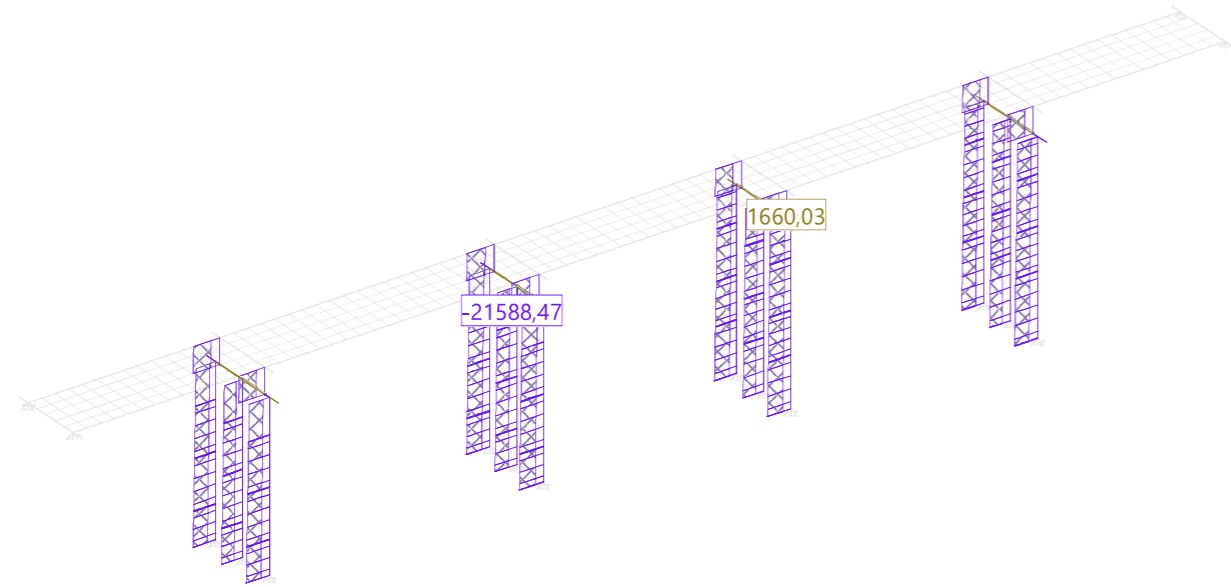
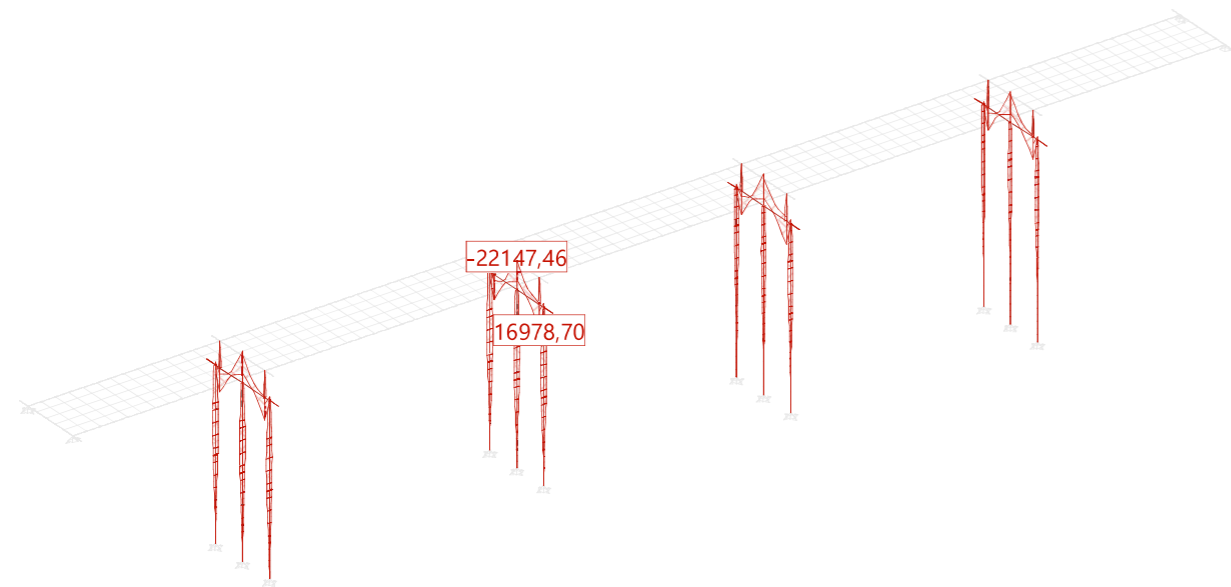


Section force envelopes N (Principal axis) [kN] for: ELU (P), Part of PT: restraining forces included, Multiple subsystems

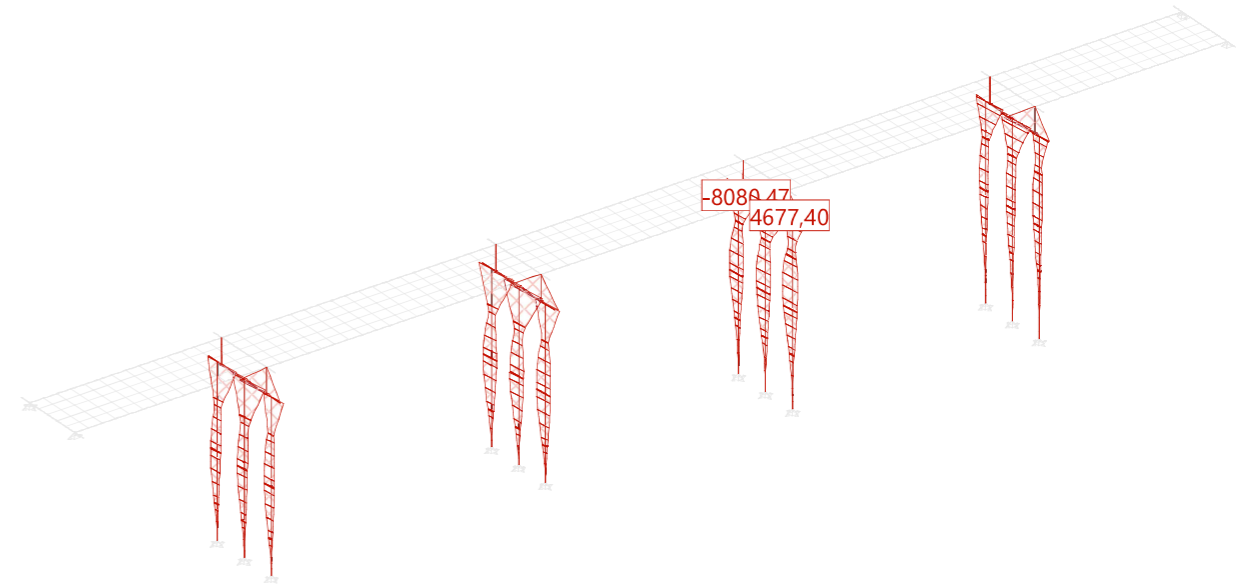


Section force envelopes My (Principal axis) [kNm] for: ELU (P), Part of PT: restraining forces included, Multiple subsystems

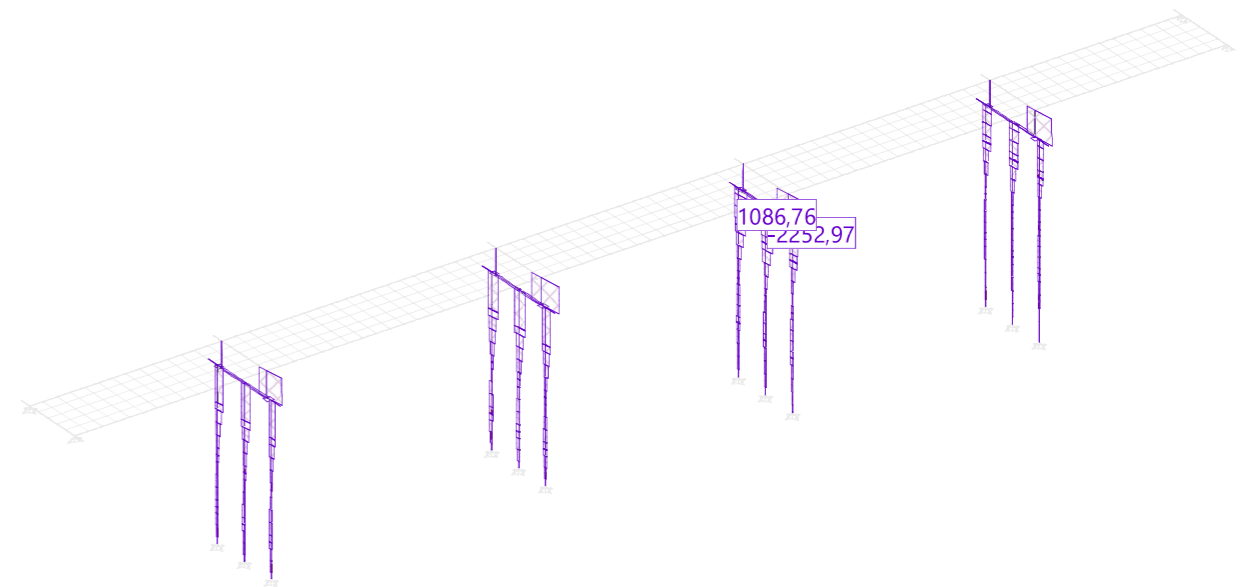


Nr.:

Section force envelopes Mz (Principal axis) [kNm] for: ELU (P), Part of PT: restraining forces included, Multiple subsystems

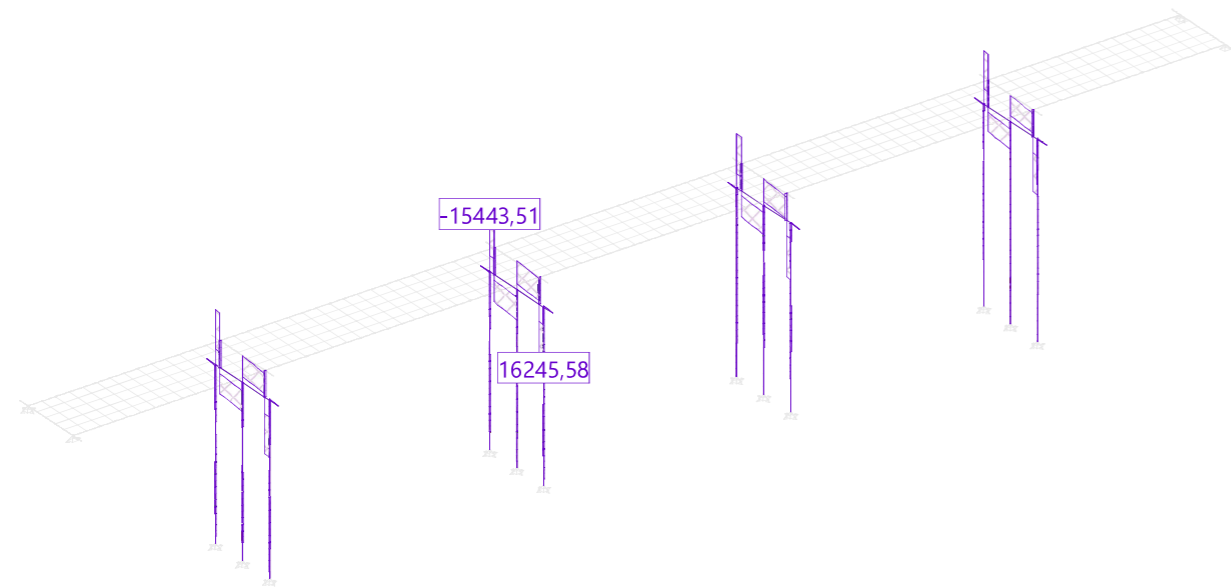


Section force envelopes Vy (Principal axis) [kN] for: ELU (P), Part of PT: restraining forces included, Multiple subsystems

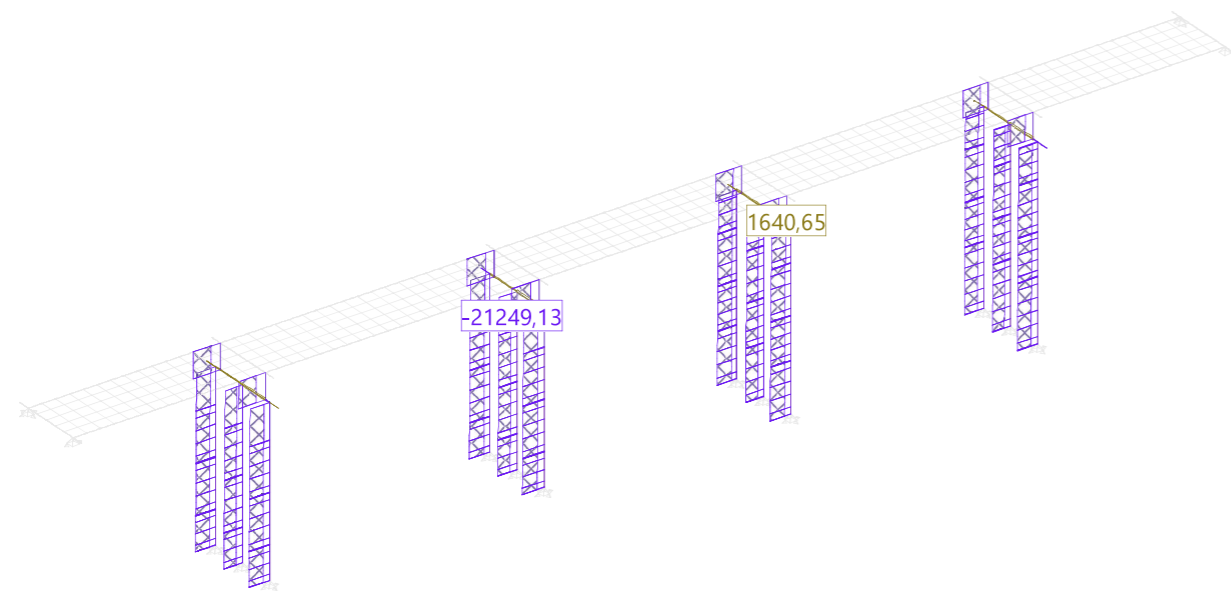


Nr.:

Section force envelopes Vz (Principal axis) [kN] for: ELU (P), Part of PT: restraining forces included, Multiple subsystems

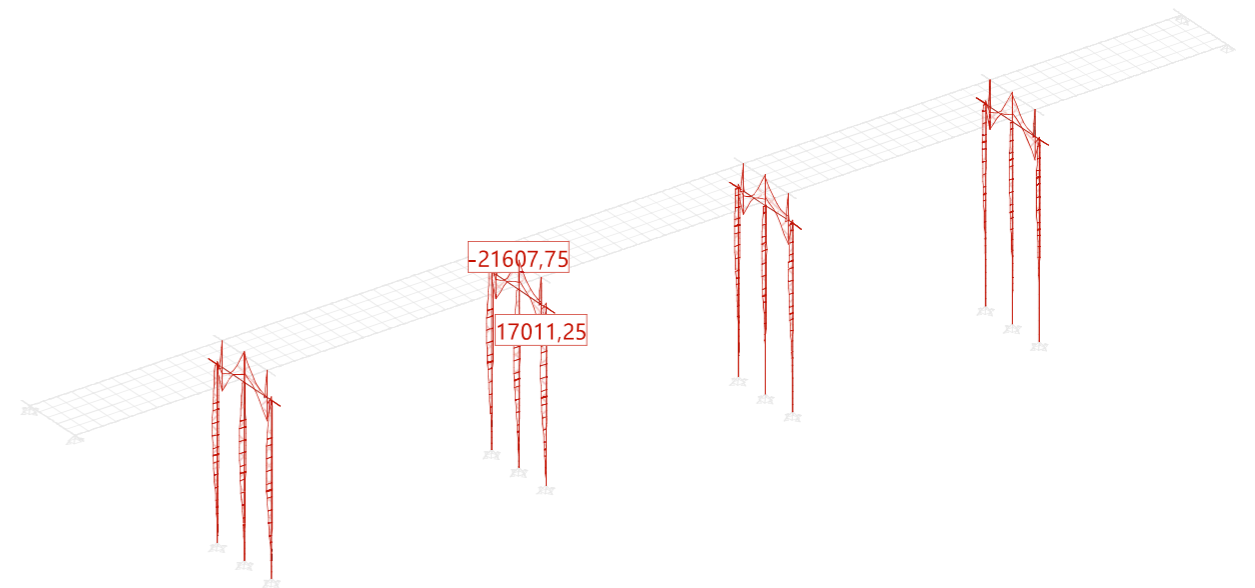


Section force envelopes N (Principal axis) [kN] for: ELU-INF (P), Part of PT: restraining forces included, Multiple subsystems

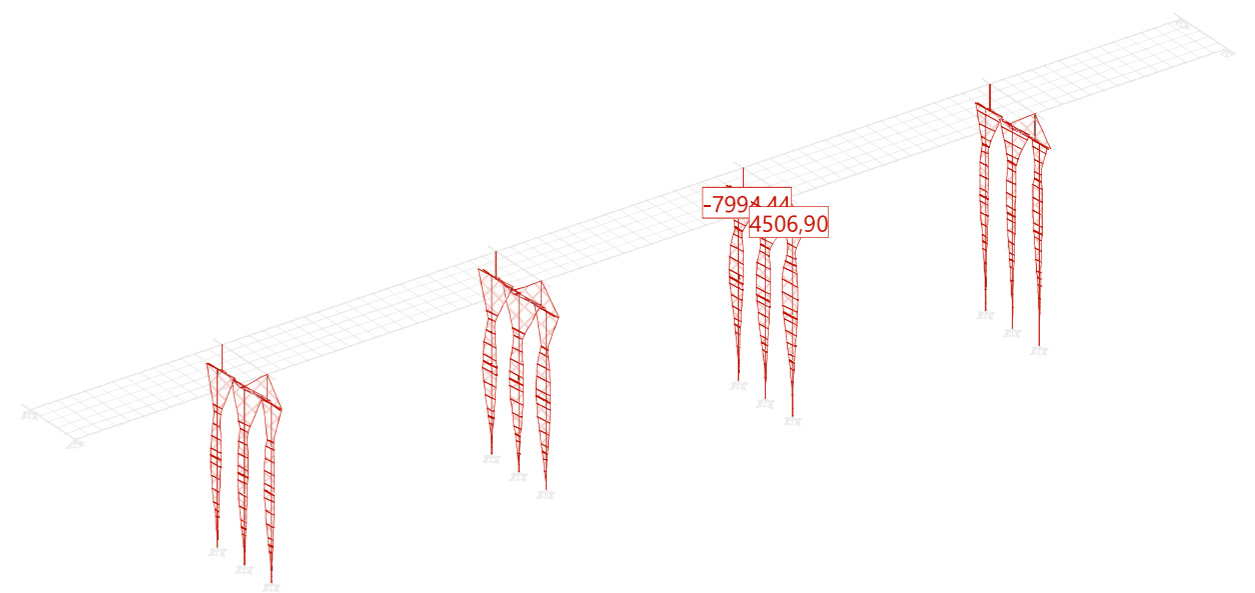


Nr.:

Section force envelopes My (Principal axis) [kNm] for: ELU-INF (P), Part of PT: restraining forces included, Multiple subsystems

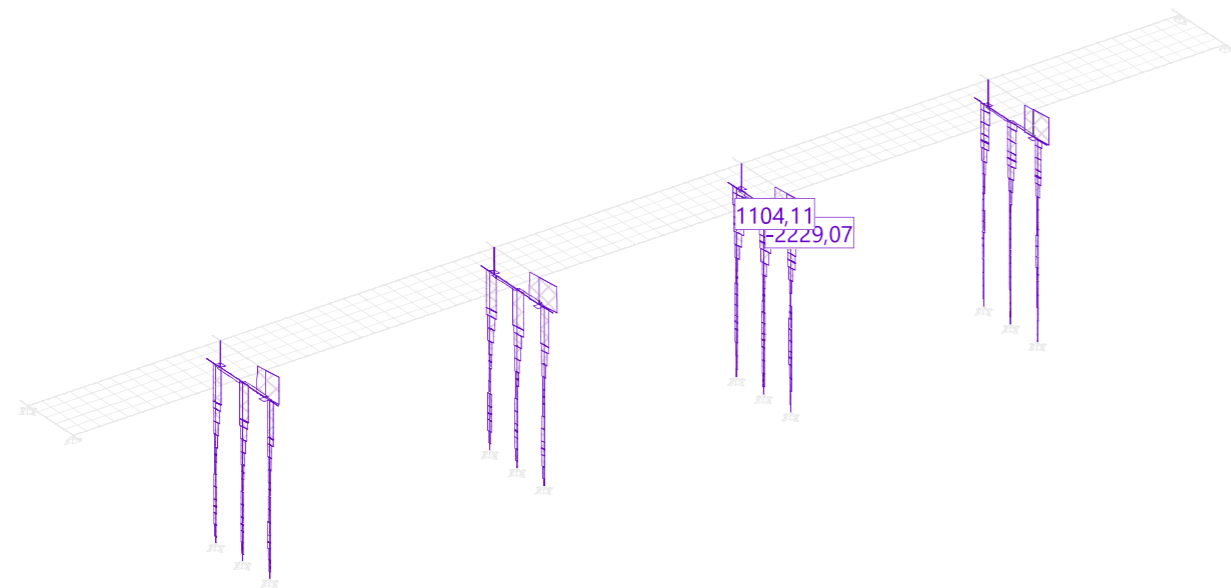


Section force envelopes Mz (Principal axis) [kNm] for: ELU-INF (P), Part of PT: restraining forces included, Multiple subsystems

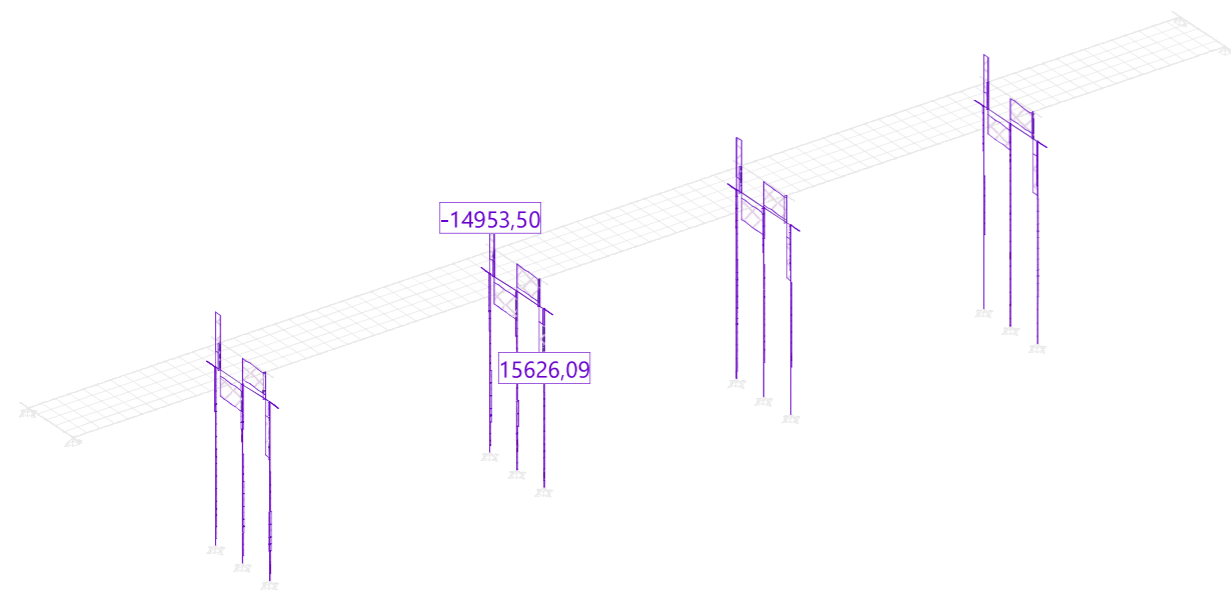


Nr.:

Section force envelopes Vy (Principal axis) [kN] for: ELU-INF (P), Part of PT: restraining forces included, Multiple subsystems



Section force envelopes Vz (Principal axis) [kN] for: ELU-INF (P), Part of PT: restraining forces included, Multiple subsystems

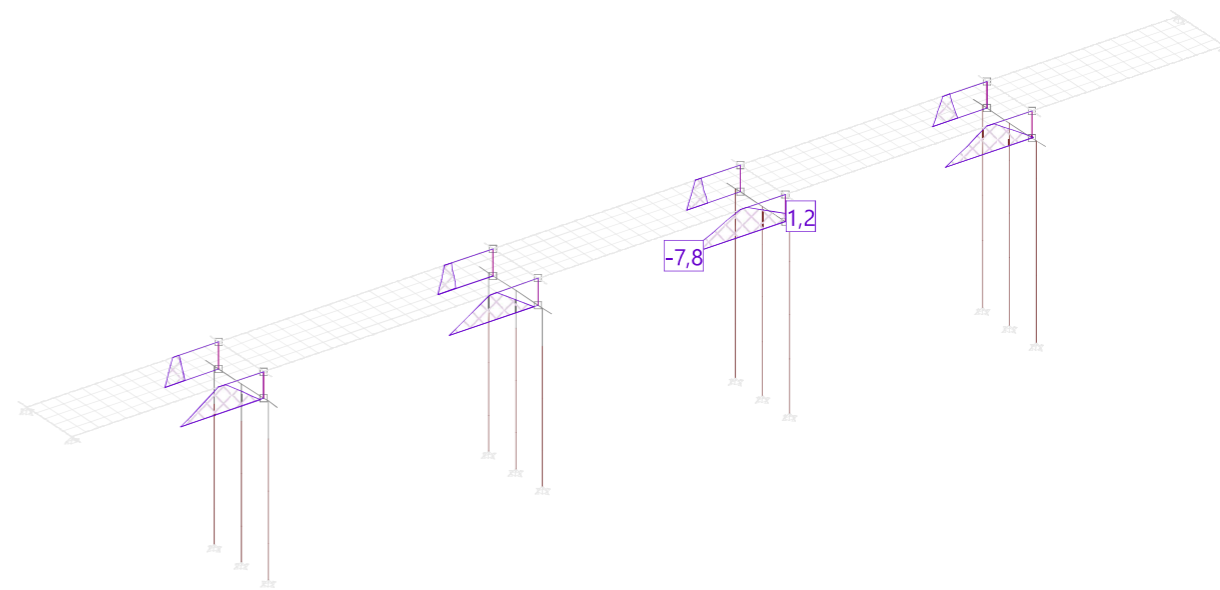


Nr.:

FAGUS results 'ELU': Exploitation eff(M,N)

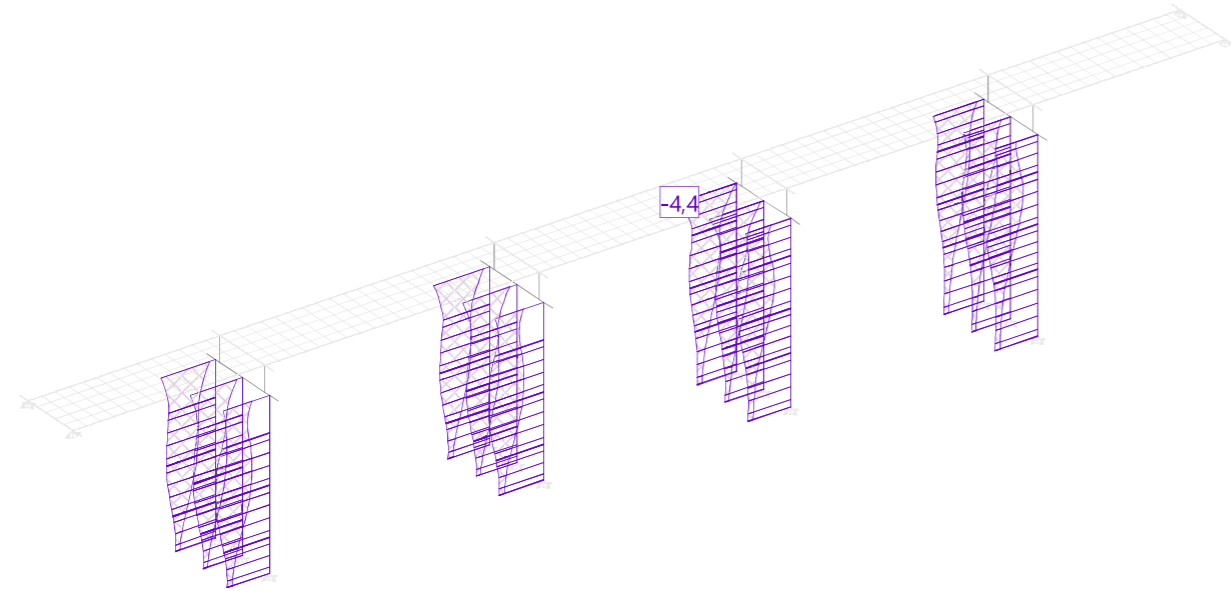


ENVELOPE VALUES Stress (homogeneous) in Beton CC [N/mm²] Loads: ELS-QPERM (P), Multiple subsystems, Selected members

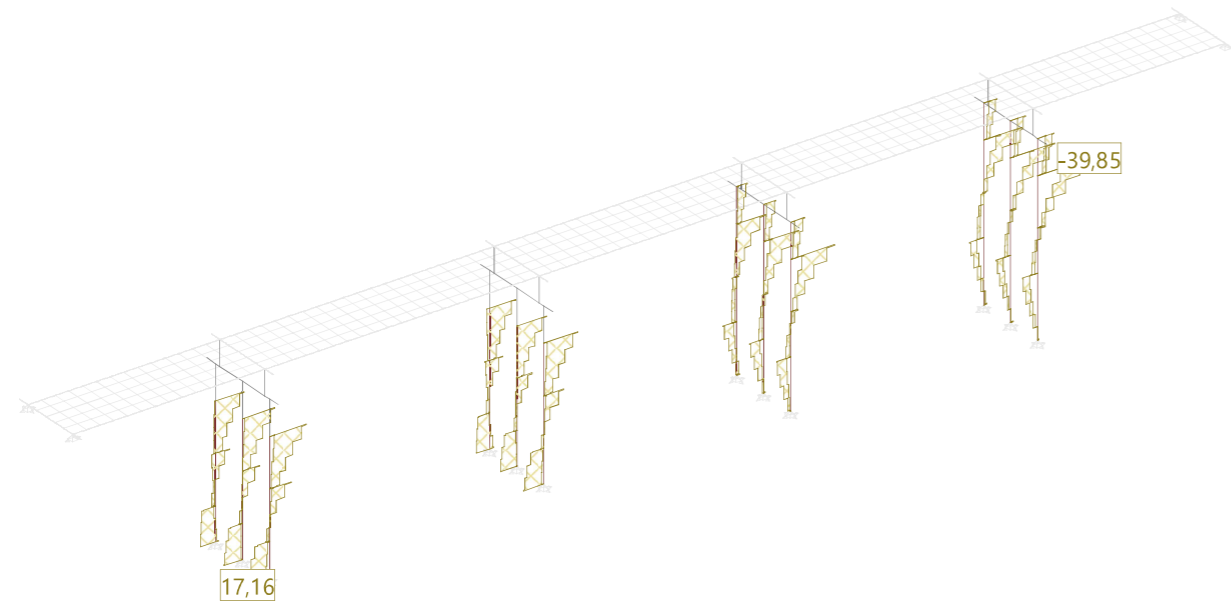


Nr.:

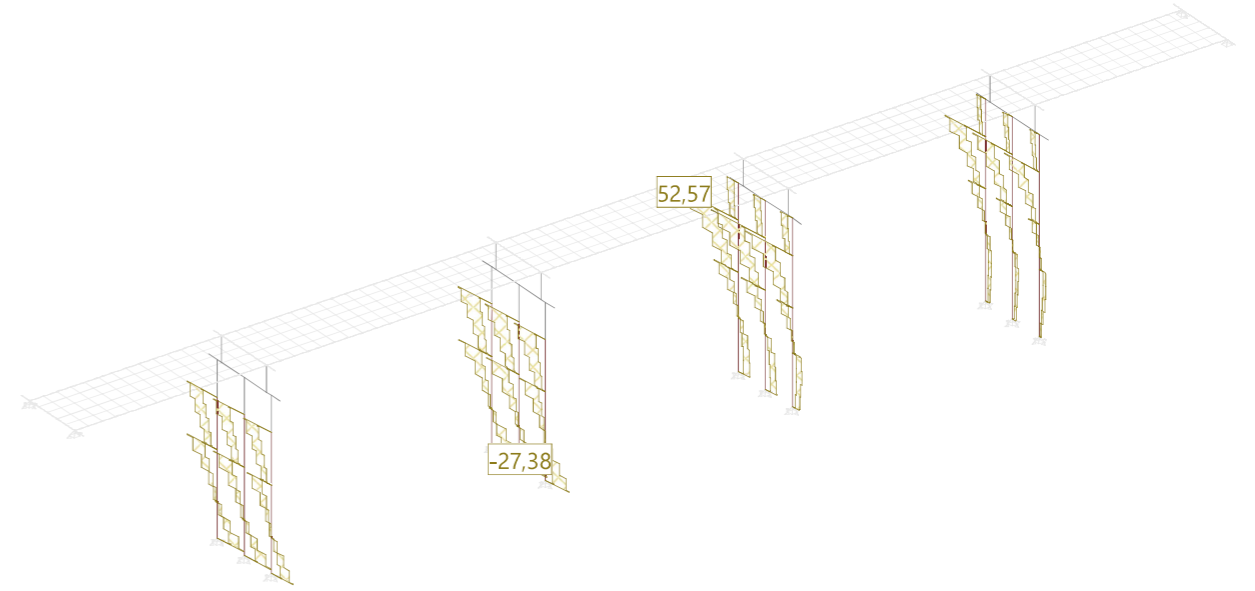
ENVELOPE VALUES Stress (homogeneous) in Beton CP [N/mm²] Loads: ELS-QPERM (P), Multiple subsystems



Bar reaction envelopes in local directions z [kN/m], Specification: ELS-QPERM (P)



Bar reaction envelopes in local directions y [kN/m], Specification: ELS-QPERM (P)



ARMADURA MÍNIMA - REFUERZO LONGITUDINAL EN PILARES SEGÚN EUROCÓDIGO 2 - 9.5.2 (2)	
$A_{s,min} = \frac{0,10 N_{Ed}}{f_{yd}} \text{ o } 0,002 A_c$	
$A_{s,min}$	5089,38 mm²
Datos	
N_{ed}	21.463,31 kN
f_{yk}	500 MPa
f_{yd}	434,78 MPa
\emptyset	1800 mm
A_c	2544690,05 mm ²

ARMADURA MÍNIMA - REFUERZO LONGITUDINAL EN PILOTES SEGÚN EUROCÓDIGO 2 - 9.8.5 (3)	
Tabla 9.6N	
Pile cross-section: A_c	Minimum area of longitudinal reinforcement: $A_{S,bprin}$
$A_c \leq 0,5 \text{ m}^2$	$A_S \geq 0,005 \cdot A_c$
$0,5 \text{ m}^2 < A_c \leq 1,0 \text{ m}^2$	$A_S \geq 25 \text{ cm}^2$
$A_c > 1,0 \text{ m}^2$	$A_S \geq 0,0025 \cdot A_c$
\emptyset	1,86 m
A_c	2,72 m ²
$A_{s,min}$	6792,91 mm²

CÁLCULO DE CORTANTE SEGÚN CÓDIGO ESTRUCTURAL

SECCIÓN	SECCIONES CON ARMADURA DE CORTANTE								
	PILOTES 186CM	PILA 180CM	PILOTES 186CM	PILA 180CM (SISMO)				PILOTE 186CM	PILOTE 186CM
	ELU	ELU	SISMO	Cerco 1	Cerco 2	Cerco 3	Total	ESTRIBO 2	ESTRIBO 2
h	1648	1595	1648	1595	1580	910		1648	1648
d	1573	1545	1573	1545	1530	860		1573	1573
z	1415,7	1390,5	1415,7	1390,5	1377	774		1415,7	1415,7
b_w	1648	1595	1648	1595	1580	910		1648	1648
θ	0,785398163	0,785398163	0,785398163	0,785398163	0,785398163	0,785398163		0,785398163	0,785398163
$\tan \theta$	1	1	1	1	1	1		1	1
$\cot \theta$	1	1	1	1	1	1		1	1
f_{ck}	35	35	35	35	35	35		35	35
f_{td}	23,33333333	23,33333333	26,92307692	26,92307692	26,92307692	26,92307692		23,33333333	23,33333333
f_{ywk}	500,0	500,0	500,0	500,0	500,0	500,0		500,0	500,0
f_{ywd}	434,8	434,8	500,0	500,0	500,0	500,0		434,8	434,8
σ_{cp}	0	0	0						
σ_{cp}/f_{cd}	0	0	0	0	0	0		0	0
A_{sw}	227	402	402	402	402	402		402	628
α	1,570796327	1,570796327	1,570796327	1,570796327	1,570796327	1,570796327		1,570796327	1,570796327
$\tan \alpha$	1,63246E+16	1,63246E+16	1,63246E+16	1,63246E+16	1,63246E+16	1,63246E+16		1,63246E+16	1,63246E+16
$\cot \alpha$	6,12574E-17	6,12574E-17	6,12574E-17	6,12574E-17	6,12574E-17	6,12574E-17		6,12574E-17	6,12574E-17
$\sin \alpha$	1	1	1	1	1	1		1	1
s	125	150	150	125	125	125		250	100
	1816	2680	2680	3216	3216	3216		1608	6280
$V_{Rd,s}$	1117,79	1620,23	1897,04	2235,92	2214,22	1244,59	5694,73	989,76	3865,48
σ_{cw}	1	1	1	1	1	1		1	1
U_1	0,516	0,516	0,516	0,516	0,516	0,516		0,516	0,516
$V_{Rd,max}$	11031,00	10486,20	12728,07	12099,46	11869,31	3842,52		11031,00	11031,00
Armadura mínima									
$\rho_{w,min}$	0,000946573	0,000946573	0,000946573	0,000946573	0,000946573	0,000946573		0,000946573	0,000946573
ρ_w	0,001101942	0,001680251	0,001626214	0,002016301	0,002035443	0,003534066		0,000975728	0,00381068
	Ok	Ok	Ok	Ok	Ok	Ok		Ok	Ok
$s_{l,max}$	1179,75	1158,75	1179,75	1158,75	1147,5	645		1179,75	1179,75
$s_{b,max}$	943,8	927	943,8	927	918	516		943,8	943,8
$s_{t,max}$	600	600	600	600	600	600		600	600
SOLICITACIÓN									
V_y	450	1150	1890				5250	200	682,95
V_z	250	310	100				0	775	3134,03
$V_{Rd,s}$	514,78	1191,05	1892,64				5250,00	800,39	3207,58

PROYECTO PONT PORT DE BADALONA

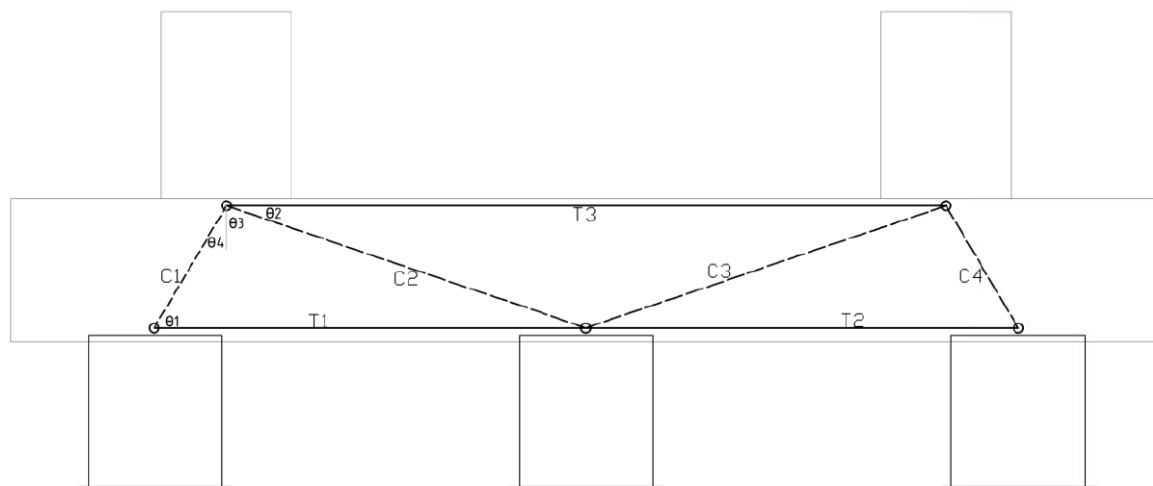
CÁLCULO DE ENCEPADO PILAS SOBRE PILOTES

ACCIONES SOBRE EL ENCEPADO	
Axil pila P1	22756,80 kN
Axil pila P2	22791,90 kN
Reacción pilo 1	15613,14 kN
Reacción pilo 2	14293,21 kN
Reacción pilo 3	15642,35 kN

GEOMETRÍA	
Canto	2,00 m
Posición nodos superiores	0,05 m
Posición nodos inferiores	1,90 m
Altura celosía	1,85 m
Distancia Pilo 1 - Pila 1	1,00 m
Distancia Pila 1 - Pilo 2	5,00 m
Distancia Pila 1 - Pila 2	10,00 m
Distancia Pilo 2 - Pilo 3	6,00 m
Distancia Pilo 2 - Pila 2	5,00 m
Distancia Pila 2 - Pilo 3	1,00 m
θ_1	61,61°
θ_2	20,30°
θ_3	69,70°
θ_4	28,39°

TENSIONES	
Biela 1	17748,12 kN
Tirante 1	8439,54 kN
Biela 2	20586,39 kN
Tirante 3	10867,65 kN
Biela 4	17781,33 kN
Tirante 2	8455,32 kN
Biela 3	20603,36 kN

