda_{s,2} \cdot \lambda_{s,3} \cdot \lambda_{s,4}$

Spann 1

[m]	[FÄLT] [M.STÖD]	$\lambda_{s,1,justerat}$ [-]	$\lambda_{s,2}$ [-]	$\lambda_{s,3}$ [-]	$\lambda_{s,4}$ [-]	λ_s [-]
0,00	M.STÖD	0,76	0,95	1,02	1,07	0,79
0,30	M.STÖD	0,76	0,95	1,02	1,07	0,79
0,60	M.STÖD	0,76	0,95	1,02	1,07	0,79
0,91	M.STÖD	0,76	0,95	1,02	1,07	0,79
1,21	M.STÖD	0,76	0,95	1,02	1,07	0,79
1,51	M.STÖD	0,76	0,95	1,02	1,07	0,79
1,81	M.STÖD	0,76	0,95	1,02	1,07	0,79
2,12	M.STÖD	0,76	0,95	1,02	1,07	0,79
2,42	FÄLT	0,61	0,95	1,02	1,07	0,64
2,72	FÄLT	0,61	0,95	1,02	1,07	0,64
3,02	FÄLT	0,61	0,95	1,02	1,07	0,64
3,33	FÄLT	0,61	0,95	1,02	1,07	0,64
3,63	FÄLT	0,61	0,95	1,02	1,07	0,64
3,93	FÄLT	0,61	0,95	1,02	1,07	0,64
4,23	FÄLT	0,61	0,95	1,02	1,07	0,64
4,54	FÄLT	0,61	0,95	1,02	1,07	0,64
4,84	FÄLT	0,61	0,95	1,02	1,07	0,64
5,14	FÄLT	0,61	0,95	1,02	1,07	0,64
5,44	FÄLT	0,61	0,95	1,02	1,07	0,64
5,75	FÄLT	0,61	0,95	1,02	1,07	0,64
6,05	FÄLT	0,61	0,95	1,02	1,07	0,64
6,35	FÄLT	0,61	0,95	1,02	1,07	0,64
6,65	FÄLT	0,61	0,95	1,02	1,07	0,64
6,96	FÄLT	0,61	0,95	1,02	1,07	0,64
7,26	FÄLT	0,61	0,95	1,02	1,07	0,64
7,56	FÄLT	0,61	0,95	1,02	1,07	0,64
7,86	FÄLT	0,61	0,95	1,02	1,07	0,64
8,17	FÄLT	0,61	0,95	1,02	1,07	0,64
8,47	FÄLT	0,61	0,95	1,02	1,07	0,64
8,77	FÄLT	0,61	0,95	1,02	1,07	0,64
9,07	FÄLT	0,61	0,95	1,02	1,07	0,64
9,38	FÄLT	0,61	0,95	1,02	1,07	0,64
9,68	FÄLT	0,61	0,95	1,02	1,07	0,64
9,98	FÄLT	0,61	0,95	1,02	1,07	0,64
10,28	FÄLT	0,61	0,95	1,02	1,07	0,64
10,59	FÄLT	0,61	0,95	1,02	1,07	0,64
10,89	FÄLT	0,61	0,95	1,02	1,07	0,64
11,19	FÄLT	0,61	0,95	1,02	1,07	0,64
11,49	FÄLT	0,61	0,95	1,02	1,07	0,64
11,80	FÄLT	0,61	0,95	1,02	1,07	0,64
12,10	FÄLT	0,61	0,95	1,02	1,07	0,64
12,40	FÄLT	0,61	0,95	1,02	1,07	0,64
12,70	M.STÖD	0,76	0,95	1,02	1,07	0,79
13,01	M.STÖD	0,76	0,95	1,02	1,07	0,79
13,31	M.STÖD	0,76	0,95	1,02	1,07	0,79
13,61	M.STÖD	0,76	0,95	1,02	1,07	0,79
13,91	M.STÖD	0,76	0,95	1,02	1,07	0,79
14,22	M.STÖD	0,76	0,95	1,02	1,07	0,79
14,52	M.STÖD	0,76	0,95	1,02	1,07	0,79
14,82	M.STÖD	0,76	0,95	1,02	1,07	0,79

Armering
Komb B (ANM. Förtydligande återfinns vid spänningsberäkning)

Snitt
Spann 1

x [m]	[FÄLT] [M.STÖD]	$\lambda_{s,1,justerat}$ [-]	$\lambda_{s,2}$ [-]	$\lambda_{s,3}$ [-]	$\lambda_{s,4}$ [-]	λ_s [-]
0,00	M.STÖD	0,76	0,95	1,02	1,07	0,79
0,30	M.STÖD	0,76	0,95	1,02	1,07	0,79
0,60	M.STÖD	0,76	0,95	1,02	1,07	0,79
0,91	M.STÖD	0,76	0,95	1,02	1,07	0,79
1,21	M.STÖD	0,76	0,95	1,02	1,07	0,79
1,51	M.STÖD	0,76	0,95	1,02	1,07	0,79
1,81	M.STÖD	0,76	0,95	1,02	1,07	0,79
2,12	M.STÖD	0,76	0,95	1,02	1,07	0,79
2,42	FÄLT	0,61	0,95	1,02	1,07	0,64
2,72	FÄLT	0,61	0,95	1,02	1,07	0,64
3,02	FÄLT	0,61	0,95	1,02	1,07	0,64
3,33	FÄLT	0,61	0,95	1,02	1,07	0,64
3,63	FÄLT	0,61	0,95	1,02	1,07	0,64
3,93	FÄLT	0,61	0,95	1,02	1,07	0,64
4,23	FÄLT	0,61	0,95	1,02	1,07	0,64
4,54	FÄLT	0,61	0,95	1,02	1,07	0,64
4,84	FÄLT	0,61	0,95	1,02	1,07	0,64
5,14	FÄLT	0,61	0,95	1,02	1,07	0,64
5,44	FÄLT	0,61	0,95	1,02	1,07	0,64
5,75	FÄLT	0,61	0,95	1,02	1,07	0,64
6,05	FÄLT	0,61	0,95	1,02	1,07	0,64
6,35	FÄLT	0,61	0,95	1,02	1,07	0,64
6,65	FÄLT	0,61	0,95	1,02	1,07	0,64
6,96	FÄLT	0,61	0,95	1,02	1,07	0,64
7,26	FÄLT	0,61	0,95	1,02	1,07	0,64
7,56	FÄLT	0,61	0,95	1,02	1,07	0,64
7,86	FÄLT	0,61	0,95	1,02	1,07	0,64
8,17	FÄLT	0,61	0,95	1,02	1,07	0,64
8,47	FÄLT	0,61	0,95	1,02	1,07	0,64
8,77	FÄLT	0,61	0,95	1,02	1,07	0,64
9,07	FÄLT	0,61	0,95	1,02	1,07	0,64
9,38	FÄLT	0,61	0,95	1,02	1,07	0,64
9,68	FÄLT	0,61	0,95	1,02	1,07	0,64
9,98	FÄLT	0,61	0,95	1,02	1,07	0,64
10,28	FÄLT	0,61	0,95	1,02	1,07	0,64
10,59	FÄLT	0,61	0,95	1,02	1,07	0,64
10,89	FÄLT	0,61	0,95	1,02	1,07	0,64
11,19	FÄLT	0,61	0,95	1,02	1,07	0,64
11,49	FÄLT	0,61	0,95	1,02	1,07	0,64
11,80	FÄLT	0,61	0,95	1,02	1,07	0,64
12,10	FÄLT	0,61	0,95	1,02	1,07	0,64
12,40	FÄLT	0,61	0,95	1,02	1,07	0,64
12,70	M.STÖD	0,76	0,95	1,02	1,07	0,79
13,01	M.STÖD	0,76	0,95	1,02	1,07	0,79
13,31	M.STÖD	0,76	0,95	1,02	1,07	0,79
13,61	M.STÖD	0,76	0,95	1,02	1,07	0,79
13,91	M.STÖD	0,76	0,95	1,02	1,07	0,79
14,22	M.STÖD	0,76	0,95	1,02	1,07	0,79
14,52	M.STÖD	0,76	0,95	1,02	1,07	0,79
14,82	M.STÖD	0,76	0,95	1,02	1,07	0,79

Betong

Komb A (ANM. Förtydligande återfinns vid spänningsberäkning)

Snitt $\lambda_c = \lambda_{c,0} \bullet \lambda_{c,1,justerat} \bullet \lambda_{c,2,3} \bullet \lambda_{c,4}$

Spann 1

x [m]	[FÄLT] [M.STÖD]	$\lambda_{c,0}$ [-]	$\lambda_{c,1,justerat}$ [-]	$\lambda_{c,2,3}$ [-]	$\lambda_{c,4}$ [-]	λ_c [-]
0,00	M.STÖD	1,00	0,84	0,98	1,00	0,82
0,30	M.STÖD	1,00	0,84	0,98	1,00	0,82
0,60	M.STÖD	1,00	0,84	0,98	1,00	0,82
0,91	M.STÖD	1,00	0,84	0,98	1,00	0,82
1,21	M.STÖD	1,00	0,84	0,98	1,00	0,82
1,51	M.STÖD	1,00	0,84	0,98	1,00	0,82
1,81	M.STÖD	1,00	0,84	0,98	1,00	0,82
2,12	M.STÖD	1,00	0,84	0,98	1,00	0,82
2,42	FÄLT	1,00	0,60	0,98	1,00	0,59
2,72	FÄLT	1,00	0,60	0,98	1,00	0,59
3,02	FÄLT	1,00	0,60	0,98	1,00	0,59
3,33	FÄLT	1,00	0,60	0,98	1,00	0,59
3,63	FÄLT	1,00	0,60	0,98	1,00	0,59
3,93	FÄLT	1,00	0,60	0,98	1,00	0,59
4,23	FÄLT	1,00	0,60	0,98	1,00	0,59
4,54	FÄLT	1,00	0,60	0,98	1,00	0,59
4,84	FÄLT	1,00	0,60	0,98	1,00	0,59
5,14	FÄLT	1,00	0,60	0,98	1,00	0,59
5,44	FÄLT	1,00	0,60	0,98	1,00	0,59
5,75	FÄLT	1,00	0,60	0,98	1,00	0,59
6,05	FÄLT	1,00	0,60	0,98	1,00	0,59
6,35	FÄLT	1,00	0,60	0,98	1,00	0,59
6,65	FÄLT	1,00	0,60	0,98	1,00	0,59
6,96	FÄLT	1,00	0,60	0,98	1,00	0,59
7,26	FÄLT	1,00	0,60	0,98	1,00	0,59
7,56	FÄLT	1,00	0,60	0,98	1,00	0,59
7,86	FÄLT	1,00	0,60	0,98	1,00	0,59
8,17	FÄLT	1,00	0,60	0,98	1,00	0,59
8,47	FÄLT	1,00	0,60	0,98	1,00	0,59
8,77	FÄLT	1,00	0,60	0,98	1,00	0,59
9,07	FÄLT	1,00	0,60	0,98	1,00	0,59
9,38	FÄLT	1,00	0,60	0,98	1,00	0,59
9,68	FÄLT	1,00	0,60	0,98	1,00	0,59
9,98	FÄLT	1,00	0,60	0,98	1,00	0,59
10,28	FÄLT	1,00	0,60	0,98	1,00	0,59
10,59	FÄLT	1,00	0,60	0,98	1,00	0,59
10,89	FÄLT	1,00	0,60	0,98	1,00	0,59
11,19	FÄLT	1,00	0,60	0,98	1,00	0,59
11,49	FÄLT	1,00	0,60	0,98	1,00	0,59
11,80	FÄLT	1,00	0,60	0,98	1,00	0,59
12,10	FÄLT	1,00	0,60	0,98	1,00	0,59
12,40	FÄLT	1,00	0,60	0,98	1,00	0,59
12,70	M.STÖD	1,00	0,84	0,98	1,00	0,82
13,01	M.STÖD	1,00	0,84	0,98	1,00	0,82
13,31	M.STÖD	1,00	0,84	0,98	1,00	0,82
13,61	M.STÖD	1,00	0,84	0,98	1,00	0,82
13,91	M.STÖD	1,00	0,84	0,98	1,00	0,82
14,22	M.STÖD	1,00	0,84	0,98	1,00	0,82
14,52	M.STÖD	1,00	0,84	0,98	1,00	0,82
14,82	M.STÖD	1,00	0,84	0,98	1,00	0,82

Betong
Komb B (ANM. Förtydligande återfinns vid spänningsberäkning)