DIMENSIONAMIENTO	
Armadura T1	21098,84 mm ²
Armadura T2	21138,31 mm ²
Armadura T3	27169,14 mm ²



CÁLCULO DE CORTANTE SEGÚN CODIGO ESTRUCTURAL

SECCIONES CON ARMADURA DE CORTANTE			
SECCIÓN	ENCEPADO PILA	ENCEPADO PILA	ENCEPADO E2
h	2000	2000	2000
d	1940	1940	1940
z	1746	1746	1746
b _w	2500	2500	4800
θ	0,785398163	0,785398163	0,785398163
tan θ	1	1	1
cot θ	1	1	1
f _{ck}	35	35	30
f _{cd}	23,33333333	23,33333333	20
f _{ywk}	500,0	500,0	500,0
f _{ywd}	434,8	434,8	400,0
σ_{cp}	0	0	0
σ_{cp}/f_{cd}	0	0	0
A _{sw}	400	2011	1256
α	1,570796327	1,570796327	1,570796327
tan α	1,63246E+16	1,63246E+16	1,63246E+16
cot α	6,12574E-17	6,12574E-17	6,12574E-17
sin α	1	1	1
s	125	150	125
	3200	13407	10048
V _{Rd,s}	2429,22	10177,41	7017,52
α_{cw}	1	1	1
v ₁	0,516	0,516	0,528
V _{Rd,max}	20638,14	20638,14	34754,36
Armadura mínima			
$\rho_{w,min}$	0,000946573	0,000946573	0,000876356
ρ_w	0,00128	0,005362667	0,002093333
	Ok	Ok	Ok
S _{l,max}	1455	1455	1455
S _{b,max}	1164	1164	1164
S _{t,max}	600	600	600
SOLICITACIÓN			
Vz	-	7722,18	6750

SECCIÓN SIN ARMADURA DE CORTANTE	
SECCIÓN	ENCEPADO E1
C _{Rd,c}	0,12
γ_c	1,5
h	2000
d	1940
k	1,32 < 2
b _w	3920
A _{sl}	8168,14
ρ_l	0,00107 < 0.02
f _{ck}	30
f _{cd}	20,00
k ₁	0,15
v _{min}	0,291
σ_{cp}	0
V _{Rd,c,min}	2213,66
V _{Rd,c}	1780,67

SOLICITACIÓN	
Vz	1213,19 kN

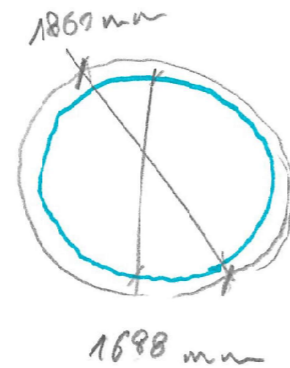
ARMADURA DE CONFINAMIENTO EN PILES

> Según EC8-1 5.4.3.2 DETALLES DE ARMADURA PARA PILES

la armadura de confinamiento tiene que ser como mínimo

$$w_{wd} = 0,08$$

$$\frac{\text{Volumen cerros}}{\text{volumen núcleo}} \cdot \frac{f_{yd}}{f_{cd}} = 0,08$$



$$\text{Vol. cerros} = 0,08 \cdot \frac{23,3}{222,843,7} \cdot 1,688^2 \frac{\pi}{4} = 0,0096 \text{ m}^3 = 9600 \text{ cm}^3$$

$$1 \text{ c}\phi 16 \rightarrow V = 2 \text{ cm}^2 \cdot \pi \cdot 170 \text{ cm} = 1070 \text{ cm}^3$$

Armadura mínima c\phi 16 a 0,10 m

> Según art. 5.8.4 la zona potencial de formación de la

$$\text{rotula plástica es de } 2\phi \rightarrow 2 \cdot 1,86 = \underline{3,72 \text{ m}}$$

CÀLCUL DE FONAMENTACIÓ
PROJECTE: VIADUCTO SOBRE PUERTO DE BADALONA

PILÓ PILA 1

Ø	1,86 m
A	2,72 m ²
l _{total}	23,80 m
fd	0,380

CÀRREGUES CARACTERÍSTIQUES

N	18100,00 kN	ELU	N (ELS)	12900 kN
M _y	0,00 kNm			4,747598 Mpa
M _x	0,00 kNm			
M	0,00 kNm		N (CPERM)	9000 kN
V _y	0,00 kN			3,312278 Mpa
V _x	0,00 kN			
V	0,00 kN			

MATERIALS

f _{ck}	35,00 N/mm ²
E _c	29778,88 N/mm ²
	29778883,51 kN/m ²

CAPACITAT DEL PILÓ

f _p	125,71 kp/cm ²
	12570,97 kN/m ²
Q _b	34157,37 kN
Q _u	34157,37 kN
c'	0 kN/m ²
phi	34 graus
	0,59 rad
Nq*	16,78
Nc*	-25,31

CÀLCUL A PARTIR DELS VALORS D'ANGLE DE FREGAMENT

X (m)	Z (m)	γ	Δσ _v	σ _v	NF	σ _v '	c'	φ	q _b	τ ₁	q _u	τ ₁	q _b	τ ₁	Q _b	Q _u	Q _u	Q _u	W	Q _{u2}
α (m)	β (m)	kN/m ³	kN/m ²	kN/m ²	kN/m ²	kN/m ²	kN/m ²	graus	kN/m ²	kN/m ²	kN/m ²	kN/m ²	kg/cm ²	kg/cm ²	kN	kN	kN	kN	kN	kN
NF	0	0	10	0	0	0	0,000	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	18100,00
NF	1	1	10	10	10	0	0,000	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	67,93	18167,93	0,00	0,00	0,00
NF	2	2	10	10	20	0	0,000	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	135,86	18235,86	0,00	0,00	0,00
NF	3	3	10	10	30	0	0,000	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	203,79	18303,79	0,00	0,00	0,00
NF	4	4	19	19	49	0	0,541	151,03	1,65	50,34	0,55	0,50	0,01	136,79	3,21	3,21	139,99	271,72	18371,72	0,00
Q1	5	5	19	19	68	50	18	0	31	0,541	302,05	3,29	100,68	1,10	1,01	0,01	273,58	6,41	9,62	283,20
Q1	6	6	19	19	87	60	27	0	31	0,541	453,08	4,94	151,03	1,65	1,51	0,02	410,36	9,62	19,24	429,60
Q1	7	7	19	19	106	70	36	0	31	0,541	604,10	6,59	201,37	2,20	2,01	0,02	547,15	12,83	32,07	579,22
Q1	8	8	19	19	125	80	45	0	31	0,541	755,13	8,23	251,71	2,74	2,52	0,03	683,94	16,03	48,10	732,04
Q1	9	9	19	19	144	90	54	0	31	0,541	906,16	9,88	302,05	3,29	3,02	0,03	820,73	19,24	67,34	888,07
Q1	10	10	19	19	163	100	63	0	31	0,541	1057,18	11,52	352,39	3,84	3,52	0,04	957,51	22,45	89,79	1047,30
Q1	11	11	19	19	182	110	72	0	31	0,541	1208,21	13,17	402,74	4,39	4,03	0,04	1094,30	25,65	115,44	1209,74
Q1	12	12	19	19	201	110	91	0	31	0,541	1527,04	16,65	509,01	5,55	5,09	0,06	1383,07	32,42	147,87	1530,94
Q2	13	13	19	19	220	110	110	0	30	0,524	1845,87	20,02	615,29	6,67	6,15	0,07	1671,85	38,99	186,86	1858,71
Q2	14	14	19	19	239	140	99	0	30	0,524	1661,29	18,02	553,76	6,01	5,54	0,06	1504,66	35,09	221,95	1726,61
Q2	15	15	19	19	258	150	108	0	30	0,524	1812,31	21,29	654,45	7,10	6,54	0,07	1641,45	38,28	260,23	1901,68
Q2	16	16	19	19	277	160	117	0	30	0,524	1963,34	24,59	755,13	8,19	7,55	0,08	1778,24	41,47	301,71	2079,95
Q2	17	17	19	19	296	170	126	0	30	0,524	2114,37	27,93	855,81	9,28	8,58	0,08	1915,03	44,66	346,37	2261,40
Q2	18	18	19	19	315	180	135	0	30	0,524	2265,39	31,27	956,49	10,37	9,55	0,08	2051,81	47,85	394,22	2446,04
Q3	19	19	20	20	335	190	145	0	34	0,593	2433,20	34,61	1057,18	11,46	10,59	0,09	2203,80	51,09	446,22	2630,02
Q3	20	20	20	20	355	200	155	0	34	0,593	2601,01	38,05	1157,96	12,55	11,67	0,10	2355,79	54,28	501,80	2815,58
Q3	21	21	20	20	375	210	165	0	34	0,593	2768,81	41,49	1258,74	13,60	12,72	0,10	2507,77	57,46	560,96	3006,73
Q3	22	22	20	20	395	220	175	0	34	0,593	2936,62	44,69	1359,69	14,65	13,77	0,11	2659,76	60,65	623,71	3203,47
Q3	23	23	20	20	415	230	185	0	34	0,593	3104,43	47,89	1460,64	15,69	14,81	0,11	2811,74	63,84	690,05	3401,79
Q3	24	24	20	20	435	240	195	0	34	0,593	3272,24	51,09	1561,65	16,73	15,85	0,12	2963,72	67,03	757,36	3601,71
Q3	25	25	20	20	455	250	205	0	34	0,593	3440,05	54,29	1662,66	17,77	16,89	0,12	3115,70	70,22	824,67	3801,63
Q3	26	26	20	20	475	260	215	0	34	0,593	3607,86	57,49	1763,67	18,81	17,93	0,13	3267,68	73,41	891,98	4001,55
Q3	27	27	20	20	495	270	225	0	34	0,593	3775,67	60,69	1864,68	19,85	18,97	0,13	3419,66	76,60	959,29	4201,47
ST	28	28	20	20	515	280	235	0	35	0,611	3943,48	63,89	1965,69	20,89	19,97	0,14	3571,64	79,79	1026,60	4401,39
ST	29	29	20	20	535	290	245	0	35	0,611	4111,29	67,09	2066,70	21,93	21,01	0,14	3723,62	82,98	1093,91	4601,31
ST	30	30	20	20	555	300	255	0	35	0,611	4279,10	70,29	2167,71	22,97	22,05	0,15	3875,60	86,17	1161,22	4801,23

CÀLCUL A PARTIR DEL SPT I GEOTÈCNIC

q _b	SPT	τ ₁	Q _b	Q _u	Q _u	Q _u	Q _u	W	Q _{u2}
kN/m ²	NGO	kN/m ²	kN	kN	kN	kN	kN	kN	kN
0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	18100,00
0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	18167,93
0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	18235,86
0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	18303,79
0,00	90,00	525,90	525,90	525,90	525,90	525,90	525,90	525,90	18371,72
0,00	90,00	525,90	1051,81	1051,81	1051,81	1051,81	1051,81	1051,81	18439,65
0,00	90,00	525,90	1577,71	1577,71	1577,71	1577,71	1577,71	1577,71	18507,57
0,00	90,00	525,90	2103,61	2103,61	2103,61	2103,61	2103,61	2103,61	18575,50
0,00	90,00	525,90	2629,51	2629,51	2629,51	2629,51	2629,51	2629,51	18643,43
0,00	90,00	525,90	3155,42	3155,42	3155,42	3155,42	3155,42	3155,42	18711,36
0,00	90,00	525,90	3681,32	3681,32	3681,32	3681,32	3681,32	3681,32	18779,29
0,00	90,00	525,90	4207,22	4207,22	4207,22	4207,22	4207,22	4207,22	18847,22
0,00	90,00	525,90	4733,12	4733,12	4733,12	4733,12	4733,12	4733,12	18915,15
0,00	90,00	525,90	5259,03	5259,03	5259,03	5259,03	5259,03	5259,03	18983,08
0,00	90,00	525,90	5784,93	5784,93	5784,93	5784,93	5784,93	5784,93	19051,01
0,00	90,00	525,90	6310,83	6310,83	6310,83	6310,83	6310,83	6310,83	19118,94
0,00	90,00	525,90	6836,73	6836,73	6836,73	6836,73	6836,73	6836,73	19186,87
0,00	90,00	0,00	7362,64	7362,64	7362,64	7362,64	7362,64	7362,64	19254,79
0,00	90,00	0,00	7888,54	7888,54	7888,54	7888,54	7888,54	7888,54	19322,72
0,00	90,00	0,00	8414,44	8414,44	8414,44	8414,44	8414,44	8414,44	19390,65
0,00	90,00	0,00	8940,34	8940,34	8940,34	8940,34	8940,34	8940,34	19458,58
0,00	90,00	0,00	9466,25	9466,25	9466,25	9466,25	9466,25	9466,25	19526,51
0,00	90,00	0,00	9992,15	9992,15	9992,15	9992,15	9992,15	9992,15	19594,44
8700,00	90,00	23639,32	525,90	10518,05	34157,37	24398,12			
8700,00	90,00	23639,32	525,90	11043,95					
8700,00	90,00	23639,32	525,90	11569,86					
8700,00	90,00	23639,32	525,90	12095,76					
13950,00	90,00	37904,43	525,90	12621,66					
13950,00	90,00			12621,66					
13950,00	90,00			12621,66					

CÀLCUL DE CAPACITAT HORIZONTAL DEL TERRENY

α _v '	K _s	α _v '	E _{sv}	E _{sv}	E _{sv}
kN/m ²		kN/m ²	kN	kN	kN
0,00	1,00	0,00	0,00	0,00	0,00
0,00	1,00	0,00	0,00	0,00	0,00
0,00	1,00	0,00	0,00	0,00	0,00
0,00	1,00	0,00	0,00	0,00	0,00
0,00	1,00	0,00	0,00	0,00	0,00
9,00	3,12	28,12	52,30	52,30	48
18,00	3,12	56,23	104,59	156,89	143
27,00	3,12	84,35	156,89	313,78	285
36,00	3,12	112,47	209,19	522,96	475
45,00	3,12	140,58	261,48	784,45	713
54,00	3,12	168,70	313,78	1098,22	998
63,00	3,12	196,81	366,07	1464,30	1331
72,00	3,12	224,93	418,37	1882,67	1712
91,00	3,12	284,29	528,77	2411,44	2192
110,00	3,00	330,00	613,80	3025,24	

CÀLCUL DE FONAMENTACIÓ
PROIECTE: VIADUCTO SOBRE PUERTO DE BADALONA

PILO

Ø	1,86 m
A	2,72 m ²
l _{base}	23,80 m
ID	0,380

CÀRREGUES CARACTERÍSTIQUES

N	18800,00 kN	ELU	N (ELS)	11000 kN
M _x	0,00 kNm			4,048339 Mpa
M _y	0,00 kNm			
M	0,00 kNm		N (CPERM)	9400 kN
V _x	0,00 kN			3,45949 Mpa
V _y	0,00 kN			
V	0,00 kN			

MATERIALS

f _{ck}	35,00 N/mm ²
E _c	29778,88 N/mm ²
	29778883,51 kN/m ²

CAPACITAT DEL PILO

f _r	125,31 kN/cm ²
f _s	12570,97 kN/m ²
Q _u	34157,37 kN
Q _l	34157,37 kN
c'	0 kN/m ²
phi	34 graus
Nq*	0,59 rad
Nc*	16,78
Nc*	-25,31

CÀLCUL A PARTIR DELS VALORS D'ANGLE DE FREGAMENT

X (m)	Z (m)	γ	Δσ _v	σ _v	NF	σ _v '	c'	φ	q _u	τ ₁	q _u	τ ₁	q _u	τ ₁	Q _u	Q _l	Q _u	Q _l	W	Q _u			
		kN/m ³	kN/m ²	kN/m ²	kN/m ²	kN/m ²	kN/m ²	graus	kN/m ²	kN/m ²	kN/m ²	kN/m ²	kg/cm ²	kg/cm ²	kN	kN	kN	kN	kN	kN			
NF	0	0	0	0	0	0	0	0	0,000	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00		
NF	1	1	10	10	10	0	0	0	0,000	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00		
NF	2	2	10	10	20	0	0	0	0,000	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	135,86	1893,86		
NF	3	3	10	10	30	0	0	0	0,000	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	203,79	19003,79		
Q1	4	4	19	19	49	40	7	0	31	0,541	151,03	1,65	50,34	0,55	0,50	0,01	136,79	3,21	3,21	139,99	271,72	19071,72	
Q1	5	5	19	19	68	50	18	0	31	0,541	302,05	3,29	100,68	1,10	1,01	0,01	271,58	6,41	9,62	283,20	339,65	19139,65	
Q1	6	6	19	19	87	60	27	0	31	0,541	453,08	4,94	151,03	1,65	1,51	0,02	410,36	9,62	19,24	429,60	407,57	19207,57	
Q1	7	7	19	19	106	70	36	0	31	0,541	604,10	6,59	201,37	2,20	2,01	0,02	547,15	12,83	32,07	579,22	475,50	19275,50	
Q1	8	8	19	19	125	80	45	0	31	0,541	755,13	8,23	251,71	2,74	2,52	0,03	683,94	16,03	48,10	732,04	543,43	19343,43	
Q1	9	9	19	19	144	90	54	0	31	0,541	906,16	9,88	302,05	3,29	3,02	0,03	820,73	19,24	67,34	888,07	611,36	19411,36	
Q1	10	10	19	19	163	100	63	0	31	0,541	1057,18	11,52	352,39	3,94	3,52	0,04	957,51	22,45	89,79	1047,30	679,29	19479,29	
Q1	11	11	19	19	182	110	72	0	31	0,541	1208,21	13,17	402,74	4,39	4,03	0,04	1094,30	25,65	115,44	1209,74	747,22	19547,22	
Q2	12	12	19	19	201	110	91	0	30	0,524	1527,04	16,56	509,01	5,52	5,09	0,06	1383,07	32,26	147,70	1530,77	815,15	19615,15	
Q2	13	13	19	19	220	110	110	0	30	0,524	1845,87	20,02	615,29	6,67	6,15	0,07	1671,85	38,99	186,69	1858,54	883,08	19683,08	
Q2	14	14	19	19	239	140	99	0	30	0,524	1861,29	18,02	553,76	6,01	5,54	0,06	1504,66	35,09	221,78	1726,45	951,01	19751,01	
Q2	15	15	19	19	258	150	108	0	30	0,524	1872,11	19,65	604,10	6,55	6,04	0,07	1641,45	38,28	260,07	1901,52	1018,94	19818,94	
Q2	16	16	19	19	277	160	117	0	30	0,524	1863,34	21,29	654,45	7,10	6,54	0,07	1778,24	41,47	301,54	2079,78	1086,87	19886,87	
Q2	17	17	19	19	296	170	126	0	30	0,524	2114,37	22,93	704,79	7,64	7,05	0,08	1915,03	44,66	346,20	2261,23	1154,79	19954,79	
Q3	18	18	20	20	316	180	136	0	34	0,593	2282,17	25,04	760,72	8,35	7,61	0,08	2067,01	48,77	394,97	2461,98	1222,72	20022,72	
Q3	19	19	20	20	336	190	146	0	34	0,593	2449,98	26,88	816,66	8,96	8,17	0,09	2219,00	52,35	447,32	2656,32	1290,65	20090,65	
Q3	20	20	20	20	356	200	156	0	34	0,593	2617,79	28,72	872,60	9,57	8,73	0,10	2370,98	55,94	503,26	2874,24	1358,58	20158,58	
Q3	21	21	20	20	376	210	166	0	34	0,593	2785,59	30,56	928,53	10,19	9,29	0,10	2522,97	59,52	562,78	3085,75	1426,51	20226,51	
Q3	22	22	20	20	396	220	176	0	34	0,593	2953,40	32,40	984,47	10,80	9,84	0,11	2674,96	63,11	625,89	3300,85	1494,44	20294,44	
Q3	23	23	20	20	416	230	186	0	34	0,593	3121,21	34,24	1040,40	11,41	10,40	0,11	2826,94	66,69	692,58	3519,53	1562,37	20362,37	
Q3	24	24	20	20	460	240	204	0	34	0,593	4765,71	52,28	1588,57	17,43	15,89	0,17	4316,41	101,83	990,75	3725,66	1630,30	20430,30	
Q3	25	25	20	20	44	250	204	0	34	0,593	4933,52	54,12	1644,51	18,04	16,45	0,18	4468,39	105,42	485,33	3983,07	1698,23	20498,23	
Q3	26	26	20	20	0	44	260	-304	0	34	0,593	-5101,33	-55,96	-1700,44	-18,65	-17,00	-0,19	-4620,38	-109,01	376,32	-4244,06	1766,16	20566,16
Q3	27	27	20	20	0	44	270	-314	0	34	0,593	-5269,13	-57,80	-1756,38	-19,27	-17,56	-0,19	-4772,37	-112,59	263,73	-4508,64	1834,09	20634,09
ST	28	28	20	20	0	44	280	-324	0	35	0,611	-5436,94	-59,60	-1812,31	-19,87	-18,12	-0,20	-4924,35	-116,08	147,65	-4776,70	1900,21	20702,01
ST	29	29	20	20	0	44	290	-334	0	35	0,611	-5604,75	-61,44	-1868,25	-20,48	-18,68	-0,20	-5076,34	-119,66	27,98	-5068,25	1969,94	20769,94
ST	30	30	20	20	0	316	300	16	0	35	0,611	-268,49	-2,94	89,50	0,98	0,89	0,01	-243,18	68,79	463,76	-706,94	2037,87	20837,87

CÀLCUL A PARTIR DEL SPT I GEOTÈCNIC

q _u	SPT	τ ₁	Q _u	Q _l	Q _u	Q _l	Q _u	Q _l				
kN/m ²	NGO	kN/m ²	kN	kN	kN	kN	kN	kN				
0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00				
0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00				
0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00				
0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00				
0,00	90,00	525,90	525,90	525,90	525,90	375,64	9,00	3,12	28,12	52,30	52,30	48
0,00	90,00	525,90	1051,81	1051,81	1051,81	751,29	18,00	3,12	56,23	104,59	156,89	143
0,00	90,00	525,90	1577,71	1577,71	1577,71	1126,93	27,00	3,12	84,35	156,89	313,78	285
0,00	90,00	525,90	2103,61	2103,61	2103,61	1502,58	36,00	3,12	112,47	209,19	522,96	475
0,00	90,00	525,90	2629,51	2629,51	2629,51	1878,22	45,00	3,12	140,58	261,48	784,45	713
0,00	90,00	525,90	3155,42	3155,42	3155,42	2253,87	54,00	3,12	168,70	313,78	1098,22	998
0,00	90,00	525,90	3681,32	3681,32	3681,32	2629,51	63,00	3,12	196,81	366,07	1464,30	1331
0,00	90,00	525,90	4207,22	4207,22	4207,22	3005,16	72,00	3,12	224,93	418,37	1882,67	1712
0,00	90,00	525,90	4733,12	4733,12	4733,12	3380,80	81,00	3,00	273,00	507,78	2390,45	2173
0,00	90,00	525,90	5259,03	5259,03	5259,03	3756,45	90,00	3,00	330,00	613,80	3004,25	2731
0,00	90,00	525,90	5784,93	5784,93	5784,93	4132,09	99,00	3,00	297,00	552,42	3556,67	3233
0,00	90,00	525,90	6310,83	6310,83	6310,83	4507,74	108,00	3,00	324,00	602,64	4159,31	3781
0,00	90,00	525,90	6836,73	6836,73	6836,73	4883,38	117,00	3,00	351,00	652,86	4812,17	4375
0,00	90,00	525,90	7362,64	7362,64	7362,64	5259,03	126,00	3,00	378,00	703,08	5515,25	5014
0,00	90,00	525,90	7888,54	7888,54	7888,54	5634,67	136,00	3,54	481,05	894,75	6410,00	5827
0,00	90,00	525,90	8414,44	8414,44	8414,44	6010,32	146,00	3,54	516,42	960,54	7370,55	6700
0,00	90,00	525,90	8940,34	8940,34	8940,34	6385,96	156,00	3,54	551,79	1026,33	8396,88	7634
0,00	90,00	525,90	9466,25	9466,25	9466,25	6761,60	166,00	3,54	587,16	1092,12	9489,00	8626
0,00	90,00	525,90	9992,15	9992,15	9992,15	7137,25	176,00	3,54	622,54	1157,92	10646,92	9679
8700,00	90,00	23639,32	525,90	10518,05	34157,37	24398,12	186,00	3,54	657,91	1223,71	11870,63	10791
8700,00	90,00	23639,32	525,90	11043,95			-284,00	3,54	-1004,55	-1886,45	10002,17	
8700,00	90,00	23639,32	525,90	11569,86			-294,00	3,54	-1039,92	-1934,25	8067,93	
8700,00	90,00	23639,32	525,90	12095,76			-304,00	3,54	-1075,29	-2000,04	6067,89	
13950,00	90,00	33904,43	525,90	12621,66			-314,00	3,54	-1110,66	-2065,83	4002,06	
13950,00	90,00			12621,66			-324,00	3,69	-1195,62	-2223,85	1778,22	
13950,00</												

CÀLCUL DE FONAMENTACIÓ
PROJECTE: VIADUCTO SOBRE PUERTO DE BADALONA

PILO

Ø	1,86 m
A	2,72 m ²
l _{total}	25,20 m
fd	0,380

CÀRREGUES CARACTERÍSTIQUES

N	17000,00 kN	ELU	N (ELS)	11000 kN
M _y	0,00 kNm			4,048339 Mpa
M _x	0,00 kNm			
M	0,00 kNm		N (CPERM)	9000 kN
V _y	0,00 kN			3,312278 Mpa
V _x	0,00 kN			
V	0,00 kN			

MATERIALS

f _{ck}	35,00 N/mm ²
E _c	29778,88 N/mm ²
	29778883,51 kN/m ²

CAPACITAT DEL PILO

r _p	135,39 kp/cm ²
	13538,71 kN/m ²
Q _b	36786,89 kN
Q _u	36786,89 kN
c'	0 kN/m ²
phi	34 graus
Nq*	0,59 rad
Nc*	16,78
	-25,31

CÀLCUL A PARTIR DELS VALORS D'ANGLE DE FREGAMENT

X (m)	Z (m)	γ	Δα _v	α _v	NF	α _v '	c'	φ	q _b	τ _i	q _p	τ _i	q _b	τ _i	Q _b	Q _u	Q _i	Q _u	W	Q _{u2}		
		kN/m ³	kN/m ²	kN/m ²	kN/m ²	kN/m ²	kN/m ²	graus	kN/m ²	kN/m ²	kN/m ²	kN/m ²	kg/cm ²	kg/cm ²	kN	kN	kN	kN	kN	kN		
Q1	0	0	19	0	0	0	0	31	0,541	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	17000,00		
Q1	1	1	19	19	19	10	9	0	31	0,541	151,03	1,65	50,34	0,55	0,50	0,01	136,79	3,21	3,21	139,99	67,93	17067,93
Q1	2	2	19	19	38	20	18	0	31	0,541	302,05	3,29	100,68	1,10	1,01	0,01	273,58	6,41	9,62	285,20	135,86	17135,86
Q1	3	3	19	19	57	30	27	0	31	0,541	453,08	4,94	151,03	1,65	1,51	0,02	410,36	9,62	19,24	425,60	203,79	17203,79
Q1	4	4	19	19	76	40	36	0	31	0,541	604,10	6,59	201,37	2,20	2,01	0,02	547,15	12,83	32,07	575,22	271,72	17271,72
Q1	5	5	19	19	95	50	45	0	31	0,541	755,13	8,23	251,71	2,74	2,52	0,03	683,94	16,03	48,10	732,04	339,65	17339,65
Q1	6	6	19	19	114	60	54	0	31	0,541	906,16	9,88	302,05	3,29	3,02	0,03	820,73	19,24	67,34	888,07	407,57	17407,57
Q1	7	7	19	19	133	70	63	0	31	0,541	1057,18	11,52	352,39	3,84	3,52	0,04	957,51	22,45	89,79	1047,30	475,50	17475,50
Q1	8	8	19	19	152	80	72	0	31	0,541	1208,21	13,17	402,74	4,39	4,03	0,04	1094,30	25,65	115,44	1209,74	543,43	17543,43
Q1	9	9	19	19	171	90	81	0	31	0,541	1359,24	14,82	453,08	4,94	4,53	0,05	1231,09	28,86	144,30	1375,39	611,36	17611,36
Q1	10	10	19	19	190	100	90	0	31	0,541	1510,26	16,46	503,42	5,49	5,03	0,05	1367,88	32,07	176,37	1546,25	679,29	17679,29
Q1	11	11	19	19	209	110	99	0	31	0,541	1661,29	18,11	553,76	6,04	5,54	0,06	1504,66	35,27	211,65	1716,31	747,22	17747,22
Q1	12	12	19	19	228	110	118	0	31	0,541	1812,32	21,59	604,04	7,20	6,60	0,07	1793,44	42,04	253,69	2047,13	815,15	17815,15
Q1	13	13	19	19	247	110	137	0	31	0,541	1963,35	25,06	654,36	8,35	7,66	0,08	1934,47	48,81	302,51	2384,72	883,08	17883,08
Q1	14	14	19	19	266	140	126	0	31	0,541	2114,37	23,05	704,79	7,68	7,05	0,08	2085,40	44,89	347,40	2626,43	951,01	17951,01
Q2	15	15	19	19	285	150	135	0	30	0,524	2265,39	24,57	755,13	8,19	7,55	0,08	2236,42	47,85	395,25	2877,45	1018,94	18018,94
Q2	16	16	19	19	304	160	144	0	30	0,524	2416,42	26,21	805,47	8,74	8,05	0,09	2387,45	51,04	446,30	3128,48	1086,87	18086,87
Q2	17	17	19	19	323	170	153	0	30	0,524	2567,44	27,84	855,81	9,28	8,56	0,09	2538,48	54,23	500,53	3379,51	1154,79	18154,79
Q2	18	18	19	19	342	180	162	0	30	0,524	2718,47	29,48	906,16	9,83	9,06	0,10	2689,51	57,42	557,95	3630,54	1222,72	18222,72
Q3	19	19	20	20	362	190	172	0	30	0,524	2869,50	31,10	956,49	10,43	9,62	0,10	2840,54	60,61	618,92	3881,57	1290,65	18290,65
Q3	20	20	20	20	382	200	182	0	30	0,524	3020,53	33,12	1018,03	11,04	10,18	0,11	2991,57	64,51	683,44	4132,60	1358,58	18358,58
Q3	21	21	20	20	402	210	192	0	30	0,524	3171,56	34,94	1079,96	11,65	10,74	0,12	3142,60	68,06	751,49	4383,63	1426,51	18426,51
Q3	22	22	20	20	422	220	202	0	30	0,524	3322,59	36,76	1129,90	12,25	11,30	0,12	3293,63	71,60	823,10	4634,66	1494,44	18494,44
Q3	23	23	20	20	442	230	212	0	34	0,593	3573,62	39,03	1185,83	13,01	11,86	0,13	3444,66	76,02	899,11	4885,69	1567,37	18562,37
Q3	24	24	20	20	462	240	222	0	34	0,593	3724,65	40,87	1241,77	13,62	12,42	0,14	3595,69	79,60	978,72	5136,72	1640,30	18630,30
Q3	25	25	20	20	482	250	232	0	34	0,593	3875,68	42,71	1297,71	14,24	12,98	0,14	3746,72	83,19	1061,91	5387,75	1698,23	18698,23
Q3	26	26	20	20	502	260	242	0	34	0,593	4026,71	44,55	1353,64	14,85	13,54	0,15	3897,75	86,77	1148,68	5638,78	1766,16	18766,16
Q3	27	27	20	20	522	270	252	0	34	0,593	4177,74	46,39	1409,58	15,46	14,10	0,15	4048,78	90,36	1239,04	5889,81	1834,09	18834,09
ST	28	28	20	-540	-18	280	-298	0	35	0,611	-5000,64	-54,81	-1666,88	-18,27	-16,67	-0,18	-4529,19	-106,77	-1332,27	-3396,91	1902,01	18902,01
ST	29	29	20	0	-18	290	-308	0	35	0,611	-5168,45	-56,65	-1722,82	-18,88	-17,23	-0,19	-4681,17	-110,35	-1421,92	-3647,94	1969,94	18969,94
ST	30	30	20	0	342	300	42	0	35	0,611	704,79	7,73	234,93	2,58	2,35	0,03	638,34	180,57	738,53	1376,87	2037,87	19037,87

CÀLCUL A PARTIR DEL SPT I GEOTÈCNIC

q _b	SPT	τ _i	Q _b	Q _i	Q _u	Q _{u2}
kN/m ²	N60	kN/m ²	kN	kN	kN	kN
0,00	90,00	0,00	0,00	0,00	0,00	0,00
0,00	90,00	525,90	525,90	525,90	525,90	375,64
0,00	90,00	525,90	1051,81	1051,81	1051,81	751,29
0,00	90,00	525,90	1577,71	1577,71	1577,71	1126,93
0,00	90,00	525,90	2103,61	2103,61	2103,61	1502,58
0,00	90,00	525,90	2629,51	2629,51	2629,51	1878,22
0,00	90,00	525,90	3155,42	3155,42	3155,42	2253,87
0,00	90,00	525,90	3681,32	3681,32	3681,32	2629,51
0,00	90,00	525,90	4207,22	4207,22	4207,22	3005,16
0,00	90,00	525,90	4733,12	4733,12	4733,12	3380,80
0,00	90,00	525,90	5259,03	5259,03	5259,03	3756,45
0,00	90,00	525,90	5784,93	5784,93	5784,93	4132,09
0,00	90,00	525,90	6310,83	6310,83	6310,83	4507,74
0,00	90,00	525,90	6836,73	6836,73	6836,73	4883,38
0,00	90,00	525,90	7362,64	7362,64	7362,64	5259,03
0,00	90,00	525,90	7888,54	7888,54	7888,54	5634,67
0,00	90,00	525,90	8414,44	8414,44	8414,44	6010,32
0,00	90,00	0,00	8940,34	8940,34	8940,34	6385,96
0,00	90,00	0,00	9466,25	9466,25	9466,25	6761,60
0,00	90,00	0,00	9992,15	9992,15	9992,15	7137,25
0,00	90,00	0,00	10518,05	10518,05	10518,05	7512,89
0,00	90,00	0,00	11043,95	11043,95	11043,95	7888,54
0,00	90,00	0,00	11569,86	11569,86	11569,86	8264,18
0,00	90,00	0,00	12095,76	12095,76	12095,76	8639,83
0,00	90,00	0,00	12621,66	12621,66	12621,66	9015,47
8700,00	90,00	23639,32	525,90	13147,57	36786,89	26276,35
8700,00	90,00	23639,32	525,90	13673,47		
8700,00	90,00	23639,32	525,90	14199,37		
8700,00	90,00			14725,27		
8700,00	90,00			15251,17		
8700,00	90,00			15777,07		
8700,00	90,00			16302,97		
8700,00	90,00			16828,87		
8700,00	90,00			17354,77		
8700,00	90,00			17880,67		
8700,00	90,00			18406,57		
8700,00	90,00			18932,47		
8700,00	90,00			19458,37		
8700,00	90,00			19984,27		
8700,00	90,00			20510,17		
8700,00	90,00			21036,07		
8700,00	90,00			21561,97		
8700,00	90,00			22087,87		
8700,00	90,00			22613,77		
8700,00	90,00			23139,67		
8700,00	90,00			23665,57		
8700,00	90,00			24191,47		
8700,00	90,00			24717,37		
8700,00	90,00			25243,27		
8700,00	90,00			25769,17		
8700,00	90,00			26295,07		
8700,00	90,00			26820,97		
8700,00	90,00			27346,87		
8700,00	90,00			27872,77		
8700,00	90,00			28398,67		
8700,00	90,00			28924,57		
8700,00	90,00			29450,		

CÀLCUL DE FONAMENTACIÓ
PROJECTE: VIADUCTO SOBRE PUERTO DE BADALONA

PILO

Ø	1,86 m
A	2,72 m²
l _{total}	27,50 m
fd	0,380

CÀRREGUES CARACTERÍSTIQUES

N	17000,00 kN	ELU	N (ELS)	11000 kN
M _y	0,00 kNm			4,048339 Mpa
M _x	0,00 kNm			
M	0,00 kNm		N (CPERM)	9000 kN
V _y	0,00 kN			3,312278 Mpa
V _x	0,00 kN			
V	0,00 kN			

MATERIALS

f _{ck}	35,00 N/mm²
E _c	29778,88 N/mm²
	29778883,51 kN/m²

CAPACITAT DEL PILÓ

r _p	139,26 kp/cm²
Q _b	13925,81 kN/m²
Q _u	37838,69 kN
Q _s	37838,69 kN
c'	0 kN/m²
phi	34 graus
	0,59 rad
Nq*	16,78
Nc*	-25,31

CÀLCUL A PARTIR DELS VALORS D'ANGLE DE FREGAMENT

X (m)	Z (m)	γ	Δσ _v	σ _v	NF	σ _v '	c'	φ	q _p	τ _r	q _s	τ _r	q _p	τ _r	Q _b	Q _s	Q _u	Q _s	W	Q _{u2}		
		kN/m³	kN/m²	kN/m²	kN/m²	kN/m²	kN/m²	graus	rad	kN/m²	kN/m²	kN/m²	kg/cm²	kg/cm²	kN	kN	kN	kN	kN	kN		
Q1	0	0	19	0	0	0	0	31	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	17000,00		
Q1	1	1	19	19	19	10	9	0	31	0,541	151,03	1,65	50,34	0,55	0,50	0,01	136,79	3,21	3,21	139,99	67,93	17067,93
Q1	2	2	19	19	38	20	18	0	31	0,541	302,05	3,29	100,68	1,10	1,01	0,01	273,58	6,41	9,62	283,20	135,86	17135,86
Q1	3	3	19	19	57	30	27	0	31	0,541	453,08	4,94	151,03	1,65	1,51	0,02	410,36	9,62	19,24	423,60	203,79	17203,79
Q1	4	4	19	19	76	40	36	0	31	0,541	604,10	6,59	201,37	2,20	2,01	0,02	547,15	12,83	32,07	575,22	271,72	17271,72
Q1	5	5	19	19	95	50	45	0	31	0,541	755,13	8,23	251,71	2,74	2,52	0,03	683,94	16,03	48,10	732,04	339,65	17339,65
Q1	6	6	19	19	114	60	54	0	31	0,541	906,16	9,88	302,05	3,29	3,02	0,03	820,73	19,24	67,34	888,07	407,57	17407,57
Q1	7	7	19	19	133	70	63	0	31	0,541	1057,18	11,52	352,39	3,84	3,52	0,04	957,51	22,45	89,79	1047,30	475,50	17475,50
Q1	8	8	19	19	152	80	72	0	31	0,541	1208,21	13,17	402,74	4,39	4,03	0,04	1094,30	25,65	115,44	1209,74	543,43	17543,43
Q1	9	9	19	19	171	90	81	0	31	0,541	1359,24	14,82	453,08	4,94	4,53	0,05	1231,09	28,86	144,30	1375,39	611,36	17611,36
Q1	10	10	19	19	190	100	90	0	31	0,541	1510,26	16,46	503,42	5,49	5,03	0,05	1367,88	32,07	176,37	1544,25	679,29	17679,29
Q1	11	11	19	19	209	110	99	0	31	0,541	1661,29	18,11	553,76	6,04	5,54	0,06	1504,66	35,27	211,65	1716,31	747,22	17747,22
Q1	12	12	19	19	228	110	118	0	31	0,541	1812,31	21,59	604,04	7,20	6,60	0,07	1793,44	42,04	253,69	2047,13	815,15	17815,15
Q1	13	13	19	19	247	110	137	0	31	0,541	2298,95	25,06	766,32	8,35	7,66	0,08	2082,21	48,81	302,51	2384,72	883,08	17883,08
Q1	14	14	19	19	266	140	126	0	31	0,541	2114,37	23,05	704,79	7,68	7,05	0,08	1915,03	44,89	347,40	2262,43	951,01	17951,01
Q1	15	15	19	19	285	150	135	0	31	0,541	2265,39	24,70	755,13	8,23	7,55	0,08	2051,81	48,10	395,50	2447,32	1018,94	18018,94
Q1	16	16	19	19	304	160	144	0	31	0,541	2416,42	26,34	805,47	8,78	8,05	0,09	2188,60	51,31	446,81	2635,41	1086,87	18086,87
Q2	17	17	19	19	323	170	153	0	30	0,524	2567,44	27,84	855,81	9,28	8,56	0,09	2325,39	54,23	501,04	2826,43	1154,79	18154,79
Q2	18	18	19	19	342	180	162	0	30	0,524	2718,47	29,48	906,16	9,83	9,06	0,10	2462,18	57,42	558,47	3020,64	1222,72	18222,72
Q2	19	19	19	19	361	190	171	0	30	0,524	2869,50	31,12	956,50	10,37	9,56	0,10	2598,96	60,61	619,08	3218,05	1290,65	18290,65
Q2	20	20	19	19	380	200	180	0	30	0,524	3020,52	32,76	1006,84	10,92	10,07	0,11	2735,75	63,80	682,89	3416,64	1358,58	18358,58
Q2	21	21	19	19	399	210	189	0	30	0,524	3171,55	34,40	1057,18	11,47	10,57	0,11	2872,54	66,99	749,88	3622,42	1426,51	18426,51
Q2	22	22	19	19	418	220	198	0	30	0,524	3322,57	36,03	1107,52	12,01	11,08	0,12	3009,33	70,18	820,07	3829,39	1494,44	18494,44
Q3	23	23	20	20	438	230	208	0	34	0,593	3490,38	38,29	1163,46	12,76	11,63	0,13	3161,31	74,58	894,65	4055,96	1562,37	18562,37
Q3	24	24	20	20	458	240	218	0	34	0,593	3658,19	40,13	1219,40	13,38	12,19	0,13	3313,30	78,17	972,82	4286,12	1630,30	18630,30
Q3	25	25	20	20	478	250	228	0	34	0,593	3826,00	41,97	1275,33	13,99	12,75	0,14	3465,29	81,75	1054,57	4519,86	1698,23	18698,23
Q3	26	26	20	20	498	260	238	0	34	0,593	3993,80	43,81	1331,27	14,60	13,31	0,15	3617,27	85,34	1139,91	4757,18	1766,16	18766,16
Q3	27	27	20	20	518	270	248	0	34	0,593	4161,61	45,65	1387,20	15,22	13,87	0,15	3769,26	88,93	1228,84	4996,10	1834,09	18834,09
ST	28	20	-540	-22	280	-202	0	35	0,611	-5067,77	-55,55	-1689,26	-18,52	-16,89	-0,19	-4589,98	-108,20	-1120,64	-3469,34	1902,01	18902,01	
ST	29	20	0	-22	290	-312	0	35	0,611	-5235,57	-57,39	-1745,19	-19,13	-17,45	-0,19	-4741,97	-111,78	-1008,86	-3733,11	1969,94	18969,94	
ST	30	20	0	342	300	42	0	35	0,611	704,79	7,73	234,93	2,58	2,35	0,03	638,34	180,57	739,04	1377,38	2037,87	19037,87	

CÀLCUL A PARTIR DEL SPT I GEOTÈCNIC

q _p	SPT	τ _r	Q _b	Q _s	Q _u	Q _s	COEF EC 7
kN/m²	NG0	kN/m²	kN	kN	kN	kN	kN
0,00	90,00	0,00	0,00	0,00	0,00	0,00	0,00
0,00	90,00	525,90	525,90	525,90	525,90	525,90	375,64
0,00	90,00	525,90	1051,81	1051,81	1051,81	1051,81	751,29
0,00	90,00	525,90	1577,71	1577,71	1577,71	1577,71	1126,93
0,00	90,00	525,90	2103,61	2103,61	2103,61	2103,61	1502,58
0,00	90,00	525,90	2629,51	2629,51	2629,51	2629,51	1878,22
0,00	90,00	525,90	3155,42	3155,42	3155,42	3155,42	2253,87
0,00	90,00	525,90	3681,32	3681,32	3681,32	3681,32	2629,51
0,00	90,00	525,90	4207,22	4207,22	4207,22	4207,22	3005,16
0,00	90,00	525,90	4733,12	4733,12	4733,12	4733,12	3380,80
0,00	90,00	525,90	5259,03	5259,03	5259,03	5259,03	3756,45
0,00	90,00	525,90	5784,93	5784,93	5784,93	5784,93	4132,09
0,00	90,00	525,90	6310,83	6310,83	6310,83	6310,83	4507,74
0,00	90,00	525,90	6836,73	6836,73	6836,73	6836,73	4883,38
0,00	90,00	525,90	7362,64	7362,64	7362,64	7362,64	5259,03
0,00	90,00	525,90	7888,54	7888,54	7888,54	7888,54	5634,67
0,00	90,00	525,90	8414,44	8414,44	8414,44	8414,44	6010,32
0,00	90,00	0,00	8940,34	8940,34	8940,34	8940,34	6385,96
0,00	90,00	0,00	9466,25	9466,25	9466,25	9466,25	6761,60
0,00	90,00	0,00	9992,15	9992,15	9992,15	9992,15	7137,25
0,00	90,00	0,00	10518,05	10518,05	10518,05	10518,05	7512,89
0,00	90,00	0,00	11043,95	11043,95	11043,95	11043,95	7888,54
0,00	90,00	0,00	11569,86	11569,86	11569,86	11569,86	8264,18
0,00	90,00	0,00	12095,76	12095,76	12095,76	12095,76	8639,83
0,00	90,00	0,00	12621,66	12621,66	12621,66	12621,66	9015,47
0,00	90,00	0,00	13147,57	13147,57	13147,57	13147,57	9391,12
0,00	90,00	0,00	13673,47	13673,47	13673,47	13673,47	9766,76
8700,00	90,00	23639,32	525,90	14199,37	37838,69	27027,64	
8700,00	90,00			14199,37		14199,37	
8700,00	90,00			14199,37		14199,37	
8700,00	90,00			14199,37		14199,37	

CÀLCUL DE CAPACITAT HORIZONTAL DEL TERRENY

α _v '	K _s	α _v '	E _h	E _v	COEF EC 7	E _h
kN/m²		kN/m²	kN	kN	kN	kN
0,00	3,12	0,00	0,00	0,00	0,00	0
9,00	3,12	28,12	52,30	52,30	52,30	48
18,00	3,12	56,23	104,59	104,59	104,59	143
27,00	3,12	84,35	156,89	156,89	156,89	285
36,00	3,12	112,47	209,19	209,19	209,19	475
45,00	3,12	140,58	261,48	261,48	261,48	713
54,00	3,12	168,70	313,78	313,78	313,78	998
63,00	3,12	196,81	366,07	366,07	366,07	1331
72,00	3,12	224,93	418,37	418,37	418,37	1712
81,00	3,12	253,05	470,67	470,67	470,67	2139
90,00	3,12	281,16	522,96	522,96	522,96	2615
99,00	3,12	309,28	575,26	575,26	575,26	3138</

RESISTÈNCIA DEL TERRENO

UNIDAD	K	PL kg/cm2	K0	P0' kg/cm2	r_punta kg/cm2
Q1	3,2	15	0,5	1,7	45,28
Q2	3,2	12	0,5	2,2	34,88
Q3	3,2	45	0,5	2,8	139,52
Q2 / Q3	3,2	28,5	0,5	2,5	87,2

$$r_{punta} \text{ (kg/cm}^2\text{)} = K \cdot (P_L - K_0 \cdot P_0)$$

$$r_{fuste} \text{ (kg/cm}^2\text{)} = 0,025 \cdot r_{punta}$$

Donde:

P_L (Presión límite media de la arena gravosa (Q₃)) = 45 kg/cm²

P_0 = Presión efectiva vertical a nivel de la cimentación

K_0 (Coeficiente de empuje al reposo) = 0,5

K (Coeficiente de proporcionalidad que depende de la geometría del cimiento y del tipo de terreno) = 3,2 (se considera en suelos granulares)

El valor de la resistencia unitaria por fuste debe limitarse a $r_{fuste} \leq 90$ kPa.

Se podrá considerar la contribución al fuste de los niveles de arena media y gruesa (Q₁) y de arena fina limosa (Q₂).

En la siguiente tabla se resumen los valores de las tensiones admisibles a adoptar para los pilotes empotrados un mínimo de 6 diámetros en la arena gravosa (Q₃):

Cimentación profunda con pilotes para el Viaducto ferroviario								
Tipo de cimentación	Unidad geotécnica	Prof. (m)*	K	P _L (kg/cm ²)	K ₀	P ₀ ' (kg/cm ²)	R _{Fuste} (kg/cm ²)	R _{Punta} (kg/cm ²)**
Pilotes	Relleno (R)	De 0,0 a 3,8 m	-	-	-	-	-	-
	Arena media y gruesa (Q ₁)	De 3,8 a 16,0 m	3,2	15,0	0,5	1,7	0,9***	-
	Arena fina limosa (Q ₂)	De 16,0 a 22,5 m	3,2	12,0	0,5	2,2	0,9***	-
	Arena gravosa (Q ₃)	A partir de 22,5 m	3,2	45,0	0,5	2,8	0,9***	139,5

* Respeto la cota de ejecución de los sondeos (Geoplanning 2020)

** Se debe efectuar un empotramiento mínimo de 6 diámetros en la arena gravosa (Q₃)

*** El valor de la resistencia unitaria por fuste debe limitarse a 90 kPa.

APÉNDICE 2. LISTADO DE CÁLCULO
VIADUCTO SOBRE EL PUERTO DE BADALONA
TABLERO



PRONTUARIO INFORMÁTICO DEL HORMIGÓN ESTRUCTURAL 3.1 SEGÚN EHE-08

Cátedra de Hormigón Estructural ETSICCPM - IECA

Obra: EHE
 Fecha: 17/11/2020
 Hora: 15:07:58

Características reológicas del hormigón

1 Datos

- Hormigón

Tipo de hormigón : HA-60
 fck [MPa] = 60.00
 γ_c = 1.50
 α_{cc} = 1.00
 Hormigón de endurecimiento Rápido

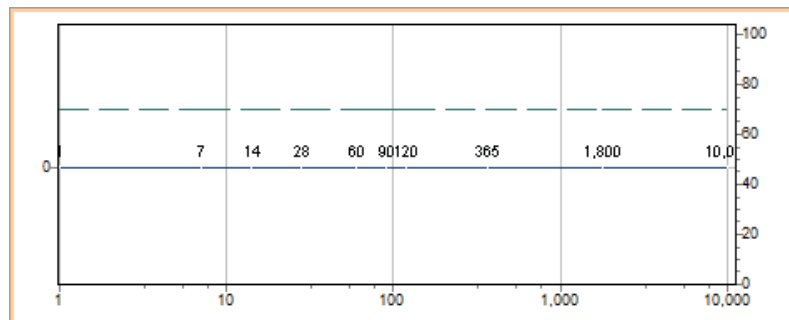
- Sección

Ac [m²] = 8.9
 u [m] = 34.6
 e [mm] = 514.45

- Tiempo de Curado = 4 días

- Historia de tensiones y humedades relativas

Tensiones		Humedad relativa	
t0 [días]	σ [MPa]	t [días]	HR [%]
1	0.0	1	70
7	0.0	7	70
14	0.0	14	70
28	0.0	28	70
60	0.0	60	70
90	0.0	90	70
120	0.0	120	70
365	0.0	365	70
1800	0.0	1800	70
10000	0.0	10000	70



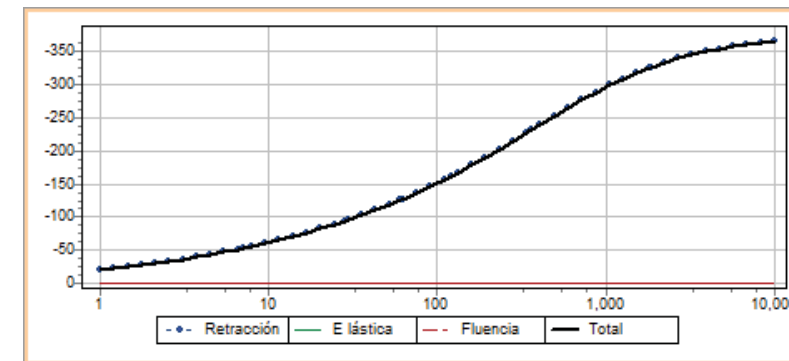
2 Resultados

- Coeficientes de fluencia

t [días]	$\varphi(t, t_0)$									
	t0 [días]									
	1	7	14	28	60	90	120	365	1800	10000
1	--	--	--	--	--	--	--	--	--	--
7	0.4	--	--	--	--	--	--	--	--	--
14	0.5	0.3	--	--	--	--	--	--	--	--
28	0.7	0.4	0.3	--	--	--	--	--	--	--
60	0.8	0.6	0.5	0.4	--	--	--	--	--	--
90	0.9	0.6	0.5	0.5	0.3	--	--	--	--	--
120	1.0	0.7	0.6	0.5	0.4	0.3	--	--	--	--
365	1.3	0.9	0.8	0.7	0.6	0.5	0.5	--	--	--
1800	1.7	1.2	1.1	0.9	0.8	0.7	0.7	0.6	--	--
10000	1.9	1.4	1.2	1.0	0.9	0.8	0.8	0.6	0.5	--

- Deformaciones de fluencia, retracción, instantáneas y totales

t [días]	ϵ_{cr} [-1.E-6]	ϵ_{cs} [-1.E-6]	ϵ_0 [-1.E-6]	ϵ_{tot} [-1.E-6]
1	0	-21	0	-21
7	0	-53	0	-53
14	0	-71	0	-71
28	0	-94	0	-94
60	0	-125	0	-125
90	0	-146	0	-146
120	0	-161	0	-161
365	0	-232	0	-232
1800	0	-325	0	-325
10000	0	-366	0	-366



PROYECTO: VIADUCTO SOBRE EL PUERTO DE BADALONA
 ACCIONES: VIENTO (EC1 1-4)

ELEMENTO: TABLERO PILA

PARÁMETROS DEL VIENTO			
$V_{b,0}$	29	29	m/s
C_{dir}	1	1	
C_{season}	1	1	
C_{prop}	1,038476548	1,038476548	
T	100	100	Años
K	0,2	0,2	
n	0,5	0,5	
C_0	1	1	
V_b	29	29	m/s
$V_b(T)$	30,11581989	30,11581989	m/s
Entorno	Tipo 0	Tipo 0	
k_r	0,156	0,156	
z_0	0,003	0,003	m
z_{min}	1	1	m
z	7,15	4,6	m
$C_r(z)$	1,213095834	1,14429109	
$V_m(z)$	36,53337565	34,46126437	m/s

EMPUJE DEL VIENTO			
ρ	1,25	1,25	kg/m ³
$p = 1/2 \cdot \rho \cdot V_c^2$	566,8516299	566,8516299	N/m ²
$C_e(z)$	2,796302154	2,558967968	
k_1	1	1	
C_f	1,74	1,2	
A_{ref}	5,7	1,8	m/m
F_w	15720,91	3133,20	N/m
	15,72	3,13	kN/m
$C_{f,z}$	0,9	0	
$A_{ref,z}$	1	1	m/m
$F_{w,z}$	1426,58	0,00	N/m
	1,43	0,00	kN/m

PROYECTO: VIADUCTO SOBRE EL PUERTO DE BADALONA
 ACCIONES: TÉRMICA (EC1 1-5)

CASO Estructura de viaducto Carril para modelo de interacción

VARIACIÓN UNIFORME DE TEMPERATURA			
T_{max}	42	42	°C
T_{min}	-11	-11	°C
$T_{max,p}$	43,621551	43,621551	°C
$T_{min,p}$	-12,2168561	-12,2168561	°C
T	100	100	años
ρ	0,01	0,01	
k_1	0,781	0,781	
k_2	0,056	0,056	
k_3	0,393	0,393	
k_4	-0,156	-0,156	
T_0	15	15	°C
$\Delta T_{e,max}$	8	16	°C
$\Delta T_{e,min}$	2	-3	°C
$T_{e,max}$	51,621551	59,621551	°C
$T_{e,min}$	-10,2168561	-15,2168561	°C
ΔT_N	61,8384071	74,8384071	°C

CÁLCULOS ESTRUCTURALES			
$\Delta T_{N,con}$	25,2168561	30,2168561	°C
$\Delta T_{N,exp}$	36,621551	44,621551	°C
CÁLCULO DE JUNTAS Y APARATOS			
$\Delta T_{N,con}$	40,2168561	45,2168561	°C
$\Delta T_{N,exp}$	51,621551	59,621551	°C

GRADIENTE TÉRMICO VERTICAL			
TIPO 3, PUENTES DE HORMIGÓN			
$\Delta T_{M,heat}$	15		°C
$\Delta T_{M,cool}$	8		°C
$k_{sur,heat}$	0,8		
$k_{sur,cool}$	1,1		
$\Delta T_{M,heat}$	12		°C
$\Delta T_{M,cool}$	8,8		°C

GRADIENTE TÉRMICO HORIZONTAL			
TIPO 3, PUENTES DE HORMIGÓN			
ΔT_M	5		°C

Temperatura máxima del aire a la sombra
 Temperatura mínima del aire a la sombra
 Temperatura máxima del aire a la sombra
 Temperatura mínima del aire a la sombra
 Temperatura inicial
 Valor característico de la temperatura máxima
 Valor característico de la temperatura mínima
 Rango de variación de temperatura uniforme

Valor característico de la máxima variación
 Valor característico de la máxima variación
 Valor característico de la máxima variación
 Valor característico de la máxima variación

Coefficiente de influencia del tipo y espesor

COEFICIENTE DE IMPACTO
v ≤ 220 km/h

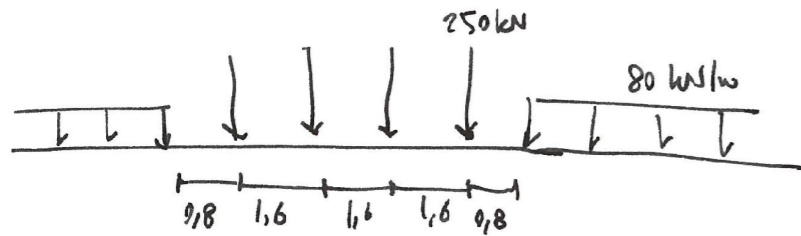
CASO	VIGAS TRANSVERSALES		
	PRINCIPALES	S	LOSA 25 CM

(a) Método simplificado. Cálculo estático y Φ envolvente

L_{ϕ}	53.55	23	4.25	m
Φ_2	1.022310085	1.133327413	1.593547755	
Φ_3	1.033465127	1.199991119	1.890321633	
$(\Phi_2 + \Phi_3)/2$	1.027887606	1.166659266	1.741934694	
h	0.65	0.65	0.65	m
$\Phi_{2,red}$	1.057310085	1.168327413	1.628547755	
$\Phi_{3,red}$	1.068465127	1.234991119	1.925321633	

Longitud determinante
 \emptyset para vías con grado de mantenimiento bueno
 \emptyset para vías con grado de mantenimiento normal
h cara superior travesa - estructura resistente. Solo si h>1m

TREN CARGAS VIC-71

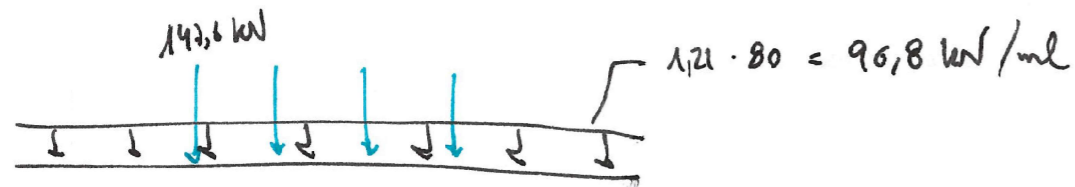


Carga por vía según normativa.

$$\alpha = 1,21 \text{ (ancho ibérico)}$$

> En el modelo se divide en las 2 vías y se aplica una relación excéntrica de 1,25.

Se prolonga la carga uniforme en el tramo punta de cargas puntuales de forma que esta es interior: Carga por vía:



$$\text{Cargas puntuales: } (1,21 \cdot 4(250) - 6,4 \text{ m} \cdot 96,8) \frac{1}{4} = (1210 - 619,5) \frac{1}{4} = 147,6 \text{ kN}$$

Cargas por carril considerando la excentricidad:

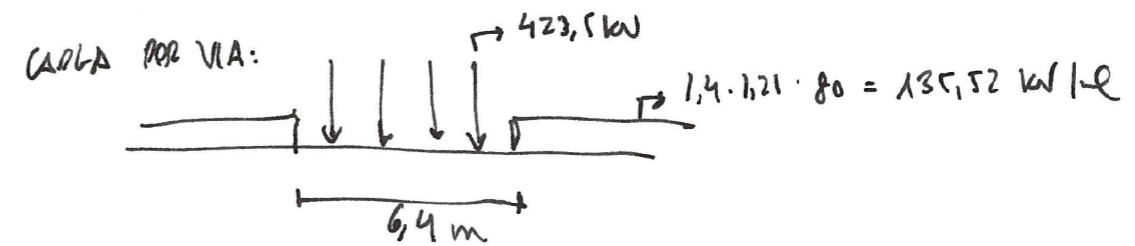
$$\text{Uniforme: } - 53,8 \text{ kN/m} / 43,0 \text{ kN/m} \rightarrow 96,8 \text{ kN/m}$$

$$\text{Puntual: } - 4 \times 92,2 \text{ kN} \quad | \quad - 4 \times 148 \text{ kN}$$

$$- 4 \times 65,8 \text{ kN}$$

CARGAS ACCIDENTALES: DESCARRILAMIENTO

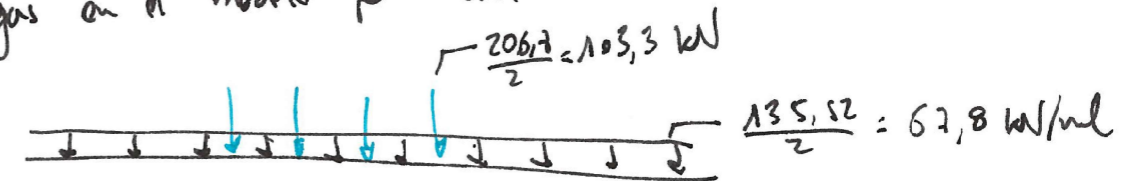
SITUACIÓN I: tren VIC71 $\times 1,4\alpha$ \rightarrow dividido en 2 carriles



En el modelo se simplifica prolongando la parte uniforme en la parte de cargas puntuales y se divide en los dos carriles:

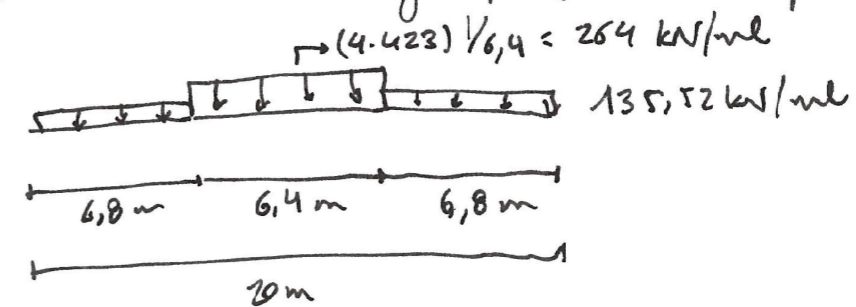
$$\text{CARGA PUNTUAL: } \frac{1}{4} (4 \cdot 423,5 - 6,4 \text{ m} \cdot 135,52) = 296,7 \text{ kN}$$

Cargas en el modelo por carril:



SITUACIÓN II: tren VIC71 $\times 1,4\alpha$ en una línea y 20 m

En el modelo las cargas puntuales se reparten en los 6,4 m.



MODELO DE EMPARRILLADO PLANO:

LOSA DE SECCIÓN CANTO VARIABLE.

COEFICIENTE DE IMPACTO:

- ESFUERZOS LONGITUDINALES A LA LOSA: 1,037.

RETRACCIÓN: 0,367 MM/M

FLUENCIA: T0 = 14 DIAS: 1,3

CARGAS SEGÚN EC.

TRÁFICO NO PESADO.

PRETENSADO CON LÍNEAS GUIA

SISMO SEGÚN EC8:

- PUENTE DE IMPORTANCIA ESPECIAL

- TERRENO TIPO C

- PARAMETROS SEGÚN AN NACIONAL

AJUSTE DE RIGIDEZ DE APOYOS SEGÚN TERRENO

MODELO CON PARÁMETROS DE PRETENSADO:

- Rmin 8m

- DNvaina 130mm

- Cuña 6mm

- k = 0,006 rad/m

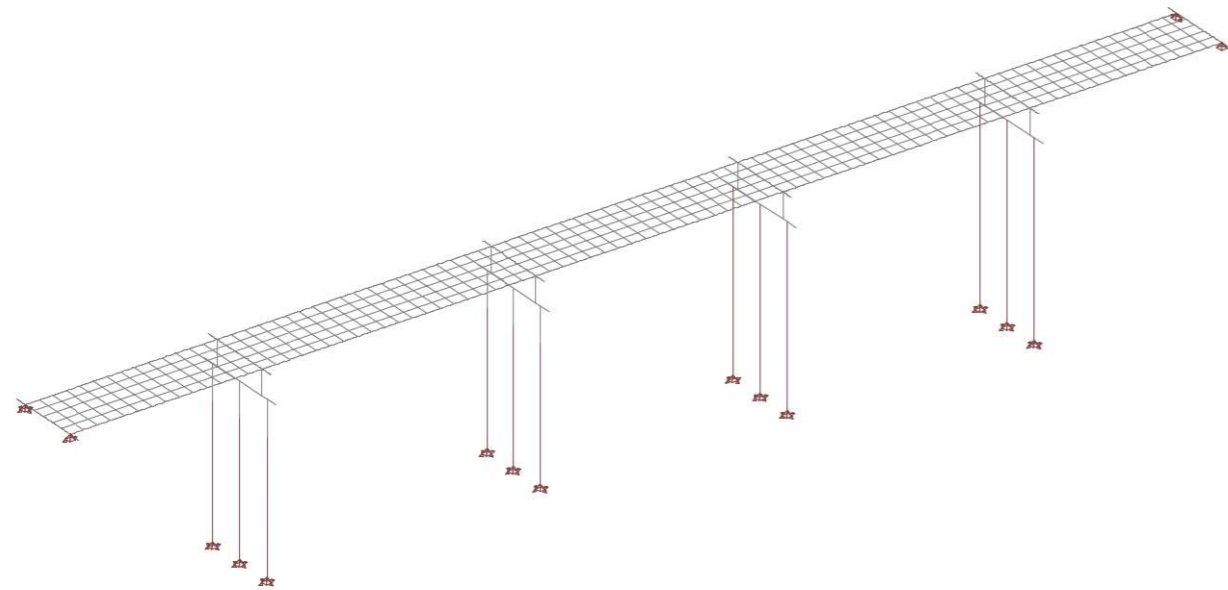
- Coef roz = 0,19 rad^-1

- Long. Recta 1,5m

- FONDO DE ENCOFRADO DE LOSA PLANO: 5CM DE MEDIA EN 8M DE ANCHO

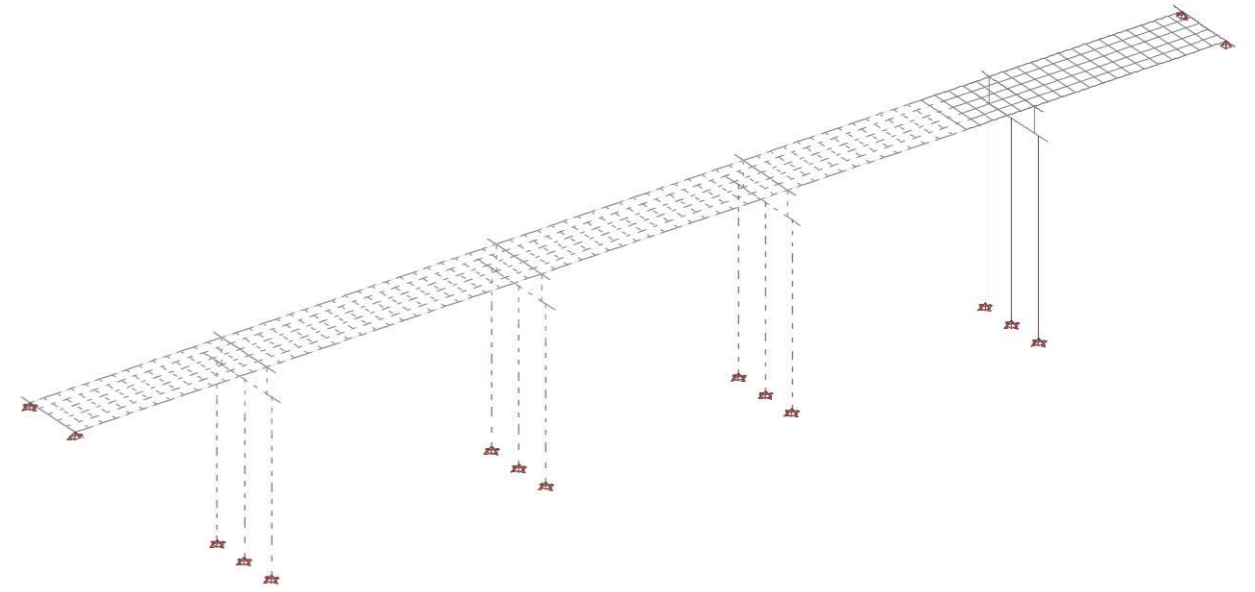
- POTS SEGUN MK4 (E2 ALINEADO CON ESTRIBO)

Structure
Construction
stage:
Grundzustand

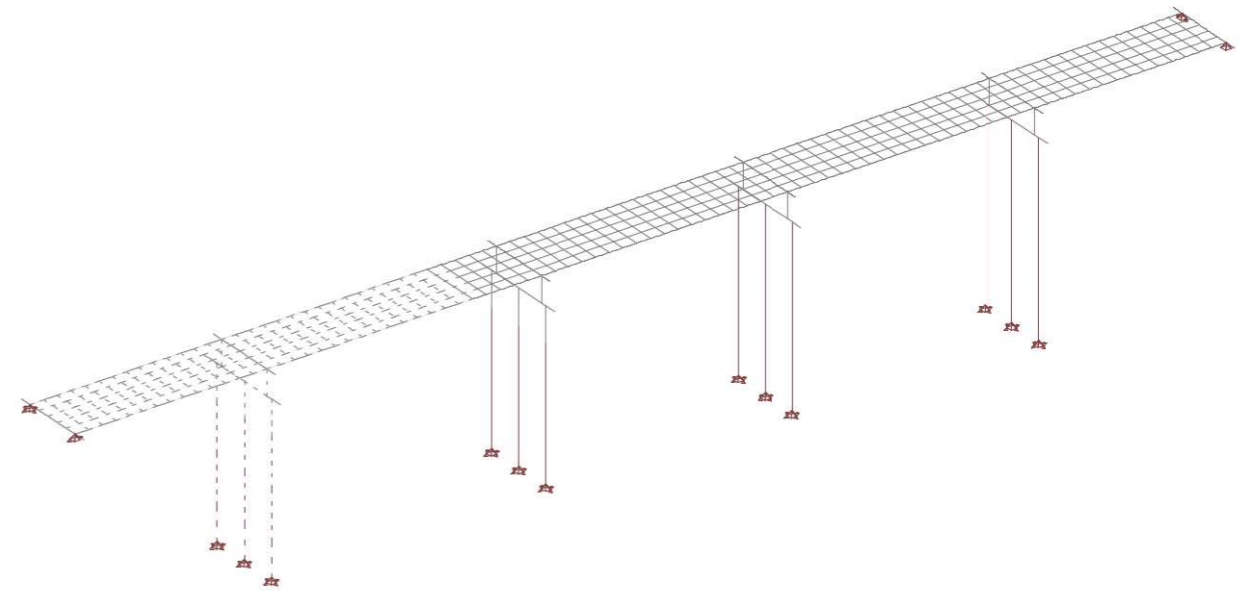


Nr.:

Structure
Construction
stage:
LLOSA-F1

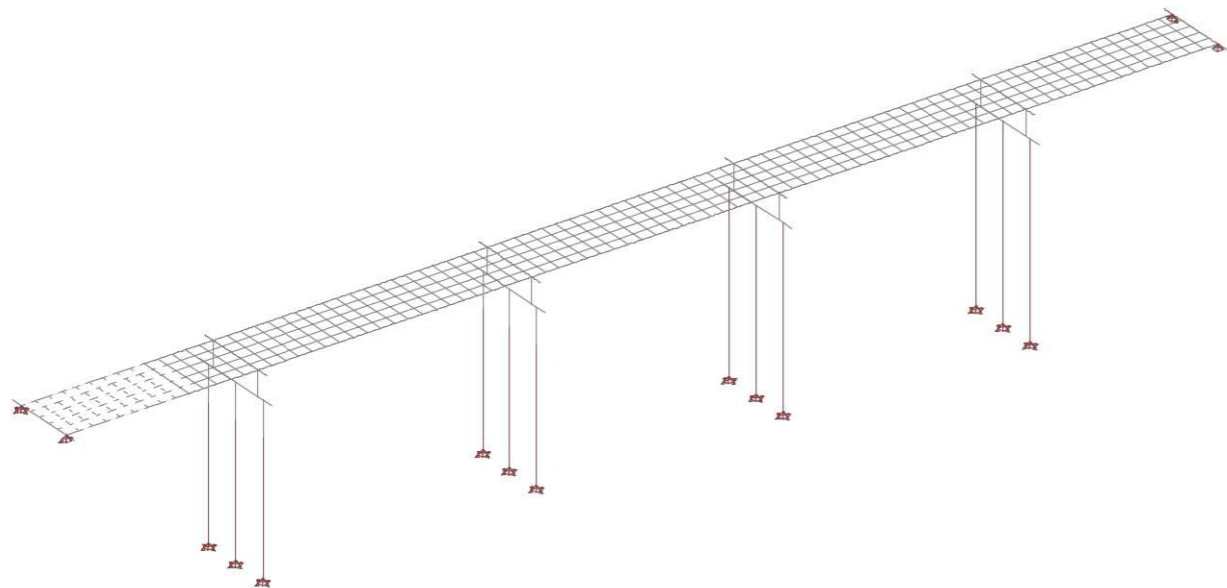


Structure
Construction
stage:
LLOSA-F3

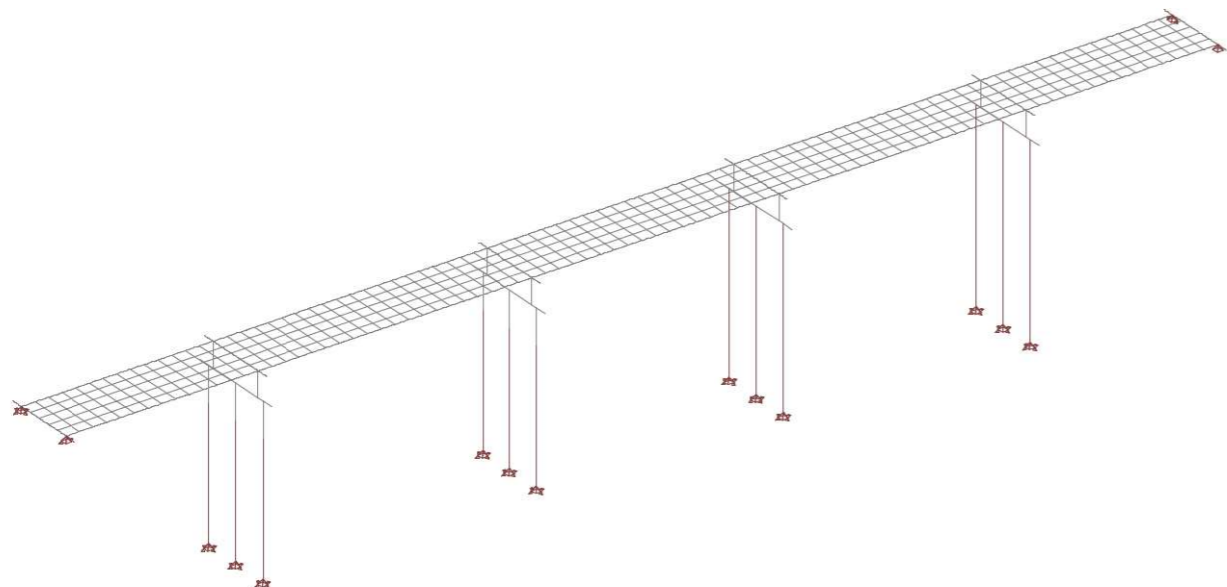


Nr.:

Structure
Construction
stage:
LLOSA-F4

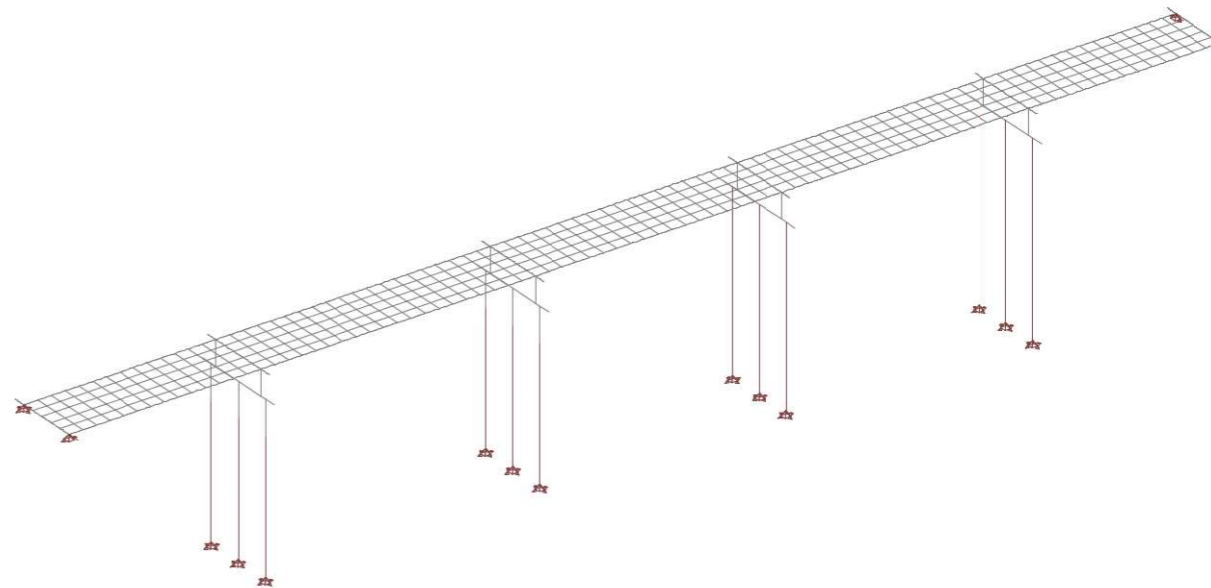


Structure
Construction
stage:
LLOSA-F5

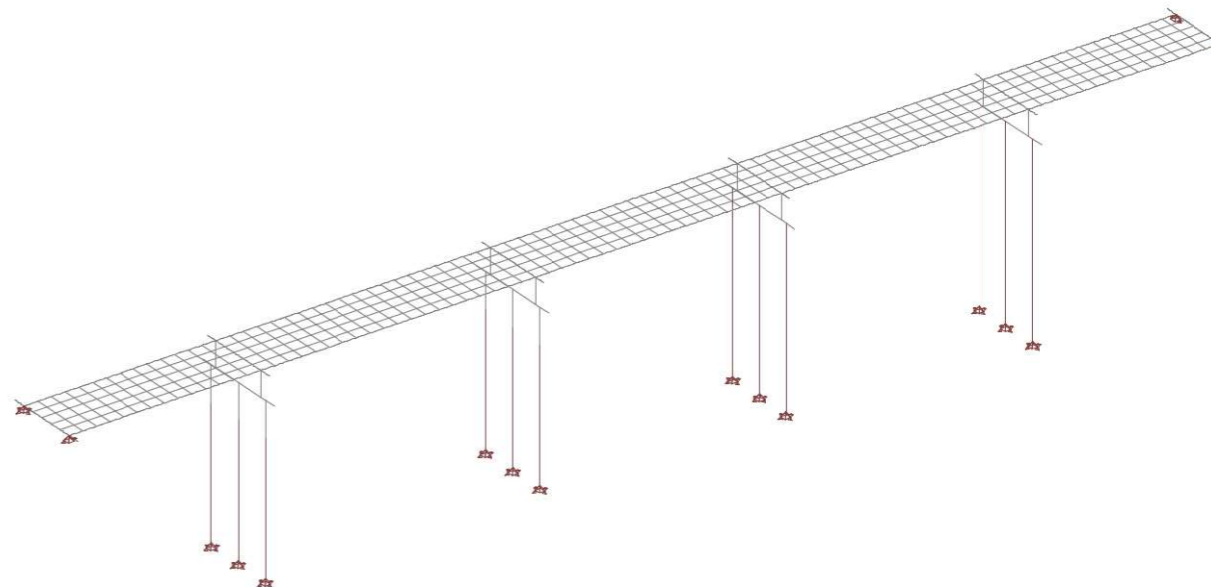


Nr.:

Structure
Construction
stage:
SERVICIO
T=0



Structure
Construction
stage:
SERVICIO
T=INF



Nr.:

STRUCTURE 3D (Construction stage: SERVICIO T=0)

NODE DATA (Stage 'SERVICIO T=0')

Id	X [m]	Coordinates			Supports						Specialties
		Y [m]	Z [m]		DX	DY	DZ	RX	RY	RZ	
K_1	-4,25	0	0			E	E				F
K_2	-3,22	10,00	-0,00				E				F
K_3	67,90	-0,99	-27,40				E				F
K_4	26,63	10,99	-27,40				E				F
K_5	68,51	5,00	-27,40				E				F
K_6	69,13	10,99	-27,40				E				F
K_8	106,15	-0,99	-28,80				E				F
K_10	106,76	5,00	-28,80				E				F
K_11	174,25	0	0	E	E	E					F
K_12	175,28	10,00	-0,00		E	E					O F
K_13	26,01	5,00	-27,40				E				F
K_15	25,40	-0,99	-27,40				E				F
K_16	107,38	10,99	-28,80				E				F
K_17	144,40	-0,99	-30,60				E				F
K_18	145,01	5,00	-30,60				E				F
K_20	145,63	10,99	-30,60				E				F
!1	25,40	-0,99	-22,60								
!2	67,90	-0,99	-22,60								
!3	26,01	5,00	-22,60								
!4	68,51	5,00	-22,60								
!5	26,63	10,99	-22,60								
!6	69,13	10,99	-22,60								
!7	106,15	-0,99	-21,60								
!8	144,40	-0,99	-21,60								
!9	106,76	5,00	-21,60								
!10	145,01	5,00	-21,60								
!11	107,38	10,99	-21,60								
!12	145,63	10,99	-21,60								
!13	25,40	-0,99	-15,60								
!14	67,90	-0,99	-15,60								
!15	106,15	-0,99	-15,60								
!16	144,40	-0,99	-15,60								
!17	26,01	5,00	-15,60								
!18	68,51	5,00	-15,60								
!19	106,76	5,00	-15,60								
!20	145,01	5,00	-15,60								
!21	26,63	10,99	-15,60								
!22	69,13	10,99	-15,60								
!23	107,38	10,99	-15,60								
!24	145,63	10,99	-15,60								
!25	25,40	-0,99	-8,60								
!26	67,90	-0,99	-8,60								
!27	106,15	-0,99	-8,60								
!28	144,40	-0,99	-8,60								
!29	26,01	5,00	-8,60								
!30	68,51	5,00	-8,60								
!31	106,76	5,00	-8,60								
!32	145,01	5,00	-8,60								
!33	26,63	10,99	-8,60								
!34	69,13	10,99	-8,60								
!35	107,38	10,99	-8,60								
!36	145,63	10,99	-8,60								
!37	26,83	12,97	-3,60								
!38	69,33	12,97	-3,60								
!39	107,58	12,97	-3,60								
!40	145,83	12,97	-3,60								
!41	25,40	-0,99	-3,60								
!42	67,90	-0,99	-3,60								
!43	106,15	-0,99	-3,60								
!44	144,40	-0,99	-3,60								
!45	25,50	0	-3,60								
!46	68,00	0	-3,60								
!47	106,25	0	-3,60								
!48	144,50	0	-3,60								
!49	26,01	5,00	-3,60								
!50	68,51	5,00	-3,60								
!51	106,76	5,00	-3,60								
!52	145,01	5,00	-3,60								
!53	26,53	10,00	-3,60								
!54	69,03	10,00	-3,60								