Snitt
Spann 1

x [m]	[FÄLT] [M.STÖD]	$\lambda_{c,0}$ [-]	$\lambda_{c,1,justerat}$ [-]	$\lambda_{c,2,3}$ [-]	$\lambda_{c,4}$ [-]	λ_c [-]
0,00	M.STÖD	1,00	0,84	0,98	1,00	0,82
0,30	M.STÖD	1,00	0,84	0,98	1,00	0,82
0,60	M.STÖD	1,00	0,84	0,98	1,00	0,82
0,91	M.STÖD	1,00	0,84	0,98	1,00	0,82
1,21	M.STÖD	1,00	0,84	0,98	1,00	0,82
1,51	M.STÖD	1,00	0,84	0,98	1,00	0,82
1,81	M.STÖD	1,00	0,84	0,98	1,00	0,82
2,12	M.STÖD	1,00	0,84	0,98	1,00	0,82
2,42	FÄLT	1,00	0,60	0,98	1,00	0,59
2,72	FÄLT	1,00	0,60	0,98	1,00	0,59
3,02	FÄLT	1,00	0,60	0,98	1,00	0,59
3,33	FÄLT	1,00	0,60	0,98	1,00	0,59
3,63	FÄLT	1,00	0,60	0,98	1,00	0,59
3,93	FÄLT	1,00	0,60	0,98	1,00	0,59
4,23	FÄLT	1,00	0,60	0,98	1,00	0,59
4,54	FÄLT	1,00	0,60	0,98	1,00	0,59
4,84	FÄLT	1,00	0,60	0,98	1,00	0,59
5,14	FÄLT	1,00	0,60	0,98	1,00	0,59
5,44	FÄLT	1,00	0,60	0,98	1,00	0,59
5,75	FÄLT	1,00	0,60	0,98	1,00	0,59
6,05	FÄLT	1,00	0,60	0,98	1,00	0,59
6,35	FÄLT	1,00	0,60	0,98	1,00	0,59
6,65	FÄLT	1,00	0,60	0,98	1,00	0,59
6,96	FÄLT	1,00	0,60	0,98	1,00	0,59
7,26	FÄLT	1,00	0,60	0,98	1,00	0,59
7,56	FÄLT	1,00	0,60	0,98	1,00	0,59
7,86	FÄLT	1,00	0,60	0,98	1,00	0,59
8,17	FÄLT	1,00	0,60	0,98	1,00	0,59
8,47	FÄLT	1,00	0,60	0,98	1,00	0,59
8,77	FÄLT	1,00	0,60	0,98	1,00	0,59
9,07	FÄLT	1,00	0,60	0,98	1,00	0,59
9,38	FÄLT	1,00	0,60	0,98	1,00	0,59
9,68	FÄLT	1,00	0,60	0,98	1,00	0,59
9,98	FÄLT	1,00	0,60	0,98	1,00	0,59
10,28	FÄLT	1,00	0,60	0,98	1,00	0,59
10,59	FÄLT	1,00	0,60	0,98	1,00	0,59
10,89	FÄLT	1,00	0,60	0,98	1,00	0,59
11,19	FÄLT	1,00	0,60	0,98	1,00	0,59
11,49	FÄLT	1,00	0,60	0,98	1,00	0,59
11,80	FÄLT	1,00	0,60	0,98	1,00	0,59
12,10	FÄLT	1,00	0,60	0,98	1,00	0,59
12,40	FÄLT	1,00	0,60	0,98	1,00	0,59
12,70	M.STÖD	1,00	0,84	0,98	1,00	0,82
13,01	M.STÖD	1,00	0,84	0,98	1,00	0,82
13,31	M.STÖD	1,00	0,84	0,98	1,00	0,82
13,61	M.STÖD	1,00	0,84	0,98	1,00	0,82
13,91	M.STÖD	1,00	0,84	0,98	1,00	0,82
14,22	M.STÖD	1,00	0,84	0,98	1,00	0,82
14,52	M.STÖD	1,00	0,84	0,98	1,00	0,82
14,82	M.STÖD	1,00	0,84	0,98	1,00	0,82

Utmattning av järnvägsbroar- Tvärkraft

Tvärkraftsarmering Balk 1

θ_{fat} = 32,3 °

ζ = 0,35+0,026*D/Φ

(SS-EN 1992-1-1, Tabell 6.3N, ANM.1)

Snitt B1

x [m]	h [m]	b_w [m]	$d_{ök}$ [m]	d_{uk} [m]	A_{sw} [cm^2/m]	ζ	Permanenta V_{max} [kN]	Permanenta V_{min} [kN]	Variabla V_{max} [kN]	Variabla V_{min} [kN]	Cykliska V_{max} [kN]	Cykliska V_{min} [kN]
0,00	0,830	0,500	0,770	0,770	10,5	0,56	133	-38	0	0	23	-15
0,30	0,830	0,500	0,770	0,770	10,5	0,56	258	31	0	0	46	-14
0,60	0,830	0,500	0,770	0,770	10,5	0,56	242	13	0	0	45	-11
0,91	0,830	0,500	0,770	0,770	5,2	0,56	227	7	0	0	43	-10
1,21	0,830	0,500	0,770	0,770	5,2	0,56	212	1	0	0	41	-10
1,51	0,830	0,500	0,770	0,770	5,2	0,56	198	0	0	0	39	-9
1,81	0,830	0,500	0,770	0,770	5,2	0,56	184	-1	0	0	37	-9
2,12	0,830	0,500	0,770	0,770	5,2	0,56	169	-1	0	0	34	-9
2,42	0,830	0,500	0,770	0,770	5,2	0,56	155	-1	0	0	32	-9
2,72	0,830	0,500	0,770	0,770	5,2	0,56	141	0	0	0	29	-9
3,02	0,830	0,500	0,770	0,770	5,2	0,56	127	0	0	0	27	-8
3,33	0,830	0,500	0,770	0,770	5,2	0,56	113	0	0	0	24	-8
3,63	0,830	0,500	0,770	0,770	5,2	0,56	98	0	0	0	22	-8
3,93	0,830	0,500	0,770	0,770	5,2	0,56	84	0	0	0	20	-8
4,23	0,830	0,500	0,770	0,770	5,2	0,56	69	0	0	0	18	-8
4,54	0,830	0,500	0,770	0,770	5,2	0,56	55	0	0	0	16	-8
4,84	0,830	0,500	0,770	0,770	5,2	0,56	40	0	0	0	14	-8
5,14	0,830	0,500	0,770	0,770	5,2	0,56	25	0	0	0	12	-8
5,44	0,830	0,500	0,770	0,770	5,2	0,56	10	0	0	0	10	-8
5,75	0,830	0,500	0,770	0,770	5,2	0,56	0	-6	0	0	9	-9
6,05	0,830	0,500	0,770	0,770	5,2	0,56	0	-21	0	0	8	-11
6,35	0,830	0,500	0,770	0,770	5,2	0,56	0	-36	0	0	7	-12
6,65	0,830	0,500	0,770	0,770	5,2	0,56	0	-51	0	0	6	-14
6,96	0,830	0,500	0,770	0,770	5,2	0,56	0	-66	0	0	5	-16
7,26	0,830	0,500	0,770	0,770	5,2	0,56	0	-81	0	0	5	-17
7,56	0,830	0,500	0,770	0,770	5,2	0,56	0	-96	0	0	4	-19
7,86	0,830	0,500	0,770	0,770	5,2	0,56	0	-111	0	0	3	-20
8,17	0,830	0,500	0,770	0,770	5,2	0,56	0	-126	0	0	3	-22
8,47	0,830	0,500	0,770	0,770	5,2	0,56	0	-141	0	0	3	-24
8,77	0,830	0,500	0,770	0,770	5,2	0,56	0	-156	0	0	3	-27
9,07	0,830	0,500	0,770	0,770	5,2	0,56	0	-171	0	0	3	-29
9,38	0,830	0,500	0,770	0,770	5,2	0,56	0	-185	0	0	3	-31
9,68	0,830	0,500	0,770	0,770	5,2	0,56	0	-200	0	0	4	-34
9,98	0,830	0,500	0,770	0,770	5,2	0,56	0	-215	0	0	4	-36
10,28	0,830	0,500	0,770	0,770	5,2	0,56	-1	-229	0	0	4	-38
10,59	0,830	0,500	0,770	0,770	5,2	0,56	-1	-244	0	0	4	-40
10,89	0,830	0,500	0,770	0,770	5,2	0,56	-1	-258	0	0	4	-42
11,19	0,830	0,500	0,770	0,770	5,2	0,56	-1	-273	0	0	5	-44
11,49	0,830	0,500	0,770	0,770	5,2	0,56	-2	-287	0	0	5	-45
11,80	0,830	0,500	0,770	0,770	5,2	0,56	-2	-301	0	0	5	-46
12,10	0,830	0,500	0,770	0,770	5,2	0,56	-3	-316	0	0	5	-47
12,40	0,830	0,500	0,770	0,770	5,2	0,56	-4	-330	0	0	5	-48
12,70	0,830	0,500	0,770	0,770	5,2	0,56	-6	-345	0	0	5	-49
13,01	0,830	0,500	0,770	0,770	5,2	0,56	-9	-360	0	0	5	-49
13,31	0,830	0,500	0,770	0,770	5,2	0,56	-14	-375	0	0	6	-49
13,61	0,830	0,500	0,770	0,770	5,2	0,56	-22	-390	0	0	8	-49
13,91	0,830	0,500	0,770	0,770	5,2	0,56	-33	-406	0	0	11	-48
14,22	0,830	0,500	0,770	0,770	10,5	0,56	-50	-422	0	0	15	-47
14,52	0,830	0,500	0,770	0,770	10,5	0,56	-71	-439	0	0	20	-46

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$

Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$

Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Kontroll armering

Kontroll
89,8
Max
81

Komb A: Jmf Komb A1 med A2

Komb B: Jmf Komb B1 med B2

$\Delta\sigma_{V.S.equ} = \lambda_s \bullet \Phi \bullet \Delta\sigma_{V.S.trafik}$

$\Delta\sigma_{V.s} = \Delta V / (A_{sw} \bullet z \bullet (1/\tan(\theta_{fat}))$

Snitt B1					Armeringsspänning		Komb A		Komb B	
x [m]	ΣV_{A1} [kN]	ΣV_{A2} [kN]	ΣV_{B1} [kN]	ΣV_{B2} [kN]	$\Delta\sigma_{V.s.A}$ [MPa]	$\Delta\sigma_{V.s.B}$ [MPa]	$\Delta\sigma_{V.S.A.equ}$ [MPa]	Kontroll $\Delta\sigma_{V.S.A.equ} \leq \Delta\sigma_{Rsk} \bullet \zeta / \gamma_{S,fat}$	$\Delta\sigma_{V.S.B.equ}$ [MPa]	Kontroll $\Delta\sigma_{V.S.B.equ} \leq \Delta\sigma_{Rsk} \bullet \zeta / \gamma_{S,fat}$
0,00	156	118	-15	-53	33,2	33,2	26,3	OK	26,3	OK
0,30	303	244	76	17	51,5	51,5	40,8	OK	40,8	OK
0,60	287	231	57	2	48,3	48,3	38,3	OK	38,3	OK
0,91	270	217	50	-3	92,9	87,3	73,6	OK	69,2	OK
1,21	254	203	43	-8	88,9	74,2	70,4	OK	58,9	OK
1,51	237	189	39	-9	84,4	67,9	66,9	OK	53,8	OK
1,81	220	175	36	-10	79,5	62,3	63,0	OK	49,4	OK
2,12	203	160	33	-10	74,8	58,2	59,3	OK	46,1	OK
2,42	187	146	31	-9	70,3	54,2	44,9	OK	34,6	OK
2,72	170	132	29	-9	65,7	50,2	41,9	OK	32,0	OK
3,02	154	118	26	-9	61,2	46,1	39,1	OK	29,4	OK
3,33	137	104	24	-8	57,0	42,3	36,4	OK	27,0	OK
3,63	120	90	22	-8	52,8	38,3	33,7	OK	24,5	OK
3,93	104	76	20	-8	48,8	34,5	31,2	OK	22,0	OK
4,23	87	61	18	-8	45,3	31,1	28,9	OK	19,9	OK
4,54	70	46	16	-8	41,9	27,9	26,8	OK	17,8	OK
4,84	54	32	14	-8	38,6	24,6	24,7	OK	15,7	OK
5,14	37	17	12	-8	35,3	21,4	22,5	OK	13,6	OK
5,44	20	2	11	-8	32,2	18,4	20,6	OK	11,7	OK
5,75	9	-9	2	-15	15,7	26,7	10,0	OK	17,1	OK
6,05	8	-10	-14	-32	17,8	31,4	11,4	OK	20,1	OK
6,35	7	-12	-30	-49	20,8	33,1	13,3	OK	21,1	OK
6,65	6	-14	-45	-65	23,6	34,7	15,1	OK	22,2	OK
6,96	6	-15	-61	-82	26,6	36,6	17,0	OK	23,3	OK
7,26	5	-17	-77	-99	29,6	38,4	18,9	OK	24,5	OK
7,56	4	-19	-92	-115	32,3	39,9	20,6	OK	25,5	OK
7,86	4	-20	-108	-132	35,1	41,5	22,4	OK	26,5	OK
8,17	3	-22	-123	-148	38,1	43,4	24,3	OK	27,7	OK
8,47	3	-24	-139	-165	41,9	46,5	26,8	OK	29,7	OK
8,77	3	-27	-153	-183	46,6	51,4	29,7	OK	32,8	OK
9,07	3	-29	-168	-200	50,8	56,0	32,5	OK	35,8	OK
9,38	3	-32	-182	-217	54,9	60,4	35,1	OK	38,6	OK
9,68	3	-34	-197	-234	59,2	64,9	37,8	OK	41,4	OK
9,98	3	-36	-211	-251	63,4	69,3	40,5	OK	44,3	OK
10,28	3	-39	-225	-267	67,2	73,3	42,9	OK	46,8	OK
10,59	4	-41	-240	-284	70,8	76,9	45,2	OK	49,1	OK
10,89	4	-43	-254	-300	74,6	80,7	47,6	OK	51,5	OK
11,19	3	-45	-268	-316	78,2	84,3	50,0	OK	53,8	OK
11,49	3	-47	-282	-332	81,5	87,2	52,1	OK	55,7	OK
11,80	3	-49	-296	-348	84,6	89,5	54,0	OK	57,2	OK
12,10	2	-50	-311	-363	88,0	91,6	56,2	OK	58,5	OK
12,40	1	-53	-325	-379	91,9	93,5	58,7	OK	59,7	OK
12,70	-1	-55	-340	-394	94,7	94,7	75,0	OK	75,0	OK
13,01	-4	-59	-354	-409	95,2	95,2	75,5	OK	75,5	OK
13,31	-8	-63	-368	-424	97,0	97,0	76,9	OK	76,9	OK
13,61	-13	-70	-382	-439	99,7	99,7	79,0	OK	79,0	OK
13,91	-22	-81	-395	-454	102,7	102,7	81,4	OK	81,4	OK
14,22	-35	-97	-407	-469	53,8	53,8	42,6	OK	42,6	OK
14,52	-51	-117	-419	-485	57,6	57,6	45,6	OK	45,6	OK

Utmattning av järnvägsbroar- Tvärkraft

Tvärkraftsarmering Balk 2

θ_{fat} = 32,3 °

ζ = 0,35+0,026*D/Φ

(SS-EN 1992-1-1, Tabell 6.3N, ANM.1)

Snitt B2

x [m]	h [m]	b_w [m]	$d_{ök}$ [m]	d_{uk} [m]	A_{sw} [cm^2/m]	ζ	Permanenta V_{max} [kN]	Permanenta V_{min} [kN]	Variabla V_{max} [kN]	Variabla V_{min} [kN]	Cykliska V_{max} [kN]	Cykliska V_{min} [kN]
0,00	0,750	0,600	0,690	0,690	10,5	0,56	69	-18	0	0	58	-20
0,30	0,750	0,600	0,690	0,690	10,5	0,56	133	1	0	0	105	-18
0,60	0,750	0,600	0,690	0,690	10,5	0,56	123	4	0	0	92	-8
0,91	0,750	0,600	0,690	0,690	5,2	0,56	113	6	0	0	89	-7
1,21	0,750	0,600	0,690	0,690	5,2	0,56	104	5	0	0	84	-11
1,51	0,750	0,600	0,690	0,690	5,2	0,56	94	3	0	0	75	-12
1,81	0,750	0,600	0,690	0,690	5,2	0,56	86	2	0	0	75	-15
2,12	0,750	0,600	0,690	0,690	5,2	0,56	78	1	0	0	71	-19
2,42	0,750	0,600	0,690	0,690	5,2	0,56	70	0	0	0	65	-23
2,72	0,750	0,600	0,690	0,690	5,2	0,56	62	-1	0	0	66	-26
3,02	0,750	0,600	0,690	0,690	5,2	0,56	55	-1	0	0	64	-30
3,33	0,750	0,600	0,690	0,690	5,2	0,56	48	-1	0	0	58	-33
3,63	0,750	0,600	0,690	0,690	5,2	0,56	41	-1	0	0	59	-35
3,93	0,750	0,600	0,690	0,690	5,2	0,56	34	-1	0	0	58	-37
4,23	0,750	0,600	0,690	0,690	5,2	0,56	28	-1	0	0	53	-39
4,54	0,750	0,600	0,690	0,690	5,2	0,56	21	-1	0	0	54	-41
4,84	0,750	0,600	0,690	0,690	5,2	0,56	14	-1	0	0	53	-42
5,14	0,750	0,600	0,690	0,690	5,2	0,56	8	-1	0	0	50	-44
5,44	0,750	0,600	0,690	0,690	5,2	0,56	1	-1	0	0	52	-46
5,75	0,750	0,600	0,690	0,690	5,2	0,56	0	-6	0	0	50	-47
6,05	0,750	0,600	0,690	0,690	5,2	0,56	0	-12	0	0	46	-49
6,35	0,750	0,600	0,690	0,690	5,2	0,56	0	-19	0	0	48	-51
6,65	0,750	0,600	0,690	0,690	5,2	0,56	0	-25	0	0	46	-52
6,96	0,750	0,600	0,690	0,690	5,2	0,56	0	-32	0	0	43	-55
7,26	0,750	0,600	0,690	0,690	5,2	0,56	0	-38	0	0	44	-56
7,56	0,750	0,600	0,690	0,690	5,2	0,56	0	-45	0	0	42	-57
7,86	0,750	0,600	0,690	0,690	5,2	0,56	0	-51	0	0	40	-62
8,17	0,750	0,600	0,690	0,690	5,2	0,56	0	-58	0	0	40	-62
8,47	0,750	0,600	0,690	0,690	5,2	0,56	0	-65	0	0	38	-65
8,77	0,750	0,600	0,690	0,690	5,2	0,56	0	-72	0	0	34	-70
9,07	0,750	0,600	0,690	0,690	5,2	0,56	0	-79	0	0	34	-70
9,38	0,750	0,600	0,690	0,690	5,2	0,56	0	-86	0	0	32	-74
9,68	0,750	0,600	0,690	0,690	5,2	0,56	0	-93	0	0	29	-79
9,98	0,750	0,600	0,690	0,690	5,2	0,56	0	-100	0	0	27	-79
10,28	0,750	0,600	0,690	0,690	5,2	0,56	0	-108	0	0	26	-83
10,59	0,750	0,600	0,690	0,690	5,2	0,56	0	-115	0	0	22	-90
10,89	0,750	0,600	0,690	0,690	5,2	0,56	-1	-123	0	0	19	-89
11,19	0,750	0,600	0,690	0,690	5,2	0,56	-1	-131	0	0	18	-95
11,49	0,750	0,600	0,690	0,690	5,2	0,56	-1	-140	0	0	17	-102
11,80	0,750	0,600	0,690	0,690	5,2	0,56	-2	-148	0	0	14	-102
12,10	0,750	0,600	0,690	0,690	5,2	0,56	-3	-157	0	0	12	-109
12,40	0,750	0,600	0,690	0,690	5,2	0,56	-4	-166	0	0	12	-118
12,70	0,750	0,600	0,690	0,690	5,2	0,56	-5	-176	0	0	9	-118
13,01	0,750	0,600	0,690	0,690	5,2	0,56	-7	-185	0	0	9	-127
13,31	0,750	0,600	0,690	0,690	5,2	0,56	-7	-195	0	0	9	-137
13,61	0,750	0,600	0,690	0,690	5,2	0,56	-6	-205	0	0	10	-138
13,91	0,750	0,600	0,690	0,690	5,2	0,56	-4	-215	0	0	14	-149
14,22	0,750	0,600	0,690	0,690	10,5	0,56	-1	-225	0	0	19	-161
14,52	0,750	0,600	0,690	0,690	10,5	0,56	5	-235	0	0	24	-163
14,82	0,750	0,600	0,690	0,690	10,5	0,56	22	-37	0	0	149	-149

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$

Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$

Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Kontroll armering

Kontroll
89,8
Max
252

Komb A: Jmf Komb A1 med A2

Komb B: Jmf Komb B1 med B2

$\Delta\sigma_{V.S.equ} = \lambda_s \cdot \Phi \cdot \Delta\sigma_{V.S.trafik}$

$\Delta\sigma_{V.s} = \Delta V / (A_{sw} \cdot z \cdot (1/\tan(\theta_{fat}))$

Snitt B2					Armeringsspänning		Komb A		Komb B	
x	ΣV_{A1}	ΣV_{A2}	ΣV_{B1}	ΣV_{B2}	$\Delta\sigma_{V.s.A}$	$\Delta\sigma_{V.s.B}$	$\Delta\sigma_{V.S.A.equ}$	Kontroll $\Delta\sigma_{V.S.A.equ} \leq \Delta\sigma_{Rsk} \cdot \zeta / \gamma_{S,fat}$	$\Delta\sigma_{V.S.B.equ}$	Kontroll $\Delta\sigma_{V.S.B.equ} \leq \Delta\sigma_{Rsk} \cdot \zeta / \gamma_{S,fat}$
[m]	[kN]	[kN]	[kN]	[kN]	[MPa]	[MPa]	[MPa]		[MPa]	
0,00	127	49	39	-39	75,9	38,3	60,2	OK	30,4	OK
0,30	238	115	106	-17	119,5	103,0	94,7	EJ OK	81,6	OK
0,60	215	115	96	-4	97,2	93,3	77,0	OK	73,9	OK
0,91	202	106	95	-2	188,3	185,2	149,2	EJ OK	146,8	EJ OK
1,21	187	92	88	-7	184,8	171,8	146,5	EJ OK	136,2	EJ OK
1,51	170	82	78	-9	170,4	152,6	135,1	EJ OK	121,0	EJ OK
1,81	161	71	77	-13	174,6	149,4	138,4	EJ OK	118,4	EJ OK
2,12	149	58	72	-18	176,1	140,5	139,6	EJ OK	111,4	EJ OK
2,42	135	47	65	-23	170,7	126,8	109,0	EJ OK	80,9	OK
2,72	128	36	65	-27	179,7	127,2	114,8	EJ OK	81,2	OK
3,02	119	26	63	-30	181,4	122,1	115,8	EJ OK	78,0	OK
3,33	107	15	57	-34	177,3	111,6	113,2	EJ OK	71,3	OK
3,63	101	6	58	-36	184,3	113,5	117,7	EJ OK	72,5	OK
3,93	92	-3	57	-38	179,0	110,2	114,3	EJ OK	70,3	OK
4,23	81	-12	52	-40	157,2	101,6	100,4	EJ OK	64,9	OK
4,54	75	-20	54	-42	146,4	104,0	93,5	EJ OK	66,4	OK
4,84	67	-28	52	-43	130,8	101,4	83,5	OK	64,8	OK
5,14	57	-37	49	-45	111,7	95,3	71,3	OK	60,9	OK
5,44	53	-45	51	-47	103,1	99,7	65,9	OK	63,7	OK
5,75	50	-47	44	-53	96,6	102,6	61,7	OK	65,5	OK
6,05	46	-49	33	-61	95,5	119,4	61,0	OK	76,2	OK
6,35	48	-51	29	-70	99,3	135,8	63,4	OK	86,7	OK
6,65	46	-52	21	-77	100,7	149,7	64,3	OK	95,6	EJ OK
6,96	43	-55	11	-87	106,6	168,3	68,1	OK	107,5	EJ OK
7,26	44	-56	6	-94	108,5	182,9	69,3	OK	116,8	EJ OK
7,56	42	-57	-3	-102	111,4	193,5	71,1	OK	123,5	EJ OK
7,86	40	-62	-12	-113	120,1	197,4	76,7	OK	126,0	EJ OK
8,17	40	-62	-18	-120	120,1	198,4	76,7	OK	126,7	EJ OK
8,47	38	-64	-27	-130	125,3	198,9	80,0	OK	127,0	EJ OK
8,77	35	-70	-37	-142	136,4	203,7	87,1	OK	130,0	EJ OK
9,07	34	-70	-45	-149	135,8	201,9	86,7	OK	128,9	EJ OK
9,38	32	-73	-54	-159	142,4	205,1	90,9	EJ OK	131,0	EJ OK
9,68	29	-79	-64	-173	154,1	210,3	98,4	EJ OK	134,3	EJ OK
9,98	27	-79	-74	-179	153,4	205,5	97,9	EJ OK	131,2	EJ OK
10,28	26	-83	-82	-191	162,0	212,0	103,4	EJ OK	135,4	EJ OK
10,59	22	-90	-93	-205	175,0	218,1	111,8	EJ OK	139,3	EJ OK
10,89	18	-90	-105	-213	174,8	210,1	111,6	EJ OK	134,1	EJ OK
11,19	17	-96	-113	-226	186,3	219,9	119,0	EJ OK	140,4	EJ OK
11,49	16	-104	-122	-242	201,6	232,4	128,7	EJ OK	148,4	EJ OK
11,80	12	-104	-135	-250	202,6	225,1	129,4	EJ OK	143,7	EJ OK
12,10	9	-112	-145	-266	218,1	235,9	139,2	EJ OK	150,7	EJ OK
12,40	8	-122	-154	-284	236,8	252,4	151,2	EJ OK	161,1	EJ OK
12,70	4	-123	-167	-294	240,0	246,9	190,3	EJ OK	195,7	EJ OK
13,01	2	-134	-176	-312	259,7	264,2	205,8	EJ OK	209,4	EJ OK
13,31	2	-144	-186	-332	280,0	284,2	222,0	EJ OK	225,3	EJ OK
13,61	4	-145	-195	-343	281,3	289,2	223,0	EJ OK	229,3	EJ OK
13,91	10	-154	-201	-364	298,8	317,8	236,8	EJ OK	252,0	EJ OK
14,22	19	-162	-206	-386	157,2	175,3	124,6	EJ OK	139,0	EJ OK
14,52	29	-158	-211	-398	153,7	182,2	121,8	EJ OK	144,4	EJ OK
14,82	171	-127	112	-186	166,2	181,1	131,8	EJ OK	143,6	EJ OK