Nr.:

Id	X [m]	Coordinates			Supports						Specialties
		Y [m]	Z [m]		DX	DY	DZ	RX	RY	RZ	
!55	107,28	10,00	-3,60								
!56	145,53	10,00	-3,60								
!57	26,63	10,99	-3,60								
!58	69,13	10,99	-3,60								
!59	107,38	10,99	-3,60								
!60	145,63	10,99	-3,60								
!61	25,19	-2,97	-3,60								
!62	67,69	-2,97	-3,60								
!63	105,94	-2,97	-3,60								
!64	144,19	-2,97	-3,60								
!65	-4,45	-1,88	0								
!66	25,30	-1,88	0								
!67	67,80	-1,88	0								
!68	106,05	-1,88	0								
!69	144,30	-1,88	0								
!70	174,05	-1,88	0								
!71	25,50	0	0								
!72	68,00	0	0								
!73	106,25	0	0								
!74	144,50	0	0								
!75	-4,04	2,00	0								
!76	0,21	2,00	0								
!77	2,33	2,00	0								
!78	4,46	2,00	0								
!79	6,58	2,00	0								
!80	8,71	2,00	0								
!81	10,83	2,00	0								
!82	12,96	2,00	0								
!83	17,21	2,00	0								
!84	19,33	2,00	0								
!85	21,46	2,00	0								
!86	25,71	2,00	0								
!87	29,96	2,00	0								
!88	32,08	2,00	0								
!89	34,21	2,00	0								
!90	36,33	2,00	0								
!91	38,46	2,00	0								
!92	40,58	2,00	0								
!93	42,71	2,00	0								
!94	44,83	2,00	0								
!95	46,96	2,00	0								
!96	49,08	2,00	0								
!97	51,21	2,00	0								
!98	53,33	2,00	0								
!99	55,46	2,00	0								
!100	59,71	2,00	0								
!101	61,83	2,00	0								
!102	63,96	2,00	0								
!103	68,21	2,00	0								
!104	72,46	2,00	0								
!105	76,71	2,00	0								
!106	78,83	2,00	0								
!107	80,96	2,00	0								
!108	83,08	2,00	0								
!109	85,21	2,00	0								
!110	87,33	2,00	0								
!111	89,46	2,00	0								
!112	91,58	2,00	0								
!113	93,71	2,00	0								
!114	97,96	2,00	0								
!115	100,08	2,00	0								
!116	102,21	2,00	0								
!117	106,46	2,00	0								
!118	110,71	2,00	0								
!119	112,83	2,00	0								
!120	114,96	2,00	0								
!121	117,08	2,00	0								
!122	119,21	2,00	0								
!123	121,33	2,00	0								
!124	123,46	2,00	0								
!125	125,58	2,00	0								
!126	127,71	2,00	0								
!127	129,83	2,00	0								
!128	131,96	2,00	0								
!129	136,21	2,00	0								

Nr.:

Id	X [m]	Coordinates			Supports						Specialties
		Y [m]	Z [m]		DX	DY	DZ	RX	RY	RZ	
!130	138,33	2,00	0								
!131	140,46	2,00	0								
!132	144,71	2,00	0								
!133	148,96	2,00	0								
!134	151,08	2,00	0								
!135	153,21	2,00	0								
!136	155,33	2,00	0								
!137	157,46	2,00	0								
!138	159,58	2,00	0								
!139	161,71	2,00	0								
!140	163,83	2,00	0								
!141	165,96	2,00	0								
!142	168,08	2,00	0								
!143	170,21	2,00	0								
!144	174,46	2,00	0								
!145	-3,84	4,00	0								
!146	0,41	4,00	0								
!147	2,54	4,00	0								
!148	4,66	4,00	0								
!149	6,79	4,00	0								
!150	8,91	4,00	0								
!151	11,04	4,00	0								
!152	13,16	4,00	0								
!153	17,41	4,00	0								
!154	19,54	4,00	0								
!155	21,66	4,00	0								
!156	25,91	4,00	0								
!157	30,16	4,00	0								
!158	32,29	4,00	0								
!159	34,41	4,00	0								
!160	36,54	4,00	0								
!161	38,66	4,00	0								
!162	40,79	4,00	0								
!163	42,91	4,00	0								
!164	45,04	4,00	0								
!165	47,16	4,00	0								
!166	49,29	4,00	0								
!167	51,41	4,00	0								
!168	53,54	4,00	0								
!169	55,66	4,00	0								
!170	59,91	4,00	0								
!171	62,04	4,00	0								
!172	64,16	4,00	0								
!173	68,41	4,00	0								
!174	72,66	4,00	0								
!175	76,91	4,00	0								
!176	79,04	4,00	0								
!177	81,16	4,00	0								
!178	83,29	4,00	0								
!179	85,41	4,00	0								
!180	87,54	4,00	0								
!181	89,66	4,00	0								
!182	91,79	4,00	0								
!183	93,91	4,00	0								
!184	98,16	4,00	0								
!185	100,29	4,00	0								
!186	102,41	4,00	0								
!187	106,66	4,00	0								
!188	110,91	4,00	0								
!189	113,04	4,00	0								
!190	115,16	4,00	0								
!191	117,29	4,00	0								
!192	119,41	4,00	0								
!193	121,54	4,00	0								
!194	123,66	4,00	0								
!195	125,79	4,00	0								
!196	127,91	4,00	0								
!197	130,04	4,00	0								
!198	132,16	4,00	0								
!199	136,41	4,00	0								
!200	138,54	4,00	0								
!201	140,66	4,00	0								
!202	144,91	4,00	0								
!203	149,16	4,00	0								
!204	151,29	4,00	0								

Nr.:

Id	X [m]	Coordinates			Supports						Specialties
		Y [m]	Z [m]		DX	DY	DZ	RX	RY	RZ	
!205	153,41	4,00	0								
!206	155,54	4,00	0								
!207	157,66	4,00	0								
!208	159,79	4,00	0								
!209	161,91	4,00	0								
!210	164,04	4,00	0								
!211	166,16	4,00	0								
!212	168,29	4,00	0								
!213	170,41	4,00	0								
!214	174,66	4,00	0								
!215	-3,63	6,00	0								
!216	0,62	6,00	0								
!217	2,74	6,00	0								
!218	4,87	6,00	0								
!219	6,99	6,00	0								
!220	9,12	6,00	0								
!221	11,24	6,00	0								
!222	13,37	6,00	0								
!223	17,62	6,00	0								
!224	19,74	6,00	0								
!225	21,87	6,00	0								
!226	26,12	6,00	0								
!227	30,37	6,00	0								
!228	32,49	6,00	0								
!229	34,62	6,00	0								
!230	36,74	6,00	0								
!231	38,87	6,00	0								
!232	40,99	6,00	0								
!233	43,12	6,00	0								
!234	45,24	6,00	0								
!235	47,37	6,00	0								
!236	49,49	6,00	0								
!237	51,62	6,00	0								
!238	53,74	6,00	0								
!239	55,87	6,00	0								
!240	60,12	6,00	0								
!241	62,24	6,00	0								
!242	64,37	6,00	0								
!243	68,62	6,00	0								
!244	72,87	6,00	0								
!245	77,12	6,00	0								
!246	79,24	6,00	0								
!247	81,37	6,00	0								
!248	83,49	6,00	0								
!249	85,62	6,00	0								
!250	87,74	6,00	0								
!251	89,87	6,00	0								
!252	91,99	6,00	0								
!253	94,12	6,00	0								
!254	98,37	6,00	0								
!255	100,49	6,00	0								
!256	102,62	6,00	0								
!257	106,87	6,00	0								
!258	111,12	6,00	0								
!259	113,24	6,00	0								
!260	115,37	6,00	0								
!261	117,49	6,00	0								
!262	119,62	6,00	0								
!263	121,74	6,00	0								
!264	123,87	6,00	0								
!265	125,99	6,00	0								
!266	128,12	6,00	0								
!267	130,24	6,00	0								
!268	132,37	6,00	0								
!269	136,62	6,00	0								
!270	138,74	6,00	0								
!271	140,87	6,00	0								
!272	145,12	6,00	0								
!273	149,37	6,00	0								
!274	151,49	6,00	0								
!275	153,62	6,00	0								
!276	155,74	6,00	0								
!277	157,87	6,00	0								
!278	159,99	6,00	0								
!279	162,12	6,00	0								

Nr.:

Id	X [m]	Coordinates			Supports						Specialties
		Y [m]	Z [m]		DX	DY	DZ	RX	RY	RZ	
!280	164,24	6,00	0								
!281	166,37	6,00	0								
!282	168,49	6,00	0								
!283	170,62	6,00	0								
!284	174,87	6,00	0								
!285	-3,43	8,00	0								
!286	0,82	8,00	0								
!287	2,95	8,00	0								
!288	5,07	8,00	0								
!289	7,20	8,00	0								
!290	9,32	8,00	0								
!291	11,45	8,00	0								
!292	13,57	8,00	0								
!293	17,82	8,00	0								
!294	19,95	8,00	0								
!295	22,07	8,00	0								
!296	26,32	8,00	0								
!297	30,57	8,00	0								
!298	32,70	8,00	0								
!299	34,82	8,00	0								
!300	36,95	8,00	0								
!301	39,07	8,00	0								
!302	41,20	8,00	0								
!303	43,32	8,00	0								
!304	45,45	8,00	0								
!305	47,57	8,00	0								
!306	49,70	8,00	0								
!307	51,82	8,00	0								
!308	53,95	8,00	0								
!309	56,07	8,00	0								
!310	60,32	8,00	0								
!311	62,45	8,00	0								
!312	64,57	8,00	0								
!313	68,82	8,00	0								
!314	73,07	8,00	0								
!315	77,32	8,00	0								
!316	79,45	8,00	0								
!317	81,57	8,00	0								
!318	83,70	8,00	0								
!319	85,82	8,00	0								
!320	87,95	8,00	0								
!321	90,07	8,00	0								
!322	92,20	8,00	0								
!323	94,32	8,00	0								
!324	98,57	8,00	0								
!325	100,70	8,00	0								
!326	102,82	8,00	0								
!327	107,07	8,00	0								
!328	111,32	8,00	0								
!329	113,45	8,00	0								
!330	115,57	8,00	0								
!331	117,70	8,00	0								
!332	119,82	8,00	0								
!333	121,95	8,00	0								
!334	124,07	8,00	0								
!335	126,20	8,00	0								
!336	128,32	8,00	0								
!337	130,45	8,00	0								
!338	132,57	8,00	0								
!339	136,82	8,00	0								
!340	138,95	8,00	0								
!341	141,07	8,00	0								
!342	145,32	8,00	0								
!343	149,57	8,00	0								
!344	151,70	8,00	0								
!345	153,82	8,00	0								
!346	155,95	8,00	0								
!347	158,07	8,00	0								
!348	160,20	8,00	0								
!349	162,32	8,00	0								
!350	164,45	8,00	0								
!351	166,57	8,00	0								
!352	168,70	8,00	0								
!353	170,82	8,00	0								
!354	175,07	8,00	0								

Nr.:

Id	X [m]	Coordinates			Supports						Specialties
		Y [m]	Z [m]		DX	DY	DZ	RX	RY	RZ	
!355	-1,10	10,00	0								
!356	1,03	10,00	0								
!357	3,15	10,00	0								
!358	5,28	10,00	0								
!359	7,40	10,00	0								
!360	9,53	10,00	0								
!361	11,65	10,00	0								
!362	13,78	10,00	0								
!363	15,90	10,00	0								
!364	18,03	10,00	0								
!365	20,15	10,00	0								
!366	22,28	10,00	0								
!367	24,40	10,00	0								
!368	26,53	10,00	0								
!369	28,65	10,00	0								
!370	30,78	10,00	0								
!371	32,90	10,00	0								
!372	35,03	10,00	0								
!373	37,15	10,00	0								
!374	39,28	10,00	0								
!375	41,40	10,00	0								
!376	43,53	10,00	0								
!377	45,65	10,00	0								
!378	47,78	10,00	0								
!379	49,90	10,00	0								
!380	52,03	10,00	0								
!381	54,15	10,00	0								
!382	56,28	10,00	0								
!383	58,40	10,00	0								
!384	60,53	10,00	0								
!385	62,65	10,00	0								
!386	64,78	10,00	0								
!387	66,90	10,00	0								
!388	69,03	10,00	0								
!389	71,15	10,00	0								
!390	73,28	10,00	0								
!391	75,40	10,00	0								
!392	77,53	10,00	0								
!393	79,65	10,00	0								
!394	81,78	10,00	0								
!395	83,90	10,00	0								
!396	86,03	10,00	0								
!397	88,15	10,00	0								
!398	90,28	10,00	0								
!399	92,40	10,00	0								
!400	94,53	10,00	0								
!401	96,65	10,00	0								
!402	98,78	10,00	0								
!403	100,90	10,00	0								
!404	103,03	10,00	0								
!405	105,15	10,00	0								
!406	107,28	10,00	0								
!407	109,40	10,00	0								
!408	111,53	10,00	0								
!409	113,65	10,00	0								
!410	115,78	10,00	0								
!411	117,90	10,00	0								
!412	120,03	10,00	0								
!413	122,15	10,00	0								
!414	124,28	10,00	0								
!415	126,40	10,00	0								
!416	128,53	10,00	0								
!417	130,65	10,00	0								
!418	132,78	10,00	0								
!419	134,90	10,00	0								
!420	137,03	10,00	0								
!421	139,15	10,00	0								
!422	141,28	10,00	0								
!423	143,40	10,00	0								
!424	145,53	10,00	0								
!425	147,65	10,00	0								
!426	149,78	10,00	0								
!427	151,90	10,00	0								
!428	154,03	10,00	0								
!429	156,15	10,00	0								

Nr.:

Id	X [m]	Coordinates			Supports						Specialties
		Y [m]	Z [m]		DX	DY	DZ	RX	RY	RZ	
!430	158,28	10,00	0								
!431	160,40	10,00	0								
!432	162,53	10,00	0								
!433	164,65	10,00	0								
!434	166,78	10,00	0								
!435	168,90	10,00	0								
!436	171,03	10,00	0								
!437	173,15	10,00	0								
!438	-3,02	11,88	0								
!439	26,73	11,88	0								
!440	69,23	11,88	0								
!441	107,48	11,88	0								
!442	145,73	11,88	0								
!443	175,48	11,88	0								
!444	-1,30	8,00	0,00								
!445	15,70	8,00	0,00								
!446	24,20	8,00	0,00								
!447	28,45	8,00	0,00								
!448	58,20	8,00	0,00								
!449	66,70	8,00	0,00								
!450	70,95	8,00	0,00								
!451	75,20	8,00	0,00								
!452	96,45	8,00	0,00								
!453	104,95	8,00	0,00								
!454	109,20	8,00	0,00								
!455	134,70	8,00	0,00								
!456	143,20	8,00	0,00								
!457	147,45	8,00	0,00								
!458	172,95	8,00	0,00								
!459	-1,51	6,00	0,00								
!460	15,49	6,00	0,00								
!461	23,99	6,00	0,00								
!462	28,24	6,00	0,00								
!463	57,99	6,00	0,00								
!464	66,49	6,00	0,00								
!465	70,74	6,00	0,00								
!466	74,99	6,00	0,00								
!467	96,24	6,00	0,00								
!468	104,74	6,00	0,00								
!469	108,99	6,00	0,00								
!470	134,49	6,00	0,00								
!471	142,99	6,00	0,00								
!472	147,24	6,00	0,00								
!473	172,74	6,00	0,00								
!474	-1,71	4,00	0,00								
!475	15,29	4,00	0,00								
!476	23,79	4,00	0,00								
!477	28,04	4,00	0,00								
!478	57,79	4,00	0,00								
!479	66,29	4,00	0,00								
!480	70,54	4,00	0,00								
!481	74,79	4,00	0,00								
!482	96,04	4,00	0,00								
!483	104,54	4,00	0,00								
!484	108,79	4,00	0,00								
!485	134,29	4,00	0,00								
!486	142,79	4,00	0,00								
!487	147,04	4,00	0,00								
!488	172,54	4,00	0,00								
!489	-1,92	2,00	0,00								
!490	15,08	2,00	0,00								
!491	23,58	2,00	0,00								
!492	27,83	2,00	0,00								
!493	57,58	2,00	0,00								
!494	66,08	2,00	0,00								
!495	70,33	2,00	0,00								
!496	74,58	2,00	0,00								
!497	95,83	2,00	0,00								
!498	104,33	2,00	0,00								
!499	108,58	2,00	0,00								
!500	134,08	2,00	0,00								
!501	142,58	2,00	0,00								
!502	146,83	2,00	0,00								
!503	172,33	2,00	0,00								
!504	-2,13	0	0,00								

Nr.:

Id	X [m]	Coordinates			Supports						Specialties
		Y [m]	Z [m]		DX	DY	DZ	RX	RY	RZ	
!505	-0,00	0	0,00								
!506	2,12	0	0,00								
!507	4,25	0	0,00								
!508	6,37	0	0,00								
!509	8,50	0	0,00								
!510	10,62	0	0,00								
!511	12,75	0	0,00								
!512	14,87	0	0,00								
!513	17,00	0	0,00								
!514	19,12	0	0,00								
!515	21,25	0	0,00								
!516	23,37	0	0,00								
!517	27,62	0	0,00								
!518	29,75	0	0,00								
!519	31,87	0	0,00								
!520	34,00	0	0,00								
!521	36,12	0	0,00								
!522	38,25	0	0,00								
!523	40,37	0	0,00								
!524	42,50	0	0,00								
!525	44,62	0	0,00								
!526	46,75	0	0,00								
!527	48,87	0	0,00								
!528	51,00	0	0,00								
!529	53,12	0	0,00								
!530	55,25	0	0,00								
!531	57,37	0	0,00								
!532	59,50	0	0,00								
!533	61,62	0	0,00								
!534	63,75	0	0,00								
!535	65,87	0	0,00								
!536	70,12	0	0,00								
!537	72,25	0	0,00								
!538	74,37	0	0,00								
!539	76,50	0	0,00								
!540	78,62	0	0,00								
!541	80,75	0	0,00								
!542	82,87	0	0,00								
!543	85,00	0	0,00								
!544	87,12	0	0,00								
!545	89,25	0	0,00								
!546	91,37	0	0,00								
!547	93,50	0	0,00								
!548	95,62	0	0,00								
!549	97,75	0	0,00								
!550	99,87	0	0,00								
!551	102,00	0	0,00								
!552	104,12	0	0,00								
!553	108,37	0	0,00								
!554	110,50	0	0,00								
!555	112,62	0	0,00								
!556	114,75	0	0,00								
!557	116,87	0	0,00								
!558	119,00	0	0,00								
!559	121,12	0	0,00								
!560	123,25	0	0,00								
!561	125,37	0	0,00								
!562	127,50	0	0,00								
!563	129,62	0	0,00								
!564	131,75	0	0,00								
!565	133,87	0	0,00								
!566	136,00	0	0,00								
!567	138,12	0	0,00								
!568	140,25	0	0,00								
!569	142,37	0	0,00								
!570	146,62	0	0,00								
!571	148,75	0	0,00								
!572	150,87	0	0,00								
!573	153,00	0	0,00								
!574	155,12	0	0,00								
!575	157,25	0	0,00								
!576	159,37	0	0,00								
!577	161,50	0	0,00								
!578	163,62	0	0,00								
!579	165,75	0	0,00								

Nr.:

Id	Coordinates			Supports						Specialties
	X [m]	Y [m]	Z [m]	DX	DY	DZ	RX	RY	RZ	
!580	167,87	0	0,00							
!581	170,00	0	0,00							
!582	172,12	0	0,00							

B / E : Blocked / Elastically supported
O : Local coordinate system (s. table 'Oriented nodes')
F : Spring support (s. 'Nodes with elastic supports')

Oriented Nodes (Stage 'SERVICIO T=0')

Id	Type	X' direction			Type	X'Y' plane		
		X [m]	Y [m]	Z [m]		X [m]	Y [m]	Z [m]
K_12	Point	175,48	11,88	0	Point	173,15	10,00	0

Nodes with elastic supports

Id	DX [kN/m]	DY [kN/m]	DZ [kN/m]	RX [kNm]	RY [kNm]	RZ [kNm]
K_1		220000,000	860000,000			
K_2			860000,000			
K_3			500000,000			
K_4			500000,000			
K_5			500000,000			
K_6			500000,000			
K_8			500000,000			
K_10			500000,000			
K_11	450000,000	950000,000	965000,000			
K_12		450000,000	965000,000			
K_13			500000,000			
K_15			500000,000			
K_16			500000,000			
K_17			500000,000			
K_18			500000,000			
K_20			500000,000			

B : Blocked

BAR DATA (Stage 'SERVICIO T=0')

ID	Cross section Name>Variant	Nodes		Length [m]	Status	Specialties
		Beginning	End			
S_1	LOSA_B_01	!75	!76	4,25		O E S
S_2	LOSA_B_01	!145	!146	4,25		O E S
S_3	LOSA_E_01	!504	!355	10,05		O E S
S_4	LOSA_D_01	!506	!357	10,05		O E S
S_5	LOSA_B_01	!215	!216	4,25		O E S
S_6	LOSA_B_01	!285	!286	4,25		O E S
S_7	LOSA_D_01	!507	!358	10,05		O E S
S_8	LOSA_D_01	!505	!356	10,05		O E S
S_9	PILO-01	!1	K_15	4,80		B
S_10	PILO-01	!13	!1	7,00		B
S_11	PILO-01	!25	!13	7,00		B
S_12	LOSA_D_01	!508	!359	10,05		O E S
S_13	PILO-02	!41	!25	5,00		
S_14	PILA	!71	!45	3,60		G
S_15	LOSA_D_01	!509	!360	10,05		O E S
S_16	RIOSTRA-PILA	!45	!49	5,03		
S_17	RIOSTRA-PILA	!41	!45	1,00		
S_18	RIOSTRA-PILA	!53	!57	1,00		
S_19	PILO-01	!2	K_3	4,80		B
S_20	LOSA_D_01	!510	!361	10,05		O E S
S_21	PILO-01	!14	!2	7,00		B
S_22	PILO-01	!26	!14	7,00		B
S_23	LOSA_D_01	!511	!362	10,05		O E S
S_24	PILO-01	!3	K_13	4,80		B
S_25	PILO-01	!17	!3	7,00		B
S_26	PILO-01	!29	!17	7,00		B
S_27	PILO-02	!49	!29	5,00		
S_28	LOSA_D_01	!512	!363	10,05		O E S
S_29	RIOSTRA-PILA	!49	!53	5,03		
S_30	PILO-01	!5	K_4	4,80		B
S_31	LOSA_D_01	!513	!364	10,05		O E S
S_32	PILO-01	!21	!5	7,00		B
S_33	PILO-01	!33	!21	7,00		B

Nr.:

ID	Cross section Name>Variant	Nodes		Length [m]	Status	Specialties
		Beginning	End			
S_34	PILO-02	!57	!33	5,00		
S_35	PILA	!368	!53	3,60		G
S_36	LOSA_D_01	!514	!365	10,05		O E S
S_37	PILO-02	!42	!26	5,00		
S_38	RIOSTRA-PILA	!42	!46	1,00		
S_39	LOSA_D_01	!515	!366	10,05		O E S
S_40	PILO-01	!4	K_5	4,80		B
S_41	PILO-01	!18	!4	7,00		B
S_42	PILA	!72	!46	3,60		G
S_43	RIOSTRA-PILA	!46	!50	5,03		
S_44	LOSA_E_01S	!516	!367	10,05		O E S
S_45	PILO-01	!30	!18	7,00		B
S_46	PILO-02	!50	!30	5,00		
S_47	RIOSTRA-PILA	!54	!58	1,00		
S_48	PILO-01	!6	K_6	4,80		B
S_49	PILO-01	!22	!6	7,00		B
S_50	PILO-01	!34	!22	7,00		B
S_51	PILO-02	!58	!34	5,00		
S_52	LOSA_E_01	!517	!369	10,05		O E S
S_53	RIOSTRA-PILA	!43	!47	1,00		
S_54	RIOSTRA-PILA	!47	!51	5,03		
S_55	LOSA_D_01	!518	!370	10,05		O E S
S_56	LOSA_B_01	!76	!78	4,25		O E S
S_57	LOSA_B_01	!78	!80	4,25		O E S
S_58	LOSA_B_01	!80	!82	4,25		O E S
S_59	LOSA_B_01	!82	!83	4,25		O E S
S_60	LOSA_D_01	!519	!371	10,05		O E S
S_61	LOSA_B_01	!83	!85	4,25		O E S
S_62	LOSA_B_01	!85	!86	4,25		O E S
S_63	LOSA_D_01	!520	!372	10,05		O E S
S_64	LOSA_B_01	!86	!87	4,25		O E S
S_65	LOSA_B_01	!87	!89	4,25		O E S
S_66	LOSA_B_01	!89	!91	4,25		O E S
S_67	LOSA_B_01	!91	!93	4,25		O E S
S_68	LOSA_D_01	!521	!373	10,05		O E S
S_69	LOSA_B_01	!93	!95	4,25		O E S
S_70	LOSA_B_01	!95	!97	4,25		O E S
S_71	LOSA_D_01	!522	!374	10,05		O E S
S_72	LOSA_B_01	!97	!99	4,25		O E S
S_73	LOSA_B_01	!99	!100	4,25		O E S
S_74	LOSA_B_01	!100	!102	4,25		O E S
S_75	LOSA_B_01	!102	!103	4,25		O E S
S_76	LOSA_D_01	!523	!375	10,05		O E S
S_77	LOSA_B_01	!103	!104	4,25		O E S
S_78	LOSA_B_01	!104	!105	4,25		O E S
S_79	LOSA_D_01	!524	!376	10,05		O E S
S_80	LOSA_B_01	!105	!107	4,25		O E S
S_81	LOSA_B_01	!107	!109	4,25		O E S
S_82	LOSA_B_01	!109	!111	4,25		O E S
S_83	LOSA_B_01	!111	!113	4,25		O E S
S_84	LOSA_D_01	!525	!377	10,05		O E S
S_85	LOSA_B_01	!113	!114	4,25		O E S
S_86	LOSA_B_01	!114	!116	4,25		O E S
S_87	LOSA_D_01	!526	!378	10,05		O E S
S_88	LOSA_B_01	!116	!117	4,25		O E S
S_89	LOSA_B_01	!117	!118	4,25		O E S
S_90	LOSA_B_01	!118	!120	4,25		O E S
S_91	LOSA_B_01	!120	!122	4,25		O E S
S_92	LOSA_D_01	!527	!379	10,05		O E S
S_93	LOSA_B_01	!122	!124	4,25		O E S
S_94	LOSA_B_01	!124	!126	4,25		O E S
S_95	LOSA_D_01	!528	!380	10,05		O E S
S_96	LOSA_B_01	!126	!128	4,25		O E S
S_97	LOSA_B_01	!128	!129	4,25		O E S
S_98	LOSA_B_01	!129	!131	4,25		O E S
S_99	LOSA_B_01	!131	!132	4,25		O E S
S_100	LOSA_D_01	!529	!381	10,05		O E S
S_101	LOSA_B_01	!132	!133	4,25		O E S
S_102	LOSA_B_01	!133	!135	4,25		O E S
S_103	LOSA_D_01	!530	!382	10,05		O E S
S_104	LOSA_B_01	!135	!137	4,25		O E S
S_105	LOSA_B_01	!137	!139	4,25		O E S
S_106	LOSA_B_01	!139	!141	4,25		O E S
S_107	LOSA_B_01	!141	!143	4,25		O E S
S_108	LOSA_D_01	!531	!383	10,05		O E S

Nr.:

ID	Cross section Name>Variant	Nodes		Length [m]	Status	Specialties
		Beginning	End			
S_109	LOSA_B_01	!143	!144	4,25		O E S
S_110	RIOSTRA-PILA	!50	!54	5,03		
S_111	LOSA_D_01	!532	!384	10,05		O E S
S_112	RIOSTRA-PILA	!51	!55	5,03		
S_113	RIOSTRA-PILA	!55	!59	1,00		
S_114	RIOSTRA-PILA	!44	!48	1,00		
S_115	RIOSTRA-PILA	!48	!52	5,03		
S_116	LOSA_D_01	!533	!385	10,05		O E S
S_117	PILA	!388	!54	3,60		G
S_118	PILO-01	!7	K_8	7,20		B
S_119	LOSA_D_01	!534	!386	10,05		O E S
S_120	PILO-01	!15	!7	6,00		B
S_121	PILO-01	!27	!15	7,00		B
S_122	PILO-02	!43	!27	5,00		B
S_123	PILA	!73	!47	3,60		G
S_124	LOSA_E_01S	!535	!387	10,05		O E S
S_125	RIOSTRA-PILA	!52	!56	5,03		
S_126	RIOSTRA-PILA	!56	!60	1,00		
S_127	RIOSTRA-PILA	!61	!41	1,99		
S_128	RIOSTRA-PILA	!57	!37	1,99		
S_129	RIOSTRA-PILA	!62	!42	1,99		
S_130	RIOSTRA-PILA	!58	!38	1,99		
S_131	PILO-01	!9	K_10	7,20		B
S_132	LOSA_E_01	!536	!389	10,05		O E S
S_133	PILO-01	!19	!9	6,00		B
S_134	PILO-01	!31	!19	7,00		B
S_135	LOSA_D_01	!537	!390	10,05		O E S
S_136	PILO-02	!51	!31	5,00		B
S_137	RIOSTRA-PILA	!63	!43	1,99		
S_138	PILO-01	!11	K_16	7,20		B
S_139	PILO-01	!23	!11	6,00		B
S_140	LOSA_D_01	!538	!391	10,05		O E S
S_141	PILO-01	!35	!23	7,00		B
S_142	PILO-02	!59	!35	5,00		B
S_143	LOSA_D_01	!539	!392	10,05		O E S
S_144	PILA	!406	!55	3,60		G
S_145	PILO-01	!8	K_17	9,00		B
S_146	PILO-01	!16	!8	6,00		B
S_147	PILO-01	!28	!16	7,00		B
S_148	LOSA_D_01	!540	!393	10,05		O E S
S_149	PILO-02	!44	!28	5,00		B
S_150	PILA	!74	!48	3,60		G
S_151	LOSA_D_01	!541	!394	10,05		O E S
S_152	RIOSTRA-PILA	!59	!39	1,99		
S_153	RIOSTRA-PILA	!64	!44	1,99		
S_154	RIOSTRA-PILA	!60	!40	1,99		
S_156	LOSA_D_01	!542	!395	10,05		O E S
S_159	LOSA_D_01	!543	!396	10,05		O E S
S_160	PILO-01	!10	K_18	9,00		B
S_161	PILO-01	!20	!10	6,00		B
S_162	PILO-01	!32	!20	7,00		B
S_163	PILO-02	!52	!32	5,00		B
S_164	LOSA_D_01	!544	!397	10,05		O E S
S_166	PILO-01	!12	K_20	9,00		B
S_167	LOSA_D_01	!545	!398	10,05		O E S
S_168	PILO-01	!24	!12	6,00		B
S_169	PILO-01	!36	!24	7,00		B
S_170	PILO-02	!60	!36	5,00		B
S_171	PILA	!424	!56	3,60		G
S_172	LOSA_D_01	!546	!399	10,05		O E S
S_175	LOSA_D_01	!547	!400	10,05		O E S
S_180	LOSA_D_01	!548	!401	10,05		O E S
S_183	LOSA_D_01	!549	!402	10,05		O E S
S_188	LOSA_D_01	!550	!403	10,05		O E S
S_191	LOSA_D_01	!551	!404	10,05		O E S
S_196	LOSA_E_01S	!552	!405	10,05		O E S
S_204	LOSA_E_01	!553	!407	10,05		O E S
S_207	LOSA_D_01	!554	!408	10,05		O E S
S_212	LOSA_D_01	!555	!409	10,05		O E S
S_215	LOSA_D_01	!556	!410	10,05		O E S
S_220	LOSA_D_01	!557	!411	10,05		O E S
S_223	LOSA_D_01	!558	!412	10,05		O E S
S_228	LOSA_D_01	!559	!413	10,05		O E S
S_231	LOSA_D_01	!560	!414	10,05		O E S
S_236	LOSA_D_01	!561	!415	10,05		O E S

Nr.:

ID	Cross section Name>Variant	Nodes		Length [m]	Status	Specialties
		Beginning	End			
S_239	LOSA_D_01	!562	!416	10,05		O E S
S_244	LOSA_D_01	!563	!417	10,05		O E S
S_247	LOSA_D_01	!564	!418	10,05		O E S
S_252	LOSA_D_01	!565	!419	10,05		O E S
S_255	LOSA_D_01	!566	!420	10,05		O E S
S_260	LOSA_D_01	!567	!421	10,05		O E S
S_263	LOSA_D_01	!568	!422	10,05		O E S
S_268	LOSA_E_01S	!569	!423	10,05		O E S
S_276	LOSA_E_01	!570	!425	10,05		O E S
S_279	LOSA_D_01	!571	!426	10,05		O E S
S_284	LOSA_D_01	!572	!427	10,05		O E S
S_287	LOSA_D_01	!573	!428	10,05		O E S
S_292	LOSA_D_01	!574	!429	10,05		O E S
S_295	LOSA_D_01	!575	!430	10,05		O E S
S_300	LOSA_D_01	!576	!431	10,05		O E S
S_303	LOSA_D_01	!577	!432	10,05		O E S
S_308	LOSA_D_01	!578	!433	10,05		O E S
S_311	LOSA_D_01	!579	!434	10,05		O E S
S_316	LOSA_D_01	!580	!435	10,05		O E S
S_319	LOSA_D_01	!581	!436	10,05		O E S
S_324	LOSA_E_01S	!582	!437	10,05		O E S
S_333	LOSA_B_01	!146	!148	4,25		O E S
S_335	LOSA_B_01	!216	!218	4,25		O E S
S_337	LOSA_B_01	!286	!288	4,25		O E S
S_341	LOSA_B_01	!148	!150	4,25		O E S
S_343	LOSA_B_01	!218	!220	4,25		O E S
S_345	LOSA_B_01	!288	!290	4,25		O E S
S_351	LOSA_B_01	!150	!152	4,25		O E S
S_353	LOSA_B_01	!220	!222	4,25		O E S
S_355	LOSA_B_01	!290	!292	4,25		O E S
S_361	LOSA_B_01	!152	!153	4,25		O E S
S_363	LOSA_B_01	!222	!223	4,25		O E S
S_365	LOSA_B_01	!292	!293	4,25		O E S
S_370	LOSA_B_01	!153	!155	4,25		O E S
S_371	LOSA_B_01	!223	!225	4,25		O E S
S_372	LOSA_B_01	!293	!295	4,25		O E S
S_377	LOSA_B_01	!155	!156	4,25		O E S
S_379	LOSA_B_01	!225	!226	4,25		O E S
S_381	LOSA_B_01	!295	!296	4,25		O E S
S_387	LOSA_B_01	!156	!157	4,25		O E S
S_389	LOSA_B_01	!226	!227	4,25		O E S
S_391	LOSA_B_01	!296	!297	4,25		O E S
S_397	LOSA_B_01	!157	!159	4,25		O E S
S_399	LOSA_B_01	!227	!229	4,25		O E S
S_401	LOSA_B_01	!297	!299	4,25		O E S
S_407	LOSA_B_01	!159	!161	4,25		O E S
S_409	LOSA_B_01	!229	!231	4,25		O E S
S_411	LOSA_B_01	!299	!301	4,25		O E S
S_415	LOSA_B_01	!161	!163	4,25		O E S
S_416	LOSA_B_01	!231	!233	4,25		O E S
S_417	LOSA_B_01	!301	!303	4,25		O E S
S_420	LOSA_B_01	!163	!165	4,25		O E S
S_421	LOSA_B_01	!233	!235	4,25		O E S
S_422	LOSA_B_01	!303	!305	4,25		O E S
S_425	LOSA_B_01	!165	!167	4,25		O E S
S_426	LOSA_B_01	!235	!237	4,25		O E S
S_427	LOSA_B_01	!305	!307	4,25		O E S
S_430	LOSA_B_01	!167	!169	4,25		O E S
S_431	LOSA_B_01	!237	!239	4,25		O E S
S_432	LOSA_B_01	!307	!309	4,25		O E S
S_435	LOSA_B_01	!169	!170	4,25		O E S
S_436	LOSA_B_01	!239	!240	4,25		O E S
S_437	LOSA_B_01	!309	!310	4,25		O E S
S_440	LOSA_B_01	!170	!172	4,25		O E S
S_441	LOSA_B_01	!240	!242	4,25		O E S
S_442	LOSA_B_01	!310	!312	4,25		O E S
S_445	LOSA_B_01	!172	!173	4,25		O E S
S_446	LOSA_B_01	!242	!243	4,25		O E S
S_447	LOSA_B_01	!312	!313	4,25		O E S
S_450	LOSA_B_01	!173	!174	4,25		O E S
S_451	LOSA_B_01	!243	!244	4,25		O E S
S_452	LOSA_B_01	!313	!314	4,25		O E S
S_455	LOSA_B_01	!174	!175	4,25		O E S
S_456	LOSA_B_01	!244	!245	4,25		O E S
S_457	LOSA_B_01	!314	!315	4,25		O E S

Nr.:

ID	Cross section Name>Variant	Nodes		Length [m]	Status	Specialties
		Beginning	End			
S_460	LOSA_B_01	!175	!177	4,25		O E S
S_461	LOSA_B_01	!245	!247	4,25		O E S
S_462	LOSA_B_01	!315	!317	4,25		O E S
S_465	LOSA_B_01	!177	!179	4,25		O E S
S_466	LOSA_B_01	!247	!249	4,25		O E S
S_467	LOSA_B_01	!317	!319	4,25		O E S
S_470	LOSA_B_01	!179	!181	4,25		O E S
S_471	LOSA_B_01	!249	!251	4,25		O E S
S_472	LOSA_B_01	!319	!321	4,25		O E S
S_475	LOSA_B_01	!181	!183	4,25		O E S
S_476	LOSA_B_01	!251	!253	4,25		O E S
S_477	LOSA_B_01	!321	!323	4,25		O E S
S_480	LOSA_B_01	!183	!184	4,25		O E S
S_481	LOSA_B_01	!253	!254	4,25		O E S
S_482	LOSA_B_01	!323	!324	4,25		O E S
S_485	LOSA_B_01	!184	!186	4,25		O E S
S_486	LOSA_B_01	!254	!256	4,25		O E S
S_487	LOSA_B_01	!324	!326	4,25		O E S
S_490	LOSA_B_01	!186	!187	4,25		O E S
S_491	LOSA_B_01	!256	!257	4,25		O E S
S_492	LOSA_B_01	!326	!327	4,25		O E S
S_495	LOSA_B_01	!187	!188	4,25		O E S
S_496	LOSA_B_01	!257	!258	4,25		O E S
S_497	LOSA_B_01	!327	!328	4,25		O E S
S_500	LOSA_B_01	!188	!190	4,25		O E S
S_501	LOSA_B_01	!258	!260	4,25		O E S
S_502	LOSA_B_01	!328	!330	4,25		O E S
S_505	LOSA_B_01	!190	!192	4,25		O E S
S_506	LOSA_B_01	!260	!262	4,25		O E S
S_507	LOSA_B_01	!330	!332	4,25		O E S
S_510	LOSA_B_01	!192	!194	4,25		O E S
S_511	LOSA_B_01	!262	!264	4,25		O E S
S_512	LOSA_B_01	!332	!334	4,25		O E S
S_515	LOSA_B_01	!194	!196	4,25		O E S
S_516	LOSA_B_01	!264	!266	4,25		O E S
S_517	LOSA_B_01	!334	!336	4,25		O E S
S_520	LOSA_B_01	!196	!198	4,25		O E S
S_521	LOSA_B_01	!266	!268	4,25		O E S
S_522	LOSA_B_01	!336	!338	4,25		O E S
S_525	LOSA_B_01	!198	!199	4,25		O E S
S_526	LOSA_B_01	!268	!269	4,25		O E S
S_527	LOSA_B_01	!338	!339	4,25		O E S
S_530	LOSA_B_01	!199	!201	4,25		O E S
S_531	LOSA_B_01	!269	!271	4,25		O E S
S_532	LOSA_B_01	!339	!341	4,25		O E S
S_535	LOSA_B_01	!201	!202	4,25		O E S
S_536	LOSA_B_01	!271	!272	4,25		O E S
S_537	LOSA_B_01	!341	!342	4,25		O E S
S_540	LOSA_B_01	!202	!203	4,25		O E S
S_541	LOSA_B_01	!272	!273	4,25		O E S
S_542	LOSA_B_01	!342	!343	4,25		O E S
S_545	LOSA_B_01	!203	!205	4,25		O E S
S_546	LOSA_B_01	!273	!275	4,25		O E S
S_547	LOSA_B_01	!343	!345	4,25		O E S
S_550	LOSA_B_01	!205	!207	4,25		O E S
S_551	LOSA_B_01	!275	!277	4,25		O E S
S_552	LOSA_B_01	!345	!347	4,25		O E S
S_555	LOSA_B_01	!207	!209	4,25		O E S
S_556	LOSA_B_01	!277	!279	4,25		O E S
S_557	LOSA_B_01	!347	!349	4,25		O E S
S_560	LOSA_B_01	!209	!211	4,25		O E S
S_561	LOSA_B_01	!279	!281	4,25		O E S
S_562	LOSA_B_01	!349	!351	4,25		O E S
S_565	LOSA_B_01	!211	!213	4,25		O E S
S_566	LOSA_B_01	!281	!283	4,25		O E S
S_567	LOSA_B_01	!351	!353	4,25		O E S
S_570	LOSA_B_01	!213	!214	4,25		O E S
S_571	LOSA_B_01	!283	!284	4,25		O E S
S_572	LOSA_B_01	!353	!354	4,25		O E S