Utmattning av järnvägsbroar- Tvärkraft

Tvärkraftsarmering Balk 3

θ_{fat} = 32,3 °

ζ = 0,35+0,026*D/Φ

(SS-EN 1992-1-1, Tabell 6.3N, ANM.1)

Snitt B3

x [m]	h [m]	b_w [m]	$d_{ök}$ [m]	d_{uk} [m]	A_{sw} [cm^2/m]	ζ
0,00	0,800	0,500	0,740	0,740	10,5	0,56
0,30	0,800	0,500	0,740	0,740	10,5	0,56
0,60	0,800	0,500	0,740	0,740	10,5	0,56
0,91	0,800	0,500	0,740	0,740	5,2	0,56
1,21	0,800	0,500	0,740	0,740	5,2	0,56
1,51	0,800	0,500	0,740	0,740	5,2	0,56
1,81	0,800	0,500	0,740	0,740	5,2	0,56
2,12	0,800	0,500	0,740	0,740	5,2	0,56
2,42	0,800	0,500	0,740	0,740	5,2	0,56
2,72	0,800	0,500	0,740	0,740	5,2	0,56
3,02	0,800	0,500	0,740	0,740	5,2	0,56
3,33	0,800	0,500	0,740	0,740	5,2	0,56
3,63	0,800	0,500	0,740	0,740	5,2	0,56
3,93	0,800	0,500	0,740	0,740	5,2	0,56
4,23	0,800	0,500	0,740	0,740	5,2	0,56
4,54	0,800	0,500	0,740	0,740	5,2	0,56
4,84	0,800	0,500	0,740	0,740	5,2	0,56
5,14	0,800	0,500	0,740	0,740	5,2	0,56
5,44	0,800	0,500	0,740	0,740	5,2	0,56
5,75	0,800	0,500	0,740	0,740	5,2	0,56
6,05	0,800	0,500	0,740	0,740	5,2	0,56
6,35	0,800	0,500	0,740	0,740	5,2	0,56
6,65	0,800	0,500	0,740	0,740	5,2	0,56
6,96	0,800	0,500	0,740	0,740	5,2	0,56
7,26	0,800	0,500	0,740	0,740	5,2	0,56
7,56	0,800	0,500	0,740	0,740	5,2	0,56
7,86	0,800	0,500	0,740	0,740	5,2	0,56
8,17	0,800	0,500	0,740	0,740	5,2	0,56
8,47	0,800	0,500	0,740	0,740	5,2	0,56
8,77	0,800	0,500	0,740	0,740	5,2	0,56
9,07	0,800	0,500	0,740	0,740	5,2	0,56
9,38	0,800	0,500	0,740	0,740	5,2	0,56
9,68	0,800	0,500	0,740	0,740	5,2	0,56
9,98	0,800	0,500	0,740	0,740	5,2	0,56
10,28	0,800	0,500	0,740	0,740	5,2	0,56
10,59	0,800	0,500	0,740	0,740	5,2	0,56
10,89	0,800	0,500	0,740	0,740	5,2	0,56
11,19	0,800	0,500	0,740	0,740	5,2	0,56
11,49	0,800	0,500	0,740	0,740	5,2	0,56
11,80	0,800	0,500	0,740	0,740	5,2	0,56
12,10	0,800	0,500	0,740	0,740	5,2	0,56
12,40	0,800	0,500	0,740	0,740	5,2	0,56
12,70	0,800	0,500	0,740	0,740	5,2	0,56
13,01	0,800	0,500	0,740	0,740	5,2	0,56
13,31	0,800	0,500	0,740	0,740	5,2	0,56
13,61	0,800	0,500	0,740	0,740	5,2	0,56
13,91	0,800	0,500	0,740	0,740	5,2	0,56
14,22	0,800	0,500	0,740	0,740	10,5	0,56
14,52	0,800	0,500	0,740	0,740	10,5	0,56
14,82	0,800	0,500	0,740	0,740	10,5	0,56

Permanenta		Variabla		Cykliska	
V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]
91	-8	0	0	63	-40
177	0	0	0	113	-12
167	0	0	0	102	-6
158	1	0	0	102	-8
148	2	0	0	94	-9
138	2	0	0	86	-9
128	2	0	0	87	-11
118	2	0	0	81	-15
107	1	0	0	74	-17
97	1	0	0	76	-19
87	1	0	0	70	-23
76	0	0	0	65	-27
66	0	0	0	67	-28
55	0	0	0	62	-32
45	0	0	0	57	-34
35	0	0	0	59	-37
24	0	0	0	55	-39
14	0	0	0	51	-41
3	0	0	0	53	-44
0	-8	0	0	49	-46
0	-18	0	0	44	-47
0	-28	0	0	46	-51
0	-39	0	0	43	-53
0	-49	0	0	39	-56
0	-59	0	0	40	-58
0	-70	0	0	37	-61
0	-80	0	0	34	-66
0	-90	0	0	35	-67
0	-100	0	0	31	-70
0	-111	0	0	27	-77
0	-121	0	0	26	-78
0	-131	0	0	24	-82
0	-141	0	0	21	-89
-1	-151	0	0	18	-89
-1	-161	0	0	17	-94
-1	-171	0	0	16	-101
-1	-180	0	0	13	-101
-1	-190	0	0	12	-106
-1	-200	0	0	12	-114
-1	-209	0	0	10	-114
-2	-218	0	0	9	-120
-2	-228	0	0	9	-128
-2	-237	0	0	9	-129
-2	-246	0	0	9	-136
-2	-254	0	0	9	-144
-1	-263	0	0	10	-146
0	-272	0	0	10	-154
1	-281	0	0	10	-163
3	-290	0	0	11	-165
7	-12	0	0	133	-133

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$

Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$

Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Kontroll armering

Kontroll
89,8
Max
235

Komb A: Jmf Komb A1 med A2

Komb B: Jmf Komb B1 med B2

$\Delta\sigma_{V.S.equ} = \lambda_s \cdot \Phi \cdot \Delta\sigma_{V.S.trafik}$

$\Delta\sigma_{V.s} = \Delta V / (A_{sw} \cdot z \cdot (1/\tan(\theta_{fat}))$

Snitt B3					Armeringsspänning		Komb A		Komb B	
x [m]	ΣV_{A1} [kN]	ΣV_{A2} [kN]	ΣV_{B1} [kN]	ΣV_{B2} [kN]	$\Delta\sigma_{V.s.A}$ [MPa]	$\Delta\sigma_{V.s.B}$ [MPa]	$\Delta\sigma_{V.S.A.equ}$ [MPa]	Kontroll $\Delta\sigma_{V.S.A.equ} \leq \Delta\sigma_{Rsk} \cdot \zeta / \gamma_{S,fat}$	$\Delta\sigma_{V.S.B.equ}$ [MPa]	Kontroll $\Delta\sigma_{V.S.B.equ} \leq \Delta\sigma_{Rsk} \cdot \zeta / \gamma_{S,fat}$
0,00	153	50	55	-48	93,2	49,5	73,9	OK	39,2	OK
0,30	290	164	113	-12	114,0	102,7	90,4	EJ OK	81,4	OK
0,60	269	161	102	-6	98,1	92,2	77,7	OK	73,1	OK
0,91	260	149	104	-7	200,3	187,7	158,8	EJ OK	148,8	EJ OK
1,21	242	139	96	-7	185,6	173,7	147,1	EJ OK	137,7	EJ OK
1,51	224	129	88	-7	172,5	159,4	136,7	EJ OK	126,4	EJ OK
1,81	215	117	89	-9	178,7	161,6	141,7	EJ OK	128,1	EJ OK
2,12	198	103	82	-13	173,0	148,9	137,2	EJ OK	118,0	EJ OK
2,42	182	91	75	-15	164,4	136,5	105,0	EJ OK	87,2	OK
2,72	173	78	77	-18	171,7	139,4	109,6	EJ OK	89,0	OK
3,02	157	64	71	-23	169,5	128,7	108,2	EJ OK	82,2	OK
3,33	141	50	65	-26	165,7	118,1	105,8	EJ OK	75,4	OK
3,63	133	37	67	-28	172,6	121,5	110,2	EJ OK	77,6	OK
3,93	117	24	62	-32	169,5	112,4	108,2	EJ OK	71,8	OK
4,23	102	11	57	-34	165,3	103,0	105,5	EJ OK	65,8	OK
4,54	93	-2	59	-37	168,9	106,2	107,9	EJ OK	67,8	OK
4,84	79	-15	55	-39	143,2	99,3	91,4	EJ OK	63,4	OK
5,14	65	-27	51	-41	117,7	92,5	75,1	OK	59,1	OK
5,44	57	-41	53	-44	102,6	96,3	65,5	OK	61,5	OK
5,75	49	-46	41	-53	88,2	96,3	56,3	OK	61,5	OK
6,05	44	-48	26	-65	86,2	118,6	55,0	OK	75,8	OK
6,35	46	-51	18	-80	92,9	144,1	59,3	OK	92,0	EJ OK
6,65	42	-53	4	-91	95,6	165,6	61,0	OK	105,7	EJ OK
6,96	39	-56	-10	-105	101,1	171,3	64,5	OK	109,4	EJ OK
7,26	40	-59	-19	-118	106,1	178,2	67,7	OK	113,8	EJ OK
7,56	37	-61	-33	-130	110,3	176,7	70,5	OK	112,8	EJ OK
7,86	34	-66	-46	-145	119,3	180,8	76,2	OK	115,5	EJ OK
8,17	34	-67	-56	-157	121,9	184,1	77,8	OK	117,6	EJ OK
8,47	30	-71	-70	-171	128,3	183,5	81,9	OK	117,1	EJ OK
8,77	27	-77	-83	-188	140,3	189,0	89,6	OK	120,7	EJ OK
9,07	26	-78	-94	-199	142,3	189,5	90,8	EJ OK	121,0	EJ OK
9,38	24	-82	-107	-213	149,5	192,3	95,4	EJ OK	122,8	EJ OK
9,68	20	-89	-120	-229	161,5	198,2	103,1	EJ OK	126,6	EJ OK
9,98	17	-90	-133	-240	163,0	194,7	104,1	EJ OK	124,3	EJ OK
10,28	17	-94	-143	-255	171,3	201,4	109,4	EJ OK	128,6	EJ OK
10,59	15	-101	-155	-271	183,8	211,4	117,4	EJ OK	135,0	EJ OK
10,89	12	-102	-167	-282	185,1	207,6	118,2	EJ OK	132,5	EJ OK
11,19	11	-107	-178	-296	194,8	215,1	124,4	EJ OK	137,3	EJ OK
11,49	11	-115	-188	-313	208,1	227,4	132,9	EJ OK	145,2	EJ OK
11,80	9	-116	-199	-323	209,6	225,0	133,8	EJ OK	143,7	EJ OK
12,10	7	-122	-210	-339	221,0	233,9	141,1	EJ OK	149,4	EJ OK
12,40	7	-130	-219	-356	235,3	248,0	150,3	EJ OK	158,3	EJ OK
12,70	7	-131	-228	-365	237,0	250,0	187,9	EJ OK	198,1	EJ OK
13,01	7	-138	-236	-382	250,1	263,2	198,3	EJ OK	208,6	EJ OK
13,31	8	-146	-245	-399	265,0	279,0	210,1	EJ OK	221,2	EJ OK
13,61	9	-147	-254	-409	266,1	281,7	211,0	EJ OK	223,3	EJ OK
13,91	10	-154	-262	-426	279,4	296,8	221,5	EJ OK	235,3	EJ OK
14,22	11	-162	-271	-444	146,8	156,9	116,4	EJ OK	124,3	EJ OK
14,52	13	-162	-280	-455	147,2	159,2	116,7	EJ OK	126,2	EJ OK
14,82	140	-126	121	-145	126,6	131,3	100,3	EJ OK	104,1	EJ OK

Utmattning av järnvägsbroar- Tvärkraft

Tvärkraftsarmering Balk 4

θ_{fat} = 32,3 °

ζ = 0,35+0,026*D/Φ

(SS-EN 1992-1-1, Tabell 6.3N, ANM.1)

Snitt B4

x [m]	h [m]	b_w [m]	$d_{ök}$ [m]	d_{uk} [m]	A_{sw} [cm^2/m]	ζ	Permanenta V_{max} [kN]	Permanenta V_{min} [kN]	Variabla V_{max} [kN]	Variabla V_{min} [kN]	Cykliska V_{max} [kN]	Cykliska V_{min} [kN]
0,00	0,800	0,500	0,740	0,740	10,5	0,56	8	-91	0	0	41	-61
0,30	0,800	0,500	0,740	0,740	10,5	0,56	0	-177	0	0	13	-111
0,60	0,800	0,500	0,740	0,740	10,5	0,56	0	-167	0	0	6	-100
0,91	0,800	0,500	0,740	0,740	5,2	0,56	-1	-158	0	0	8	-100
1,21	0,800	0,500	0,740	0,740	5,2	0,56	-2	-148	0	0	9	-92
1,51	0,800	0,500	0,740	0,740	5,2	0,56	-2	-138	0	0	9	-84
1,81	0,800	0,500	0,740	0,740	5,2	0,56	-2	-128	0	0	11	-86
2,12	0,800	0,500	0,740	0,740	5,2	0,56	-2	-118	0	0	14	-79
2,42	0,800	0,500	0,740	0,740	5,2	0,56	-1	-107	0	0	16	-73
2,72	0,800	0,500	0,740	0,740	5,2	0,56	-1	-97	0	0	18	-75
3,02	0,800	0,500	0,740	0,740	5,2	0,56	-1	-87	0	0	22	-69
3,33	0,800	0,500	0,740	0,740	5,2	0,56	0	-76	0	0	25	-64
3,63	0,800	0,500	0,740	0,740	5,2	0,56	0	-66	0	0	27	-66
3,93	0,800	0,500	0,740	0,740	5,2	0,56	0	-55	0	0	30	-61
4,23	0,800	0,500	0,740	0,740	5,2	0,56	0	-45	0	0	33	-56
4,54	0,800	0,500	0,740	0,740	5,2	0,56	0	-35	0	0	36	-57
4,84	0,800	0,500	0,740	0,740	5,2	0,56	0	-24	0	0	38	-54
5,14	0,800	0,500	0,740	0,740	5,2	0,56	0	-14	0	0	40	-50
5,44	0,800	0,500	0,740	0,740	5,2	0,56	0	-3	0	0	43	-52
5,75	0,800	0,500	0,740	0,740	5,2	0,56	8	0	0	0	44	-47
6,05	0,800	0,500	0,740	0,740	5,2	0,56	18	0	0	0	46	-43
6,35	0,800	0,500	0,740	0,740	5,2	0,56	28	0	0	0	50	-45
6,65	0,800	0,500	0,740	0,740	5,2	0,56	39	0	0	0	51	-41
6,96	0,800	0,500	0,740	0,740	5,2	0,56	49	0	0	0	54	-38
7,26	0,800	0,500	0,740	0,740	5,2	0,56	59	0	0	0	57	-39
7,56	0,800	0,500	0,740	0,740	5,2	0,56	70	0	0	0	59	-36
7,86	0,800	0,500	0,740	0,740	5,2	0,56	80	0	0	0	64	-33
8,17	0,800	0,500	0,740	0,740	5,2	0,56	90	0	0	0	66	-33
8,47	0,800	0,500	0,740	0,740	5,2	0,56	100	0	0	0	69	-29
8,77	0,800	0,500	0,740	0,740	5,2	0,56	111	0	0	0	76	-26
9,07	0,800	0,500	0,740	0,740	5,2	0,56	121	0	0	0	77	-25
9,38	0,800	0,500	0,740	0,740	5,2	0,56	131	0	0	0	81	-23
9,68	0,800	0,500	0,740	0,740	5,2	0,56	141	0	0	0	87	-19
9,98	0,800	0,500	0,740	0,740	5,2	0,56	151	1	0	0	88	-17
10,28	0,800	0,500	0,740	0,740	5,2	0,56	161	1	0	0	92	-16
10,59	0,800	0,500	0,740	0,740	5,2	0,56	171	1	0	0	99	-15
10,89	0,800	0,500	0,740	0,740	5,2	0,56	180	1	0	0	100	-13
11,19	0,800	0,500	0,740	0,740	5,2	0,56	190	1	0	0	105	-11
11,49	0,800	0,500	0,740	0,740	5,2	0,56	200	1	0	0	112	-11
11,80	0,800	0,500	0,740	0,740	5,2	0,56	209	1	0	0	113	-9
12,10	0,800	0,500	0,740	0,740	5,2	0,56	218	2	0	0	118	-9
12,40	0,800	0,500	0,740	0,740	5,2	0,56	228	2	0	0	126	-9
12,70	0,800	0,500	0,740	0,740	5,2	0,56	237	2	0	0	127	-9
13,01	0,800	0,500	0,740	0,740	5,2	0,56	246	2	0	0	134	-9
13,31	0,800	0,500	0,740	0,740	5,2	0,56	254	2	0	0	142	-9
13,61	0,800	0,500	0,740	0,740	5,2	0,56	263	1	0	0	143	-10
13,91	0,800	0,500	0,740	0,740	5,2	0,56	272	0	0	0	151	-10
14,22	0,800	0,500	0,740	0,740	10,5	0,56	281	-1	0	0	160	-10
14,52	0,800	0,500	0,740	0,740	10,5	0,56	290	-3	0	0	162	-11
14,82	0,800	0,500	0,740	0,740	10,5	0,56	12	-7	0	0	130	-130

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$

Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$

Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Kontroll armering

Kontroll
89,8
Max
231

Komb A: Jmf Komb A1 med A2

Komb B: Jmf Komb B1 med B2

$\Delta\sigma_{V.S.equ} = \lambda_s \bullet \Phi \bullet \Delta\sigma_{V.S.trafik}$

Snitt B4

$\Delta\sigma_{V.s} = \Delta V / (A_{sw} \bullet z \bullet (1/\tan(\theta_{fat}))$

					Armeringsspänning		Komb A		Komb B	
x [m]	**ΣV_{A1}** [kN]	**ΣV_{A2}** [kN]	**ΣV_{B1}** [kN]	**ΣV_{B2}** [kN]	**$\Delta\sigma_{V.s.A}$** [MPa]	**$\Delta\sigma_{V.s.B}$** [MPa]	**$\Delta\sigma_{V.S.A.equ}$** [MPa]	**Kontroll** $\Delta\sigma_{V.S.A.equ} \leq \Delta\sigma_{Rsk} \bullet \zeta / \gamma_{S,fat}$	**$\Delta\sigma_{V.S.B.equ}$** [MPa]	**Kontroll** $\Delta\sigma_{V.S.B.equ} \leq \Delta\sigma_{Rsk} \bullet \zeta / \gamma_{S,fat}$
0,00	49	-53	-50	-152	48,3	92,6	38,3	OK	73,4	OK
0,30	13	-111	-164	-288	100,6	112,1	79,8	OK	88,9	OK
0,60	6	-100	-161	-267	90,6	96,4	71,8	OK	76,5	OK
0,91	7	-102	-149	-258	184,7	197,2	146,4	EJ OK	156,3	EJ OK
1,21	6	-94	-139	-240	170,8	182,6	135,4	EJ OK	144,8	EJ OK
1,51	7	-87	-129	-222	157,1	169,2	124,5	EJ OK	134,1	EJ OK
1,81	9	-88	-117	-214	159,1	175,2	126,1	EJ OK	138,9	EJ OK
2,12	13	-81	-104	-197	146,6	169,4	116,2	EJ OK	134,3	EJ OK
2,42	15	-74	-92	-181	134,6	160,9	86,0	OK	102,7	EJ OK
2,72	17	-76	-79	-172	137,1	167,5	87,6	OK	107,0	EJ OK
3,02	21	-70	-65	-156	126,4	165,3	80,7	OK	105,5	EJ OK
3,33	25	-64	-51	-140	116,2	161,6	74,2	OK	103,2	EJ OK
3,63	27	-66	-39	-131	119,2	168,3	76,1	OK	107,4	EJ OK
3,93	30	-61	-25	-116	109,9	164,9	70,2	OK	105,3	EJ OK
4,23	33	-56	-12	-101	100,8	160,9	64,4	OK	102,7	EJ OK
4,54	36	-57	1	-92	103,9	166,7	66,4	OK	106,4	EJ OK
4,84	38	-54	14	-78	97,1	141,0	62,0	OK	90,1	EJ OK
5,14	40	-50	26	-64	90,6	115,7	57,9	OK	73,9	OK
5,44	43	-52	39	-55	93,9	100,3	60,0	OK	64,0	OK
5,75	52	-40	44	-47	94,2	85,8	60,1	OK	54,8	OK
6,05	64	-25	46	-43	116,4	83,9	74,3	OK	53,6	OK
6,35	78	-16	50	-45	141,9	90,7	90,6	EJ OK	57,9	OK
6,65	90	-3	51	-41	163,2	93,3	104,2	EJ OK	59,6	OK
6,96	103	11	54	-38	166,7	98,7	106,5	EJ OK	63,0	OK
7,26	116	21	57	-38	173,4	103,8	110,7	EJ OK	66,3	OK
7,56	129	34	60	-35	172,1	108,0	109,9	EJ OK	68,9	OK
7,86	144	47	64	-33	176,2	116,8	112,5	EJ OK	74,6	OK
8,17	156	57	66	-33	179,4	119,7	114,6	EJ OK	76,4	OK
8,47	170	71	69	-29	178,6	125,9	114,0	EJ OK	80,4	OK
8,77	186	85	76	-26	184,1	137,8	117,5	EJ OK	88,0	OK
9,07	198	96	77	-25	184,8	140,0	118,0	EJ OK	89,4	OK
9,38	211	108	81	-22	187,4	147,0	119,6	EJ OK	93,8	EJ OK
9,68	228	121	88	-19	193,2	158,8	123,4	EJ OK	101,4	EJ OK
9,98	239	134	89	-16	190,1	160,7	121,4	EJ OK	102,6	EJ OK
10,28	253	145	93	-15	196,5	168,6	125,5	EJ OK	107,7	EJ OK
10,59	270	156	100	-14	206,7	180,9	132,0	EJ OK	115,5	EJ OK
10,89	280	168	101	-12	203,7	182,6	130,0	EJ OK	116,6	EJ OK
11,19	295	179	106	-10	210,8	191,9	134,6	EJ OK	122,5	EJ OK
11,49	311	189	113	-10	222,7	204,9	142,2	EJ OK	130,8	EJ OK
11,80	322	200	114	-8	221,0	206,7	141,1	EJ OK	132,0	EJ OK
12,10	337	210	120	-7	230,2	217,7	147,0	EJ OK	139,0	EJ OK
12,40	354	219	128	-7	244,3	231,6	156,0	EJ OK	147,9	EJ OK
12,70	364	228	129	-7	246,5	233,6	195,4	EJ OK	185,2	EJ OK
13,01	379	236	136	-7	259,1	246,1	205,4	EJ OK	195,1	EJ OK
13,31	396	245	144	-8	274,5	260,5	217,6	EJ OK	206,5	EJ OK
13,61	407	254	144	-9	277,5	261,8	220,0	EJ OK	207,5	EJ OK
13,91	423	262	151	-10	291,9	274,3	231,4	EJ OK	217,4	EJ OK
14,22	441	271	159	-11	154,2	143,9	122,2	EJ OK	114,1	EJ OK
14,52	452	279	159	-13	156,6	144,4	124,1	EJ OK	114,5	EJ OK
14,82	142	-118	124	-137	128,8	124,1	102,1	EJ OK	98,4	EJ OK

Utmattning av järnvägsbroar- Tvärkraft

Tvärkraftsarmering Balk 5

θ_{fat} = 32,3 °

ζ = 0,35+0,026*D/Φ

(SS-EN 1992-1-1, Tabell 6.3N, ANM.1)

Snitt B5

x [m]	h [m]	b_w [m]	$d_{ök}$ [m]	d_{uk} [m]	A_{sw} [cm^2/m]	ζ
0,00	0,750	0,600	0,690	0,690	10,5	0,56
0,30	0,750	0,600	0,690	0,690	10,5	0,56
0,60	0,750	0,600	0,690	0,690	10,5	0,56
0,91	0,750	0,600	0,690	0,690	5,2	0,56
1,21	0,750	0,600	0,690	0,690	5,2	0,56
1,51	0,750	0,600	0,690	0,690	5,2	0,56
1,81	0,750	0,600	0,690	0,690	5,2	0,56
2,12	0,750	0,600	0,690	0,690	5,2	0,56
2,42	0,750	0,600	0,690	0,690	5,2	0,56
2,72	0,750	0,600	0,690	0,690	5,2	0,56
3,02	0,750	0,600	0,690	0,690	5,2	0,56
3,33	0,750	0,600	0,690	0,690	5,2	0,56
3,63	0,750	0,600	0,690	0,690	5,2	0,56
3,93	0,750	0,600	0,690	0,690	5,2	0,56
4,23	0,750	0,600	0,690	0,690	5,2	0,56
4,54	0,750	0,600	0,690	0,690	5,2	0,56
4,84	0,750	0,600	0,690	0,690	5,2	0,56
5,14	0,750	0,600	0,690	0,690	5,2	0,56
5,44	0,750	0,600	0,690	0,690	5,2	0,56
5,75	0,750	0,600	0,690	0,690	5,2	0,56
6,05	0,750	0,600	0,690	0,690	5,2	0,56
6,35	0,750	0,600	0,690	0,690	5,2	0,56
6,65	0,750	0,600	0,690	0,690	5,2	0,56
6,96	0,750	0,600	0,690	0,690	5,2	0,56
7,26	0,750	0,600	0,690	0,690	5,2	0,56
7,56	0,750	0,600	0,690	0,690	5,2	0,56
7,86	0,750	0,600	0,690	0,690	5,2	0,56
8,17	0,750	0,600	0,690	0,690	5,2	0,56
8,47	0,750	0,600	0,690	0,690	5,2	0,56
8,77	0,750	0,600	0,690	0,690	5,2	0,56
9,07	0,750	0,600	0,690	0,690	5,2	0,56
9,38	0,750	0,600	0,690	0,690	5,2	0,56
9,68	0,750	0,600	0,690	0,690	5,2	0,56
9,98	0,750	0,600	0,690	0,690	5,2	0,56
10,28	0,750	0,600	0,690	0,690	5,2	0,56
10,59	0,750	0,600	0,690	0,690	5,2	0,56
10,89	0,750	0,600	0,690	0,690	5,2	0,56
11,19	0,750	0,600	0,690	0,690	5,2	0,56
11,49	0,750	0,600	0,690	0,690	5,2	0,56
11,80	0,750	0,600	0,690	0,690	5,2	0,56
12,10	0,750	0,600	0,690	0,690	5,2	0,56
12,40	0,750	0,600	0,690	0,690	5,2	0,56
12,70	0,750	0,600	0,690	0,690	5,2	0,56
13,01	0,750	0,600	0,690	0,690	5,2	0,56
13,31	0,750	0,600	0,690	0,690	5,2	0,56
13,61	0,750	0,600	0,690	0,690	5,2	0,56
13,91	0,750	0,600	0,690	0,690	5,2	0,56
14,22	0,750	0,600	0,690	0,690	10,5	0,56
14,52	0,750	0,600	0,690	0,690	10,5	0,56
14,82	0,750	0,600	0,690	0,690	10,5	0,56