Nr.:

O : Special case, local coordinate system (s. table 'Oriented members')
E : Eccentrically connected to node (s. table 'Members with eccentric connections')
S : Stiffness of cross section will be overwritten (s. table 'Members with overwritten stiffness')
G : Hinges (except truss elements) (s. table 'Members with hinges')
B : Elastic bedding (s. table 'Elastically bedded members')

List of parts with base material C2 (Stage 'SERVICIO T=0')

SctName / (SctName2)	Area [m ²]	Perimeter [m]	Length [m]	Numb.	Ltot [m]	Surface [m ²]	Mass [t]
LOSA_A_01	3,6656	10,02	var		68,00	681,36	623,16
by length:			2,12	3			
			2,13	29			
LOSA_A_02	5,1185	11,97	2,13	8	17,00	203,50	217,54
LOSA_A_03	3,7497	10,24	2,13	8	17,00	174,03	159,36
LOSA_A_04	3,9173	10,67	2,13	8	17,00	181,39	166,49
LOSA_A_05	4,0855	11,10	var		17,00	188,76	173,63
by length:			2,12	1			
			2,13	7			
LOSA_A_06	4,2531	11,54	var		17,00	196,13	180,76
by length:			2,12	1			
			2,13	7			
LOSA_A_01B	3,6656	10,02	2,13	8	17,00	170,34	155,79
LOSA_A_01BS	3,6656	10,02	2,13	8	17,00	170,34	155,79
LOSA_A_01C	3,6656	10,02	2,13	4	8,50	85,17	77,89
LOSA_A_01CS	3,6656	10,02	2,13	4	8,50	85,17	77,89
LOSA_A_01S	3,6656	10,02	var		68,00	681,36	623,16
by length:			2,12	5			
			2,13	27			
LOSA_A_02S	5,1185	11,97	var		17,00	203,50	217,54
by length:			2,12	4			
			2,13	4			
LOSA_A_03S	3,7497	10,24	2,13	8	17,00	174,03	159,36
LOSA_A_04S	3,9173	10,67	var		17,00	181,39	166,49
by length:			2,12	2			
			2,13	6			
LOSA_A_05S	4,0855	11,10	var		17,00	188,76	173,63
by length:			2,12	2			
			2,13	6			
LOSA_A_06S	4,2531	11,54	var		17,00	196,13	180,76
by length:			2,12	3			
			2,13	5			
LOSA_B_01	0,5000	4,50	4,25	168	714,00	3213,00	892,50
LOSA_C_01	1,7000	5,70	var		83,00	473,12	352,76
by length:			1,89	12			
			2,01	30			
LOSA_D_01	0,8313	5,95	10,05	69	693,64	4127,14	1441,47
LOSA_E_01	1,3188	5,95	10,05	5	50,26	299,07	165,71
LOSA_E_01S	1,3188	5,95	10,05	5	50,26	299,07	165,71
Total						12172,76	6527,39

List of parts with base material CC (Stage 'SERVICIO T=0')

SctName / (SctName2)	Area [m ²]	Perimeter [m]	Length [m]	Numb.	Ltot [m]	Surface [m ²]	Mass [t]
PILA	2,5459	5,65	3,60	8	28,80	162,86	183,30
RIOSTRA-PILA	5,0000	9,00	var		64,12	577,11	801,54
by length:			1,00	8			
			1,99	8			
			5,03	8			
Total						739,97	984,85

List of parts with base material CP (Stage 'SERVICIO T=0')

SctName / (SctName2)	Area [m ²]	Perimeter [m]	Length [m]	Numb.	Ltot [m]	Surface [m ²]	Mass [t]
PILO-01	2,7184	5,84	var		239,40	1398,90	1626,97
by length:			4,80	6			
			6,00	6			
			7,00	18			
			7,20	3			
			9,00	3			
PILO-02	2,7184	5,84	5,00	12	60,00	350,60	407,76
Total						1749,50	2034,73

Nr.:

STRUCTURE LINE SEGMENT DATA (Stage 'SERVICIO T=0')

ID	Nodes		Cross section Name>Variant	Length [m]	L tot [m]	No.Mmbr	Status	Spec.
	Beginning	End						
SL1_0	K_1	!504	LOSA_A_01	2,12	2,12	1	S	S
SL1_1	!504	!505	LOSA_A_01	2,12	4,25	1	S	S
SL1_2	!505	!506	LOSA_A_01	2,12	6,37	1	S	S
SL1_3	!506	!507	LOSA_A_01	2,13	8,50	1	S	S
SL1_4	!507	!508	LOSA_A_01	2,13	10,62	1	S	S
SL1_5	!508	!509	LOSA_A_01	2,13	12,75	1	S	S
SL1_6	!509	!510	LOSA_A_01	2,12	14,87	1	S	S
SL1_7	!510	!511	LOSA_A_01	2,13	17,00	1	S	S
SL1_8	!511	!512	LOSA_A_01	2,13	19,12	1	S	S
SL1_9	!512	!513	LOSA_A_03	2,13	21,25	1	S	S
SL1_10	!513	!514	LOSA_A_04	2,13	23,37	1	S	S
SL1_11	!514	!515	LOSA_A_05	2,13	25,50	1	S	S
SL1_12	!515	!516	LOSA_A_06	2,13	27,62	1	S	S
SL1_13	!516	!71	LOSA_A_02	2,13	29,75	1	S	S
SL1_14	!71	!517	LOSA_A_02	2,13	31,87	1	S	S
SL1_15	!517	!518	LOSA_A_06	2,13	34,00	1	S	S
SL1_16	!518	!519	LOSA_A_05	2,13	36,12	1	S	S
SL1_17	!519	!520	LOSA_A_04	2,13	38,25	1	S	S
SL1_18	!520	!521	LOSA_A_03	2,13	40,37	1	S	S
SL1_19	!521	!522	LOSA_A_01	2,13	42,50	1	S	S
SL1_20	!522	!523	LOSA_A_01	2,13	44,62	1	S	S
SL1_21	!523	!524	LOSA_A_01	2,13	46,75	1	S	S
SL1_22	!524	!525	LOSA_A_01	2,13	48,87	1	S	S
SL1_23	!525	!526	LOSA_A_01	2,13	51,00	1	S	S
SL1_24	!526	!527	LOSA_A_01	2,13	53,12	1	S	S
SL1_25	!527	!528	LOSA_A_01	2,13	55,25	1	S	S
SL1_26	!528	!529	LOSA_A_01	2,13	57,37	1	S	S
SL1_27	!529	!530	LOSA_A_01	2,13	59,50	1	S	S
SL1_28	!530	!531	LOSA_A_01	2,13	61,62	1	S	S
SL1_29	!531	!532	LOSA_A_03	2,13	63,75	1	S	S
SL1_30	!532	!533	LOSA_A_04	2,13	65,87	1	S	S
SL1_31	!533	!534	LOSA_A_05	2,13	68,00	1	S	S
SL1_32	!534	!535	LOSA_A_06	2,13	70,12	1	S	S
SL1_33	!535	!72	LOSA_A_02	2,13	72,25	1	S	S
SL1_34	!72	!536	LOSA_A_02	2,13	74,37	1	S	S
SL1_35	!536	!537	LOSA_A_06	2,13	76,50	1	S	S
SL1_36	!537	!538	LOSA_A_05	2,13	78,62	1	S	S
SL1_37	!538	!539	LOSA_A_04	2,13	80,75	1	S	S
SL1_38	!539	!540	LOSA_A_03	2,13	82,87	1	S	S
SL1_39	!540	!541	LOSA_A_01B	2,13	85,00	1	S	S
SL1_40	!541	!542	LOSA_A_01B	2,13	87,12	1	S	S
SL1_41	!542	!543	LOSA_A_01B	2,13	89,25	1	S	S
SL1_42	!543	!544	LOSA_A_01B	2,13	91,37	1	S	S
SL1_43	!544	!545	LOSA_A_01B	2,13	93,50	1	S	S
SL1_44	!545	!546	LOSA_A_01B	2,13	95,62	1	S	S
SL1_45	!546	!547	LOSA_A_01B	2,13	97,75	1	S	S
SL1_46	!547	!548	LOSA_A_01B	2,13	99,87	1	S	S
SL1_47	!548	!549	LOSA_A_03	2,13	102,00	1	S	S
SL1_48	!549	!550	LOSA_A_04	2,13	104,12	1	S	S
SL1_49	!550	!551	LOSA_A_05	2,12	106,25	1	S	S
SL1_50	!551	!552	LOSA_A_06	2,12	108,37	1	S	S
SL1_51	!552	!73	LOSA_A_02	2,12	110,50	1	S	S
SL1_52	!73	!553	LOSA_A_02	2,12	112,62	1	S	S
SL1_53	!553	!554	LOSA_A_06	2,12	114,75	1	S	S
SL1_54	!554	!555	LOSA_A_05	2,12	116,87	1	S	S
SL1_55	!555	!556	LOSA_A_04	2,12	119,00	1	S	S
SL1_56	!556	!557	LOSA_A_03	2,12	121,12	1	S	S
SL1_57	!557	!558	LOSA_A_01	2,12	123,25	1	S	S
SL1_58	!558	!559	LOSA_A_01	2,12	125,37	1	S	S
SL1_59	!559	!560	LOSA_A_01	2,12	127,50	1	S	S
SL1_60	!560	!561	LOSA_A_01	2,13	129,62	1	S	S
SL1_61	!561	!562	LOSA_A_01	2,13	131,75	1	S	S
SL1_62	!562	!563	LOSA_A_01	2,13	133,87	1	S	S
SL1_63	!563	!564	LOSA_A_01	2,13	136,00	1	S	S
SL1_64	!564	!565	LOSA_A_01	2,13	138,12	1	S	S
SL1_65	!565	!566	LOSA_A_03	2,13	140,25	1	S	S
SL1_66	!566	!567	LOSA_A_04	2,13	142,37	1	S	S
SL1_67	!567	!568	LOSA_A_05	2,13	144,50	1	S	S
SL1_68	!568	!569	LOSA_A_06	2,13	146,62	1	S	S
SL1_69	!569	!74	LOSA_A_02	2,13	148,75	1	S	S
SL1_70	!74	!570	LOSA_A_02	2,13	150,87	1	S	S
SL1_71	!570	!571	LOSA_A_06	2,13	153,00	1	S	S
SL1_72	!571	!572	LOSA_A_05	2,13	155,12	1	S	S
SL1_73	!572	!573	LOSA_A_04	2,13	157,25	1	S	S
SL1_74	!573	!574	LOSA_A_03	2,13	159,37	1	S	S

Nr.:

ID	Nodes		Cross section Name>Variant	Length [m]	L tot [m]	No.Mmbr	Status	Spec.
	Beginning	End						
SL1_75	!574	!575	LOSA_A_01C	2,13	161,50	1	S	S
SL1_76	!575	!576	LOSA_A_01C	2,13	163,62	1	S	S
SL1_77	!576	!577	LOSA_A_01C	2,13	165,75	1	S	S
SL1_78	!577	!578	LOSA_A_01C	2,13	167,87	1	S	S
SL1_79	!578	!579	LOSA_A_01	2,13	170,00	1	S	S
SL1_80	!579	!580	LOSA_A_01	2,13	172,12	1	S	S
SL1_81	!580	!581	LOSA_A_01	2,13	174,25	1	S	S
SL1_82	!581	!582	LOSA_A_01	2,13	176,37	1	S	S
SL1_83	!582	K_11	LOSA_A_01	2,13	178,50	1	S	S
SL2_0	K_2	!355	LOSA_A_01S	2,12	2,12	1	S	S
SL2_1	!355	!356	LOSA_A_01S	2,13	4,25	1	S	S
SL2_2	!356	!357	LOSA_A_01S	2,12	6,37	1	S	S
SL2_3	!357	!358	LOSA_A_01S	2,13	8,50	1	S	S
SL2_4	!358	!359	LOSA_A_01S	2,13	10,62	1	S	S
SL2_5	!359	!360	LOSA_A_01S	2,13	12,75	1	S	S
SL2_6	!360	!361	LOSA_A_01S	2,12	14,87	1	S	S
SL2_7	!361	!362	LOSA_A_01S	2,12	17,00	1	S	S
SL2_8	!362	!363	LOSA_A_01S	2,12	19,12	1	S	S
SL2_9	!363	!364	LOSA_A_03S	2,13	21,25	1	S	S
SL2_10	!364	!365	LOSA_A_04S	2,13	23,37	1	S	S
SL2_11	!365	!366	LOSA_A_05S	2,13	25,50	1	S	S
SL2_12	!366	!367	LOSA_A_06S	2,13	27,62	1	S	S
SL2_13	!367	!368	LOSA_A_02S	2,13	29,75	1	S	S
SL2_14	!368	!369	LOSA_A_02S	2,12	31,87	1	S	S
SL2_15	!369	!370	LOSA_A_06S	2,13	34,00	1	S	S
SL2_16	!370	!371	LOSA_A_05S	2,13	36,12	1	S	S
SL2_17	!371	!372	LOSA_A_04S	2,13	38,25	1	S	S
SL2_18	!372	!373	LOSA_A_03S	2,13	40,37	1	S	S
SL2_19	!373	!374	LOSA_A_01S	2,13	42,50	1	S	S
SL2_20	!374	!375	LOSA_A_01S	2,13	44,62	1	S	S
SL2_21	!375	!376	LOSA_A_01S	2,13	46,75	1	S	S
SL2_22	!376	!377	LOSA_A_01S	2,13	48,87	1	S	S
SL2_23	!377	!378	LOSA_A_01S	2,13	51,00	1	S	S
SL2_24	!378	!379	LOSA_A_01S	2,13	53,12	1	S	S
SL2_25	!379	!380	LOSA_A_01S	2,13	55,25	1	S	S
SL2_26	!380	!381	LOSA_A_01S	2,13	57,37	1	S	S
SL2_27	!381	!382	LOSA_A_01S	2,13	59,50	1	S	S
SL2_28	!382	!383	LOSA_A_01S	2,13	61,62	1	S	S
SL2_29	!383	!384	LOSA_A_03S	2,13	63,75	1	S	S
SL2_30	!384	!385	LOSA_A_04S	2,12	65,87	1	S	S
SL2_31	!385	!386	LOSA_A_05S	2,12	68,00	1	S	S
SL2_32	!386	!387	LOSA_A_06S	2,13	70,12	1	S	S
SL2_33	!387	!388	LOSA_A_02S	2,13	72,25	1	S	S
SL2_34	!388	!389	LOSA_A_02S	2,12	74,37	1	S	S
SL2_35	!389	!390	LOSA_A_06S	2,13	76,50	1	S	S
SL2_36	!390	!391	LOSA_A_05S	2,13	78,62	1	S	S
SL2_37	!391	!392	LOSA_A_04S	2,13	80,75	1	S	S
SL2_38	!392	!393	LOSA_A_03S	2,13	82,87	1	S	S
SL2_39	!393	!394	LOSA_A_01BS	2,13	85,00	1	S	S
SL2_40	!394	!395	LOSA_A_01BS	2,13	87,12	1	S	S
SL2_41	!395	!396	LOSA_A_01BS	2,13	89,25	1	S	S
SL2_42	!396	!397	LOSA_A_01BS	2,13	91,37	1	S	S
SL2_43	!397	!398	LOSA_A_01BS	2,13	93,50	1	S	S
SL2_44	!398	!399	LOSA_A_01BS	2,13	95,62	1	S	S
SL2_45	!399	!400	LOSA_A_01BS	2,13	97,75	1	S	S
SL2_46	!400	!401	LOSA_A_01BS	2,13	99,87	1	S	S
SL2_47	!401	!402	LOSA_A_03S	2,13	102,00	1	S	S
SL2_48	!402	!403	LOSA_A_04S	2,12	104,12	1	S	S
SL2_49	!403	!404	LOSA_A_05S	2,12	106,25	1	S	S
SL2_50	!404	!405	LOSA_A_06S	2,12	108,37	1	S	S
SL2_51	!405	!406	LOSA_A_02S	2,13	110,50	1	S	S
SL2_52	!406	!407	LOSA_A_02S	2,12	112,62	1	S	S
SL2_53	!407	!408	LOSA_A_06S	2,12	114,75	1	S	S
SL2_54	!408	!409	LOSA_A_05S	2,12	116,87	1	S	S
SL2_55	!409	!410	LOSA_A_04S	2,12	119,00	1	S	S
SL2_56	!410	!411	LOSA_A_03S	2,12	121,12	1	S	S
SL2_57	!411	!412	LOSA_A_01S	2,12	123,25	1	S	S
SL2_58	!412	!413	LOSA_A_01S	2,12	125,37	1	S	S
SL2_59	!413	!414	LOSA_A_01S	2,12	127,50	1	S	S
SL2_60	!414	!415	LOSA_A_01S	2,13	129,62	1	S	S
SL2_61	!415	!416	LOSA_A_01S	2,12	131,			

ID	Nodes		Cross section Name>Variant	Length [m]	L tot [m]	No.Mmbr	Status	Spec.
	Beginning	End						
SL2_68	!422	!423	LOSA_A_06S	2,12	146,62	1		S
SL2_69	!423	!424	LOSA_A_02S	2,13	148,75	1		S
SL2_70	!424	!425	LOSA_A_02S	2,12	150,87	1		S
SL2_71	!425	!426	LOSA_A_06S	2,12	153,00	1		S
SL2_72	!426	!427	LOSA_A_05S	2,12	155,12	1		S
SL2_73	!427	!428	LOSA_A_04S	2,12	157,25	1		S
SL2_74	!428	!429	LOSA_A_03S	2,12	159,37	1		S
SL2_75	!429	!430	LOSA_A_01CS	2,12	161,50	1		S
SL2_76	!430	!431	LOSA_A_01CS	2,12	163,62	1		S
SL2_77	!431	!432	LOSA_A_01CS	2,12	165,75	1		S
SL2_78	!432	!433	LOSA_A_01CS	2,12	167,87	1		S
SL2_79	!433	!434	LOSA_A_01S	2,12	170,00	1		S
SL2_80	!434	!435	LOSA_A_01S	2,12	172,12	1		S
SL2_81	!435	!436	LOSA_A_01S	2,12	174,25	1		S
SL2_82	!436	!437	LOSA_A_01S	2,12	176,37	1		S
SL2_83	!437	K_12	LOSA_A_01S	2,13	178,50	1		S
SL_T-E1_0	!65	K_1	LOSA_C_01	1,89	1,89	1		
SL_T-E1_1	K_1	!75	LOSA_C_01	2,01	3,90	1		
SL_T-E1_2	!75	!145	LOSA_C_01	2,01	5,91	1		
SL_T-E1_3	!145	!215	LOSA_C_01	2,01	7,92	1		
SL_T-E1_4	!215	!285	LOSA_C_01	2,01	9,93	1		
SL_T-E1_5	!285	K_2	LOSA_C_01	2,01	11,94	1		
SL_T-E1_6	K_2	!438	LOSA_C_01	1,89	13,83	1		
SL_T-E2_0	!70	K_11	LOSA_C_01	1,89	15,72	1		
SL_T-E2_1	K_11	!144	LOSA_C_01	2,01	17,74	1		
SL_T-E2_2	!144	!214	LOSA_C_01	2,01	19,75	1		
SL_T-E2_3	!214	!284	LOSA_C_01	2,01	21,76	1		
SL_T-E2_4	!284	!354	LOSA_C_01	2,01	23,77	1		
SL_T-E2_5	!354	K_12	LOSA_C_01	2,01	25,78	1		
SL_T-E2_6	K_12	!443	LOSA_C_01	1,89	27,67	1		
SL_T-P1_0	!66	!71	LOSA_C_01	1,89	29,56	1		
SL_T-P1_1	!71	!86	LOSA_C_01	2,01	31,57	1		
SL_T-P1_2	!86	!156	LOSA_C_01	2,01	33,58	1		
SL_T-P1_3	!156	!226	LOSA_C_01	2,01	35,59	1		
SL_T-P1_4	!226	!296	LOSA_C_01	2,01	37,60	1		
SL_T-P1_5	!296	!368	LOSA_C_01	2,01	39,61	1		
SL_T-P1_6	!368	!439	LOSA_C_01	1,89	41,50	1		
SL_T-P2_0	!67	!72	LOSA_C_01	1,89	43,39	1		
SL_T-P2_1	!72	!103	LOSA_C_01	2,01	45,40	1		
SL_T-P2_2	!103	!173	LOSA_C_01	2,01	47,41	1		
SL_T-P2_3	!173	!243	LOSA_C_01	2,01	49,42	1		
SL_T-P2_4	!243	!313	LOSA_C_01	2,01	51,43	1		
SL_T-P2_5	!313	!388	LOSA_C_01	2,01	53,44	1		
SL_T-P2_6	!388	!440	LOSA_C_01	1,89	55,34	1		
SL_T-P3_0	!68	!73	LOSA_C_01	1,89	57,23	1		
SL_T-P3_1	!73	!117	LOSA_C_01	2,01	59,24	1		
SL_T-P3_2	!117	!187	LOSA_C_01	2,01	61,25	1		
SL_T-P3_3	!187	!257	LOSA_C_01	2,01	63,26	1		
SL_T-P3_4	!257	!327	LOSA_C_01	2,01	65,27	1		
SL_T-P3_5	!327	!406	LOSA_C_01	2,01	67,28	1		
SL_T-P3_6	!406	!441	LOSA_C_01	1,89	69,17	1		
SL_T-P4_0	!69	!74	LOSA_C_01	1,89	71,06	1		
SL_T-P4_1	!74	!132	LOSA_C_01	2,01	73,07	1		
SL_T-P4_2	!132	!202	LOSA_C_01	2,01	75,08	1		
SL_T-P4_3	!202	!272	LOSA_C_01	2,01	77,09	1		
SL_T-P4_4	!272	!342	LOSA_C_01	2,01	79,10	1		
SL_T-P4_5	!342	!424	LOSA_C_01	2,01	81,11	1		
SL_T-P4_6	!424	!442	LOSA_C_01	1,89	83,00	1		

S : Stiffness of cross section will be overwritten (s. table 'Members with overwritten stiffness')

Oriented members (Stage 'SERVICIO T=0')

ID (*SL-Abschn.)	α [°]	Type	XY plane		
			X [m]	Y [m]	Z [m]
S_1	0				
S_2	0				
S_3	0				
S_4	0				
S_5	0				
S_6	0				
S_7	0				
S_8	0				
S_12	0				
S_15	0				

Nr.:

ID (*SL-Abschn.)	α [°]	Type	XY plane		
			X [m]	Y [m]	Z [m]
S_20	0				
S_23	0				
S_28	0				
S_31	0				
S_36	0				
S_39	0				
S_44	0				
S_52	0				
S_55	0				
S_56	0				
S_57	0				
S_58	0				
S_59	0				
S_60	0				
S_61	0				
S_62	0				
S_63	0				
S_64	0				
S_65	0				
S_66	0				
S_67	0				
S_68	0				
S_69	0				
S_70	0				
S_71	0				
S_72	0				
S_73	0				
S_74	0				
S_75	0				
S_76	0				
S_77	0				
S_78	0				
S_79	0				
S_80	0				
S_81	0				
S_82	0				
S_83	0				
S_84	0				
S_85	0				
S_86	0				
S_87	0				
S_88	0				
S_89	0				
S_90	0				
S_91	0				
S_92	0				
S_93	0				
S_94	0				
S_95	0				
S_96	0				
S_97	0				
S_98	0				
S_99	0				
S_100	0				
S_101	0				
S_102	0				
S_103	0				
S_104	0				
S_105	0				
S_106	0				
S_107	0				
S_108	0				
S_109	0				
S_111	0				
S_116	0				
S_119	0				
S_124	0				
S_132	0				
S_135	0				
S_140	0				
S_143	0				
S_148	0				
S_151	0				
S_156	0				

Nr.:

ID (*SL-Abschn.)	α [°]	Type	XY plane		
			X [m]	Y [m]	Z [m]
S_159	0				
S_164	0				
S_167	0				
S_172	0				
S_175	0				
S_180	0				
S_183	0				
S_188	0				
S_191	0				
S_196	0				
S_204	0				
S_207	0				
S_212	0				
S_215	0				
S_220	0				
S_223	0				
S_228	0				
S_231	0				
S_236	0				
S_239	0				
S_244	0				
S_247	0				
S_252	0				
S_255	0				
S_260	0				
S_263	0				
S_268	0				
S_276	0				
S_279	0				
S_284	0				
S_287	0				
S_292	0				
S_295	0				
S_300	0				
S_303	0				
S_308	0				
S_311	0				
S_316	0				
S_319	0				
S_324	0				
S_333	0				
S_335	0				
S_337	0				
S_341	0				
S_343	0				
S_345	0				
S_351	0				
S_353	0				
S_355	0				
S_361	0				
S_363	0				
S_365	0				
S_370	0				
S_371	0				
S_372	0				
S_377	0				
S_379	0				
S_381	0				
S_387	0				
S_389	0				
S_391	0				
S_397	0				
S_399	0				
S_401	0				
S_407	0				
S_409	0				
S_411	0				
S_415	0				
S_416	0				
S_417	0				
S_420	0				
S_421	0				
S_422	0				

Nr.:

ID (*SL-Abschn.)	α [°]	Type	XY plane		
			X [m]	Y [m]	Z [m]
S_425	0				
S_426	0				
S_427	0				
S_430	0				
S_431	0				
S_432	0				
S_435	0				
S_436	0				
S_437	0				
S_440	0				
S_441	0				
S_442	0				
S_445	0				
S_446	0				
S_447	0				
S_450	0				
S_451	0				
S_452	0				
S_455	0				
S_456	0				
S_457	0				
S_460	0				
S_461	0				
S_462	0				
S_465	0				
S_466	0				
S_467	0				
S_470	0				
S_471	0				
S_472	0				
S_475	0				
S_476	0				
S_477	0				
S_480	0				
S_481	0				
S_482	0				
S_485	0				
S_486	0				
S_487	0				
S_490	0				
S_491	0				
S_492	0				
S_495	0				
S_496	0				
S_497	0				
S_500	0				
S_501	0				
S_502	0				
S_505	0				
S_506	0				
S_507	0				
S_510	0				
S_511	0				
S_512	0				
S_515	0				
S_516	0				
S_517	0				
S_520	0				
S_521	0				
S_522	0				
S_525	0				
S_526	0				
S_527	0				
S_530	0				
S_531	0				
S_532	0				
S_535	0				
S_536	0				
S_537	0				
S_540	0				
S_541	0				
S_542	0				
S_545	0				

Nr.:

ID (*SL-Abschn.)	α [°]	Type	XY plane		
			X [m]	Y [m]	Z [m]
S_546	0				
S_547	0				
S_550	0				
S_551	0				
S_552	0				
S_555	0				
S_556	0				
S_557	0				
S_560	0				
S_561	0				
S_562	0				
S_565	0				
S_566	0				
S_567	0				
S_570	0				
S_571	0				
S_572	0				

Members with eccentric connections (Stage 'SERVICIO T=0')

ID (*SL-Abschn.)	Type	Beginning			End		
		X [m]	Y [m]	Z [m]	X [m]	Y [m]	Z [m]
S_1	Local A Global	0	0	0	0	0	0
S_2	Local A Global	0	0	0	0	0	0
S_3	Local A Global	0	0	0	0	0	0
S_4	Local A Global	0	0	0	0	0	0
S_5	Local A Global	0	0	0	0	0	0
S_6	Local A Global	0	0	0	0	0	0
S_7	Local A Global	0	0	0	0	0	0
S_8	Local A Global	0	0	0	0	0	0
S_12	Local A Global	0	0	0	0	0	0
S_15	Local A Global	0	0	0	0	0	0
S_20	Local A Global	0	0	0	0	0	0
S_23	Local A Global	0	0	0	0	0	0
S_28	Local A Global	0	0	0	0	0	0
S_31	Local A Global	0	0	0	0	0	0
S_36	Local A Global	0	0	0	0	0	0
S_39	Local A Global	0	0	0	0	0	0
S_44	Local A Global	0	0	0	0	0	0
S_52	Local A Global	0	0	0	0	0	0
S_55	Local A Global	0	0	0	0	0	0
S_56	Local A Global	0	0	0	0	0	0
S_57	Local A Global	0	0	0	0	0	0
S_58	Local A Global	0	0	0	0	0	0
S_59	Local A	0	0	0	0	0	0

Nr.:

ID (*SL-Abschn.)	Type	X [m]	Beginning			End		
			Y [m]	Z [m]	X [m]	Y [m]	Z [m]	
S_60	Global Local A	0	0	0	0	0	0	
S_61	Local A Global	0	0	0	0	0	0	
S_62	Local A Global	0	0	0	0	0	0	
S_63	Local A Global	0	0	0	0	0	0	
S_64	Local A Global	0	0	0	0	0	0	
S_65	Local A Global	0	0	0	0	0	0	
S_66	Local A Global	0	0	0	0	0	0	
S_67	Local A Global	0	0	0	0	0	0	
S_68	Local A Global	0	0	0	0	0	0	
S_69	Local A Global	0	0	0	0	0	0	
S_70	Local A Global	0	0	0	0	0	0	
S_71	Local A Global	0	0	0	0	0	0	
S_72	Local A Global	0	0	0	0	0	0	
S_73	Local A Global	0	0	0	0	0	0	
S_74	Local A Global	0	0	0	0	0	0	
S_75	Local A Global	0	0	0	0	0	0	
S_76	Local A Global	0	0	0	0	0	0	
S_77	Local A Global	0	0	0	0	0	0	
S_78	Local A Global	0	0	0	0	0	0	
S_79	Local A Global	0	0	0	0	0	0	
S_80	Local A Global	0	0	0	0	0	0	
S_81	Local A Global	0	0	0	0	0	0	
S_82	Local A Global	0	0	0	0	0	0	
S_83	Local A Global	0	0	0	0	0	0	
S_84	Local A Global	0	0	0	0	0	0	
S_85	Local A Global	0	0	0	0	0	0	
S_86	Local A Global	0	0	0	0	0	0	
S_87	Local A Global	0	0	0	0	0	0	
S_88	Local A Global	0	0	0	0	0	0	
S_89	Local A Global	0	0	0	0	0	0	
S_90	Local A Global	0	0	0	0	0	0	
S_91	Local A Global	0	0	0	0	0	0	
S_92	Local A	0	0	0	0	0	0	

Nr.:

ID (*SL-Abschn.)	Type	X [m]	Beginning Y [m]	Z [m]	X [m]	End Y [m]	Z [m]
S_93	Global Local A Global	0	0	0	0	0	0
S_94	Local A Global	0	0	0	0	0	0
S_95	Local A Global	0	0	0	0	0	0
S_96	Local A Global	0	0	0	0	0	0
S_97	Local A Global	0	0	0	0	0	0
S_98	Local A Global	0	0	0	0	0	0
S_99	Local A Global	0	0	0	0	0	0
S_100	Local A Global	0	0	0	0	0	0
S_101	Local A Global	0	0	0	0	0	0
S_102	Local A Global	0	0	0	0	0	0
S_103	Local A Global	0	0	0	0	0	0
S_104	Local A Global	0	0	0	0	0	0
S_105	Local A Global	0	0	0	0	0	0
S_106	Local A Global	0	0	0	0	0	0
S_107	Local A Global	0	0	0	0	0	0
S_108	Local A Global	0	0	0	0	0	0
S_109	Local A Global	0	0	0	0	0	0
S_111	Local A Global	0	0	0	0	0	0
S_116	Local A Global	0	0	0	0	0	0
S_119	Local A Global	0	0	0	0	0	0
S_124	Local A Global	0	0	0	0	0	0
S_132	Local A Global	0	0	0	0	0	0
S_135	Local A Global	0	0	0	0	0	0
S_140	Local A Global	0	0	0	0	0	0
S_143	Local A Global	0	0	0	0	0	0
S_148	Local A Global	0	0	0	0	0	0
S_151	Local A Global	0	0	0	0	0	0
S_156	Local A Global	0	0	0	0	0	0
S_159	Local A Global	0	0	0	0	0	0
S_164	Local A Global	0	0	0	0	0	0
S_167	Local A Global	0	0	0	0	0	0
S_172	Local A Global	0	0	0	0	0	0
S_175	Local A	0	0	0	0	0	0

Nr.:

ID (*SL-Abschn.)	Type	X [m]	Beginning Y [m]	Z [m]	X [m]	End Y [m]	Z [m]
S_180	Global Local A Global	0	0	0	0	0	0
S_183	Local A Global	0	0	0	0	0	0
S_188	Local A Global	0	0	0	0	0	0
S_191	Local A Global	0	0	0	0	0	0
S_196	Local A Global	0	0	0	0	0	0
S_204	Local A Global	0	0	0	0	0	0
S_207	Local A Global	0	0	0	0	0	0
S_212	Local A Global	0	0	0	0	0	0
S_215	Local A Global	0	0	0	0	0	0
S_220	Local A Global	0	0	0	0	0	0
S_223	Local A Global	0	0	0	0	0	0
S_228	Local A Global	0	0	0	0	0	0
S_231	Local A Global	0	0	0	0	0	0
S_236	Local A Global	0	0	0	0	0	0
S_239	Local A Global	0	0	0	0	0	0
S_244	Local A Global	0	0	0	0	0	0
S_247	Local A Global	0	0	0	0	0	0
S_252	Local A Global	0	0	0	0	0	0
S_255	Local A Global	0	0	0	0	0	0
S_260	Local A Global	0	0	0	0	0	0
S_263	Local A Global	0	0	0	0	0	0
S_268	Local A Global	0	0	0	0	0	0
S_276	Local A Global	0	0	0	0	0	0
S_279	Local A Global	0	0	0	0	0	0
S_284	Local A Global	0	0	0	0	0	0
S_287	Local A Global	0	0	0	0	0	0
S_292	Local A Global	0	0	0	0	0	0
S_295	Local A Global	0	0	0	0	0	0
S_300	Local A Global	0	0	0	0	0	0
S_303	Local A Global	0	0	0	0	0	0
S_308	Local A Global	0	0	0	0	0	0
S_311	Local A Global	0	0	0	0	0	0
S_316	Local A	0	0	0	0	0	0

Nr.:

ID (*SL-Abschn.)	Type	Beginning			End		
		X [m]	Y [m]	Z [m]	X [m]	Y [m]	Z [m]
S_319	Global Local A	0	0	0	0	0	0
S_324	Global Local A	0	0	0	0	0	0
S_333	Global Local A	0	0	0	0	0	0
S_335	Global Local A	0	0	0	0	0	0
S_337	Global Local A	0	0	0	0	0	0
S_341	Global Local A	0	0	0	0	0	0
S_343	Global Local A	0	0	0	0	0	0
S_345	Global Local A	0	0	0	0	0	0
S_351	Global Local A	0	0	0	0	0	0
S_353	Global Local A	0	0	0	0	0	0
S_355	Global Local A	0	0	0	0	0	0
S_361	Global Local A	0	0	0	0	0	0
S_363	Global Local A	0	0	0	0	0	0
S_365	Global Local A	0	0	0	0	0	0
S_370	Global Local A	0	0	0	0	0	0
S_371	Global Local A	0	0	0	0	0	0
S_372	Global Local A	0	0	0	0	0	0
S_377	Global Local A	0	0	0	0	0	0
S_379	Global Local A	0	0	0	0	0	0
S_381	Global Local A	0	0	0	0	0	0
S_387	Global Local A	0	0	0	0	0	0
S_389	Global Local A	0	0	0	0	0	0
S_391	Global Local A	0	0	0	0	0	0
S_397	Global Local A	0	0	0	0	0	0
S_399	Global Local A	0	0	0	0	0	0
S_401	Global Local A	0	0	0	0	0	0
S_407	Global Local A	0	0	0	0	0	0
S_409	Global Local A	0	0	0	0	0	0
S_411	Global Local A	0	0	0	0	0	0
S_415	Global Local A	0	0	0	0	0	0
S_416	Global Local A	0	0	0	0	0	0
S_417	Global Local A	0	0	0	0	0	0
S_420	Global Local A	0	0	0	0	0	0

Nr.:

ID (*SL-Abschn.)	Type	Beginning			End		
		X [m]	Y [m]	Z [m]	X [m]	Y [m]	Z [m]
S_421	Global Local A	0	0	0	0	0	0
S_422	Global Local A	0	0	0	0	0	0
S_425	Global Local A	0	0	0	0	0	0
S_426	Global Local A	0	0	0	0	0	0
S_427	Global Local A	0	0	0	0	0	0
S_430	Global Local A	0	0	0	0	0	0
S_431	Global Local A	0	0	0	0	0	0
S_432	Global Local A	0	0	0	0	0	0
S_435	Global Local A	0	0	0	0	0	0
S_436	Global Local A	0	0	0	0	0	0
S_437	Global Local A	0	0	0	0	0	0
S_440	Global Local A	0	0	0	0	0	0
S_441	Global Local A	0	0	0	0	0	0
S_442	Global Local A	0	0	0	0	0	0
S_445	Global Local A	0	0	0	0	0	0
S_446	Global Local A	0	0	0	0	0	0
S_447	Global Local A	0	0	0	0	0	0
S_450	Global Local A	0	0	0	0	0	0
S_451	Global Local A	0	0	0	0	0	0
S_452	Global Local A	0	0	0	0	0	0
S_455	Global Local A	0	0	0	0	0	0
S_456	Global Local A	0	0	0	0	0	0
S_457	Global Local A	0	0	0	0	0	0
S_460	Global Local A	0	0	0	0	0	0
S_461	Global Local A	0	0	0	0	0	0
S_462	Global Local A	0	0	0	0	0	0
S_465	Global Local A	0	0	0	0	0	0
S_466	Global Local A	0	0	0	0	0	0
S_467	Global Local A	0	0	0	0	0	0
S_470	Global Local A	0	0	0	0	0	0
S_471	Global Local A	0	0	0	0	0	0
S_472	Global Local A	0	0	0	0	0	0
S_475	Global Local A	0	0	0	0	0	0

Nr.:

ID (*SL-Abschn.)	Type	Beginning			End		
		X [m]	Y [m]	Z [m]	X [m]	Y [m]	Z [m]
S_476	Global Local A	0	0	0	0	0	0
S_477	Global Local A	0	0	0	0	0	0
S_480	Global Local A	0	0	0	0	0	0
S_481	Global Local A	0	0	0	0	0	0
S_482	Global Local A	0	0	0	0	0	0
S_485	Global Local A	0	0	0	0	0	0
S_486	Global Local A	0	0	0	0	0	0
S_487	Global Local A	0	0	0	0	0	0
S_490	Global Local A	0	0	0	0	0	0
S_491	Global Local A	0	0	0	0	0	0
S_492	Global Local A	0	0	0	0	0	0
S_495	Global Local A	0	0	0	0	0	0
S_496	Global Local A	0	0	0	0	0	0
S_497	Global Local A	0	0	0	0	0	0
S_500	Global Local A	0	0	0	0	0	0
S_501	Global Local A	0	0	0	0	0	0
S_502	Global Local A	0	0	0	0	0	0
S_505	Global Local A	0	0	0	0	0	0
S_506	Global Local A	0	0	0	0	0	0
S_507	Global Local A	0	0	0	0	0	0
S_510	Global Local A	0	0	0	0	0	0
S_511	Global Local A	0	0	0	0	0	0
S_512	Global Local A	0	0	0	0	0	0
S_515	Global Local A	0	0	0	0	0	0
S_516	Global Local A	0	0	0	0	0	0
S_517	Global Local A	0	0	0	0	0	0
S_520	Global Local A	0	0	0	0	0	0
S_521	Global Local A	0	0	0	0	0	0
S_522	Global Local A	0	0	0	0	0	0
S_525	Global Local A	0	0	0	0	0	0
S_526	Global Local A	0	0	0	0	0	0
S_527	Global Local A	0	0	0	0	0	0
S_530	Local A	0	0	0	0	0	0

Nr.:

ID (*SL-Abschn.)	Type	Beginning			End		
		X [m]	Y [m]	Z [m]	X [m]	Y [m]	Z [m]
S_531	Global Local A	0	0	0	0	0	0
S_532	Global Local A	0	0	0	0	0	0
S_535	Global Local A	0	0	0	0	0	0
S_536	Global Local A	0	0	0	0	0	0
S_537	Global Local A	0	0	0	0	0	0
S_540	Global Local A	0	0	0	0	0	0
S_541	Global Local A	0	0	0	0	0	0
S_542	Global Local A	0	0	0	0	0	0
S_545	Global Local A	0	0	0	0	0	0
S_546	Global Local A	0	0	0	0	0	0
S_547	Global Local A	0	0	0	0	0	0
S_550	Global Local A	0	0	0	0	0	0
S_551	Global Local A	0	0	0	0	0	0
S_552	Global Local A	0	0	0	0	0	0
S_555	Global Local A	0	0	0	0	0	0
S_556	Global Local A	0	0	0	0	0	0
S_557	Global Local A	0	0	0	0	0	0
S_560	Global Local A	0	0	0	0	0	0
S_561	Global Local A	0	0	0	0	0	0
S_562	Global Local A	0	0	0	0	0	0
S_565	Global Local A	0	0	0	0	0	0
S_566	Global Local A	0	0	0	0	0	0
S_567	Global Local A	0	0	0	0	0	0
S_570	Global Local A	0	0	0	0	0	0
S_571	Global Local A	0	0	0	0	0	0
S_572	Global Local A	0	0	0	0	0	0

Members with overwritten stiffness (Stage 'SERVICIO T=0')

ID (*SL-Abschn.)	Position	β [°]	EA_x [kN]	GA_y [kN]	GA_z [kN]	GJ_x [kNm ²]	EJ_y [kNm ²]	EJ_z [kNm ²]
S_1	Member	0	-	-	-	-	-	-
S_2	Factor	0	-	-	-	0.5	-	-
S_3	Member	-10,6	-	-	-	-	-	-
S_4	Factor	0	-	-	-	0.5	-	-
S_5	Member	0	-	-	-	0.5	-	-