Permanenta		Variabla		Cykliska	
V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]	V_{max} [kN]	V_{min} [kN]
18	-69	0	0	20	-59
-1	-133	0	0	17	-107
-4	-123	0	0	8	-93
-6	-113	0	0	7	-91
-5	-104	0	0	12	-85
-3	-94	0	0	13	-77
-2	-86	0	0	16	-76
-1	-78	0	0	20	-73
0	-70	0	0	23	-66
1	-62	0	0	28	-67
1	-55	0	0	31	-65
1	-48	0	0	34	-60
1	-41	0	0	37	-61
1	-34	0	0	38	-59
1	-28	0	0	41	-55
1	-21	0	0	42	-56
1	-14	0	0	43	-54
1	-8	0	0	46	-51
1	-1	0	0	47	-53
6	0	0	0	48	-51
12	0	0	0	50	-47
19	0	0	0	52	-49
25	0	0	0	53	-47
32	0	0	0	56	-44
38	0	0	0	57	-45
45	0	0	0	59	-43
51	0	0	0	63	-41
58	0	0	0	63	-41
65	0	0	0	66	-39
72	0	0	0	72	-36
79	0	0	0	71	-35
86	0	0	0	75	-33
93	0	0	0	81	-30
100	0	0	0	80	-28
108	0	0	0	85	-27
115	0	0	0	91	-23
123	1	0	0	91	-20
131	1	0	0	96	-19
140	1	0	0	104	-18
148	2	0	0	104	-14
157	3	0	0	111	-13
166	4	0	0	120	-13
176	5	0	0	120	-9
185	7	0	0	129	-9
195	7	0	0	139	-9
205	6	0	0	141	-10
215	4	0	0	152	-13
225	1	0	0	164	-18
235	-5	0	0	166	-23
37	-22	0	0	152	-152

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$

Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$

Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Kontroll armering

Kontroll
89,8
Max
255

Komb A: Jmf Komb A1 med A2

Komb B: Jmf Komb B1 med B2

$\Delta\sigma_{V.S.equ} = \lambda_s \cdot \Phi \cdot \Delta\sigma_{V.S.trafik}$

$\Delta\sigma_{V.s} = \Delta V / (A_{sw} \cdot z \cdot (1/\tan(\theta_{fat}))$

Snitt B5					Armeringsspänning		Komb A		Komb B	
x [m]	ΣV_{A1} [kN]	ΣV_{A2} [kN]	ΣV_{B1} [kN]	ΣV_{B2} [kN]	$\Delta\sigma_{V.s.A}$ [MPa]	$\Delta\sigma_{V.s.B}$ [MPa]	$\Delta\sigma_{V.S.A.equ}$ [MPa]	Kontroll $\Delta\sigma_{V.S.A.equ} \leq \Delta\sigma_{Rsk} \cdot \zeta / \gamma_{S,fat}$	$\Delta\sigma_{V.S.B.equ}$ [MPa]	Kontroll $\Delta\sigma_{V.S.B.equ} \leq \Delta\sigma_{Rsk} \cdot \zeta / \gamma_{S,fat}$
0,00	38	-41	-49	-128	39,4	76,3	31,3	OK	60,5	OK
0,30	16	-108	-116	-240	105,1	120,7	83,3	OK	95,7	EJ OK
0,60	4	-98	-115	-216	94,9	98,6	75,2	OK	78,2	OK
0,91	2	-97	-106	-204	188,1	191,3	149,1	EJ OK	151,6	EJ OK
1,21	7	-90	-92	-189	174,8	188,9	138,6	EJ OK	149,7	EJ OK
1,51	10	-80	-81	-171	155,2	174,1	123,0	EJ OK	138,0	EJ OK
1,81	14	-78	-70	-162	151,9	178,3	120,4	EJ OK	141,4	EJ OK
2,12	19	-74	-58	-150	143,2	180,2	113,5	EJ OK	142,9	EJ OK
2,42	23	-66	-46	-136	129,1	174,8	82,4	OK	111,6	EJ OK
2,72	28	-67	-35	-130	129,5	184,0	82,7	OK	117,5	EJ OK
3,02	32	-64	-25	-120	124,8	186,1	79,7	OK	118,8	EJ OK
3,33	35	-59	-14	-108	113,9	181,7	72,7	OK	116,0	EJ OK
3,63	38	-60	-5	-102	115,8	188,9	73,9	OK	120,6	EJ OK
3,93	39	-58	4	-93	112,7	181,5	72,0	OK	115,9	EJ OK
4,23	42	-54	13	-82	104,1	159,7	66,5	OK	102,0	EJ OK
4,54	43	-55	21	-77	106,6	149,0	68,0	OK	95,1	EJ OK
4,84	44	-53	29	-69	104,0	133,3	66,4	OK	85,1	OK
5,14	46	-50	38	-59	97,6	114,0	62,3	OK	72,8	OK
5,44	48	-53	46	-54	102,1	105,5	65,2	OK	67,4	OK
5,75	54	-45	48	-51	104,9	99,3	67,0	OK	63,4	OK
6,05	63	-35	50	-47	121,7	97,8	77,7	OK	62,5	OK
6,35	71	-30	52	-49	138,1	101,7	88,2	OK	64,9	OK
6,65	78	-22	53	-47	152,1	103,1	97,1	EJ OK	65,8	OK
6,96	88	-12	56	-44	170,8	109,1	109,0	EJ OK	69,7	OK
7,26	95	-7	57	-45	185,3	110,9	118,3	EJ OK	70,8	OK
7,56	103	1	59	-44	198,5	113,8	126,8	EJ OK	72,7	OK
7,86	115	10	63	-41	202,5	122,6	129,3	EJ OK	78,3	OK
8,17	121	17	63	-42	203,3	122,5	129,8	EJ OK	78,2	OK
8,47	131	26	66	-39	203,9	127,7	130,2	EJ OK	81,5	OK
8,77	144	36	71	-36	208,8	139,0	133,3	EJ OK	88,7	OK
9,07	150	44	71	-35	206,8	138,2	132,1	EJ OK	88,2	OK
9,38	161	53	75	-34	210,2	144,9	134,2	EJ OK	92,5	EJ OK
9,68	174	63	81	-30	215,5	156,8	137,6	EJ OK	100,1	EJ OK
9,98	181	72	80	-28	210,4	155,8	134,3	EJ OK	99,5	EJ OK
10,28	193	81	85	-27	217,0	164,6	138,6	EJ OK	105,1	EJ OK
10,59	207	92	92	-23	223,0	177,9	142,4	EJ OK	113,6	EJ OK
10,89	214	104	91	-19	214,6	177,4	137,1	EJ OK	113,3	EJ OK
11,19	228	112	97	-18	224,9	189,2	143,6	EJ OK	120,8	EJ OK
11,49	244	121	105	-17	237,4	204,8	151,6	EJ OK	130,7	EJ OK
11,80	252	134	106	-12	229,2	205,5	146,4	EJ OK	131,2	EJ OK
12,10	268	144	114	-10	240,5	221,4	153,5	EJ OK	141,3	EJ OK
12,40	286	153	124	-9	257,4	240,4	164,4	EJ OK	153,5	EJ OK
12,70	295	166	125	-4	251,3	243,4	199,2	EJ OK	193,0	EJ OK
13,01	314	176	136	-2	268,2	263,6	212,6	EJ OK	209,0	EJ OK
13,31	334	186	146	-2	288,1	284,5	228,4	EJ OK	225,5	EJ OK
13,61	346	195	147	-3	292,2	285,5	231,7	EJ OK	226,3	EJ OK
13,91	367	202	156	-9	321,4	303,8	254,8	EJ OK	240,8	EJ OK
14,22	389	207	165	-18	177,2	160,0	140,5	EJ OK	126,8	EJ OK
14,52	401	212	161	-28	183,9	156,5	145,8	EJ OK	124,1	EJ OK
14,82	189	-115	130	-174	183,8	168,9	145,7	EJ OK	133,9	EJ OK

Utmattning av järnvägsbroar- Tvärkraft

Tvärkraftsarmering Balk 6

θ_{fat} = 32,3 °

ζ = 0,35+0,026*D/Φ

(SS-EN 1992-1-1, Tabell 6.3N, ANM.1)

Snitt B6

x [m]	h [m]	b_w [m]	$d_{ök}$ [m]	d_{uk} [m]	A_{sw} [cm^2/m]	ζ	Permanenta V_{max} [kN]	Permanenta V_{min} [kN]	Variabla V_{max} [kN]	Variabla V_{min} [kN]	Cykliska V_{max} [kN]	Cykliska V_{min} [kN]
0,00	0,830	0,500	0,770	0,770	10,5	0,56	133	9	0	0	23	-22
0,30	0,830	0,500	0,770	0,770	10,5	0,56	258	-42	0	0	47	-11
0,60	0,830	0,500	0,770	0,770	10,5	0,56	242	-14	0	0	46	-11
0,91	0,830	0,500	0,770	0,770	5,2	0,56	227	-8	0	0	44	-10
1,21	0,830	0,500	0,770	0,770	5,2	0,56	212	-2	0	0	42	-10
1,51	0,830	0,500	0,770	0,770	5,2	0,56	198	-1	0	0	40	-9
1,81	0,830	0,500	0,770	0,770	5,2	0,56	184	0	0	0	37	-9
2,12	0,830	0,500	0,770	0,770	5,2	0,56	169	0	0	0	35	-9
2,42	0,830	0,500	0,770	0,770	5,2	0,56	155	0	0	0	32	-9
2,72	0,830	0,500	0,770	0,770	5,2	0,56	141	0	0	0	30	-9
3,02	0,830	0,500	0,770	0,770	5,2	0,56	127	0	0	0	27	-8
3,33	0,830	0,500	0,770	0,770	5,2	0,56	113	0	0	0	25	-8
3,63	0,830	0,500	0,770	0,770	5,2	0,56	98	0	0	0	22	-8
3,93	0,830	0,500	0,770	0,770	5,2	0,56	84	0	0	0	20	-8
4,23	0,830	0,500	0,770	0,770	5,2	0,56	69	0	0	0	18	-8
4,54	0,830	0,500	0,770	0,770	5,2	0,56	55	0	0	0	16	-8
4,84	0,830	0,500	0,770	0,770	5,2	0,56	40	0	0	0	14	-8
5,14	0,830	0,500	0,770	0,770	5,2	0,56	25	0	0	0	12	-8
5,44	0,830	0,500	0,770	0,770	5,2	0,56	10	0	0	0	11	-8
5,75	0,830	0,500	0,770	0,770	5,2	0,56	0	-6	0	0	9	-9
6,05	0,830	0,500	0,770	0,770	5,2	0,56	0	-21	0	0	8	-11
6,35	0,830	0,500	0,770	0,770	5,2	0,56	0	-36	0	0	7	-13
6,65	0,830	0,500	0,770	0,770	5,2	0,56	0	-51	0	0	6	-14
6,96	0,830	0,500	0,770	0,770	5,2	0,56	0	-66	0	0	5	-16
7,26	0,830	0,500	0,770	0,770	5,2	0,56	0	-81	0	0	5	-18
7,56	0,830	0,500	0,770	0,770	5,2	0,56	0	-96	0	0	4	-19
7,86	0,830	0,500	0,770	0,770	5,2	0,56	0	-111	0	0	3	-21
8,17	0,830	0,500	0,770	0,770	5,2	0,56	0	-126	0	0	3	-22
8,47	0,830	0,500	0,770	0,770	5,2	0,56	0	-141	0	0	2	-25
8,77	0,830	0,500	0,770	0,770	5,2	0,56	0	-156	0	0	2	-27
9,07	0,830	0,500	0,770	0,770	5,2	0,56	0	-171	0	0	2	-30
9,38	0,830	0,500	0,770	0,770	5,2	0,56	0	-185	0	0	2	-32
9,68	0,830	0,500	0,770	0,770	5,2	0,56	0	-200	0	0	2	-35
9,98	0,830	0,500	0,770	0,770	5,2	0,56	0	-215	0	0	2	-37
10,28	0,830	0,500	0,770	0,770	5,2	0,56	1	-229	0	0	2	-39
10,59	0,830	0,500	0,770	0,770	5,2	0,56	1	-244	0	0	2	-41
10,89	0,830	0,500	0,770	0,770	5,2	0,56	1	-258	0	0	2	-43
11,19	0,830	0,500	0,770	0,770	5,2	0,56	1	-273	0	0	2	-45
11,49	0,830	0,500	0,770	0,770	5,2	0,56	2	-287	0	0	2	-46
11,80	0,830	0,500	0,770	0,770	5,2	0,56	2	-301	0	0	2	-47
12,10	0,830	0,500	0,770	0,770	5,2	0,56	3	-316	0	0	2	-49
12,40	0,830	0,500	0,770	0,770	5,2	0,56	5	-330	0	0	1	-50
12,70	0,830	0,500	0,770	0,770	5,2	0,56	7	-345	0	0	1	-50
13,01	0,830	0,500	0,770	0,770	5,2	0,56	10	-360	0	0	1	-51
13,31	0,830	0,500	0,770	0,770	5,2	0,56	16	-375	0	0	1	-51
13,61	0,830	0,500	0,770	0,770	5,2	0,56	27	-390	0	0	1	-50
13,91	0,830	0,500	0,770	0,770	5,2	0,56	43	-406	0	0	1	-50
14,22	0,830	0,500	0,770	0,770	10,5	0,56	69	-422	0	0	2	-49
14,52	0,830	0,500	0,770	0,770	10,5	0,56	102	-439	0	0	3	-48

Komb A1: $\Sigma V_{A1} = V_{max.per + var} + V_{max.cyk}$

Komb A2: $\Sigma V_{A2} = V_{max.per + var} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per + var} + V_{max.cyk}$

Komb B2: $\Sigma V_{B2} = V_{min.per + var} + V_{min.cyk}$

Kontroll armering

Kontroll
89,8
Max
75

Komb A: Jmf Komb A1 med A2

Komb B: Jmf Komb B1 med B2

$\Delta\sigma_{V.s} = \Delta V / (A_{sw} \cdot z \cdot (1/\tan(\theta_{fat}))$

$\Delta\sigma_{V.S.equ} = \lambda_s \cdot \Phi \cdot \Delta\sigma_{V.S.trafik}$

Snitt B6					Armeringsspänning		Komb A		Komb B	
x [m]	ΣV_{A1} [kN]	ΣV_{A2} [kN]	ΣV_{B1} [kN]	ΣV_{B2} [kN]	$\Delta\sigma_{V.s.A}$ [MPa]	$\Delta\sigma_{V.s.B}$ [MPa]	$\Delta\sigma_{V.S.A.equ}$ [MPa]	Kontroll $\Delta\sigma_{V.S.A.equ} \leq \Delta\sigma_{Rsk} \cdot \zeta / \gamma_{S,fat}$	$\Delta\sigma_{V.S.B.equ}$ [MPa]	Kontroll $\Delta\sigma_{V.S.B.equ} \leq \Delta\sigma_{Rsk} \cdot \zeta / \gamma_{S,fat}$
0,00	157	111	32	-13	39,9	28,1	31,6	OK	22,3	OK
0,30	304	247	5	-53	50,5	46,4	40,0	OK	36,8	OK
0,60	288	231	31	-25	49,0	27,2	38,9	OK	21,6	OK
0,91	271	217	36	-18	94,2	63,2	74,7	OK	50,1	OK
1,21	254	203	40	-12	90,1	69,8	71,4	OK	55,4	OK
1,51	238	189	39	-10	85,5	68,4	67,8	OK	54,2	OK
1,81	221	175	37	-9	80,6	65,2	63,9	OK	51,7	OK
2,12	204	160	35	-9	75,7	60,7	60,0	OK	48,1	OK
2,42	187	146	32	-9	71,2	56,4	45,5	OK	36,0	OK
2,72	171	132	30	-9	66,5	51,6	42,4	OK	33,0	OK
3,02	154	118	27	-9	61,9	47,0	39,5	OK	30,0	OK
3,33	138	104	25	-9	57,7	42,8	36,8	OK	27,3	OK
3,63	121	90	22	-9	53,4	38,5	34,1	OK	24,6	OK
3,93	104	76	20	-9	49,4	34,5	31,5	OK	22,0	OK
4,23	87	61	18	-9	45,8	30,9	29,3	OK	19,7	OK
4,54	71	46	16	-9	42,4	27,5	27,1	OK	17,6	OK
4,84	54	32	14	-9	39,1	24,2	25,0	OK	15,4	OK
5,14	37	17	12	-9	35,7	20,8	22,8	OK	13,3	OK
5,44	21	2	10	-9	32,6	17,8	20,8	OK	11,3	OK
5,75	9	-9	2	-15	16,2	26,9	10,3	OK	17,2	OK
6,05	7	-11	-14	-32	19,2	32,0	12,3	OK	20,5	OK
6,35	6	-13	-30	-49	22,3	33,6	14,2	OK	21,4	OK
6,65	6	-14	-45	-66	25,1	35,2	16,0	OK	22,4	OK
6,96	5	-16	-61	-82	28,0	37,1	17,9	OK	23,7	OK
7,26	5	-18	-77	-99	31,0	39,0	19,8	OK	24,9	OK
7,56	4	-19	-92	-116	33,6	40,5	21,4	OK	25,9	OK
7,86	3	-21	-108	-132	36,3	42,1	23,2	OK	26,9	OK
8,17	3	-22	-123	-149	39,2	44,1	25,0	OK	28,1	OK
8,47	2	-25	-139	-166	43,0	47,0	27,4	OK	30,0	OK
8,77	2	-27	-154	-183	47,6	51,7	30,4	OK	33,0	OK
9,07	2	-30	-168	-201	51,7	56,0	33,0	OK	35,8	OK
9,38	3	-32	-183	-218	55,5	59,9	35,5	OK	38,3	OK
9,68	3	-34	-198	-235	59,5	64,2	38,0	OK	41,0	OK
9,98	3	-36	-212	-252	63,4	68,3	40,5	OK	43,6	OK
10,28	3	-38	-227	-268	66,6	71,8	42,5	OK	45,8	OK
10,59	3	-40	-241	-285	69,6	75,2	44,4	OK	48,0	OK
10,89	3	-42	-256	-301	72,6	78,6	46,4	OK	50,2	OK
11,19	4	-43	-270	-317	75,2	81,6	48,0	OK	52,1	OK
11,49	4	-44	-285	-333	77,1	84,2	49,3	OK	53,8	OK
11,80	4	-45	-299	-349	78,2	86,0	49,9	OK	54,9	OK
12,10	5	-45	-314	-364	78,8	87,4	50,3	OK	55,8	OK
12,40	6	-45	-329	-380	78,3	88,8	50,0	OK	56,7	OK
12,70	8	-44	-344	-395	75,9	89,5	60,1	OK	70,9	OK
13,01	11	-40	-359	-411	70,1	89,2	55,6	OK	70,7	OK
13,31	17	-34	-374	-426	59,5	89,2	47,2	OK	70,7	OK
13,61	27	-24	-390	-441	47,5	88,8	37,6	OK	70,4	OK
13,91	44	-7	-405	-456	77,0	88,4	61,0	OK	70,1	OK
14,22	70	20	-420	-471	44,1	44,1	35,0	OK	35,0	OK
14,52	105	54	-435	-486	44,4	44,4	35,2	OK	35,2	OK

Utmattning av järnvägsbroar- Tvärkraft

Betongtrycksträvor Balk 5

f_{ck} =	35,5	MPa	ν =	0,51
$f_{cd,fat}$ =	22,4	MPa	α_{cw} =	1,0
θ_{fat} =	32,3	°		

Snitt B3

x	h	b_w	$d_{ök}$	d_{uk}	A_{sw}	Permanenta		Variabla		Cykliska	
						V_{max}	V_{min}	V_{max}	V_{min}	V_{max}	V_{min}
[m]	[m]	[m]	[m]	[m]	[cm²/m]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]
0,00	0,750	0,600	0,690	0,690	10,5	18	-69	0	0	20	-59
0,30	0,750	0,600	0,690	0,690	10,5	-1	-133	0	0	17	-107
0,60	0,750	0,600	0,690	0,690	10,5	-4	-123	0	0	8	-93
0,91	0,750	0,600	0,690	0,690	5,2	-6	-113	0	0	7	-91
1,21	0,750	0,600	0,690	0,690	5,2	-5	-104	0	0	12	-85
1,51	0,750	0,600	0,690	0,690	5,2	-3	-94	0	0	13	-77
1,81	0,750	0,600	0,690	0,690	5,2	-2	-86	0	0	16	-76
2,12	0,750	0,600	0,690	0,690	5,2	-1	-78	0	0	20	-73
2,42	0,750	0,600	0,690	0,690	5,2	0	-70	0	0	23	-66
2,72	0,750	0,600	0,690	0,690	5,2	1	-62	0	0	28	-67
3,02	0,750	0,600	0,690	0,690	5,2	1	-55	0	0	31	-65
3,33	0,750	0,600	0,690	0,690	5,2	1	-48	0	0	34	-60
3,63	0,750	0,600	0,690	0,690	5,2	1	-41	0	0	37	-61
3,93	0,750	0,600	0,690	0,690	5,2	1	-34	0	0	38	-59
4,23	0,750	0,600	0,690	0,690	5,2	1	-28	0	0	41	-55
4,54	0,750	0,600	0,690	0,690	5,2	1	-21	0	0	42	-56
4,84	0,750	0,600	0,690	0,690	5,2	1	-14	0	0	43	-54
5,14	0,750	0,600	0,690	0,690	5,2	1	-8	0	0	46	-51
5,44	0,750	0,600	0,690	0,690	5,2	1	-1	0	0	47	-53
5,75	0,750	0,600	0,690	0,690	5,2	6	0	0	0	48	-51
6,05	0,750	0,600	0,690	0,690	5,2	12	0	0	0	50	-47
6,35	0,750	0,600	0,690	0,690	5,2	19	0	0	0	52	-49
6,65	0,750	0,600	0,690	0,690	5,2	25	0	0	0	53	-47
6,96	0,750	0,600	0,690	0,690	5,2	32	0	0	0	56	-44
7,26	0,750	0,600	0,690	0,690	5,2	38	0	0	0	57	-45
7,56	0,750	0,600	0,690	0,690	5,2	45	0	0	0	59	-43
7,86	0,750	0,600	0,690	0,690	5,2	51	0	0	0	63	-41
8,17	0,750	0,600	0,690	0,690	5,2	58	0	0	0	63	-41
8,47	0,750	0,600	0,690	0,690	5,2	65	0	0	0	66	-39
8,77	0,750	0,600	0,690	0,690	5,2	72	0	0	0	72	-36
9,07	0,750	0,600	0,690	0,690	5,2	79	0	0	0	71	-35
9,38	0,750	0,600	0,690	0,690	5,2	86	0	0	0	75	-33
9,68	0,750	0,600	0,690	0,690	5,2	93	0	0	0	81	-30
9,98	0,750	0,600	0,690	0,690	5,2	100	0	0	0	80	-28
10,28	0,750	0,600	0,690	0,690	5,2	108	0	0	0	85	-27
10,59	0,750	0,600	0,690	0,690	5,2	115	0	0	0	91	-23
10,89	0,750	0,600	0,690	0,690	5,2	123	1	0	0	91	-20
11,19	0,750	0,600	0,690	0,690	5,2	131	1	0	0	96	-19
11,49	0,750	0,600	0,690	0,690	5,2	140	1	0	0	104	-18
11,80	0,750	0,600	0,690	0,690	5,2	148	2	0	0	104	-14
12,10	0,750	0,600	0,690	0,690	5,2	157	3	0	0	111	-13
12,40	0,750	0,600	0,690	0,690	5,2	166	4	0	0	120	-13
12,70	0,750	0,600	0,690	0,690	5,2	176	5	0	0	120	-9
13,01	0,750	0,600	0,690	0,690	5,2	185	7	0	0	129	-9
13,31	0,750	0,600	0,690	0,690	5,2	195	7	0	0	139	-9
13,61	0,750	0,600	0,690	0,690	5,2	205	6	0	0	141	-10
13,91	0,750	0,600	0,690	0,690	5,2	215	4	0	0	152	-13
14,22	0,750	0,600	0,690	0,690	10,5	225	1	0	0	164	-18
14,52	0,750	0,600	0,690	0,690	10,5	235	-5	0	0	166	-23
14,82	0,750	0,600	0,690	0,690	10,5	37	-22	0	0	152	-152

Komb A1: $\Sigma V_{A1} = V_{max.per} + V_{max.cyk}$

Komb A2: $\Sigma V_{A2} = V_{max.per} + V_{min.cyk}$

Komb B1: $\Sigma V_{B1} = V_{min.per} + V_{max.cyk}$

Komb B2: $\Sigma V_{B2} = V_{min.per} + V_{min.cyk}$

$\sigma_{V.c} = V \bullet (\cot(\theta fat) + \tan(\theta_{fat})) / (\alpha_{cw} \bullet b_w \bullet 0{,}9d \bullet \nu)$

Snitt					Betongspänningar					
B3					Komb A			Komb B		
x	ΣV_{A1}	ΣV_{A2}	ΣV_{B1}	ΣV_{B2}	$\sigma_{V.c.A.max}$	$\sigma_{V.c.A.min}$	$\sigma_{V.c.A.perm}$	$\sigma_{V.c.B.max}$	$\sigma_{V.c.B.min}$	$\sigma_{V.c.B.perm}$
[m]	[kN]	[kN]	[kN]	[kN]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]	[MPa]
0,00	38	-41	-49	-128	0,4	-0,5	0,2	-0,6	-1,5	-0,8
0,30	16	-108	-116	-240	0,2	-1,2	0,0	-1,3	-2,8	-1,5
0,60	4	-98	-115	-216	0,0	-1,1	0,0	-1,3	-2,5	-1,4
0,91	2	-97	-106	-204	0,0	-1,1	-0,1	-1,2	-2,4	-1,3
1,21	7	-90	-92	-189	0,1	-1,0	-0,1	-1,1	-2,2	-1,2
1,51	10	-80	-81	-171	0,1	-0,9	0,0	-0,9	-2,0	-1,1
1,81	14	-78	-70	-162	0,2	-0,9	0,0	-0,8	-1,9	-1,0
2,12	19	-74	-58	-150	0,2	-0,9	0,0	-0,7	-1,7	-0,9
2,42	23	-66	-46	-136	0,3	-0,8	0,0	-0,5	-1,6	-0,8
2,72	28	-67	-35	-130	0,3	-0,8	0,0	-0,4	-1,5	-0,7
3,02	32	-64	-25	-120	0,4	-0,7	0,0	-0,3	-1,4	-0,6
3,33	35	-59	-14	-108	0,4	-0,7	0,0	-0,2	-1,2	-0,6
3,63	38	-60	-5	-102	0,4	-0,7	0,0	-0,1	-1,2	-0,5
3,93	39	-58	4	-93	0,5	-0,7	0,0	0,0	-1,1	-0,4
4,23	42	-54	13	-82	0,5	-0,6	0,0	0,2	-0,9	-0,3
4,54	43	-55	21	-77	0,5	-0,6	0,0	0,2	-0,9	-0,2
4,84	44	-53	29	-69	0,5	-0,6	0,0	0,3	-0,8	-0,2
5,14	46	-50	38	-59	0,5	-0,6	0,0	0,4	-0,7	-0,1
5,44	48	-53	46	-54	0,6	-0,6	0,0	0,5	-0,6	0,0
5,75	54	-45	48	-51	0,6	-0,5	0,1	0,6	-0,6	0,0
6,05	63	-35	50	-47	0,7	-0,4	0,1	0,6	-0,5	0,0
6,35	71	-30	52	-49	0,8	-0,3	0,2	0,6	-0,6	0,0
6,65	78	-22	53	-47	0,9	-0,3	0,3	0,6	-0,5	0,0
6,96	88	-12	56	-44	1,0	-0,1	0,4	0,6	-0,5	0,0
7,26	95	-7	57	-45	1,1	-0,1	0,4	0,7	-0,5	0,0
7,56	103	1	59	-44	1,2	0,0	0,5	0,7	-0,5	0,0
7,86	115	10	63	-41	1,3	0,1	0,6	0,7	-0,5	0,0
8,17	121	17	63	-42	1,4	0,2	0,7	0,7	-0,5	0,0
8,47	131	26	66	-39	1,5	0,3	0,7	0,8	-0,5	0,0
8,77	144	36	71	-36	1,7	0,4	0,8	0,8	-0,4	0,0
9,07	150	44	71	-35	1,7	0,5	0,9	0,8	-0,4	0,0
9,38	161	53	75	-34	1,9	0,6	1,0	0,9	-0,4	0,0
9,68	174	63	81	-30	2,0	0,7	1,1	0,9	-0,3	0,0
9,98	181	72	80	-28	2,1	0,8	1,2	0,9	-0,3	0,0
10,28	193	81	85	-27	2,2	0,9	1,2	1,0	-0,3	0,0
10,59	207	92	92	-23	2,4	1,1	1,3	1,1	-0,3	0,0
10,89	214	104	91	-19	2,5	1,2	1,4	1,1	-0,2	0,0
11,19	228	112	97	-18	2,6	1,3	1,5	1,1	-0,2	0,0
11,49	244	121	105	-17	2,8	1,4	1,6	1,2	-0,2	0,0
11,80	252	134	106	-12	2,9	1,5	1,7	1,2	-0,1	0,0
12,10	268	144	114	-10	3,1	1,7	1,8	1,3	-0,1	0,0
12,40	286	153	124	-9	3,3	1,8	1,9	1,4	-0,1	0,0
12,70	295	166	125	-4	3,4	1,9	2,0	1,4	0,0	0,1
13,01	314	176	136	-2	3,6	2,0	2,1	1,6	0,0	0,1
13,31	334	186	146	-2	3,9	2,1	2,3	1,7	0,0	0,1
13,61	346	195	147	-3	4,0	2,3	2,4	1,7	0,0	0,1
13,91	367	202	156	-9	4,2	2,3	2,5	1,8	-0,1	0,0
14,22	389	207	165	-18	4,5	2,4	2,6	1,9	-0,2	0,0
14,52	401	212	161	-28	4,6	2,4	2,7	1,9	-0,3	-0,1
14,82	189	-115	130	-174	2,2	-1,3	0,4	1,5	-2,0	-0,3

Kontroll Betong

Om de skadeekvivalenta spänningarna $\sigma_{cd,max,equ}$ och $\sigma_{cd,min,equ}$ har olika tecken utförs kontrollen för största absolutbeloppet jmf med noll.

$\sigma_{cd.max.egu} = \sigma_{c.perm} + \lambda_c \bullet (\sigma_{c.max} - \sigma_{c.perm})$

$\sigma_{cd.min.egu} = \sigma_{c.perm} - \lambda_c \bullet (\sigma_{c.perm} - \sigma_{c.min})$

$R_{equ} = \sigma_{cd.min.egu} / \sigma_{cd.max.egu}$

$E_{cd.max.equ} = \gamma_{Sd} \bullet \sigma_{cd.max.egu} / f_{cd.fat}$

Komb A: Jmf Komb A1 med A2

Snitt B3					Kontroll
x [m]	$\sigma_{cd,max,equ}$ [Mpa]	$\sigma_{cd,min,equ}$ [Mpa]	R_{equ} [-]	$E_{cd,max,equ}$ [-]	$14 \bullet (1 - E_{cd,max,equ}) / (1 - R_{equ})^{(1/2)} \geq 6$
0,00	0,4	-0,4	0,000	0,018	OK
0,30	0,2	-1,0	0,000	0,046	OK
0,60	0,0	-0,9	0,000	0,042	OK
0,91	0,0	-0,9	0,000	0,042	OK
1,21	0,1	-0,9	0,000	0,039	OK
1,51	0,1	-0,8	0,000	0,034	OK
1,81	0,1	-0,7	0,000	0,033	OK
2,12	0,2	-0,7	0,000	0,031	OK
2,42	0,2	-0,4	0,000	0,020	OK
2,72	0,2	-0,5	0,000	0,020	OK
3,02	0,2	-0,4	0,000	0,019	OK
3,33	0,2	-0,4	0,000	0,018	OK
3,63	0,3	-0,4	0,000	0,018	OK
3,93	0,3	-0,4	0,000	0,018	OK
4,23	0,3	-0,4	0,000	0,016	OK
4,54	0,3	-0,4	0,000	0,017	OK
4,84	0,3	-0,4	0,000	0,016	OK
5,14	0,3	-0,3	0,000	0,015	OK
5,44	0,3	-0,4	0,000	0,016	OK
5,75	0,4	-0,3	0,000	0,018	OK
6,05	0,5	-0,2	0,000	0,022	OK
6,35	0,6	-0,2	0,000	0,025	OK
6,65	0,7	-0,1	0,000	0,029	OK
6,96	0,7	-0,1	0,000	0,033	OK
7,26	0,8	0,0	0,000	0,037	OK
7,56	0,9	0,2	0,244	0,041	OK
7,86	1,0	0,3	0,310	0,046	OK
8,17	1,1	0,4	0,355	0,049	OK
8,47	1,2	0,5	0,406	0,053	OK
8,77	1,3	0,6	0,447	0,059	OK
9,07	1,4	0,7	0,483	0,062	OK
9,38	1,5	0,8	0,512	0,067	OK
9,68	1,6	0,9	0,538	0,072	OK
9,98	1,7	1,0	0,570	0,076	OK
10,28	1,8	1,1	0,585	0,081	OK
10,59	1,9	1,2	0,602	0,087	OK
10,89	2,0	1,3	0,633	0,091	OK
11,19	2,2	1,4	0,639	0,097	OK
11,49	2,3	1,5	0,643	0,103	OK
11,80	2,4	1,6	0,669	0,108	OK
12,10	2,6	1,7	0,674	0,114	OK
12,40	2,7	1,8	0,672	0,122	OK
12,70	3,2	1,9	0,612	0,141	OK
13,01	3,4	2,1	0,610	0,150	OK
13,31	3,6	2,2	0,606	0,160	OK
13,61	3,7	2,3	0,614	0,165	OK
13,91	3,9	2,4	0,600	0,175	OK
14,22	4,2	2,4	0,583	0,186	OK
14,52	4,3	2,5	0,581	0,192	OK
14,82	1,9	-1,1	0,000	0,084	OK

Komb B: Jmf Komb B1 med B2

Snitt B3					Kontroll
x [m]	$\sigma_{cd,max,equ}$ [Mpa]	$\sigma_{cd,min,equ}$ [Mpa]	R_{equ} [-]	$E_{cd,max,equ}$ [-]	$14 \cdot (1 - E_{cd,max,equ}) / (1 - R_{equ})^{(1/2)} \geq 6$
0,00	-0,6	-1,4	0,449	0,061	OK
0,30	-1,4	-2,6	0,538	0,114	OK
0,60	-1,3	-2,3	0,582	0,103	OK
0,91	-1,2	-2,2	0,569	0,097	OK
1,21	-1,1	-2,0	0,539	0,090	OK
1,51	-1,0	-1,8	0,532	0,081	OK
1,81	-0,8	-1,7	0,491	0,077	OK
2,12	-0,7	-1,6	0,445	0,071	OK
2,42	-0,6	-1,3	0,516	0,056	OK
2,72	-0,5	-1,2	0,455	0,052	OK
3,02	-0,4	-1,1	0,399	0,048	OK
3,33	-0,3	-1,0	0,341	0,043	OK
3,63	-0,2	-0,9	0,258	0,040	OK
3,93	0,0	-0,8	0,000	0,036	OK
4,23	0,1	-0,7	0,000	0,031	OK
4,54	0,1	-0,6	0,000	0,028	OK
4,84	0,2	-0,5	0,000	0,024	OK
5,14	0,3	-0,4	0,000	0,019	OK
5,44	0,3	-0,4	0,000	0,017	OK
5,75	0,3	-0,3	0,000	0,015	OK
6,05	0,3	-0,3	0,000	0,015	OK
6,35	0,4	-0,3	0,000	0,016	OK
6,65	0,4	-0,3	0,000	0,016	OK
6,96	0,4	-0,3	0,000	0,017	OK
7,26	0,4	-0,3	0,000	0,017	OK
7,56	0,4	-0,3	0,000	0,018	OK
7,86	0,4	-0,3	0,000	0,019	OK
8,17	0,4	-0,3	0,000	0,019	OK
8,47	0,4	-0,3	0,000	0,020	OK
8,77	0,5	-0,2	0,000	0,022	OK
9,07	0,5	-0,2	0,000	0,021	OK
9,38	0,5	-0,2	0,000	0,022	OK
9,68	0,5	-0,2	0,000	0,024	OK
9,98	0,5	-0,2	0,000	0,024	OK
10,28	0,6	-0,2	0,000	0,026	OK
10,59	0,6	-0,2	0,000	0,028	OK
10,89	0,6	-0,1	0,000	0,028	OK
11,19	0,7	-0,1	0,000	0,030	OK
11,49	0,7	-0,1	0,000	0,032	OK
11,80	0,7	-0,1	0,000	0,032	OK
12,10	0,8	-0,1	0,000	0,035	OK
12,40	0,9	-0,1	0,000	0,038	OK
12,70	1,2	0,0	0,000	0,054	OK
13,01	1,3	0,0	0,000	0,058	OK
13,31	1,4	0,0	0,000	0,063	OK
13,61	1,4	0,0	0,000	0,063	OK
13,91	1,5	-0,1	0,000	0,067	OK
14,22	1,6	-0,2	0,000	0,070	OK
14,52	1,5	-0,3	0,000	0,068	OK
14,82	1,2	-1,7	0,000	0,076	OK