Nr.:

ID (*SL-Abschn.)	Position	β [°]	EA_x [kN]	GA_y [kN]	GA_z [kN]	GJ_x [kNm ²]	EJ_y [kNm ²]	EJ_z [kNm ²]
	Factor		-	-	-	0.5	-	-
S_6	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_7	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_8	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_12	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_15	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_20	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_23	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_28	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_31	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_36	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_39	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_44	Member	10,6	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_52	Member	-10,6	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_55	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_56	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_57	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_58	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_59	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_60	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_61	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_62	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_63	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_64	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_65	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_66	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_67	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_68	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_69	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_70	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_71	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_72	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_73	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_74	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_75	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_76	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_77	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_78	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-

Nr.:

ID (*SL-Abschn.)	Position	β [°]	EA_x [kN]	GA_y [kN]	GA_z [kN]	GJ_x [kNm ²]	EJ_y [kNm ²]	EJ_z [kNm ²]
S_79	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_80	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_81	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_82	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_83	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_84	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_85	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_86	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_87	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_88	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_89	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_90	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_91	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_92	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_93	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_94	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_95	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_96	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_97	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_98	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_99	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_100	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_101	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_102	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_103	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_104	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_105	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_106	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_107	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_108	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_109	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_111	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_116	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_119	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_124	Member	10,6	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_132	Member	-10,6	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_135	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-
S_140	Member	0	-	-	-	-	-	-
	Factor		-	-	-	0.5	-	-

Nr.:

ID (*SL-Abschn.)	Position	β [°]	EA_x [kN]	GA_y [kN]	GA_z [kN]	GJ_x [kNm ²]	EJ_y [kNm ²]	EJ_z [kNm ²]
S_143	Member	0	-	-	-	-	-	-
S_148	Factor	0	-	-	-	0.5	-	-
S_151	Member	0	-	-	-	-	-	-
S_156	Factor	0	-	-	-	0.5	-	-
S_159	Member	0	-	-	-	-	-	-
S_164	Factor	0	-	-	-	0.5	-	-
S_167	Member	0	-	-	-	-	-	-
S_172	Factor	0	-	-	-	0.5	-	-
S_175	Member	0	-	-	-	-	-	-
S_180	Factor	0	-	-	-	0.5	-	-
S_183	Member	0	-	-	-	-	-	-
S_188	Factor	0	-	-	-	0.5	-	-
S_191	Member	0	-	-	-	-	-	-
S_196	Factor	10,6	-	-	-	0.5	-	-
S_204	Member	-10,6	-	-	-	-	-	-
S_207	Factor	0	-	-	-	0.5	-	-
S_212	Member	0	-	-	-	-	-	-
S_215	Factor	0	-	-	-	0.5	-	-
S_220	Member	0	-	-	-	-	-	-
S_223	Factor	0	-	-	-	0.5	-	-
S_228	Member	0	-	-	-	-	-	-
S_231	Factor	0	-	-	-	0.5	-	-
S_236	Member	0	-	-	-	-	-	-
S_239	Factor	0	-	-	-	0.5	-	-
S_244	Member	0	-	-	-	-	-	-
S_247	Factor	0	-	-	-	0.5	-	-
S_252	Member	0	-	-	-	-	-	-
S_255	Factor	0	-	-	-	0.5	-	-
S_260	Member	0	-	-	-	-	-	-
S_263	Factor	0	-	-	-	0.5	-	-
S_268	Member	10,6	-	-	-	-	-	-
S_276	Factor	-10,6	-	-	-	0.5	-	-
S_279	Member	0	-	-	-	-	-	-
S_284	Factor	0	-	-	-	0.5	-	-
S_287	Member	0	-	-	-	-	-	-
S_292	Factor	0	-	-	-	0.5	-	-
S_295	Member	0	-	-	-	-	-	-
S_300	Factor	0	-	-	-	0.5	-	-

Nr.:

ID (*SL-Abschn.)	Position	β [°]	EA_x [kN]	GA_y [kN]	GA_z [kN]	GJ_x [kNm ²]	EJ_y [kNm ²]	EJ_z [kNm ²]
S_303	Member	0	-	-	-	-	-	-
S_308	Factor	0	-	-	-	0.5	-	-
S_311	Member	0	-	-	-	-	-	-
S_316	Factor	0	-	-	-	0.5	-	-
S_319	Member	0	-	-	-	-	-	-
S_324	Factor	10,6	-	-	-	0.5	-	-
S_333	Member	0	-	-	-	-	-	-
S_335	Factor	0	-	-	-	0.5	-	-
S_337	Member	0	-	-	-	-	-	-
S_341	Factor	0	-	-	-	0.5	-	-
S_343	Member	0	-	-	-	-	-	-
S_345	Factor	0	-	-	-	0.5	-	-
S_351	Member	0	-	-	-	-	-	-
S_353	Factor	0	-	-	-	0.5	-	-
S_355	Member	0	-	-	-	-	-	-
S_361	Factor	0	-	-	-	0.5	-	-
S_363	Member	0	-	-	-	-	-	-
S_365	Factor	0	-	-	-	0.5	-	-
S_370	Member	0	-	-	-	-	-	-
S_371	Factor	0	-	-	-	0.5	-	-
S_372	Member	0	-	-	-	-	-	-
S_377	Factor	0	-	-	-	0.5	-	-
S_379	Member	0	-	-	-	-	-	-
S_381	Factor	0	-	-	-	0.5	-	-
S_387	Member	0	-	-	-	-	-	-
S_389	Factor	0	-	-	-	0.5	-	-
S_391	Member	0	-	-	-	-	-	-
S_397	Factor	0	-	-	-	0.5	-	-
S_399	Member	0	-	-	-	-	-	-
S_401	Factor	0	-	-	-	0.5	-	-
S_407	Member	0	-	-	-	-	-	-
S_409	Factor	0	-	-	-	0.5	-	-
S_411	Member	0	-	-	-	-	-	-
S_415	Factor	0	-	-	-	0.5	-	-
S_416	Member	0	-	-	-	-	-	-
S_417	Factor	0	-	-	-	0.5	-	-
S_420	Member	0	-	-	-	-	-	-
S_421	Factor	0	-	-	-	0.5	-	-

Nr.:

ID (*SL-Abschn.)	Position	β [°]	EA _x [kN]	GA _y [kN]	GA _z [kN]	GJ _x [kNm ²]	EJ _y [kNm ²]	EJ _z [kNm ²]
S_547	Member	0	-	-	-	-	-	-
S_547	Factor		-	-	-	0.5	-	-
S_550	Member	0	-	-	-	-	-	-
S_550	Factor		-	-	-	0.5	-	-
S_551	Member	0	-	-	-	-	-	-
S_551	Factor		-	-	-	0.5	-	-
S_552	Member	0	-	-	-	-	-	-
S_552	Factor		-	-	-	0.5	-	-
S_555	Member	0	-	-	-	-	-	-
S_555	Factor		-	-	-	0.5	-	-
S_556	Member	0	-	-	-	-	-	-
S_556	Factor		-	-	-	0.5	-	-
S_557	Member	0	-	-	-	-	-	-
S_557	Factor		-	-	-	0.5	-	-
S_560	Member	0	-	-	-	-	-	-
S_560	Factor		-	-	-	0.5	-	-
S_561	Member	0	-	-	-	-	-	-
S_561	Factor		-	-	-	0.5	-	-
S_562	Member	0	-	-	-	-	-	-
S_562	Factor		-	-	-	0.5	-	-
S_565	Member	0	-	-	-	-	-	-
S_565	Factor		-	-	-	0.5	-	-
S_566	Member	0	-	-	-	-	-	-
S_566	Factor		-	-	-	0.5	-	-
S_567	Member	0	-	-	-	-	-	-
S_567	Factor		-	-	-	0.5	-	-
S_570	Member	0	-	-	-	-	-	-
S_570	Factor		-	-	-	0.5	-	-
S_571	Member	0	-	-	-	-	-	-
S_571	Factor		-	-	-	0.5	-	-
S_572	Member	0	-	-	-	-	-	-
S_572	Factor		-	-	-	0.5	-	-
SL1_0 *	Member	-27,7	-	-	-	-	-	-
SL1_0 *	Factor		0,43	0,43	0,43	-	-	-
SL1_1 *	Member	-27,7	-	-	-	-	-	-
SL1_1 *	Factor		0,43	0,43	0,43	-	-	-
SL1_2 *	Member	-27,7	-	-	-	-	-	-
SL1_2 *	Factor		0,43	0,43	0,43	-	-	-
SL1_3 *	Member	-27,7	-	-	-	-	-	-
SL1_3 *	Factor		0,43	0,43	0,43	-	-	-
SL1_4 *	Member	-27,7	-	-	-	-	-	-
SL1_4 *	Factor		0,43	0,43	0,43	-	-	-
SL1_5 *	Member	-27,7	-	-	-	-	-	-
SL1_5 *	Factor		0,43	0,43	0,43	-	-	-
SL1_6 *	Member	-27,7	-	-	-	-	-	-
SL1_6 *	Factor		0,43	0,43	0,43	-	-	-
SL1_7 *	Member	-27,7	-	-	-	-	-	-
SL1_7 *	Factor		0,43	0,43	0,43	-	-	-
SL1_8 *	Member	-27,7	-	-	-	-	-	-
SL1_8 *	Factor		0,43	0,43	0,43	-	-	-
SL1_9 *	Member	-30,0	-	-	-	-	-	-
SL1_9 *	Factor		0,43	0,43	0,43	-	-	-
SL1_10 *	Member	-34,3	-	-	-	-	-	-
SL1_10 *	Factor		0,43	0,43	0,43	-	-	-
SL1_11 *	Member	-38,2	-	-	-	-	-	-
SL1_11 *	Factor		0,43	0,43	0,43	-	-	-
SL1_12 *	Member	-41,8	-	-	-	-	-	-
SL1_12 *	Factor		0,43	0,43	0,43	-	-	-
SL1_13 *	Member	44,9	-	-	-	-	-	-
SL1_13 *	Factor		0,43	0,43	0,43	-	-	-
SL1_14 *	Member	44,9	-	-	-	-	-	-
SL1_14 *	Factor		0,43	0,43	0,43	-	-	-
SL1_15 *	Member	-41,8	-	-	-	-	-	-
SL1_15 *	Factor		0,43	0,43	0,43	-	-	-
SL1_16 *	Member	-38,2	-	-	-	-	-	-
SL1_16 *	Factor		0,43	0,43	0,43	-	-	-
SL1_17 *	Member	-34,3	-	-	-	-	-	-
SL1_17 *	Factor		0,43	0,43	0,43	-	-	-
SL1_18 *	Member	-30,0	-	-	-	-	-	-
SL1_18 *	Factor		0,43	0,43	0,43	-	-	-
SL1_19 *	Member	-27,7	-	-	-	-	-	-
SL1_19 *	Factor		0,43	0,43	0,43	-	-	-
SL1_20 *	Member	-27,7	-	-	-	-	-	-
SL1_20 *	Factor		0,43	0,43	0,43	-	-	-
SL1_21 *	Member	-27,7	-	-	-	-	-	-
SL1_21 *	Factor		0,43	0,43	0,43	-	-	-

Nr.:

ID (*SL-Abschn.)	Position	β [°]	EA _x [kN]	GA _y [kN]	GA _z [kN]	GJ _x [kNm ²]	EJ _y [kNm ²]	EJ _z [kNm ²]
SL1_22 *	Member	-27,7	-	-	-	-	-	-
SL1_22 *	Factor		0,43	0,43	0,43	-	-	-
SL1_23 *	Member	-27,7	-	-	-	-	-	-
SL1_23 *	Factor		0,43	0,43	0,43	-	-	-
SL1_24 *	Member	-27,7	-	-	-	-	-	-
SL1_24 *	Factor		0,43	0,43	0,43	-	-	-
SL1_25 *	Member	-27,7	-	-	-	-	-	-
SL1_25 *	Factor		0,43	0,43	0,43	-	-	-
SL1_26 *	Member	-27,7	-	-	-	-	-	-
SL1_26 *	Factor		0,43	0,43	0,43	-	-	-
SL1_27 *	Member	-27,7	-	-	-	-	-	-
SL1_27 *	Factor		0,43	0,43	0,43	-	-	-
SL1_28 *	Member	-27,7	-	-	-	-	-	-
SL1_28 *	Factor		0,43	0,43	0,43	-	-	-
SL1_29 *	Member	-30,0	-	-	-	-	-	-
SL1_29 *	Factor		0,43	0,43	0,43	-	-	-
SL1_30 *	Member	-34,3	-	-	-	-	-	-
SL1_30 *	Factor		0,43	0,43	0,43	-	-	-
SL1_31 *	Member	-38,2	-	-	-	-	-	-
SL1_31 *	Factor		0,43	0,43	0,43	-	-	-
SL1_32 *	Member	-41,8	-	-	-	-	-	-
SL1_32 *	Factor		0,43	0,43	0,43	-	-	-
SL1_33 *	Member	44,9	-	-	-	-	-	-
SL1_33 *	Factor		0,43	0,43	0,43	-	-	-
SL1_34 *	Member	44,9	-	-	-	-	-	-
SL1_34 *	Factor		0,43	0,43	0,43	-	-	-
SL1_35 *	Member	-41,8	-	-	-	-	-	-
SL1_35 *	Factor		0,43	0,43	0,43	-	-	-
SL1_36 *	Member	-38,2	-	-	-	-	-	-
SL1_36 *	Factor		0,43	0,43	0,43	-	-	-
SL1_37 *	Member	-34,3	-	-	-	-	-	-
SL1_37 *	Factor		0,43	0,43	0,43	-	-	-
SL1_38 *	Member	-30,0	-	-	-	-	-	-
SL1_38 *	Factor		0,43	0,43	0,43	-	-	-
SL1_39 *	Member	-27,7	-	-	-	-	-	-
SL1_39 *	Factor		0,43	0,43	0,43	-	-	-
SL1_40 *	Member	-27,7	-	-	-	-	-	-
SL1_40 *	Factor		0,43	0,43	0,43	-	-	-
SL1_41 *	Member	-27,7	-	-	-	-	-	-
SL1_41 *	Factor		0,43	0,43	0,43	-	-	-
SL1_42 *	Member	-27,7	-	-	-	-	-	-
SL1_42 *	Factor		0,43	0,43	0,43	-	-	-
SL1_43 *	Member	-27,7	-	-	-	-	-	-
SL1_43 *	Factor		0,43	0,43	0,43	-	-	-
SL1_44 *	Member	-27,7	-	-	-	-	-	-
SL1_44 *	Factor		0,43	0,43	0,43	-	-	-
SL1_45 *	Member	-27,7	-	-	-	-	-	-
SL1_45 *	Factor		0,43	0,43	0,43	-	-	-
SL1_46 *	Member	-27,7	-	-	-	-	-	-
SL1_46 *	Factor		0,43	0,43	0,43	-	-	-
SL1_47 *	Member	-30,0	-	-	-	-	-	-
SL1_47 *	Factor		0,43	0,43	0,43	-	-	-
SL1_48 *	Member	-34,3	-	-	-	-	-	-
SL1_48 *	Factor		0,43	0,43	0,43	-	-	-
SL1_49 *	Member	-38,2	-	-	-	-	-	-
SL1_49 *	Factor		0,43	0,43	0,43	-	-	-
SL1_50 *	Member	-41,8	-	-	-	-	-	-
SL1_50 *	Factor		0,43	0,43	0,43	-	-	-
SL1_51 *	Member	44,9	-	-	-	-	-	-
SL1_51 *	Factor		0,43	0,43	0,43	-	-	-
SL1_52 *	Member	44,9	-	-	-	-	-	-
SL1_52 *	Factor		0,43	0,43	0,43	-	-	-
SL1_53 *	Member	-41,8	-	-	-	-	-	-
SL1_53 *	Factor		0,43	0,43	0,43	-	-	-
SL1_54 *	Member	-38,2	-	-	-	-	-	-
SL1_54 *	Factor		0,43	0,43	0,43	-	-	-
SL1_55 *	Member	-34,3	-	-	-	-	-	-
SL1_55 *	Factor		0,43	0,43	0,43	-	-	-
SL1_56 *	Member	-30,0	-	-	-	-	-	-
SL1_56 *	Factor		0,43	0,43	0,43	-	-	-
SL1_57 *	Member	-27,7	-	-	-	-	-	-
SL1_57 *	Factor		0,43	0,43	0,43	-	-	-
SL1_58 *	Member	-27,7	-	-	-	-	-	-
SL1_58 *	Factor		0,43	0,43	0,43	-	-	-
SL1_59 *	Member	-27,7	-	-	-	-	-	-
SL1_59 *	Factor		0,43	0,43	0,43	-	-	-

Nr.:

ID (*SL-Abschn.)	Position	β [°]	EA_x [kN]	GA_y [kN]	GA_z [kN]	GJ_x [kNm ²]	EJ_y [kNm ²]	EJ_z [kNm ²]
SL2_52 *	Member	-44,9	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_53 *	Member	41,8	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_54 *	Member	38,2	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_55 *	Member	34,3	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_56 *	Member	30,0	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_57 *	Member	27,7	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_58 *	Member	27,7	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_59 *	Member	27,7	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_60 *	Member	27,7	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_61 *	Member	27,7	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_62 *	Member	27,7	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_63 *	Member	27,7	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_64 *	Member	27,7	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_65 *	Member	30,0	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_66 *	Member	34,3	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_67 *	Member	38,2	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_68 *	Member	41,8	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_69 *	Member	-44,9	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_70 *	Member	-44,9	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_71 *	Member	41,8	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_72 *	Member	38,2	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_73 *	Member	34,3	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_74 *	Member	30,0	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_75 *	Member	27,7	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_76 *	Member	27,7	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_77 *	Member	27,7	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_78 *	Member	27,7	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_79 *	Member	27,7	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_80 *	Member	27,7	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_81 *	Member	27,7	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_82 *	Member	27,7	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-
SL2_83 *	Member	27,7	-	-	-	-	-	-
	Factor		0,43	0,43	0,43	-	-	-

β : Angle between member Y axis and first principal axis of cross section

Nr.:

Elastically bedded members (Stage 'SERVICIO T=0')

ID	Direction x		Direction y		Direction z	
	sdx [kN/m]	Nonlinearity	sd _y [kN/m]	Nonlinearity	sd _z [kN/m]	Nonlinearity
S_9	-	-	1,100E+5	none	1,100E+5	none
S_10	-	-	3,500E+4	none	3,500E+4	none
S_11	-	-	1,200E+4	none	1,200E+4	none
S_19	-	-	1,100E+5	none	1,100E+5	none
S_21	-	-	3,500E+4	none	3,500E+4	none
S_22	-	-	1,200E+4	none	1,200E+4	none
S_24	-	-	1,100E+5	none	1,100E+5	none
S_25	-	-	3,500E+4	none	3,500E+4	none
S_26	-	-	1,200E+4	none	1,200E+4	none
S_30	-	-	1,100E+5	none	1,100E+5	none
S_32	-	-	3,500E+4	none	3,500E+4	none
S_33	-	-	1,200E+4	none	1,200E+4	none
S_40	-	-	1,100E+5	none	1,100E+5	none
S_41	-	-	3,500E+4	none	3,500E+4	none
S_45	-	-	1,200E+4	none	1,200E+4	none
S_48	-	-	1,100E+5	none	1,100E+5	none
S_49	-	-	3,500E+4	none	3,500E+4	none
S_50	-	-	1,200E+4	none	1,200E+4	none
S_118	-	-	1,400E+5	none	1,400E+5	none
S_120	-	-	4,800E+4	none	4,800E+4	none
S_121	-	-	2,500E+4	none	2,500E+4	none
S_122	-	-	3500,000	none	3500,000	none
S_131	-	-	1,400E+5	none	1,400E+5	none
S_133	-	-	4,800E+4	none	4,800E+4	none
S_134	-	-	2,500E+4	none	2,500E+4	none
S_136	-	-	3500,000	none	3500,000	none
S_138	-	-	1,400E+5	none	1,400E+5	none
S_139	-	-	4,800E+4	none	4,800E+4	none
S_141	-	-	2,500E+4	none	2,500E+4	none
S_142	-	-	3500,000	none	3500,000	none
S_145	-	-	1,100E+5	none	1,100E+5	none
S_146	-	-	4,600E+4	none	4,600E+4	none
S_147	-	-	2,500E+4	none	2,500E+4	none
S_149	-	-	3500,000	none	3500,000	none
S_160	-	-	1,100E+5	none	1,100E+5	none
S_161	-	-	4,600E+4	none	4,600E+4	none
S_162	-	-	2,500E+4	none	2,500E+4	none
S_163	-	-	3500,000	none	3500,000	none
S_166	-	-	1,100E+5	none	1,100E+5	none
S_168	-	-	4,600E+4	none	4,600E+4	none
S_169	-	-	2,500E+4	none	2,500E+4	none
S_170	-	-	3500,000	none	3500,000	none

B / F / U : newly blocked/newly freed/unchanged

Members with hinges (Stage 'SERVICIO T=0')

ID (*SL-Abschn.)	Hinges		Springs					
	Beginning	End	Dx [kN/m]	Dy [kN/m]	Dz [kN/m]	Rx [kNm]	Ry [kNm]	Rz [kNm]
S_14	--E FFF				5000,000			
S_35	-FE FFF				5000,000			
S_42	--E FFF				7700,000			
S_117	-FE FFF				7700,000			
S_123	--E FFF				10650,000			
S_144	-FE FFF				10650,000			
S_150	--E FFF				22550,000			
S_171	-FE FFF				22550,000			

F / E / P : Free / elastic / plastic support

Cross section: Geometry (Stage 'SERVICIO T=0')

Name	Variant	Materials	Type	Dimensions [m]
LOSA_A_01		C2, R	Fagus	b=3,12, h=2,40 y _L =-2,12, y _R =1,00, z _B =-0,85, z _T =1,55
LOSA_A_01B		C2, R	Fagus	b=3,12, h=2,40 y _L =-2,12, y _R =1,00, z _B =-0,85, z _T =1,55
LOSA_A_01BS		C2, R	Fagus	b=3,12, h=2,40 y _L =-1,00, y _R =2,12, z _B =-0,85, z _T =1,55
LOSA_A_01C		C2, R	Fagus	b=3,12, h=2,40 y _L =-2,12, y _R =1,00, z _B =-0,85, z _T =1,55
LOSA_A_01CS		C2, R	Fagus	b=3,12, h=2,40

Nr.:

Name	Variant	Materials	Type	Dimensions [m]
LOSA_A_01S		C2, R	Fagus	$y_L=-1,00, y_R=2,12, z_B=-0,85, z_T=1,55$ $b=3,12, h=2,40$
LOSA_A_02		C2, R	Fagus	$y_L=-1,00, y_R=2,12, z_B=-0,85, z_T=1,55$ $b=3,36, h=3,35$
LOSA_A_02S		C2, R	Fagus	$y_L=-2,36, y_R=1,00, z_B=-0,85, z_T=2,50$ $b=3,36, h=3,35$
LOSA_A_03		C2, R	Fagus	$y_L=-1,00, y_R=2,36, z_B=-0,85, z_T=2,50$ $b=3,14, h=2,50$
LOSA_A_03S		C2, R	Fagus	$y_L=-2,14, y_R=1,00, z_B=-0,85, z_T=1,65$ $b=3,14, h=2,50$
LOSA_A_04		C2, R	Fagus	$y_L=-1,00, y_R=2,14, z_B=-0,85, z_T=1,65$ $b=3,19, h=2,71$
LOSA_A_04S		C2, R	Fagus	$y_L=-2,19, y_R=1,00, z_B=-0,85, z_T=1,86$ $b=3,19, h=2,71$
LOSA_A_05		C2, R	Fagus	$y_L=-1,00, y_R=2,19, z_B=-0,85, z_T=1,86$ $b=3,25, h=2,92$
LOSA_A_05S		C2, R	Fagus	$y_L=-2,25, y_R=1,00, z_B=-0,85, z_T=2,07$ $b=3,25, h=2,92$
LOSA_A_06		C2, R	Fagus	$y_L=-1,00, y_R=2,25, z_B=-0,85, z_T=2,07$ $b=3,30, h=3,13$
LOSA_A_06S		C2, R	Fagus	$y_L=-2,30, y_R=1,00, z_B=-0,85, z_T=2,28$ $b=3,30, h=3,13$
LOSA_B_01		C2, R	Fagus	$y_L=-1,00, y_R=2,30, z_B=-0,85, z_T=2,28$ $b=2,00, h=0,25$
LOSA_C_01		C2, R	Fagus	$y_L=-1,00, y_R=1,00, z_B=-0,25, z_T=0$ $b=2,00, h=0,85$
LOSA_D_01		C2, R	Fagus	$y_L=-1,06, y_R=1,06, z_B=-0,85, z_T=0$ $b=2,13, h=0,85$
LOSA_E_01		C2, R	Fagus	$y_L=-1,06, y_R=1,06, z_B=-0,85, z_T=0$ $b=2,13, h=0,85$
LOSA_E_01S		C2, R	Fagus	$y_L=-1,06, y_R=1,06, z_B=-0,85, z_T=0$ $b=2,13, h=0,85$
PILA		CC, R	C-O	$D=1,80, C=0,05$ $y_L=-0,90, y_R=0,90, z_B=-0,90, z_T=0,90$
PILO-01		CP, R	C-O	$D=1,86, C=0,07$ $y_L=-0,93, y_R=0,93, z_B=-0,93, z_T=0,93$
PILO-02		CP, R	C-O	$D=1,86, C=0,07$ $y_L=-0,93, y_R=0,93, z_B=-0,93, z_T=0,93$
RIOSTRA-PILA		CC, R	Fagus	$b=2,50, h=2,00$ $y_L=-1,25, y_R=1,25, z_B=-1,00, z_T=1,00$

Materials : s. table 'Materials'

Cross section: CS stiffness (Stage 'SERVICIO T=0')

Name	Variant	β	EA_x GA_y GA_z [kN]	GJ_x EJ_y EJ_z [kNm ²]	e_y e_z [m]	CS mass Additional mass [t/m]	Materials
		[°]					
LOSA_A_01		-27,7	150291039,79 62315796,99 62315796,99	31658768,62 38105426,73 144748657,25	0,66 -0,10	9,16	C2, R
LOSA_A_01B		-27,7	150291039,79 62315796,99 62315796,99	31658768,62 38105426,73 144748657,25	0,66 -0,10	9,16	C2, R
LOSA_A_01BS		27,7	150291039,79 62315796,99 62315796,99	31658768,62 38105426,73 144748657,25	-0,66 -0,10	9,16	C2, R
LOSA_A_01C		-27,7	150291039,79 62315796,99 62315796,99	31658768,62 38105426,73 144748657,25	0,66 -0,10	9,16	C2, R
LOSA_A_01CS		27,7	150291039,79 62315796,99 62315796,99	31658768,62 38105426,73 144748657,25	-0,66 -0,10	9,16	C2, R
LOSA_A_01S		27,7	150291039,79 62315796,99 62315796,99	31658768,62 38105426,73 144748657,25	-0,66 -0,10	9,16	C2, R
LOSA_A_02		44,9	209859012,50 87014712,50 87014712,50	35351048,86 279322559,85 57740620,33	0,78 -0,35	12,80	C2, R
LOSA_A_02S		-44,9	209859012,50 87014712,50 87014712,50	35351048,86 279322559,85 57740620,33	-0,78 -0,35	12,80	C2, R
LOSA_A_03		-30,0	153739652,29	32142525,35	0,68	9,37	C2, R

Nr.:

Name	Variant	β	EA_x GA_y GA_z [kN]	GJ_x EJ_y EJ_z [kNm ²]	e_y e_z [m]	CS mass Additional mass [t/m]	Materials
		[°]					
LOSA_A_03S		30,0	63745709,49 63745709,49 63745709,49	40294652,80 154190115,90	-0,14		
LOSA_A_04		-34,3	153739652,29 63745709,49 63745709,49	32142525,35 40294652,80 154190115,90	-0,68 -0,14	9,37	C2, R
LOSA_A_04S		34,3	160609202,29 66594059,49 66594059,49	33047543,57 44587734,51 175397403,09	0,73 -0,21	9,79	C2, R
LOSA_A_05		-38,2	160609202,29 66594059,49 66594059,49	33047543,57 44587734,51 175397403,09	-0,73 -0,21	9,79	C2, R
LOSA_A_05S		38,2	167506427,29 69453884,49 69453884,49	33893562,91 48682257,26 200179981,41	0,77 -0,28	10,21	C2, R
LOSA_A_06		-41,8	167506427,29 69453884,49 69453884,49	33893562,91 48682257,26 200179981,41	-0,77 -0,28	10,21	C2, R
LOSA_A_06S		41,8	174375977,29 72302234,49 72302234,49	34654706,51 52534579,14 228617175,96	0,82 -0,35	10,63	C2, R
LOSA_B_01		0	20500000,00 8500000,00 8500000,00	163138,30 106770,83 6833333,33	0 0,13	1,25	C2, R
LOSA_C_01		0	69700000,00 28900000,00 28900000,00	5101539,39 4196520,83 23233333,33	0 0,42	4,25	C2, R
LOSA_D_01		0	34081250,00 14131250,00 14131250,00	367746,63 1902319,48 8452579,75	0 0,28	2,08	C2, R
LOSA_E_01		-10,6	54068750,00 22418750,00 22418750,00	2463716,27 3010032,30 15399376,18	-0,24 0,38	3,30	C2, R
LOSA_E_01S		10,6	54068750,00 22418750,00 22418750,00	2463716,27 3010032,30 15399376,18	0,24 0,38	3,30	C2, R
PILA		0	89104841,28 32211266,45 32211266,45	15458992,05 18069442,33 18035159,70	0 0	6,36	CC, R
PILO-01		0	95144169,41 34394474,51 34394474,51	17625560,24 20601863,52 20562776,20	0 0	6,79	CP, R
PILO-02		0	95144169,41 34394474,51 34394474,51	17625560,24 20601863,52 20562776,20	0 0	6,79	CP, R
RIOSTRA-PILA		0	175000000,00 75000000,00 75000000,00	51303936,00 58333333,33 91145833,33	0 0	12,50	CC, R

β : Angle between member Y axis and first principal axis of cross section

e_y, e_z : Distance center of gravity-axis point

Materials : s. table 'Materials'

Cross sections, cross section values

Name	Variants	Materials $E_{ref} G_{ref}$	Ideal cross section values					
			$A_{x,id} = EA_x/E_{ref}$ [m ²]	$J_{y,id} = EJ_y/E_{ref}$ [m ⁴]	$J_{z,id} = EJ_z/E_{ref}$ [m ⁴]	$J_{xy,id} = GJ_{xy}/G_{ref}$ [m ⁴]	$A_{y,id} = GA_y/G_{ref}$ [m ²]	$A_{z,id} = GA_z/G_{ref}$ [m ²]
LOSA_A_01		C2	3,6656	0,929401	3,530455	1,862281	3,6656	3,6656
LOSA_A_01B		C2	3,6656	0,929401	3,530455	1,862281	3,6656	3,6656
LOSA_A_01BS		C2	3,6656	0,929401	3,530455	1,862281	3,6656	3,6656
LOSA_A_01C		C2	3,6656	0,929401	3,530455	1,862281	3,6656	3,6656
LOSA_A_01CS		C2	3,6656	0,929401	3,530455	1,862281	3,6656	3,6656
LOSA_A_01S		C2	3,6656	0,929401	3,530455	1,862281	3,6656	3,6656
LOSA_A_02		C2	5,1185	6,812745	1,408308	2,079473	5,1185	5,1185
LOSA_A_02S		C2	5,1185	6,812745	1,408308	2,079473	5,1185	5,1185
LOSA_A_03		C2	3,7497	0,982796	3,760735	1,890737	3,7497	3,7497
LOSA_A_03S		C2	3,7497	0,982796	3,760735	1,890737	3,7497	3,7497
LOSA_A_04		C2	3,9173	1,087506	4,277985	1,943973	3,9173	3,9173
LOSA_A_04S		C2	3,9173	1,087506	4,277985	1,943973	3,9173	3,9173
LOSA_A_05		C2	4,0855	1,187372	4,882439	1,993739	4,0855	4,0855

Nr.:

Cross section Name	Variants	Materials E _{ref} G _{ref}	Ideal cross section values					
			A _{x,id} = EA _x /E _{ref} [m ⁴]	J _{y,id} = EJ _y /E _{ref} [m ⁴]	J _{z,id} = EJ _z /E _{ref} [m ⁴]	J _{x,id} = GJ _x /G _{ref} [m ⁴]	A _{y,id} = GA _y /G _{ref} [m ²]	A _{z,id} = GA _z /G _{ref} [m ²]
LOSA_A_05S		C2	4,0855	1,187372	4,882439	1,993739	4,0855	4,0855
LOSA_A_06		C2	4,2531	1,281331	5,576029	2,038512	4,2531	4,2531
LOSA_A_06S		C2	4,2531	1,281331	5,576029	2,038512	4,2531	4,2531
LOSA_B_01		C2	0,5000	0,002604	0,166667	0,009596	0,5000	0,5000
LOSA_C_01		C2	1,7000	0,102354	0,566667	0,300091	1,7000	1,7000
LOSA_D_01		C2	0,8313	0,046398	0,206160	0,021632	0,8313	0,8313
LOSA_E_01		C2	1,3188	0,073415	0,375595	0,144924	1,3188	1,3188
LOSA_E_01S		C2	1,3188	0,073415	0,375595	0,144924	1,3188	1,3188
PILA		CC	2,5459	0,516270	0,515290	1,030599	2,1474	2,1474
PILO-01		CP	2,7184	0,588625	0,587508	1,175037	2,2930	2,2930
PILO-02		CP	2,7184	0,588625	0,587508	1,175037	2,2930	2,2930
RIOSTRA-PILA		CC	5,0000	1,666667	2,604167	3,420262	5,0000	5,0000

Materials : s. table 'Materials'

Materials

ID	Type	Member	E [kN/mm ²]	G [kN/mm ²]	v	ρ [t/m ³]	α [%]	Class
C2	Concrete	(general)	41	17	0,17	2,5	0,010	HP60
CC	Concrete	Column	35	15	0,17	2,5	0,010	H350
CP	Concrete	Pile	35	15	0,17	2,5	0,010	H350
R	Reinforcement	(general)	205	79	0,30	8,0	0,012	AEH500
P	PT Steel	(general)	200	77	0,30	8,0	0,012	Y1860S

Material classes Concrete

ID	Class	f _{ck} [N/mm ²]	E _c [kN/mm ²]	f _{ct} [N/mm ²]	f _{cv} [N/mm ²]	f _{ck} [N/mm ²]
C2	HP60	-60,0	40	3,1	0,5	60,0
CC	H350	-35,0	35	0	0,8	35,0
CP	H350	-35,0	35	0	0,8	35,0

Material classes Reinforcement steel

ID	Class	-f _{yk} [N/mm ²]	E _s [kN/mm ²]	f _{yk} [N/mm ²]	ε _{yk} [%]	f _{tk} [N/mm ²]
R	AEH500	-500,0	210	500,0	20,0	500,0

Material classes PT Steel

ID	Class	-f _{p0.1k} [N/mm ²]	E _p [kN/mm ²]	f _{p0.1k} [N/mm ²]	ε _{yk} [%]	f _{pk} [N/mm ²]
P	Y1860S	-1670,0	200	1670,0	20,0	1860,0

STRUCTURE 3D (Construction stage: SERVICIO T=INF)

NODE DATA (Stage 'SERVICIO T=INF')

Id	Coordinates			Supports						Specialties
	X [m]	Y [m]	Z [m]	DX	DY	DZ	RX	RY	RZ	
K_1	-4,25	0	0		E	E				F
K_2	-3,22	10,00	-0,00			E				F
K_3	67,90	-0,99	-27,40			E				F
K_4	26,63	10,99	-27,40			E				F
K_5	68,51	5,00	-27,40			E				F
K_6	69,13	10,99	-27,40			E				F
K_8	106,15	-0,99	-28,80			E				F
K_10	106,76	5,00	-28,80			E				F
K_11	174,25	0	0	E	E	E				F
K_12	175,28	10,00	-0,00			E				O F
K_13	26,01	5,00	-27,40			E				F
K_15	25,40	-0,99	-27,40			E				F
K_16	107,38	10,99	-28,80			E				F
K_17	144,40	-0,99	-30,60			E				F
K_18	145,01	5,00	-30,60			E				F
K_20	145,63	10,99	-30,60			E				F
!1	25,40	-0,99	-22,60							
!2	67,90	-0,99	-22,60							
!3	26,01	5,00	-22,60							
!4	68,51	5,00	-22,60							

Nr.:

Id	Coordinates			Supports						Specialties
	X [m]	Y [m]	Z [m]	DX	DY	DZ	RX	RY	RZ	
!5	26,63	10,99	-22,60							
!6	69,13	10,99	-22,60							
!7	106,15	-0,99	-21,60							
!8	144,40	-0,99	-21,60							
!9	106,76	5,00	-21,60							
!10	145,01	5,00	-21,60							
!11	107,38	10,99	-21,60							
!12	145,63	10,99	-21,60							
!13	25,40	-0,99	-15,60							
!14	67,90	-0,99	-15,60							
!15	106,15	-0,99	-15,60							
!16	144,40	-0,99	-15,60							
!17	26,01	5,00	-15,60							
!18	68,51	5,00	-15,60							
!19	106,76	5,00	-15,60							
!20	145,01	5,00	-15,60							
!21	26,63	10,99	-15,60							
!22	69,13	10,99	-15,60							
!23	107,38	10,99	-15,60							
!24	145,63	10,99	-15,60							
!25	25,40	-0,99	-8,60							
!26	67,90	-0,99	-8,60							
!27	106,15	-0,99	-8,60							
!28	144,40	-0,99	-8,60							
!29	26,01	5,00	-8,60							
!30	68,51	5,00	-8,60							
!31	106,76	5,00	-8,60							
!32	145,01	5,00	-8,60							
!33	26,63	10,99	-8,60							
!34	69,13	10,99	-8,60							
!35	107,38	10,99	-8,60							
!36	145,63	10,99	-8,60							
!37	26,83	12,97	-3,60							
!38	69,33	12,97	-3,60							
!39	107,58	12,97	-3,60							
!40	145,83	12,97	-3,60							
!41	25,40	-0,99	-3,60							
!42	67,90	-0,99	-3,60							
!43	106,15	-0,99	-3,60							
!44	144,40	-0,99	-3,60							
!45	25,50	0	-3,60							
!46	68,00	0	-3,60							
!47	106,25	0	-3,60							
!48	144,50	0	-3,60							
!49	26,01	5,00	-3,60							
!50	68,51	5,00	-3,60							
!51	106,76	5,00	-3,60							
!52	145,01	5,00	-3,60							
!53	26,53	10,00	-3,60							
!54	69,03	10,00	-3,60							
!55	107,28	10,00	-3,60							
!56	145,53	10,00	-3,60							
!57	26,63	10,99	-3,60							
!58	69,13	10,99	-3,60							
!59	107,38	10,99	-3,60							
!60	145,63	10,99	-3,60							
!61	25,19	-2,97	-3,60							
!62	67,69	-2,97	-3,60							
!63	105,94	-2,97	-3,60							
!64	144,19	-2,97	-3,60							
!65	-4,45	-1,88	0							
!66	25,30	-1,88	0							
!67	67,80	-1,88	0							
!68	106,05	-1,88	0							
!69	144,30	-1,88	0							
!70	174,05	-1,88	0							
!71	25,50	0	0							
!72	68,00	0	0							
!73	106,25	0	0							
!74	144,50	0	0							
!75	-4,04	2,00	0							
!76	0,21	2,00	0							
!77	2,33	2,00	0							
!78	4,46	2,00	0							
!79	6,58	2,00	0							

Nr.:

Id	X [m]	Coordinates			Supports						Specialties
		Y [m]	Z [m]		DX	DY	DZ	RX	RY	RZ	
!80	8,71	2,00	0								
!81	10,83	2,00	0								
!82	12,96	2,00	0								
!83	17,21	2,00	0								
!84	19,33	2,00	0								
!85	21,46	2,00	0								
!86	25,71	2,00	0								
!87	29,96	2,00	0								
!88	32,08	2,00	0								
!89	34,21	2,00	0								
!90	36,33	2,00	0								
!91	38,46	2,00	0								
!92	40,58	2,00	0								
!93	42,71	2,00	0								
!94	44,83	2,00	0								
!95	46,96	2,00	0								
!96	49,08	2,00	0								
!97	51,21	2,00	0								
!98	53,33	2,00	0								
!99	55,46	2,00	0								
!100	59,71	2,00	0								
!101	61,83	2,00	0								
!102	63,96	2,00	0								
!103	68,21	2,00	0								
!104	72,46	2,00	0								
!105	76,71	2,00	0								
!106	78,83	2,00	0								
!107	80,96	2,00	0								
!108	83,08	2,00	0								
!109	85,21	2,00	0								
!110	87,33	2,00	0								
!111	89,46	2,00	0								
!112	91,58	2,00	0								
!113	93,71	2,00	0								
!114	97,96	2,00	0								
!115	100,08	2,00	0								
!116	102,21	2,00	0								
!117	106,46	2,00	0								
!118	110,71	2,00	0								
!119	112,83	2,00	0								
!120	114,96	2,00	0								
!121	117,08	2,00	0								
!122	119,21	2,00	0								
!123	121,33	2,00	0								
!124	123,46	2,00	0								
!125	125,58	2,00	0								
!126	127,71	2,00	0								
!127	129,83	2,00	0								
!128	131,96	2,00	0								
!129	136,21	2,00	0								
!130	138,33	2,00	0								
!131	140,46	2,00	0								
!132	144,71	2,00	0								
!133	148,96	2,00	0								
!134	151,08	2,00	0								
!135	153,21	2,00	0								
!136	155,33	2,00	0								
!137	157,46	2,00	0								
!138	159,58	2,00	0								
!139	161,71	2,00	0								
!140	163,83	2,00	0								
!141	165,96	2,00	0								
!142	168,08	2,00	0								
!143	170,21	2,00	0								
!144	174,46	2,00	0								
!145	-3,84	4,00	0								
!146	0,41	4,00	0								
!147	2,54	4,00	0								
!148	4,66	4,00	0								
!149	6,79	4,00	0								
!150	8,91	4,00	0								
!151	11,04	4,00	0								
!152	13,16	4,00	0								
!153	17,41	4,00	0								
!154	19,54	4,00	0								

Nr.:

Id	X [m]	Coordinates			Supports						Specialties
		Y [m]	Z [m]		DX	DY	DZ	RX	RY	RZ	
!155	21,66	4,00	0								
!156	25,91	4,00	0								
!157	30,16	4,00	0								
!158	32,29	4,00	0								
!159	34,41	4,00	0								
!160	36,54	4,00	0								
!161	38,66	4,00	0								
!162	40,79	4,00	0								
!163	42,91	4,00	0								
!164	45,04	4,00	0								
!165	47,16	4,00	0								
!166	49,29	4,00	0								
!167	51,41	4,00	0								
!168	53,54	4,00	0								
!169	55,66	4,00	0								
!170	59,91	4,00	0								
!171	62,04	4,00	0								
!172	64,16	4,00	0								
!173	68,41	4,00	0								
!174	72,66	4,00	0								
!175	76,91	4,00	0								
!176	79,04	4,00	0								
!177	81,16	4,00	0								
!178	83,29	4,00	0								
!179	85,41	4,00	0								
!180	87,54	4,00	0								
!181	89,66	4,00	0								
!182	91,79	4,00	0								
!183	93,91	4,00	0								
!184	98,16	4,00	0								
!185	100,29	4,00	0								
!186	102,41	4,00	0								
!187	106,66	4,00	0								
!188	110,91	4,00	0								
!189	113,04	4,00	0								
!190	115,16	4,00	0								
!191	117,29	4,00	0								
!192	119,41	4,00	0								
!193	121,54	4,00	0								
!194	123,66	4,00	0								
!195	125,79	4,00	0								
!196	127,91	4,00	0								
!197	130,04	4,00	0								
!198	132,16	4,00	0								
!199	136,41	4,00	0								
!200	138,54	4,00	0								
!201	140,66	4,00	0								
!202	144,91	4,00	0								
!203	149,16	4,00	0								
!204	151,29	4,00	0								
!205	153,41	4,00	0								
!206	155,54	4,00	0								
!207	157,66	4,00	0								
!208	159,79	4,00	0								
!209	161,91	4,00	0								
!210	164,04	4,00	0								
!211	166,16	4,00	0								
!212	168,29	4,00	0								
!213	170,41	4,00	0								
!214	174,66	4,00	0								
!215	-3,63	6,00	0								
!216	0,62	6,00	0								
!217	2,74	6,00	0								
!218	4,87	6,00	0								
!219	6,99	6,00	0								
!220	9,12	6,00	0								
!221	11,24	6,00	0								
!222	13,37	6,00	0								
!223	17,62	6,00	0								
!224	19,74	6,00	0								
!225	21,87	6,00	0								
!226	26,12	6,00	0								
!227	30,37	6,00	0								
!228	32,49	6,00	0								
!229	34,62	6,00	0								

Nr.:

Id	X [m]	Coordinates			Supports						Specialties
		Y [m]	Z [m]		DX	DY	DZ	RX	RY	RZ	
!230	36,74	6,00	0								
!231	38,87	6,00	0								
!232	40,99	6,00	0								
!233	43,12	6,00	0								
!234	45,24	6,00	0								
!235	47,37	6,00	0								
!236	49,49	6,00	0								
!237	51,62	6,00	0								
!238	53,74	6,00	0								
!239	55,87	6,00	0								
!240	60,12	6,00	0								
!241	62,24	6,00	0								
!242	64,37	6,00	0								
!243	68,62	6,00	0								
!244	72,87	6,00	0								
!245	77,12	6,00	0								
!246	79,24	6,00	0								
!247	81,37	6,00	0								
!248	83,49	6,00	0								
!249	85,62	6,00	0								
!250	87,74	6,00	0								
!251	89,87	6,00	0								
!252	91,99	6,00	0								
!253	94,12	6,00	0								
!254	98,37	6,00	0								
!255	100,49	6,00	0								
!256	102,62	6,00	0								
!257	106,87	6,00	0								
!258	111,12	6,00	0								
!259	113,24	6,00	0								
!260	115,37	6,00	0								
!261	117,49	6,00	0								
!262	119,62	6,00	0								
!263	121,74	6,00	0								
!264	123,87	6,00	0								
!265	125,99	6,00	0								
!266	128,12	6,00	0								
!267	130,24	6,00	0								
!268	132,37	6,00	0								
!269	136,62	6,00	0								
!270	138,74	6,00	0								
!271	140,87	6,00	0								
!272	145,12	6,00	0								
!273	149,37	6,00	0								
!274	151,49	6,00	0								
!275	153,62	6,00	0								
!276	155,74	6,00	0								
!277	157,87	6,00	0								
!278	159,99	6,00	0								
!279	162,12	6,00	0								
!280	164,24	6,00	0								
!281	166,37	6,00	0								
!282	168,49	6,00	0								
!283	170,62	6,00	0								
!284	174,87	6,00	0								
!285	-3,43	8,00	0								
!286	0,82	8,00	0								
!287	2,95	8,00	0								
!288	5,07	8,00	0								
!289	7,20	8,00	0								
!290	9,32	8,00	0								
!291	11,45	8,00	0								
!292	13,57	8,00	0								
!293	17,82	8,00	0								
!294	19,95	8,00	0								
!295	22,07	8,00	0								
!296	26,32	8,00	0								
!297	30,57	8,00	0								
!298	32,70	8,00	0								
!299	34,82	8,00	0								
!300	36,95	8,00	0								
!301	39,07	8,00	0								
!302	41,20	8,00	0								
!303	43,32	8,00	0								
!304	45,45	8,00	0								

Nr.:

Id	X [m]	Coordinates			Supports						Specialties
		Y [m]	Z [m]		DX	DY	DZ	RX	RY	RZ	
!305	47,57	8,00	0								
!306	49,70	8,00	0								
!307	51,82	8,00	0								
!308	53,95	8,00	0								
!309	56,07	8,00	0								
!310	60,32	8,00	0								
!311	62,45	8,00	0								
!312	64,57	8,00	0								
!313	68,82	8,00	0								
!314	73,07	8,00	0								
!315	77,32	8,00	0								
!316	79,45	8,00	0								
!317	81,57	8,00	0								
!318	83,70	8,00	0								
!319	85,82	8,00	0								
!320	87,95	8,00	0								
!321	90,07	8,00	0								
!322	92,20	8,00	0								
!323	94,32	8,00	0								
!324	98,57	8,00	0								
!325	100,70	8,00	0								
!326	102,82	8,00	0								
!327	107,07	8,00	0								
!328	111,32	8,00	0								
!329	113,45	8,00	0								
!330	115,57	8,00	0								
!331	117,70	8,00	0								
!332	119,82	8,00	0								
!333	121,95	8,00	0								
!334	124,07	8,00	0								
!335	126,20	8,00	0								
!336	128,32	8,00	0								
!337	130,45	8,00	0								
!338	132,57	8,00	0								
!339	136,82	8,00	0								
!340	138,95	8,00	0								
!341	141,07	8,00	0								
!342	145,32	8,00	0								
!343	149,57	8,00	0								
!344	151,70	8,00	0								
!345	153,82	8,00	0								
!346	155,95	8,00	0								
!347	158,07	8,00	0								
!348	160,20	8,00	0								
!349	162,32	8,00	0								
!350	164,45	8,00	0								
!351	166,57	8,00	0								
!352	168,70	8,00	0								
!353	170,82	8,00	0								
!354	175,07	8,00	0								
!355	-1,10	10,00	0								
!356	1,03	10,00	0								
!357	3,15	10,00	0								
!358	5,28	10,00	0								
!359	7,40	10,00	0								
!360	9,53	10,00	0								
!361	11,65	10,00	0								
!362	13,78	10,00	0								
!363	15,90	10,00	0								
!364	18,03	10,00	0								
!365	20,15	10,00	0								
!366	22,28	10,00	0								
!367	24,40	10,00	0								
!368	26,53	10,00	0								
!369	28,65	10,00	0								
!370	30,78	10,00	0								
!371	32,90	10,00	0								
!372	35,03	10,00	0								
!373	37,15	10,00	0								
!374	39,28	10,00	0								
!375	41,40	10,00	0								
!376	43,53	10,00	0								
!377	45,65	10,00	0								
!378	47,78	10,00	0								
!379	49,90	10,00	0								

Nr.:

Id	X [m]	Coordinates			Supports						Specialties
		Y [m]	Z [m]	DX	DY	DZ	RX	RY	RZ		
!380	52,03	10,00	0								
!381	54,15	10,00	0								
!382	56,28	10,00	0								
!383	58,40	10,00	0								
!384	60,53	10,00	0								
!385	62,65	10,00	0								
!386	64,78	10,00	0								
!387	66,90	10,00	0								
!388	69,03	10,00	0								
!389	71,15	10,00	0								
!390	73,28	10,00	0								
!391	75,40	10,00	0								
!392	77,53	10,00	0								
!393	79,65	10,00	0								
!394	81,78	10,00	0								
!395	83,90	10,00	0								
!396	86,03	10,00	0								
!397	88,15	10,00	0								
!398	90,28	10,00	0								
!399	92,40	10,00	0								
!400	94,53	10,00	0								
!401	96,65	10,00	0								
!402	98,78	10,00	0								
!403	100,90	10,00	0								
!404	103,03	10,00	0								
!405	105,15	10,00	0								
!406	107,28	10,00	0								
!407	109,40	10,00	0								
!408	111,53	10,00	0								
!409	113,65	10,00	0								
!410	115,78	10,00	0								
!411	117,90	10,00	0								
!412	120,03	10,00	0								
!413	122,15	10,00	0								
!414	124,28	10,00	0								
!415	126,40	10,00	0								
!416	128,53	10,00	0								
!417	130,65	10,00	0								
!418	132,78	10,00	0								
!419	134,90	10,00	0								
!420	137,03	10,00	0								
!421	139,15	10,00	0								
!422	141,28	10,00	0								
!423	143,40	10,00	0								
!424	145,53	10,00	0								
!425	147,65	10,00	0								
!426	149,78	10,00	0								
!427	151,90	10,00	0								
!428	154,03	10,00	0								
!429	156,15	10,00	0								
!430	158,28	10,00	0								
!431	160,40	10,00	0								
!432	162,53	10,00	0								
!433	164,65	10,00	0								
!434	166,78	10,00	0								
!435	168,90	10,00	0								
!436	171,03	10,00	0								
!437	173,15	10,00	0								
!438	-3,02	11,88	0								
!439	26,73	11,88	0								
!440	69,23	11,88	0								
!441	107,48	11,88	0								
!442	145,73	11,88	0								
!443	175,48	11,88	0								
!444	-1,30	8,00	0,00								
!445	15,70	8,00	0,00								
!446	24,20	8,00	0,00								
!447	28,45	8,00	0,00								
!448	58,20	8,00	0,00								
!449	66,70	8,00	0,00								
!450	70,95	8,00	0,00								
!451	75,20	8,00	0,00								
!452	96,45	8,00	0,00								
!453	104,95	8,00	0,00								
!454	109,20	8,00	0,00								

Nr.:

Id	X [m]	Coordinates			Supports						Specialties
		Y [m]	Z [m]	DX	DY	DZ	RX	RY	RZ		
!455	134,70	8,00	0,00								
!456	143,20	8,00	0,00								
!457	147,45	8,00	0,00								
!458	172,95	8,00	0,00								
!459	-1,51	6,00	0,00								
!460	15,49	6,00	0,00								
!461	23,99	6,00	0,00								
!462	28,24	6,00	0,00								
!463	57,99	6,00	0,00								
!464	66,49	6,00	0,00								
!465	70,74	6,00	0,00								
!466	74,99	6,00	0,00								
!467	96,24	6,00	0,00								
!468	104,74	6,00	0,00								
!469	108,99	6,00	0,00								
!470	134,49	6,00	0,00								
!471	142,99	6,00	0,00								
!472	147,24	6,00	0,00								
!473	172,74	6,00	0,00								
!474	-1,71	4,00	0,00								
!475	15,29	4,00	0,00								
!476	23,79	4,00	0,00								
!477	28,04	4,00	0,00								
!478	57,79	4,00	0,00								
!479	66,29	4,00	0,00								
!480	70,54	4,00	0,00								
!481	74,79	4,00	0,00								
!482	96,04	4,00	0,00								
!483	104,54	4,00	0,00								
!484	108,79	4,00	0,00								
!485	134,29	4,00	0,00								
!486	142,79	4,00	0,00								
!487	147,04	4,00	0,00								
!488	172,54	4,00	0,00								
!489	-1,92	2,00	0,00								
!490	15,08	2,00	0,00								
!491	23,58	2,00	0,00								
!492	27,83	2,00	0,00								
!493	57,58	2,00	0,00								
!494	66,08	2,00	0,00								
!495	70,33	2,00	0,00								
!496	74,58	2,00	0,00								
!497	95,83	2,00	0,00								
!498	104,33	2,00	0,00								
!499	108,58	2,00	0,00								
!500	134,08	2,00	0,00								
!501	142,58	2,00	0,00								
!502	146,83	2,00	0,00								
!503	172,33	2,00	0,00								
!504	-2,13	0	0,00								
!505	-0,00	0	0,00								
!506	2,12	0	0,00								
!507	4,25	0	0,00								
!508	6,37	0	0,00								
!509	8,50	0	0,00								
!510	10,62	0	0,00								
!511	12,75	0	0,00								
!512	14,87	0	0,00								
!513	17,00	0	0,00								
!514	19,12	0	0,00								
!515	21,25	0	0,00								
!516	23,37	0	0,00								
!517	27,62	0	0,00								
!518	29,75	0	0,00								
!519	31,87	0	0,00								
!520	34,00	0	0,00								
!521	36,12	0	0,00								
!522	38,25	0	0,00								
!523	40,37	0	0,00								
!524	42,50	0	0,00								
!525	44,62	0	0,00								
!526	46,75	0	0,00								
!527	48,87	0	0,00								
!528	51,00	0	0,00								
!529	53,12	0	0,00								

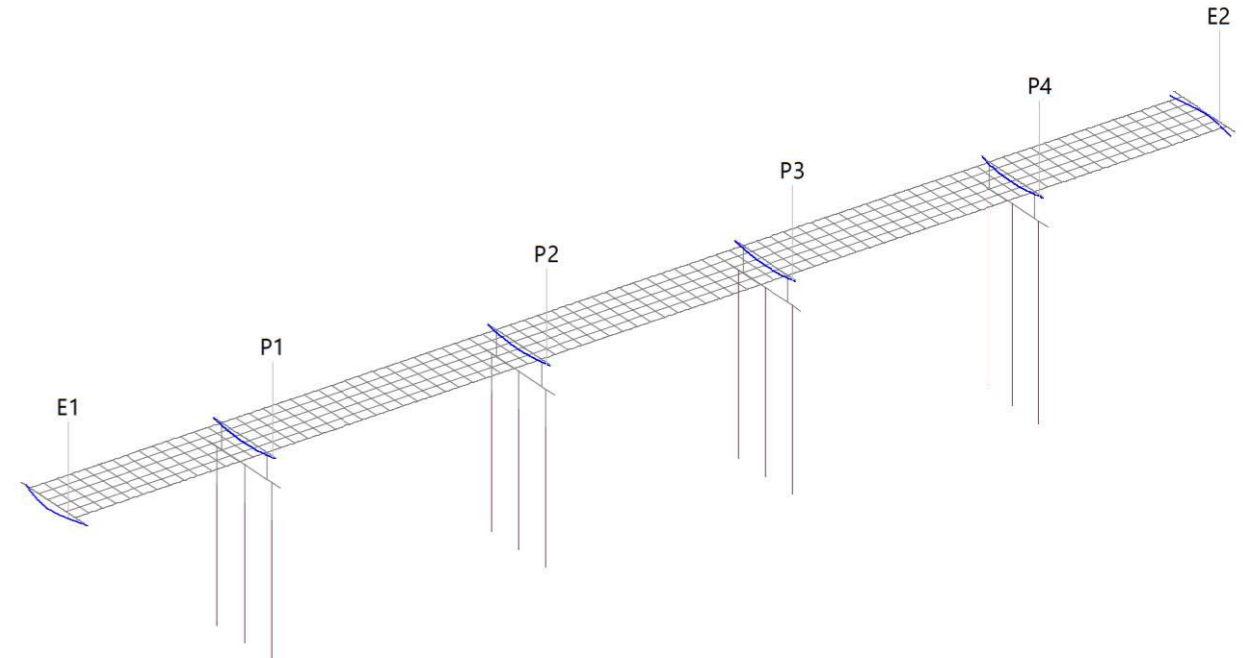
Nr.:

Id	X [m]	Coordinates			Supports						Specialties
		Y [m]	Z [m]		DX	DY	DZ	RX	RY	RZ	
!530	55,25	0	0,00								
!531	57,37	0	0,00								
!532	59,50	0	0,00								
!533	61,62	0	0,00								
!534	63,75	0	0,00								
!535	65,87	0	0,00								
!536	70,12	0	0,00								
!537	72,25	0	0,00								
!538	74,37	0	0,00								
!539	76,50	0	0,00								
!540	78,62	0	0,00								
!541	80,75	0	0,00								
!542	82,87	0	0,00								
!543	85,00	0	0,00								
!544	87,12	0	0,00								
!545	89,25	0	0,00								
!546	91,37	0	0,00								
!547	93,50	0	0,00								
!548	95,62	0	0,00								
!549	97,75	0	0,00								
!550	99,87	0	0,00								
!551	102,00	0	0,00								
!552	104,12	0	0,00								
!553	108,37	0	0,00								
!554	110,50	0	0,00								
!555	112,62	0	0,00								
!556	114,75	0	0,00								
!557	116,87	0	0,00								
!558	119,00	0	0,00								
!559	121,12	0	0,00								
!560	123,25	0	0,00								
!561	125,37	0	0,00								
!562	127,50	0	0,00								
!563	129,62	0	0,00								
!564	131,75	0	0,00								
!565	133,87	0	0,00								
!566	136,00	0	0,00								
!567	138,12	0	0,00								
!568	140,25	0	0,00								
!569	142,37	0	0,00								
!570	146,62	0	0,00								
!571	148,75	0	0,00								
!572	150,87	0	0,00								
!573	153,00	0	0,00								
!574	155,12	0	0,00								
!575	157,25	0	0,00								
!576	159,37	0	0,00								
!577	161,50	0	0,00								
!578	163,62	0	0,00								
!579	165,75	0	0,00								
!580	167,87	0	0,00								
!581	170,00	0	0,00								
!582	172,12	0	0,00								

B / E : Blocked / Elastically supported
O : Local coordinate system (s. table 'Oriented nodes')
F : Spring support (s. 'Nodes with elastic supports')

Nr.:

Tendons



Tendon group: V2 (Tendons transversals, LLOSA-F5)

Tendon	Area [mm ²]	Material	μ [1/rad]	$\Delta\alpha$ [rad/m]	Length [m]	Structure line(s)	Bond
E1	13020,0	P	0,190	0,0060	14,02	SL_T-E1	+
E2	13020,0	P	0,190	0,0060	14,02	SL_T-E2	+
P1	7560,0	P	0,190	0,0060	13,85	SL_T-P1	+
P2	7560,0	P	0,190	0,0060	13,85	SL_T-P2	+
P4	7560,0	P	0,190	0,0060	13,85	SL_T-P4	+
P3	7560,0	P	0,190	0,0060	13,85	SL_T-P3	+

Tendon E1 - Stressing steps

Position	Anchor		At anchor			1st extremum after anchor		
	Distance [m]	Stress Process	σ_p/f_{pk}	Force [kN]	Elongation [mm]	σ_p/f_{pk}	Force [kN]	Distance [m]
Start	0	Tensioning	0,750	18162,90	92,4	0,669	16198,67	13,78
End	13,78	anchoring	0,633	15324,28	-6,0	0,689	16683,33	8,44
		Tensioning	0,750	18162,90	6,2	0,669	16198,67	0
		anchoring	0,636	15412,44	-6,0	0,691	16731,30	5,31

Distance : from start of tendon

Tendon: E1 - Geometry and tendon forces

Distances		Length [m]	Eccentricities		Tangent (unit vector)			Radius ρ_z [m]	P_o [kN]
(1) [m]	(2) [m]		ey [m]	ez [m]	x	y	z		
0	* 0	0	-0,60	-0,45	0,9672	0,2445	-0,0692	---	16198,67
1,00	1,00	1,03	-0,36	-0,52	0,9722	0,2266	-0,0591	94,01	16283,17
2,00	2,00	2,06	-0,13	-0,57	0,9763	0,2110	-0,0486	93,67	16354,79
3,00	3,00	3,08	0,08	-0,62	0,9805	0,1928	-0,0382	94,52	16439,42
4,00	4,00	4,10	0,27	-0,66	0,9852	0,1690	-0,0278	95,22	16541,27
5,00	5,00	5,11	0,43	-0,68	0,9908	0,1340	-0,0175	95,52	16676,95
6,00	6,00	6,12	0,55	-0,70	0,9972	0,0743	-0,0070	95,42	16573,09
6,89	* 6,89	7,01	0,60	-0,70	0,9996	0,0294	-0,0024	95,00	16258,36
7,00	7,00	7,12	0,60	-0,70	0,9993	-0,0081	0,0005	97,11	16218,43
8,00	8,00	8,13	0,53	-0,69	0,9933	-0,1144	0,0130	93,40	15948,66
9,00	9,00	9,13	0,40	-0,68	0,9874	-0,1567	0,0237	93,72	15797,44
10,00	10,00	10,15	0,23	-0,65	0,9824	-0,1837	0,0342	94,78	15691,19
11,00	11,00	11,17	0,03	-0,61	0,9781	-0,2035	0,0445	95,55	15605,50

Nr.:

Distances			Eccentricities		Tangent (unit vector)			Radius ρz	P _o
(1) [m]	(2) [m]	Length [m]	ey [m]	ez [m]	x	y	z	[m]	[kN]
12,00	12,00	12,19	-0,18	-0,56	0,9741	-0,2195	0,0546	95,88	15521,13
13,00	13,00	13,22	-0,41	-0,50	0,9699	-0,2349	0,0647	95,77	15447,11
13,78	* 13,78	14,02	-0,60	-0,45	0,9682	-0,2409	0,0679	---	15412,44

Distances : Measured along plan view of structure line
 Eccentricities : local (with reference to structure line)
 Tangent (unit vector) : Tangent to tendon (unit vector in local coordinates)
 (1) : from start of structure line SL_T-E1
 (2) : from start of tendon
 Length : Effective tendon length
 Radius ρz : Radius of curvature (without influence of y-eccentricities)
 P_o : Force (Final state)
 * : Definition point

Tendon: E1 - Losses (% of force from start/end)

Distance [m]	% of force from	
	start	end
0	100,00	89,19
1,00	99,48	89,55
2,00	99,05	90,05
3,00	98,54	90,51
4,00	97,93	91,07
5,00	97,13	91,82
6,00	95,90	93,00
6,89	94,08	94,80
7,00	93,85	95,03
8,00	92,29	96,54
9,00	91,41	97,56
10,00	90,80	98,22
11,00	90,30	98,76
12,00	89,81	99,30
13,00	89,39	99,78
13,78	89,19	100,00

Distance : Measured along plan view of structure line from start of tendon

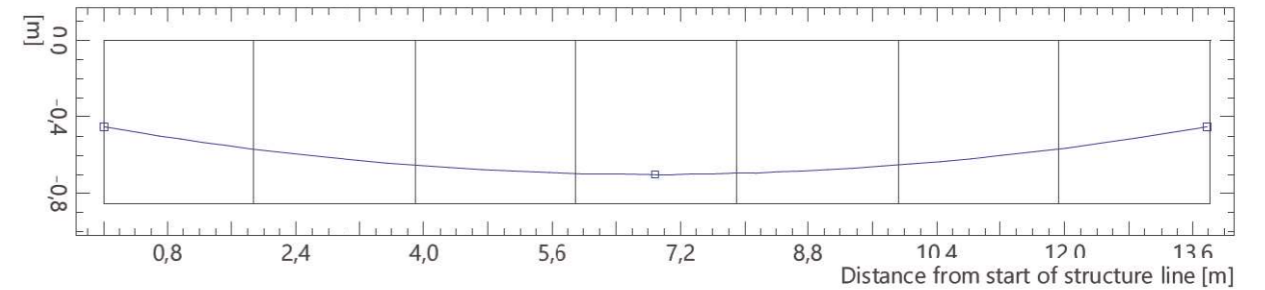
Tendon: E1 - Attributes of tendon points

point	distance [m]	Guidance line	Eccentricity		Tangent			arc		
			Relation	ez [m]	ey [m]	Direction [°]	Length L [m]	Length R [m]	left [°]	right [°]
1	0		explic	-0,45	0	-4,2	0	1,06	0	0
2	6,89		explic	-0,70	0	0	2,30	1,06	0	0
3	13,78		explic	-0,45	0	4,2	2,30	0	0	0

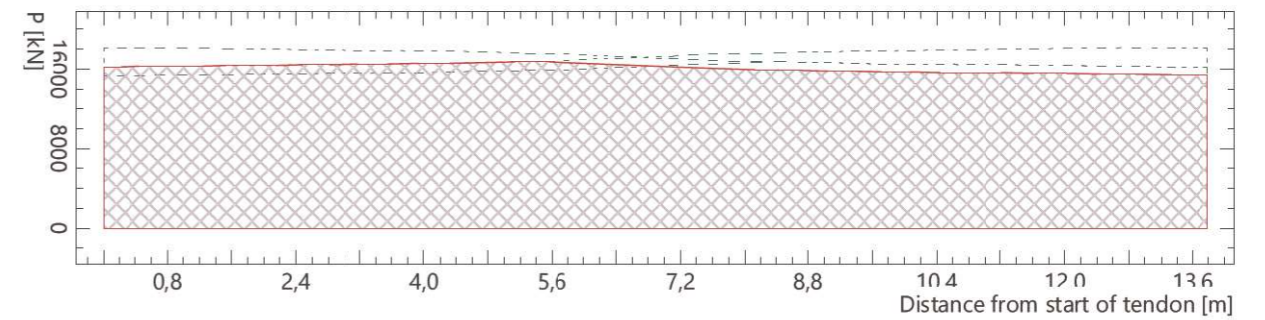
Nr.:

Tendon
V2.E1

Side view of tendon profile
Side view of structure line



Force diagram



Tendon E2 - Stressing steps

Position	Anchor Distance [m]	Stress Process	At anchor		Elongation [mm]	1st extremum after anchor		
			σ _p /f _{pk}	Force [kN]		σ _p /f _{pk}	Force [kN]	Distance [m]
Start	0	Tensioning anchoring	0,750	18162,90	92,3	0,669	16200,95	13,78
End	13,78	Tensioning	0,632	15296,22	-6,0	0,688	16668,11	8,44
		anchoring	0,750	18162,90	6,3	0,669	16200,95	0
			0,637	15422,33	-6,0	0,691	16736,65	5,23

Distance : from start of tendon

Tendon: E2 - Geometry and tendon forces

Distances			Eccentricities		Tangent (unit vector)			Radius ρz	P _o
(1) [m]	(2) [m]	Length [m]	ey [m]	ez [m]	x	y	z	[m]	[kN]
0	* 0	0	0,60	-0,45	0,9672	-0,2445	-0,0692	---	16200,95
1,00	1,00	1,03	0,36	-0,52	0,9722	-0,2266	-0,0591	94,01	16285,45
2,00	2,00	2,06	0,13	-0,57	0,9763	-0,2110	-0,0486	93,67	16372,48
3,00	3,00	3,08	-0,08	-0,62	0,9805	-0,1928	-0,0382	94,52	16459,80
4,00	4,00	4,10	-0,27	-0,66	0,9852	-0,1690	-0,0278	95,22	16561,78
5,00	5,00	5,11	-0,43	-0,68	0,9908	-0,1340	-0,0175	95,52	16697,63
6,00	6,00	6,12	-0,55	-0,70	0,9972	-0,0743	-0,0070	95,42	16564,68
6,89	* 6,89	7,01	-0,60	-0,70	0,9996	-0,0294	-0,0024	95,00	16405,02
7,00	7,00	7,12	-0,60	-0,70	0,9993	0,0081	0,0005	97,11	16286,56
8,00	8,00	8,12	-0,53	-0,69	0,9933	0,1142	0,0130	93,40	15939,57
9,00	9,00	9,13	-0,40	-0,68	0,9874	0,1564	0,0237	93,72	15788,78
10,00	10,00	10,15	-0,23	-0,65	0,9824	0,1833	0,0342	94,78	15682,84
11,00	11,00	11,17	-0,04	-0,61	0,9782	0,2030	0,0445	95,55	15597,40
12,00	12,00	12,19	0,18	-0,56	0,9742	0,2190	0,0546	95,88	15529,75
13,00	13,00	13,22	0,41	-0,50	0,9700	0,2343	0,0647	95,77	15456,74
13,78	* 13,78	14,02	0,60	-0,45	0,9684	0,2402	0,0680	---	15422,33

Nr.:

Distances : Measured along plan view of structure line
 Eccentricities : local (with reference to structure line)
 Tangent (unit vector) : Tangent to tendon (unit vector in local coordinates)
 (1) : from start of structure line SL_T-E2
 (2) : from start of tendon
 Length : Effective tendon length
 Radius ρ_z : Radius of curvature (without influence of y-eccentricities)
 P_o : Force (Final state)
 * : Definition point

Tendon: E2 - Losses (% of force from start/end)

Distance [m]	% of force from	
	start	end
0	100,00	89,20
1,00	99,48	89,56
2,00	98,95	90,14
3,00	98,43	90,52
4,00	97,82	91,18
5,00	97,03	91,93
6,00	95,80	93,10
6,89	94,88	94,01
7,00	94,19	94,70
8,00	92,19	96,76
9,00	91,32	97,58
10,00	90,70	98,34
11,00	90,21	98,88
12,00	89,82	99,31
13,00	89,40	99,78
13,78	89,20	100,00

Distance : Measured along plan view of structure line from start of tendon

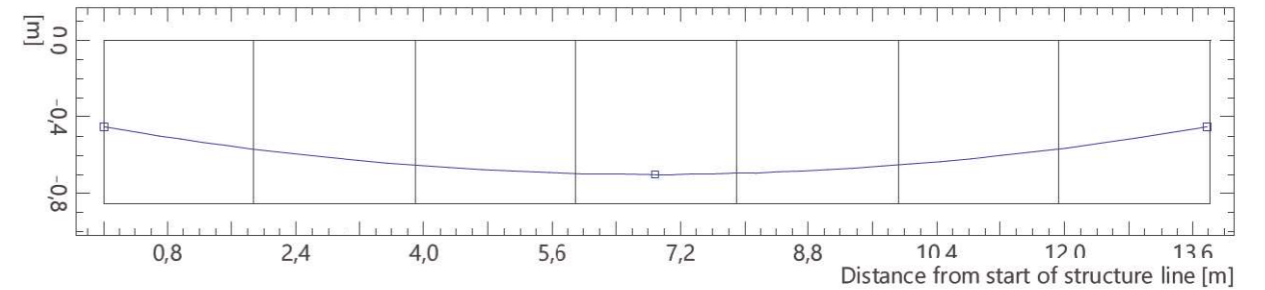
Tendon: E2 - Attributes of tendon points

point	distance [m]	Guidance line	Eccentricity			Tangent		arc		
			Relation	ez [m]	ey [m]	Direction [°]	Length L [m]	Length R [m]	left [°]	right [°]
1	0		explic	-0,45	0	-4,2	0	1,06	0	0
2	6,89		explic	-0,70	0	0	2,30	1,06	0	0
3	13,78		explic	-0,45	0	4,2	2,30	0	0	0

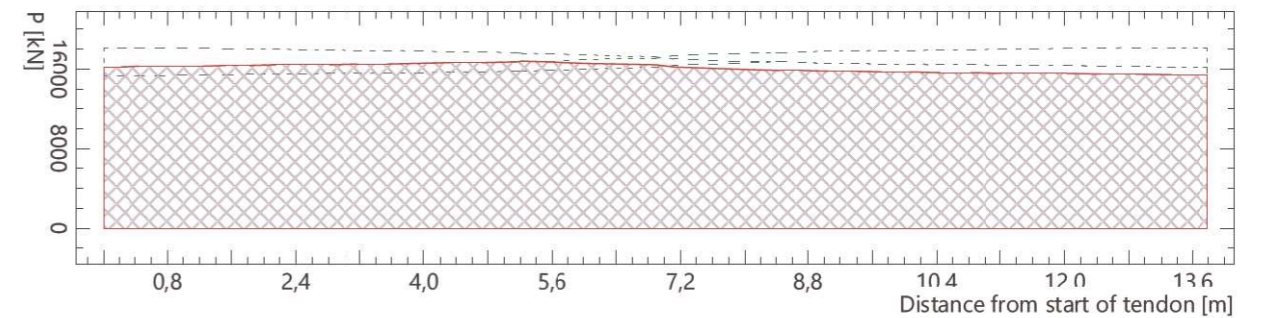
Nr.:

Tendon
V2.E2

Side view of tendon profile
Side view of structure line



Force diagram



Tendon P1 - Stressing steps

Position	Anchor		At anchor			1st extremum after anchor		
	Distance [m]	Stress Process	σ_p/f_{pk}	Force [kN]	Elongation [mm]	σ_p/f_{pk}	Force [kN]	Distance [m]
Start	0	Tensioning anchoring	0,800	11249,28	99,5	0,746	10491,34	13,78
End	13,78	Tensioning	0,701	9853,95	-6,0	0,749	10528,53	11,82
		anchoring	0,800	11249,28	6,1	0,746	10491,34	0
		anchoring	0,703	9879,88	-6,0	0,750	10542,37	1,94

Distance : from start of tendon

Tendon: P1 - Geometry and tendon forces

Distances (1) [m]	Distances (2) [m]	Length [m]	Eccentricities		Tangent (unit vector)			Radius ρ_z [m]	P_o [kN]
			ey [m]	ez [m]	x	y	z		
0	* 0	0	0	-0,10	0,9899	0,0000	-0,1416	---	10491,34
1,00	1,00	1,01	0	-0,24	0,9899	0,0000	-0,1416	---	10503,43
1,50	* 1,50	1,52	0	-0,31	0,9899	0,0000	-0,1416	---	10509,48
2,00	2,00	2,02	0	-0,38	0,9920	0,0000	-0,1265	38,53	10538,17
3,00	3,00	3,03	0	-0,50	0,9950	0,0000	-0,0994	37,72	10471,65
4,00	4,00	4,03	0	-0,59	0,9974	0,0000	-0,0725	37,96	10406,15
5,00	5,00	5,03	0	-0,65	0,9989	0,0000	-0,0458	38,03	10341,59
6,00	6,00	6,03	0	-0,69	0,9998	0,0000	-0,0191	37,85	10277,51
6,89	* 6,89	6,92	0	-0,70	1,0000	0,0000	-0,0047	37,52	10239,16
7,00	7,00	7,03	0	-0,70	1,0000	0,0000	0,0027	37,84	10223,37
8,00	8,00	8,03	0	-0,68	0,9995	0,0000	0,0328	37,25	10153,60
9,00	9,00	9,03	0	-0,64	0,9982	0,0000	0,0598	37,95	10089,95
10,00	10,00	10,04	0	-0,57	0,9963	0,0000	0,0864	38,37	10027,55
11,00	11,00	11,04	0	-0,47	0,9936	0,0000	0,1128	38,42	9965,78
12,00	12,00	12,05	0	-0,35	0,9906	0,0000	0,1365	38,18	9908,88
12,25	* 12,25	12,30	0	-0,32	0,9906	0,0000	0,1365	38,08	9906,03
13,00	13,00	13,06	0	-0,21	0,9900	0,0000	0,1411	---	9888,75
13,78	* 13,78	13,85	0	-0,10	0,9900	0,0000	0,1411	---	9879,88

Nr.:

Distances : Measured along plan view of structure line
 Eccentricities : local (with reference to structure line)
 Tangent (unit vector) : Tangent to tendon (unit vector in local coordinates)
 (1) : from start of structure line SL_T-P1
 (2) : from start of tendon
 Length : Effective tendon length
 Radius ρz : Radius of curvature (without influence of y-eccentricities)
 P_o : Force (Final state)
 * : Definition point

Tendon: P1 - Losses (% of force from start/end)

Distance [m]	% of force from	
	start	end
0	100,00	93,26
1,00	99,88	93,37
1,50	99,83	93,42
2,00	99,48	93,75
3,00	98,85	94,35
4,00	98,23	94,94
5,00	97,62	95,54
6,00	97,02	96,13
6,89	96,65	96,49
7,00	96,50	96,54
8,00	95,85	97,30
9,00	95,25	97,92
10,00	94,66	98,53
11,00	94,07	99,14
12,00	93,54	99,71
12,25	93,51	99,74
13,00	93,35	99,91
13,78	93,26	100,00

Distance : Measured along plan view of structure line from start of tendon

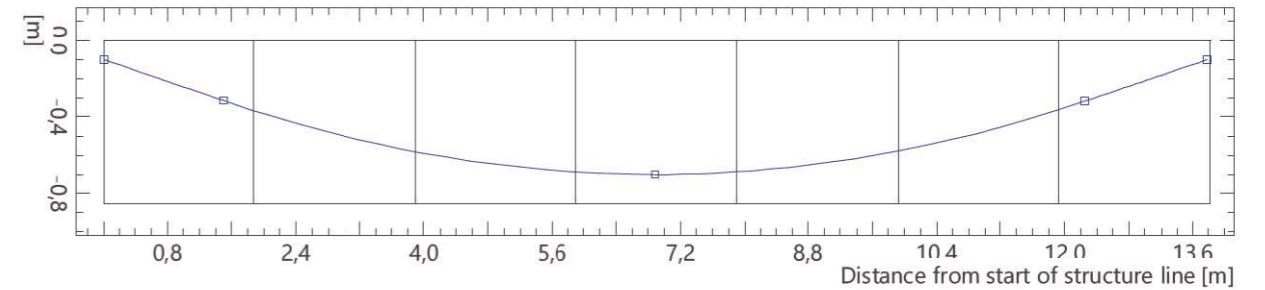
Tendon: P1 - Attributes of tendon points

point	distance [m]	Guidance line	Eccentricity			Tangent			arc	
			Relation	ez [m]	ey [m]	Direction [°]	Length L [m]	Length R [m]	left [°]	right [°]
1	0		explic	-0,10	0	-8,1	0	0,50	0	0
2	1,50		explic	-0,31	0	-8,1	0,50	0,83	0	0
3	6,89		explic	-0,70	0	0	1,80	0,82	0	0
4	12,25		explic	-0,32	0	8,1	1,79	0,51	0	0
5	13,78		explic	-0,10	0	8,1	0,51	0	0	0

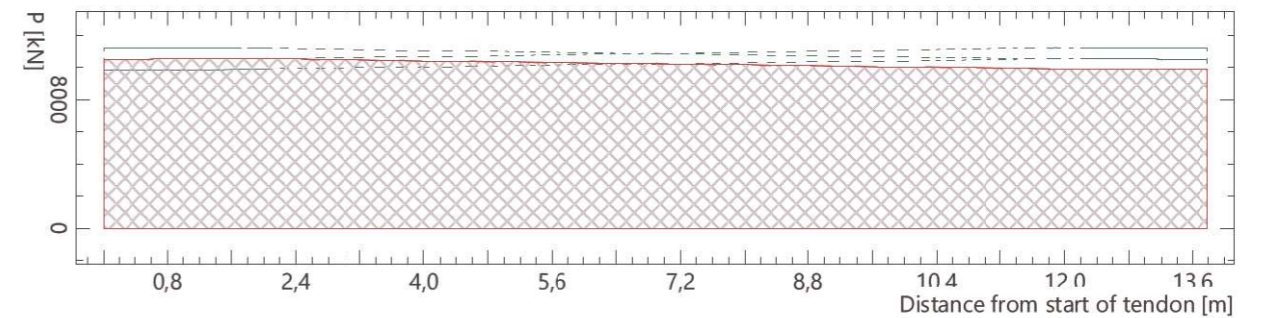
Nr.:

Tendon
V2.P1

Side view of tendon profile
Side view of structure line



Force diagram



Tendon P2 - Stressing steps

Position	Anchor Distance [m]	Stress Process	At anchor		Elongation [mm]	1st extremum after anchor		
			σ _p /f _{pk}	Force [kN]		σ _p /f _{pk}	Force [kN]	Distance [m]
Start	0	Tensioning anchoring	0,800	11249,28	99,5	0,745	10471,08	13,78
			0,701	9854,98	-6,0	0,749	10529,08	11,91
End	13,78	Tensioning anchoring	0,800	11249,28	5,9	0,745	10471,08	0
			0,700	9843,67	-6,0	0,748	10523,03	1,94

Distance : from start of tendon

Tendon: P2 - Geometry and tendon forces

Distances (1) [m]	Distances (2) [m]	Length [m]	Eccentricities		Tangent (unit vector)			Radius ρz [m]	P _o [kN]
			ey [m]	ez [m]	x	y	z		
0	* 0	0	0	-0,10	0,9899	0,0000	-0,1416	---	10471,08
1,00	1,00	1,01	0	-0,24	0,9899	0,0000	-0,1416	---	10483,14
1,50	* 1,50	1,52	0	-0,31	0,9899	0,0000	-0,1416	---	10489,18
2,00	2,00	2,02	0	-0,38	0,9920	0,0000	-0,1265	38,53	10518,81
3,00	3,00	3,03	0	-0,50	0,9950	0,0000	-0,0994	37,72	10452,39
4,00	4,00	4,03	0	-0,59	0,9974	0,0000	-0,0725	37,96	10387,01
5,00	5,00	5,03	0	-0,65	0,9989	0,0000	-0,0458	38,03	10322,58
6,00	6,00	6,03	0	-0,69	0,9998	0,0000	-0,0191	37,85	10258,61
6,89	* 6,89	6,92	0	-0,70	1,0000	0,0000	-0,0047	37,52	10220,33
7,00	7,00	7,03	0	-0,70	1,0000	0,0000	0,0024	38,34	10205,30
8,00	8,00	8,03	0	-0,68	0,9995	0,0000	0,0321	38,34	10136,19
9,00	9,00	9,03	0	-0,64	0,9983	0,0000	0,0584	39,06	10074,09
10,00	10,00	10,04	0	-0,57	0,9964	0,0000	0,0842	39,54	10013,25
11,00	11,00	11,04	0	-0,48	0,9939	0,0000	0,1098	39,67	9953,10
12,00	12,00	12,05	0	-0,36	0,9908	0,0000	0,1353	39,53	9892,43
12,78	* 12,78	12,84	0	-0,25	0,9894	0,0000	0,1455	39,27	9864,28
13,00	13,00	13,06	0	-0,22	0,9886	0,0000	0,1504	---	9852,53
13,78	* 13,78	13,85	0	-0,10	0,9886	0,0000	0,1504	---	9843,67

Nr.:

Distances : Measured along plan view of structure line
 Eccentricities : local (with reference to structure line)
 Tangent (unit vector) : Tangent to tendon (unit vector in local coordinates)
 (1) : from start of structure line SL_T-P2
 (2) : from start of tendon
 Length : Effective tendon length
 Radius ρz : Radius of curvature (without influence of y-eccentricities)
 P_o : Force (Final state)
 * : Definition point

Tendon: P2 - Losses (% of force from start/end)

Distance [m]	% of force from	
	start	end
0	100,00	93,08
1,00	99,88	93,19
1,50	99,83	93,24
2,00	99,47	93,58
3,00	98,84	94,18
4,00	98,22	94,77
5,00	97,61	95,36
6,00	97,01	95,96
6,89	96,64	96,31
7,00	96,50	96,46
8,00	95,85	97,11
9,00	95,26	97,71
10,00	94,69	98,31
11,00	94,12	98,90
12,00	93,54	99,51
12,78	93,28	99,79
13,00	93,17	99,91
13,78	93,08	100,00

Distance : Measured along plan view of structure line from start of tendon

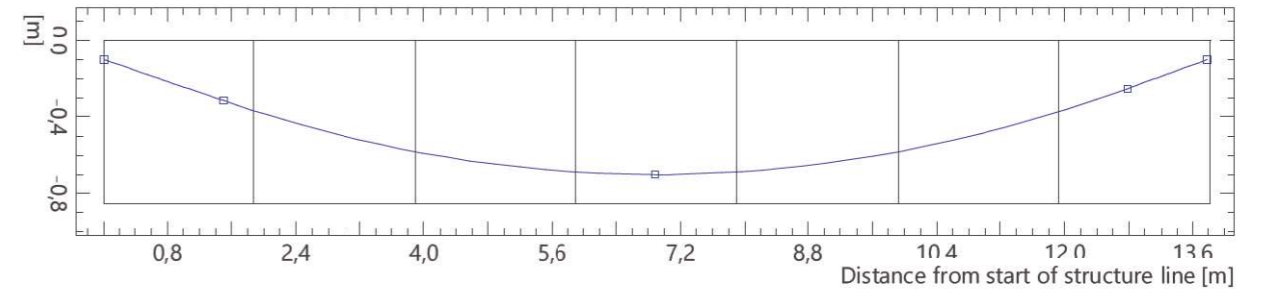
Tendon: P2 - Attributes of tendon points

point	distance [m]	Guidance line	Eccentricity Relation			Direction [°]	Tangent		arc	
			ez [m]	ey [m]	Length L [m]		Length R [m]	left [°]	right [°]	
1	0		explic	-0,10	0	-8,1	0	0,50	0	0
2	1,50		explic	-0,31	0	-8,1	0,50	0,83	0	0
3	6,89		explic	-0,70	0	0	1,80	0,90	0	0
4	12,78		explic	-0,25	0	8,6	1,96	0,33	0	0
5	13,78		explic	-0,10	0	8,6	0,33	0	0	0

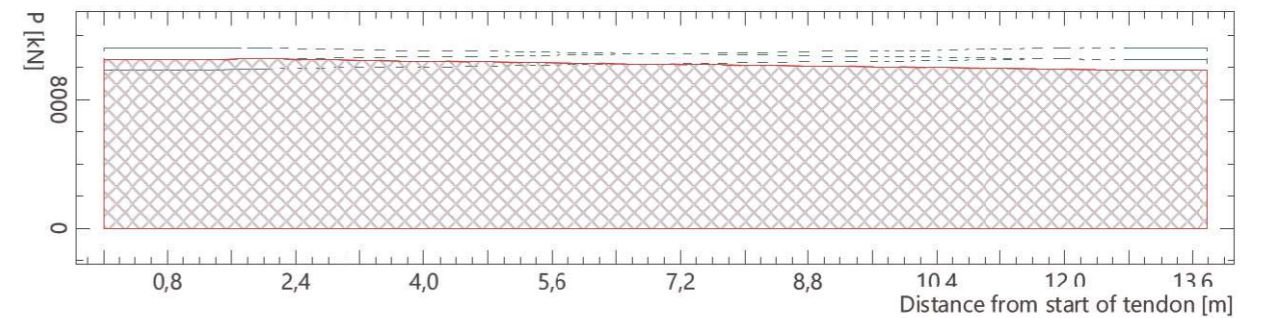
Nr.:

Tendon V2.P2

Side view of tendon profile
 Side view of structure line



Force diagram



Tendon P3 - Stressing steps

Position	Anchor Distance [m]	Stress Process	At anchor		Elongation [mm]	1st extremum after anchor		
			σ _p /f _{pk}	Force [kN]		σ _p /f _{pk}	Force [kN]	Distance [m]
Start	0	Tensioning anchoring	0,800	11249,28	99,5	0,746	10488,42	13,78
			0,701	9852,36	-6,0	0,749	10527,68	11,82
End	13,78	Tensioning anchoring	0,800	11249,28	6,1	0,746	10488,42	0
			0,702	9876,60	-6,0	0,750	10540,62	1,94

Distance : from start of tendon

Tendon: P3 - Geometry and tendon forces

Distances (1) [m]	Distances (2) [m]	Length [m]	Eccentricities		Tangent (unit vector)			Radius ρz [m]	P _o [kN]
			ey [m]	ez [m]	x	y	z		
0	* 0	0	0	-0,10	0,9899	0,0000	-0,1416	---	10488,42
1,00	1,00	1,01	0	-0,24	0,9899	0,0000	-0,1416	---	10500,50
1,50	* 1,50	1,52	0	-0,31	0,9899	0,0000	-0,1416	---	10506,55
2,00	2,00	2,02	0	-0,38	0,9920	0,0000	-0,1265	38,53	10536,55
3,00	3,00	3,03	0	-0,50	0,9950	0,0000	-0,0994	37,72	10470,03
4,00	4,00	4,03	0	-0,59	0,9974	0,0000	-0,0725	37,96	10404,54
5,00	5,00	5,03	0	-0,65	0,9989	0,0000	-0,0458	38,03	10339,99
6,00	6,00	6,03	0	-0,69	0,9998	0,0000	-0,0191	37,85	10275,92
6,89	* 6,89	6,92	0	-0,70	1,0000	0,0000	-0,0047	37,52	10237,58
7,00	7,00	7,03	0	-0,70	1,0000	0,0000	0,0027	37,88	10221,84
8,00	8,00	8,03	0	-0,68	0,9995	0,0000	0,0327	37,32	10152,12
9,00	9,00	9,03	0	-0,64	0,9982	0,0000	0,0597	38,02	10088,58
10,00	10,00	10,04	0	-0,57	0,9963	0,0000	0,0862	38,45	10026,29
11,00	11,00	11,04	0	-0,48	0,9936	0,0000	0,1125	38,50	9964,64
12,00	12,00	12,05	0	-0,35	0,9906	0,0000	0,1370	38,27	9905,63
12,28	* 12,28	12,33	0	-0,31	0,9906	0,0000	0,1370	38,16	9902,43
13,00	13,00	13,06	0	-0,21	0,9899	0,0000	0,1416	---	9885,48
13,78	* 13,78	13,85	0	-0,10	0,9899	0,0000	0,1416	---	9876,60

Nr.:

Distances : Measured along plan view of structure line
Eccentricities : local (with reference to structure line)
Tangent (unit vector) : Tangent to tendon (unit vector in local coordinates)
(1) : from start of structure line SL_T-P3
(2) : from start of tendon
Length : Effective tendon length
Radius ρz : Radius of curvature (without influence of y-eccentricities)
P_o : Force (Final state)
* : Definition point

Tendon: P3 - Losses (% of force from start/end)

Distance [m]	% of force from	
	start	end
0	100,00	93,24
1,00	99,88	93,34
1,50	99,83	93,40
2,00	99,47	93,74
3,00	98,84	94,33
4,00	98,22	94,93
5,00	97,61	95,52
6,00	97,01	96,11
6,89	96,64	96,47
7,00	96,50	96,52
8,00	95,84	97,29
9,00	95,24	97,90
10,00	94,65	98,51
11,00	94,07	99,12
12,00	93,51	99,71
12,28	93,48	99,74
13,00	93,32	99,91
13,78	93,24	100,00

Distance : Measured along plan view of structure line from start of tendon

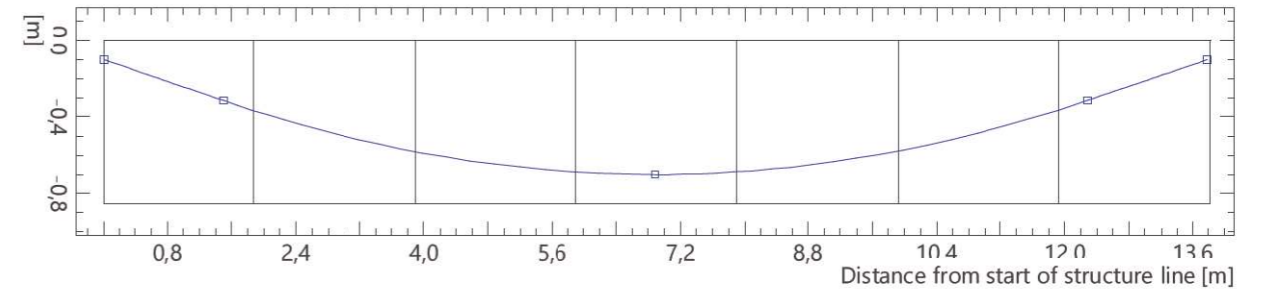
Tendon: P3 - Attributes of tendon points

point	distance [m]	Guidance line	Eccentricity Relation		ey [m]	Direction [°]	Tangent		arc	
			ez [m]	ey [m]			Length L [m]	Length R [m]	left [°]	right [°]
1	0		explic	-0,10	0	-8,1	0	0,50	0	0
2	1,50		explic	-0,31	0	-8,1	0,50	0,83	0	0
3	6,89		explic	-0,70	0	0	1,80	0,83	0	0
4	12,28		explic	-0,31	0	8,1	1,80	0,50	0	0
5	13,78		explic	-0,10	0	8,1	0,50	0	0	0

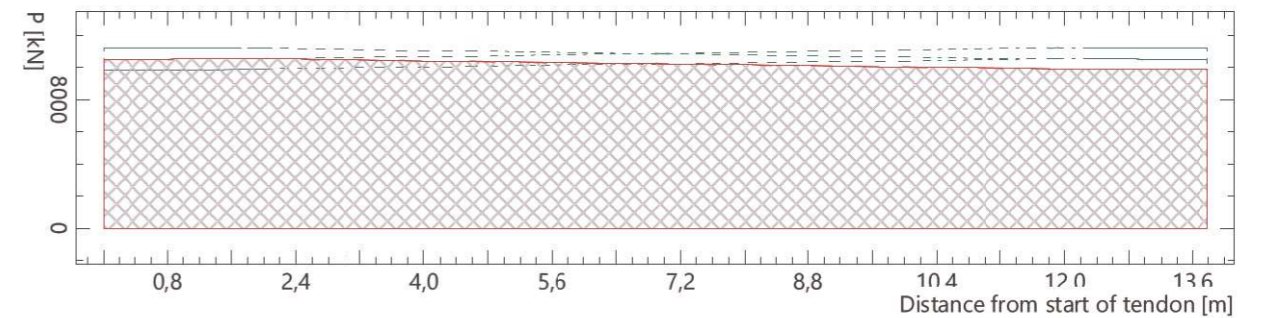
Nr.:

Tendon V2.P3

Side view of tendon profile
Side view of structure line



Force diagram



Tendon P4 - Stressing steps

Position	Anchor Distance [m]	Stress Process	At anchor		Elongation [mm]	1st extremum after anchor		
			σ _p /f _{pk}	Force [kN]		σ _p /f _{pk}	Force [kN]	Distance [m]
Start	0	Tensioning anchoring	0,800	11249,28	99,5	0,746	10488,42	13,78
			0,701	9852,36	-6,0	0,749	10527,68	11,82
End	13,78	Tensioning anchoring	0,800	11249,28	6,1	0,746	10488,42	0
			0,702	9876,60	-6,0	0,750	10540,62	1,94

Distance : from start of tendon

Tendon: P4 - Geometry and tendon forces

Distances (1) [m]	Distances (2) [m]	Length [m]	Eccentricities		Tangent (unit vector)			Radius ρz [m]	P _o [kN]
			ey [m]	ez [m]	x	y	z		
0	* 0	0	0	-0,10	0,9899	0,0000	-0,1416	---	10488,42
1,00	1,00	1,01	0	-0,24	0,9899	0,0000	-0,1416	---	10500,50
1,50	* 1,50	1,52	0	-0,31	0,9899	0,0000	-0,1416	---	10506,55
2,00	2,00	2,02	0	-0,38	0,9920	0,0000	-0,1265	38,53	10536,55
3,00	3,00	3,03	0	-0,50	0,9950	0,0000	-0,0994	37,72	10470,03
4,00	4,00	4,03	0	-0,59	0,9974	0,0000	-0,0725	37,96	10404,54
5,00	5,00	5,03	0	-0,65	0,9989	0,0000	-0,0458	38,03	10339,99
6,00	6,00	6,03	0	-0,69	0,9998	0,0000	-0,0191	37,85	10275,92
6,89	* 6,89	6,92	0	-0,70	1,0000	0,0000	-0,0047	37,52	10237,58
7,00	7,00	7,03	0	-0,70	1,0000	0,0000	0,0027	37,88	10221,84
8,00	8,00	8,03	0	-0,68	0,9995	0,0000	0,0327	37,32	10152,12
9,00	9,00	9,03	0	-0,64	0,9982	0,0000	0,0597	38,02	10088,58
10,00	10,00	10,04	0	-0,57	0,9963	0,0000	0,0862	38,45	10026,29
11,00	11,00	11,04	0	-0,48	0,9936	0,0000	0,1125	38,50	9964,64
12,00	12,00	12,05	0	-0,35	0,9906	0,0000	0,1370	38,27	9905,63
12,28	* 12,28	12,33	0	-0,31	0,9906	0,0000	0,1370	38,16	9902,43
13,00	13,00	13,06	0	-0,21	0,9899	0,0000	0,1416	---	9885,48
13,78	* 13,78	13,85	0	-0,10	0,9899	0,0000	0,1416	---	9876,60

Nr.:

Distances : Measured along plan view of structure line
 Eccentricities : local (with reference to structure line)
 Tangent (unit vector) : Tangent to tendon (unit vector in local coordinates)
 (1) : from start of structure line SL_T-P4
 (2) : from start of tendon
 Length : Effective tendon length
 Radius ρ_z : Radius of curvature (without influence of y-eccentricities)
 P_o : Force (Final state)
 * : Definition point

Tendon: P4 - Losses (% of force from start/end)

Distance [m]	% of force from	
	start	end
0	100,00	93,24
1,00	99,88	93,34
1,50	99,83	93,40
2,00	99,47	93,74
3,00	98,84	94,33
4,00	98,22	94,93
5,00	97,61	95,52
6,00	97,01	96,11
6,89	96,64	96,47
7,00	96,50	96,52
8,00	95,84	97,29
9,00	95,24	97,90
10,00	94,65	98,51
11,00	94,07	99,12
12,00	93,51	99,71
12,28	93,48	99,74
13,00	93,32	99,91
13,78	93,24	100,00

Distance : Measured along plan view of structure line from start of tendon

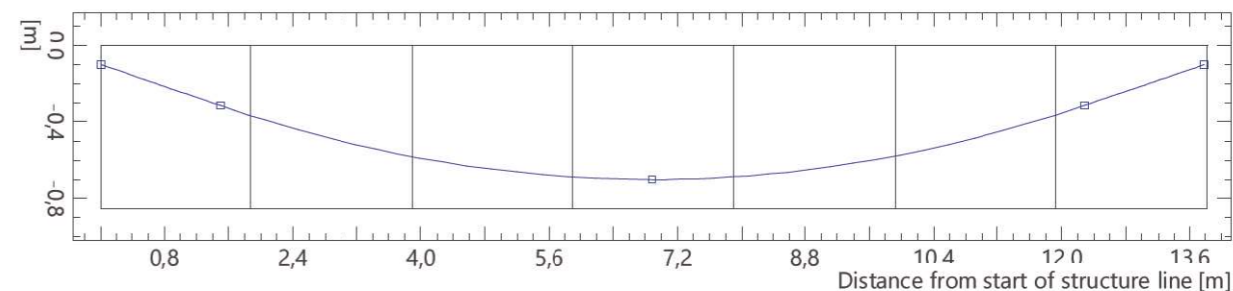
Tendon: P4 - Attributes of tendon points

point	distance [m]	Guidance line	Eccentricity			Tangent			arc	
			Relation	ez [m]	ey [m]	Direction [°]	Length L [m]	Length R [m]	left [°]	right [°]
1	0		explic	-0,10	0	-8,1	0	0,50	0	0
2	1,50		explic	-0,31	0	-8,1	0,50	0,83	0	0
3	6,89		explic	-0,70	0	0	1,80	0,83	0	0
4	12,28		explic	-0,31	0	8,1	1,80	0,50	0	0
5	13,78		explic	-0,10	0	8,1	0,50	0	0	0

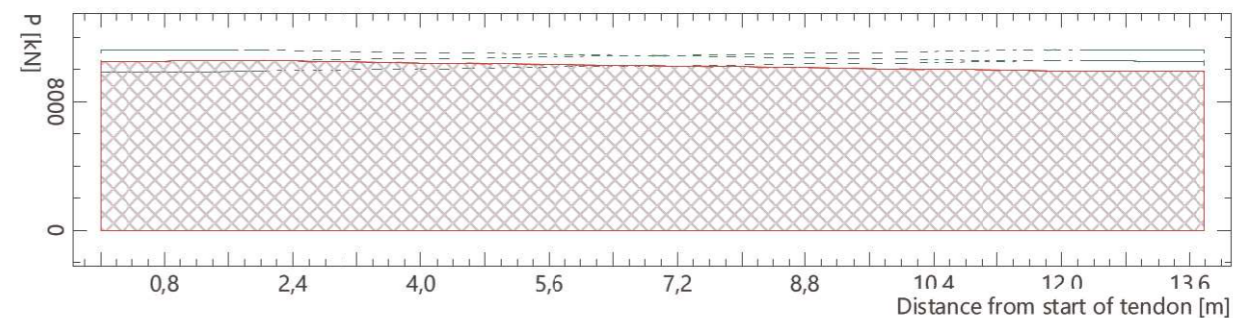
Nr.:

Tendon
V2.P4

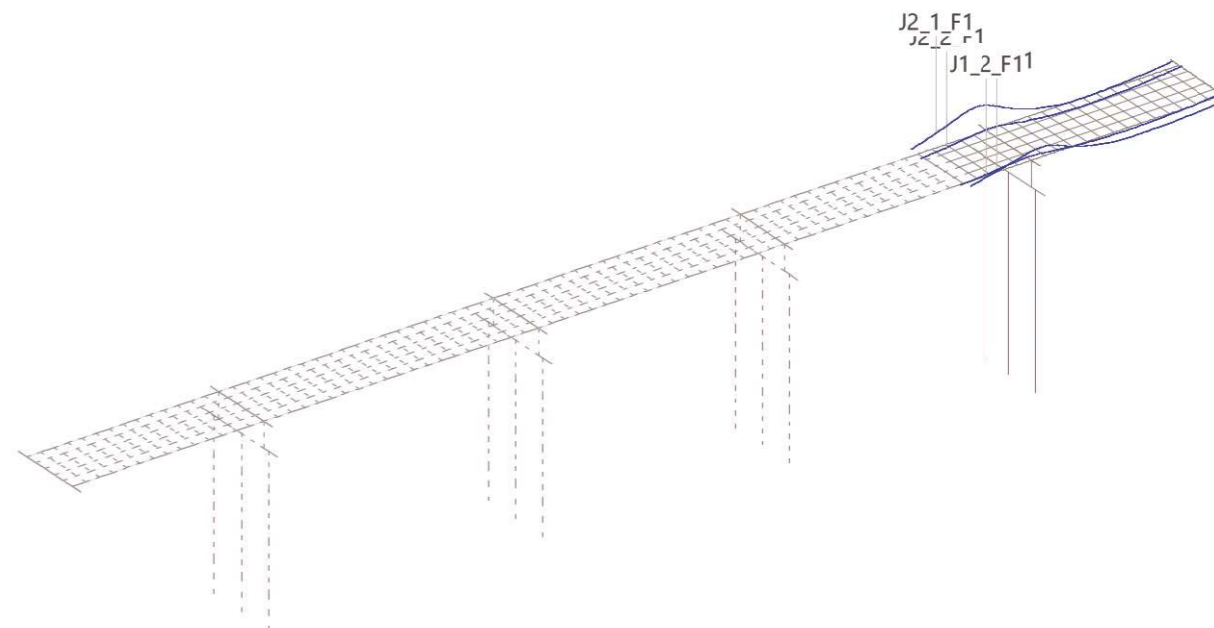
Side view of tendon profile
Side view of structure line



Force diagram



Tendons



Nr.:

Tendon group: V1-1 (Longitudinals F1, LLOSA-F1)

Tendon	Area [mm ²]	Material	μ [1/rad]	$\Delta\alpha$ [rad/m]	Length [m]	Structure line(s)	Bond
J2_2_F1	7560,0	P	0,190	0,0060	40,49	SL2	+
J1_1_F1	17360,0	P	0,190	0,0060	41,16	SL1	+
J2_1_F1	17360,0	P	0,190	0,0060	41,16	SL2	+
J1_2_F1	7560,0	P	0,190	0,0060	40,49	SL1	+

Tendon J1_1_F1 - Stressing steps

Position	Anchor Distance [m]	Stress Process	At anchor		Elongation [mm]	1st extremum after anchor		
			σ_p/f_{pk}	Force [kN]		σ_p/f_{pk}	Force [kN]	Distance [m]
Start	0	Tensioning	0,750	24217,20	242,2	0,563	18194,38	40,38
		anchoring	0,661	21327,37	-6,0	0,704	22726,43	9,80
End	40,38	Tensioning	0,750	24217,20	32,7	0,650	20990,81	12,39
		anchoring	0,685	22109,72	-6,0	0,717	23139,55	23,72

Distance : from start of tendon

Tendon: J1_1_F1 - Geometry and tendon forces

(1) [m]	(2) [m]	Length [m]	Eccentricities		Tangent (unit vector)			Radius ρ_z [m]	P_o [kN]
			e_y [m]	e_z [m]	x	y	z		
138,12	* 0,00	0	-1,35	0,12	0,9791	-0,0503	0,1972	---	21327,38
139,12	1,00	1,02	-1,40	0,33	0,9769	-0,0529	0,2073	100,47	21395,22
140,12	2,00	2,05	-1,46	0,54	0,9745	-0,0555	0,2174	100,24	21463,87
141,12	3,00	3,07	-1,52	0,77	0,9721	-0,0580	0,2274	101,27	21532,45
142,12	4,00	4,10	-1,58	1,01	0,9696	-0,0605	0,2373	102,54	21600,79
143,12	5,00	5,14	-1,64	1,25	0,9670	-0,0630	0,2470	103,75	21668,91
144,12	6,00	6,17	-1,71	1,51	0,9643	-0,0654	0,2566	104,81	21736,90
145,12	7,00	7,21	-1,77	1,78	0,9615	-0,0679	0,2662	105,69	21804,85
146,12	8,00	8,25	-1,85	2,06	0,9597	-0,0694	0,2722	106,37	21857,78
146,28	* 8,16	8,42	-1,86	2,11	0,9597	-0,0694	0,2722	106,47	21861,94
147,12	9,00	9,28	-1,91	2,31	0,9829	-0,0456	0,1780	-9,11	22303,00
148,12	10,00	10,29	-1,94	2,44	0,9978	-0,0166	0,0642	-8,72	22616,31
148,74	* 10,63	10,92	-1,95	2,46	0,9999	-0,0026	0,0097	-8,40	22359,44
149,12	11,00	11,29	-1,94	2,45	0,9972	0,0186	-0,0723	# -5,91	21992,92
150,12	12,00	12,30	-1,91	2,30	0,9694	0,0608	-0,2377	# -6,37	21256,77
151,12	13,00	13,36	-1,82	1,98	0,9203	0,0968	-0,3790	# -7,39	21369,67
151,24	* 13,13	13,49	-1,81	1,93	0,9203	0,0968	-0,3790	# -7,55	21372,98
152,12	14,00	14,44	-1,72	1,57	0,9286	0,0917	-0,3595	35,73	21485,13
153,12	15,00	15,52	-1,62	1,19	0,9401	0,0842	-0,3301	34,42	21644,25
154,12	16,00	16,58	-1,54	0,85	0,9508	0,0766	-0,3001	33,64	21805,81
155,12	17,00	17,63	-1,46	0,54	0,9605	0,0688	-0,2695	32,99	21969,40
156,12	18,00	18,67	-1,39	0,27	0,9692	0,0608	-0,2383	32,36	22135,34
157,12	19,00	19,70	-1,33	0,03	0,9770	0,0527	-0,2065	31,75	22303,77
158,12	20,00	20,72	-1,27	-0,18	0,9837	0,0444	-0,1741	31,14	22474,94
159,12	21,00	21,73	-1,23	-0,35	0,9893	0,0360	-0,1411	30,56	22649,14
160,12	22,00	22,74	-1,20	-0,48	0,9937	0,0274	-0,1074	30,01	22826,62
161,12	23,00	23,75	-1,17	-0,59	0,9971	0,0187	-0,0732	29,50	23007,20
162,12	24,00	24,75	-1,15	-0,66	0,9992	0,0098	-0,0385	29,04	23087,87
163,12	25,00	25,75	-1,14	-0,69	0,9999	0,0037	-0,0143	28,63	22952,40
163,63	* 25,51	26,26	-1,14	-0,70	0,9999	0,0037	-0,0143	28,44	22939,19
164,12	26,00	26,75	-1,14	-0,70	1,0000	-0,0011	0,0044	156,79	22842,21
165,12	27,00	27,75	-1,14	-0,69	0,9999	-0,0029	0,0112	149,99	22785,76
166,12	28,00	28,75	-1,15	-0,68	0,9998	-0,0046	0,0181	149,10	22729,16
167,12	29,00	29,75	-1,15	-0,66	0,9997	-0,0064	0,0249	149,76	22672,87
168,12	30,00	30,75	-1,16	-0,63	0,9995	-0,0081	0,0317	150,76	22616,98
169,12	31,00	31,75	-1,17	-0,60	0,9992	-0,0098	0,0384	151,72	22561,44
170,12	32,00	32,76	-1,18	-0,56	0,9989	-0,0115	0,0451	152,47	22506,26
171,12	33,00	33,76	-1,19	-0,51	0,9986	-0,0132	0,0517	153,01	22451,33
172,12	34,00	34,76	-1,20	-0,46	0,9982	-0,0149	0,0583	153,27	22396,62
173,12	35,00	35,76	-1,22	-0,40	0,9978	-0,0166	0,0649	153,32	22342,05
174,12	36,00	36,76	-1,23	-0,34	0,9973	-0,0183	0,0715	153,14	22287,60
175,12	37,00	37,77	-1,25	-0,26	0,9970	-0,0193	0,0755	152,75	22244,68
175,51	* 37,39	38,15	-1,26	-0,23	0,9970	-0,0193	0,0755	152,56	22234,89
176,12	38,00	38,77	-1,27	-0,19	0,9967	-0,0200	0,0782	---	22207,55
177,12	39,00	39,77	-1,29	-0,11	0,9967	-0,0200	0,0783	---	22181,65
178,12	40,00	40,78	-1,31	-0,03	0,9968	-0,0194	0,0781	---	22153,74
178,50	* 40,38	41,16	-1,32	0,00	0,9966	-0,0276	0,0780	---	22109,72

Nr.:

Distances : Measured along plan view of structure line
Eccentricities : local (with reference to structure line)
Tangent (unit vector) : Tangent to tendon (unit vector in local coordinates)
(1) : from start of structure line SL1
(2) : from start of tendon
Length : Effective tendon length
Radius ρ_z : Radius of curvature (without influence of y-eccentricities)
 P_o : Force (Final state)
* : Definition point
: Radius of curvature below minimum

Tendon: J1_1_F1 - Losses (% of force from start/end)

Distance [m]	% of force from	
	start	end
0,00	100,00	75,13
1,00	99,68	75,37
2,00	99,36	75,61
3,00	99,05	75,85
4,00	98,73	76,09
5,00	98,42	76,33
6,00	98,12	76,57
7,00	97,81	76,81
8,00	97,57	77,00
8,16	97,55	77,01
9,00	95,63	78,57
10,00	93,39	80,45
10,63	92,33	81,37
11,00	90,82	82,73
12,00	87,78	85,59
13,00	85,14	88,24
13,13	85,13	88,26
14,00	84,68	88,72
15,00	84,06	89,38
16,00	83,44	90,04
17,00	82,82	90,72
18,00	82,20	91,40
19,00	81,58	92,10
20,00	80,95	92,81
21,00	80,33	93,52
22,00	79,71	94,26
23,00	79,08	95,00
24,00	78,45	95,76
25,00	77,99	96,33
25,51	77,95	96,38
26,00	77,62	96,79
27,00	77,43	97,03
28,00	77,23	97,27
29,00	77,04	97,52
30,00	76,85	97,76
31,00	76,66	98,00
32,00	76,48	98,24
33,00	76,29	98,48
34,00	76,10	98,72
35,00	75,92	98,96
36,00	75,73	99,20
37,00	75,59	99,39
37,39	75,56	99,44
38,00	75,46	99,56
39,00	75,37	99,68
40,00	75,28	99,80
40,38	75,13	100,00

Distance : Measured along plan view of structure line from start of tendon

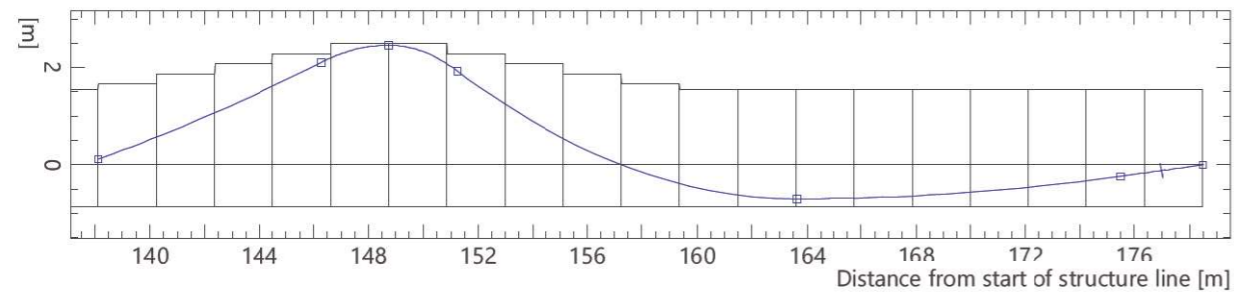
Tendon: J1_1_F1 - Attributes of tendon points

point	distance [m]	Guidance line	Eccentricity		Direction [°]	Tangent		arc		
			Relation	e_z [m]		e_y [m]	Length L [m]	Length R [m]	left [°]	right [°]
1	138,12	FL1	explic	0,12	0	11,3	0	1,41	0	0
2	146,28	FL1	explic	2,11	0	16,0	2,72	0,38	0	0
3	148,75	FL1	explic	2,46	0	0	0,82	0,47	0	0
4	151,25	FL1	explic	1,93	0	-23,0	0,83	1,98	0	0
5	163,63	FL1	explic	-0,70	0	0	4,13	1,82	0	0
6	175,50	FL1	explic	-0,23	0	4,5	3,96	1,00	0	0
7	178,50	FL1	explic	0	0	4,5	1,00	0	0	0

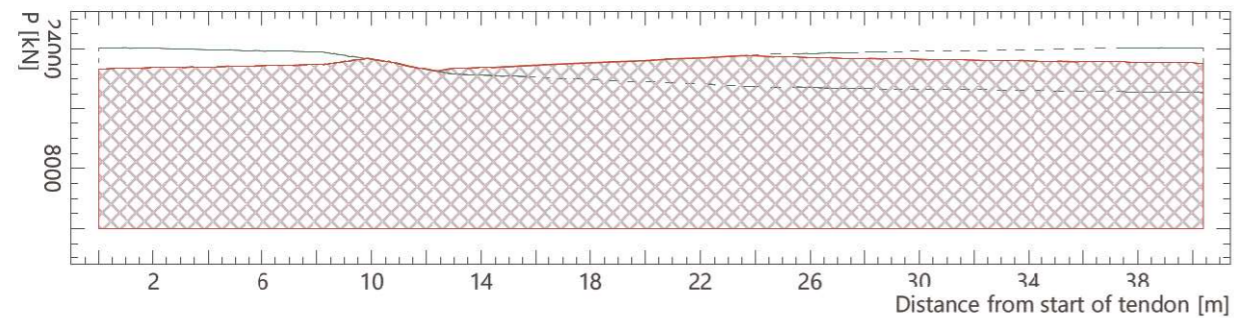
Nr.:

Tendon
V1-1.J1_1_F1

Side view of tendon profile
Side view of structure line



Force diagram



Tendon J1_2_F1 - Stressing steps

Position	Anchor		Stress Process	At anchor			1st extremum after anchor		
	Distance [m]			σ_p/f_{pk}	Force [kN]	Elongation [mm]	σ_p/f_{pk}	Force [kN]	Distance [m]
Start	0		Tensioning anchoring	0,750 0,670	10546,20 9414,91	260,0 -6,0	0,649 0,709	9122,54 9964,52	40,38 11,77

Distance : from start of tendon

Tendon: J1_2_F1 - Geometry and tendon forces

(1) [m]	(2) [m]	Length [m]	Eccentricities		Tangent (unit vector)			Radius ρz [m]	P_o [kN]
			e_y [m]	e_z [m]	x	y	z		
138,12	* 0,00	0	0,56	-0,40	0,9986	-0,0147	0,0507	---	9414,91
139,12	1,00	1,00	0,54	-0,35	0,9982	-0,0166	0,0573	153,47	9438,01
140,12	2,00	2,00	0,53	-0,29	0,9978	-0,0185	0,0640	153,46	9461,31
141,12	3,00	3,01	0,51	-0,22	0,9973	-0,0204	0,0706	155,05	9484,53
142,12	4,00	4,01	0,49	-0,15	0,9968	-0,0223	0,0771	156,41	9507,65
143,12	5,00	5,01	0,46	-0,07	0,9962	-0,0241	0,0836	157,17	9530,74
144,12	6,00	6,02	0,44	0,02	0,9956	-0,0260	0,0900	157,29	9553,86
145,12	7,00	7,02	0,41	0,11	0,9949	-0,0279	0,0964	156,84	9577,05
146,12	8,00	8,03	0,38	0,21	0,9945	-0,0290	0,1005	155,86	9595,72
146,28	* 8,16	8,19	0,38	0,22	0,9945	-0,0290	0,1005	155,67	9597,48
147,12	9,00	9,03	0,36	0,30	0,9977	-0,0188	0,0650	-23,84	9674,61
148,12	10,00	10,03	0,35	0,34	0,9997	-0,0066	0,0228	-24,14	9766,89
148,74	* 10,63	10,66	0,34	0,35	1,0000	-0,0010	0,0034	-23,96	9811,48
149,12	11,00	11,03	0,34	0,35	0,9997	0,0070	-0,0241	-17,47	9869,21
150,12	12,00	12,03	0,36	0,30	0,9964	0,0235	-0,0813	-18,04	9936,01
151,12	13,00	13,04	0,39	0,19	0,9901	0,0390	-0,1351	-17,98	9818,87
151,24	* 13,13	13,17	0,39	0,17	0,9901	0,0390	-0,1351	-17,93	9817,45
152,12	14,00	14,05	0,43	0,05	0,9911	0,0370	-0,1279	90,65	9793,42
153,12	15,00	15,06	0,47	-0,07	0,9926	0,0336	-0,1163	88,09	9759,60
154,12	16,00	16,06	0,50	-0,19	0,9940	0,0302	-0,1047	87,64	9725,80
155,12	17,00	17,07	0,53	-0,29	0,9953	0,0269	-0,0930	87,78	9692,22
156,12	18,00	18,07	0,55	-0,38	0,9964	0,0235	-0,0815	88,06	9658,92
157,12	19,00	19,08	0,58	-0,46	0,9973	0,0202	-0,0700	88,29	9625,86
158,12	20,00	20,08	0,60	-0,53	0,9981	0,0169	-0,0585	88,43	9593,01

Nr.:

(1) [m]	(2) [m]	Length [m]	Eccentricities		Tangent (unit vector)			Radius ρz [m]	P_o [kN]
			e_y [m]	e_z [m]	x	y	z		
159,12	21,00	21,08	0,61	-0,58	0,9988	0,0136	-0,0470	88,46	9560,32
160,12	22,00	22,08	0,63	-0,63	0,9993	0,0103	-0,0355	88,37	9527,78
161,12	23,00	23,08	0,64	-0,66	0,9997	0,0070	-0,0241	88,18	9495,32
162,12	24,00	24,08	0,64	-0,69	0,9999	0,0036	-0,0126	87,88	9462,94
163,12	25,00	25,08	0,65	-0,70	1,0000	0,0013	-0,0047	87,50	9437,42
163,62	* 25,50	25,58	0,65	-0,70	1,0000	0,0013	-0,0047	87,28	9432,04
164,12	26,00	26,08	0,65	-0,70	1,0000	-0,0013	0,0044	156,73	9409,70
165,12	27,00	27,08	0,64	-0,69	0,9999	-0,0032	0,0112	149,97	9386,33
166,12	28,00	28,08	0,64	-0,68	0,9998	-0,0052	0,0181	149,10	9362,91
167,12	29,00	29,09	0,64	-0,66	0,9997	-0,0072	0,0249	149,76	9339,62
168,12	30,00	30,09	0,63	-0,63	0,9995	-0,0092	0,0317	150,76	9316,49
169,12	31,00	31,09	0,62	-0,60	0,9992	-0,0111	0,0384	151,72	9293,51
170,12	32,00	32,09	0,61	-0,56	0,9989	-0,0130	0,0451	152,48	9270,68
171,12	33,00	33,09	0,59	-0,51	0,9985	-0,0149	0,0517	153,01	9247,95
172,12	34,00	34,09	0,58	-0,46	0,9982	-0,0169	0,0583	153,27	9225,31
173,12	35,00	35,09	0,56	-0,40	0,9977	-0,0188	0,0649	153,32	9202,73
174,12	36,00	36,09	0,54	-0,34	0,9972	-0,0207	0,0715	153,14	9180,20
175,12	37,00	37,10	0,52	-0,26	0,9969	-0,0218	0,0755	152,75	9162,52
175,50	* 37,38	37,48	0,51	-0,23	0,9969	-0,0218	0,0755	152,56	9158,54
176,12	38,00	38,10	0,50	-0,19	0,9967	-0,0225	0,0780	---	9147,41
177,12	39,00	39,10	0,48	-0,11	0,9967	-0,0225	0,0780	---	9136,95
178,12	40,00	40,11	0,45	-0,03	0,9967	-0,0225	0,0780	---	9126,51
178,50	* 40,38	40,44	0,44	0,00	0,9967	-0,0225	0,0780	---	9122,54

Distances : Measured along plan view of structure line
Eccentricities : local (with reference to structure line)
Tangent (unit vector) : Tangent to tendon (unit vector in local coordinates)
(1) : from start of structure line SL1
(2) : from start of tendon
Length : Effective tendon length
Radius ρz : Radius of curvature (without influence of y-eccentricities)
 P_o : Force (Final state)
* : Definition point

Tendon: J1_2_F1 - Losses (% of force from start/end)

Distance [m]	% of force from	
	start	end
0,00	100,00	86,50
1,00	99,76	86,71
2,00	99,51	86,93
3,00	99,27	87,14
4,00	99,02	87,35
5,00	98,78	87,56
6,00	98,55	87,78
7,00	98,31	87,99
8,00	98,12	88,16
8,16	98,10	88,18
9,00	97,32	88,89
10,00	96,40	89,73
10,63	95,96	90,14
11,00	95,40	90,67
12,00	94,21	91,81
13,00	93,10	92,91
13,13	93,09	92,92
14,00	92,86	93,15
15,00	92,54	93,47
16,00	92,22	93,80
17,00	91,90	94,12
18,00	91,59	94,45
19,00	91,27	94,77
20,00	90,96	95,10
21,00	90,65	95,42
22,00	90,34	95,75
23,00	90,04	96,07
24,00	89,73	96,40
25,00	89,49	96,66
25,50	89,44	96,72
26,00	89,22	96,95
27,00	89,00	97,19
28,00	88,78	97,43
29,00	88,56	97,68
30,00	88,34	97,92
31,00	88,12	98,16
32,00	87,91	98,40

Nr.: