



REGIONE DEL VENETO

AREA TUTELA E SVILUPPO DEL TERRITORIO - DIREZIONE INFRASTRUTTURE TRASPORTI E LOGISTICA

UO INFRASTRUTTURE STRADE E CONCESSIONI

RESPONSABILE DEL PROCEDIMENTO
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SISTEMA FERROVIARIO METROPOLITANO REGIONALE

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(Atto del 06/12/2016)

LINEE VENEZIA-QUARTO D'ALTINO e MESTRE-TREVISO

ELIMINAZIONE DEI P.L. AL km 1+337 e km 1+445

VENEZIA - Via Gazzera Alta

PROGETTO ESECUTIVO

INTERVENTO 1.09bis				N° ELABORATO	
OPERE D'ARTE Copertura su allacciante di levante Impalcato 7 - Fondazioni su pali impalcato 5, 6 e 7 Relazione di calcolo				08.03.00.00	
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INDICE

1	PREMESSA	3
2	NORMATIVE.....	5
3	MATERIALI.....	6
3.1	VALORI CARATTERISTICI E DI PROGETTO	6
3.2	DURABILITA'	7
4	DESCRIZIONE DELL'INTERVENTO	9
5	ASPETTI GEOLOGICI – GEOTECNICI.....	11
5.1	STRATIGRAFIA DEL TERRENO DI FONDAZIONE	11
5.2	CARATTERISTICHE DEL RILEVATO	11
6	ANALISI DEI CARICHI	12
6.1	PESO PROPRIO G_1	12
6.2	SPINTA DELLE TERRE	12
6.3	CARICHI PERMANENTI G_2	12
6.4	CARICHI MOBILI Q_1	13
6.5	AZIONE DEL VENTO Q_5	13
6.6	RITIRO E VISCOSITÀ E_2	13
6.7	AZIONI TERMICHE E_3	15
6.8	AZIONI SISMICHE	16
7	COMBINAZIONI CONSIDERATE.....	22
7.1	CONDIZIONI STATICHE.....	22
7.1.1	Stati Limite Ultimi	22
7.1.2	Stati Limite d'esercizio	22
7.2	CONDIZIONI SISMICHE	23
7.3	COEFFICIENTI DI COMBINAZIONE SUI CARICHI	23
7.4	COEFFICIENTI DI COMBINAZIONE SUI CARICHI VARIABILI.....	24
8	LIMITI PER GLI STATI LIMITE DI ESERCIZIO.....	25
8.1	FESSURAZIONE.....	25
8.2	TENSIONI.....	25
9	SOFTWARE UTILIZZATO E TIPO DI ANALISI	26
9.1	GEOMETRIA DEL MODELLO - SCHEMA STATICO - FASI.....	28
10	TRAVE I60 L=14.9m (zona ponte integrale – TIPO A)	32
10.1	FASI COSTRUTTIVE	32

10.2	CARATTERISTICHE DELLE SEZIONI	32
10.2.2	Stato limite di deformazione	35
10.3	RISULTATI GENERALI	35
10.4	ALLEGATO PARTE 1.....	40
11	TRAVE I60 L=11.3m (zona ponte integrale – TIPO B)	42
11.1	FASI COSTRUTTIVE	42
11.2	CARATTERISTICHE DELLE SEZIONI	42
11.2.2	Stato limite di deformazione	45
11.3	RISULTATI GENERALI	45
11.4	ALLEGATO PARTE 2.....	51
12	TRAVE I60 L=14.9 m (zona semi-integrale – TIPO C).....	52
12.1	FASI COSTRUTTIVE	52
12.2	CARATTERISTICHE DELLE SEZIONI	52
12.2.2	Stato limite di deformazione	55
12.3	RISULTATI GENERALI	55
12.4	ALLEGATO PARTE 3.....	61
13	TRAVE DI SOSTEGNO AD “L”	62
13.1	VERIFICA DELLA TRAVE.....	62
13.1.1	Fase iniziale	62
13.1.2	Stato limite di deformazione	63
13.2	RISULTATI GENERALI	64
13.3	ALLEGATO PARTE 4.....	67
14	APPOGGI.....	68
14.1	CARATTERISTICHE DEGLI APPOGGI	68
15	COPERTURA 7: CORDOLI DI SPALLA	69
15.1	VERIFICA DEL CORDOLO DI SPALLA	69
16	FONDAZIONI PROFONDE OPERE 5-6-7.....	73
16.1	RICHIAMI AL MODELLO GEOTECNICO DI PROGETTO	73
16.2	CRITERI DI DIMENSIONAMENTO.....	73
16.3	CAPACITÀ PORTANTE VERTICALE DI UN PALO	74
16.3.1	Verifiche SLU – Approccio adottato.....	76
16.3.2	Verifica della capacità portante verticale	77
16.3.3	Verifica della capacità portante orizzontale	83
17	ALLEGATI.....	86

1 PREMESSA

La presente relazione di calcolo si riferisce ad alcune opere d'arte necessarie per la copertura dei canali consortili interferenti, da realizzare nell'ambito **dell'intervento 1.09bis** della 1^a fase SFMR. L'intervento, nel suo complesso, prevede il completamento delle opere viarie denominate "Raccordo Via Brendole – Castellana, necessarie per l'eliminazione dei PL posti alle progressive km 1+337 della linea Venezia – Quarto d'Altino e km 1+445 della linea Mestre - Treviso ricadenti nel territorio del comune di Venezia.

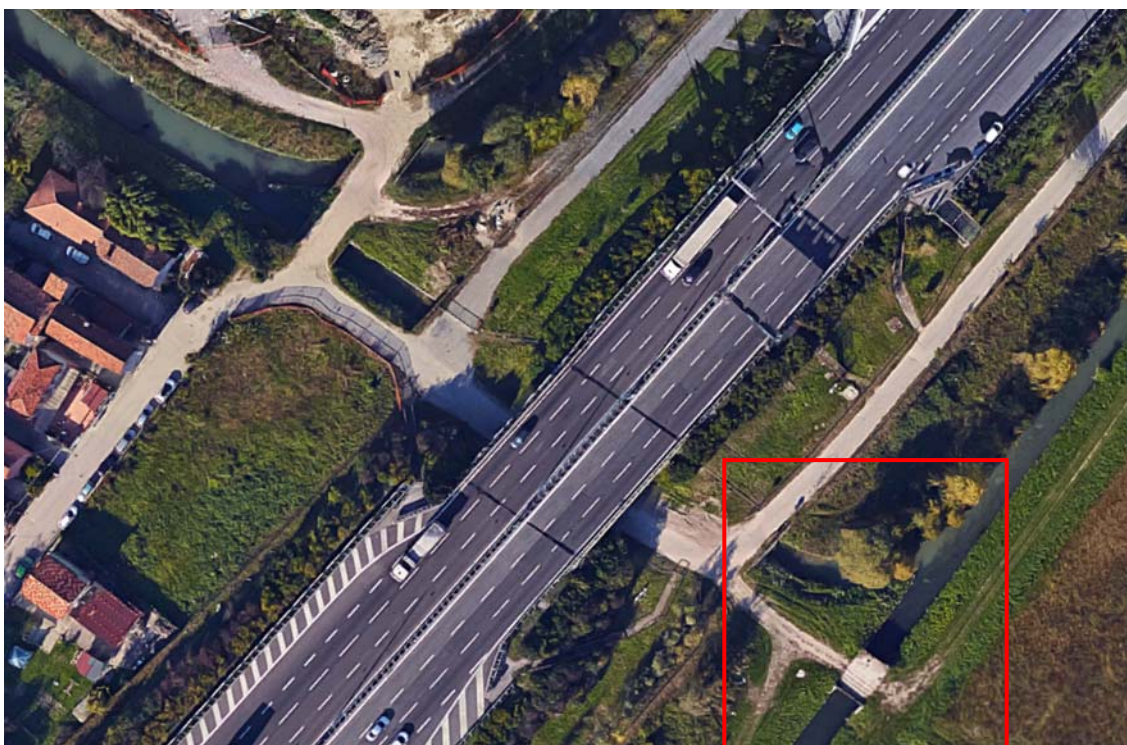
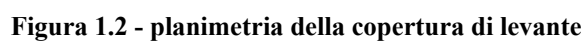


Figura 1.1 – Vista planimetrica della zona oggetto di intervento

In particolare, oggetto della presente relazione è il calcolo delle strutture relative all'impalcato 7 e alle fondazioni delle coperture 5, 6 e 7 collocate nella zona della confluenza tra lo scolo Roviego ed lo scolo Cimetto, dalla quale si diparte l'Allacciante di Levante posta ad est della Tangenziale di Mestre.

Il calcolo degli impalcati 5 e 6 sono stati sviluppati in altra relazione.



2 NORMATIVE

Leggi

- Legge 05.11.1971, N. 1086, “Norme per la disciplina delle opere di conglomerato cementizio armato, normale e precompresso ed a struttura metallica”.

Decreti

- D.M. 14 gennaio 2008 – “Norme tecniche per le costruzioni”.

Circolari

- C.M. 02/02/2009 – “Istruzioni per l’applicazione delle Norme tecniche per le costruzioni di cui al DM 14/01/2008”
- UNI 11104:2016, Specificazione, prestazione, produzione e conformità. Istruzioni complementari per l’applicazione della EN 206-1.

La progettazione delle opere è stata redatta secondo il Decreto Ministeriale delle Infrastrutture del 14/01/2008 "Norme tecniche per le costruzioni" e non secondo il nuovo D.M. delle Infrastrutture del 17/01/2018 "Norme tecniche per le costruzioni" essendo l'affidamento alla progettazione antecedente a tale data come espressamente indicato all'Art.2 del D.M. 17/01/2018.

3 MATERIALI

3.1 VALORI CARATTERISTICI E DI PROGETTO

Per la realizzazione delle opere, sono previsti i seguenti materiali:

Calcestruzzi per c.a.:

- $R_{ck} \geq 30 \text{ MPa}$ per pali ad elica e diaframmi
- $R_{ck} \geq 40 \text{ MPa}$ per fondazioni ed elevazioni
- $R_{ck} \geq 40 \text{ MPa}$ per solette
- $R_{ck} \geq 55 \text{ MPa}$ per travi precomprese

Acciai:

- Acciaio per c.a. in barre ad aderenza migliorata B450C
- Acciaio armonico stabilizzato per trefoli diametro nominale 6/10"
- Calcestruzzo C25/30
 - $E_c = 31447 \text{ MPa}$
 - $f_{ck} = 24.90 \text{ MPa}$
 - $f_{cd} = 24.90 / 1.5 = 16.6 \text{ MPa}$
 - $f_{ctd} = 1.19 \text{ MPa}$
- Calcestruzzo C32/40
 - $E_c = 33642 \text{ MPa}$
 - $f_{ck} = 33.2 \text{ MPa}$
 - $f_{cd} = 33.2 / 1.5 = 22.13 \text{ MPa}$
 - $f_{ctd} = 1.45 \text{ MPa}$

- Calcestruzzo per travi in c.a.p. C45/55
 - Al taglio dei trefoli: $R_{ckj} \geq 40 \text{ MPa}$Con $j \geq 14 \text{ gg.}$
 - $E_{c55} = 36416 \text{ MPa}$
 - $f_{ck} = 45.65 \text{ MPa}$
 - $f_{cd} = 30.43 \text{ MPa}$
- Acciaio per c.a. in barre ad aderenza migliorata B450C
 - $E_s = 210000 \text{ MPa}$
 - $f_{yk} \geq 450 \text{ MPa}$
 - $f_{yd} = 430 / 1.15 = 391.3 \text{ MPa}$
 - $L_{ancoraggio} = 40 \Phi$ (se non diversamente indicato nelle tavole)
- Acciaio armonico stabilizzato per trefoli diametro nominale 6/10”
 - Tensione caratteristica a rottura $f_{ptk} \geq 1860 \text{ Mpa}$
 - Tensione caratteristica all'1% di def. sotto carico $f_{p(1)k} \geq 1670 \text{ Mpa}$
 - Tensione iniziale al martinetto $\sigma_{spi} = 1488 \text{ Mpa}$
 - Modulo elastico istantaneo $E_p = 200000 \text{ Mpa}$

3.2 DURABILITA'

In base all'analisi delle caratteristiche dell'ambiente, si identificano le seguenti classi di esposizione del calcestruzzo secondo la UNI 11104:

- relativamente alle solette degli impalcato:

XC4: Ciclicamente asciutto e bagnato.

XF4: Elevata saturazione d'acqua, con agente antigelo

Si fa riferimento all'ambiente molto aggressivo per le verifiche di fessurazione secondo il DM 14/01/2008.

- relativamente alle opere di elevazione:

XC4: Ciclicamente asciutto e bagnato.

XF2: Moderata saturazione d'acqua, in presenza di agente disgelante.

- relativamente ai pali:

XC2: Bagnato, raramente asciutto.

4 DESCRIZIONE DELL'INTERVENTO

L'impalcato 7 collocato nella zona della confluenza tra lo scolo Roviego ed lo scolo Cimetto è costituito da travi di sezione “doppio T” che presentano altezza pari a 60 cm e luce variabile da 8,70 m a 15,38 m; l'interasse delle travi, tra loro parallele è pari ad $i=120$ cm, esse sono collegate trasversalmente da una soletta in c.a. di spessore minimo 25 cm.

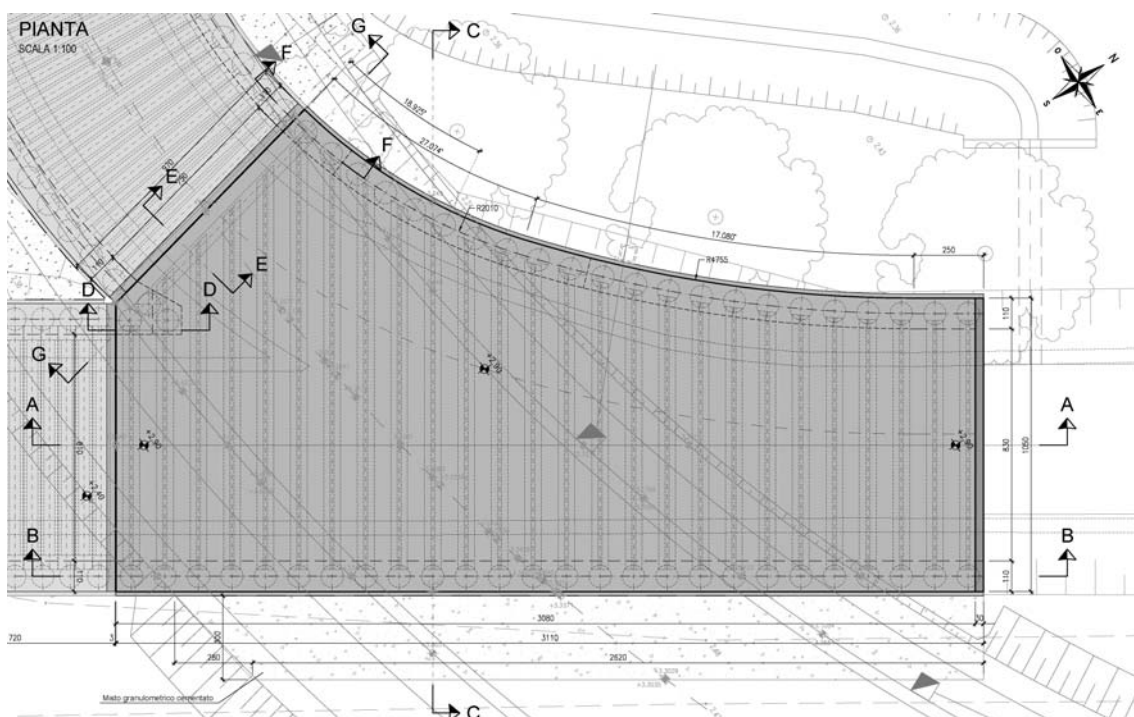
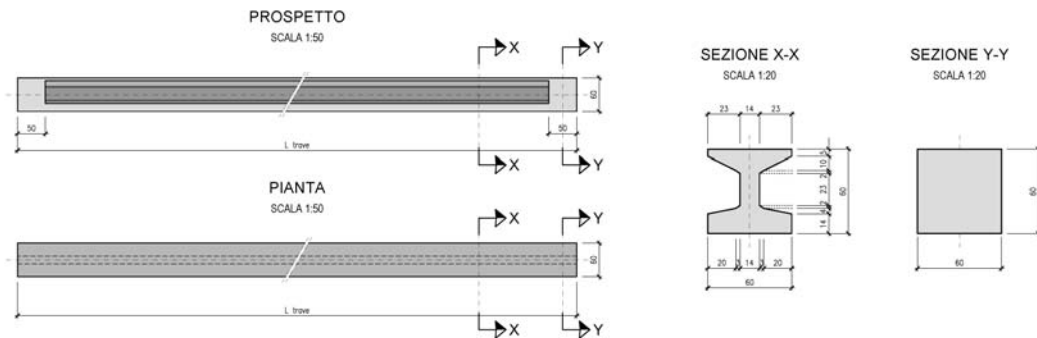


Figura 4.1 – Impalcato 7 – Pianta

Per ottimizzare l'impalcato sono state adottate 3 diverse tipologie di travi in c.a.p.:

- trave tipo A con luce (di calcolo) $L_c = 14,9$ m incastrata alle estremità ai cordoli di appoggio e alle fondazioni (ponte integrale);
- trave tipo B con luce $L_c = 11,3$ m incastrata alle estremità ai cordoli di appoggio e alle fondazioni (ponte integrale);
- trave tipo C con luce $L_c = 14,9$ m incastrata ad una estremità ed appoggiante sul lato opposto su una trave ad L (ponte semi-integrale); la trave è inclinata e

CARPENTERIA TRAVE I60



I cordoli di spalla in c.a. hanno base pari a 1,10 m e altezze variabili tra 1,50 m e 1,00 m (si vedano gli elaborati grafici); i pali ad elica CFA di fondazione, hanno diametro $D_n = 800\text{mm}$ e interasse 1,20 m e presentano una lunghezza di 12,00 m.

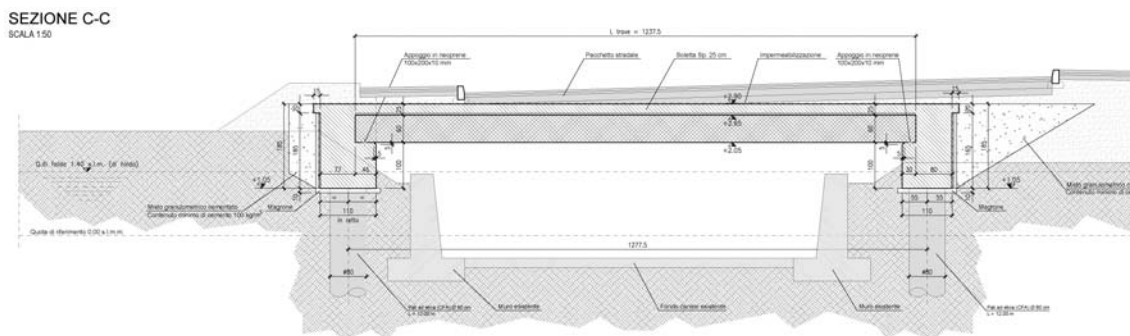


Figura 4.3 – Impalcato 7 – Sezione trasversale

5 ASPETTI GEOLOGICI – GEOTECNICI

5.1 STRATIGRAFIA DEL TERRENO DI FONDAZIONE

Con riferimento alla relazione geotecnica allegata al presente progetto, si considera la seguente stratigrafia per il terreno di fondazione:

Numero	DESCRIZIONE BANCO	Z iniz. (m)	Z fin. (m)	Spess. banco (m)	Z med. (m)	γ (kN/m ³)	γ_d (kN/m ³)	γ_{sat} (kN/m ³)	Tipo di terreno	ϕ (°)	Cu (kPa)	Evc (kPa)	Eur (kPa)	Permeabilità (m/s)	OCR
1	RIPORTO COSTITUITO DA LIMO DEBOMENTE SABBIOSO E ARGILLOSO	0.00	1.00	1.00	0.50	9.00	18.00	19.00	GG	28	-	7500	12000	1.00E-07	4
2	ARGILLA LIMOSA E LIMO ARGILLOSO E ALTERNANZE	1.00	5.50	4.50	3.25	9.00	18.00	19.00	GF	22	30	3600	10800	1.00E-08	1.5
3	SABBIA DA FINE A MEDIA LIMOSA	5.50	18.50	13.00	12.00	9.00	18.00	19.00	GG	36	-	30000	48000	5.00E-05	1
4	ARGILLA LIMOSA E LIMO ARGILLOSO	18.50	25.00	6.50	21.75	9.00	18.00	19.00	GF	22	35	4000	12000	1.00E-08	1

Tabella 1: stratigrafia

Il livello della falda è a quota +1.40 m s.l.m.

5.2 CARATTERISTICHE DEL RILEVATO

Si considerano le seguenti caratteristiche del terreno:

$$\gamma = 1900 \text{ daN/m}^3 \quad \phi' = 33^\circ$$

6 ANALISI DEI CARICHI

6.1 PESO PROPRIO G_1

Peso proprio della trave I60 522.5 daN/m

Peso proprio della soletta sp. cm 25 625 daN/m²

6.2 SPINTA DELLE TERRE

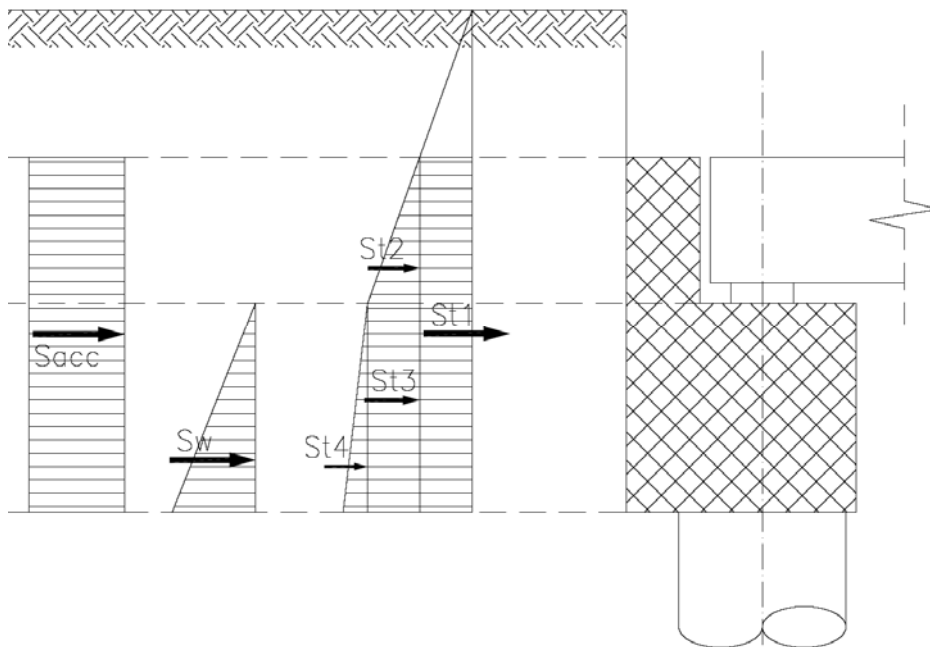


Figura 4: calcolo delle spinte delle terre ed idraulica

Questo schema è esemplificativo del calcolo della spinta delle terre che è quantificata nei vari allegati.

6.3 CARICHI PERMANENTI G_2

I carichi permanenti della pavimentazione stradale si considerano uniformemente distribuiti:

- pavimentazione stradale sp. medio cm 40 $0.40 \times 2200 = 880 \text{ daN/m}^2$

6.4 CARICHI MOBILI Q1

Si considera il sovraccarico previsto in normativa per opere stradali (schema 1):

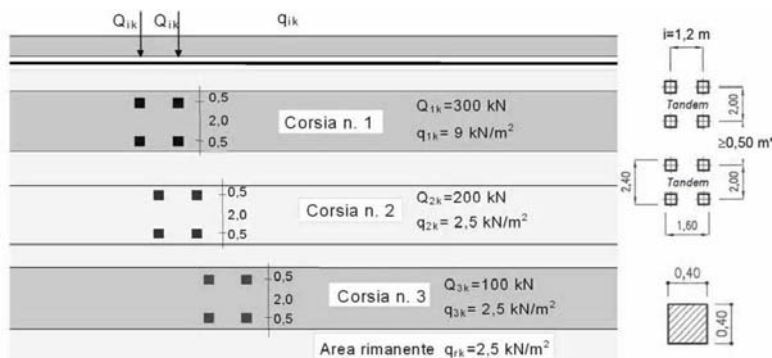


Figura 5: schema carico mobile

Si deduce dalla geometria dell'opera che l'impalcato può vedere al compresenza di tutte e tre le corsie di carico previste in normativa, pertanto si effettua il calcolo delle azioni sulle travi calcolando l'area di diffusione (a 45° nello spessore) e le zone di influenza per le travi.

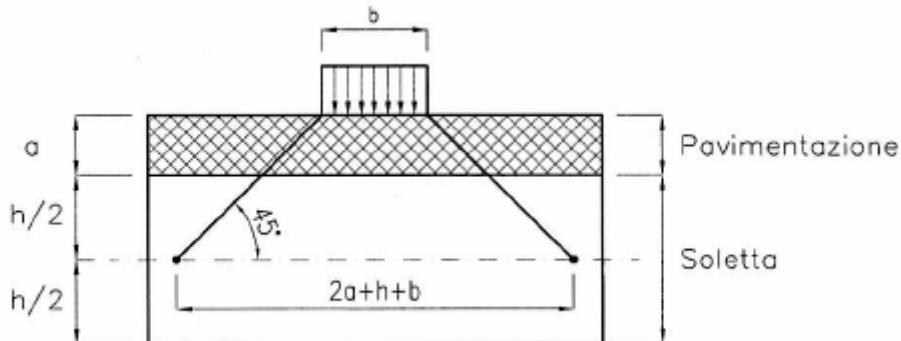


Figura 6: diffusione dei carichi

6.5 AZIONE DEL VENTO Q5

Si considera pertanto il contributo del vento sull'impalcato trascurabile.

6.6 RITIRO E VISCOSITÀ E2

Il ritiro è la diminuzione del volume di calcestruzzo causato dal processo di essiccazione. Il valore del ritiro totale è dato da tabelle o mappe presenti nei codici

di calcolo. L'Eurocodice2 dà comunque una forma chiusa, che è stata implementata nel software di calcolo (lo spessore caratteristico è definito come $2A / U$).

$$\begin{aligned} \varepsilon_{cs}(t) &= \varepsilon_{cs}(t) + \varepsilon_{cs}(t, t_s) \\ \varepsilon_{cs}(t) &= \varepsilon_{cs0}(f_{cm}) \cdot \beta_{cs}(t) \\ \varepsilon_{cs}(t, t_s) &= \varepsilon_{cs0}(f_{cm}) \cdot \beta_{RH}(RH) \cdot \beta_{ds}(t, t_s) \\ \varepsilon_{cs0}(f_{cm}) &= -\alpha_{cs} \left(\frac{f_{cm}}{60 + f_{cm}} \right)^{2.5} \cdot 10^{-4} \\ \beta_{cs}(t) &= 1 - \exp\left(-0.2 \sqrt{t/t_1}\right) \\ \varepsilon_{cs0}(f_{cm}) &= \left[(220 + 110 \alpha_{cs1}) \cdot \exp\left(-\alpha_{cs} \frac{f_{cm}}{10}\right) \right] \cdot 10^{-4} \\ \beta_{RH} &= \begin{cases} -1.55 \cdot \left[1 - \left(\frac{RH}{100} \right)^3 \right] & 40\% \leq RH < \beta_{s1} \cdot 99\% \\ 0.25 & RH \geq \beta_{s1} \cdot 99\% \end{cases} \\ \beta_{ds}(t - t_s) &= \sqrt{\frac{t - t_s}{350 \cdot \left(\frac{h_0}{100} \right)^2 + t - t_s}} \end{aligned}$$

La deformazione viscosa è la seguente forma:

$$\varepsilon = \varphi_t \frac{\sigma_b}{E_b}$$

La definizione di ϕ è sempre legato al valore del modulo di elasticità. Mentre numerosi codici fanno riferimento al modulo standard secante (DIN 4227), l'EC2 e la nuova norma DIN 1045-1 fanno riferimento al valore dopo 28 giorni.

Per il calcestruzzo, il coefficiente di viscosità è sempre riferito a sollecitazioni di compressione, poiché non ci sono sufficienti informazioni circa il comportamento per sollecitazioni di trazione.

$$\begin{aligned}\varphi_t &= \varphi_o \beta_\varepsilon(t, t_0) = \varphi_{RH} \beta(f_{cm}) \beta(t_0) \beta_\varepsilon(t, t_0) \\ \varphi_{RH} &= \left[1 + \frac{1 - RH / 100}{0.103 \sqrt[3]{h_0}} \alpha_1 \right] \alpha_2 \\ \beta(f_{cm}) &= \frac{16.8}{\sqrt{f_{cm}}} (EC2) \\ \beta(t_0) &= \frac{1}{0.1 + t_0^{0.20}} \\ \beta_\varepsilon(t, t_0) &= \left(\frac{t - t_0}{\beta_{RH} + t - t_0} \right)^{0.3} \\ \beta_{RH} &= 1.5 \left[1 + (0.012 RH)^{18} \right] h_0 + 250 \alpha_3 \leq 1500\end{aligned}$$

Per valori di stress $>0.4f_{ck}$ il CEB-Model-Code e l'Eurocodice 2 Parte 1-3 specificano una correzione del coefficiente di viscosità:

$$\phi_{0,k} = \phi_0 \cdot e^{1.5(k_\sigma - 0.45)} \quad ; \quad k_\sigma = \frac{|\sigma_{c,perm}|}{f_{cmj}}$$

Tutte queste formule sono implementate automaticamente nel software di calcolo impiegato.

6.7 AZIONI TERMICHE E3

La variazione di temperatura riguarda maggiormente la soletta superiore e le pareti laterali, in quanto elementi meno protetti termicamente della struttura. Si considerano, secondo la norma, un effetto di variazione uniforme nello spessore della soletta (espansione/contrazione) e un gradiente di temperatura fra intradosso ed estradosso (estradosso caldo/estradosso freddo).

$$\Delta T_N = \pm 30 \text{ }^\circ\text{C}$$

$$\Delta T_M = \pm 15 \text{ }^\circ\text{C/spessore}$$

6.8 AZIONI SISMICHE

Le azioni sismiche di progetto, in base alle quali valutare il rispetto dei diversi stati limite considerati, si definiscono a partire dalla “pericolosità sismica di base” del sito di costruzione. Essa costituisce l’elemento di conoscenza primario per la determinazione delle azioni sismiche. La pericolosità sismica è definita in termini di accelerazione orizzontale massima attesa a_g in condizioni di campo libero, su sito di riferimento rigido, con superficie topografica orizzontale (di categoria A), nonché di ordinate dello spettro di risposta elastico in accelerazione ad essa corrispondente $S_e(T)$, con riferimento a prefissate probabilità di eccedenza P_{V_R} , nel periodo di riferimento V_R .

Nei confronti delle azioni sismiche gli stati limite, sia di esercizio che ultimi, sono individuati riferendosi alle prestazioni della costruzione nel suo complesso, includendo gli elementi strutturali, quelli non strutturali e gli impianti. È conveniente utilizzare, come parametro caratterizzante la pericolosità sismica, il periodo di ritorno dell’azione sismica T_R , espresso in anni. Fissata la vita di riferimento si può ricavare il tempo di ritorno del sisma che serve per le verifiche ai quattro stati limite previsti:

$$T_R = -\frac{V_R}{\ln(1 - P_{V_R})}$$

Le nuove NTC, per ciascun nodo del reticolo di riferimento, forniscono i tre parametri necessari a determinare l’input sismico. Per poterli determinare si deve definire la posizione del comune di Venezia.

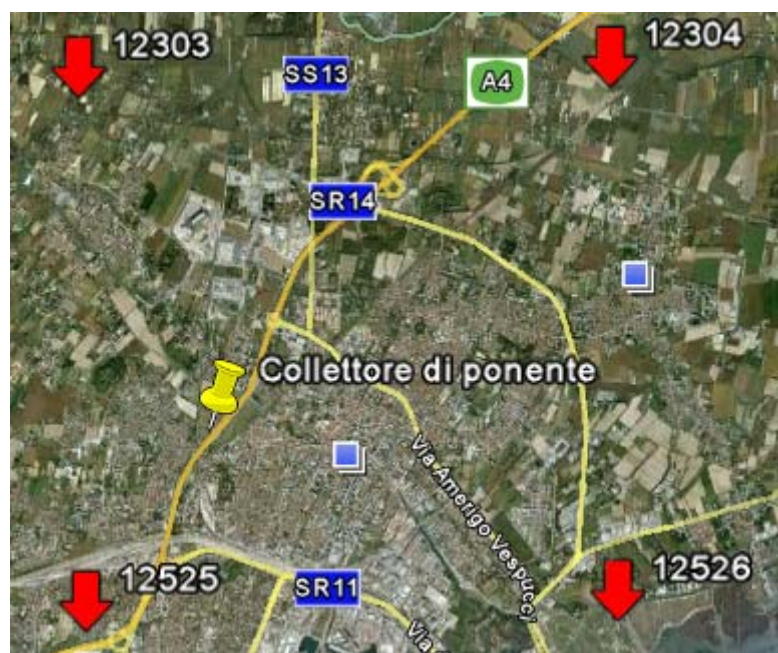


Figura 7: individuazione della pericolosità del sito

Considerando la struttura in classe d'uso II, e con vita nominale pari a 75 anni si ottiene:

SLATO LIMITE	T_R [anni]	a_g [g]	F_o [-]	T_c^* [s]
SLO	45	0.035	2.550	0.237
SLD	75	0.042	2.547	0.279
SLV	712	0.099	2.610	0.363
SLC	1462	0.128	2.603	0.384

Tabella 2: Valori dei parametri sismici in funzione dei stati limite

Il sito, in cui si va a progettare il ponte, dev'essere classificato da un punto di vista del suolo di fondazione. In base alle caratterizzazioni geotecniche il profilo stratigrafico del suolo di fondazione è di categoria C.

Fondamentale per le analisi sismiche è la definizione dello spettro di risposta elastico orizzontale in accelerazione:

Parametri e punti dello spettro di risposta orizzontale per lo stato SLV

Parametri indipendenti

STATO LIMITE	SLV
a_g	0.099 g
F_o	2.610
T_c	0.363 s
S_s	1.500
C_c	1.466
S_T	1.000
q	1.000

Parametri dipendenti

S	1.500
η	1.000
T_B	0.178 s
T_C	0.533 s
T_D	1.997 s

Espressioni dei parametri dipendenti

$$S = S_s \cdot S_T \quad (\text{NTC-08 Eq. 3.2.5})$$

$$\eta = \sqrt{10/(S + \xi)} \geq 0,55; \quad \eta = 1/q \quad (\text{NTC-08 Eq. 3.2.6; §. 3.2.3.5})$$

$$T_B = T_c / 3 \quad (\text{NTC-07 Eq. 3.2.8})$$

$$T_C = C_c \cdot T_c \quad (\text{NTC-07 Eq. 3.2.7})$$

$$T_D = 4,0 \cdot a_g / \xi + 1,6 \quad (\text{NTC-07 Eq. 3.2.9})$$

Espressioni dello spettro di risposta (NTC-08 Eq. 3.2.4)

$$0 \leq T < T_B \quad S_s(T) = a_g \cdot S \cdot \eta \cdot F_o \cdot \left[\frac{T}{T_B} + \frac{1}{\eta \cdot F_o} \left(1 - \frac{T}{T_B} \right) \right]$$

$$T_B \leq T < T_C \quad S_s(T) = a_g \cdot S \cdot \eta \cdot F_o$$

$$T_C \leq T < T_D \quad S_s(T) = a_g \cdot S \cdot \eta \cdot F_o \cdot \left(\frac{T_C}{T} \right)$$

$$T_D \leq T \quad S_s(T) = a_g \cdot S \cdot \eta \cdot F_o \cdot \left(\frac{T_C T_D}{T^2} \right)$$

Lo spettro di progetto $S_d(T)$ per le verifiche agli Stati Limite Ultimi è ottenuto dalle espressioni dello spettro elastico $S_s(T)$ sostituendo η con $1/q$, dove q è il fattore di struttura. (NTC-08 § 3.2.3.5)

Punti dello spettro di risposta

	T [s]	Se [g]
	0.000	0.149
$T_B \leftarrow$	0.178	0.388
$T_C \leftarrow$	0.533	0.388
	0.603	0.343
	0.672	0.308
	0.742	0.279
	0.812	0.255
	0.881	0.235
	0.951	0.217
	1.021	0.203
	1.090	0.190
	1.160	0.178
	1.230	0.168
	1.300	0.159
	1.369	0.151
	1.439	0.144
	1.509	0.137
	1.578	0.131
	1.648	0.126
	1.718	0.120
	1.787	0.116
	1.857	0.111
	1.927	0.107
$T_D \leftarrow$	1.997	0.104
	2.092	0.094
	2.187	0.086
	2.283	0.079
	2.378	0.073
	2.474	0.067
	2.569	0.063
	2.664	0.058
	2.760	0.054
	2.855	0.051
	2.951	0.047
	3.046	0.045
	3.141	0.042
	3.237	0.039
	3.332	0.037
	3.428	0.035
	3.523	0.033
	3.618	0.032
	3.714	0.030
	3.809	0.028
	3.905	0.027
	4.000	0.026

Tabella 3: parametri e punti per lo spettro di risposta orizzontale in accelerazione per lo SLV

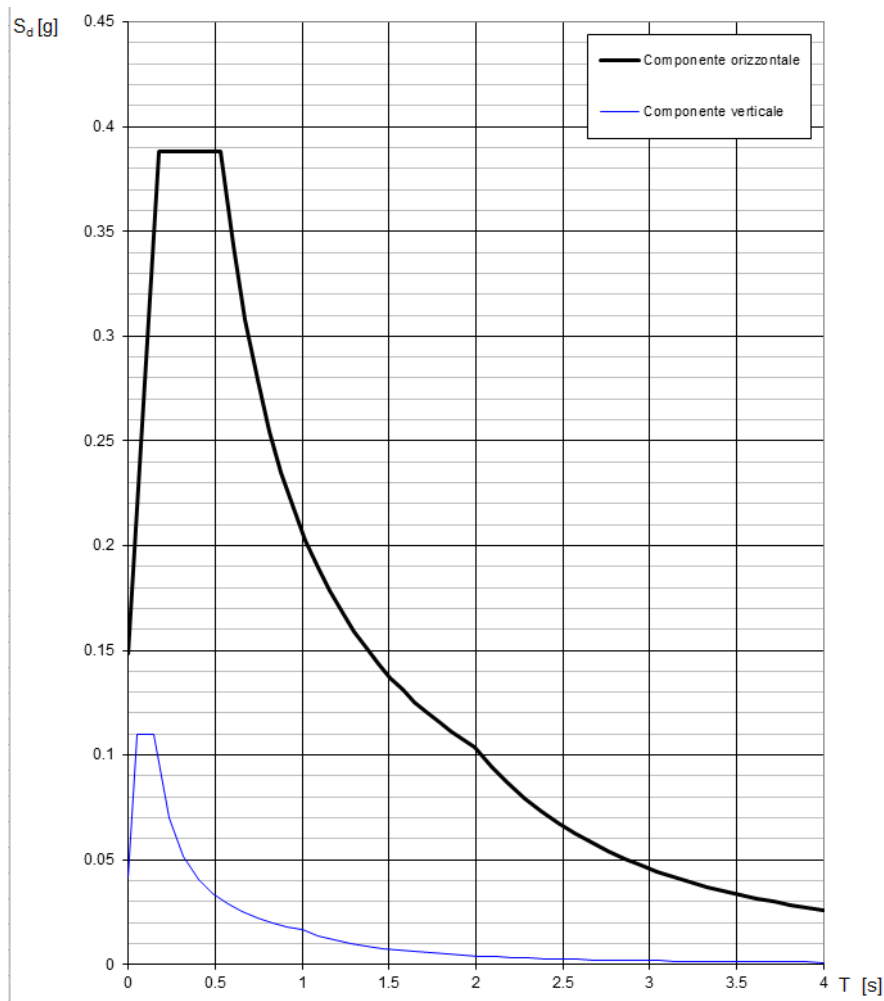


Figura 8: spettri di risposta per lo SLV

Nel caso di strutture rigide vincolate in modo tale che non possa svilupparsi nel terreno uno stato di spinta attiva e aventi muri verticali con terrapieno a superficie orizzontale, l'incremento di spinta del terreno per effetto del sisma può essere calcolato con il metodo di Wood, secondo la relazione:

$$\Delta P = (a_g/g) \times S \times \gamma \times H$$

dove:

ΔP pressione applicata su tutta l'altezza della parete;

γ peso di volume del terreno = 19 kN/m³;

H altezza dell'opera di sostegno (parte tra fondo canale soletta impalcato)

L'azione sismica secondo [1] § 3.2 è definita sulla base dei seguenti parametri:

Vita nominale: $V_N = 80$ anni

Classe d'uso: II

Per quanto riguarda la spinta del terreno per effetto del sisma, anch' essa viene calcolata con il **metodo di Wood** e risulta pari a:

$$\Delta P = (a_g/g) \times S \times \gamma \times H$$

7 COMBINAZIONI CONSIDERATE

7.1 CONDIZIONI STATICHE

7.1.1 *Stati Limite Ultimi*

Per gli Stati Limite Ultimi si adottano le combinazioni di carico tipo:

$$F_d = \sum \gamma_G G_k + \gamma_Q (Q_{1k} + \sum \psi_{0i} Q_{ik})$$

dove: G_k valore caratteristico delle azioni permanenti;

Q_{1k} valore caratteristico dell'azione variabile di base di ogni combinazione;

Q_{ik} valore caratteristico delle azioni variabili tra loro indipendenti;

γ_i coefficienti parziali per le azioni;

ψ_{0i} coefficienti di combinazione per le verifiche allo stato limite ultimo.

7.1.2 *Stati Limite d'esercizio*

Per gli Stati Limite di Esercizio si prendono in considerazione le combinazioni di carico rara, frequente e quasi permanente:

$$F_d = \sum G_k + Q_{1k} + \sum \psi_{0i} Q_{ik} \quad \text{combinazione rara}$$

$$F_d = \sum G_k + \psi_{11} Q_{1k} + \sum \psi_{2i} Q_{ik} \quad \text{combinazione frequente}$$

$$F_d = \sum G_k + \sum \psi_{2i} Q_{ik} \quad \text{combinazione quasi permanente}$$

dove: ψ_{0i} coefficienti atti a definire i valori delle azioni da assumersi per la combinazione rara (e le verifiche allo stato limite ultimo);

ψ_{1i} coefficienti atti a definire i valori frequenti delle azioni

assimilabili ai frattili di ordine 0.95 delle distribuzioni dei valori istantanei;

ψ_{2i} coefficienti atti a definire i valori quasi permanenti delle azioni assimilabili ai valori medi delle distribuzioni dei valori istantanei.

7.2 CONDIZIONI SISMICHE

Le verifiche in condizioni sismiche delle opere ferroviarie di sostegno sono state effettuate per la seguente combinazione di carico:

$$F_d = E_k + \Sigma G_k + \Sigma \psi_{0i} Q_{ik}$$

dove: E_k azioni dovute al sisma;

G_k carichi permanenti;

Q_{ik} azioni variabili;

ψ_{0i} coefficiente moltiplicativo delle singole azioni variabili tra loro indipendenti.

7.3 COEFFICIENTI DI COMBINAZIONE SUI CARICHI

Per quanto concerne i carichi si utilizzano i coefficienti di combinazione riportati nella tabella 1; in particolare, per le verifiche di tipo strutturale, saranno implementate le combinazioni [1] § 5.2.3.3.1:

+ A1 STR combinazione strutturale SLU

+ Combinazione sismica

		Coefficiente	EQU ⁽¹⁾	A1 STR	A2 GEO	Combinazione eccezionale	Combinazione Sismica
Carichi permanenti	favorevoli	γ_{G1}	0,90	1,00	1,00	1,00	1,00
	sfavorevoli		1,10	1,35	1,00	1,00	1,00
Carichi permanenti non strutturali ⁽²⁾	favorevoli	γ_{G2}	0,00	0,00	0,00	1,00	1,00
	sfavorevoli		1,50	1,50	1,30	1,00	1,00
Ballast ⁽³⁾	favorevoli	γ_B	0,90	1,00	1,00	1,00	1,00
	sfavorevoli		1,50	1,50	1,30	1,00	1,00
Carichi variabili da traffico ⁽⁴⁾	favorevoli	γ_Q	0,00	0,00	0,00	0,00	0,00
	sfavorevoli		1,45	1,45	1,25	0,20 ⁽⁵⁾	0,20 ⁽⁵⁾
Carichi variabili	favorevoli	γ_{Qi}	0,00	0,00	0,00	0,00	0,00
	sfavorevoli		1,50	1,50	1,30	1,00	0,00
Precompressione	favorevole	γ_P	0,90	1,00	1,00	1,00	1,00
	sfavorevole		1,00 ⁽⁶⁾	1,00 ⁽⁷⁾	1,00	1,00	1,00

Tabella 4: coefficienti parziali di combinazione sui carichi

7.4 COEFFICIENTI DI COMBINAZIONE SUI CARICHI VARIABILI

Per quanto concerne i carichi variabili si utilizzano i coefficienti di combinazione riportati nella tabella 3 (§ 5.1.3.11):

Azioni	Gruppo di azioni (Tabella 5.1.IV)	Coefficiente Ψ_0 di combinazione	Coefficiente Ψ_1 (valori frequenti)	Coefficiente Ψ_2 (valori quasi permanenti)
Azioni da traffico (Tabella 5.1.IV)	Schema 1 (Carichi tandem)	0,75	0,75	0,0
	Schemi 1, 5 e 6 (Carichi distribuiti)	0,40	0,40	0,0
	Schemi 3 e 4 (carichi concentrati)	0,40	0,40	0,0
	Schema 2	0,0	0,75	0,0
	2	0,0	0,0	0,0
	3	0,0	0,0	0,0
	4 (folla)	----	0,75	0,0
	5	0,0	0,0	0,0
Vento q_3	Vento a ponte scarico			
	SLU e SLE	0,6	0,2	0,0
	Esecuzione	0,8	----	0,0
Neve q_3	Vento a ponte carico	0,6		
	SLU e SLE	0,0	0,0	0,0
	esecuzione	0,8	0,6	0,5
Temperatura	T_k	0,6	0,6	0,5

Tabella 5: coefficienti parziali di combinazione sui carichi variabili

8 LIMITI PER GLI STATI LIMITE DI ESERCIZIO

8.1 FESSURAZIONE

Si ammettono i seguenti limiti di fessurazione per gli elementi in c.a.:

combinazione Frequente: $w_k = 0.20 \text{ mm}$;

combinazione Quasi Permanente: $w_k = 0.20 \text{ mm}$.

Si ammettono i seguenti limiti di fessurazione per gli elementi in c.a.p.:

combinazione Frequente: $w_k = 0.00 \text{ mm}$ (formazione delle fessure);

combinazione Quasi Permanente: decompressione;

8.2 TENSIONI

Si ammettono i seguenti limiti tensionali:

Combinazione Quasi Permanente:

- Limitazione della compressione del calcestruzzo a $\sigma_c = 0.45 \cdot f_{ck}$

Combinazione Rara:

- Limitazione della compressione del calcestruzzo a $\sigma_c = 0.60 \cdot f_{ck}$

- Limitazione della tensione nell'acciaio (lento) a $\sigma_s = 0.80 \cdot f_{yk}$

9 SOFTWARE UTILIZZATO E TIPO DI ANALISI

Per il calcolo e la verifica strutturale si adotta il software SOFiSTiK 2016 [SOFiSTiK AG]. Software di produzione tedesca agli elementi finiti di 2° livello per la modellazione di strutture complesse con i relativi processi produttivi; integrato per la modellazione strutturale, l'analisi (lineare e non lineare) ed il post-processore con verifica SLU e SLE.

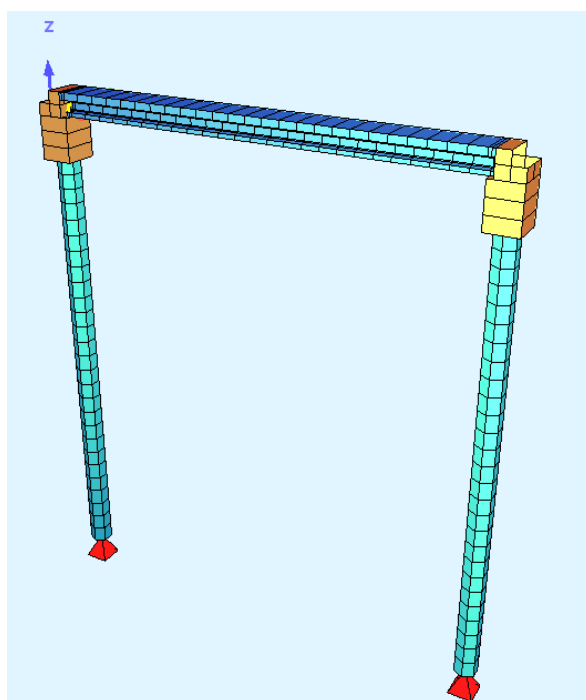


Figura 9 Vista del modello di calcolo per il ponte (con gli spessori)



Figura 10 Vista del modello di calcolo per il ponticello (elementi unifilari)

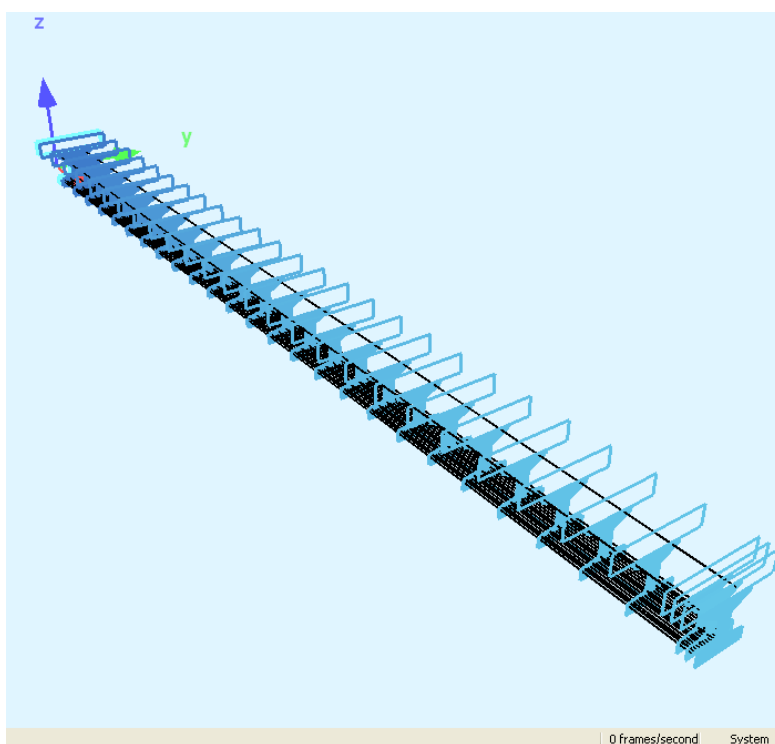


Figura 11 trave precompressa: si evidenziano i cavi di precompressione e le due parti strutturali (trave+soletta)

9.1 GEOMETRIA DEL MODELLO - SCHEMA STATICO - FASI

Le fasi di costruzione studiate possono essere così schematicamente espresse:

1. G_1: p.p delle fondazioni ('Foundation')

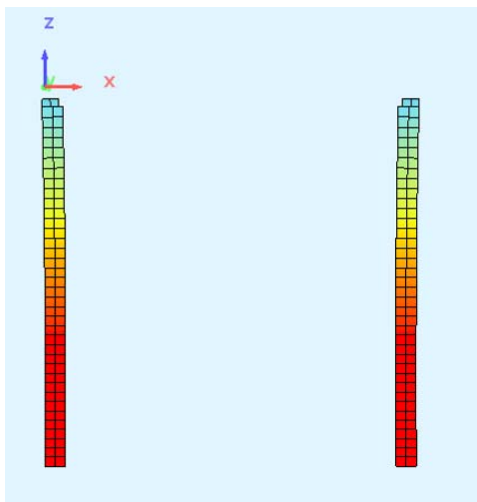


Figura 12 Fase 1

2. R: spinte delle terre ed idraulica ('Spinta terre')

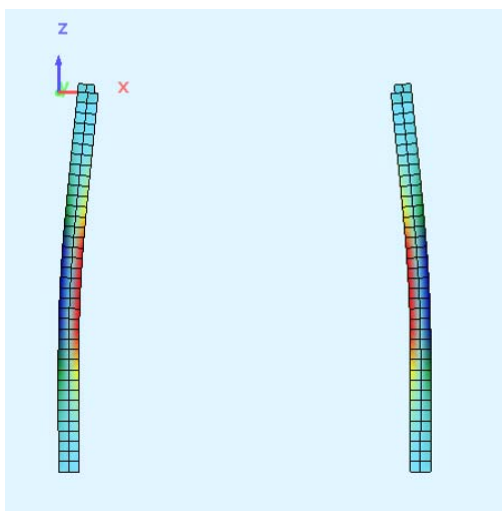


Figura 13 Fase 2

3. P: precompressione delle travi in c.a.p. ('prestress beams')

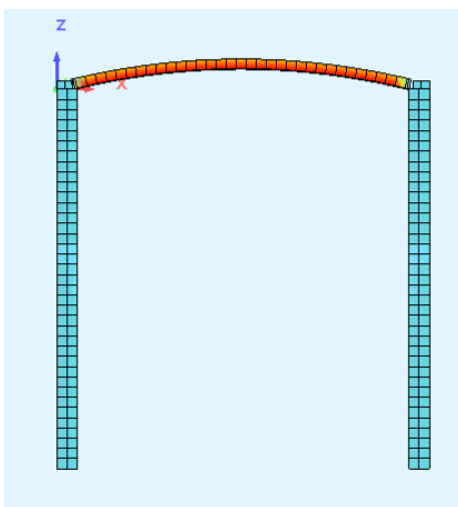


Figura 14 Fase 3

[le travi vengono in questa fase appoggiate sui diaframmi di spalla esistenti]

4. G_1 : peso proprio della trave in c.a.p. ('DL-beams')

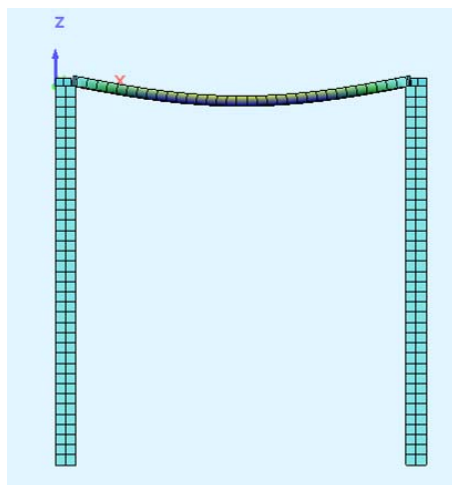


Figura 15 Fase 4

5. C_1 : viscosità e ritiro (15 gg) ('creep&shrinkage')

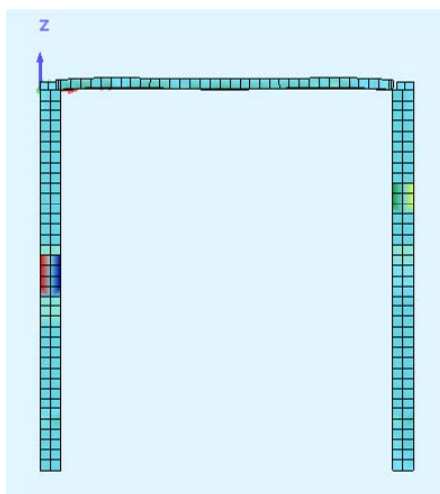


Figura 16 Fase 5

6. G_1: peso della soletta non ancora solida ('liquid concrete slab')

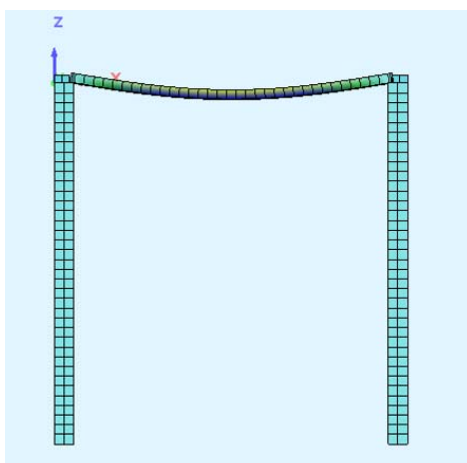


Figura 17 Fase 6

7. C_1: viscosità e ritiro (ulteriori 15 gg) ('creep&shrinkage')

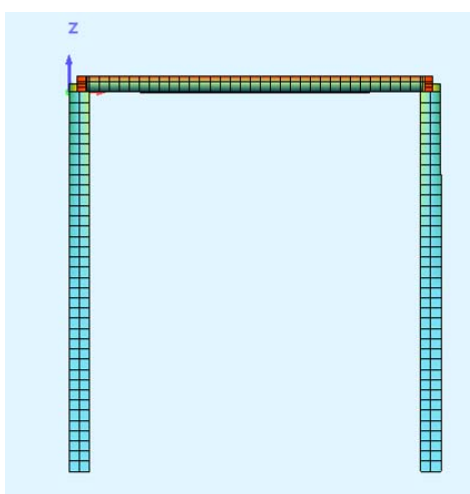


Figura 18 Fase 7

[da questo punto in poi le travi sono in completa continuità strutturale con le spalle]

8. G_2: peso proprio della pavimentazione ('G_2')

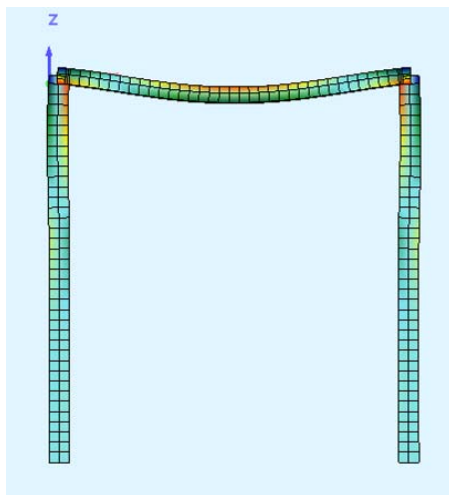


Figura 19 Fase 8

9. C_2: viscosità e ritiro ('creep&shrinkage') di 20.000 giorni

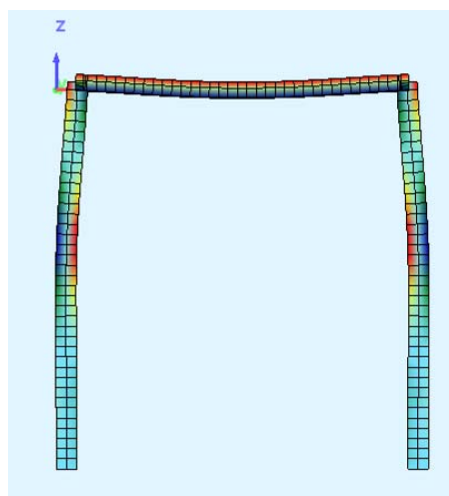


Figura 20 Fase 9

Per una più estesa trattazione si vedano gli Allegati.

10 TRAVE I60 L=14.9m (zona ponte integrale – TIPO A)

10.1 FASI COSTRUTTIVE

Si distinguono quattro fasi costruttive corrispondenti alle verifiche agli stati limite di esercizio e due fasi costruttive corrispondenti alle verifiche agli stati limite ultimi.

FASE INIZIALE: dalla posa in tensione dei trefoli al loro taglio si sviluppa tutta la perdita elastica (già analizzata nella fase iniziale); ritiro e viscosità non si sviluppano perché rispettivamente il calcestruzzo matura in stabilimento e la trave non è ancora caricata.

FASE A BREVE TERMINE (dal taglio dei trefoli al getto della soletta non ancora maturata): alle tensioni della fase precedente si sommano il peso della soletta e 1/3 delle cadute di tensione da ritiro e viscosità della trave.

FASE INTERMEDIA: a maturazione della soletta si considera la sezione omogeneizzata trave-soletta e si aggiungono i pesi permanenti e accidentali.

FASE A LUNGO TERMINE (tempo ∞): sulla sezione omogeneizzata trave-soletta si aggiungono alle tensioni della fase precedente i 2/3 delle cadute di tensione.

10.2 CARATTERISTICHE DELLE SEZIONI

Per lo studio delle sollecitazioni agenti sulle travi nelle varie fasi (iniziale, di esercizio e di stato limite ultimo) si verificano le sezioni tipo della trave nelle seguenti configurazioni:

- in fase iniziale si considera la sola trave reagente mentre la soletta non ancora matura risulta essere un carico permanente aggiuntivo al peso proprio della trave stessa;

- in fase di esercizio e di stato limite ultimo si considera la sezione omogeneizzata trave-soletta collaborante.

Si riportano di seguito le caratteristiche delle sezioni correnti delle travi.

10.2.1.1 FASE INIZIALE

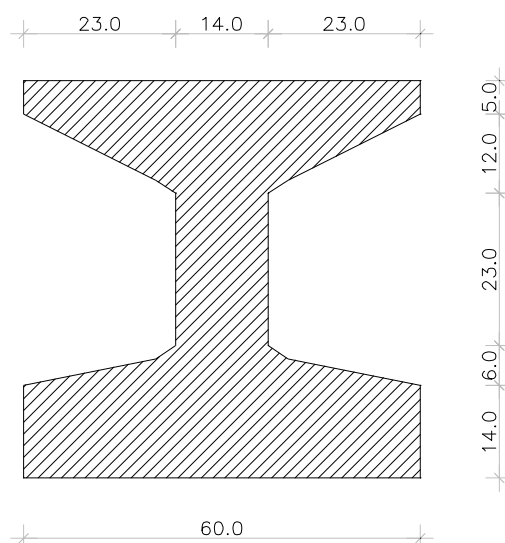


Figura 21 Sezione della trave prefabbricata

SEZIONE CLS	Area :	0.2090	m ²
	Inerzia flessionale :	911679	cm ⁴
	Peso proprio :	5.225	kN/m

10.2.1.2 FASI SUCCESSIVE A SOLETTA MATURATA

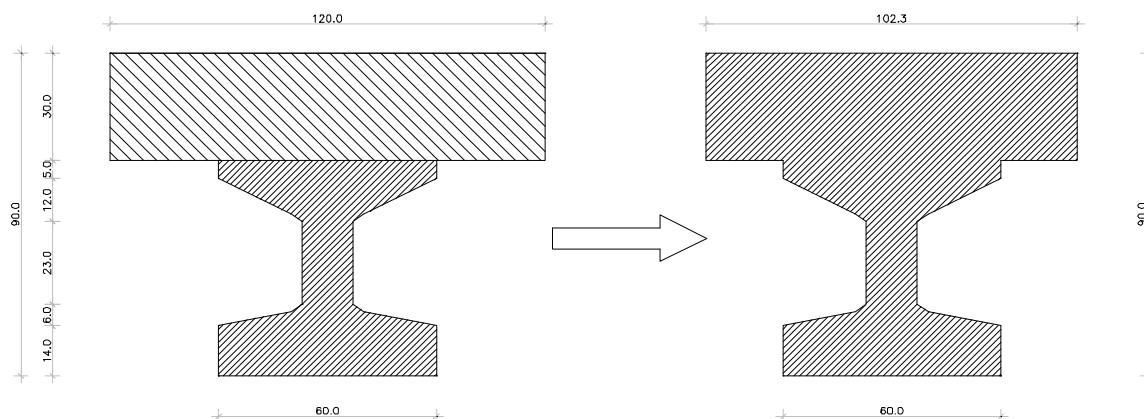


Figura 22 Sezione omogeneizzata: trave + soletta

Coeff. di omogeneizz. $n = E_c \text{ trave} / E_c \text{ soletta} = 1.173$
 SEZIONE CLS Area : 0.5159 m²
 Inerzia flessionale : 3903154 cm⁴
 Inerzia torsionale : 1657798 cm⁴

SEZIONE OMOG.	
n° trefoli	8+8+2=18 T0.6''
Arm. lenta aggiuntiva	4φ26+2φ20

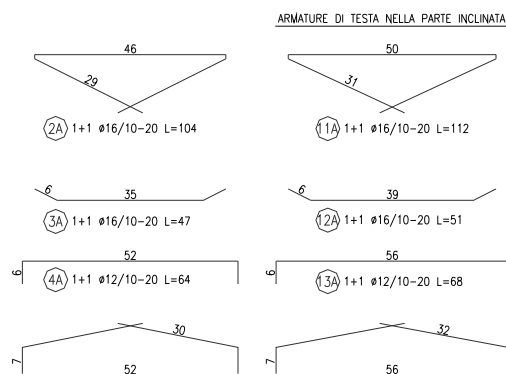
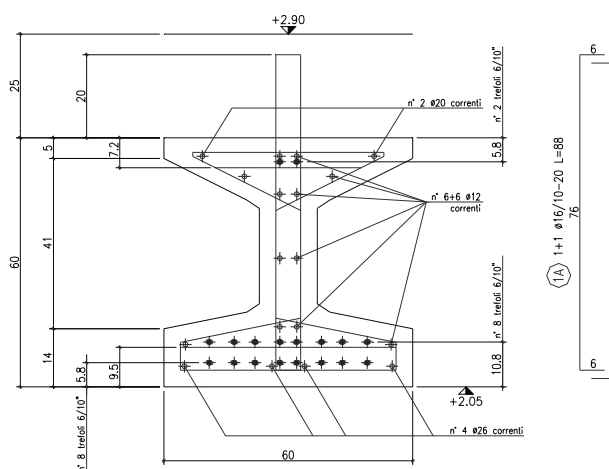


Figura 23 Trave ad I tipo A

10.2.2 Stato limite di deformazione

10.2.2.1 STATO DEFORMATIVO DOVUTA AL CARICO VARIABILE

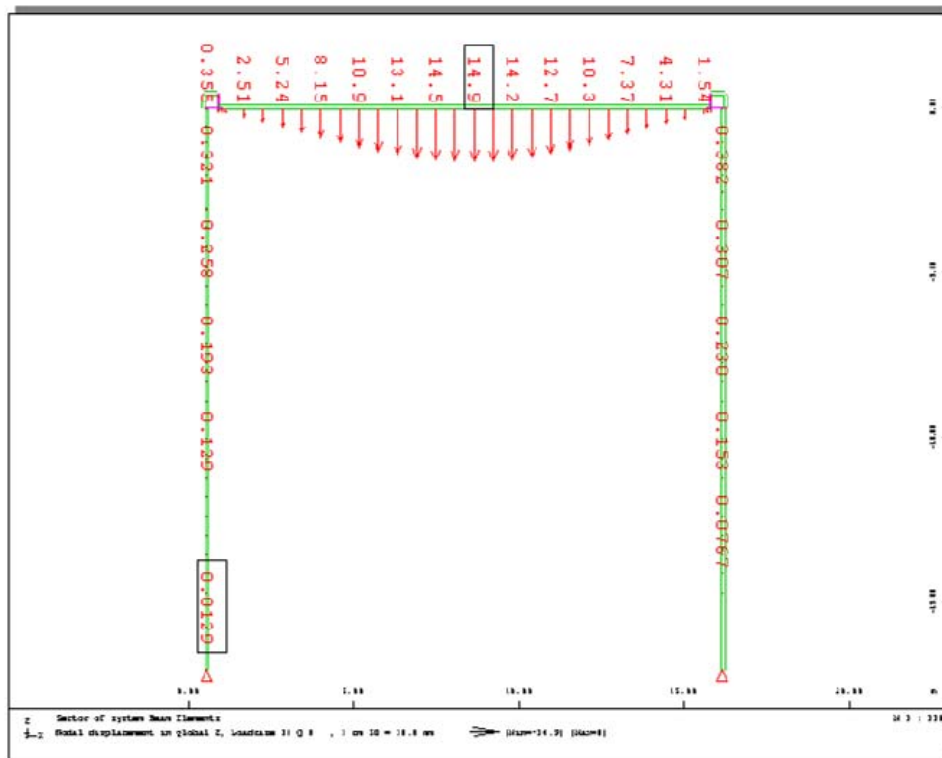


Figura 24 Deformazioni da carico mobile

Tale deformazione dovrà essere compatibile con le esigenze del traffico; si adotta la seguente limitazione per la freccia dovuta ai carichi variabili:

$$\delta_q = (14.9 - 1.15[\text{termica}]) = 13.75 \text{ mm} < L / 500 = 29.8 \text{ mm}$$

10.3 RISULTATI GENERALI

Si riportano qui di seguito i risultati del dimensionamento effettuato secondo le regole degli SLU e degli SLE presenti nel DM2008.

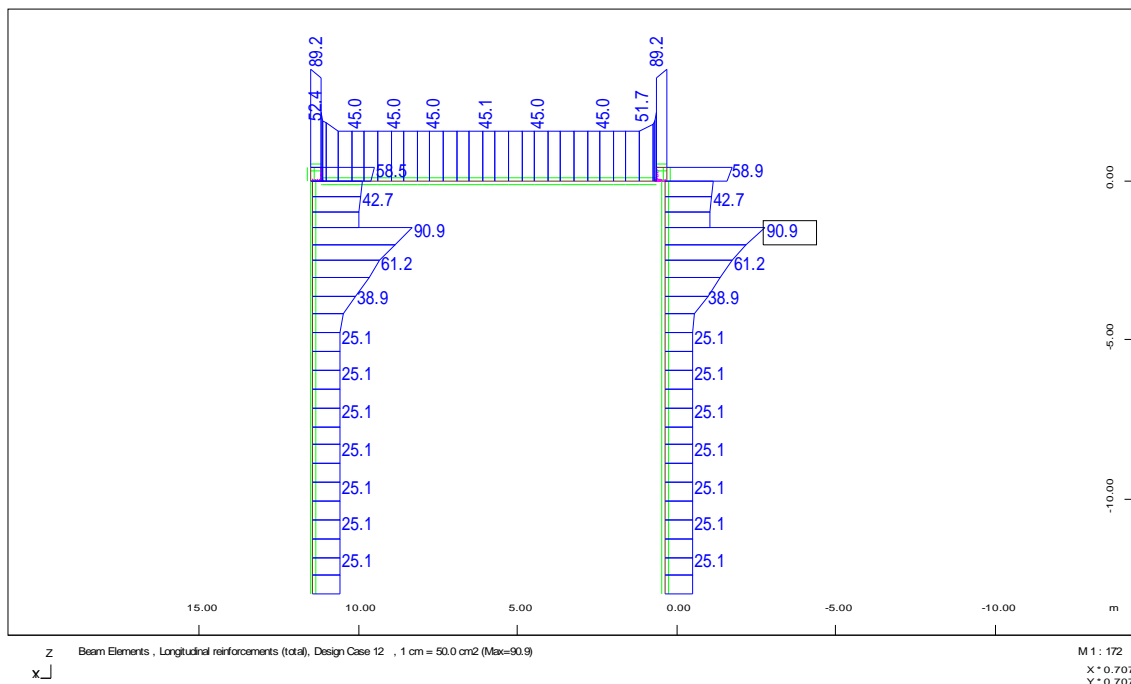


Figura 25 Armatura totale su impalcato (trave+soletta) e spalle (cm²/m) calcolata su una lunghezza di 1.2m – per il palo si utilizza la sezione del palo stessa

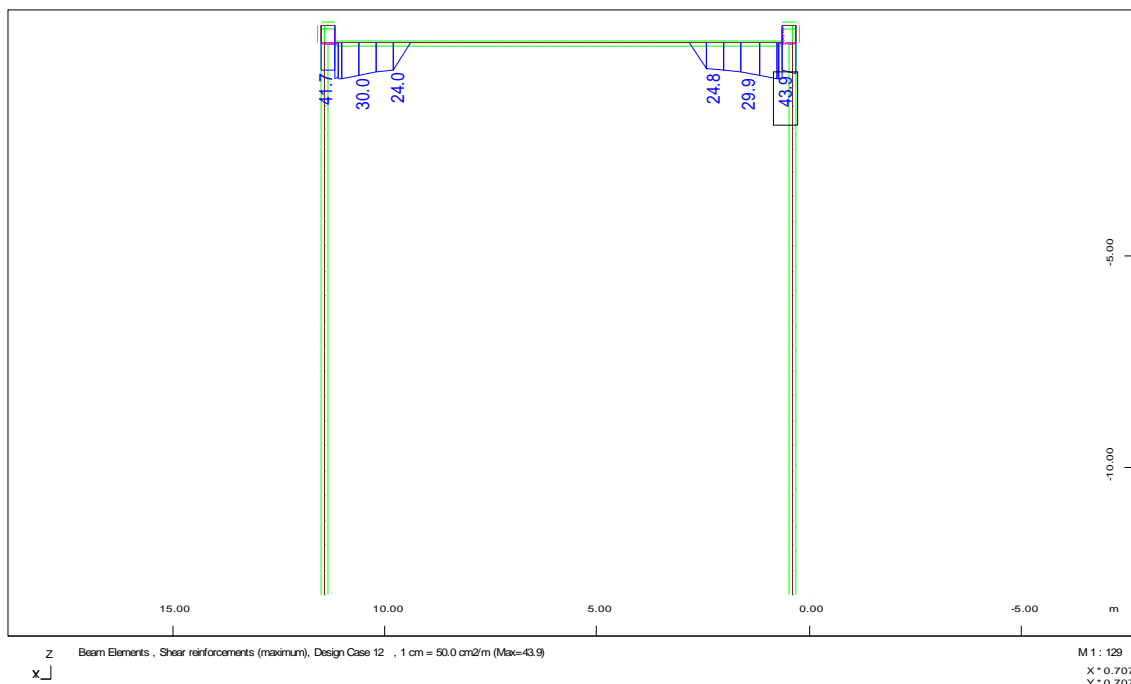


Figura 26 Armatura a taglio

La trave in precompresso viene armata con 8+8 trefoli inferiormente e 2 superiormente. Si impiegano poi 4Ø26 inferiormente e 2Ø20 superiormente.

Nelle zone di estremità in cui si realizza l'incastro si hanno $8\varnothing 26 = 42.4 > 38.9$ cm² richiesti inferiormente (vedi allegato Sofistik parte 1) e $4\varnothing 20$ superiormente.

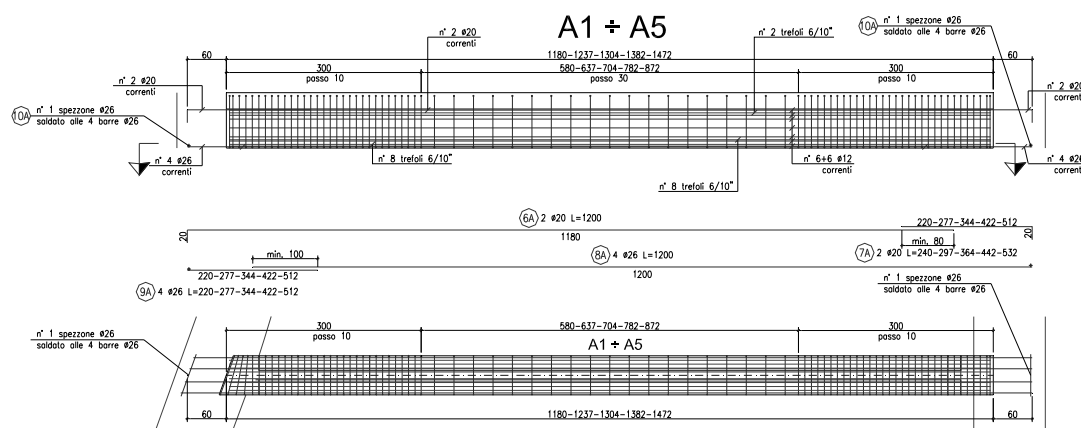


Figura 27 Armatura trave tipo A

La soletta viene armata con $1+1\varnothing 14/20$ cm tranne che nelle zone di estremità in cui si realizza l'incastro e si hanno $1\varnothing 22/10$ cm = $45.6 > 29.5$ cm² ($b=1.20$ m) richiesti superiormente e $1\varnothing 14/10$ cm inferiormente che sommati a $4\varnothing 20$ superiori nella trave danno 18.48 ($b=1.20$ m) + $12.56 = 31.0 > 9.2+15.9=25.1$ cm² richiesti complessivamente all'interfaccia trave-soletta.

Si dispongono staffe a 2 bracci $\varnothing 16/8$ cm = 50.25 cm²/m > 43.9 cm²/m richiesti in zona incastro (estensione 3 m) e $\varnothing 16/20$ cm nella zona centrale.

La staffatura in zona incastro viene verificata anche nel seguente modo.

Verifica secondo UNI EN1992 Parte 1-1 p.to 6.2.5 “Azione tagliante nell'interfaccia tra calcestruzzi gettati in tempi diversi” per la sezione tra trave precompressa e soletta di completamento.

Il massimo taglio in SLU sopportato dalla sezione collaborante trave+soletta (si esclude il peso di trave e soletta, portati dalla sola trave) vale:

$V = 83.4 \times 1.50 + 524 \times 1.35 + 7 \times 1.35 = 842$ kN (valore i picco all'estremità della trave)

Tale valore decresce circa linearmente verso il centro della trave, a distanza di 1 m si ha::

$$V' = V \cdot (L/2 - 1.00) / L/2 = 729 \text{ kN (con } L = 14.9 \text{ m)}$$

Si assume pertanto un valore medio nel primo metro pari a:

$$V_{sd} = (V + V') / 2 = 786 \text{ kN, che riferito al metro stesso vale: } 786 \text{ kN/m}$$

Il peso gravante sull'interfaccia trave-soletta è dato dal peso della soletta e della pavimentazione, si considera il tratto iniziale di 1 m:

$$n = (6.25 + 8.80) \times 1.20 \text{ m} \times 1.00 \text{ m} = 18 \text{ kN (di compressione)}$$

CARATTERISTICHE GEOMETRICHE DELLA SEZIONE DI INTERFACCIA

$$b = b' - 2e = 60 \text{ cm (piattabanda superiore della trave)} - 2 \times 5 \text{ (appoggio dalles)} = 50 \text{ cm}$$

$$H = 85 \text{ cm altezza d'impalcato (trave+soletta)}$$

d = posizione armatura tesa nella sezione composta trave+soletta. In questa sezione di estremità, soggetta a momento negativo e priva di precompressione, l'armatura tesa è in soletta, si assume $0.9 H = 76.5 \text{ cm}$

$$L = 100 \text{ cm (primo metro longitudinale)}$$

Cls di qualità inferiore fra trave e soletta: C32/40 con $f_{ck} = 33.20 \text{ MPa}$

Acciaio tipo B450 C con $f_{yk} = 450 \text{ MPa}$

Armatura di connessione resistente, adeguatamente ancorata:

$$A_{st} = \varnothing 16 / 8 \text{ cm a 2 bracci} \rightarrow 50,25 \text{ cm}^2/\text{m}$$

Resistenza:

$$f_{ctd} = 1.45 \text{ MPa, } f_{cd} = 18.81 \text{ MPa}$$

$$\sigma_n = n / (b' \times L) = 18 / 0.60 / 1000 = 0.03 \text{ MPa } (<< 0.6 f_{cd} = 11.28 \text{ MPa})$$

$$\rho = A_s / (b \times L) = 50.25 / (50 \times 100) = 0.01005$$

$$f_{yd} = 391 \text{ MPa}$$

$c = 0.25$ e $\mu = 0.5$ (superficie di interfaccia liscia e non fessurata $c = 0.25$, se fessurata $c = 0$)

$\alpha = 90^\circ$ (angolo di inclinazione delle barre rispetto alla superficie, compreso tra 45° e 90°)

$$v = 0.6[1 + f_{ck}(\text{MPa})/250] = 0.680$$

$$v_{Rdi} = c \times f_{ctd} + \mu \times \sigma_n + \rho \times f_{yd} \times (\mu \sin \alpha + \cos \alpha), \leq v_{Rd,o} = 0.5v f_{cd}$$

$$v_{Rdi} = 0.25 \times 1.45 + 0.5 \times 0.03 + 0.01005 \times 391 \times (0.5 + 0.0) = 2.34 \text{ MPa} (\leq v_{Rd,o} = 6.39 \text{ MPa} \rightarrow \text{ok})$$

Sollecitazione:

con $\beta = 1$ (cautelativamente pari al val. max) e $z = 0.9 \times d = 0.689 \text{ m}$

$$v_{Edl} = \beta \times V_{sd} / (z \times b)$$

$$v_{Edl} = 1 \times 786 / (0.689 \times 0.50) / 1000 = 2.28 \text{ MPa} < v_{Rdi}$$

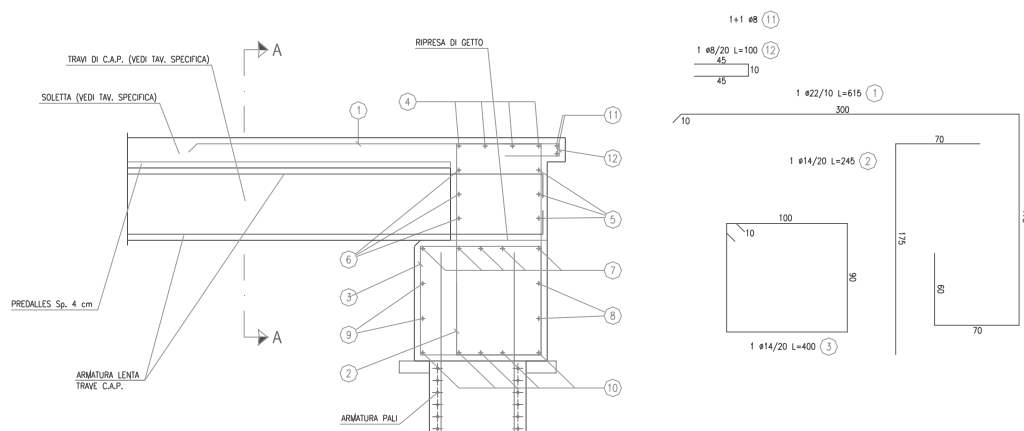


Figura 28 Armatura tipica trave di coronamento

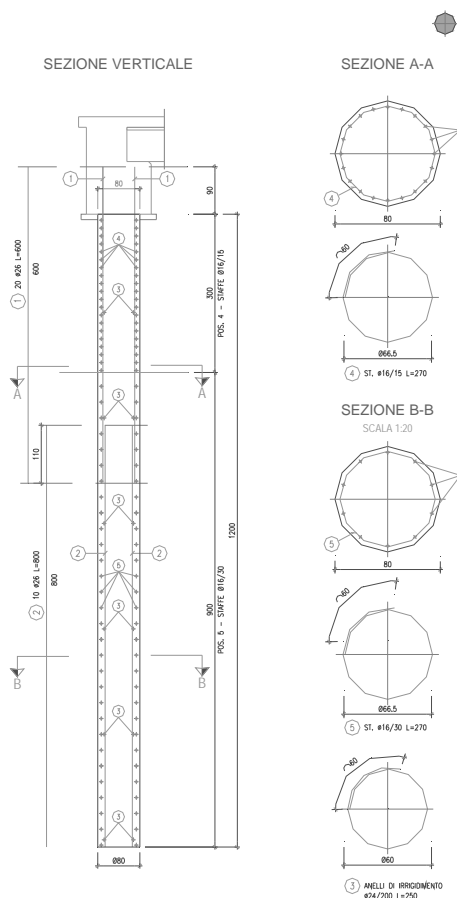


Figura 29 Armatura palo

10.4 ALLEGATO PARTE 1

Ogni dettaglio di calcolo è riportato in allegato - parte 1 alla presente relazione.

Legenda per gli output tabellari:

Nell'output del programma di calcolo si leggono, nella parte relativa al design, dei *safety factors* e degli *strain limits* che vengono qui di seguito chiariti

SC-1 è il coefficiente di sicurezza sul calcestruzzo sottoposto a momento flettente

SC-2 è il coefficiente di sicurezza sul calcestruzzo sottoposto a compressione

SC-S è il coefficiente di sicurezza sul calcestruzzo sottoposto a taglio

SS-1 è il coefficiente di sicurezza sull'acciaio d'armatura

SS-2 è il coefficiente di sicurezza sull'acciaio da carpenteria

PIIA è un parametro che controlla il comportamento del precompresso in fase II:

1 = Cracked conditions will be used

2 = Statically determinate forces will be subtracted an initial strain will be calculated for tendons (Alternative: total forces + stress increase)

4 = Extra straining of concrete due to prestressing will be considered

8 = Level arm of tension zone will be computed with total force instead of an incremental calculation

16 = do not use stress increments for shear force

32 = Area of the composite mortar is not effective after grouting (Default for OeNORM B4700 and B4750)

64 = Use eigenstresses as initial strain.

Se PIIA vale 7, significa che considera assieme i casi 1+2+4; se vale 5. Considera assieme 1+4.

C1 è la massima deformazione del calcestruzzo in compressione in ‰

C2 è la massima deformazione del calcestruzzo in compressione centrata in ‰

S1 è la massima deformazione a trazione dell'acciaio d'armatura in ‰ per cui si impone una disposizione simmetrica (a trazione ed a compressione) dell'armatura

S2 è la massima deformazione a trazione dell'acciaio d'armatura in ‰ che si impone nella progettazione

Z1 è la massima deformazione efficace a compressione dell'acciaio per precompresso in ‰

Z2 è la massima deformazione efficace a trazione dell'acciaio per precompresso in ‰

11 TRAVE I60 L=11.3m (zona ponte integrale – TIPO B)

11.1 FASI COSTRUTTIVE

Si distinguono quattro fasi costruttive corrispondenti alle verifiche agli stati limite di esercizio e due fasi costruttive corrispondenti alle verifiche agli stati limite ultimi.

FASE INIZIALE: dalla posa in tensione dei trefoli al loro taglio si sviluppa tutta la perdita elastica (già analizzata nella fase iniziale); ritiro e viscosità non si sviluppano perché rispettivamente il calcestruzzo matura in stabilimento e la trave non è ancora caricata.

FASE A BREVE TERMINE (dal taglio dei trefoli al getto della soletta non ancora maturata): alle tensioni della fase precedente si sommano il peso della soletta e 1/3 delle cadute di tensione da ritiro e viscosità della trave.

FASE INTERMEDIA: a maturazione della soletta si considera la sezione omogeneizzata trave-soletta e si aggiungono i pesi permanenti e accidentali.

FASE A LUNGO TERMINE (tempo ∞): sulla sezione omogeneizzata trave-soletta si aggiungono alle tensioni della fase precedente i 2/3 delle cadute di tensione.

11.2 CARATTERISTICHE DELLE SEZIONI

Per lo studio delle sollecitazioni agenti sulle travi nelle varie fasi (iniziale, di esercizio e di stato limite ultimo) si verificano le sezioni tipo della trave nelle seguenti configurazioni:

- in fase iniziale si considera la sola trave reagente mentre la soletta non ancora matura risulta essere un carico permanente aggiuntivo al peso proprio della trave stessa;

- in fase di esercizio e di stato limite ultimo si considera la sezione omogeneizzata trave-soletta collaborante.

Si riportano di seguito le caratteristiche delle sezioni correnti delle travi.

11.2.1.1 FASE INIZIALE

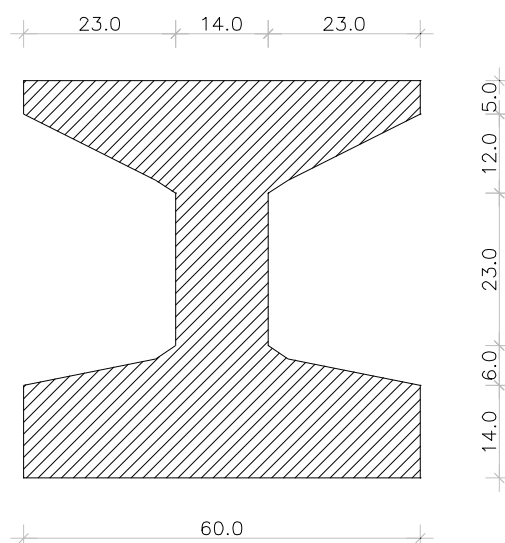


Figura 30 Sezione della trave prefabbricata

SEZIONE CLS	Area :	0.2090	m ²
	Inerzia flessionale :	911679	cm ⁴
	Peso proprio :	5.225	kN/m

11.2.1.2 FASI SUCCESSIVE A SOLETTA MATURATA

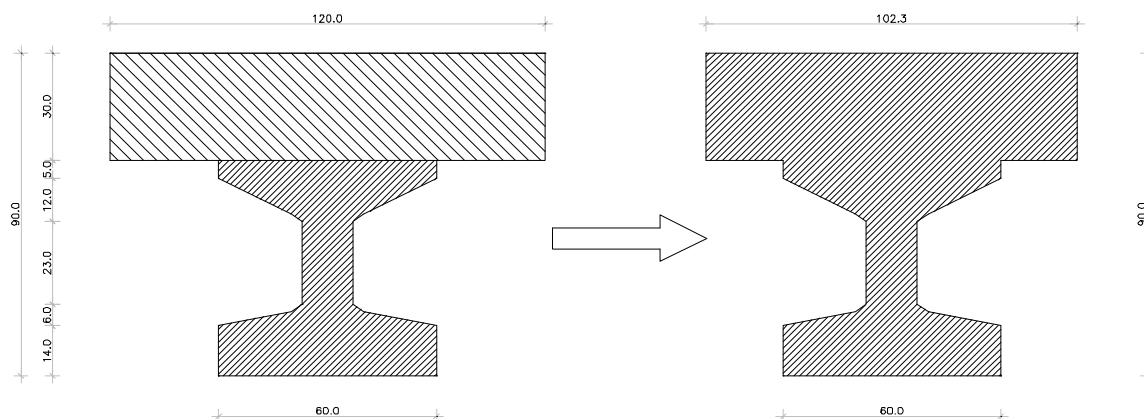


Figura 31 Sezione omogeneizzata: trave + soletta

Coeff. di omogeneizz. $n = E_{c \text{ trave}} / E_{c \text{ soletta}} = 1.173$
 SEZIONE CLS Area : 0.5159 m²
 Inerzia flessionale : 3903154 cm⁴
 Inerzia torsionale : 1657798 cm⁴

SEZIONE OMOG.	
n° trefoli	6+6+2=14 T0.6''
Arm. lenta aggiuntiva	4φ26+2φ20

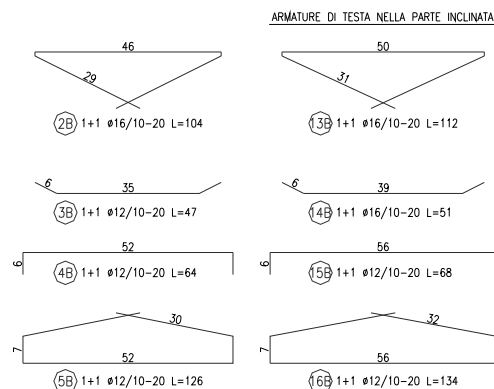
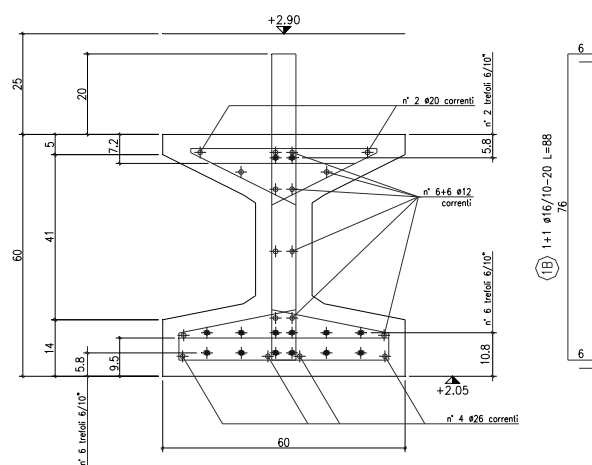


Figura 32 Trave ad I tipo B

11.2.2 Stato limite di deformazione

11.2.2.1 STATO DEFORMATIVO DOVUTA AL CARICO VARIABILE

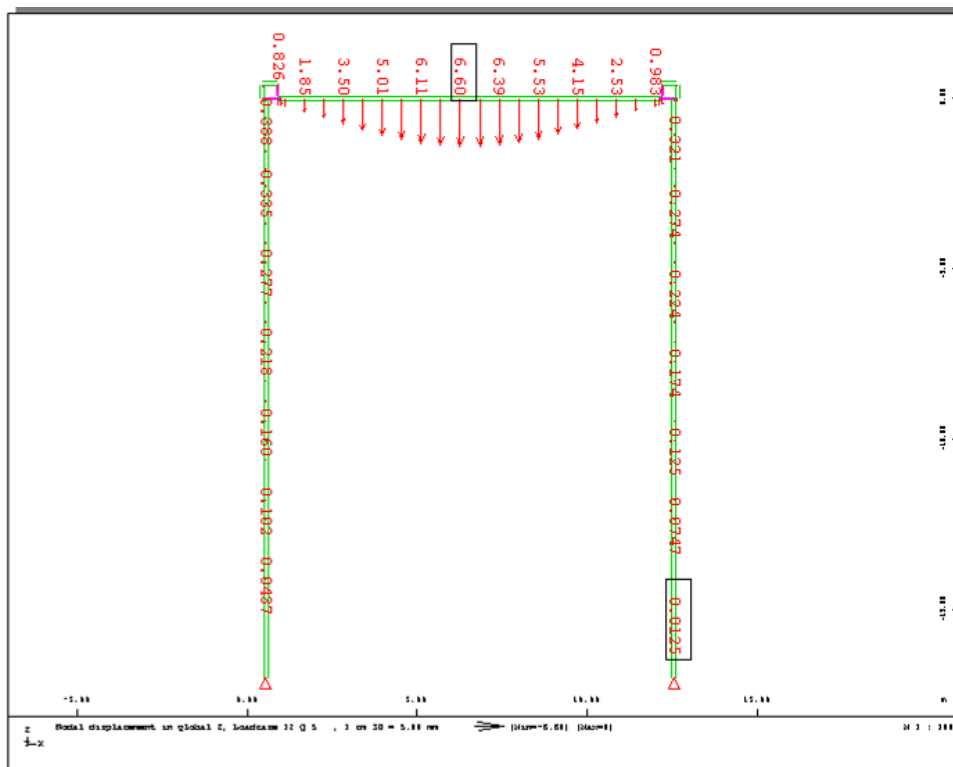


Figura 33 Deformazione da carico accidentale

Tale deformazione dovrà essere compatibile con le esigenze del traffico; si adotta la seguente limitazione per la freccia dovuta ai carichi variabili:

$$\delta_q = 6.6 - 1.07 = 5.53 \text{ mm} < L / 500 = 22.6 \text{ mm}$$

11.3 RISULTATI GENERALI

Si riportano qui di seguito i risultati del dimensionamento effettuato secondo le regole degli SLU e degli SLE presenti nel DM2008.

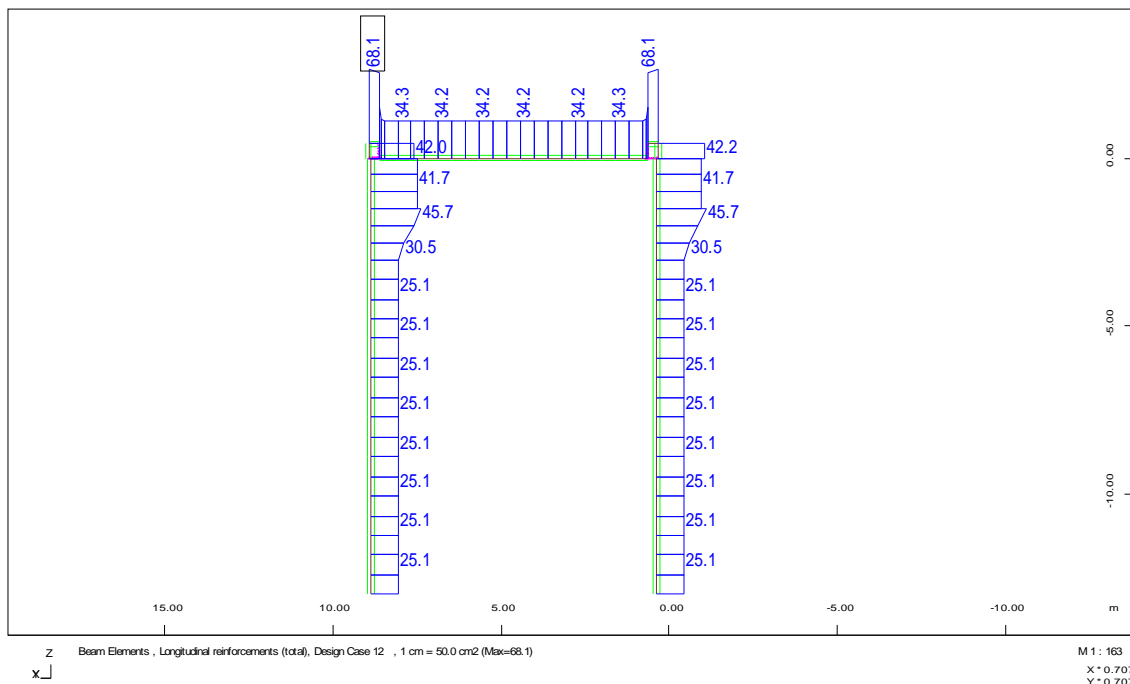


Figura 34 Armatura totale su impalcato (trave+soletta) e spalle (cm²/m) calcolata su una larghezza di 1.2m – per il palo si utilizza la sezione del palo stessa

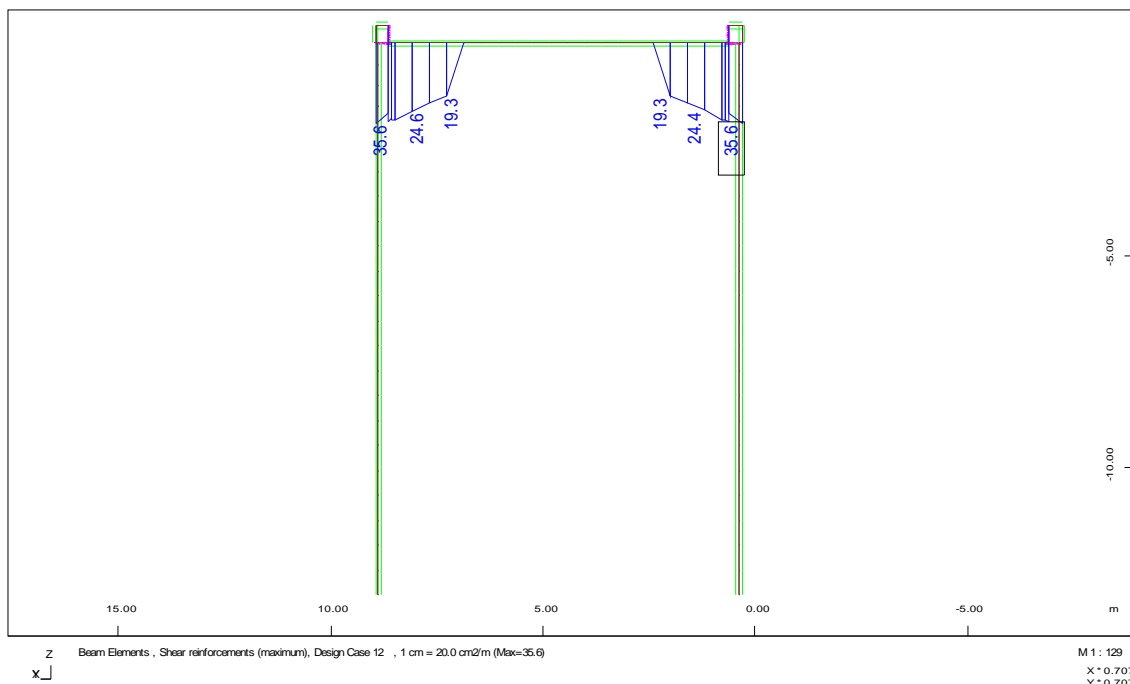


Figura 35 Armatura a taglio

La trave in precompresso viene armata con 6+6 trefoli inferiormente e 2 superiormente. Si impiegano poi 4Ø26 inferiormente e 2Ø20 superiormente.

Nelle zone di estremità in cui si realizza l'incastro si hanno $8\varnothing 26 = 42.4 > 34.3$ cm² richiesti inferiormente (vedi allegato Sofistik parte 2) e $2\varnothing 20$ superiormente.

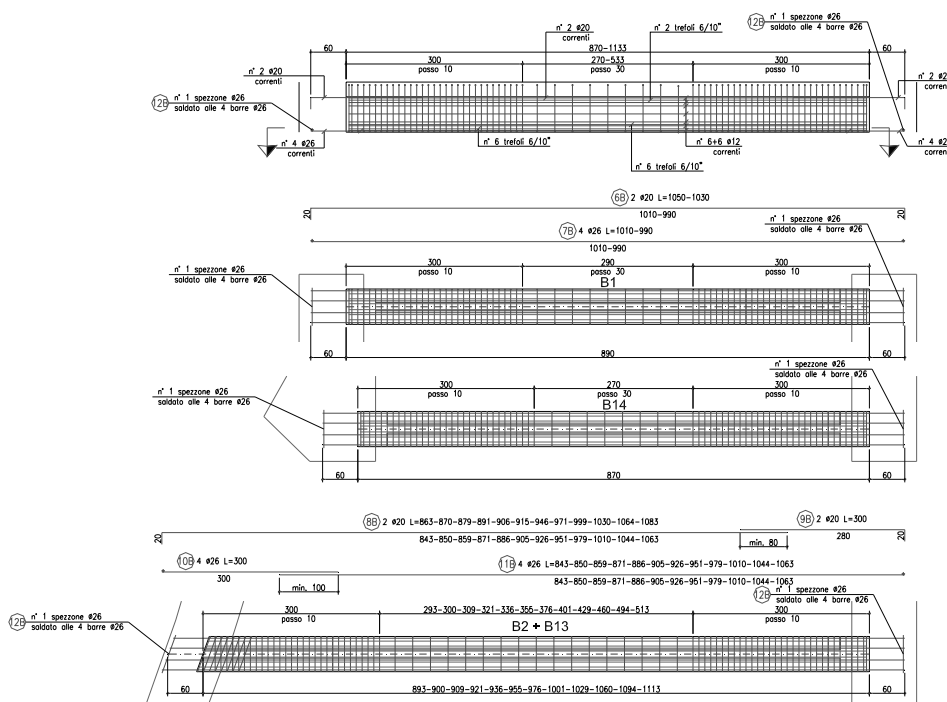


Figura 36 Armatura trave tipo B

La soletta viene armata con $1+1\varnothing 14/20$ cm tranne che nelle zone di estremità in cui si realizza l'incastro e si hanno $1\varnothing 22/10$ cm = $45.6 > 18.2$ cm² ($b=1.20$ m) richiesti superiormente e $1\varnothing 14/20$ cm inferiormente che sommati a $4\varnothing 20$ superiori nella trave danno 9.24 ($b=1.20$ m) + $12.56 = 21.8 > 9.2+9.4=18.6$ cm² richiesti complessivamente all'interfaccia trave-soletta.

Si dispongono staffe a 2 bracci $\varnothing 16/10$ cm = 40.20 cm²/m > 35.6 cm²/m richiesti in zona incastro (estensione 3 m) e $\varnothing 16/20$ cm nella zona centrale.

La staffatura in zona incastro viene verificata anche nel seguente modo.

Verifica secondo UNI EN1992 Parte 1-1 p.to 6.2.5 "Azione tagliante nell'interfaccia tra calcestruzzi gettati in tempi diversi" per la sezione tra trave precompressa e soletta di completamento.

Il massimo taglio in SLU sopportato dalla sezione collaborante trave+soletta (si

esclude il peso di trave e soletta, portati dalla sola trave) vale:

$$V = 64.4 \times 1.50 + 450 \times 1.35 + 7 \times 1.35 = 714 \text{ kN (valore i picco all'estremità della trave)}$$

Tale valore decresce circa linearmente verso il centro della trave, a distanza di 1 m si ha::

$$V' = V \cdot (L/2 - 1.00) / L/2 = 588 \text{ kN (con } L = 11.3 \text{ m)}$$

Si assume pertanto un valore medio nel primo metro pari a:

$$V_{sd} = (V + V') / 2 = 651 \text{ kN, che riferito al metro stesso vale: } 651 \text{ kN/m}$$

Il peso gravante sull'interfaccia trave-soletta è dato dal peso della soletta e della pavimentazione, si considera il tratto iniziale di 1 m:

$$n = (6.25 + 8.80) \times 1.20 \text{ m} \times 1.00 \text{ m} = 18 \text{ kN (di compressione)}$$

CARATTERISTICHE GEOMETRICHE DELLA SEZIONE DI INTERFACCIA

$$b = b' - 2e = 60 \text{ cm (piattabanda superiore della trave)} - 2 \times 5 \text{ (appoggio dalles)} = 50 \text{ cm}$$

$$H = 85 \text{ cm altezza d'impalcato (trave+soletta)}$$

d = posizione armatura tesa nella sezione composta trave+soletta. In questa sezione di estremità, soggetta a momento negativo e priva di precompressione, l'armatura tesa è in soletta, si assume $0.9 H = 76.5 \text{ cm}$

$$L = 100 \text{ cm (primo metro longitudinale)}$$

Cls di qualità inferiore fra trave e soletta: C32/40 con $f_{ck} = 33.20 \text{ MPa}$

Acciaio tipo B450 C con $f_{yk} = 450 \text{ MPa}$

Armatura di connessione resistente, adeguatamente ancorata:

$$A_{st} = \varnothing 16 / 10 \text{ cm a 2 bracci} \rightarrow 40,20 \text{ cm}^2/\text{m}$$

Resistenza:

$$f_{ctd} = 1.45 \text{ MPa}, f_{cd} = 18.81 \text{ MPa}$$

$$\sigma_n = n/(b' \times L) = 18/0.60 / 1000 = 0.03 \text{ MPa} (<< 0.6 f_{cd} = 11.28 \text{ Mpa})$$

$$\rho = A_s/(b \times L) = 40.20/(50 \times 100) = 0.00804$$

$$f_{yd} = 391 \text{ MPa}$$

$c = 0.25$ e $\mu = 0.5$ (superficie di interfaccia liscia e non fessurata $c = 0.25$, se fessurata $c = 0$)

$\alpha = 90^\circ$ (angolo di inclinazione delle barre rispetto alla superficie, compreso tra 45° e 90°)

$$v = 0.6[1 + f_{ck}(\text{MPa})/250] = 0.680$$

$$v_{Rdi} = c \times f_{ctd} + \mu \times \sigma_n + \rho \times f_{yd} \times (\mu \sin \alpha + \cos \alpha), \leq v_{Rd,o} = 0.5v f_{cd}$$

$$v_{Rdi} = 0.25 \times 1.45 + 0.5 \times 0.03 + 0.00804 \times 391 \times (0.5 + 0.0) = 1.949 \text{ MPa} (\leq v_{Rd,o} = 6.39 \text{ MPa} \rightarrow \text{ok})$$

Sollecitazione:

con $\beta = 1$ (cautelativamente pari al val. max) e $z = 0.9 \times d = 0.689 \text{ m}$

$$v_{Edi} = \beta \times V_{sd} / (z \times b)$$

$$v_{Edi} = 1 \times 651 / (0.689 \times 0.50) / 1000 = 1.890 \text{ MPa} < v_{Rdi}$$

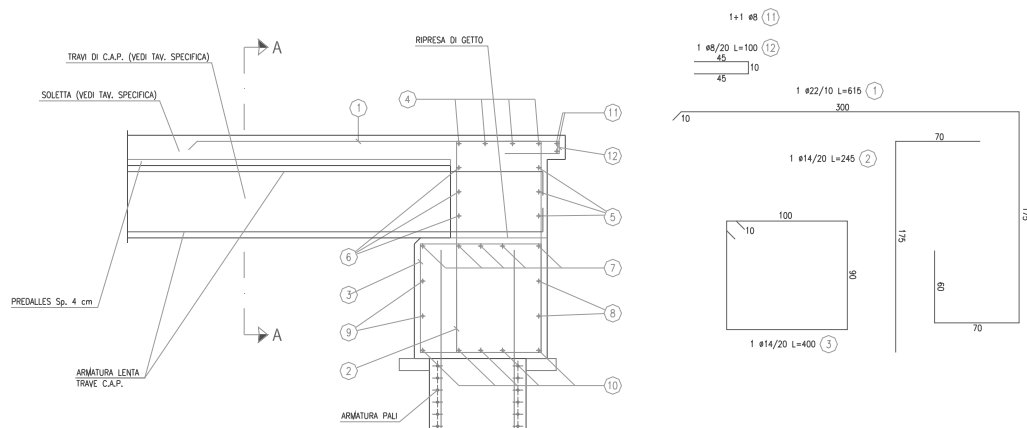


Figura 37 Armatura tipica trave di coronamento

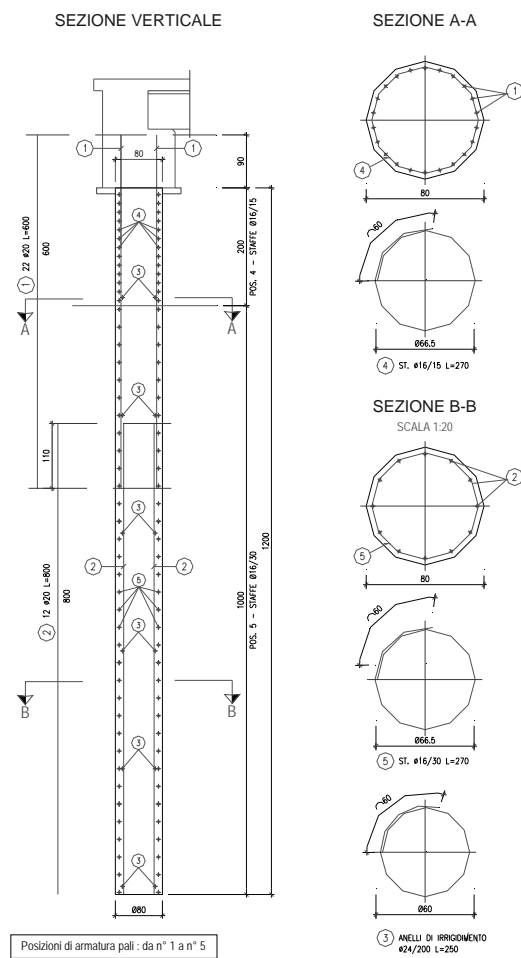


Figura 38 Armatura palo

11.4 ALLEGATO PARTE 2

Ogni dettaglio di calcolo è riportato in allegato - parte 2 alla presente relazione.

Legenda per gli output tabellari: vedi §10.4

12 TRAVE I60 L=14.9 m (zona semi-integrale – TIPO C)

12.1 FASI COSTRUTTIVE

Si distinguono quattro fasi costruttive corrispondenti alle verifiche agli stati limite di esercizio e due fasi costruttive corrispondenti alle verifiche agli stati limite ultimi.

FASE INIZIALE: dalla posa in tensione dei trefoli al loro taglio si sviluppa tutta la perdita elastica (già analizzata nella fase iniziale); ritiro e viscosità non si sviluppano perché rispettivamente il calcestruzzo matura in stabilimento e la trave non è ancora caricata.

FASE A BREVE TERMINE (dal taglio dei trefoli al getto della soletta non ancora maturata): alle tensioni della fase precedente si sommano il peso della soletta e 1/3 delle cadute di tensione da ritiro e viscosità della trave.

FASE INTERMEDIA: a maturazione della soletta si considera la sezione omogeneizzata trave-soletta e si aggiungono i pesi permanenti e accidentali.

FASE A LUNGO TERMINE (tempo ∞): sulla sezione omogeneizzata trave-soletta si aggiungono alle tensioni della fase precedente i 2/3 delle cadute di tensione.

12.2 CARATTERISTICHE DELLE SEZIONI

Per lo studio delle sollecitazioni agenti sulle travi nelle varie fasi (iniziale, di esercizio e di stato limite ultimo) si verificano le sezioni tipo della trave nelle seguenti configurazioni:

- in fase iniziale si considera la sola trave reagente mentre la soletta non ancora matura risulta essere un carico permanente aggiuntivo al peso proprio della trave stessa;

- in fase di esercizio e di stato limite ultimo si considera la sezione omogeneizzata trave-soletta collaborante.

Si riportano di seguito le caratteristiche delle sezioni correnti delle travi.

12.2.1.1 FASE INIZIALE

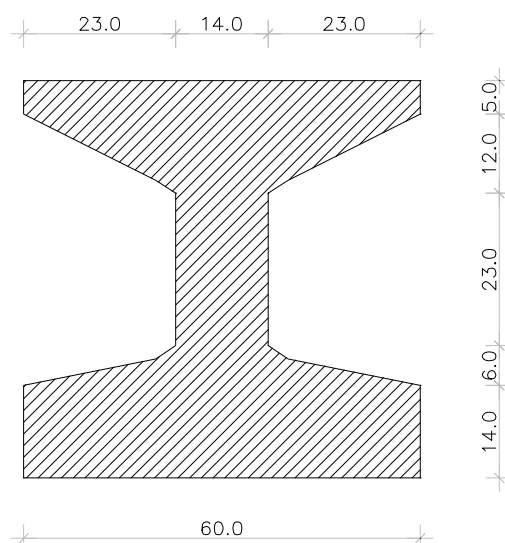


Figura 39 Sezione della trave prefabbricata

SEZIONE CLS	Area :	0.2090	m ²
	Inerzia flessionale :	911679	cm ⁴
	Peso proprio :	5.225	kN/m

12.2.1.2 FASI SUCCESSIVE A SOLETTA MATURATA

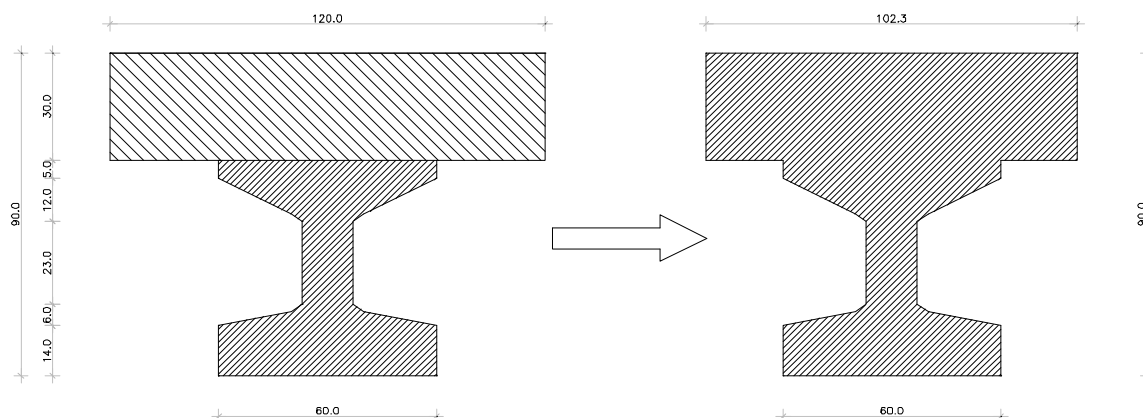


Figura 40 Sezione omogeneizzata: trave + soletta

Coeff. di omogeneizz. $n = E_c \text{ trave} / E_c \text{ soletta} = 1.173$
 SEZIONE CLS Area : 0.5159 m²
 Inerzia flessionale : 3903154 cm⁴
 Inerzia torsionale : 1657798 cm⁴

SEZIONE OMOG.	
n° trefoli	8+11+2=21 T0.6''
Arm. lenta aggiuntiva	4φ26+2φ20

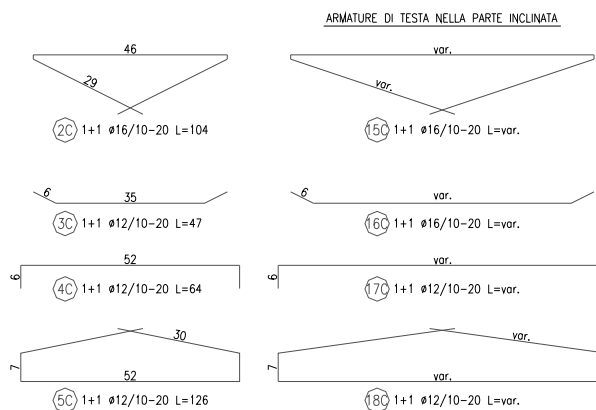
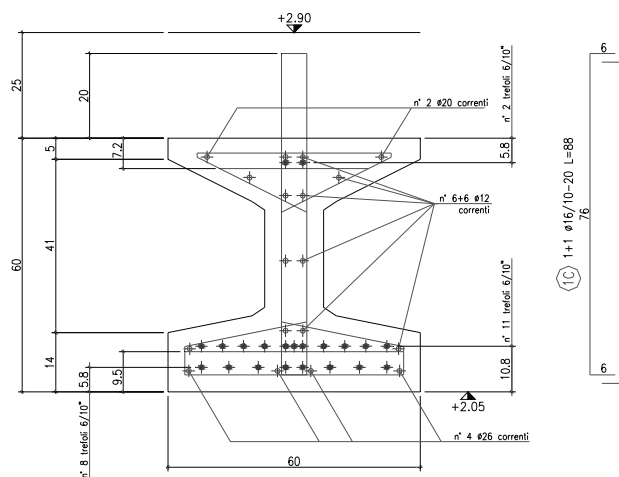


Figura 41 Trave ad I tipo C

12.2.2 Stato limite di deformazione

12.2.2.1 STATO DEFORMATIVO DOVUTA AL CARICO VARIABILE

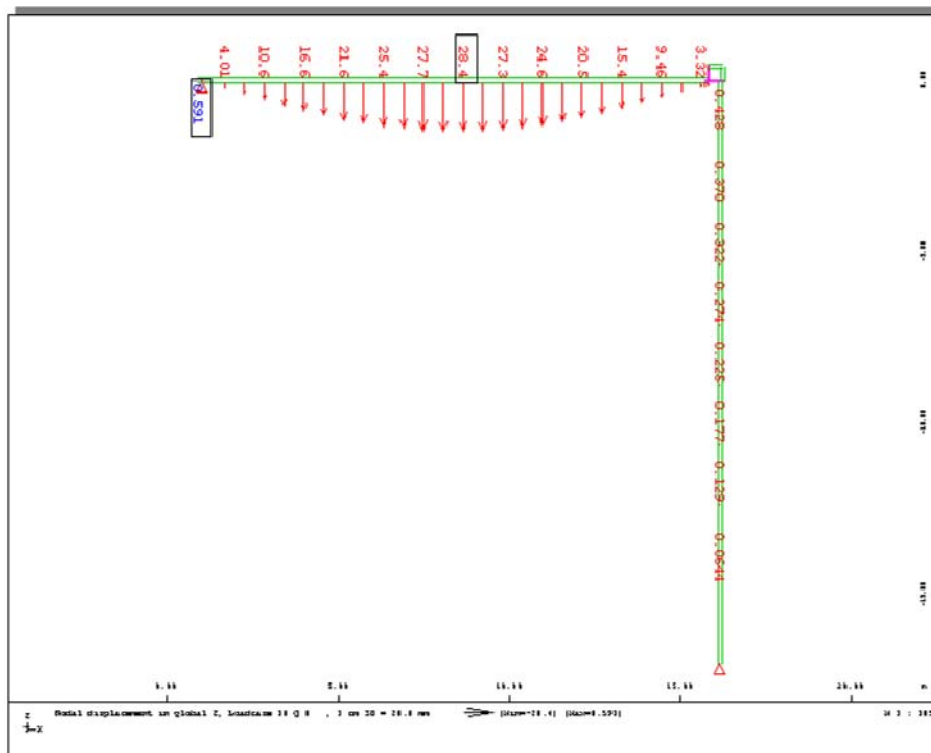


Figura 42 Deformazione dovuta al carico mobile

Tale deformazione dovrà essere compatibile con le esigenze del traffico; si adotta la seguente limitazione per la freccia dovuta ai carichi variabili:

$$\delta_q = 28.4 \text{ mm} < L / 500 = 29.8 \text{ mm}$$

12.3 RISULTATI GENERALI

Si riportano qui di seguito i risultati del dimensionamento effettuato secondo le regole degli SLU e degli SLE presenti nel DM2008.

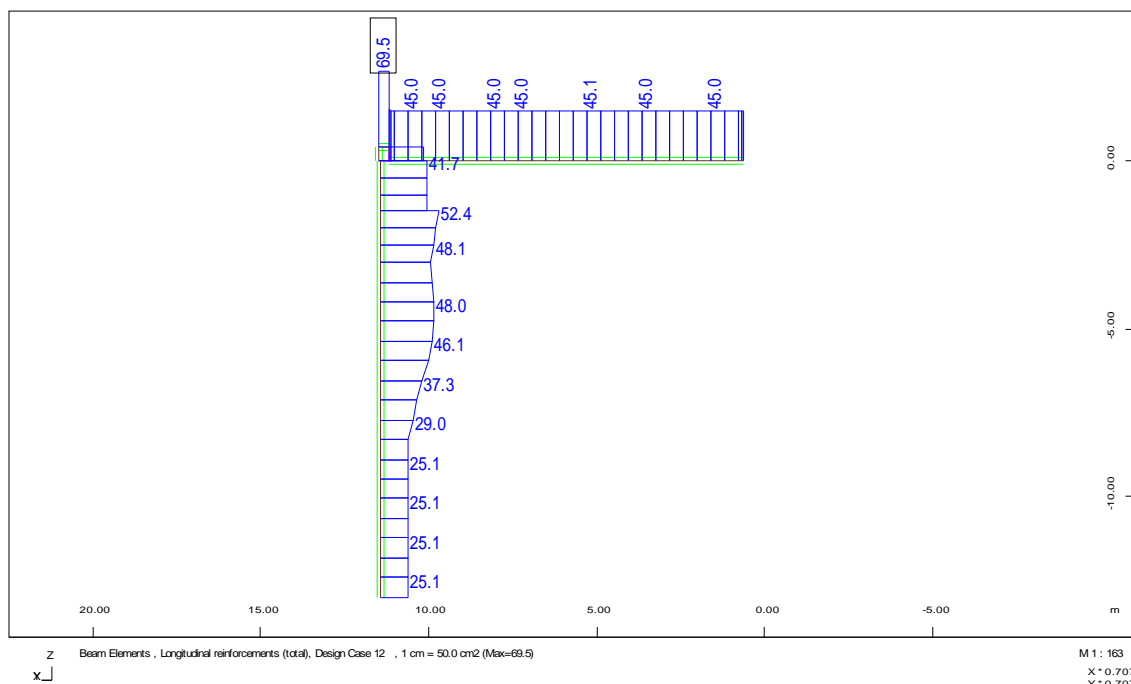


Figura 43 Armatura totale su impalcato (trave+soletta) e spalle (cm²/m) calcolata su una larghezza di 1.2m – per il palo si utilizza la sezione del palo stessa

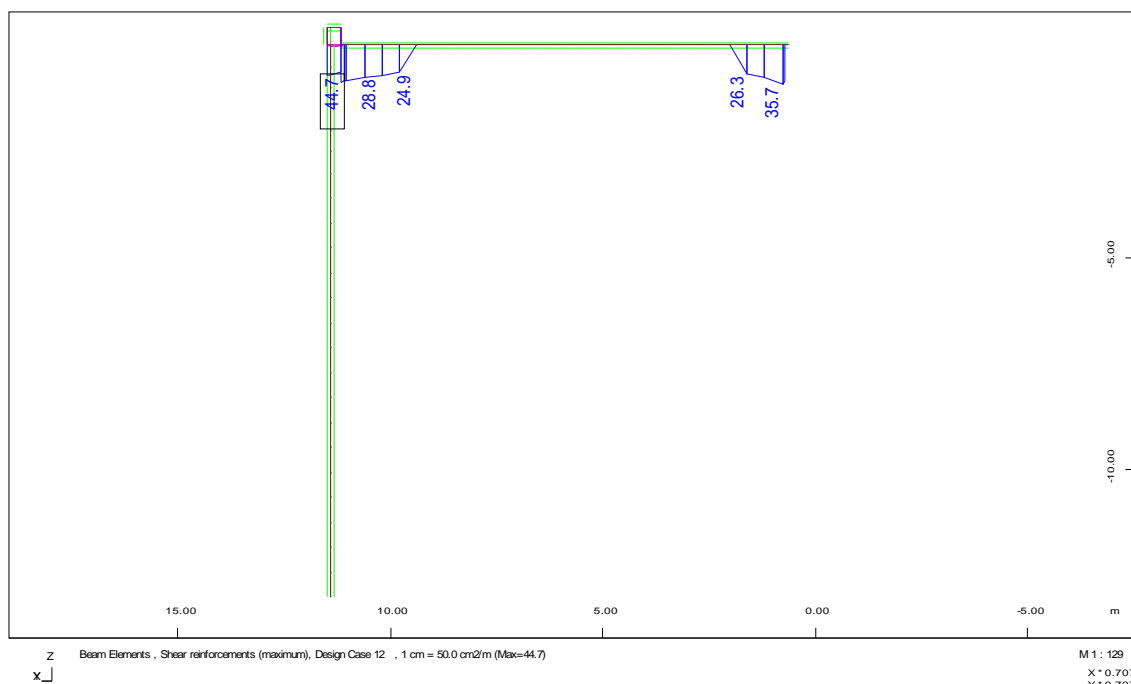


Figura 44 Armatura a taglio

La trave in precompresso viene armata con 8+11 trefoli inferiormente e 2 superiormente. Si impiegano poi 4Ø26 inferiormente e 2Ø20 superiormente.

Technical drawing of a reinforced concrete slab (C1) showing reinforcement details. The drawing includes a plan view of the slab with dimensions and reinforcement specifications, and a cross-section view showing the slab thickness and reinforcement layout. Key dimensions include a total length of 1200 cm, a width of 1038.5 cm, and a slab thickness of 150 cm. Reinforcement includes top bars (n° 2 #20, n° 2 #20, n° 2 #20) and bottom bars (n° 8 #10, n° 11 #10, n° 6 #12). A cross-section view shows the slab thickness and the arrangement of reinforcement bars.

Il massimo taglio in SLU sopportato dalla sezione collaborante trave+soletta (si

esclude il peso di trave e soletta, portati dalla sola trave) vale:

$$V = 83.4 \times 1.50 + 539 \times 1.35 + 6 \times 1.35 = 861 \text{ kN (valore i picco all'estremità della trave)}$$

Tale valore decresce circa linearmente verso il centro della trave, a distanza di 1 m si ha::

$$V' = V \cdot (L/2 - 1.00) / L/2 = 745 \text{ kN (con } L = 14.9 \text{ m)}$$

Si assume pertanto un valore medio nel primo metro pari a:

$$V_{sd} = (V + V') / 2 = 803 \text{ kN, che riferito al metro stesso vale: } 803 \text{ kN/m}$$

Il peso gravante sull'interfaccia trave-soletta è dato dal peso della soletta e della pavimentazione, si considera il tratto iniziale di 1 m:

$$n = (6.25 + 8.80) \times 1.20 \text{ m} \times 1.00 \text{ m} = 18 \text{ kN (di compressione)}$$

CARATTERISTICHE GEOMETRICHE DELLA SEZIONE DI INTERFACCIA

$$b = b' - 2e = 60 \text{ cm (piattabanda superiore della trave)} - 2 \times 5 \text{ (appoggio dalles)} = 50 \text{ cm}$$

$$H = 85 \text{ cm altezza d'impalcato (trave+soletta)}$$

d = posizione armatura tesa nella sezione composta trave+soletta. In questa sezione di estremità, soggetta a momento negativo e priva di precompressione, l'armatura tesa è in soletta, si assume $0.9 H = 76.5 \text{ cm}$

$$L = 100 \text{ cm (primo metro longitudinale)}$$

Cls di qualità inferiore fra trave e soletta: C32/40 con $f_{ck} = 33.20 \text{ MPa}$

Acciaio tipo B450 C con $f_{yk} = 450 \text{ MPa}$

Armatura di connessione resistente, adeguatamente ancorata:

$$A_{st} = \varnothing 16 / 8 \text{ cm a 2 bracci} \rightarrow 50.25 \text{ cm}^2/\text{m}$$

Resistenza:

$$f_{ctd} = 1.45 \text{ MPa}, f_{cd} = 18.81 \text{ MPa}$$

$$\sigma_n = n/(b' \times L) = 18/0.60 / 1000 = 0.03 \text{ MPa} (<< 0.6 f_{cd} = 11.28 \text{ Mpa})$$

$$\rho = A_s/(b \times L) = 50.25/(50 \times 100) = 0.01005$$

$$f_{yd} = 391 \text{ MPa}$$

$c = 0.25$ e $\mu = 0.5$ (superficie di interfaccia liscia e non fessurata $c = 0.25$, se fessurata $c = 0$)

$\alpha = 90^\circ$ (angolo di inclinazione delle barre rispetto alla superficie, compreso tra 45° e 90°)

$$v = 0.6[1 + f_{ck}(\text{MPa})/250] = 0.680$$

$$v_{Rdi} = c \times f_{ctd} + \mu \times \sigma_n + \rho \times f_{yd} \times (\mu \sin \alpha + \cos \alpha), \leq v_{Rd,o} = 0.5v f_{cd}$$

$$v_{Rdi} = 0.25 \times 1.45 + 0.5 \times 0.03 + 0.01005 \times 391 \times (0.5 + 0.0) = 2.34 \text{ MPa} (\leq v_{Rd,o} = 6.39 \text{ MPa} \rightarrow \text{ok})$$

Sollecitazione:

con $\beta = 1$ (cautelativamente pari al val. max) e $z = 0.9 \times d = 0.689 \text{ m}$

$$v_{Edi} = \beta \times V_{sd} / (z \times b)$$

$$v_{Edi} = 1 \times 803 / (0.689 \times 0.50) / 1000 = 2.33 \text{ MPa} < v_{Rdi}$$

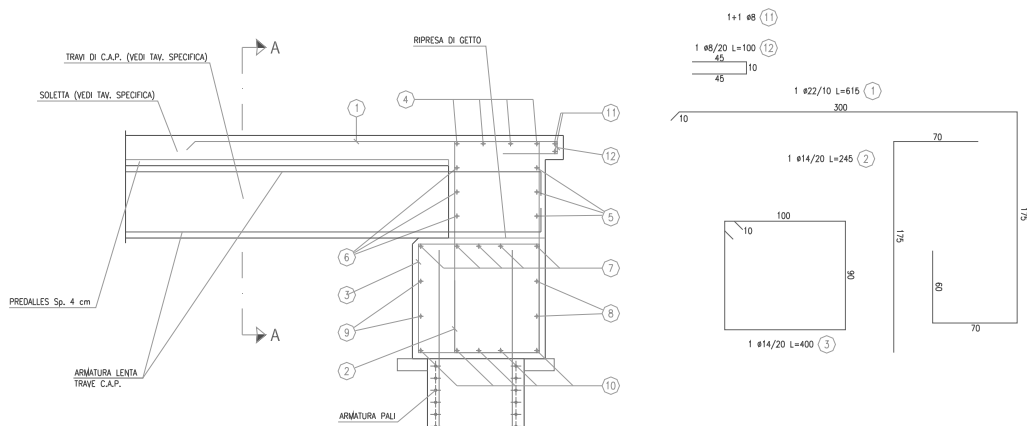


Figura 46 Armatura tipica trave di coronamento

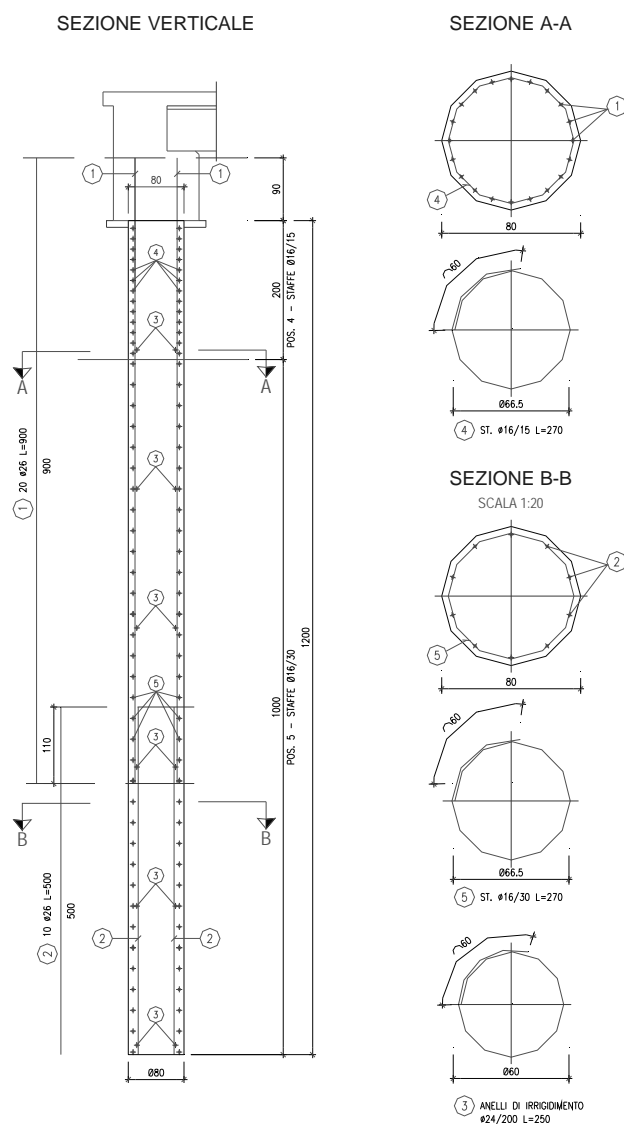


Figura 47 Armatura palo

12.4 ALLEGATO PARTE 3

Ogni dettaglio di calcolo è riportato in allegato - parte 3 alla presente relazione.

Legenda per gli output tabellari: vedi §10.4

13 TRAVE DI SOSTEGNO AD “L”

Si tratta della trave a sezione “L” avente lunghezza di calcolo $L=8.4$ m, sulla quale appoggiano, sul tratto obliquo, le travi in c.a.p. I60 (tipo C) ad un estremo.

13.1 VERIFICA DELLA TRAVE

13.1.1 Fase iniziale

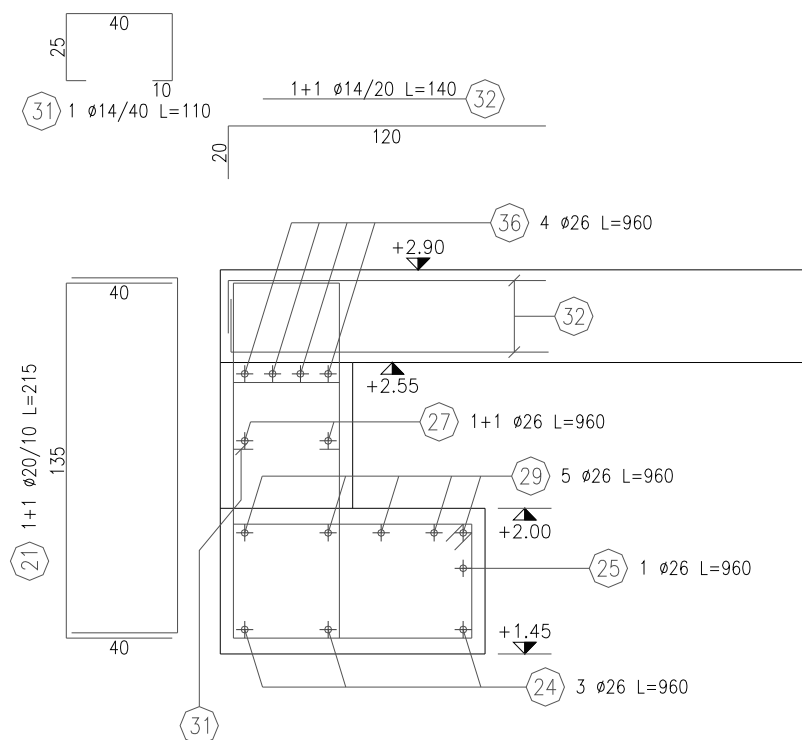


Figura 48 Trave ad L comprensiva della soletta

13.1.2 Stato limite di deformazione

13.1.2.1 STATO DEFORMATIVO DOVUTA AL CARICO VARIABILE

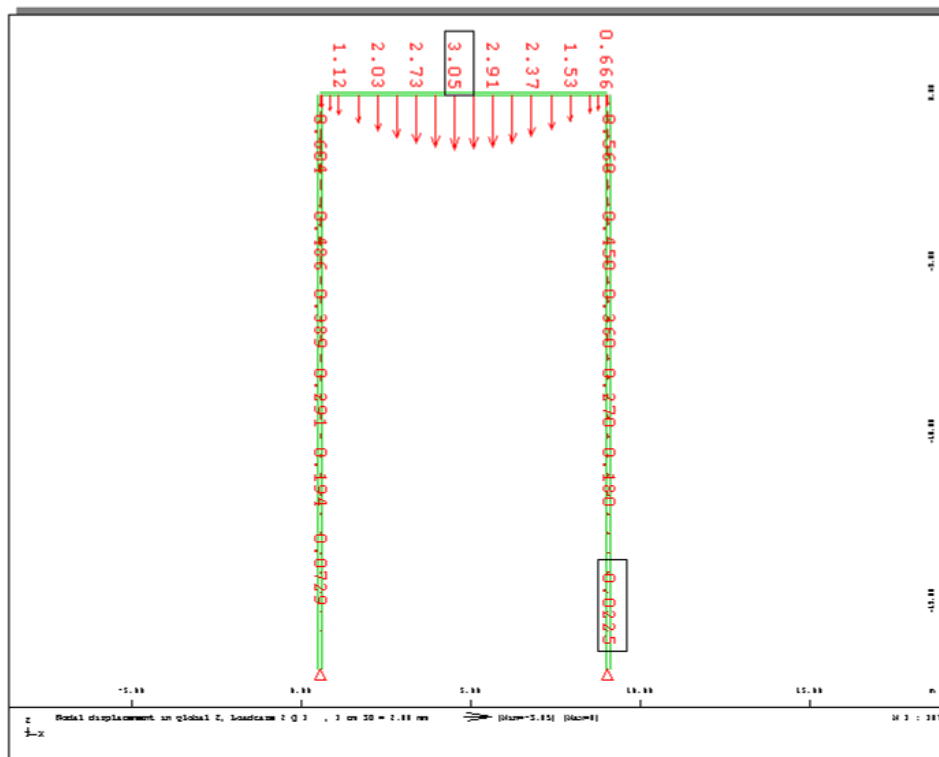
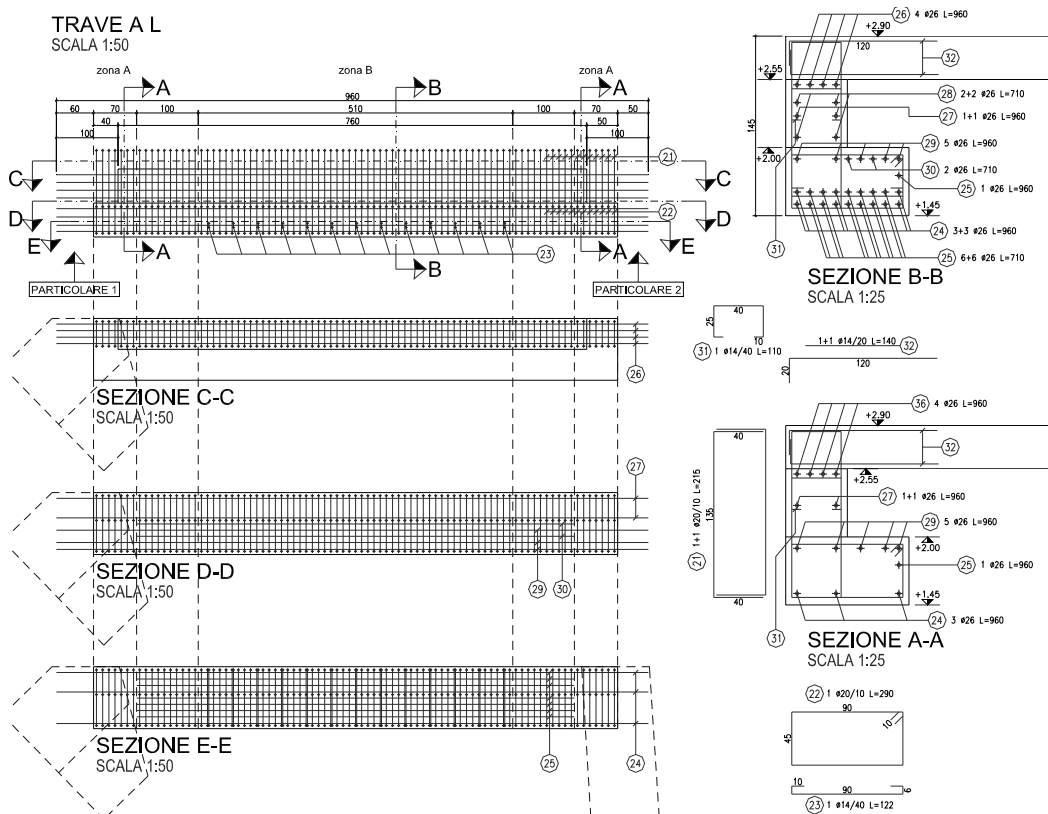


Figura 49 Deformazione derivante dal carico mobile

Tale deformazione dovrà essere compatibile con le esigenze del traffico; si adotta la seguente limitazione per la freccia dovuta ai carichi variabili:

$$\delta_q = 2.35 \text{ mm} < L / 500 = 17 \text{ mm}$$



La trave risulta essere armata con $18\varnothing 26 = 95.56 \text{ cm}^2 > 27.3 \text{ cm}^2$ richiesti inferiormente (vedi allegato Sofistik parte 4) e $5\varnothing 26$ superiormente (parte sotto appoggio travi a I); $4\varnothing 26 = 21.23 \text{ cm}^2 > 9.1 \text{ cm}^2$ richiesti nel lato corto superiore; $4\varnothing 26$ sul lato maggiore verticale della L; $4\varnothing 26$ sul lato verticale affacciato alle travi ad I; $1\varnothing 26$ sul lato corto verticale inferiore.

Staffatura a due bracci $\varnothing 20/10 \text{ cm} = 62.84 \text{ cm}^2/\text{m} > 59.3 \text{ cm}^2/\text{m}$ richiesto nelle estremità delle travi. La staffatura si mantiene costante per tutta la trave.

Verifica secondo UNI EN1992 Parte 1-1 p.to 6.2.5 “Azione tagliante nell’interfaccia tra calcestruzzi gettati in tempi diversi” per la sezione tra trave

precompressa e soletta di completamento.

Il massimo taglio in SLU sopportato dalla sezione collaborante trave+soletta (si esclude il peso di trave e soletta, portati dalla sola trave) vale:

$$V = 175.7 \times 1.50 + 920.9 \times 1.35 = 1507 \text{ kN (valore i picco all'estremità della trave)}$$

Tale valore decresce circa linearmente verso il centro della trave, a distanza di 1 m si ha::

$$V' = V \times (L/2 - 1.00) / L/2 = 1148 \text{ kN (con } L = 8.4 \text{ m)}$$

Si assume pertanto un valore medio nel primo metro pari a:

$$V_{sd} = (V + V') / 2 = 1327 \text{ kN, che riferito al metro stesso vale: } 1327 \text{ kN/m}$$

Il peso gravante sull'interfaccia trave-soletta è dato dal peso della soletta e della pavimentazione, si considera il tratto iniziale di 1 m:

$$n = (6.25 + 8.80) \times 0.50 \text{ m} \times 1.00 \text{ m} = 7.5 \text{ kN (di compressione)}$$

CARATTERISTICHE GEOMETRICHE DELLA SEZIONE DI INTERFACCIA

$$b = 50 \text{ cm}$$

$$H = 145 \text{ cm altezza d'impalcato (trave+soletta)}$$

$$d = \text{posizione armatura tesa} = 145 - 13 - 19.5/2 = 122 \text{ cm (si considera il solo strato più esterno).}$$

$$L = 100 \text{ cm (primo metro longitudinale)}$$

$$\text{Cls di qualità inferiore fra trave e soletta: C32/40 con } f_{ck} = 33.20 \text{ MPa}$$

$$\text{Acciaio tipo B450 C con } f_{yk} = 450 \text{ MPa}$$

Armatura di connessione resistente, adeguatamente ancorata:

$$A_{st} = \varnothing 20 / 10 \text{ cm a 2 bracci} \rightarrow 62,84 \text{ cm}^2/\text{m}$$

Resistenza:

$$f_{ctd} = 1.45 \text{ MPa}, f_{cd} = 18.81 \text{ MPa}$$

$$\sigma_n = n/(b' \times L) = 7.5/0.40 / 1000 = 0.018 \text{ MPa} (<< 0.6 f_{cd} = 11.28 \text{ Mpa})$$

$$\rho = A_s/(b \times L) = 62.84/(50 \times 100) = 0.01257$$

$$f_{yd} = 391 \text{ MPa}$$

$c = 0.25$ e $\mu = 0.5$ (superficie di interfaccia liscia e non fessurata $c = 0.25$, se fessurata $c = 0$)

$\alpha = 90^\circ$ (angolo di inclinazione delle barre rispetto alla superficie, compreso tra 45° e 90°)

$$v = 0.6[1 + f_{ck}(\text{MPa})/250] = 0.680$$

$$V_{Rdi} = c \times f_{ctd} + \mu \times \sigma_n + \rho \times f_{yd} \times (\mu \sin \alpha + \cos \alpha), \leq V_{Rd,o} = 0.5v f_{cd}$$

$$V_{Rdi} = 0.25 \times 1.45 + 0.5 \times 0.018 + 0.01257 \times 391 \times (0.5 + 0.0) = 2.828 \text{ MPa} (\leq V_{Rd,o} = 6.39 \text{ MPa} \rightarrow \text{ok})$$

Sollecitazione:

con $\beta = 1$ (cautelativamente pari al val. max) e $z = 0.9 \times d = 1.098 \text{ m}$

$$V_{Edi} = \beta \times V_{sd} / (z \times b)$$

$$V_{Edi} = 1 \times 1327 / (1.098 \times 0.50) / 1000 = 2.42 \text{ MPa} < V_{Rdi}$$

13.3 ALLEGATO PARTE 4

Ogni dettaglio di calcolo è riportato in allegato - parte 4 alla presente relazione.

Legenda per gli output tabellari: vedi §10.4

14 APPOGGI

14.1 CARATTERISTICHE DEGLI APPOGGI

Gli appoggi delle travi in c.a.p. sono in neoprene armato, costituiti da strati alterni di gomma e acciaio senza ancoraggio meccanico alla struttura e sono prodotti conformemente alla normativa CNR 10018/98 e alla Circ. Min. LL.PP. n°34233 del 25/2/91.

Nel progetto in esame per ogni trave si è adottato un appoggio di dimensioni 200x350x52 mm armato con n° 2 lamiera interne $s_p = 2$ mm + 2 lamiera esterne $s_p = 15$ mm ciascuna, aventi le seguenti caratteristiche:

portata massima verticale: $F_{z,max,slu} \leq 1000$ kN

portata massima orizzontale: $F_{x,max} \leq 50$ kN

15 COPERTURA 7: CORDOLI DI SPALLA

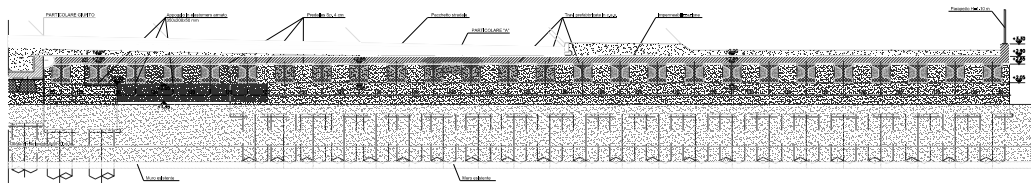


Figura 53 Sezione con in evidenza il cordolo

Per la verifica nella sezione longitudinale (in asse con le travi in cap) si vedano gli allegati in quanto essa è stata già compresa nell'analisi numerica con il programma SOFiSTiK.

In questa sede si effettua una verifica nel senso parallelo all'asse del cordolo stesso.

15.1 VERIFICA DEL CORDOLO DI SPALLA

Il cordolo di spalla dell'impalcato in esame presenta un'altezza di 1.00 m e una larghezza di 1.10 m. Esso poggia su pali trivellati ϕ 800 mm di lunghezza 12.00 m ed interasse 1.20 m.

Dal modello di calcolo si ottiene

$$F_{SLU}' = 1070 \text{ kN/m}$$

Alla quale va aggiunto il peso proprio pari a $1,35 \times 25 \times 1,1 \times 1,5 = 55,69 \text{ kN/m}$

Pertanto l'azione sollecitante è pari a $F_{SLU} = 1126 \text{ kN/m}$

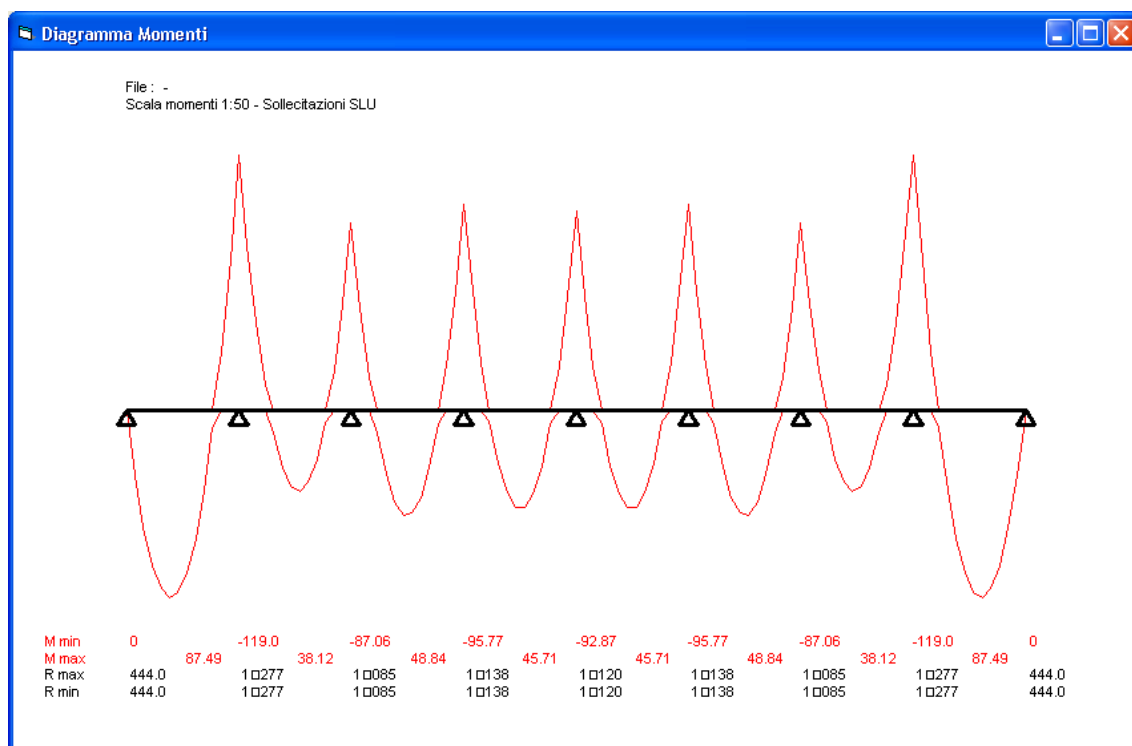


Figura 54 Momenti nel cordolo di spalla

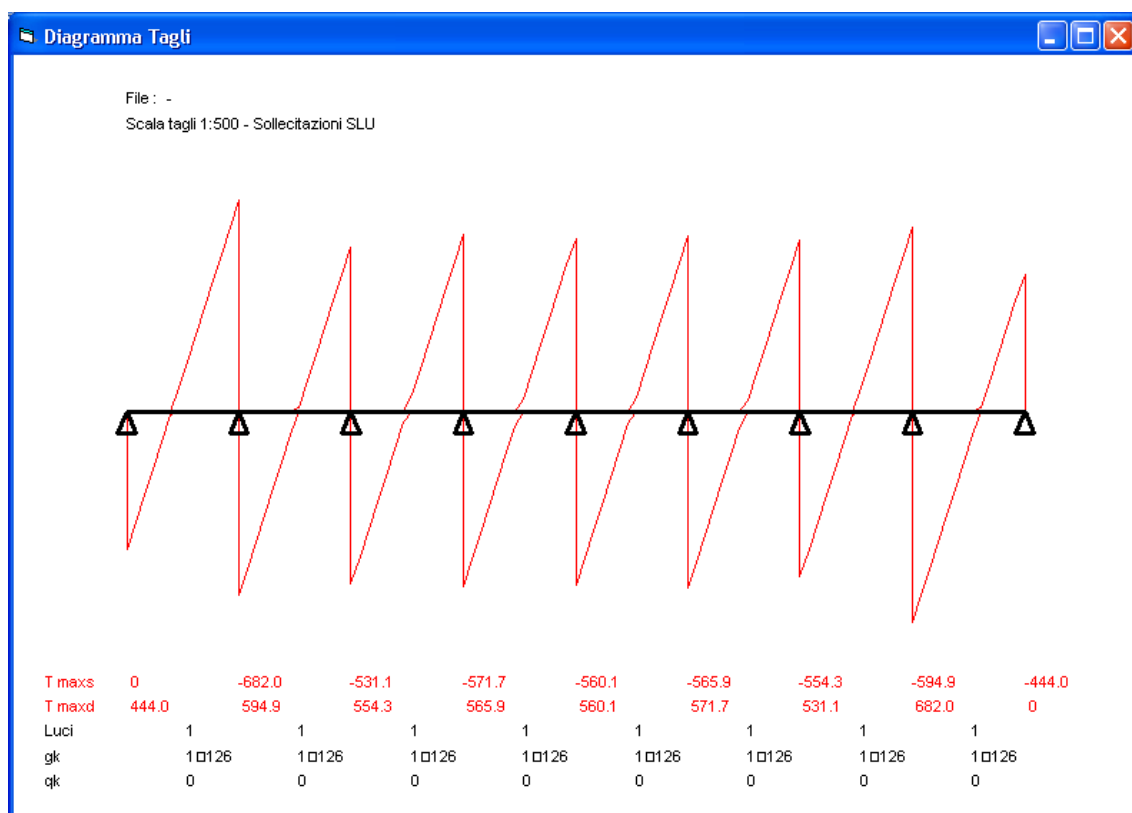


Figura 55 Taglio nel cordolo di spalla

Verifica C.A. S.L.U. - File:

File Materiali Opzioni Visualizza Progetto Sez. Rett. Sismica Normativa: NTC 2008 ?

Titolo :

N° strati barre Zoom

N°	b [cm]	h [cm]
1	110	100

N°	As [cm²]	d [cm]
1	7,70	4,4
2	7,70	95,6

Sollecitazioni

S.L.U. ☒ Metodo n ☐

N_{Ed} kN

M_{xEd} kNm

M_{yEd} kNm

P.to applicazione N

☒ Centro ☐ Baricentro cls

☐ Coord.[cm] xN yN

Tipo rottura

Lato acciaio - Acciaio snervato

Materiali

B450C **C32/40**

ϵ_{su} ‰ ϵ_{c2} ‰

f_{yd} N/mm² ϵ_{cu} ‰

E_s N/mm² f_{cd} N/mm²

E_s/E_c f_{cc}/f_{cd} ?

σ_{syd} ‰ $\sigma_{c,adm}$ N/mm²

$\sigma_{s,adm}$ N/mm² τ_{co} τ_{c1}

M_{xRd} kN m

σ_c N/mm²

σ_s N/mm²

ϵ_c ‰

ϵ_s ‰

d cm

x x/d δ

Tipo Sezione

☒ Rettan.re ☐ Trapezi

☐ a T ☐ Circolare

☐ Rettangoli ☐ Coord.

Metodo di calcolo

☒ S.L.U.+ ☐ S.L.U.-

☐ Metodo n

Tipo flessione

☒ Retta ☐ Deviata

N° rett.

Calcola MRd Dominio M-N

L₀ cm Col. modello

☐ Precompresso

5 ϕ 14 longitudinali inferiori;

5 ϕ 14 longitudinali superiori;

Progetto Sezione Rettangolare - F1 per aiuto

Normativa: NTC 2008

Sollecitazioni e metodo di calcolo:
☒ S.L.U. ☐ Metodo n

M_{xEd} 120 0 kNm
V_{Ed} 382 0 kN

Acciaio B450C Calcestruzzo C32/40

Ricoprimento armatura c: 2 cm
A's/A_s %: 0 %

Criteri di progetto:
☐ Fissa altezza H: 100 cm Arrotond. 1 cm
☐ Fissa Base B: 110 cm 5 cm
☒ Fissa Base e Altezza

Deformazione adimensionale armatura tesa
SA ϵ_s/ϵ_{yd} 34.50 x/d 0.049 δ 0.700 CR

Armatura forte (NO) Armatura debole (OK)

Risultati

Armatura superiore
4 ϕ 14+1 ϕ 14
A's 7.70 cm² +0.0% A's min 7.70

Armatura inferiore
4 ϕ 14+1 ϕ 14
A_s 7.70 cm² +150.7% A_s min 3.07
A's/A_s: 100% ρ_s 0.07 %
Incidenza acciaio 34.8 kg/m³

Taglio
 τ_{max} 0.4024 N/mm²
Staffe ϕ 14/33 a 4 bracci
Staffatura minima ϕ 14/33
Staff. minima per VEd = 630.2 kN

Inserisce Risultati per Verifiche
Effettivi Minimi

Scelta diametri autom.
 ϕ minimo 14 mm
 ϕ massimo 18 mm

Scelta diametri manuale
N* ϕ
Armatura superiore
☒ 1 14
☐ 0 18
☐ 0 20
Armatura inferiore
☒ 1 14
☐ 0 18
☐ 0 20

Opzioni taglio
☐ minimizza staffe
cot θ 1
☐ no staffe ρ_l 0 %
 ϕ staffe 14 mm
n° bracci 4
 ϕ reggistaffe 14
☐ gancio 135°

Comb. barre superiori Comb. barre inferiori

Osservazioni

Help **Plotta** Ricalcola

Si può inserire una staffatura ϕ 14/30 a 4 bracci.

16 FONDAZIONI PROFONDE OPERE 5-6-7

16.1 RICHIAMI AL MODELLO GEOTECNICO DI PROGETTO

Nella tabella riportata nel capitolo 5 vengono riassunte le caratteristiche geotecniche (meccaniche e di deformabilità) relative al modello geotecnico di sottosuolo utilizzato in sede di progetto e verifica delle opere di fondazione costituite da pali ad elica CFA $\Phi 800\text{mm}$, previste per gli attraversamenti dello scolo Roviego.

In accordo ai contenuti di cui alla “Relazione geotecnica” ed al rilievo topografico locale, si assume una quota di riferimento del piano di campagna pari a +2.50m s.l.m ed quota di falda di progetto pari a +1.40m s.l.m.

Alla luce delle indagini eseguite, in sede di dimensionamento e verifica delle fondazioni profonde dell’opera, si considera in via prudenziale un numero di verticali d’indagine pari a 2.

16.2 CRITERI DI DIMENSIONAMENTO

La struttura in esame risulta sostanzialmente costituita da un impalcato disposto su pali di diametro $\Phi 80\text{ cm}$, disposti ad interasse 1/1.20m e di lunghezza pari a 12m

La quota di testa dei pali è posta a +1.05m s.l.m, corrispondente ad una profondità dal piano di campagna indisturbato pari a ca. 1.45m.

Nelle figure seguenti è illustrata la geometria dell’opera, rimandando alla consultazione degli specifici elaborati grafici per i necessari approfondimenti.

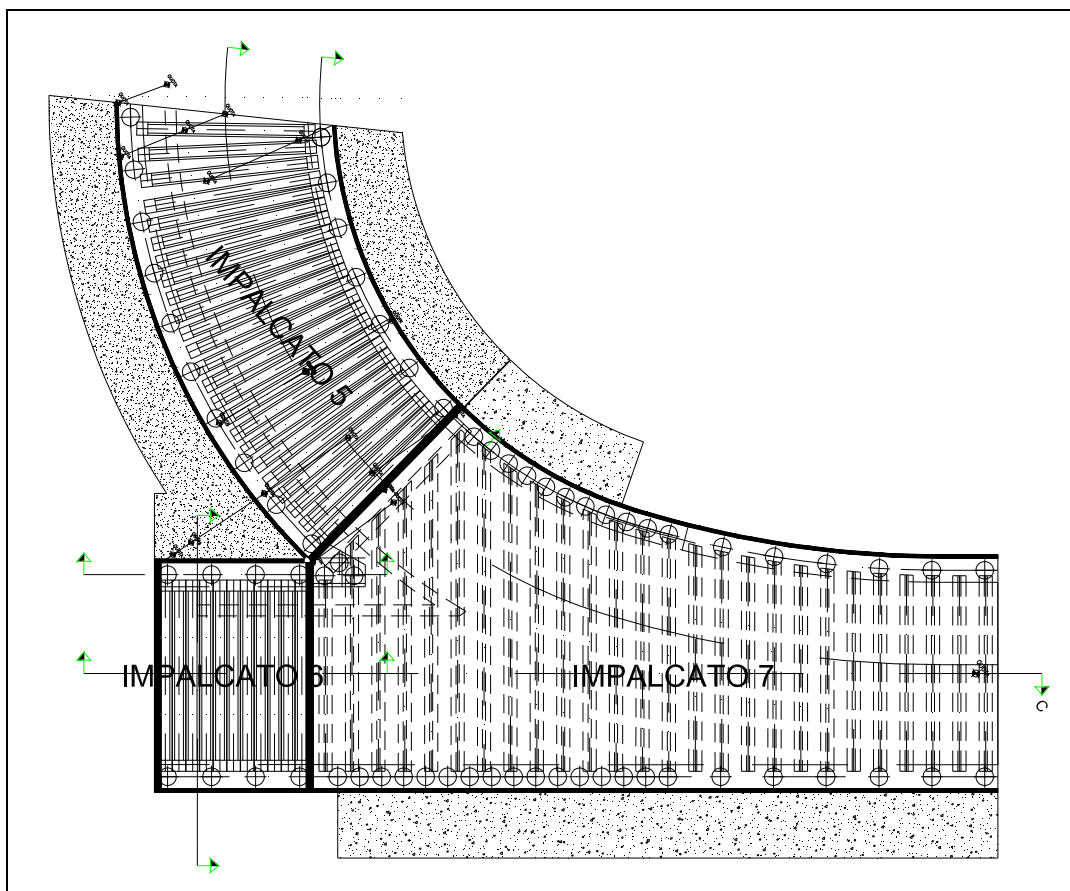


Figura 56 Planimetria

La stratigrafia del terreno, caratterizzata da prevalenti alternanze di materiale a granulometria fine e medio-fine mediamente addensata in presenza di falda pressoché superficiale, rende opportuno prevedere che la realizzazione dei pali avvenga mediante elica continua.

16.3 CAPACITÀ PORTANTE VERTICALE DI UN PALO

La determinazione della resistenza caratteristica del singolo diaframma sarà condotta tramite l'impiego di espressioni analitiche che utilizzano i dati geotecnici provenienti dalle prove in sito, ovvero nel caso di un singolo diaframma sottoposto ad un carico di compressione:

$$Q = Q_l + Q_b - W$$

dove:

Q_l = resistenza limite laterale del diaframma

Q_b = resistenza limite della base del diaframma

W = differenza di peso tra diaframma e terreno

Con riferimento all'impiego diretto dei parametri di resistenza del terreno, Meyerhof (1953) fornisce la seguente formula per la resistenza laterale limite:

$$\tau = C_a + k \times \mu \times \sigma'_v$$

dove:

C_a = aderenza diaframma-terreno (nulla per terreni non coesivi);

k = coefficiente di spinta del terreno sulla superficie del diaframma nella zona di rottura; variabile in funzione della tecnologia esecutiva e della costituzione dell'unità attraversata;

$$\mu = \tan \phi'$$

ϕ' = angolo d'attrito

σ'_v = tensione verticale effettiva

Lo stesso Autore indica, per terreni coesivi, la portata per attrito laterale in termini di tensioni totali, usualmente espressa nella seguente formula:

$$\tau = \alpha \times c_u$$

dove:

c_u = coesione non drenata media del terreno lungo la superficie del diaframma;

α = coefficiente dipendente dal tipo di argilla, dal metodo d'installazione del palo/diaframma e dal materiale costituente il palo/diaframma. α nel caso in esame = 0.55 per pali ad elica (Reese O'Neil 1988)

La portata limite di base viene valutata attraverso la seguente relazione:

$$P_{\text{lim},b} = A_b \cdot q_{\text{lim},b}$$

dove:

A_b = area di base del palo;

$q_{\text{lim},b}$ condizioni non drenate = portata unitaria limite di base = $9 \times C_u + \sigma_v$

$q_{\text{lim},b}$ condizioni drenate = $Nq \cdot \sigma_v'$ ($Nq = 19$ per $\phi = 36^\circ$)

16.3.1 Verifiche SLU – Approccio adottato

Il dimensionamento dei pali è stato condotto in riferimento ai valori di sollecitazione competenti, per la sovrastruttura, alle Condizioni Sismiche ed allo Stato Limite Ultimo, ovvero alle disposizioni di cui al §6 delle Norme Tecniche per le Costruzioni del 14/01/2008, relative alle opere interagenti con i terreni.

Con riferimento alla verifica della capacità portante verticale dei pali agli Stati Limite Ultimi, il N.T.U. prevede l'impiego dei coefficienti parziali riportati nella tabella sottostante, da applicare alle azioni (Approccio 2 – Combinazione A1+M1+R3):

AZIONI	γ_i
Permanenti	$\gamma_{G1} = 1.3 - 1.0$
Permanenti non strutturali	$\gamma_{G2} = 1.5 - 0$
Variabili	$\gamma_{Qi} = 1.5 - 0$

Coefficienti parziali per le azioni (A1-STR)

I coefficienti parziali per i parametri geotecnici del terreno (M1) risultano pari all'unità.

In accordo al §6.4.3.1.1 del NTU, saranno introdotti i coefficienti parziali indicati nella tabella sottostante da applicare alle resistenze caratteristiche, al fine di ottenere quelle di progetto.

Resistenza	Simbolo	Pali elica (R3)
Base	γ_b	1.3
Laterale in compressione	γ_s	1.15
Laterale in trazione	γ_{st}	1.25

Coeff. parziali γ_R da applicare alle resistenze caratteristiche

Sempre per quanto riguarda i termini di progetto di resistenza, con riferimento alle procedure che prevedono l'utilizzo diretto dei risultati di prove in sito, il valore caratteristico della resistenza si otterrà con riferimento ai coefficienti di riduzione riportati nel DM 14/01/2008 funzionali al numero di verticali indagate, pari a 2 nel caso in esame, adottando quindi il coefficiente di riduzione $\xi_3 = 1.65$.

16.3.2 Verifica della capacità portante verticale

Palificata con interasse 1.2m (zona travi corte) impalcato 7

Dall'esame dei risultati acquisiti (cfr. relazione di calcolo soletta) risulta:

Forces in Beam-Element	N [kN]	V_y [kN]	M_z [kNm]	A1+M1		Sismica		Esercizio	
				γ	N [kN]	γ	N [kN]	γ	N [kN]
Carico mobile	-450,4	-86,64	362,04	1,5	-675,6	1	-450,4	1	-450,4
Termico uniforme	0	-13,45	19,74	1,5	0	1	0	1	0
Termico non uniforme	0	-27,65	111,89	1,5	0	1	0	1	0
Spinta terre	0	-30,94	-42,01	1,3	0	1	0	1	0
Frenamento	53,9	73,64	-174,26	0	0	1	53,9	0	0
Accelerazione	-53,9	-73,64	174,26	1,5	-80,85	0	0	1	-53,9
Sisma	57,2	68,49	-242,4	0	0	-1	-57,2	0	0
Accidentale sismico	-75,6	-17,84	72,09	0	0	1	-75,6	0	0
P.P. cordolo	-49,5	0	-1,15	1,3	-64,35	1	-49,5	1	-49,5
P.P. terreno	0	22,51	8,56	1,3	0	1	0	1	0
P.P. travi	-29,5	0	0	1,3	-38,35	1	-29,5	1	-29,5
P.P. soletta	-42,4	0	0	1,3	-55,12	1	-42,4	1	-42,4
P.P. strati neri	-64,4	-15,1	61,15	1,3	-83,72	1	-64,4	1	-64,4
Creep	0	8,51	-25,21	1,3	0	1	0	1	0
TOT.					-997,99	TOT.	-715,1	TOT.	-690,1

Carico massimo verticale (combinazione A1+M1+R3): 998 kN;

Diametro palo **0.8** m
 Lunghezza di calcolo palo= 12 m
 Lunghezza effettiva palo = 12 m
 Falda = **1.2** m da quota terreno
 $\zeta_3 =$ 1.65 R3 laterale 1.15 R3 base 1.3
 compressione

Resistenza laterale

Terreno= A Coerenti ; S incoerenti

N.-Strati	Terreno	H(m)	γ (kN/m ³)	Cu (kPa)	ϕ (°)	α (palo trivellato)	OCR	σ (kN/m ²) a metà strato	K	tg ϕ	Condizioni			
											non drenate	drenate	non drenate	drenate
1	S	1.45	19		0		1	14.07	1.0	0.00	0.00	0.00	0.00	0.00
2	A	4.05	19	30	22	0.55	1.5	44.67	0.7	0.40	16.50	13.44	66.83	54.45
3	S	7.95	19		36		1	101.07	0.7	0.73	54.70	54.70	434.90	434.90
												501.72	489.34	

Resistenza laterale limite condizioni non drenate	1260 kN
Resistenza laterale limite condizioni drenate	1229 kN

Resistenza di punta

Caratteristiche strato di base

Terreno	Lunghezza palo H(m)	Cu (kPa)	ϕ (°)	σ (kN/m ²)	α (kN/m ²)
S	12		36	138	261

Area di punta del palo= 0.50 m²
 $Nq^* =$ **19**

Resistenza di punta condizioni drenate	1321 kN
Portata critica	1168 kN

Calcolo del palo in compressione agli stati limite

Combinazione A1	
Carico limite di progetto in condizioni non drenate	1209 kN
Carico limite di progetto in condizioni drenate	1192 kN
Portata palo	1192 kN
Delta peso palo	36 kN
Azione	998 kN
Capacità portante	1156 kN

Verificato

Ipotizzando una fondazione profonda costituita da pali $\Phi 800$ di lunghezza pari a 12m (quota testa palo pari a -1.50m da p.c.) risulta:

Capacità portante limite totale del singolo palo = 1156 kN

La verifica della capacità portante verticale limite della palificata in esame risulta pertanto soddisfatta.

Palificata con interasse 1.2m (zona travi lunghe) impalcato 7

Dall'esame dei risultati acquisiti (cfr. relazione di calcolo soletta) risulta:

Forces in Beam-Element	N [kN]	V _y [kN]	M _z [kNm]	A1+M1		Sismica		Esercizio	
				γ	N [kN]	γ	N [kN]	γ	N [kN]
Carico mobile	-523,9	-126,22	542,78	1,5	-785,85	1	-523,9	1	-523,9
Termico uniforme	0	-15,6	18,21	1,5	0	1	0	1	0
Termico non uniforme	0	-29,31	118,67	1,5	0	1	0	1	0
Spinta terre	0	-29,79	-46,58	1,3	0	1	0	1	0
Frenamento	41,6	76,65	-169,04	0	0	1	41,6	1	41,6
Accelerazione	-41,6	-76,65	169,04	1,5	-62,4	0	0	0	0
Sisma	46,5	76,06	-246,52	0	0	-1	-46,5	0	0
Accidentale sismico	-76,7	-25,21	101,92	0	0	1	-76,7	0	0
P.P. cordolo	-49,5	0	-1,15	1,3	-64,35	1	-49,5	1	-49,5
P.P. terreno	0	22,51	8,56	1,3	0	1	0	1	0
P.P. travi	-38,9	0	0	1,3	-50,57	1	-38,9	1	-38,9
P.P. soletta	-55,9	0	0	1,3	-72,67	1	-55,9	1	-55,9
P.P. strati neri	-83,4	-27,27	110,49	1,3	-108,42	1	-83,4	1	-83,4
Creep	0	9,27	-25,07	1,3	0	1	0	1	0
TOT.					-1144,26	TOT.	-833,2	TOT.	-710

Carico massimo verticale (combinazione A1+M1+R3): 1144.26kN;

Calcolo pali elica in compressione agli stati limite ultimi testo unico

Diametro palo 0.8 m
Lunghezza di calcolo palo= 12 m
Lunghezza effettiva palo= 12 m
Falda = 1.2 m da quota terreno
 $\xi_3 = 1.65$ R3 laterale 1.15 R3 base 1.3
compressione

Resistenza laterale

Terreno= A Coerenti ; S incoerenti

N.-Strati	Terreno	H(m)	γ (kN/m ³)	Cu (kPa)	φ' (°)	α (palo trivellato)	OCR	σ'(kN/m ²) a metà strato	K	tg φ'	Condizioni			
											non drenate	drenate	non drenate	drenate
1	S	1.45	19		0		1	14.07	1.0	0.00	0.00	0.00	0.00	0.00
2	A	4.05	19	30	22	0.55	1.5	44.67	0.7	0.40	16.50	13.44	66.83	54.45
3	S	7.95	19		36		1	101.07	0.7	0.73	54.70	54.70	434.90	434.90
											501.72	489.34		

Resistenza laterale limite condizioni non drenate	1260 kN
Resistenza laterale limite condizioni drenate	1229 kN

Resistenza di punta

Caratteristiche strato di base

Terreno	Lunghezza palo H(m)	Cu (kPa)	φ' (°)	σ'(kN/m ²)	σ(kN/m ²)
S	12		36	138	261

Area di punta del palo= 0.50 m²
 $N_q^* = 19$

Resistenza di punta condizioni drenate	1321 kN
Portata critica	1168 kN

Calcolo del palo in compressione agli stati limite

Combinazione A1	
Carico limite di progetto in condizioni non drenate	1209 kN
Carico limite di progetto in condizioni drenate	1192 kN
Portata palo	1192 kN
Delta peso palo	36 kN
Azione	1144 kN
Capacità portante	1156 kN
	Verificato

Ipotizzando una fondazione profonda costituita da pali Φ800 di lunghezza pari a 12m (quota testa palo pari a -1.50m da p.c.) risulta:

Capacità portante limite totale del singolo palo = 1156 kN

La verifica della capacità portante verticale limite della palificata in esame risulta pertanto soddisfatta.

Palificata con interasse 1.2m/1m impalcato 5/6

Il carico verticale a metro di impalcato è di 582 kN (vedasi relazione di calcolo impalcato 2 e 3), per cui il carico massimo sul singolo palo è di $582 \times 1.2 = 698.4$ kN. Essendo la portata verticale pari a 1156 kN la verifica di capacità portante risulta soddisfatta.

Zona di carico n. 3 impalcato 7

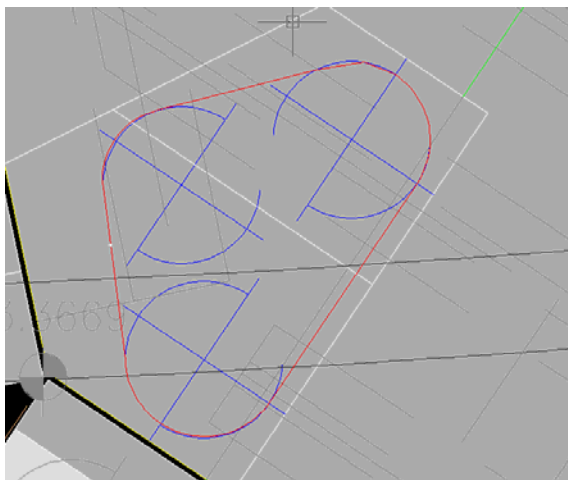
Si tratta dell'area di appoggio della soletta di copertura in corrispondenza della confluenza tra lo scolo Roviego e l'allacciante di Levante.

Dall'esame dei risultati acquisiti, gli “scarichi” indotti dalla soletta risultano:

Forces in Beam-Element	N [kN]	V _y [kN]	M _z [kNm]	A1+M1		Sismica		Esercizio	
				γ	N [kN]	γ	N [kN]	γ	N [kN]
Carico mobile	-1370,9	-34	147,27	1,5	-2056,35	1	-1370,9	1	-1370,9
Termico uniforme	0	-13,45	19,71	1,5	0	1	0	1	0
Termico non uniforme	0	-27,62	111,76	1,5	0	1	0	1	0
Spinta terre	0	-53,44	-50,58	1,3	0	1	0	1	0
Frenamento	53,9	73,64	-174,21	0	0	1	53,9	1	53,9
Accelerazione	-53,9	-73,64	174,21	1,5	-80,85	0	0	0	0
Sisma	197,1	58,13	-200,57	0	0	-1	-197,1	0	0
Accidentale sismico	-236,9	-5,91	24	0	0	1	-236,9	0	0
P.P. cordolo	-86,31	0	0	1,3	-112,203	1	-86,31	1	-86,31
P.P. terreno	0	0	0	1,3	0	1	0	1	0
P.P. travi	-181,4	16	-65	1,3	-235,82	1	-181,4	1	-181,4
P.P. soletta	-42,4	0	0	1,3	-55,12	1	-42,4	1	-42,4
P.P. strati neri	-240,1	-2,26	9,27	1,3	-312,13	1	-240,1	1	-240,1
Creep	0	-3,29	16,45	1,3	0	1	0	1	0
TOT.					-2852,47	TOT.	-2301,21	TOT.	-1867,21

Carico massimo verticale (combinazione A1+M1+R3): 2852.47 kN;

La fondazione è costituita da tre pali ad elica Ø800 di lunghezza pari a 12m (quota testa palo pari a -1.50m da p.c.) come indicato nella figura seguente.



Perimetro laterale = 5.7 m

Area di base = 2.2 m²

Capacità portante laterale

Superficie laterale= 5.7 m
 Lunghezza di calcolo palo= 12 m
 Lunghezza effettiva palo= 12 m
 Falda = 1.2 m da quota terreno
 $\zeta_3 = 1.65$ R3 laterale 1.15 R3 base 1.3
 compressione

Resistenza laterale

Terreno= A Coerenti ; S incoerenti

N.-Strati	Terreno	H(m)	γ (kN/m ³)	Cu (kPa)	ϕ (°)	α (palo elic.)	OCR	σ (kN/m ²) a metà strato	K	tg ϕ	max 200		max 200	
											Condizioni non drenate	Condizioni drenate	Condizioni non drenate	Condizioni drenate
1	S	1.45	19		0		1	14.07	1.0	0.00	0.00	0.00	0.00	0.00
2	A	4.05	19	30	22	0.55	1.5	44.67	0.7	0.40	16.50	13.44	66.83	54.45
3	S	7.95	19		36		1	101.07	0.7	0.73	54.70	54.70	434.90	434.90
												501.72	489.34	

Resistenza laterale limite condizioni non drenate	2860 kN
Resistenza laterale limite condizioni drenate	2789 kN

Portata Laterale 2789 kN

Per il calcolo di capacità portante di punta è stata utilizzata la formula trinomia di Brinch-Hansen a cui si sono applicati i coefficienti correttivi per tener conto della forma, profondità del piano di posa della possibilità di rottura per punzonamento ecc.

Si considera una fondazione quadrata di dimensioni 1.483 m x 1.483 m

In analogia con quanto avviene per i pali trivellati (detensionamento del terreno dovuto alla tecnologia esecutiva) è necessario ridurre il coefficiente N_q ed

applicare invece $N_q^* = mN_q$ con $m = 0.12$ (Jamiolkowski e Lancellotta, 1988), riferito ad un cedimento relativo alla larghezza della fondazione $s/D = 0.05$ e funzione del diametro.

DATI (*) : **A1+M1+R3** (*) (i dati da inserire sono quelli delle celle retinate)

(••) γ (kN/m ³)	ϕ' (gradi)	ϕ' (rad)	c' (kPa)	h (m) da p.c.	
9.0	36	0.628	0	13.50	
B (m)	L (m)	e_B (m)	e_L (m)	B' (m)	L' (m)
1.48	1.48	0	0	1.48	1.48
H_B (kN)	H_L (kN)	N (kN)			
0.00	0.00	2852			
N_γ (-)	HANSEN N_q (-)	N_c (-)			
40.05 (***)	37.75 (****)	50.59 (*****)			
α_B (gradi)	α_L (gradi)	ω_B (gradi)	ω_L (gradi)	falda da p.c. zw (**)	
0	incl. fond. 0.0	0	incl. p.c. 0.0	1.4	
α_B (rad)	α_L (rad)	ω_B (rad)	ω_L (rad)	γ_{sat} (kN/m ³)	
0.0000	0.0000	0.0000	0.0000	9.0	
				γ_{nat} (kN/m ³)	
				20.0	
				Bowles H 1.453272	
				$\gamma^{(r)}$ (kN/m ³)	
				9	

ELABORAZIONE :

Inclinazione del carico	$(i_\gamma)_B =$	1.000	$(i_\gamma)_L =$	1.000
	$(i_q)_B =$	1.000	$(i_q)_L =$	1.000
	$(i_c)_B =$	1.000	$(i_c)_L =$	1.000
Forma	$(s_\gamma)_B =$	0.600	$(s_\gamma)_L =$	0.600
	$(s_q)_B =$	1.588	$(s_q)_L =$	1.588
	$(s_c)_B =$	1.604	$(s_c)_L =$	1.604
Profondità	$d_\gamma =$	1	$d_\gamma =$	1
	$(d_q)_B =$	1.361	$(d_q)_L =$	1.361
	$(d_c)_B =$	1.371	$(d_c)_L =$	1.371
Inclinazione della base	$(b_\gamma)_B =$	1.000	$(b_\gamma)_L =$	1.000
	$(b_q)_B =$	1.000	$(b_q)_L =$	1.000
	$(b_c)_B =$	1.000	$(b_c)_L =$	1.000
Inclinazione del terreno	$(g_\gamma)_B =$	1.000	$(g_\gamma)_L =$	1.000
	$(g_q)_B =$	1.000	$(g_q)_L =$	1.000
	$(g_c)_B =$	1.000	$(g_c)_L =$	1.000
Compressibilità	$(r_\gamma)_B =$	1.000	$(r_\gamma)_L =$	1.000
	$(r_q)_B =$	1.000	$(r_q)_L =$	1.000

q_{limPTA} = 1500.44 kPa

R_{PTA} 3300 kN

Dall'esame dei risultati acquisiti risulta:

Carico massimo verticale (combinazione A1+M1+R3): 2852.57 kN;

Delta Peso blocco: $3 \times 0.4^2 \times 3.14 \times 12 \times (25-19) = 108.5$ kN

Capacità portante limite del blocco = $2789 / (1.15 \times 1.65) + 3300 / (1.3 \times 1.65) - \text{Peso diaframma} = 2899.7 \text{ kN/m} > 2852.57 \text{ kN}$

La verifica della capacità portante verticale limite risulta pertanto soddisfatta.

16.3.3 Verifica della capacità portante orizzontale

Impalcato 7

Peso totale struttura e peso portato = 9566 kN

ag max = 0.149

Forza orizzontale totale = $9566 \times 0.149 = 1425$ kN

Forza in sommità singolo palo = $1425 / 22 \text{ pali} = 65$ kN

CARICO LIMITE ORIZZONTALE DI UN PALO IN TERRENI INCOERENTI
PALI CON ROTAZIONE IN TESTA IMPEDITA

OPERA:

TEORIA DI BASE:

(Broms, 1964)

H = carico limite orizzontale

L = lunghezza del palo

D = diametro del palo

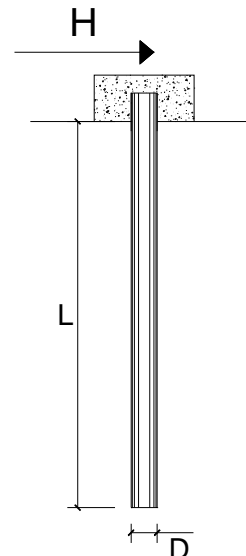
My = momento di plasticizzazione della sezione

Fs = coefficiente di sicurezza

φ' = angolo di attrito del terreno

kp = coeff. di spinta passiva ($k_p = (1 + \sin \varphi') / (1 - \sin \varphi')$)

γ = peso di unità di volume del terreno (se è presente la falda $\gamma = \gamma'$)



Palo corto:
$$H = 1.5 k_p \gamma d^3 \left(\frac{L}{d} \right)^2$$

Palo intermedio:
$$H = \frac{1}{2} k_p \gamma d^3 \left(\frac{L}{d} \right)^2 + \frac{M_y}{L}$$

Palo lungo:
$$H = k_p \gamma d^3 \sqrt[3]{\left(3.676 \frac{M_y}{k_p \gamma d^4} \right)^2}$$

DATI DI INPUT:

L = 12.00 (m)
D = 0.80 (m)
My = 749.25 (kN m)
Fs = 2.15 (-)
 φ' = 22.00 (°)
kp = 2.20 (-)
 γ = 9.00 (kN/m³)

Palo corto:

H1 = 3418.31 (kN) H1/Fs = 1593.62 (kN)

Palo intermedio:

H2 = 1201.87 (kN) H2/Fs = 560.31 (kN)

Palo lungo:

H3 = 493.31 (kN) H3/Fs = 229.98 (kN)

CARICO LIMITE ORIZZONTALE DI UN PALO IN TERRENI COESIVI
PALI CON ROTAZIONE IN TESTA IMPEDITA

OPERA:

TEORIA DI BASE:

(Broms, 1964)

H = carico limite orizzontale

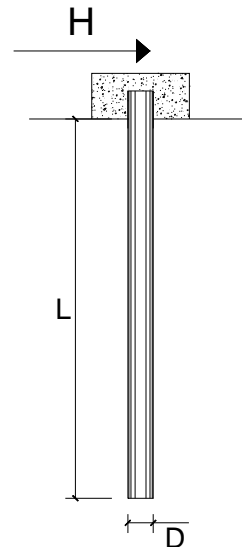
L = lunghezza del palo

D = diametro del palo

M_y = momento di plasticizzazione della sezione

F_s = coefficiente di sicurezza

c_u = resistenza al taglio non-drenata



Palo corto:
$$H = 9c_u d^2 \left(\frac{L}{d} - 1.5 \right)$$

Palo intermedio:
$$H = -9c_u d^2 \left(\frac{L}{d} + 1.5 \right) + 9c_u d^2 \sqrt{2 \left(\frac{L}{d} \right)^2 + \frac{4}{9} \frac{M_y}{c_u d^3} + 4.5}$$

Palo lungo:
$$H = -13.5c_u d^2 + c_u d^2 \sqrt{182.25 + 36 \frac{M_y}{c_u d^3}}$$

DATI DI INPUT:

L = 12.00 (m)

D = 0.80 (m)

M_y = 749.25 (kN m)

F_s = 2.15 (-)

c_u = 30.00 (kN/m²)

Palo corto:

H1 = 2332.80 (kN)

H1/FS 1087.55 (kN)

Palo intermedio:

H2 = 919.56 (kN)

H2/FS 428.70 (kN)

Palo lungo:

H3 = 586.10 (kN)

H3/FS 273.24 (kN)

Essendo 229.98 kN > 65 kN la verifica è soddisfatta.

Per l'impalcato 5/6 la forza orizzontale è di 134.16 kN < 229.98 kN per cui la verifica risulta soddisfatta.



17 ALLEGATI

Intervento 1.09bis

Impalcato 7

ALLEGATO

PARTE 1- Impalcato Tipo A - $L = 14.9$ m – integrale

PARTE 2- Impalcato Tipo B - $L = 11.3$ m – integrale

PARTE 3- Impalcato Tipo C - $L = 14.9$ m semi-integrale

PARTE 4- Telaio con trave ad “L” - $L = 8.4$ m

Output Modelli di calcolo.

Intervento 1.09bis

Impalcato 7

ALLEGATO – PARTE 1

Impalcato Tipo A - $L = 14.9$ m - integrale

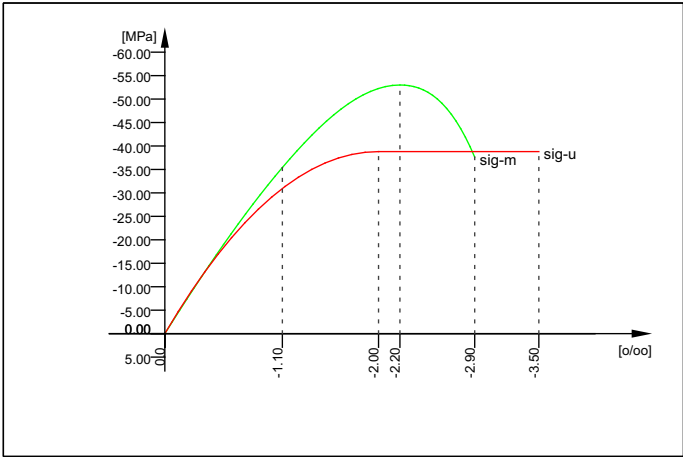
Output Modello di calcolo.

Parametri, Materiali e Sezioni

Default design code is Decreto Ministeriale per le Costruzioni 2008 (Italia) V 25.0
structure class: A2 (ponti_strad)
Wind zone : 1 cat. III
Snow load zone : I
Earthquake zone : 1

No. 1 CA 45/55 (Italia) (mod)

Youngs-modulus	E	36416 [MPa]	Safetyfactor		1.50 [-]
Poisson-Ratio	mu	0.20 [-]	Strength	fc	38.80 [MPa]
Shear-modulus	G	15173 [MPa]	Nomin. strength	fcn	45.00 [MPa]
Compression modulus		20231 [MPa]	Tens. strength	fctm	3.83 [MPa]
Weight		25.0 [kN/m3]	5 % t.strength	fctk	2.68 [MPa]
Weight buoyancy		25.0 [kN/m3]	95 % t.strength	fctk	4.93 [MPa]
Temp.elongat.coeff.		1.00E-05 [1/°K]	Bond strength	fbd	3.99 [MPa]
			Service strength		53.00 [MPa]
			Fatigue strength		21.21 [MPa]
Stress-Strain for serviceability		eps[o/oo]	sig-m[MPa]	E-t[MPa]	
Is only valid within the defined stress range		0.000	0.00	36283	
		-1.100	-35.40	26746	
		-2.200	-53.00	0	
		-2.900	-37.62	-53828	
			Safetyfactor		1.20
Stress-Strain for ultimate load		eps[o/oo]	sig-u[MPa]	E-t[MPa]	
Is only valid within the defined stress range		0.000	0.00	38802	
		-2.000	-38.80	0	
		-3.500	-38.80	0	
			Safetyfactor		1.50

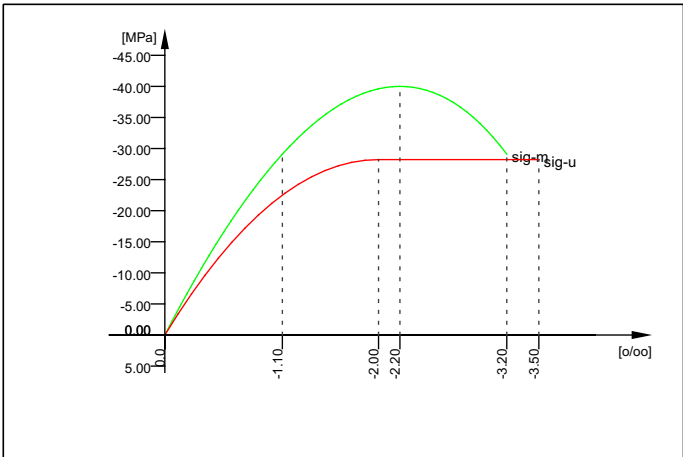


CA 45/55 (Italia) (mod)

No. 2 CA 32/40 (Italia) (mod)

Youngs-modulus	E	33643 [MPa]	Safetyfactor		1.50 [-]
Poisson-Ratio	mu	0.20 [-]	Strength	fc	28.22 [MPa]
Shear-modulus	G	14018 [MPa]	Nomin. strength	fcn	32.00 [MPa]
Compression modulus		18690 [MPa]	Tens. strength	fctm	3.10 [MPa]
Weight		25.0 [kN/m3]	5 % t.strength	fctk	2.17 [MPa]
Weight buoyancy		25.0 [kN/m3]	95 % t.strength	fctk	3.93 [MPa]
Temp.elongat.coeff.		1.00E-05 [1/°K]	Bond strength	fbd	3.18 [MPa]
			Service strength		40.00 [MPa]
			Fatigue strength		16.41 [MPa]
Stress-Strain for serviceability		eps[o/oo]	sig-m[MPa]	E-t[MPa]	
Is only valid within the defined stress range		0.000	0.00	33346	
		-1.100	-29.09	18930	
		-2.200	-40.00	0	
		-3.200	-29.11	-22873	
			Safetyfactor		1.20
Stress-Strain for ultimate load		eps[o/oo]	sig-u[MPa]	E-t[MPa]	
Is only valid within the defined stress range		0.000	0.00	28220	
		-2.000	-28.22	0	
		-3.500	-28.22	0	
			Safetyfactor		1.50

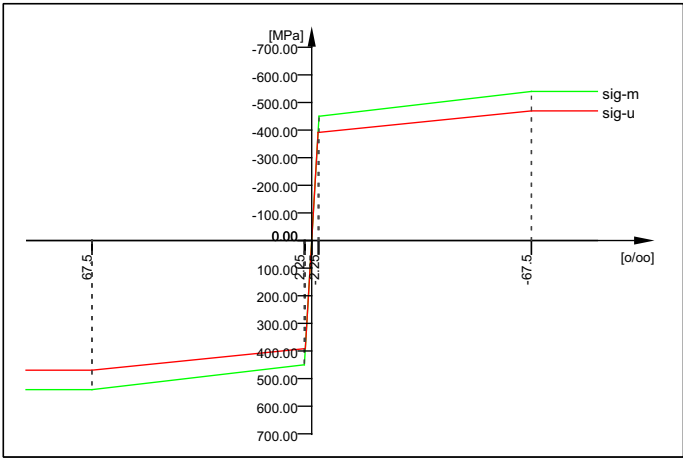
Parametri, Materiali e Sezioni



CA 32/40 (Italia) (mod)

No. 3 B 450 C (Italia)

Youngs-modulus	E	200000 [MPa]	Safetyfactor	1.15 [-]
Poisson-Ratio	mu	0.30 [-]	Yield stress	fy 450.00 [MPa]
Shear-modulus	G	76923 [MPa]	Compr.yield val.	fyc 450.00 [MPa]
Compression modulus		166667 [MPa]	Tens. strength	ft 540.00 [MPa]
Weight		78.5 [kN/m3]	Compr. strength	fc 540.00 [MPa]
Weight buoyancy		78.5 [kN/m3]	Ultim. plast. strain	67.50 [o/oo]
Temp.elongat.coeff.	1.20E-05	[1/°K]	relative bond coeff.	1.00 [-]
max. thickness	32.00	[mm]	EC2 bondcoeff. K1	0.80 [-]
			Hardening modulus	0.00 [MPa]
			Proportional limit	450.00 [MPa]
			Dynamic stress range	152.17 [MPa]
Stress-Strain for serviceability	eps[o/oo]	sig-m[MPa]	E-t[MPa]	
Is also extended beyond the	1000.000	540.00	0	
defined stress range	67.500	540.00	0	
	2.250	450.00	1379	
	0.000	0.00	200000	
	-2.250	-450.00	200000	
	-67.500	-540.00	1379	
	-1000.000	-540.00	0	
	Safetyfactor		1.15	
Stress-Strain for ultimate load	eps[o/oo]	sig-u[MPa]	E-t[MPa]	
Is also extended beyond the	1000.000	469.57	0	
defined stress range	67.500	469.57	0	
	1.957	391.30	1194	
	0.000	0.00	200000	
	-1.957	-391.30	200000	
	-67.500	-469.57	1194	
	-1000.000	-469.57	0	
	Safetyfactor		(1.15)	



B 450 C (Italia)

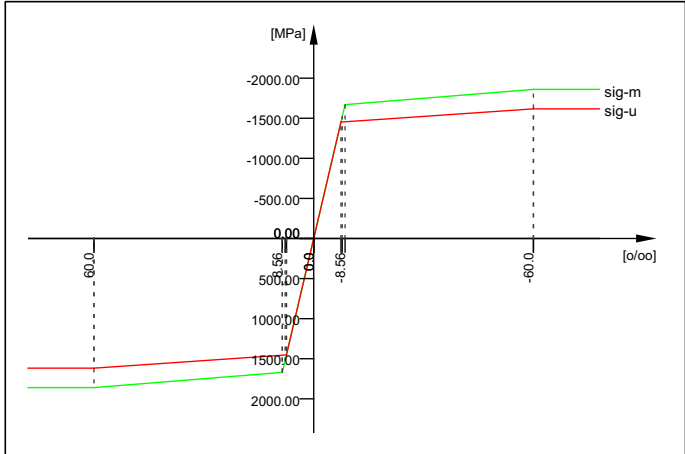
No. 4 Y 1770 (EN 1992) (mod)

Youngs-modulus	E	195000 [MPa]	Safetyfactor	1.15 [-]
Poisson-Ratio	mu	0.30 [-]	Yield stress	fy 1670.00 [MPa]
Shear-modulus	G	75000 [MPa]	Compr.yield val.	fyc 1670.00 [MPa]
Compression modulus		162500 [MPa]	Tens. strength	ft 1860.00 [MPa]
Weight		78.5 [kN/m3]	Compr. strength	fc 1860.00 [MPa]
Weight buoyancy		78.5 [kN/m3]	Ultim. plast. strain	60.00 [o/oo]
Temp.elongat.coeff.	1.20E-05	[1/°K]	relative bond coeff.	0.75 [-]
Relaxation	EC-2	Class 1	EC2 bondcoeff. K1	1.60 [-]

Parametri, Materiali e Sezioni

No. 4 Y 1770 (EN 1992) (mod)

Relaxation	0.70*fpk	8.00 [%]	Hardening modulus	0.00 [MPa]
			Proportional limit	1520.00 [MPa]
			Dynamic stress range	160.87 [MPa]
Stress-Strain for serviceability	eps[o/oo]	sig-m[MPa]	E-t[MPa]	
Is also extended beyond the	1000.000	1860.00	0	
defined stress range	60.000	1860.00	0	
	8.564	1670.00	3694	
	7.795	1520.00	195000	
	0.000	0.00	195000	
	-7.795	-1520.00	195000	
	-8.564	-1670.00	195000	
	-60.000	-1860.00	3694	
	-1000.000	-1860.00	0	
	Safetyfactor		1.15	
Stress-Strain for ultimate load	eps[o/oo]	sig-u[MPa]	E-t[MPa]	
Is also extended beyond the	1000.000	1617.39	0	
defined stress range	60.000	1617.39	0	
	7.447	1452.17	3144	
	0.000	0.00	195000	
	-7.447	-1452.17	195000	
	-60.000	-1617.39	3144	
	-1000.000	-1617.39	0	
	Safetyfactor		(1.15)	

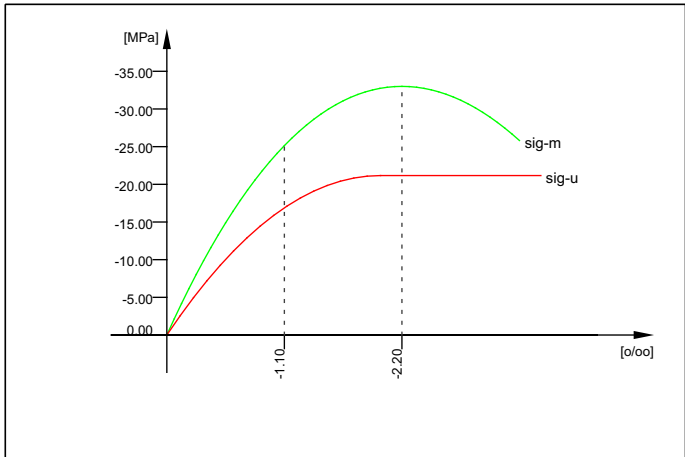


Y 1770 (EN 1992) (mod)

No. 5 CA 25/30 (Italia) (mod)

Youngs-modulus	E	31447 [MPa]	Safetyfactor	1.50 [-]	
Poisson-Ratio	mu	0.20 [-]	Strength	fc	21.16 [MPa]
Shear-modulus	G	13103 [MPa]	Nomin. strength	fcn	25.00 [MPa]
Compression modulus		17471 [MPa]	Tens. strength	fctm	2.56 [MPa]
Weight		25.0 [kN/m3]	5 % t.strength	fctk	1.79 [MPa]
Weight buoyancy		25.0 [kN/m3]	95 % t.strength	fctk	3.33 [MPa]
Temp.elongat.coeff.	1.00E-05	[1/°K]	Bond strength	fbd	2.69 [MPa]
			Service strength		33.00 [MPa]
			Fatigue strength		12.70 [MPa]
Stress-Strain for serviceability			eps[o/oo]	sig-m[MPa]	E-t[MPa]
Is only valid within the defined			0.000	0.00	31476
stress range			-1.100	-25.14	14632
			-2.200	-33.00	0
			-3.300	-25.81	-12791
			Safetyfactor		1.20
Stress-Strain for ultimate load			eps[o/oo]	sig-u[MPa]	E-t[MPa]
Is only valid within the defined			0.000	0.00	21165
stress range			-2.000	-21.17	0
			-3.500	-21.16	0
			Safetyfactor		1.50

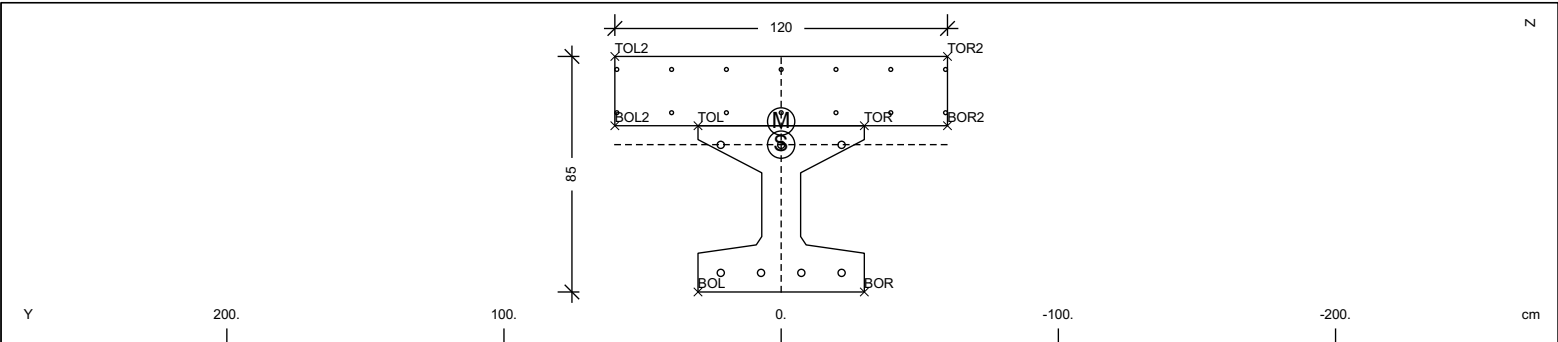
Parametri, Materiali e Sezioni



CA 25/30 (Italia) (mod)

Cross-sections static properties								
No.	Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
	NoR	It[m4]	[m2]	[m4]	[m]	[m]	[MPa]	[kN/m]
1	=	Trave						
(BEAM)	=	Composit with materials:	1	2				
	1	5.0462E-01		3.581E-02	0.000	0.000	36416	12.68
	3	1.220E-02		3.886E-02	-0.532	-0.616	15173	
1.1	=	CS 9						
	1	2.0710E-01		9.119E-03	0.000	0.000	36416	5.18
	3	1.723E-03		4.377E-03	-0.281	-0.251	15173	
1.2	=	CS 22						
	1	5.0462E-01		3.581E-02	0.000	0.000	36416	12.68
	3	1.220E-02		3.886E-02	-0.532	-0.616	15173	
2	=	Retrotrave+soletta in situ						
(BEAM)	2	1.0200E+00		6.141E-02	0.000	0.000	33643	25.50
	3	1.386E-01		1.224E-01	0.000	0.000	14018	
3	=	paraghiaia						
(CENT)	2	1.0800E+00		1.296E-01	-0.450	-0.450	33643	27.00
	3	1.579E-01		7.290E-02	0.000	0.000	14018	
4	=	diaframma						
(CENT)	2	1.3200E+00		1.584E-01	0.000	0.000	33643	33.00
	3	2.441E-01		1.331E-01	0.000	0.000	14018	
5	=	palo						
(CENT)	5	5.0265E-01		2.011E-02	0.000	0.000	31447	12.57
	3	4.021E-02		2.011E-02	0.000	0.000	13103	

Cross section No. 1 - Trave



Cross section No. 1 - Trave

Static properties of cross section							
Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[cm]	[MPa]	[kN/m]
1	5.0462E-01		3.581E-02	0.00	0.00	36416	12.68
3	1.220E-02		3.886E-02	-53.17	-61.55	15173	

Additional static properties of cross section							
Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
	ymax	zmax	hzmin	AB		Tau-B	Tau-Vz
[1/°K]	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-60.00	-31.83		2.608E-01	3	9.445E+00	7.765E-25
	60.00	53.17		5.071E-01			2.807E+00

Section values for warping							
Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.1702	0.1702	0.000	0.000	0.000	0.000	0.00	36.29

Parametri, Materiali e Sezioni

Partial cross sections

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	2.0710E-01		9.119E-03	0.00	36416	5.18
3	2.842E-03		4.377E-03	-28.13	15173	
2	3.0000E-01		1.563E-03	0.00	33643	7.50
3	1.013E-02		3.600E-02	-72.50	14018	

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	4.8425E-01		3.390E-02	0.00	30347	12.17
	1.220E-02		3.763E-02	-53.52	12644	

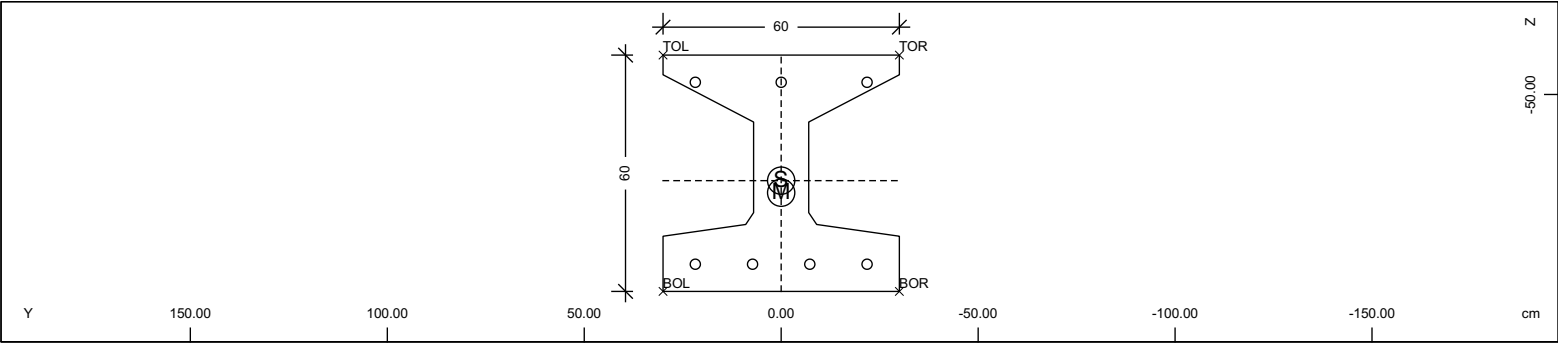
Additional Design Data

M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[cm]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	5.955	16.95			0.0	0.188	0.087	0.101	0.000
1	3.055	13.56			0.0	0.034	0.023	0.011	0.000
2	2.900	20.69			0.0	0.094	0.004	0.090	

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	1	3	15.93	15.93		0.00	-6.90			
M2	1	3	10.62	10.62	10.62	0.00	-53.10			
M3	2	3	9.24	9.24	9.24	0.00	-64.70			
M4	2	3	9.24	9.24		0.00	-80.30			

Cross section No. 1.1 = CS 9



Cross section No. 1

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	2.0710E-01		9.119E-03	0.00	36416	5.18
3	1.723E-03		4.377E-03	-28.13	15173	

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
	ymin	zmin	hzmin	AB		Tau-B	Tau-Vz
[1/°K]	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-30.00	-31.87			3		
	30.00	28.13		2.071E-01			

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0819	0.0819	0.000	0.000	0.000	0.000	0.00	-8.98

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	2.0710E-01		9.119E-03	0.00	30347	5.18
	1.723E-03		4.377E-03	-28.13	12644	

Additional Design Data

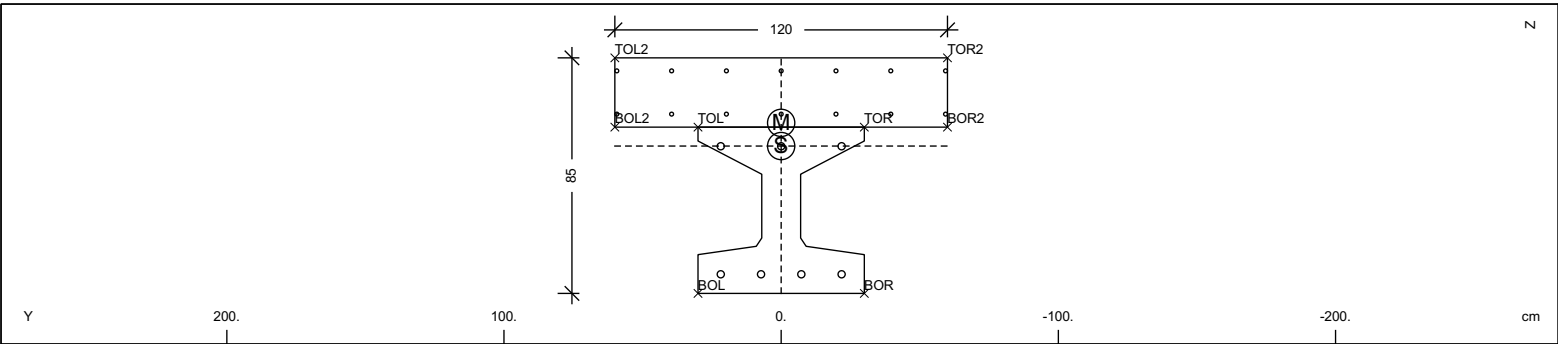
M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[cm]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	3.055	13.56			0.0	0.034	0.023	0.011	0.000

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	1	3	15.93	15.93		0.00	-6.90			
M2	1	3	10.62	10.62	10.62	0.00	-53.10			

Parametri, Materiali e Sezioni

Cross section No. 1.2 = CS 22



Cross section No. 1

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	5.0462E-01		3.581E-02	0.00	36416	12.68
3	1.220E-02		3.886E-02	-53.17	15173	

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
[1/°K]	ymin	zmin	hzmin	AB		Tau-B	Tau-Vz
	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-60.00	-31.83			3	9.445E+00	7.765E-25
	60.00	53.17		5.071E-01			2.807E+00

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.1702	0.1702	0.000	0.000	0.000	0.000	0.00	36.29

Partial cross sections

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	2.0710E-01		9.119E-03	0.00	36416	5.18
3	2.842E-03		4.377E-03	-28.13	15173	
2	3.0000E-01		1.563E-03	0.00	33643	7.50
3	1.013E-02		3.600E-02	-72.50	14018	

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	4.8425E-01		3.390E-02	0.00	30347	12.17
	1.220E-02		3.763E-02	-53.52	12644	

Additional Design Data

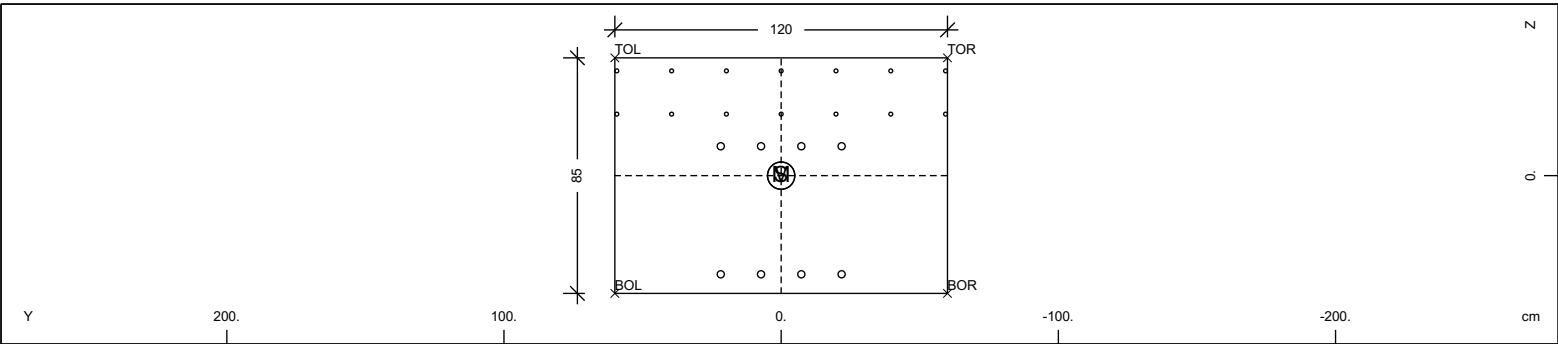
M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[m2/m]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	5.955	16.95			0.0	0.188	0.087	0.101	0.000
1	3.055	13.56			0.0	0.034	0.023	0.011	0.000
2	2.900	20.69			0.0	0.094	0.004	0.090	

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	1	3	15.93	15.93		0.00	-6.90			
M2	1	3	10.62	10.62	10.62	0.00	-53.10			
M3	2	3	9.24	9.24	9.24	0.00	-64.70			
M4	2	3	9.24	9.24		0.00	-80.30			

Parametri, Materiali e Sezioni

Cross section No. 2 - Retrotrave+soletta in situ



Cross section No. 2 - Retrotrave+soletta in situ

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[cm]	[MPa]	[kN/m]
2	1.0200E+00		6.141E-02	0.00	0.00	33643	25.50
3	1.386E-01		1.224E-01	0.00	0.00	14018	

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
[1/°K]	ymax	zmax	hzmin	AB		Tau-B	Tau-Vz
	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-60.00	-42.50		5.719E-01	3	3.522E+00	
	60.00	42.50		1.020E+00			1.471E+00

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0880	0.0880	0.000	0.000	0.000	0.000	0.00	0.00

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
2	1.0200E+00		6.141E-02	0.00	28036	25.50
	1.386E-01		1.224E-01	0.00	11682	

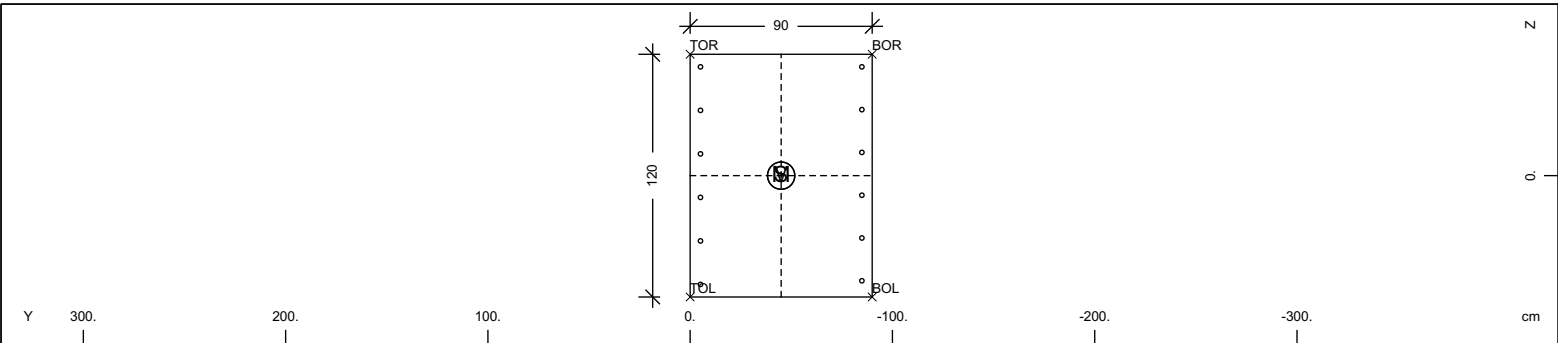
Additional Design Data

M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[m2/m]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	4.100		49.76		0.0	0.460	0.154	0.306	

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	2	3	15.93	15.93		0.00	35.60			
M2	2	3	15.93	15.93	15.93	0.00	-10.60			
M3	2	3	9.24	9.24	9.24	0.00	-22.20			
M4	2	3	9.24	9.24		0.00	-37.80			

Cross section No. 3 - paraghiaia



Cross section No. 3 - paraghiaia

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[cm]	[MPa]	[kN/m]
2	1.0800E+00		1.296E-01	-45.00	-45.00	33643	27.00
3	1.579E-01		7.290E-02	0.00	0.00	14018	

Parametri, Materiali e Sezioni

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
	y _{max}	z _{max}	hzmin	AB		Tau-B	Tau-Vz
[1/°K]	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-45.00	-60.00		6.061E-01	3	3.216E+00	1.389E+00
	45.00	60.00		1.080E+00			1.916E-07

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0842	0.0842	0.000	0.000	0.000	0.000	0.00	0.00

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
2	1.0800E+00		1.296E-01	-45.00	28036	27.00
	1.579E-01		7.290E-02	0.00	11682	

Additional Design Data

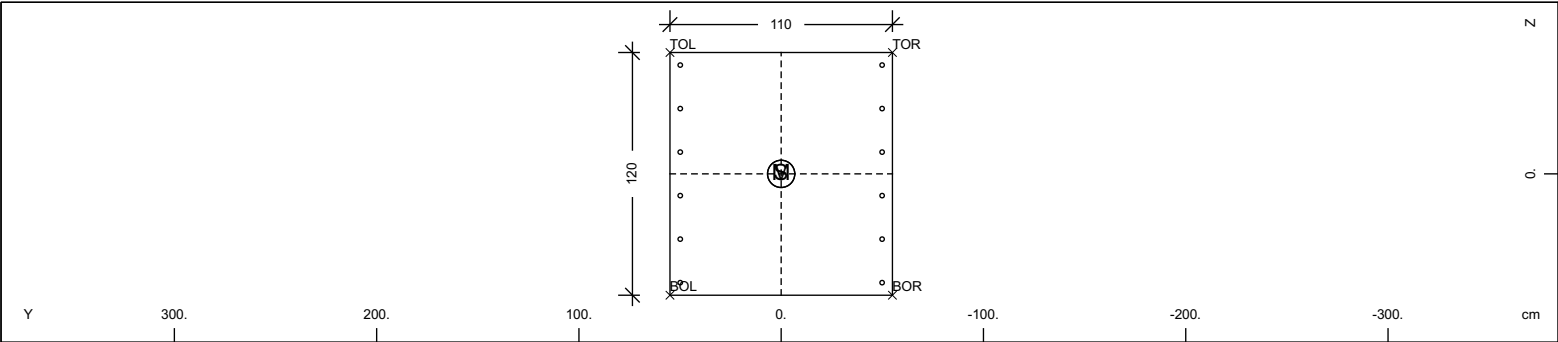
M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[m2/m]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	4.200		51.43		0.0	0.506	0.324	0.182	

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	2	3	20.87	20.87		-5.10	0.00			
M2	2	3	20.53	20.53		-84.90	-0.90			

Cross section rotated by 90.00 degrees

Cross section No. 4 - diaframma



Cross section No. 4 - diaframma

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[cm]	[MPa]	[kN/m]
2	1.3200E+00		1.584E-01	0.00	0.00	33643	33.00
3	2.441E-01		1.331E-01	0.00	0.00	14018	

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
	y _{max}	z _{max}	hzmin	AB		Tau-B	Tau-Vz
[1/°K]	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-55.00	-60.00		7.423E-01	3	2.353E+00	1.136E+00
	55.00	60.00		1.320E+00			

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0643	0.0643	0.000	0.000	0.000	0.000	0.00	0.00

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
2	1.3200E+00		1.584E-01	0.00	28036	33.00
	2.441E-01		1.331E-01	0.00	11682	

Additional Design Data

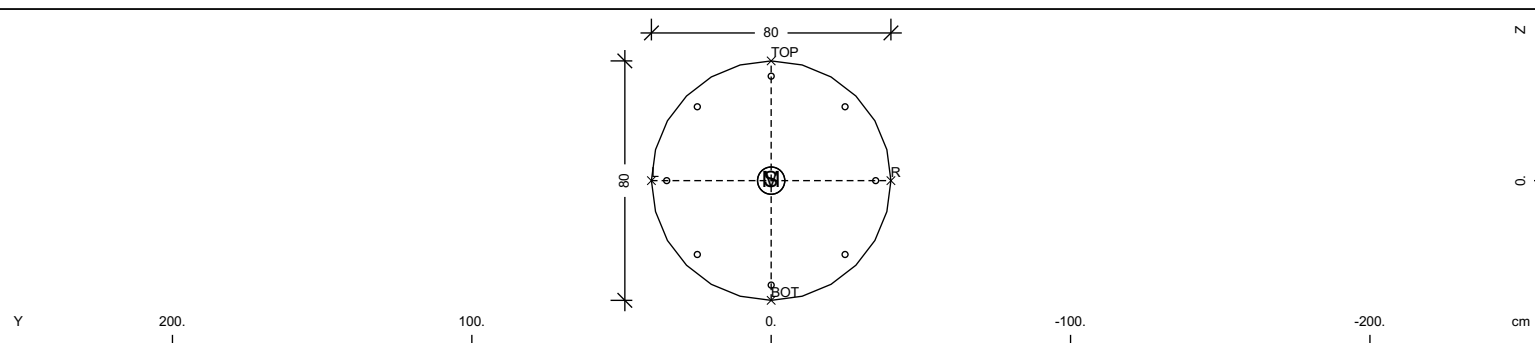
M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[m2/m]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	4.600		57.39		0.0	0.729	0.396	0.333	

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	2	3	20.87	20.87		-49.90	0.00			
M2	2	3	20.87	20.87		49.90	0.00			

Parametri, Materiali e Sezioni

Cross section No. 5 - palo



Cross section No. 5 - palo

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[cm]	[MPa]	[kN/m]
5	5.0265E-01		2.011E-02	0.00	0.00	31447	12.57
3	4.021E-02		2.011E-02	0.00	0.00	13103	

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
	ymax	zmax	hzmin	AB		Tau-B	Tau-Vz
[1/°K]	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-40.00	-40.00		2.913E-01	3	8.629E+00	2.637E+00
	40.00	40.00		5.027E-01			1.458E-07

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
5	5.0265E-01		2.011E-02	0.00	26206	12.57
	4.021E-02		2.011E-02	0.00	10919	

Additional Design Data

M	periphery-O/I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[cm]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	2.513	40.00			0.0	0.101	0.050	0.050	

Reinforcement global values

Layer	mS	mR	area [cm ²]	lower-A [cm ²]	upper-A [cm ²]	yL [cm]	zL [cm]	L-tors [cm]	N-pr [kN]	M-pr [kNm]
M1	5	3	25.13	25.13		0.00	0.00			

Bore Profile No. 1 profilo sx

[illegible]

Bore Profile No. 2 profilo dx

[illegible]

Geometria ponticello

Structural Points

Number	x[m]	y[m]	z[m]	t[m]	h[m]	Title /	Support Conditions
1	0.450	0.000	0.000	0.000	0.000		
2	0.900	0.000	0.000	0.000	0.000		
3	1.000	0.000	0.000	0.000	0.000		
4	1.100	0.000	0.000	0.000	0.000		
5	15.600	0.000	0.000	0.000	0.000		
6	15.700	0.000	0.000	0.000	0.000		
7	15.800	0.000	0.000	0.000	0.000		
8	16.250	0.000	0.000	0.000	0.000		
11	0.450	0.000	0.425	0.000	0.000		
12	0.900	0.000	0.425	0.000	0.000		
17	15.800	0.000	0.425	0.000	0.000		
18	16.250	0.000	0.425	0.000	0.000		
19	0.550	0.000	-3.025	0.000	0.000		
20	16.150	0.000	-3.025	0.000	0.000		
100	0.550	0.000	0.000	0.000	0.000		
101	0.550	0.000	-13.000	0.000	0.000	PP	
108	16.150	0.000	-13.000	0.000	0.000	PP	
110	0.550	0.000	-1.500	0.000	0.000		
111	16.150	0.000	-1.500	0.000	0.000		
200	16.150	0.000	0.000	0.000	0.000		

Structural Lines

Number	Ref	gpt-a	gpt-b	Grp	MNo	b[m]	div	Title /	Support Conditions
1		11	12	2					
2		2	3	1					
3		3	4	1					
4		4	5	1					
5		5	6	1					
6		6	7	1					
7		17	18	2					
8		101	19	3					
9		19	110	3					
10		108	20	3					
11		20	111	3					
12		1	11	4					
13		8	18	4					
14		110	100	3					
15		111	200	3					

Structural Lines - Beam Elements

Number	GPT-A	GPT-B	Type	Grp	NoS	NoP	div	Hinges-start	Hinges-end
1	11	12		2	2	0	0		
2	2	3		1	1	0	0		
3	3	4		1	1	0	0		
4	4	5		1	1	0	0		
5	5	6		1	1	0	0		
6	6	7		1	1	0	0		
7	17	18		2	2	0	0		
8	101	19		3	5	1	0		
9	19	110		3	5	1	0		
10	108	20		3	5	2	0		
11	20	111		3	5	2	0		
12	1	11		4	3	0	0		
13	8	18		4	3	0	0		
14	110	100		3	4	1	0		
15	111	200		3	4	2	0		



Vincoli dappoggio a tempo infinito

Groups

Grp	number	type	min-no	max-no	Title
1	29	BEAM	10001	10029	
2	2	BEAM	20001	20002	
3	2	KINE	30003	30003	
	46	BEAM	30001	30046	
	48	base	30000	39999	
4	2	BEAM	40001	40002	
10	7	KINE	100010	100010	
20	2	KINE	200020	200020	

Nodal Coordinates and Supports

Number	X[m]	Y[m]	Z[m]	Support Conditions		
1	0.450	0.000	0.000			
2	0.900	0.000	0.000			
3	1.000	0.000	0.000			
4	1.100	0.000	0.000			
5	15.600	0.000	0.000			
6	15.700	0.000	0.000			
7	15.800	0.000	0.000			
8	16.250	0.000	0.000			
11	0.450	0.000	0.425			
12	0.900	0.000	0.425			
17	15.800	0.000	0.425			
18	16.250	0.000	0.425			
19	0.550	0.000	-3.025			
20	16.150	0.000	-3.025			
100	0.550	0.000	0.000			
101	0.550	0.000	-13.000	PX	PY	PZ
108	16.150	0.000	-13.000	PX	PY	PZ
110	0.550	0.000	-1.500			
111	16.150	0.000	-1.500			
200	16.150	0.000	0.000			
201	1.680	0.000	0.000			
202	2.260	0.000	0.000			
203	2.840	0.000	0.000			
204	3.420	0.000	0.000			
205	4.000	0.000	0.000			
206	4.580	0.000	0.000			
207	5.160	0.000	0.000			
208	5.740	0.000	0.000			
209	6.320	0.000	0.000			
210	6.900	0.000	0.000			
211	7.480	0.000	0.000			
212	8.060	0.000	0.000			
213	8.640	0.000	0.000			
214	9.220	0.000	0.000			
215	9.800	0.000	0.000			
216	10.380	0.000	0.000			
217	10.960	0.000	0.000			
218	11.540	0.000	0.000			
219	12.120	0.000	0.000			
220	12.700	0.000	0.000			
221	13.280	0.000	0.000			
222	13.860	0.000	0.000			
223	14.440	0.000	0.000			
224	15.020	0.000	0.000			
225	0.550	0.000	-12.413			
226	0.550	0.000	-11.826			
227	0.550	0.000	-11.240			
228	0.550	0.000	-10.653			
229	0.550	0.000	-10.066			
230	0.550	0.000	-9.479			
231	0.550	0.000	-8.893			
232	0.550	0.000	-8.306			
233	0.550	0.000	-7.719			
234	0.550	0.000	-7.132			
235	0.550	0.000	-6.546			
236	0.550	0.000	-5.959			
237	0.550	0.000	-5.372			
238	0.550	0.000	-4.785			
239	0.550	0.000	-4.199			
240	0.550	0.000	-3.612			
241	0.550	0.000	-2.517			
242	0.550	0.000	-2.008			
243	16.150	0.000	-12.413			
244	16.150	0.000	-11.826			
245	16.150	0.000	-11.240			
246	16.150	0.000	-10.653			
247	16.150	0.000	-10.066			
248	16.150	0.000	-9.479			

Vincoli dappoggio a tempo infinito

Nodal Coordinates and Supports

Number	X[m]	Y[m]	Z[m]	Support Conditions
249	16.150	0.000	-8.893	
250	16.150	0.000	-8.306	
251	16.150	0.000	-7.719	
252	16.150	0.000	-7.132	
253	16.150	0.000	-6.546	
254	16.150	0.000	-5.959	
255	16.150	0.000	-5.372	
256	16.150	0.000	-4.785	
257	16.150	0.000	-4.199	
258	16.150	0.000	-3.612	
259	16.150	0.000	-2.517	
260	16.150	0.000	-2.008	
261	0.550	0.000	-1.000	
262	0.550	0.000	-0.500	
263	16.150	0.000	-1.000	
264	16.150	0.000	-0.500	

MIN	0.450	0.000	-13.000	
MAX	16.250	0.000	0.425	

Kinematic Constraints

Grp	LV	Node	type	reference	dx	dy	dz	df
3	1	1	KF	100	-0.100	0.000	0.000	
20	1	2	KF	12	0.000	0.000	-0.425	
10	1	3	KMXZ	100	0.000	-1.000	0.000	
10	1	6	KMXZ	200	0.000	-1.000	0.000	
20	1	7	KF	17	0.000	0.000	-0.425	
3	1	8	KF	200	0.100	0.000	0.000	
10	1	3	KPX0	100	-1.000	0.000	0.000	
10	1	3	KPY0	100	-1.000	0.000	0.000	
10	1	3	KPZ0	100	-1.000	0.000	0.000	
10	1	6	KPY0	200	1.000	0.000	0.000	
10	1	6	KPZ0	200	1.000	0.000	0.000	

Beam Elements

Grp	Number	Node	x[m]	NoS	NoP	reference	Hinges	direction	local	y-axis
1	10001	2	0.000	1	0-0	0.000		0.000	-1.000	0.000
		3	0.100	1		0.100				
1	10002	3	0.000	1	0-0	0.000		0.000	-1.000	0.000
		4	0.100	1		0.100				
1	10003	4	0.000	1	0-0	0.000		0.000	-1.000	0.000
		201	0.580	1		0.580				
1	10004	201	0.000	1	0-0	0.580		0.000	-1.000	0.000
		202	0.580	1		1.160				
1	10005	202	0.000	1	0-0	1.160		0.000	-1.000	0.000
		203	0.580	1		1.740				
1	10006	203	0.000	1	0-0	1.740		0.000	-1.000	0.000
		204	0.580	1		2.320				
1	10007	204	0.000	1	0-0	2.320		0.000	-1.000	0.000
		205	0.580	1		2.900				
1	10008	205	0.000	1	0-0	2.900		0.000	-1.000	0.000
		206	0.580	1		3.480				
1	10009	206	0.000	1	0-0	3.480		0.000	-1.000	0.000
		207	0.580	1		4.060				
1	10010	207	0.000	1	0-0	4.060		0.000	-1.000	0.000
		208	0.580	1		4.640				
1	10011	208	0.000	1	0-0	4.640		0.000	-1.000	0.000
		209	0.580	1		5.220				
1	10012	209	0.000	1	0-0	5.220		0.000	-1.000	0.000
		210	0.580	1		5.800				
1	10013	210	0.000	1	0-0	5.800		0.000	-1.000	0.000
		211	0.580	1		6.380				
1	10014	211	0.000	1	0-0	6.380		0.000	-1.000	0.000
		212	0.580	1		6.960				
1	10015	212	0.000	1	0-0	6.960		0.000	-1.000	0.000
		213	0.580	1		7.540				
1	10016	213	0.000	1	0-0	7.540		0.000	-1.000	0.000
		214	0.580	1		8.120				
1	10017	214	0.000	1	0-0	8.120		0.000	-1.000	0.000
		215	0.580	1		8.700				
1	10018	215	0.000	1	0-0	8.700		0.000	-1.000	0.000
		216	0.580	1		9.280				
1	10019	216	0.000	1	0-0	9.280		0.000	-1.000	0.000
		217	0.580	1		9.860				
1	10020	217	0.000	1	0-0	9.860		0.000	-1.000	0.000
		218	0.580	1		10.440				
1	10021	218	0.000	1	0-0	10.440		0.000	-1.000	0.000
		219	0.580	1		11.020				
1	10022	219	0.000	1	0-0	11.020		0.000	-1.000	0.000

Vincoli dappoggio a tempo infinito

Beam Elements

Grp	Number	Node	x[m]	NoS	NoP	reference	Hinges	direction	local	y-axis
1	10022	220	0.580	1		11.600				
1	10023	220	0.000	1	0-0	11.600		0.000	-1.000	0.000
		221	0.580	1		12.180				
1	10024	221	0.000	1	0-0	12.180		0.000	-1.000	0.000
		222	0.580	1		12.760				
1	10025	222	0.000	1	0-0	12.760		0.000	-1.000	0.000
		223	0.580	1		13.340				
1	10026	223	0.000	1	0-0	13.340		0.000	-1.000	0.000
		224	0.580	1		13.920				
1	10027	224	0.000	1	0-0	13.920		0.000	-1.000	0.000
		5	0.580	1		14.500				
1	10028	5	0.000	1	0-0	0.000		0.000	-1.000	0.000
		6	0.100	1		0.100				
1	10029	6	0.000	1	0-0	0.000		0.000	-1.000	0.000
		7	0.100	1		0.100				
2	20001	11	0.000	2	0-0	0.000		0.000	-1.000	0.000
		12	0.450	2		0.450				
2	20002	17	0.000	2	0-0	0.000		0.000	-1.000	0.000
		18	0.450	2		0.450				
3	30001	101	0.000	5	1	0.000		1.000	0.000	0.000
		225	0.587	5		0.587				
3	30002	225	0.000	5	1	0.587		1.000	0.000	0.000
		226	0.587	5		1.174				
3	30003	226	0.000	5	1	1.174		1.000	0.000	0.000
		227	0.587	5		1.760				
3	30004	227	0.000	5	1	1.760		1.000	0.000	0.000
		228	0.587	5		2.347				
3	30005	228	0.000	5	1	2.347		1.000	0.000	0.000
		229	0.587	5		2.934				
3	30006	229	0.000	5	1	2.934		1.000	0.000	0.000
		230	0.587	5		3.521				
3	30007	230	0.000	5	1	3.521		1.000	0.000	0.000
		231	0.587	5		4.107				
3	30008	231	0.000	5	1	4.107		1.000	0.000	0.000
		232	0.587	5		4.694				
3	30009	232	0.000	5	1	4.694		1.000	0.000	0.000
		233	0.587	5		5.281				
3	30010	233	0.000	5	1	5.281		1.000	0.000	0.000
		234	0.587	5		5.868				
3	30011	234	0.000	5	1	5.868		1.000	0.000	0.000
		235	0.587	5		6.454				
3	30012	235	0.000	5	1	6.454		1.000	0.000	0.000
		236	0.587	5		7.041				
3	30013	236	0.000	5	1	7.041		1.000	0.000	0.000
		237	0.587	5		7.628				
3	30014	237	0.000	5	1	7.628		1.000	0.000	0.000
		238	0.587	5		8.215				
3	30015	238	0.000	5	1	8.215		1.000	0.000	0.000
		239	0.587	5		8.801				
3	30016	239	0.000	5	1	8.801		1.000	0.000	0.000
		240	0.587	5		9.388				
3	30017	240	0.000	5	1	9.388		1.000	0.000	0.000
		19	0.587	5		9.975				
3	30018	19	0.000	5	1	0.000		1.000	0.000	0.000
		241	0.508	5		0.508				
3	30019	241	0.000	5	1	0.508		1.000	0.000	0.000
		242	0.508	5		1.017				
3	30020	242	0.000	5	1	1.017		1.000	0.000	0.000
		110	0.508	5		1.525				
3	30021	108	0.000	5	2	0.000		1.000	0.000	0.000
		243	0.587	5		0.587				
3	30022	243	0.000	5	2	0.587		1.000	0.000	0.000
		244	0.587	5		1.174				
3	30023	244	0.000	5	2	1.174		1.000	0.000	0.000
		245	0.587	5		1.760				
3	30024	245	0.000	5	2	1.760		1.000	0.000	0.000
		246	0.587	5		2.347				
3	30025	246	0.000	5	2	2.347		1.000	0.000	0.000
		247	0.587	5		2.934				
3	30026	247	0.000	5	2	2.934		1.000	0.000	0.000
		248	0.587	5		3.521				
3	30027	248	0.000	5	2	3.521		1.000	0.000	0.000
		249	0.587	5		4.107				
3	30028	249	0.000	5	2	4.107		1.000	0.000	0.000
		250	0.587	5		4.694				
3	30029	250	0.000	5	2	4.694		1.000	0.000	0.000
		251	0.587	5		5.281				
3	30030	251	0.000	5	2	5.281		1.000	0.000	0.000
		252	0.587	5		5.868				



Vincoli dappoggio a tempo infinito

Beam Elements

Grp	Number	Node	x[m]	NoS	NoP	reference	Hinges	direction	local	y-axis
3	30031	252	0.000	5	2	5.868		1.000	0.000	0.000
		253	0.587	5		6.454				
3	30032	253	0.000	5	2	6.454		1.000	0.000	0.000
		254	0.587	5		7.041				
3	30033	254	0.000	5	2	7.041		1.000	0.000	0.000
		255	0.587	5		7.628				
3	30034	255	0.000	5	2	7.628		1.000	0.000	0.000
		256	0.587	5		8.215				
3	30035	256	0.000	5	2	8.215		1.000	0.000	0.000
		257	0.587	5		8.801				
3	30036	257	0.000	5	2	8.801		1.000	0.000	0.000
		258	0.587	5		9.388				
3	30037	258	0.000	5	2	9.388		1.000	0.000	0.000
		20	0.587	5		9.975				
3	30038	20	0.000	5	2	0.000		1.000	0.000	0.000
		259	0.508	5		0.508				
3	30039	259	0.000	5	2	0.508		1.000	0.000	0.000
		260	0.508	5		1.017				
3	30040	260	0.000	5	2	1.017		1.000	0.000	0.000
		111	0.508	5		1.525				
3	30041	110	0.000	4	1	0.000		1.000	0.000	0.000
		261	0.500	4		0.500				
3	30042	261	0.000	4	1	0.500		1.000	0.000	0.000
		262	0.500	4		1.000				
3	30043	262	0.000	4	1	1.000		1.000	0.000	0.000
		100	0.500	4		1.500				
3	30044	111	0.000	4	2	0.000		1.000	0.000	0.000
		263	0.500	4		0.500				
3	30045	263	0.000	4	2	0.500		1.000	0.000	0.000
		264	0.500	4		1.000				
3	30046	264	0.000	4	2	1.000		1.000	0.000	0.000
		200	0.500	4		1.500				
4	40001	1	0.000	3		0.000		1.000	0.000	0.000
		11	0.425	3		0.425				
4	40002	8	0.000	3		0.000		1.000	0.000	0.000
		18	0.425	3		0.425				

Summary of all beam elements

Groups				
Grp	TotLength	Max.Length	TotWeight	Surface
	[m]	[m]	[t]	[m2]
1	14.900	0.580	18.889	43.210
2	0.900	0.450	2.295	3.690
3	26.000	0.587	38.803	71.605
4	0.850	0.425	2.295	3.570

Sum	42.650		62.282	122.075

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	1	System:6-19 140mm2	
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 1 Geometry of Tendons: 1 Tendons: 1

Construction/Prestress.Stage:	Tref. inf. 1		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	2	System:6-19 140mm2	
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 2 Geometry of Tendons: 2 Tendons: 1

Construction/Prestress.Stage:	Tref. inf. 2		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

PRESTRESSING SYSTEM		Group No :	4	System: 6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA : 1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:195000 N/mm2
Tensile strength	:	1860 N/mm2		
Diameter of duct	:	13.4 mm	Area of each tendon	: 140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	: 0.0 mm
Coefficient of Friction			Crack width	
MUE due to overstress	:	0.000	Associated eff. area	: 1.4 cm2
MUE due to release	:	0.000	Effective diameter	: 1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	: 5.9 cm

Construction/Prestress.Stage:	Tref. inf. 4		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	5	System:	6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 5 **Geometry of Tendons:** 5 **Tendons:** 1

Construction/Prestress.Stage:	Tref. inf. 5	
Title of the Tondon Group	:	
Fitting/grouting/removing	:	9/ 9/ 0
Sequence of Prestressing	:	from left
Length of geometry	:	14.900 m
Influence in XY-plane	:	14.900 m
Length of tendon	:	14.900 m
Force transition	:	0.750 m/lin
Given Prestressing ZVi/ZVdsgn		Given Prestressing
general	:	Overstress : 208. kN
due to overstress	:	Release :
at prestressing anchor	:	Restress :
at dead anchor	:	Wedge slip :
Prestressingfrom left		
Station	Beam Section	+Frict -Frict Overst. Releas Restres Slip activ
0.00	10001 0.000	1.000 1.000 1.000 1.000 1.000 1.000 0.000
14.90	10029 1.000	1.000 1.000 1.000 1.000 1.000 1.000 0.000
Elongation in mm:	113.7 113.7	113.7 113.7 113.7 113.7 113.7

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	6	System:6-19 140mm2	
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 6 Geometry of Tendons: 6 Tendons: 1

Construction/Prestress.Stage:	Tref. inf. 6		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	7	System:6-19 140mm2	
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 7 Geometry of Tendons: 7 Tendons: 1

Construction/Prestress.Stage:	Tref. inf. 7		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

PRESTRESSING SYSTEM		Group No :	9	System:6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA : 1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:195000 N/mm2
Tensile strength	:	1860 N/mm2		
Diameter of duct	:	13.4 mm	Area of each tendon	: 140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	: 0.0 mm
Coefficient of Friction			Crack width	
MUE due to overstress	:	0.000	Associated eff. area	: 1.4 cm2
MUE due to release	:	0.000	Effective diameter	: 1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	: 5.9 cm

Construction/Prestress.Stage:	Tref. int. 9		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

PRESTRESSING SYSTEM		Group No :	10	System:6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA : 1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:195000 N/mm2
Tensile strength	:	1860 N/mm2		
Diameter of duct	:	13.4 mm	Area of each tendon	: 140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	: 0.0 mm
Coefficient of Friction			Crack width	
MUE due to overstress	:	0.000	Associated eff. area	: 1.4 cm2
MUE due to release	:	0.000	Effective diameter	: 1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	: 5.9 cm

```

Construction/Prestress.Stage:      Tref. int. 10
Title of the Tondon Group   :
Fitting/grouting/removing    :      9/   9/   0
Sequence of Prestressing     :      from left

```

Length of geometry	:	14.900	m		
Influence in XY-plane	:	14.900	m		
Length of tendon	:	14.900	m		
Force transition	:	0.750	m/lin		
Given Prestressing	ZVi/ZVdsgn			Given Prestressing	
general	:			Overstress	: 208. kN
due to overstress	:			Release	:
at prestressing anchor	:			Restress	:
at dead anchor	:			Wedge slip	:

[illegible]

Elongation in mm: 113.7 113.7 113.7 113.7 113.7 113.7 113.7

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	11	System:6-19 140mm2	
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 11 Geometry of Tendons: 11 Tendons: 1

Construction/Prestress.Stage:	Tref. int. 11		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

PRESTRESSING SYSTEM		Group No :	12	System: 6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA : 1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:195000 N/mm2
Tensile strength	:	1860 N/mm2		
Diameter of duct	:	13.4 mm	Area of each tendon	: 140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	: 0.0 mm
Coefficient of Friction			Crack width	
MUE due to overstress	:	0.000	Associated eff. area	: 1.4 cm2
MUE due to release	:	0.000	Effective diameter	: 1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	: 5.9 cm

```

Construction/Prestress.Stage:      Tref. int. 12
Title of the Tondon Group   :
Fitting/grouting/removing    :      9/   9/   0
Sequence of Prestressing     :      from left

```

Length of geometry	:	14.900	m		
Influence in XY-plane	:	14.900	m		
Length of tendon	:	14.900	m		
Force transition	:	0.750	m/lin		
Given Prestressing	ZVi/ZVdsgn			Given Prestressing	
general	:			Overstress	: 208. kN
due to overstress	:			Release	:
at prestressing anchor	:			Restress	:
at dead anchor	:			Wedge slip	:

[illegible]

Elongation in mm: 113.7 113.7 113.7 113.7 113.7 113.7 113.7

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	14	System:6-19 140mm2	
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 14 Geometry of Tendons: 14 Tendons: 1

Construction/Prestress.Stage:	Tref. int. 14		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	15	System:6-19 140mm2	
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 15 Geometry of Tendons: 15 Tendons: 1

Construction/Prestress.Stage:	Tref. int. 15		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	16	System:6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA : 1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:195000 N/mm2
Tensile strength	:	1860 N/mm2		
Diameter of duct	:	13.4 mm	Area of each tendon	: 140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	: 0.0 mm
Coefficient of Friction			Crack width	
MUE due to overstress	:	0.000	Associated eff. area	: 1.4 cm2
MUE due to release	:	0.000	Effective diameter	: 1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	: 5.9 cm

Group No: 16 Geometry of Tendons: 16 Tendons: 1

Construction/Prestress.Stage:	Tref. int. 16		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]



Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	18	System:	6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 18 Geometry of Tendons: 18 Tendons: 1

Construction/Prestress.Stage: Tref. sup. 18
Title of the Tondon Group :
Fitting/grouting/removing : 9/ 9/ 0
Sequence of Prestressing : from left

Length of geometry : 14.900 m
Influence in XY-plane : 14.900 m
Length of tendon : 14.900 m
Force transition : 0.750 m/lin
Given Prestressing ZVi/ZVdsgn Given Prestressing
general : Overstress : 208. kN
due to overstress : Release :
at prestressing anchor : Restress :
at dead anchor : Wedge slip :

Prestressingfrom left									
Station	Beam	Section	+Frict	-Frict	Overst.	Releas	Restres	Slip	activ
0.00	10001	0.000	1.000	1.000	1.000	1.000	1.000	1.000	0.000
14.90	10029	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.000
Elongation in mm:			113.7	113.7	113.7	113.7	113.7	113.7	113.7

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 1 Geometry of Tendons: 1 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. inf. 1
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.16	-6.42
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.16	-6.42
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.32	-12.83
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.32	-12.83
0.39		0.19	-109.25	0.00	0.00	0.00	-51.76	-25.24
0.59		0.39	-162.95	0.00	0.00	0.00	-77.20	-37.64
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
14.31		0.19	-162.95	0.00	0.00	0.00	-77.20	-37.64
14.51		0.39	-109.25	0.00	0.00	0.00	-51.76	-25.24
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-26.32	-12.83
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-26.32	-12.83
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-13.16	-6.42
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-13.16	-6.42
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 2 Geometry of Tendons: 2 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. inf. 2
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.16	-4.58
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.16	-4.58
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.32	-9.17
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.32	-9.17
0.39		0.19	-109.25	0.00	0.00	0.00	-51.76	-18.03
0.59		0.39	-162.95	0.00	0.00	0.00	-77.20	-26.89
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
14.31		0.19	-162.95	0.00	0.00	0.00	-77.20	-26.89
14.51		0.39	-109.25	0.00	0.00	0.00	-51.76	-18.03
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-26.32	-9.17
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-26.32	-9.17
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-13.16	-4.58
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-13.16	-4.58
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 3 Geometry of Tendons: 3 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. inf. 3
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.16	-2.75
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.16	-2.75
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.32	-5.50
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.32	-5.50
0.39		0.19	-109.25	0.00	0.00	0.00	-51.76	-10.82
0.59		0.39	-162.95	0.00	0.00	0.00	-77.20	-16.13
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62



Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
14.31		0.19	-162.95	0.00	0.00	0.00	-77.20	-16.13
14.51		0.39	-109.25	0.00	0.00	0.00	-51.76	-10.82
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-26.32	-5.50
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-26.32	-5.50
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-13.16	-2.75
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-13.16	-2.75
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 4 Geometry of Tendons: 4 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. inf. 4
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.16	-0.92
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.16	-0.92
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.32	-1.83
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.32	-1.83
0.39		0.19	-109.25	0.00	0.00	0.00	-51.76	-3.61
0.59		0.39	-162.95	0.00	0.00	0.00	-77.20	-5.38
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
14.31		0.19	-162.95	0.00	0.00	0.00	-77.20	-5.38
14.51		0.39	-109.25	0.00	0.00	0.00	-51.76	-3.61
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-26.32	-1.83
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-26.32	-1.83
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-13.16	-0.92
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-13.16	-0.92
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 5 Geometry of Tendons: 5 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. inf. 5
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.16	0.92
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.16	0.92
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.32	1.83
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.32	1.83
0.39		0.19	-109.25	0.00	0.00	0.00	-51.76	3.61
0.59		0.39	-162.95	0.00	0.00	0.00	-77.20	5.38
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87



Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
14.31		0.19	-162.95	0.00	0.00	0.00	-77.20	5.38
14.51		0.39	-109.25	0.00	0.00	0.00	-51.76	3.61
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-26.32	1.83
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-26.32	1.83
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-13.16	0.92
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-13.16	0.92
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 6 Geometry of Tendons: 6 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. inf. 6
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.16	2.75
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.16	2.75
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.32	5.50
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.32	5.50
0.39		0.19	-109.25	0.00	0.00	0.00	-51.76	10.82
0.59		0.39	-162.95	0.00	0.00	0.00	-77.20	16.13
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62



Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
14.31		0.19	-162.95	0.00	0.00	0.00	-77.20	16.13
14.51		0.39	-109.25	0.00	0.00	0.00	-51.76	10.82
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-26.32	5.50
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-26.32	5.50
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-13.16	2.75
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-13.16	2.75
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 7 Geometry of Tendons: 7 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. inf. 7
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.16	4.58
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.16	4.58
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.32	9.17
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.32	9.17
0.39		0.19	-109.25	0.00	0.00	0.00	-51.76	18.03
0.59		0.39	-162.95	0.00	0.00	0.00	-77.20	26.89
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
14.31		0.19	-162.95	0.00	0.00	0.00	-77.20	26.89
14.51		0.39	-109.25	0.00	0.00	0.00	-51.76	18.03
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-26.32	9.17
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-26.32	9.17
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-13.16	4.58

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-13.16	4.58
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 8 Geometry of Tendons: 8 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. inf. 8
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.16	6.42
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.16	6.42
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.32	12.83
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.32	12.83
0.39		0.19	-109.25	0.00	0.00	0.00	-51.76	25.24
0.59		0.39	-162.95	0.00	0.00	0.00	-77.20	37.64
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
14.31		0.19	-162.95	0.00	0.00	0.00	-77.20	37.64
14.51		0.39	-109.25	0.00	0.00	0.00	-51.76	25.24
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-26.32	12.83
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-26.32	12.83
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-13.16	6.42
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-13.16	6.42
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00



Geometria ponticello
Sistema di precompressione

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 9 Geometry of Tendons: 9 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. int. 9
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x(m)	N(kN)	QZ(kN)	QY(kN)	MT(kNm)	MY(kNm)	MZ(kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	-6.42
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	-6.42
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	-12.83
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	-12.83
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	-25.24
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	-37.64
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	-37.64
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	-25.24
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	-12.83
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	-12.83
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	-6.42
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	-6.42
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 10 Geometry of Tendons: 10 Tendons: 1

Area of statical influence : station 0.00 to station 14.90



Geometria ponticello
Sistema di precompressione

Construction/Prestress.Stage: Tref. int. 10
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	-4.58
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	-4.58
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	-9.17
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	-9.17
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	-18.03
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	-26.89
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	-34.37
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	-34.37
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	-26.89
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	-18.03
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	-9.17
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	-9.17
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	-4.58
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	-4.58
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 11 Geometry of Tendons: 11 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. int. 11
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	-2.75

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	-2.75
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	-5.50
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	-5.50
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	-10.82
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	-16.13
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	-20.62
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	-20.62
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	-16.13
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	-10.82
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	-5.50
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	-5.50
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	-2.75
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	-2.75
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 12 Geometry of Tendons: 12 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. int. 12
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	-0.92
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	-0.92
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	-1.83
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	-1.83
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	-3.61
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	-5.38

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	-6.87
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	-6.87
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	-5.38
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	-3.61
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	-1.83
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	-1.83
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	-0.92
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	-0.92
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 13 Geometry of Tendons: 13 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. int. 13
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	0.92
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	0.92
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	1.83
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	1.83
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	3.61
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	5.38
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	6.87
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	6.87
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	5.38
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	3.61
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	1.83
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	1.83
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	0.92
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	0.92
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 14 Geometry of Tendons: 14 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. int. 14
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	2.75
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	2.75
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	5.50
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	5.50
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	10.82
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	16.13
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	20.62
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	20.62
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	16.13
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	10.82
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	5.50
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	5.50
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	2.75
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	2.75
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 15 Geometry of Tendons: 15 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. int. 15
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	4.58
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	4.58
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	9.17
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	9.17
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	18.03
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	26.89
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	34.37
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	34.37
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	26.89
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	18.03
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	9.17
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	9.17
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	4.58
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	4.58
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 16 Geometry of Tendons: 16 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. int. 16
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	6.42
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	6.42
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	12.83
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	12.83
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	25.24
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	37.64
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	37.64
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	25.24
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	12.83
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	12.83
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	6.42
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	6.42
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 17 Geometry of Tendons: 17 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. sup. 17
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	0.28	-6.42
0.10	10002	0.00	-27.78	0.00	0.00	0.00	0.28	-6.42
0.20	10002	0.10	-55.55	0.00	0.00	0.00	0.57	-12.83
0.20	10003	0.00	-55.55	0.00	0.00	0.00	0.57	-12.83
0.39		0.19	-109.25	0.00	0.00	0.00	1.12	-25.24
0.59		0.39	-162.95	0.00	0.00	0.00	1.67	-37.64
0.78	10003	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
0.78	10004	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
1.36	10004	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
1.36	10005	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
1.94	10005	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
1.94	10006	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
2.52	10006	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
2.52	10007	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
3.10	10007	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
3.10	10008	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
3.68	10008	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
3.68	10009	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
4.26	10009	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
4.26	10010	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
4.84	10010	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
4.84	10011	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
5.42	10011	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
5.42	10012	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
6.00	10012	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
6.00	10013	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
6.58	10013	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
6.58	10014	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
7.16	10014	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
7.16	10015	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
7.74	10015	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
7.74	10016	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
8.32	10016	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
8.32	10017	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
8.90	10017	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
8.90	10018	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
9.48	10018	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
9.48	10019	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
10.06	10019	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
10.06	10020	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
10.64	10020	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
10.64	10021	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
11.22	10021	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
11.22	10022	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
11.80	10022	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
11.80	10023	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
12.38	10023	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
12.38	10024	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
12.96	10024	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
12.96	10025	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
13.54	10025	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
13.54	10026	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
14.12	10026	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
14.12	10027	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
14.31		0.19	-162.95	0.00	0.00	0.00	1.67	-37.64
14.51		0.39	-109.25	0.00	0.00	0.00	1.12	-25.24
14.70	10027	0.58	-55.55	0.00	0.00	0.00	0.57	-12.83
14.70	10028	0.00	-55.55	0.00	0.00	0.00	0.57	-12.83
14.80	10028	0.10	-27.78	0.00	0.00	0.00	0.28	-6.42
14.80	10029	0.00	-27.78	0.00	0.00	0.00	0.28	-6.42
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 18 Geometry of Tendons: 18 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. sup. 18
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	0.28	6.42
0.10	10002	0.00	-27.78	0.00	0.00	0.00	0.28	6.42
0.20	10002	0.10	-55.55	0.00	0.00	0.00	0.57	12.83
0.20	10003	0.00	-55.55	0.00	0.00	0.00	0.57	12.83
0.39		0.19	-109.25	0.00	0.00	0.00	1.12	25.24
0.59		0.39	-162.95	0.00	0.00	0.00	1.67	37.64
0.78	10003	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
0.78	10004	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
1.36	10004	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
1.36	10005	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
1.94	10005	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
1.94	10006	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
2.52	10006	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
2.52	10007	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
3.10	10007	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
3.10	10008	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
3.68	10008	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
3.68	10009	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
4.26	10009	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
4.26	10010	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
4.84	10010	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
4.84	10011	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
5.42	10011	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
5.42	10012	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
6.00	10012	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
6.00	10013	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
6.58	10013	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
6.58	10014	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
7.16	10014	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
7.16	10015	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
7.74	10015	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
7.74	10016	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
8.32	10016	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
8.32	10017	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
8.90	10017	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
8.90	10018	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
9.48	10018	0.58	-208.32	0.00	0.00	0.00	2.14	48.12

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
9.48	10019	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
10.06	10019	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
10.06	10020	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
10.64	10020	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
10.64	10021	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
11.22	10021	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
11.22	10022	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
11.80	10022	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
11.80	10023	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
12.38	10023	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
12.38	10024	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
12.96	10024	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
12.96	10025	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
13.54	10025	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
13.54	10026	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
14.12	10026	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
14.12	10027	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
14.31		0.19	-162.95	0.00	0.00	0.00	1.67	37.64
14.51		0.39	-109.25	0.00	0.00	0.00	1.12	25.24
14.70	10027	0.58	-55.55	0.00	0.00	0.00	0.57	12.83
14.70	10028	0.00	-55.55	0.00	0.00	0.00	0.57	12.83
14.80	10028	0.10	-27.78	0.00	0.00	0.00	0.28	6.42
14.80	10029	0.00	-27.78	0.00	0.00	0.00	0.28	6.42
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

STORED PRESTRESSING IN CDBASE:

Refline	-	-	FROM	TO	Typ								
Refline	Spline	-	FROM	TO	NFIRM	EXZ	DO						
Refline	Spline	Tendon	FROM	TO	NFIRM	NSP	ANWS	LF	LF0	IBA1	IBA2	IBA3	
1	-	-	0.00	14.90	CBEA								
1	1	-	0.00	14.90	319	-	13.4						
1	1	1	0.00	14.90	319	1	LE	20	20	9	9	0	
1	2	-	0.00	14.90	319	-	13.4						
1	2	2	0.00	14.90	319	1	LE	20	20	9	9	0	
1	3	-	0.00	14.90	319	-	13.4						
1	3	3	0.00	14.90	319	1	LE	20	20	9	9	0	
1	4	-	0.00	14.90	319	-	13.4						
1	4	4	0.00	14.90	319	1	LE	20	20	9	9	0	
1	5	-	0.00	14.90	319	-	13.4						
1	5	5	0.00	14.90	319	1	LE	20	20	9	9	0	
1	6	-	0.00	14.90	319	-	13.4						
1	6	6	0.00	14.90	319	1	LE	20	20	9	9	0	
1	7	-	0.00	14.90	319	-	13.4						
1	7	7	0.00	14.90	319	1	LE	20	20	9	9	0	
1	8	-	0.00	14.90	319	-	13.4						
1	8	8	0.00	14.90	319	1	LE	20	20	9	9	0	
1	9	-	0.00	14.90	319	-	13.4						
1	9	9	0.00	14.90	319	1	LE	20	20	9	9	0	
1	10	-	0.00	14.90	319	-	13.4						
1	10	10	0.00	14.90	319	1	LE	20	20	9	9	0	
1	11	-	0.00	14.90	319	-	13.4						
1	11	11	0.00	14.90	319	1	LE	20	20	9	9	0	
1	12	-	0.00	14.90	319	-	13.4						
1	12	12	0.00	14.90	319	1	LE	20	20	9	9	0	
1	13	-	0.00	14.90	319	-	13.4						
1	13	13	0.00	14.90	319	1	LE	20	20	9	9	0	
1	14	-	0.00	14.90	319	-	13.4						
1	14	14	0.00	14.90	319	1	LE	20	20	9	9	0	
1	15	-	0.00	14.90	319	-	13.4						
1	15	15	0.00	14.90	319	1	LE	20	20	9	9	0	
1	16	-	0.00	14.90	319	-	13.4						
1	16	16	0.00	14.90	319	1	LE	20	20	9	9	0	
1	17	-	0.00	14.90	319	-	13.4						
1	17	17	0.00	14.90	319	1	LE	20	20	9	9	0	
1	18	-	0.00	14.90	319	-	13.4						
1	18	18	0.00	14.90	319	1	LE	20	20	9	9	0	

FROM,TO in (m) , EXZ,DO in (mm)

Geometria ponticello
Definizione dei Casi di Carico

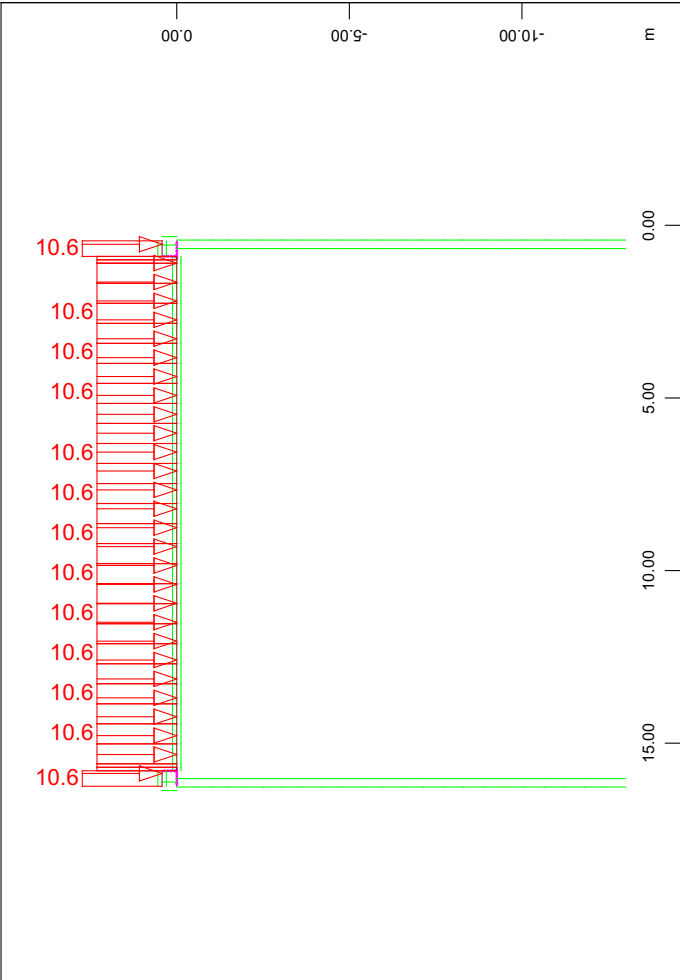
Actions									
type	T	sup	Title	$\gamma-u$	$\gamma-f$	$\gamma-a$	$\psi-0$	$\psi-1$	$\psi-2$
C	G	perc	Ritiro	1.20	0.00	1.00	1.00	1.00	1.00
G1	G	perm	Carichi G1	1.35	1.00	1.00	1.00	1.00	1.00
G2	G	perc	Carichi G2	1.50	0.00	1.00	1.00	1.00	1.00
R	G	perm	Spinta delle terre	1.35	1.00	1.00	1.00	1.00	1.00
P	P	perm	Carichi G2	1.00	1.00	1.00	1.00	1.00	1.00
Q	Q	cond	variable load	1.35	0.00	1.00	0.75	0.75	0.00
Q_A	Q	excl	Carichi V da traffico	1.35	0.00	1.00	0.75	0.75	0.00
Q_B	Q	perc	Carichi V da traffico sismico	1.00	1.00	1.00	1.00	1.00	1.00
Q_C	Q	usex	Carichi di frenatura	1.35	0.00	1.00	0.75	0.75	0.00
T	Q	unsi	Temperatura	1.20	0.00	1.00	0.60	0.60	0.50
E	E	usex	Earthquake	1.00	1.00	1.00	1.00	1.00	1.00
E_X	E	excl	Sisma	1.00	1.00	1.00	1.00	1.00	1.00

Geometria ponticello
Analisi Lineare

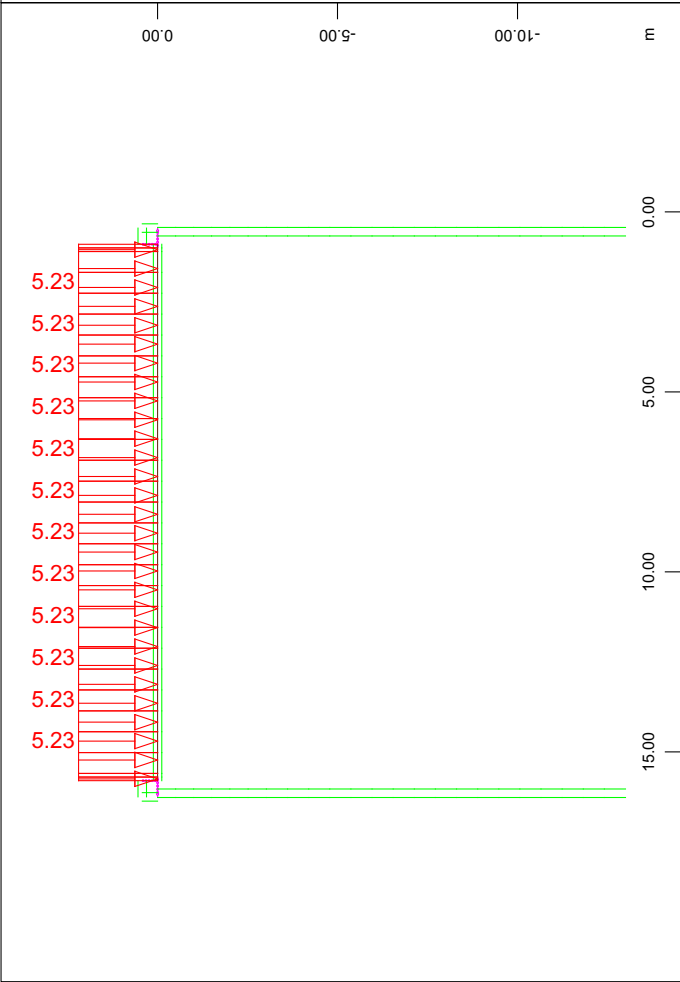
Sum of Reactions and Loads

LC Title	PXX[kN]	PYY[kN]	PZZ[kN]
1 Pp trave cap	0.0	0.0	77.9
	0.0	0.0	-77.9
2 Pp soletta+retrotr.	0.0	0.0	134.7
	0.0	0.0	-134.7
3 Pavimentazione	0.0	0.0	166.8
	0.0	0.0	-166.8
4 Q 1	-0.1	0.0	766.5
	0.0	0.0	-766.5
5 Q 1_1	-0.1	0.0	766.5
	0.0	0.0	-766.5
6 Q 2	0.1	0.0	766.4
	0.0	0.0	-766.4
7 Q 2_1	0.1	0.0	766.4
	0.0	0.0	-766.4
8 Q 3	0.0	0.0	766.5
	0.0	0.0	-766.5
9 Q 3_1	0.0	0.0	766.5
	0.0	0.0	-766.5
10 Q 4	0.0	0.0	766.4
	0.0	0.0	-766.4
11 Q 4_1	0.0	0.0	766.4
	0.0	0.0	-766.4
12 Q 5	-0.1	0.0	766.5
	0.0	0.0	-766.5
13 Q 5_1	-0.1	0.0	766.5
	0.0	0.0	-766.5
14 Q 6	0.1	0.0	766.5
	0.0	0.0	-766.5
15 Q 6_1	0.1	0.0	766.4
	0.0	0.0	-766.5
16 Q 7	0.0	0.0	766.5
	0.0	0.0	-766.5
17 Q 7_1	0.0	0.0	766.5
	0.0	0.0	-766.5
18 Q 8	0.0	0.0	766.5
	0.0	0.0	-766.5
19 Q 8_1	0.0	0.0	766.5
	0.0	0.0	-766.5
20 Basic prestressing forces	0.0	0.0	0.0
	0.0	0.0	0.0
21 Variazione uniforme	0.0	0.0	0.0
	0.0	0.0	0.0
22 Variazione non uniforme	0.0	0.0	0.0
	0.0	0.0	0.0
23 Spinta terre	0.0	0.0	0.0
	0.0	0.0	0.0
24 Q f/a	-26.3	0.0	0.0
	26.2	0.0	0.0
25 Q -f/a	26.3	0.0	0.0
	-26.2	0.0	0.0
26 Sisma X_1	-230.3	0.0	0.0
	229.1	0.0	0.0
27 Sisma X_2	230.3	0.0	0.0
	-229.1	0.0	0.0
28 Sisma X_3	-135.4	0.0	0.0
	134.7	0.0	0.0
29 Sisma X_4	135.4	0.0	0.0
	-134.7	0.0	0.0
30 Qk sismico	0.0	0.0	153.3
	0.0	0.0	-153.3

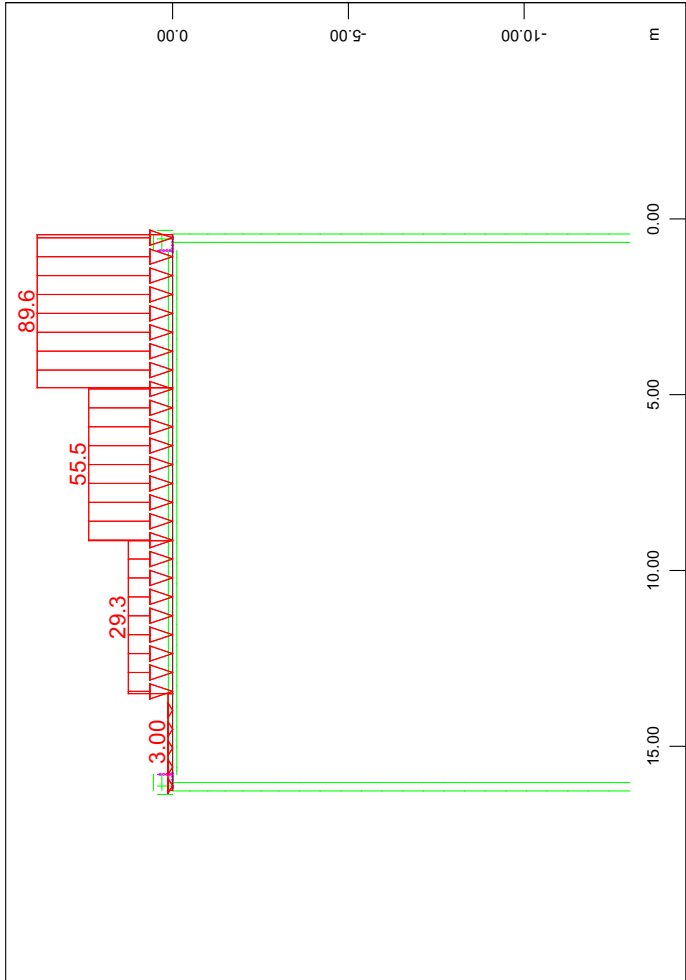
Geometria ponticello
Rappresentazione dei Carichi



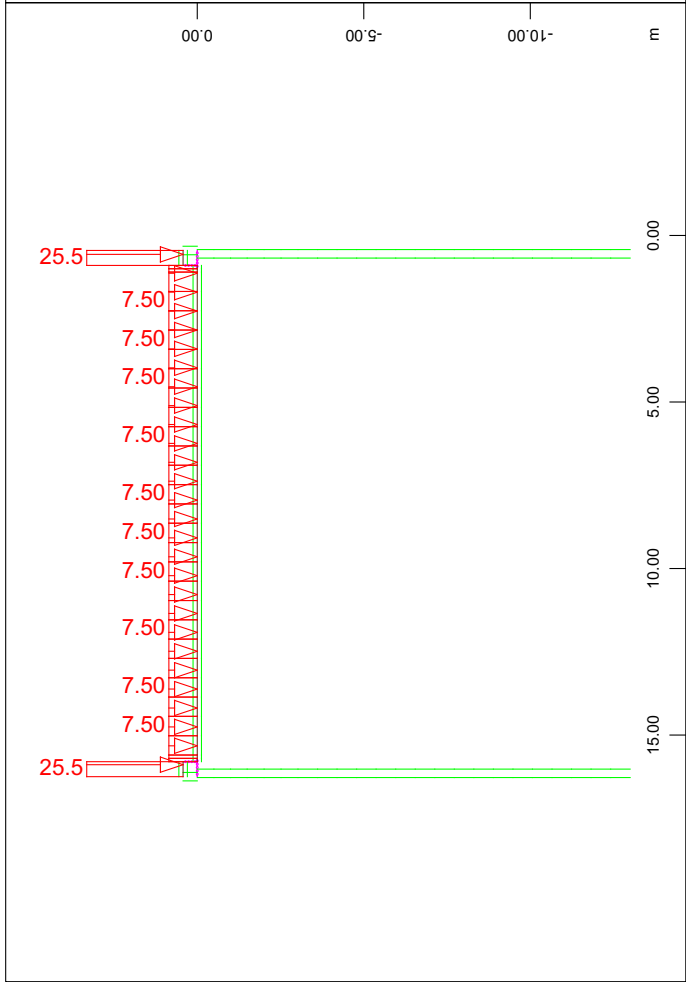
M 1 : 219
All loads, Loadcase 3 Pavimentazione , (1 cm 3D = unit) Free line load (force) in global Z (Unit=10.0 kN/m) (Min=-10.6) (Max=0)



M 1 : 210
All loads, Loadcase 1 Pp trave cap , (1 cm 3D = unit) Free line load (force) in global Z (Unit=5.00 kN/m) (Min=-5.22) (Max=0)

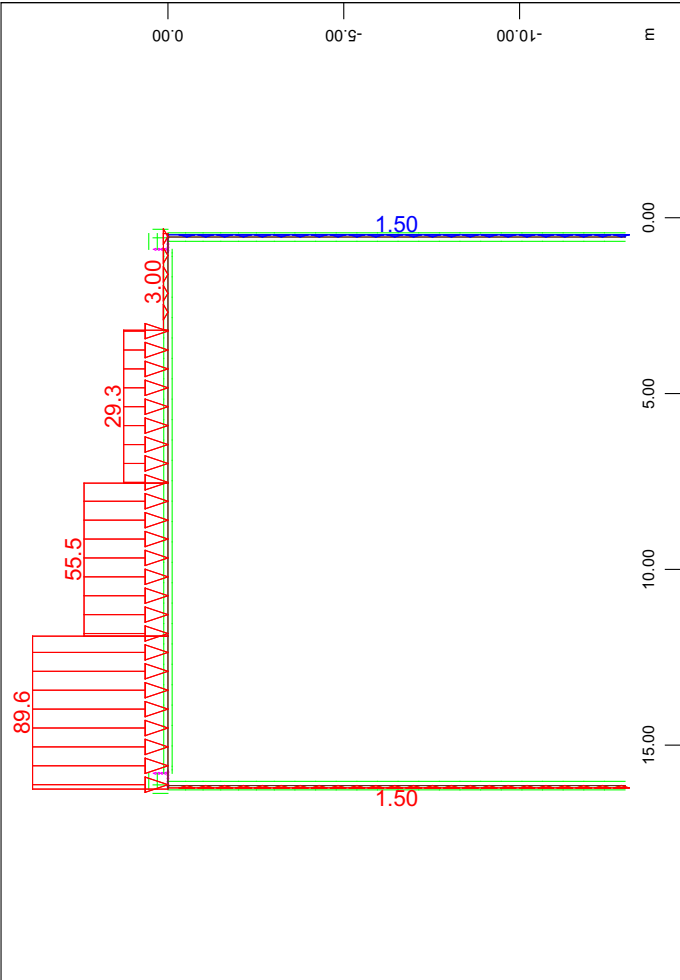


M 1 : 215
All loads, Loadcase 4 Q 1 , (1 cm 3D = unit) Free line load (force) in global Z (Unit=50.0 kN/m) (Min=-89.6) (Max=0)

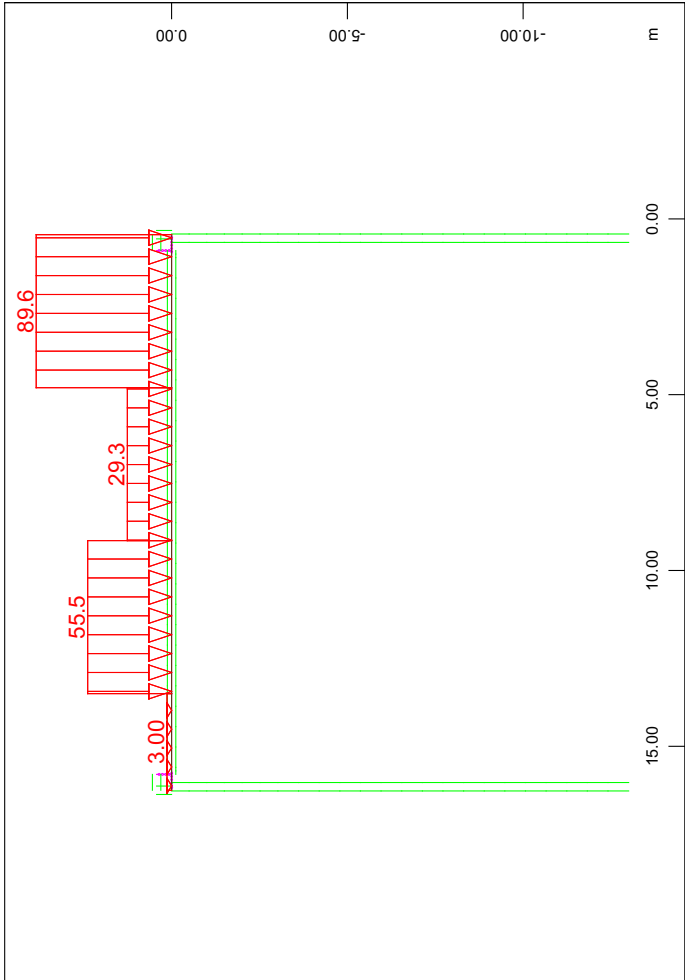


M 1 : 227
All loads, Loadcase 2 Pp soletta+retrotr. , (1 cm 3D = unit) Free line load (force) in global Z (Unit=20.0 kN/m) (Min=-25.5) (Max=0)

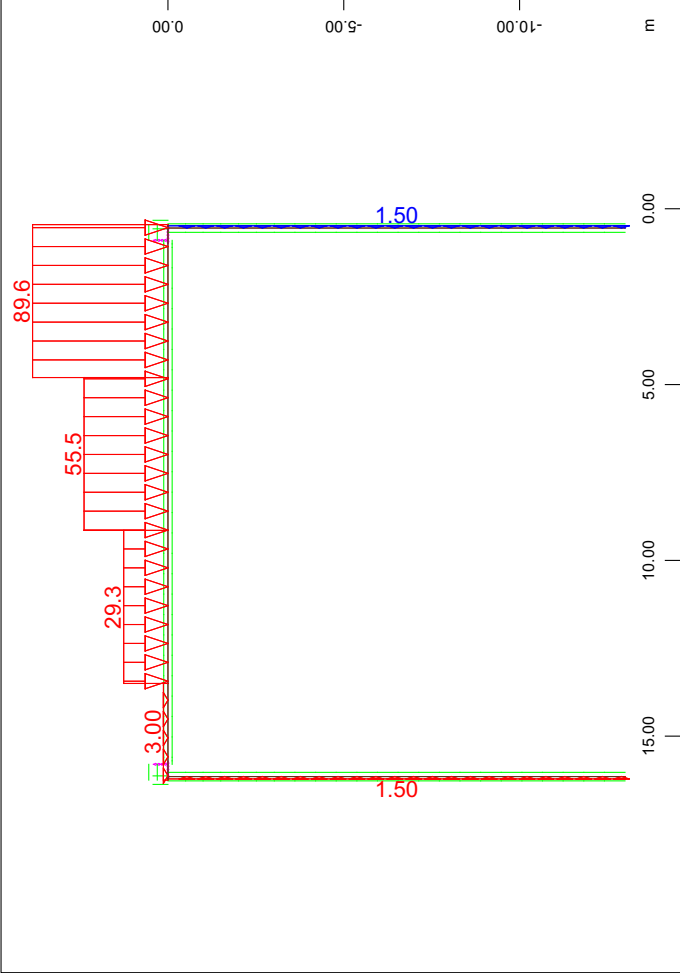
Geometria ponticello
Rappresentazione dei Carichi



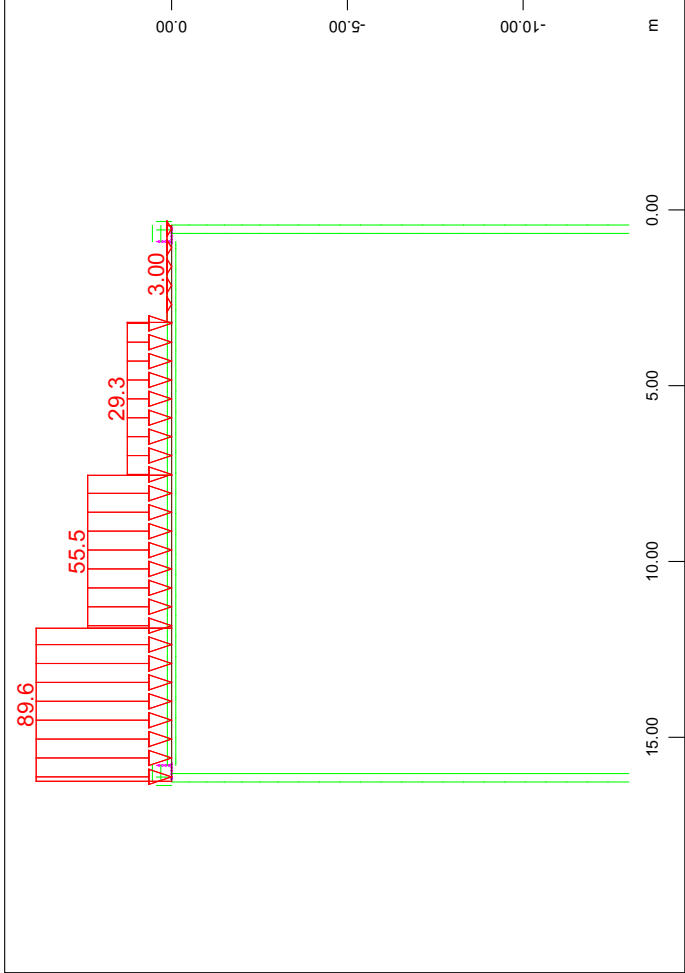
All loads, Loadcase 7 Q 2_1 , (1 cm 3D = unit) Free line load (force) in global X (Unit=50.0 kN/m) (force) in global Z (Unit=50.0 kN/m)



All loads, Loadcase 8 Q 3 , (1 cm 3D = unit) Free line load (force) in global X (Unit=50.0 kN/m) (force) in global Z (Unit=50.0 kN/m)

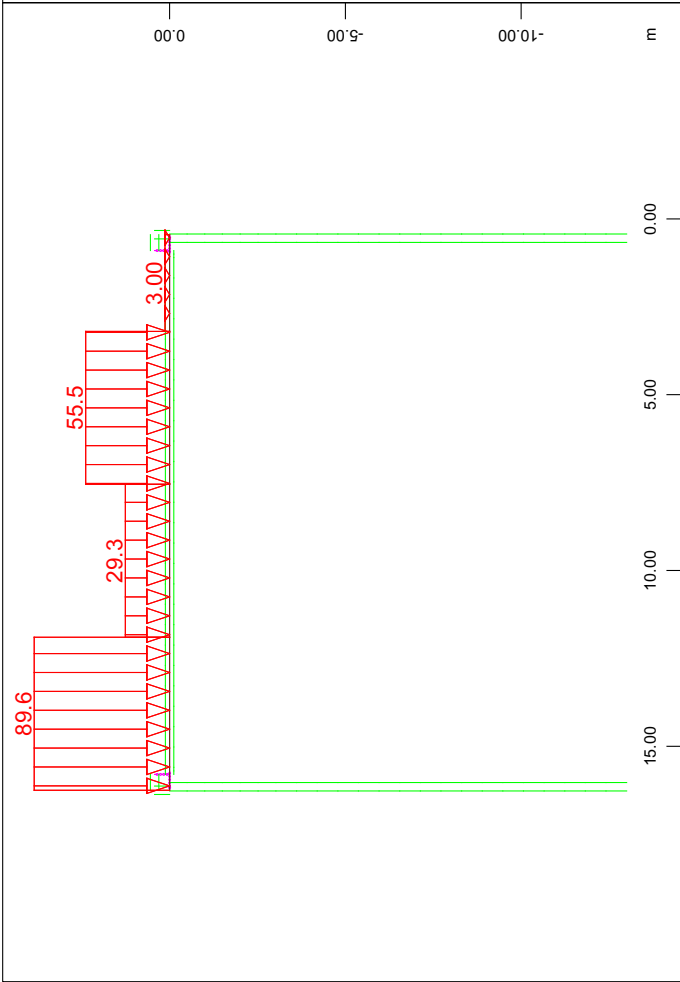
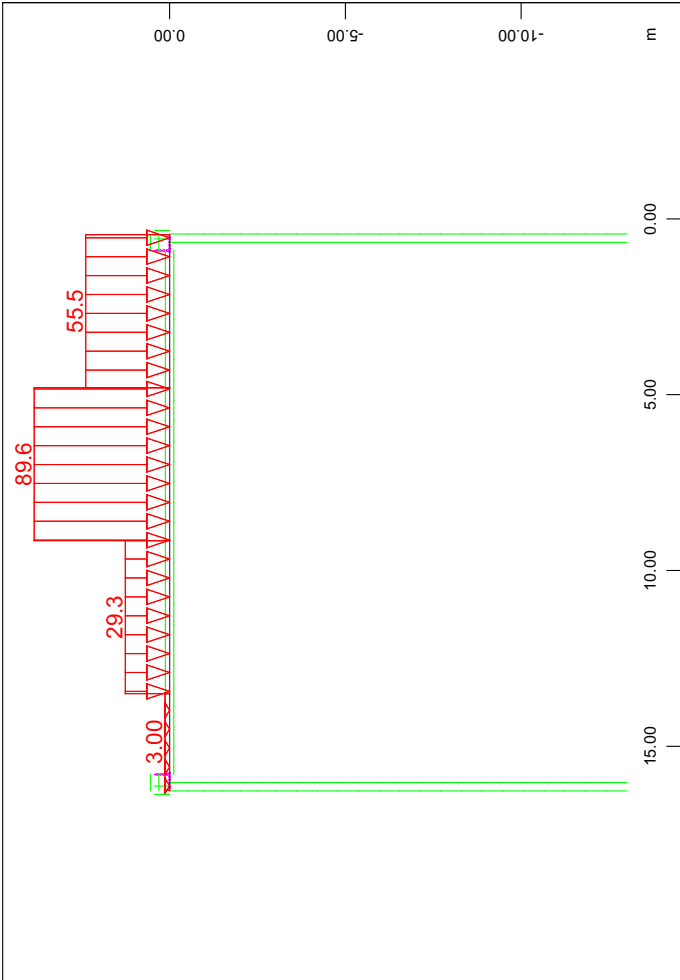
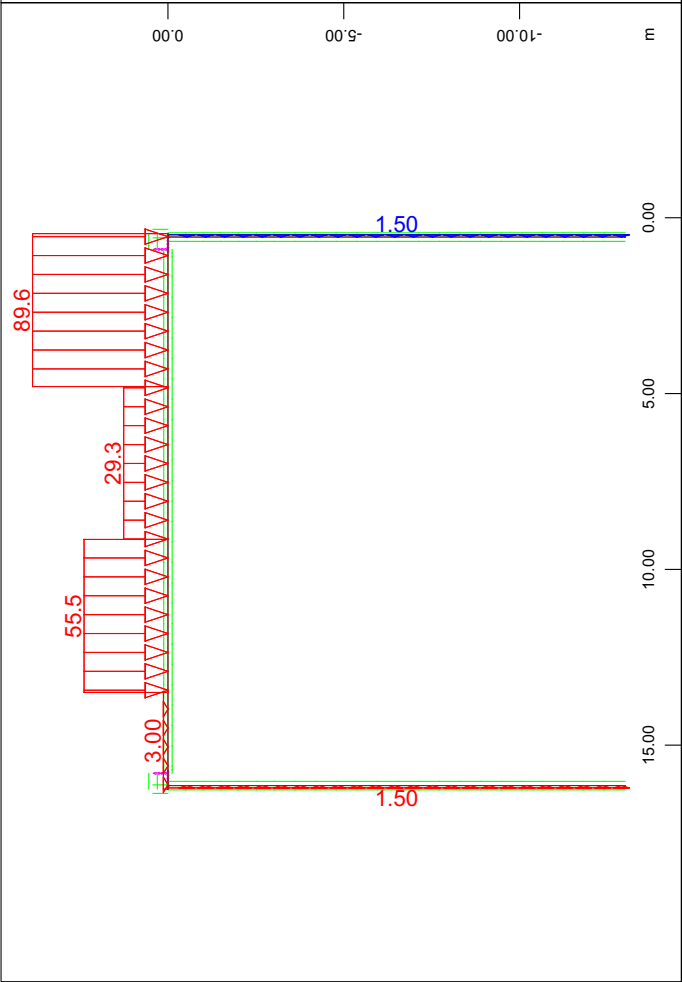
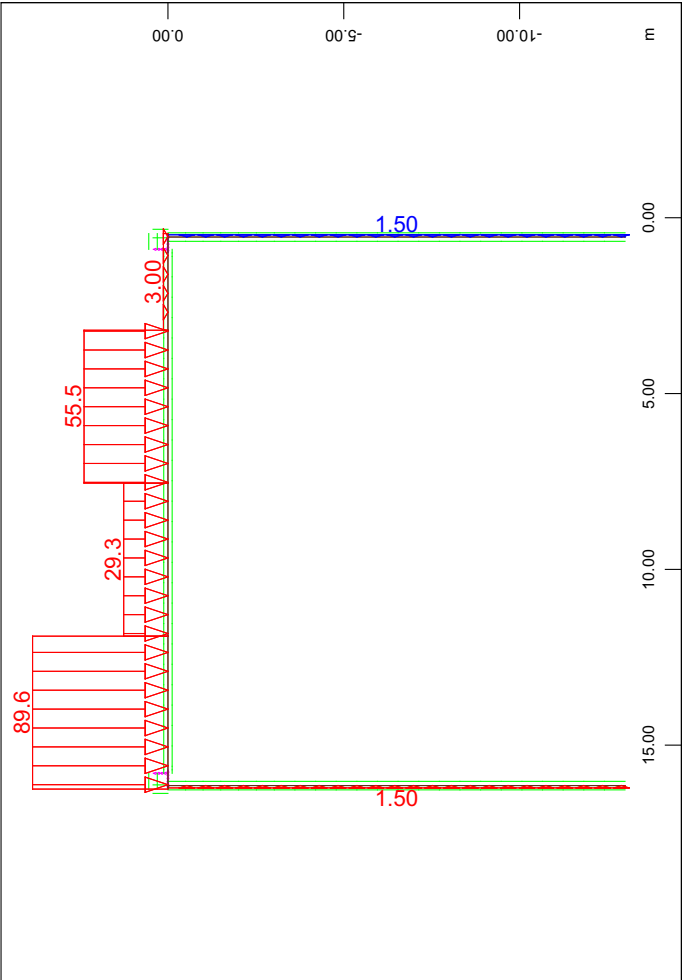


All loads, Loadcase 5 Q 1_1 , (1 cm 3D = unit) Free line load (force) in global X (Unit=50.0 kN/m) (force) in global Z (Unit=50.0 kN/m)

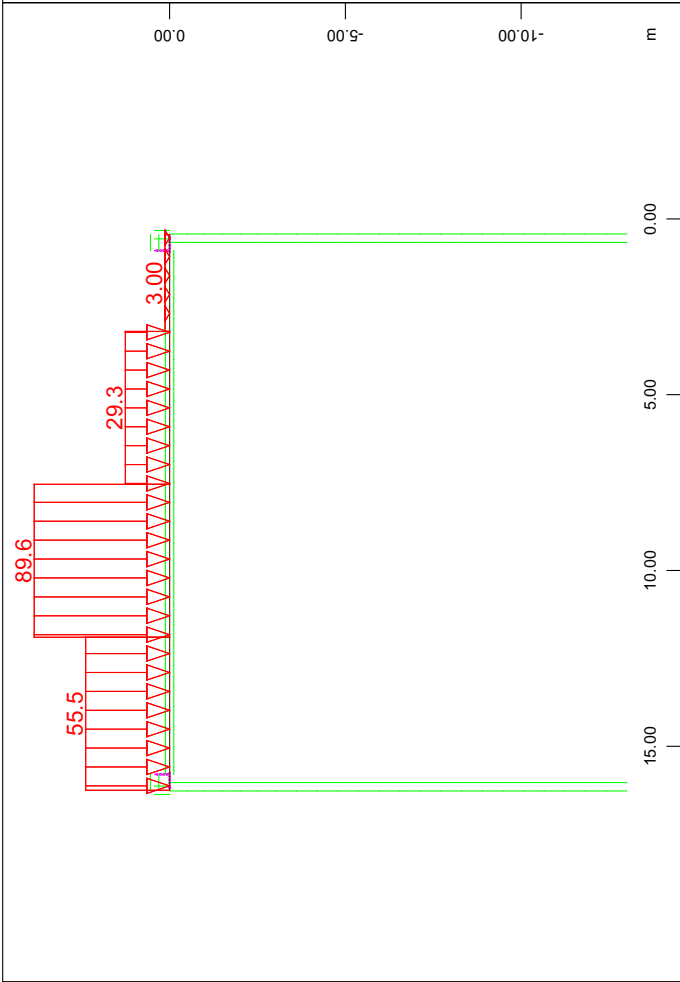
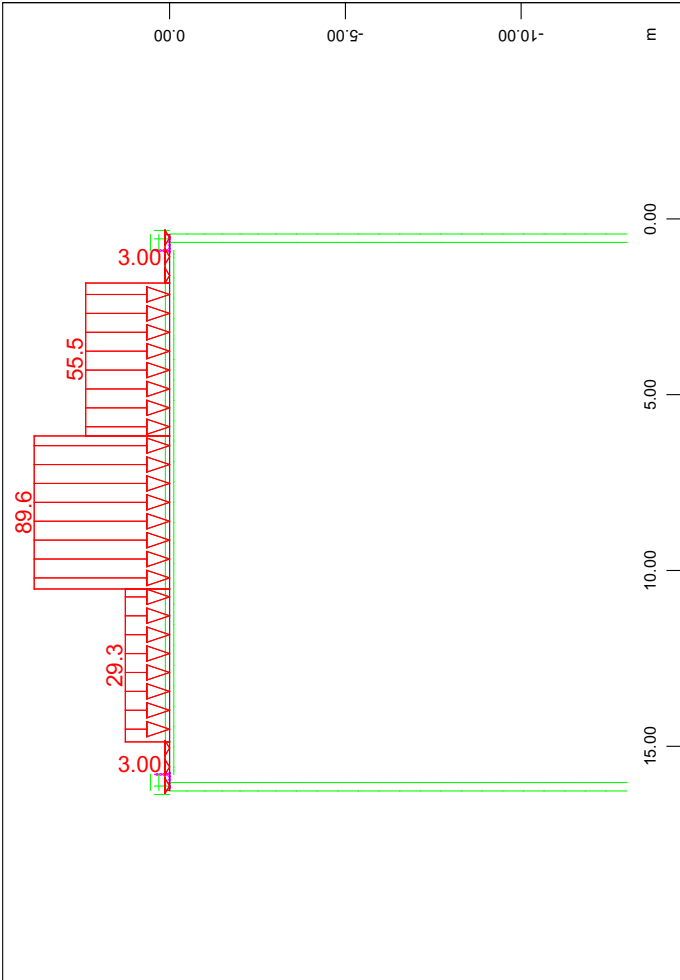
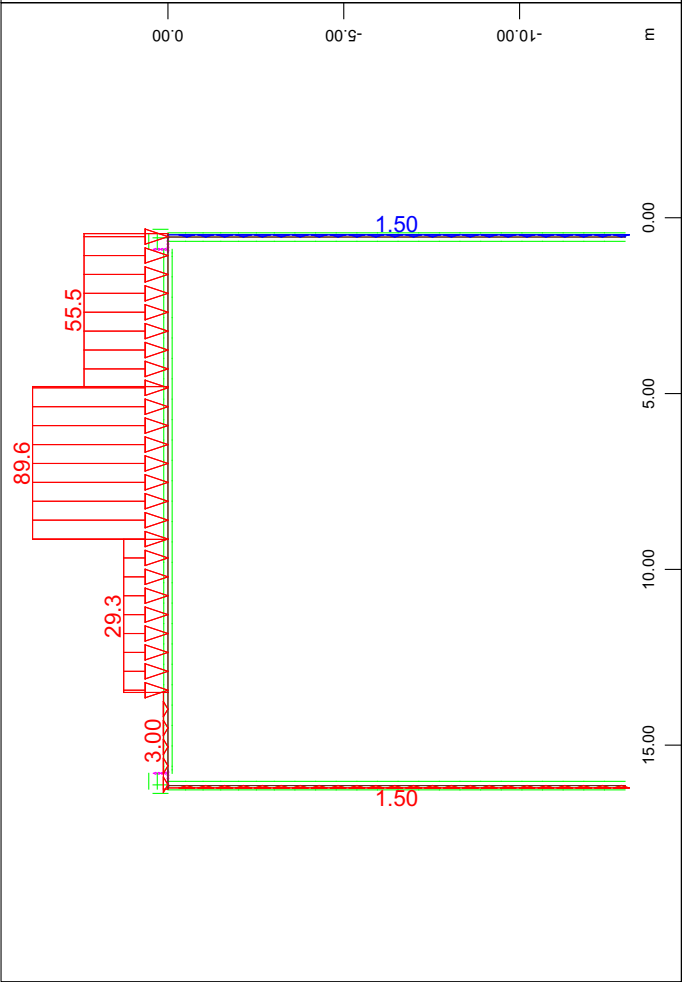
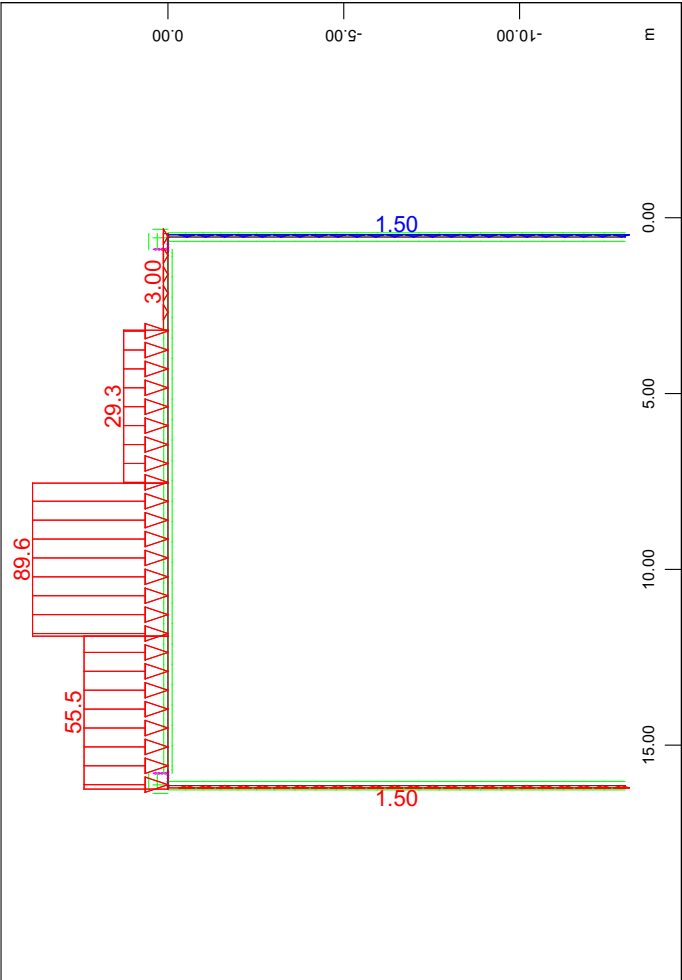


All loads, Loadcase 6 Q 2 , (1 cm 3D = unit) Free line load (force) in global X (Unit=50.0 kN/m) (force) in global Z (Unit=50.0 kN/m)

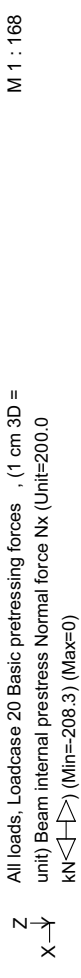
Geometria ponticello
Rappresentazione dei Carichi



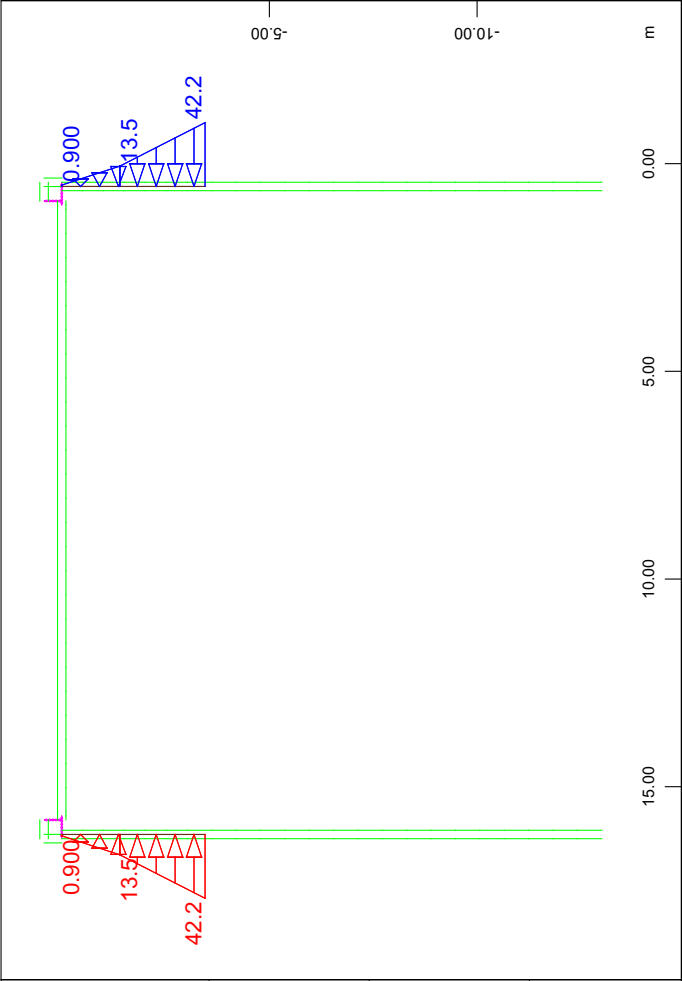
Geometria ponticello
Rappresentazione dei Carichi



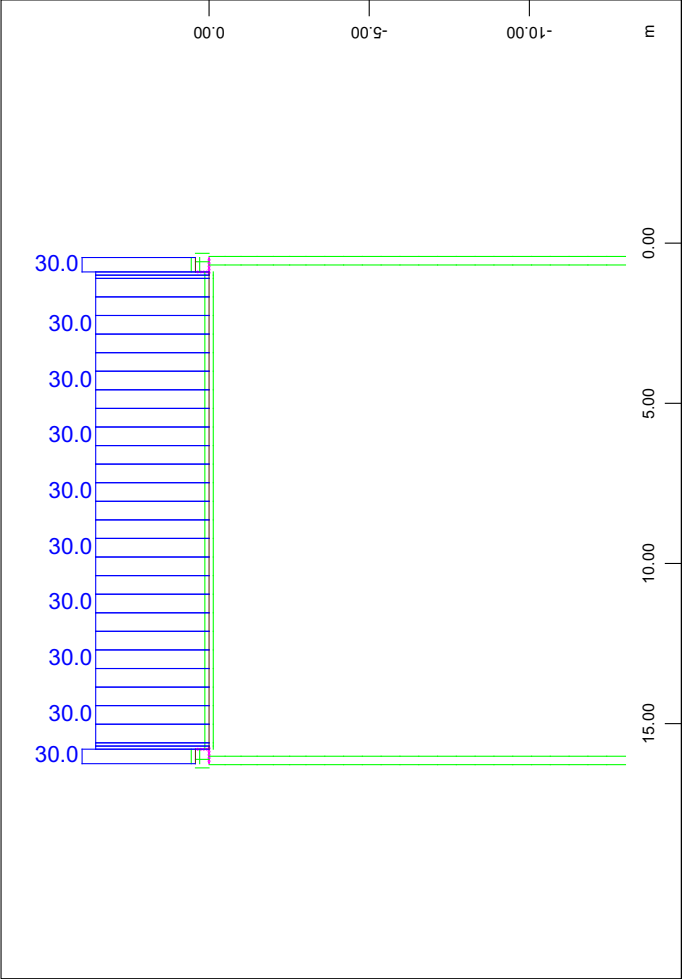
Rappresentazione dei Carichi



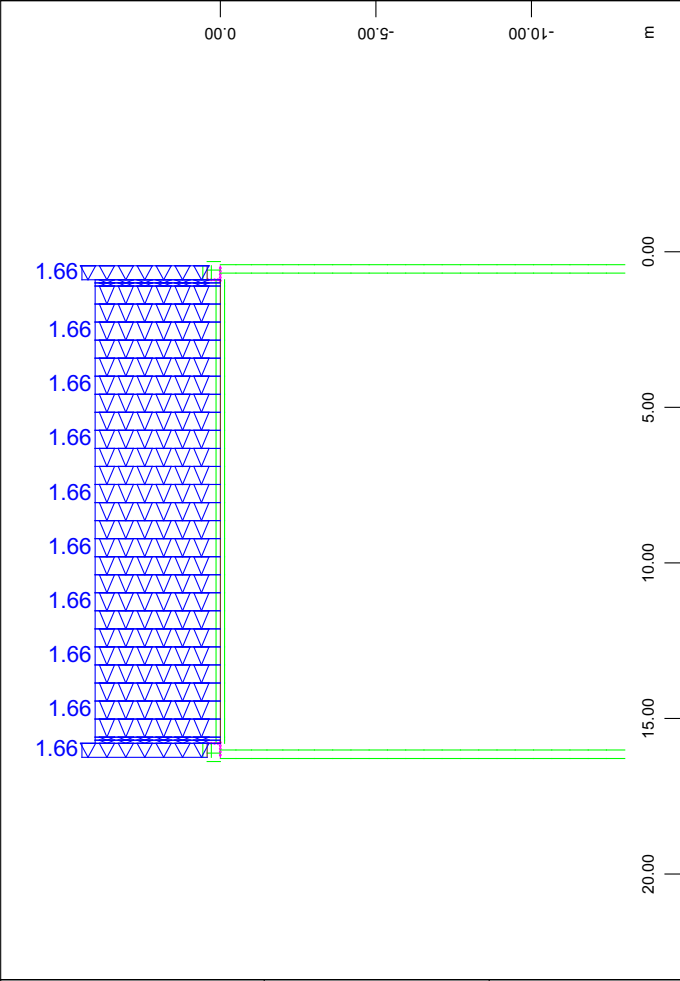
Geometria ponticello
Rappresentazione dei Carichi



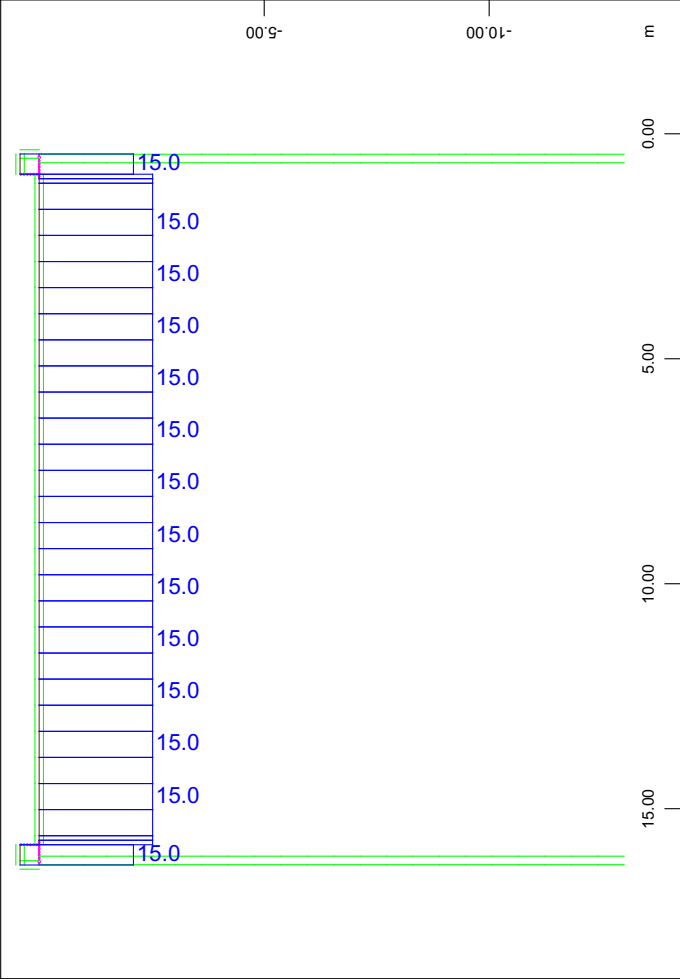
M 1 : 182
All loads, Loadcase 23 Spinta terre , (1 cm 3D = unit) Free line load (force) in global X (Unit=50.0 kN/m) (Min=-42.2) (Max=42.2)



M 1 : 236
All loads, Loadcase 21 Variazione uniforme , (1 cm 3D = unit) Free line load (uniform temperature change) (Unit=20.0 °C) (Max=30.0)



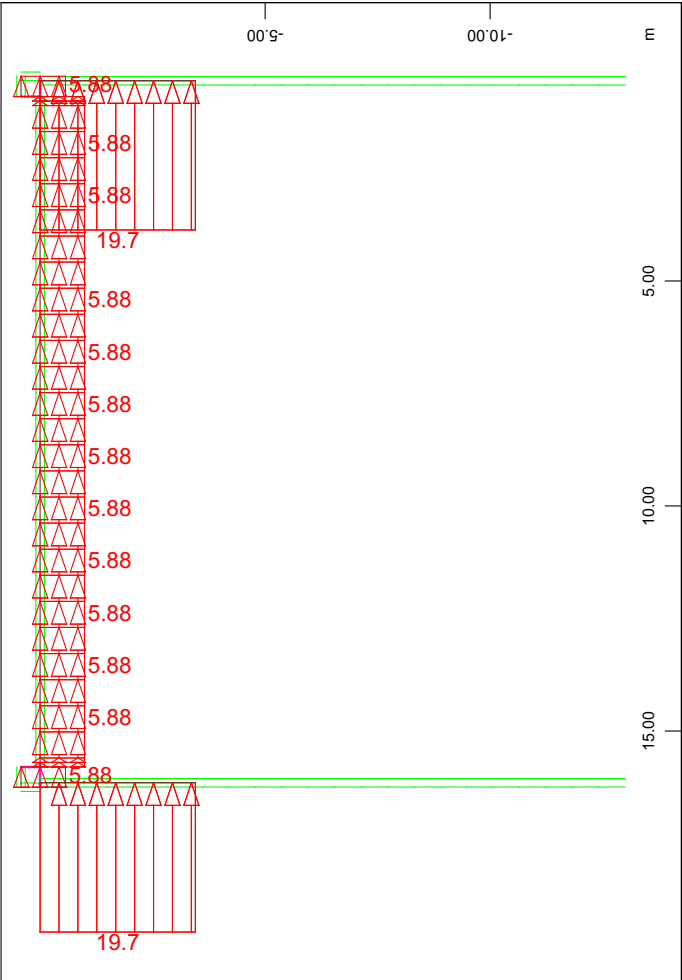
M 1 : 243
All loads, Loadcase 24 Q f/a , (1 cm 3D = unit) Free line load (force) in global X (Unit=1.00 kN/m) (Max=1.66)



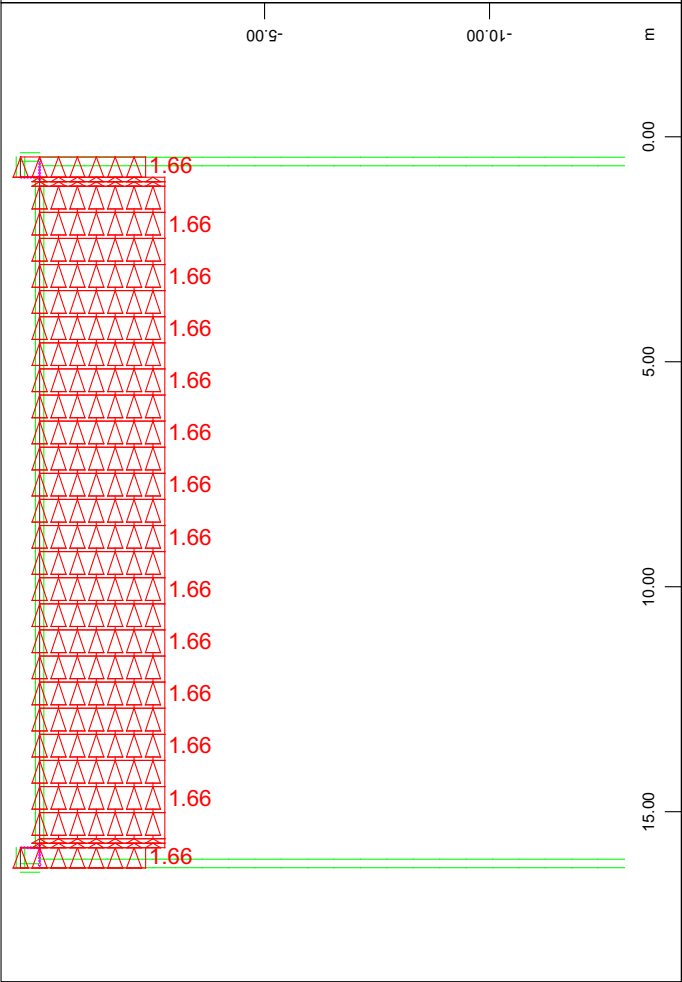
M 1 : 168
All loads, Loadcase 22 Variazione non uniforme , (1 cm 3D = unit) Free line load (temperature difference) in local z (Unit=10.0 °C) (Max=15.0)



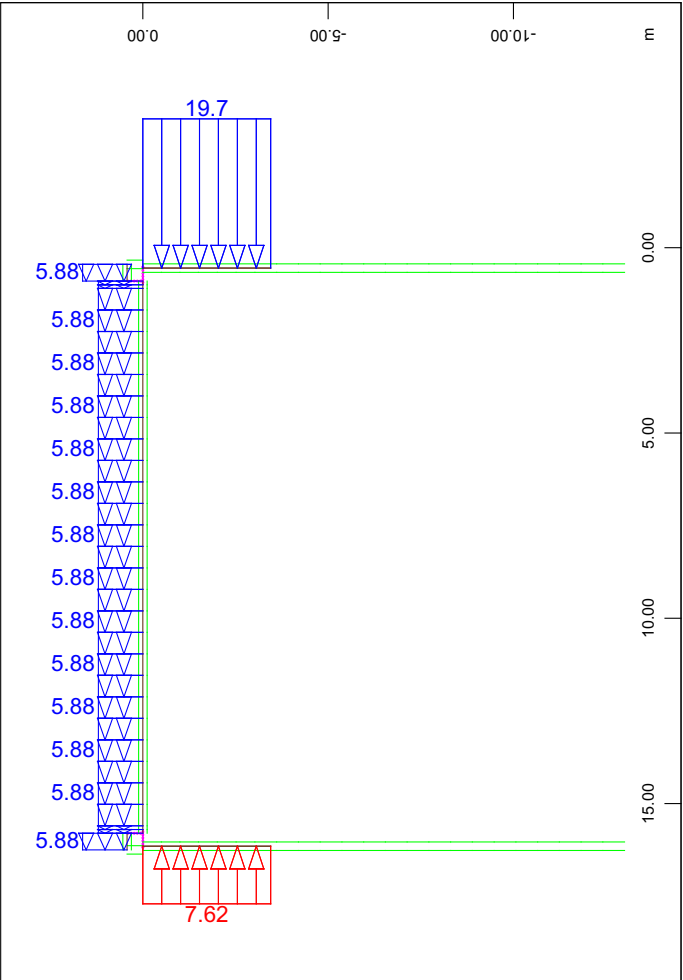
Geometria ponticello
Rappresentazione dei Carichi



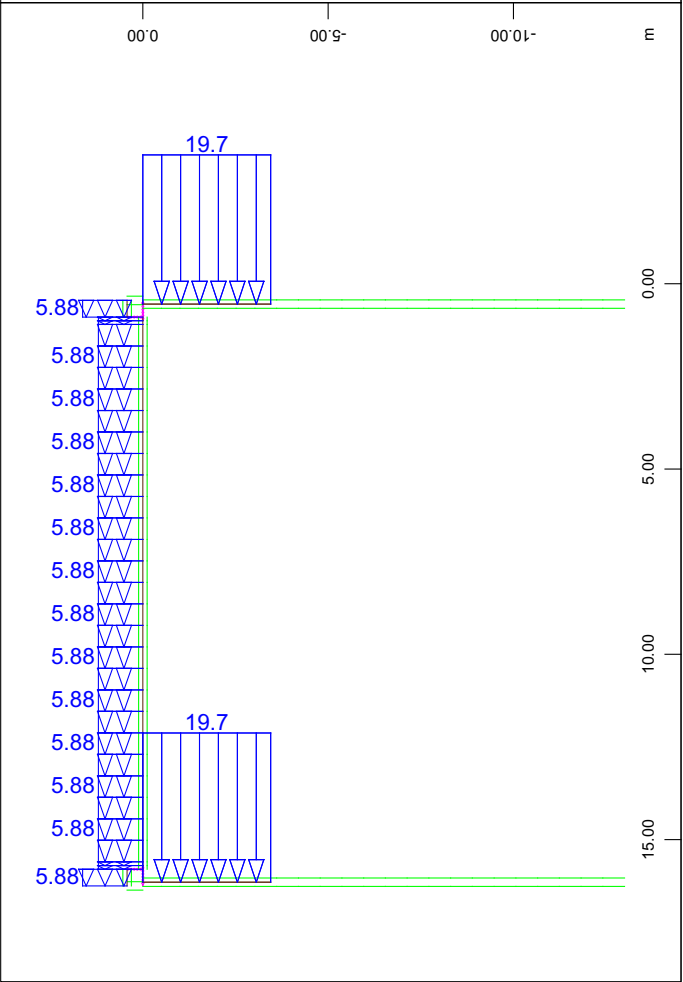
M 1 : 168
All loads, Loadcase 27 Sisma X₂, (1 cm 3D = unit) Free
line load (force) in global X (Unit=10.0 kN/m)
(Min=-19.7) (Max=0)
Z
X



M 1 : 168
All loads, Loadcase 25 Q -f/a, (1 cm 3D = unit) Free line
load (force) in global X (Unit=1.00 kN/m)
(Max=0)
Z
X

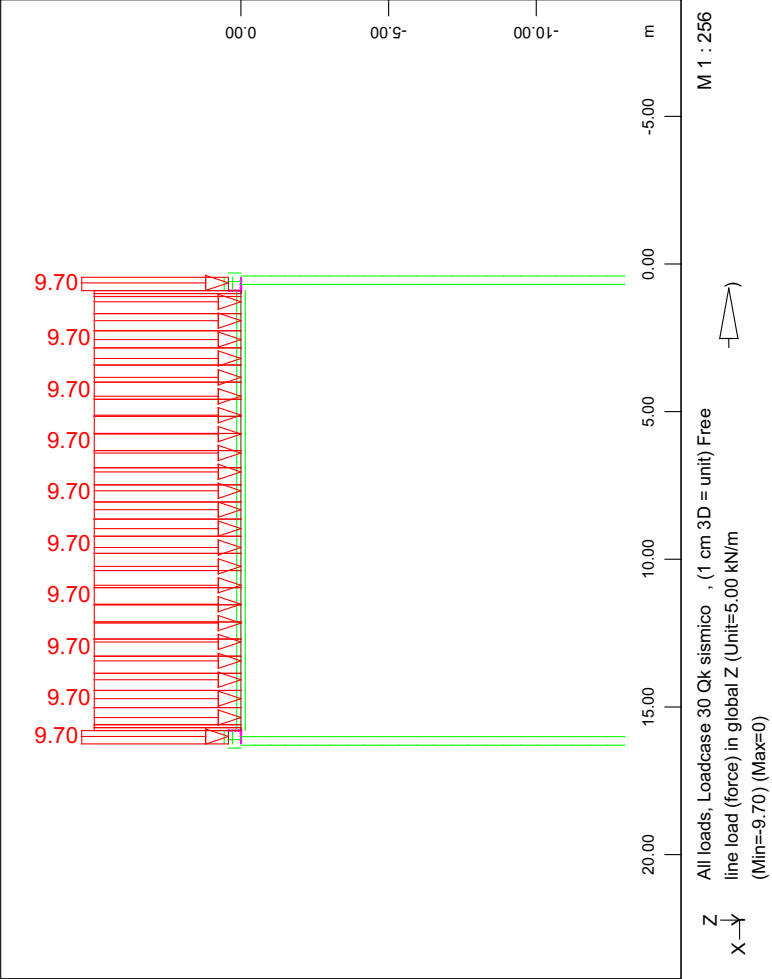
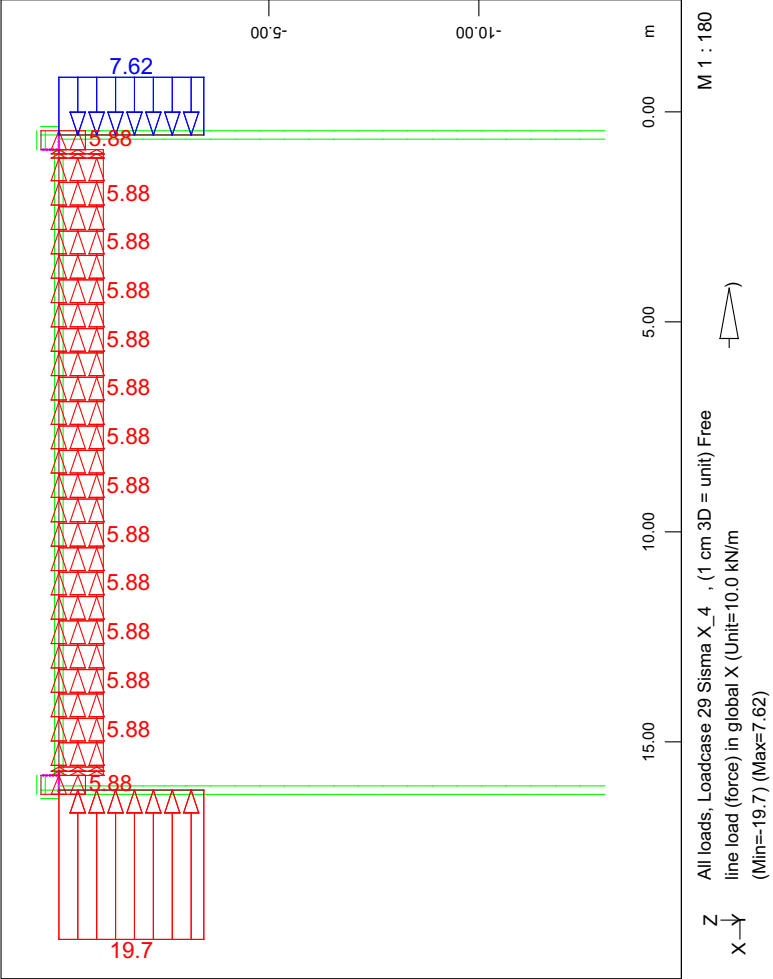


M 1 : 204
All loads, Loadcase 28 Sisma X₃, (1 cm 3D = unit) Free
line load (force) in global X (Unit=10.0 kN/m)
(Min=-7.62) (Max=19.7)
Z
X

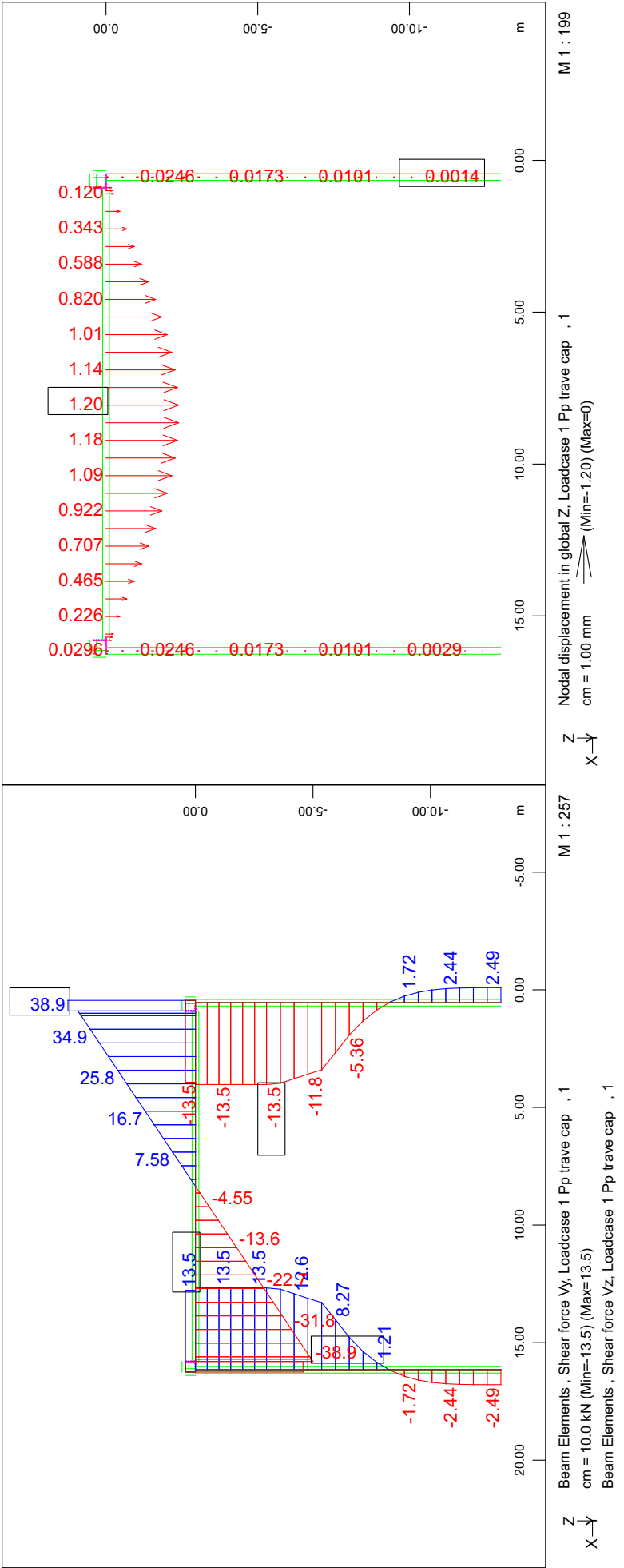
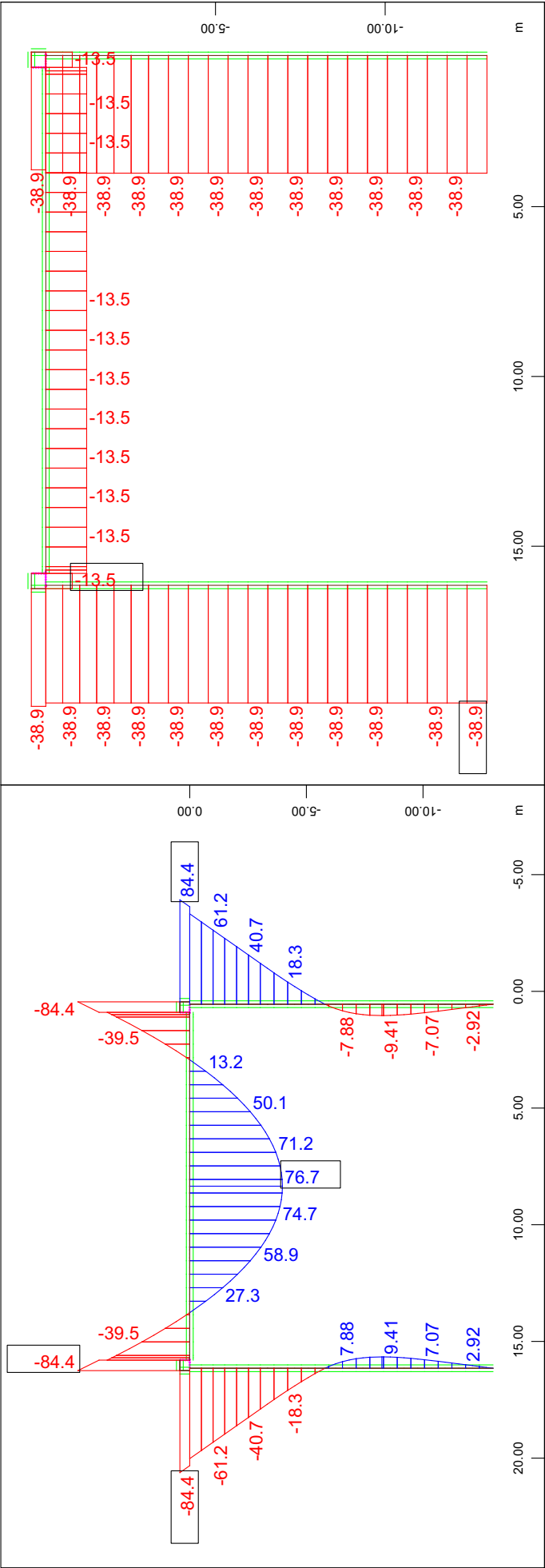


M 1 : 204
All loads, Loadcase 26 Sisma X₁, (1 cm 3D = unit) Free
line load (force) in global X (Unit=10.0 kN/m)
(Max=19.7)
Z
X

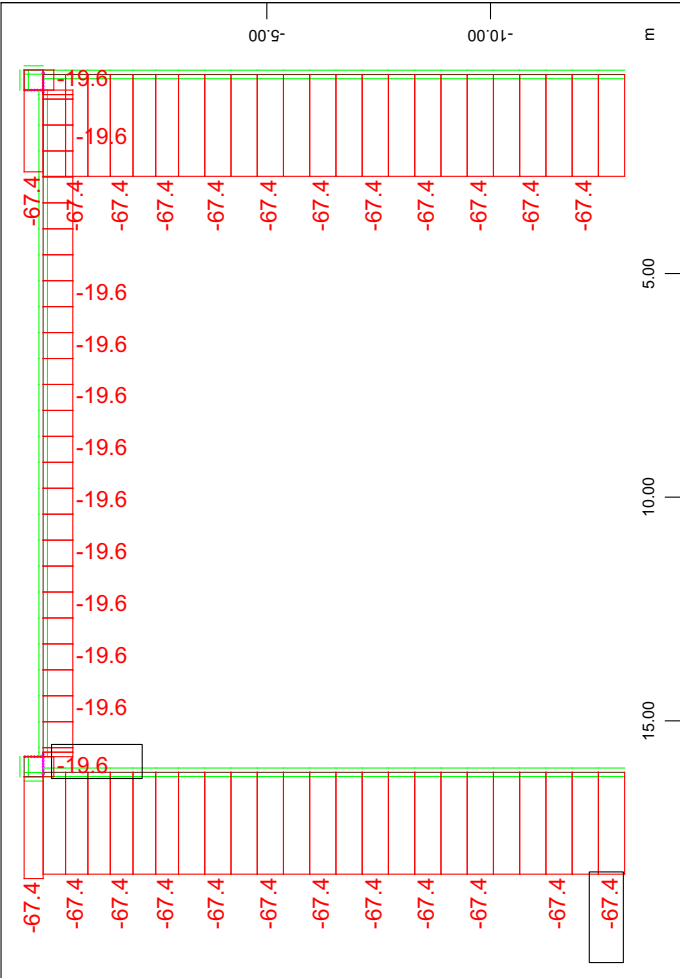
Geometria ponticello
Rappresentazione dei Carichi



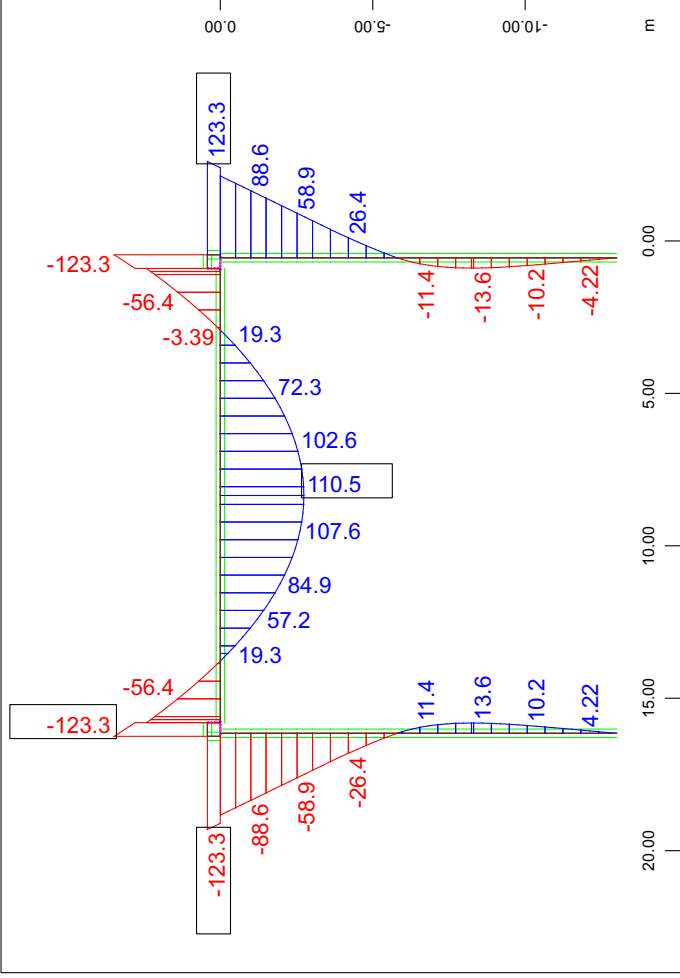
Geometria ponticello
Rappresentazione sollecitazioni elementari



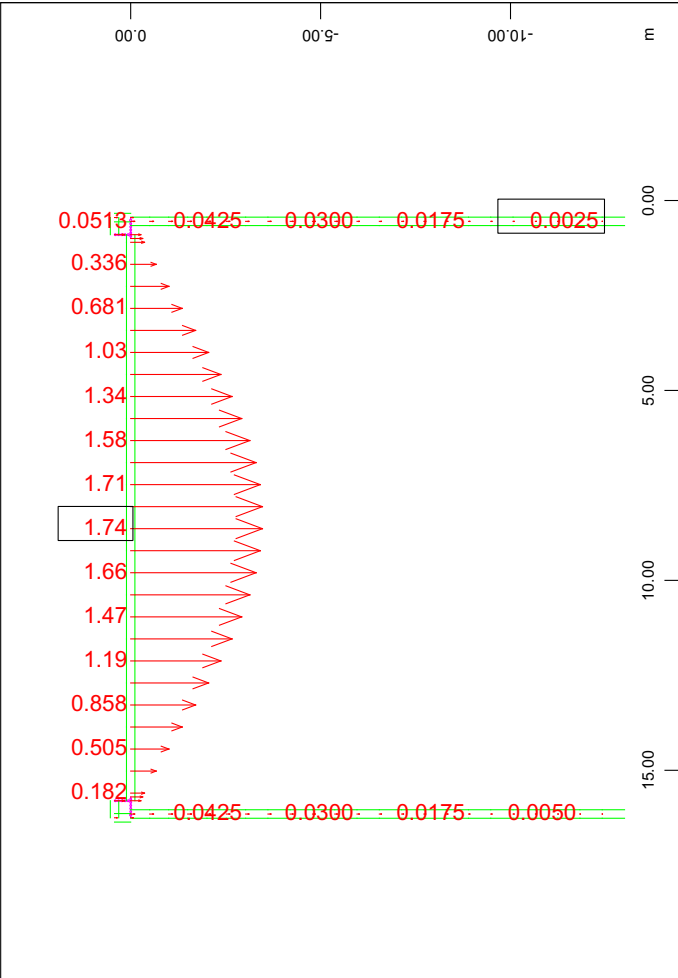
Geometria ponticello
Rappresentazione sollecitazioni elementari



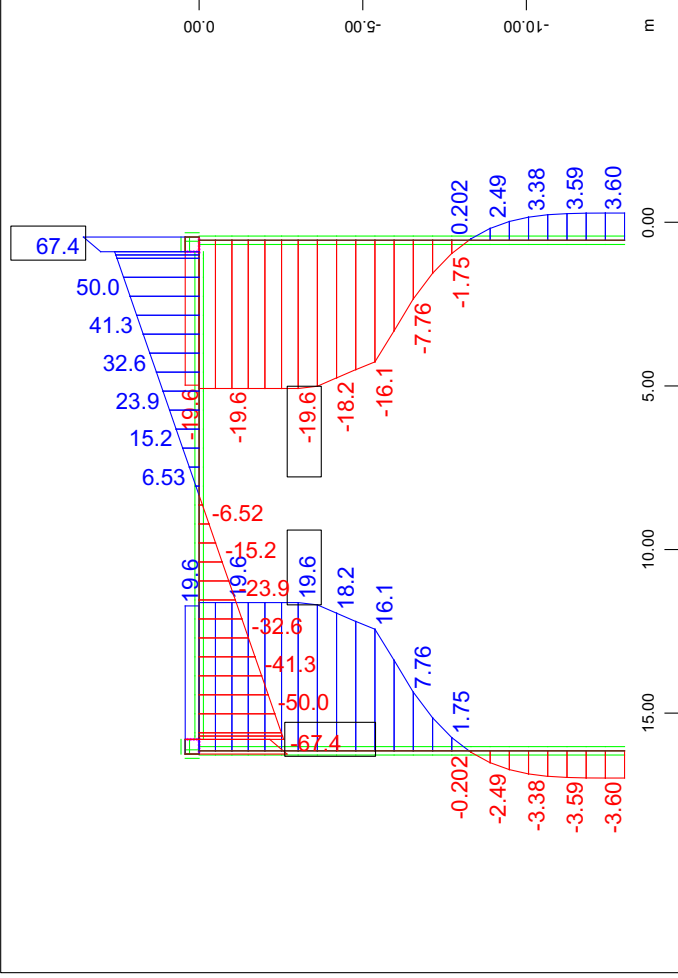
Beam Elements , Normal force N_x , Loadcase 2 Pp
soletta+retrotr. , 1 cm = 50.0 kN (Min=-67.4) (Max=-19.6)



Beam Elements , Bending moment M_y , Loadcase 2 Pp
soletta+retrotr. , 1 cm = 100.0 kNm (Min=-123.3) (Max=110.5)
Beam Elements , Bending moment M_z , Loadcase 2 Pp

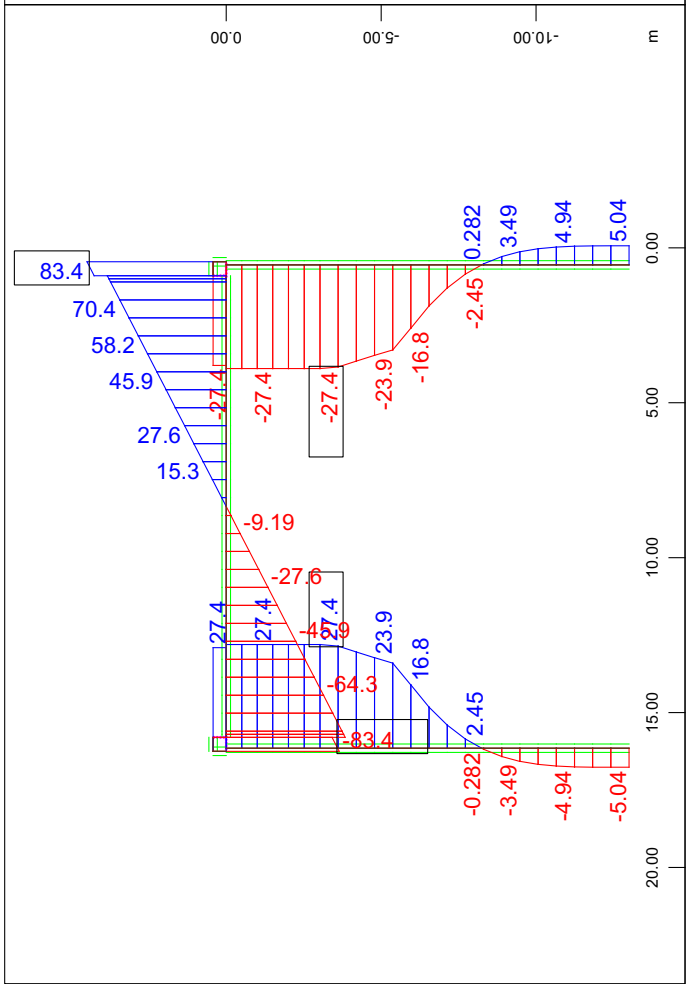
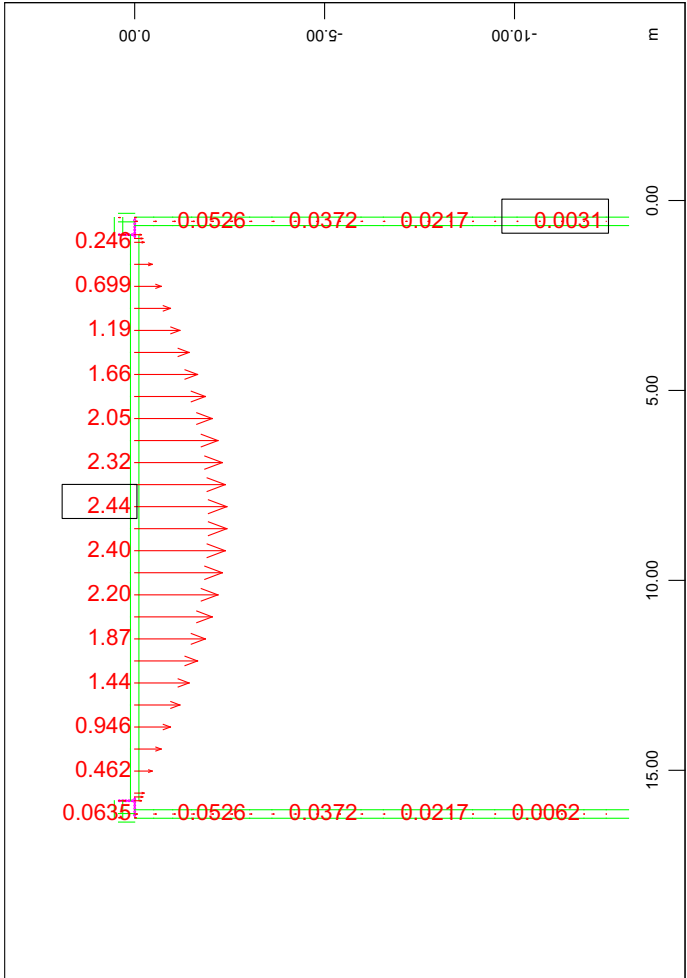
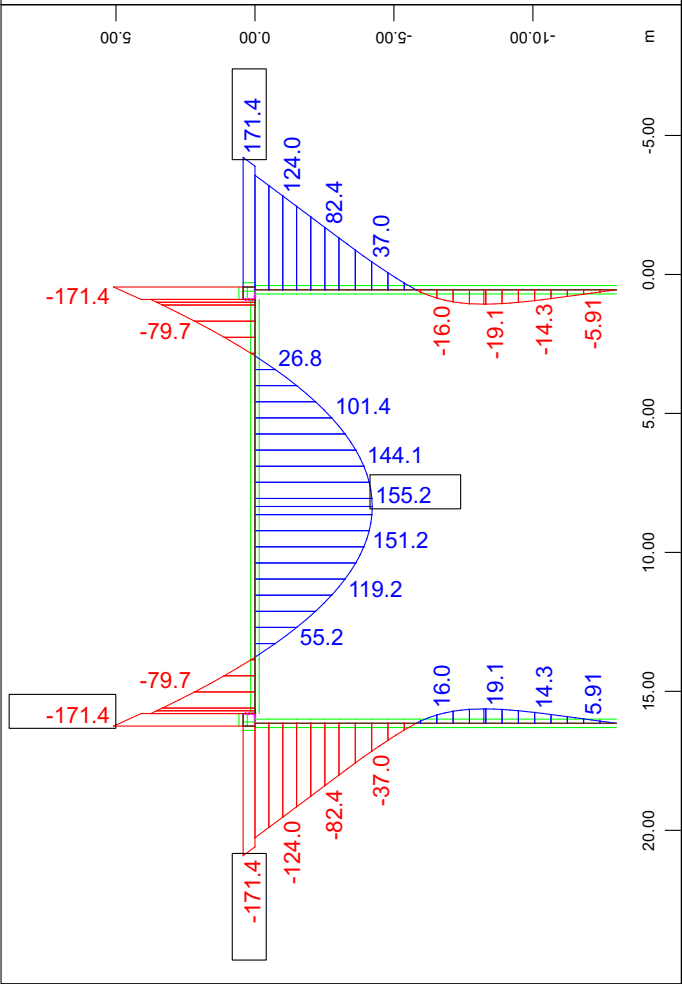
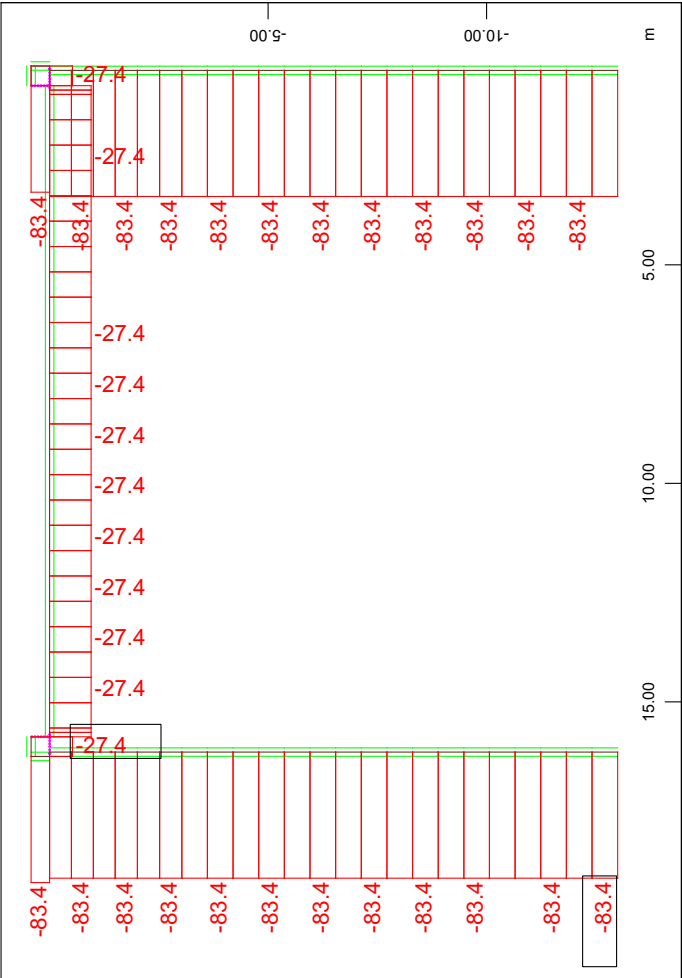


Nodal displacement in global Z, Loadcase 2 Pp soletta+retrotr.
, 1 cm = 1.00 mm (Min=-1.74) (Max=0)

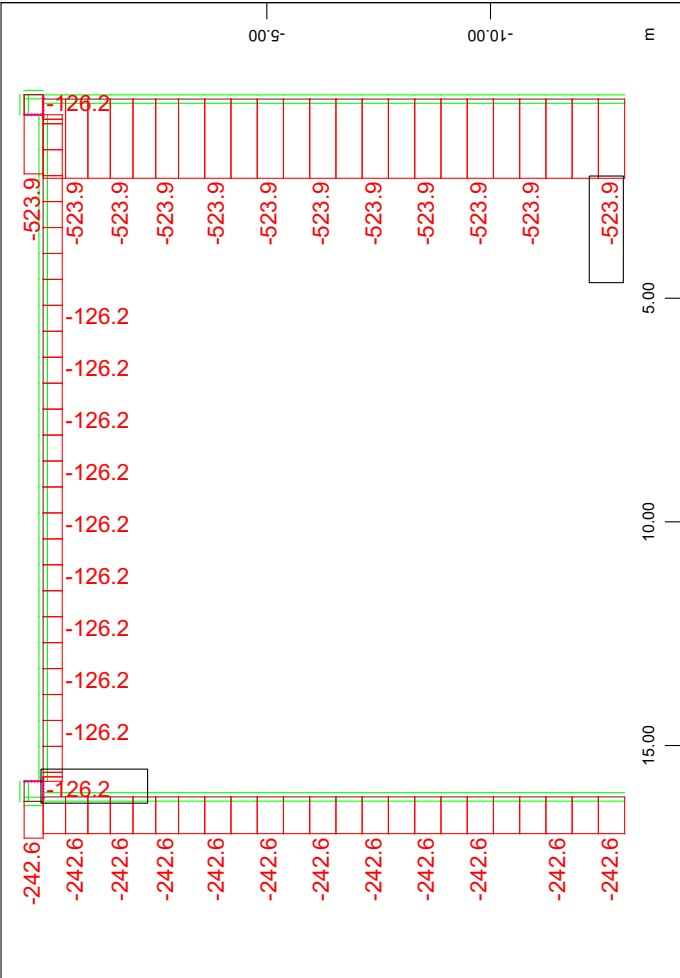


Beam Elements , Shear force V_y , Loadcase 2 Pp soletta+retrotr.
, 1 cm = 10.0 kN (Min=-19.6) (Max=19.6)
Beam Elements , Shear force V_z , Loadcase 2 Pp soletta+retrotr.

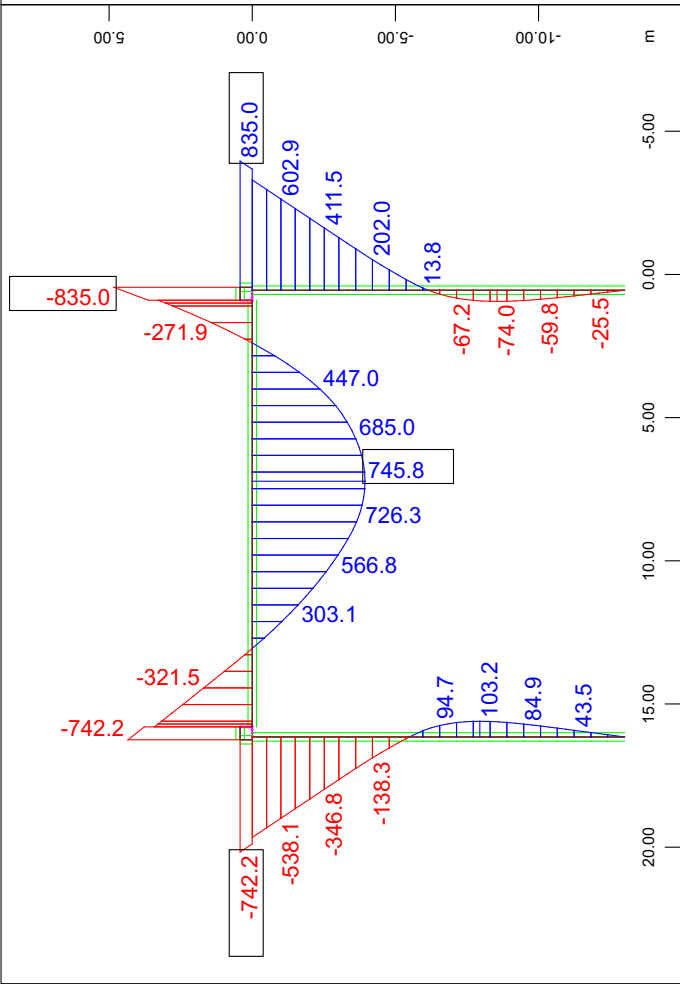
Geometria ponticello
Rappresentazione sollecitazioni elementari



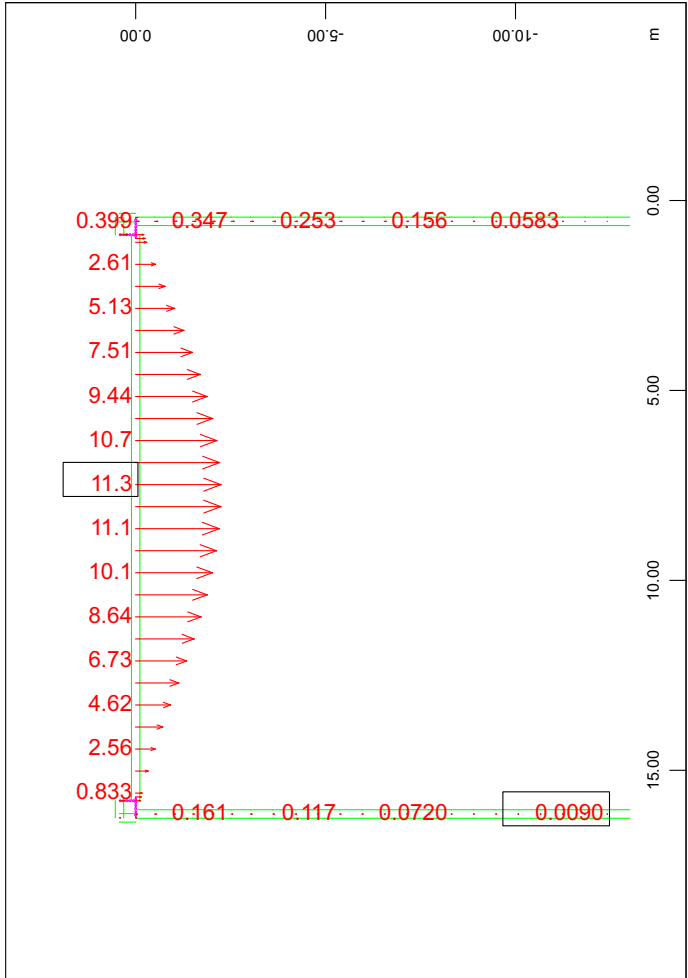
Geometria ponticello
Rappresentazione sollecitazioni elementari



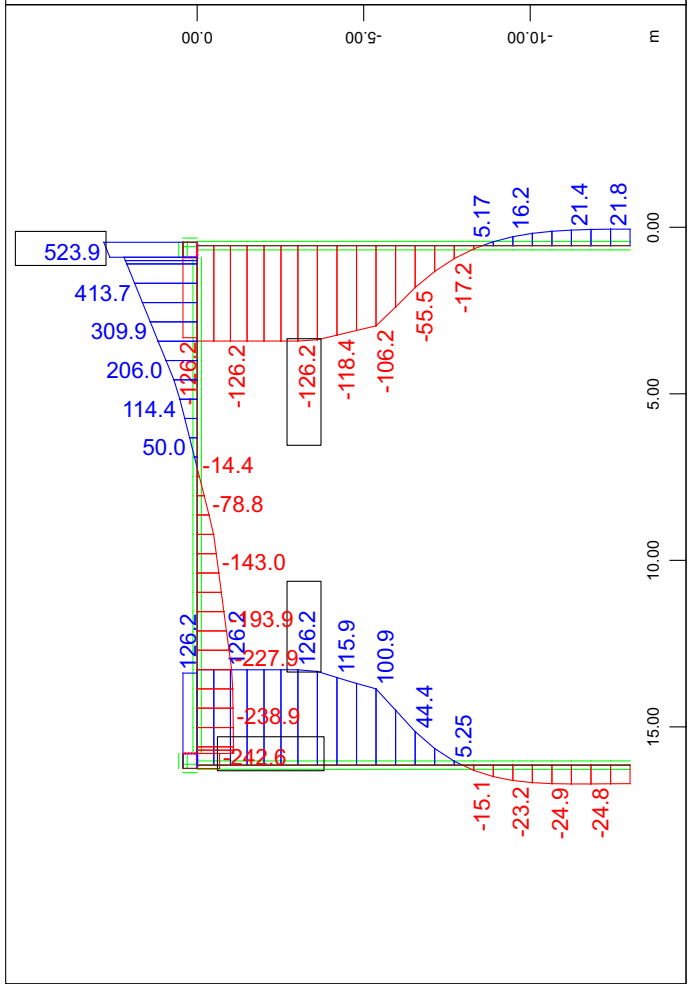
M 1 : 169
Beam Elements , Normal force N_x , Loadcase 4 Q 1 , 1 cm = 500.0 kN (Min=-523.9) (Max=-126.2)



M 1 : 264
Beam Elements , Bending moment M_y , Loadcase 4 Q 1 , 1 cm = 500.0 kNm (Min=-835.0) (Max=745.8)

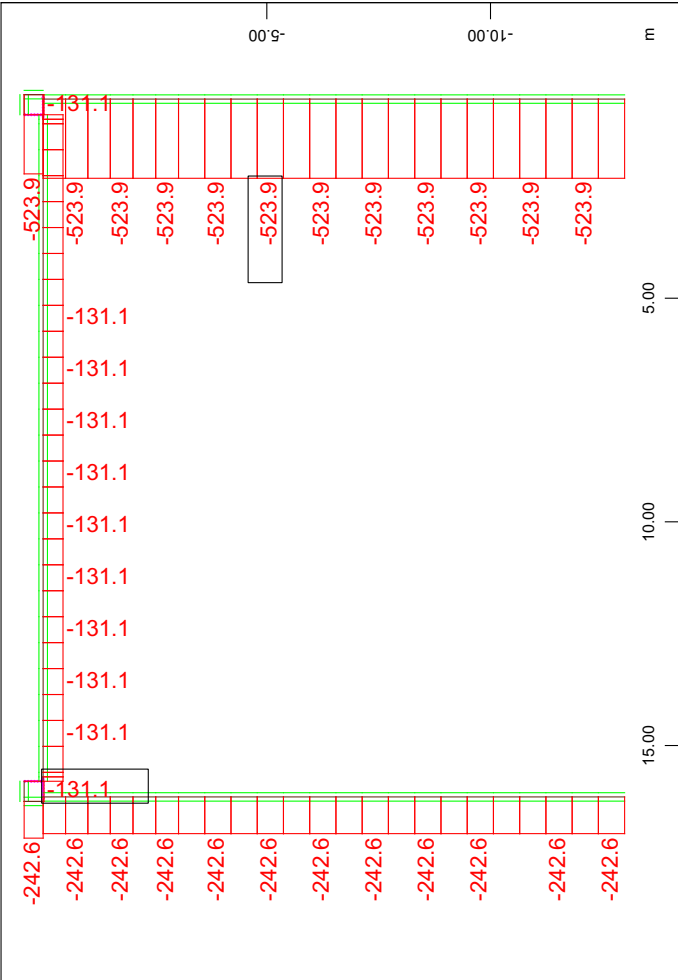


M 1 : 199
Nodal displacement in global Z, Loadcase 4 Q 1 , 1 cm = 10.0 mm (Min=-11.3) (Max=0)

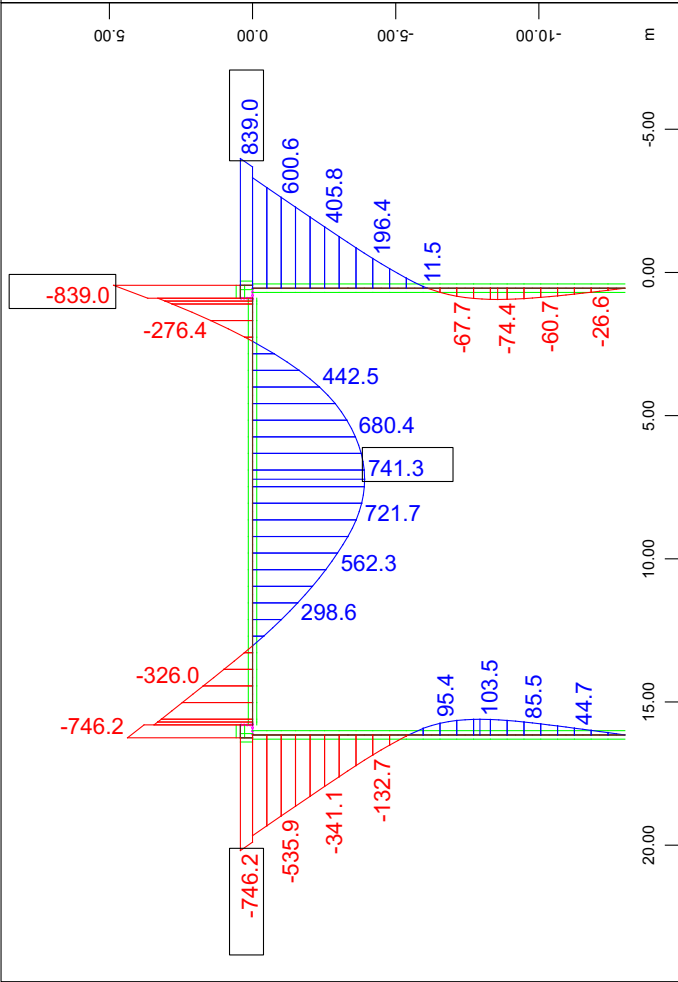


M 1 : 227
Beam Elements , Shear force V_y , Loadcase 4 Q 1 , 1 cm = 100.0 kN (Min=-126.2) (Max=126.2)

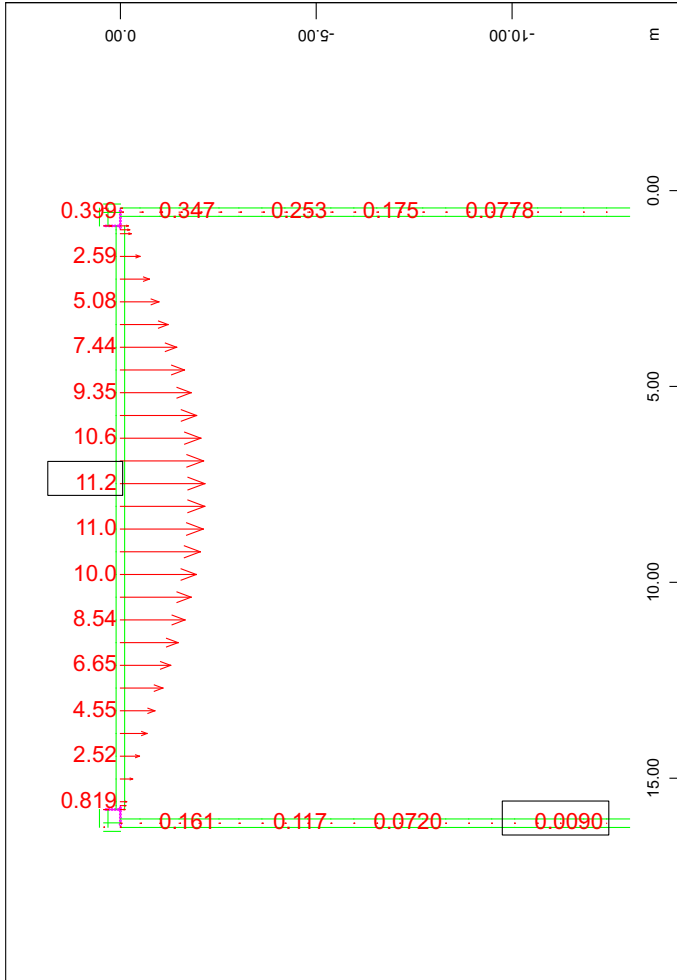
Geometria ponticello
Rappresentazione sollecitazioni elementari



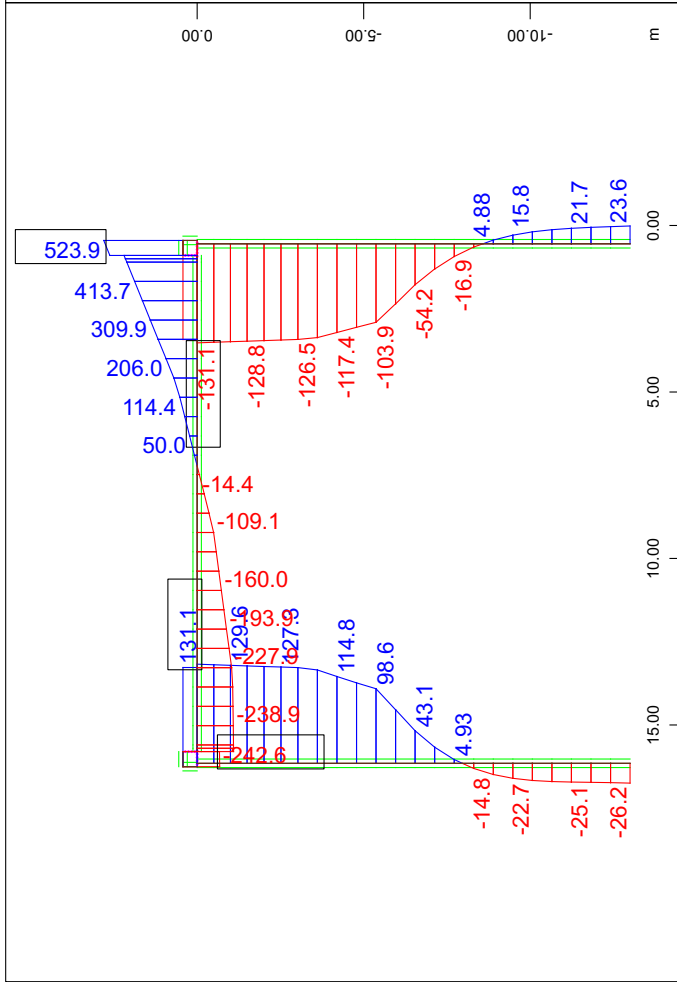
M 1 : 169
Beam Elements , Normal force N_x , Loadcase 5 Q 1_1 , 1 cm = 500.0 kN (Min=-523.9) (Max=-131.1)
Z
X → Y



M 1 : 264
Beam Elements , Bending moment M_y , Loadcase 5 Q 1_1 , 1 cm = 500.0 kNm (Min=-839.0) (Max=741.3)
Z
X → Y

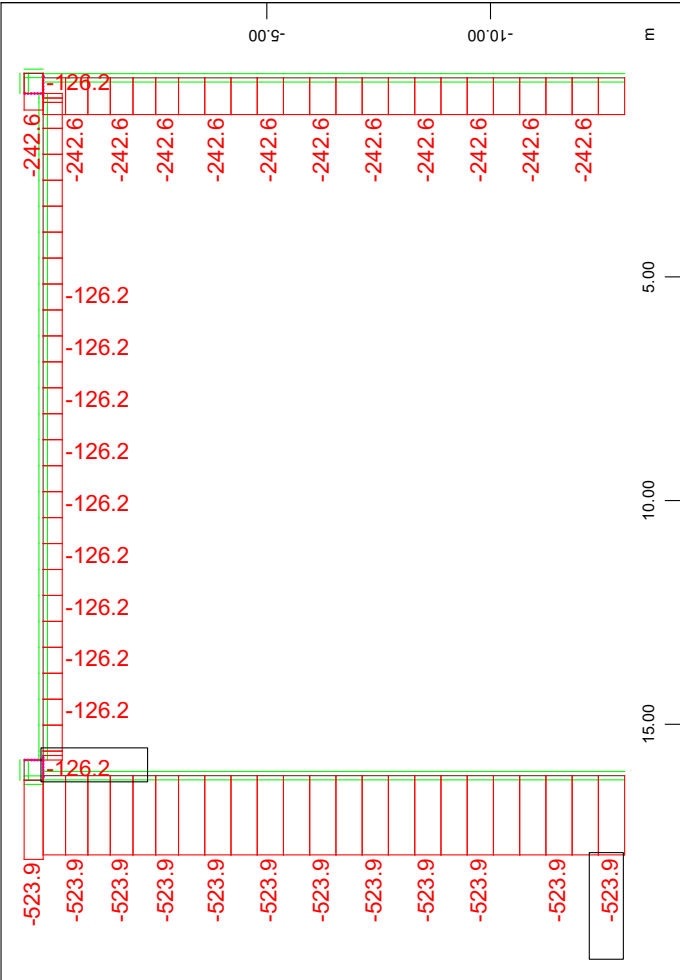


M 1 : 193
Nodal displacement in global Z, Loadcase 5 Q 1_1 , 1 cm = 10.0 mm (Min=-11.2) (Max=0)
Z
X → Y

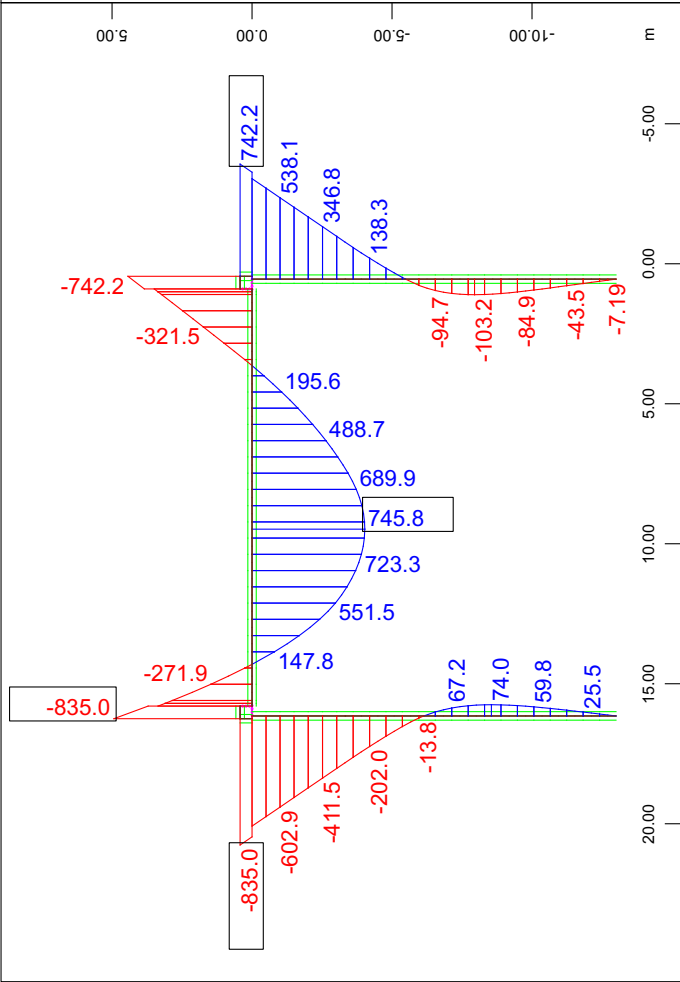


M 1 : 227
Beam Elements , Shear force V_y , Loadcase 5 Q 1_1 , 1 cm = 100.0 kN (Min=-131.1) (Max=131.1)
Z
X → Y

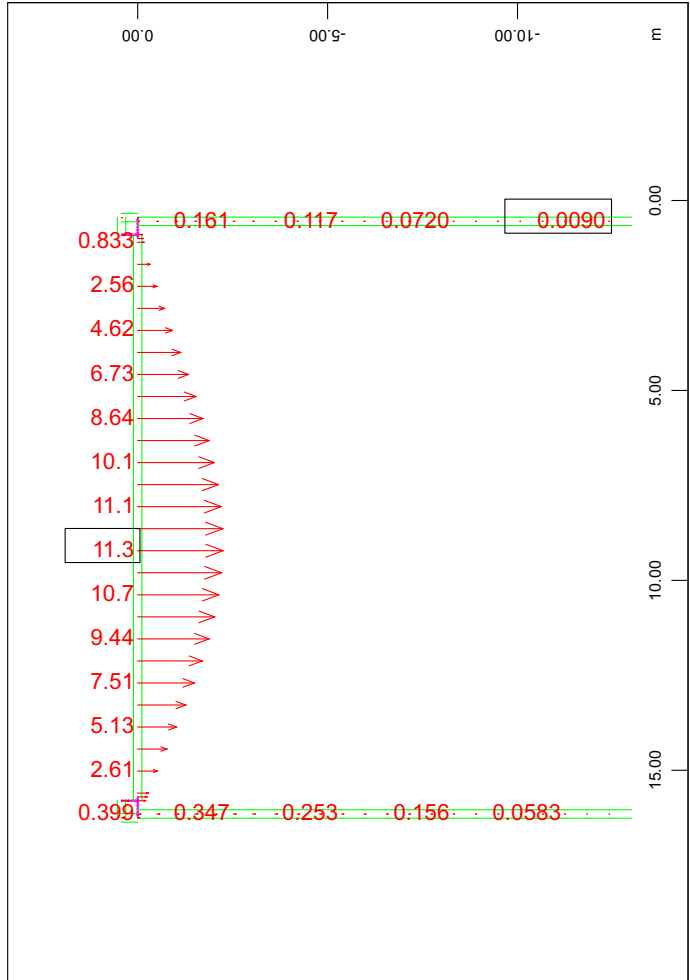
Geometria ponticello
Rappresentazione sollecitazioni elementari



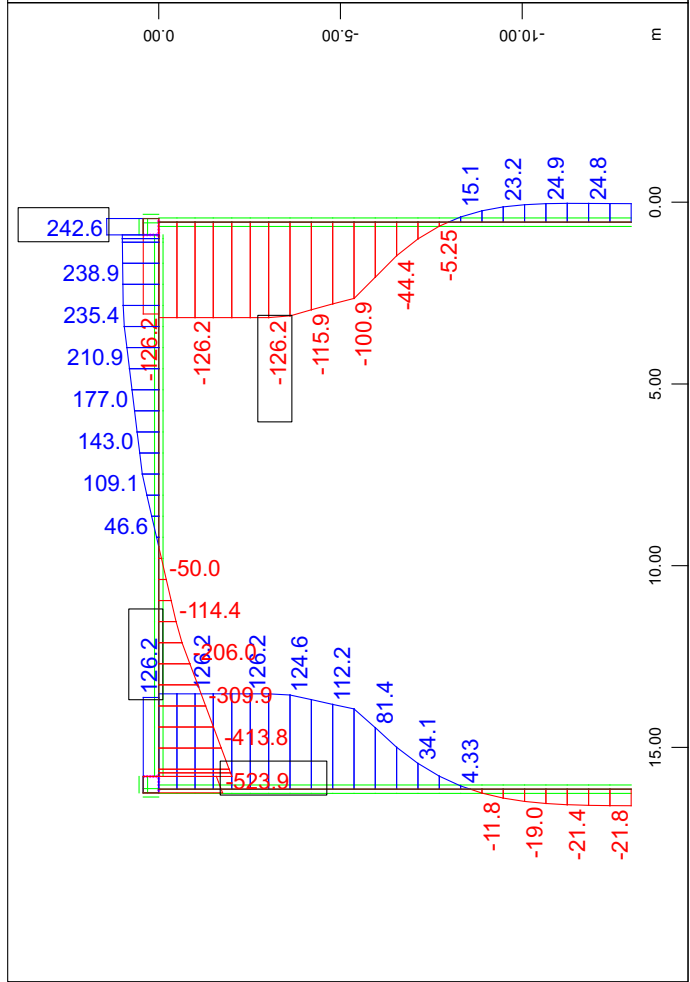
M 1 : 169
Beam Elements , Normal force N_x , Loadcase 6 Q 2 , 1 cm = 500.0 kN (Min=-523.9) (Max=-126.2)



M 1 : 270
Beam Elements , Bending moment M_y , Loadcase 6 Q 2 , 1 cm = 500.0 kNm (Min=-835.0) (Max=745.8)
Beam Elements , Bending moment M_z , Loadcase 6 Q 2 , 1 cm =

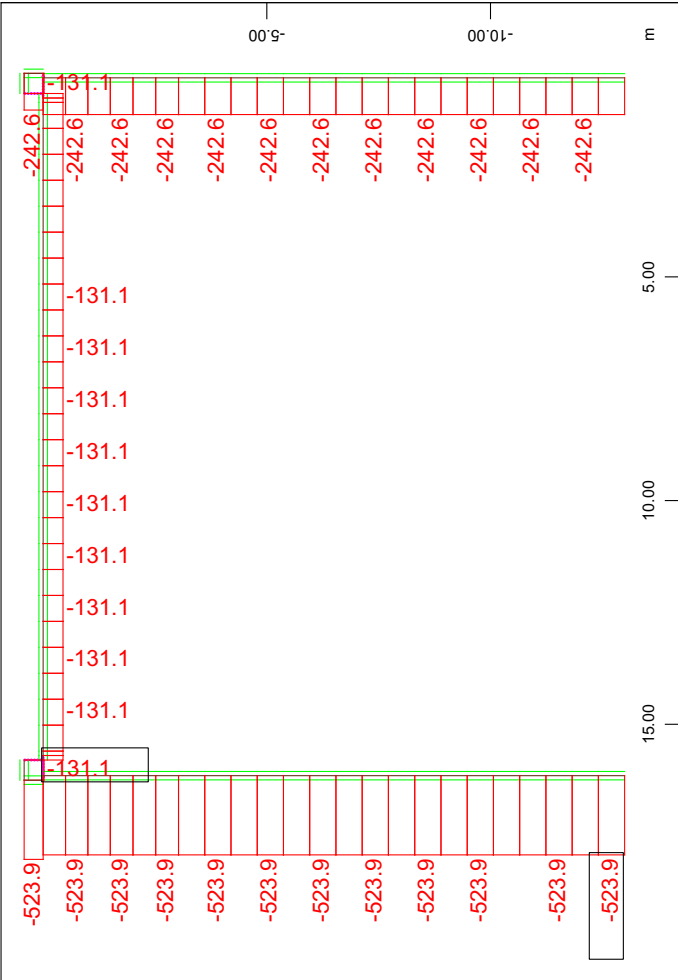


M 1 : 199
Nodal displacement in global Z, Loadcase 6 Q 2 , 1 cm = 10.0
mm (Min=-11.3) (Max=0)

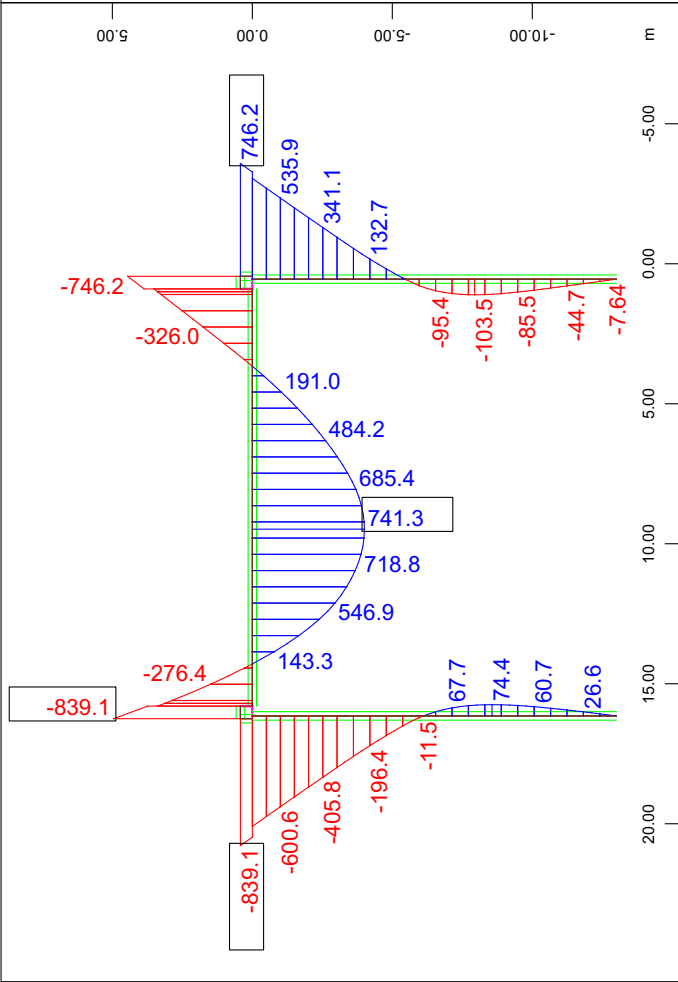


M 1 : 208
Beam Elements , Shear force V_y , Loadcase 6 Q 2 , 1 cm = 100.0 kN (Min=-126.2) (Max=126.2)
Beam Elements , Shear force V_z , Loadcase 6 Q 2 , 1 cm =

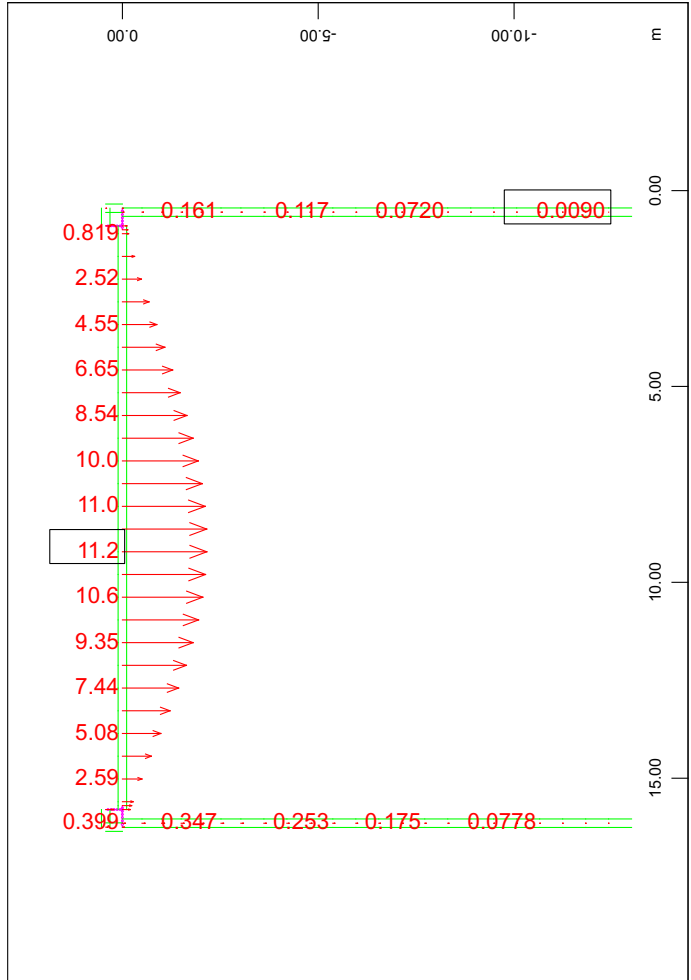
Geometria ponticello
Rappresentazione sollecitazioni elementari



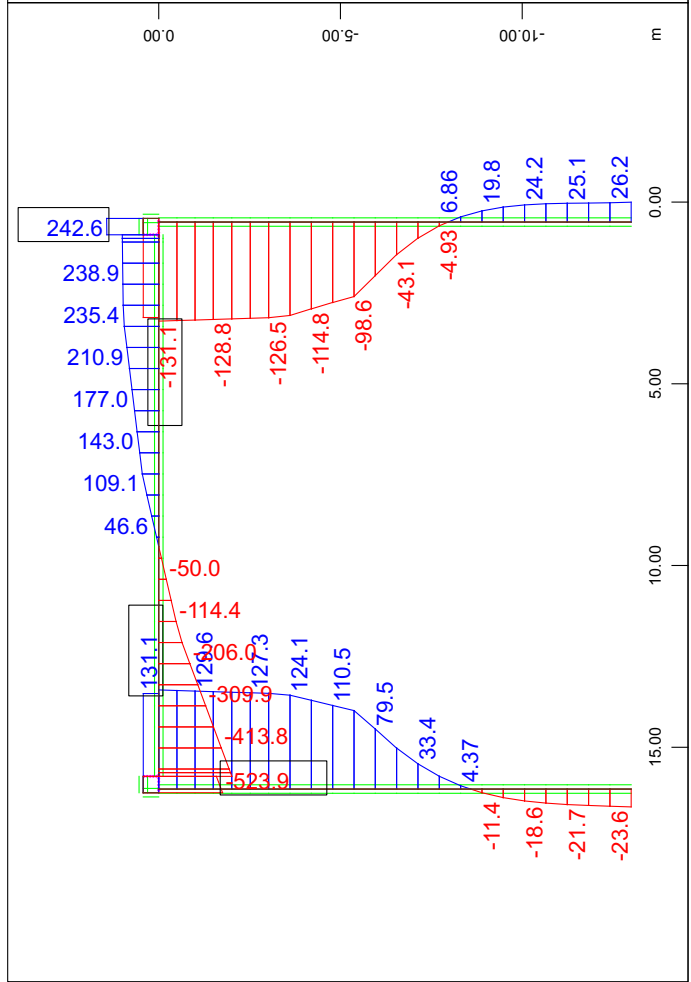
M 1 : 169
Beam Elements , Normal force N_x , Loadcase 7 Q 2_1 , 1 cm = 500.0 kN (Min=-523.9) (Max=-131.1)



M 1 : 270
Beam Elements , Bending moment M_y , Loadcase 7 Q 2_1 , 1 cm = 500.0 kNm (Min=-839.1) (Max=741.3)

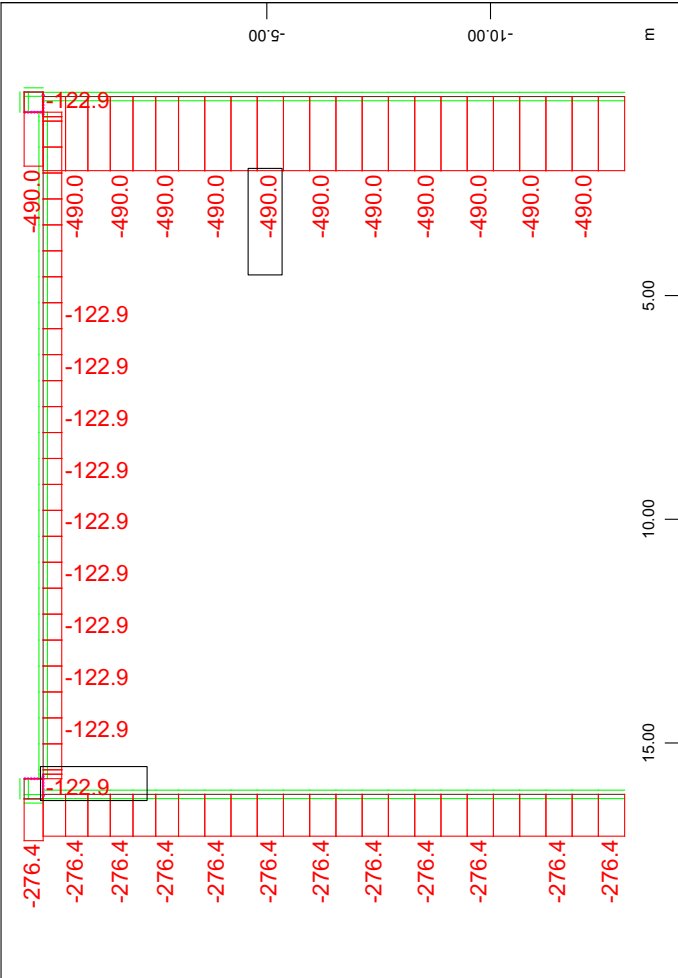


M 1 : 193
Nodal displacement in global Z, Loadcase 7 Q 2_1 , 1 cm = 10.0 mm (Min=-11.2) (Max=0)



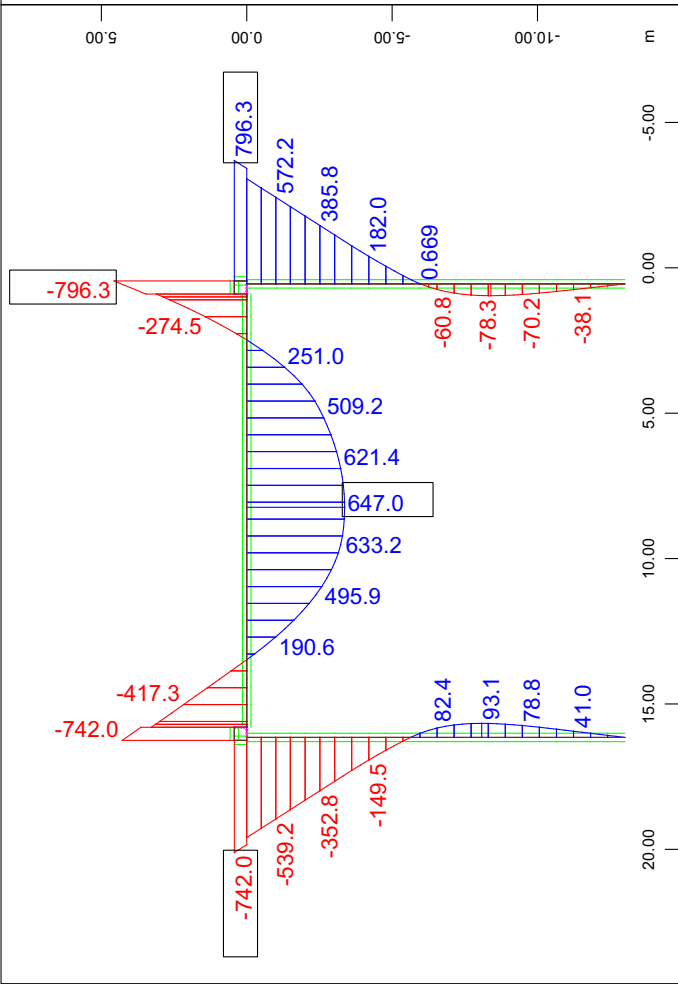
M 1 : 208
Beam Elements , Shear force V_z , Loadcase 7 Q 2_1 , 1 cm = 100.0 kN (Min=-131.1) (Max=131.1)

Geometria ponticello
Rappresentazione sollecitazioni elementari



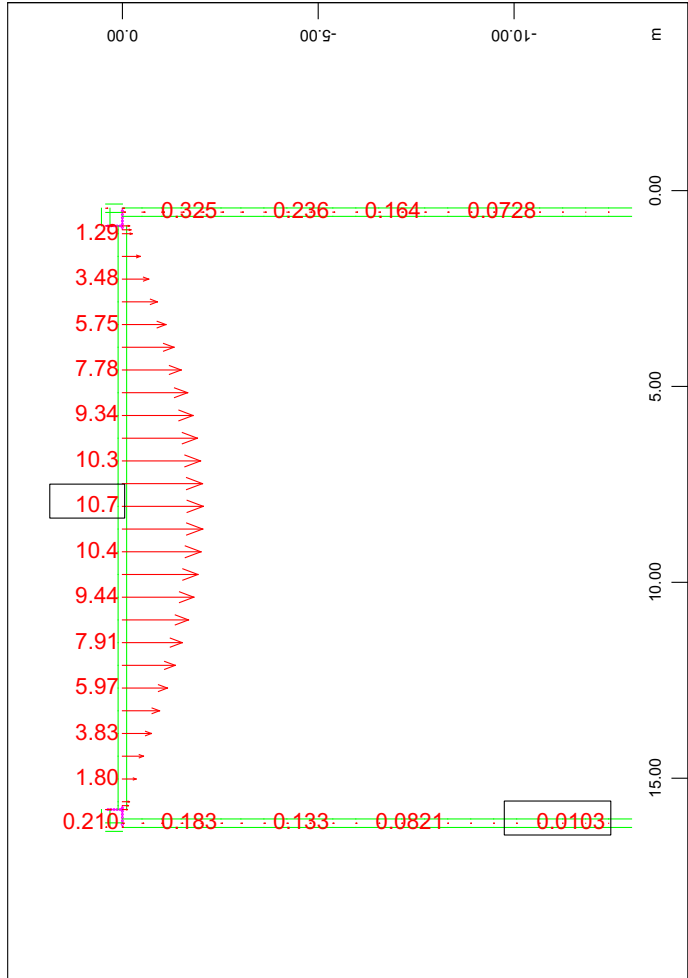
M 1 : 169
Beam Elements , Normal force N_x , Loadcase 8 Q 3 , 1 cm = 500.0 kN (Min=-490.0) (Max=-122.9)

Z
X

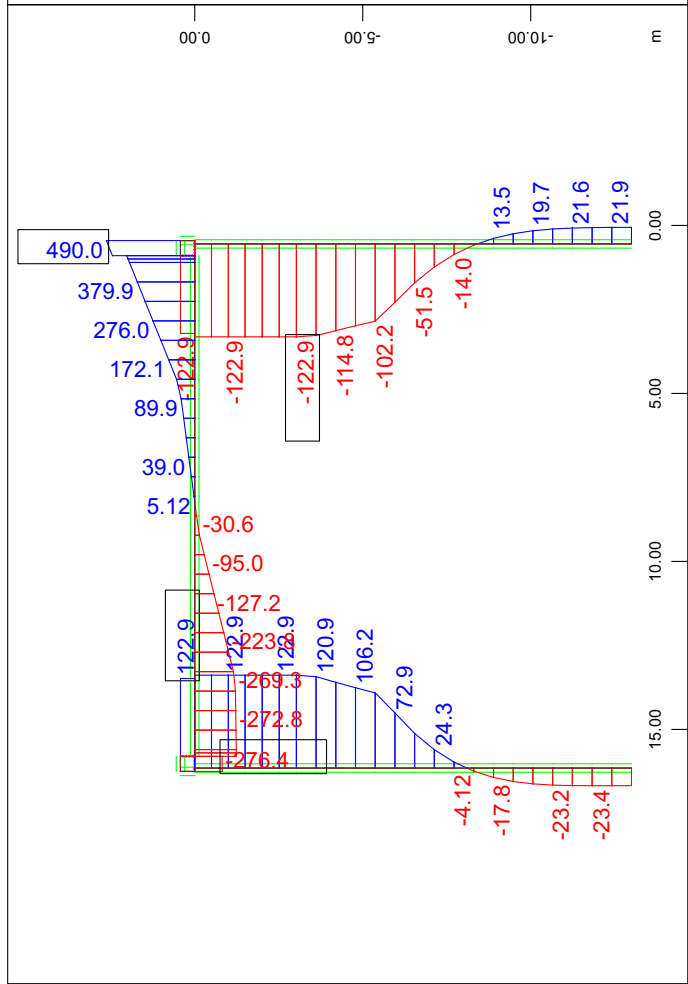


M 1 : 260
Beam Elements , Bending moment M_y , Loadcase 8 Q 3 , 1 cm = 500.0 kNm (Min=-796.3) (Max=647.4)
Beam Elements , Bending moment M_z , Loadcase 8 Q 3 , 1 cm =

Z
X



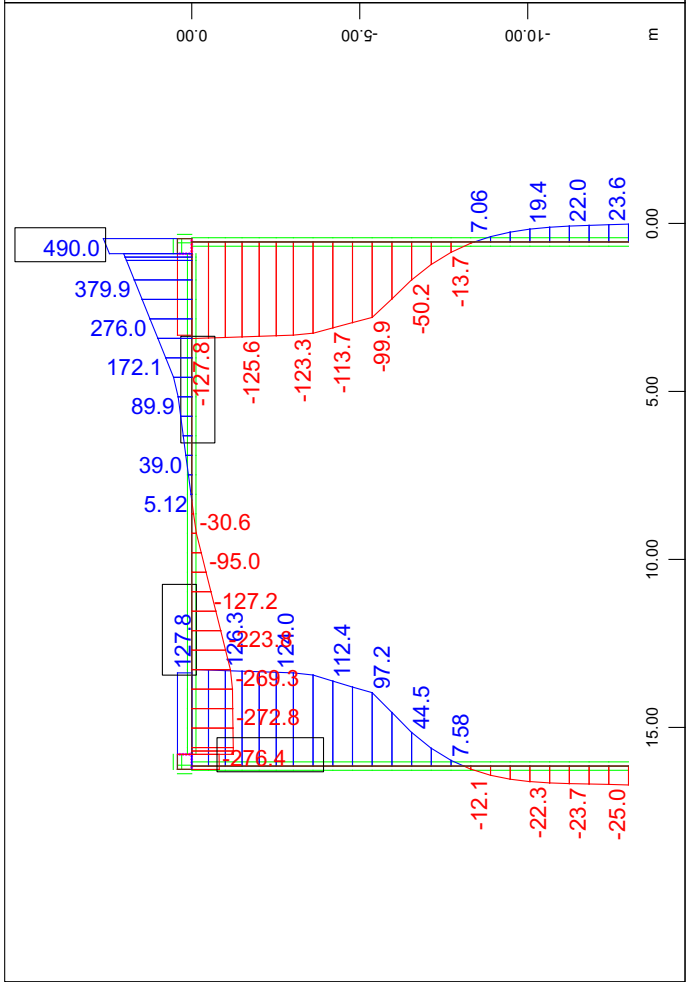
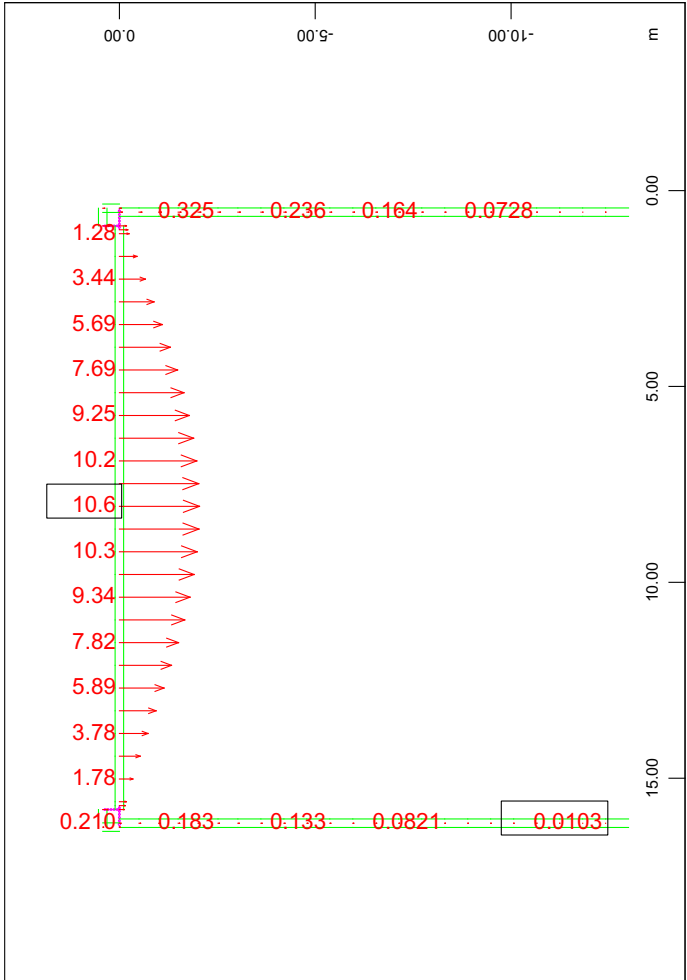
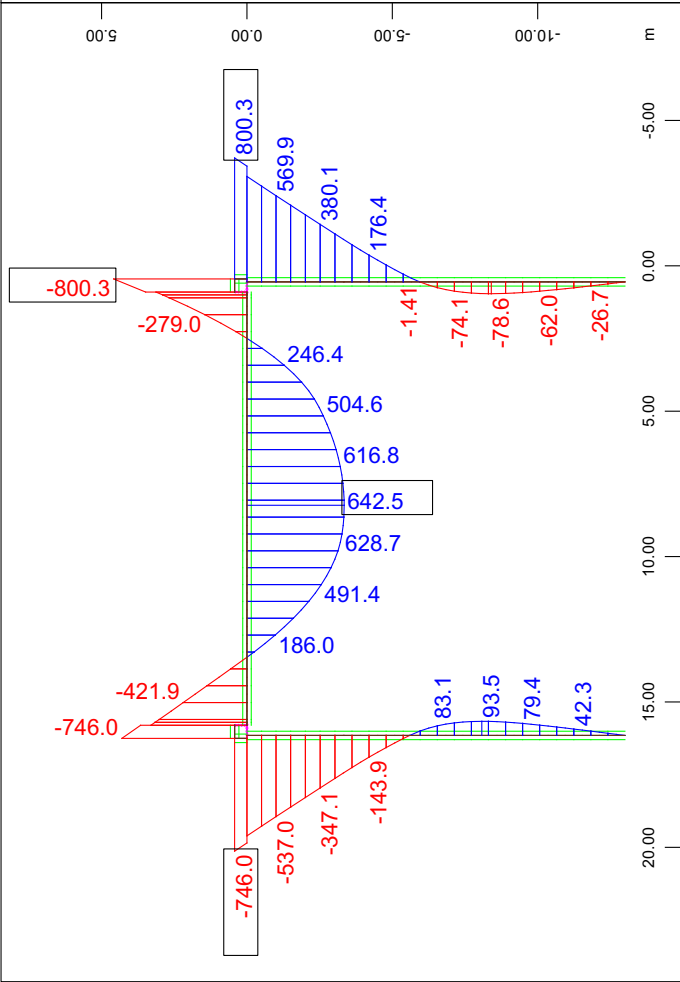
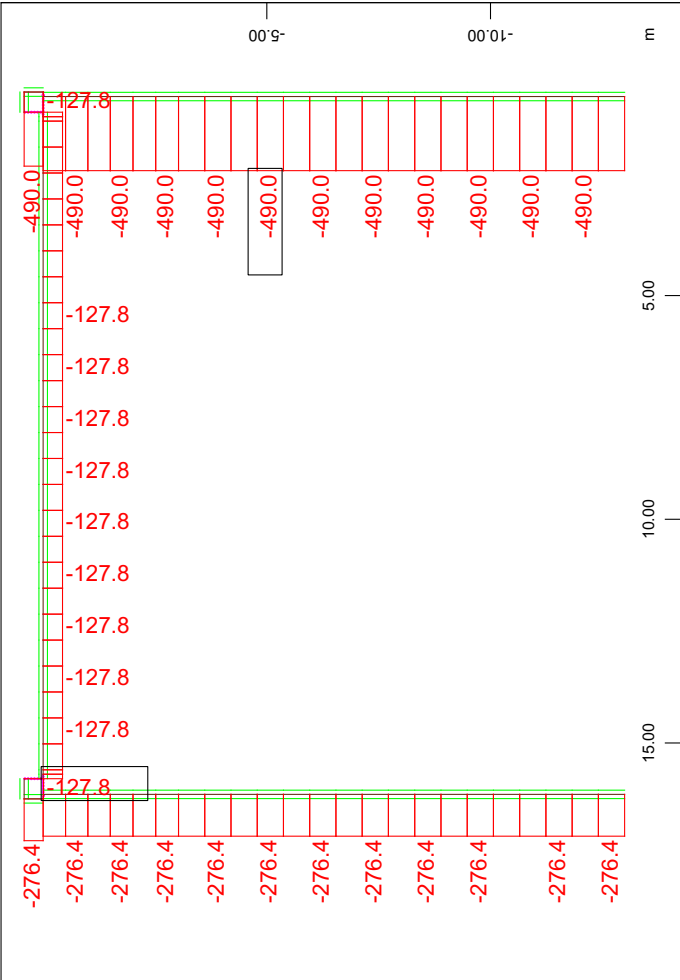
M 1 : 193
Nodal displacement in global Z, Loadcase 8 Q 3 , 1 cm = 10.0
mm
Z
X



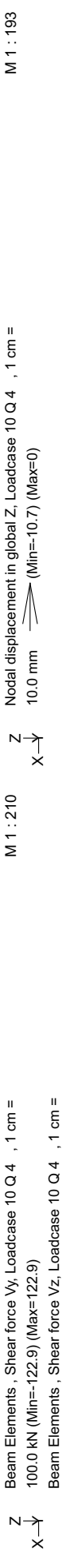
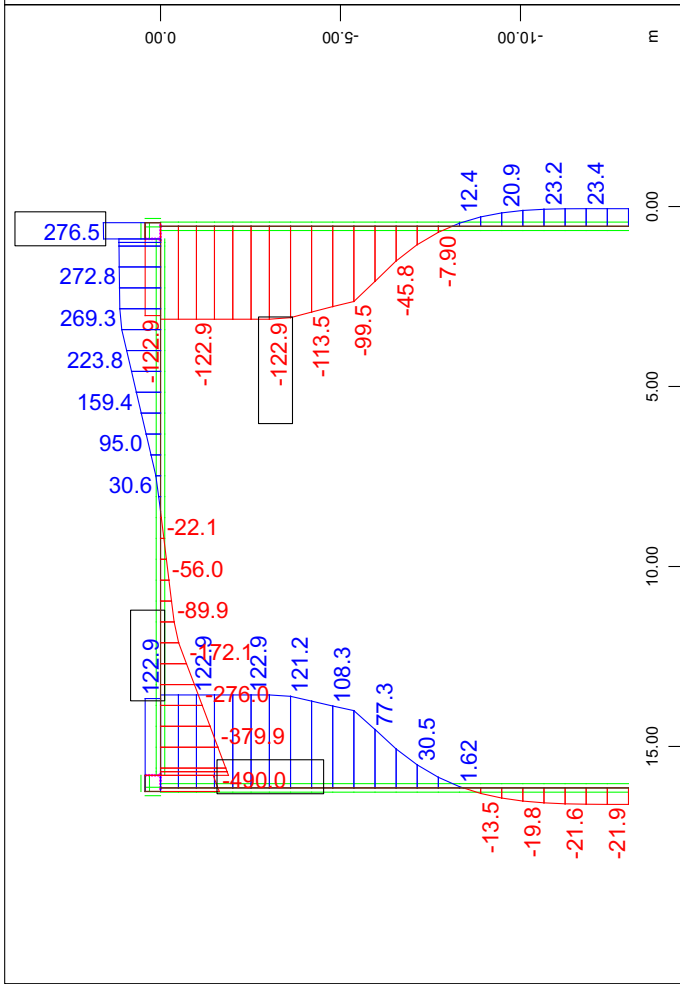
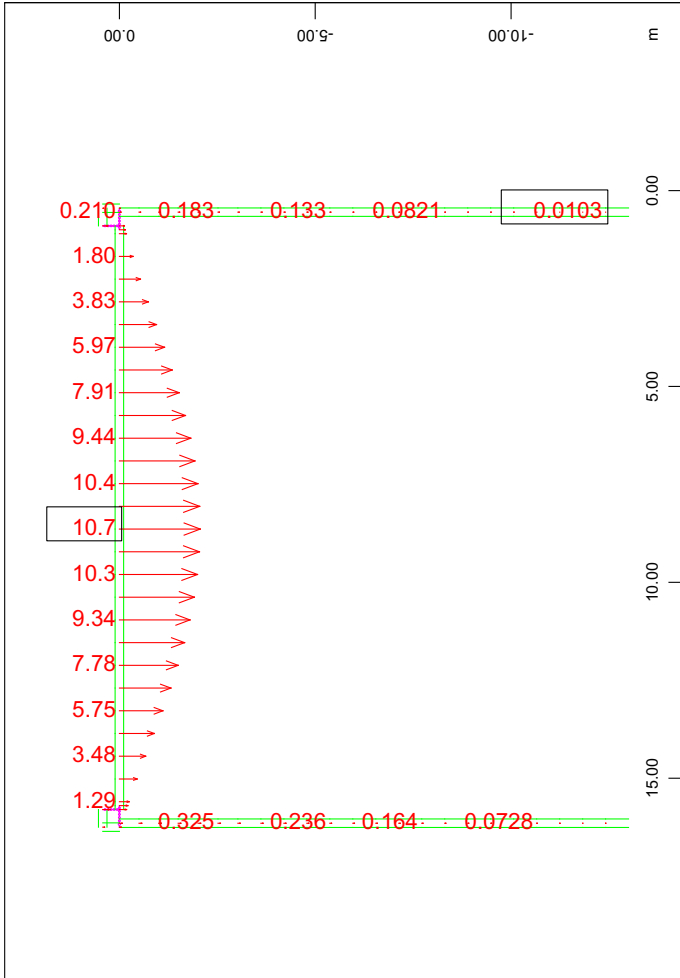
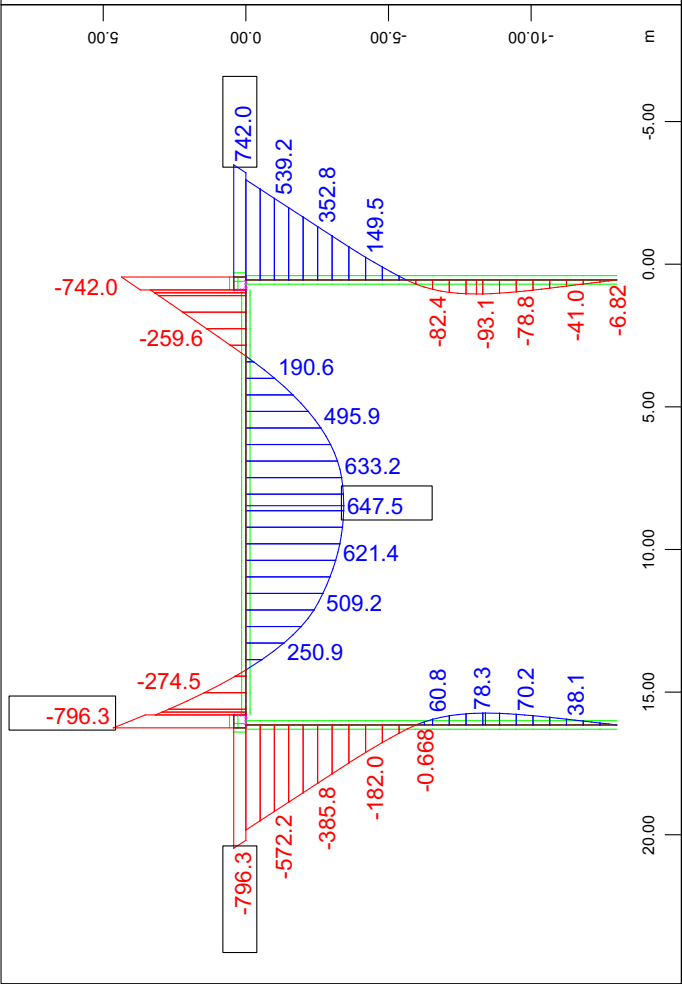
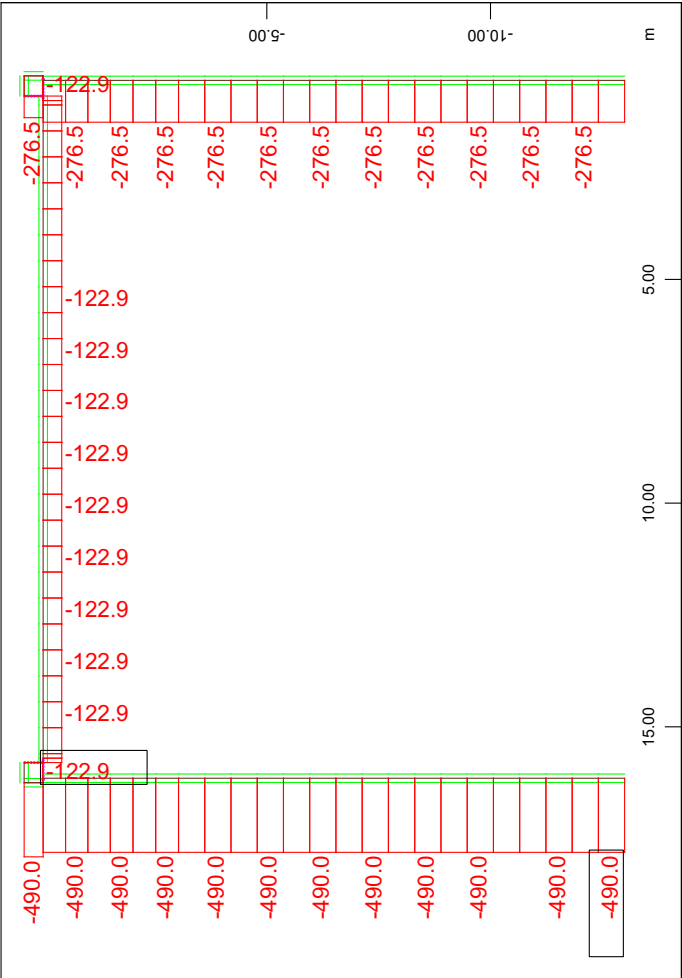
M 1 : 225
Beam Elements , Shear force V_y , Loadcase 8 Q 3 , 1 cm = 100.0 kN (Min=-122.9) (Max=122.9)
Beam Elements , Shear force V_z , Loadcase 8 Q 3 , 1 cm =

Z
X

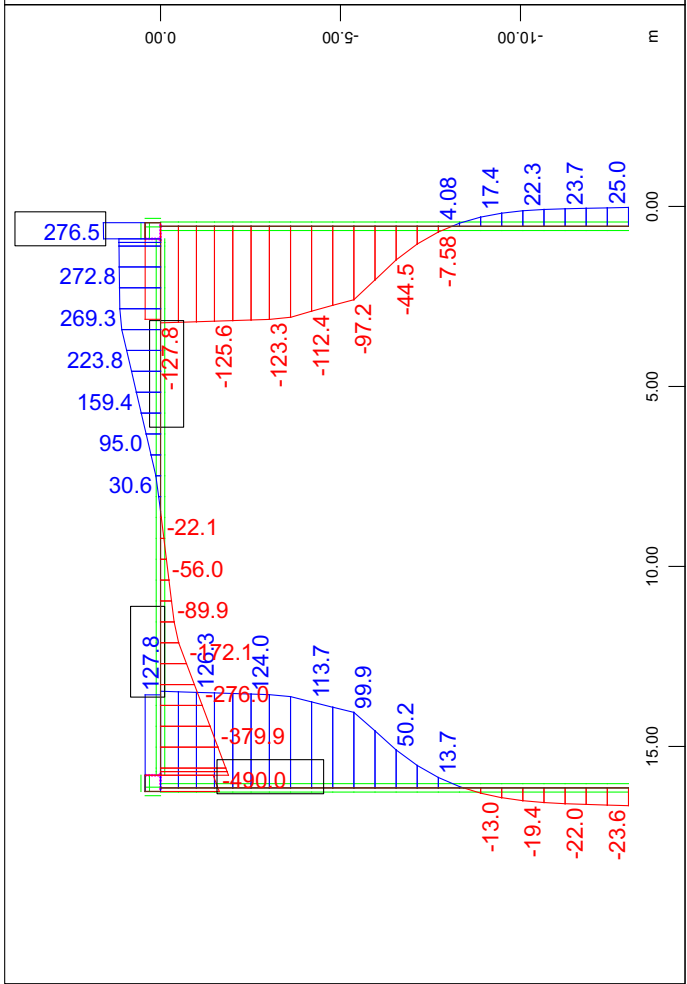
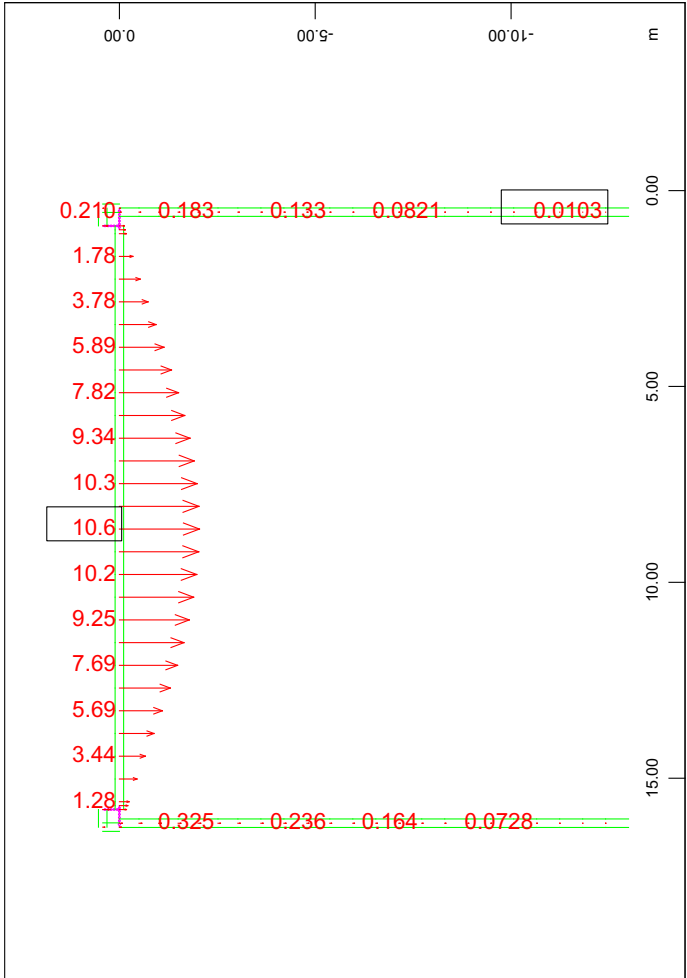
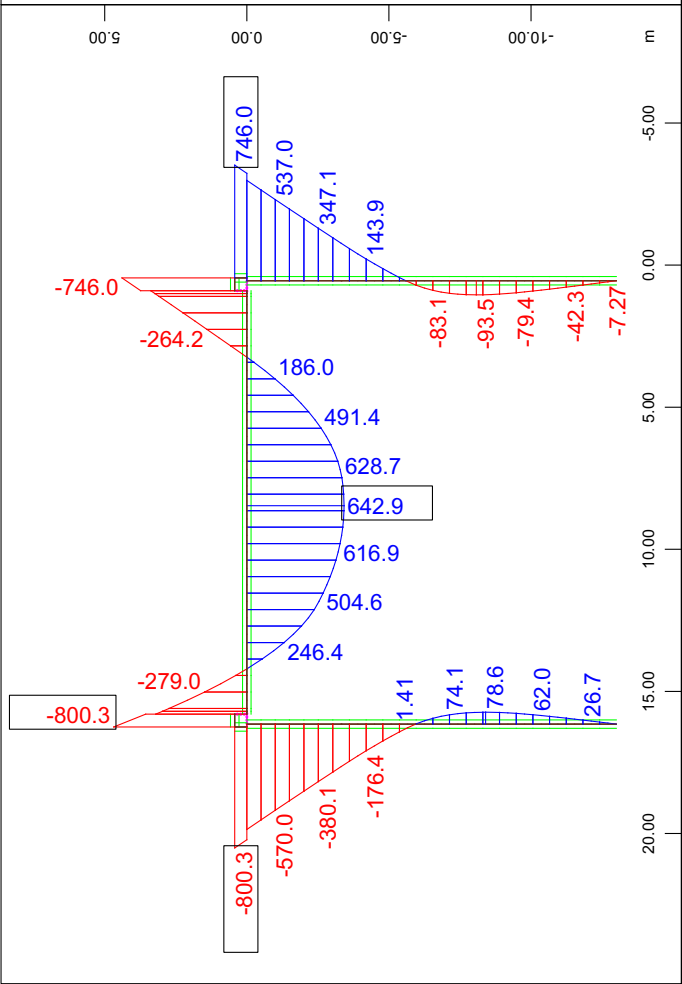
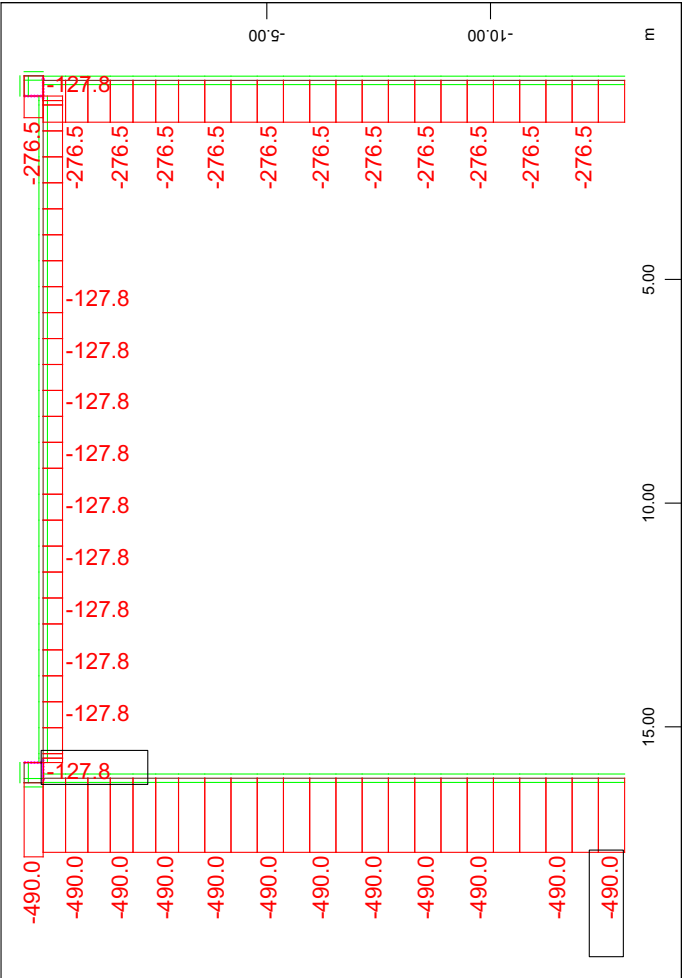
Geometria ponticello
Rappresentazione sollecitazioni elementari



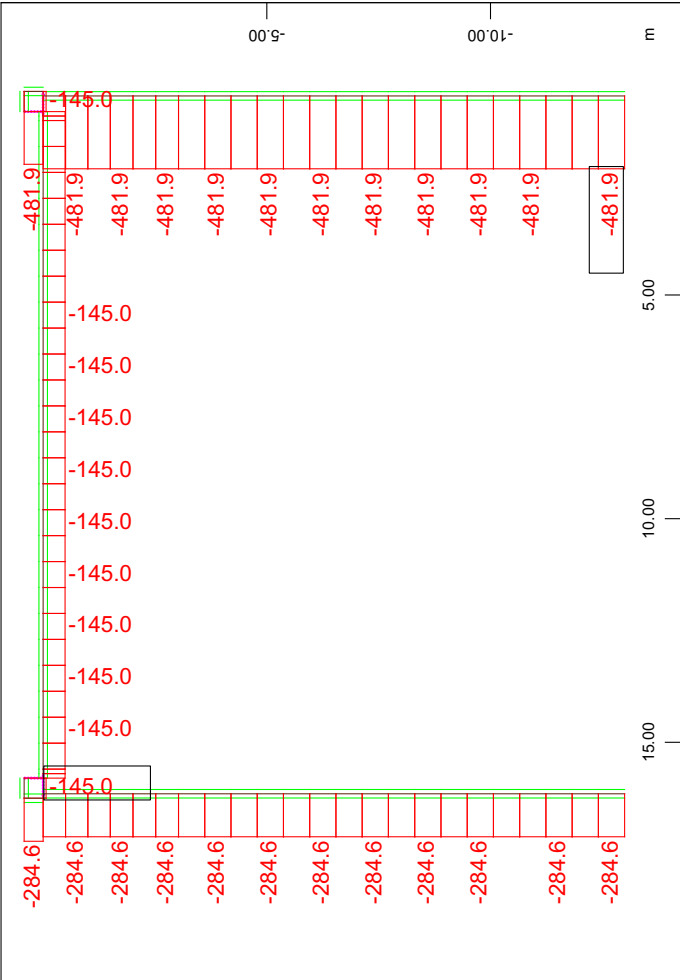
Geometria ponticello
Rappresentazione sollecitazioni elementari



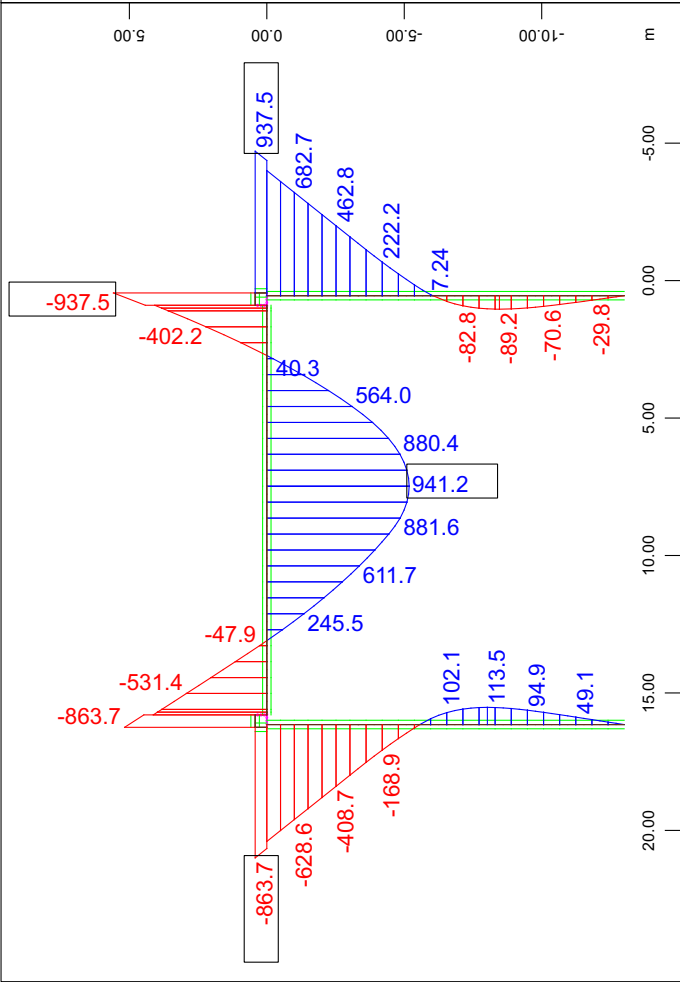
Geometria ponticello
Rappresentazione sollecitazioni elementari



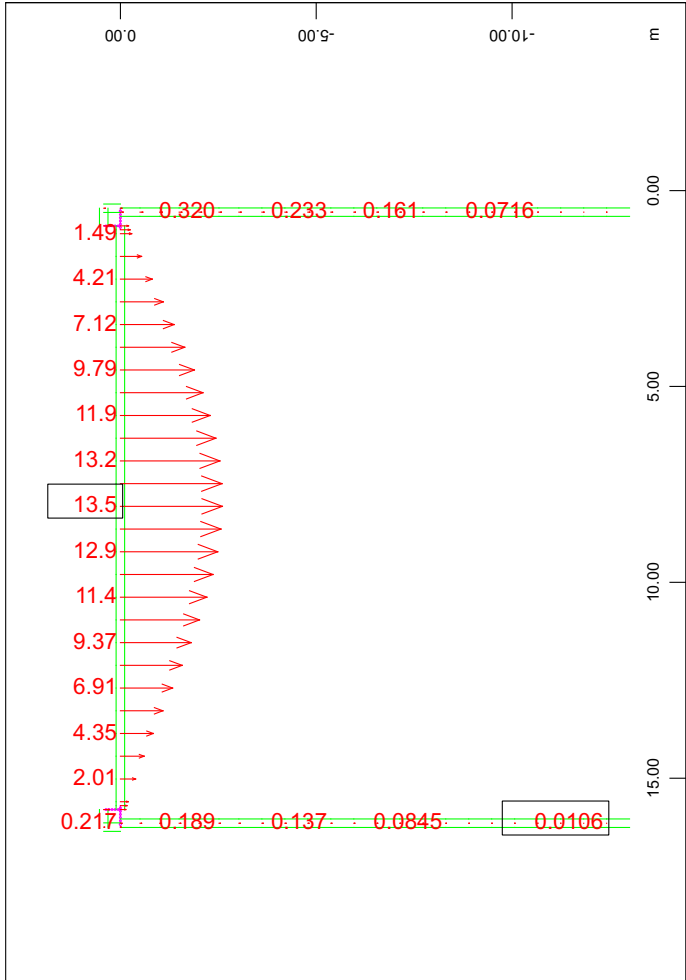
Geometria ponticello
Rappresentazione sollecitazioni elementari



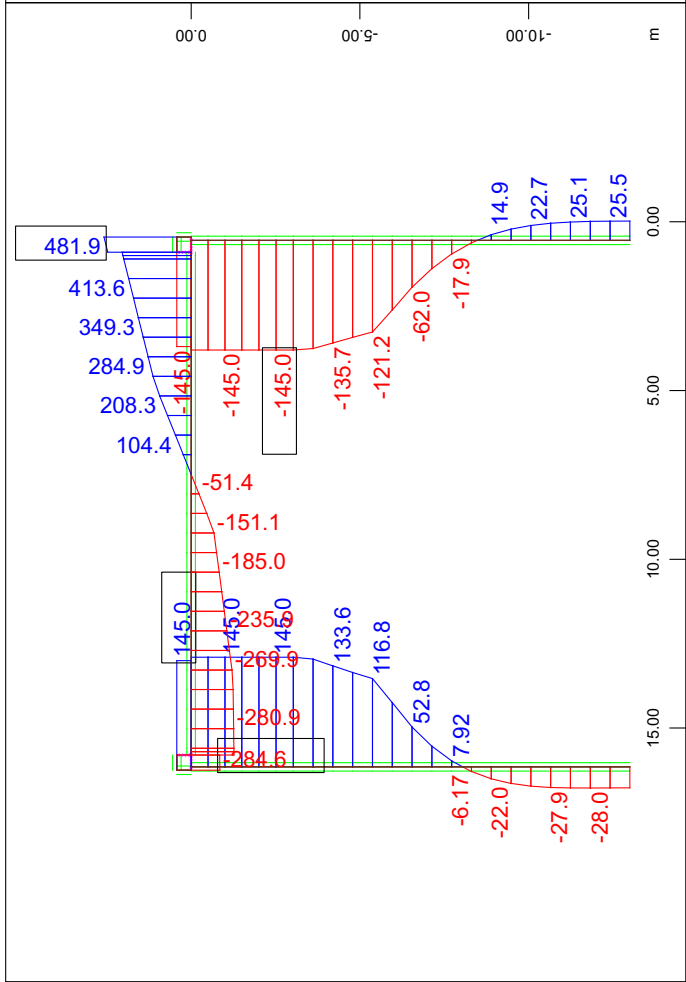
M 1 : 169
Beam Elements , Normal force N_x , Loadcase 12 Q 5 , 1 cm = 500.0 kN (Min=-481.9) (Max=-145.0)



M 1 : 275
Beam Elements , Bending moment M_y , Loadcase 12 Q 5 , 1 cm = 500.0 kNm (Min=-937.5) (Max=941.2)
Beam Elements , Bending moment M_z , Loadcase 12 Q 5 , 1 cm =

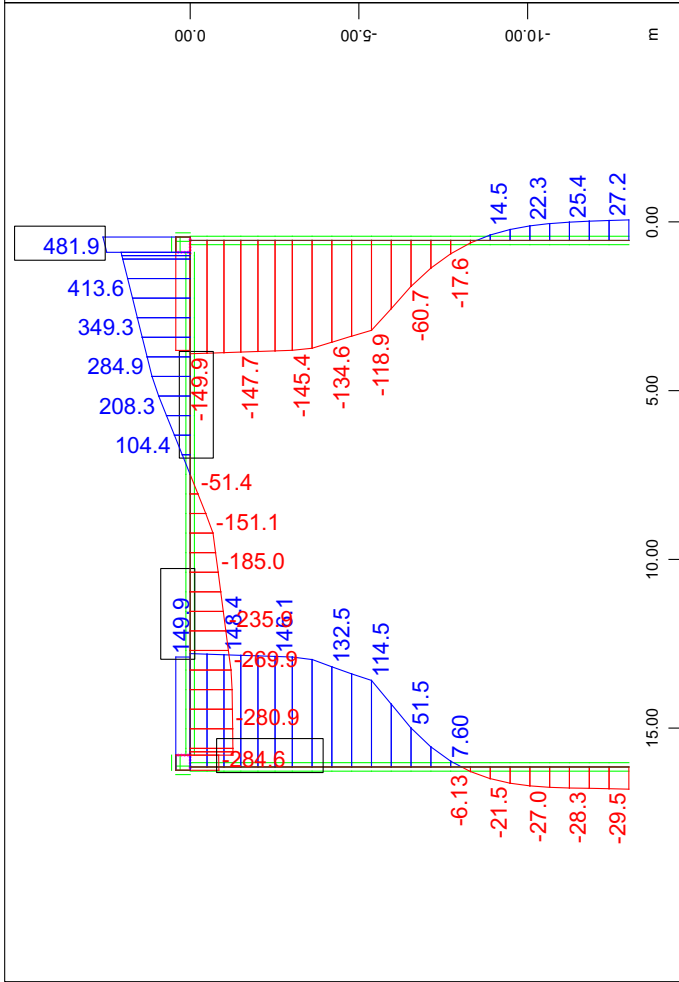
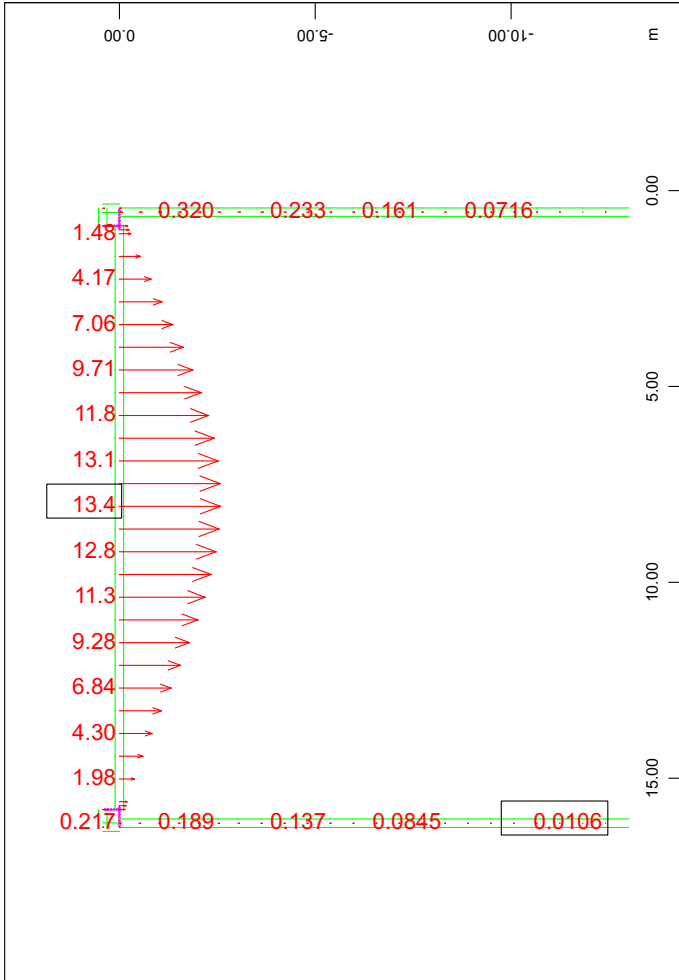
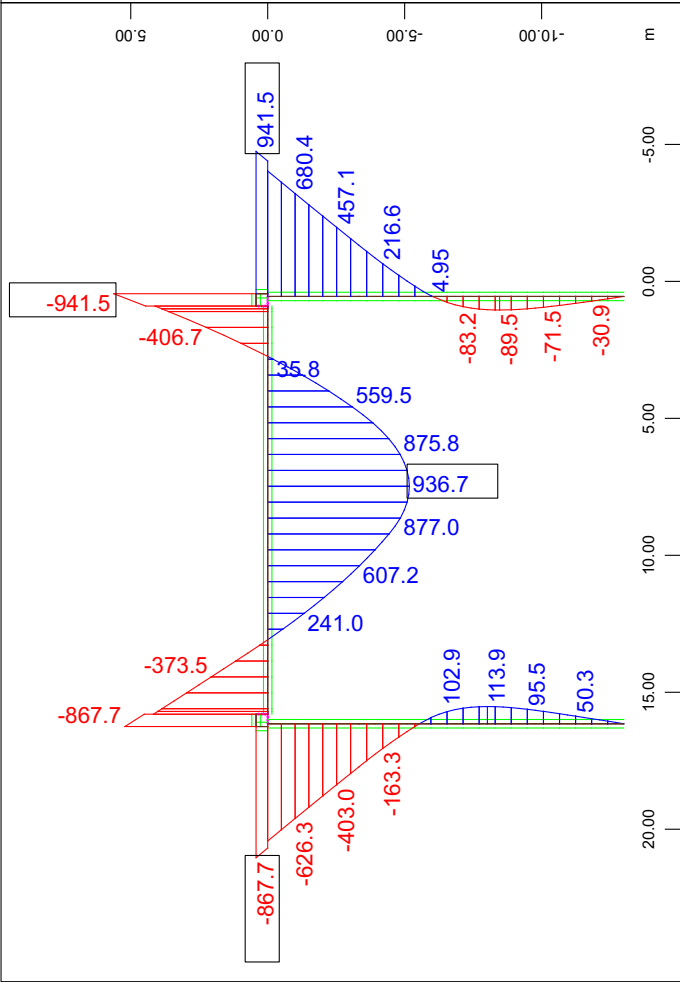
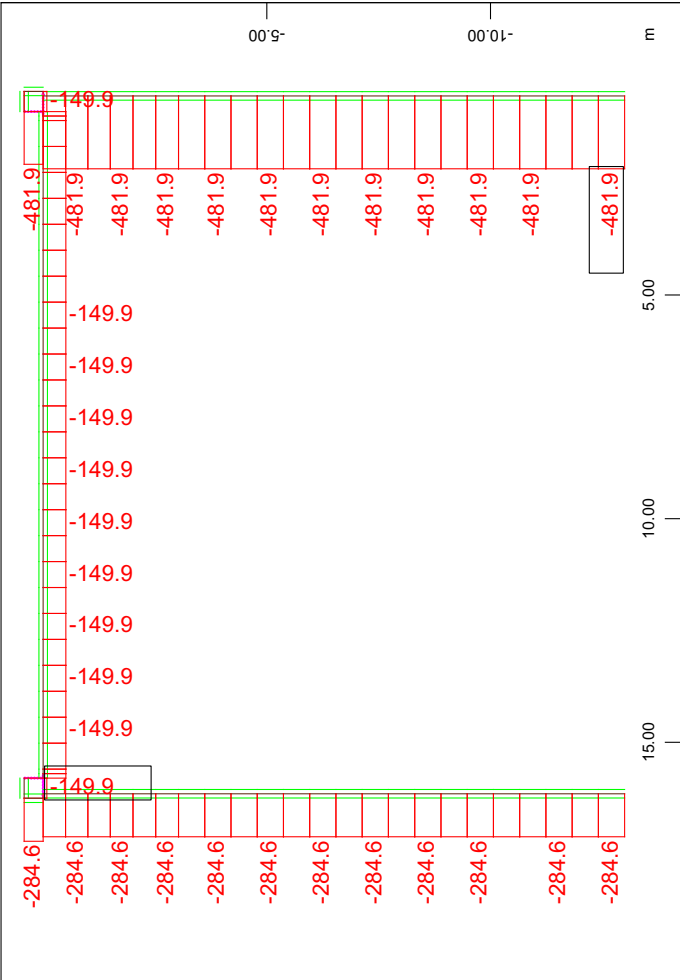


M 1 : 193
Nodal displacement in global Z, Loadcase 12 Q 5 , 1 cm = 10.0 mm (Min=-13.5) (Max=0)

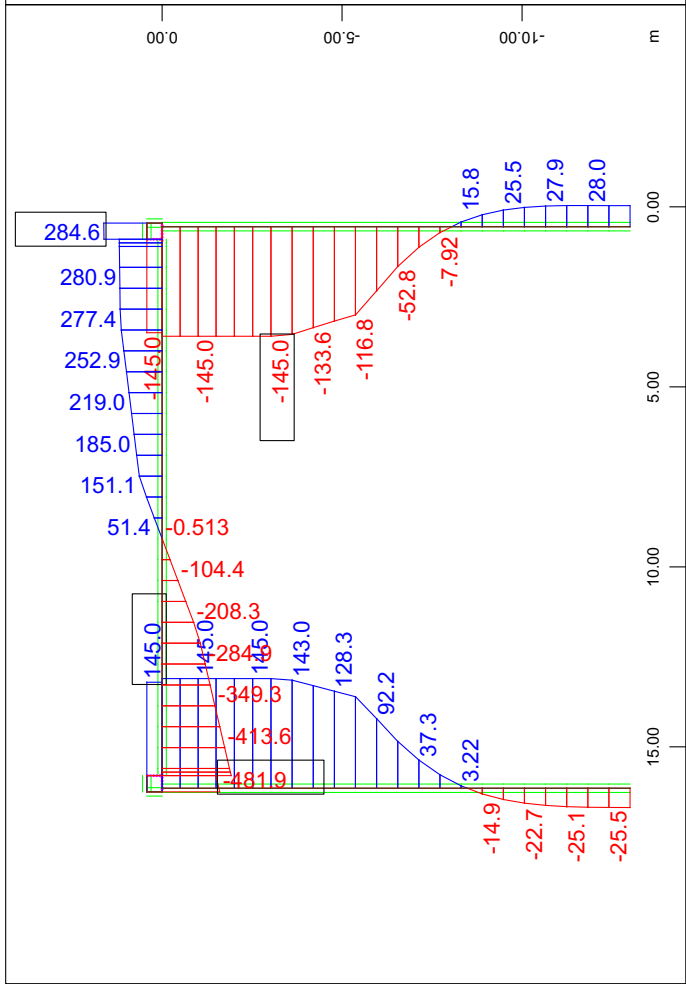
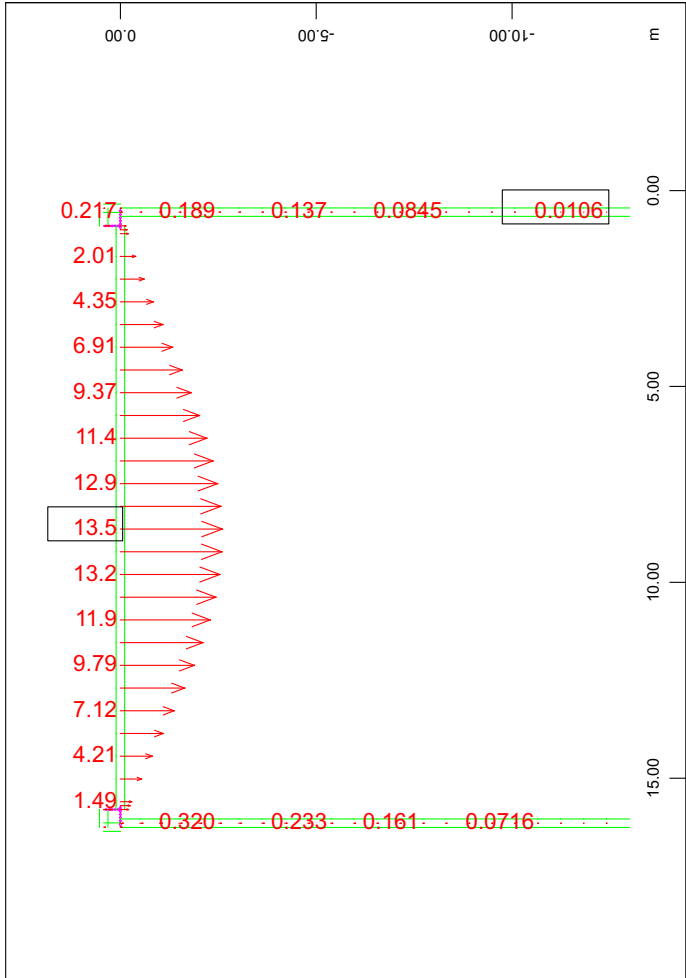
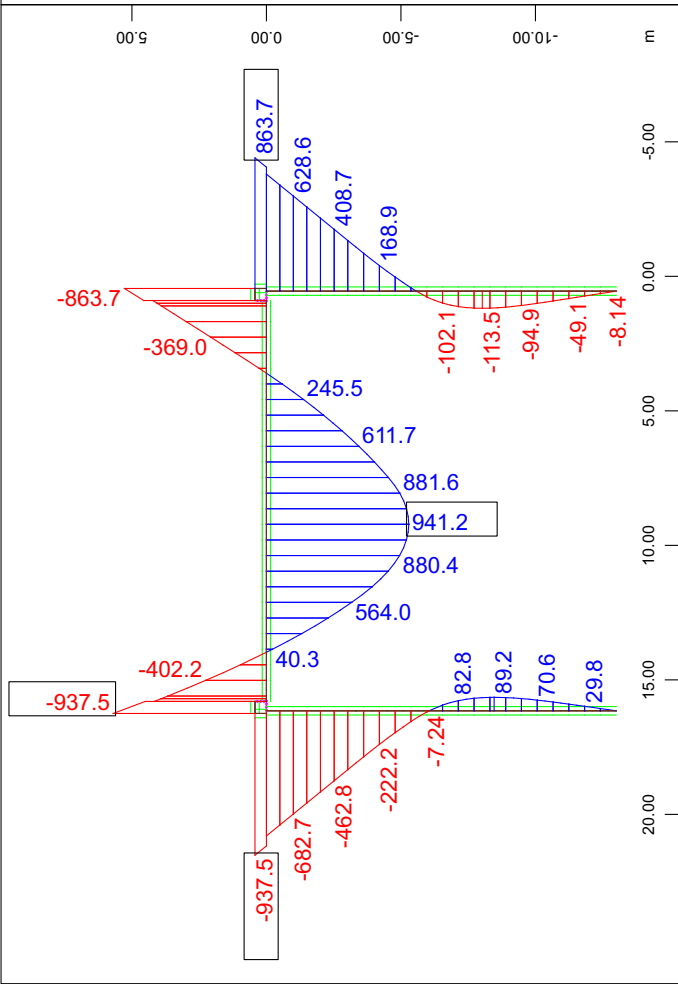
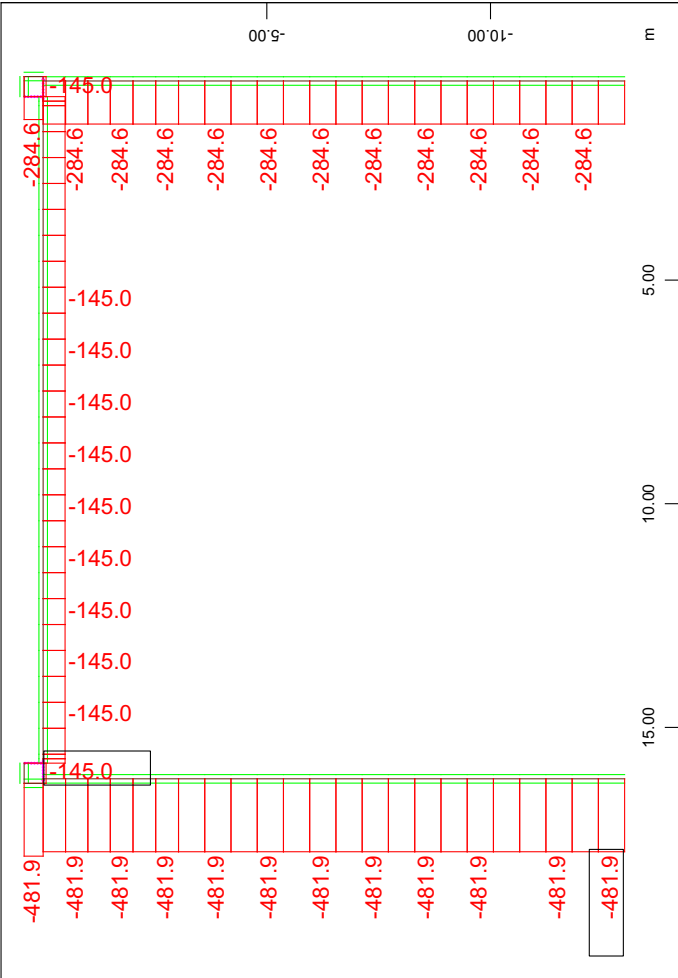


M 1 : 224
Beam Elements , Shear force V_y , Loadcase 12 Q 5 , 1 cm = 100.0 kN (Min=-145.0) (Max=145.0)
Beam Elements , Shear force V_z , Loadcase 12 Q 5 , 1 cm =

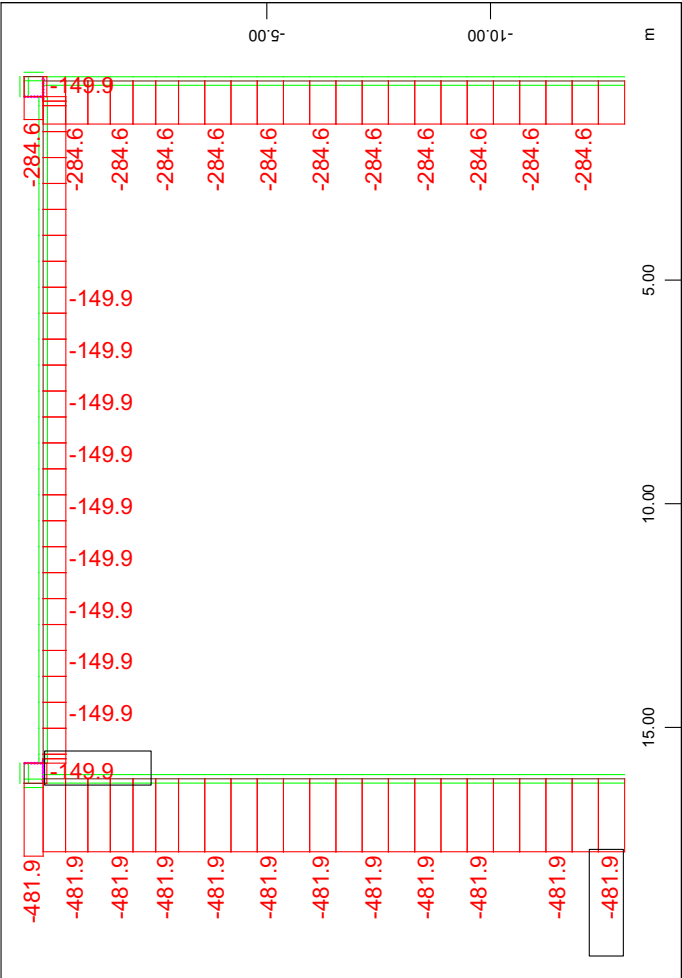
Geometria ponticello
Rappresentazione sollecitazioni elementari



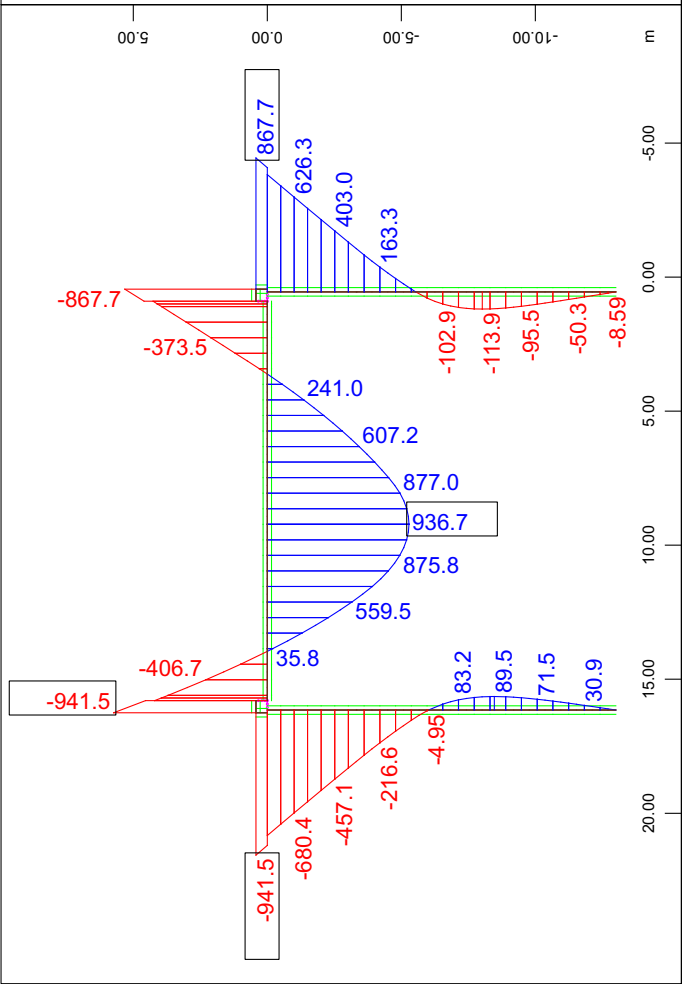
Geometria ponticello
Rappresentazione sollecitazioni elementari



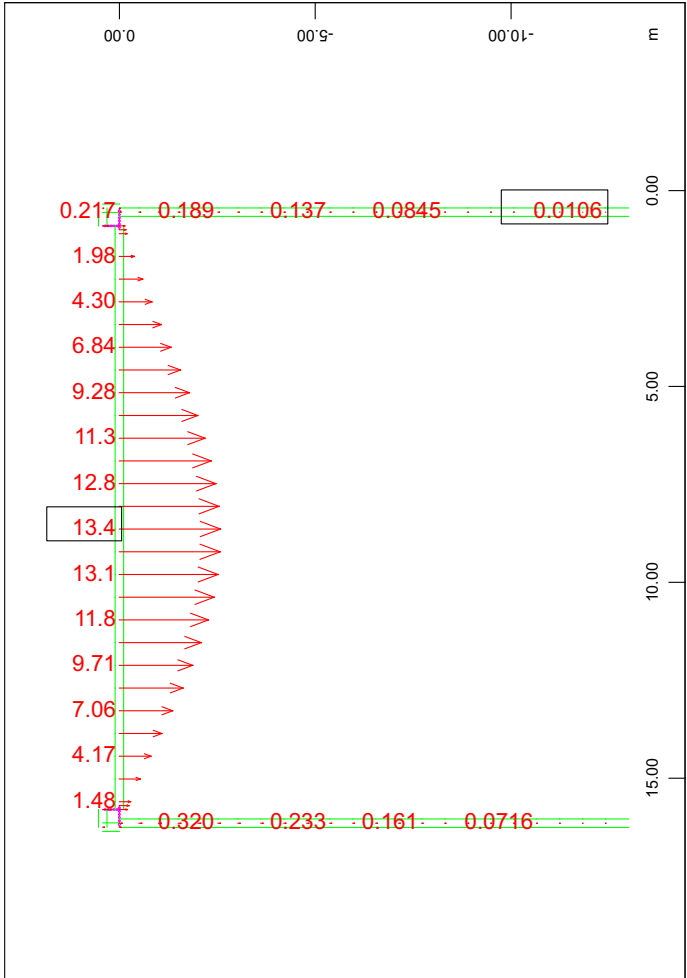
Geometria ponticello
Rappresentazione sollecitazioni elementari



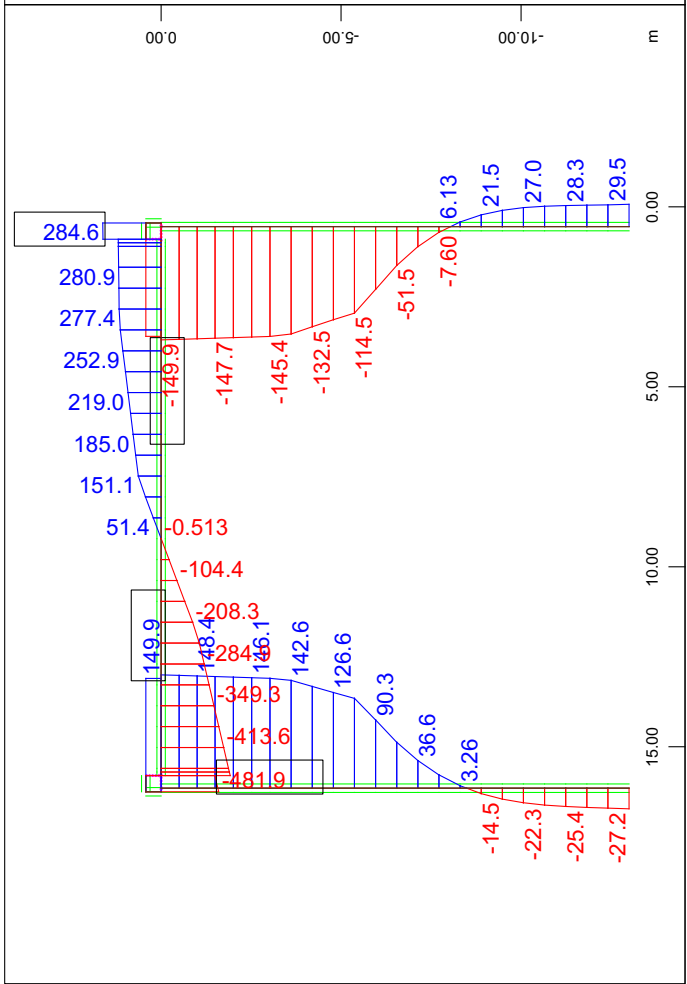
Beam Elements , Normal force N_x , Loadcase 15 Q 6_1 , 1 cm = 500.0 kN (Min=-481.9) (Max=-149.9)



Beam Elements , Bending moment M_y , Loadcase 15 Q 6_1 , 1 cm = 500.0 kNm (Min=-941.5) (Max=936.7)
Beam Elements , Bending moment M_z , Loadcase 15 Q 6_1 , 1 cm

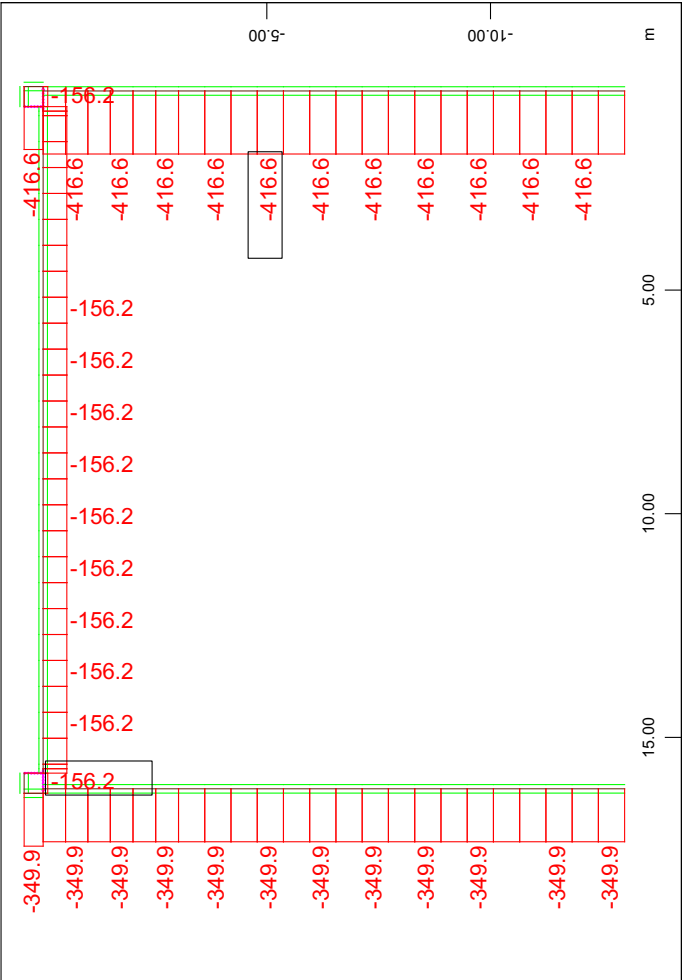


Nodal displacement in global Z, Loadcase 15 Q 6_1 , 1 cm = 100.0 kN (Min=-149.9) (Max=149.9)
Beam Elements , Shear force V_z , Loadcase 15 Q 6_1 , 1 cm =

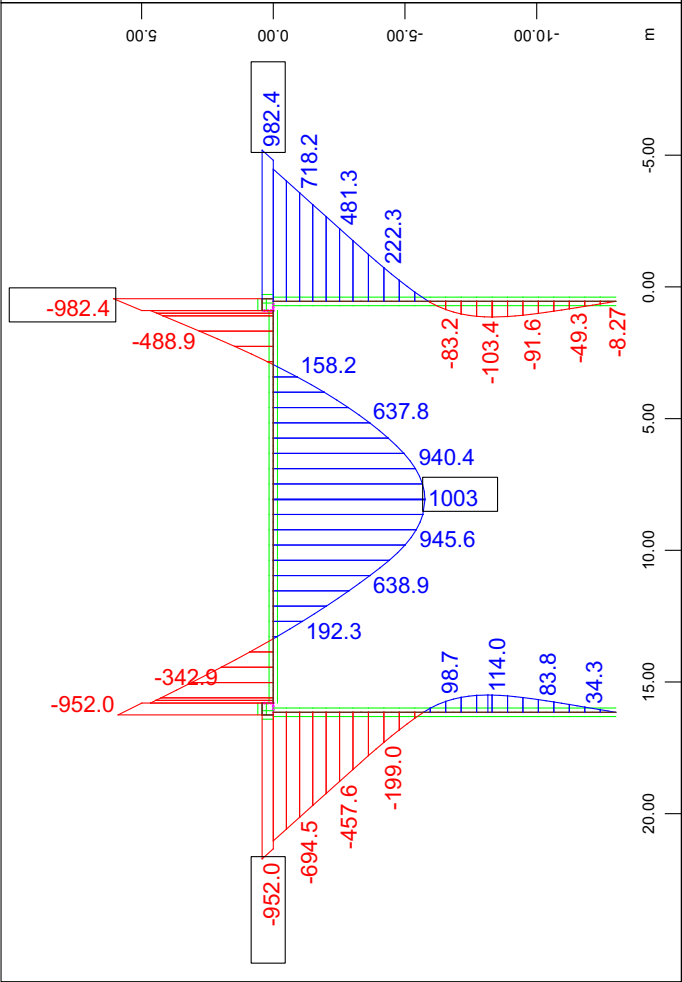


Beam Elements , Shear force V_y , Loadcase 15 Q 6_1 , 1 cm = 100.0 kN (Min=-149.9) (Max=149.9)
Beam Elements , Shear force V_z , Loadcase 15 Q 6_1 , 1 cm =

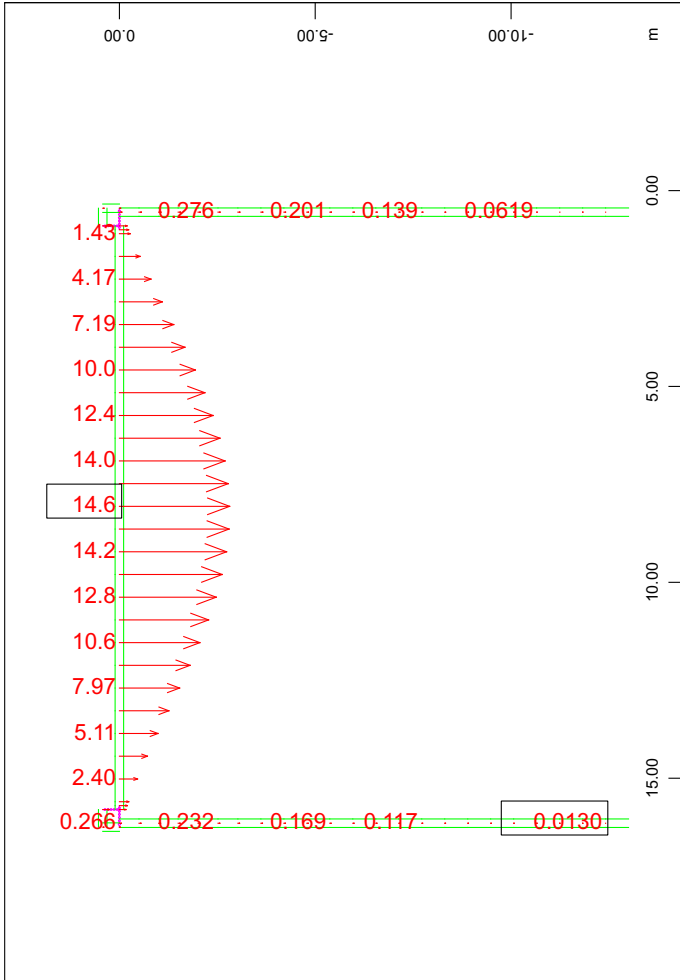
Geometria ponticello
Rappresentazione sollecitazioni elementari



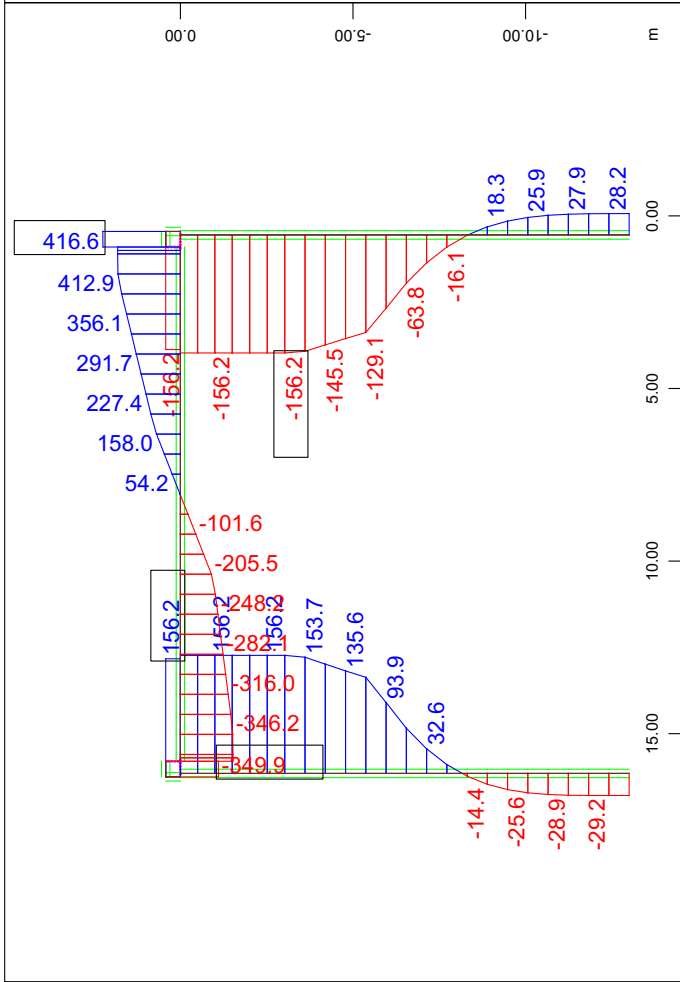
M 1 : 169
Beam Elements , Normal force N_x , Loadcase 16 Q 7 , 1 cm = 500.0 kN (Min=-416.6) (Max=-156.2)
Z
X



M 1 : 287
Beam Elements , Bending moment M_y , Loadcase 16 Q 7 , 1 cm = 500.0 kNm (Min=-982.4) (Max=1003.)
Beam Elements , Bending moment M_z , Loadcase 16 Q 7 , 1 cm =
Z
X

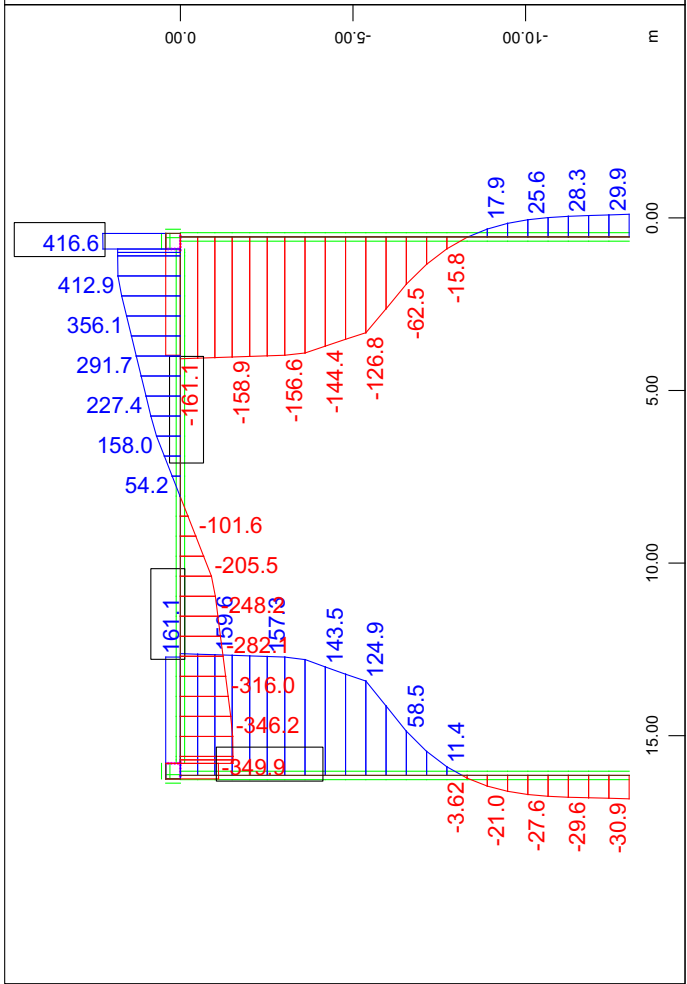
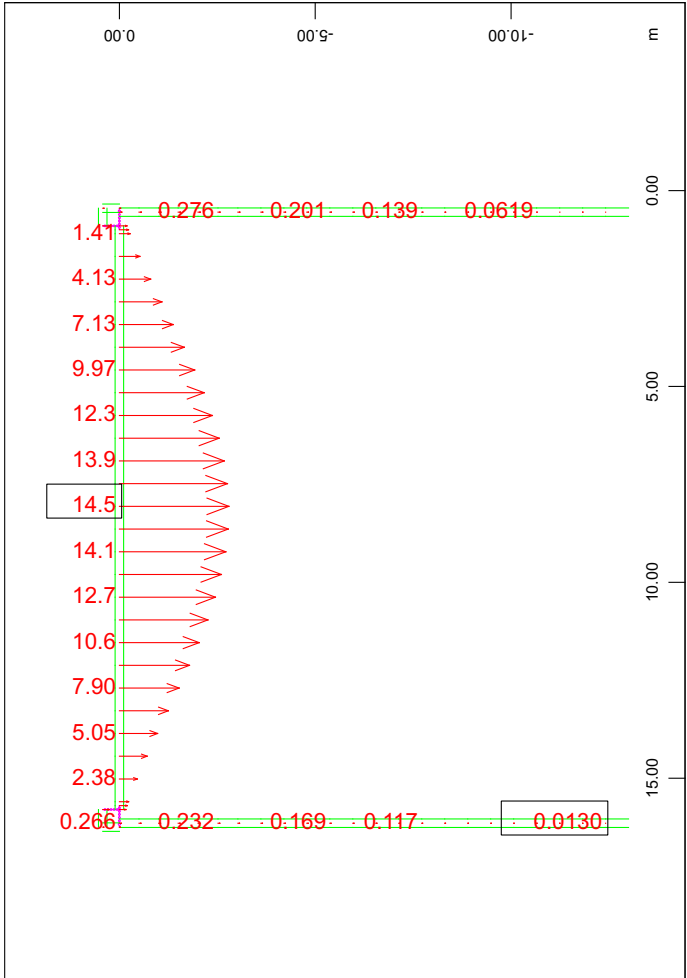
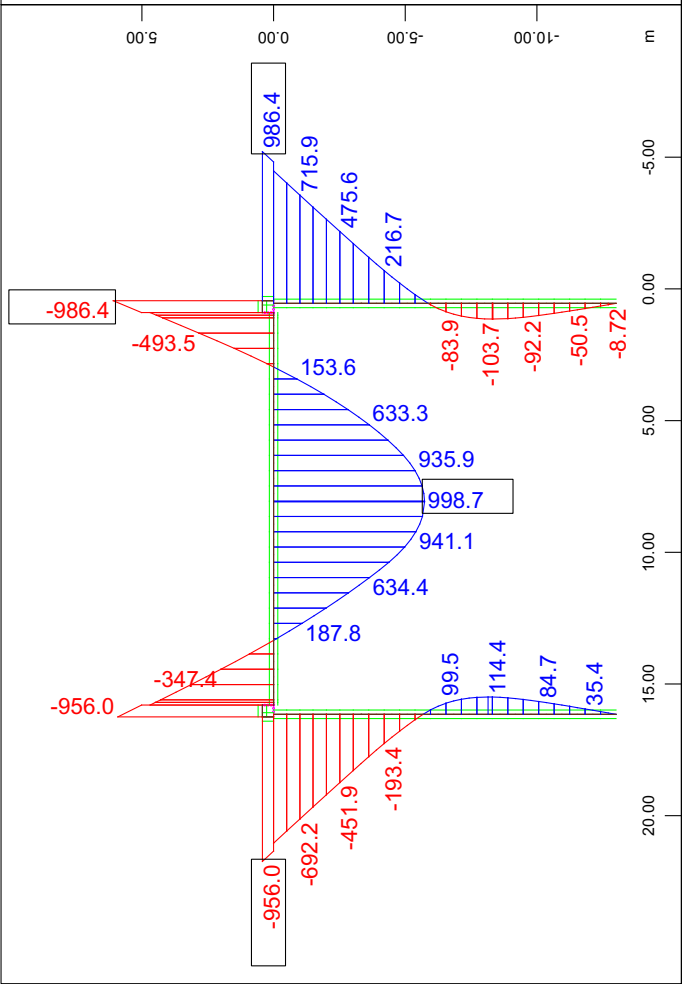
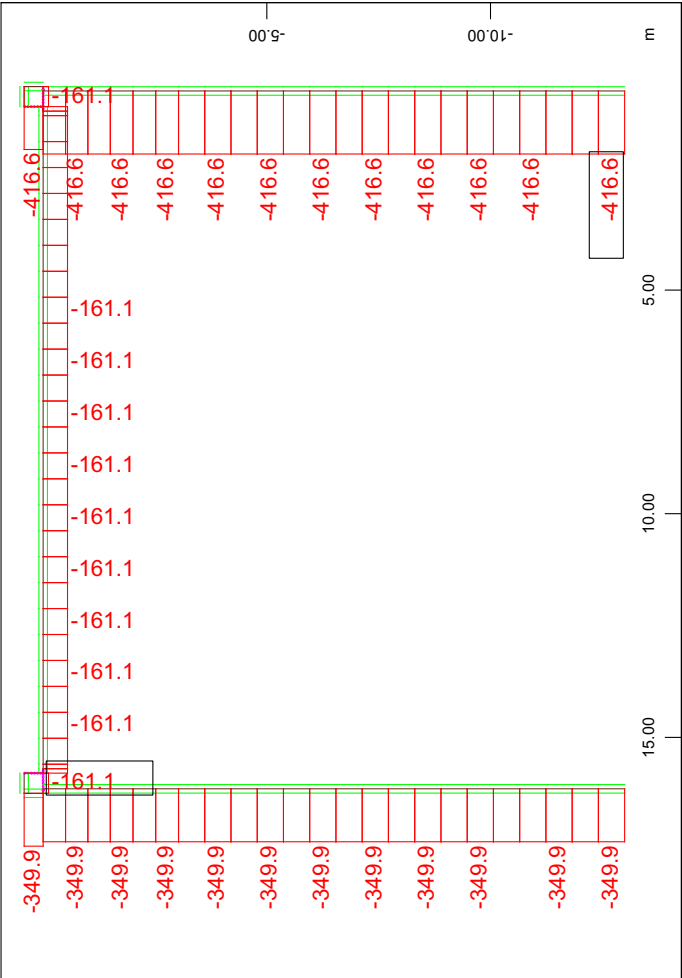


M 1 : 193
Nodal displacement in global Z, Loadcase 16 Q 7 , 1 cm = 10.0 mm (Min=-14.6) (Max=0)
Z
X

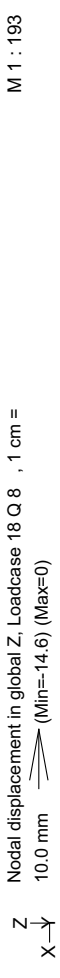
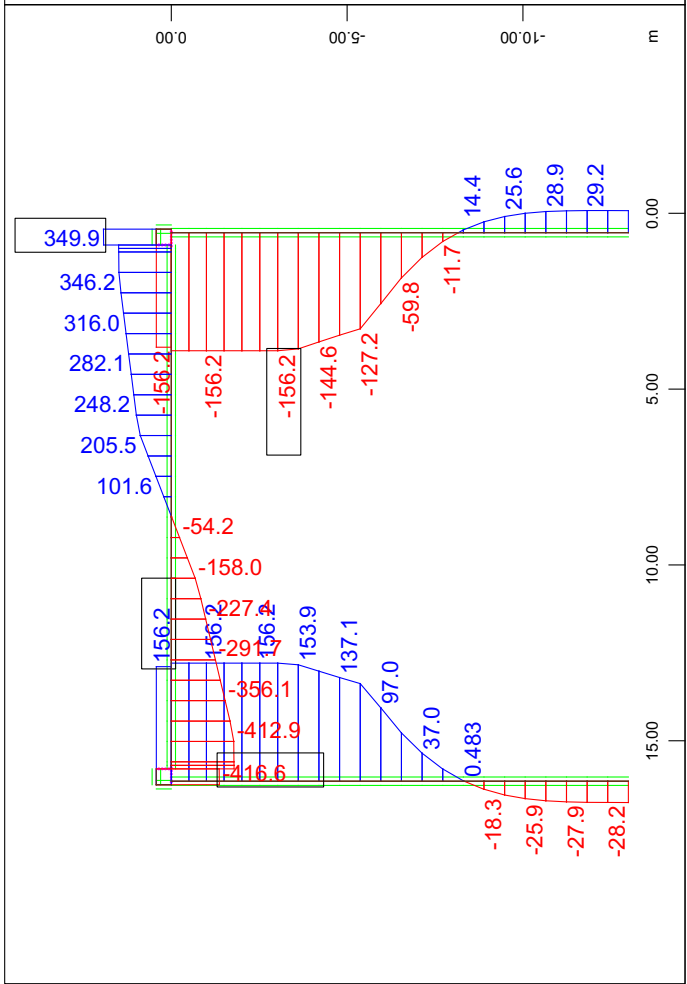
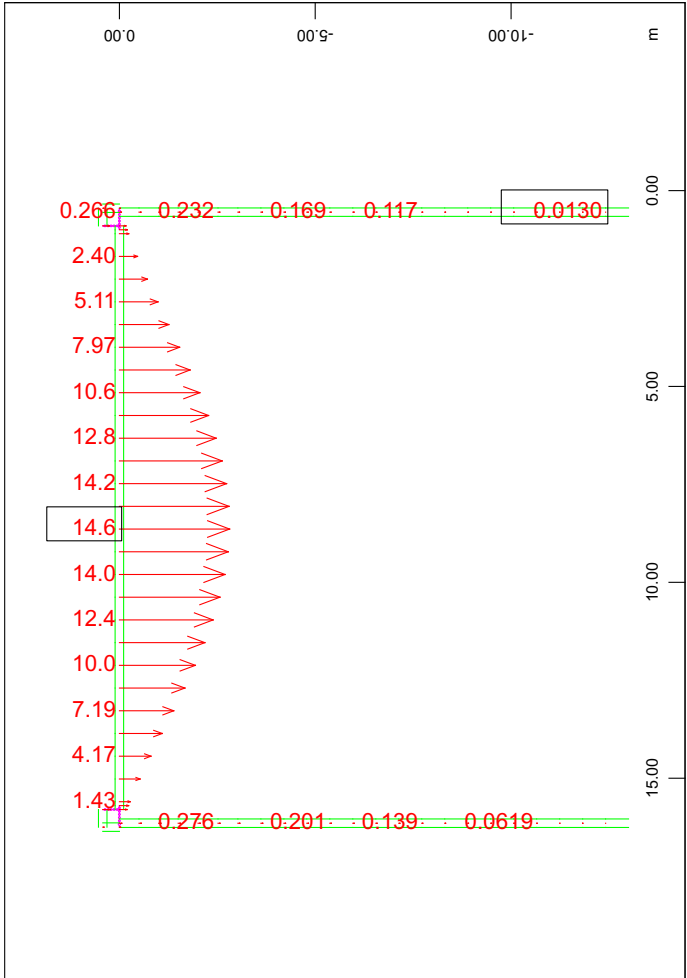
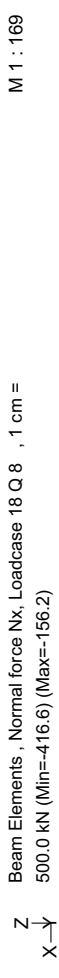
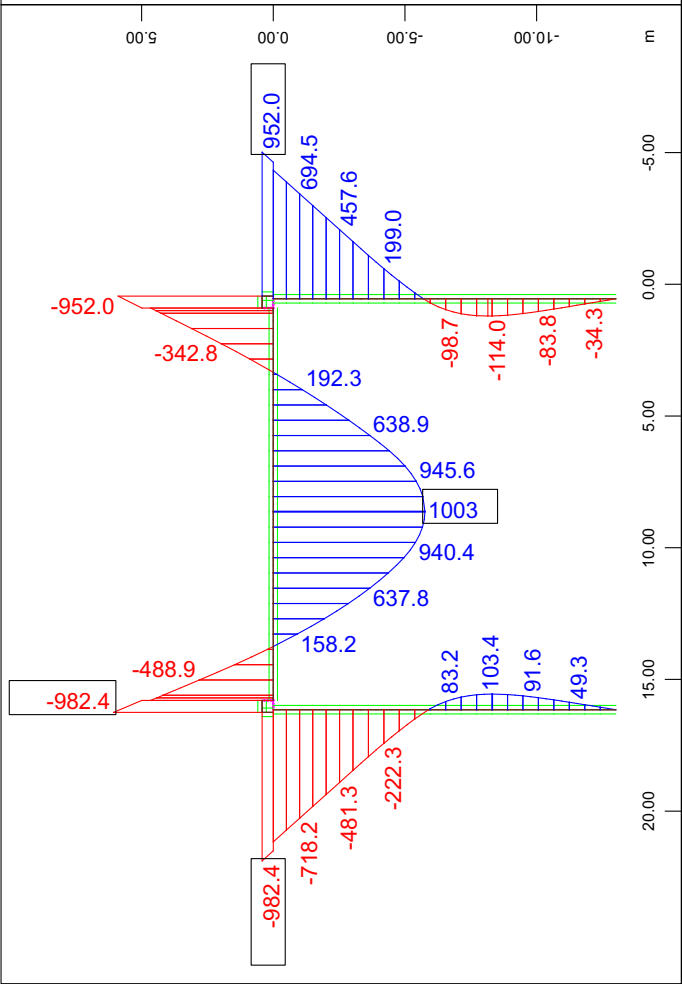
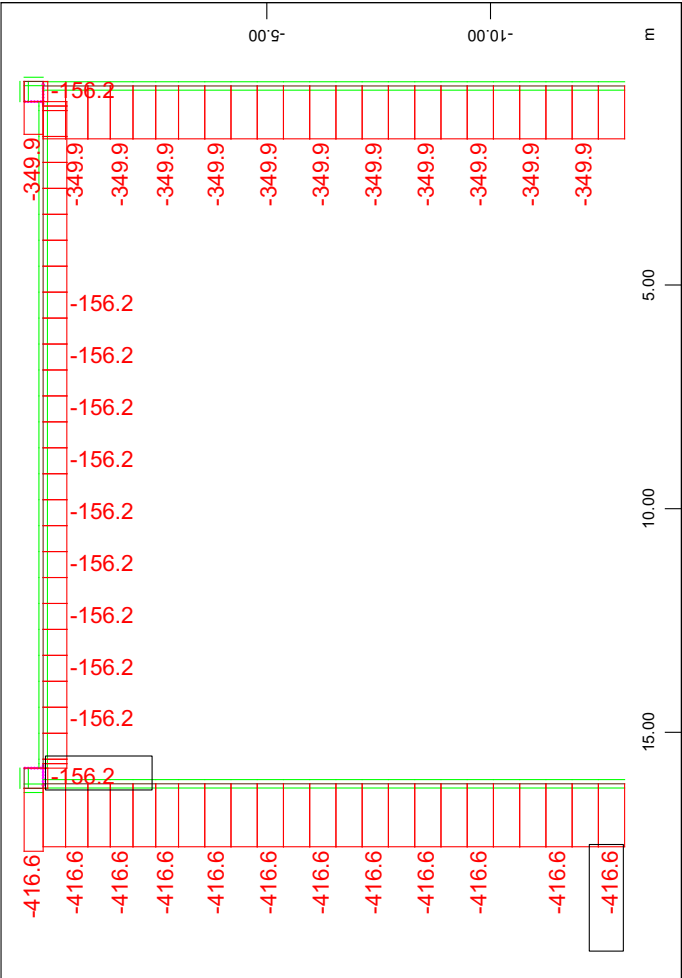


M 1 : 219
Beam Elements , Shear force V_y , Loadcase 16 Q 7 , 1 cm = 100.0 kN (Min=-156.2) (Max=156.2)
Beam Elements , Shear force V_z , Loadcase 16 Q 7 , 1 cm =
Z
X

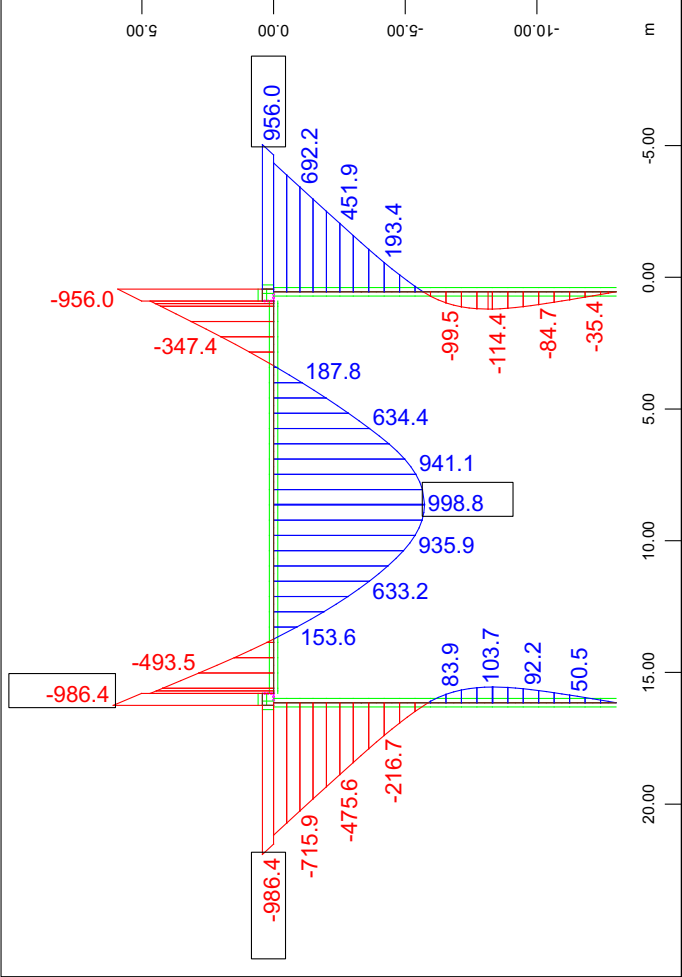
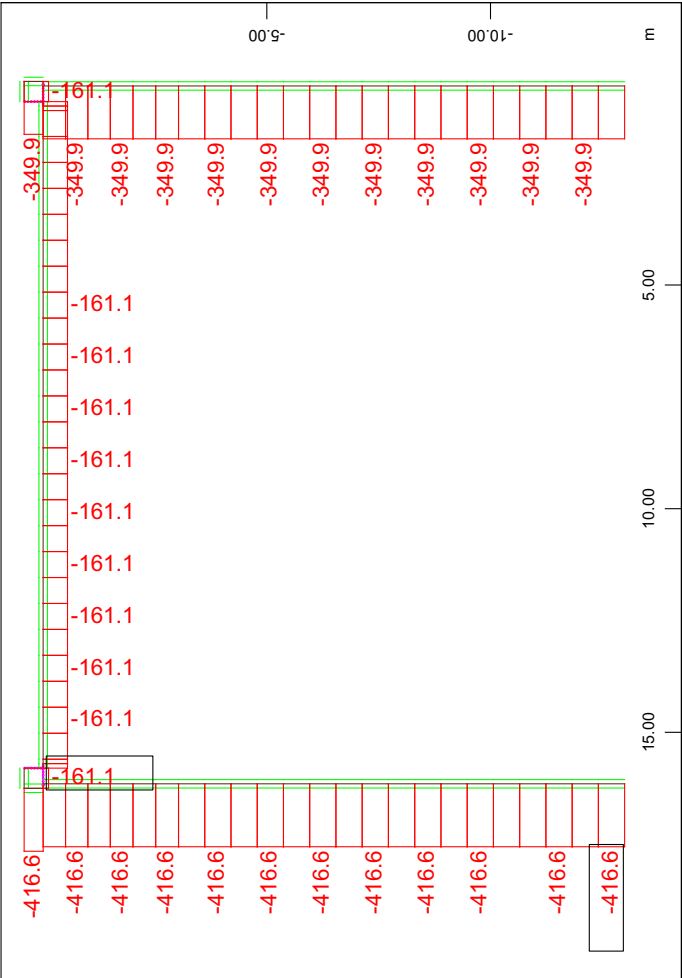
Geometria ponticello
Rappresentazione sollecitazioni elementari



Geometria ponticello
Rappresentazione sollecitazioni elementari

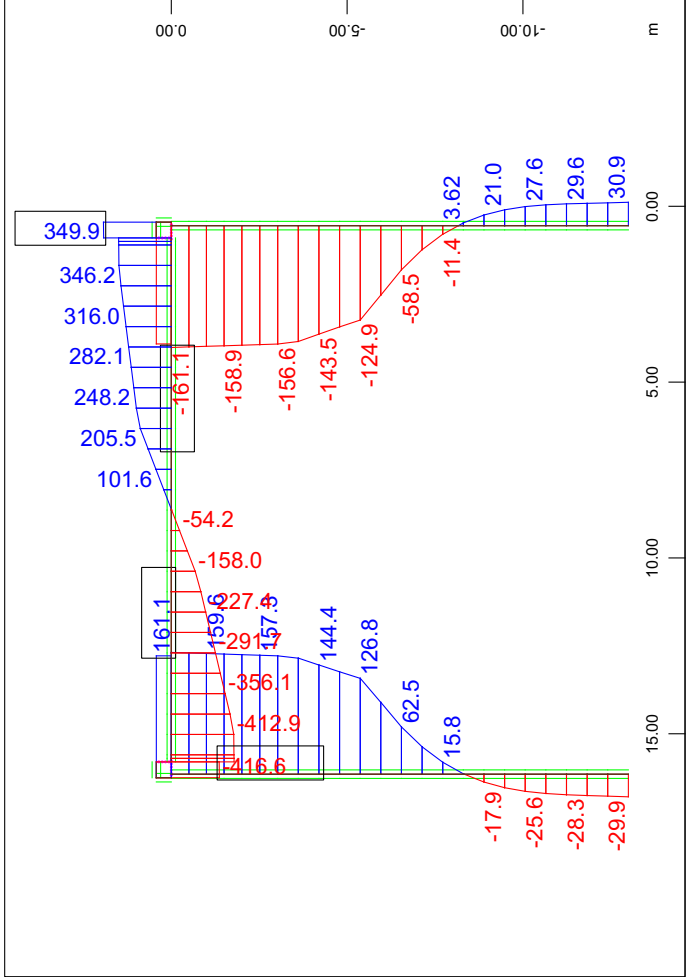
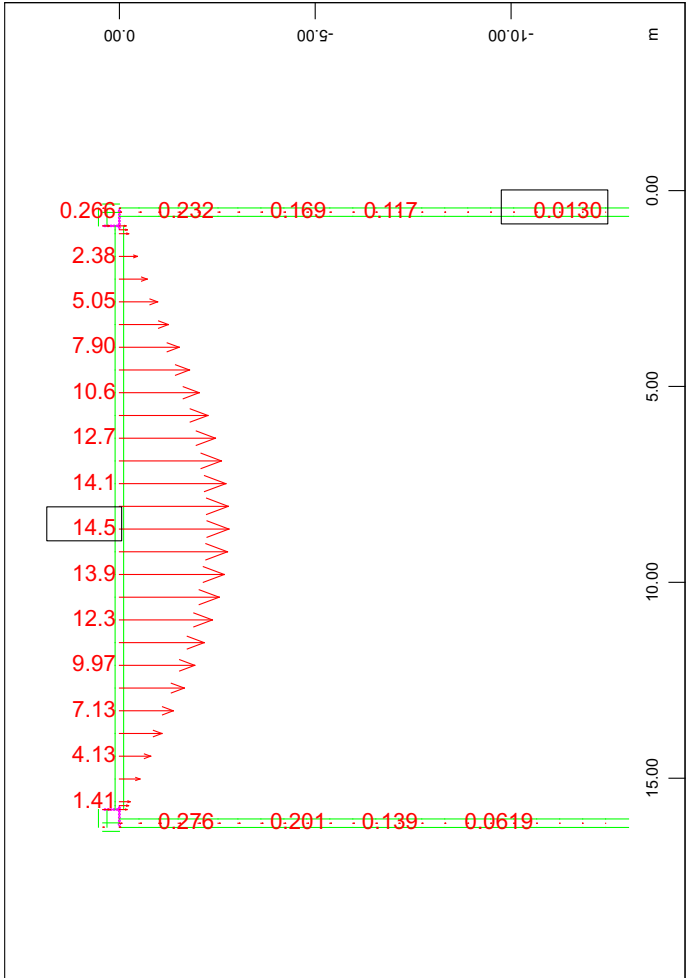


Geometria ponticello
Rappresentazione sollecitazioni elementari



M 1 : 169
Z
X

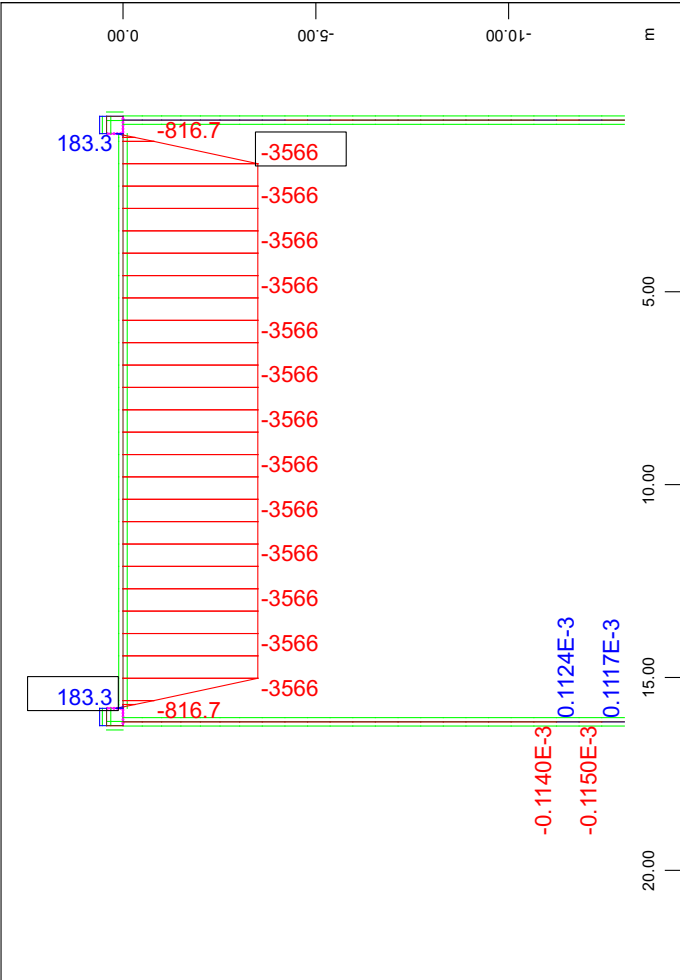
M 1 : 287
Z
X



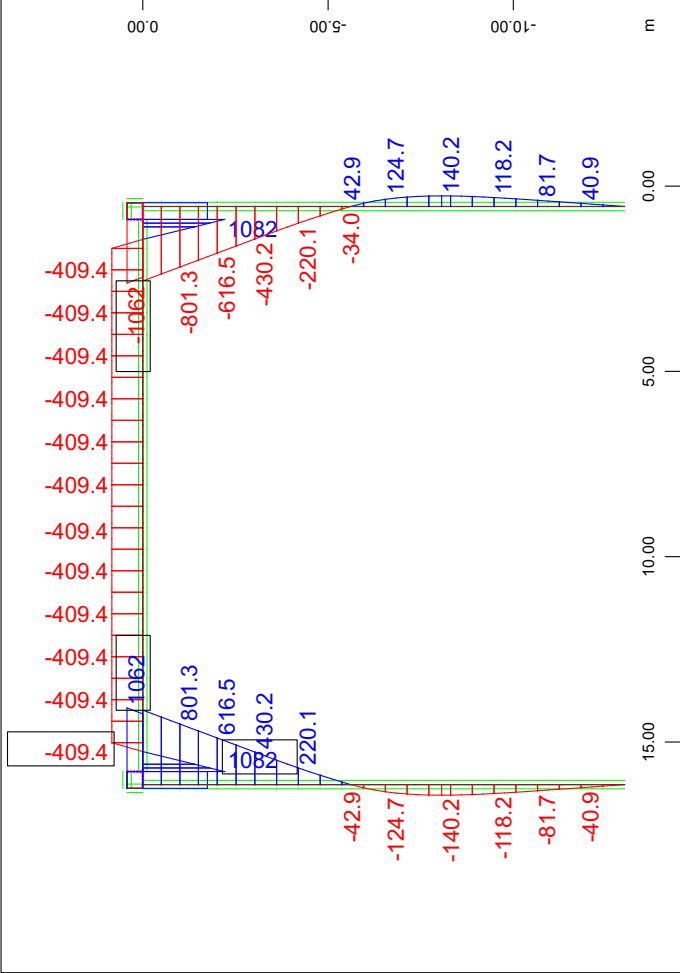
M 1 : 193
Z
X

M 1 : 215
Z
X

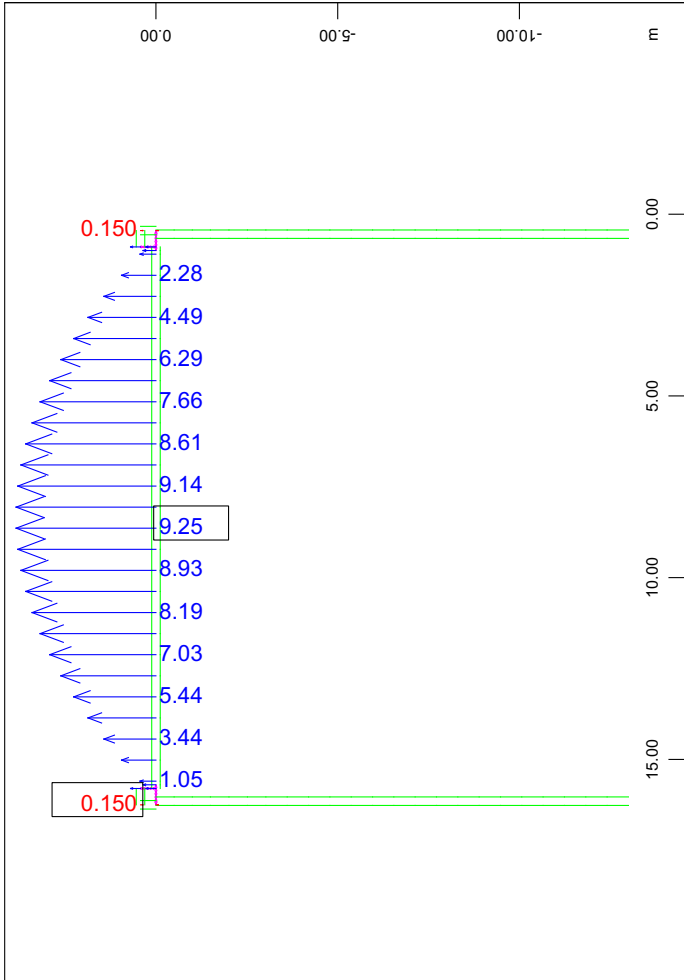
Geometria ponticello
Rappresentazione sollecitazioni elementari



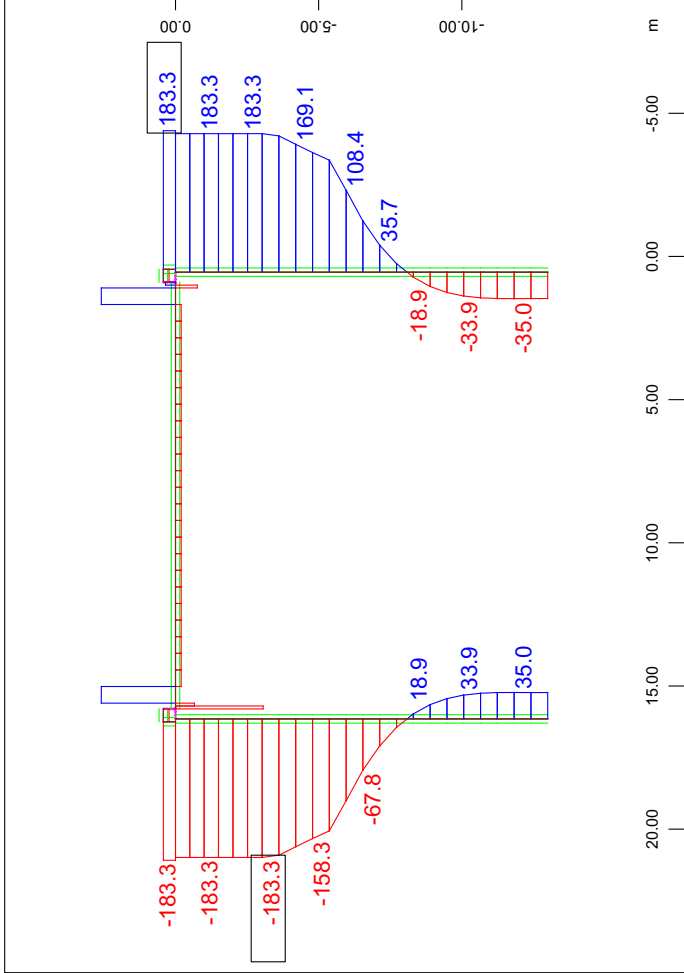
M 1 : 196
Z Beam Elements , Normal force N_x , Loadcase 20 Basic prestressing
forces , 1 cm = 2000. kN (Min=-3566.) (Max=183.3)
X \rightarrow Y \rightarrow Z



M 1 : 204
Z Beam Elements , Bending moment M_y , Loadcase 20 Basic
prestressing forces , 1 cm = 1000. kNm (Min=-409.4)
(Max=1082.)
X \rightarrow Y \rightarrow Z

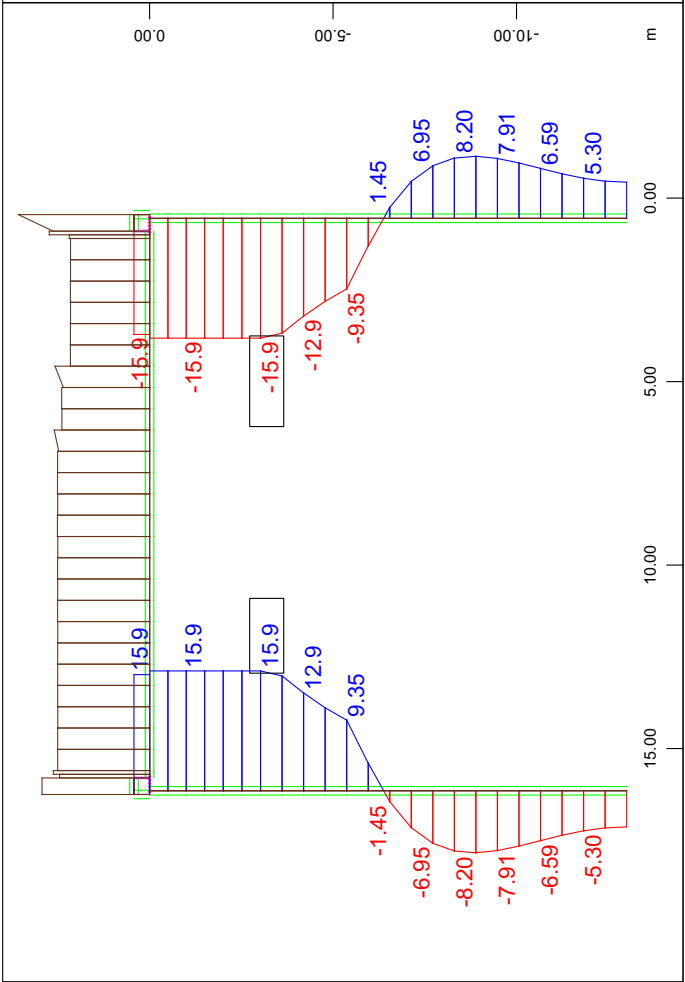
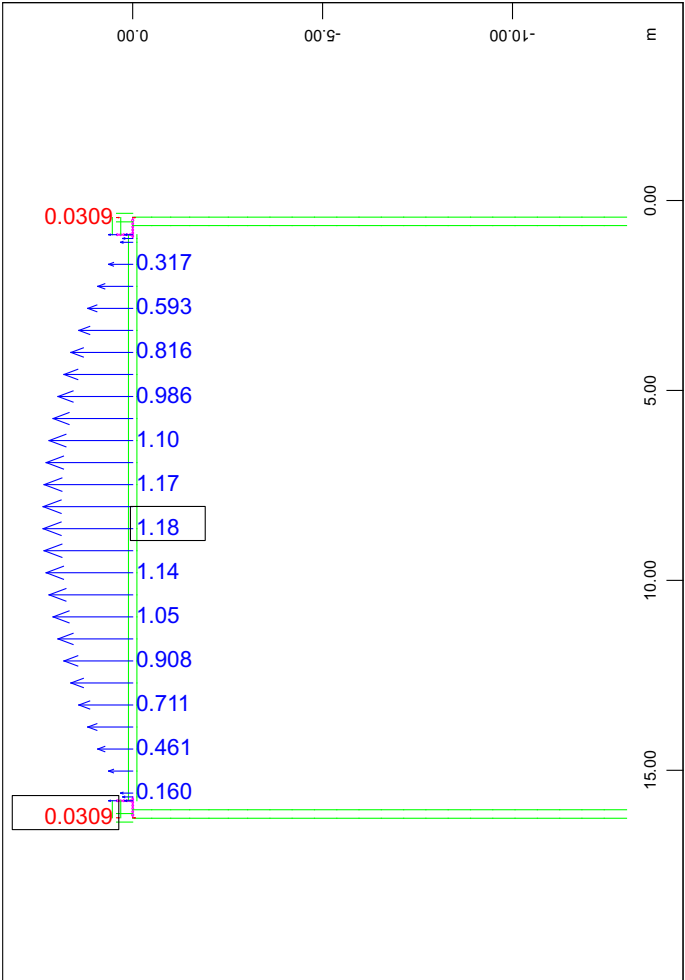
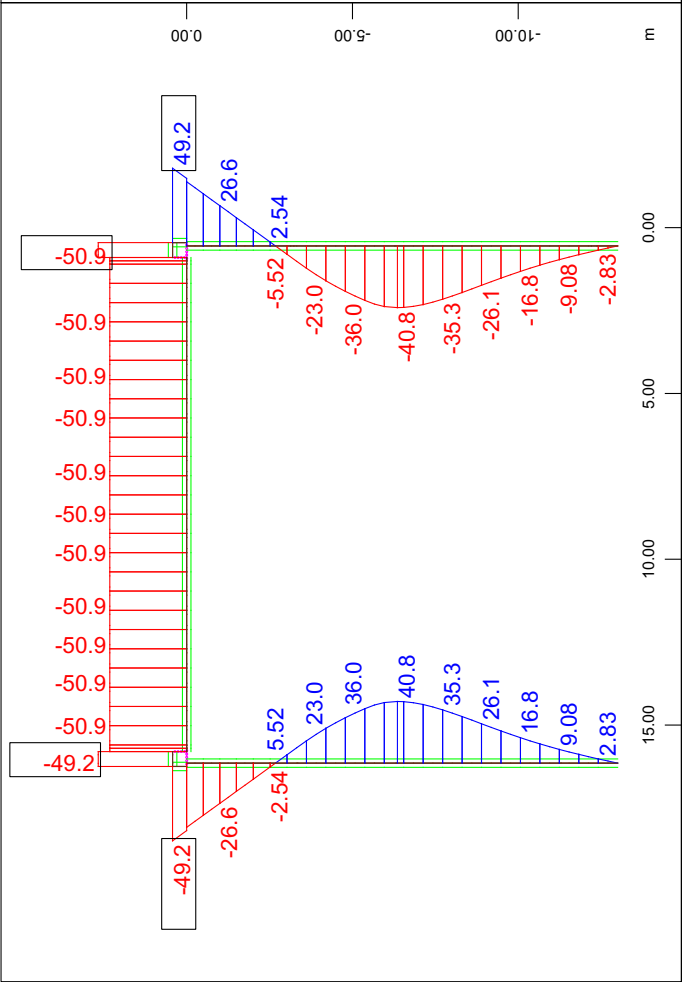
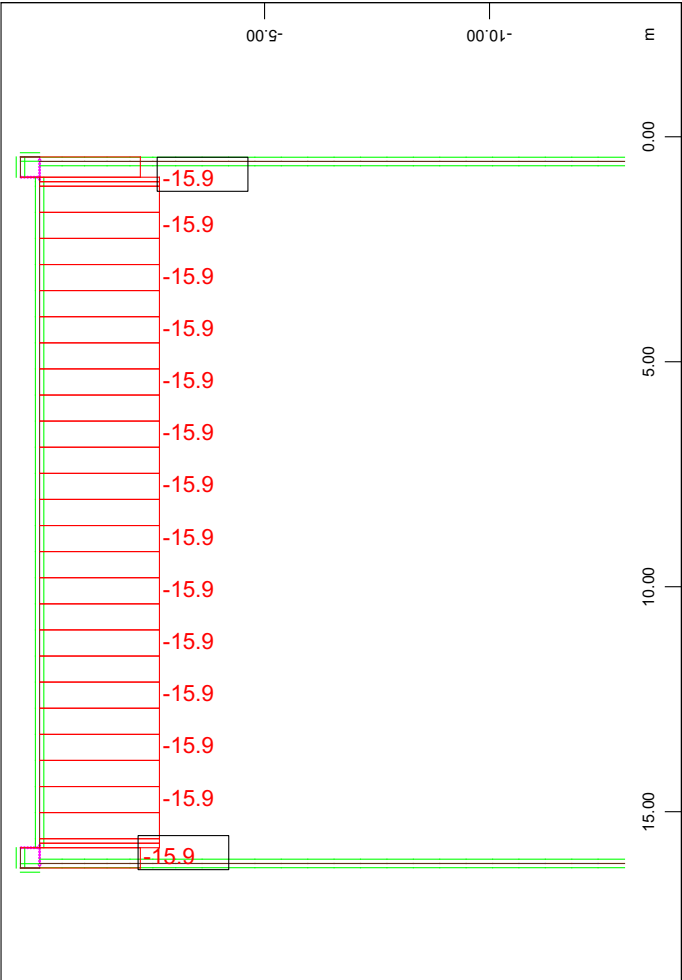


M 1 : 208
Z Nodal displacement in global Z, Loadcase 20 Basic prestressing
forces , 1 cm = 5.00 mm
X \rightarrow Y \rightarrow Z

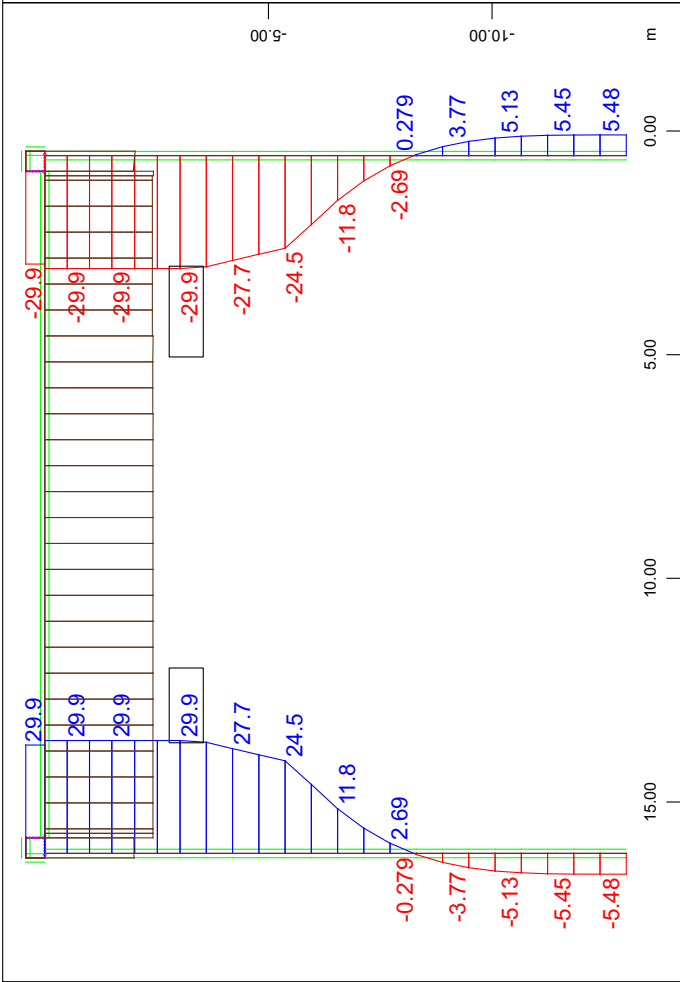
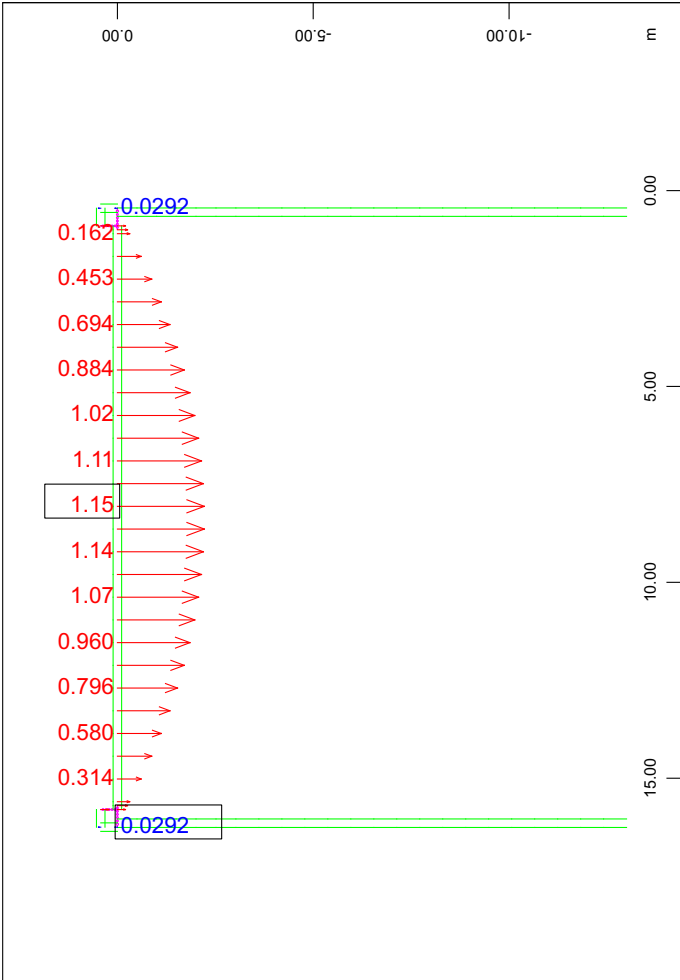
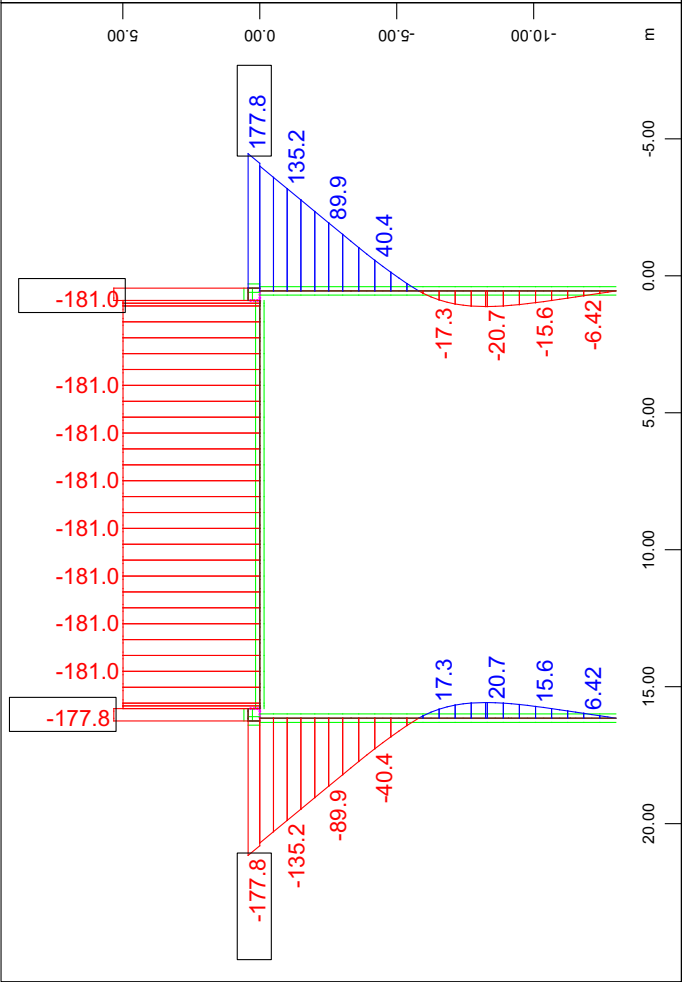
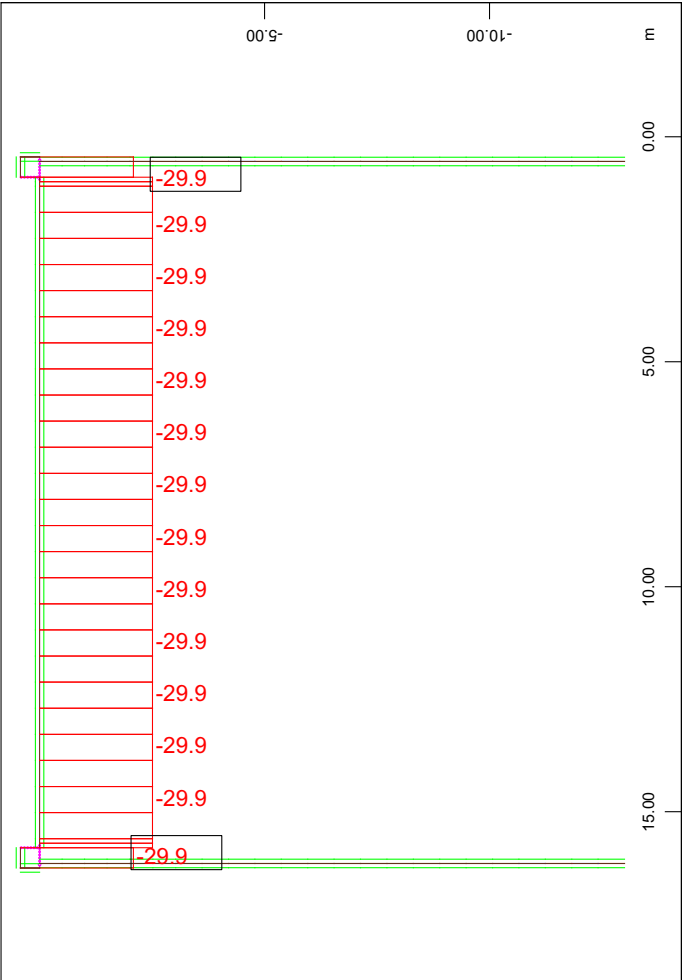


M 1 : 264
Z Beam Elements , Shear force V_y , Loadcase 20 Basic prestressing
forces , 1 cm = 100.0 kN (Min=-183.3) (Max=183.3)
Beam Elements , Shear force V_z , Loadcase 20 Basic prestressing
X \rightarrow Y \rightarrow Z

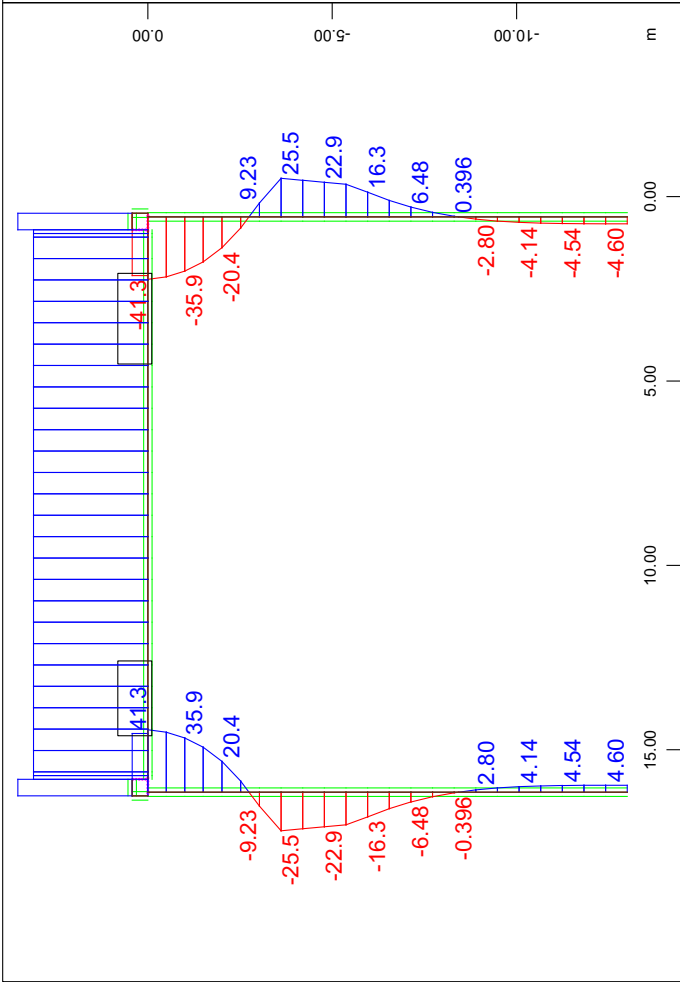
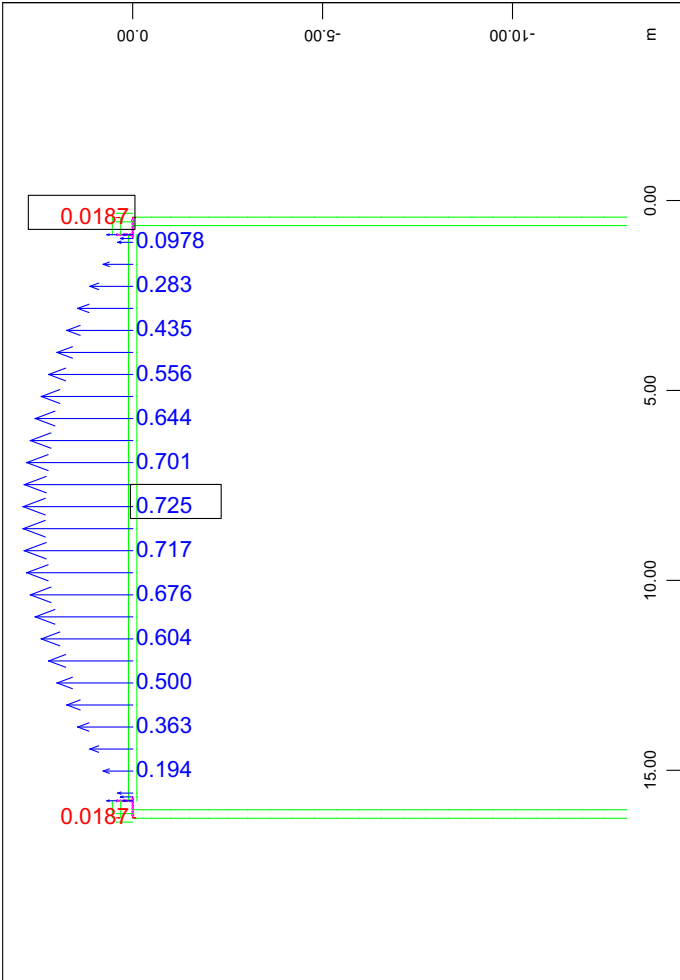
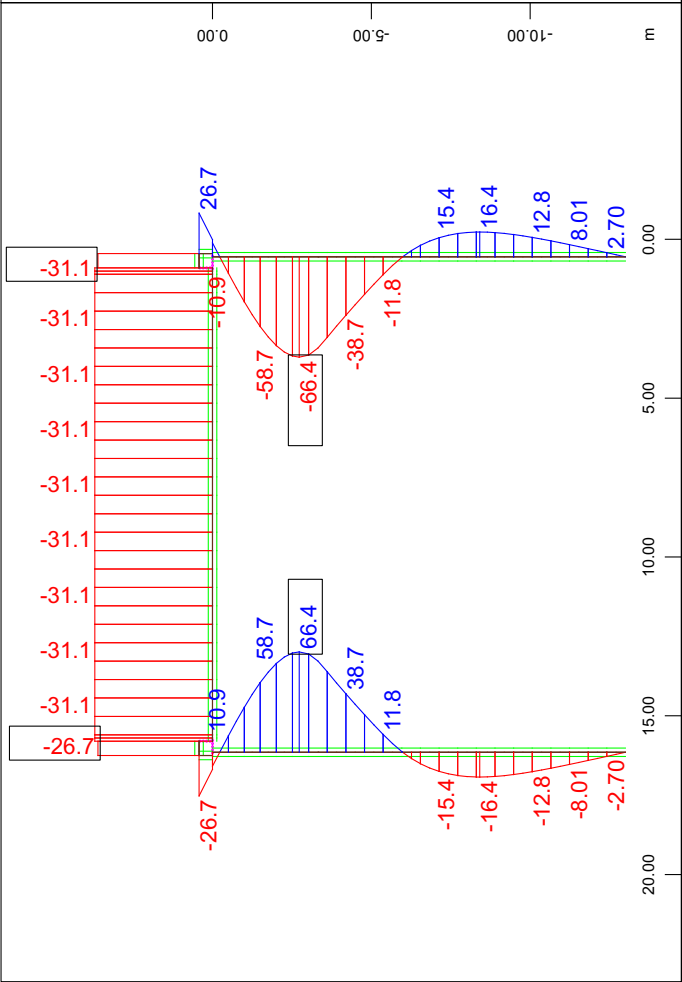
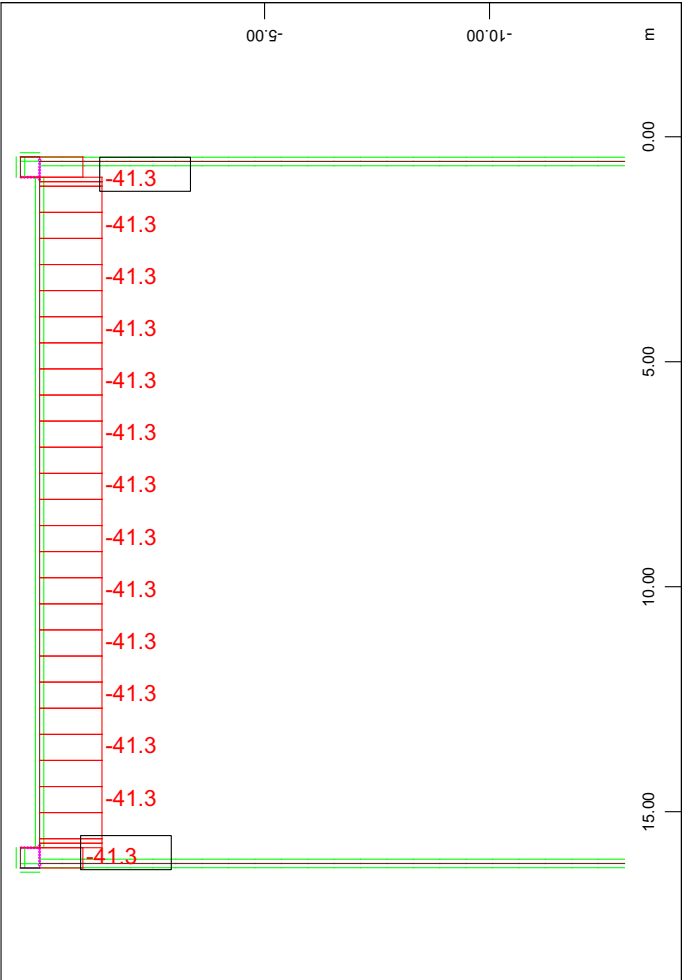
Geometria ponticello
Rappresentazione sollecitazioni elementari



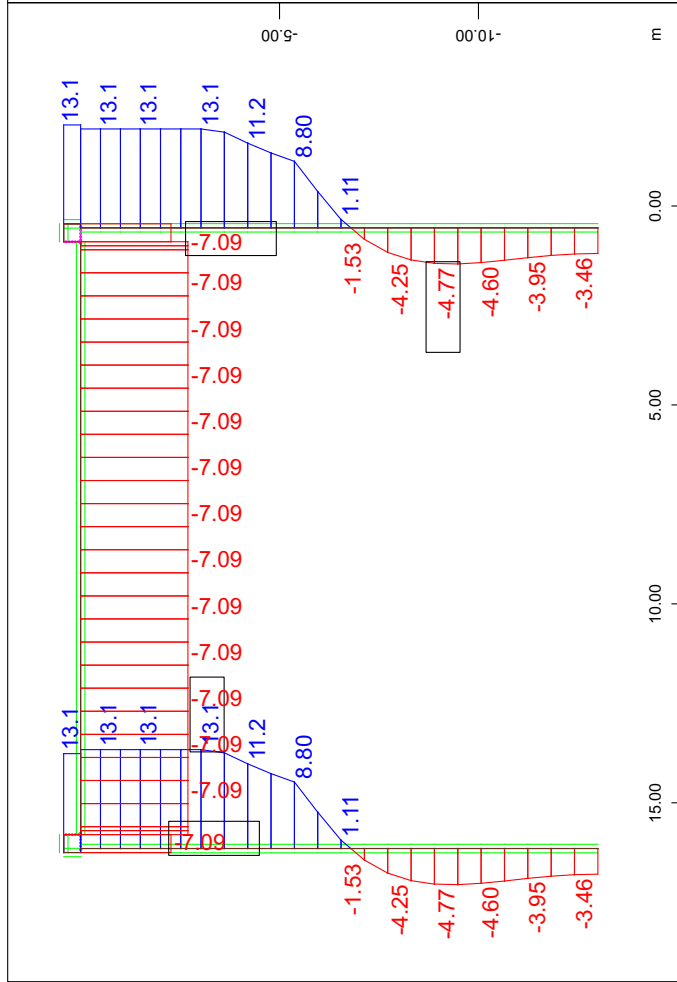
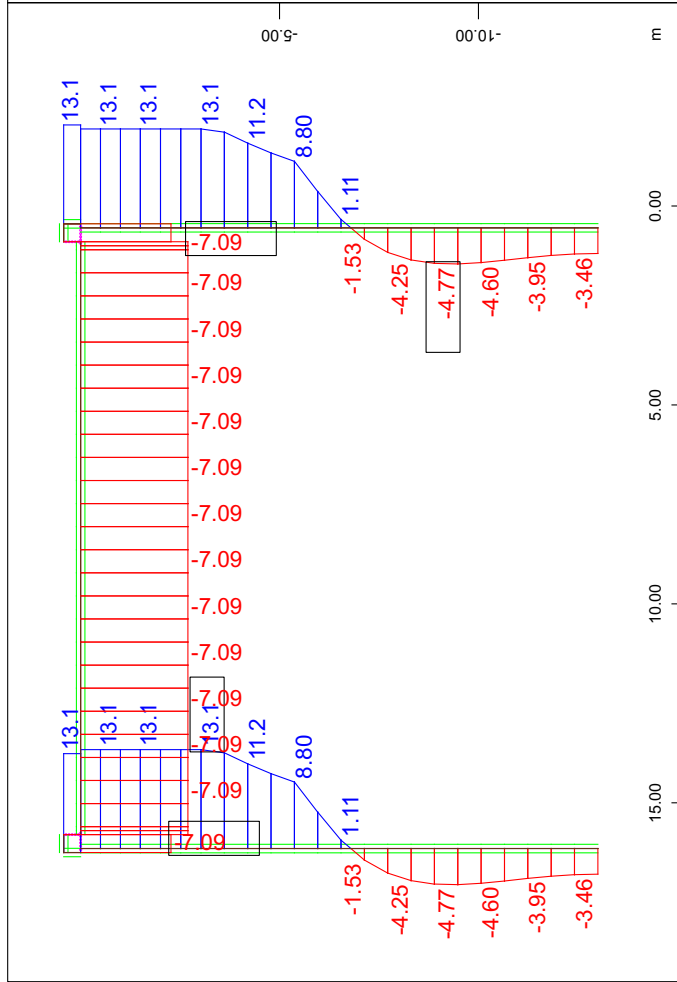
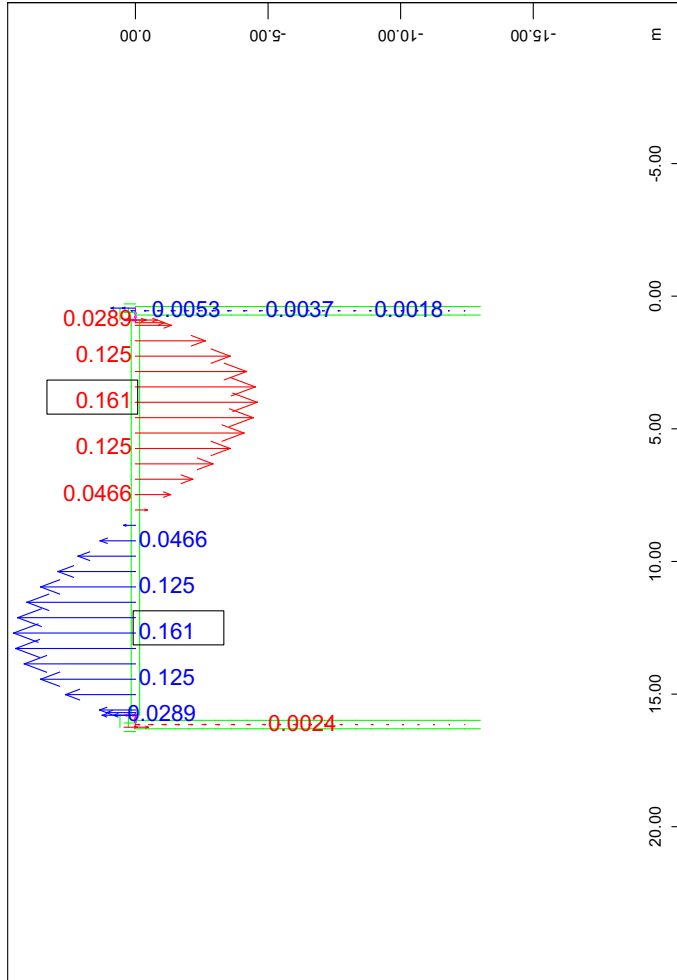
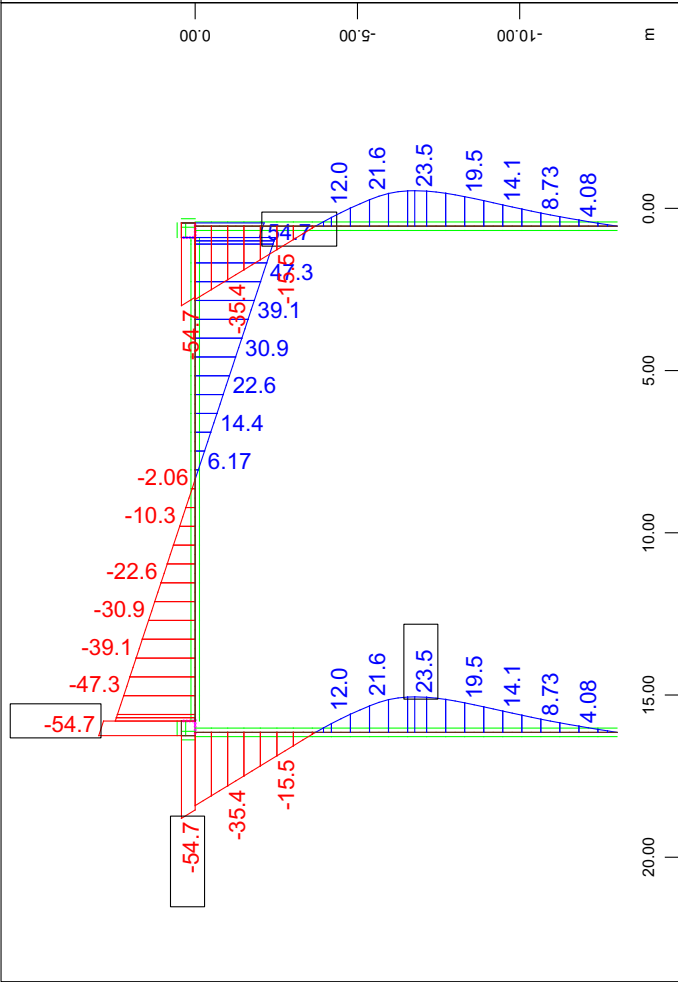
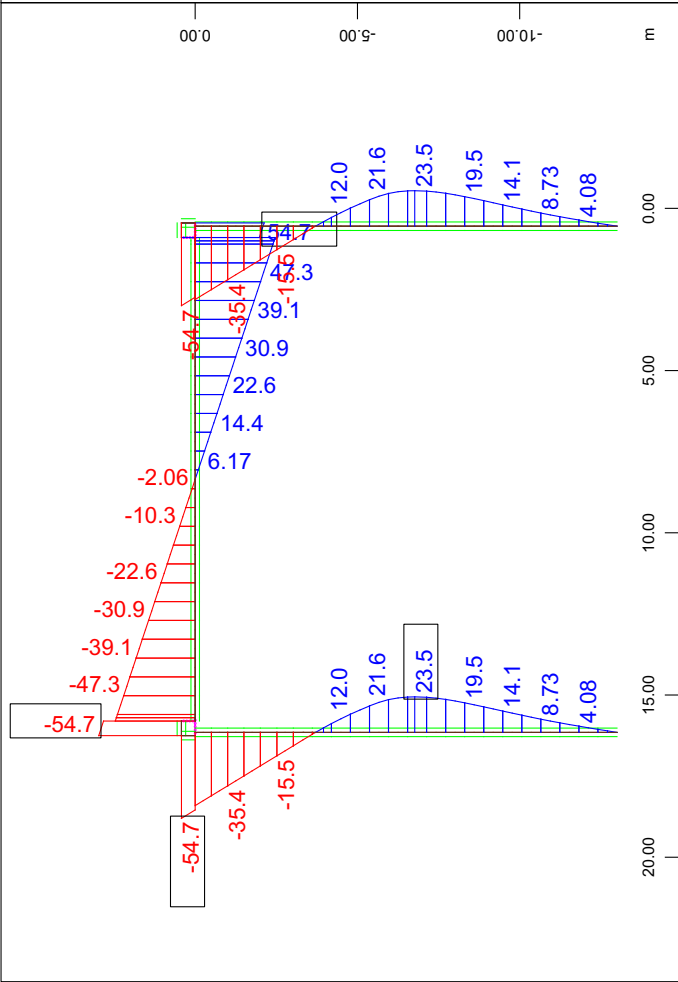
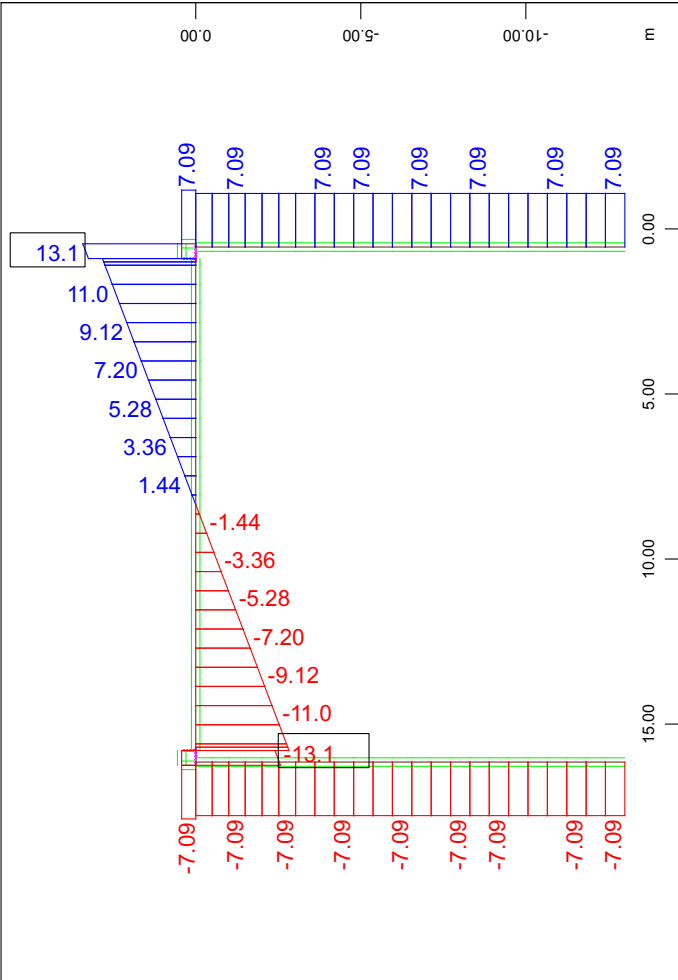
Geometria ponticello
Rappresentazione sollecitazioni elementari



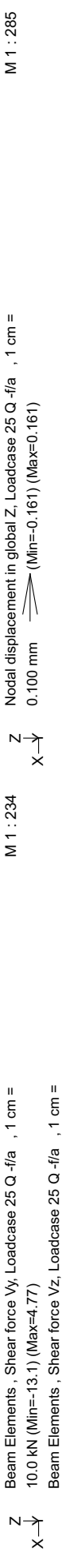
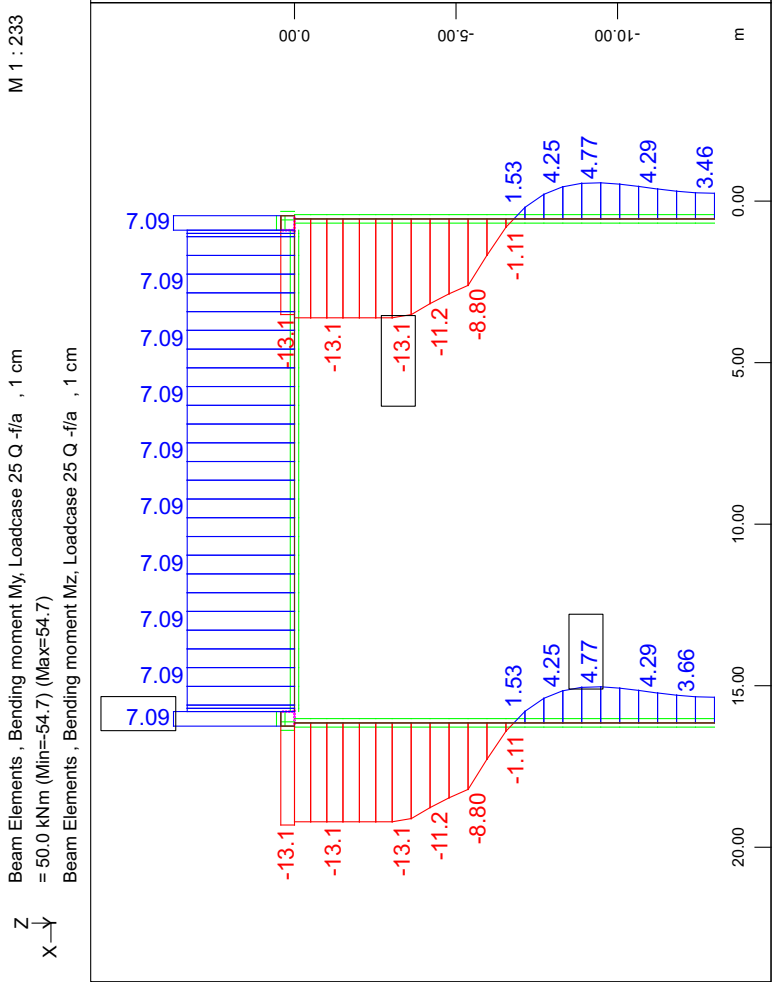
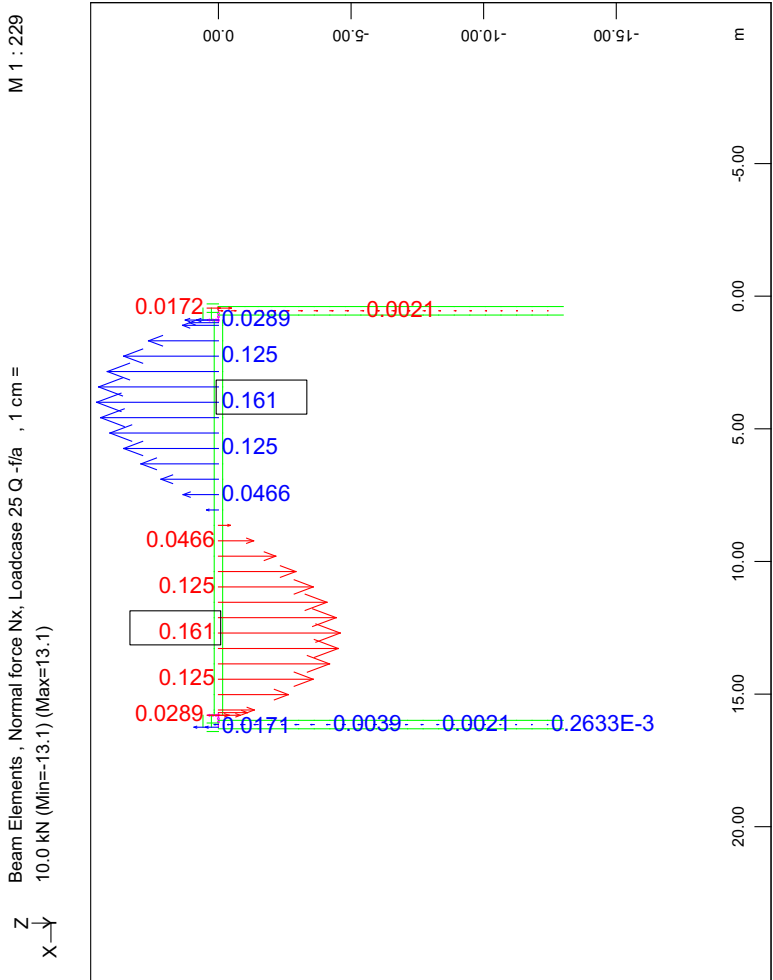
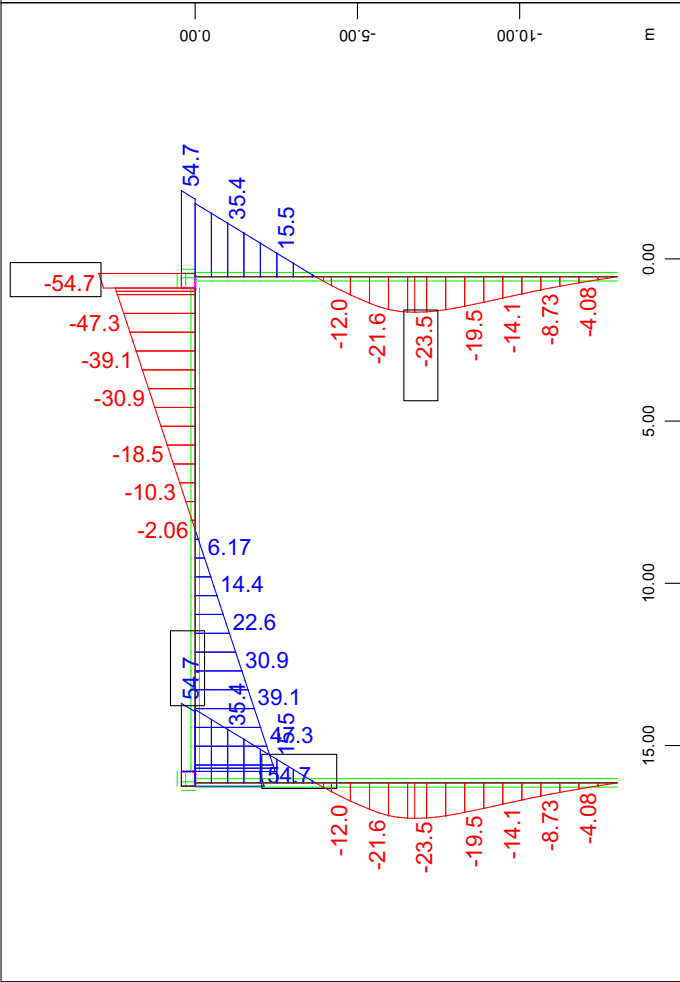
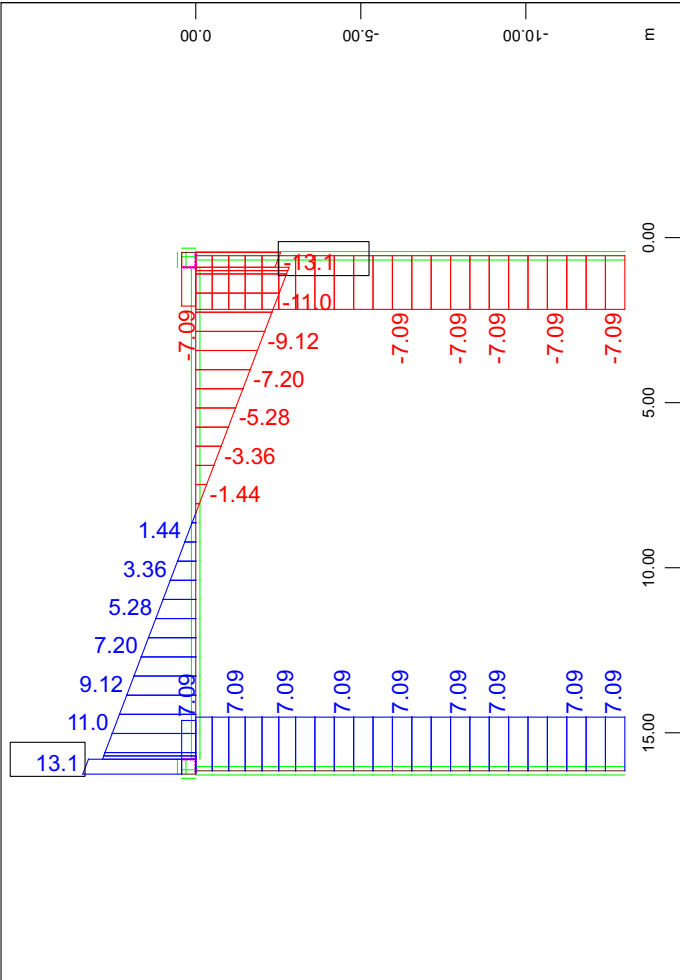
Geometria ponticello
Rappresentazione sollecitazioni elementari



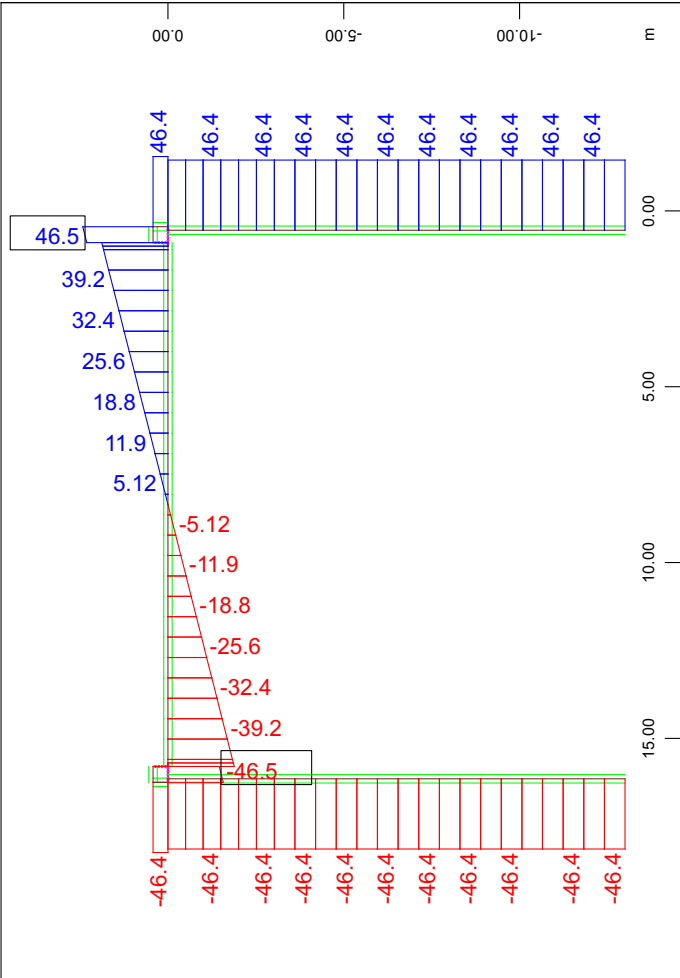
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Rappresentazione sollecitazioni elementari



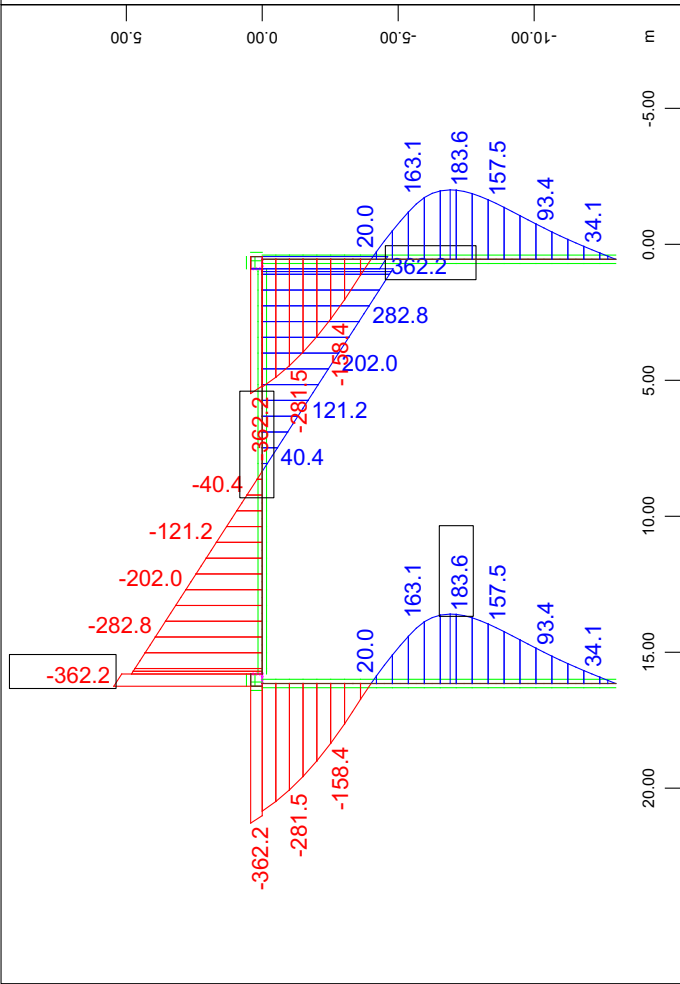
Geometria ponticello
Rappresentazione sollecitazioni elementari



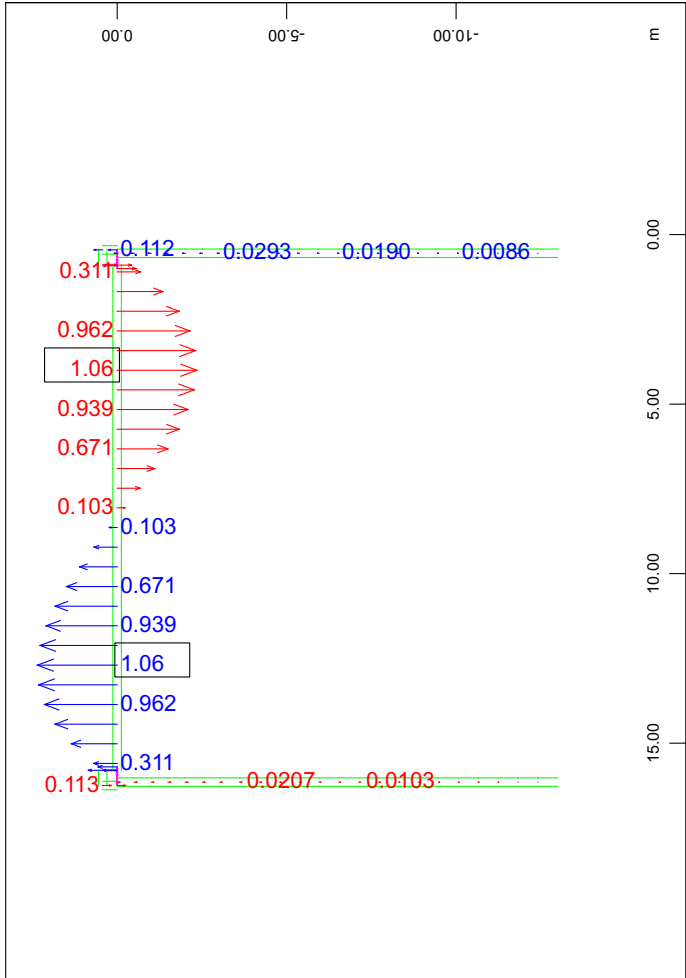
Geometria ponticello
Rappresentazione sollecitazioni elementari



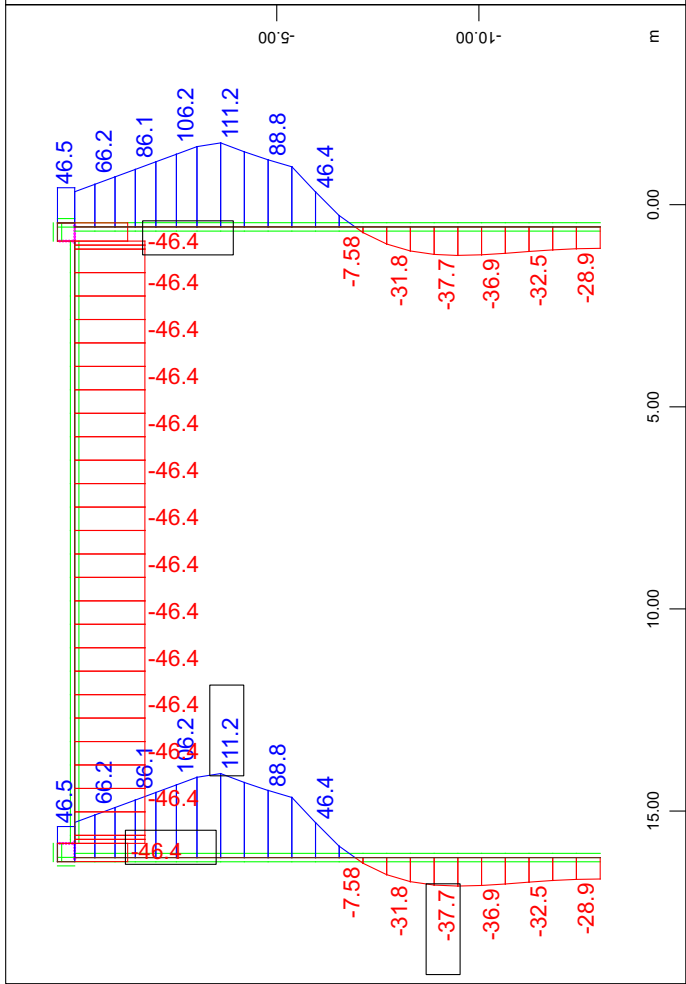
Beam Elements , Normal force N_x , Loadcase 26 Sisma $X_1, 1$
cm = 50.0 kN (Min=-46.5) (Max=46.5)



Beam Elements , Bending moment M_y , Loadcase 26 Sisma $X_1, 1$
cm = 200.0 kNm (Min=-362.2) (Max=362.2)
Beam Elements , Bending moment M_z , Loadcase 26 Sisma $X_1, 1$

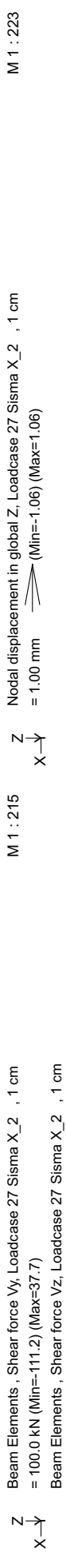
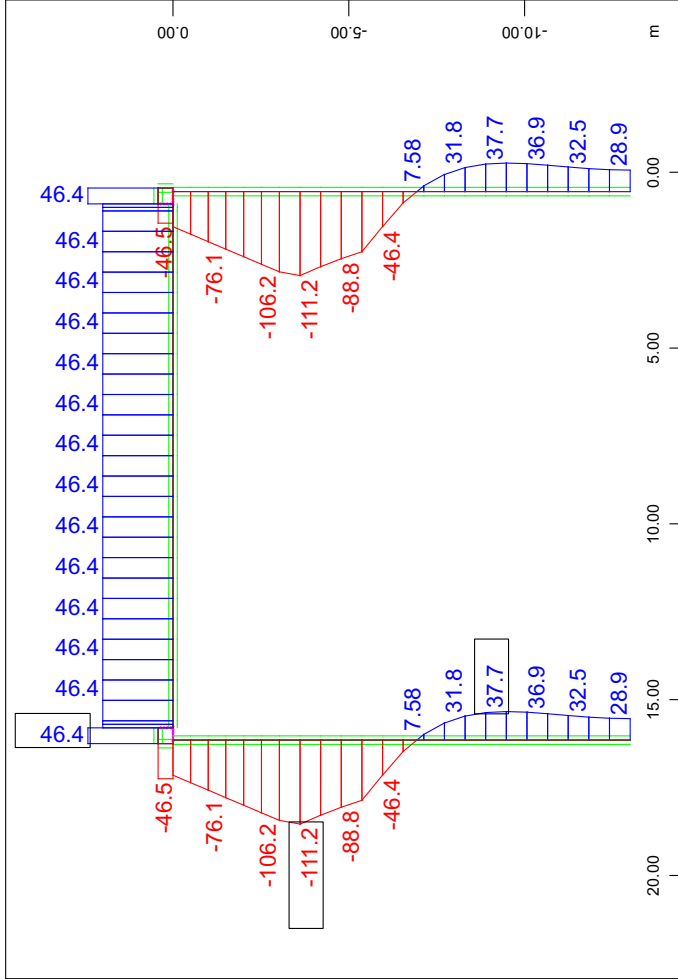
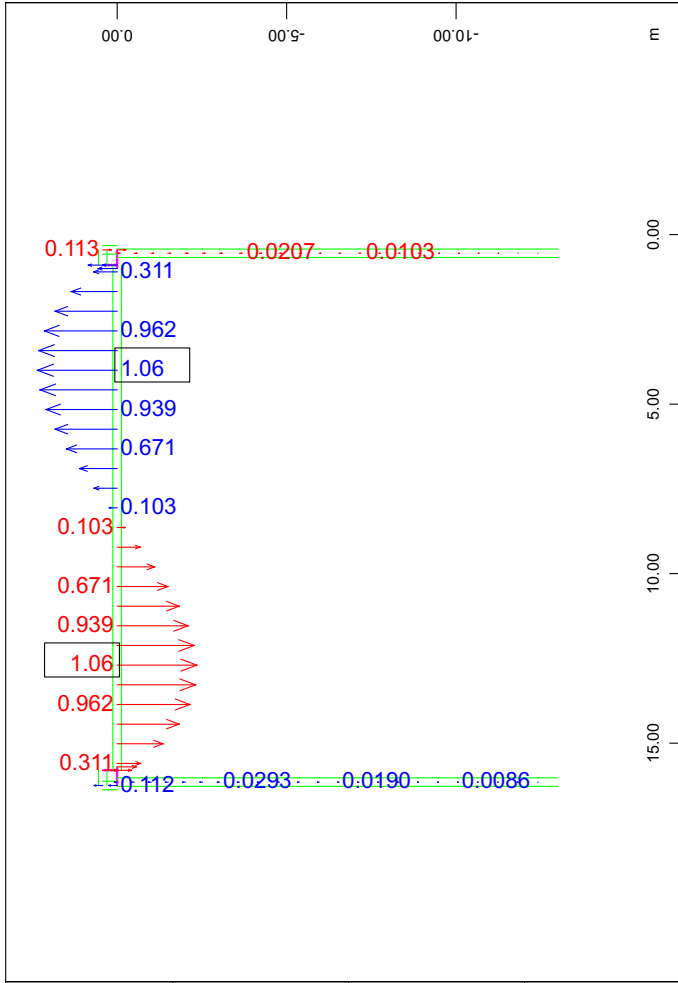
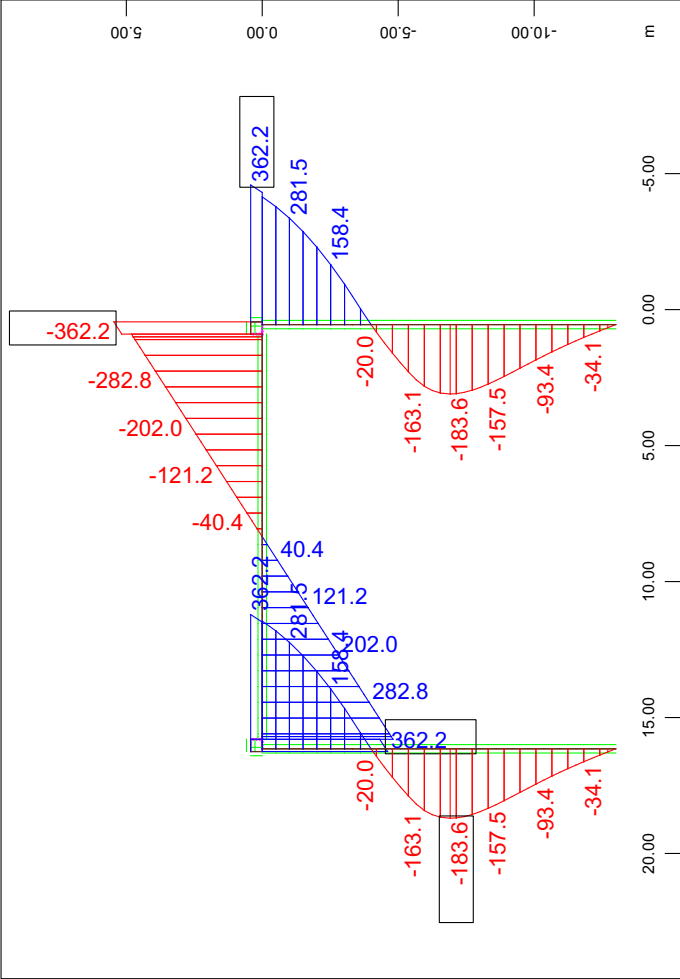
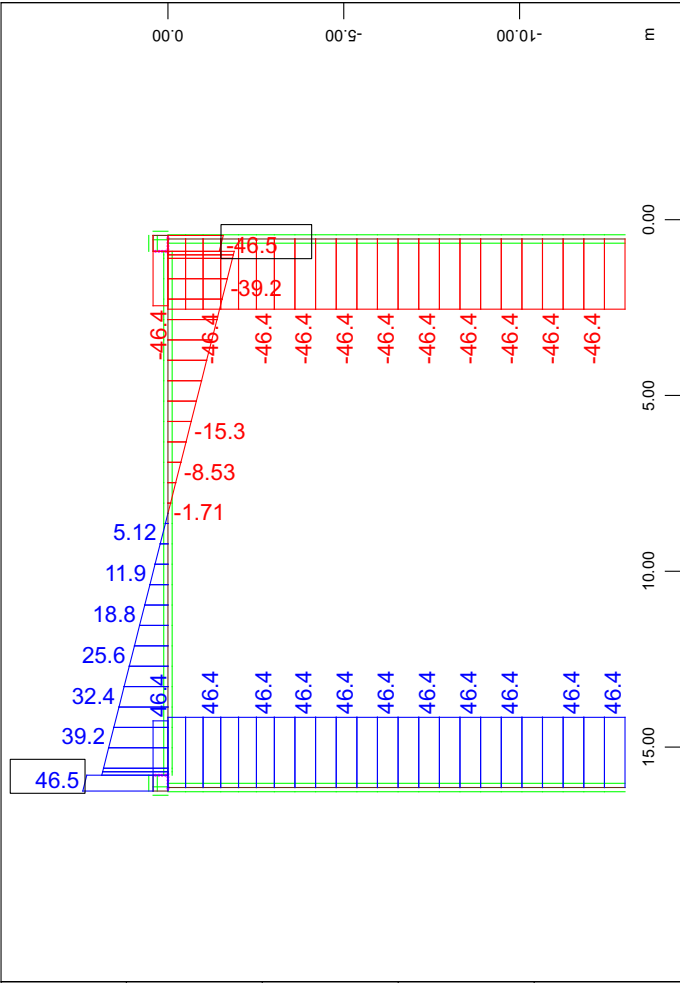


Nodal displacement in global Z, Loadcase 26 Sisma $X_1, 1$ cm
= 1.00 mm (Min=-1.06) (Max=1.06)

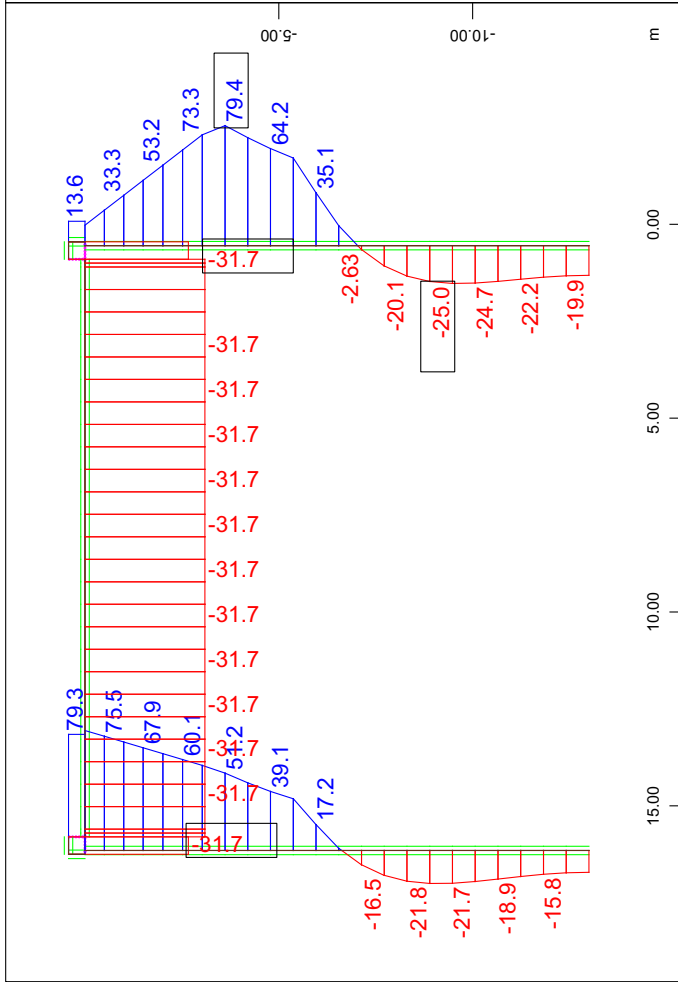
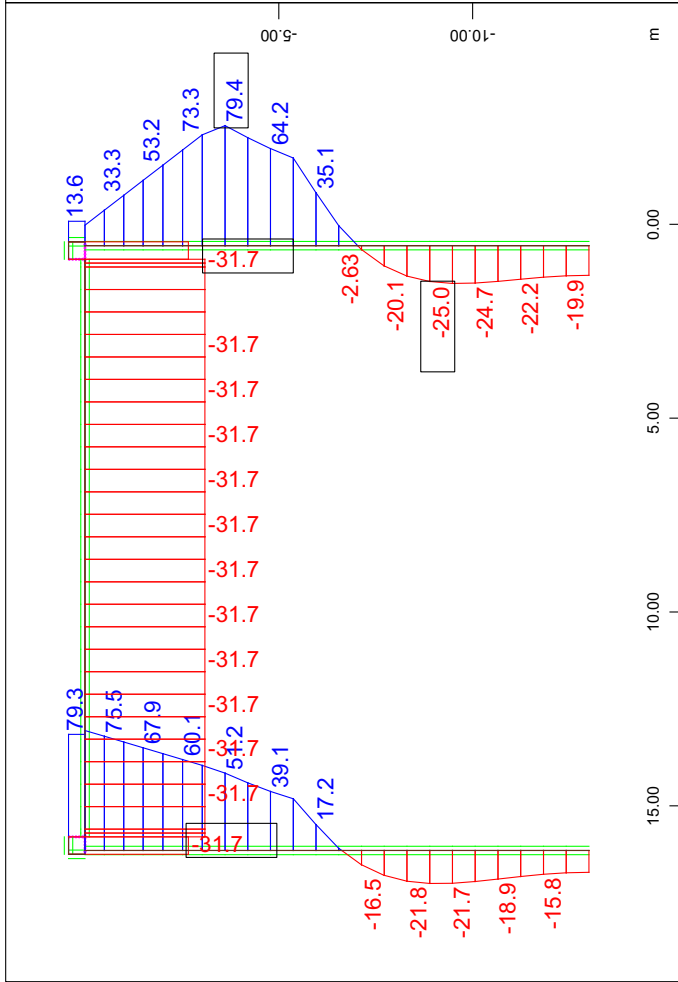
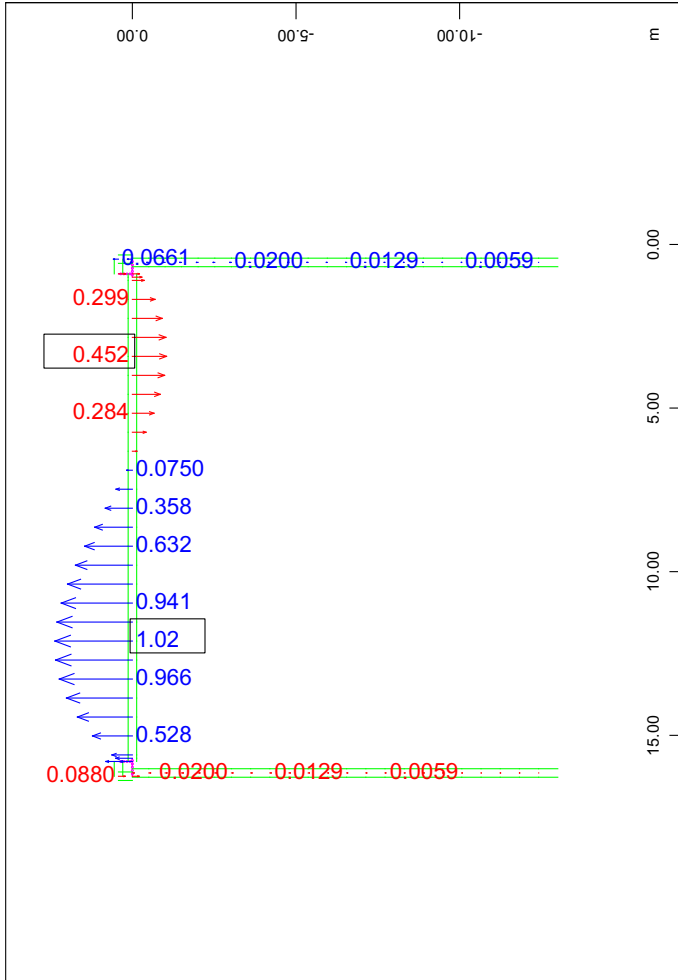
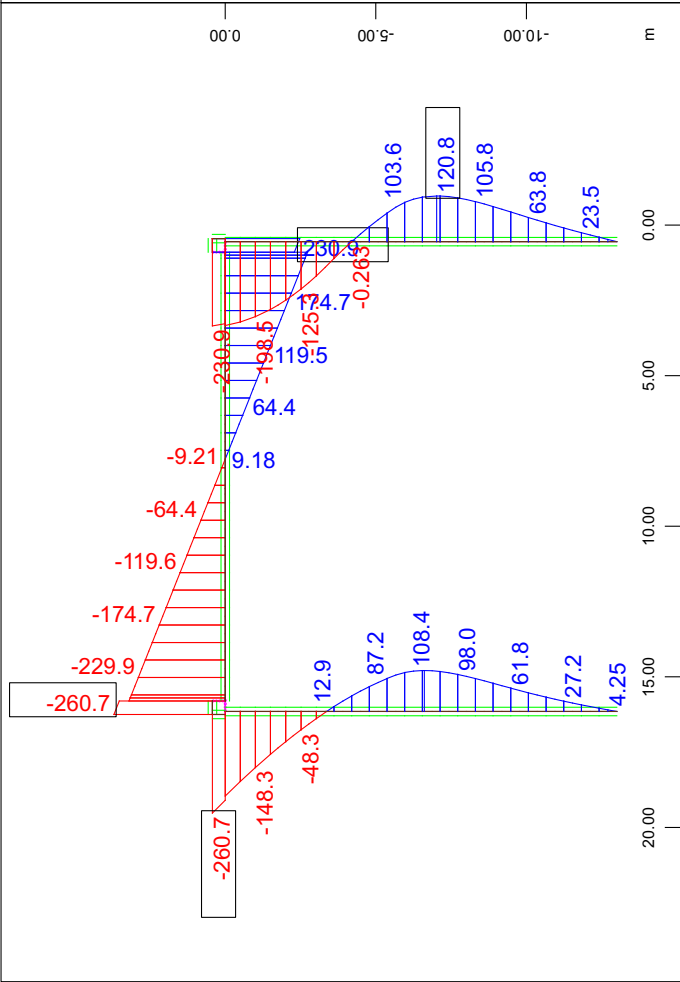
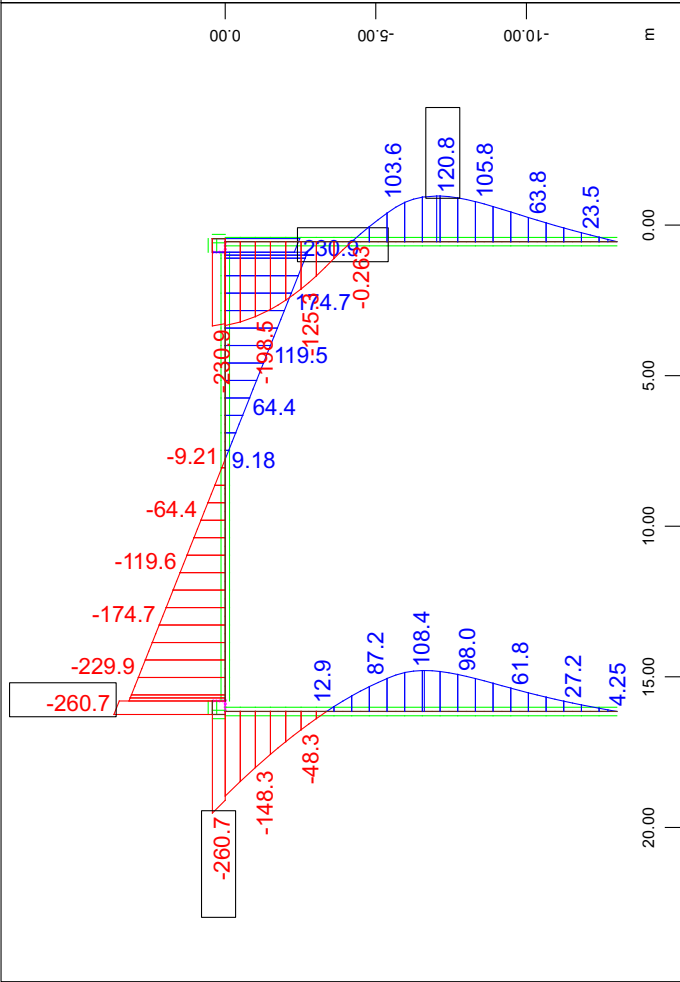
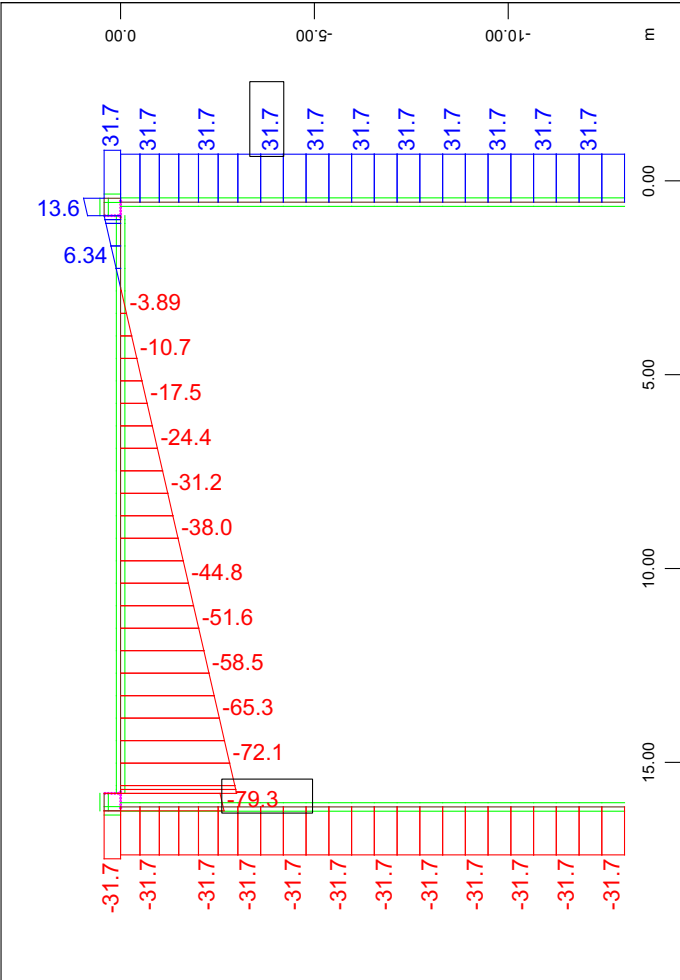


Beam Elements , Shear force V_y , Loadcase 26 Sisma $X_1, 1$ cm
= 100.0 kN (Min=-37.7) (Max=111.2)
Beam Elements , Shear force V_z , Loadcase 26 Sisma $X_1, 1$ cm

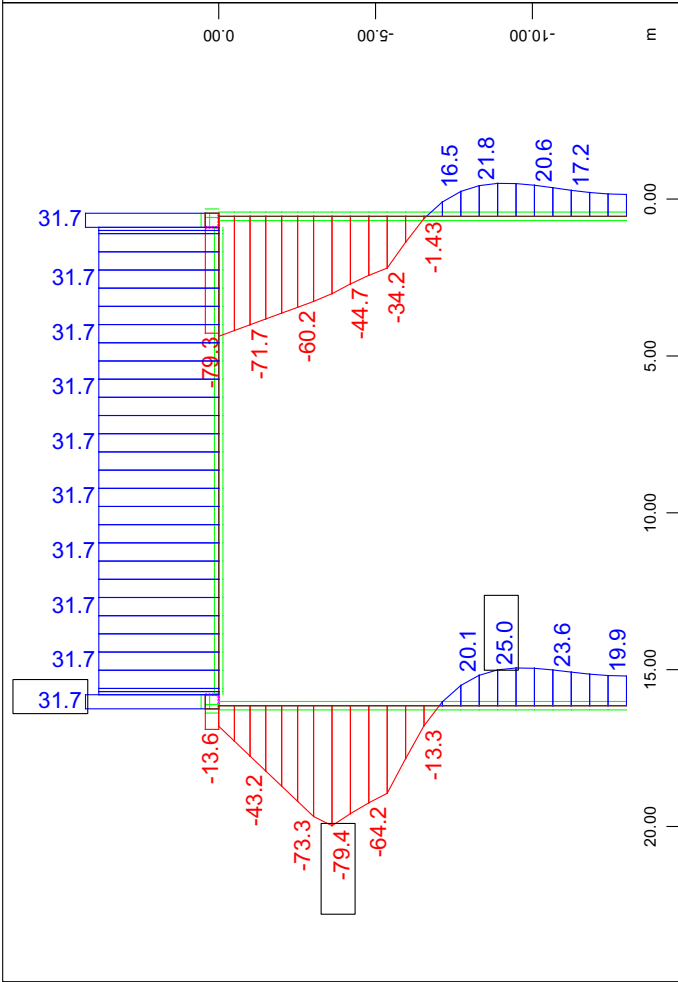
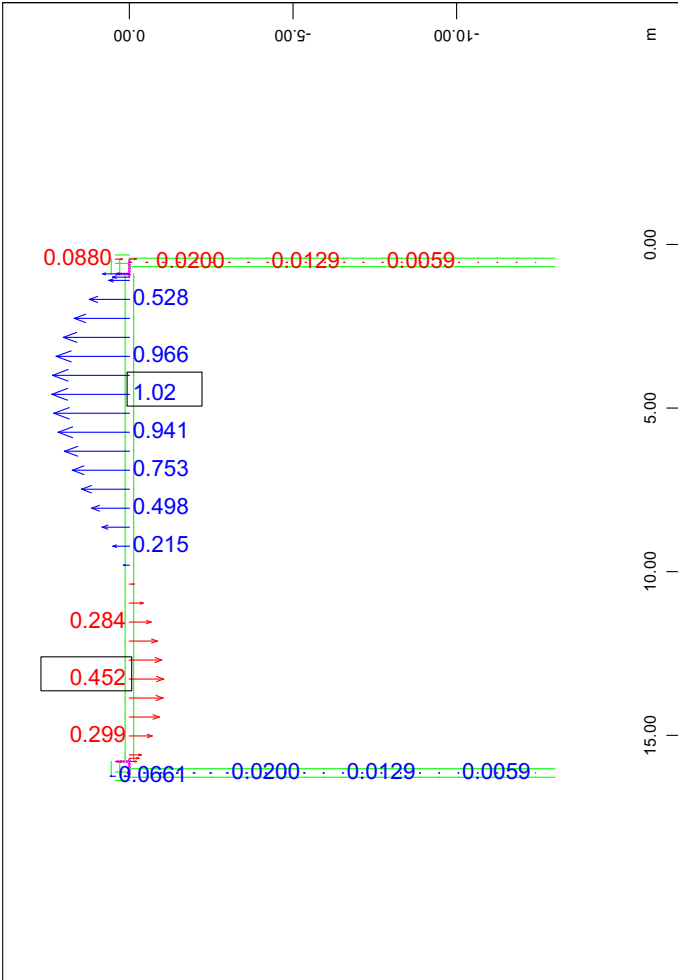
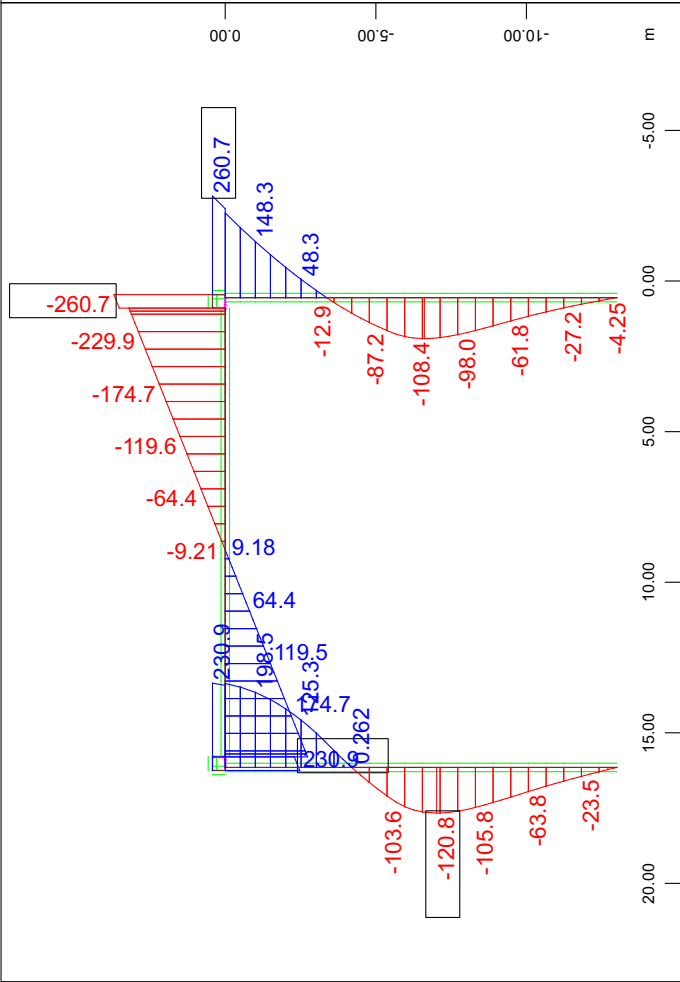
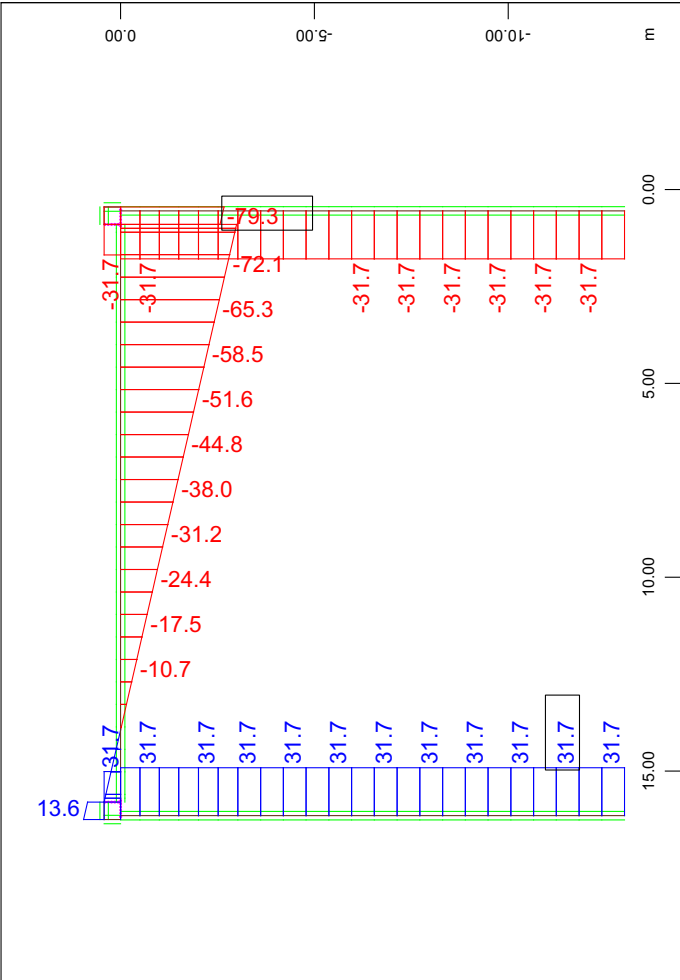
Geometria ponticello
Rappresentazione sollecitazioni elementari



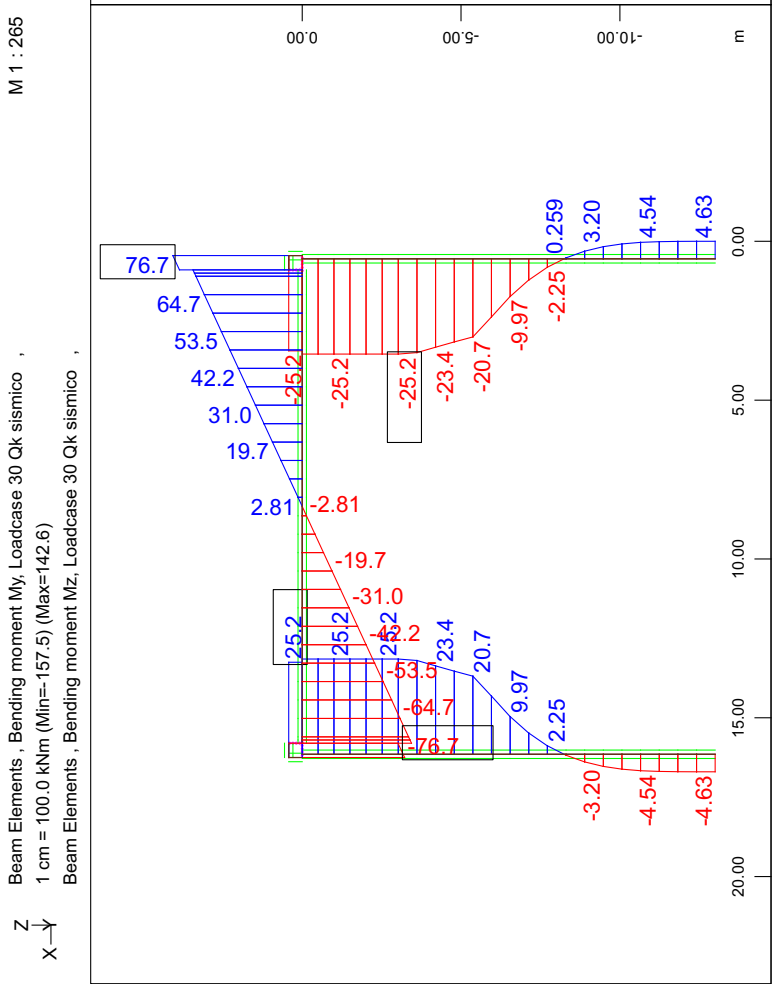
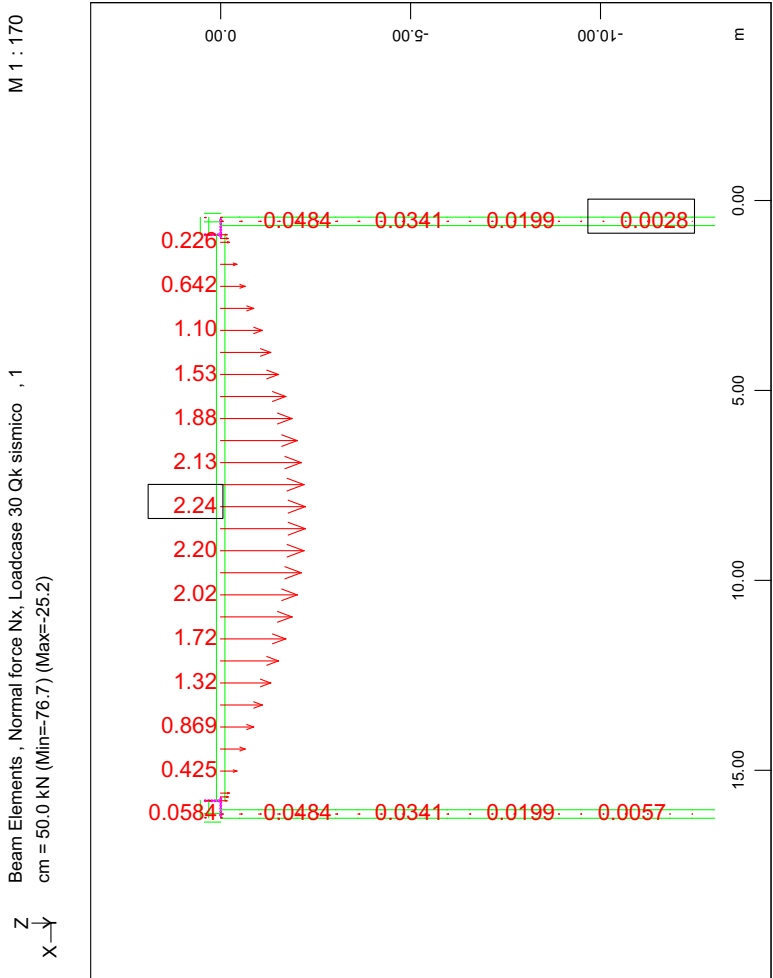
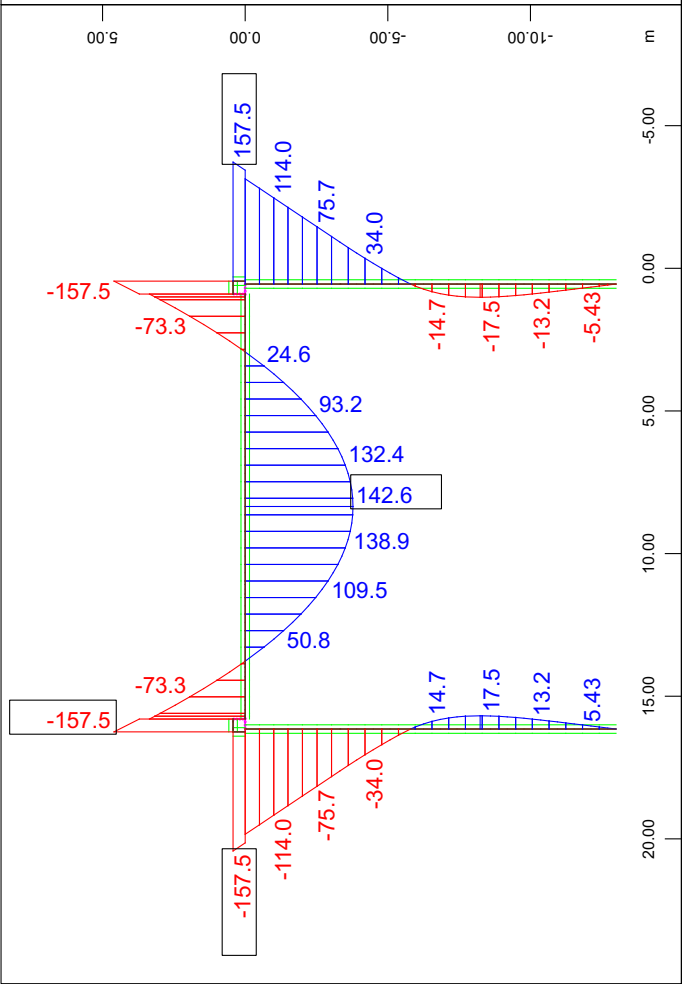
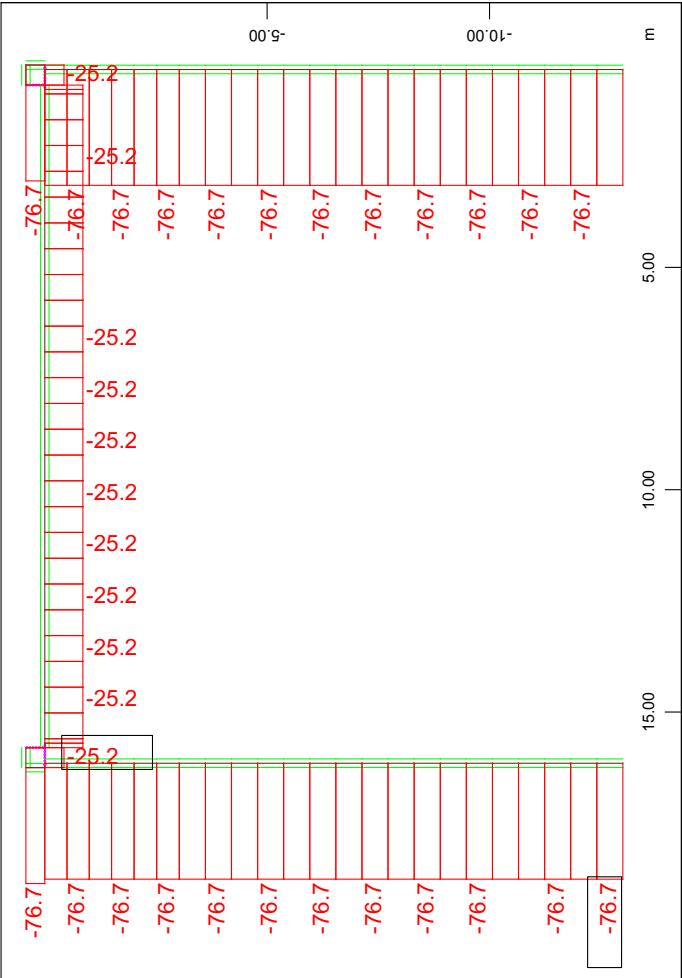
Geometria ponticello
Rappresentazione sollecitazioni elementari



Geometria ponticello
Rappresentazione sollecitazioni elementari



Geometria ponticello
Rappresentazione sollecitazioni elementari



Geometria ponticello
Design Concept

Overview used actions

Type usage
G : taken from the CSM CS table
P : taken from the CSM CS table
C : taken from the CSM CS table
B : taken from the CSM CS table
Q_A : SLS + ULS
Q_B :
Q_C : SLS + ULS
E_X :
T : temperature
.

Superposition and design concept:

In a first presuperposition, the variable actions are combined without GPC (G=dead load, P=prestress, C=creep+shrinkage) in a first separate MAXIMA run.
For the rare action combination RARE the produced max-min forces are stored in a presuperposition KOMB ... TYPE Y_1 ans stored with load case numbers 1141-1152.
Is some codes with LC 1161-1172 an additional combination traffic + wind without temperature is created also TYPE Y_1, LC 1141-1152 then contains temperature without wind.
For wind without traffic a further presuperposition Y_1 is created (e.g. loadcase number 1181-1192).
.
A following Maxima run then creates the final combination RARE with the precombinations Y_1 and the permanent actions GPC (G=dead load, P=prestress, C=C+S.) in loadcase 1121-1132.
.
In the same way precombinations and final MAXIMA combinations for nonfrequent with Y_2 LC 1200ff, frequent with Y_3 LC 1300ff, permanent with Y_4 LC 1400ff and if necessary for Y_9 1900ff with 1.0 psi-values for reaction forces are created.
For design inclusive the load safety factors GAMU the combination DESI (presuperposition Y_D) with LC 2100.ff is created, for a simplified stress range check FATI with LC 2500.ff.
.
These final combinations are used directly for QUAD elements e.g. for a design in BEMESS - LF DESI.
.
Using prestressed or composite sections, the load parts GPC must be assigned to cross section construction stages (netto, ideell). Thus the parts GPC must be defined in AQB separately, e.g. LC 5010 TYPE G_1 CT CS0 REF PART
These LC definitions are summarized in block #include loadca_aqb. The corresponding variable actions are then added with the prepared precombination Y_1 to Y_D , e.g.
COMB MAXR LC1 G LC2 P LC3 C LC4 Y_1 1.0 LCST
.
. For graphical checks the forces and stresses of the
. AQB combinations are stored with COMB LCST. For this the following
. sceme will be used:
.

Overview created loadcases and design numbers

convention loadcase numbering:
1100 = rare combination 1700 = in construction stages
1200 = nonfrequent combination
1300 = frequent combination
1400 = permanent combination 1800 = in construction stages
1900 = 1.0 superposition
2100 = design 2200 = in construction stages
2500 = accidental
2600 = earthquake
2800 = Fatigue LM3 2900 = Fatigue simplified stress range LM1
For WINGRAF-views: MAXIMA superposition results start with MAX or MIN in the loadcase title, 1020-ff have 100 % prestress, 9020-er have 90%
Only for the BEAM-AQB-combinations the LC number is further devided in:
10-th number: 00 = 100 % prestress
70 = 75 % prestress -> loadcase 9000...
90 = 90 % prestress -> loadcase 9000...
10 = 110 % prestress -> loadcase 9000...
20+30 = 90 % prestress fatigue LM1+LM3 -> 9000...
1-th number: 0+1 = maximum/minimum value uncracked design I
5+6 = maximum/minimum value cracked design II
With this convention the following BEAM-AQB-LCST loadcase numbers appear:
.
combination prestress uncracked cracked II
max LC min max LC min
SLS rare Pk,inf 90% 9190 9191 9195 9196

Geometria ponticello
Design Concept

		Pm	100%	1100	1101	1105	1106
		Pk,sub	110%	9110	9111	9115	9116
SLS nonfrequent		Pk,inf	90%	9290	9291	9295	9296
		Pm	100%	1200	1201	1205	1206
		Pk,sub	110%	9210	9211	9215	9216
SLS frequent		Pk,inf	90%	9390	9391	9395	9396
		Pm	100%	1300	1301	1305	1306
		Pk,sub	110%	9310	9311	9315	9316
Fatigue weld+couplings		Pk,inf	75%	9370	9371	9375	9376
stress range LM1		Pk,inf	90%	9320	9321	9325	9326
LM3 midspan		Pk,inf	90%	9330	9331	9335	9336
LM3 innersupports		Pk,inf	90%	9340	9341	9345	9346
SLS permanent		Pk,inf	90%	9490	9491	9495	9496
		Pm	100%	1400	1401	1405	1406
		Pk,sub	110%	9410	9411	9415	9416
9000- LC for prestress	ne. 100% !						
ULS	[desi]	Pm	100%	-	-	2105	2106

Geometria ponticello
presuperposition actions without GPC

Superpositioning combinations:
rare, nonf, freq, perm, 1.0*, desi, acci, earq, fatigue
LC 1140, 1240, 1340, 1440, 1940, 2140, 2540, 2640, 2840, 2940
Type=Y_1, Y_2, Y_3, Y_4, Y_9, Y_D, Y_A, Y_E, Y_F, Y_G
.

Superposition according to Decreto Ministeriale per le Costruzioni 2008

Combination rule Number 11
Service: Rare combination
Superposition according to manual MAXIMA formula 4
Resulting loadcases type Y_1

Loadcase selection and Actions								
Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor Type of loadcase								
Q_A	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi V da traffico
	4	1.00	Exclusive	LC	A80			Q 1
	5	1.00	Exclusive	LC	A80			Q 1_1
	6	1.00	Exclusive	LC	A80			Q 2_1
	7	1.00	Exclusive	LC	A80			Q 2_1
	8	1.00	Exclusive	LC	A80			Q 3_1
	9	1.00	Exclusive	LC	A80			Q 3_1
	10	1.00	Exclusive	LC	A80			Q 4_1
	11	1.00	Exclusive	LC	A80			Q 4_1
	12	1.00	Exclusive	LC	A80			Q 5_1
	13	1.00	Exclusive	LC	A80			Q 5_1
	14	1.00	Exclusive	LC	A80			Q 6_1
	15	1.00	Exclusive	LC	A80			Q 6_1
	16	1.00	Exclusive	LC	A80			Q 7_1
	17	1.00	Exclusive	LC	A80			Q 7_1
	18	1.00	Exclusive	LC	A80			Q 8_1
	19	1.00	Exclusive	LC	A80			Q 8_1
Q_C	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi di frenatura
	24	1.00	Exclusive	LC	A81			Q f/a
	25	1.00	Exclusive	LC	A81			Q -f/a
T	Q	1.20	0.00	1.00	0.60	0.60	0.50	Temperatura
	21	1.00	UnsignedCond	LC				Variazione uniforme
	22	1.00	UnsignedCond	LC				Variazione non uniforme

Combination rule Number 13
Service: Frequent combination
Superposition according to manual MAXIMA formula 5
Resulting loadcases type Y_3

Loadcase selection and Actions								
Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor Type of loadcase								
Q_A	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi V da traffico
	4	1.00	Exclusive	LC	A80			Q 1
	5	1.00	Exclusive	LC	A80			Q 1_1
	6	1.00	Exclusive	LC	A80			Q 2_1
	7	1.00	Exclusive	LC	A80			Q 2_1
	8	1.00	Exclusive	LC	A80			Q 3_1
	9	1.00	Exclusive	LC	A80			Q 3_1
	10	1.00	Exclusive	LC	A80			Q 4_1
	11	1.00	Exclusive	LC	A80			Q 4_1
	12	1.00	Exclusive	LC	A80			Q 5_1
	13	1.00	Exclusive	LC	A80			Q 5_1
	14	1.00	Exclusive	LC	A80			Q 6_1
	15	1.00	Exclusive	LC	A80			Q 6_1
	16	1.00	Exclusive	LC	A80			Q 7_1
	17	1.00	Exclusive	LC	A80			Q 7_1
	18	1.00	Exclusive	LC	A80			Q 8_1
	19	1.00	Exclusive	LC	A80			Q 8_1
Q_C	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi di frenatura
	24	1.00	Exclusive	LC	A81			Q f/a
	25	1.00	Exclusive	LC	A81			Q -f/a
T	Q	1.20	0.00	1.00	0.60	0.60	0.50	Temperatura
	21	1.00	UnsignedCond	LC				Variazione uniforme
	22	1.00	UnsignedCond	LC				Variazione non uniforme

Combination rule Number 14
Service: Permanent combination
Superposition according to manual MAXIMA formula 7
Resulting loadcases type Y_4

Geometria ponticello
presuperposition actions without GPC

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
		LC factor	Type of loadcase					
Q_A	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi V da traffico
	4	1.00	Exclusive	LC	A80		Q 1	
	5	1.00	Exclusive	LC	A80		Q 1_1	
	6	1.00	Exclusive	LC	A80		Q 2	
	7	1.00	Exclusive	LC	A80		Q 2_1	
	8	1.00	Exclusive	LC	A80		Q 3	
	9	1.00	Exclusive	LC	A80		Q 3_1	
	10	1.00	Exclusive	LC	A80		Q 4	
	11	1.00	Exclusive	LC	A80		Q 4_1	
	12	1.00	Exclusive	LC	A80		Q 5	
	13	1.00	Exclusive	LC	A80		Q 5_1	
	14	1.00	Exclusive	LC	A80		Q 6	
	15	1.00	Exclusive	LC	A80		Q 6_1	
	16	1.00	Exclusive	LC	A80		Q 7	
	17	1.00	Exclusive	LC	A80		Q 7_1	
	18	1.00	Exclusive	LC	A80		Q 8	
	19	1.00	Exclusive	LC	A80		Q 8_1	
Q_C	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi di frenatura
	24	1.00	Exclusive	LC	A81		Q f/a	
	25	1.00	Exclusive	LC	A81		Q -f/a	
T	Q	1.20	0.00	1.00	0.60	0.60	0.50	Temperatura
	21	1.00	UnsignedCond	LC				Variazione uniforme
	22	1.00	UnsignedCond	LC				Variazione non uniforme

Combination rule Number 19

Service: Rare combination

Superposition according to manual MAXIMA formula 4
Resulting loadcases type Y_9

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
		LC factor	Type of loadcase					
Q_A	Q	1.00	0.00	1.00	1.00	1.00	1.00	Carichi V da traffico
	4	1.00	Exclusive	LC	A51		Q 1	
	5	1.00	Exclusive	LC	A51		Q 1_1	
	6	1.00	Exclusive	LC	A51		Q 2	
	7	1.00	Exclusive	LC	A51		Q 2_1	
	8	1.00	Exclusive	LC	A51		Q 3	
	9	1.00	Exclusive	LC	A51		Q 3_1	
	10	1.00	Exclusive	LC	A51		Q 4	
	11	1.00	Exclusive	LC	A51		Q 4_1	
	12	1.00	Exclusive	LC	A51		Q 5	
	13	1.00	Exclusive	LC	A51		Q 5_1	
	14	1.00	Exclusive	LC	A51		Q 6	
	15	1.00	Exclusive	LC	A51		Q 6_1	
	16	1.00	Exclusive	LC	A51		Q 7	
	17	1.00	Exclusive	LC	A51		Q 7_1	
	18	1.00	Exclusive	LC	A51		Q 8	
	19	1.00	Exclusive	LC	A51		Q 8_1	
Q_C	Q	1.00	0.00	1.00	1.00	1.00	1.00	Carichi di frenatura
	24	1.00	Exclusive	LC	X53		Q f/a	
	25	1.00	Exclusive	LC	X53		Q -f/a	
T	Q	1.00	0.00	1.00	1.00	1.00	1.00	Temperatura
	21	1.00	UnsignedCond	LC				Variazione uniforme
	22	1.00	UnsignedCond	LC				Variazione non uniforme

Combination rule Number 21

Ultimate Design combination

Superposition according to manual MAXIMA formula 1
Resulting loadcases type Y_D

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
		LC factor	Type of loadcase					
Q_A	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi V da traffico
	4	1.00	Exclusive	LC	A80		Q 1	
	5	1.00	Exclusive	LC	A80		Q 1_1	
	6	1.00	Exclusive	LC	A80		Q 2	
	7	1.00	Exclusive	LC	A80		Q 2_1	
	8	1.00	Exclusive	LC	A80		Q 3	
	9	1.00	Exclusive	LC	A80		Q 3_1	
	10	1.00	Exclusive	LC	A80		Q 4	
	11	1.00	Exclusive	LC	A80		Q 4_1	
	12	1.00	Exclusive	LC	A80		Q 5	
	13	1.00	Exclusive	LC	A80		Q 5_1	

Geometria ponticello
presuperposition actions without GPC

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
		LC factor	Type of loadcase					
	14	1.00	Exclusive	LC	A80		Q 6	
	15	1.00	Exclusive	LC	A80		Q 6_1	
	16	1.00	Exclusive	LC	A80		Q 7	
	17	1.00	Exclusive	LC	A80		Q 7_1	
	18	1.00	Exclusive	LC	A80		Q 8	
	19	1.00	Exclusive	LC	A80		Q 8_1	
Q_C	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi di frenatura
	24	1.00	Exclusive	LC	A81		Q f/a	
	25	1.00	Exclusive	LC	A81		Q -f/a	
T	Q	1.20	0.00	1.00	0.60	0.60	0.50	Temperatura
	21	1.00	UnsignedCond	LC				Variazione uniforme
	22	1.00	UnsignedCond	LC				Variazione non uniforme

Combination rule Number 26

Ultimate Earthquake combin.

Superposition according to manual MAXIMA formula 3
Resulting loadcases type Y_E

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
		LC factor	Type of loadcase					
E_X	E	1.00	1.00	1.00	1.00	1.00	1.00	Sisma
	26	1.00	Exclusive	LC	A10			Sisma X_1
	27	1.00	Exclusive	LC	A10			Sisma X_2
	28	1.00	Exclusive	LC	A10			Sisma X_3
	29	1.00	Exclusive	LC	A10			Sisma X_4
Q_B	Q	1.00	1.00	1.00	1.00	1.00	1.00	Carichi V da traffico sismico
	30	1.00	Exclusive	LC	A80			Qk sismico
T	Q	1.20	0.00	1.00	0.60	0.60	0.50	Temperatura
	21	1.00	UnsignedCond	LC				Variazione uniforme
	22	1.00	UnsignedCond	LC				Variazione non uniforme

Combination rule Number 29

Service: Rare combination

Superposition according to manual MAXIMA formula 4
Resulting loadcases type Y_G

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
		LC factor	Type of loadcase					
Q_A	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi V da traffico
	4	1.00	Exclusive	LC	A80		Q 1	
	5	1.00	Exclusive	LC	A80		Q 1_1	
	6	1.00	Exclusive	LC	A80		Q 2	
	7	1.00	Exclusive	LC	A80		Q 2_1	
	8	1.00	Exclusive	LC	A80		Q 3	
	9	1.00	Exclusive	LC	A80		Q 3_1	
	10	1.00	Exclusive	LC	A80		Q 4	
	11	1.00	Exclusive	LC	A80		Q 4_1	
	12	1.00	Exclusive	LC	A80		Q 5	
	13	1.00	Exclusive	LC	A80		Q 5_1	
	14	1.00	Exclusive	LC	A80		Q 6	
	15	1.00	Exclusive	LC	A80		Q 6_1	
	16	1.00	Exclusive	LC	A80		Q 7	
	17	1.00	Exclusive	LC	A80		Q 7_1	
	18	1.00	Exclusive	LC	A80		Q 8	
	19	1.00	Exclusive	LC	A80		Q 8_1	
Q_C	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi di frenatura
	24	1.00	Exclusive	LC	A81		Q f/a	
	25	1.00	Exclusive	LC	A81		Q -f/a	

Generated Loadcases

Number	Comb	Title
1141	11	MAX-MY BEAM
1142	11	MIN-MY BEAM
1143	11	MAX-VZ BEAM
1144	11	MIN-VZ BEAM
1145	11	MAX-MT BEAM
1146	11	MIN-MT BEAM
1147	11	MAX-N BEAM
1148	11	MIN-N BEAM
1149	11	MAX-MZ BEAM
1150	11	MIN-MZ BEAM
1151	11	MAX-VY BEAM
1152	11	MIN-VY BEAM



Geometria ponticello
presuperposition actions without GPC

Generated Loadcases

Number	Comb	Title	
1141	11	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
1142	11	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
1143	11	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
1144	11	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
1145	11	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
1146	11	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
1147	11	MAX-UX	NODE BEAM--N_SP-PTX_temporary
1148	11	MIN-UX	NODE BEAM--N_SP-PTX_temporary
1149	11	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
1150	11	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
1151	11	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
1152	11	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
1153	11	MAXPHIX	NODE _temporary
1154	11	MINPHIX	NODE _temporary
1155	11	MAXPHIY	NODE _temporary
1156	11	MINPHIY	NODE _temporary
1157	11	MAXPHIZ	NODE _temporary
1158	11	MINPHIZ	NODE _temporary
1341	13	MAX-MY	BEAM
1342	13	MIN-MY	BEAM
1343	13	MAX-VZ	BEAM
1344	13	MIN-VZ	BEAM
1345	13	MAX-MT	BEAM
1346	13	MIN-MT	BEAM
1347	13	MAX-N	BEAM
1348	13	MIN-N	BEAM
1349	13	MAX-MZ	BEAM
1350	13	MIN-MZ	BEAM
1351	13	MAX-VY	BEAM
1352	13	MIN-VY	BEAM
1341	13	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
1342	13	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
1343	13	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
1344	13	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
1345	13	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
1346	13	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
1347	13	MAX-UX	NODE BEAM--N_SP-PTX_temporary
1348	13	MIN-UX	NODE BEAM--N_SP-PTX_temporary
1349	13	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
1350	13	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
1351	13	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
1352	13	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
1353	13	MAXPHIX	NODE _temporary
1354	13	MINPHIX	NODE _temporary
1355	13	MAXPHIY	NODE _temporary
1356	13	MINPHIY	NODE _temporary
1357	13	MAXPHIZ	NODE _temporary
1358	13	MINPHIZ	NODE _temporary
1441	14	MAX-MY	BEAM
1442	14	MIN-MY	BEAM
1443	14	MAX-VZ	BEAM
1444	14	MIN-VZ	BEAM
1445	14	MAX-MT	BEAM
1446	14	MIN-MT	BEAM
1447	14	MAX-N	BEAM
1448	14	MIN-N	BEAM
1449	14	MAX-MZ	BEAM
1450	14	MIN-MZ	BEAM
1451	14	MAX-VY	BEAM
1452	14	MIN-VY	BEAM
1441	14	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
1442	14	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
1443	14	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
1444	14	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
1445	14	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
1446	14	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
1447	14	MAX-UX	NODE BEAM--N_SP-PTX_temporary
1448	14	MIN-UX	NODE BEAM--N_SP-PTX_temporary
1449	14	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
1450	14	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
1451	14	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
1452	14	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
1453	14	MAXPHIX	NODE _temporary
1454	14	MINPHIX	NODE _temporary
1455	14	MAXPHIY	NODE _temporary
1456	14	MINPHIY	NODE _temporary
1457	14	MAXPHIZ	NODE _temporary
1458	14	MINPHIZ	NODE _temporary

Geometria ponticello
presuperposition actions without GPC

Generated Loadcases

Number	Comb	Title	
1941	19	MAX-MY	BEAM
1942	19	MIN-MY	BEAM
1943	19	MAX-VZ	BEAM
1944	19	MIN-VZ	BEAM
1945	19	MAX-MT	BEAM
1946	19	MIN-MT	BEAM
1947	19	MAX-N	BEAM
1948	19	MIN-N	BEAM
1949	19	MAX-MZ	BEAM
1950	19	MIN-MZ	BEAM
1951	19	MAX-VY	BEAM
1952	19	MIN-VY	BEAM
1941	19	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
1942	19	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
1943	19	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
1944	19	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
1945	19	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
1946	19	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
1947	19	MAX-UX	NODE BEAM--N_SP-PTX_temporary
1948	19	MIN-UX	NODE BEAM--N_SP-PTX_temporary
1949	19	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
1950	19	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
1951	19	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
1952	19	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
1953	19	MAXPHIX	NODE _temporary
1954	19	MINPHIX	NODE _temporary
1955	19	MAXPHIY	NODE _temporary
1956	19	MINPHIY	NODE _temporary
1957	19	MAXPHIZ	NODE _temporary
1958	19	MINPHIZ	NODE _temporary
2141	21	MAX-MY	BEAM
2142	21	MIN-MY	BEAM
2143	21	MAX-VZ	BEAM
2144	21	MIN-VZ	BEAM
2145	21	MAX-MT	BEAM
2146	21	MIN-MT	BEAM
2147	21	MAX-N	BEAM
2148	21	MIN-N	BEAM
2149	21	MAX-MZ	BEAM
2150	21	MIN-MZ	BEAM
2151	21	MAX-VY	BEAM
2152	21	MIN-VY	BEAM
2141	21	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
2142	21	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
2143	21	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
2144	21	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
2145	21	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
2146	21	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
2147	21	MAX-UX	NODE BEAM--N_SP-PTX_temporary
2148	21	MIN-UX	NODE BEAM--N_SP-PTX_temporary
2149	21	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
2150	21	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
2151	21	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
2152	21	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
2153	21	MAXPHIX	NODE _temporary
2154	21	MINPHIX	NODE _temporary
2155	21	MAXPHIY	NODE _temporary
2156	21	MINPHIY	NODE _temporary
2157	21	MAXPHIZ	NODE _temporary
2158	21	MINPHIZ	NODE _temporary
2641	26	MAX-MY	BEAM
2642	26	MIN-MY	BEAM
2643	26	MAX-VZ	BEAM
2644	26	MIN-VZ	BEAM
2645	26	MAX-MT	BEAM
2646	26	MIN-MT	BEAM
2647	26	MAX-N	BEAM
2648	26	MIN-N	BEAM
2649	26	MAX-MZ	BEAM
2650	26	MIN-MZ	BEAM
2651	26	MAX-VY	BEAM
2652	26	MIN-VY	BEAM
2641	26	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
2642	26	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
2643	26	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
2644	26	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
2645	26	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
2646	26	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary

Geometria ponticello
presuperposition actions without GPC

Generated Loadcases

Number	Comb	Title	
2647	26	MAX-UX	NODE BEAM--N_SP-PTX_temporary
2648	26	MIN-UX	NODE BEAM--N_SP-PTX_temporary
2649	26	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
2650	26	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
2651	26	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
2652	26	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
2653	26	MAXPHIX	NODE _temporary
2654	26	MINPHIX	NODE _temporary
2655	26	MAXPHIY	NODE _temporary
2656	26	MINPHIY	NODE _temporary
2657	26	MAXPHIZ	NODE _temporary
2658	26	MINPHIZ	NODE _temporary
2941	29	MAX-MY	BEAM
2942	29	MIN-MY	BEAM
2943	29	MAX-VZ	BEAM
2944	29	MIN-VZ	BEAM
2945	29	MAX-MT	BEAM
2946	29	MIN-MT	BEAM
2947	29	MAX-N	BEAM
2948	29	MIN-N	BEAM
2949	29	MAX-MZ	BEAM
2950	29	MIN-MZ	BEAM
2951	29	MAX-VY	BEAM
2952	29	MIN-VY	BEAM
2941	29	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
2942	29	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
2943	29	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
2944	29	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
2945	29	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
2946	29	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
2947	29	MAX-UX	NODE BEAM--N_SP-PTX_temporary
2948	29	MIN-UX	NODE BEAM--N_SP-PTX_temporary
2949	29	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
2950	29	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
2951	29	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
2952	29	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
2953	29	MAXPHIX	NODE _temporary
2954	29	MINPHIX	NODE _temporary
2955	29	MAXPHIY	NODE _temporary
2956	29	MINPHIY	NODE _temporary
2957	29	MAXPHIZ	NODE _temporary
2958	29	MINPHIZ	NODE _temporary

Geometria ponticello
Final Superposition SLS and ULS including GPC

Superpositioning combinations:
rare, nonf, freq, perm, 1.0*, desi, acci, earq, fatigue
LC 1120, 1220, 1320, 1420, 1920, 2120, 2520, 2620, 2820, 2920
Type=Y_1, Y_2, Y_3, Y_4, Y_9, Y_D, Y_A, Y_E, Y_F, Y_G
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Superposition according to Decreto Ministeriale per le Costruzioni 2008

Combination rule Number 111
Service: Rare combination
Superposition according to manual MAXIMA formula 4
Resulting loadcases type Service: Rare combination

Loadcase selection and Actions							
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor Type of loadcase							
C	G	1.20	0.00	1.00	1.00	1.00	Ritiro
5015	1.00	permanent	load	grouped	in	actions	creep&shrinkage
5025	1.00	permanent	load	grouped	in	actions	creep&shrinkage
5035	1.00	Conditional	LC				creep&shrinkage t-inf
5036	1.00	Combined	with	LC			creep&shrinkage t-inf
5037	1.00	Combined	with	LC			creep&shrinkage t-inf
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load g1
5003	1.00	permanent	load	grouped	in	load cases	Foundation
5004	1.00	permanent	load	grouped	in	load cases	Spinta terre
5010	1.00	permanent	load	grouped	in	load cases	DL-beams
5020	1.00	permanent	load	grouped	in	load cases	liquid concrete slab
5021	1.00	permanent	load	grouped	in	load cases	support change
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali
5028	1.00	permanent	load	grouped	in	load cases	G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
5009	1.00	permanent	load	grouped	in	actions	prestress beams
Y_1	Q	1.00	0.00	1.00	1.00	1.00	rare without gpc
1141	1.00	Exclusive	LC	A	7		MAX-MY BEAM
1142	1.00	Exclusive	LC	A	7		MIN-MY BEAM
1143	1.00	Exclusive	LC	A	7		MAX-VZ BEAM
1144	1.00	Exclusive	LC	A	7		MIN-VZ BEAM
1145	1.00	Exclusive	LC	A	7		MAX-MT BEAM
1146	1.00	Exclusive	LC	A	7		MIN-MT BEAM
1147	1.00	Exclusive	LC	A	7		MAX-N BEAM
1148	1.00	Exclusive	LC	A	7		MIN-N BEAM
1149	1.00	Exclusive	LC	A	7		MAX-MZ BEAM
1150	1.00	Exclusive	LC	A	7		MIN-MZ BEAM
1151	1.00	Exclusive	LC	A	7		MAX-VY BEAM
1152	1.00	Exclusive	LC	A	7		MIN-VY BEAM
1153	1.00	Exclusive	LC	A	7		MAXPHIX NODE _temporary
1154	1.00	Exclusive	LC	A	7		MINPHIX NODE _temporary
1155	1.00	Exclusive	LC	A	7		MAXPHIY NODE _temporary
1156	1.00	Exclusive	LC	A	7		MINPHIY NODE _temporary
1157	1.00	Exclusive	LC	A	7		MAXPHIZ NODE _temporary
1158	1.00	Exclusive	LC	A	7		MINPHIZ NODE _temporary

Combination rule Number 113
Service: Frequent combination
Superposition according to manual MAXIMA formula 5
Resulting loadcases type Service: Frequent combination

Loadcase selection and Actions							
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor Type of loadcase							
C	G	1.20	0.00	1.00	1.00	1.00	Ritiro
5015	1.00	permanent	load	grouped	in	actions	creep&shrinkage
5025	1.00	permanent	load	grouped	in	actions	creep&shrinkage
5035	1.00	Conditional	LC				creep&shrinkage t-inf
5036	1.00	Combined	with	LC			creep&shrinkage t-inf
5037	1.00	Combined	with	LC			creep&shrinkage t-inf
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load g1
5003	1.00	permanent	load	grouped	in	load cases	Foundation
5004	1.00	permanent	load	grouped	in	load cases	Spinta terre
5010	1.00	permanent	load	grouped	in	load cases	DL-beams
5020	1.00	permanent	load	grouped	in	load cases	liquid concrete slab
5021	1.00	permanent	load	grouped	in	load cases	support change
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali
5028	1.00	permanent	load	grouped	in	load cases	G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
5009	1.00	permanent	load	grouped	in	actions	prestress beams
Y_3	Q	1.00	0.00	1.00	1.00	1.00	freq without gpc
1341	1.00	Exclusive	LC	A	7		MAX-MY BEAM

Geometria ponticello
Final Superposition SLS and ULS including GPC

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	
LC factor	Type of loadcase						Title
1342	1.00	Exclusive	LC	A	7	MIN-MY BEAM	
1343	1.00	Exclusive	LC	A	7	MAX-VZ BEAM	
1344	1.00	Exclusive	LC	A	7	MIN-VZ BEAM	
1345	1.00	Exclusive	LC	A	7	MAX-MT BEAM	
1346	1.00	Exclusive	LC	A	7	MIN-MT BEAM	
1347	1.00	Exclusive	LC	A	7	MAX-N BEAM	
1348	1.00	Exclusive	LC	A	7	MIN-N BEAM	
1349	1.00	Exclusive	LC	A	7	MAX-MZ BEAM	
1350	1.00	Exclusive	LC	A	7	MIN-MZ BEAM	
1351	1.00	Exclusive	LC	A	7	MAX-VY BEAM	
1352	1.00	Exclusive	LC	A	7	MIN-VY BEAM	
1353	1.00	Exclusive	LC	A	7	MAXPHIX NODE	_temporary
1354	1.00	Exclusive	LC	A	7	MINPHIX NODE	_temporary
1355	1.00	Exclusive	LC	A	7	MAXPHIY NODE	_temporary
1356	1.00	Exclusive	LC	A	7	MINPHIY NODE	_temporary
1357	1.00	Exclusive	LC	A	7	MAXPHIZ NODE	_temporary
1358	1.00	Exclusive	LC	A	7	MINPHIZ NODE	_temporary

Combination rule Number 114

Service: Permanent combination

Superposition according to manual MAXIMA formula 7
Resulting loadcases type Service: Permanent combination

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2		
	LC	factor	Type of loadcase						Title
C	G	1.20	0.00	1.00	1.00	1.00	1.00	Ritiro	
5015	1.00	permanent	load grouped in actions					creep&shrinkage	
5025	1.00	permanent	load grouped in actions					creep&shrinkage	
5035	1.00	Conditional LC						creep&shrinkage t-inf	
5036	1.00	Combined with LC						creep&shrinkage t-inf	
5037	1.00	Combined with LC						creep&shrinkage t-inf	
G_1	G	1.00	1.00	1.00	1.00	1.00	1.00	dead load g1	
5003	1.00	permanent	load grouped in load cases					Foundation	
5004	1.00	permanent	load grouped in load cases					Spinta terre	
5010	1.00	permanent	load grouped in load cases					DL-beams	
5020	1.00	permanent	load grouped in load cases					liquid concrete slab	
5021	1.00	permanent	load grouped in load cases					support change	
G_2	G	1.00	1.00	1.00	1.00	1.00	1.00	G non strutturali	
5028	1.00	permanent	load grouped in load cases					G_2	
P	P	1.00	1.00	1.00	1.00	1.00	1.00	Carichi G2	
5009	1.00	permanent	load grouped in actions					prestress beams	
Y_4	Q	1.00	0.00	1.00	1.00	1.00	1.00	perm without gpc	
1441	1.00	Exclusive LC	A 7					MAX-MY BEAM	
1442	1.00	Exclusive LC	A 7					MIN-MY BEAM	
1443	1.00	Exclusive LC	A 7					MAX-VZ BEAM	
1444	1.00	Exclusive LC	A 7					MIN-VZ BEAM	
1445	1.00	Exclusive LC	A 7					MAX-MT BEAM	
1446	1.00	Exclusive LC	A 7					MIN-MT BEAM	
1447	1.00	Exclusive LC	A 7					MAX-N BEAM	
1448	1.00	Exclusive LC	A 7					MIN-N BEAM	
1449	1.00	Exclusive LC	A 7					MAX-MZ BEAM	
1450	1.00	Exclusive LC	A 7					MIN-MZ BEAM	
1451	1.00	Exclusive LC	A 7					MAX-VY BEAM	
1452	1.00	Exclusive LC	A 7					MIN-VY BEAM	
1453	1.00	Exclusive LC	A 7					MAXPHIX NODE	_temporary
1454	1.00	Exclusive LC	A 7					MINPHIX NODE	_temporary
1455	1.00	Exclusive LC	A 7					MAXPHIY NODE	_temporary
1456	1.00	Exclusive LC	A 7					MINPHIY NODE	_temporary
1457	1.00	Exclusive LC	A 7					MAXPHIZ NODE	_temporary
1458	1.00	Exclusive LC	A 7					MINPHIZ NODE	_temporary

Combination rule Number 119

Service: Rare combination

Superposition according to manual MAXIMA formula 4
Resulting loadcases type Y_X

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2		
	LC factor	Type of loadcase						Title
C	G	1.00	1.00	1.00	1.00	1.00	Ritiro	
5015	1.00	permanent load grouped in actions						creep&shrinkage
5025	1.00	permanent load grouped in actions						creep&shrinkage
5035	1.00	Conditional LC						creep&shrinkage t-inf
5036	1.00	Combined with LC						creep&shrinkage t-inf

Geometria ponticello
Final Superposition SLS and ULS including GPC

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor			Type of loadcase				
5037	1.00		Combined with LC				creep&shrinkage t-inf
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load gl
5003	1.00		permanent load grouped in load cases				Foundation
5004	1.00		permanent load grouped in load cases				Spinta terre
5010	1.00		permanent load grouped in load cases				DL-beams
5020	1.00		permanent load grouped in load cases				liquid concrete slab
5021	1.00		permanent load grouped in load cases				support change
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali
5028	1.00		permanent load grouped in load cases				G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
5009	1.00		permanent load grouped in actions				prestress beams
Y_9	Q	1.00	0.00	1.00	1.00	1.00	1.0* without gpc
1941	1.00		Exclusive LC	A 7			MAX-MY BEAM
1942	1.00		Exclusive LC	A 7			MIN-MY BEAM
1943	1.00		Exclusive LC	A 7			MAX-VZ BEAM
1944	1.00		Exclusive LC	A 7			MIN-VZ BEAM
1945	1.00		Exclusive LC	A 7			MAX-MT BEAM
1946	1.00		Exclusive LC	A 7			MIN-MT BEAM
1947	1.00		Exclusive LC	A 7			MAX-N BEAM
1948	1.00		Exclusive LC	A 7			MIN-N BEAM
1949	1.00		Exclusive LC	A 7			MAX-MZ BEAM
1950	1.00		Exclusive LC	A 7			MIN-MZ BEAM
1951	1.00		Exclusive LC	A 7			MAX-VY BEAM
1952	1.00		Exclusive LC	A 7			MIN-VY BEAM
1953	1.00		Exclusive LC	A 7			MAXPHIX NODE _temporary
1954	1.00		Exclusive LC	A 7			MINPHIX NODE _temporary
1955	1.00		Exclusive LC	A 7			MAXPHIY NODE _temporary
1956	1.00		Exclusive LC	A 7			MINPHIY NODE _temporary
1957	1.00		Exclusive LC	A 7			MAXPHIZ NODE _temporary
1958	1.00		Exclusive LC	A 7			MINPHIZ NODE _temporary

Combination rule Number 121

Ultimate Design combination

Superposition according to manual MAXIMA formula 1
Resulting loadcases type Ultimate Design combination

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor			Type of loadcase				
C	G	1.35	1.00	1.00	1.00	1.00	Ritiro
5015	1.00		permanent load grouped in actions				creep&shrinkage
5025	1.00		permanent load grouped in actions				creep&shrinkage
5035	1.00		Conditional LC				creep&shrinkage t-inf
5036	1.00		Combined with LC				creep&shrinkage t-inf
5037	1.00		Combined with LC				creep&shrinkage t-inf
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load gl
5003	1.00		permanent load grouped in load cases				Foundation
5004	1.00		permanent load grouped in load cases				Spinta terre
5010	1.00		permanent load grouped in load cases				DL-beams
5020	1.00		permanent load grouped in load cases				liquid concrete slab
5021	1.00		permanent load grouped in load cases				support change
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali
5028	1.00		permanent load grouped in load cases				G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
5009	1.00		permanent load grouped in actions				prestress beams
Y_D	Q	1.00	0.00	1.00	1.00	1.00	desi without gpc
2141	1.00		Exclusive LC	A 7			MAX-MY BEAM
2142	1.00		Exclusive LC	A 7			MIN-MY BEAM
2143	1.00		Exclusive LC	A 7			MAX-VZ BEAM
2144	1.00		Exclusive LC	A 7			MIN-VZ BEAM
2145	1.00		Exclusive LC	A 7			MAX-MT BEAM
2146	1.00		Exclusive LC	A 7			MIN-MT BEAM
2147	1.00		Exclusive LC	A 7			MAX-N BEAM
2148	1.00		Exclusive LC	A 7			MIN-N BEAM
2149	1.00		Exclusive LC	A 7			MAX-MZ BEAM
2150	1.00		Exclusive LC	A 7			MIN-MZ BEAM
2151	1.00		Exclusive LC	A 7			MAX-VY BEAM
2152	1.00		Exclusive LC	A 7			MIN-VY BEAM
2153	1.00		Exclusive LC	A 7			MAXPHIX NODE _temporary
2154	1.00		Exclusive LC	A 7			MINPHIX NODE _temporary
2155	1.00		Exclusive LC	A 7			MAXPHIY NODE _temporary
2156	1.00		Exclusive LC	A 7			MINPHIY NODE _temporary
2157	1.00		Exclusive LC	A 7			MAXPHIZ NODE _temporary
2158	1.00		Exclusive LC	A 7			MINPHIZ NODE _temporary

Geometria ponticello
Final Superposition SLS and ULS including GPC

Combination rule Number 126
Ultimate Earthquake combin.
Superposition according to manual MAXIMA formula 3
Resulting loadcases type Ultimate Earthquake combin.

Loadcase selection and Actions							
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor		Type of loadcase					
C	G	1.20	0.00	1.00	1.00	1.00	Ritiro
	5015	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5025	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5035	1.00	Conditional	LC			creep&shrinkage t-inf
	5036	1.00	Combined with	LC			creep&shrinkage t-inf
	5037	1.00	Combined with	LC			creep&shrinkage t-inf
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load g1
	5003	1.00	permanent	load	grouped	in load cases	Foundation
	5004	1.00	permanent	load	grouped	in load cases	Spinta terre
	5010	1.00	permanent	load	grouped	in load cases	DL-beams
	5020	1.00	permanent	load	grouped	in load cases	liquid concrete slab
	5021	1.00	permanent	load	grouped	in load cases	support change
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali
	5028	1.00	permanent	load	grouped	in load cases	G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
	5009	1.00	permanent	load	grouped	in actions	prestress beams
Y_E	Q	1.00	0.00	1.00	1.00	1.00	earq without gpc
	2641	1.00	Exclusive	LC	A 7		MAX-MY BEAM
	2642	1.00	Exclusive	LC	A 7		MIN-MY BEAM
	2643	1.00	Exclusive	LC	A 7		MAX-VZ BEAM
	2644	1.00	Exclusive	LC	A 7		MIN-VZ BEAM
	2645	1.00	Exclusive	LC	A 7		MAX-MT BEAM
	2646	1.00	Exclusive	LC	A 7		MIN-MT BEAM
	2647	1.00	Exclusive	LC	A 7		MAX-N BEAM
	2648	1.00	Exclusive	LC	A 7		MIN-N BEAM
	2649	1.00	Exclusive	LC	A 7		MAX-MZ BEAM
	2650	1.00	Exclusive	LC	A 7		MIN-MZ BEAM
	2651	1.00	Exclusive	LC	A 7		MAX-VY BEAM
	2652	1.00	Exclusive	LC	A 7		MIN-VY BEAM
	2653	1.00	Exclusive	LC	A 7		MAXPHIX NODE _temporary
	2654	1.00	Exclusive	LC	A 7		MINPHIX NODE _temporary
	2655	1.00	Exclusive	LC	A 7		MAXPHIY NODE _temporary
	2656	1.00	Exclusive	LC	A 7		MINPHIY NODE _temporary
	2657	1.00	Exclusive	LC	A 7		MAXPHIZ NODE _temporary
	2658	1.00	Exclusive	LC	A 7		MINPHIZ NODE _temporary

Combination rule Number 129
Service: Rare combination
Superposition according to manual MAXIMA formula 4
Resulting loadcases type Service: Rare combination

Loadcase selection and Actions							
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor		Type of loadcase					
C	G	1.00	1.00	1.00	1.00	1.00	Ritiro
	5015	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5025	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5035	1.00	permanent	load	grouped	in actions	creep&shrinkage t-inf
	5036	1.00	permanent	load	grouped	in actions	creep&shrinkage t-inf
	5037	1.00	permanent	load	grouped	in actions	creep&shrinkage t-inf
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load g1
	5003	1.00	permanent	load	grouped	in load cases	Foundation
	5004	1.00	permanent	load	grouped	in load cases	Spinta terre
	5010	1.00	permanent	load	grouped	in load cases	DL-beams
	5020	1.00	permanent	load	grouped	in load cases	liquid concrete slab
	5021	1.00	permanent	load	grouped	in load cases	support change
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali
	5028	1.00	permanent	load	grouped	in load cases	G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
	5009	0.90	permanent	load	grouped	in actions	prestress beams
Y_G	Q	1.00	0.00	1.00	1.00	1.00	stress range L+Q
	2941	1.00	Exclusive	LC	A 7		MAX-MY BEAM
	2942	1.00	Exclusive	LC	A 7		MIN-MY BEAM
	2943	1.00	Exclusive	LC	A 7		MAX-VZ BEAM
	2944	1.00	Exclusive	LC	A 7		MIN-VZ BEAM
	2945	1.00	Exclusive	LC	A 7		MAX-MT BEAM
	2946	1.00	Exclusive	LC	A 7		MIN-MT BEAM
	2947	1.00	Exclusive	LC	A 7		MAX-N BEAM
	2948	1.00	Exclusive	LC	A 7		MIN-N BEAM
	2949	1.00	Exclusive	LC	A 7		MAX-MZ BEAM
	2950	1.00	Exclusive	LC	A 7		MIN-MZ BEAM

Geometria ponticello
Final Superposition SLS and ULS including GPC

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC		factor	Type of loadcase					
2951		1.00	Exclusive	LC	A 7		MAX-VY	BEAM
2952		1.00	Exclusive	LC	A 7		MIN-VY	BEAM
2953		1.00	Exclusive	LC	A 7		MAXPHIX	NODE _temporary
2954		1.00	Exclusive	LC	A 7		MINPHIX	NODE _temporary
2955		1.00	Exclusive	LC	A 7		MAXPHIY	NODE _temporary
2956		1.00	Exclusive	LC	A 7		MINPHIY	NODE _temporary
2957		1.00	Exclusive	LC	A 7		MAXPHIZ	NODE _temporary
2958		1.00	Exclusive	LC	A 7		MINPHIZ	NODE _temporary

Generated Loadcases

Number	Comb	Title	
1121	111	MAXR-MY	BEAM
1122	111	MINR-MY	BEAM
1123	111	MAXR-VZ	BEAM
1124	111	MINR-VZ	BEAM
1125	111	MAXR-MT	BEAM
1126	111	MINR-MT	BEAM
1127	111	MAXR-N	BEAM
1128	111	MINR-N	BEAM
1129	111	MAXR-MZ	BEAM
1130	111	MINR-MZ	BEAM
1131	111	MAXR-VY	BEAM
1132	111	MINR-VY	BEAM
1121	111	MAXR-PX	NODE BEAM-MY_SPRI-P_rare
1122	111	MINR-PX	NODE BEAM-MY_SPRI-P_rare
1123	111	MAXR-PY	NODE BEAM-VZ_SPRI-T_rare
1124	111	MINR-PY	NODE BEAM-VZ_SPRI-T_rare
1125	111	MAXR-PZ	NODE BEAM-MT_SPRI-M_rare
1126	111	MINR-PZ	NODE BEAM-MT_SPRI-M_rare
1127	111	MAXR-UX	NODE BEAM--N_SP-PTX_rare
1128	111	MINR-UX	NODE BEAM--N_SP-PTX_rare
1129	111	MAXR-UY	NODE BEAM-MZ_SP-PTY_rare
1130	111	MINR-UY	NODE BEAM-MZ_SP-PTY_rare
1131	111	MAXR-UZ	NODE BEAM-VY_SP-PTZ_rare
1132	111	MINR-UZ	NODE BEAM-VY_SP-PTZ_rare
1133	111	MAXRPHIX	NODE _rare
1134	111	MINRPHIX	NODE _rare
1135	111	MAXRPHIY	NODE _rare
1136	111	MINRPHIY	NODE _rare
1137	111	MAXRPHIZ	NODE _rare
1138	111	MINRPHIZ	NODE _rare
1321	113	MAXF-MY	BEAM
1322	113	MINF-MY	BEAM
1323	113	MAXF-VZ	BEAM
1324	113	MINF-VZ	BEAM
1325	113	MAXF-MT	BEAM
1326	113	MINF-MT	BEAM
1327	113	MAXF-N	BEAM
1328	113	MINF-N	BEAM
1329	113	MAXF-MZ	BEAM
1330	113	MINF-MZ	BEAM
1331	113	MAXF-VY	BEAM
1332	113	MINF-VY	BEAM
1321	113	MAXF-PX	NODE BEAM-MY_SPRI-P_freq
1322	113	MINF-PX	NODE BEAM-MY_SPRI-P_freq
1323	113	MAXF-PY	NODE BEAM-VZ_SPRI-T_freq
1324	113	MINF-PY	NODE BEAM-VZ_SPRI-T_freq
1325	113	MAXF-PZ	NODE BEAM-MT_SPRI-M_freq
1326	113	MINF-PZ	NODE BEAM-MT_SPRI-M_freq
1327	113	MAXF-UX	NODE BEAM--N_SP-PTX_freq
1328	113	MINF-UX	NODE BEAM--N_SP-PTX_freq
1329	113	MAXF-UY	NODE BEAM-MZ_SP-PTY_freq
1330	113	MINF-UY	NODE BEAM-MZ_SP-PTY_freq
1331	113	MAXF-UZ	NODE BEAM-VY_SP-PTZ_freq
1332	113	MINF-UZ	NODE BEAM-VY_SP-PTZ_freq
1333	113	MAXFPHIX	NODE _freq
1334	113	MINFPHIX	NODE _freq
1335	113	MAXFPHIY	NODE _freq
1336	113	MINFPHIY	NODE _freq
1337	113	MAXFPHIZ	NODE _freq
1338	113	MINFPHIZ	NODE _freq
1421	114	MAXP-MY	BEAM
1422	114	MINP-MY	BEAM
1423	114	MAXP-VZ	BEAM
1424	114	MINP-VZ	BEAM
1425	114	MAXP-MT	BEAM
1426	114	MINP-MT	BEAM

Geometria ponticello
Final Superposition SLS and ULS including GPC

Generated Loadcases

Number	Comb	Title	
1427	114	MAXP-N	BEAM
1428	114	MINP-N	BEAM
1429	114	MAXP-MZ	BEAM
1430	114	MINP-MZ	BEAM
1431	114	MAXP-VY	BEAM
1432	114	MINP-VY	BEAM
1421	114	MAXP-PX	NODE BEAM-MY_SPRI-P_perm
1422	114	MINP-PX	NODE BEAM-MY_SPRI-P_perm
1423	114	MAXP-PY	NODE BEAM-VZ_SPRI-T_perm
1424	114	MINP-PY	NODE BEAM-VZ_SPRI-T_perm
1425	114	MAXP-PZ	NODE BEAM-MT_SPRI-M_perm
1426	114	MINP-PZ	NODE BEAM-MT_SPRI-M_perm
1427	114	MAXP-UX	NODE BEAM--N_SP-PTX_perm
1428	114	MINP-UX	NODE BEAM--N_SP-PTX_perm
1429	114	MAXP-UY	NODE BEAM-MZ_SP-PTY_perm
1430	114	MINP-UY	NODE BEAM-MZ_SP-PTY_perm
1431	114	MAXP-UZ	NODE BEAM-VY_SP-PTZ_perm
1432	114	MINP-UZ	NODE BEAM-VY_SP-PTZ_perm
1433	114	MAXPPHIX	NODE _perm
1434	114	MINPPHIX	NODE _perm
1435	114	MAXPPHIY	NODE _perm
1436	114	MINPPHIY	NODE _perm
1437	114	MAXPPHIZ	NODE _perm
1438	114	MINPPHIZ	NODE _perm
1921	119	MAX-MY	BEAM
1922	119	MIN-MY	BEAM
1923	119	MAX-VZ	BEAM
1924	119	MIN-VZ	BEAM
1925	119	MAX-MT	BEAM
1926	119	MIN-MT	BEAM
1927	119	MAX-N	BEAM
1928	119	MIN-N	BEAM
1929	119	MAX-MZ	BEAM
1930	119	MIN-MZ	BEAM
1931	119	MAX-VY	BEAM
1932	119	MIN-VY	BEAM
1921	119	MAX-PX	NODE BEAM-MY_SPRI-P_1.0_
1922	119	MIN-PX	NODE BEAM-MY_SPRI-P_1.0_
1923	119	MAX-PY	NODE BEAM-VZ_SPRI-T_1.0_
1924	119	MIN-PY	NODE BEAM-VZ_SPRI-T_1.0_
1925	119	MAX-PZ	NODE BEAM-MT_SPRI-M_1.0_
1926	119	MIN-PZ	NODE BEAM-MT_SPRI-M_1.0_
1927	119	MAX-UX	NODE BEAM--N_SP-PTX_1.0_
1928	119	MIN-UX	NODE BEAM--N_SP-PTX_1.0_
1929	119	MAX-UY	NODE BEAM-MZ_SP-PTY_1.0_
1930	119	MIN-UY	NODE BEAM-MZ_SP-PTY_1.0_
1931	119	MAX-UZ	NODE BEAM-VY_SP-PTZ_1.0_
1932	119	MIN-UZ	NODE BEAM-VY_SP-PTZ_1.0_
1933	119	MAXPHIX	NODE _1.0_
1934	119	MINPHIX	NODE _1.0_
1935	119	MAXPHIY	NODE _1.0_
1936	119	MINPHIY	NODE _1.0_
1937	119	MAXPHIZ	NODE _1.0_
1938	119	MINPHIZ	NODE _1.0_
2121	121	MAX-MY	BEAM
2122	121	MIN-MY	BEAM
2123	121	MAX-VZ	BEAM
2124	121	MIN-VZ	BEAM
2125	121	MAX-MT	BEAM
2126	121	MIN-MT	BEAM
2127	121	MAX-N	BEAM
2128	121	MIN-N	BEAM
2129	121	MAX-MZ	BEAM
2130	121	MIN-MZ	BEAM
2131	121	MAX-VY	BEAM
2132	121	MIN-VY	BEAM
2121	121	MAX-PX	NODE BEAM-MY_SPRI-P_desi
2122	121	MIN-PX	NODE BEAM-MY_SPRI-P_desi
2123	121	MAX-PY	NODE BEAM-VZ_SPRI-T_desi
2124	121	MIN-PY	NODE BEAM-VZ_SPRI-T_desi
2125	121	MAX-PZ	NODE BEAM-MT_SPRI-M_desi
2126	121	MIN-PZ	NODE BEAM-MT_SPRI-M_desi
2127	121	MAX-UX	NODE BEAM--N_SP-PTX_desi
2128	121	MIN-UX	NODE BEAM--N_SP-PTX_desi
2129	121	MAX-UY	NODE BEAM-MZ_SP-PTY_desi
2130	121	MIN-UY	NODE BEAM-MZ_SP-PTY_desi
2131	121	MAX-UZ	NODE BEAM-VY_SP-PTZ_desi
2132	121	MIN-UZ	NODE BEAM-VY_SP-PTZ_desi

Geometria ponticello
Final Superposition SLS and ULS including GPC

Generated Loadcases

Number	Comb	Title	
2133	121	MAXPHIX	NODE _desi
2134	121	MINPHIX	NODE _desi
2135	121	MAXPHIY	NODE _desi
2136	121	MINPHIY	NODE _desi
2137	121	MAXPHIZ	NODE _desi
2138	121	MINPHIZ	NODE _desi
2621	126	MAXE-MY	BEAM
2622	126	MINE-MY	BEAM
2623	126	MAXE-VZ	BEAM
2624	126	MINE-VZ	BEAM
2625	126	MAXE-MT	BEAM
2626	126	MINE-MT	BEAM
2627	126	MAXE-N	BEAM
2628	126	MINE-N	BEAM
2629	126	MAXE-MZ	BEAM
2630	126	MINE-MZ	BEAM
2631	126	MAXE-VY	BEAM
2632	126	MINE-VY	BEAM
2621	126	MAXE-PX	NODE BEAM-MY_SPRI-P_earq
2622	126	MINE-PX	NODE BEAM-MY_SPRI-P_earq
2623	126	MAXE-PY	NODE BEAM-VZ_SPRI-T_earq
2624	126	MINE-PY	NODE BEAM-VZ_SPRI-T_earq
2625	126	MAXE-PZ	NODE BEAM-MT_SPRI-M_earq
2626	126	MINE-PZ	NODE BEAM-MT_SPRI-M_earq
2627	126	MAXE-UX	NODE BEAM--N_SP-PTX_earq
2628	126	MINE-UX	NODE BEAM--N_SP-PTX_earq
2629	126	MAXE-UY	NODE BEAM-MZ_SP-PTY_earq
2630	126	MINE-UY	NODE BEAM-MZ_SP-PTY_earq
2631	126	MAXE-UZ	NODE BEAM-VY_SP-PTZ_earq
2632	126	MINE-UZ	NODE BEAM-VY_SP-PTZ_earq
2633	126	MAXEPHIX	NODE _earq
2634	126	MINEPHIX	NODE _earq
2635	126	MAXEPHIY	NODE _earq
2636	126	MINEPHIY	NODE _earq
2637	126	MAXEPHIZ	NODE _earq
2638	126	MINEPHIZ	NODE _earq
2921	129	MAXR-MY	BEAM
2922	129	MINR-MY	BEAM
2923	129	MAXR-VZ	BEAM
2924	129	MINR-VZ	BEAM
2925	129	MAXR-MT	BEAM
2926	129	MINR-MT	BEAM
2927	129	MAXR-N	BEAM
2928	129	MINR-N	BEAM
2929	129	MAXR-MZ	BEAM
2930	129	MINR-MZ	BEAM
2931	129	MAXR-VY	BEAM
2932	129	MINR-VY	BEAM
2921	129	MAXR-PX	NODE BEAM-MY_SPRI-P_rare
2922	129	MINR-PX	NODE BEAM-MY_SPRI-P_rare
2923	129	MAXR-PY	NODE BEAM-VZ_SPRI-T_rare
2924	129	MINR-PY	NODE BEAM-VZ_SPRI-T_rare
2925	129	MAXR-PZ	NODE BEAM-MT_SPRI-M_rare
2926	129	MINR-PZ	NODE BEAM-MT_SPRI-M_rare
2927	129	MAXR-UX	NODE BEAM--N_SP-PTX_rare
2928	129	MINR-UX	NODE BEAM--N_SP-PTX_rare
2929	129	MAXR-UY	NODE BEAM-MZ_SP-PTY_rare
2930	129	MINR-UY	NODE BEAM-MZ_SP-PTY_rare
2931	129	MAXR-UZ	NODE BEAM-VY_SP-PTZ_rare
2932	129	MINR-UZ	NODE BEAM-VY_SP-PTZ_rare
2933	129	MAXRPHIX	NODE _rare
2934	129	MINRPHIX	NODE _rare
2935	129	MAXRPHIY	NODE _rare
2936	129	MINRPHIY	NODE _rare
2937	129	MAXRPHIZ	NODE _rare
2938	129	MINRPHIZ	NODE _rare

Geometria ponticello
Final Superpos. with pkinf-pksub -> LC 9000...

Superpositioning combinations:
rare, nonf, freq, perm, 1.0*, desi, acci, earq, fatigue
LC 9120, 9220, 9320, 9420 pkinf+pksub
.

Superposition according to Decreto Ministeriale per le Costruzioni 2008

Combination rule Number 211
Service: Rare combination
Superposition according to manual MAXIMA formula 4
Resulting loadcases type Y_X

Loadcase selection and Actions							
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor Type of loadcase							
C	G	1.20	0.00	1.00	1.00	1.00	Ritiro
	5015	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5025	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5035	1.00	Conditional	LC			creep&shrinkage t-inf
	5036	1.00	Combined with	LC			creep&shrinkage t-inf
	5037	1.00	Combined with	LC			creep&shrinkage t-inf
G_1	G	1.35	1.00	1.00	1.00	1.00	dead load g1
	5003	1.00	permanent	load	grouped	in load cases	Foundation
	5004	1.00	permanent	load	grouped	in load cases	Spinta terre
	5010	1.00	permanent	load	grouped	in load cases	DL-beams
	5020	1.00	permanent	load	grouped	in load cases	liquid concrete slab
	5021	1.00	permanent	load	grouped	in load cases	support change
G_2	G	1.50	0.00	1.00	1.00	1.00	G non strutturali
	5028	1.00	permanent	load	grouped	in load cases	G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
	5009	0.90	permanent	load	grouped	in actions	prestress beams
	5009	0.20	Conditional	LC			prestress beams
Y_1	Q	1.00	0.00	1.00	1.00	1.00	rare without gpc
	1141	1.00	Exclusive	LC	A	7	MAX-MY BEAM
	1142	1.00	Exclusive	LC	A	7	MIN-MY BEAM
	1143	1.00	Exclusive	LC	A	7	MAX-VZ BEAM
	1144	1.00	Exclusive	LC	A	7	MIN-VZ BEAM
	1145	1.00	Exclusive	LC	A	7	MAX-MT BEAM
	1146	1.00	Exclusive	LC	A	7	MIN-MT BEAM
	1147	1.00	Exclusive	LC	A	7	MAX-N BEAM
	1148	1.00	Exclusive	LC	A	7	MIN-N BEAM
	1149	1.00	Exclusive	LC	A	7	MAX-MZ BEAM
	1150	1.00	Exclusive	LC	A	7	MIN-MZ BEAM
	1151	1.00	Exclusive	LC	A	7	MAX-VY BEAM
	1152	1.00	Exclusive	LC	A	7	MIN-VY BEAM
	1153	1.00	Exclusive	LC	A	7	MAXPHIX NODE _temporary
	1154	1.00	Exclusive	LC	A	7	MINPHIX NODE _temporary
	1155	1.00	Exclusive	LC	A	7	MAXPHIY NODE _temporary
	1156	1.00	Exclusive	LC	A	7	MINPHIY NODE _temporary
	1157	1.00	Exclusive	LC	A	7	MAXPHIZ NODE _temporary
	1158	1.00	Exclusive	LC	A	7	MINPHIZ NODE _temporary

Combination rule Number 213
Service: Frequent combination
Superposition according to manual MAXIMA formula 5
Resulting loadcases type Y_X

Loadcase selection and Actions							
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor Type of loadcase							
C	G	1.20	0.00	1.00	1.00	1.00	Ritiro
	5015	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5025	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5035	1.00	Conditional	LC			creep&shrinkage t-inf
	5036	1.00	Combined with	LC			creep&shrinkage t-inf
	5037	1.00	Combined with	LC			creep&shrinkage t-inf
G_1	G	1.35	1.00	1.00	1.00	1.00	dead load g1
	5003	1.00	permanent	load	grouped	in load cases	Foundation
	5004	1.00	permanent	load	grouped	in load cases	Spinta terre
	5010	1.00	permanent	load	grouped	in load cases	DL-beams
	5020	1.00	permanent	load	grouped	in load cases	liquid concrete slab
	5021	1.00	permanent	load	grouped	in load cases	support change
G_2	G	1.50	0.00	1.00	1.00	1.00	G non strutturali
	5028	1.00	permanent	load	grouped	in load cases	G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
	5009	0.90	permanent	load	grouped	in actions	prestress beams
	5009	0.20	Conditional	LC			prestress beams
Y_3	Q	1.00	0.00	1.00	1.00	1.00	freq without gpc

Geometria ponticello
Final Superpos. with pkinf-pksub -> LC 9000...

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor Type of loadcase							
1341	1.00	Exclusive	LC	A	7	MAX-MY BEAM	
1342	1.00	Exclusive	LC	A	7	MIN-MY BEAM	
1343	1.00	Exclusive	LC	A	7	MAX-VZ BEAM	
1344	1.00	Exclusive	LC	A	7	MIN-VZ BEAM	
1345	1.00	Exclusive	LC	A	7	MAX-MT BEAM	
1346	1.00	Exclusive	LC	A	7	MIN-MT BEAM	
1347	1.00	Exclusive	LC	A	7	MAX-N BEAM	
1348	1.00	Exclusive	LC	A	7	MIN-N BEAM	
1349	1.00	Exclusive	LC	A	7	MAX-MZ BEAM	
1350	1.00	Exclusive	LC	A	7	MIN-MZ BEAM	
1351	1.00	Exclusive	LC	A	7	MAX-VY BEAM	
1352	1.00	Exclusive	LC	A	7	MIN-VY BEAM	
1353	1.00	Exclusive	LC	A	7	MAXPHIX NODE	_temporary
1354	1.00	Exclusive	LC	A	7	MINPHIX NODE	_temporary
1355	1.00	Exclusive	LC	A	7	MAXPHIY NODE	_temporary
1356	1.00	Exclusive	LC	A	7	MINPHIY NODE	_temporary
1357	1.00	Exclusive	LC	A	7	MAXPHIZ NODE	_temporary
1358	1.00	Exclusive	LC	A	7	MINPHIZ NODE	_temporary

Combination rule Number 214

Service: Permanent combination

Superposition according to manual MAXIMA formula 7
Resulting loadcases type Y_X

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor Type of loadcase							
C	G	1.20	0.00	1.00	1.00	1.00	Ritiro
5015	1.00	permanent	load grouped in actions				creep&shrinkage
5025	1.00	permanent	load grouped in actions				creep&shrinkage
5035	1.00	Conditional	LC				creep&shrinkage t-inf
5036	1.00	Combined with	LC				creep&shrinkage t-inf
5037	1.00	Combined with	LC				creep&shrinkage t-inf
G_1	G	1.35	1.00	1.00	1.00	1.00	dead load g1
5003	1.00	permanent	load grouped in load cases				Foundation
5004	1.00	permanent	load grouped in load cases				Spinta terre
5010	1.00	permanent	load grouped in load cases				DL-beams
5020	1.00	permanent	load grouped in load cases				liquid concrete slab
5021	1.00	permanent	load grouped in load cases				support change
G_2	G	1.50	0.00	1.00	1.00	1.00	G non strutturali
5028	1.00	permanent	load grouped in load cases				G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
5009	0.90	permanent	load grouped in actions				prestress beams
5009	0.20	Conditional	LC				prestress beams
Y_4	Q	1.00	0.00	1.00	1.00	1.00	perm without gpc
1441	1.00	Exclusive	LC	A	7	MAX-MY BEAM	
1442	1.00	Exclusive	LC	A	7	MIN-MY BEAM	
1443	1.00	Exclusive	LC	A	7	MAX-VZ BEAM	
1444	1.00	Exclusive	LC	A	7	MIN-VZ BEAM	
1445	1.00	Exclusive	LC	A	7	MAX-MT BEAM	
1446	1.00	Exclusive	LC	A	7	MIN-MT BEAM	
1447	1.00	Exclusive	LC	A	7	MAX-N BEAM	
1448	1.00	Exclusive	LC	A	7	MIN-N BEAM	
1449	1.00	Exclusive	LC	A	7	MAX-MZ BEAM	
1450	1.00	Exclusive	LC	A	7	MIN-MZ BEAM	
1451	1.00	Exclusive	LC	A	7	MAX-VY BEAM	
1452	1.00	Exclusive	LC	A	7	MIN-VY BEAM	
1453	1.00	Exclusive	LC	A	7	MAXPHIX NODE	_temporary
1454	1.00	Exclusive	LC	A	7	MINPHIX NODE	_temporary
1455	1.00	Exclusive	LC	A	7	MAXPHIY NODE	_temporary
1456	1.00	Exclusive	LC	A	7	MINPHIY NODE	_temporary
1457	1.00	Exclusive	LC	A	7	MAXPHIZ NODE	_temporary
1458	1.00	Exclusive	LC	A	7	MINPHIZ NODE	_temporary

Generated Loadcases

Number	Comb	Title
9121	211	MAX-MY BEAM
9122	211	MIN-MY BEAM
9123	211	MAX-VZ BEAM
9124	211	MIN-VZ BEAM
9125	211	MAX-MT BEAM
9126	211	MIN-MT BEAM
9127	211	MAX-N BEAM
9128	211	MIN-N BEAM
9129	211	MAX-MZ BEAM
9130	211	MIN-MZ BEAM

Geometria ponticello
Final Superpos. with pkinf-pksub -> LC 9000...

Generated Loadcases

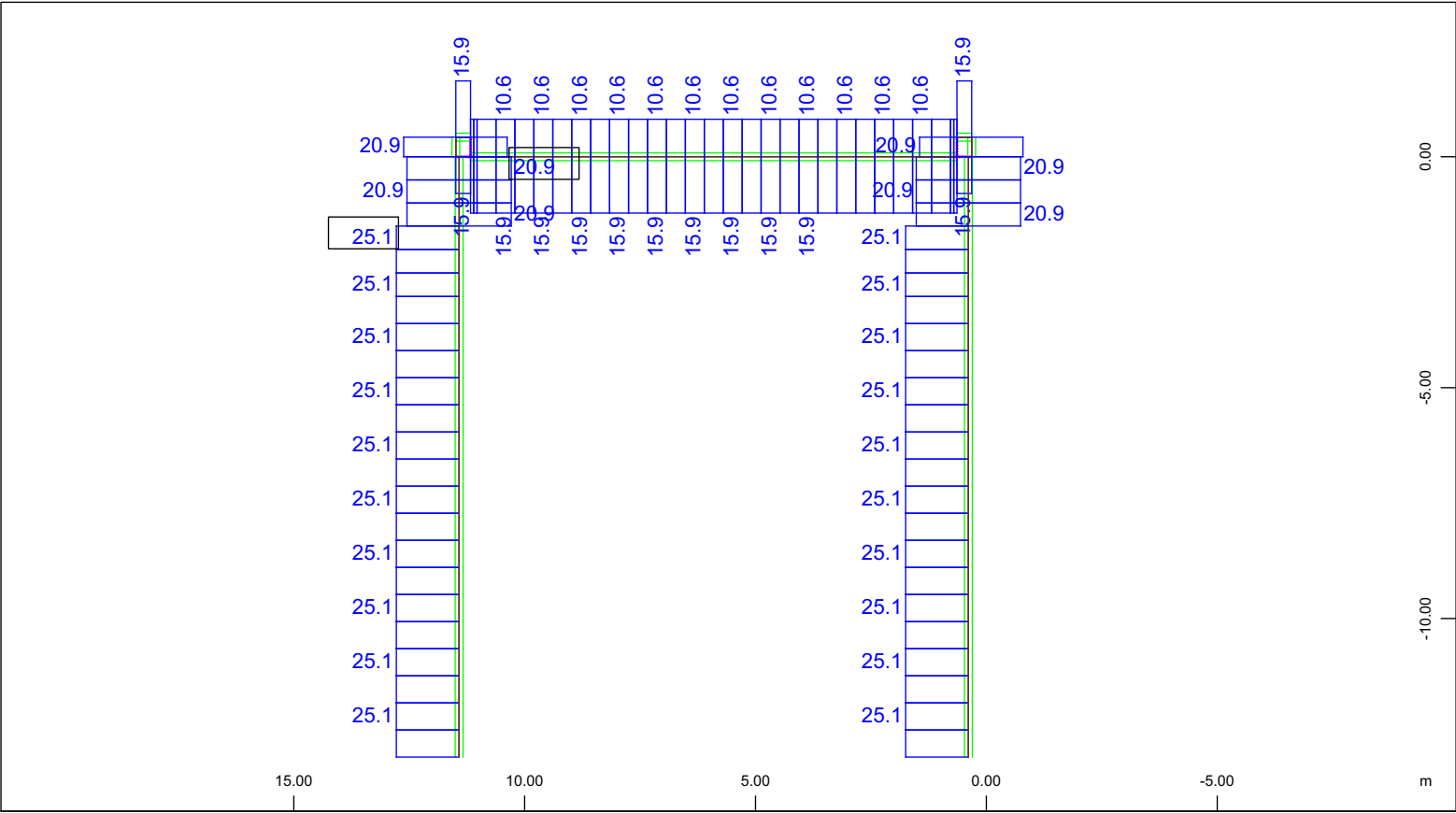
Number	Comb	Title	
9131	211	MAX-VY	BEAM
9132	211	MIN-VY	BEAM
9121	211	MAX-PX	NODE BEAM-MY_SPRI-P_R_infsub
9122	211	MIN-PX	NODE BEAM-MY_SPRI-P_R_infsub
9123	211	MAX-PY	NODE BEAM-VZ_SPRI-T_R_infsub
9124	211	MIN-PY	NODE BEAM-VZ_SPRI-T_R_infsub
9125	211	MAX-PZ	NODE BEAM-MT_SPRI-M_R_infsub
9126	211	MIN-PZ	NODE BEAM-MT_SPRI-M_R_infsub
9127	211	MAX-UX	NODE BEAM--N_SP-PTX_R_infsub
9128	211	MIN-UX	NODE BEAM--N_SP-PTX_R_infsub
9129	211	MAX-UY	NODE BEAM-MZ_SP-PTY_R_infsub
9130	211	MIN-UY	NODE BEAM-MZ_SP-PTY_R_infsub
9131	211	MAX-UZ	NODE BEAM-VY_SP-PTZ_R_infsub
9132	211	MIN-UZ	NODE BEAM-VY_SP-PTZ_R_infsub
9133	211	MAXPHIX	NODE _R_infsub
9134	211	MINPHIX	NODE _R_infsub
9135	211	MAXPHIY	NODE _R_infsub
9136	211	MINPHIY	NODE _R_infsub
9137	211	MAXPHIZ	NODE _R_infsub
9138	211	MINPHIZ	NODE _R_infsub
9321	213	MAX-MY	BEAM
9322	213	MIN-MY	BEAM
9323	213	MAX-VZ	BEAM
9324	213	MIN-VZ	BEAM
9325	213	MAX-MT	BEAM
9326	213	MIN-MT	BEAM
9327	213	MAX-N	BEAM
9328	213	MIN-N	BEAM
9329	213	MAX-MZ	BEAM
9330	213	MIN-MZ	BEAM
9331	213	MAX-VY	BEAM
9332	213	MIN-VY	BEAM
9321	213	MAX-PX	NODE BEAM-MY_SPRI-P_F_infsub
9322	213	MIN-PX	NODE BEAM-MY_SPRI-P_F_infsub
9323	213	MAX-PY	NODE BEAM-VZ_SPRI-T_F_infsub
9324	213	MIN-PY	NODE BEAM-VZ_SPRI-T_F_infsub
9325	213	MAX-PZ	NODE BEAM-MT_SPRI-M_F_infsub
9326	213	MIN-PZ	NODE BEAM-MT_SPRI-M_F_infsub
9327	213	MAX-UX	NODE BEAM--N_SP-PTX_F_infsub
9328	213	MIN-UX	NODE BEAM--N_SP-PTX_F_infsub
9329	213	MAX-UY	NODE BEAM-MZ_SP-PTY_F_infsub
9330	213	MIN-UY	NODE BEAM-MZ_SP-PTY_F_infsub
9331	213	MAX-UZ	NODE BEAM-VY_SP-PTZ_F_infsub
9332	213	MIN-UZ	NODE BEAM-VY_SP-PTZ_F_infsub
9333	213	MAXPHIX	NODE _F_infsub
9334	213	MINPHIX	NODE _F_infsub
9335	213	MAXPHIY	NODE _F_infsub
9336	213	MINPHIY	NODE _F_infsub
9337	213	MAXPHIZ	NODE _F_infsub
9338	213	MINPHIZ	NODE _F_infsub
9421	214	MAX-MY	BEAM
9422	214	MIN-MY	BEAM
9423	214	MAX-VZ	BEAM
9424	214	MIN-VZ	BEAM
9425	214	MAX-MT	BEAM
9426	214	MIN-MT	BEAM
9427	214	MAX-N	BEAM
9428	214	MIN-N	BEAM
9429	214	MAX-MZ	BEAM
9430	214	MIN-MZ	BEAM
9431	214	MAX-VY	BEAM
9432	214	MIN-VY	BEAM
9421	214	MAX-PX	NODE BEAM-MY_SPRI-P_P_infsub
9422	214	MIN-PX	NODE BEAM-MY_SPRI-P_P_infsub
9423	214	MAX-PY	NODE BEAM-VZ_SPRI-T_P_infsub
9424	214	MIN-PY	NODE BEAM-VZ_SPRI-T_P_infsub
9425	214	MAX-PZ	NODE BEAM-MT_SPRI-M_P_infsub
9426	214	MIN-PZ	NODE BEAM-MT_SPRI-M_P_infsub
9427	214	MAX-UX	NODE BEAM--N_SP-PTX_P_infsub
9428	214	MIN-UX	NODE BEAM--N_SP-PTX_P_infsub
9429	214	MAX-UY	NODE BEAM-MZ_SP-PTY_P_infsub
9430	214	MIN-UY	NODE BEAM-MZ_SP-PTY_P_infsub
9431	214	MAX-UZ	NODE BEAM-VY_SP-PTZ_P_infsub
9432	214	MIN-UZ	NODE BEAM-VY_SP-PTZ_P_infsub
9433	214	MAXPHIX	NODE _P_infsub
9434	214	MINPHIX	NODE _P_infsub
9435	214	MAXPHIY	NODE _P_infsub
9436	214	MINPHIY	NODE _P_infsub

Geometria ponticello
Final Superpos. with pkinf-pksub -> LC 9000...

Generated Loadcases

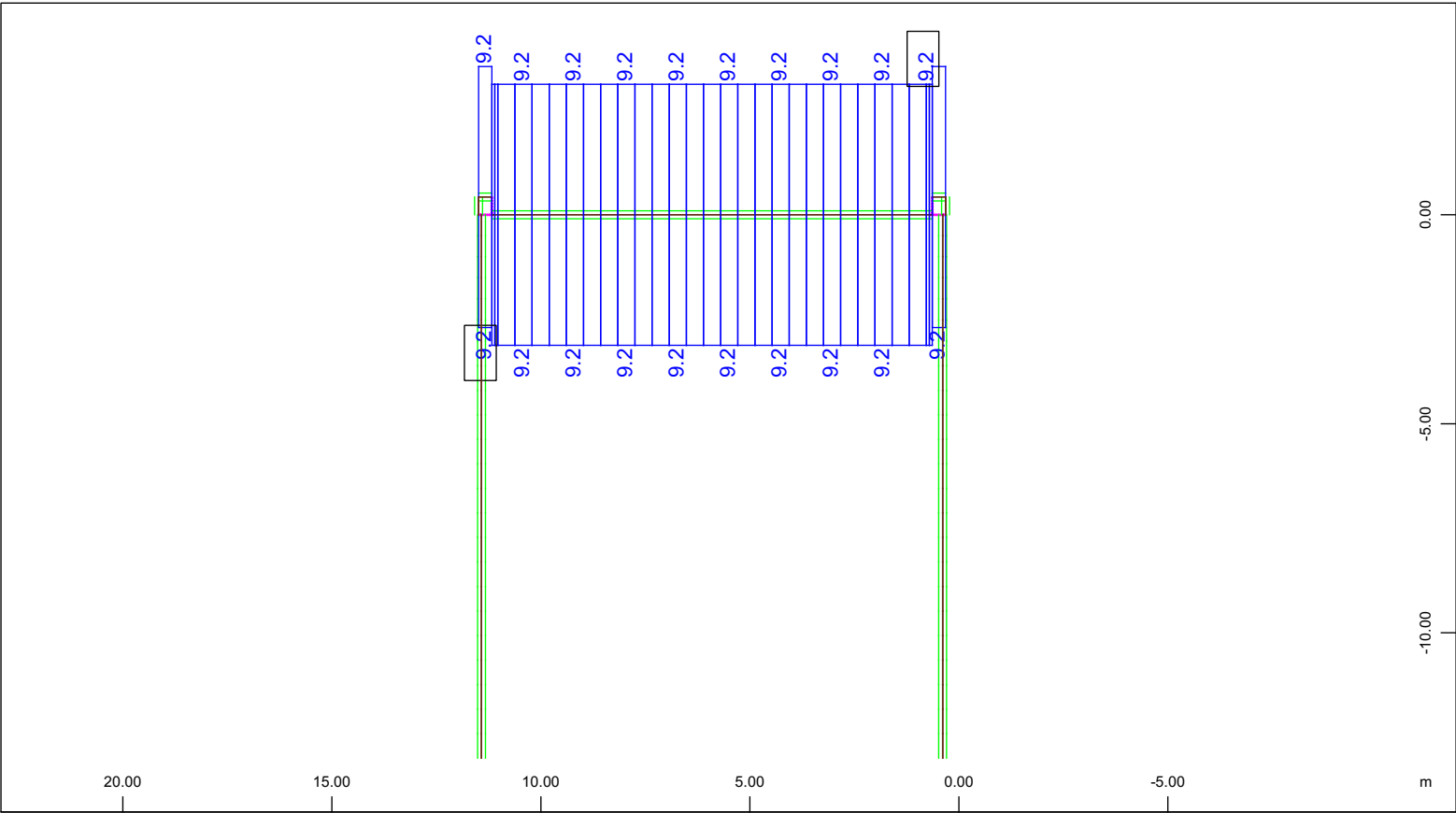
Number	Comb	Title		
9437	214	MAXPHIZ	NODE	_P_infsb
9438	214	MINPHIZ	NODE	_P_infsb

Geometria ponticello
Armatura Minima



Beam Elements , Longitudinal Reinforcements Lay. 1, Design Case 1 , 1 cm 3D = 20.0 cm2 (Max=25.1)
Beam Elements , Longitudinal Reinforcements Lay. 2, Design Case 1 , 1 cm 3D = 20.0 cm2 (Max=20.9)

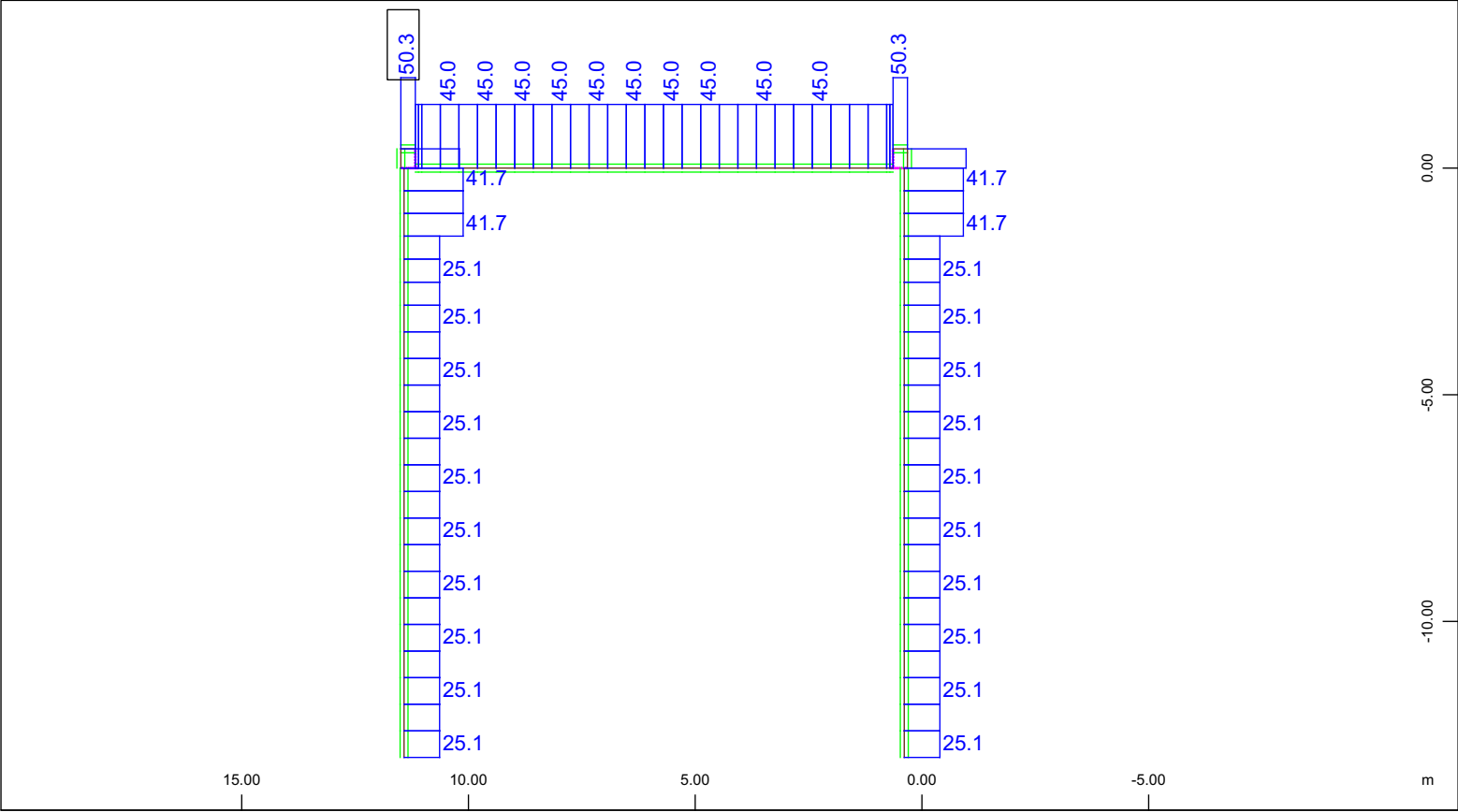
M 1 : 153
X * 0.707
Y * 0.707



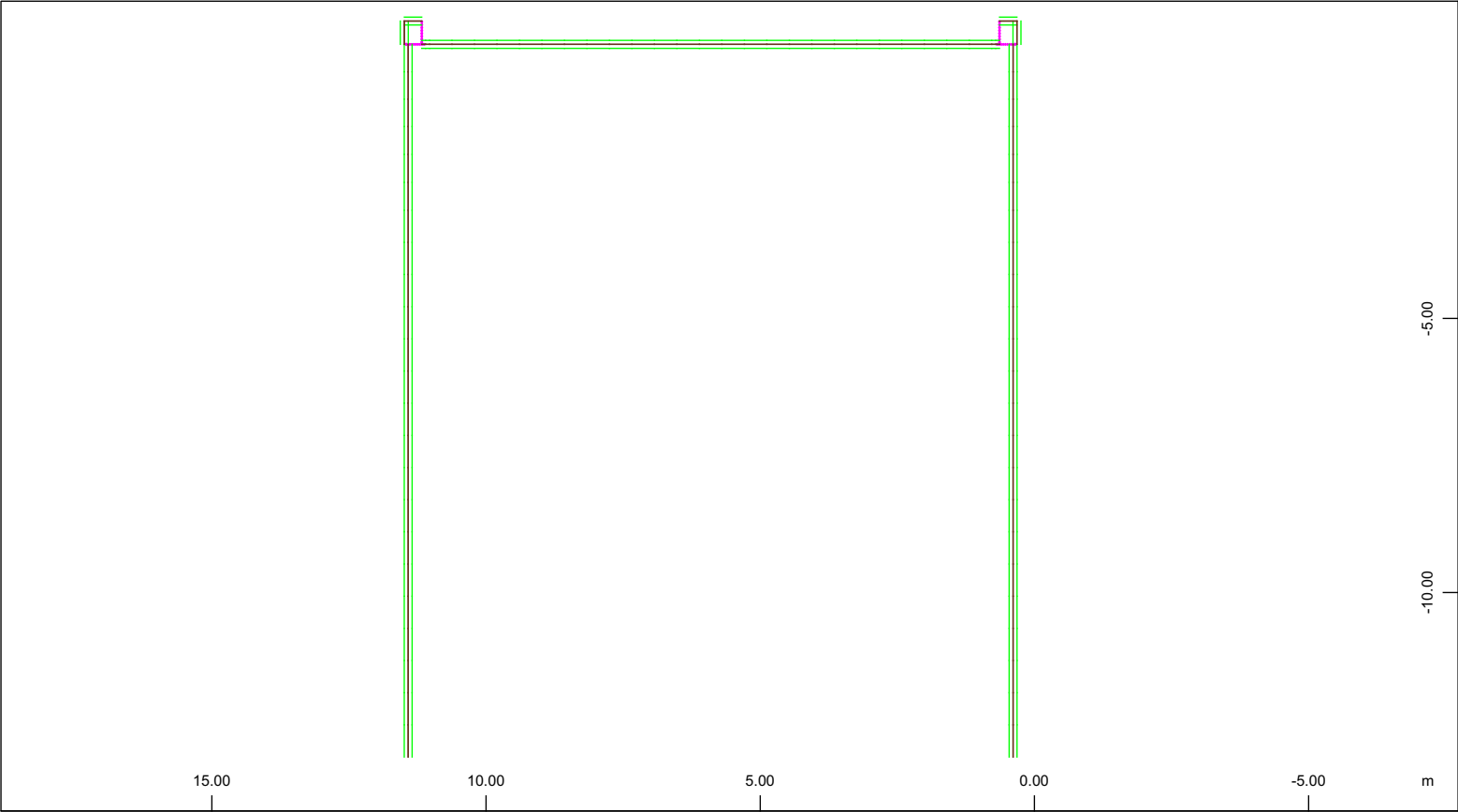
Beam Elements , Longitudinal Reinforcements Lay. 3, Design Case 1 , 1 cm 3D = 5.00 cm2 (Max=9.24)
Beam Elements , Longitudinal Reinforcements Lay. 4, Design Case 1 , 1 cm 3D = 5.00 cm2 (Max=9.24)

M 1 : 169
X * 0.707
Y * 0.707

Geometria ponticello
Armatura Minima

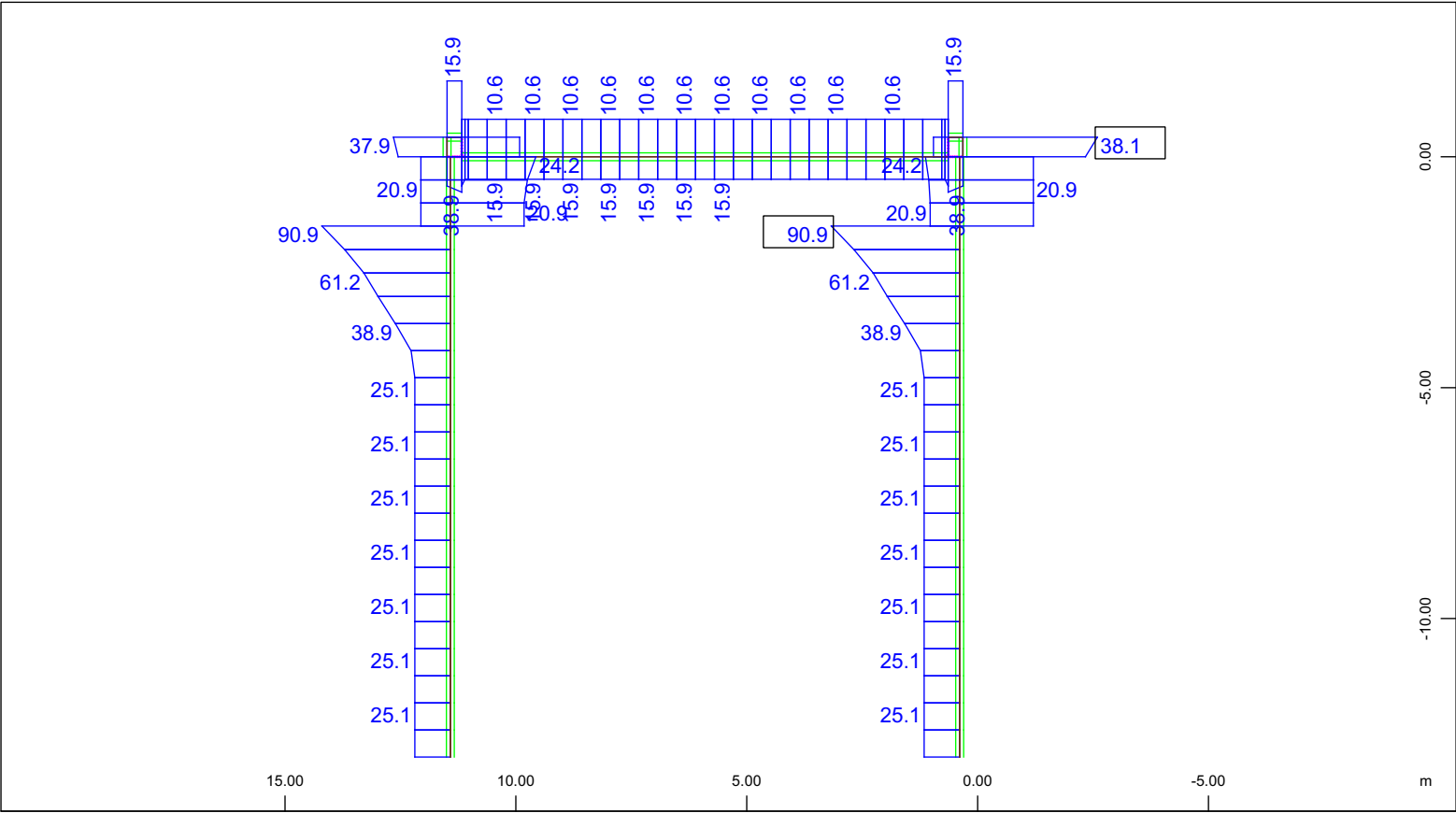


Beam Elements , Longitudinal reinforcements (total), Design Case 1 , 1 cm 3D = 50.0 cm2 (Max=50.3) M 1 : 156
X * 0.707
Y * 0.707



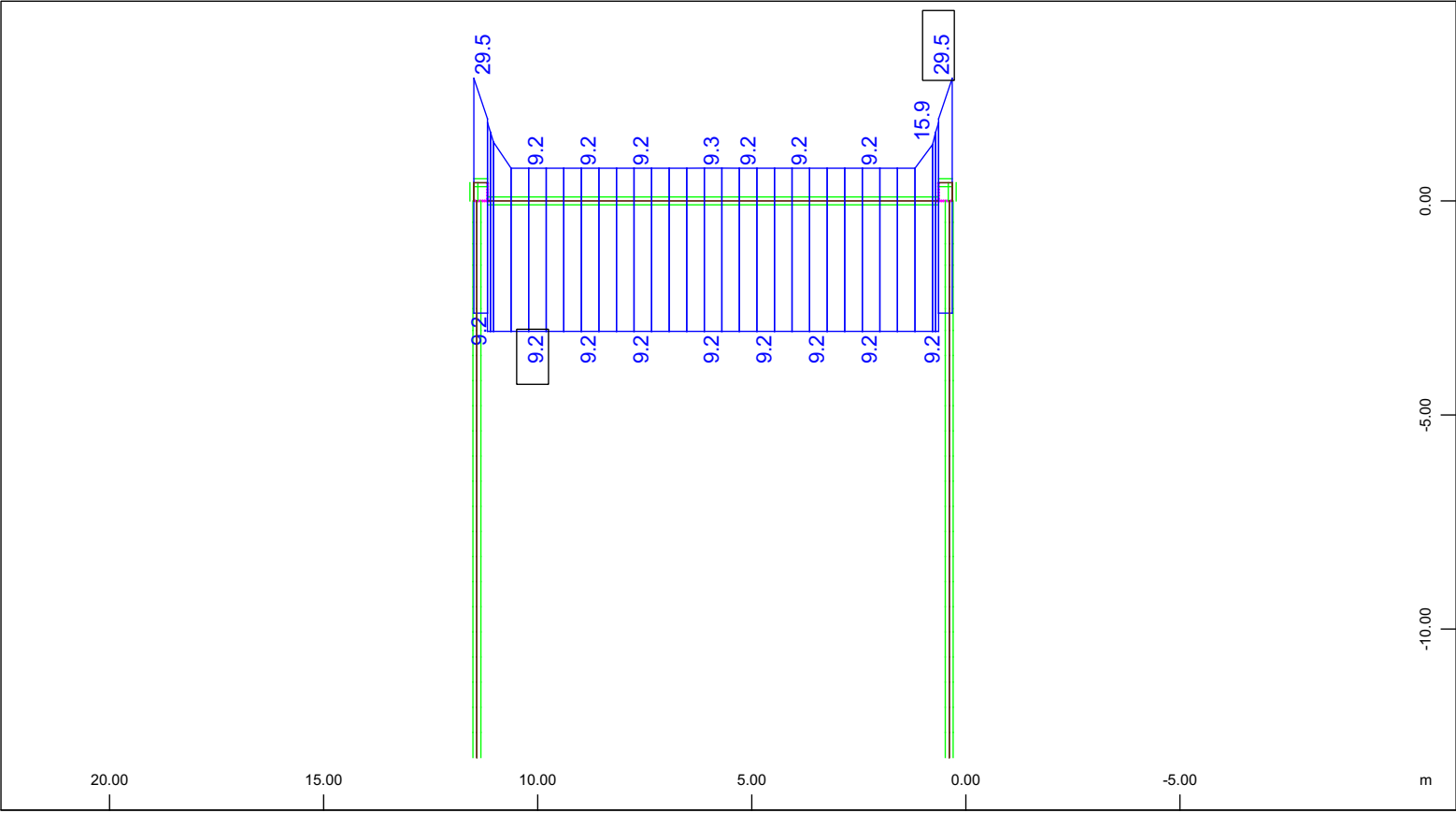
Beam Elements , Shear reinforcements (maximum), Design Case 1 , 1 cm 3D = 0 cm2/m (Max=0) M 1 : 129
X * 0.707
Y * 0.707

Geometria ponticello
Graphical Output



Beam Elements , Longitudinal Reinforcements Lay. 1, Design Case 12 , 1 cm = 50.0 cm2 (Max=90.9)
Beam Elements , Longitudinal Reinforcements Lay. 2, Design Case 12 , 1 cm = 20.0 cm2 (Max=38.1)

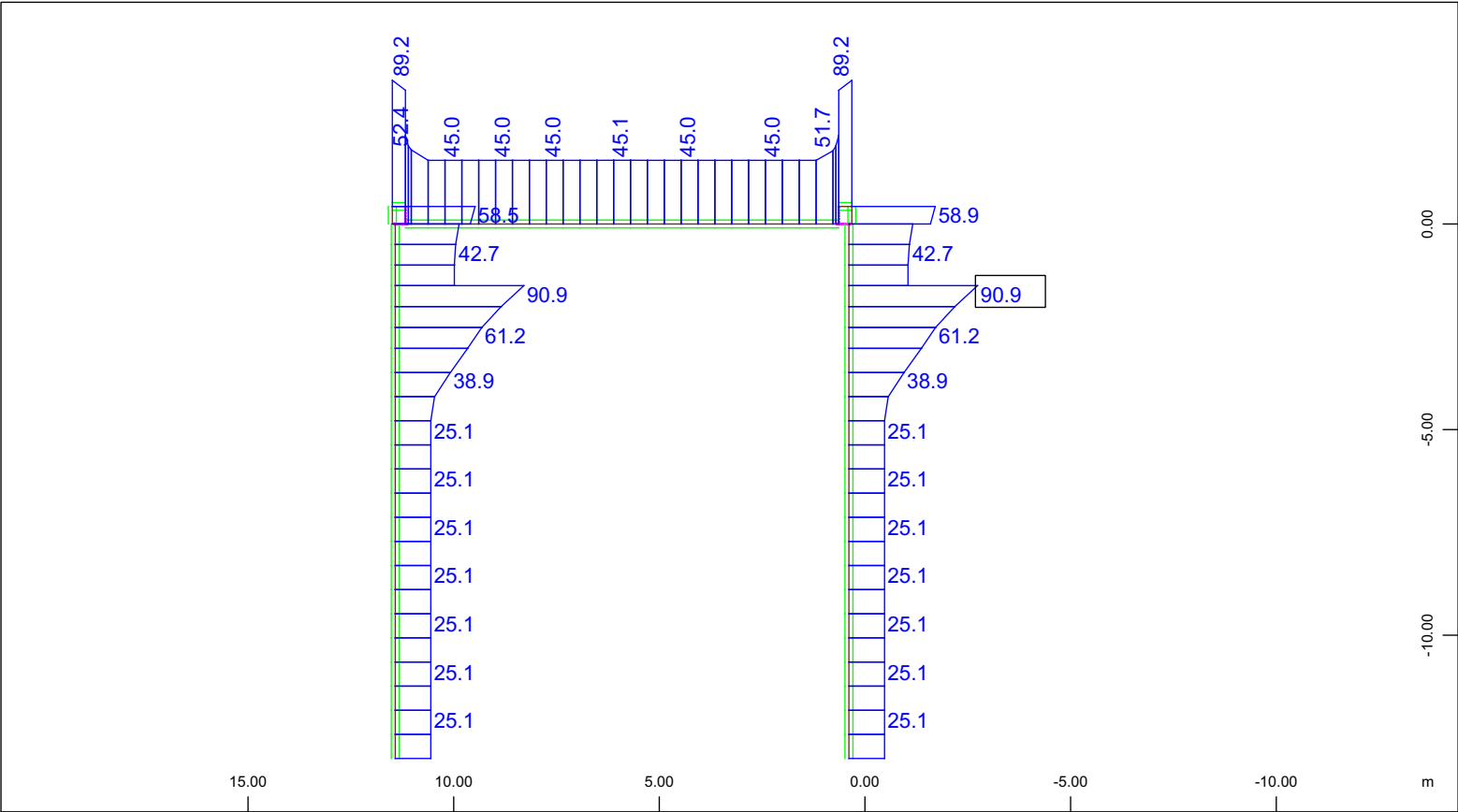
M 1 : 153
X * 0.707
Y * 0.707



Beam Elements , Longitudinal Reinforcements Lay. 3, Design Case 12 , 1 cm = 5.00 cm2 (Max=9.24)
Beam Elements , Longitudinal Reinforcements Lay. 4, Design Case 12 , 1 cm = 20.0 cm2 (Max=29.5)

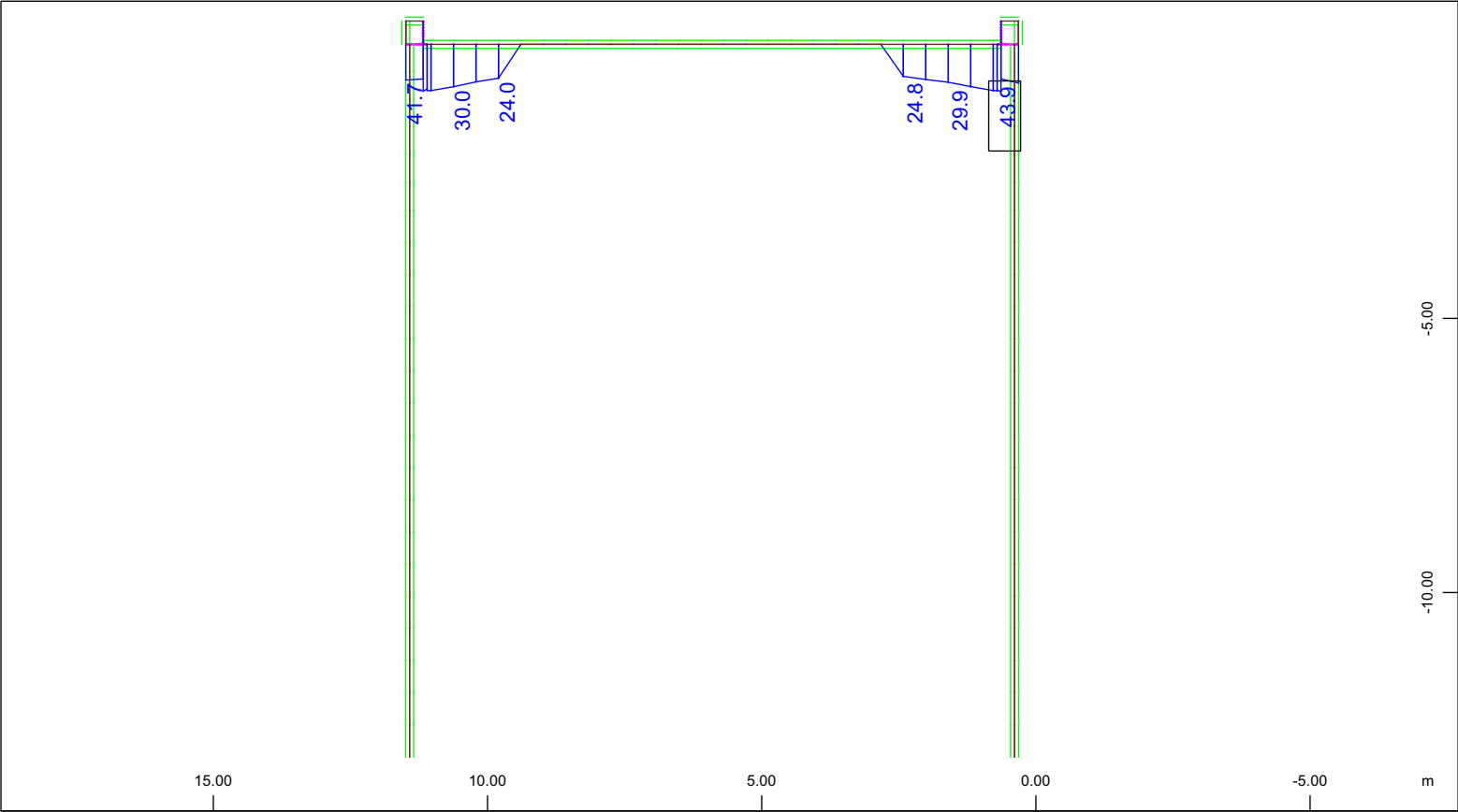
M 1 : 165
X * 0.707
Y * 0.707

Geometria ponticello
Graphical Output



Beam Elements , Longitudinal reinforcements (total), Design Case 12 , 1 cm = 50.0 cm2 (Max=90.9)

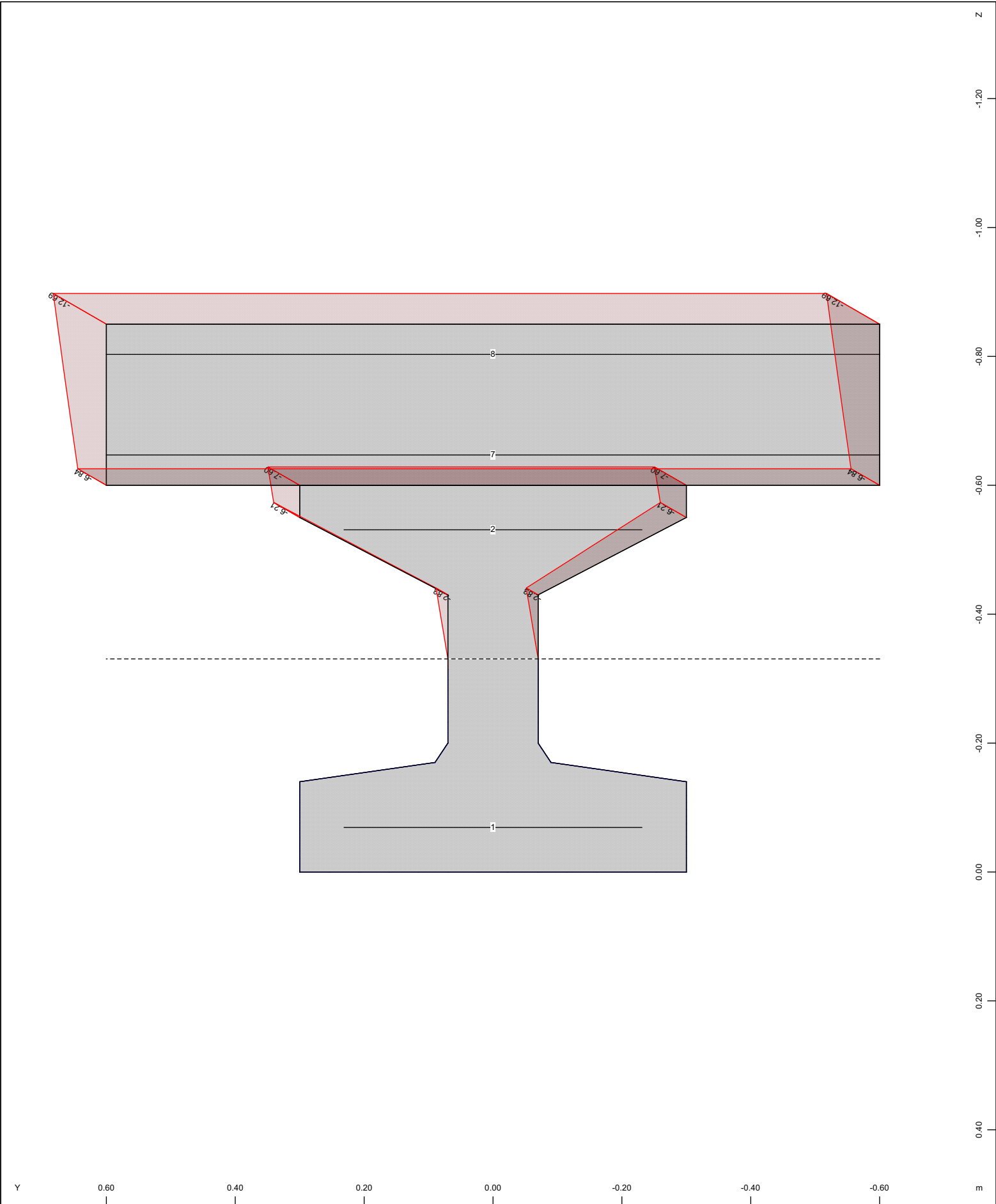
M 1 : 172
X * 0.707
Y * 0.707



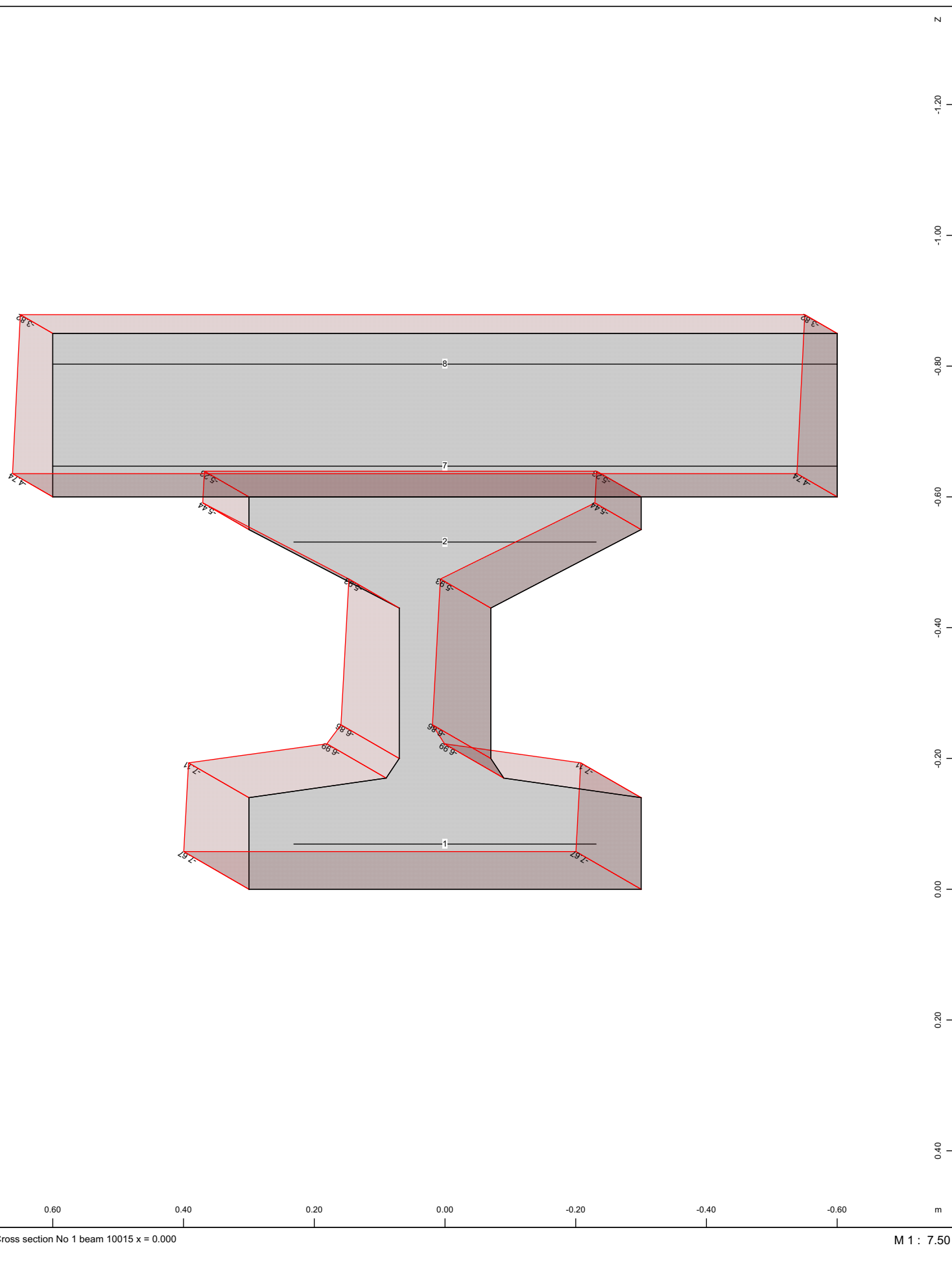
Beam Elements , Shear reinforcements (maximum), Design Case 12 , 1 cm = 50.0 cm²/m (Max=43.9)

M 1 : 129
X * 0.707
Y * 0.707

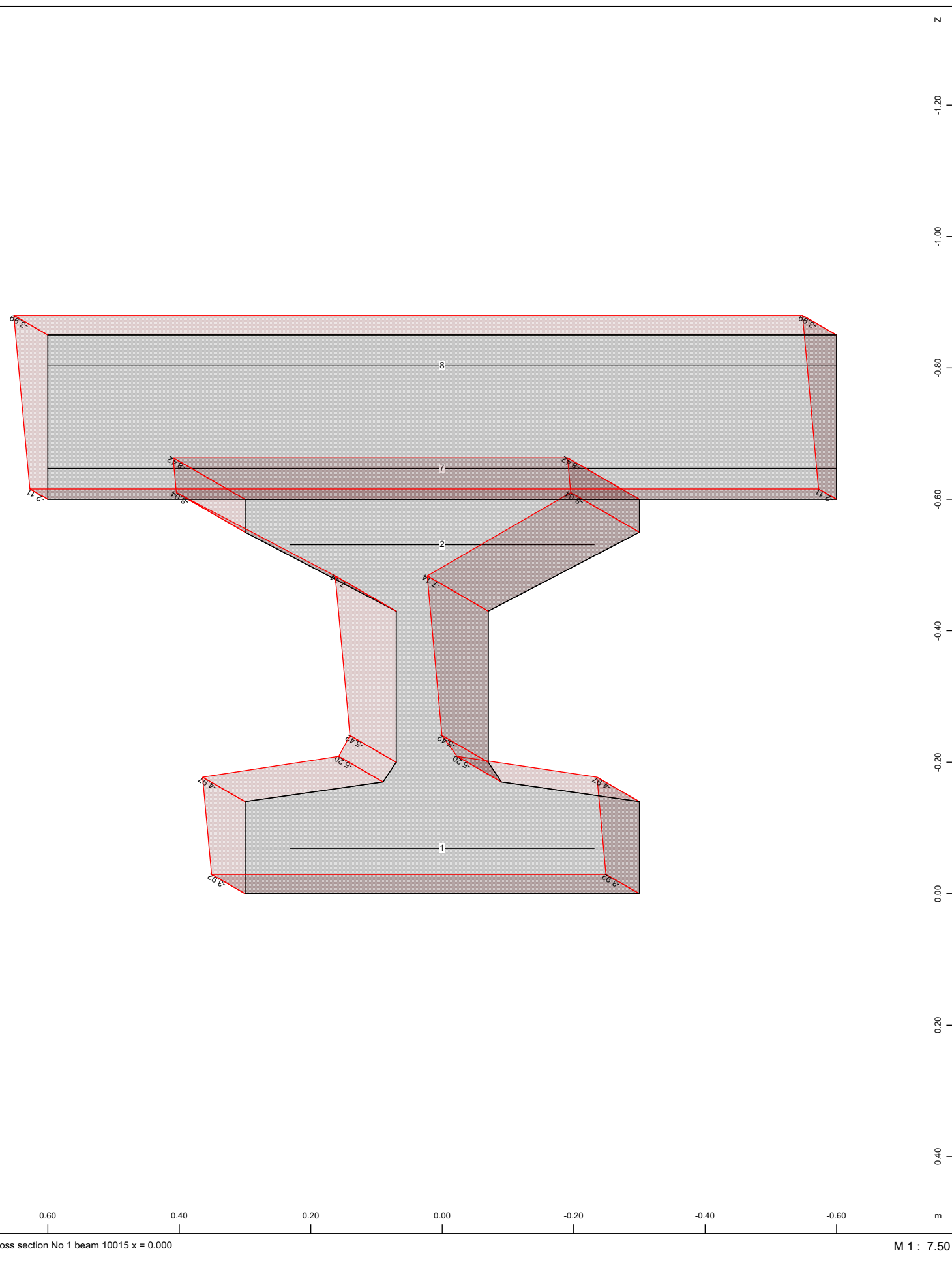
Geometria ponticello
Total stresses plot for SLS RARE



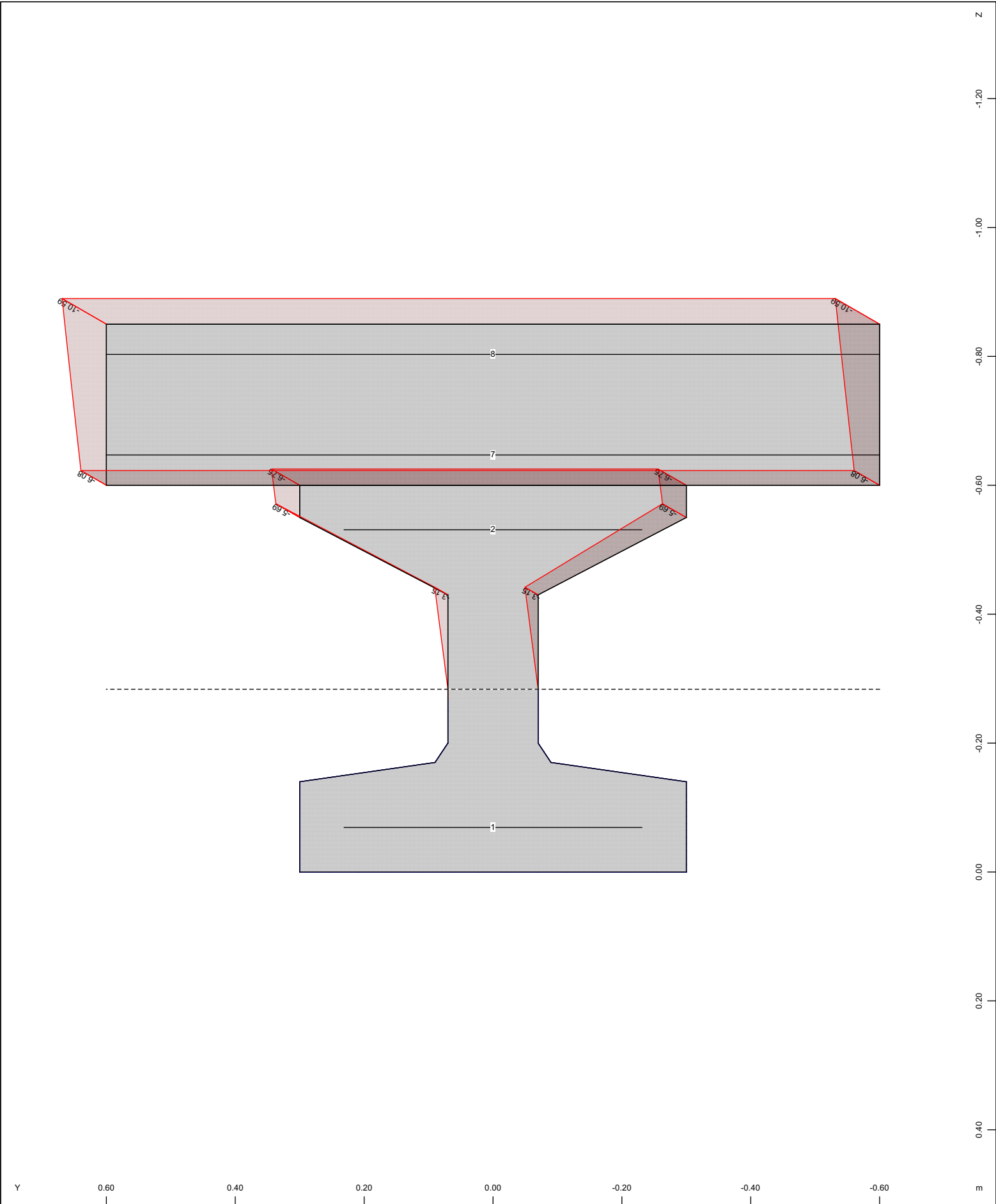
Geometria ponticello
Total stresses plot for SLS QP



Geometria ponticello
Total stresses plot for SLS QP decompression

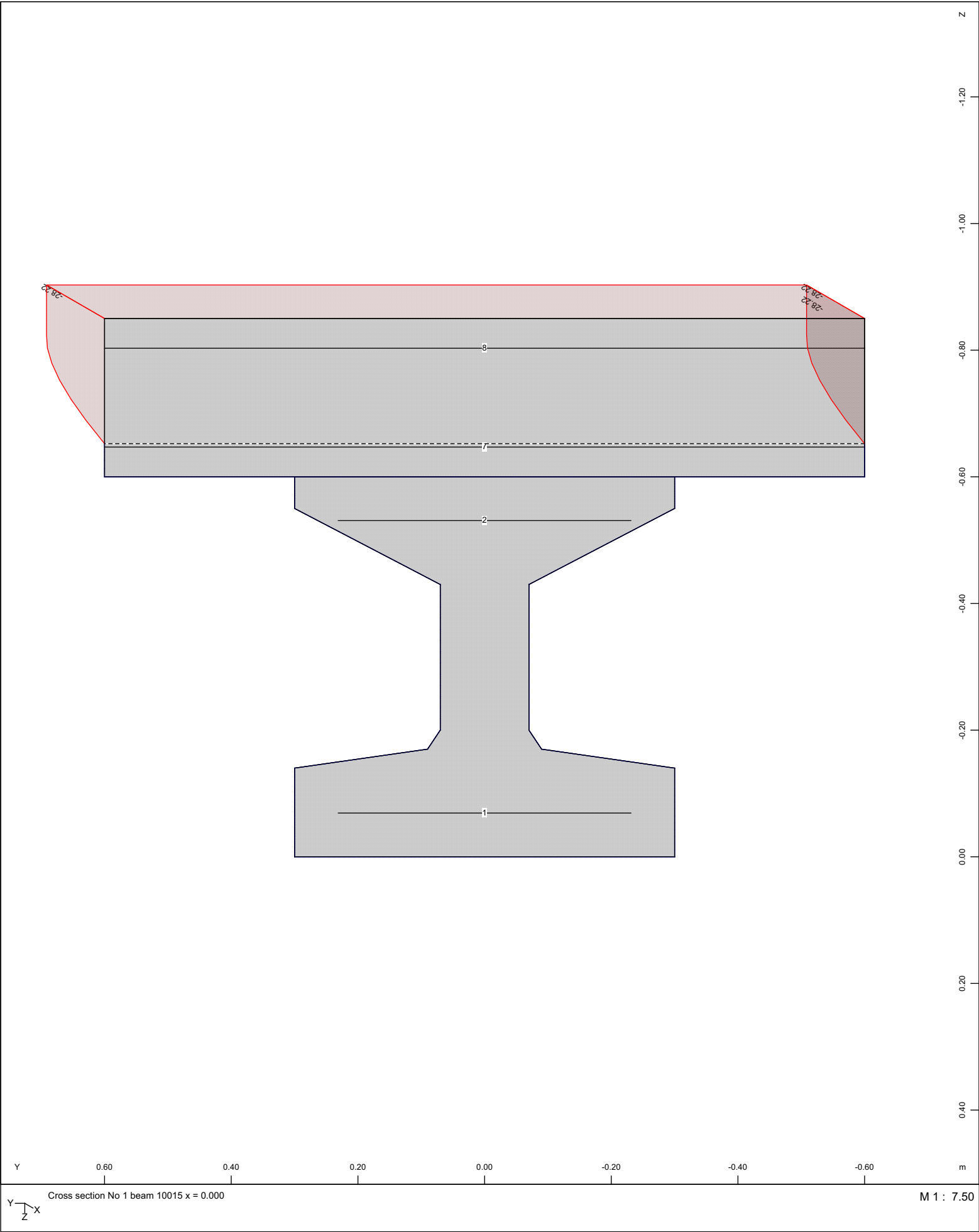


Geometria ponticello
Total stresses plot for SLS FREQUENT



Technical drawing of a cross-section of a beam, labeled "Cross section No 1 beam 10015 x = 0.000". The drawing shows a T-shaped cross-section with a wide flange and a narrower web. The flange is divided into three horizontal regions labeled 7, 8, and 9. The web is divided into two regions labeled 1 and 2. The drawing includes a coordinate system with X, Y, and Z axes. The X-axis is horizontal, the Y-axis is vertical, and the Z-axis is diagonal. The drawing is scaled at M 1 : 7.50.

Geometria ponticello
Total stresses plot for SLV



Intervento 1.09bis

Impalcato 7

ALLEGATO – PARTE 2

Impalcato Tipo B - L = 11.3 m - integrale

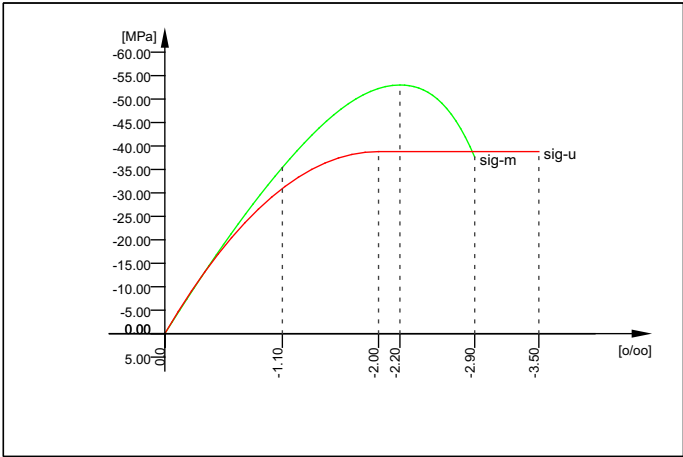
Output Modello di calcolo.

Parametri, Materiali e Sezioni

Default design code is Decreto Ministeriale per le Costruzioni 2008 (Italia) V 25.0
structure class: A2 (ponti_strad)
Wind zone : 1 cat. III
Snow load zone : I
Earthquake zone : 1

No. 1 CA 45/55 (Italia) (mod)

Youngs-modulus	E	36416 [MPa]	Safetyfactor		1.50 [-]
Poisson-Ratio	mu	0.20 [-]	Strength	fc	38.80 [MPa]
Shear-modulus	G	15173 [MPa]	Nomin. strength	fcn	45.00 [MPa]
Compression modulus		20231 [MPa]	Tens. strength	fctm	3.83 [MPa]
Weight		25.0 [kN/m3]	5 % t.strength	fctk	2.68 [MPa]
Weight buoyancy		25.0 [kN/m3]	95 % t.strength	fctk	4.93 [MPa]
Temp.elongat.coeff.		1.00E-05 [1/°K]	Bond strength	fbd	3.99 [MPa]
			Service strength		53.00 [MPa]
			Fatigue strength		21.21 [MPa]
Stress-Strain for serviceability		eps[o/oo]	sig-m[MPa]	E-t[MPa]	
Is only valid within the defined stress range		0.000	0.00	36283	
		-1.100	-35.40	26746	
		-2.200	-53.00	0	
		-2.900	-37.62	-53828	
			Safetyfactor		1.20
Stress-Strain for ultimate load		eps[o/oo]	sig-u[MPa]	E-t[MPa]	
Is only valid within the defined stress range		0.000	0.00	38802	
		-2.000	-38.80	0	
		-3.500	-38.80	0	
			Safetyfactor		1.50

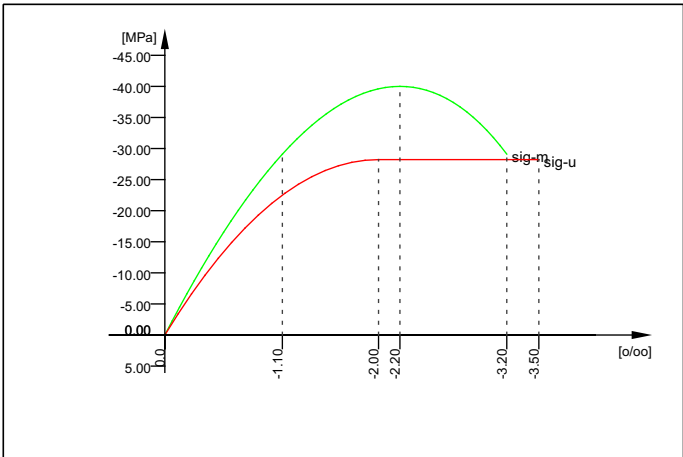


CA 45/55 (Italia) (mod)

No. 2 CA 32/40 (Italia) (mod)

Youngs-modulus	E	33643 [MPa]	Safetyfactor		1.50 [-]
Poisson-Ratio	mu	0.20 [-]	Strength	fc	28.22 [MPa]
Shear-modulus	G	14018 [MPa]	Nomin. strength	fcn	32.00 [MPa]
Compression modulus		18690 [MPa]	Tens. strength	fctm	3.10 [MPa]
Weight		25.0 [kN/m3]	5 % t.strength	fctk	2.17 [MPa]
Weight buoyancy		25.0 [kN/m3]	95 % t.strength	fctk	3.93 [MPa]
Temp.elongat.coeff.		1.00E-05 [1/°K]	Bond strength	fbd	3.18 [MPa]
			Service strength		40.00 [MPa]
			Fatigue strength		16.41 [MPa]
Stress-Strain for serviceability		eps[o/oo]	sig-m[MPa]	E-t[MPa]	
Is only valid within the defined stress range		0.000	0.00	33346	
		-1.100	-29.09	18930	
		-2.200	-40.00	0	
		-3.200	-29.11	-22873	
			Safetyfactor		1.20
Stress-Strain for ultimate load		eps[o/oo]	sig-u[MPa]	E-t[MPa]	
Is only valid within the defined stress range		0.000	0.00	28220	
		-2.000	-28.22	0	
		-3.500	-28.22	0	
			Safetyfactor		1.50

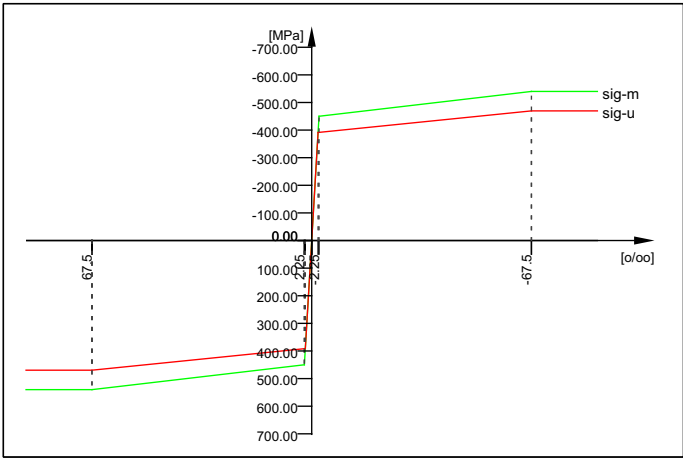
Parametri, Materiali e Sezioni



CA 32/40 (Italia) (mod)

No. 3 B 450 C (Italia)

Youngs-modulus	E	200000 [MPa]	Safetyfactor	1.15 [-]
Poisson-Ratio	mu	0.30 [-]	Yield stress	fy 450.00 [MPa]
Shear-modulus	G	76923 [MPa]	Compr.yield val.	fyc 450.00 [MPa]
Compression modulus		166667 [MPa]	Tens. strength	ft 540.00 [MPa]
Weight		78.5 [kN/m3]	Compr. strength	fc 540.00 [MPa]
Weight buoyancy		78.5 [kN/m3]	Ultim. plast. strain	67.50 [o/oo]
Temp.elongat.coeff.	1.20E-05	[1/°K]	relative bond coeff.	1.00 [-]
max. thickness	32.00	[mm]	EC2 bondcoeff. K1	0.80 [-]
			Hardening modulus	0.00 [MPa]
			Proportional limit	450.00 [MPa]
			Dynamic stress range	152.17 [MPa]
Stress-Strain for serviceability	eps[o/oo]	sig-m[MPa]	E-t[MPa]	
Is also extended beyond the	1000.000	540.00	0	
defined stress range	67.500	540.00	0	
	2.250	450.00	1379	
	0.000	0.00	200000	
	-2.250	-450.00	200000	
	-67.500	-540.00	1379	
	-1000.000	-540.00	0	
	Safetyfactor		1.15	
Stress-Strain for ultimate load	eps[o/oo]	sig-u[MPa]	E-t[MPa]	
Is also extended beyond the	1000.000	469.57	0	
defined stress range	67.500	469.57	0	
	1.957	391.30	1194	
	0.000	0.00	200000	
	-1.957	-391.30	200000	
	-67.500	-469.57	1194	
	-1000.000	-469.57	0	
	Safetyfactor		(1.15)	



B 450 C (Italia)

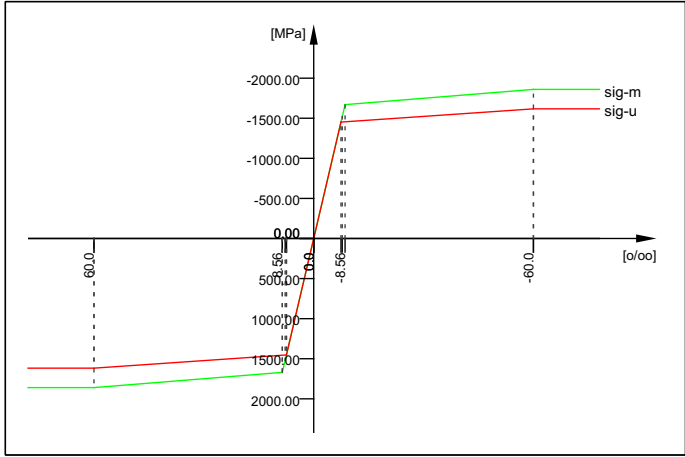
No. 4 Y 1770 (EN 1992) (mod)

Youngs-modulus	E	195000 [MPa]	Safetyfactor	1.15 [-]
Poisson-Ratio	mu	0.30 [-]	Yield stress	fy 1670.00 [MPa]
Shear-modulus	G	75000 [MPa]	Compr.yield val.	fyc 1670.00 [MPa]
Compression modulus		162500 [MPa]	Tens. strength	ft 1860.00 [MPa]
Weight		78.5 [kN/m3]	Compr. strength	fc 1860.00 [MPa]
Weight buoyancy		78.5 [kN/m3]	Ultim. plast. strain	60.00 [o/oo]
Temp.elongat.coeff.	1.20E-05	[1/°K]	relative bond coeff.	0.75 [-]
Relaxation	EC-2	Class 1	EC2 bondcoeff. K1	1.60 [-]

Parametri, Materiali e Sezioni

No. 4 Y 1770 (EN 1992) (mod)

Relaxation	0.70*fpk	8.00 [%]	Hardening modulus	0.00 [MPa]
			Proportional limit	1520.00 [MPa]
			Dynamic stress range	160.87 [MPa]
Stress-Strain for serviceability	eps[o/oo]	sig-m[MPa]	E-t[MPa]	
Is also extended beyond the	1000.000	1860.00	0	
defined stress range	60.000	1860.00	0	
	8.564	1670.00	3694	
	7.795	1520.00	195000	
	0.000	0.00	195000	
	-7.795	-1520.00	195000	
	-8.564	-1670.00	195000	
	-60.000	-1860.00	3694	
	-1000.000	-1860.00	0	
	Safetyfactor		1.15	
Stress-Strain for ultimate load	eps[o/oo]	sig-u[MPa]	E-t[MPa]	
Is also extended beyond the	1000.000	1617.39	0	
defined stress range	60.000	1617.39	0	
	7.447	1452.17	3144	
	0.000	0.00	195000	
	-7.447	-1452.17	195000	
	-60.000	-1617.39	3144	
	-1000.000	-1617.39	0	
	Safetyfactor		(1.15)	

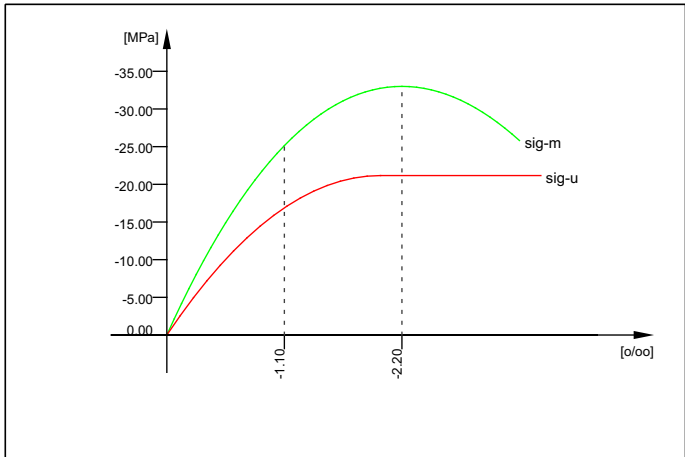


Y 1770 (EN 1992) (mod)

No. 5 CA 25/30 (Italia) (mod)

Youngs-modulus	E	31447 [MPa]	Safetyfactor	1.50 [-]	
Poisson-Ratio	mu	0.20 [-]	Strength	fc	21.16 [MPa]
Shear-modulus	G	13103 [MPa]	Nomin. strength	fcn	25.00 [MPa]
Compression modulus		17471 [MPa]	Tens. strength	fctm	2.56 [MPa]
Weight		25.0 [kN/m3]	5 % t.strength	fctk	1.79 [MPa]
Weight buoyancy		25.0 [kN/m3]	95 % t.strength	fctk	3.33 [MPa]
Temp.elongat.coeff.	1.00E-05	[1/°K]	Bond strength	fbd	2.69 [MPa]
			Service strength		33.00 [MPa]
			Fatigue strength		12.70 [MPa]
Stress-Strain for serviceability			eps[o/oo]	sig-m[MPa]	E-t[MPa]
Is only valid within the defined			0.000	0.00	31476
stress range			-1.100	-25.14	14632
			-2.200	-33.00	0
			-3.300	-25.81	-12791
			Safetyfactor		1.20
Stress-Strain for ultimate load			eps[o/oo]	sig-u[MPa]	E-t[MPa]
Is only valid within the defined			0.000	0.00	21165
stress range			-2.000	-21.17	0
			-3.500	-21.16	0
			Safetyfactor		1.50

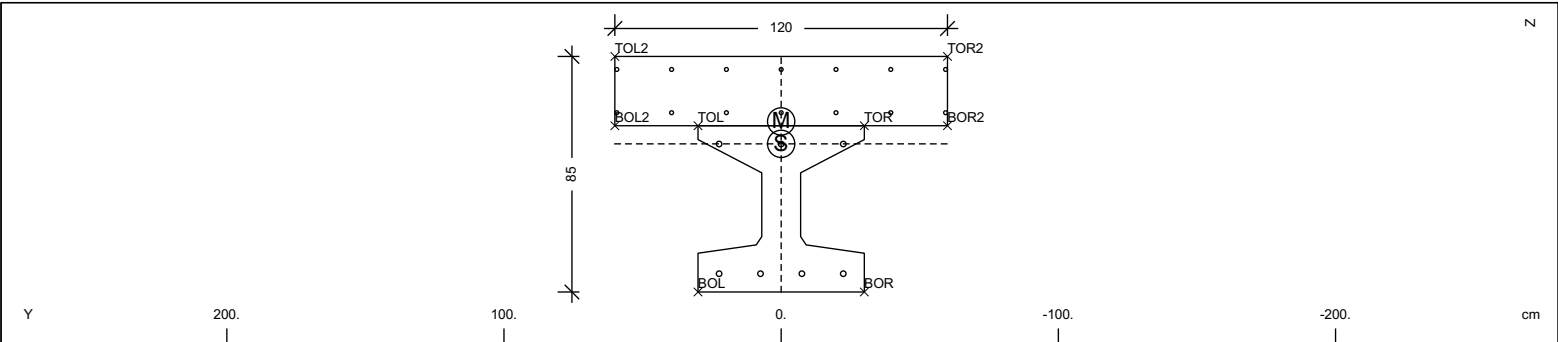
Parametri, Materiali e Sezioni



CA 25/30 (Italia) (mod)

Cross-sections static properties								
No.	Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
	NoR	It[m4]	[m2]	[m4]	[m]	[m]	[MPa]	[kN/m]
1	= Trave							
(BEAM)	= Composit with materials: 1 2							
	1	4.9975E-01		3.519E-02	0.000	0.000	36416	12.68
	3	1.220E-02		3.878E-02	-0.534	-0.616	15173	
1.1	= CS 9							
	1	2.0710E-01		9.119E-03	0.000	0.000	36416	5.18
	3	1.723E-03		4.377E-03	-0.281	-0.251	15173	
1.2	= CS 22							
	1	4.9975E-01		3.519E-02	0.000	0.000	36416	12.68
	3	1.220E-02		3.878E-02	-0.534	-0.616	15173	
2	= Retrotrave+soletta in situ							
(BEAM)	2	1.0200E+00		6.141E-02	0.000	0.000	33643	25.50
	3	1.386E-01		1.224E-01	0.000	0.000	14018	
3	= paraghiaia							
(CENT)	2	1.0800E+00		1.296E-01	-0.450	-0.450	33643	27.00
	3	1.579E-01		7.290E-02	0.000	0.000	14018	
4	= diaframma							
(CENT)	2	1.3200E+00		1.584E-01	0.000	0.000	33643	33.00
	3	2.441E-01		1.331E-01	0.000	0.000	14018	
5	= palo							
(CENT)	5	5.0265E-01		2.011E-02	0.000	0.000	31447	12.57
	3	4.021E-02		2.011E-02	0.000	0.000	13103	

Cross section No. 1 - Trave



Cross section No. 1 - Trave

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[cm]	[MPa]	[kN/m]
1	4.9975E-01		3.519E-02	0.00	0.00	36416	12.68
3	1.220E-02		3.878E-02	-53.44	-61.55	15173	

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
	ymax	zmax	hzmin	AB		Tau-B	Tau-Vz
[1/°K]	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-60.00	-31.56		2.608E-01	3	9.527E+00	2.963E-08
	60.00	53.44		5.071E-01			2.825E+00

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.1702	0.1702	0.000	0.000	0.000	0.000	0.00	35.47

Parametri, Materiali e Sezioni

Partial cross sections

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	2.0710E-01		9.119E-03	0.00	36416	5.18
3	2.842E-03		4.377E-03	-28.13	15173	
2	3.0000E-01		1.563E-03	0.00	33643	7.50
3	1.013E-02		3.600E-02	-72.50	14018	

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	4.8425E-01		3.390E-02	0.00	30347	12.28
	1.220E-02		3.763E-02	-53.52	12644	

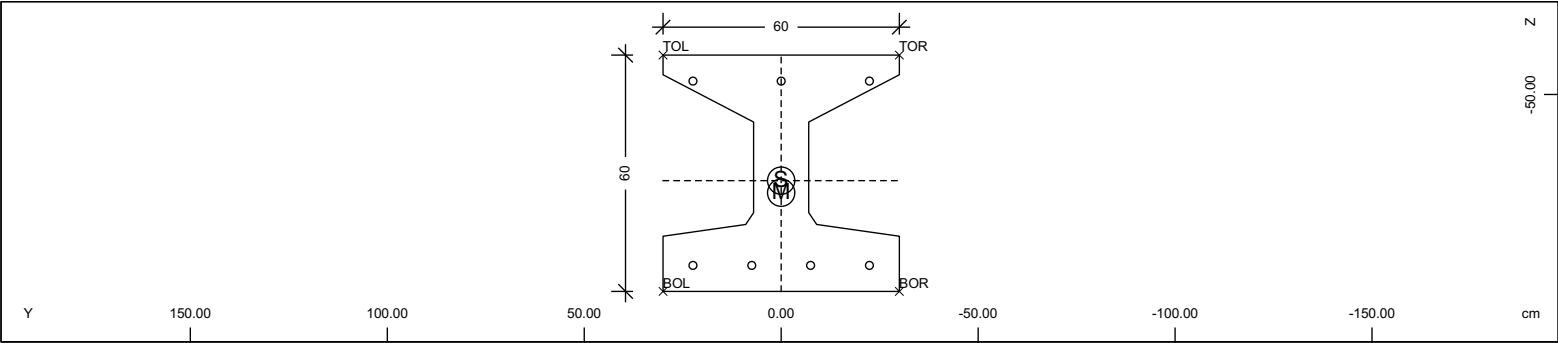
Additional Design Data

M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[cm]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	5.955	16.78			0.0	0.188	0.087	0.101	0.000
1	3.055	13.56			0.0	0.034	0.023	0.011	0.000
2	2.900	20.69			0.0	0.094	0.004	0.090	

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	1	3	9.42	9.42		0.00	-6.60			
M2	1	3	6.28	6.28	6.28	0.00	-53.40			
M3	2	3	9.24	9.24	9.24	0.00	-64.70			
M4	2	3	9.24	9.24		0.00	-80.30			

Cross section No. 1.1 = CS 9



Cross section No. 1

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	2.0710E-01		9.119E-03	0.00	36416	5.18
3	1.723E-03		4.377E-03	-28.13	15173	

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
	ymin	zmin	hzmin	AB		Tau-B	Tau-Vz
[1/°K]	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-30.00	-31.87			3		
	30.00	28.13		2.071E-01			

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0819	0.0819	0.000	0.000	0.000	0.000	0.00	-8.98

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	2.0710E-01		9.119E-03	0.00	30347	5.18
	1.723E-03		4.377E-03	-28.13	12644	

Additional Design Data

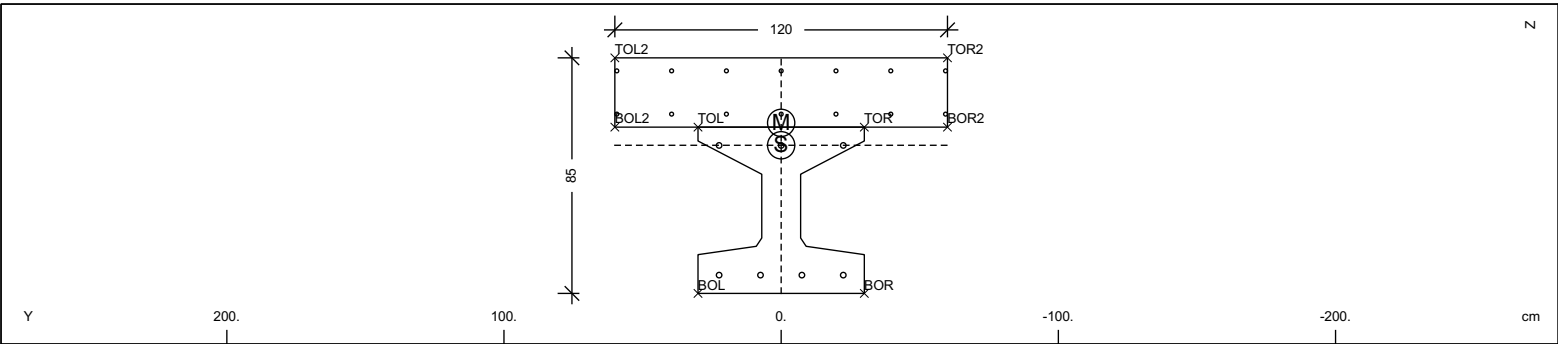
M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[cm]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	3.055	13.56			0.0	0.034	0.023	0.011	0.000

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	1	3	9.42	9.42		0.00	-6.60			
M2	1	3	6.28	6.28	6.28	0.00	-53.40			

Parametri, Materiali e Sezioni

Cross section No. 1.2 = CS 22



Cross section No. 1

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	4.9975E-01		3.519E-02	0.00	36416	12.68
3	1.220E-02		3.878E-02	-53.44	15173	

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
[1/°K]	ymin	zmin	hzmin	AB		Tau-B	Tau-Vz
	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-60.00	-31.56			3	9.527E+00	2.963E-08
	60.00	53.44	5.071E-01				2.825E+00

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.1702	0.1702	0.000	0.000	0.000	0.000	0.00	35.47

Partial cross sections

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	2.0710E-01		9.119E-03	0.00	36416	5.18
3	2.842E-03		4.377E-03	-28.13	15173	
2	3.0000E-01		1.563E-03	0.00	33643	7.50
3	1.013E-02		3.600E-02	-72.50	14018	

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	4.8425E-01		3.390E-02	0.00	30347	12.28
	1.220E-02		3.763E-02	-53.52	12644	

Additional Design Data

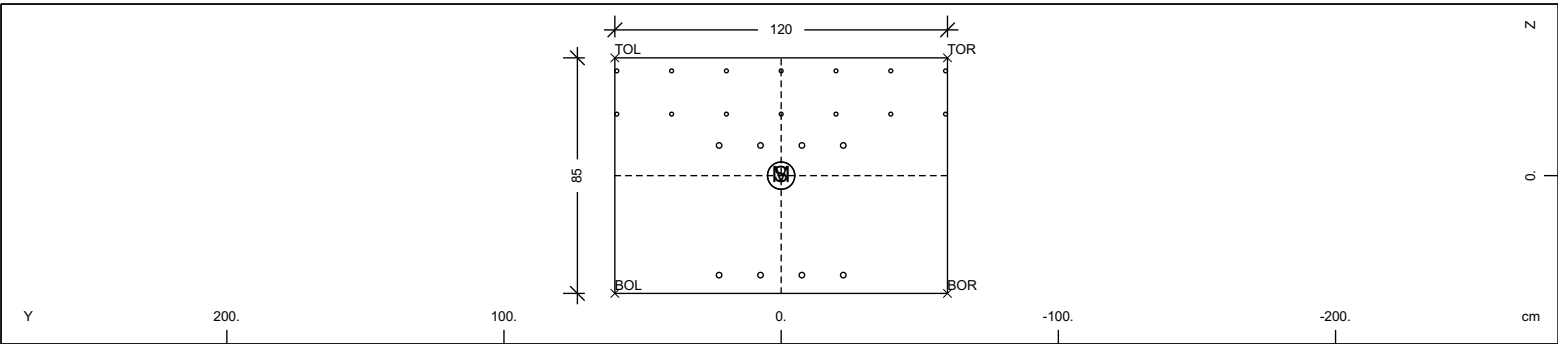
M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[m2/m]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	5.955	16.78			0.0	0.188	0.087	0.101	0.000
1	3.055	13.56			0.0	0.034	0.023	0.011	0.000
2	2.900	20.69			0.0	0.094	0.004	0.090	

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	1	3	9.42	9.42		0.00	-6.60			
M2	1	3	6.28	6.28	6.28	0.00	-53.40			
M3	2	3	9.24	9.24	9.24	0.00	-64.70			
M4	2	3	9.24	9.24		0.00	-80.30			

Parametri, Materiali e Sezioni

Cross section No. 2 - Retrotrave+soletta in situ



Cross section No. 2 - Retrotrave+soletta in situ

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[cm]	[MPa]	[kN/m]
2	1.0200E+00		6.141E-02	0.00	0.00	33643	25.50
3	1.386E-01		1.224E-01	0.00	0.00	14018	

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
[1/°K]	ymax	zmax	hzmin	AB		Tau-B	Tau-Vz
	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-60.00	-42.50		5.719E-01	3	3.522E+00	
	60.00	42.50		1.020E+00			1.471E+00

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0880	0.0880	0.000	0.000	0.000	0.000	0.00	0.00

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
2	1.0200E+00		6.141E-02	0.00	28036	25.50
	1.386E-01		1.224E-01	0.00	11682	

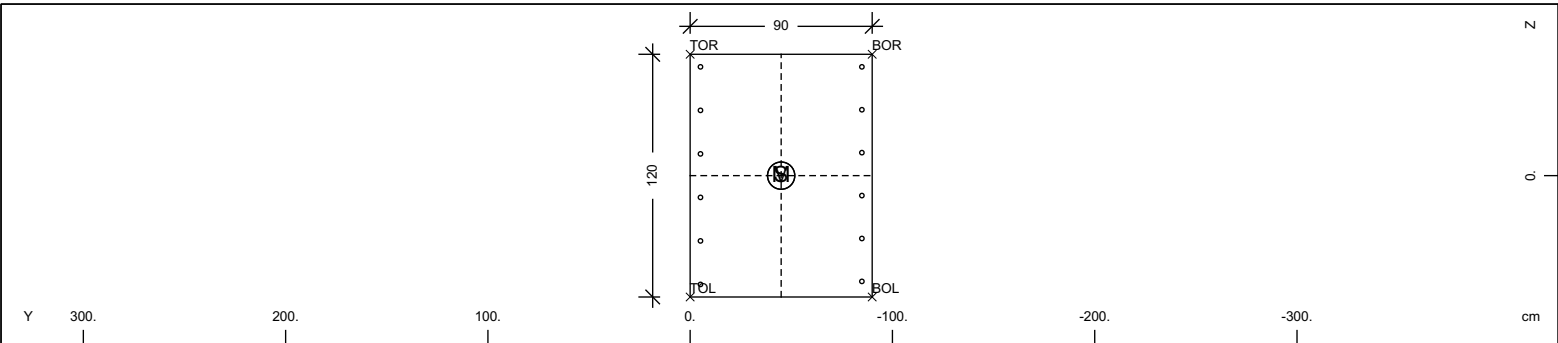
Additional Design Data

M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[m2/m]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	4.100		49.76		0.0	0.460	0.154	0.306	

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	2	3	9.42	9.42		0.00	35.90			
M2	2	3	9.42	9.42	9.42	0.00	-10.90			
M3	2	3	9.24	9.24	9.24	0.00	-22.20			
M4	2	3	9.24	9.24		0.00	-37.80			

Cross section No. 3 - paraghiaia



Cross section No. 3 - paraghiaia

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[cm]	[MPa]	[kN/m]
2	1.0800E+00		1.296E-01	-45.00	-45.00	33643	27.00
3	1.579E-01		7.290E-02	0.00	0.00	14018	

Parametri, Materiali e Sezioni

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
	y _{max}	z _{max}	hzmin	AB		Tau-B	Tau-Vz
[1/°K]	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-45.00	-60.00		6.061E-01	3	3.216E+00	1.389E+00
	45.00	60.00		1.080E+00			1.916E-07

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0842	0.0842	0.000	0.000	0.000	0.000	0.00	0.00

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
2	1.0800E+00		1.296E-01	-45.00	28036	27.00
	1.579E-01		7.290E-02	0.00	11682	

Additional Design Data

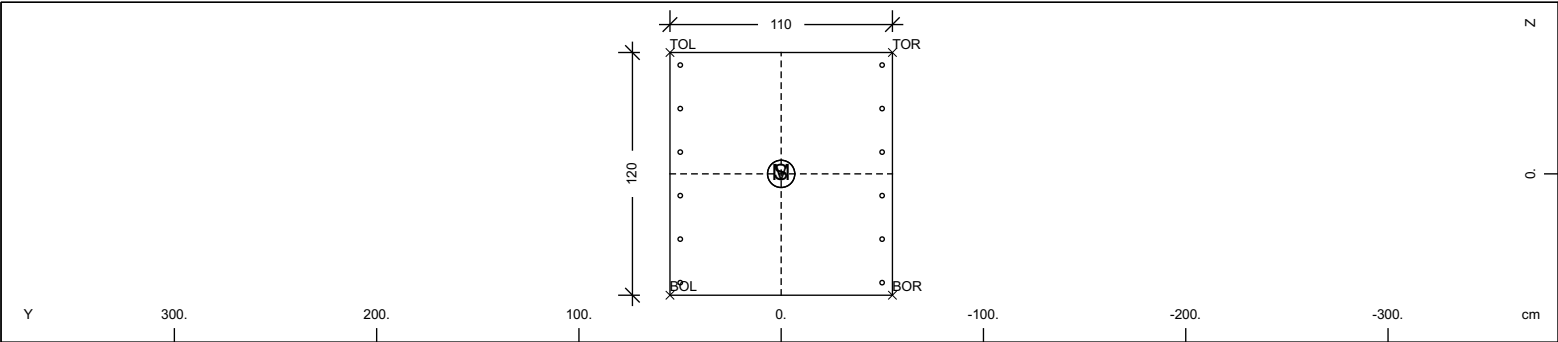
M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[m2/m]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	4.200		51.43		0.0	0.506	0.324	0.182	

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	2	3	20.87	20.87		-5.10	0.00			
M2	2	3	20.58	20.58		-84.90	-0.75			

Cross section rotated by 90.00 degrees

Cross section No. 4 - diaframma



Cross section No. 4 - diaframma

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[cm]	[MPa]	[kN/m]
2	1.3200E+00		1.584E-01	0.00	0.00	33643	33.00
3	2.441E-01		1.331E-01	0.00	0.00	14018	

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
	y _{max}	z _{max}	hzmin	AB		Tau-B	Tau-Vz
[1/°K]	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-55.00	-60.00		7.423E-01	3	2.353E+00	1.136E+00
	55.00	60.00		1.320E+00			

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0643	0.0643	0.000	0.000	0.000	0.000	0.00	0.00

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
2	1.3200E+00		1.584E-01	0.00	28036	33.00
	2.441E-01		1.331E-01	0.00	11682	

Additional Design Data

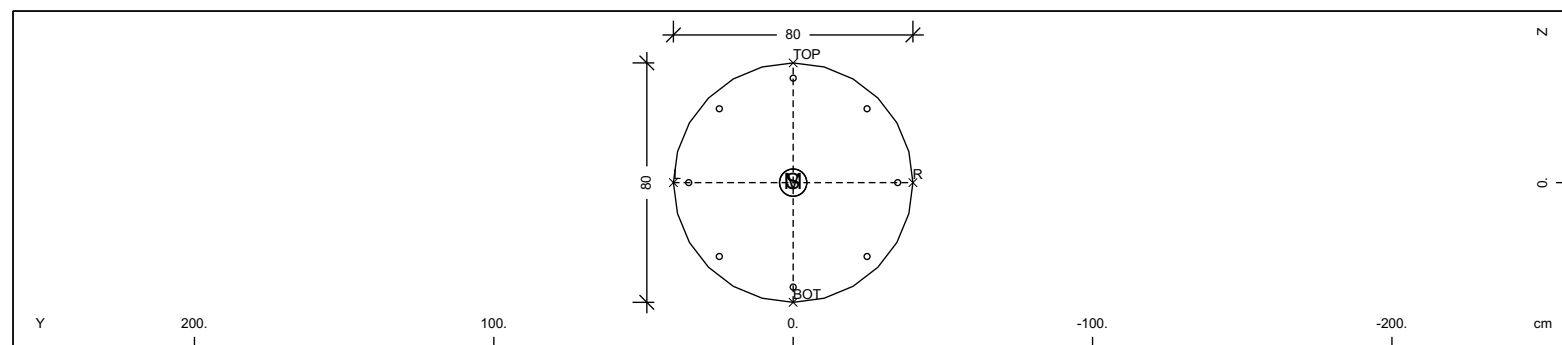
M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[m2/m]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	4.600		57.39		0.0	0.729	0.396	0.333	

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	2	3	20.87	20.87		-49.90	0.00			
M2	2	3	20.87	20.87		49.90	0.00			

Parametri, Materiali e Sezioni

Cross section No. 5 - palo



Cross section No. 5 - palo

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[cm]	[MPa]	[kN/m]
5	5.0265E-01		2.011E-02	0.00	0.00	31447	12.57
3	4.021E-02		2.011E-02	0.00	0.00	13103	

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
	ymax	zmax	hzmin	AB		Tau-B	Tau-Vz
[1/°K]	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-40.00	-40.00		2.913E-01	3	8.629E+00	2.637E+00
	40.00	40.00		5.027E-01			1.458E-07

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
5	5.0265E-01		2.011E-02	0.00	26206	12.57
	4.021E-02		2.011E-02	0.00	10919	

Additional Design Data

M	periphery-O/I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[cm]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	2.513	40.00			0.0	0.101	0.050	0.050	

Reinforcement global values

Layer	mS	mR	area [cm ²]	lower-A [cm ²]	upper-A [cm ²]	yL [cm]	zL [cm]	L-tors [cm]	N-pr [kN]	M-pr [kNm]
M1	5	3	25.13	25.13		0.00	0.00			

Bore Profile No. 1 profilo sx

[illegible]

Bore Profile No. 2 profilo dx

[illegible]

Geometria ponticello

Structural Points

Number	x[m]	y[m]	z[m]	t[m]	h[m]	Title /	Support Conditions
1	0.450	0.000	0.000	0.000	0.000		
2	0.900	0.000	0.000	0.000	0.000		
3	1.000	0.000	0.000	0.000	0.000		
4	1.100	0.000	0.000	0.000	0.000		
5	12.000	0.000	0.000	0.000	0.000		
6	12.100	0.000	0.000	0.000	0.000		
7	12.200	0.000	0.000	0.000	0.000		
8	12.650	0.000	0.000	0.000	0.000		
11	0.450	0.000	0.425	0.000	0.000		
12	0.900	0.000	0.425	0.000	0.000		
17	12.200	0.000	0.425	0.000	0.000		
18	12.650	0.000	0.425	0.000	0.000		
19	0.550	0.000	-3.025	0.000	0.000		
20	12.550	0.000	-3.025	0.000	0.000		
100	0.550	0.000	0.000	0.000	0.000		
101	0.550	0.000	-13.000	0.000	0.000	PP	
108	12.550	0.000	-13.000	0.000	0.000	PP	
110	0.550	0.000	-1.500	0.000	0.000		
111	12.550	0.000	-1.500	0.000	0.000		
200	12.550	0.000	0.000	0.000	0.000		

Structural Lines

Number	Ref	gpt-a	gpt-b	Grp	MNo	b[m]	div	Title /	Support Conditions
1		11	12	2					
2		2	3	1					
3		3	4	1					
4		4	5	1					
5		5	6	1					
6		6	7	1					
7		17	18	2					
8		101	19	3					
9		19	110	3					
10		108	20	3					
11		20	111	3					
12		1	11	4					
13		8	18	4					
14		110	100	3					
15		111	200	3					

Structural Lines - Beam Elements

Number	GPT-A	GPT-B	Type	Grp	NoS	NoP	div	Hinges-start	Hinges-end
1	11	12		2	2	0	0		
2	2	3		1	1	0	0		
3	3	4		1	1	0	0		
4	4	5		1	1	0	0		
5	5	6		1	1	0	0		
6	6	7		1	1	0	0		
7	17	18		2	2	0	0		
8	101	19		3	5	1	0		
9	19	110		3	5	1	0		
10	108	20		3	5	2	0		
11	20	111		3	5	2	0		
12	1	11		4	3	0	0		
13	8	18		4	3	0	0		
14	110	100		3	4	1	0		
15	111	200		3	4	2	0		



Vincoli dappoggio a tempo infinito

Groups

Grp	number	type	min-no	max-no	Title
1	23	BEAM	10001	10023	
2	2	BEAM	20001	20002	
3	2	KINE	30003	30003	
	46	BEAM	30001	30046	
	48	base	30000	39999	
4	2	BEAM	40001	40002	
10	7	KINE	100010	100010	
20	2	KINE	200020	200020	

Nodal Coordinates and Supports

Number	X[m]	Y[m]	Z[m]	Support Conditions		
1	0.450	0.000	0.000			
2	0.900	0.000	0.000			
3	1.000	0.000	0.000			
4	1.100	0.000	0.000			
5	12.000	0.000	0.000			
6	12.100	0.000	0.000			
7	12.200	0.000	0.000			
8	12.650	0.000	0.000			
11	0.450	0.000	0.425			
12	0.900	0.000	0.425			
17	12.200	0.000	0.425			
18	12.650	0.000	0.425			
19	0.550	0.000	-3.025			
20	12.550	0.000	-3.025			
100	0.550	0.000	0.000			
101	0.550	0.000	-13.000	PX	PY	PZ
108	12.550	0.000	-13.000	PX	PY	PZ
110	0.550	0.000	-1.500			
111	12.550	0.000	-1.500			
200	12.550	0.000	0.000			
201	1.674	0.000	0.000			
202	2.247	0.000	0.000			
203	2.821	0.000	0.000			
204	3.395	0.000	0.000			
205	3.968	0.000	0.000			
206	4.542	0.000	0.000			
207	5.116	0.000	0.000			
208	5.689	0.000	0.000			
209	6.263	0.000	0.000			
210	6.837	0.000	0.000			
211	7.411	0.000	0.000			
212	7.984	0.000	0.000			
213	8.558	0.000	0.000			
214	9.132	0.000	0.000			
215	9.705	0.000	0.000			
216	10.279	0.000	0.000			
217	10.853	0.000	0.000			
218	11.426	0.000	0.000			
219	0.550	0.000	-12.413			
220	0.550	0.000	-11.826			
221	0.550	0.000	-11.240			
222	0.550	0.000	-10.653			
223	0.550	0.000	-10.066			
224	0.550	0.000	-9.479			
225	0.550	0.000	-8.893			
226	0.550	0.000	-8.306			
227	0.550	0.000	-7.719			
228	0.550	0.000	-7.132			
229	0.550	0.000	-6.546			
230	0.550	0.000	-5.959			
231	0.550	0.000	-5.372			
232	0.550	0.000	-4.785			
233	0.550	0.000	-4.199			
234	0.550	0.000	-3.612			
235	0.550	0.000	-2.517			
236	0.550	0.000	-2.008			
237	12.550	0.000	-12.413			
238	12.550	0.000	-11.826			
239	12.550	0.000	-11.240			
240	12.550	0.000	-10.653			
241	12.550	0.000	-10.066			
242	12.550	0.000	-9.479			
243	12.550	0.000	-8.893			
244	12.550	0.000	-8.306			
245	12.550	0.000	-7.719			
246	12.550	0.000	-7.132			
247	12.550	0.000	-6.546			
248	12.550	0.000	-5.959			

Vincoli dappoggio a tempo infinito

Nodal Coordinates and Supports

Number	X[m]	Y[m]	Z[m]	Support Conditions
249	12.550	0.000	-5.372	
250	12.550	0.000	-4.785	
251	12.550	0.000	-4.199	
252	12.550	0.000	-3.612	
253	12.550	0.000	-2.517	
254	12.550	0.000	-2.008	
255	0.550	0.000	-1.000	
256	0.550	0.000	-0.500	
257	12.550	0.000	-1.000	
258	12.550	0.000	-0.500	

MIN	0.450	0.000	-13.000	
MAX	12.650	0.000	0.425	

Kinematic Constraints

Grp	LV	Node	type	reference	dx	dy	dz	df
3	1	1	KF	100	-0.100	0.000	0.000	
20	1	2	KF	12	0.000	0.000	-0.425	
10	1	3	KMXZ	100	0.000	-1.000	0.000	
10	1	6	KMXZ	200	0.000	-1.000	0.000	
20	1	7	KF	17	0.000	0.000	-0.425	
3	1	8	KF	200	0.100	0.000	0.000	
10	1	3	KPX0	100	-1.000	0.000	0.000	
10	1	3	KPY0	100	-1.000	0.000	0.000	
10	1	3	KPZ0	100	-1.000	0.000	0.000	
10	1	6	KPY0	200	1.000	0.000	0.000	
10	1	6	KPZ0	200	1.000	0.000	0.000	

Beam Elements

Grp	Number	Node	x[m]	NoS	NoP	reference	Hinges	direction	local	y-axis
1	10001	2	0.000	1	0-0	0.000		0.000	-1.000	0.000
		3	0.100	1		0.100				
1	10002	3	0.000	1	0-0	0.000		0.000	-1.000	0.000
		4	0.100	1		0.100				
1	10003	4	0.000	1	0-0	0.000		0.000	-1.000	0.000
		201	0.574	1		0.574				
1	10004	201	0.000	1	0-0	0.574		0.000	-1.000	0.000
		202	0.574	1		1.147				
1	10005	202	0.000	1	0-0	1.147		0.000	-1.000	0.000
		203	0.574	1		1.721				
1	10006	203	0.000	1	0-0	1.721		0.000	-1.000	0.000
		204	0.574	1		2.295				
1	10007	204	0.000	1	0-0	2.295		0.000	-1.000	0.000
		205	0.574	1		2.868				
1	10008	205	0.000	1	0-0	2.868		0.000	-1.000	0.000
		206	0.574	1		3.442				
1	10009	206	0.000	1	0-0	3.442		0.000	-1.000	0.000
		207	0.574	1		4.016				
1	10010	207	0.000	1	0-0	4.016		0.000	-1.000	0.000
		208	0.574	1		4.589				
1	10011	208	0.000	1	0-0	4.589		0.000	-1.000	0.000
		209	0.574	1		5.163				
1	10012	209	0.000	1	0-0	5.163		0.000	-1.000	0.000
		210	0.574	1		5.737				
1	10013	210	0.000	1	0-0	5.737		0.000	-1.000	0.000
		211	0.574	1		6.311				
1	10014	211	0.000	1	0-0	6.311		0.000	-1.000	0.000
		212	0.574	1		6.884				
1	10015	212	0.000	1	0-0	6.884		0.000	-1.000	0.000
		213	0.574	1		7.458				
1	10016	213	0.000	1	0-0	7.458		0.000	-1.000	0.000
		214	0.574	1		8.032				
1	10017	214	0.000	1	0-0	8.032		0.000	-1.000	0.000
		215	0.574	1		8.605				
1	10018	215	0.000	1	0-0	8.605		0.000	-1.000	0.000
		216	0.574	1		9.179				
1	10019	216	0.000	1	0-0	9.179		0.000	-1.000	0.000
		217	0.574	1		9.753				
1	10020	217	0.000	1	0-0	9.753		0.000	-1.000	0.000
		218	0.574	1		10.326				
1	10021	218	0.000	1	0-0	10.326		0.000	-1.000	0.000
		5	0.574	1		10.900				
1	10022	5	0.000	1	0-0	0.000		0.000	-1.000	0.000
		6	0.100	1		0.100				
1	10023	6	0.000	1	0-0	0.000		0.000	-1.000	0.000
		7	0.100	1		0.100				
2	20001	11	0.000	2	0-0	0.000		0.000	-1.000	0.000
		12	0.450	2		0.450				
2	20002	17	0.000	2	0-0	0.000		0.000	-1.000	0.000

Vincoli dappoggio a tempo infinito

Beam Elements

Grp	Number	Node	x[m]	NoS	NoP	reference	Hinges	direction	local	y-axis
2	20002	18	0.450	2		0.450				
3	30001	101	0.000	5	1	0.000		1.000	0.000	0.000
		219	0.587	5		0.587				
3	30002	219	0.000	5	1	0.587		1.000	0.000	0.000
		220	0.587	5		1.174				
3	30003	220	0.000	5	1	1.174		1.000	0.000	0.000
		221	0.587	5		1.760				
3	30004	221	0.000	5	1	1.760		1.000	0.000	0.000
		222	0.587	5		2.347				
3	30005	222	0.000	5	1	2.347		1.000	0.000	0.000
		223	0.587	5		2.934				
3	30006	223	0.000	5	1	2.934		1.000	0.000	0.000
		224	0.587	5		3.521				
3	30007	224	0.000	5	1	3.521		1.000	0.000	0.000
		225	0.587	5		4.107				
3	30008	225	0.000	5	1	4.107		1.000	0.000	0.000
		226	0.587	5		4.694				
3	30009	226	0.000	5	1	4.694		1.000	0.000	0.000
		227	0.587	5		5.281				
3	30010	227	0.000	5	1	5.281		1.000	0.000	0.000
		228	0.587	5		5.868				
3	30011	228	0.000	5	1	5.868		1.000	0.000	0.000
		229	0.587	5		6.454				
3	30012	229	0.000	5	1	6.454		1.000	0.000	0.000
		230	0.587	5		7.041				
3	30013	230	0.000	5	1	7.041		1.000	0.000	0.000
		231	0.587	5		7.628				
3	30014	231	0.000	5	1	7.628		1.000	0.000	0.000
		232	0.587	5		8.215				
3	30015	232	0.000	5	1	8.215		1.000	0.000	0.000
		233	0.587	5		8.801				
3	30016	233	0.000	5	1	8.801		1.000	0.000	0.000
		234	0.587	5		9.388				
3	30017	234	0.000	5	1	9.388		1.000	0.000	0.000
		19	0.587	5		9.975				
3	30018	19	0.000	5	1	0.000		1.000	0.000	0.000
		235	0.508	5		0.508				
3	30019	235	0.000	5	1	0.508		1.000	0.000	0.000
		236	0.508	5		1.017				
3	30020	236	0.000	5	1	1.017		1.000	0.000	0.000
		110	0.508	5		1.525				
3	30021	108	0.000	5	2	0.000		1.000	0.000	0.000
		237	0.587	5		0.587				
3	30022	237	0.000	5	2	0.587		1.000	0.000	0.000
		238	0.587	5		1.174				
3	30023	238	0.000	5	2	1.174		1.000	0.000	0.000
		239	0.587	5		1.760				
3	30024	239	0.000	5	2	1.760		1.000	0.000	0.000
		240	0.587	5		2.347				
3	30025	240	0.000	5	2	2.347		1.000	0.000	0.000
		241	0.587	5		2.934				
3	30026	241	0.000	5	2	2.934		1.000	0.000	0.000
		242	0.587	5		3.521				
3	30027	242	0.000	5	2	3.521		1.000	0.000	0.000
		243	0.587	5		4.107				
3	30028	243	0.000	5	2	4.107		1.000	0.000	0.000
		244	0.587	5		4.694				
3	30029	244	0.000	5	2	4.694		1.000	0.000	0.000
		245	0.587	5		5.281				
3	30030	245	0.000	5	2	5.281		1.000	0.000	0.000
		246	0.587	5		5.868				
3	30031	246	0.000	5	2	5.868		1.000	0.000	0.000
		247	0.587	5		6.454				
3	30032	247	0.000	5	2	6.454		1.000	0.000	0.000
		248	0.587	5		7.041				
3	30033	248	0.000	5	2	7.041		1.000	0.000	0.000
		249	0.587	5		7.628				
3	30034	249	0.000	5	2	7.628		1.000	0.000	0.000
		250	0.587	5		8.215				
3	30035	250	0.000	5	2	8.215		1.000	0.000	0.000
		251	0.587	5		8.801				
3	30036	251	0.000	5	2	8.801		1.000	0.000	0.000
		252	0.587	5		9.388				
3	30037	252	0.000	5	2	9.388		1.000	0.000	0.000
		20	0.587	5		9.975				
3	30038	20	0.000	5	2	0.000		1.000	0.000	0.000
		253	0.508	5		0.508				
3	30039	253	0.000	5	2	0.508		1.000	0.000	0.000
		254	0.508	5		1.017				



Vincoli dappoggio a tempo infinito

Beam Elements

Grp	Number	Node	x[m]	NoS	NoP	reference	Hinges	direction	local	y-axis
3	30040	254	0.000	5	2	1.017		1.000	0.000	0.000
		111	0.508	5		1.525				
3	30041	110	0.000	4	1	0.000		1.000	0.000	0.000
		255	0.500	4		0.500				
3	30042	255	0.000	4	1	0.500		1.000	0.000	0.000
		256	0.500	4		1.000				
3	30043	256	0.000	4	1	1.000		1.000	0.000	0.000
		100	0.500	4		1.500				
3	30044	111	0.000	4	2	0.000		1.000	0.000	0.000
		257	0.500	4		0.500				
3	30045	257	0.000	4	2	0.500		1.000	0.000	0.000
		258	0.500	4		1.000				
3	30046	258	0.000	4	2	1.000		1.000	0.000	0.000
		200	0.500	4		1.500				
4	40001	1	0.000	3		0.000		1.000	0.000	0.000
		11	0.425	3		0.425				
4	40002	8	0.000	3		0.000		1.000	0.000	0.000
		18	0.425	3		0.425				

Summary of all beam elements

Groups				
Grp	TotLength	Max.Length	TotWeight	Surface
	[m]	[m]	[t]	[m2]
1	11.300	0.574	14.326	32.770
2	0.900	0.450	2.295	3.690
3	26.000	0.587	38.803	71.605
4	0.850	0.425	2.295	3.570

Sum	39.050		57.718	111.635



Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	2	System:	6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 2 **Geometry of Tendons:** 2 **Tendons:** 1

Construction/Prestress.Stage:	Tref. inf. 2	
Title of the Tondon Group	:	
Fitting/grouting/removing	: 9/ 9/ 0	
Sequence of Prestressing	: from left	
Length of geometry	:	11.300 m
Influence in XY-plane	:	11.300 m
Length of tendon	:	11.300 m
Force transition	:	0.750 m/lin
Given Prestressing ZVi/ZVdsgn	Given Prestressing	
general	:	Overstress : 208. kN
due to overstress	:	Release :
at prestressing anchor	:	Restress :
at dead anchor	:	Wedge slip :
Prestressingfrom left		
Station	Beam Section	+Frict -Frict Overst. Releas Restres Slip activ
0.00	10001 0.000	1.000 1.000 1.000 1.000 1.000 1.000 0.000
11.30	10023 1.000	1.000 1.000 1.000 1.000 1.000 1.000 0.000
Elongation in mm:	86.2 86.2	86.2 86.2 86.2 86.2 86.2 86.2

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	3	System: 6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA : 1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	: 195000 N/mm2
Tensile strength	:	1860 N/mm2		
Diameter of duct	:	13.4 mm	Area of each tendon	: 140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	: 0.0 mm
Coefficient of Friction			Crack width	
MUE due to overstress	:	0.000	Associated eff. area	: 1.4 cm2
MUE due to release	:	0.000	Effective diameter	: 1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	: 5.9 cm

Group No: 3 Geometry of Tendons: 3 Tendons: 1

Construction/Prestress.Stage:	Tref. inf. 3		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	11.300 m	
Influence in XY-plane	:	11.300 m	
Length of tendon	:	11.300 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	4	System:6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA : 1488 N/mm ²
Yield strength	:	1670 N/mm ²	Young's Modulus	:195000 N/mm ²
Tensile strength	:	1860 N/mm ²		
Diameter of duct	:	13.4 mm	Area of each tendon	: 140 mm ²
Permissible radius	:	0.00 m	Slip at prestr.anchor	: 0.0 mm
Coefficient of Friction			Crack width	
MUE due to overstress	:	0.000	Associated eff. area	: 1.4 cm ²
MUE due to release	:	0.000	Effective diameter	: 1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	: 5.9 cm

Group No: 4 Geometry of Tendons: 4 Tendons: 1

Construction/Prestress.Stage:	Tref. inf. 4		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	11.300 m	
Influence in XY-plane	:	11.300 m	
Length of tendon	:	11.300 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	5	System:6-19 140mm2	
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 5 Geometry of Tendons: 5 Tendons: 1

Construction/Prestress.Stage:	Tref. inf. 5		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	11.300 m	
Influence in XY-plane	:	11.300 m	
Length of tendon	:	11.300 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	9	System:6-19 140mm2	
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 9 Geometry of Tendons: 9 Tendons: 1

Construction/Prestress.Stage:	Tref. int. 9		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	11.300 m	
Influence in XY-plane	:	11.300 m	
Length of tendon	:	11.300 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	10	System:6-19 140mm2	
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 10 Geometry of Tendons: 10 Tendons: 1

Construction/Prestress.Stage:	Tref. int. 10		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	11.300 m	
Influence in XY-plane	:	11.300 m	
Length of tendon	:	11.300 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	13	System: 6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA : 1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	: 195000 N/mm2
Tensile strength	:	1860 N/mm2		
Diameter of duct	:	13.4 mm	Area of each tendon	: 140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	: 0.0 mm
Coefficient of Friction			Crack width	
MUE due to overstress	:	0.000	Associated eff. area	: 1.4 cm2
MUE due to release	:	0.000	Effective diameter	: 1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	: 5.9 cm

Group No: 13 Geometry of Tendons: 13 Tendons: 1

Construction/Prestress.Stage:	Tref. sup. 13		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	11.300 m	
Influence in XY-plane	:	11.300 m	
Length of tendon	:	11.300 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	14	System:	6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 14 **Geometry of Tendons:** 14 **Tendons:** 1

Construction/Prestress.Stage: Tref. sup. 14
Title of the Tondon Group :
Fitting/grouting/removing : 9/ 9/ 0
Sequence of Prestressing : from left

Length of geometry	:	11.300 m		
Influence in XY-plane	:	11.300 m		
Length of tendon	:	11.300 m		
Force transition	:	0.750 m/lin		
Given Prestressing	ZVi/ZVdsgn		Given Prestressing	
general	:		Overstress	: 208. kN
due to overstress	:		Release	:
at prestressing anchor	:		Restress	:
at dead anchor	:		Wedge slip	:

Prestressingfrom left

Station	Beam	Section	+Frict	-Frict	Overst.	Releas	Restres	Slip	activ
0.00	10001	0.000	1.000	1.000	1.000	1.000	1.000	1.000	0.000
11.30	10023	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.000

Elongation in mm: 86.2 86.2 86.2 86.2 86.2 86.2 86.2

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 1 **Geometry of Tendons:** 1 **Tendons:** 1

Area of statical influence : station 0.00 to station 11.30
Construction/Prestress.Stage: Tref. inf. 1
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.23	-6.50
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.23	-6.50
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.47	-13.00
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.47	-13.00
0.39		0.19	-108.67	0.00	0.00	0.00	-51.77	-25.43
0.58		0.38	-161.78	0.00	0.00	0.00	-77.08	-37.86
0.77	10003	0.57	-208.32	0.00	0.00	0.00	-99.25	-48.75
0.77	10004	0.00	-208.32	0.00	0.00	0.00	-99.25	-48.75
1.35	10004	0.57	-208.32	0.00	0.00	0.00	-99.25	-48.75
1.35	10005	0.00	-208.32	0.00	0.00	0.00	-99.25	-48.75
1.92	10005	0.57	-208.32	0.00	0.00	0.00	-99.25	-48.75
1.92	10006	0.00	-208.32	0.00	0.00	0.00	-99.25	-48.75
2.49	10006	0.57	-208.32	0.00	0.00	0.00	-99.25	-48.75
2.49	10007	0.00	-208.32	0.00	0.00	0.00	-99.25	-48.75
3.07	10007	0.57	-208.32	0.00	0.00	0.00	-99.25	-48.75
3.07	10008	0.00	-208.32	0.00	0.00	0.00	-99.25	-48.75
3.64	10008	0.57	-208.32	0.00	0.00	0.00	-99.25	-48.75
3.64	10009	0.00	-208.32	0.00	0.00	0.00	-99.25	-48.75
4.22	10009	0.57	-208.32	0.00	0.00	0.00	-99.25	-48.75
4.22	10010	0.00	-208.32	0.00	0.00	0.00	-99.25	-48.75
4.79	10010	0.57	-208.32	0.00	0.00	0.00	-99.25	-48.75
4.79	10011	0.00	-208.32	0.00	0.00	0.00	-99.25	-48.75
5.36	10011	0.57	-208.32	0.00	0.00	0.00	-99.25	-48.75
5.36	10012	0.00	-208.32	0.00	0.00	0.00	-99.25	-48.75
5.94	10012	0.57	-208.32	0.00	0.00	0.00	-99.25	-48.75
5.94	10013	0.00	-208.32	0.00	0.00	0.00	-99.25	-48.75
6.51	10013	0.57	-208.32	0.00	0.00	0.00	-99.25	-48.75
6.51	10014	0.00	-208.32	0.00	0.00	0.00	-99.25	-48.75



Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
7.08	10014	0.57	-208.32	0.00	0.00	0.00	-99.25	-48.75
7.08	10015	0.00	-208.32	0.00	0.00	0.00	-99.25	-48.75
7.66	10015	0.57	-208.32	0.00	0.00	0.00	-99.25	-48.75
7.66	10016	0.00	-208.32	0.00	0.00	0.00	-99.25	-48.75
8.23	10016	0.57	-208.32	0.00	0.00	0.00	-99.25	-48.75
8.23	10017	0.00	-208.32	0.00	0.00	0.00	-99.25	-48.75
8.81	10017	0.57	-208.32	0.00	0.00	0.00	-99.25	-48.75
8.81	10018	0.00	-208.32	0.00	0.00	0.00	-99.25	-48.75
9.38	10018	0.57	-208.32	0.00	0.00	0.00	-99.25	-48.75
9.38	10019	0.00	-208.32	0.00	0.00	0.00	-99.25	-48.75
9.95	10019	0.57	-208.32	0.00	0.00	0.00	-99.25	-48.75
9.95	10020	0.00	-208.32	0.00	0.00	0.00	-99.25	-48.75
10.53	10020	0.57	-208.32	0.00	0.00	0.00	-99.25	-48.75
10.53	10021	0.00	-208.32	0.00	0.00	0.00	-99.25	-48.75
10.72		0.19	-161.78	0.00	0.00	0.00	-77.08	-37.86
10.91		0.38	-108.67	0.00	0.00	0.00	-51.77	-25.43
11.10	10021	0.57	-55.55	0.00	0.00	0.00	-26.47	-13.00
11.10	10022	0.00	-55.55	0.00	0.00	0.00	-26.47	-13.00
11.20	10022	0.10	-27.78	0.00	0.00	0.00	-13.23	-6.50
11.20	10023	0.00	-27.78	0.00	0.00	0.00	-13.23	-6.50
11.30	10023	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 2 Geometry of Tendons: 2 Tendons: 1

Area of statical influence : station 0.00 to station 11.30
Construction/Prestress.Stage: Tref. inf. 2
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.23	-3.90
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.23	-3.90
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.47	-7.80
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.47	-7.80
0.39		0.19	-108.67	0.00	0.00	0.00	-51.77	-15.26
0.58		0.38	-161.78	0.00	0.00	0.00	-77.08	-22.71
0.77	10003	0.57	-208.32	0.00	0.00	0.00	-99.25	-29.25
0.77	10004	0.00	-208.32	0.00	0.00	0.00	-99.25	-29.25
1.35	10004	0.57	-208.32	0.00	0.00	0.00	-99.25	-29.25
1.35	10005	0.00	-208.32	0.00	0.00	0.00	-99.25	-29.25
1.92	10005	0.57	-208.32	0.00	0.00	0.00	-99.25	-29.25
1.92	10006	0.00	-208.32	0.00	0.00	0.00	-99.25	-29.25
2.49	10006	0.57	-208.32	0.00	0.00	0.00	-99.25	-29.25
2.49	10007	0.00	-208.32	0.00	0.00	0.00	-99.25	-29.25
3.07	10007	0.57	-208.32	0.00	0.00	0.00	-99.25	-29.25
3.07	10008	0.00	-208.32	0.00	0.00	0.00	-99.25	-29.25
3.64	10008	0.57	-208.32	0.00	0.00	0.00	-99.25	-29.25
3.64	10009	0.00	-208.32	0.00	0.00	0.00	-99.25	-29.25
4.22	10009	0.57	-208.32	0.00	0.00	0.00	-99.25	-29.25
4.22	10010	0.00	-208.32	0.00	0.00	0.00	-99.25	-29.25
4.79	10010	0.57	-208.32	0.00	0.00	0.00	-99.25	-29.25
4.79	10011	0.00	-208.32	0.00	0.00	0.00	-99.25	-29.25
5.36	10011	0.57	-208.32	0.00	0.00	0.00	-99.25	-29.25
5.36	10012	0.00	-208.32	0.00	0.00	0.00	-99.25	-29.25
5.94	10012	0.57	-208.32	0.00	0.00	0.00	-99.25	-29.25
5.94	10013	0.00	-208.32	0.00	0.00	0.00	-99.25	-29.25
6.51	10013	0.57	-208.32	0.00	0.00	0.00	-99.25	-29.25
6.51	10014	0.00	-208.32	0.00	0.00	0.00	-99.25	-29.25
7.08	10014	0.57	-208.32	0.00	0.00	0.00	-99.25	-29.25
7.08	10015	0.00	-208.32	0.00	0.00	0.00	-99.25	-29.25
7.66	10015	0.57	-208.32	0.00	0.00	0.00	-99.25	-29.25
7.66	10016	0.00	-208.32	0.00	0.00	0.00	-99.25	-29.25
8.23	10016	0.57	-208.32	0.00	0.00	0.00	-99.25	-29.25
8.23	10017	0.00	-208.32	0.00	0.00	0.00	-99.25	-29.25
8.81	10017	0.57	-208.32	0.00	0.00	0.00	-99.25	-29.25
8.81	10018	0.00	-208.32	0.00	0.00	0.00	-99.25	-29.25
9.38	10018	0.57	-208.32	0.00	0.00	0.00	-99.25	-29.25
9.38	10019	0.00	-208.32	0.00	0.00	0.00	-99.25	-29.25
9.95	10019	0.57	-208.32	0.00	0.00	0.00	-99.25	-29.25
9.95	10020	0.00	-208.32	0.00	0.00	0.00	-99.25	-29.25
10.53	10020	0.57	-208.32	0.00	0.00	0.00	-99.25	-29.25
10.53	10021	0.00	-208.32	0.00	0.00	0.00	-99.25	-29.25
10.72		0.19	-161.78	0.00	0.00	0.00	-77.08	-22.71
10.91		0.38	-108.67	0.00	0.00	0.00	-51.77	-15.26
11.10	10021	0.57	-55.55	0.00	0.00	0.00	-26.47	-7.80



Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
11.10	10022	0.00	-55.55	0.00	0.00	0.00	-26.47	-7.80
11.20	10022	0.10	-27.78	0.00	0.00	0.00	-13.23	-3.90
11.20	10023	0.00	-27.78	0.00	0.00	0.00	-13.23	-3.90
11.30	10023	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 3 Geometry of Tendons: 3 Tendons: 1

Area of statical influence : station 0.00 to station 11.30
Construction/Prestress.Stage: Tref. inf. 3
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.23	-1.30
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.23	-1.30
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.47	-2.60
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.47	-2.60
0.39		0.19	-108.67	0.00	0.00	0.00	-51.77	-5.09
0.58		0.38	-161.78	0.00	0.00	0.00	-77.08	-7.57
0.77	10003	0.57	-208.32	0.00	0.00	0.00	-99.25	-9.75
0.77	10004	0.00	-208.32	0.00	0.00	0.00	-99.25	-9.75
1.35	10004	0.57	-208.32	0.00	0.00	0.00	-99.25	-9.75
1.35	10005	0.00	-208.32	0.00	0.00	0.00	-99.25	-9.75
1.92	10005	0.57	-208.32	0.00	0.00	0.00	-99.25	-9.75
1.92	10006	0.00	-208.32	0.00	0.00	0.00	-99.25	-9.75
2.49	10006	0.57	-208.32	0.00	0.00	0.00	-99.25	-9.75
2.49	10007	0.00	-208.32	0.00	0.00	0.00	-99.25	-9.75
3.07	10007	0.57	-208.32	0.00	0.00	0.00	-99.25	-9.75
3.07	10008	0.00	-208.32	0.00	0.00	0.00	-99.25	-9.75
3.64	10008	0.57	-208.32	0.00	0.00	0.00	-99.25	-9.75
3.64	10009	0.00	-208.32	0.00	0.00	0.00	-99.25	-9.75
4.22	10009	0.57	-208.32	0.00	0.00	0.00	-99.25	-9.75
4.22	10010	0.00	-208.32	0.00	0.00	0.00	-99.25	-9.75
4.79	10010	0.57	-208.32	0.00	0.00	0.00	-99.25	-9.75
4.79	10011	0.00	-208.32	0.00	0.00	0.00	-99.25	-9.75
5.36	10011	0.57	-208.32	0.00	0.00	0.00	-99.25	-9.75
5.36	10012	0.00	-208.32	0.00	0.00	0.00	-99.25	-9.75
5.94	10012	0.57	-208.32	0.00	0.00	0.00	-99.25	-9.75
5.94	10013	0.00	-208.32	0.00	0.00	0.00	-99.25	-9.75
6.51	10013	0.57	-208.32	0.00	0.00	0.00	-99.25	-9.75
6.51	10014	0.00	-208.32	0.00	0.00	0.00	-99.25	-9.75
7.08	10014	0.57	-208.32	0.00	0.00	0.00	-99.25	-9.75
7.08	10015	0.00	-208.32	0.00	0.00	0.00	-99.25	-9.75
7.66	10015	0.57	-208.32	0.00	0.00	0.00	-99.25	-9.75
7.66	10016	0.00	-208.32	0.00	0.00	0.00	-99.25	-9.75
8.23	10016	0.57	-208.32	0.00	0.00	0.00	-99.25	-9.75
8.23	10017	0.00	-208.32	0.00	0.00	0.00	-99.25	-9.75
8.81	10017	0.57	-208.32	0.00	0.00	0.00	-99.25	-9.75
8.81	10018	0.00	-208.32	0.00	0.00	0.00	-99.25	-9.75
9.38	10018	0.57	-208.32	0.00	0.00	0.00	-99.25	-9.75
9.38	10019	0.00	-208.32	0.00	0.00	0.00	-99.25	-9.75
9.95	10019	0.57	-208.32	0.00	0.00	0.00	-99.25	-9.75
9.95	10020	0.00	-208.32	0.00	0.00	0.00	-99.25	-9.75
10.53	10020	0.57	-208.32	0.00	0.00	0.00	-99.25	-9.75
10.53	10021	0.00	-208.32	0.00	0.00	0.00	-99.25	-9.75
10.72		0.19	-161.78	0.00	0.00	0.00	-77.08	-7.57
10.91		0.38	-108.67	0.00	0.00	0.00	-51.77	-5.09
11.10	10021	0.57	-55.55	0.00	0.00	0.00	-26.47	-2.60
11.10	10022	0.00	-55.55	0.00	0.00	0.00	-26.47	-2.60
11.20	10022	0.10	-27.78	0.00	0.00	0.00	-13.23	-1.30
11.20	10023	0.00	-27.78	0.00	0.00	0.00	-13.23	-1.30
11.30	10023	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 4 Geometry of Tendons: 4 Tendons: 1

Area of statical influence : station 0.00 to station 11.30
Construction/Prestress.Stage: Tref. inf. 4
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.23	1.30

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.23	1.30
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.47	2.60
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.47	2.60
0.39		0.19	-108.67	0.00	0.00	0.00	-51.77	5.09
0.58		0.38	-161.78	0.00	0.00	0.00	-77.08	7.57
0.77	10003	0.57	-208.32	0.00	0.00	0.00	-99.25	9.75
0.77	10004	0.00	-208.32	0.00	0.00	0.00	-99.25	9.75
1.35	10004	0.57	-208.32	0.00	0.00	0.00	-99.25	9.75
1.35	10005	0.00	-208.32	0.00	0.00	0.00	-99.25	9.75
1.92	10005	0.57	-208.32	0.00	0.00	0.00	-99.25	9.75
1.92	10006	0.00	-208.32	0.00	0.00	0.00	-99.25	9.75
2.49	10006	0.57	-208.32	0.00	0.00	0.00	-99.25	9.75
2.49	10007	0.00	-208.32	0.00	0.00	0.00	-99.25	9.75
3.07	10007	0.57	-208.32	0.00	0.00	0.00	-99.25	9.75
3.07	10008	0.00	-208.32	0.00	0.00	0.00	-99.25	9.75
3.64	10008	0.57	-208.32	0.00	0.00	0.00	-99.25	9.75
3.64	10009	0.00	-208.32	0.00	0.00	0.00	-99.25	9.75
4.22	10009	0.57	-208.32	0.00	0.00	0.00	-99.25	9.75
4.22	10010	0.00	-208.32	0.00	0.00	0.00	-99.25	9.75
4.79	10010	0.57	-208.32	0.00	0.00	0.00	-99.25	9.75
4.79	10011	0.00	-208.32	0.00	0.00	0.00	-99.25	9.75
5.36	10011	0.57	-208.32	0.00	0.00	0.00	-99.25	9.75
5.36	10012	0.00	-208.32	0.00	0.00	0.00	-99.25	9.75
5.94	10012	0.57	-208.32	0.00	0.00	0.00	-99.25	9.75
5.94	10013	0.00	-208.32	0.00	0.00	0.00	-99.25	9.75
6.51	10013	0.57	-208.32	0.00	0.00	0.00	-99.25	9.75
6.51	10014	0.00	-208.32	0.00	0.00	0.00	-99.25	9.75
7.08	10014	0.57	-208.32	0.00	0.00	0.00	-99.25	9.75
7.08	10015	0.00	-208.32	0.00	0.00	0.00	-99.25	9.75
7.66	10015	0.57	-208.32	0.00	0.00	0.00	-99.25	9.75
7.66	10016	0.00	-208.32	0.00	0.00	0.00	-99.25	9.75
8.23	10016	0.57	-208.32	0.00	0.00	0.00	-99.25	9.75
8.23	10017	0.00	-208.32	0.00	0.00	0.00	-99.25	9.75
8.81	10017	0.57	-208.32	0.00	0.00	0.00	-99.25	9.75
8.81	10018	0.00	-208.32	0.00	0.00	0.00	-99.25	9.75
9.38	10018	0.57	-208.32	0.00	0.00	0.00	-99.25	9.75
9.38	10019	0.00	-208.32	0.00	0.00	0.00	-99.25	9.75
9.95	10019	0.57	-208.32	0.00	0.00	0.00	-99.25	9.75
9.95	10020	0.00	-208.32	0.00	0.00	0.00	-99.25	9.75
10.53	10020	0.57	-208.32	0.00	0.00	0.00	-99.25	9.75
10.53	10021	0.00	-208.32	0.00	0.00	0.00	-99.25	9.75
10.72		0.19	-161.78	0.00	0.00	0.00	-77.08	7.57
10.91		0.38	-108.67	0.00	0.00	0.00	-51.77	5.09
11.10	10021	0.57	-55.55	0.00	0.00	0.00	-26.47	2.60
11.10	10022	0.00	-55.55	0.00	0.00	0.00	-26.47	2.60
11.20	10022	0.10	-27.78	0.00	0.00	0.00	-13.23	1.30
11.20	10023	0.00	-27.78	0.00	0.00	0.00	-13.23	1.30
11.30	10023	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 5 Geometry of Tendons: 5 Tendons: 1

Area of statical influence : station 0.00 to station 11.30
Construction/Prestress.Stage: Tref. inf. 5
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.23	3.90
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.23	3.90
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.47	7.80
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.47	7.80
0.39		0.19	-108.67	0.00	0.00	0.00	-51.77	15.26
0.58		0.38	-161.78	0.00	0.00	0.00	-77.08	22.71
0.77	10003	0.57	-208.32	0.00	0.00	0.00	-99.25	29.25
0.77	10004	0.00	-208.32	0.00	0.00	0.00	-99.25	29.25
1.35	10004	0.57	-208.32	0.00	0.00	0.00	-99.25	29.25
1.35	10005	0.00	-208.32	0.00	0.00	0.00	-99.25	29.25
1.92	10005	0.57	-208.32	0.00	0.00	0.00	-99.25	29.25
1.92	10006	0.00	-208.32	0.00	0.00	0.00	-99.25	29.25
2.49	10006	0.57	-208.32	0.00	0.00	0.00	-99.25	29.25
2.49	10007	0.00	-208.32	0.00	0.00	0.00	-99.25	29.25
3.07	10007	0.57	-208.32	0.00	0.00	0.00	-99.25	29.25
3.07	10008	0.00	-208.32	0.00	0.00	0.00	-99.25	29.25
3.64	10008	0.57	-208.32	0.00	0.00	0.00	-99.25	29.25
3.64	10009	0.00	-208.32	0.00	0.00	0.00	-99.25	29.25



Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
4.22	10009	0.57	-208.32	0.00	0.00	0.00	-99.25	29.25
4.22	10010	0.00	-208.32	0.00	0.00	0.00	-99.25	29.25
4.79	10010	0.57	-208.32	0.00	0.00	0.00	-99.25	29.25
4.79	10011	0.00	-208.32	0.00	0.00	0.00	-99.25	29.25
5.36	10011	0.57	-208.32	0.00	0.00	0.00	-99.25	29.25
5.36	10012	0.00	-208.32	0.00	0.00	0.00	-99.25	29.25
5.94	10012	0.57	-208.32	0.00	0.00	0.00	-99.25	29.25
5.94	10013	0.00	-208.32	0.00	0.00	0.00	-99.25	29.25
6.51	10013	0.57	-208.32	0.00	0.00	0.00	-99.25	29.25
6.51	10014	0.00	-208.32	0.00	0.00	0.00	-99.25	29.25
7.08	10014	0.57	-208.32	0.00	0.00	0.00	-99.25	29.25
7.08	10015	0.00	-208.32	0.00	0.00	0.00	-99.25	29.25
7.66	10015	0.57	-208.32	0.00	0.00	0.00	-99.25	29.25
7.66	10016	0.00	-208.32	0.00	0.00	0.00	-99.25	29.25
8.23	10016	0.57	-208.32	0.00	0.00	0.00	-99.25	29.25
8.23	10017	0.00	-208.32	0.00	0.00	0.00	-99.25	29.25
8.81	10017	0.57	-208.32	0.00	0.00	0.00	-99.25	29.25
8.81	10018	0.00	-208.32	0.00	0.00	0.00	-99.25	29.25
9.38	10018	0.57	-208.32	0.00	0.00	0.00	-99.25	29.25
9.38	10019	0.00	-208.32	0.00	0.00	0.00	-99.25	29.25
9.95	10019	0.57	-208.32	0.00	0.00	0.00	-99.25	29.25
9.95	10020	0.00	-208.32	0.00	0.00	0.00	-99.25	29.25
10.53	10020	0.57	-208.32	0.00	0.00	0.00	-99.25	29.25
10.53	10021	0.00	-208.32	0.00	0.00	0.00	-99.25	29.25
10.72		0.19	-161.78	0.00	0.00	0.00	-77.08	22.71
10.91		0.38	-108.67	0.00	0.00	0.00	-51.77	15.26
11.10	10021	0.57	-55.55	0.00	0.00	0.00	-26.47	7.80
11.10	10022	0.00	-55.55	0.00	0.00	0.00	-26.47	7.80
11.20	10022	0.10	-27.78	0.00	0.00	0.00	-13.23	3.90
11.20	10023	0.00	-27.78	0.00	0.00	0.00	-13.23	3.90
11.30	10023	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 6 Geometry of Tendons: 6 Tendons: 1

Area of statical influence : station 0.00 to station 11.30
Construction/Prestress.Stage: Tref. inf. 6
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.23	6.50
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.23	6.50
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.47	13.00
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.47	13.00
0.39		0.19	-108.67	0.00	0.00	0.00	-51.77	25.43
0.58		0.38	-161.78	0.00	0.00	0.00	-77.08	37.86
0.77	10003	0.57	-208.32	0.00	0.00	0.00	-99.25	48.75
0.77	10004	0.00	-208.32	0.00	0.00	0.00	-99.25	48.75
1.35	10004	0.57	-208.32	0.00	0.00	0.00	-99.25	48.75
1.35	10005	0.00	-208.32	0.00	0.00	0.00	-99.25	48.75
1.92	10005	0.57	-208.32	0.00	0.00	0.00	-99.25	48.75
1.92	10006	0.00	-208.32	0.00	0.00	0.00	-99.25	48.75
2.49	10006	0.57	-208.32	0.00	0.00	0.00	-99.25	48.75
2.49	10007	0.00	-208.32	0.00	0.00	0.00	-99.25	48.75
3.07	10007	0.57	-208.32	0.00	0.00	0.00	-99.25	48.75
3.07	10008	0.00	-208.32	0.00	0.00	0.00	-99.25	48.75
3.64	10008	0.57	-208.32	0.00	0.00	0.00	-99.25	48.75
3.64	10009	0.00	-208.32	0.00	0.00	0.00	-99.25	48.75
4.22	10009	0.57	-208.32	0.00	0.00	0.00	-99.25	48.75
4.22	10010	0.00	-208.32	0.00	0.00	0.00	-99.25	48.75
4.79	10010	0.57	-208.32	0.00	0.00	0.00	-99.25	48.75
4.79	10011	0.00	-208.32	0.00	0.00	0.00	-99.25	48.75
5.36	10011	0.57	-208.32	0.00	0.00	0.00	-99.25	48.75
5.36	10012	0.00	-208.32	0.00	0.00	0.00	-99.25	48.75
5.94	10012	0.57	-208.32	0.00	0.00	0.00	-99.25	48.75
5.94	10013	0.00	-208.32	0.00	0.00	0.00	-99.25	48.75
6.51	10013	0.57	-208.32	0.00	0.00	0.00	-99.25	48.75
6.51	10014	0.00	-208.32	0.00	0.00	0.00	-99.25	48.75
7.08	10014	0.57	-208.32	0.00	0.00	0.00	-99.25	48.75
7.08	10015	0.00	-208.32	0.00	0.00	0.00	-99.25	48.75
7.66	10015	0.57	-208.32	0.00	0.00	0.00	-99.25	48.75
7.66	10016	0.00	-208.32	0.00	0.00	0.00	-99.25	48.75
8.23	10016	0.57	-208.32	0.00	0.00	0.00	-99.25	48.75
8.23	10017	0.00	-208.32	0.00	0.00	0.00	-99.25	48.75
8.81	10017	0.57	-208.32	0.00	0.00	0.00	-99.25	48.75



Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
8.81	10018	0.00	-208.32	0.00	0.00	0.00	-99.25	48.75
9.38	10018	0.57	-208.32	0.00	0.00	0.00	-99.25	48.75
9.38	10019	0.00	-208.32	0.00	0.00	0.00	-99.25	48.75
9.95	10019	0.57	-208.32	0.00	0.00	0.00	-99.25	48.75
9.95	10020	0.00	-208.32	0.00	0.00	0.00	-99.25	48.75
10.53	10020	0.57	-208.32	0.00	0.00	0.00	-99.25	48.75
10.53	10021	0.00	-208.32	0.00	0.00	0.00	-99.25	48.75
10.72		0.19	-161.78	0.00	0.00	0.00	-77.08	37.86
10.91		0.38	-108.67	0.00	0.00	0.00	-51.77	25.43
11.10	10021	0.57	-55.55	0.00	0.00	0.00	-26.47	13.00
11.10	10022	0.00	-55.55	0.00	0.00	0.00	-26.47	13.00
11.20	10022	0.10	-27.78	0.00	0.00	0.00	-13.23	6.50
11.20	10023	0.00	-27.78	0.00	0.00	0.00	-13.23	6.50
11.30	10023	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 7 Geometry of Tendons: 7 Tendons: 1

Area of statical influence : station 0.00 to station 11.30
Construction/Prestress.Stage: Tref. int. 7
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.84	-6.50
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.84	-6.50
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.69	-13.00
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.69	-13.00
0.39		0.19	-108.67	0.00	0.00	0.00	-46.34	-25.43
0.58		0.38	-161.78	0.00	0.00	0.00	-68.99	-37.86
0.77	10003	0.57	-208.32	0.00	0.00	0.00	-88.84	-48.75
0.77	10004	0.00	-208.32	0.00	0.00	0.00	-88.84	-48.75
1.35	10004	0.57	-208.32	0.00	0.00	0.00	-88.84	-48.75
1.35	10005	0.00	-208.32	0.00	0.00	0.00	-88.84	-48.75
1.92	10005	0.57	-208.32	0.00	0.00	0.00	-88.84	-48.75
1.92	10006	0.00	-208.32	0.00	0.00	0.00	-88.84	-48.75
2.49	10006	0.57	-208.32	0.00	0.00	0.00	-88.84	-48.75
2.49	10007	0.00	-208.32	0.00	0.00	0.00	-88.84	-48.75
3.07	10007	0.57	-208.32	0.00	0.00	0.00	-88.84	-48.75
3.07	10008	0.00	-208.32	0.00	0.00	0.00	-88.84	-48.75
3.64	10008	0.57	-208.32	0.00	0.00	0.00	-88.84	-48.75
3.64	10009	0.00	-208.32	0.00	0.00	0.00	-88.84	-48.75
4.22	10009	0.57	-208.32	0.00	0.00	0.00	-88.84	-48.75
4.22	10010	0.00	-208.32	0.00	0.00	0.00	-88.84	-48.75
4.79	10010	0.57	-208.32	0.00	0.00	0.00	-88.84	-48.75
4.79	10011	0.00	-208.32	0.00	0.00	0.00	-88.84	-48.75
5.36	10011	0.57	-208.32	0.00	0.00	0.00	-88.84	-48.75
5.36	10012	0.00	-208.32	0.00	0.00	0.00	-88.84	-48.75
5.94	10012	0.57	-208.32	0.00	0.00	0.00	-88.84	-48.75
5.94	10013	0.00	-208.32	0.00	0.00	0.00	-88.84	-48.75
6.51	10013	0.57	-208.32	0.00	0.00	0.00	-88.84	-48.75
6.51	10014	0.00	-208.32	0.00	0.00	0.00	-88.84	-48.75
7.08	10014	0.57	-208.32	0.00	0.00	0.00	-88.84	-48.75
7.08	10015	0.00	-208.32	0.00	0.00	0.00	-88.84	-48.75
7.66	10015	0.57	-208.32	0.00	0.00	0.00	-88.84	-48.75
7.66	10016	0.00	-208.32	0.00	0.00	0.00	-88.84	-48.75
8.23	10016	0.57	-208.32	0.00	0.00	0.00	-88.84	-48.75
8.23	10017	0.00	-208.32	0.00	0.00	0.00	-88.84	-48.75
8.81	10017	0.57	-208.32	0.00	0.00	0.00	-88.84	-48.75
8.81	10018	0.00	-208.32	0.00	0.00	0.00	-88.84	-48.75
9.38	10018	0.57	-208.32	0.00	0.00	0.00	-88.84	-48.75
9.38	10019	0.00	-208.32	0.00	0.00	0.00	-88.84	-48.75
9.95	10019	0.57	-208.32	0.00	0.00	0.00	-88.84	-48.75
9.95	10020	0.00	-208.32	0.00	0.00	0.00	-88.84	-48.75
10.53	10020	0.57	-208.32	0.00	0.00	0.00	-88.84	-48.75
10.53	10021	0.00	-208.32	0.00	0.00	0.00	-88.84	-48.75
10.72		0.19	-161.78	0.00	0.00	0.00	-68.99	-37.86
10.91		0.38	-108.67	0.00	0.00	0.00	-46.34	-25.43
11.10	10021	0.57	-55.55	0.00	0.00	0.00	-23.69	-13.00
11.10	10022	0.00	-55.55	0.00	0.00	0.00	-23.69	-13.00
11.20	10022	0.10	-27.78	0.00	0.00	0.00	-11.85	-6.50
11.20	10023	0.00	-27.78	0.00	0.00	0.00	-11.85	-6.50
11.30	10023	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20



Geometria ponticello
Sistema di precompressione

(Referring to the Cross Section of ICS1)

Group No: 8 Geometry of Tendons: 8 Tendons: 1

Area of statical influence : station 0.00 to station 11.30
Construction/Prestress.Stage: Tref. int. 8
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.84	-3.90
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.84	-3.90
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.69	-7.80
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.69	-7.80
0.39		0.19	-108.67	0.00	0.00	0.00	-46.34	-15.26
0.58		0.38	-161.78	0.00	0.00	0.00	-68.99	-22.71
0.77	10003	0.57	-208.32	0.00	0.00	0.00	-88.84	-29.25
0.77	10004	0.00	-208.32	0.00	0.00	0.00	-88.84	-29.25
1.35	10004	0.57	-208.32	0.00	0.00	0.00	-88.84	-29.25
1.35	10005	0.00	-208.32	0.00	0.00	0.00	-88.84	-29.25
1.92	10005	0.57	-208.32	0.00	0.00	0.00	-88.84	-29.25
1.92	10006	0.00	-208.32	0.00	0.00	0.00	-88.84	-29.25
2.49	10006	0.57	-208.32	0.00	0.00	0.00	-88.84	-29.25
2.49	10007	0.00	-208.32	0.00	0.00	0.00	-88.84	-29.25
3.07	10007	0.57	-208.32	0.00	0.00	0.00	-88.84	-29.25
3.07	10008	0.00	-208.32	0.00	0.00	0.00	-88.84	-29.25
3.64	10008	0.57	-208.32	0.00	0.00	0.00	-88.84	-29.25
3.64	10009	0.00	-208.32	0.00	0.00	0.00	-88.84	-29.25
4.22	10009	0.57	-208.32	0.00	0.00	0.00	-88.84	-29.25
4.22	10010	0.00	-208.32	0.00	0.00	0.00	-88.84	-29.25
4.79	10010	0.57	-208.32	0.00	0.00	0.00	-88.84	-29.25
4.79	10011	0.00	-208.32	0.00	0.00	0.00	-88.84	-29.25
5.36	10011	0.57	-208.32	0.00	0.00	0.00	-88.84	-29.25
5.36	10012	0.00	-208.32	0.00	0.00	0.00	-88.84	-29.25
5.94	10012	0.57	-208.32	0.00	0.00	0.00	-88.84	-29.25
5.94	10013	0.00	-208.32	0.00	0.00	0.00	-88.84	-29.25
6.51	10013	0.57	-208.32	0.00	0.00	0.00	-88.84	-29.25
6.51	10014	0.00	-208.32	0.00	0.00	0.00	-88.84	-29.25
7.08	10014	0.57	-208.32	0.00	0.00	0.00	-88.84	-29.25
7.08	10015	0.00	-208.32	0.00	0.00	0.00	-88.84	-29.25
7.66	10015	0.57	-208.32	0.00	0.00	0.00	-88.84	-29.25
7.66	10016	0.00	-208.32	0.00	0.00	0.00	-88.84	-29.25
8.23	10016	0.57	-208.32	0.00	0.00	0.00	-88.84	-29.25
8.23	10017	0.00	-208.32	0.00	0.00	0.00	-88.84	-29.25
8.81	10017	0.57	-208.32	0.00	0.00	0.00	-88.84	-29.25
8.81	10018	0.00	-208.32	0.00	0.00	0.00	-88.84	-29.25
9.38	10018	0.57	-208.32	0.00	0.00	0.00	-88.84	-29.25
9.38	10019	0.00	-208.32	0.00	0.00	0.00	-88.84	-29.25
9.95	10019	0.57	-208.32	0.00	0.00	0.00	-88.84	-29.25
9.95	10020	0.00	-208.32	0.00	0.00	0.00	-88.84	-29.25
10.53	10020	0.57	-208.32	0.00	0.00	0.00	-88.84	-29.25
10.53	10021	0.00	-208.32	0.00	0.00	0.00	-88.84	-29.25
10.72		0.19	-161.78	0.00	0.00	0.00	-68.99	-22.71
10.91		0.38	-108.67	0.00	0.00	0.00	-46.34	-15.26
11.10	10021	0.57	-55.55	0.00	0.00	0.00	-23.69	-7.80
11.10	10022	0.00	-55.55	0.00	0.00	0.00	-23.69	-7.80
11.20	10022	0.10	-27.78	0.00	0.00	0.00	-11.85	-3.90
11.20	10023	0.00	-27.78	0.00	0.00	0.00	-11.85	-3.90
11.30	10023	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 9 Geometry of Tendons: 9 Tendons: 1

Area of statical influence : station 0.00 to station 11.30
Construction/Prestress.Stage: Tref. int. 9
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.84	-1.30
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.84	-1.30
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.69	-2.60
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.69	-2.60
0.39		0.19	-108.67	0.00	0.00	0.00	-46.34	-5.09
0.58		0.38	-161.78	0.00	0.00	0.00	-68.99	-7.57
0.77	10003	0.57	-208.32	0.00	0.00	0.00	-88.84	-9.75
0.77	10004	0.00	-208.32	0.00	0.00	0.00	-88.84	-9.75



Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
1.35	10004	0.57	-208.32	0.00	0.00	0.00	-88.84	-9.75
1.35	10005	0.00	-208.32	0.00	0.00	0.00	-88.84	-9.75
1.92	10005	0.57	-208.32	0.00	0.00	0.00	-88.84	-9.75
1.92	10006	0.00	-208.32	0.00	0.00	0.00	-88.84	-9.75
2.49	10006	0.57	-208.32	0.00	0.00	0.00	-88.84	-9.75
2.49	10007	0.00	-208.32	0.00	0.00	0.00	-88.84	-9.75
3.07	10007	0.57	-208.32	0.00	0.00	0.00	-88.84	-9.75
3.07	10008	0.00	-208.32	0.00	0.00	0.00	-88.84	-9.75
3.64	10008	0.57	-208.32	0.00	0.00	0.00	-88.84	-9.75
3.64	10009	0.00	-208.32	0.00	0.00	0.00	-88.84	-9.75
4.22	10009	0.57	-208.32	0.00	0.00	0.00	-88.84	-9.75
4.22	10010	0.00	-208.32	0.00	0.00	0.00	-88.84	-9.75
4.79	10010	0.57	-208.32	0.00	0.00	0.00	-88.84	-9.75
4.79	10011	0.00	-208.32	0.00	0.00	0.00	-88.84	-9.75
5.36	10011	0.57	-208.32	0.00	0.00	0.00	-88.84	-9.75
5.36	10012	0.00	-208.32	0.00	0.00	0.00	-88.84	-9.75
5.94	10012	0.57	-208.32	0.00	0.00	0.00	-88.84	-9.75
5.94	10013	0.00	-208.32	0.00	0.00	0.00	-88.84	-9.75
6.51	10013	0.57	-208.32	0.00	0.00	0.00	-88.84	-9.75
6.51	10014	0.00	-208.32	0.00	0.00	0.00	-88.84	-9.75
7.08	10014	0.57	-208.32	0.00	0.00	0.00	-88.84	-9.75
7.08	10015	0.00	-208.32	0.00	0.00	0.00	-88.84	-9.75
7.66	10015	0.57	-208.32	0.00	0.00	0.00	-88.84	-9.75
7.66	10016	0.00	-208.32	0.00	0.00	0.00	-88.84	-9.75
8.23	10016	0.57	-208.32	0.00	0.00	0.00	-88.84	-9.75
8.23	10017	0.00	-208.32	0.00	0.00	0.00	-88.84	-9.75
8.81	10017	0.57	-208.32	0.00	0.00	0.00	-88.84	-9.75
8.81	10018	0.00	-208.32	0.00	0.00	0.00	-88.84	-9.75
9.38	10018	0.57	-208.32	0.00	0.00	0.00	-88.84	-9.75
9.38	10019	0.00	-208.32	0.00	0.00	0.00	-88.84	-9.75
9.95	10019	0.57	-208.32	0.00	0.00	0.00	-88.84	-9.75
9.95	10020	0.00	-208.32	0.00	0.00	0.00	-88.84	-9.75
10.53	10020	0.57	-208.32	0.00	0.00	0.00	-88.84	-9.75
10.53	10021	0.00	-208.32	0.00	0.00	0.00	-88.84	-9.75
10.72		0.19	-161.78	0.00	0.00	0.00	-68.99	-7.57
10.91		0.38	-108.67	0.00	0.00	0.00	-46.34	-5.09
11.10	10021	0.57	-55.55	0.00	0.00	0.00	-23.69	-2.60
11.10	10022	0.00	-55.55	0.00	0.00	0.00	-23.69	-2.60
11.20	10022	0.10	-27.78	0.00	0.00	0.00	-11.85	-1.30
11.20	10023	0.00	-27.78	0.00	0.00	0.00	-11.85	-1.30
11.30	10023	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 10 Geometry of Tendons: 10 Tendons: 1

Area of statical influence : station 0.00 to station 11.30
Construction/Prestress.Stage: Tref. int. 10
Fitting/grouting/removing : 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.84	1.30
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.84	1.30
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.69	2.60
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.69	2.60
0.39		0.19	-108.67	0.00	0.00	0.00	-46.34	5.09
0.58		0.38	-161.78	0.00	0.00	0.00	-68.99	7.57
0.77	10003	0.57	-208.32	0.00	0.00	0.00	-88.84	9.75
0.77	10004	0.00	-208.32	0.00	0.00	0.00	-88.84	9.75
1.35	10004	0.57	-208.32	0.00	0.00	0.00	-88.84	9.75
1.35	10005	0.00	-208.32	0.00	0.00	0.00	-88.84	9.75
1.92	10005	0.57	-208.32	0.00	0.00	0.00	-88.84	9.75
1.92	10006	0.00	-208.32	0.00	0.00	0.00	-88.84	9.75
2.49	10006	0.57	-208.32	0.00	0.00	0.00	-88.84	9.75
2.49	10007	0.00	-208.32	0.00	0.00	0.00	-88.84	9.75
3.07	10007	0.57	-208.32	0.00	0.00	0.00	-88.84	9.75
3.07	10008	0.00	-208.32	0.00	0.00	0.00	-88.84	9.75
3.64	10008	0.57	-208.32	0.00	0.00	0.00	-88.84	9.75
3.64	10009	0.00	-208.32	0.00	0.00	0.00	-88.84	9.75
4.22	10009	0.57	-208.32	0.00	0.00	0.00	-88.84	9.75
4.22	10010	0.00	-208.32	0.00	0.00	0.00	-88.84	9.75
4.79	10010	0.57	-208.32	0.00	0.00	0.00	-88.84	9.75
4.79	10011	0.00	-208.32	0.00	0.00	0.00	-88.84	9.75
5.36	10011	0.57	-208.32	0.00	0.00	0.00	-88.84	9.75
5.36	10012	0.00	-208.32	0.00	0.00	0.00	-88.84	9.75
5.94	10012	0.57	-208.32	0.00	0.00	0.00	-88.84	9.75

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
5.94	10013	0.00	-208.32	0.00	0.00	0.00	-88.84	9.75
6.51	10013	0.57	-208.32	0.00	0.00	0.00	-88.84	9.75
6.51	10014	0.00	-208.32	0.00	0.00	0.00	-88.84	9.75
7.08	10014	0.57	-208.32	0.00	0.00	0.00	-88.84	9.75
7.08	10015	0.00	-208.32	0.00	0.00	0.00	-88.84	9.75
7.66	10015	0.57	-208.32	0.00	0.00	0.00	-88.84	9.75
7.66	10016	0.00	-208.32	0.00	0.00	0.00	-88.84	9.75
8.23	10016	0.57	-208.32	0.00	0.00	0.00	-88.84	9.75
8.23	10017	0.00	-208.32	0.00	0.00	0.00	-88.84	9.75
8.81	10017	0.57	-208.32	0.00	0.00	0.00	-88.84	9.75
8.81	10018	0.00	-208.32	0.00	0.00	0.00	-88.84	9.75
9.38	10018	0.57	-208.32	0.00	0.00	0.00	-88.84	9.75
9.38	10019	0.00	-208.32	0.00	0.00	0.00	-88.84	9.75
9.95	10019	0.57	-208.32	0.00	0.00	0.00	-88.84	9.75
9.95	10020	0.00	-208.32	0.00	0.00	0.00	-88.84	9.75
10.53	10020	0.57	-208.32	0.00	0.00	0.00	-88.84	9.75
10.53	10021	0.00	-208.32	0.00	0.00	0.00	-88.84	9.75
10.72		0.19	-161.78	0.00	0.00	0.00	-68.99	7.57
10.91		0.38	-108.67	0.00	0.00	0.00	-46.34	5.09
11.10	10021	0.57	-55.55	0.00	0.00	0.00	-23.69	2.60
11.10	10022	0.00	-55.55	0.00	0.00	0.00	-23.69	2.60
11.20	10022	0.10	-27.78	0.00	0.00	0.00	-11.85	1.30
11.20	10023	0.00	-27.78	0.00	0.00	0.00	-11.85	1.30
11.30	10023	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 11 Geometry of Tendons: 11 Tendons: 1

Area of statical influence : station 0.00 to station 11.30
Construction/Prestress.Stage: Tref. int. 11
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.84	3.90
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.84	3.90
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.69	7.80
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.69	7.80
0.39		0.19	-108.67	0.00	0.00	0.00	-46.34	15.26
0.58		0.38	-161.78	0.00	0.00	0.00	-68.99	22.71
0.77	10003	0.57	-208.32	0.00	0.00	0.00	-88.84	29.25
0.77	10004	0.00	-208.32	0.00	0.00	0.00	-88.84	29.25
1.35	10004	0.57	-208.32	0.00	0.00	0.00	-88.84	29.25
1.35	10005	0.00	-208.32	0.00	0.00	0.00	-88.84	29.25
1.92	10005	0.57	-208.32	0.00	0.00	0.00	-88.84	29.25
1.92	10006	0.00	-208.32	0.00	0.00	0.00	-88.84	29.25
2.49	10006	0.57	-208.32	0.00	0.00	0.00	-88.84	29.25
2.49	10007	0.00	-208.32	0.00	0.00	0.00	-88.84	29.25
3.07	10007	0.57	-208.32	0.00	0.00	0.00	-88.84	29.25
3.07	10008	0.00	-208.32	0.00	0.00	0.00	-88.84	29.25
3.64	10008	0.57	-208.32	0.00	0.00	0.00	-88.84	29.25
3.64	10009	0.00	-208.32	0.00	0.00	0.00	-88.84	29.25
4.22	10009	0.57	-208.32	0.00	0.00	0.00	-88.84	29.25
4.22	10010	0.00	-208.32	0.00	0.00	0.00	-88.84	29.25
4.79	10010	0.57	-208.32	0.00	0.00	0.00	-88.84	29.25
4.79	10011	0.00	-208.32	0.00	0.00	0.00	-88.84	29.25
5.36	10011	0.57	-208.32	0.00	0.00	0.00	-88.84	29.25
5.36	10012	0.00	-208.32	0.00	0.00	0.00	-88.84	29.25
5.94	10012	0.57	-208.32	0.00	0.00	0.00	-88.84	29.25
5.94	10013	0.00	-208.32	0.00	0.00	0.00	-88.84	29.25
6.51	10013	0.57	-208.32	0.00	0.00	0.00	-88.84	29.25
6.51	10014	0.00	-208.32	0.00	0.00	0.00	-88.84	29.25
7.08	10014	0.57	-208.32	0.00	0.00	0.00	-88.84	29.25
7.08	10015	0.00	-208.32	0.00	0.00	0.00	-88.84	29.25
7.66	10015	0.57	-208.32	0.00	0.00	0.00	-88.84	29.25
7.66	10016	0.00	-208.32	0.00	0.00	0.00	-88.84	29.25
8.23	10016	0.57	-208.32	0.00	0.00	0.00	-88.84	29.25
8.23	10017	0.00	-208.32	0.00	0.00	0.00	-88.84	29.25
8.81	10017	0.57	-208.32	0.00	0.00	0.00	-88.84	29.25
8.81	10018	0.00	-208.32	0.00	0.00	0.00	-88.84	29.25
9.38	10018	0.57	-208.32	0.00	0.00	0.00	-88.84	29.25
9.38	10019	0.00	-208.32	0.00	0.00	0.00	-88.84	29.25
9.95	10019	0.57	-208.32	0.00	0.00	0.00	-88.84	29.25
9.95	10020	0.00	-208.32	0.00	0.00	0.00	-88.84	29.25
10.53	10020	0.57	-208.32	0.00	0.00	0.00	-88.84	29.25
10.53	10021	0.00	-208.32	0.00	0.00	0.00	-88.84	29.25



Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
10.72		0.19	-161.78	0.00	0.00	0.00	-68.99	22.71
10.91		0.38	-108.67	0.00	0.00	0.00	-46.34	15.26
11.10	10021	0.57	-55.55	0.00	0.00	0.00	-23.69	7.80
11.10	10022	0.00	-55.55	0.00	0.00	0.00	-23.69	7.80
11.20	10022	0.10	-27.78	0.00	0.00	0.00	-11.85	3.90
11.20	10023	0.00	-27.78	0.00	0.00	0.00	-11.85	3.90
11.30	10023	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 12 Geometry of Tendons: 12 Tendons: 1

Area of statical influence : station 0.00 to station 11.30
Construction/Prestress.Stage: Tref. int. 12
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.84	6.50
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.84	6.50
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.69	13.00
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.69	13.00
0.39		0.19	-108.67	0.00	0.00	0.00	-46.34	25.43
0.58		0.38	-161.78	0.00	0.00	0.00	-68.99	37.86
0.77	10003	0.57	-208.32	0.00	0.00	0.00	-88.84	48.75
0.77	10004	0.00	-208.32	0.00	0.00	0.00	-88.84	48.75
1.35	10004	0.57	-208.32	0.00	0.00	0.00	-88.84	48.75
1.35	10005	0.00	-208.32	0.00	0.00	0.00	-88.84	48.75
1.92	10005	0.57	-208.32	0.00	0.00	0.00	-88.84	48.75
1.92	10006	0.00	-208.32	0.00	0.00	0.00	-88.84	48.75
2.49	10006	0.57	-208.32	0.00	0.00	0.00	-88.84	48.75
2.49	10007	0.00	-208.32	0.00	0.00	0.00	-88.84	48.75
3.07	10007	0.57	-208.32	0.00	0.00	0.00	-88.84	48.75
3.07	10008	0.00	-208.32	0.00	0.00	0.00	-88.84	48.75
3.64	10008	0.57	-208.32	0.00	0.00	0.00	-88.84	48.75
3.64	10009	0.00	-208.32	0.00	0.00	0.00	-88.84	48.75
4.22	10009	0.57	-208.32	0.00	0.00	0.00	-88.84	48.75
4.22	10010	0.00	-208.32	0.00	0.00	0.00	-88.84	48.75
4.79	10010	0.57	-208.32	0.00	0.00	0.00	-88.84	48.75
4.79	10011	0.00	-208.32	0.00	0.00	0.00	-88.84	48.75
5.36	10011	0.57	-208.32	0.00	0.00	0.00	-88.84	48.75
5.36	10012	0.00	-208.32	0.00	0.00	0.00	-88.84	48.75
5.94	10012	0.57	-208.32	0.00	0.00	0.00	-88.84	48.75
5.94	10013	0.00	-208.32	0.00	0.00	0.00	-88.84	48.75
6.51	10013	0.57	-208.32	0.00	0.00	0.00	-88.84	48.75
6.51	10014	0.00	-208.32	0.00	0.00	0.00	-88.84	48.75
7.08	10014	0.57	-208.32	0.00	0.00	0.00	-88.84	48.75
7.08	10015	0.00	-208.32	0.00	0.00	0.00	-88.84	48.75
7.66	10015	0.57	-208.32	0.00	0.00	0.00	-88.84	48.75
7.66	10016	0.00	-208.32	0.00	0.00	0.00	-88.84	48.75
8.23	10016	0.57	-208.32	0.00	0.00	0.00	-88.84	48.75
8.23	10017	0.00	-208.32	0.00	0.00	0.00	-88.84	48.75
8.81	10017	0.57	-208.32	0.00	0.00	0.00	-88.84	48.75
8.81	10018	0.00	-208.32	0.00	0.00	0.00	-88.84	48.75
9.38	10018	0.57	-208.32	0.00	0.00	0.00	-88.84	48.75
9.38	10019	0.00	-208.32	0.00	0.00	0.00	-88.84	48.75
9.95	10019	0.57	-208.32	0.00	0.00	0.00	-88.84	48.75
9.95	10020	0.00	-208.32	0.00	0.00	0.00	-88.84	48.75
10.53	10020	0.57	-208.32	0.00	0.00	0.00	-88.84	48.75
10.53	10021	0.00	-208.32	0.00	0.00	0.00	-88.84	48.75
10.72		0.19	-161.78	0.00	0.00	0.00	-68.99	37.86
10.91		0.38	-108.67	0.00	0.00	0.00	-46.34	25.43
11.10	10021	0.57	-55.55	0.00	0.00	0.00	-23.69	13.00
11.10	10022	0.00	-55.55	0.00	0.00	0.00	-23.69	13.00
11.20	10022	0.10	-27.78	0.00	0.00	0.00	-11.85	6.50
11.20	10023	0.00	-27.78	0.00	0.00	0.00	-11.85	6.50
11.30	10023	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 13 Geometry of Tendons: 13 Tendons: 1

Area of statical influence : station 0.00 to station 11.30
Construction/Prestress.Stage: Tref. sup. 13
Fitting/grouting/removing : 9/ 9/ 0

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	0.21	-6.50
0.10	10002	0.00	-27.78	0.00	0.00	0.00	0.21	-6.50
0.20	10002	0.10	-55.55	0.00	0.00	0.00	0.42	-13.00
0.20	10003	0.00	-55.55	0.00	0.00	0.00	0.42	-13.00
0.39		0.19	-108.67	0.00	0.00	0.00	0.82	-25.43
0.58		0.38	-161.78	0.00	0.00	0.00	1.22	-37.86
0.77	10003	0.57	-208.32	0.00	0.00	0.00	1.57	-48.75
0.77	10004	0.00	-208.32	0.00	0.00	0.00	1.57	-48.75
1.35	10004	0.57	-208.32	0.00	0.00	0.00	1.57	-48.75
1.35	10005	0.00	-208.32	0.00	0.00	0.00	1.57	-48.75
1.92	10005	0.57	-208.32	0.00	0.00	0.00	1.57	-48.75
1.92	10006	0.00	-208.32	0.00	0.00	0.00	1.57	-48.75
2.49	10006	0.57	-208.32	0.00	0.00	0.00	1.57	-48.75
2.49	10007	0.00	-208.32	0.00	0.00	0.00	1.57	-48.75
3.07	10007	0.57	-208.32	0.00	0.00	0.00	1.57	-48.75
3.07	10008	0.00	-208.32	0.00	0.00	0.00	1.57	-48.75
3.64	10008	0.57	-208.32	0.00	0.00	0.00	1.57	-48.75
3.64	10009	0.00	-208.32	0.00	0.00	0.00	1.57	-48.75
4.22	10009	0.57	-208.32	0.00	0.00	0.00	1.57	-48.75
4.22	10010	0.00	-208.32	0.00	0.00	0.00	1.57	-48.75
4.79	10010	0.57	-208.32	0.00	0.00	0.00	1.57	-48.75
4.79	10011	0.00	-208.32	0.00	0.00	0.00	1.57	-48.75
5.36	10011	0.57	-208.32	0.00	0.00	0.00	1.57	-48.75
5.36	10012	0.00	-208.32	0.00	0.00	0.00	1.57	-48.75
5.94	10012	0.57	-208.32	0.00	0.00	0.00	1.57	-48.75
5.94	10013	0.00	-208.32	0.00	0.00	0.00	1.57	-48.75
6.51	10013	0.57	-208.32	0.00	0.00	0.00	1.57	-48.75
6.51	10014	0.00	-208.32	0.00	0.00	0.00	1.57	-48.75
7.08	10014	0.57	-208.32	0.00	0.00	0.00	1.57	-48.75
7.08	10015	0.00	-208.32	0.00	0.00	0.00	1.57	-48.75
7.66	10015	0.57	-208.32	0.00	0.00	0.00	1.57	-48.75
7.66	10016	0.00	-208.32	0.00	0.00	0.00	1.57	-48.75
8.23	10016	0.57	-208.32	0.00	0.00	0.00	1.57	-48.75
8.23	10017	0.00	-208.32	0.00	0.00	0.00	1.57	-48.75
8.81	10017	0.57	-208.32	0.00	0.00	0.00	1.57	-48.75
8.81	10018	0.00	-208.32	0.00	0.00	0.00	1.57	-48.75
9.38	10018	0.57	-208.32	0.00	0.00	0.00	1.57	-48.75
9.38	10019	0.00	-208.32	0.00	0.00	0.00	1.57	-48.75
9.95	10019	0.57	-208.32	0.00	0.00	0.00	1.57	-48.75
9.95	10020	0.00	-208.32	0.00	0.00	0.00	1.57	-48.75
10.53	10020	0.57	-208.32	0.00	0.00	0.00	1.57	-48.75
10.53	10021	0.00	-208.32	0.00	0.00	0.00	1.57	-48.75
10.72		0.19	-161.78	0.00	0.00	0.00	1.22	-37.86
10.91		0.38	-108.67	0.00	0.00	0.00	0.82	-25.43
11.10	10021	0.57	-55.55	0.00	0.00	0.00	0.42	-13.00
11.10	10022	0.00	-55.55	0.00	0.00	0.00	0.42	-13.00
11.20	10022	0.10	-27.78	0.00	0.00	0.00	0.21	-6.50
11.20	10023	0.00	-27.78	0.00	0.00	0.00	0.21	-6.50
11.30	10023	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 14 Geometry of Tendons: 14 Tendons: 1

Area of statical influence : station 0.00 to station 11.30
Construction/Prestress.Stage: Tref. sup. 14
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	0.21	6.50
0.10	10002	0.00	-27.78	0.00	0.00	0.00	0.21	6.50
0.20	10002	0.10	-55.55	0.00	0.00	0.00	0.42	13.00
0.20	10003	0.00	-55.55	0.00	0.00	0.00	0.42	13.00
0.39		0.19	-108.67	0.00	0.00	0.00	0.82	25.43
0.58		0.38	-161.78	0.00	0.00	0.00	1.22	37.86
0.77	10003	0.57	-208.32	0.00	0.00	0.00	1.57	48.75
0.77	10004	0.00	-208.32	0.00	0.00	0.00	1.57	48.75
1.35	10004	0.57	-208.32	0.00	0.00	0.00	1.57	48.75
1.35	10005	0.00	-208.32	0.00	0.00	0.00	1.57	48.75
1.92	10005	0.57	-208.32	0.00	0.00	0.00	1.57	48.75
1.92	10006	0.00	-208.32	0.00	0.00	0.00	1.57	48.75
2.49	10006	0.57	-208.32	0.00	0.00	0.00	1.57	48.75
2.49	10007	0.00	-208.32	0.00	0.00	0.00	1.57	48.75
3.07	10007	0.57	-208.32	0.00	0.00	0.00	1.57	48.75
3.07	10008	0.00	-208.32	0.00	0.00	0.00	1.57	48.75
3.64	10008	0.57	-208.32	0.00	0.00	0.00	1.57	48.75

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
3.64	10009	0.00	-208.32	0.00	0.00	0.00	1.57	48.75
4.22	10009	0.57	-208.32	0.00	0.00	0.00	1.57	48.75
4.22	10010	0.00	-208.32	0.00	0.00	0.00	1.57	48.75
4.79	10010	0.57	-208.32	0.00	0.00	0.00	1.57	48.75
4.79	10011	0.00	-208.32	0.00	0.00	0.00	1.57	48.75
5.36	10011	0.57	-208.32	0.00	0.00	0.00	1.57	48.75
5.36	10012	0.00	-208.32	0.00	0.00	0.00	1.57	48.75
5.94	10012	0.57	-208.32	0.00	0.00	0.00	1.57	48.75
5.94	10013	0.00	-208.32	0.00	0.00	0.00	1.57	48.75
6.51	10013	0.57	-208.32	0.00	0.00	0.00	1.57	48.75
6.51	10014	0.00	-208.32	0.00	0.00	0.00	1.57	48.75
7.08	10014	0.57	-208.32	0.00	0.00	0.00	1.57	48.75
7.08	10015	0.00	-208.32	0.00	0.00	0.00	1.57	48.75
7.66	10015	0.57	-208.32	0.00	0.00	0.00	1.57	48.75
7.66	10016	0.00	-208.32	0.00	0.00	0.00	1.57	48.75
8.23	10016	0.57	-208.32	0.00	0.00	0.00	1.57	48.75
8.23	10017	0.00	-208.32	0.00	0.00	0.00	1.57	48.75
8.81	10017	0.57	-208.32	0.00	0.00	0.00	1.57	48.75
8.81	10018	0.00	-208.32	0.00	0.00	0.00	1.57	48.75
9.38	10018	0.57	-208.32	0.00	0.00	0.00	1.57	48.75
9.38	10019	0.00	-208.32	0.00	0.00	0.00	1.57	48.75
9.95	10019	0.57	-208.32	0.00	0.00	0.00	1.57	48.75
9.95	10020	0.00	-208.32	0.00	0.00	0.00	1.57	48.75
10.53	10020	0.57	-208.32	0.00	0.00	0.00	1.57	48.75
10.53	10021	0.00	-208.32	0.00	0.00	0.00	1.57	48.75
10.72		0.19	-161.78	0.00	0.00	0.00	1.22	37.86
10.91		0.38	-108.67	0.00	0.00	0.00	0.82	25.43
11.10	10021	0.57	-55.55	0.00	0.00	0.00	0.42	13.00
11.10	10022	0.00	-55.55	0.00	0.00	0.00	0.42	13.00
11.20	10022	0.10	-27.78	0.00	0.00	0.00	0.21	6.50
11.20	10023	0.00	-27.78	0.00	0.00	0.00	0.21	6.50
11.30	10023	0.10	0.00	0.00	0.00	0.00	0.00	0.00

STORED PRESTRESSING IN CDBASE:

Refline	-	-	FROM	TO	Typ								
Refline	Spline	-	FROM	TO	NFIRM	EXZ	DO						
Refline	Spline	Tendon	FROM	TO	NFIRM	NSP	ANWS	LF	LF0	IBA1	IBA2	IBA3	
1	-	-	0.00	11.30	CBEA								
1	1	-	0.00	11.30	319	-	13.4						
1	1	1	0.00	11.30	319	1	LE	20	20	9	9	0	
1	2	-	0.00	11.30	319	-	13.4						
1	2	2	0.00	11.30	319	1	LE	20	20	9	9	0	
1	3	-	0.00	11.30	319	-	13.4						
1	3	3	0.00	11.30	319	1	LE	20	20	9	9	0	
1	4	-	0.00	11.30	319	-	13.4						
1	4	4	0.00	11.30	319	1	LE	20	20	9	9	0	
1	5	-	0.00	11.30	319	-	13.4						
1	5	5	0.00	11.30	319	1	LE	20	20	9	9	0	
1	6	-	0.00	11.30	319	-	13.4						
1	6	6	0.00	11.30	319	1	LE	20	20	9	9	0	
1	7	-	0.00	11.30	319	-	13.4						
1	7	7	0.00	11.30	319	1	LE	20	20	9	9	0	
1	8	-	0.00	11.30	319	-	13.4						
1	8	8	0.00	11.30	319	1	LE	20	20	9	9	0	
1	9	-	0.00	11.30	319	-	13.4						
1	9	9	0.00	11.30	319	1	LE	20	20	9	9	0	
1	10	-	0.00	11.30	319	-	13.4						
1	10	10	0.00	11.30	319	1	LE	20	20	9	9	0	
1	11	-	0.00	11.30	319	-	13.4						
1	11	11	0.00	11.30	319	1	LE	20	20	9	9	0	
1	12	-	0.00	11.30	319	-	13.4						
1	12	12	0.00	11.30	319	1	LE	20	20	9	9	0	
1	13	-	0.00	11.30	319	-	13.4						
1	13	13	0.00	11.30	319	1	LE	20	20	9	9	0	
1	14	-	0.00	11.30	319	-	13.4						
1	14	14	0.00	11.30	319	1	LE	20	20	9	9	0	

FROM,TO in (m) , EXZ,DO in (mm)

Geometria ponticello
Definizione dei Casi di Carico

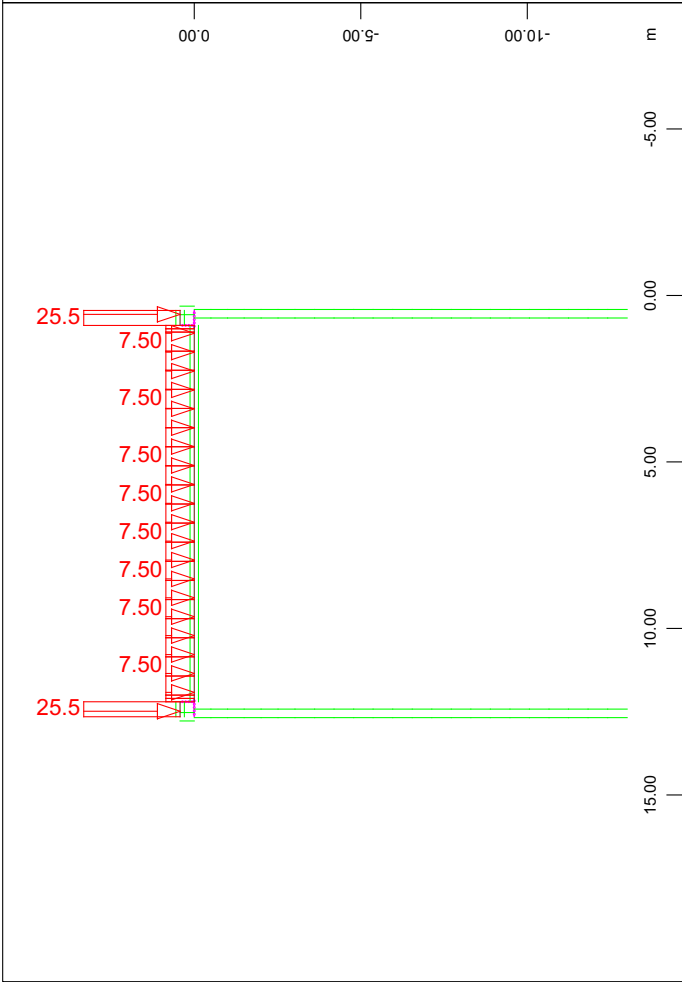
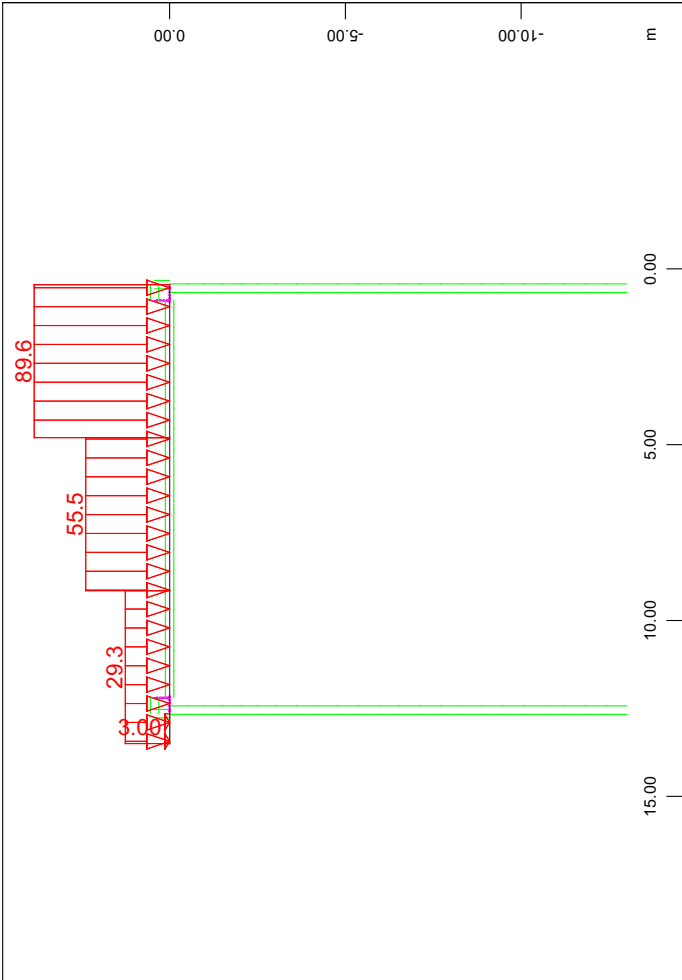
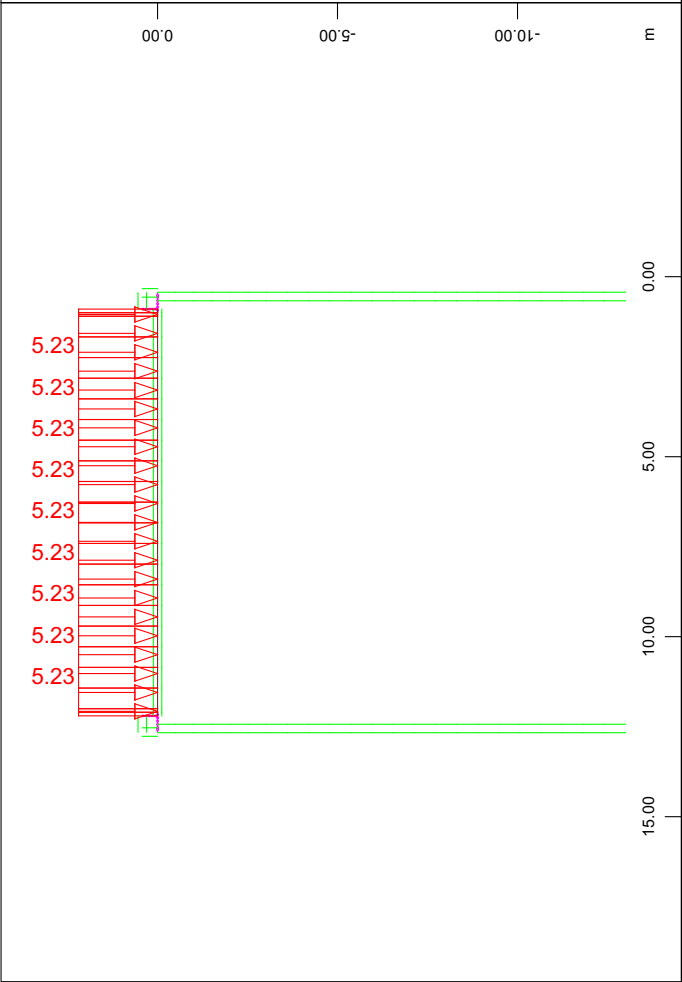
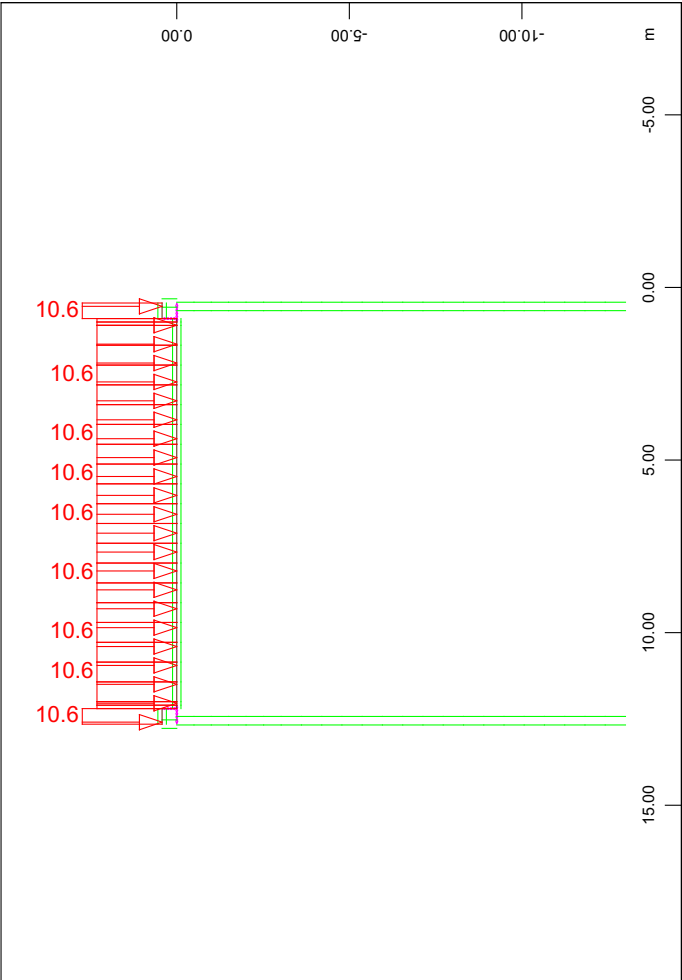
Actions									
type	T	sup	Title	$\gamma-u$	$\gamma-f$	$\gamma-a$	$\psi-0$	$\psi-1$	$\psi-2$
C	G	perc	Ritiro	1.20	0.00	1.00	1.00	1.00	1.00
G1	G	perm	Carichi G1	1.35	1.00	1.00	1.00	1.00	1.00
G2	G	perc	Carichi G2	1.50	0.00	1.00	1.00	1.00	1.00
R	G	perm	Spinta delle terre	1.35	1.00	1.00	1.00	1.00	1.00
P	P	perm	Carichi G2	1.00	1.00	1.00	1.00	1.00	1.00
Q	Q	cond	variable load	1.35	0.00	1.00	0.75	0.75	0.00
Q_A	Q	excl	Carichi V da traffico	1.35	0.00	1.00	0.75	0.75	0.00
Q_B	Q	perc	Carichi V da traffico sismico	1.00	1.00	1.00	1.00	1.00	1.00
Q_C	Q	usex	Carichi di frenatura	1.35	0.00	1.00	0.75	0.75	0.00
T	Q	unsi	Temperatura	1.20	0.00	1.00	0.60	0.60	0.50
E	E	usex	Earthquake	1.00	1.00	1.00	1.00	1.00	1.00
E_X	E	excl	Sisma	1.00	1.00	1.00	1.00	1.00	1.00

Geometria ponticello
Analisi Lineare

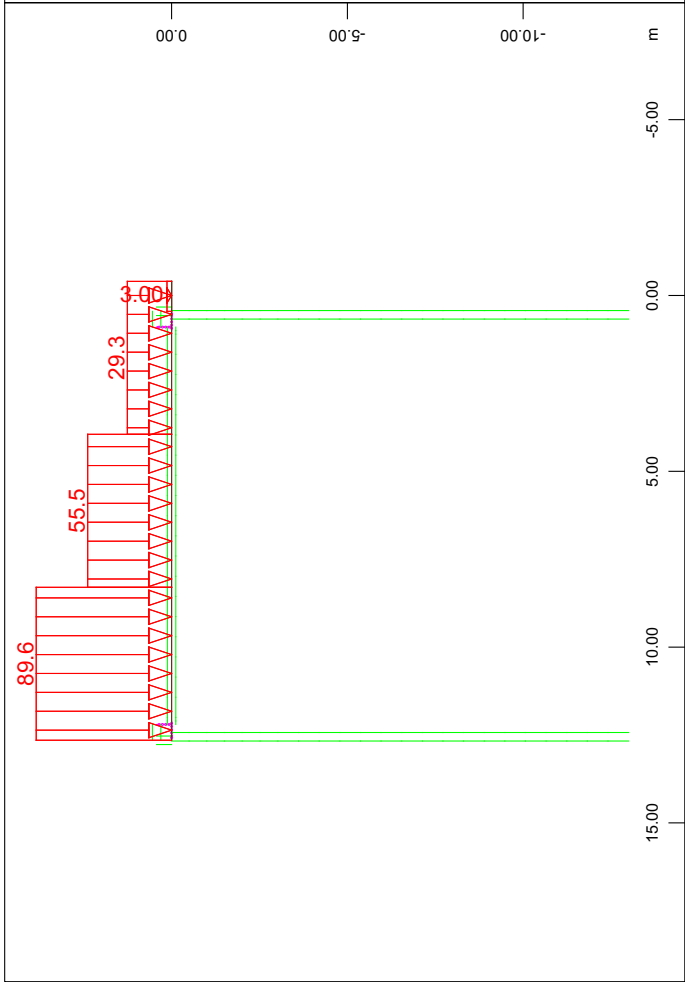
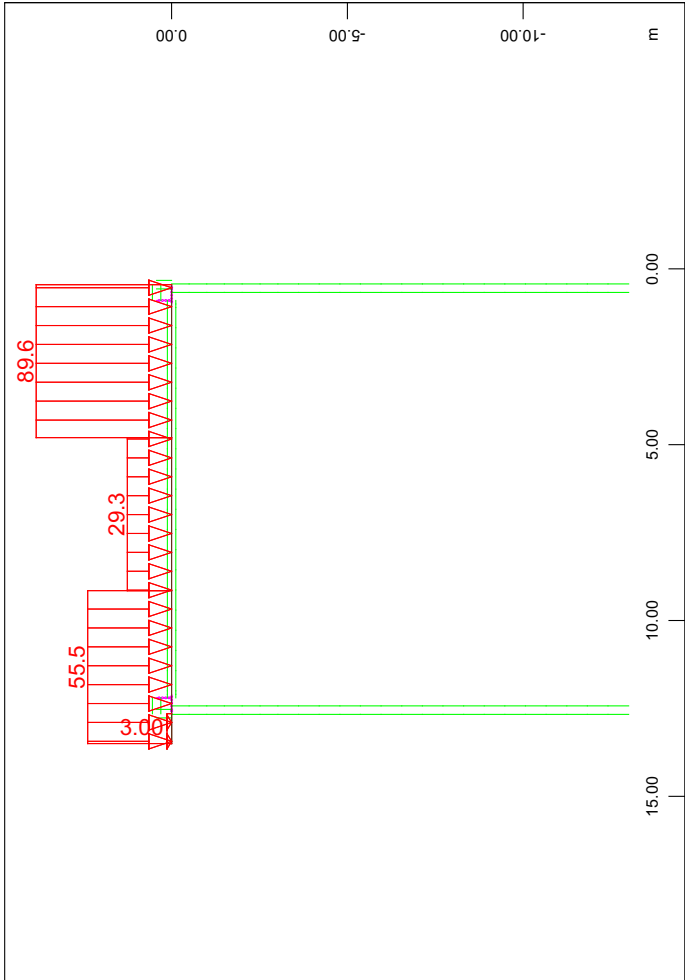
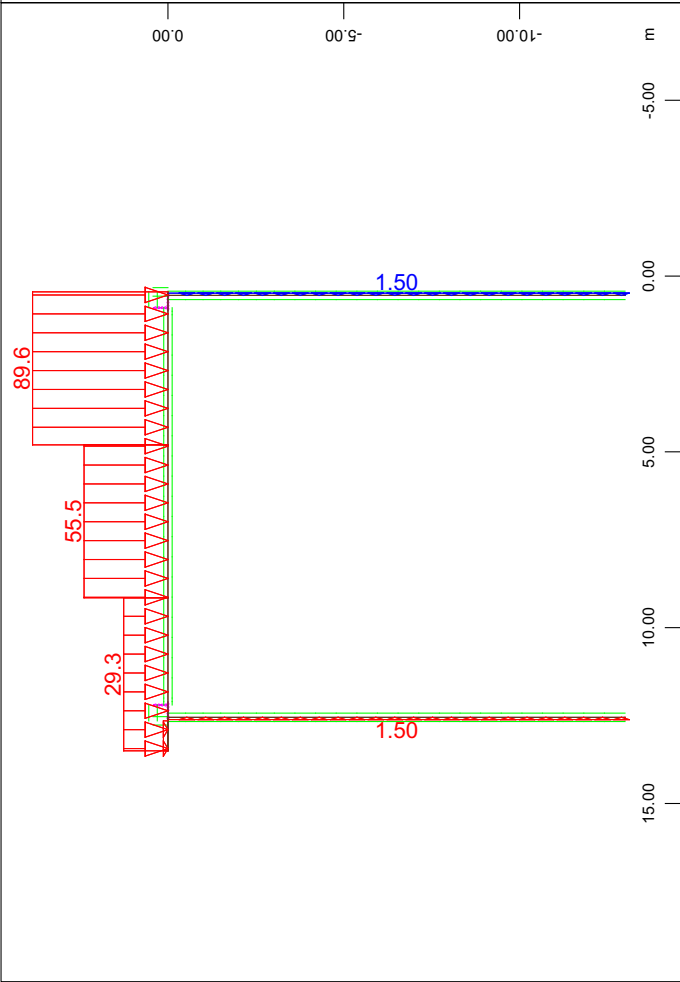
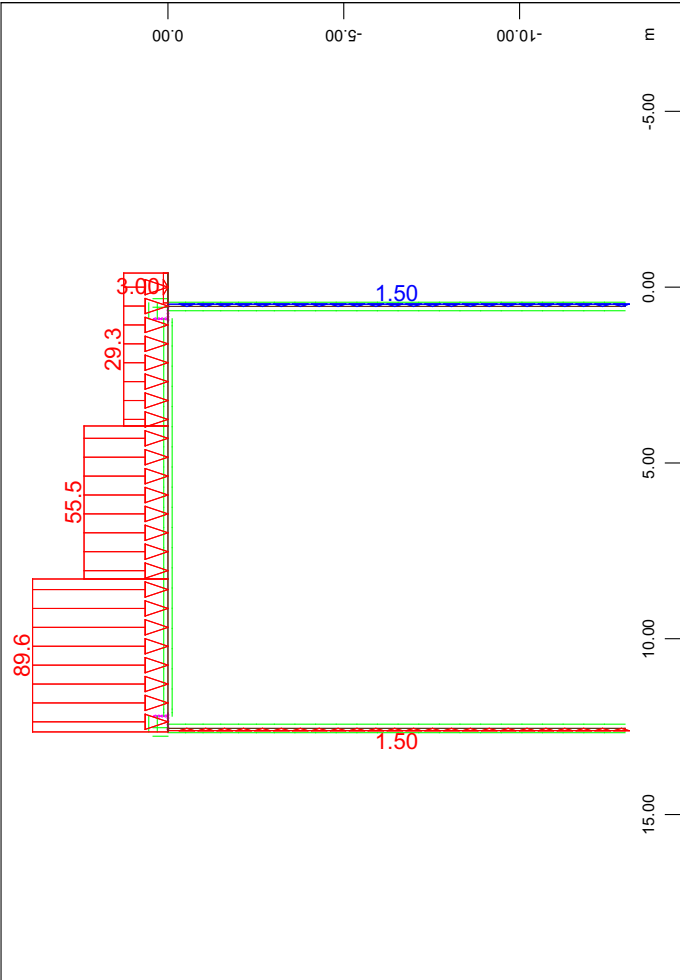
Sum of Reactions and Loads

LC Title	PXX[kN]	PYY[kN]	PZZ[kN]
1 Pp trave cap	0.0	0.0	59.0
	0.0	0.0	-59.0
2 Pp soletta+retrotr.	0.0	0.0	107.7
	0.0	0.0	-107.7
3 Pavimentazione	0.0	0.0	128.8
	0.0	0.0	-128.8
4 Q 1	0.0	0.0	733.3
	0.0	0.0	-733.3
5 Q 1_1	0.0	0.0	733.3
	0.0	0.0	-733.3
6 Q 2	0.0	0.0	733.3
	0.0	0.0	-733.3
7 Q 2_1	0.0	0.0	733.3
	0.0	0.0	-733.3
8 Q 3	0.0	0.0	711.0
	0.0	0.0	-711.0
9 Q 3_1	0.0	0.0	711.0
	0.0	0.0	-711.0
10 Q 4	0.0	0.0	711.0
	0.0	0.0	-711.0
11 Q 4_1	0.0	0.0	711.0
	0.0	0.0	-711.0
12 Q 5	0.0	0.0	733.3
	0.0	0.0	-733.3
13 Q 5_1	0.0	0.0	733.3
	0.0	0.0	-733.3
14 Q 6	0.0	0.0	733.3
	0.0	0.0	-733.3
15 Q 6_1	0.0	0.0	733.3
	0.0	0.0	-733.3
16 Q 7	0.0	0.0	722.2
	0.0	0.0	-722.2
17 Q 7_1	0.0	0.0	722.2
	0.0	0.0	-722.2
18 Q 8	0.0	0.0	722.2
	0.0	0.0	-722.2
19 Q 8_1	0.0	0.0	722.2
	0.0	0.0	-722.2
20 Basic prestressing forces	0.0	0.0	0.0
	0.0	0.0	0.0
21 Variazione uniforme	0.0	0.0	0.0
	0.0	0.0	0.0
22 Variazione non uniforme	0.0	0.0	0.0
	0.0	0.0	0.0
23 Spinta terre	0.0	0.0	0.0
	0.0	0.0	0.0
24 Q f/a	-20.3	0.0	0.0
	20.2	0.0	0.0
25 Q -f/a	20.3	0.0	0.0
	-20.2	0.0	0.0
26 Sisma X_1	-215.0	0.0	0.0
	214.0	0.0	0.0
27 Sisma X_2	215.0	0.0	0.0
	-214.0	0.0	0.0
28 Sisma X_3	-120.2	0.0	0.0
	119.6	0.0	0.0
29 Sisma X_4	120.2	0.0	0.0
	-119.6	0.0	0.0
30 Qk sismico	0.0	0.0	151.1
	0.0	0.0	-151.1

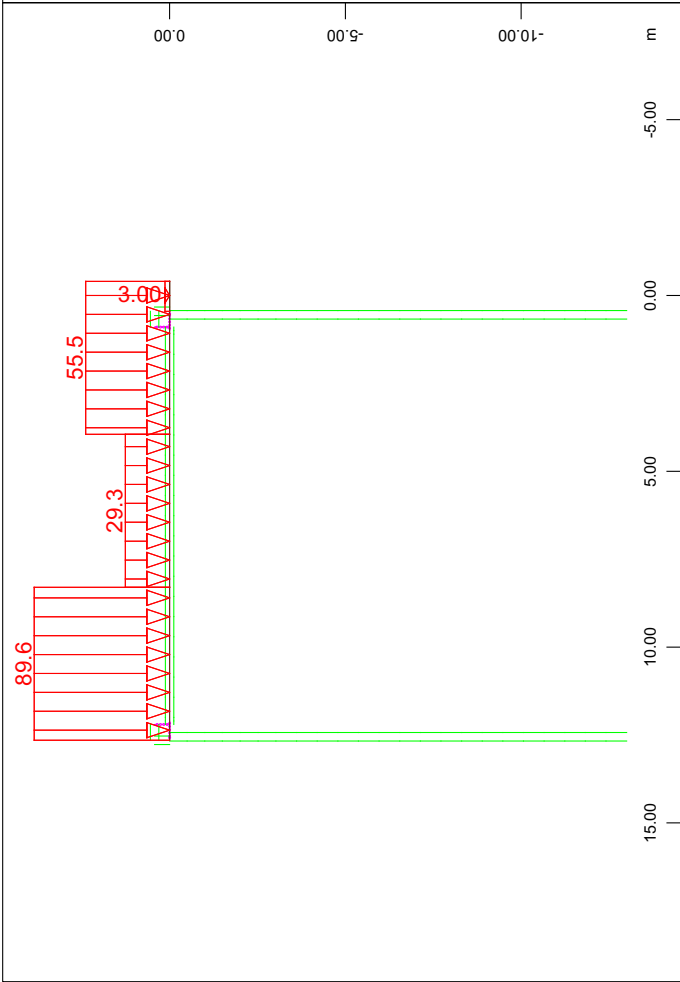
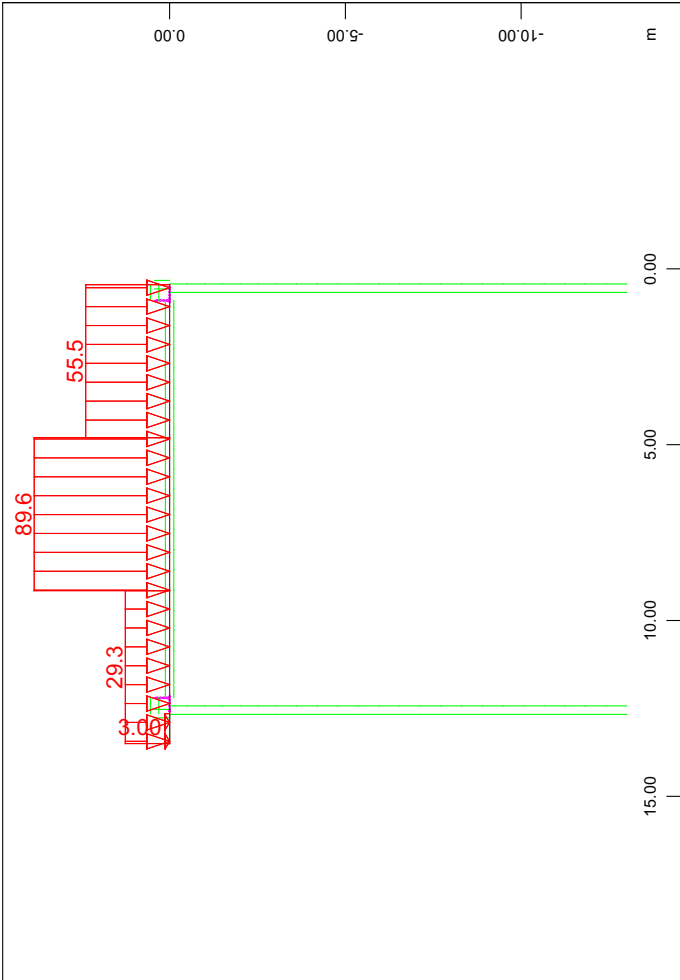
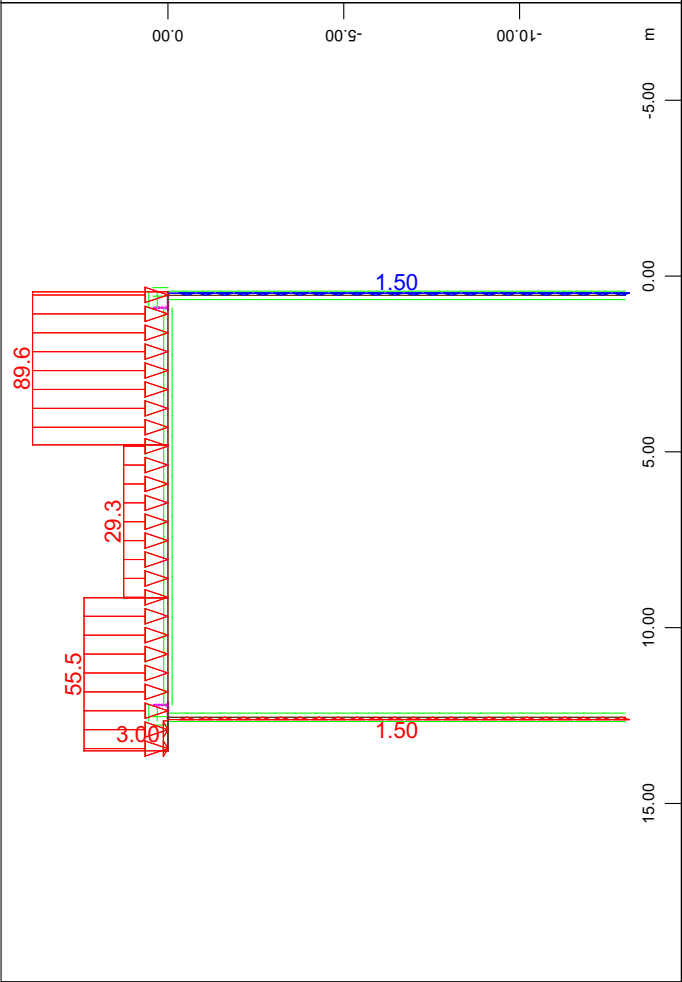
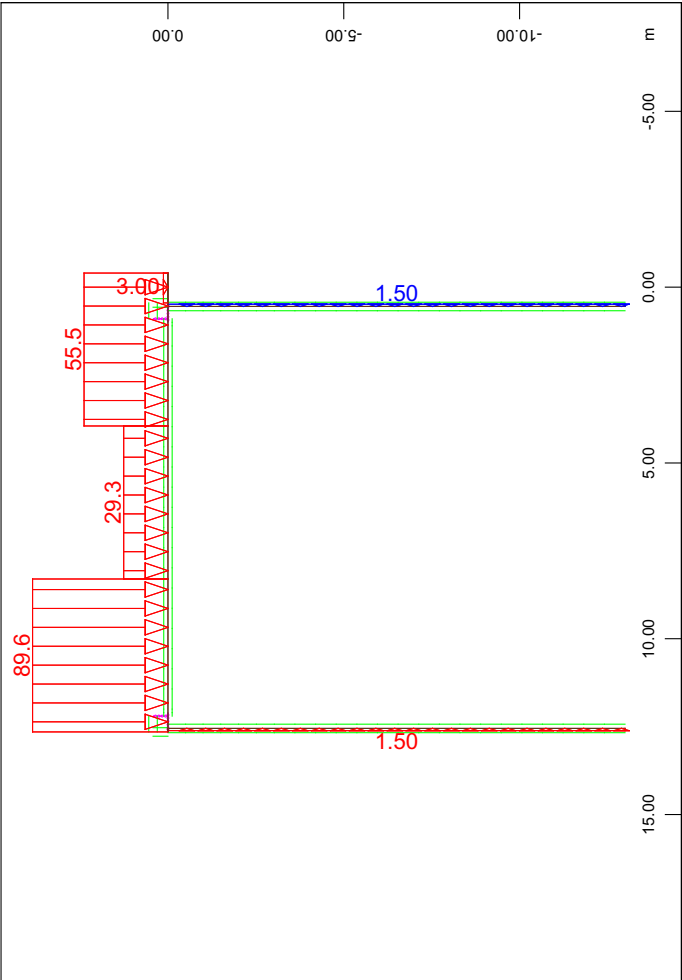
Geometria ponticello
Rappresentazione dei Carichi



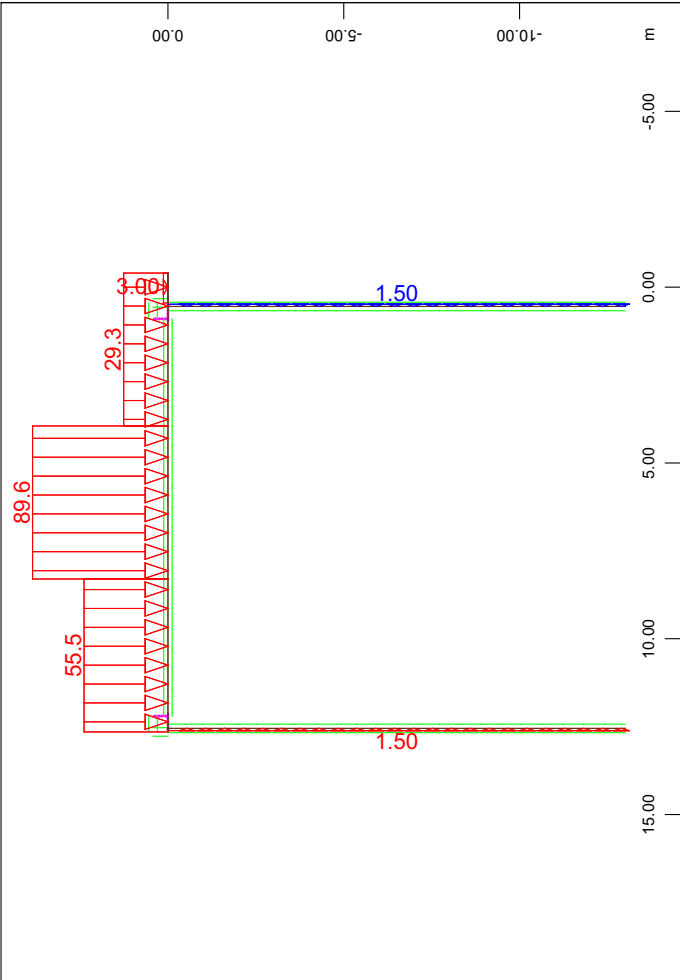
Geometria ponticello
Rappresentazione dei Carichi



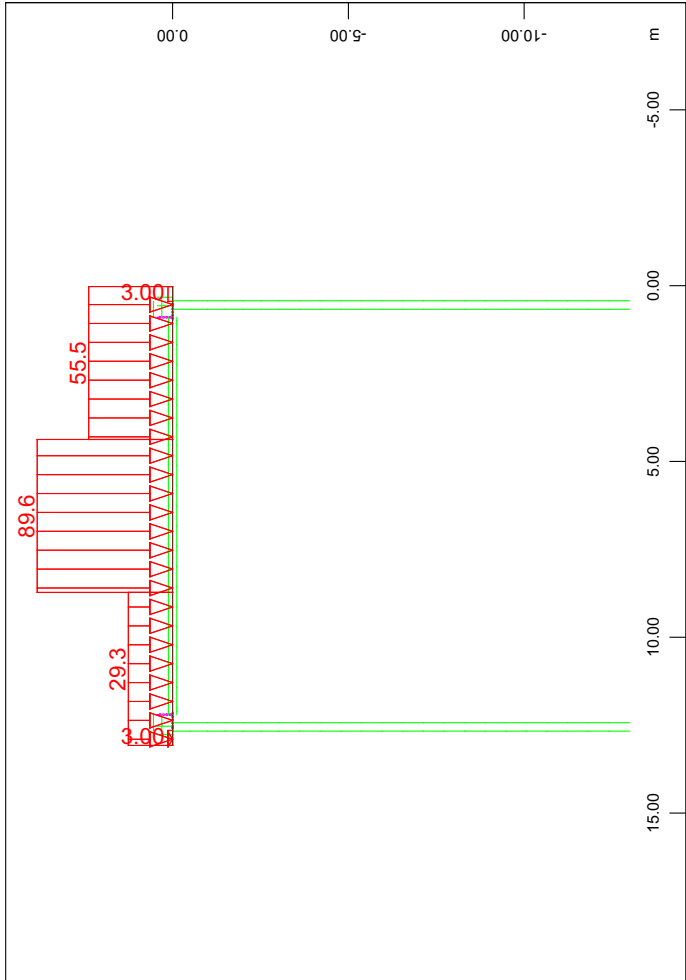
Geometria ponticello
Rappresentazione dei Carichi



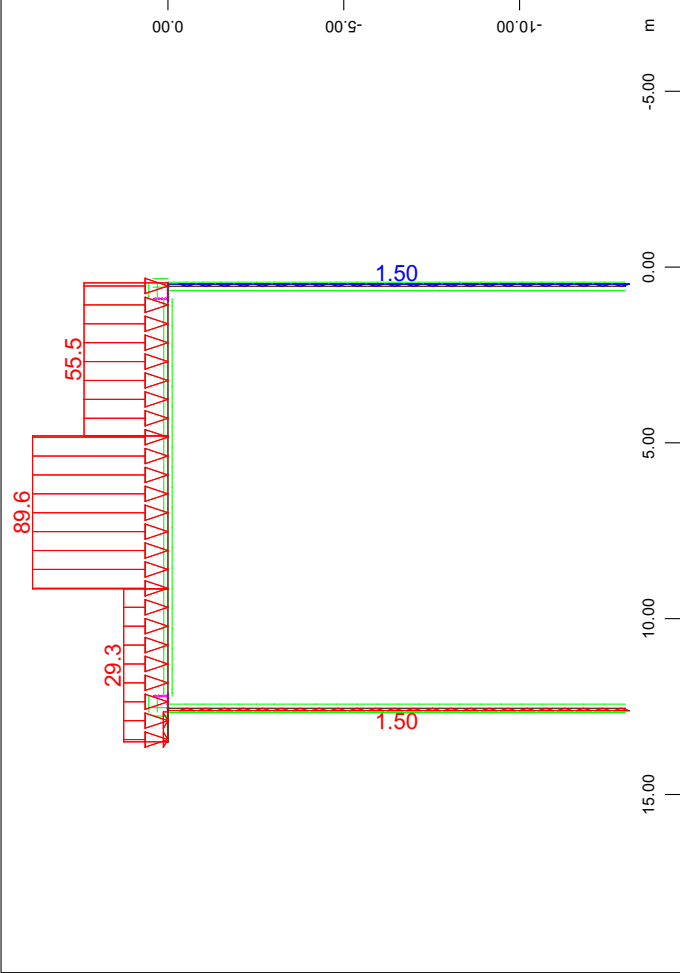
Geometria ponticello
Rappresentazione dei Carichi



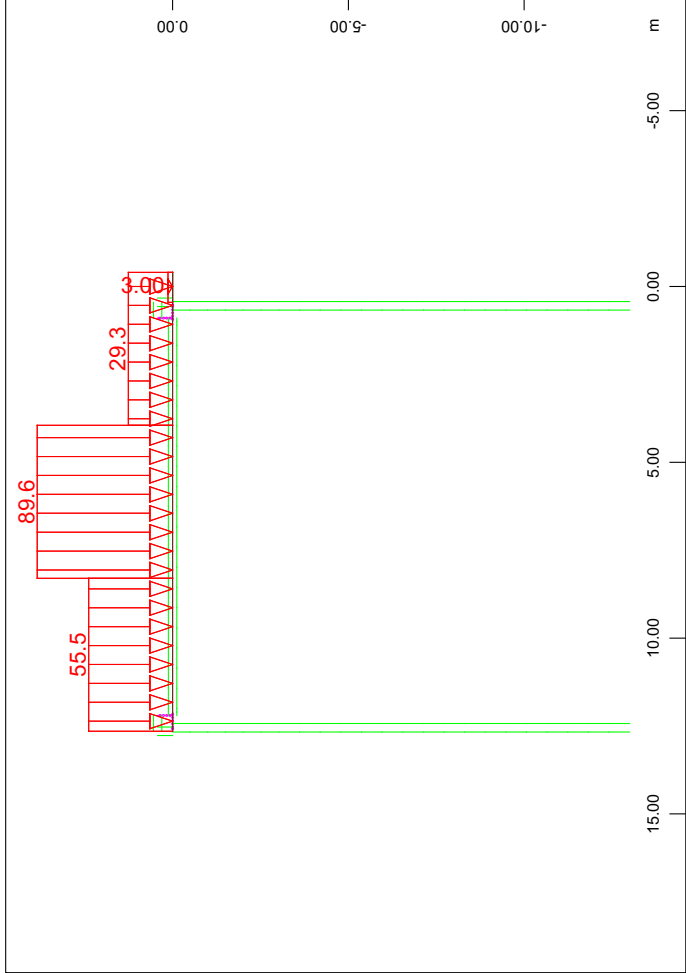
All loads, Loadcase 15 Q 6_1 , (1 cm 3D = unit) Free line load (force) in global X (Unit=50.0 kN/m) (force) in global Z (Unit=50.0 kN/m)



All loads, Loadcase 16 Q 7 , (1 cm 3D = unit) Free line load (force) in global X (Unit=50.0 kN/m) (force) in global Z (Unit=50.0 kN/m)

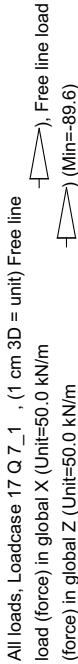
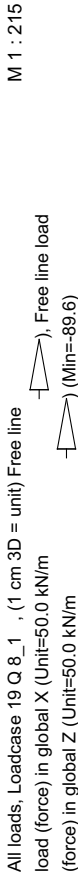


All loads, Loadcase 13 Q 5_1 , (1 cm 3D = unit) Free line load (force) in global X (Unit=50.0 kN/m) (force) in global Z (Unit=50.0 kN/m)

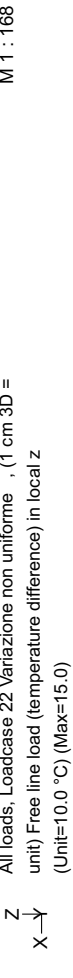
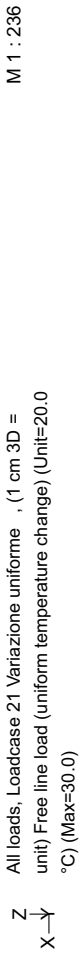


All loads, Loadcase 14 Q 6 , (1 cm 3D = unit) Free line load (force) in global X (Unit=50.0 kN/m) (force) in global Z (Unit=50.0 kN/m)

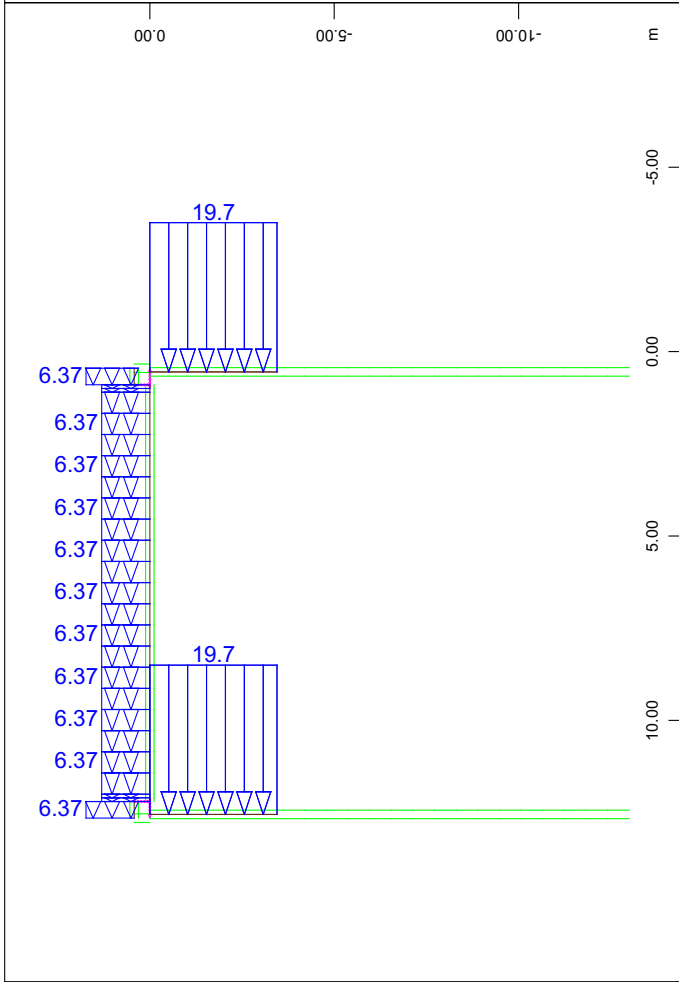
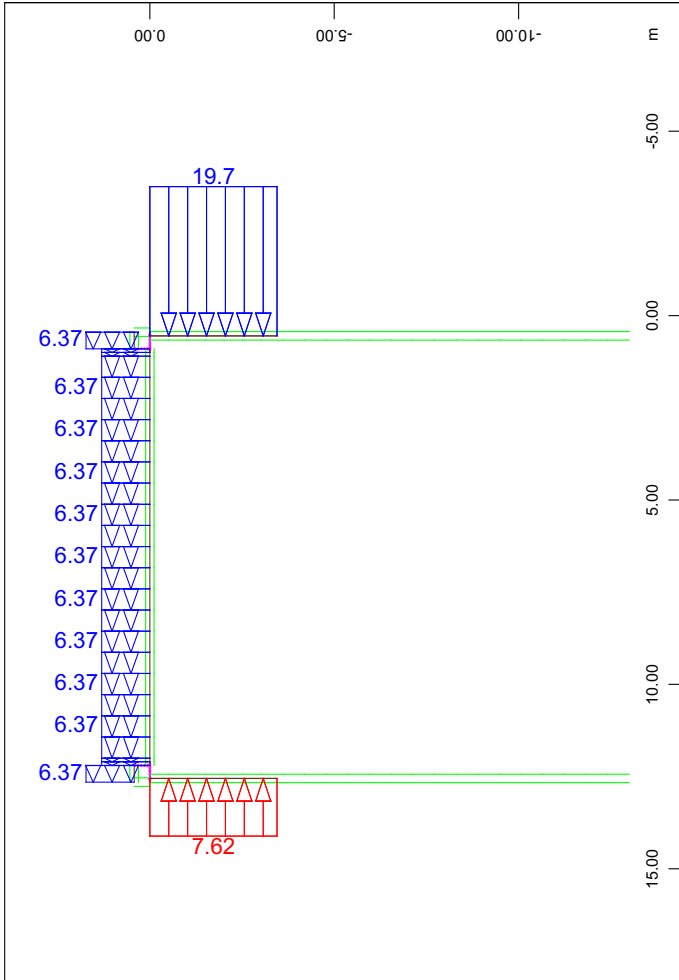
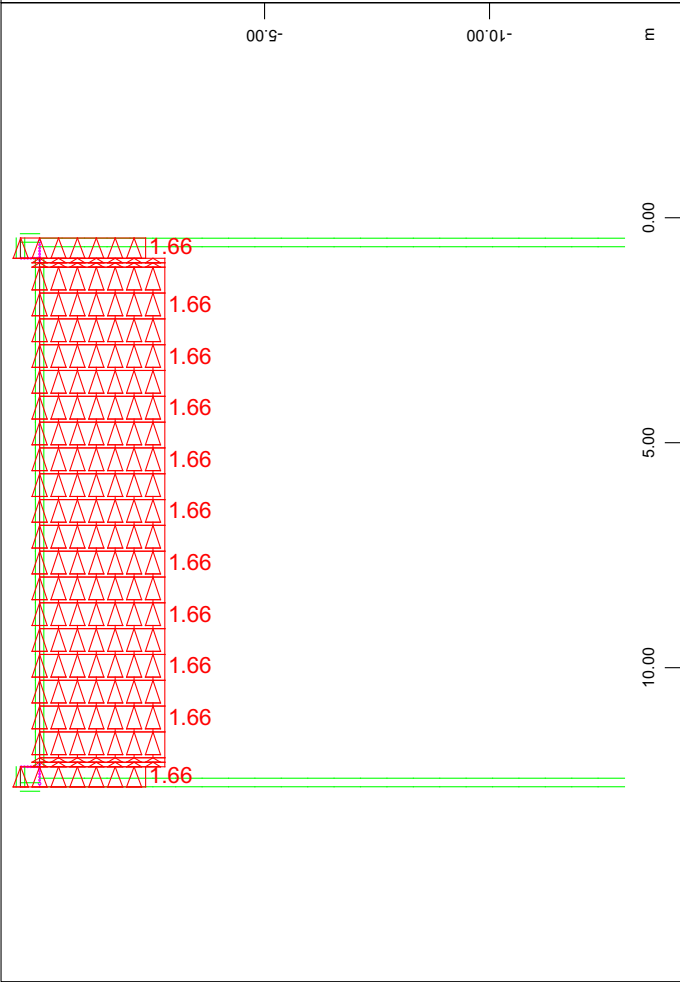
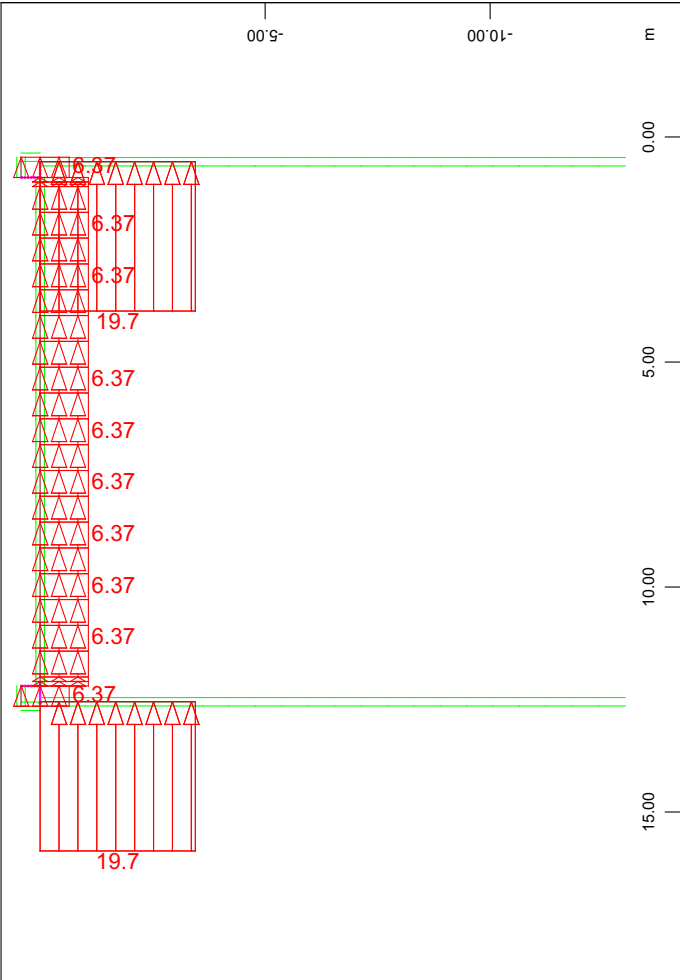
Rappresentazione dei Carichi



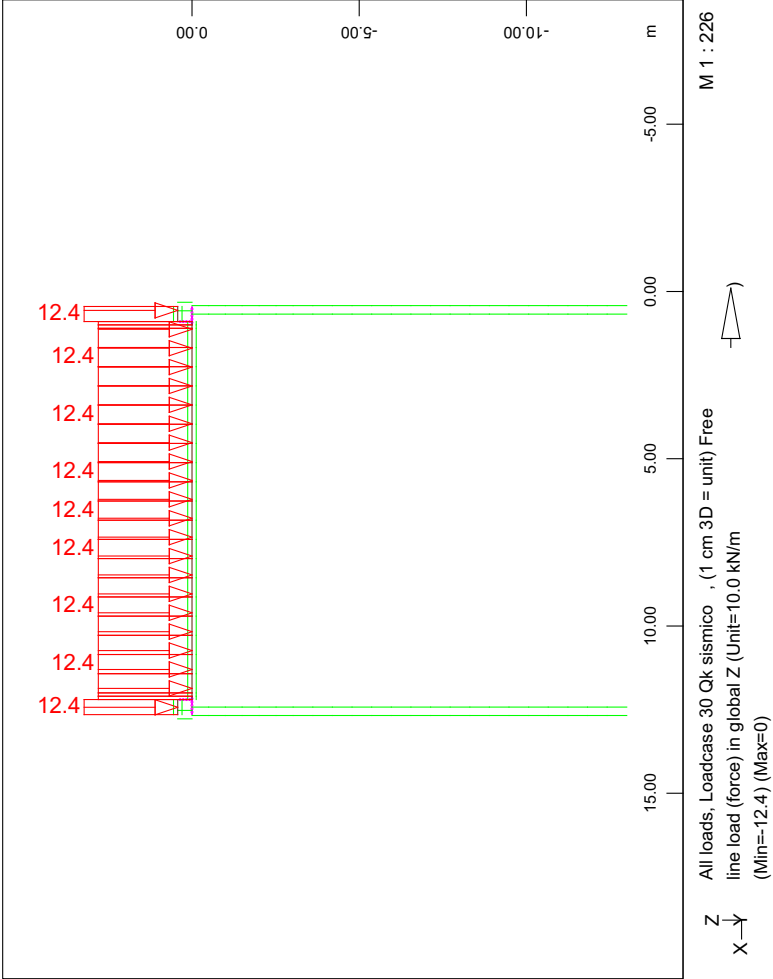
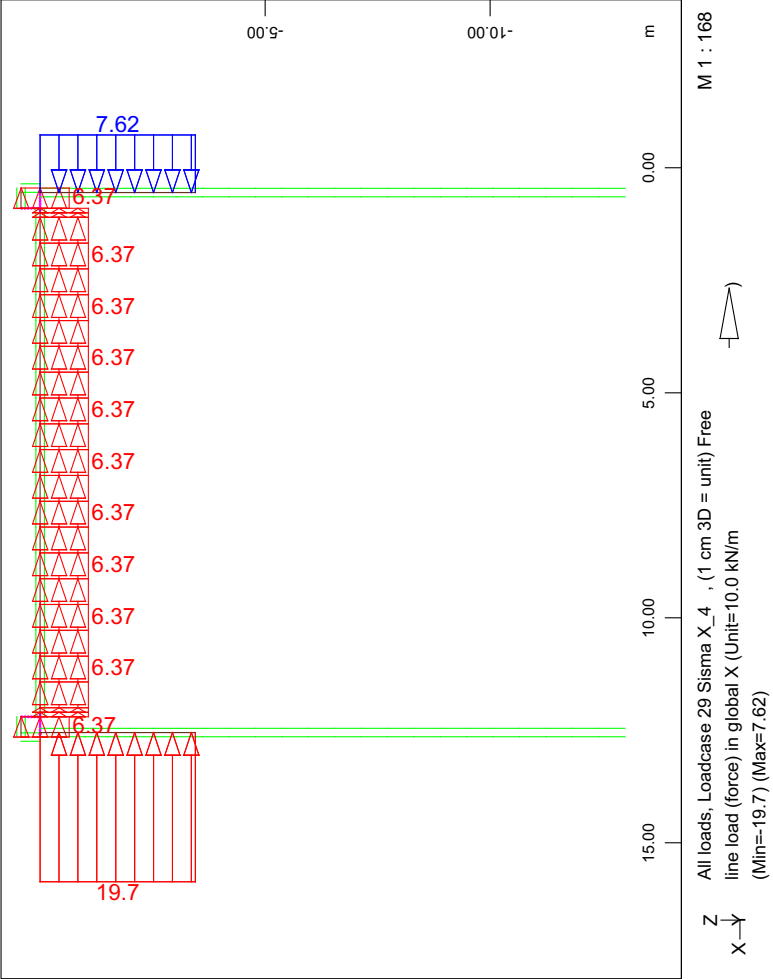
Rappresentazione dei Carichi



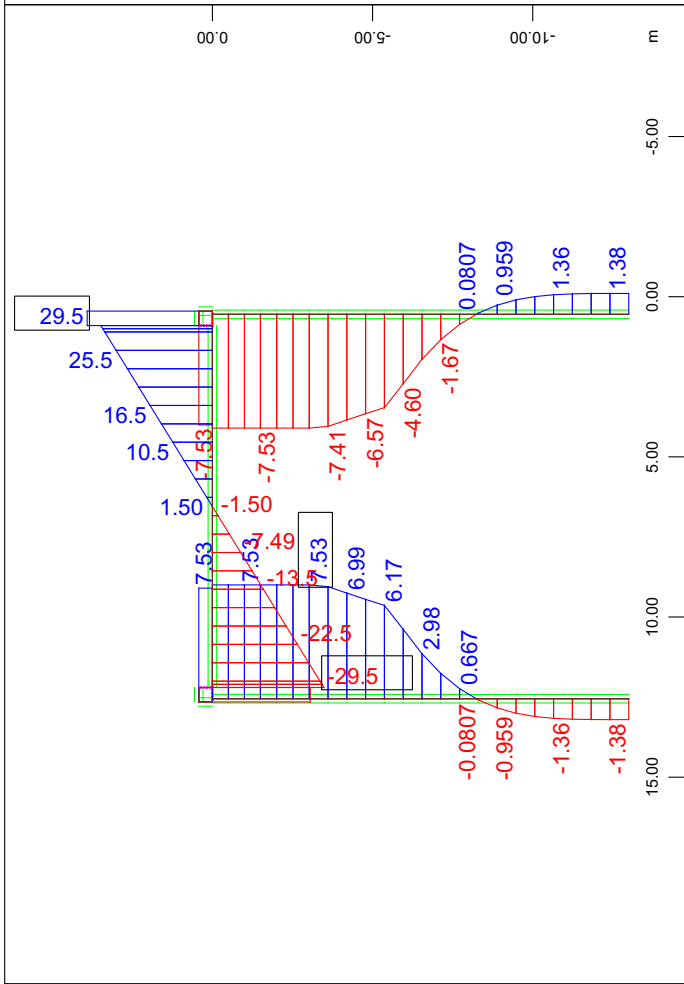
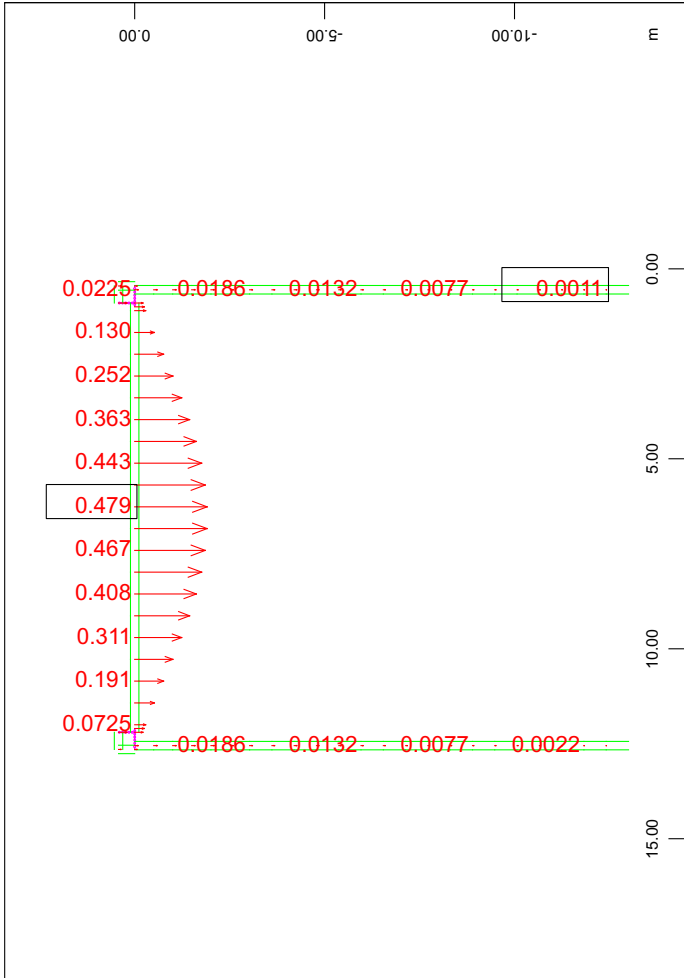
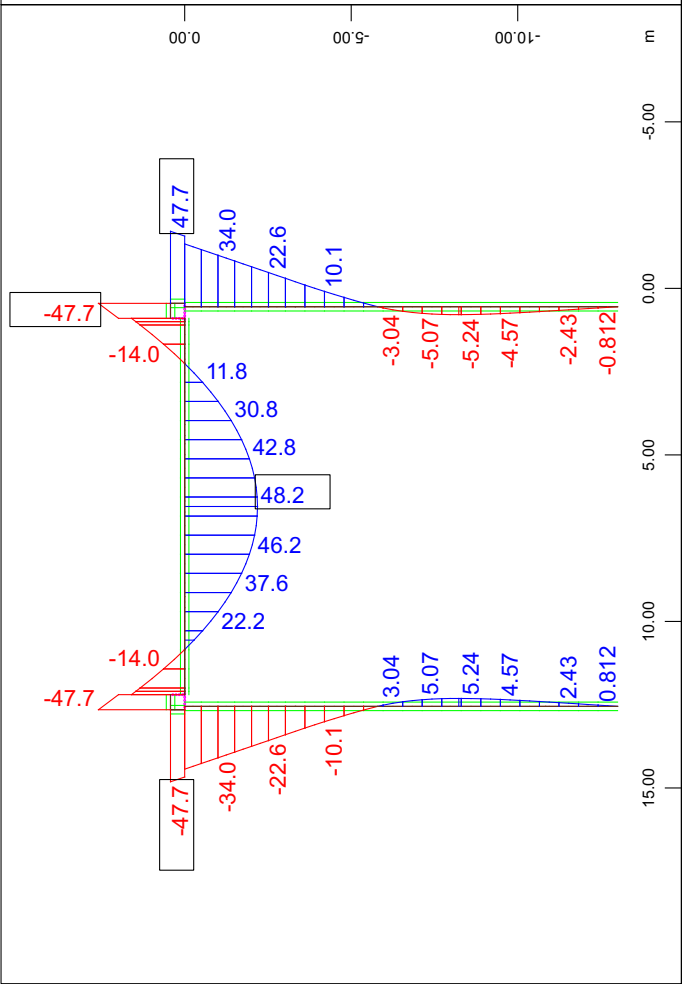
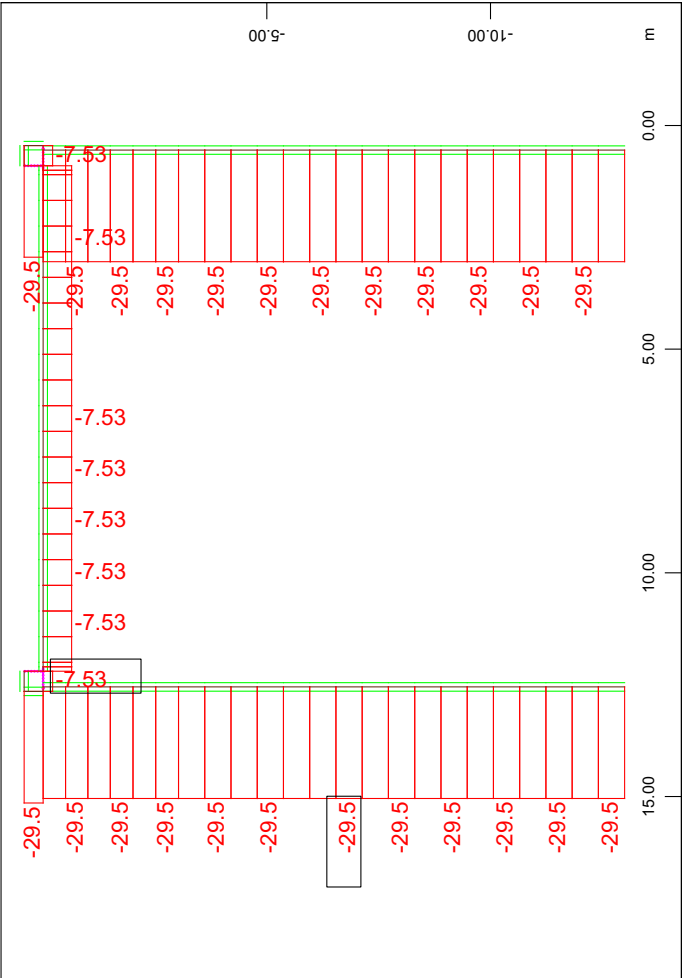
Geometria ponticello
Rappresentazione dei Carichi



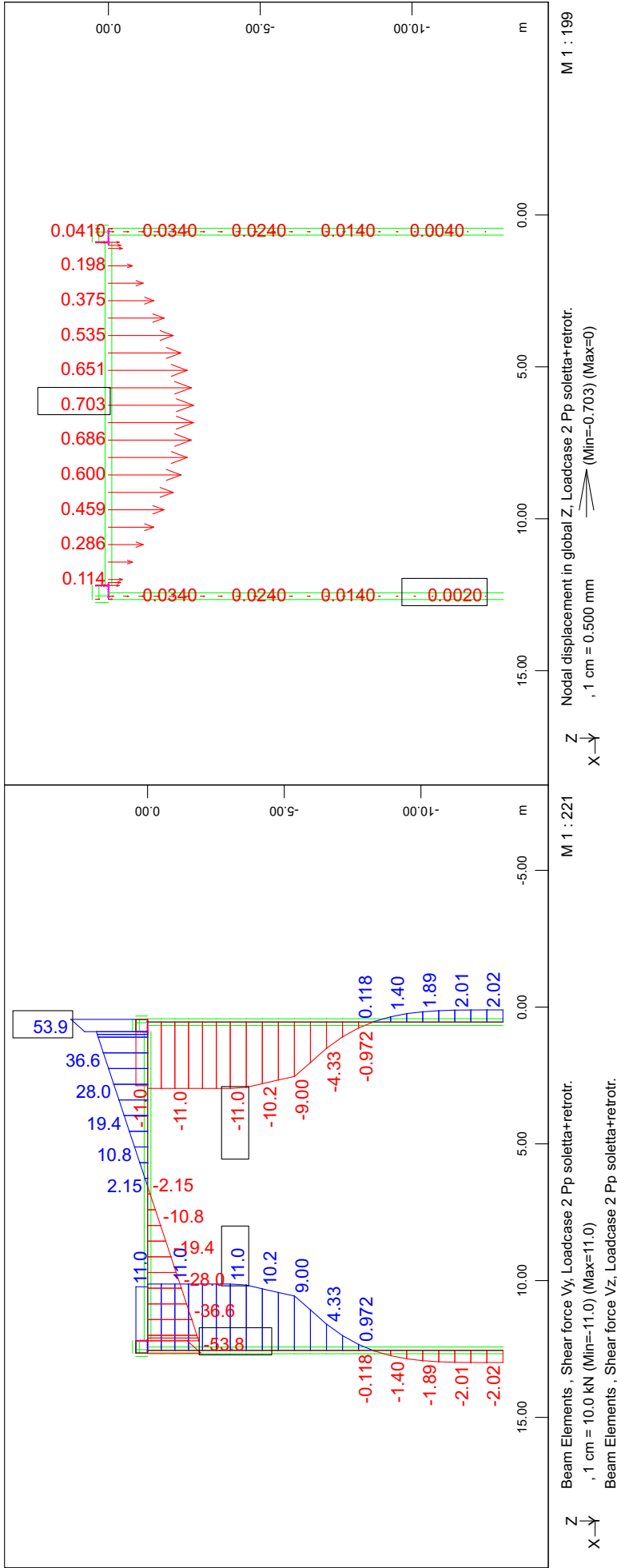
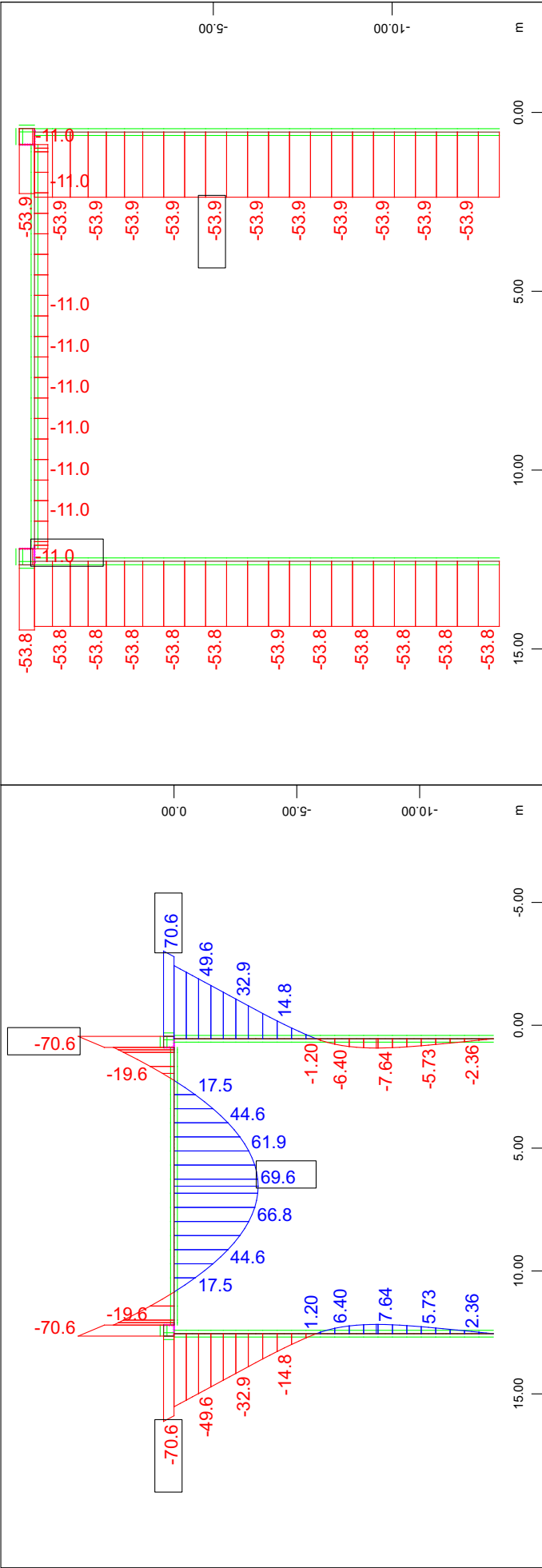
Geometria ponticello
Rappresentazione dei Carichi



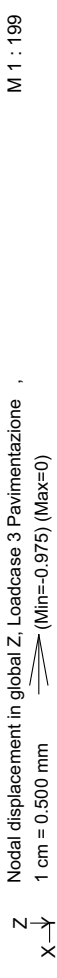
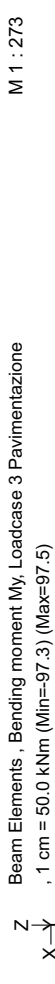
Geometria ponticello
Rappresentazione sollecitazioni elementari



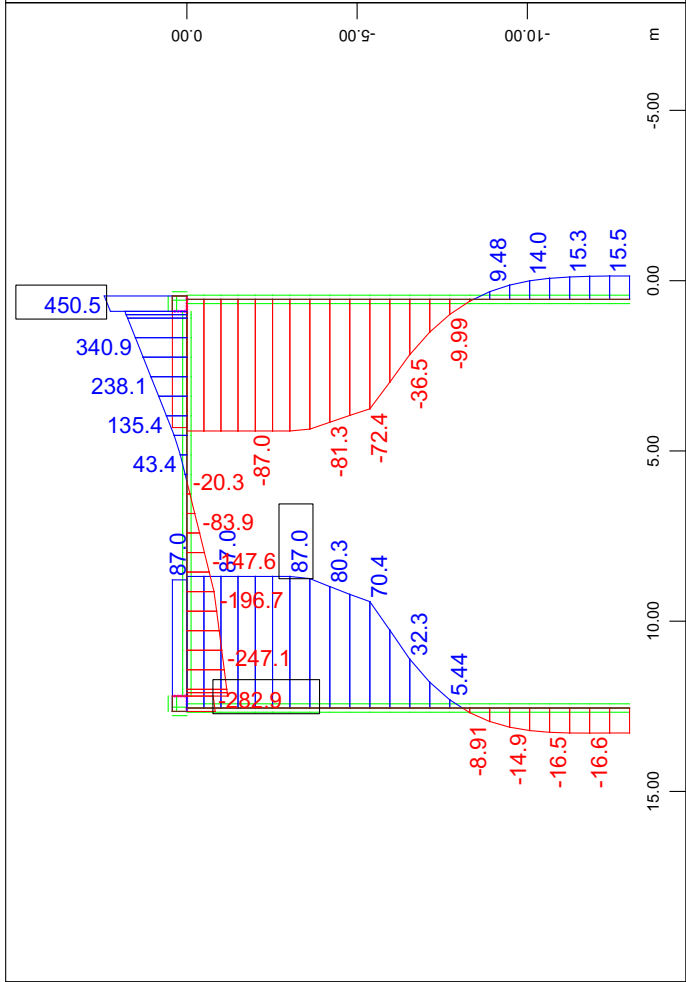
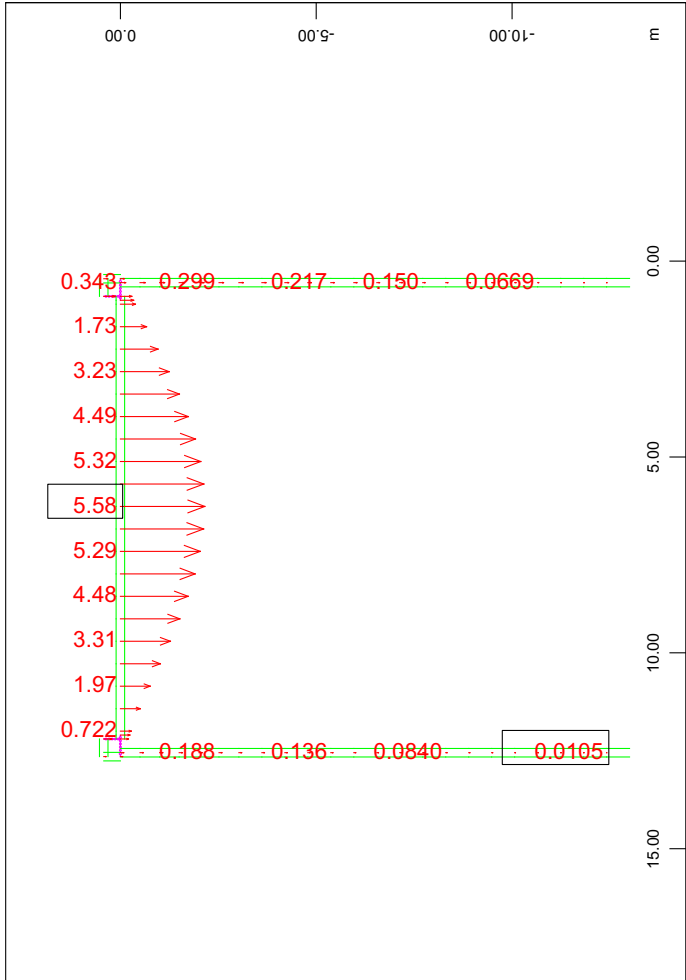
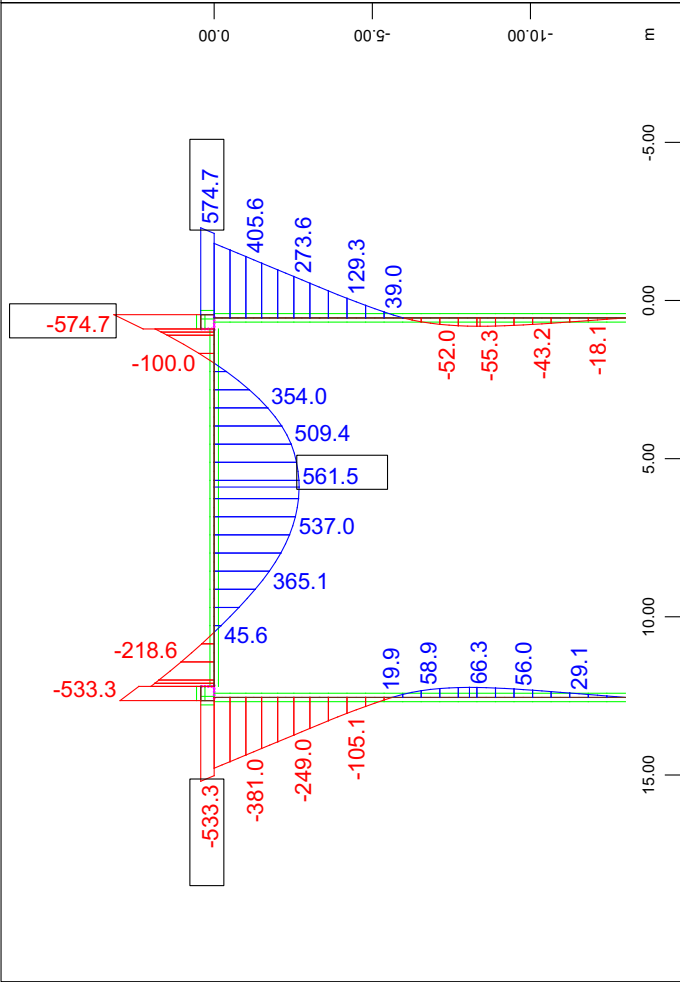
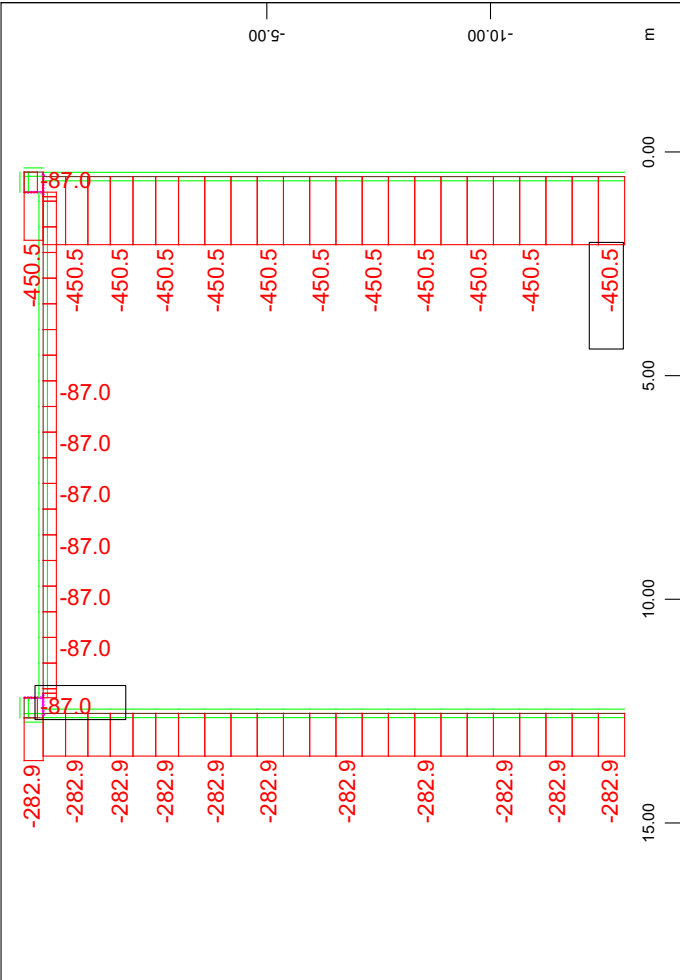
Geometria ponticello
Rappresentazione sollecitazioni elementari



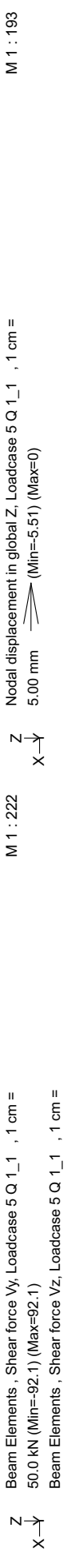
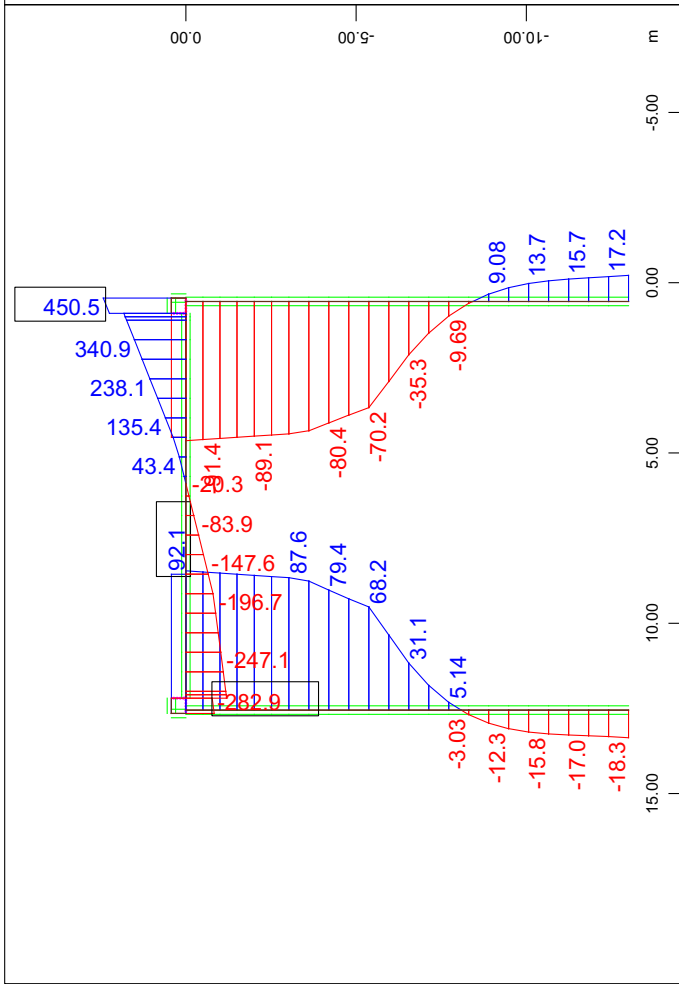
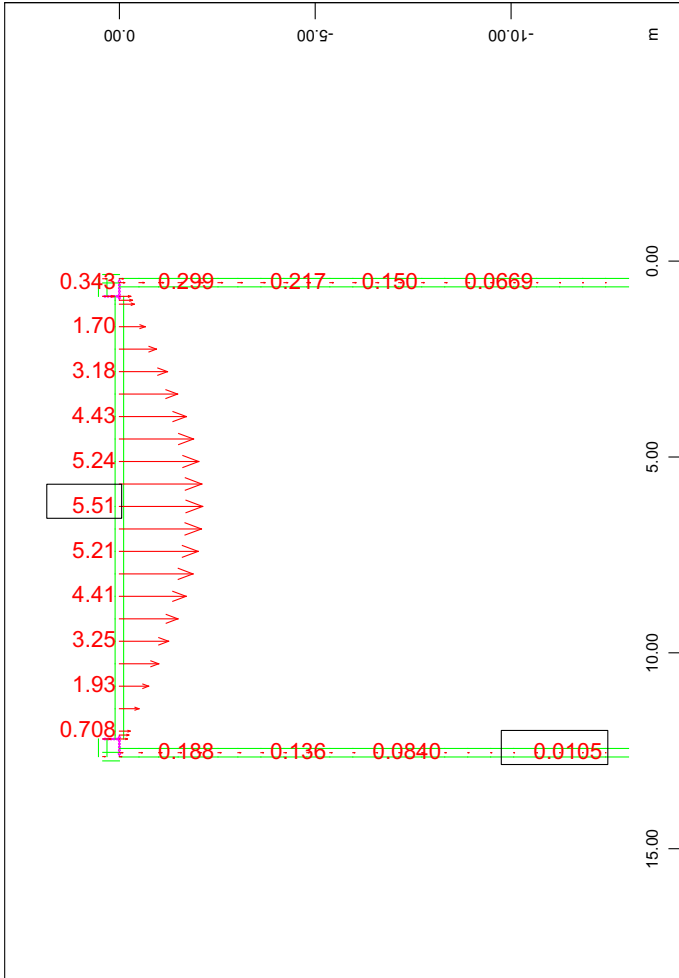
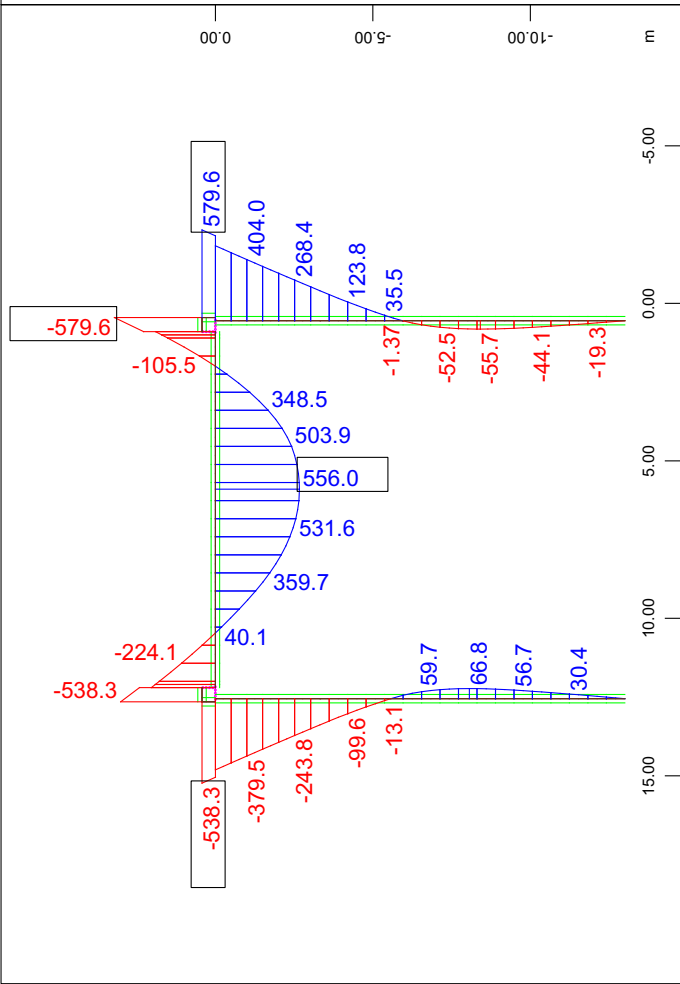
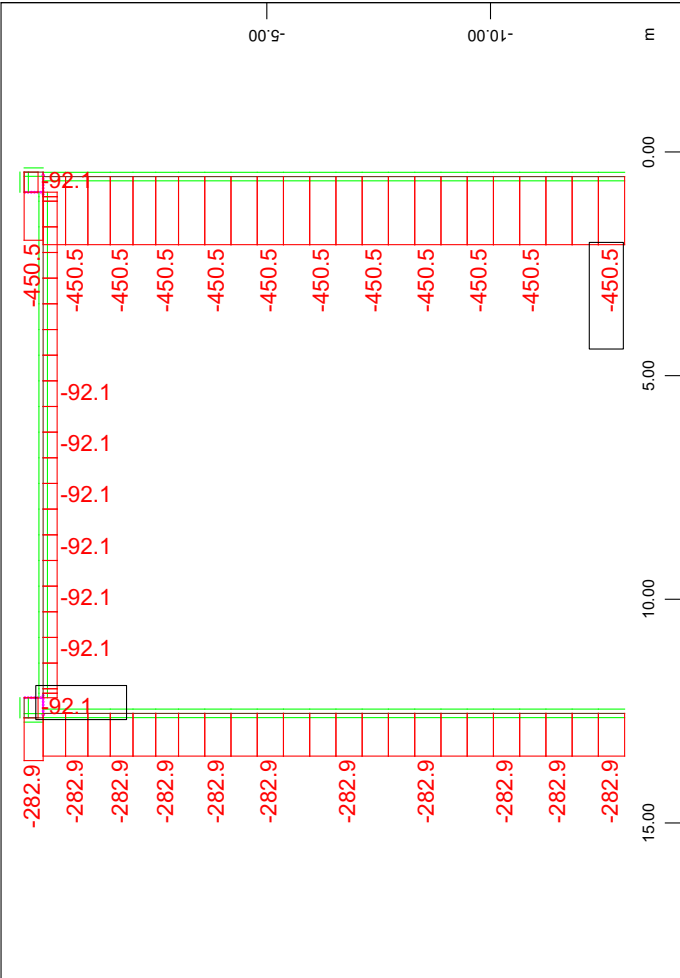
Rappresentazione sollecitazioni elementari



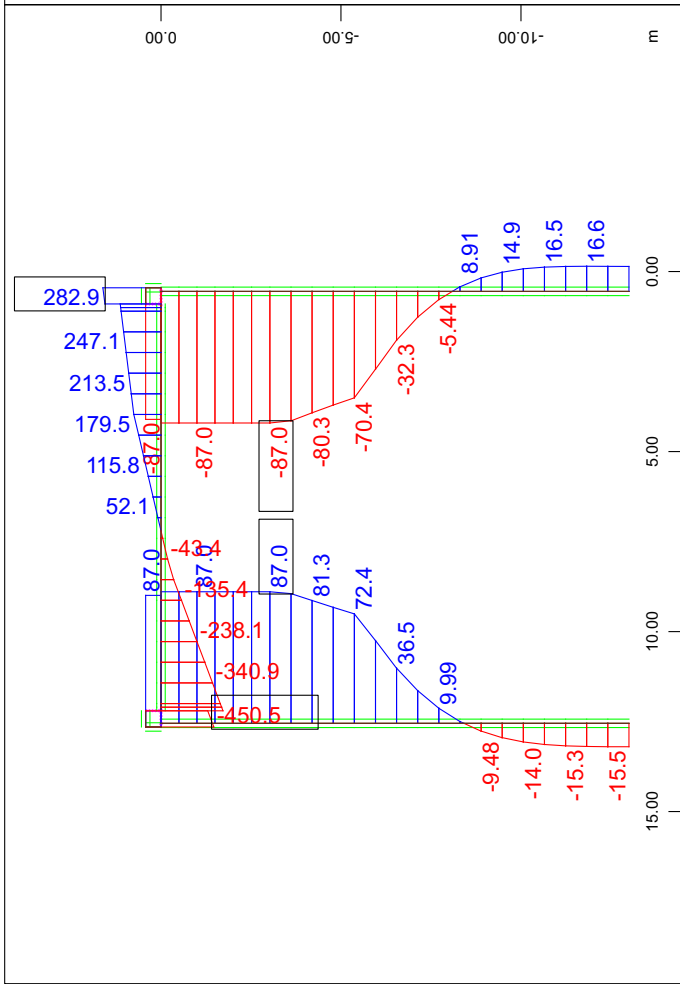
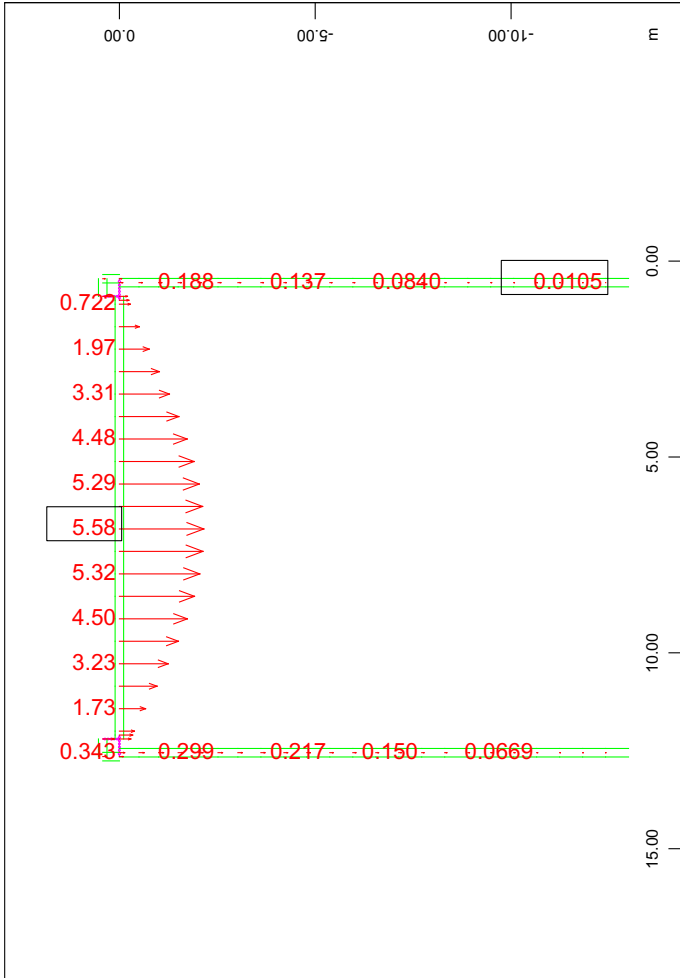
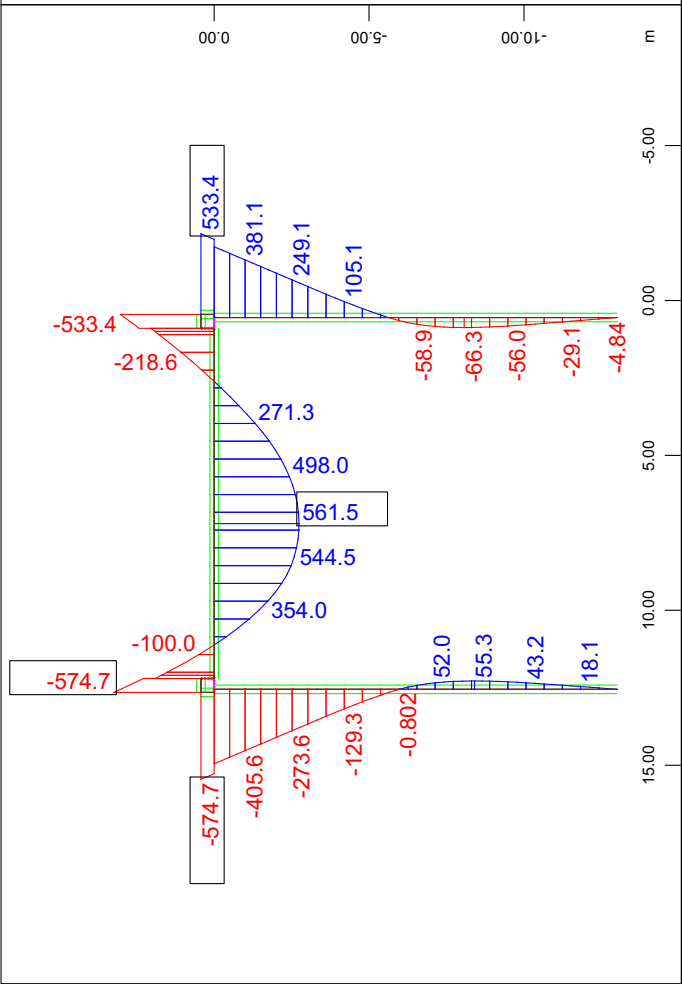
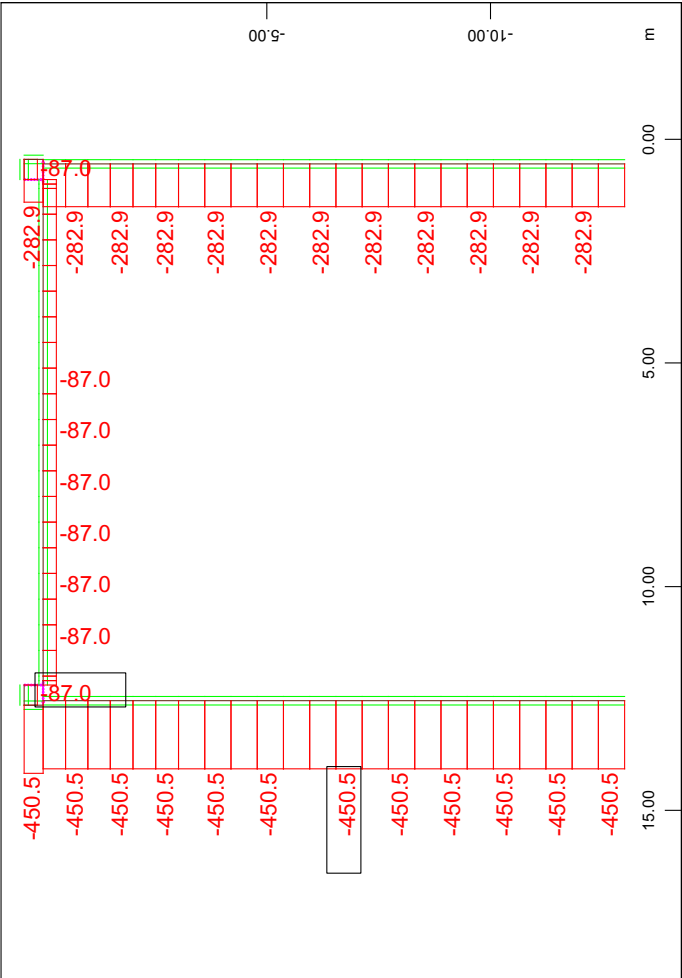
Geometria ponticello
Rappresentazione sollecitazioni elementari



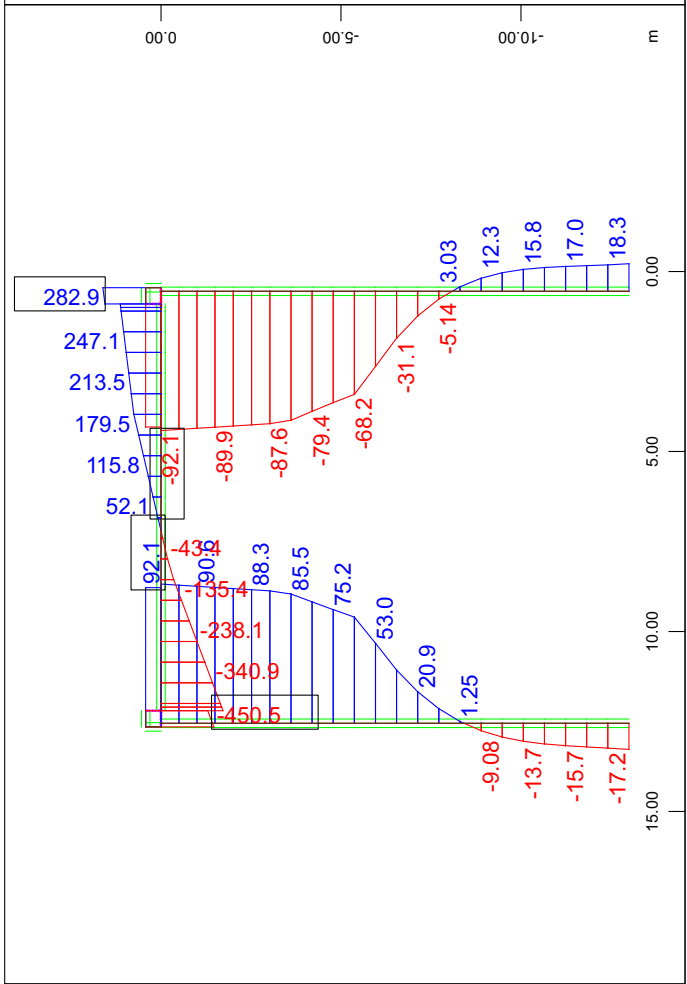
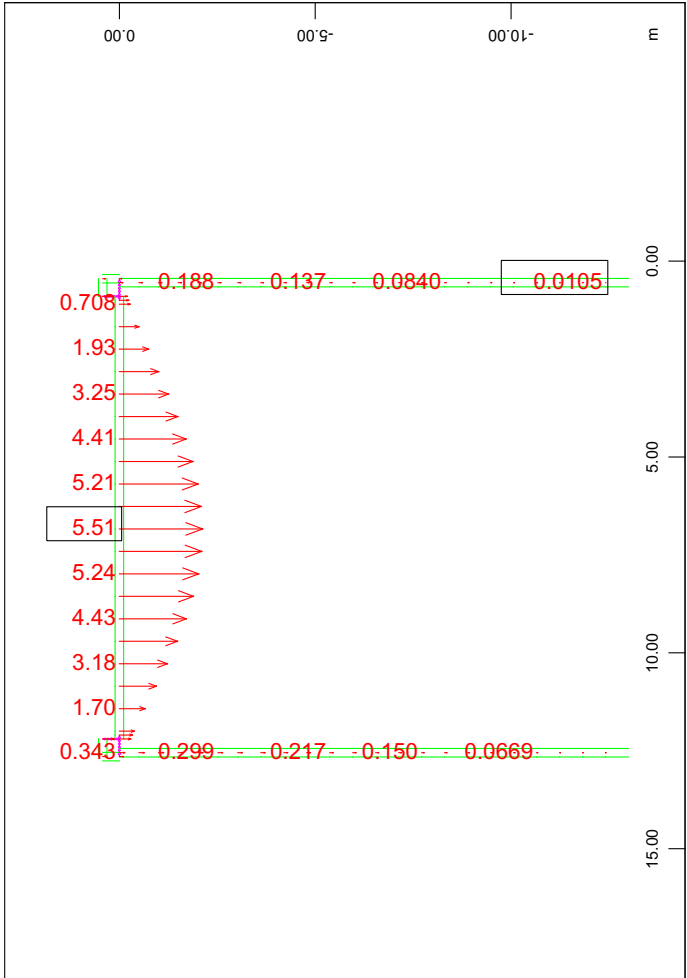
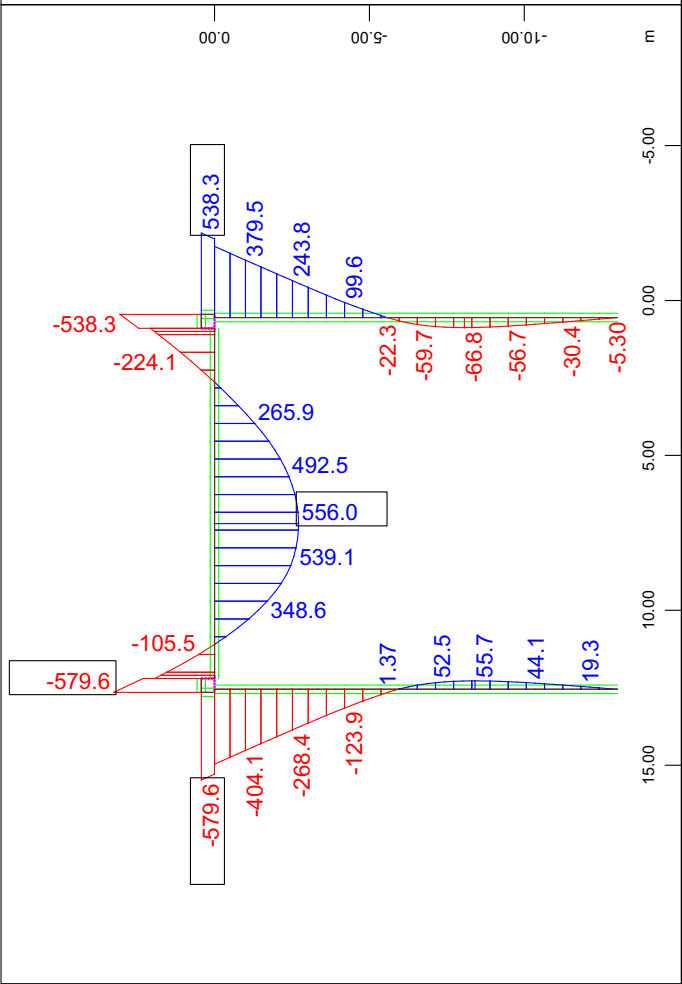
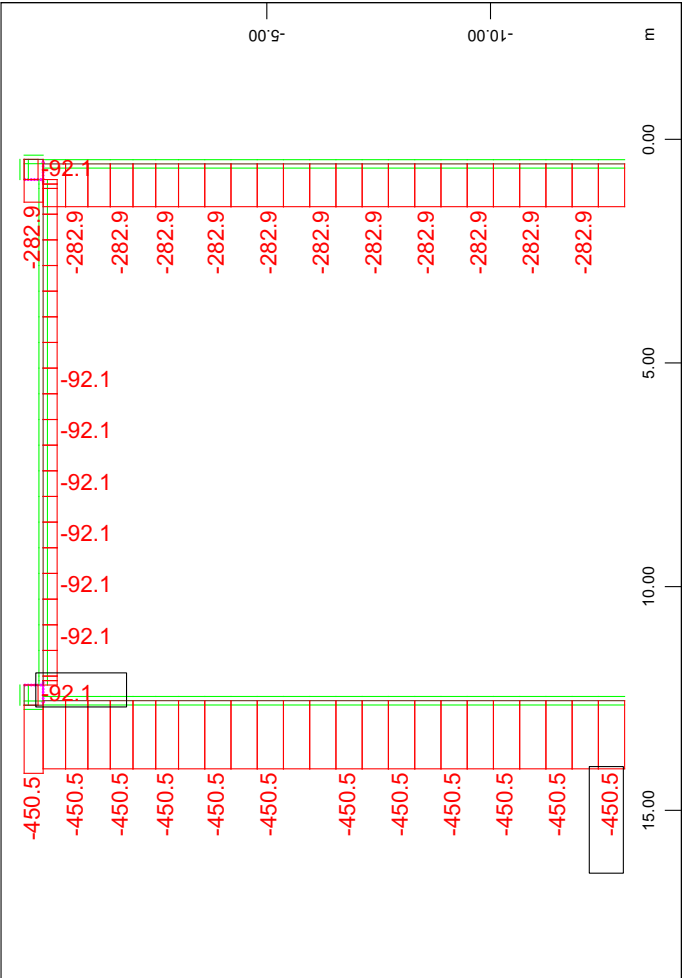
Geometria ponticello
Rappresentazione sollecitazioni elementari



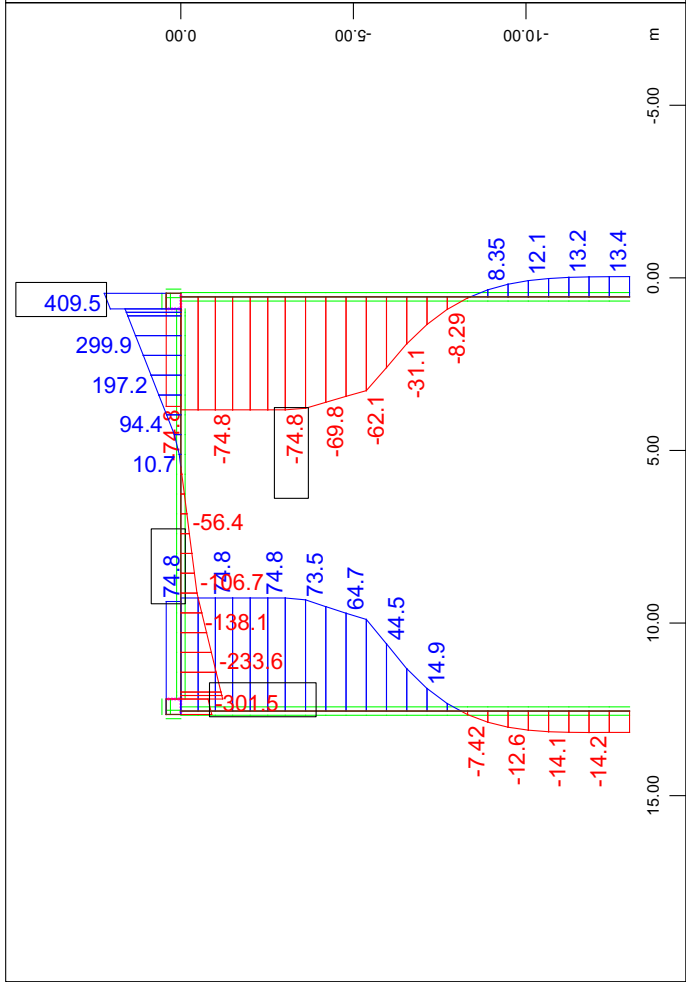
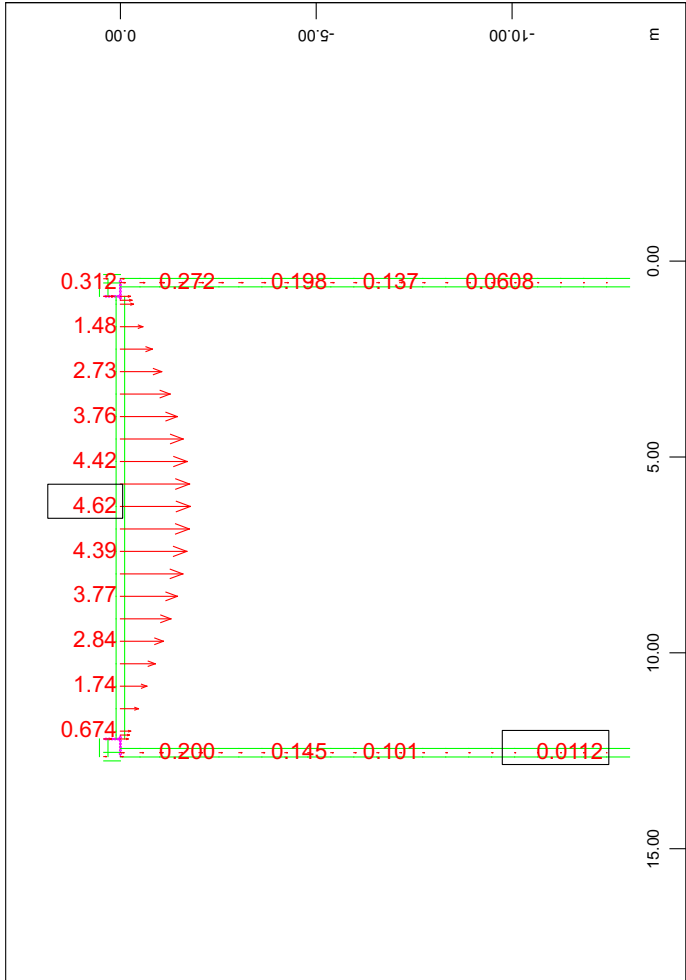
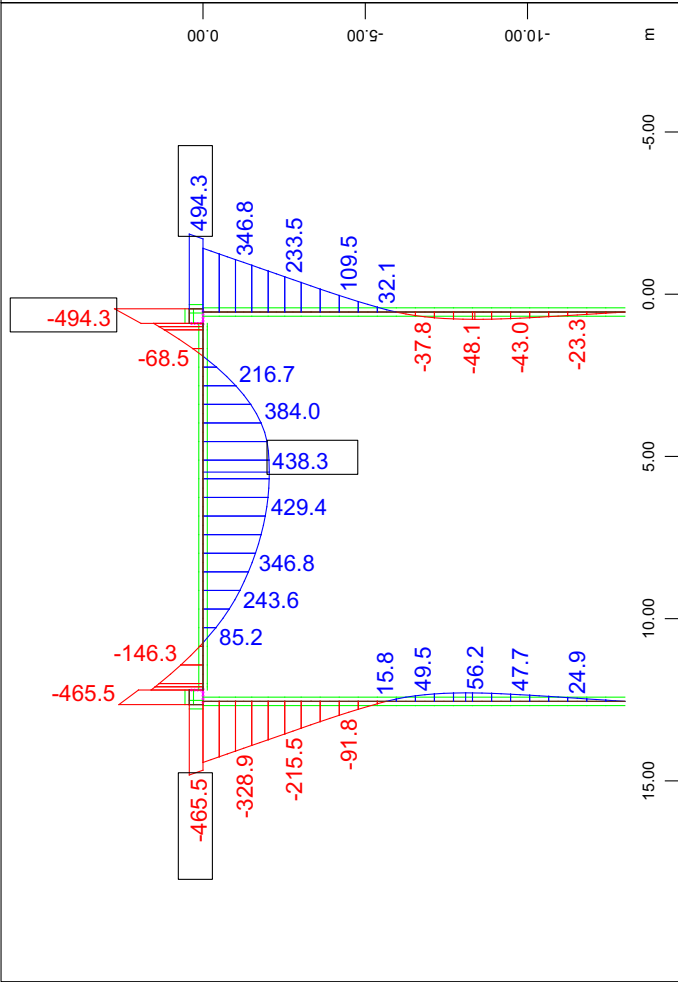
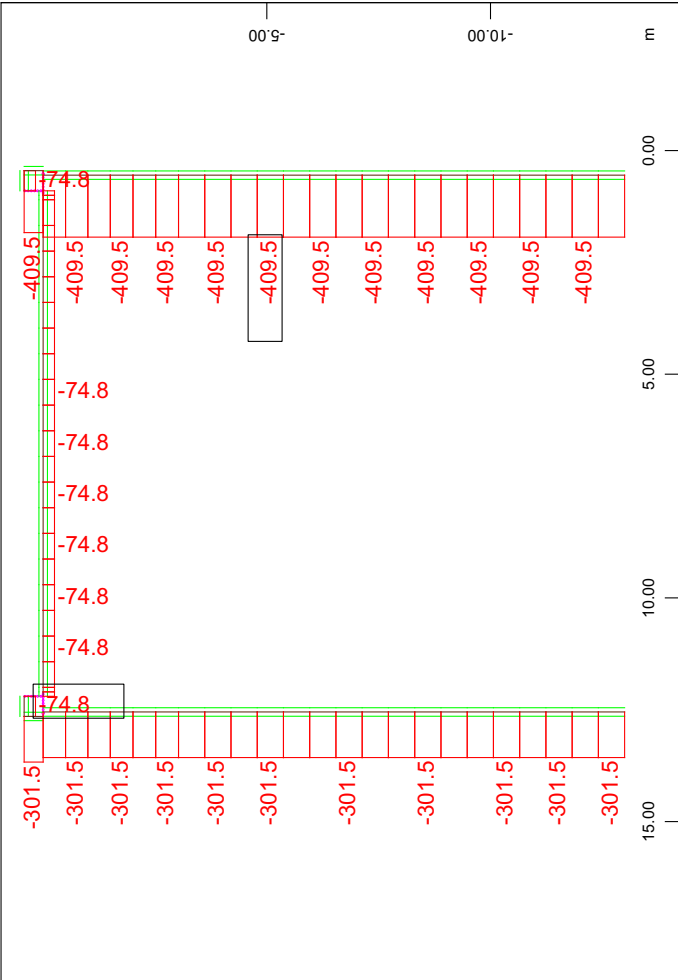
Geometria ponticello
Rappresentazione sollecitazioni elementari



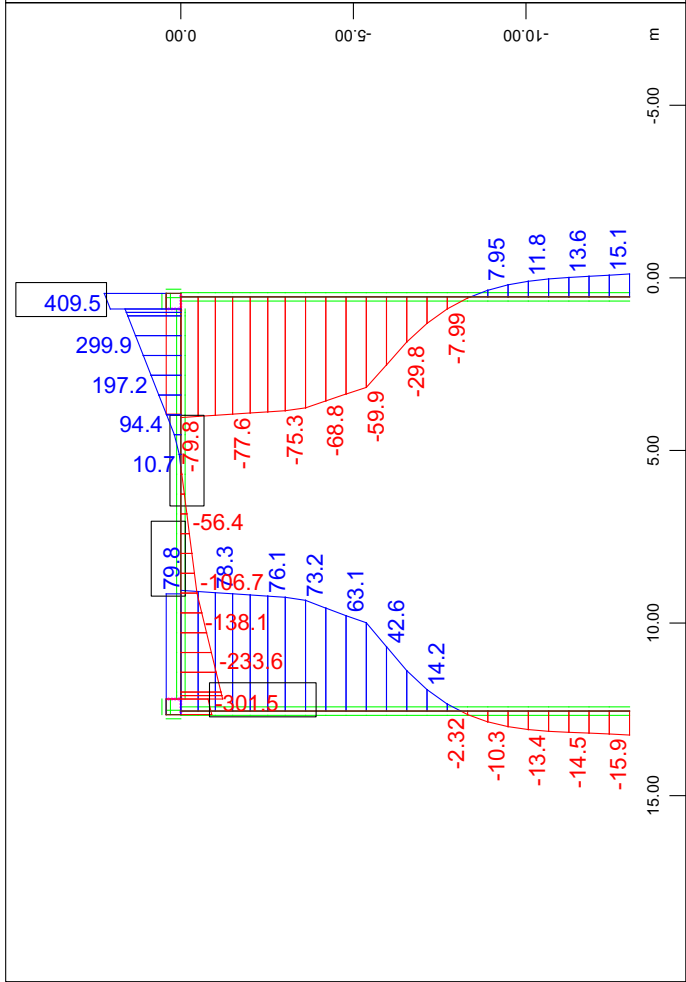
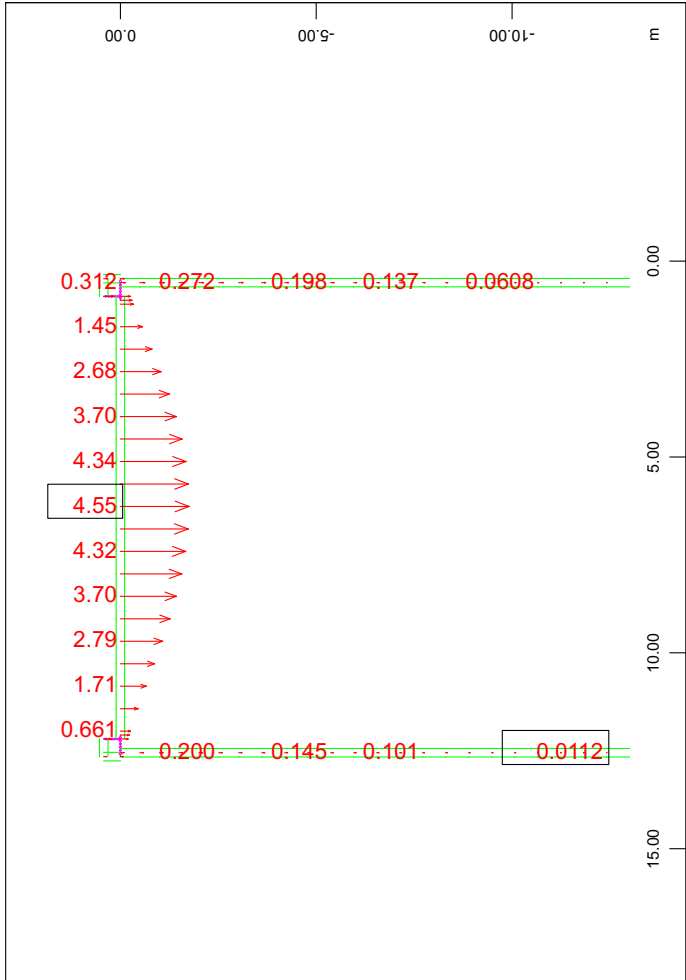
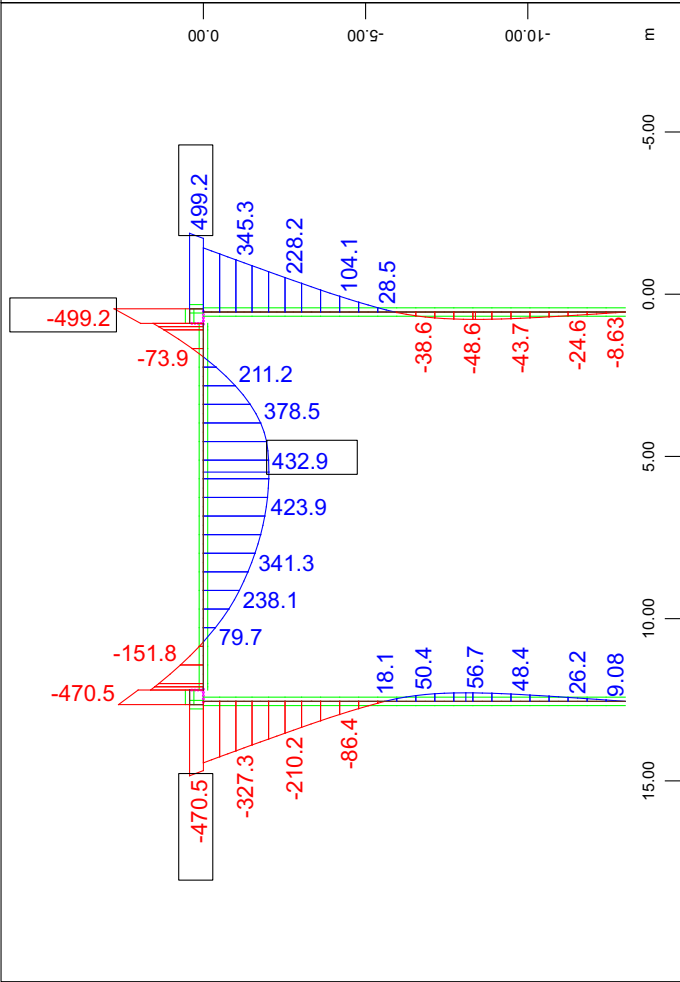
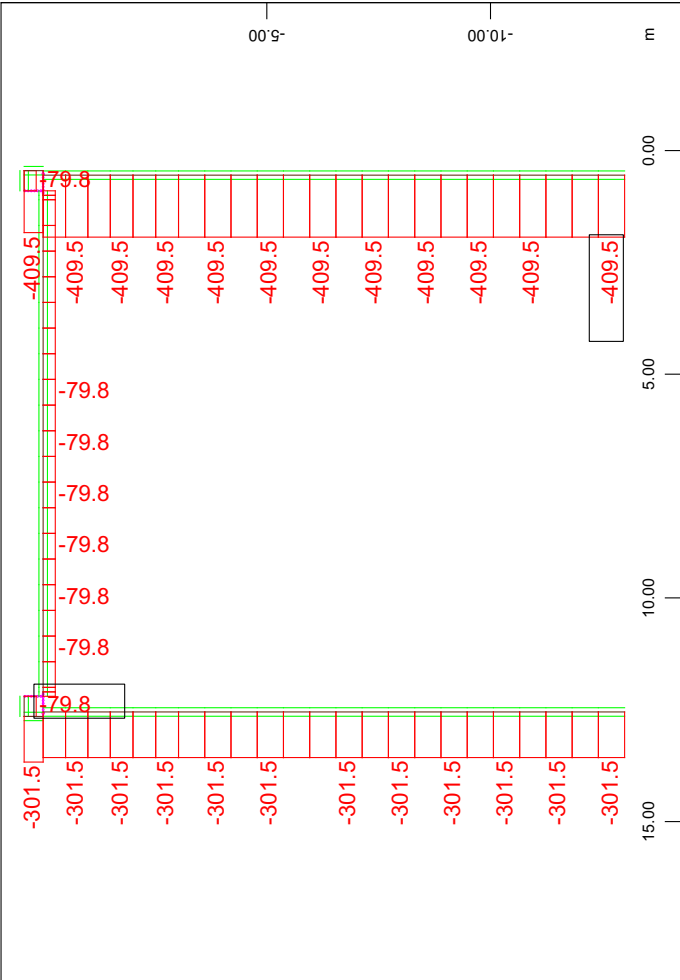
Geometria ponticello
Rappresentazione sollecitazioni elementari



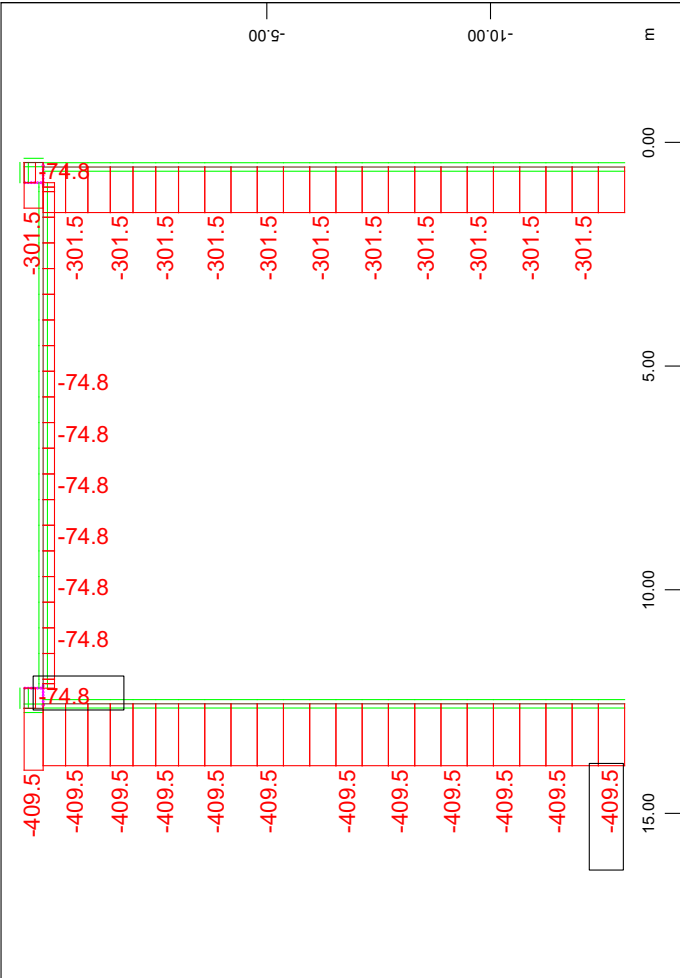
Geometria ponticello
Rappresentazione sollecitazioni elementari



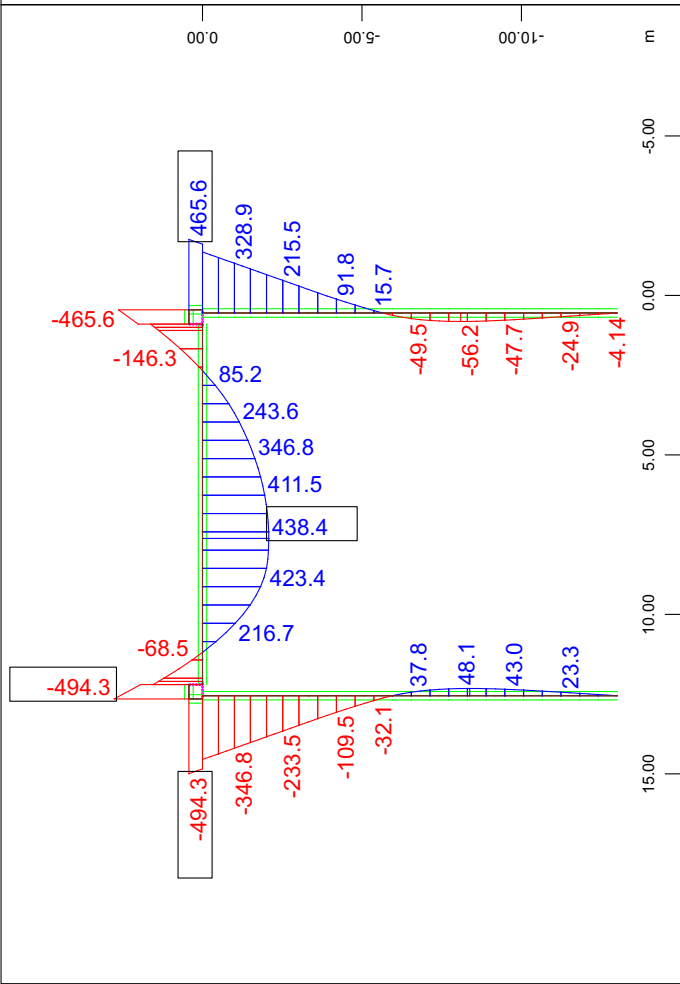
Geometria ponticello
Rappresentazione sollecitazioni elementari



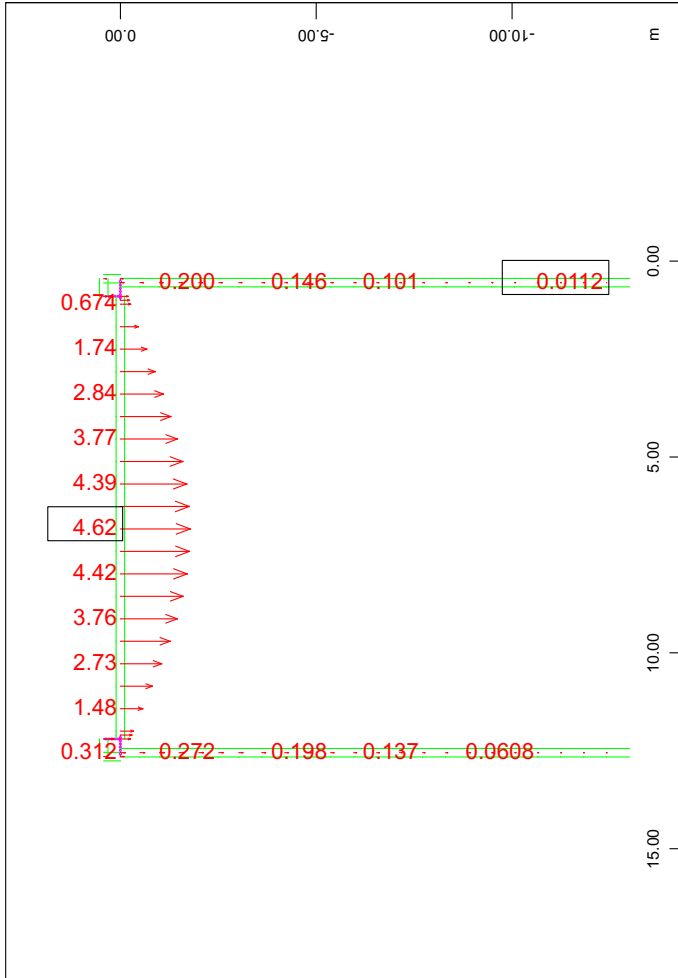
Geometria ponticello
Rappresentazione sollecitazioni elementari



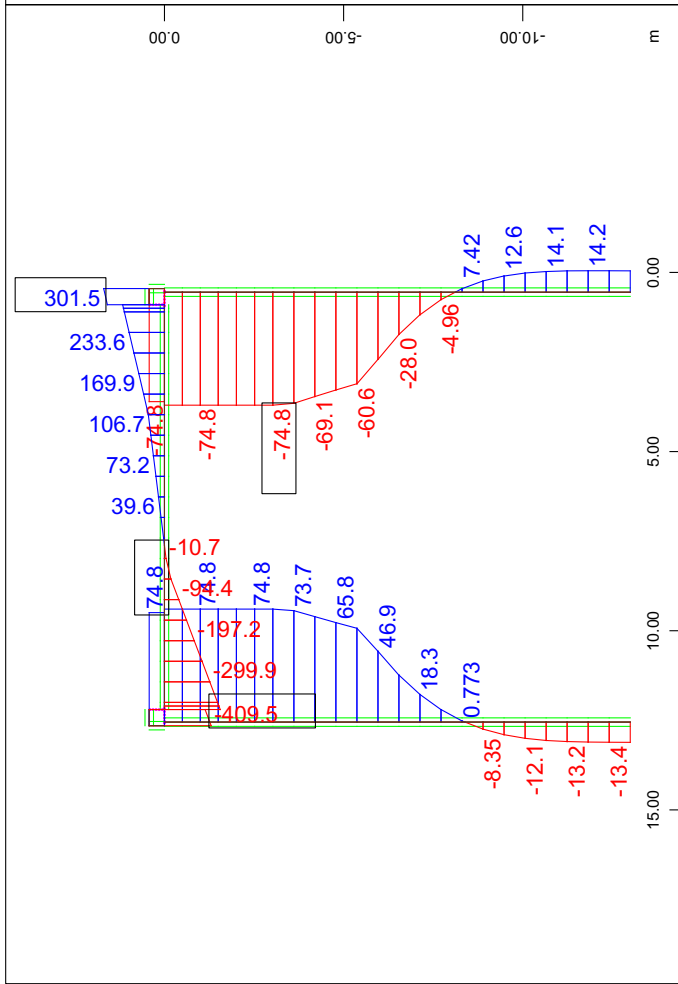
M 1 : 169
Beam Elements , Normal force N_x , Loadcase 10 Q 4 , 1 cm = 500.0 kN (Min=-409.5) (Max=-74.8)
Z
X



M 1 : 237
Beam Elements , Bending moment M_y , Loadcase 10 Q 4 , 1 cm = 500.0 kNm (Min=-494.3) (Max=438.4)
Beam Elements , Bending moment M_z , Loadcase 10 Q 4 , 1 cm = 500.0 kNm (Min=-494.3) (Max=438.4)
Z
X

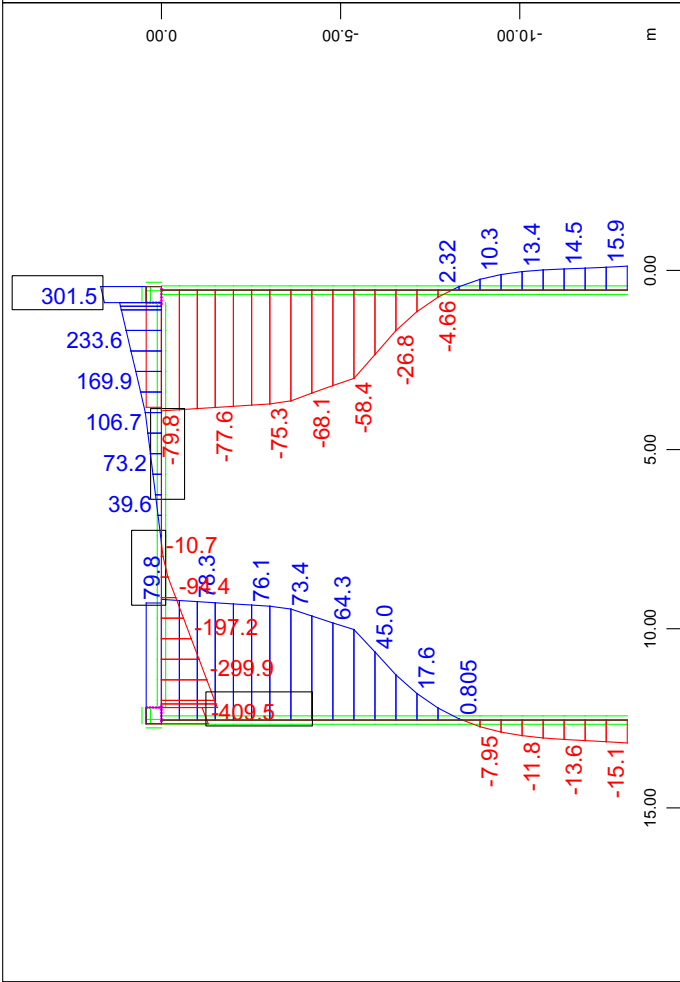
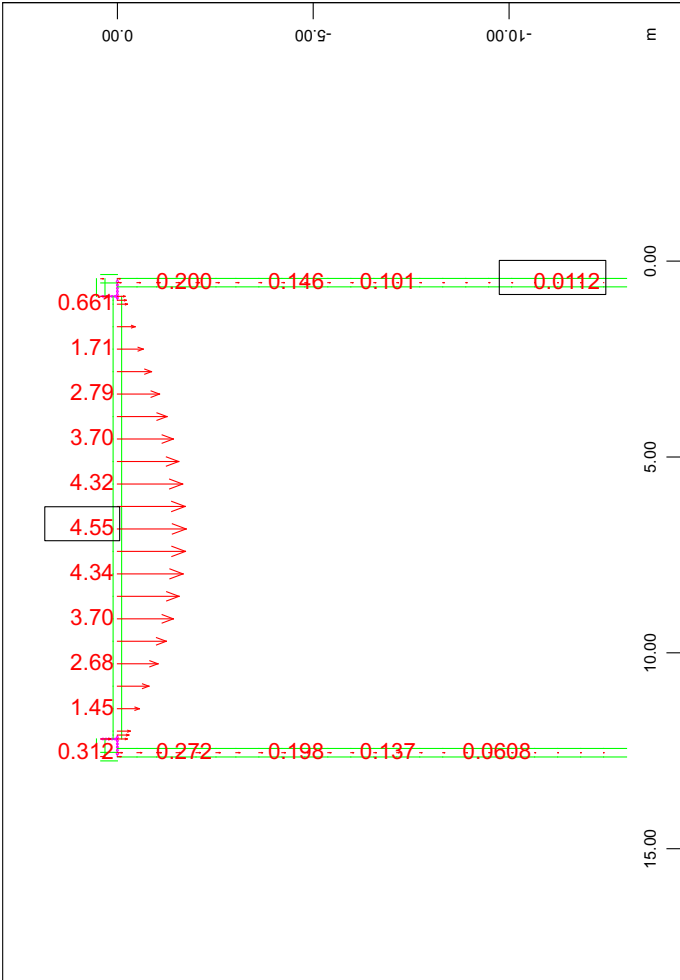
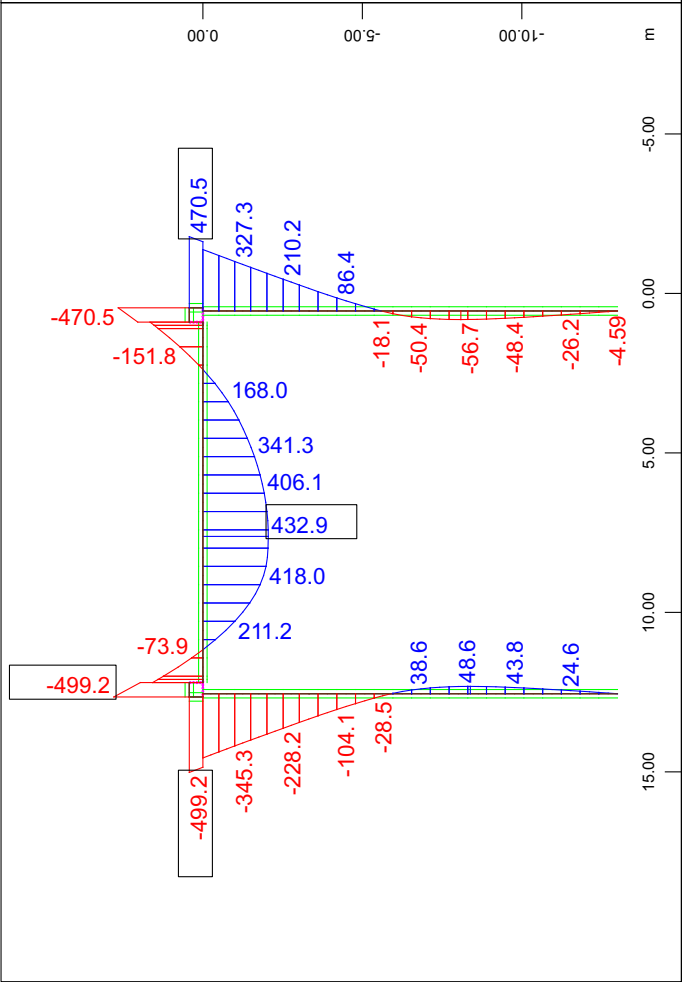
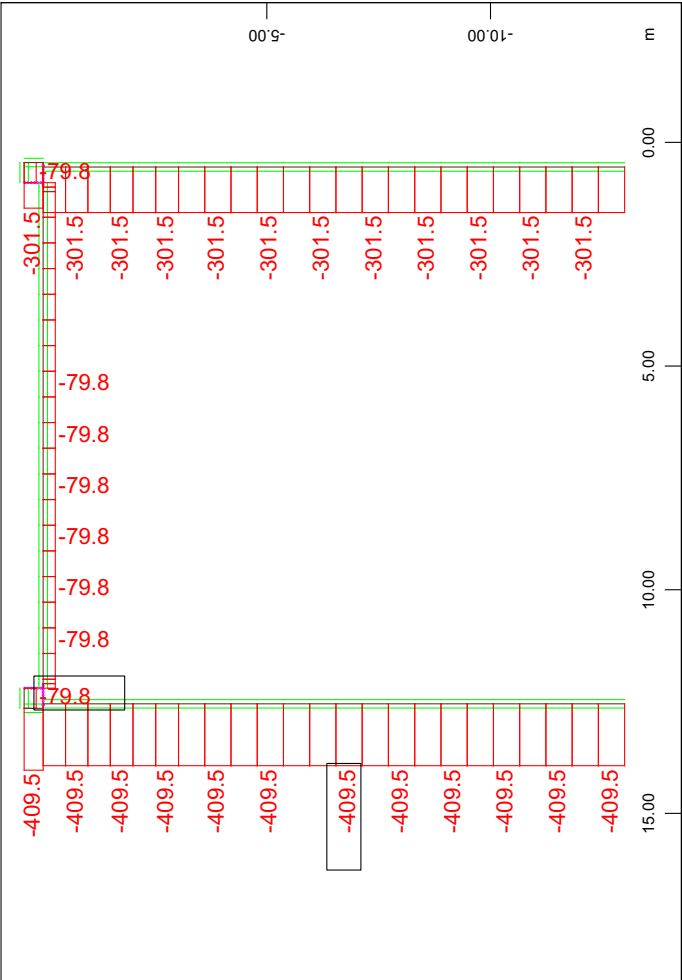


M 1 : 193
Nodal displacement in global Z, Loadcase 10 Q 4 , 1 cm = 5.00 mm (Min=-4.62) (Max=0)
Z
X

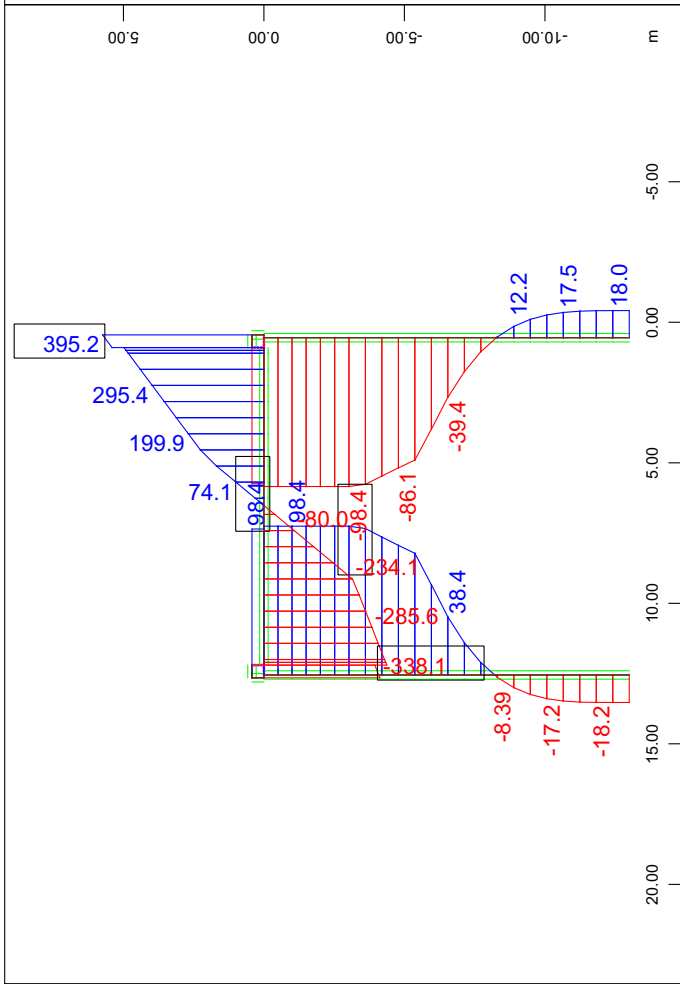
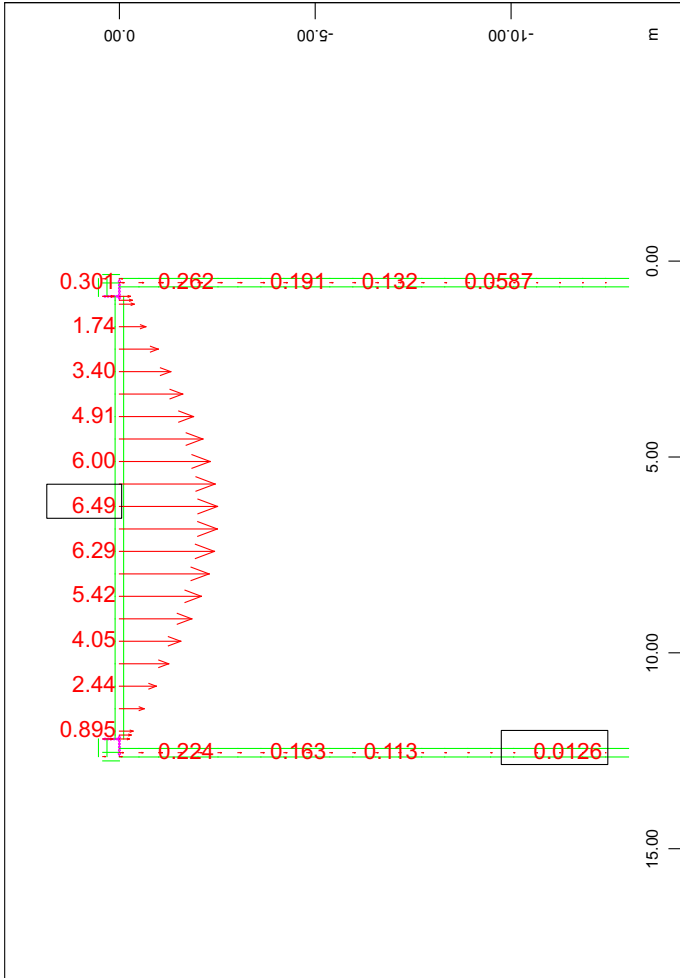
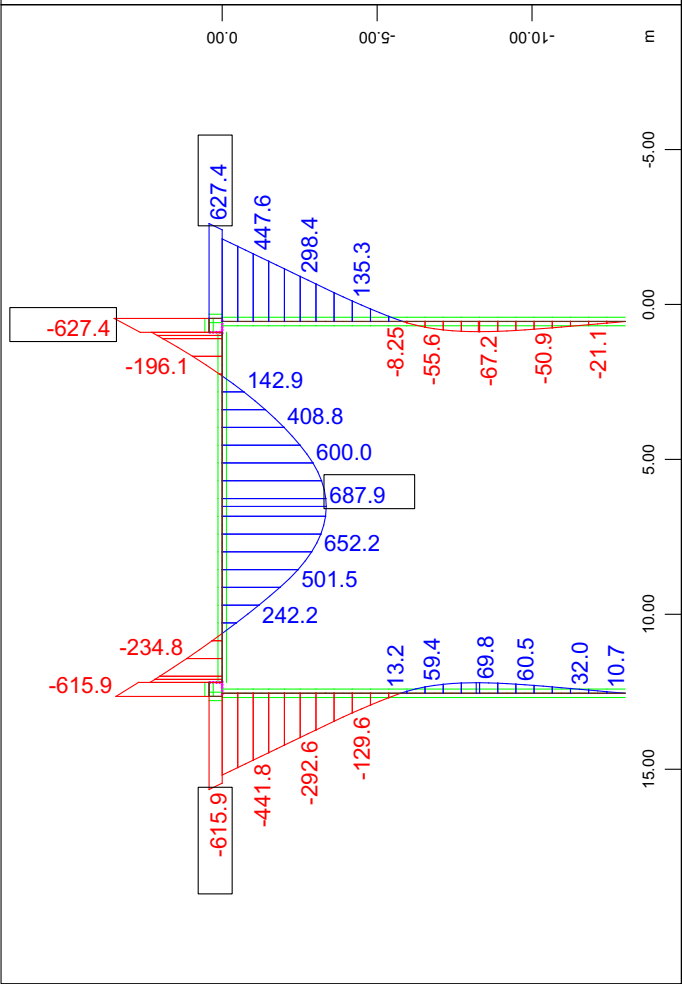
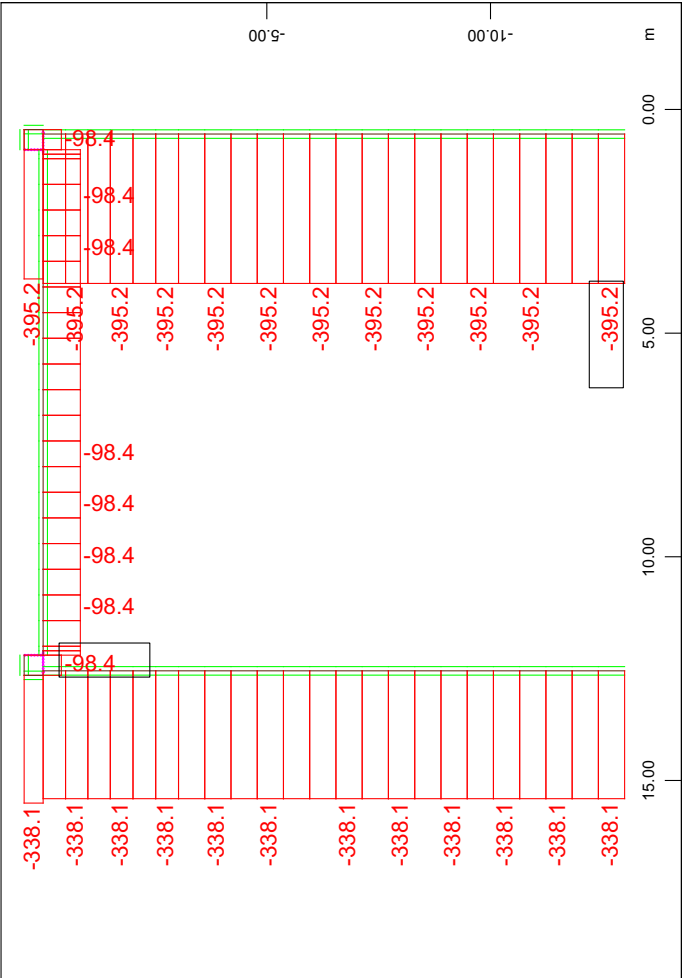


M 1 : 211
Beam Elements , Shear force V_y , Loadcase 10 Q 4 , 1 cm = 50.0 kN (Min=-74.8) (Max=74.8)
Beam Elements , Shear force V_z , Loadcase 10 Q 4 , 1 cm = 50.0 kN (Min=-74.8) (Max=74.8)
Z
X

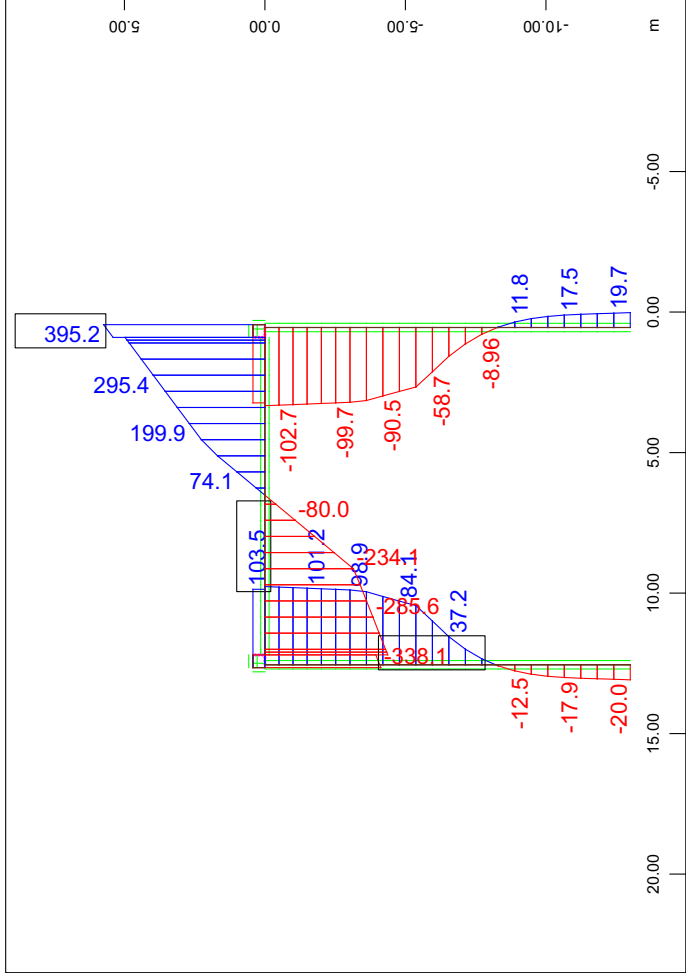
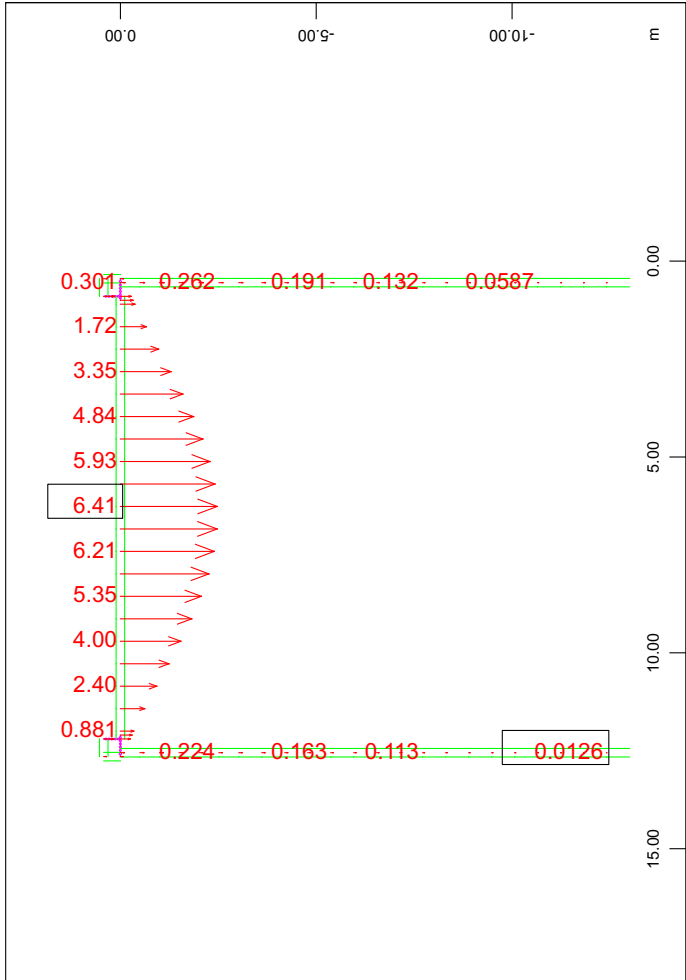
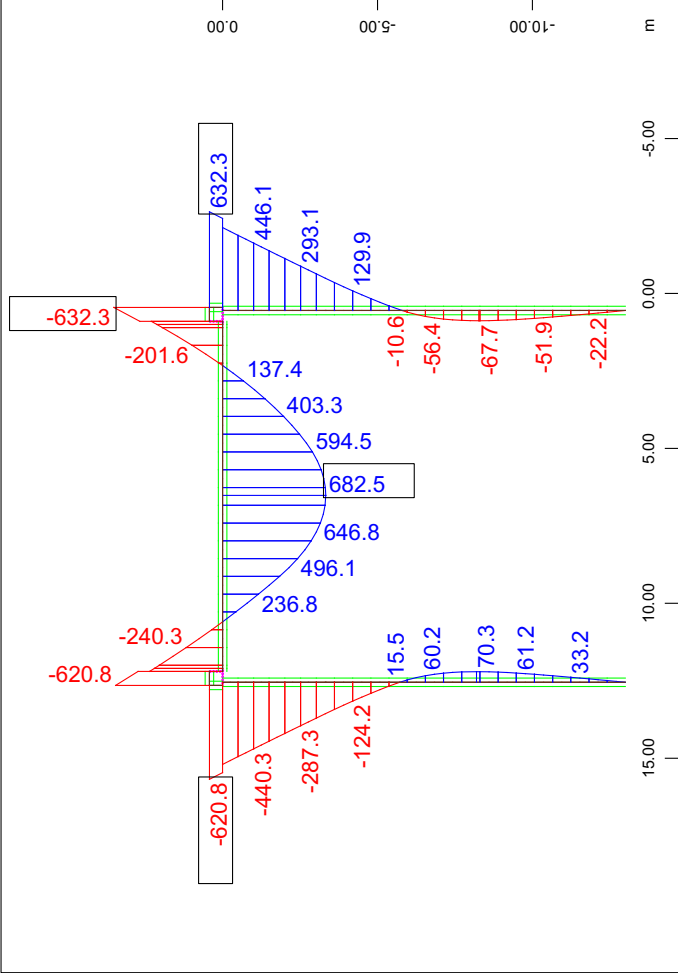
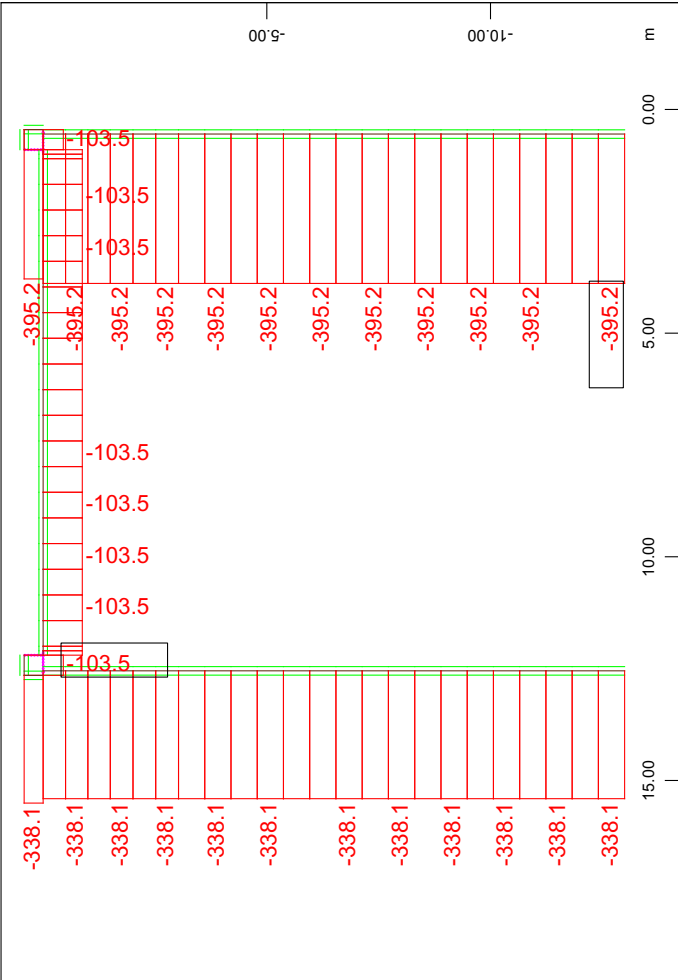
Geometria ponticello
Rappresentazione sollecitazioni elementari



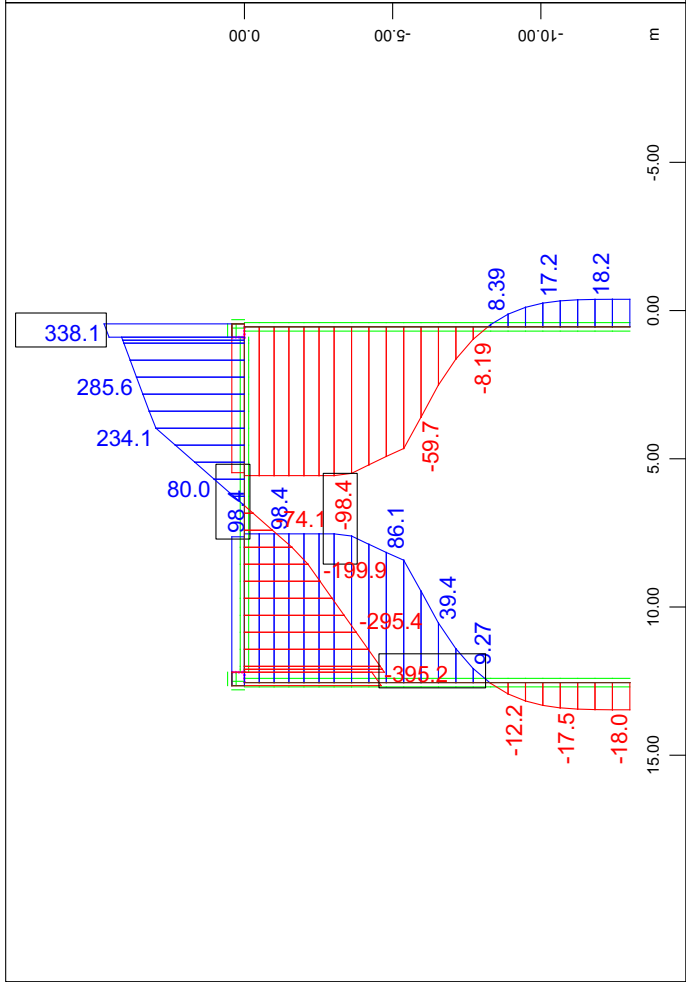
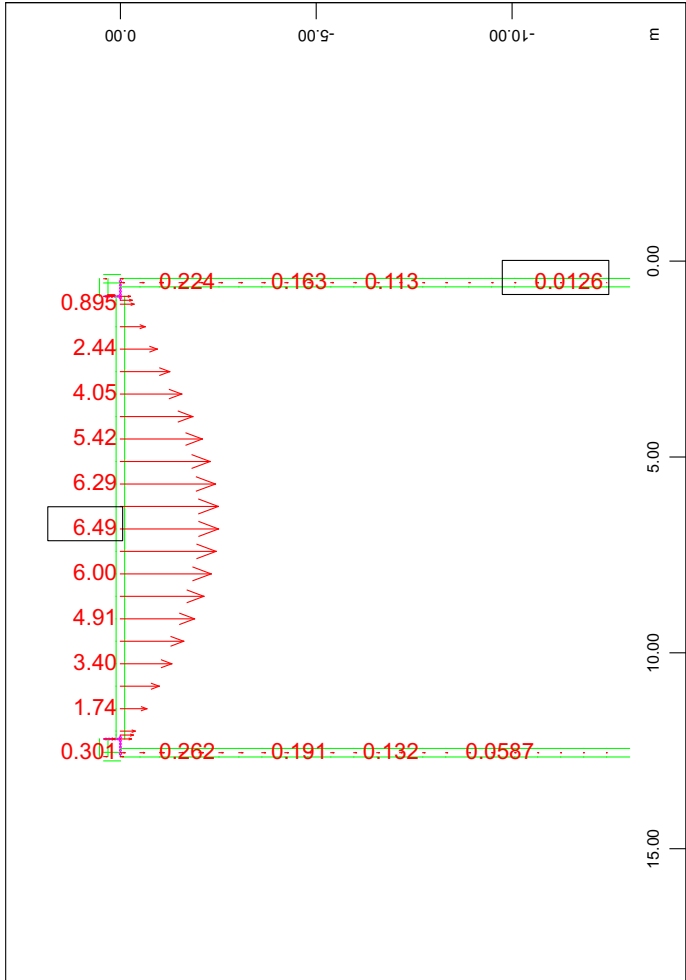
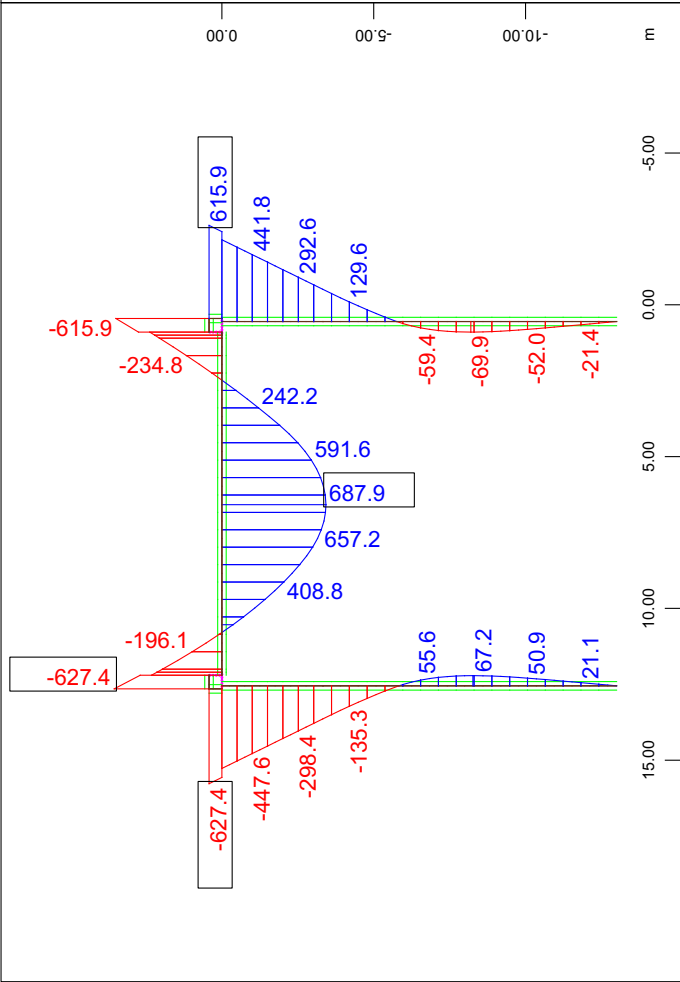
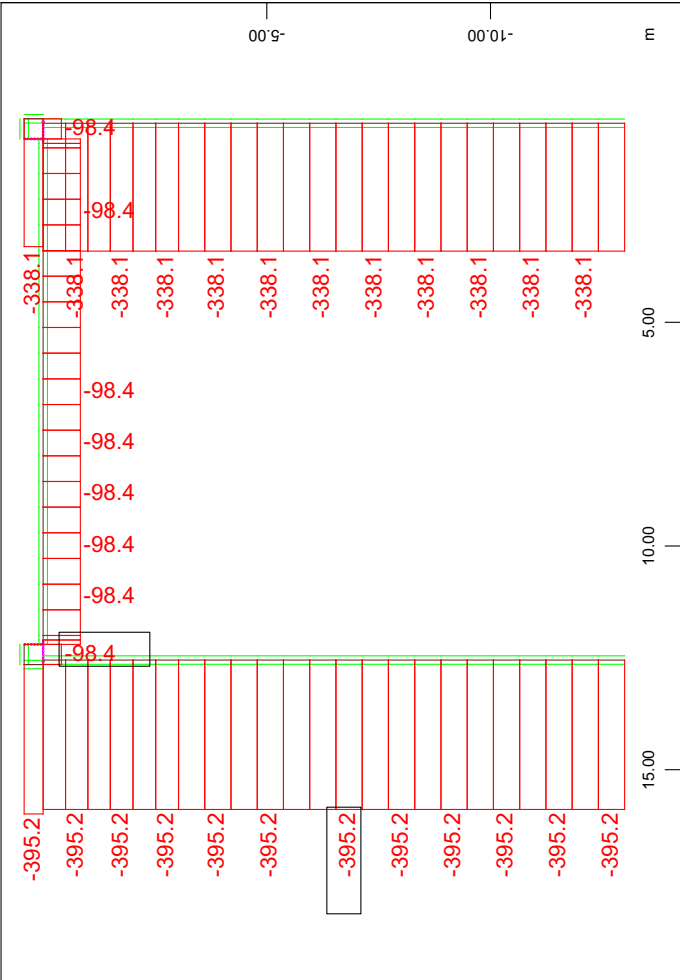
Geometria ponticello
Rappresentazione sollecitazioni elementari



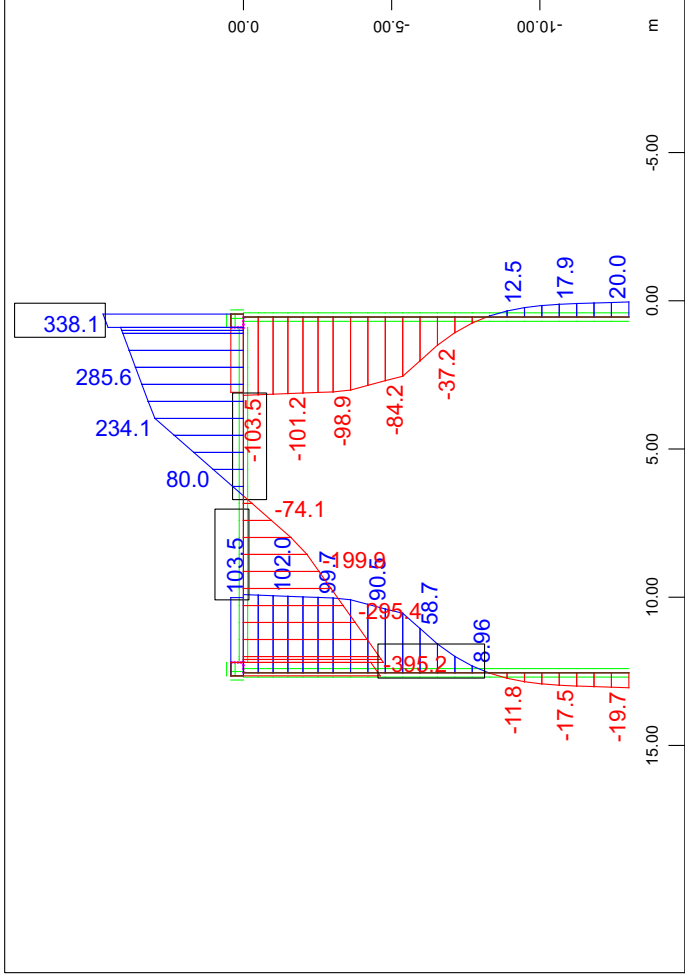
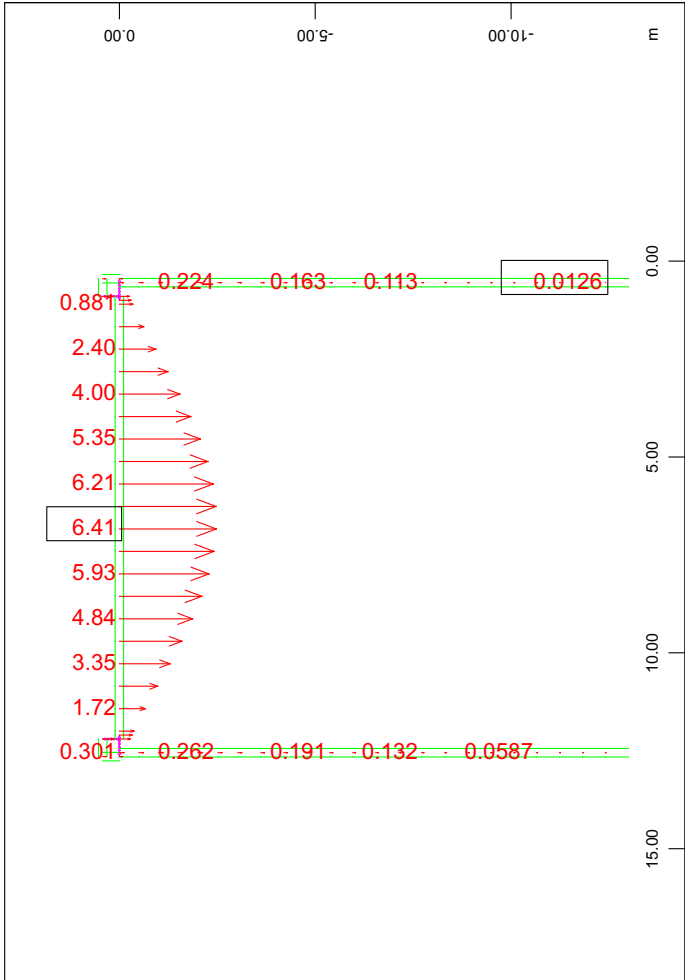
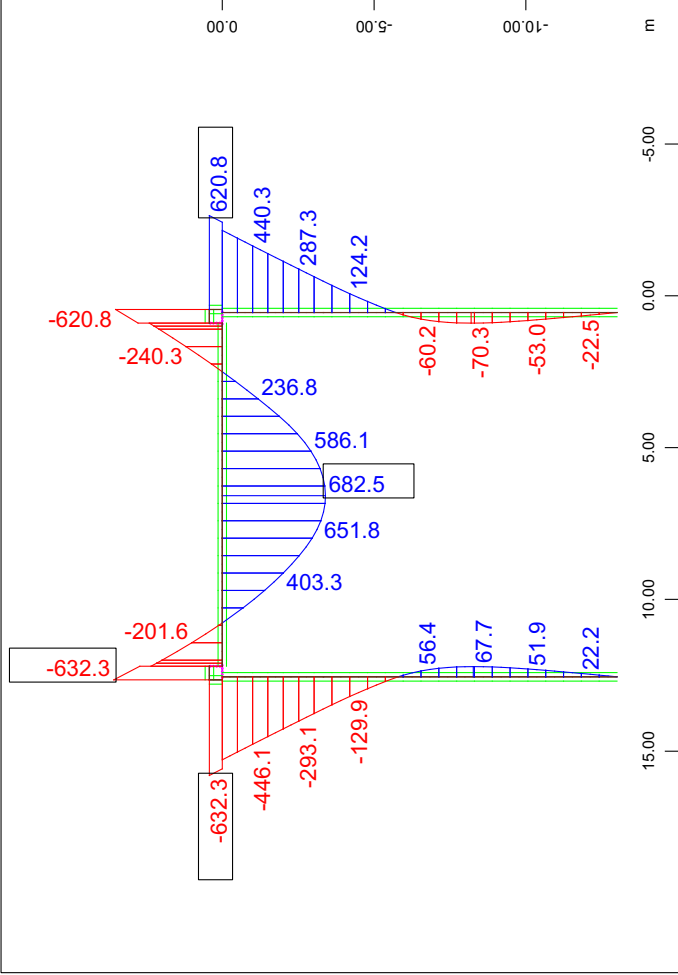
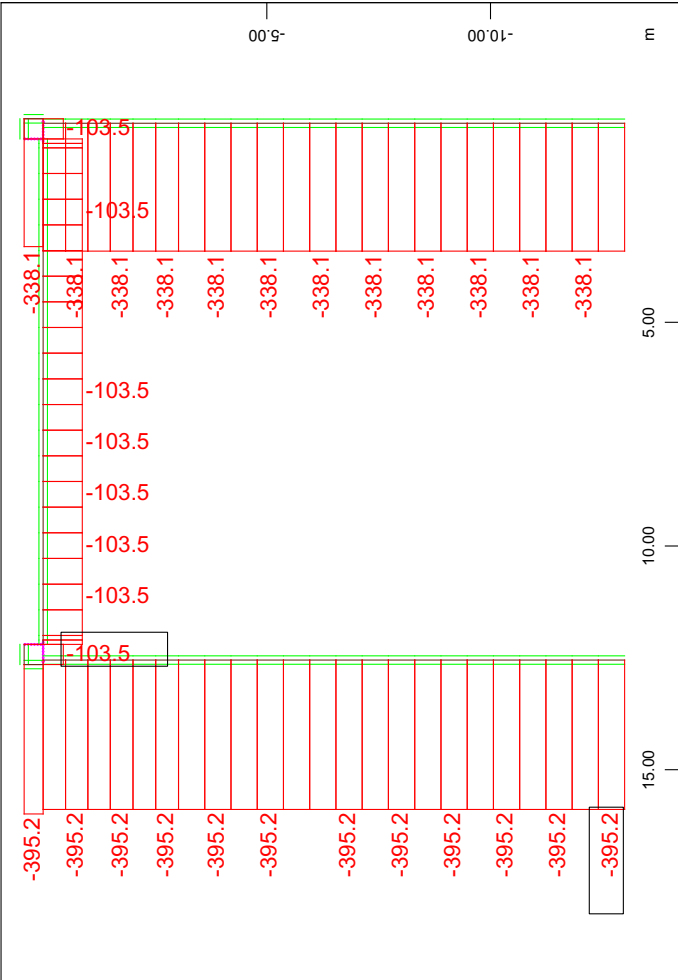
Geometria ponticello
Rappresentazione sollecitazioni elementari



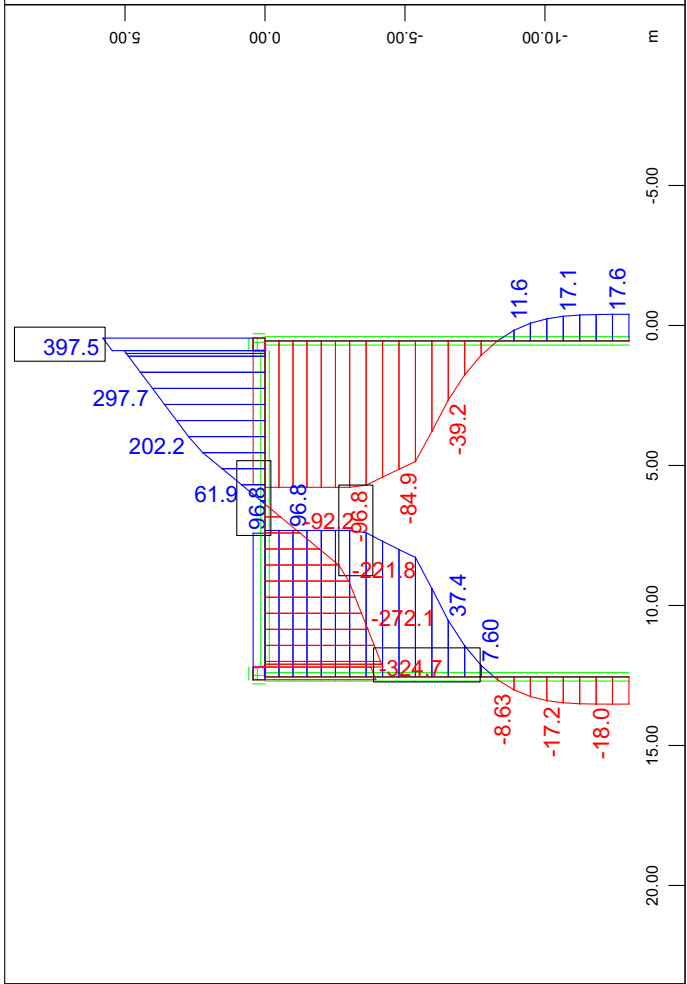
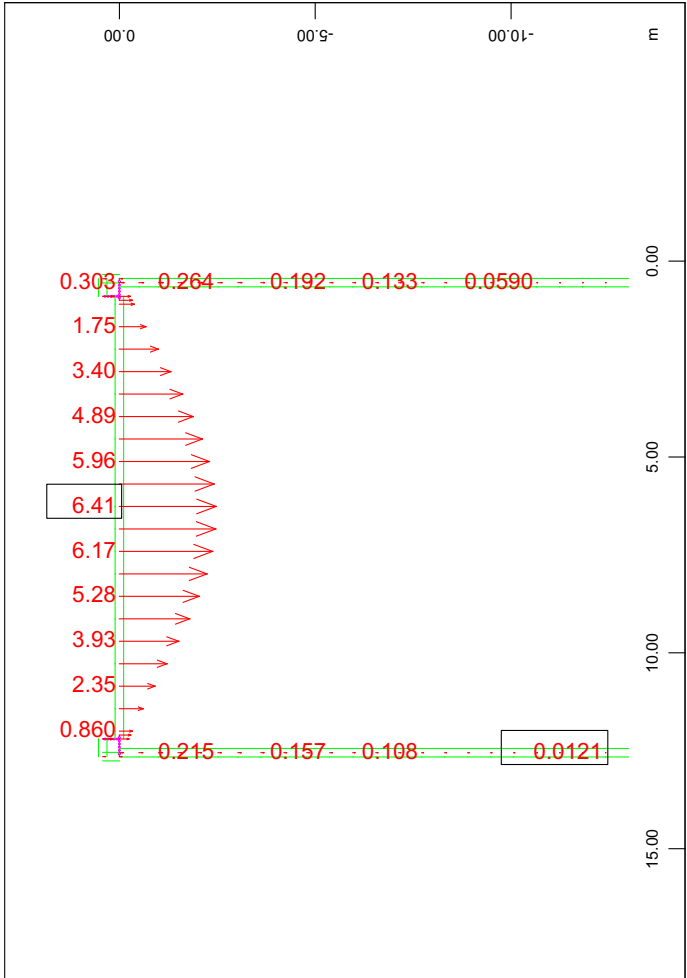
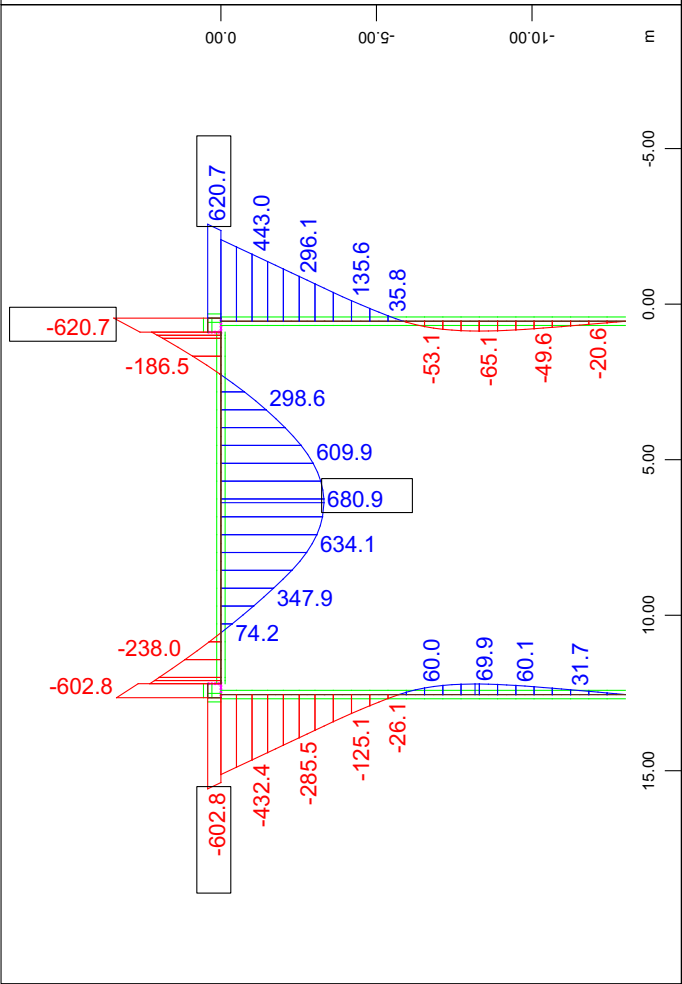
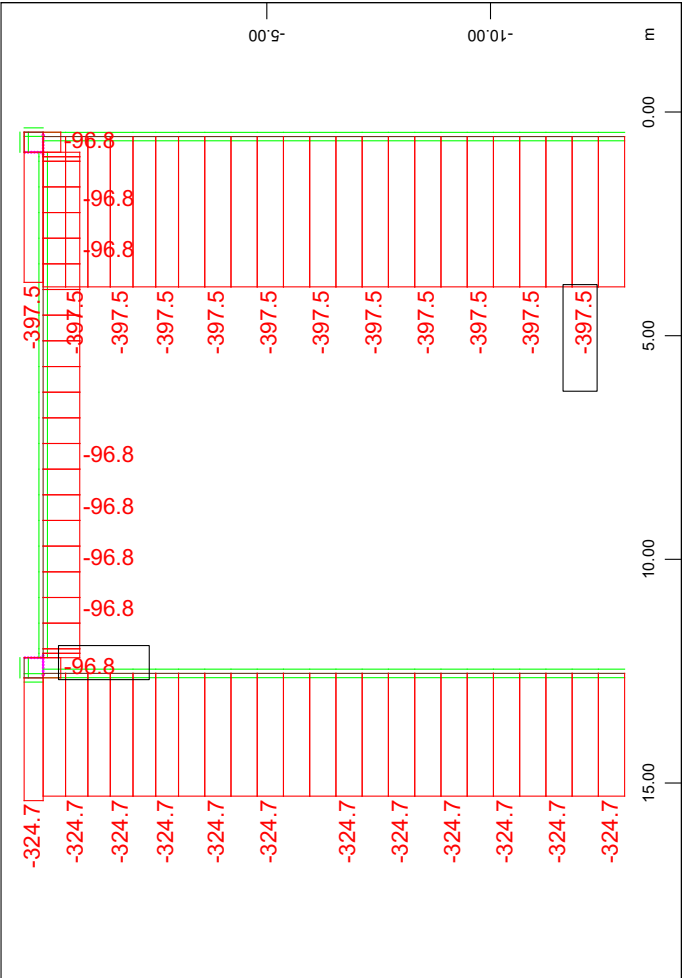
Geometria ponticello
Rappresentazione sollecitazioni elementari



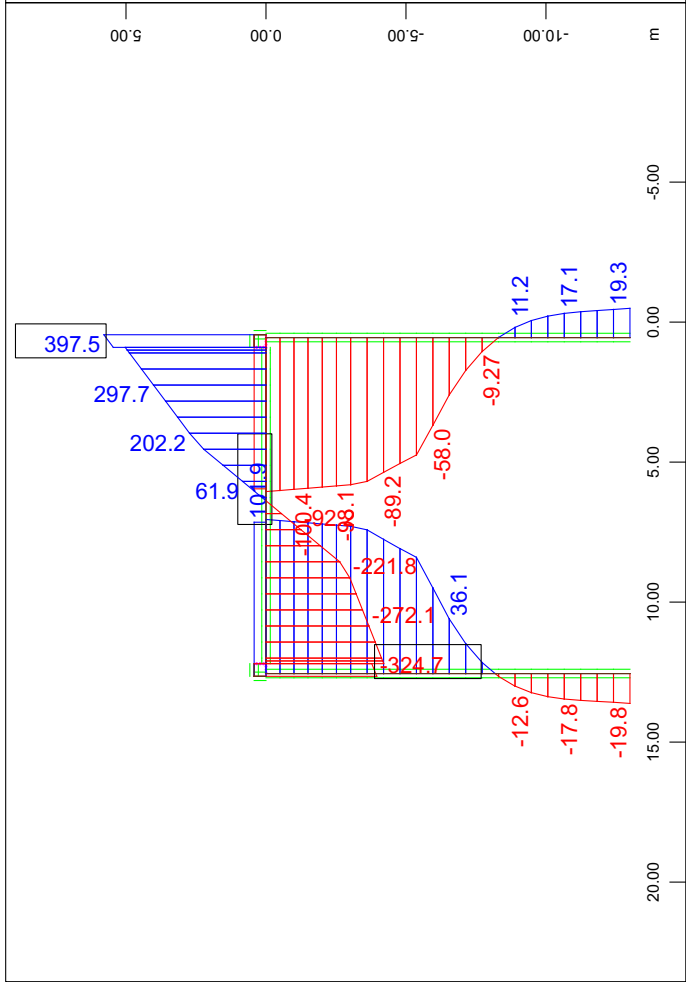
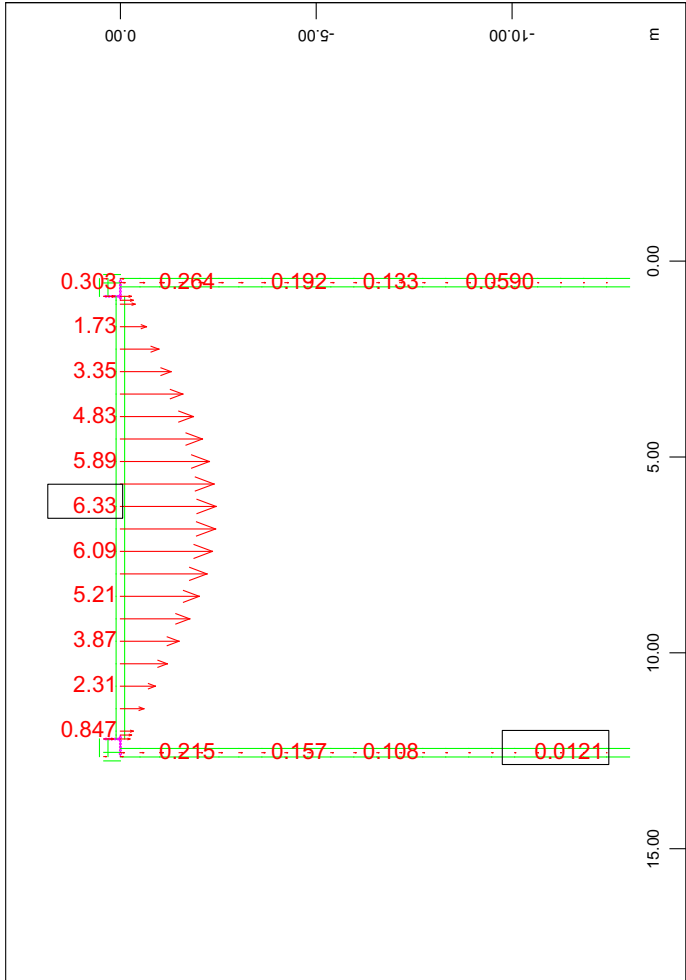
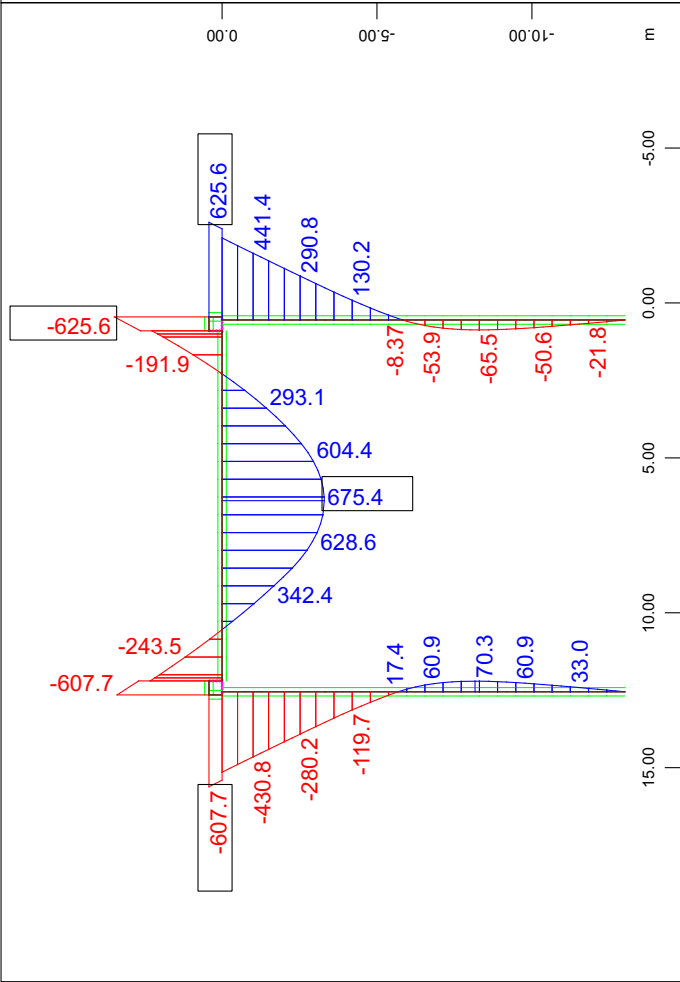
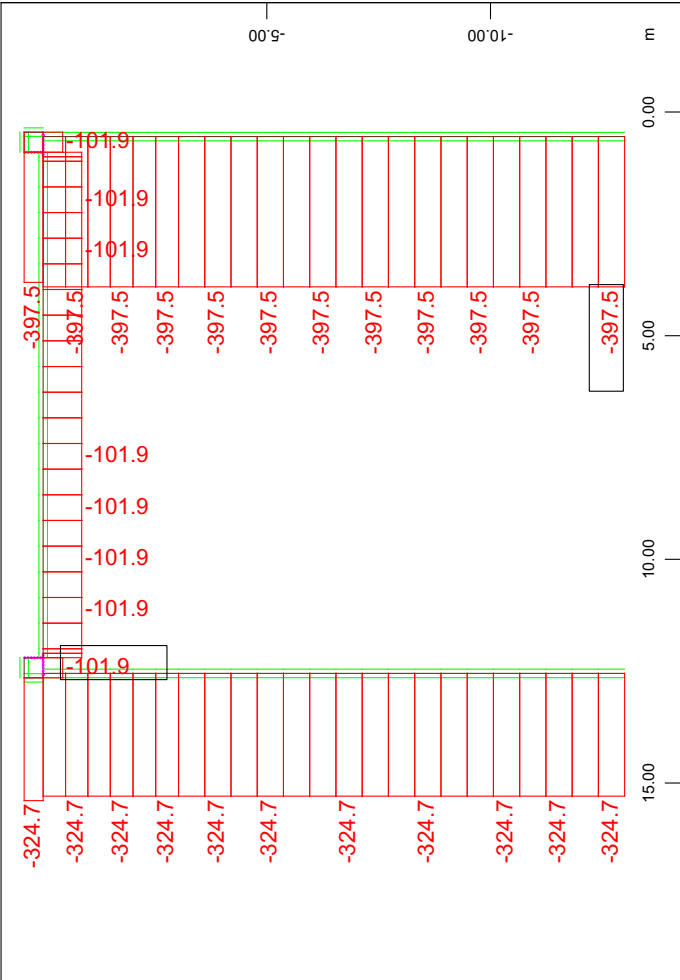
Geometria ponticello
Rappresentazione sollecitazioni elementari



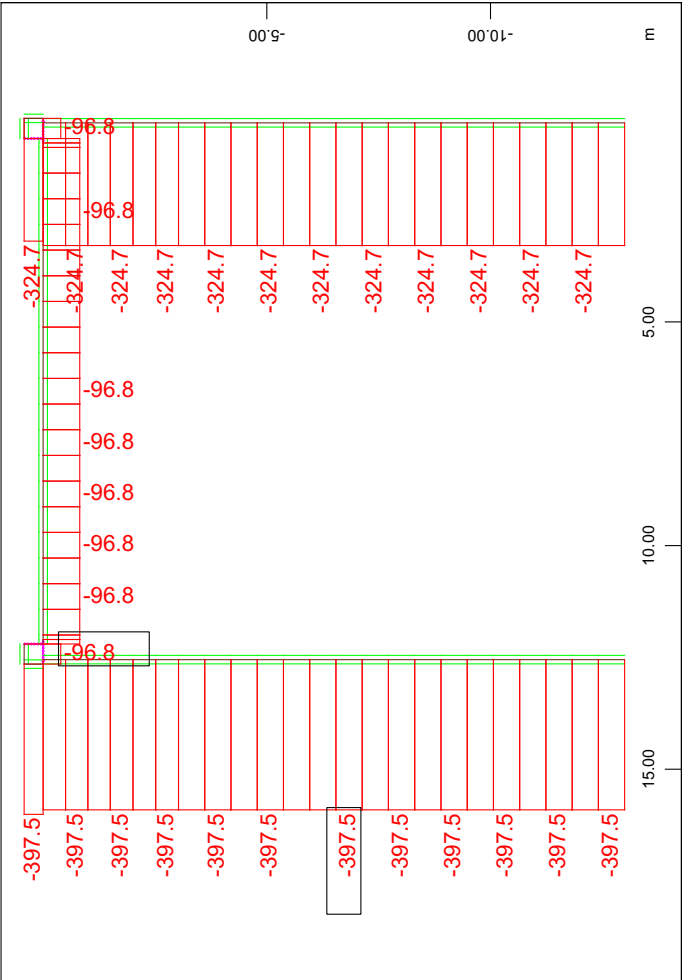
Geometria ponticello
Rappresentazione sollecitazioni elementari



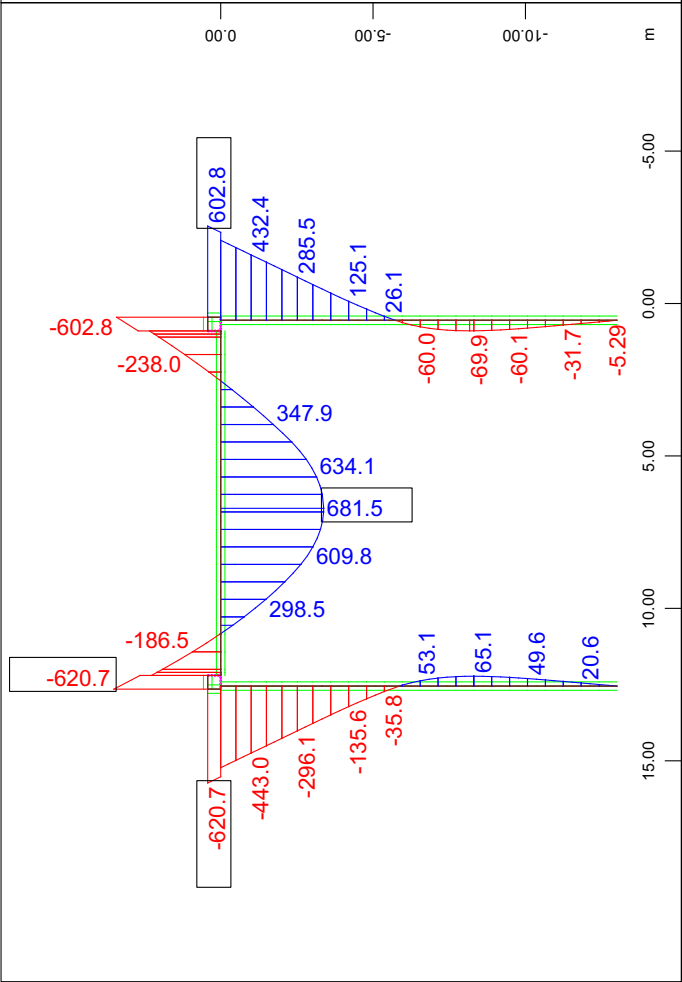
Geometria ponticello
Rappresentazione sollecitazioni elementari



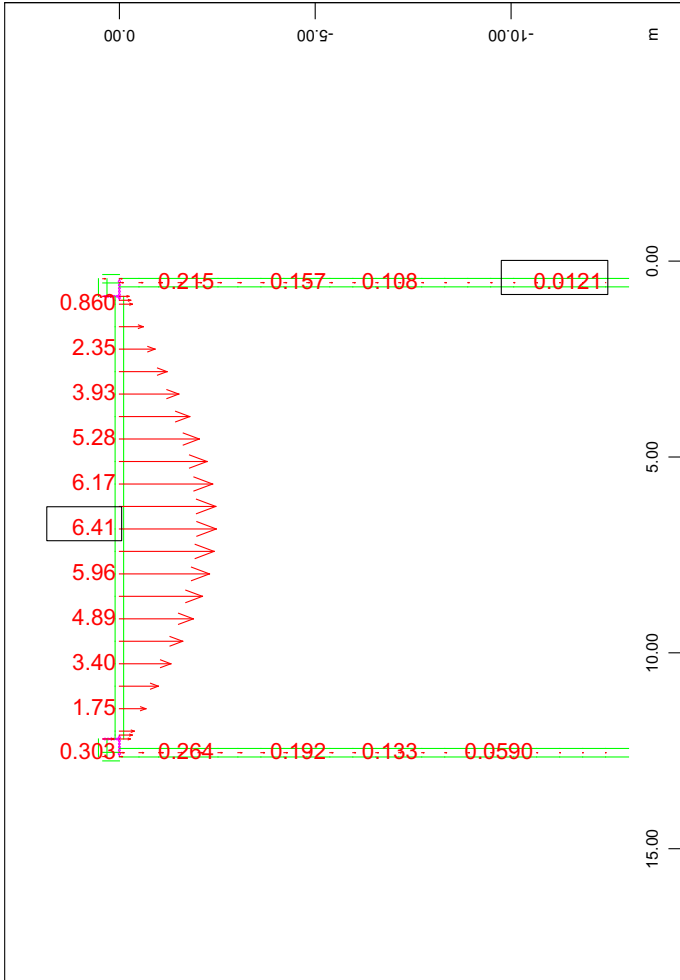
Geometria ponticello
Rappresentazione sollecitazioni elementari



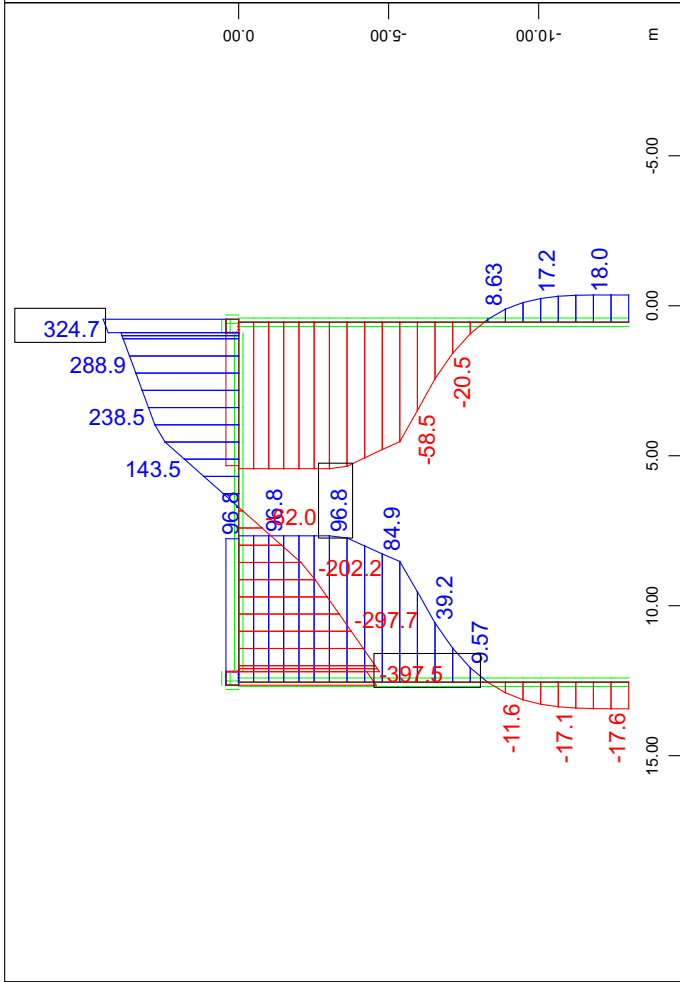
Beam Elements , Normal force N_x , Loadcase 18 Q 8 , 1 cm = 200.0 kN (Min=-397.5) (Max=-96.8)



Beam Elements , Bending moment M_y , Loadcase 18 Q 8 , 1 cm = 500.0 kNm (Min=-620.7) (Max=681.5)



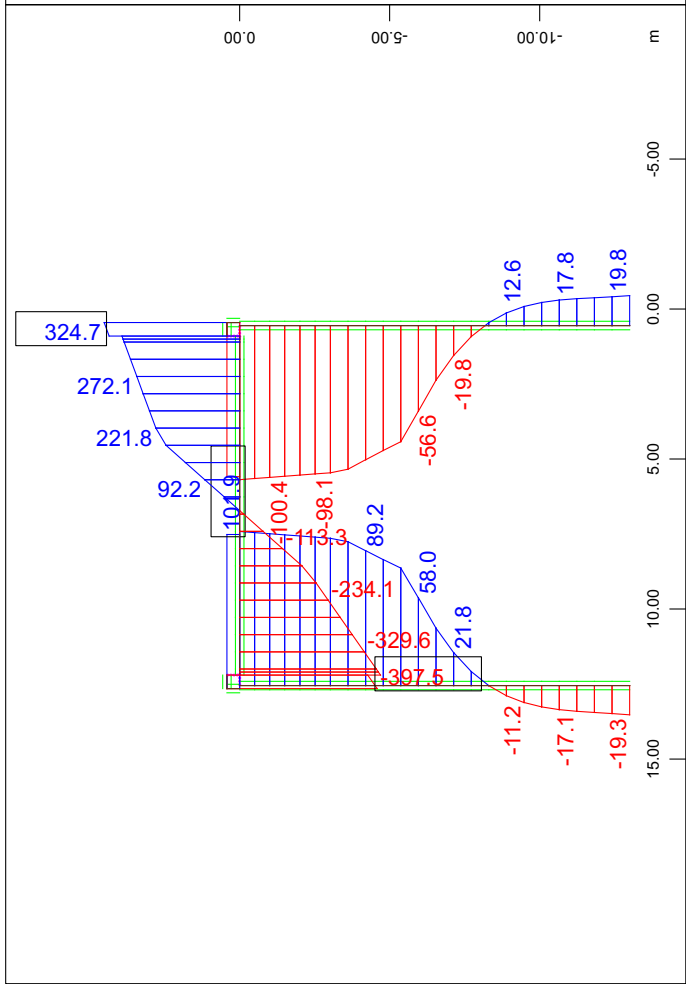
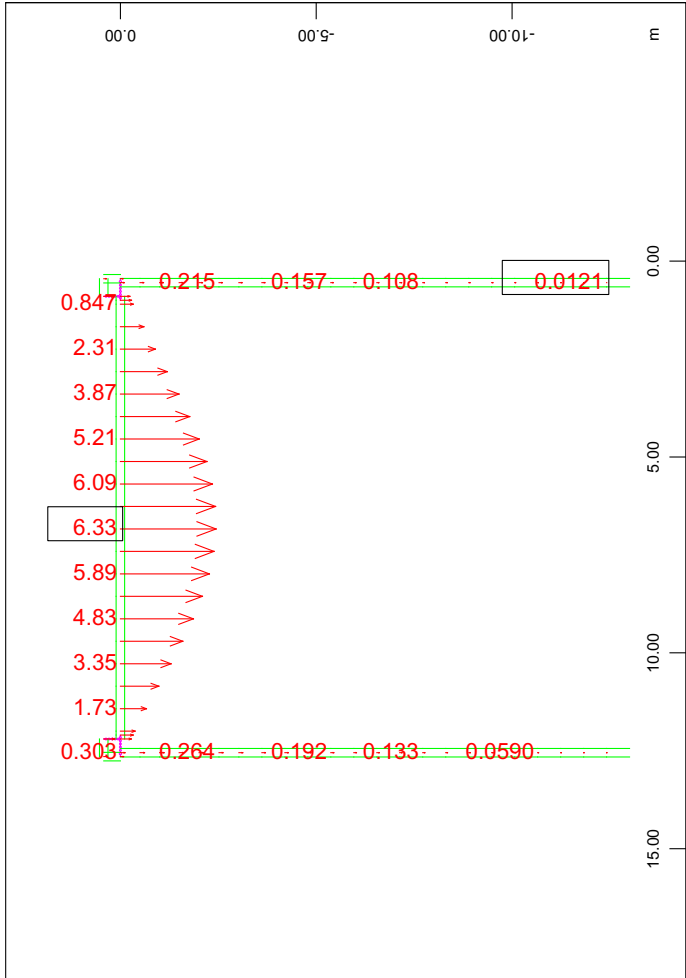
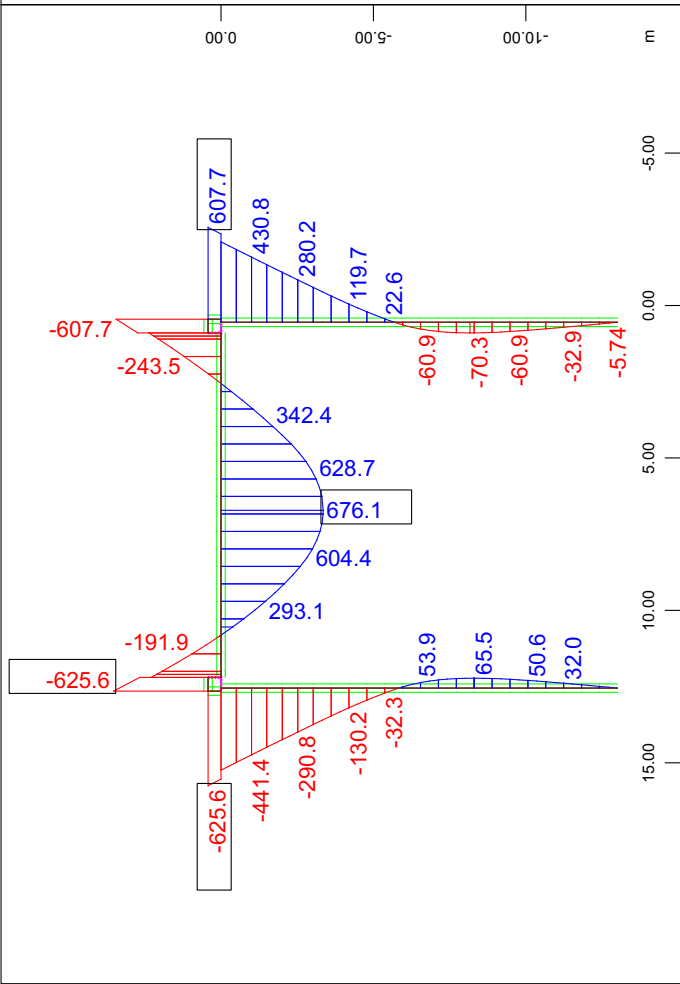
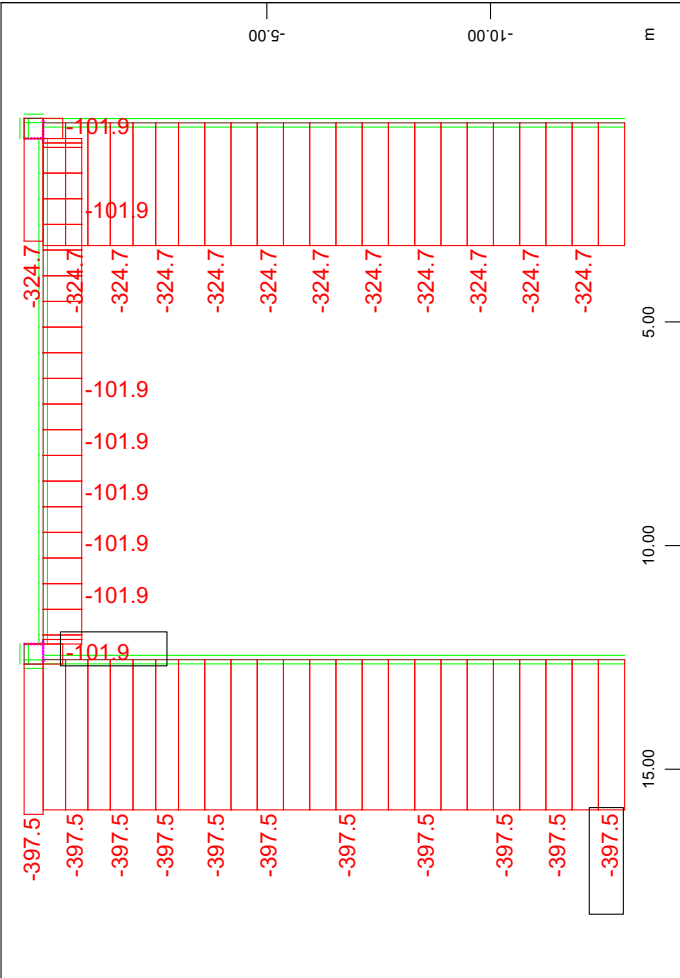
Nodal displacement in global Z, Loadcase 18 Q 8 , 1 cm = 5.00 mm (Min=-6.41) (Max=0)



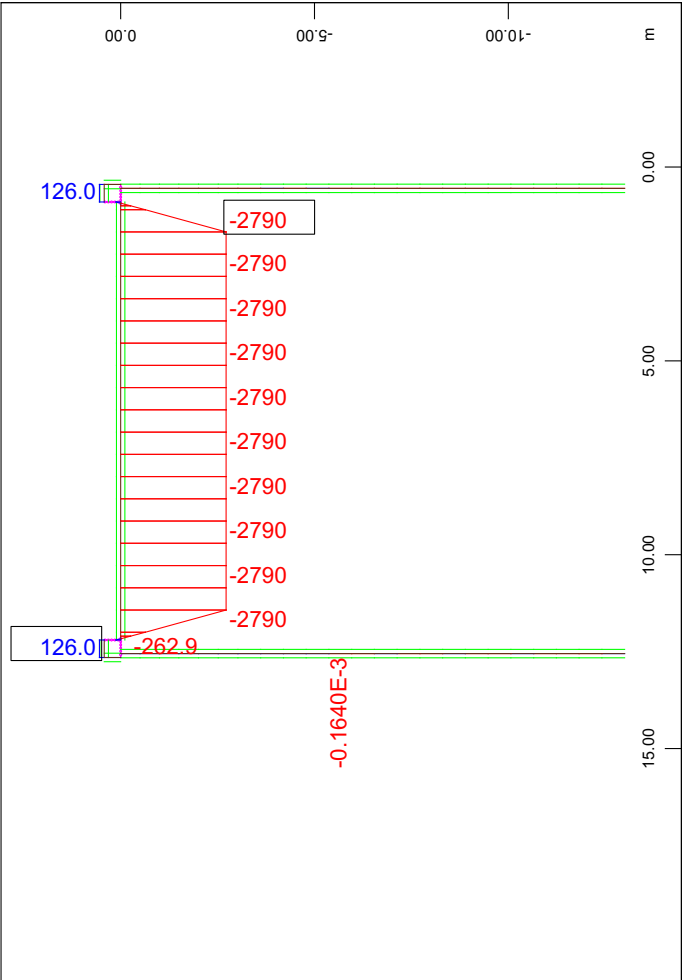
Beam Elements , Shear force V_y , Loadcase 18 Q 8 , 1 cm = 50.0 kN (Min=-96.8) (Max=96.8)

Beam Elements , Shear force V_z , Loadcase 18 Q 8 , 1 cm = 50.0 kN (Min=-96.8) (Max=96.8)

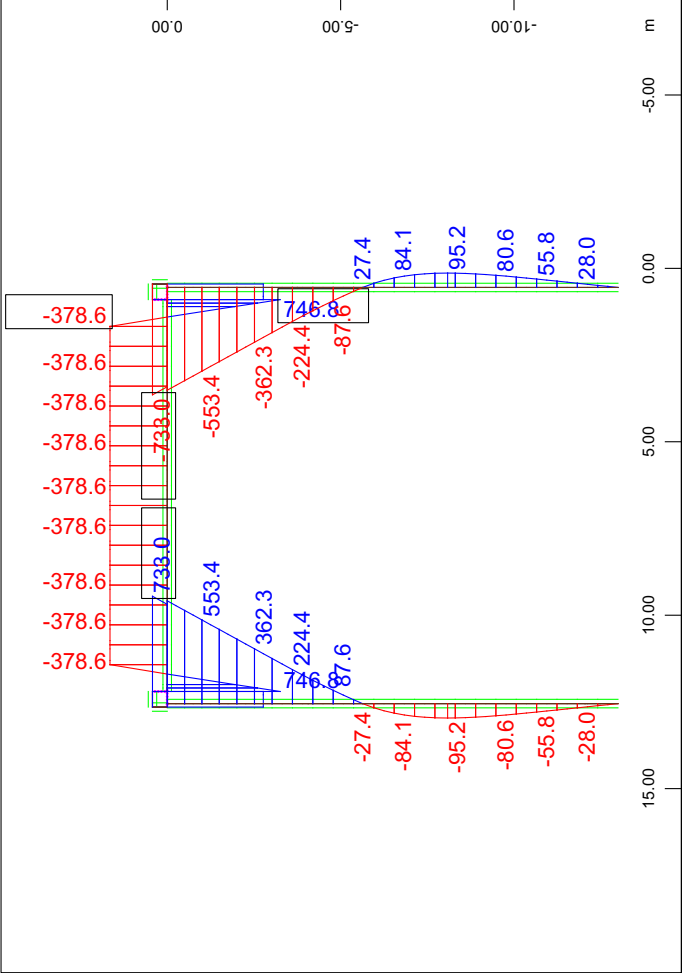
Geometria ponticello
Rappresentazione sollecitazioni elementari



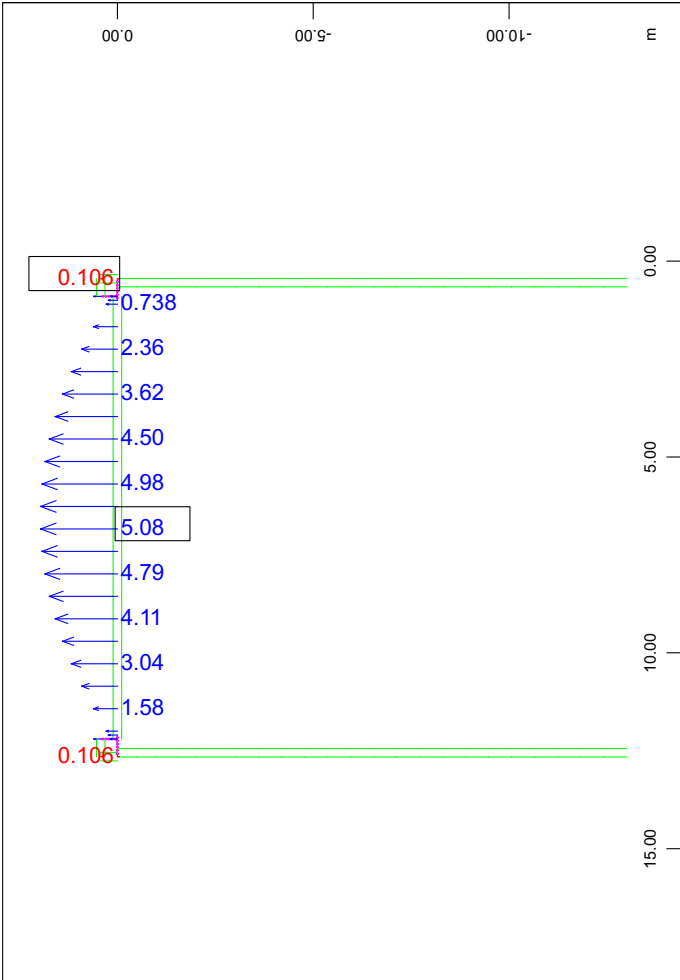
Geometria ponticello
Rappresentazione sollecitazioni elementari



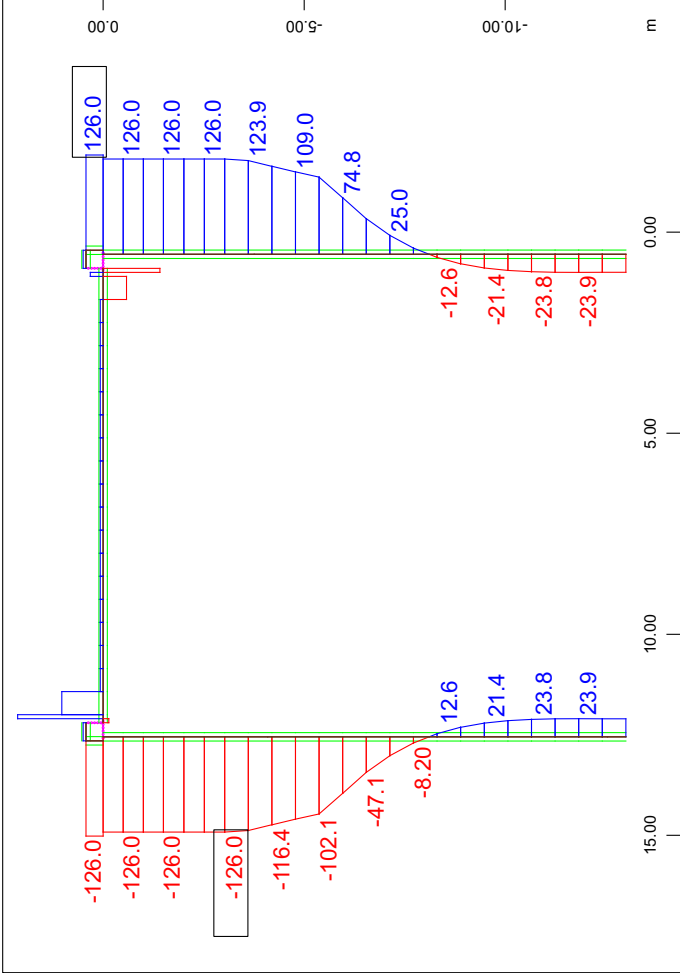
Beam Elements , Normal force N_x , Loadcase 20 Basic prestressing
forces , 1 cm = 2000. kN (Min=-2790.) (Max=126.0)



Beam Elements , Bending moment M_y , Loadcase 20 Basic
prestressing forces , 1 cm = 500.0 kNm (Min=-378.6)
(Max=746.8)



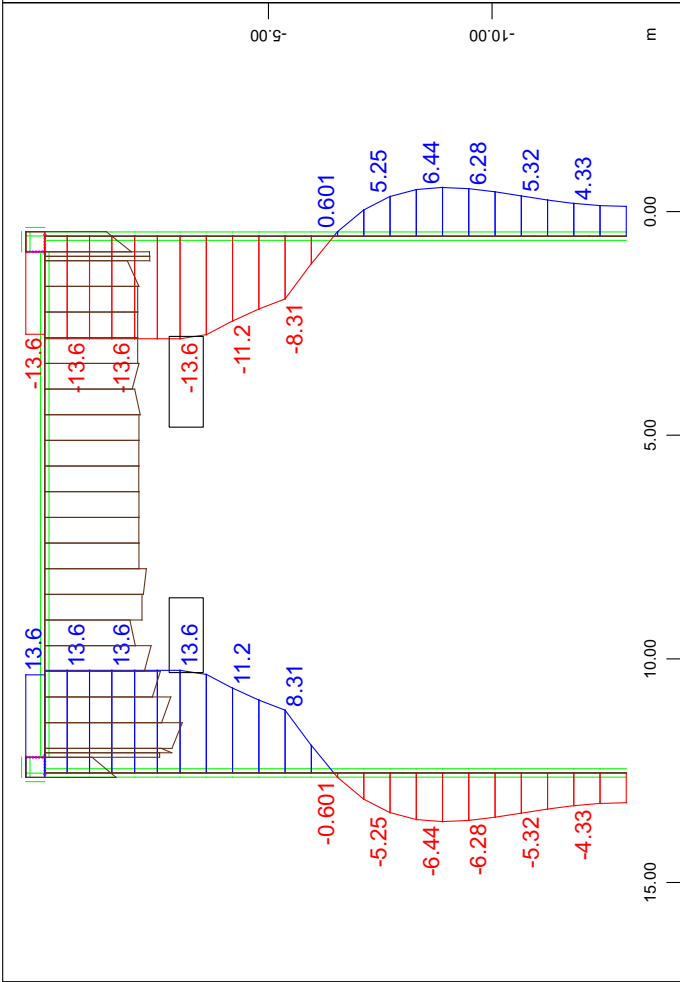
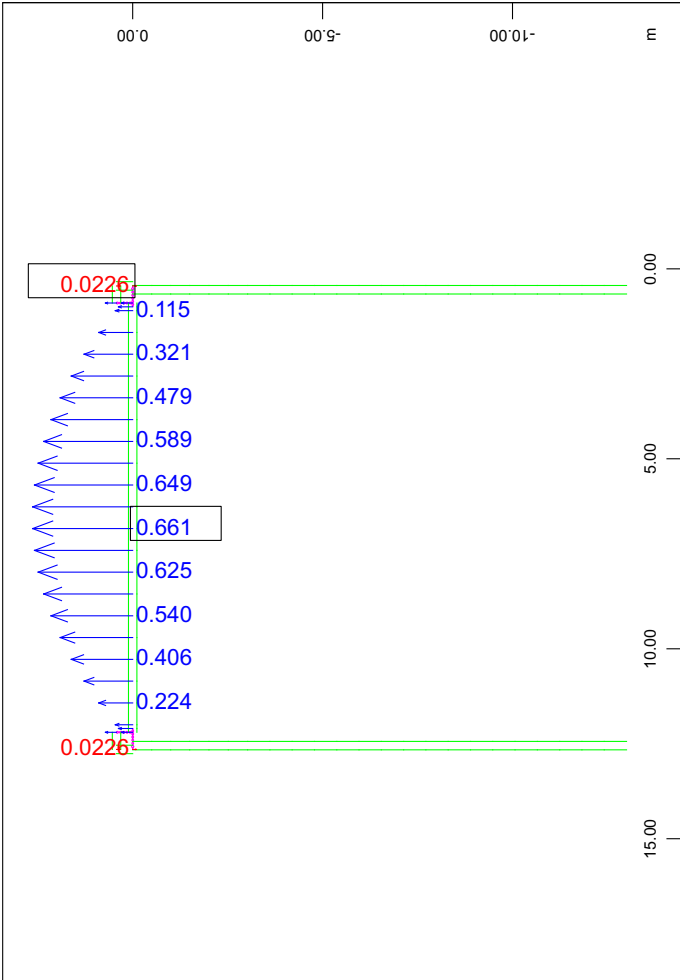
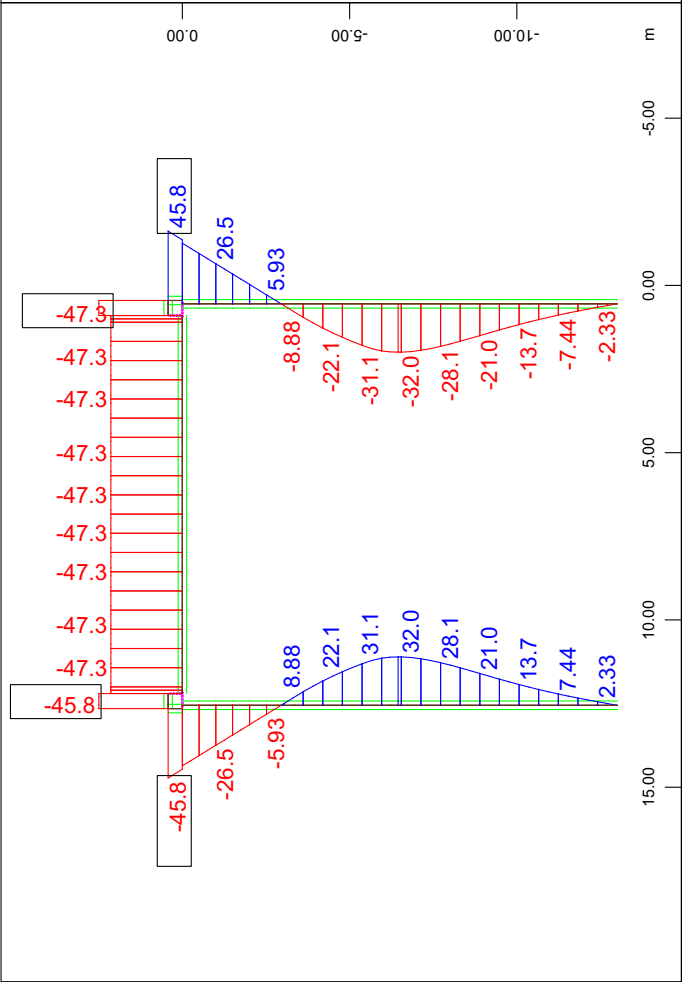
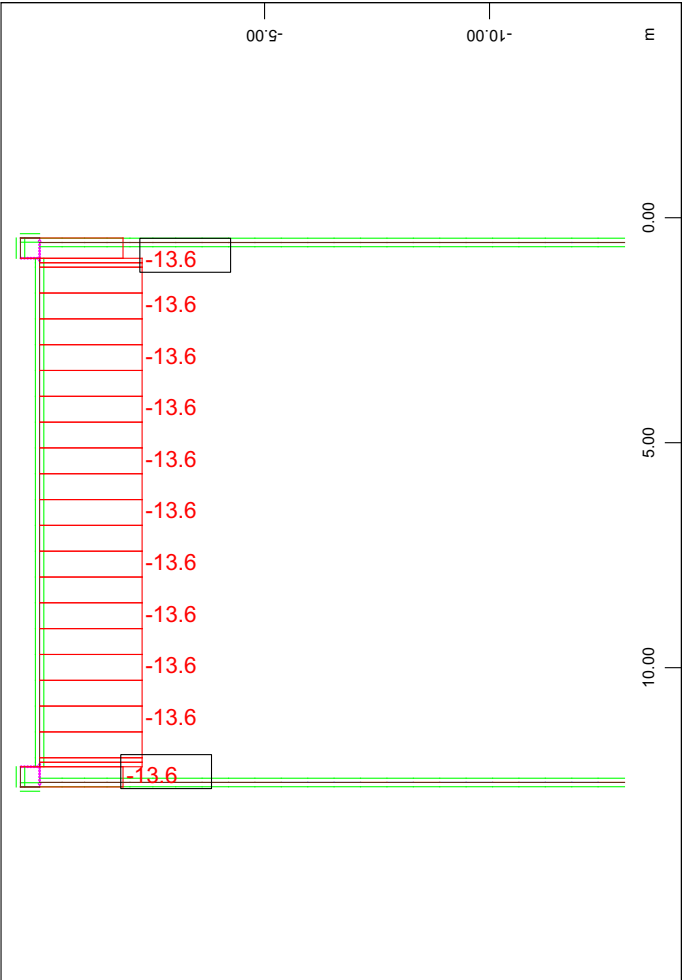
Nodal displacement in global Z, Loadcase 20 Basic prestressing
forces , 1 cm = 5.00 mm
(Min=-0.106) (Max=5.08)



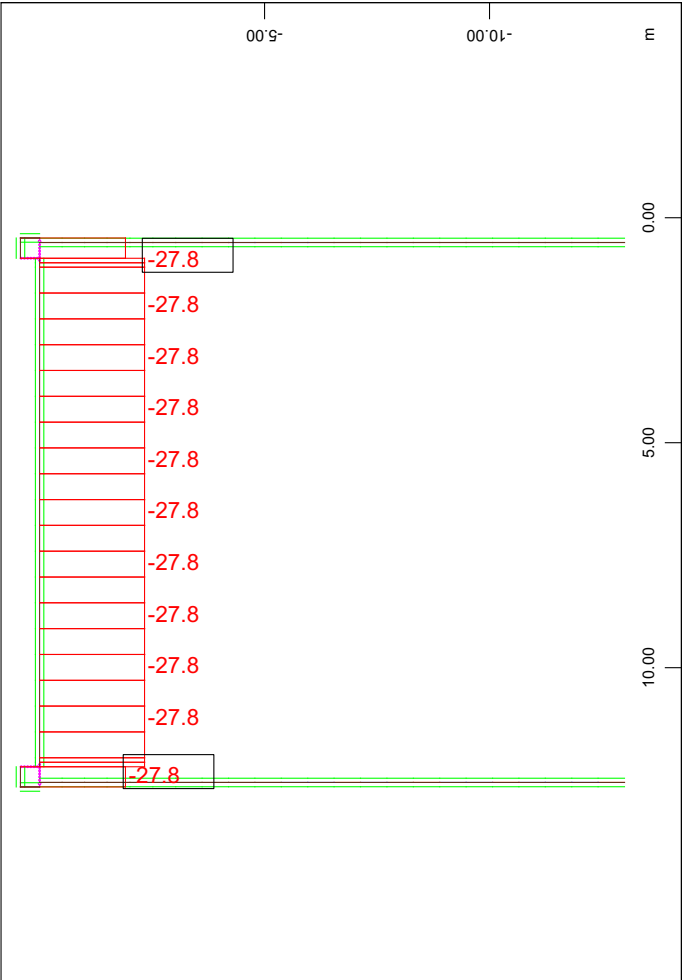
Beam Elements , Shear force V_y , Loadcase 20 Basic prestressing
forces , 1 cm = 100.0 kN (Min=-126.0) (Max=126.0)

Beam Elements , Shear force V_z , Loadcase 20 Basic prestressing

Geometria ponticello
Rappresentazione sollecitazioni elementari

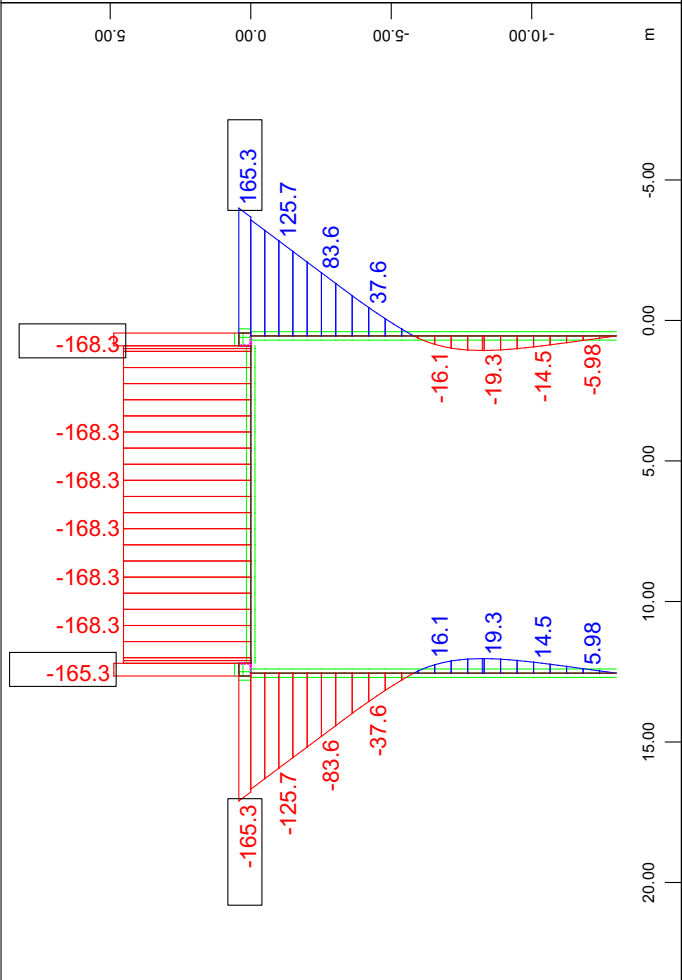


Geometria ponticello
Rappresentazione sollecitazioni elementari



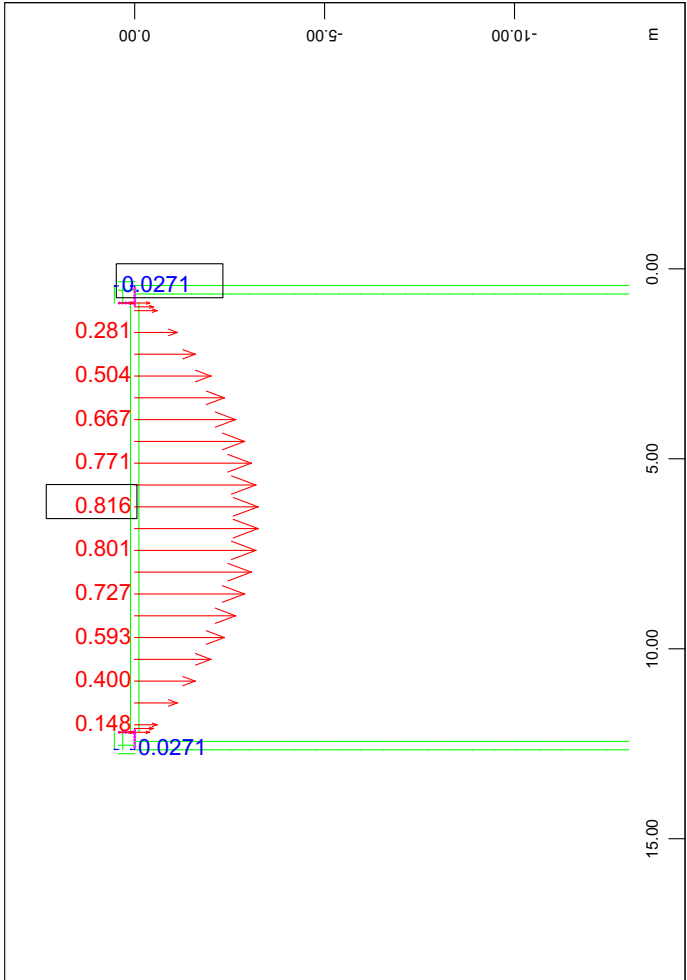
Beam Elements , Normal force N_x , Loadcase 22 Variazione non uniforme , 1 cm = 20.0 kN (Min=-27.8) (Max= 3.7343e-05)

Z
X → Y



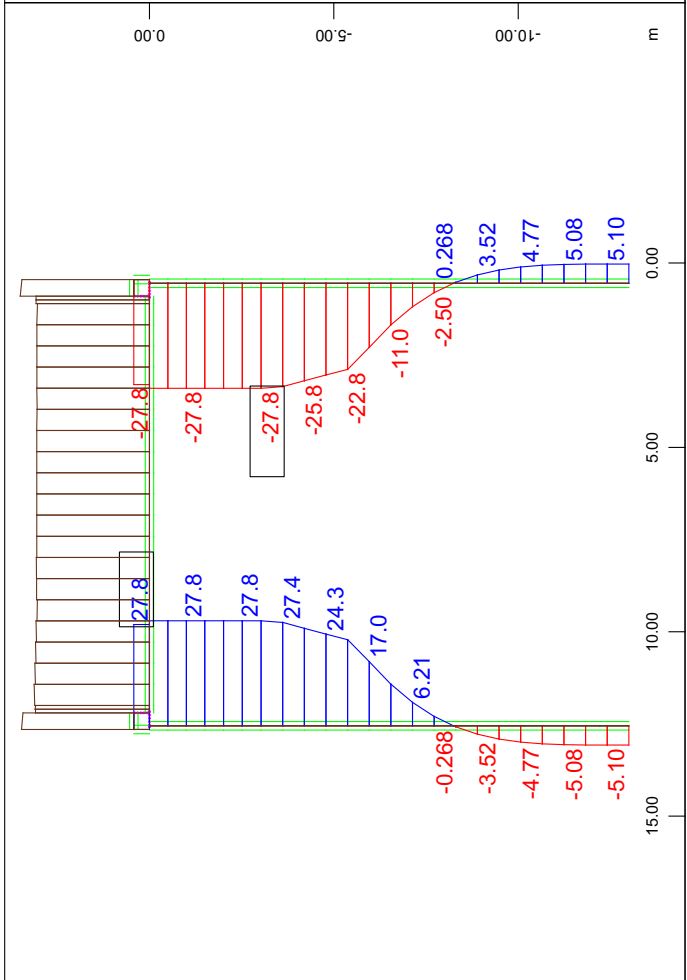
Beam Elements , Bending moment M_y , Loadcase 22 Variazione non uniforme , 1 cm = 100.0 kNm (Min=-168.3) (Max= 6.4311e-15)
Beam Elements , Bending moment M_z , Loadcase 22 Variazione non

Z
X → Y



Nodal displacement in global Z, Loadcase 22 Variazione non uniforme , 1 cm = 0.500 mm (Min=-0.816) (Max=0.0271)

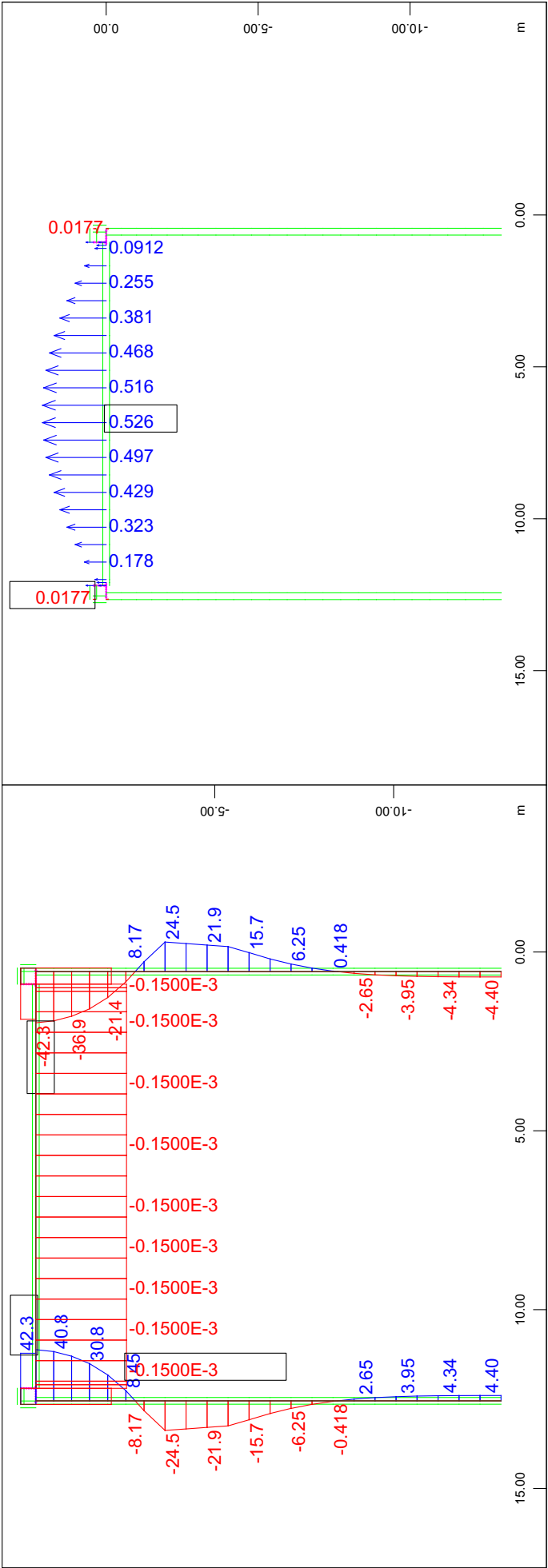
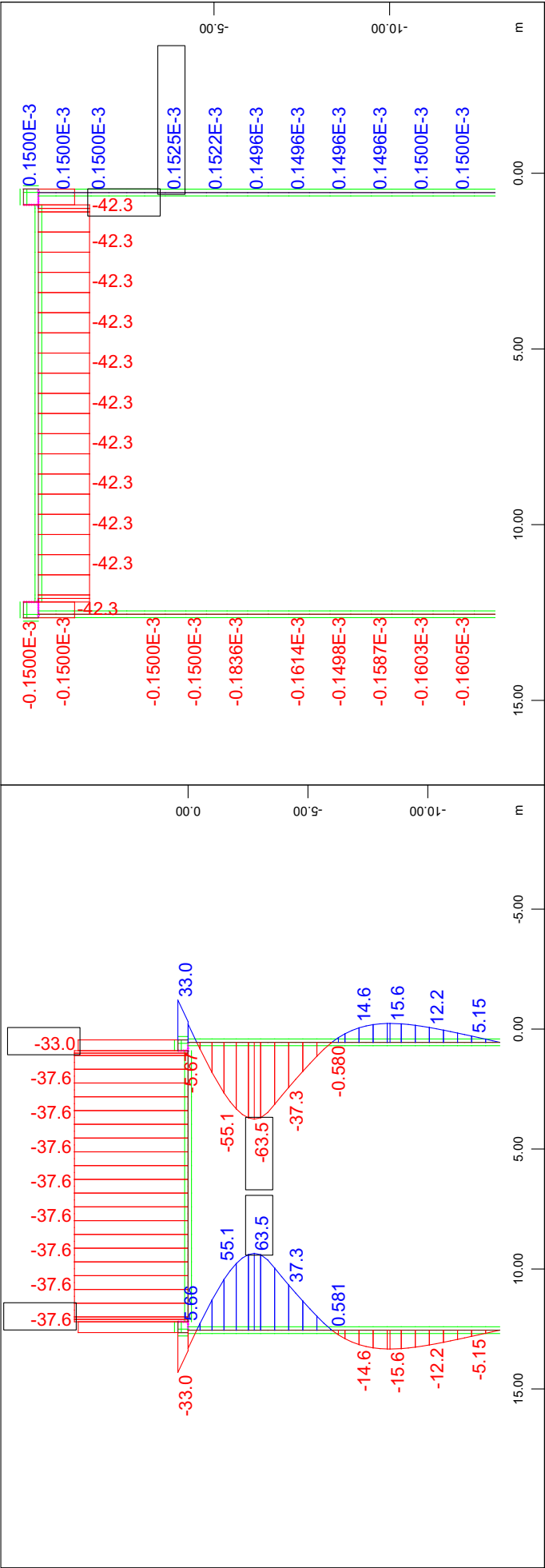
Z
X → Y



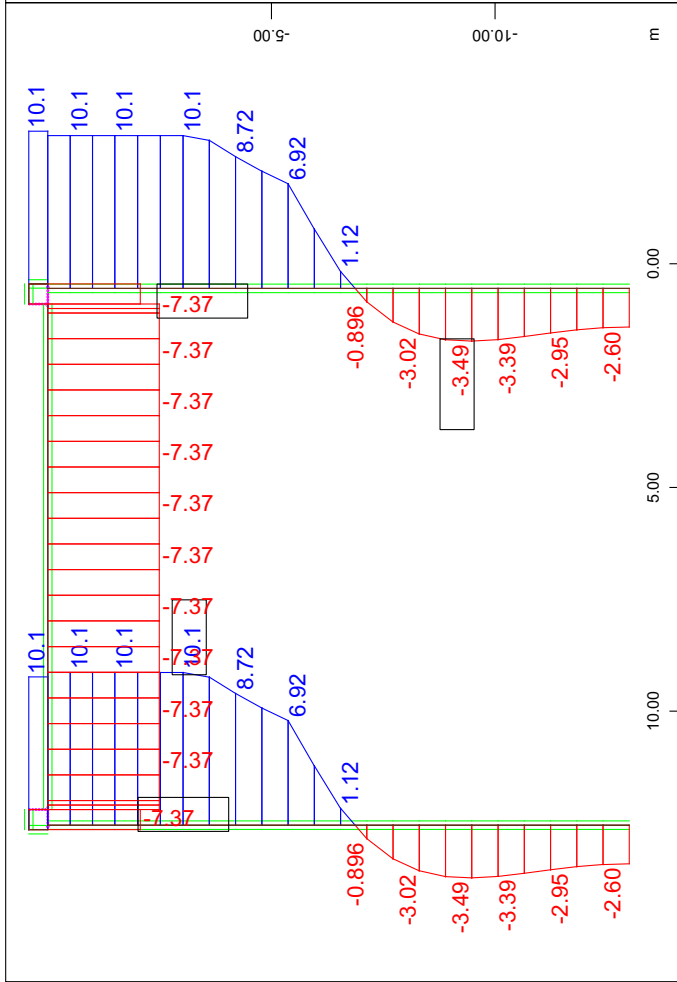
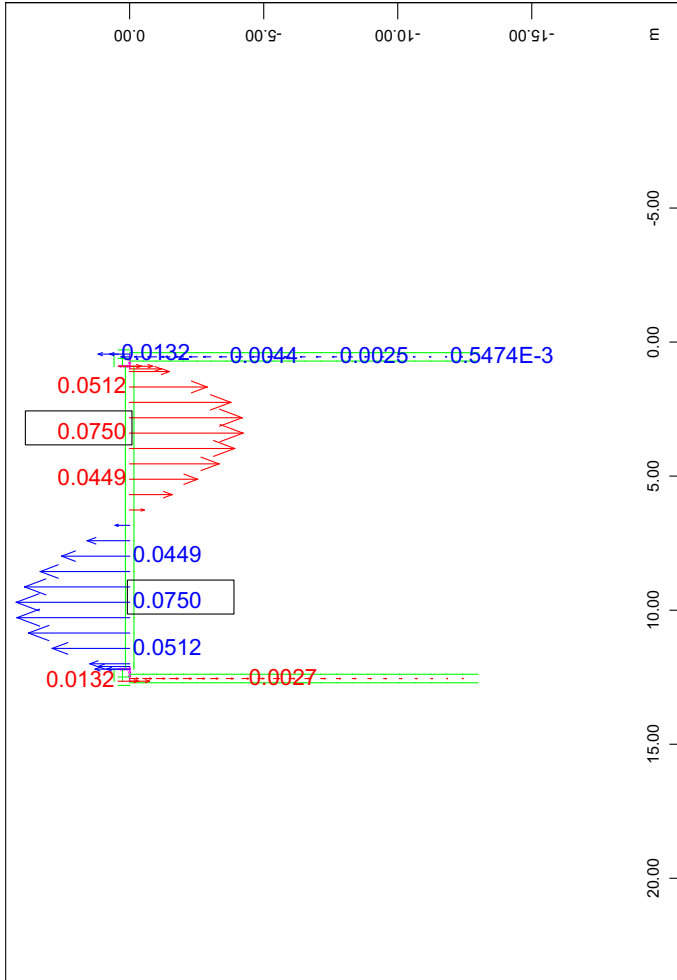
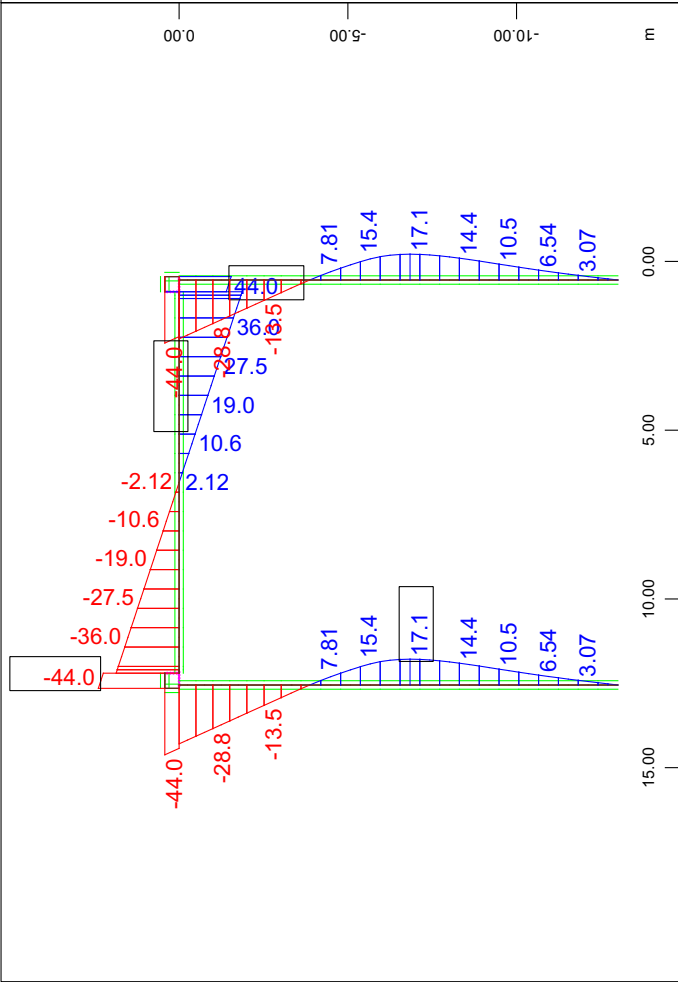
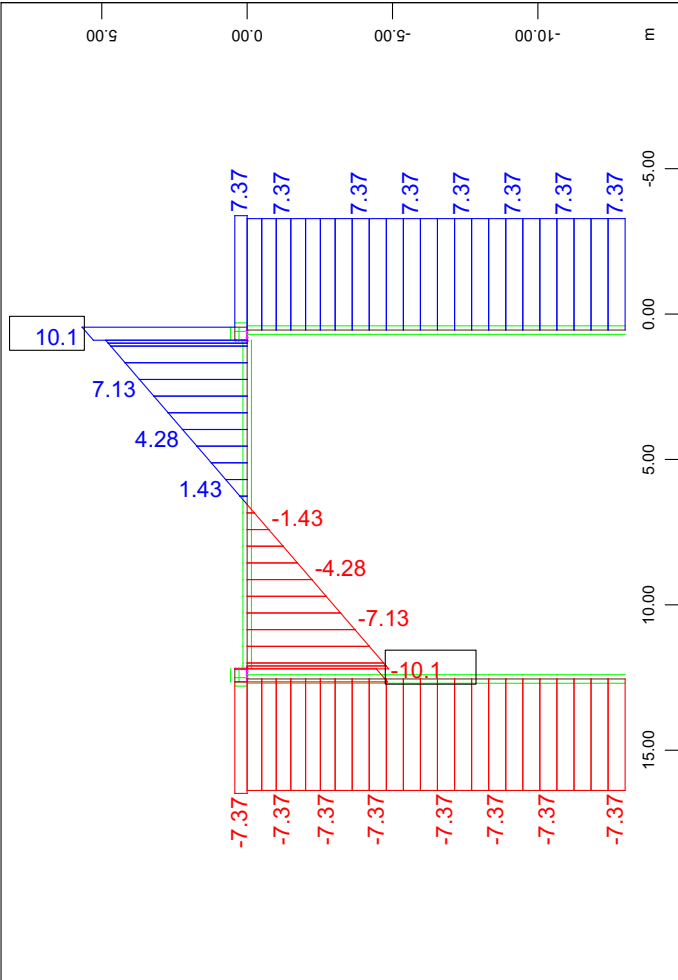
Beam Elements , Shear force V_y , Loadcase 22 Variazione non uniforme , 1 cm = 20.0 kN (Min=-27.8) (Max=27.8)
Beam Elements , Shear force V_z , Loadcase 22 Variazione non

Z
X → Y

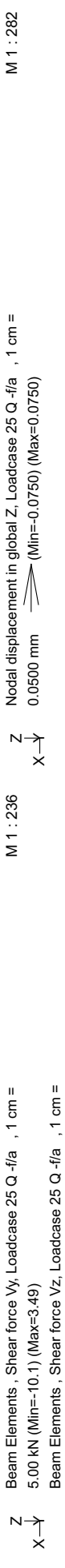
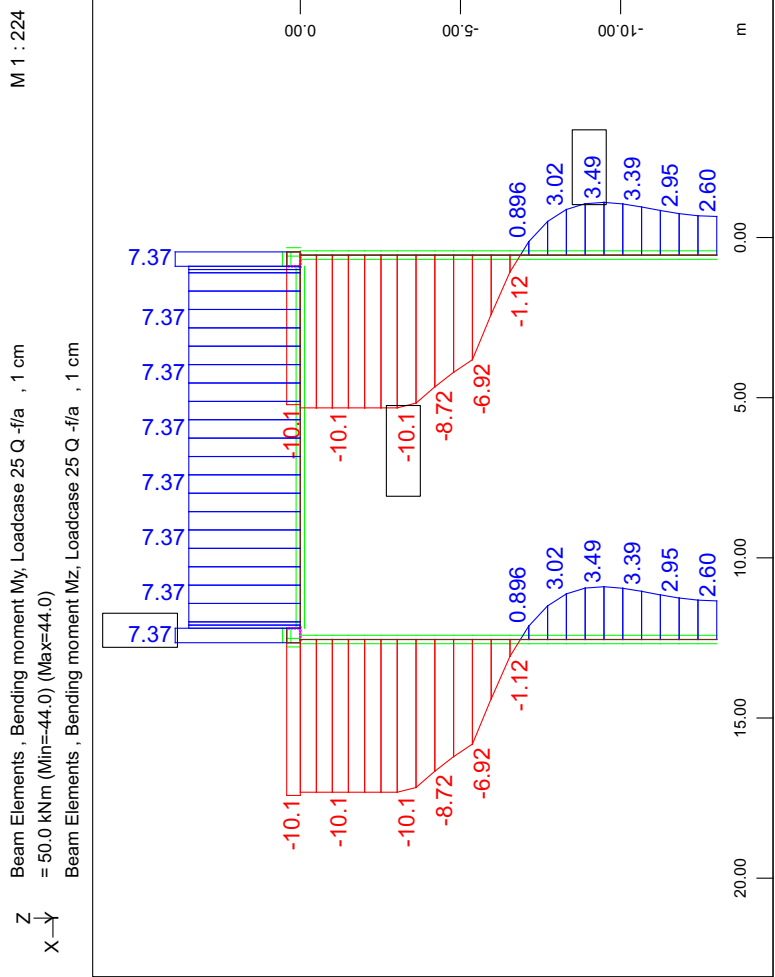
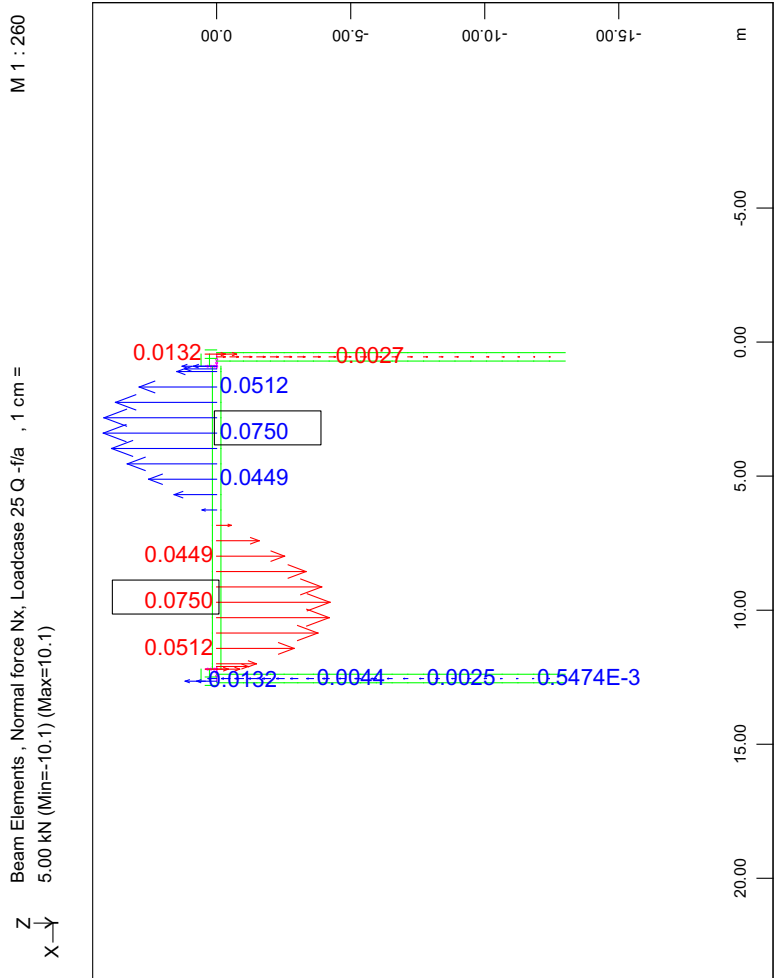
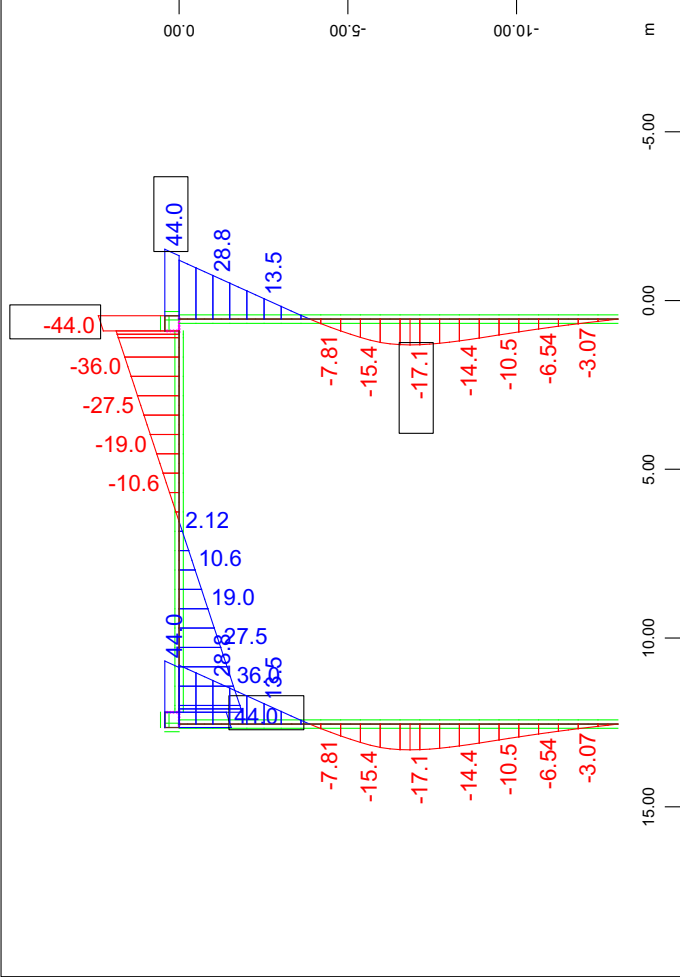
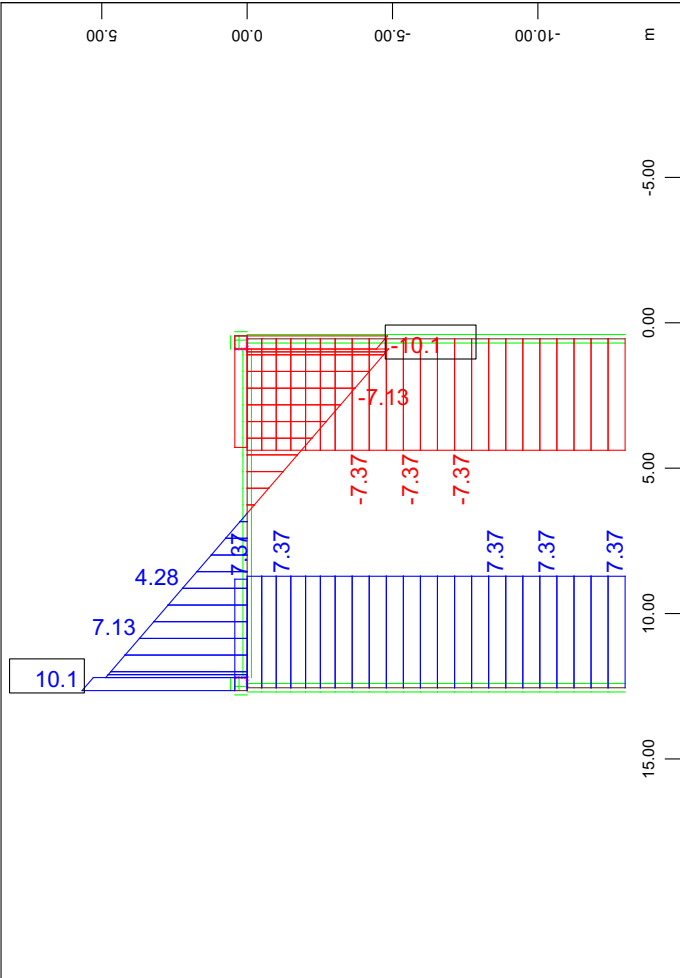
Geometria ponticello
Rappresentazione sollecitazioni elementari



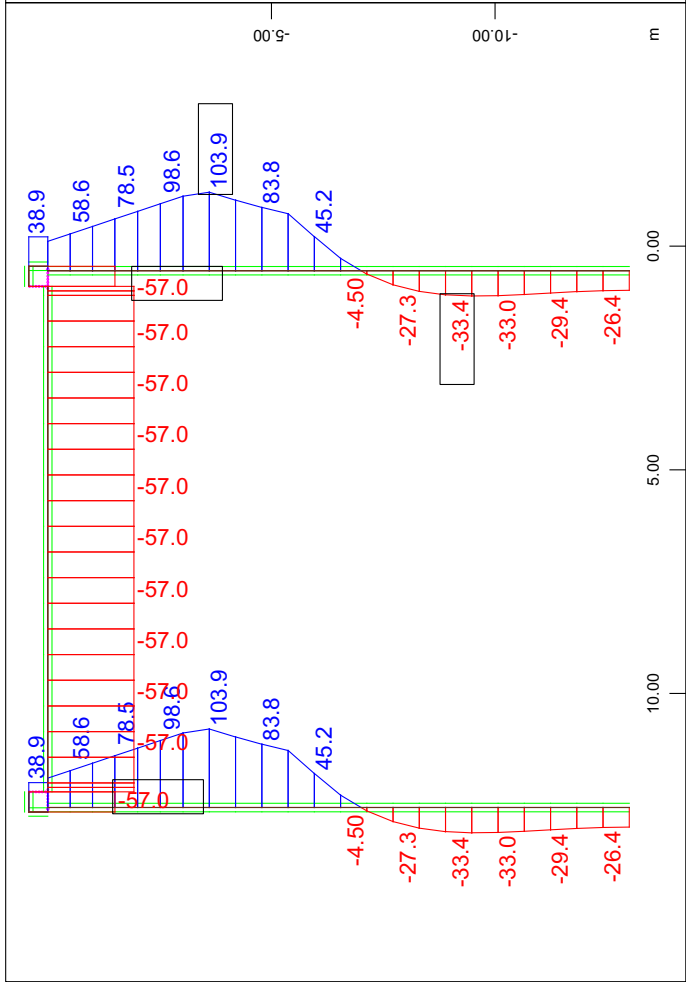
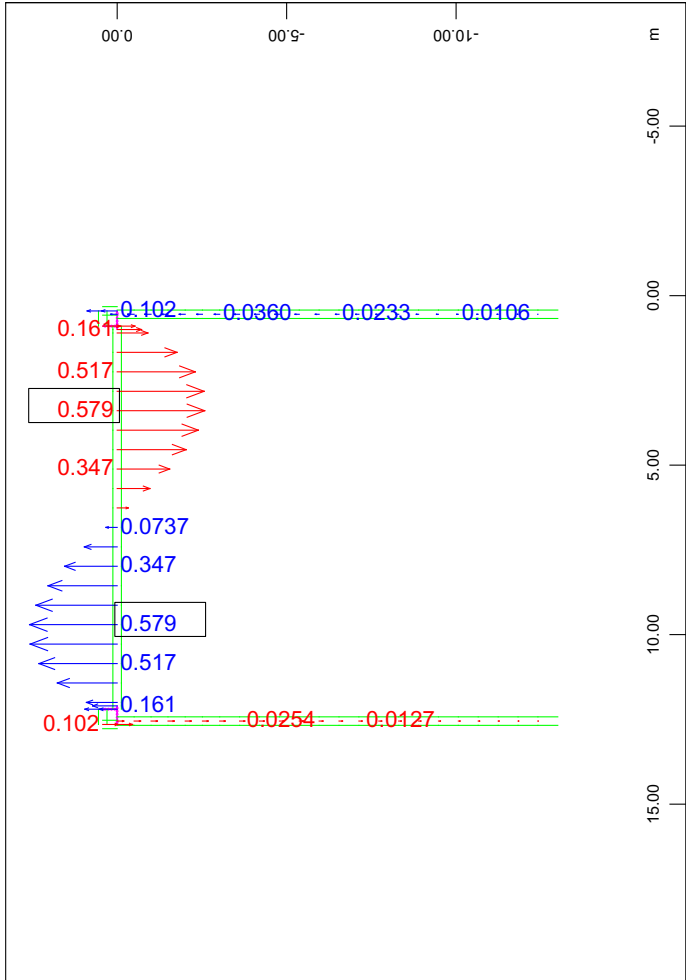
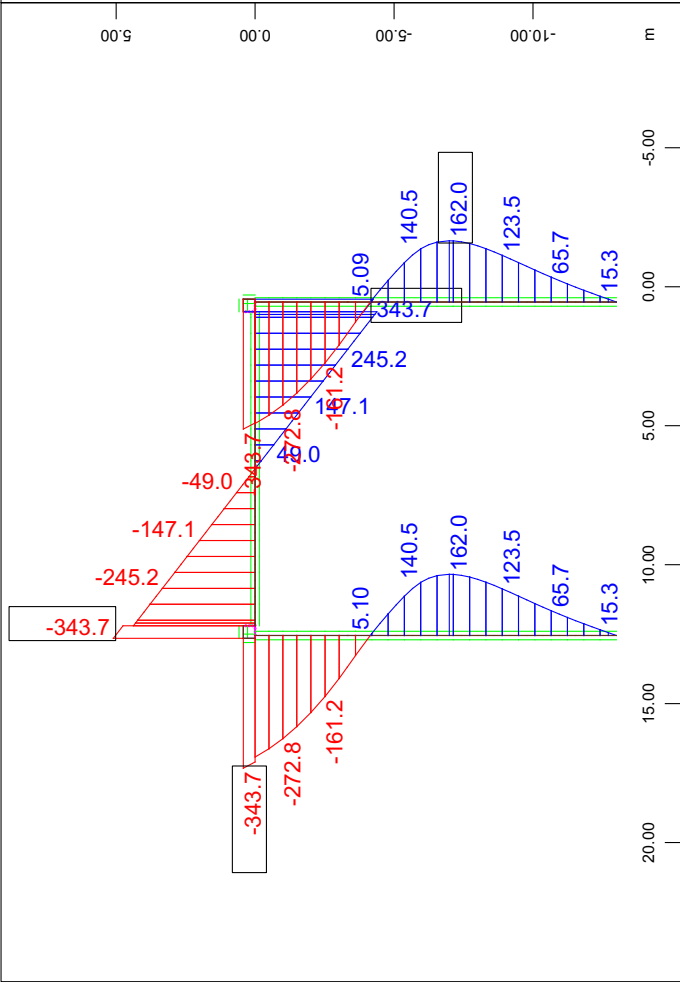
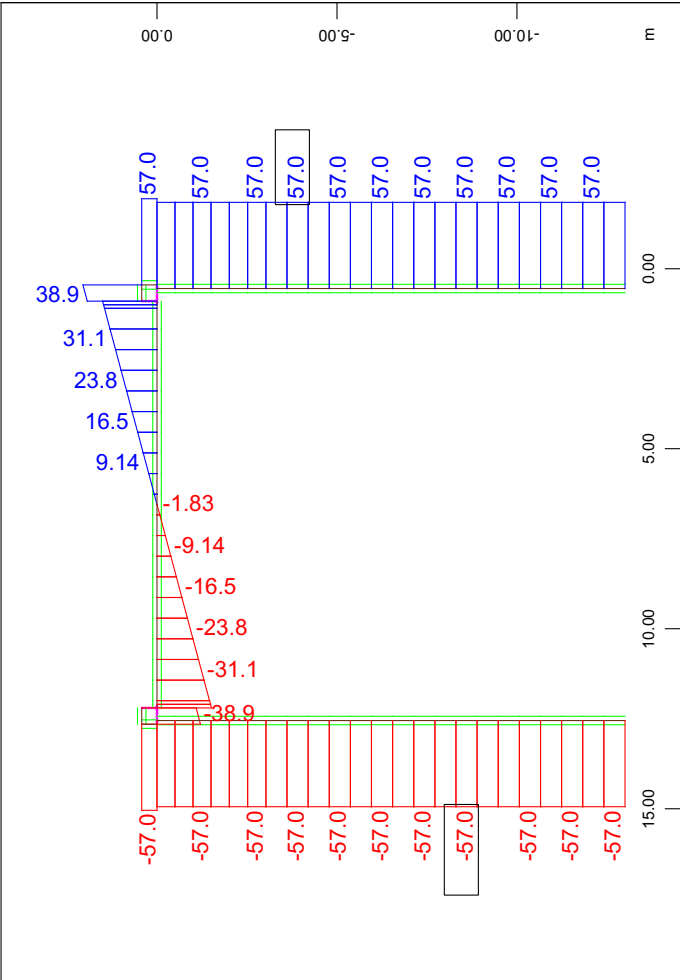
Geometria ponticello
Rappresentazione sollecitazioni elementari



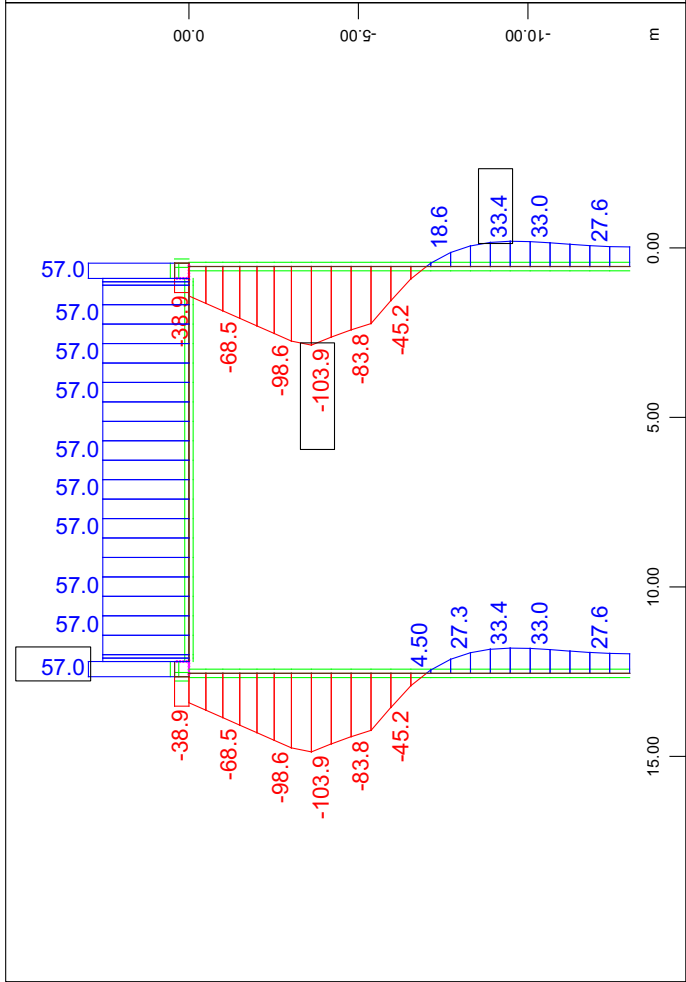
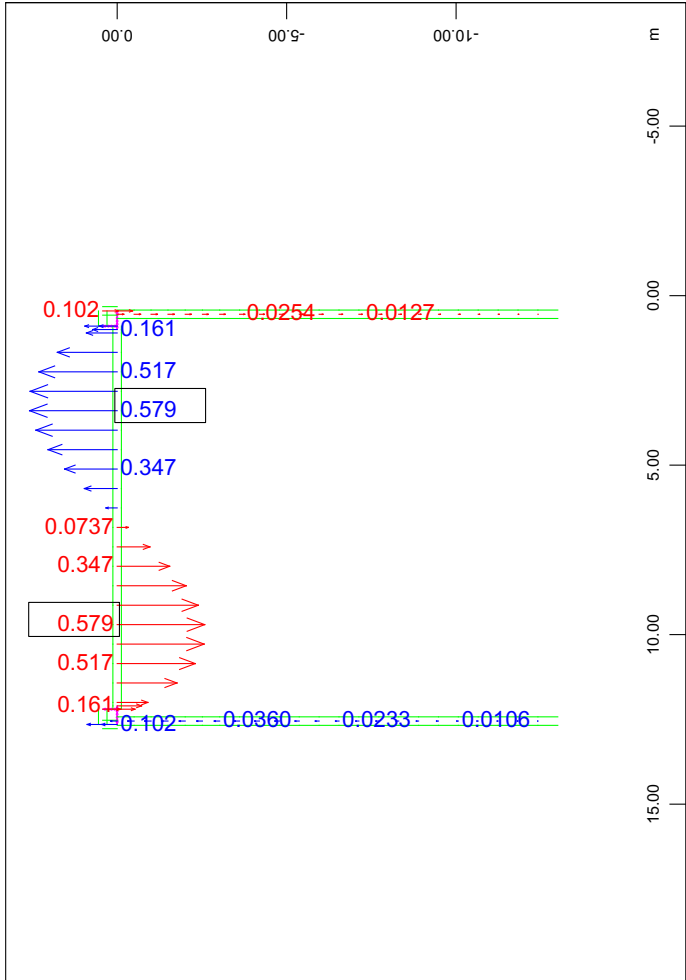
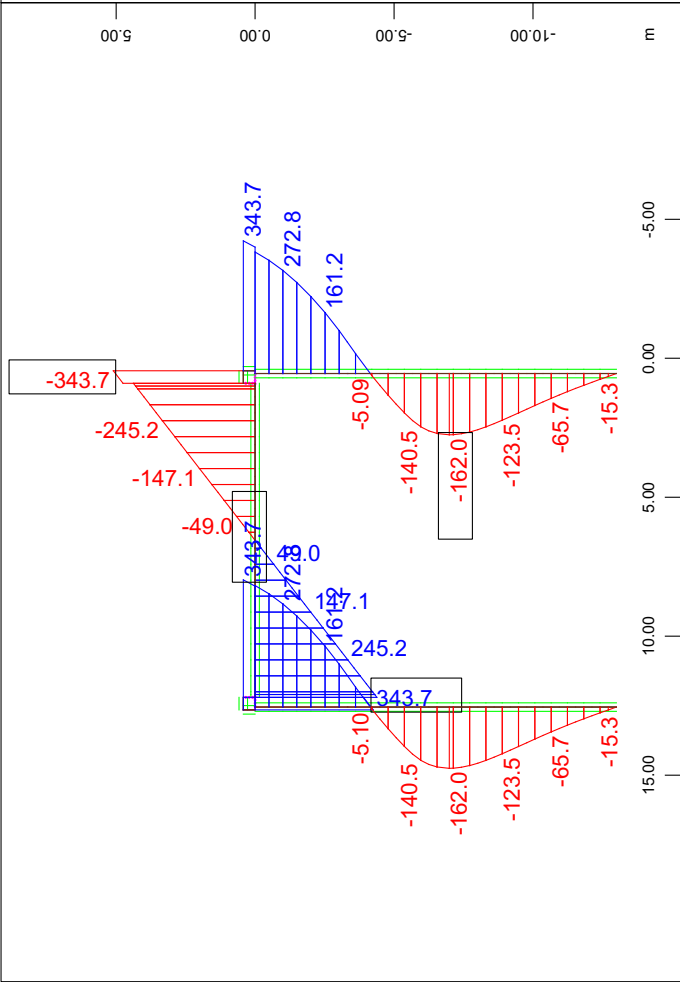
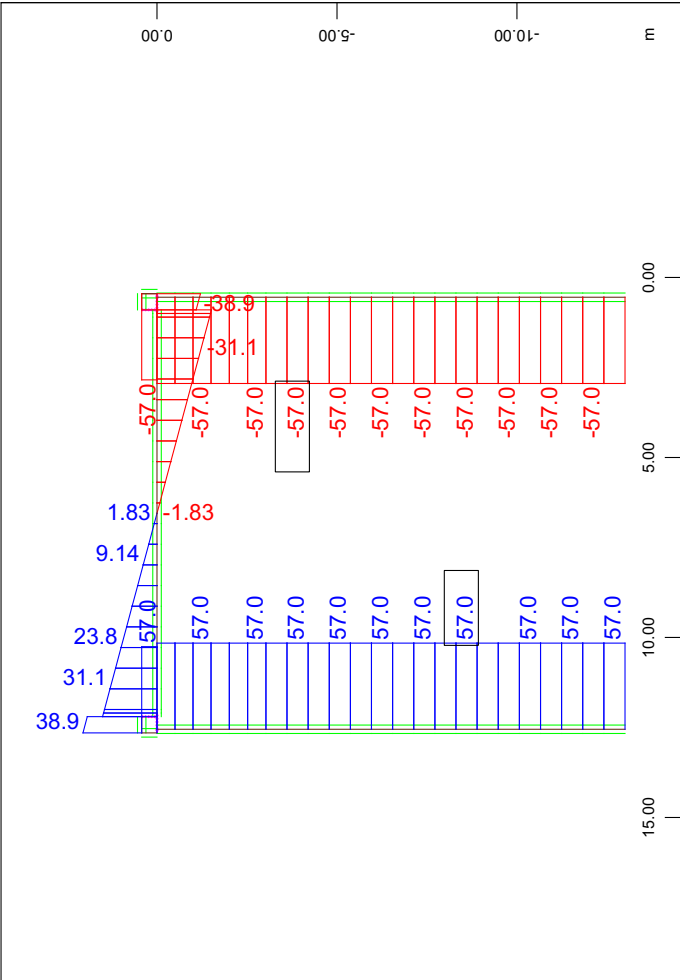
Geometria ponticello
Rappresentazione sollecitazioni elementari



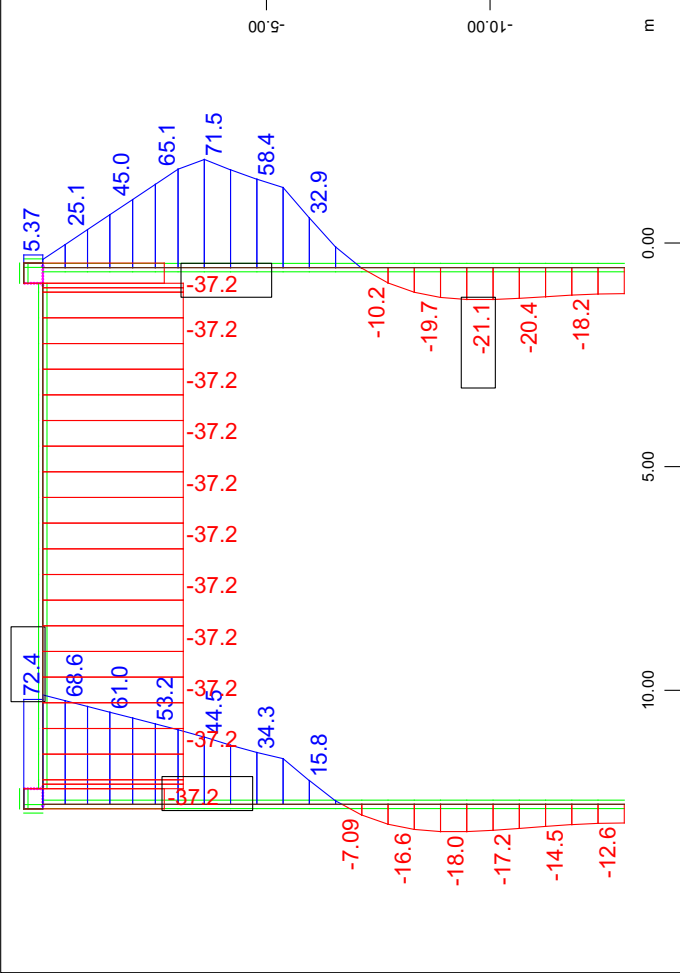
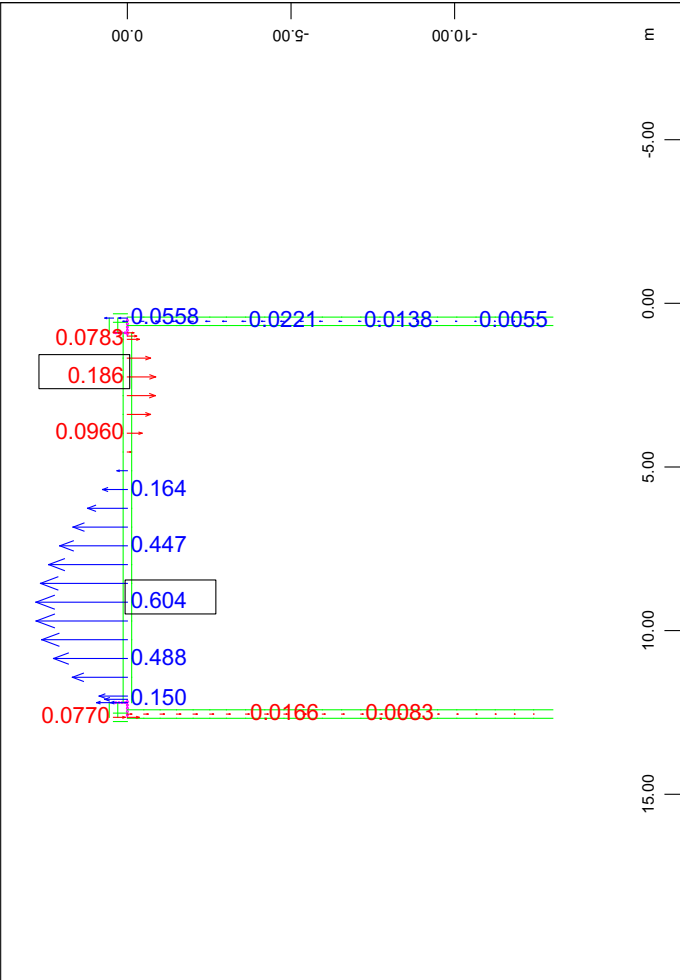
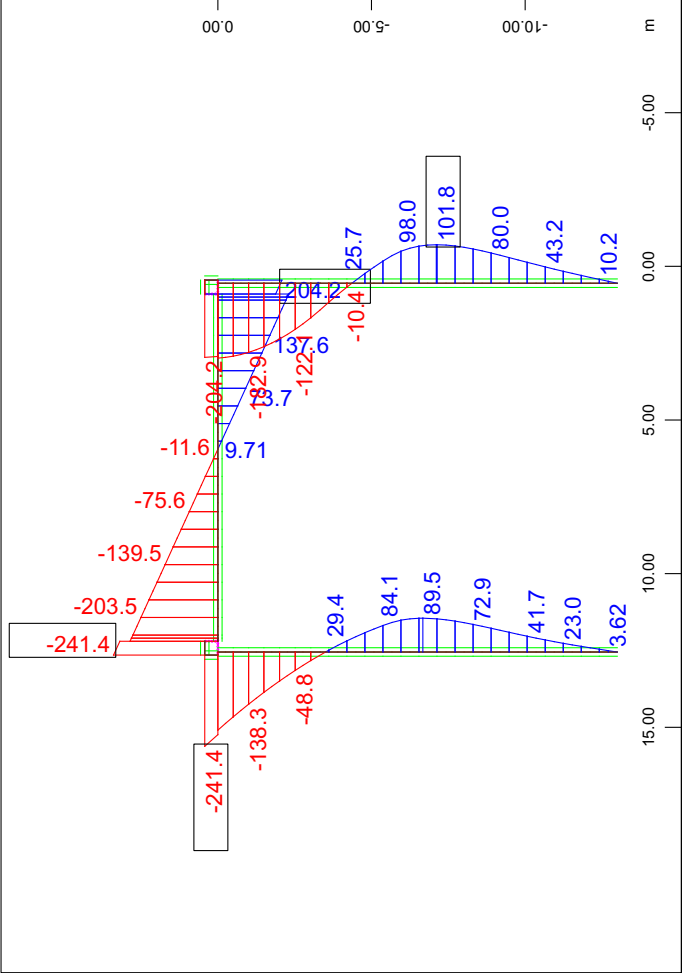
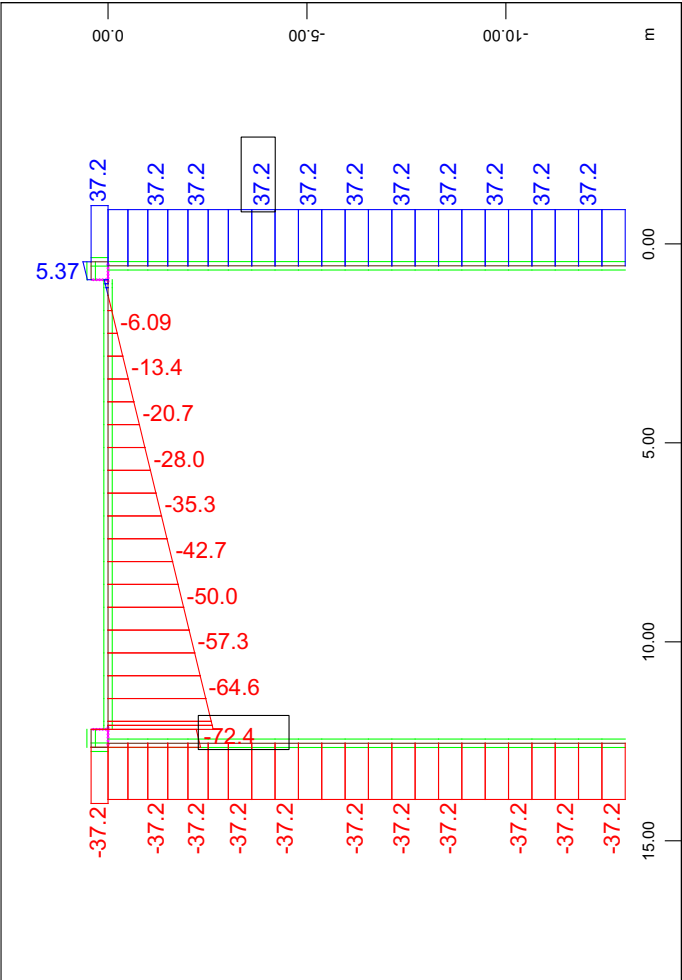
Geometria ponticello
Rappresentazione sollecitazioni elementari



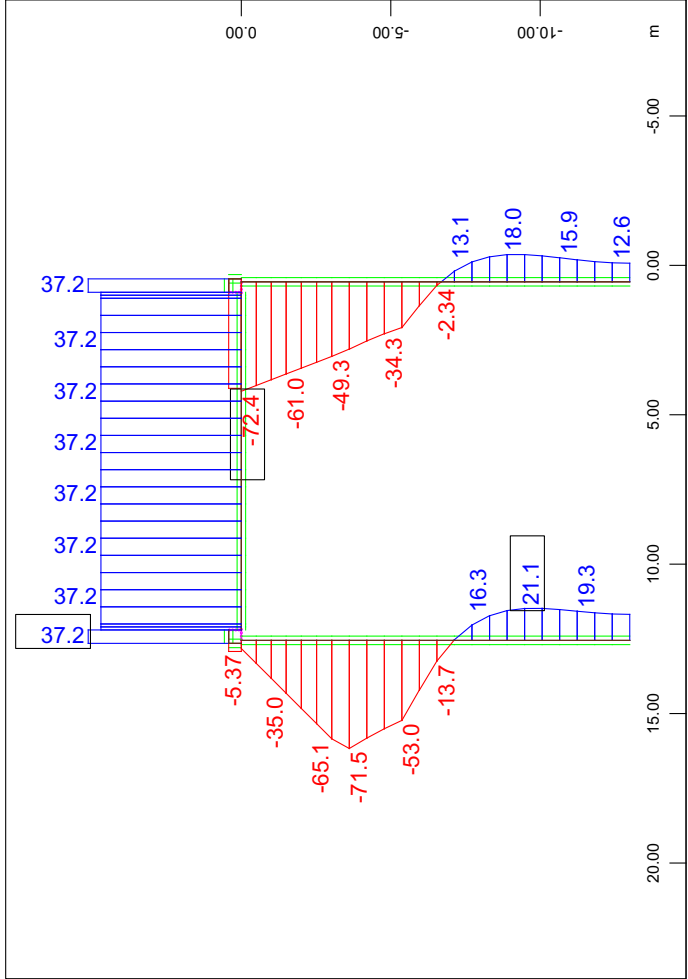
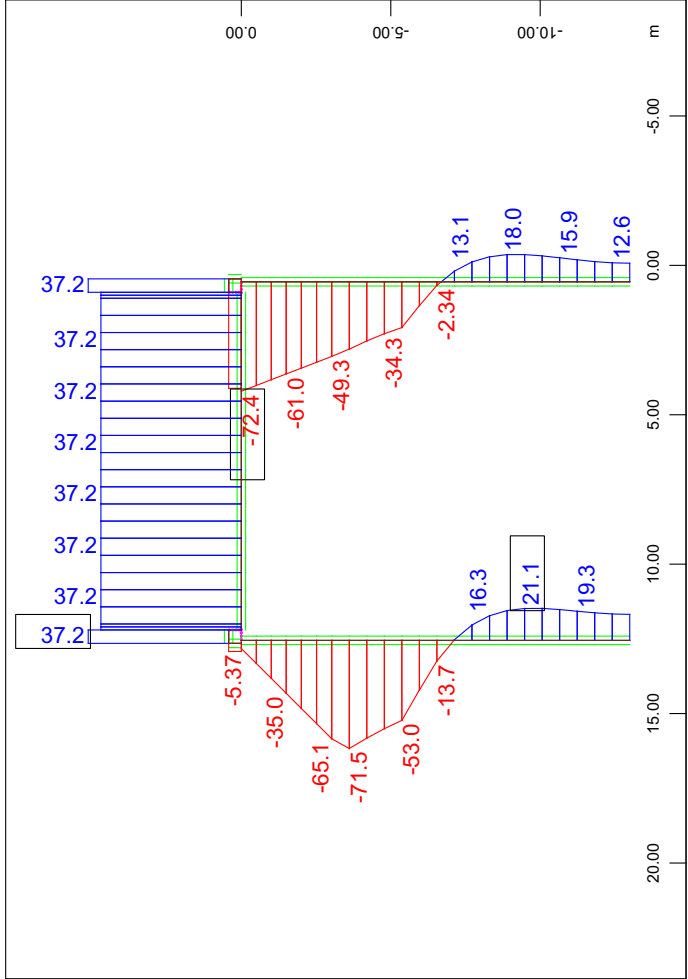
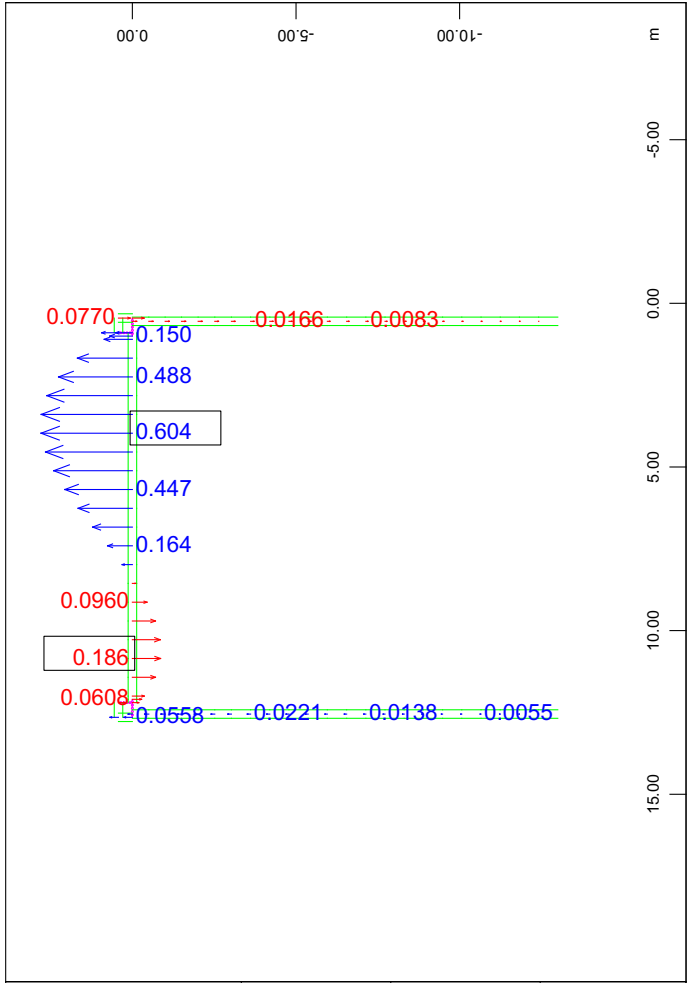
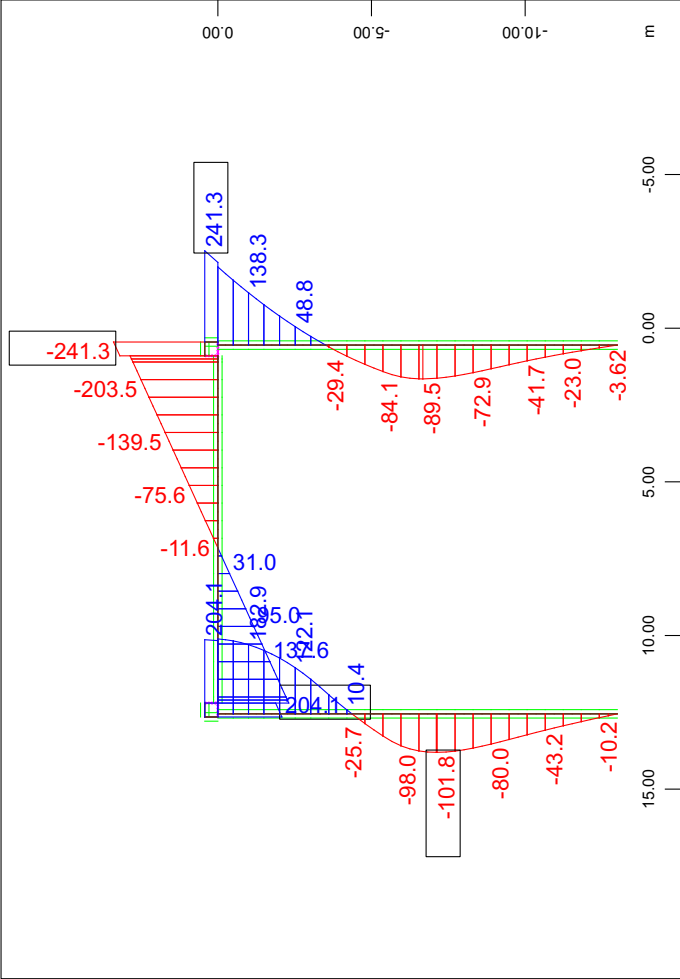
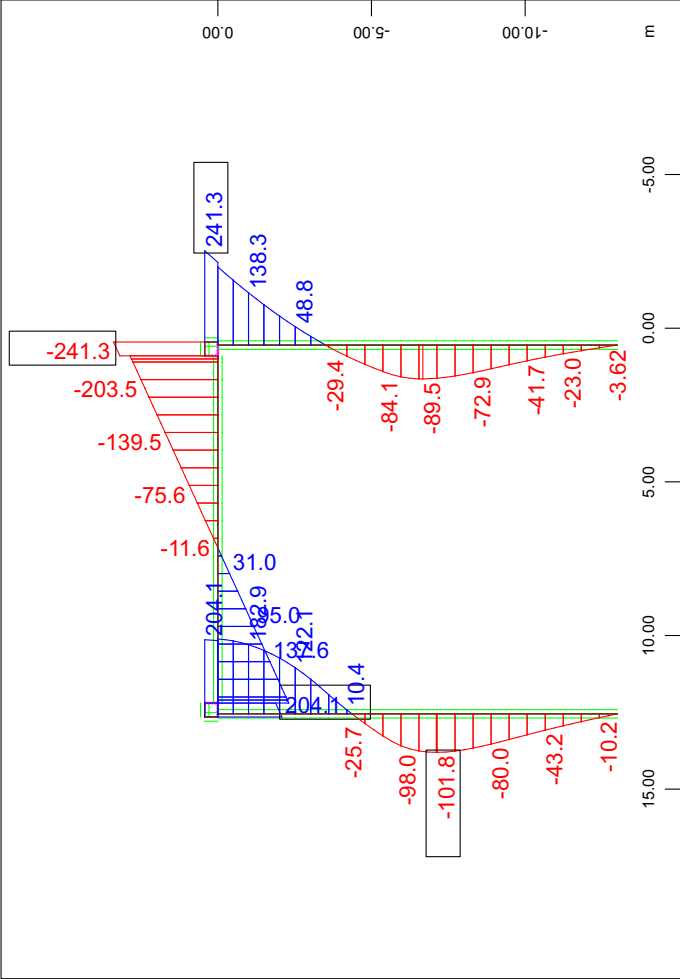
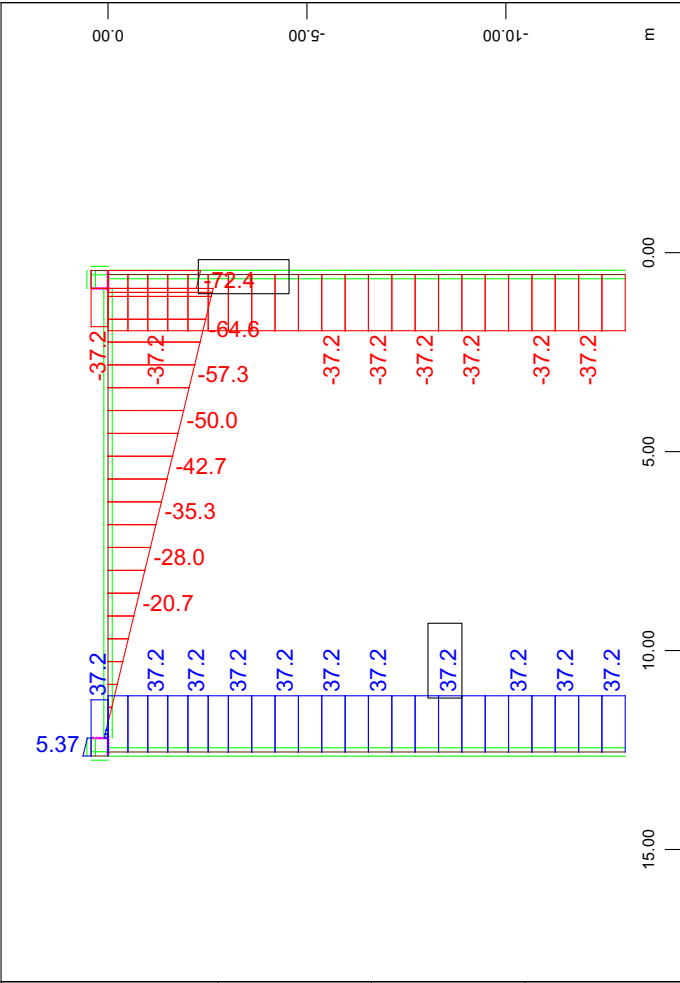
Geometria ponticello
Rappresentazione sollecitazioni elementari



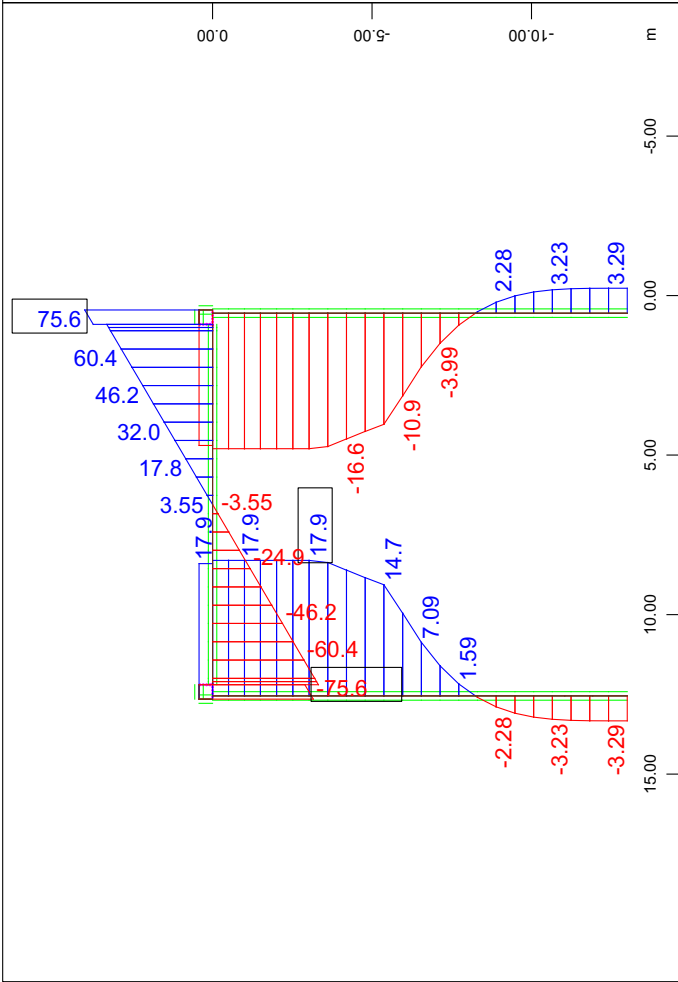
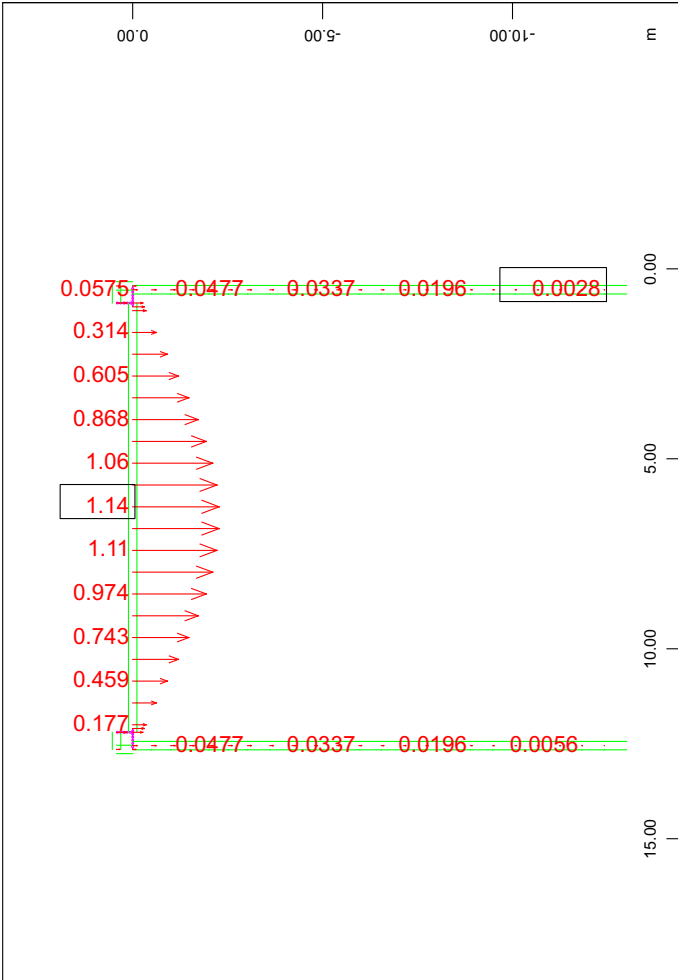
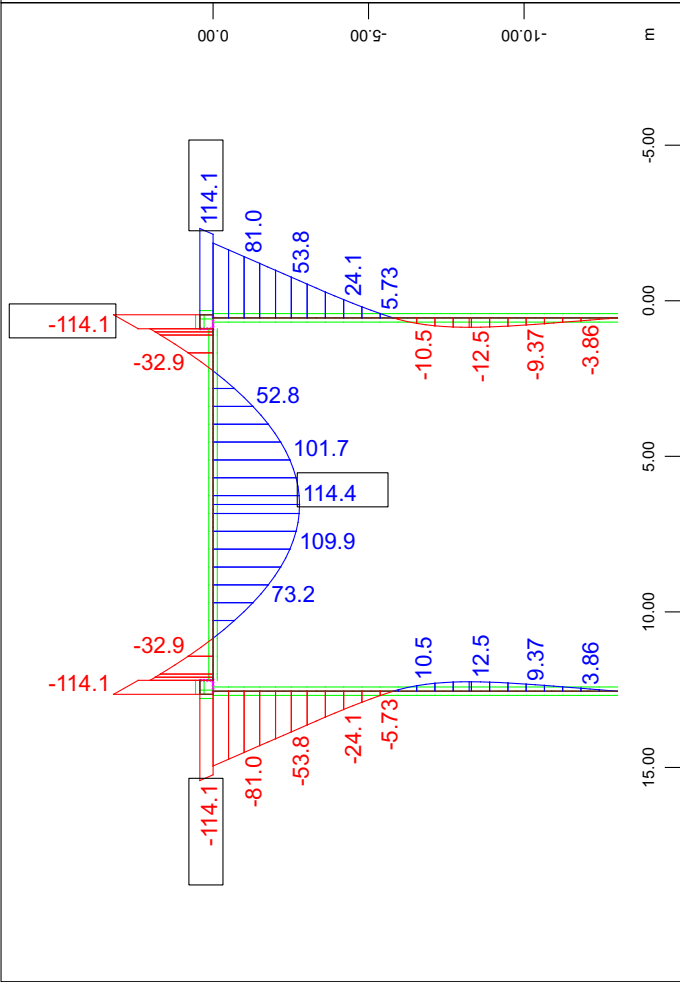
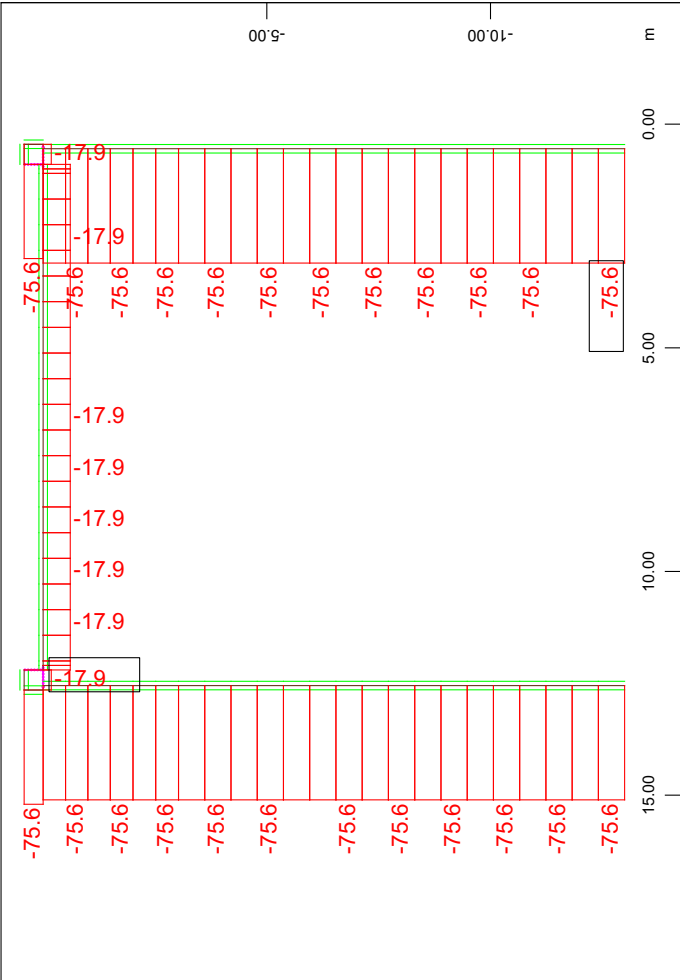
Geometria ponticello
Rappresentazione sollecitazioni elementari



Geometria ponticello
Rappresentazione sollecitazioni elementari



Geometria ponticello
Rappresentazione sollecitazioni elementari



Geometria ponticello
Design Concept

Overview used actions

Type usage
G : taken from the CSM CS table
P : taken from the CSM CS table
C : taken from the CSM CS table
B : taken from the CSM CS table
Q_A : SLS + ULS
Q_B :
Q_C : SLS + ULS
E_X :
T : temperature
.

Superposition and design concept:

In a first presuperposition, the variable actions are combined without GPC (G=dead load, P=prestress, C=creep+shrinkage) in a first separate MAXIMA run.
For the rare action combination RARE the produced max-min forces are stored in a presuperposition KOMB ... TYPE Y_1 ans stored with load case numbers 1141-1152.
Is some codes with LC 1161-1172 an additional combination traffic + wind without temperature is created also TYPE Y_1, LC 1141-1152 then contains temperature without wind.
For wind without traffic a further presuperposition Y_1 is created (e.g. loadcase number 1181-1192).
.
A following Maxima run then creates the final combination RARE with the precombinations Y_1 and the permanent actions GPC (G=dead load, P=prestress, C=C+S.) in loadcase 1121-1132.
.
In the same way precombinations and final MAXIMA combinations for nonfrequent with Y_2 LC 1200ff, frequent with Y_3 LC 1300ff, permanent with Y_4 LC 1400ff and if necessary for Y_9 1900ff with 1.0 psi-values for reaction forces are created.
For design inclusive the load safety factors GAMU the combination DESI (presuperposition Y_D) with LC 2100.ff is created, for a simplified stress range check FATI with LC 2500.ff.
.
These final combinations are used directly for QUAD elements e.g. for a design in BEMESS - LF DESI.
.
Using prestressed or composite sections, the load parts GPC must be assigned to cross section construction stages (netto, ideell). Thus the parts GPC must be defined in AQB separately, e.g. LC 5010 TYPE G_1 CT CS0 REF PART
These LC definitions are summarized in block #include loadca_aqb. The corresponding variable actions are then added with the prepared precombination Y_1 to Y_D , e.g.
COMB MAXR LC1 G LC2 P LC3 C LC4 Y_1 1.0 LCST
.
. For graphical checks the forces and stresses of the
. AQB combinations are stored with COMB LCST. For this the following
. sceme will be used:
.

Overview created loadcases and design numbers

convention loadcase numbering:
1100 = rare combination 1700 = in construction stages
1200 = nonfrequent combination
1300 = frequent combination
1400 = permanent combination 1800 = in construction stages
1900 = 1.0 superposition
2100 = design 2200 = in construction stages
2500 = accidental
2600 = earthquake
2800 = Fatigue LM3 2900 = Fatigue simplified stress range LM1
For WINGRAF-views: MAXIMA superposition results start with MAX or MIN in the loadcase title, 1020-ff have 100 % prestress, 9020-er have 90%
Only for the BEAM-AQB-combinations the LC number is further devided in:
10-th number: 00 = 100 % prestress
70 = 75 % prestress -> loadcase 9000...
90 = 90 % prestress -> loadcase 9000...
10 = 110 % prestress -> loadcase 9000...
20+30 = 90 % prestress fatigue LM1+LM3 -> 9000...
1-th number: 0+1 = maximum/minimum value uncracked design I
5+6 = maximum/minimum value cracked design II
With this convention the following BEAM-AQB-LCST loadcase numbers appear:
.
combination prestress uncracked cracked II
max LC min max LC min
SLS rare Pk,inf 90% 9190 9191 9195 9196

		Pm	100%	1100	1101	1105	1106
		Pk,sub	110%	9110	9111	9115	9116
SLS nonfrequent		Pk,inf	90%	9290	9291	9295	9296
		Pm	100%	1200	1201	1205	1206
		Pk,sub	110%	9210	9211	9215	9216
SLS frequent		Pk,inf	90%	9390	9391	9395	9396
		Pm	100%	1300	1301	1305	1306
		Pk,sub	110%	9310	9311	9315	9316
Fatigue weld+couplings		Pk,inf	75%	9370	9371	9375	9376
stress range LM1		Pk,inf	90%	9320	9321	9325	9326
LM3 midspan		Pk,inf	90%	9330	9331	9335	9336
LM3 innersupports		Pk,inf	90%	9340	9341	9345	9346
SLS permanent		Pk,inf	90%	9490	9491	9495	9496
		Pm	100%	1400	1401	1405	1406
		Pk,sub	110%	9410	9411	9415	9416
. 9000- LC for prestress	ne.	100%	!				
ULS	[desi]	Pm	100%	-	-	2105	2106

Geometria ponticello
presuperposition actions without GPC

Superpositioning combinations:
rare, nonf, freq, perm, 1.0*, desi, acci, earq, fatigue
LC 1140, 1240, 1340, 1440, 1940, 2140, 2540, 2640, 2840, 2940
Type=Y_1, Y_2, Y_3, Y_4, Y_9, Y_D, Y_A, Y_E, Y_F, Y_G
.

Superposition according to Decreto Ministeriale per le Costruzioni 2008

Combination rule Number 11
Service: Rare combination
Superposition according to manual MAXIMA formula 4
Resulting loadcases type Y_1

Loadcase selection and Actions								
Act	type	γ-u	γ-f	γ-a	ψ-0	ψ-1	ψ-2	Title
LC factor Type of loadcase								
Q_A	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi V da traffico
	4	1.00	Exclusive	LC	A80			Q 1
	5	1.00	Exclusive	LC	A80			Q 1_1
	6	1.00	Exclusive	LC	A80			Q 2_1
	7	1.00	Exclusive	LC	A80			Q 2_1
	8	1.00	Exclusive	LC	A80			Q 3_1
	9	1.00	Exclusive	LC	A80			Q 3_1
	10	1.00	Exclusive	LC	A80			Q 4_1
	11	1.00	Exclusive	LC	A80			Q 4_1
	12	1.00	Exclusive	LC	A80			Q 5_1
	13	1.00	Exclusive	LC	A80			Q 5_1
	14	1.00	Exclusive	LC	A80			Q 6_1
	15	1.00	Exclusive	LC	A80			Q 6_1
	16	1.00	Exclusive	LC	A80			Q 7_1
	17	1.00	Exclusive	LC	A80			Q 7_1
	18	1.00	Exclusive	LC	A80			Q 8_1
	19	1.00	Exclusive	LC	A80			Q 8_1
Q_C	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi di frenatura
	24	1.00	Exclusive	LC	A81			Q f/a
	25	1.00	Exclusive	LC	A81			Q -f/a
T	Q	1.20	0.00	1.00	0.60	0.60	0.50	Temperatura
	21	1.00	UnsignedCond	LC				Variazione uniforme
	22	1.00	UnsignedCond	LC				Variazione non uniforme

Combination rule Number 13
Service: Frequent combination
Superposition according to manual MAXIMA formula 5
Resulting loadcases type Y_3

Loadcase selection and Actions								
Act	type	γ-u	γ-f	γ-a	ψ-0	ψ-1	ψ-2	Title
LC factor Type of loadcase								
Q_A	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi V da traffico
	4	1.00	Exclusive	LC	A80			Q 1
	5	1.00	Exclusive	LC	A80			Q 1_1
	6	1.00	Exclusive	LC	A80			Q 2_1
	7	1.00	Exclusive	LC	A80			Q 2_1
	8	1.00	Exclusive	LC	A80			Q 3_1
	9	1.00	Exclusive	LC	A80			Q 3_1
	10	1.00	Exclusive	LC	A80			Q 4_1
	11	1.00	Exclusive	LC	A80			Q 4_1
	12	1.00	Exclusive	LC	A80			Q 5_1
	13	1.00	Exclusive	LC	A80			Q 5_1
	14	1.00	Exclusive	LC	A80			Q 6_1
	15	1.00	Exclusive	LC	A80			Q 6_1
	16	1.00	Exclusive	LC	A80			Q 7_1
	17	1.00	Exclusive	LC	A80			Q 7_1
	18	1.00	Exclusive	LC	A80			Q 8_1
	19	1.00	Exclusive	LC	A80			Q 8_1
Q_C	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi di frenatura
	24	1.00	Exclusive	LC	A81			Q f/a
	25	1.00	Exclusive	LC	A81			Q -f/a
T	Q	1.20	0.00	1.00	0.60	0.60	0.50	Temperatura
	21	1.00	UnsignedCond	LC				Variazione uniforme
	22	1.00	UnsignedCond	LC				Variazione non uniforme

Combination rule Number 14
Service: Permanent combination
Superposition according to manual MAXIMA formula 7
Resulting loadcases type Y_4

Geometria ponticello
presuperposition actions without GPC

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
		LC factor	Type of loadcase					
Q_A	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi V da traffico
	4	1.00	Exclusive	LC	A80		Q 1	
	5	1.00	Exclusive	LC	A80		Q 1_1	
	6	1.00	Exclusive	LC	A80		Q 2	
	7	1.00	Exclusive	LC	A80		Q 2_1	
	8	1.00	Exclusive	LC	A80		Q 3	
	9	1.00	Exclusive	LC	A80		Q 3_1	
	10	1.00	Exclusive	LC	A80		Q 4	
	11	1.00	Exclusive	LC	A80		Q 4_1	
	12	1.00	Exclusive	LC	A80		Q 5	
	13	1.00	Exclusive	LC	A80		Q 5_1	
	14	1.00	Exclusive	LC	A80		Q 6	
	15	1.00	Exclusive	LC	A80		Q 6_1	
	16	1.00	Exclusive	LC	A80		Q 7	
	17	1.00	Exclusive	LC	A80		Q 7_1	
	18	1.00	Exclusive	LC	A80		Q 8	
	19	1.00	Exclusive	LC	A80		Q 8_1	
Q_C	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi di frenatura
	24	1.00	Exclusive	LC	A81		Q f/a	
	25	1.00	Exclusive	LC	A81		Q -f/a	
T	Q	1.20	0.00	1.00	0.60	0.60	0.50	Temperatura
	21	1.00	UnsignedCond	LC				Variazione uniforme
	22	1.00	UnsignedCond	LC				Variazione non uniforme

Combination rule Number 19

Service: Rare combination

Superposition according to manual MAXIMA formula 4
Resulting loadcases type Y_9

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
		LC factor	Type of loadcase					
Q_A	Q	1.00	0.00	1.00	1.00	1.00	1.00	Carichi V da traffico
	4	1.00	Exclusive	LC	A51		Q 1	
	5	1.00	Exclusive	LC	A51		Q 1_1	
	6	1.00	Exclusive	LC	A51		Q 2	
	7	1.00	Exclusive	LC	A51		Q 2_1	
	8	1.00	Exclusive	LC	A51		Q 3	
	9	1.00	Exclusive	LC	A51		Q 3_1	
	10	1.00	Exclusive	LC	A51		Q 4	
	11	1.00	Exclusive	LC	A51		Q 4_1	
	12	1.00	Exclusive	LC	A51		Q 5	
	13	1.00	Exclusive	LC	A51		Q 5_1	
	14	1.00	Exclusive	LC	A51		Q 6	
	15	1.00	Exclusive	LC	A51		Q 6_1	
	16	1.00	Exclusive	LC	A51		Q 7	
	17	1.00	Exclusive	LC	A51		Q 7_1	
	18	1.00	Exclusive	LC	A51		Q 8	
	19	1.00	Exclusive	LC	A51		Q 8_1	
Q_C	Q	1.00	0.00	1.00	1.00	1.00	1.00	Carichi di frenatura
	24	1.00	Exclusive	LC	X53		Q f/a	
	25	1.00	Exclusive	LC	X53		Q -f/a	
T	Q	1.00	0.00	1.00	1.00	1.00	1.00	Temperatura
	21	1.00	UnsignedCond	LC				Variazione uniforme
	22	1.00	UnsignedCond	LC				Variazione non uniforme

Combination rule Number 21

Ultimate Design combination

Superposition according to manual MAXIMA formula 1
Resulting loadcases type Y_D

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
		LC factor	Type of loadcase					
Q_A	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi V da traffico
	4	1.00	Exclusive	LC	A80		Q 1	
	5	1.00	Exclusive	LC	A80		Q 1_1	
	6	1.00	Exclusive	LC	A80		Q 2	
	7	1.00	Exclusive	LC	A80		Q 2_1	
	8	1.00	Exclusive	LC	A80		Q 3	
	9	1.00	Exclusive	LC	A80		Q 3_1	
	10	1.00	Exclusive	LC	A80		Q 4	
	11	1.00	Exclusive	LC	A80		Q 4_1	
	12	1.00	Exclusive	LC	A80		Q 5	
	13	1.00	Exclusive	LC	A80		Q 5_1	

Geometria ponticello
presuperposition actions without GPC

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
		LC factor	Type of loadcase					
	14	1.00	Exclusive	LC	A80		Q 6	
	15	1.00	Exclusive	LC	A80		Q 6_1	
	16	1.00	Exclusive	LC	A80		Q 7	
	17	1.00	Exclusive	LC	A80		Q 7_1	
	18	1.00	Exclusive	LC	A80		Q 8	
	19	1.00	Exclusive	LC	A80		Q 8_1	
Q_C	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi di frenatura
	24	1.00	Exclusive	LC	A81		Q f/a	
	25	1.00	Exclusive	LC	A81		Q -f/a	
T	Q	1.20	0.00	1.00	0.60	0.60	0.50	Temperatura
	21	1.00	UnsignedCond	LC				Variazione uniforme
	22	1.00	UnsignedCond	LC				Variazione non uniforme

Combination rule Number 26

Ultimate Earthquake combin.

Superposition according to manual MAXIMA formula 3
Resulting loadcases type Y_E

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
		LC factor	Type of loadcase					
E_X	E	1.00	1.00	1.00	1.00	1.00	1.00	Sisma
	26	1.00	Exclusive	LC	A10			Sisma X_1
	27	1.00	Exclusive	LC	A10			Sisma X_2
	28	1.00	Exclusive	LC	A10			Sisma X_3
	29	1.00	Exclusive	LC	A10			Sisma X_4
Q_B	Q	1.00	1.00	1.00	1.00	1.00	1.00	Carichi V da traffico sismico
	30	1.00	Exclusive	LC	A80			Qk sismico
T	Q	1.20	0.00	1.00	0.60	0.60	0.50	Temperatura
	21	1.00	UnsignedCond	LC				Variazione uniforme
	22	1.00	UnsignedCond	LC				Variazione non uniforme

Combination rule Number 29

Service: Rare combination

Superposition according to manual MAXIMA formula 4
Resulting loadcases type Y_G

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
		LC factor	Type of loadcase					
Q_A	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi V da traffico
	4	1.00	Exclusive	LC	A80		Q 1	
	5	1.00	Exclusive	LC	A80		Q 1_1	
	6	1.00	Exclusive	LC	A80		Q 2	
	7	1.00	Exclusive	LC	A80		Q 2_1	
	8	1.00	Exclusive	LC	A80		Q 3	
	9	1.00	Exclusive	LC	A80		Q 3_1	
	10	1.00	Exclusive	LC	A80		Q 4	
	11	1.00	Exclusive	LC	A80		Q 4_1	
	12	1.00	Exclusive	LC	A80		Q 5	
	13	1.00	Exclusive	LC	A80		Q 5_1	
	14	1.00	Exclusive	LC	A80		Q 6	
	15	1.00	Exclusive	LC	A80		Q 6_1	
	16	1.00	Exclusive	LC	A80		Q 7	
	17	1.00	Exclusive	LC	A80		Q 7_1	
	18	1.00	Exclusive	LC	A80		Q 8	
	19	1.00	Exclusive	LC	A80		Q 8_1	
Q_C	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi di frenatura
	24	1.00	Exclusive	LC	A81		Q f/a	
	25	1.00	Exclusive	LC	A81		Q -f/a	

Generated Loadcases

Number	Comb	Title
1141	11	MAX-MY BEAM
1142	11	MIN-MY BEAM
1143	11	MAX-VZ BEAM
1144	11	MIN-VZ BEAM
1145	11	MAX-MT BEAM
1146	11	MIN-MT BEAM
1147	11	MAX-N BEAM
1148	11	MIN-N BEAM
1149	11	MAX-MZ BEAM
1150	11	MIN-MZ BEAM
1151	11	MAX-VY BEAM
1152	11	MIN-VY BEAM

Geometria ponticello
presuperposition actions without GPC

Generated Loadcases

Number	Comb	Title	
1141	11	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
1142	11	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
1143	11	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
1144	11	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
1145	11	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
1146	11	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
1147	11	MAX-UX	NODE BEAM--N_SP-PTX_temporary
1148	11	MIN-UX	NODE BEAM--N_SP-PTX_temporary
1149	11	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
1150	11	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
1151	11	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
1152	11	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
1153	11	MAXPHIX	NODE _temporary
1154	11	MINPHIX	NODE _temporary
1155	11	MAXPHIY	NODE _temporary
1156	11	MINPHIY	NODE _temporary
1157	11	MAXPHIZ	NODE _temporary
1158	11	MINPHIZ	NODE _temporary
1341	13	MAX-MY	BEAM
1342	13	MIN-MY	BEAM
1343	13	MAX-VZ	BEAM
1344	13	MIN-VZ	BEAM
1345	13	MAX-MT	BEAM
1346	13	MIN-MT	BEAM
1347	13	MAX-N	BEAM
1348	13	MIN-N	BEAM
1349	13	MAX-MZ	BEAM
1350	13	MIN-MZ	BEAM
1351	13	MAX-VY	BEAM
1352	13	MIN-VY	BEAM
1341	13	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
1342	13	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
1343	13	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
1344	13	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
1345	13	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
1346	13	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
1347	13	MAX-UX	NODE BEAM--N_SP-PTX_temporary
1348	13	MIN-UX	NODE BEAM--N_SP-PTX_temporary
1349	13	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
1350	13	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
1351	13	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
1352	13	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
1353	13	MAXPHIX	NODE _temporary
1354	13	MINPHIX	NODE _temporary
1355	13	MAXPHIY	NODE _temporary
1356	13	MINPHIY	NODE _temporary
1357	13	MAXPHIZ	NODE _temporary
1358	13	MINPHIZ	NODE _temporary
1441	14	MAX-MY	BEAM
1442	14	MIN-MY	BEAM
1443	14	MAX-VZ	BEAM
1444	14	MIN-VZ	BEAM
1445	14	MAX-MT	BEAM
1446	14	MIN-MT	BEAM
1447	14	MAX-N	BEAM
1448	14	MIN-N	BEAM
1449	14	MAX-MZ	BEAM
1450	14	MIN-MZ	BEAM
1451	14	MAX-VY	BEAM
1452	14	MIN-VY	BEAM
1441	14	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
1442	14	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
1443	14	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
1444	14	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
1445	14	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
1446	14	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
1447	14	MAX-UX	NODE BEAM--N_SP-PTX_temporary
1448	14	MIN-UX	NODE BEAM--N_SP-PTX_temporary
1449	14	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
1450	14	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
1451	14	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
1452	14	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
1453	14	MAXPHIX	NODE _temporary
1454	14	MINPHIX	NODE _temporary
1455	14	MAXPHIY	NODE _temporary
1456	14	MINPHIY	NODE _temporary
1457	14	MAXPHIZ	NODE _temporary
1458	14	MINPHIZ	NODE _temporary



Geometria ponticello
presuperposition actions without GPC

Generated Loadcases

Number	Comb	Title	
1941	19	MAX-MY	BEAM
1942	19	MIN-MY	BEAM
1943	19	MAX-VZ	BEAM
1944	19	MIN-VZ	BEAM
1945	19	MAX-MT	BEAM
1946	19	MIN-MT	BEAM
1947	19	MAX-N	BEAM
1948	19	MIN-N	BEAM
1949	19	MAX-MZ	BEAM
1950	19	MIN-MZ	BEAM
1951	19	MAX-VY	BEAM
1952	19	MIN-VY	BEAM
1941	19	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
1942	19	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
1943	19	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
1944	19	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
1945	19	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
1946	19	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
1947	19	MAX-UX	NODE BEAM--N_SP-PTX_temporary
1948	19	MIN-UX	NODE BEAM--N_SP-PTX_temporary
1949	19	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
1950	19	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
1951	19	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
1952	19	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
1953	19	MAXPHIX	NODE _temporary
1954	19	MINPHIX	NODE _temporary
1955	19	MAXPHIY	NODE _temporary
1956	19	MINPHIY	NODE _temporary
1957	19	MAXPHIZ	NODE _temporary
1958	19	MINPHIZ	NODE _temporary
2141	21	MAX-MY	BEAM
2142	21	MIN-MY	BEAM
2143	21	MAX-VZ	BEAM
2144	21	MIN-VZ	BEAM
2145	21	MAX-MT	BEAM
2146	21	MIN-MT	BEAM
2147	21	MAX-N	BEAM
2148	21	MIN-N	BEAM
2149	21	MAX-MZ	BEAM
2150	21	MIN-MZ	BEAM
2151	21	MAX-VY	BEAM
2152	21	MIN-VY	BEAM
2141	21	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
2142	21	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
2143	21	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
2144	21	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
2145	21	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
2146	21	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
2147	21	MAX-UX	NODE BEAM--N_SP-PTX_temporary
2148	21	MIN-UX	NODE BEAM--N_SP-PTX_temporary
2149	21	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
2150	21	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
2151	21	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
2152	21	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
2153	21	MAXPHIX	NODE _temporary
2154	21	MINPHIX	NODE _temporary
2155	21	MAXPHIY	NODE _temporary
2156	21	MINPHIY	NODE _temporary
2157	21	MAXPHIZ	NODE _temporary
2158	21	MINPHIZ	NODE _temporary
2641	26	MAX-MY	BEAM
2642	26	MIN-MY	BEAM
2643	26	MAX-VZ	BEAM
2644	26	MIN-VZ	BEAM
2645	26	MAX-MT	BEAM
2646	26	MIN-MT	BEAM
2647	26	MAX-N	BEAM
2648	26	MIN-N	BEAM
2649	26	MAX-MZ	BEAM
2650	26	MIN-MZ	BEAM
2651	26	MAX-VY	BEAM
2652	26	MIN-VY	BEAM
2641	26	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
2642	26	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
2643	26	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
2644	26	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
2645	26	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
2646	26	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary

Geometria ponticello
presuperposition actions without GPC

Generated Loadcases

Number	Comb	Title	
2647	26	MAX-UX	NODE BEAM--N_SP-PTX_temporary
2648	26	MIN-UX	NODE BEAM--N_SP-PTX_temporary
2649	26	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
2650	26	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
2651	26	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
2652	26	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
2653	26	MAXPHIX	NODE _temporary
2654	26	MINPHIX	NODE _temporary
2655	26	MAXPHIY	NODE _temporary
2656	26	MINPHIY	NODE _temporary
2657	26	MAXPHIZ	NODE _temporary
2658	26	MINPHIZ	NODE _temporary
2941	29	MAX-MY	BEAM
2942	29	MIN-MY	BEAM
2943	29	MAX-VZ	BEAM
2944	29	MIN-VZ	BEAM
2945	29	MAX-MT	BEAM
2946	29	MIN-MT	BEAM
2947	29	MAX-N	BEAM
2948	29	MIN-N	BEAM
2949	29	MAX-MZ	BEAM
2950	29	MIN-MZ	BEAM
2951	29	MAX-VY	BEAM
2952	29	MIN-VY	BEAM
2941	29	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
2942	29	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
2943	29	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
2944	29	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
2945	29	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
2946	29	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
2947	29	MAX-UX	NODE BEAM--N_SP-PTX_temporary
2948	29	MIN-UX	NODE BEAM--N_SP-PTX_temporary
2949	29	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
2950	29	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
2951	29	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
2952	29	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
2953	29	MAXPHIX	NODE _temporary
2954	29	MINPHIX	NODE _temporary
2955	29	MAXPHIY	NODE _temporary
2956	29	MINPHIY	NODE _temporary
2957	29	MAXPHIZ	NODE _temporary
2958	29	MINPHIZ	NODE _temporary

Geometria ponticello
Final Superposition SLS and ULS including GPC

Superpositioning combinations:
rare, nonf, freq, perm, 1.0*, desi, acci, earq, fatigue
LC 1120, 1220, 1320, 1420, 1920, 2120, 2520, 2620, 2820, 2920
Type=Y_1, Y_2, Y_3, Y_4, Y_9, Y_D, Y_A, Y_E, Y_F, Y_G
.

Superposition according to Decreto Ministeriale per le Costruzioni 2008

Combination rule Number 111
Service: Rare combination
Superposition according to manual MAXIMA formula 4
Resulting loadcases type Service: Rare combination

Loadcase selection and Actions							
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor Type of loadcase							
C	G	1.20	0.00	1.00	1.00	1.00	Ritiro
5015	1.00	permanent	load	grouped	in	actions	creep&shrinkage
5025	1.00	permanent	load	grouped	in	actions	creep&shrinkage
5035	1.00	Conditional	LC				creep&shrinkage t-inf
5036	1.00	Combined	with	LC			creep&shrinkage t-inf
5037	1.00	Combined	with	LC			creep&shrinkage t-inf
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load g1
5003	1.00	permanent	load	grouped	in	load cases	Foundation
5004	1.00	permanent	load	grouped	in	load cases	Spinta terre
5010	1.00	permanent	load	grouped	in	load cases	DL-beams
5020	1.00	permanent	load	grouped	in	load cases	liquid concrete slab
5021	1.00	permanent	load	grouped	in	load cases	support change
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali
5028	1.00	permanent	load	grouped	in	load cases	G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
5009	1.00	permanent	load	grouped	in	actions	prestress beams
Y_1	Q	1.00	0.00	1.00	1.00	1.00	rare without gpc
1141	1.00	Exclusive	LC	A	7		MAX-MY BEAM
1142	1.00	Exclusive	LC	A	7		MIN-MY BEAM
1143	1.00	Exclusive	LC	A	7		MAX-VZ BEAM
1144	1.00	Exclusive	LC	A	7		MIN-VZ BEAM
1145	1.00	Exclusive	LC	A	7		MAX-MT BEAM
1146	1.00	Exclusive	LC	A	7		MIN-MT BEAM
1147	1.00	Exclusive	LC	A	7		MAX-N BEAM
1148	1.00	Exclusive	LC	A	7		MIN-N BEAM
1149	1.00	Exclusive	LC	A	7		MAX-MZ BEAM
1150	1.00	Exclusive	LC	A	7		MIN-MZ BEAM
1151	1.00	Exclusive	LC	A	7		MAX-VY BEAM
1152	1.00	Exclusive	LC	A	7		MIN-VY BEAM
1153	1.00	Exclusive	LC	A	7		MAXPHIX NODE _temporary
1154	1.00	Exclusive	LC	A	7		MINPHIX NODE _temporary
1155	1.00	Exclusive	LC	A	7		MAXPHIY NODE _temporary
1156	1.00	Exclusive	LC	A	7		MINPHIY NODE _temporary
1157	1.00	Exclusive	LC	A	7		MAXPHIZ NODE _temporary
1158	1.00	Exclusive	LC	A	7		MINPHIZ NODE _temporary

Combination rule Number 113
Service: Frequent combination
Superposition according to manual MAXIMA formula 5
Resulting loadcases type Service: Frequent combination

Loadcase selection and Actions							
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor Type of loadcase							
C	G	1.20	0.00	1.00	1.00	1.00	Ritiro
5015	1.00	permanent	load	grouped	in	actions	creep&shrinkage
5025	1.00	permanent	load	grouped	in	actions	creep&shrinkage
5035	1.00	Conditional	LC				creep&shrinkage t-inf
5036	1.00	Combined	with	LC			creep&shrinkage t-inf
5037	1.00	Combined	with	LC			creep&shrinkage t-inf
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load g1
5003	1.00	permanent	load	grouped	in	load cases	Foundation
5004	1.00	permanent	load	grouped	in	load cases	Spinta terre
5010	1.00	permanent	load	grouped	in	load cases	DL-beams
5020	1.00	permanent	load	grouped	in	load cases	liquid concrete slab
5021	1.00	permanent	load	grouped	in	load cases	support change
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali
5028	1.00	permanent	load	grouped	in	load cases	G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
5009	1.00	permanent	load	grouped	in	actions	prestress beams
Y_3	Q	1.00	0.00	1.00	1.00	1.00	freq without gpc
1341	1.00	Exclusive	LC	A	7		MAX-MY BEAM

Geometria ponticello
Final Superposition SLS and ULS including GPC

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	
LC factor	Type of loadcase						Title
1342	1.00	Exclusive	LC	A	7	MIN-MY BEAM	
1343	1.00	Exclusive	LC	A	7	MAX-VZ BEAM	
1344	1.00	Exclusive	LC	A	7	MIN-VZ BEAM	
1345	1.00	Exclusive	LC	A	7	MAX-MT BEAM	
1346	1.00	Exclusive	LC	A	7	MIN-MT BEAM	
1347	1.00	Exclusive	LC	A	7	MAX-N BEAM	
1348	1.00	Exclusive	LC	A	7	MIN-N BEAM	
1349	1.00	Exclusive	LC	A	7	MAX-MZ BEAM	
1350	1.00	Exclusive	LC	A	7	MIN-MZ BEAM	
1351	1.00	Exclusive	LC	A	7	MAX-VY BEAM	
1352	1.00	Exclusive	LC	A	7	MIN-VY BEAM	
1353	1.00	Exclusive	LC	A	7	MAXPHIX NODE	_temporary
1354	1.00	Exclusive	LC	A	7	MINPHIX NODE	_temporary
1355	1.00	Exclusive	LC	A	7	MAXPHIY NODE	_temporary
1356	1.00	Exclusive	LC	A	7	MINPHIY NODE	_temporary
1357	1.00	Exclusive	LC	A	7	MAXPHIZ NODE	_temporary
1358	1.00	Exclusive	LC	A	7	MINPHIZ NODE	_temporary

Combination rule Number 114

Service: Permanent combination

Superposition according to manual MAXIMA formula 7
Resulting loadcases type Service: Permanent combination

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2		
LC factor		Type of loadcase						Title	
C	G	1.20	0.00	1.00	1.00	1.00	1.00	Ritiro	
5015	1.00	permanent	load grouped in actions					creep&shrinkage	
5025	1.00	permanent	load grouped in actions					creep&shrinkage	
5035	1.00	Conditional LC						creep&shrinkage	t-inf
5036	1.00	Combined with LC						creep&shrinkage	t-inf
5037	1.00	Combined with LC						creep&shrinkage	t-inf
G_1	G	1.00	1.00	1.00	1.00	1.00	1.00	dead load g1	
5003	1.00	permanent	load grouped in load cases					Foundation	
5004	1.00	permanent	load grouped in load cases					Spinta terre	
5010	1.00	permanent	load grouped in load cases					DL-beams	
5020	1.00	permanent	load grouped in load cases					liquid concrete slab	
5021	1.00	permanent	load grouped in load cases					support change	
G_2	G	1.00	1.00	1.00	1.00	1.00	1.00	G non strutturali	
5028	1.00	permanent	load grouped in load cases					G_2	
P	P	1.00	1.00	1.00	1.00	1.00	1.00	Carichi G2	
5009	1.00	permanent	load grouped in actions					prestress beams	
Y_4	Q	1.00	0.00	1.00	1.00	1.00	1.00	perm without gpc	
1441	1.00	Exclusive LC	A 7					MAX-MY BEAM	
1442	1.00	Exclusive LC	A 7					MIN-MY BEAM	
1443	1.00	Exclusive LC	A 7					MAX-VZ BEAM	
1444	1.00	Exclusive LC	A 7					MIN-VZ BEAM	
1445	1.00	Exclusive LC	A 7					MAX-MT BEAM	
1446	1.00	Exclusive LC	A 7					MIN-MT BEAM	
1447	1.00	Exclusive LC	A 7					MAX-N BEAM	
1448	1.00	Exclusive LC	A 7					MIN-N BEAM	
1449	1.00	Exclusive LC	A 7					MAX-MZ BEAM	
1450	1.00	Exclusive LC	A 7					MIN-MZ BEAM	
1451	1.00	Exclusive LC	A 7					MAX-VY BEAM	
1452	1.00	Exclusive LC	A 7					MIN-VY BEAM	
1453	1.00	Exclusive LC	A 7					MAXPHIX NODE	_temporary
1454	1.00	Exclusive LC	A 7					MINPHIX NODE	_temporary
1455	1.00	Exclusive LC	A 7					MAXPHIY NODE	_temporary
1456	1.00	Exclusive LC	A 7					MINPHIY NODE	_temporary
1457	1.00	Exclusive LC	A 7					MAXPHIZ NODE	_temporary
1458	1.00	Exclusive LC	A 7					MINPHIZ NODE	_temporary

Combination rule Number 119

Service: Rare combination

Superposition according to manual MAXIMA formula 4
Resulting loadcases type Y_X

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2		
	LC factor	Type of loadcase						Title
C	G	1.00	1.00	1.00	1.00	1.00	Ritiro	
5015	1.00	permanent load grouped in actions						creep&shrinkage
5025	1.00	permanent load grouped in actions						creep&shrinkage
5035	1.00	Conditional LC						creep&shrinkage t-inf
5036	1.00	Combined with LC						creep&shrinkage t-inf

Geometria ponticello
Final Superposition SLS and ULS including GPC

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor			Type of loadcase				
5037	1.00		Combined with LC				creep&shrinkage t-inf
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load g1
5003	1.00		permanent load grouped in load cases				Foundation
5004	1.00		permanent load grouped in load cases				Spinta terre
5010	1.00		permanent load grouped in load cases				DL-beams
5020	1.00		permanent load grouped in load cases				liquid concrete slab
5021	1.00		permanent load grouped in load cases				support change
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali
5028	1.00		permanent load grouped in load cases				G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
5009	1.00		permanent load grouped in actions				prestress beams
Y_9	Q	1.00	0.00	1.00	1.00	1.00	1.0* without gpc
1941	1.00		Exclusive LC	A 7			MAX-MY BEAM
1942	1.00		Exclusive LC	A 7			MIN-MY BEAM
1943	1.00		Exclusive LC	A 7			MAX-VZ BEAM
1944	1.00		Exclusive LC	A 7			MIN-VZ BEAM
1945	1.00		Exclusive LC	A 7			MAX-MT BEAM
1946	1.00		Exclusive LC	A 7			MIN-MT BEAM
1947	1.00		Exclusive LC	A 7			MAX-N BEAM
1948	1.00		Exclusive LC	A 7			MIN-N BEAM
1949	1.00		Exclusive LC	A 7			MAX-MZ BEAM
1950	1.00		Exclusive LC	A 7			MIN-MZ BEAM
1951	1.00		Exclusive LC	A 7			MAX-VY BEAM
1952	1.00		Exclusive LC	A 7			MIN-VY BEAM
1953	1.00		Exclusive LC	A 7			MAXPHIX NODE _temporary
1954	1.00		Exclusive LC	A 7			MINPHIX NODE _temporary
1955	1.00		Exclusive LC	A 7			MAXPHIY NODE _temporary
1956	1.00		Exclusive LC	A 7			MINPHIY NODE _temporary
1957	1.00		Exclusive LC	A 7			MAXPHIZ NODE _temporary
1958	1.00		Exclusive LC	A 7			MINPHIZ NODE _temporary

Combination rule Number 121
Ultimate Design combination

Superposition according to manual MAXIMA formula 1
Resulting loadcases type Ultimate Design combination

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor			Type of loadcase				
C	G	1.35	1.00	1.00	1.00	1.00	Ritiro
5015	1.00		permanent load grouped in actions				creep&shrinkage
5025	1.00		permanent load grouped in actions				creep&shrinkage
5035	1.00		Conditional LC				creep&shrinkage t-inf
5036	1.00		Combined with LC				creep&shrinkage t-inf
5037	1.00		Combined with LC				creep&shrinkage t-inf
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load g1
5003	1.00		permanent load grouped in load cases				Foundation
5004	1.00		permanent load grouped in load cases				Spinta terre
5010	1.00		permanent load grouped in load cases				DL-beams
5020	1.00		permanent load grouped in load cases				liquid concrete slab
5021	1.00		permanent load grouped in load cases				support change
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali
5028	1.00		permanent load grouped in load cases				G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
5009	1.00		permanent load grouped in actions				prestress beams
Y_D	Q	1.00	0.00	1.00	1.00	1.00	desi without gpc
2141	1.00		Exclusive LC	A 7			MAX-MY BEAM
2142	1.00		Exclusive LC	A 7			MIN-MY BEAM
2143	1.00		Exclusive LC	A 7			MAX-VZ BEAM
2144	1.00		Exclusive LC	A 7			MIN-VZ BEAM
2145	1.00		Exclusive LC	A 7			MAX-MT BEAM
2146	1.00		Exclusive LC	A 7			MIN-MT BEAM
2147	1.00		Exclusive LC	A 7			MAX-N BEAM
2148	1.00		Exclusive LC	A 7			MIN-N BEAM
2149	1.00		Exclusive LC	A 7			MAX-MZ BEAM
2150	1.00		Exclusive LC	A 7			MIN-MZ BEAM
2151	1.00		Exclusive LC	A 7			MAX-VY BEAM
2152	1.00		Exclusive LC	A 7			MIN-VY BEAM
2153	1.00		Exclusive LC	A 7			MAXPHIX NODE _temporary
2154	1.00		Exclusive LC	A 7			MINPHIX NODE _temporary
2155	1.00		Exclusive LC	A 7			MAXPHIY NODE _temporary
2156	1.00		Exclusive LC	A 7			MINPHIY NODE _temporary
2157	1.00		Exclusive LC	A 7			MAXPHIZ NODE _temporary
2158	1.00		Exclusive LC	A 7			MINPHIZ NODE _temporary

Geometria ponticello
Final Superposition SLS and ULS including GPC

Combination rule Number 126
Ultimate Earthquake combin.
Superposition according to manual MAXIMA formula 3
Resulting loadcases type Ultimate Earthquake combin.

Loadcase selection and Actions							
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor		Type of loadcase					
C	G	1.20	0.00	1.00	1.00	1.00	Ritiro
	5015	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5025	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5035	1.00	Conditional	LC			creep&shrinkage t-inf
	5036	1.00	Combined with	LC			creep&shrinkage t-inf
	5037	1.00	Combined with	LC			creep&shrinkage t-inf
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load g1
	5003	1.00	permanent	load	grouped	in load cases	Foundation
	5004	1.00	permanent	load	grouped	in load cases	Spinta terre
	5010	1.00	permanent	load	grouped	in load cases	DL-beams
	5020	1.00	permanent	load	grouped	in load cases	liquid concrete slab
	5021	1.00	permanent	load	grouped	in load cases	support change
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali
	5028	1.00	permanent	load	grouped	in load cases	G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
	5009	1.00	permanent	load	grouped	in actions	prestress beams
Y_E	Q	1.00	0.00	1.00	1.00	1.00	earq without gpc
	2641	1.00	Exclusive	LC	A 7		MAX-MY BEAM
	2642	1.00	Exclusive	LC	A 7		MIN-MY BEAM
	2643	1.00	Exclusive	LC	A 7		MAX-VZ BEAM
	2644	1.00	Exclusive	LC	A 7		MIN-VZ BEAM
	2645	1.00	Exclusive	LC	A 7		MAX-MT BEAM
	2646	1.00	Exclusive	LC	A 7		MIN-MT BEAM
	2647	1.00	Exclusive	LC	A 7		MAX-N BEAM
	2648	1.00	Exclusive	LC	A 7		MIN-N BEAM
	2649	1.00	Exclusive	LC	A 7		MAX-MZ BEAM
	2650	1.00	Exclusive	LC	A 7		MIN-MZ BEAM
	2651	1.00	Exclusive	LC	A 7		MAX-VY BEAM
	2652	1.00	Exclusive	LC	A 7		MIN-VY BEAM
	2653	1.00	Exclusive	LC	A 7		MAXPHIX NODE _temporary
	2654	1.00	Exclusive	LC	A 7		MINPHIX NODE _temporary
	2655	1.00	Exclusive	LC	A 7		MAXPHIY NODE _temporary
	2656	1.00	Exclusive	LC	A 7		MINPHIY NODE _temporary
	2657	1.00	Exclusive	LC	A 7		MAXPHIZ NODE _temporary
	2658	1.00	Exclusive	LC	A 7		MINPHIZ NODE _temporary

Combination rule Number 129
Service: Rare combination
Superposition according to manual MAXIMA formula 4
Resulting loadcases type Service: Rare combination

Loadcase selection and Actions							
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor		Type of loadcase					
C	G	1.00	1.00	1.00	1.00	1.00	Ritiro
	5015	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5025	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5035	1.00	permanent	load	grouped	in actions	creep&shrinkage t-inf
	5036	1.00	permanent	load	grouped	in actions	creep&shrinkage t-inf
	5037	1.00	permanent	load	grouped	in actions	creep&shrinkage t-inf
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load g1
	5003	1.00	permanent	load	grouped	in load cases	Foundation
	5004	1.00	permanent	load	grouped	in load cases	Spinta terre
	5010	1.00	permanent	load	grouped	in load cases	DL-beams
	5020	1.00	permanent	load	grouped	in load cases	liquid concrete slab
	5021	1.00	permanent	load	grouped	in load cases	support change
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali
	5028	1.00	permanent	load	grouped	in load cases	G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
	5009	0.90	permanent	load	grouped	in actions	prestress beams
Y_G	Q	1.00	0.00	1.00	1.00	1.00	stress range L+Q
	2941	1.00	Exclusive	LC	A 7		MAX-MY BEAM
	2942	1.00	Exclusive	LC	A 7		MIN-MY BEAM
	2943	1.00	Exclusive	LC	A 7		MAX-VZ BEAM
	2944	1.00	Exclusive	LC	A 7		MIN-VZ BEAM
	2945	1.00	Exclusive	LC	A 7		MAX-MT BEAM
	2946	1.00	Exclusive	LC	A 7		MIN-MT BEAM
	2947	1.00	Exclusive	LC	A 7		MAX-N BEAM
	2948	1.00	Exclusive	LC	A 7		MIN-N BEAM
	2949	1.00	Exclusive	LC	A 7		MAX-MZ BEAM
	2950	1.00	Exclusive	LC	A 7		MIN-MZ BEAM

Geometria ponticello
Final Superposition SLS and ULS including GPC

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC		factor	Type of loadcase					
2951		1.00	Exclusive	LC	A 7		MAX-VY	BEAM
2952		1.00	Exclusive	LC	A 7		MIN-VY	BEAM
2953		1.00	Exclusive	LC	A 7		MAXPHIX	NODE _temporary
2954		1.00	Exclusive	LC	A 7		MINPHIX	NODE _temporary
2955		1.00	Exclusive	LC	A 7		MAXPHIY	NODE _temporary
2956		1.00	Exclusive	LC	A 7		MINPHIY	NODE _temporary
2957		1.00	Exclusive	LC	A 7		MAXPHIZ	NODE _temporary
2958		1.00	Exclusive	LC	A 7		MINPHIZ	NODE _temporary

Generated Loadcases

Number	Comb	Title	
1121	111	MAXR-MY	BEAM
1122	111	MINR-MY	BEAM
1123	111	MAXR-VZ	BEAM
1124	111	MINR-VZ	BEAM
1125	111	MAXR-MT	BEAM
1126	111	MINR-MT	BEAM
1127	111	MAXR-N	BEAM
1128	111	MINR-N	BEAM
1129	111	MAXR-MZ	BEAM
1130	111	MINR-MZ	BEAM
1131	111	MAXR-VY	BEAM
1132	111	MINR-VY	BEAM
1121	111	MAXR-PX	NODE BEAM-MY_SPRI-P_rare
1122	111	MINR-PX	NODE BEAM-MY_SPRI-P_rare
1123	111	MAXR-PY	NODE BEAM-VZ_SPRI-T_rare
1124	111	MINR-PY	NODE BEAM-VZ_SPRI-T_rare
1125	111	MAXR-PZ	NODE BEAM-MT_SPRI-M_rare
1126	111	MINR-PZ	NODE BEAM-MT_SPRI-M_rare
1127	111	MAXR-UX	NODE BEAM--N_SP-PTX_rare
1128	111	MINR-UX	NODE BEAM--N_SP-PTX_rare
1129	111	MAXR-UY	NODE BEAM-MZ_SP-PTY_rare
1130	111	MINR-UY	NODE BEAM-MZ_SP-PTY_rare
1131	111	MAXR-UZ	NODE BEAM-VY_SP-PTZ_rare
1132	111	MINR-UZ	NODE BEAM-VY_SP-PTZ_rare
1133	111	MAXRPHIX	NODE _rare
1134	111	MINRPHIX	NODE _rare
1135	111	MAXRPHIY	NODE _rare
1136	111	MINRPHIY	NODE _rare
1137	111	MAXRPHIZ	NODE _rare
1138	111	MINRPHIZ	NODE _rare
1321	113	MAXF-MY	BEAM
1322	113	MINF-MY	BEAM
1323	113	MAXF-VZ	BEAM
1324	113	MINF-VZ	BEAM
1325	113	MAXF-MT	BEAM
1326	113	MINF-MT	BEAM
1327	113	MAXF-N	BEAM
1328	113	MINF-N	BEAM
1329	113	MAXF-MZ	BEAM
1330	113	MINF-MZ	BEAM
1331	113	MAXF-VY	BEAM
1332	113	MINF-VY	BEAM
1321	113	MAXF-PX	NODE BEAM-MY_SPRI-P_freq
1322	113	MINF-PX	NODE BEAM-MY_SPRI-P_freq
1323	113	MAXF-PY	NODE BEAM-VZ_SPRI-T_freq
1324	113	MINF-PY	NODE BEAM-VZ_SPRI-T_freq
1325	113	MAXF-PZ	NODE BEAM-MT_SPRI-M_freq
1326	113	MINF-PZ	NODE BEAM-MT_SPRI-M_freq
1327	113	MAXF-UX	NODE BEAM--N_SP-PTX_freq
1328	113	MINF-UX	NODE BEAM--N_SP-PTX_freq
1329	113	MAXF-UY	NODE BEAM-MZ_SP-PTY_freq
1330	113	MINF-UY	NODE BEAM-MZ_SP-PTY_freq
1331	113	MAXF-UZ	NODE BEAM-VY_SP-PTZ_freq
1332	113	MINF-UZ	NODE BEAM-VY_SP-PTZ_freq
1333	113	MAXFPHIX	NODE _freq
1334	113	MINFPHIX	NODE _freq
1335	113	MAXFPHIY	NODE _freq
1336	113	MINFPHIY	NODE _freq
1337	113	MAXFPHIZ	NODE _freq
1338	113	MINFPHIZ	NODE _freq
1421	114	MAXP-MY	BEAM
1422	114	MINP-MY	BEAM
1423	114	MAXP-VZ	BEAM
1424	114	MINP-VZ	BEAM
1425	114	MAXP-MT	BEAM
1426	114	MINP-MT	BEAM

Geometria ponticello
Final Superposition SLS and ULS including GPC

Generated Loadcases

Number	Comb	Title	
1427	114	MAXP-N	BEAM
1428	114	MINP-N	BEAM
1429	114	MAXP-MZ	BEAM
1430	114	MINP-MZ	BEAM
1431	114	MAXP-VY	BEAM
1432	114	MINP-VY	BEAM
1421	114	MAXP-PX	NODE BEAM-MY_SPRI-P_perm
1422	114	MINP-PX	NODE BEAM-MY_SPRI-P_perm
1423	114	MAXP-PY	NODE BEAM-VZ_SPRI-T_perm
1424	114	MINP-PY	NODE BEAM-VZ_SPRI-T_perm
1425	114	MAXP-PZ	NODE BEAM-MT_SPRI-M_perm
1426	114	MINP-PZ	NODE BEAM-MT_SPRI-M_perm
1427	114	MAXP-UX	NODE BEAM--N_SP-PTX_perm
1428	114	MINP-UX	NODE BEAM--N_SP-PTX_perm
1429	114	MAXP-UY	NODE BEAM-MZ_SP-PTY_perm
1430	114	MINP-UY	NODE BEAM-MZ_SP-PTY_perm
1431	114	MAXP-UZ	NODE BEAM-VY_SP-PTZ_perm
1432	114	MINP-UZ	NODE BEAM-VY_SP-PTZ_perm
1433	114	MAXPPHIX	NODE _perm
1434	114	MINPPHIX	NODE _perm
1435	114	MAXPPHIY	NODE _perm
1436	114	MINPPHIY	NODE _perm
1437	114	MAXPPHIZ	NODE _perm
1438	114	MINPPHIZ	NODE _perm
1921	119	MAX-MY	BEAM
1922	119	MIN-MY	BEAM
1923	119	MAX-VZ	BEAM
1924	119	MIN-VZ	BEAM
1925	119	MAX-MT	BEAM
1926	119	MIN-MT	BEAM
1927	119	MAX-N	BEAM
1928	119	MIN-N	BEAM
1929	119	MAX-MZ	BEAM
1930	119	MIN-MZ	BEAM
1931	119	MAX-VY	BEAM
1932	119	MIN-VY	BEAM
1921	119	MAX-PX	NODE BEAM-MY_SPRI-P_1.0_
1922	119	MIN-PX	NODE BEAM-MY_SPRI-P_1.0_
1923	119	MAX-PY	NODE BEAM-VZ_SPRI-T_1.0_
1924	119	MIN-PY	NODE BEAM-VZ_SPRI-T_1.0_
1925	119	MAX-PZ	NODE BEAM-MT_SPRI-M_1.0_
1926	119	MIN-PZ	NODE BEAM-MT_SPRI-M_1.0_
1927	119	MAX-UX	NODE BEAM--N_SP-PTX_1.0_
1928	119	MIN-UX	NODE BEAM--N_SP-PTX_1.0_
1929	119	MAX-UY	NODE BEAM-MZ_SP-PTY_1.0_
1930	119	MIN-UY	NODE BEAM-MZ_SP-PTY_1.0_
1931	119	MAX-UZ	NODE BEAM-VY_SP-PTZ_1.0_
1932	119	MIN-UZ	NODE BEAM-VY_SP-PTZ_1.0_
1933	119	MAXPHIX	NODE _1.0_
1934	119	MINPHIX	NODE _1.0_
1935	119	MAXPHIY	NODE _1.0_
1936	119	MINPHIY	NODE _1.0_
1937	119	MAXPHIZ	NODE _1.0_
1938	119	MINPHIZ	NODE _1.0_
2121	121	MAX-MY	BEAM
2122	121	MIN-MY	BEAM
2123	121	MAX-VZ	BEAM
2124	121	MIN-VZ	BEAM
2125	121	MAX-MT	BEAM
2126	121	MIN-MT	BEAM
2127	121	MAX-N	BEAM
2128	121	MIN-N	BEAM
2129	121	MAX-MZ	BEAM
2130	121	MIN-MZ	BEAM
2131	121	MAX-VY	BEAM
2132	121	MIN-VY	BEAM
2121	121	MAX-PX	NODE BEAM-MY_SPRI-P_desi
2122	121	MIN-PX	NODE BEAM-MY_SPRI-P_desi
2123	121	MAX-PY	NODE BEAM-VZ_SPRI-T_desi
2124	121	MIN-PY	NODE BEAM-VZ_SPRI-T_desi
2125	121	MAX-PZ	NODE BEAM-MT_SPRI-M_desi
2126	121	MIN-PZ	NODE BEAM-MT_SPRI-M_desi
2127	121	MAX-UX	NODE BEAM--N_SP-PTX_desi
2128	121	MIN-UX	NODE BEAM--N_SP-PTX_desi
2129	121	MAX-UY	NODE BEAM-MZ_SP-PTY_desi
2130	121	MIN-UY	NODE BEAM-MZ_SP-PTY_desi
2131	121	MAX-UZ	NODE BEAM-VY_SP-PTZ_desi
2132	121	MIN-UZ	NODE BEAM-VY_SP-PTZ_desi

Geometria ponticello
Final Superposition SLS and ULS including GPC

Generated Loadcases

Number	Comb	Title	
2133	121	MAXPHIX	NODE _desi
2134	121	MINPHIX	NODE _desi
2135	121	MAXPHIY	NODE _desi
2136	121	MINPHIY	NODE _desi
2137	121	MAXPHIZ	NODE _desi
2138	121	MINPHIZ	NODE _desi
2621	126	MAXE-MY	BEAM
2622	126	MINE-MY	BEAM
2623	126	MAXE-VZ	BEAM
2624	126	MINE-VZ	BEAM
2625	126	MAXE-MT	BEAM
2626	126	MINE-MT	BEAM
2627	126	MAXE-N	BEAM
2628	126	MINE-N	BEAM
2629	126	MAXE-MZ	BEAM
2630	126	MINE-MZ	BEAM
2631	126	MAXE-VY	BEAM
2632	126	MINE-VY	BEAM
2621	126	MAXE-PX	NODE BEAM-MY_SPRI-P_earq
2622	126	MINE-PX	NODE BEAM-MY_SPRI-P_earq
2623	126	MAXE-PY	NODE BEAM-VZ_SPRI-T_earq
2624	126	MINE-PY	NODE BEAM-VZ_SPRI-T_earq
2625	126	MAXE-PZ	NODE BEAM-MT_SPRI-M_earq
2626	126	MINE-PZ	NODE BEAM-MT_SPRI-M_earq
2627	126	MAXE-UX	NODE BEAM--N_SP-PTX_earq
2628	126	MINE-UX	NODE BEAM--N_SP-PTX_earq
2629	126	MAXE-UY	NODE BEAM-MZ_SP-PTY_earq
2630	126	MINE-UY	NODE BEAM-MZ_SP-PTY_earq
2631	126	MAXE-UZ	NODE BEAM-VY_SP-PTZ_earq
2632	126	MINE-UZ	NODE BEAM-VY_SP-PTZ_earq
2633	126	MAXEPHIX	NODE _earq
2634	126	MINEPHIX	NODE _earq
2635	126	MAXEPHIY	NODE _earq
2636	126	MINEPHIY	NODE _earq
2637	126	MAXEPHIZ	NODE _earq
2638	126	MINEPHIZ	NODE _earq
2921	129	MAXR-MY	BEAM
2922	129	MINR-MY	BEAM
2923	129	MAXR-VZ	BEAM
2924	129	MINR-VZ	BEAM
2925	129	MAXR-MT	BEAM
2926	129	MINR-MT	BEAM
2927	129	MAXR-N	BEAM
2928	129	MINR-N	BEAM
2929	129	MAXR-MZ	BEAM
2930	129	MINR-MZ	BEAM
2931	129	MAXR-VY	BEAM
2932	129	MINR-VY	BEAM
2921	129	MAXR-PX	NODE BEAM-MY_SPRI-P_rare
2922	129	MINR-PX	NODE BEAM-MY_SPRI-P_rare
2923	129	MAXR-PY	NODE BEAM-VZ_SPRI-T_rare
2924	129	MINR-PY	NODE BEAM-VZ_SPRI-T_rare
2925	129	MAXR-PZ	NODE BEAM-MT_SPRI-M_rare
2926	129	MINR-PZ	NODE BEAM-MT_SPRI-M_rare
2927	129	MAXR-UX	NODE BEAM--N_SP-PTX_rare
2928	129	MINR-UX	NODE BEAM--N_SP-PTX_rare
2929	129	MAXR-UY	NODE BEAM-MZ_SP-PTY_rare
2930	129	MINR-UY	NODE BEAM-MZ_SP-PTY_rare
2931	129	MAXR-UZ	NODE BEAM-VY_SP-PTZ_rare
2932	129	MINR-UZ	NODE BEAM-VY_SP-PTZ_rare
2933	129	MAXRPHIX	NODE _rare
2934	129	MINRPHIX	NODE _rare
2935	129	MAXRPHIY	NODE _rare
2936	129	MINRPHIY	NODE _rare
2937	129	MAXRPHIZ	NODE _rare
2938	129	MINRPHIZ	NODE _rare

Geometria ponticello
Final Superpos. with pkinf-pksub -> LC 9000...

Superpositioning combinations:
rare, nonf, freq, perm, 1.0*, desi, acci, earq, fatigue
LC 9120, 9220, 9320, 9420 pkinf+pksub
.

Superposition according to Decreto Ministeriale per le Costruzioni 2008

Combination rule Number 211
Service: Rare combination
Superposition according to manual MAXIMA formula 4
Resulting loadcases type Y_X

Loadcase selection and Actions							
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor Type of loadcase							
C	G	1.20	0.00	1.00	1.00	1.00	Ritiro
	5015	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5025	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5035	1.00	Conditional	LC			creep&shrinkage t-inf
	5036	1.00	Combined with	LC			creep&shrinkage t-inf
	5037	1.00	Combined with	LC			creep&shrinkage t-inf
G_1	G	1.35	1.00	1.00	1.00	1.00	dead load g1
	5003	1.00	permanent	load	grouped	in load cases	Foundation
	5004	1.00	permanent	load	grouped	in load cases	Spinta terre
	5010	1.00	permanent	load	grouped	in load cases	DL-beams
	5020	1.00	permanent	load	grouped	in load cases	liquid concrete slab
	5021	1.00	permanent	load	grouped	in load cases	support change
G_2	G	1.50	0.00	1.00	1.00	1.00	G non strutturali
	5028	1.00	permanent	load	grouped	in load cases	G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
	5009	0.90	permanent	load	grouped	in actions	prestress beams
	5009	0.20	Conditional	LC			prestress beams
Y_1	Q	1.00	0.00	1.00	1.00	1.00	rare without gpc
	1141	1.00	Exclusive	LC	A	7	MAX-MY BEAM
	1142	1.00	Exclusive	LC	A	7	MIN-MY BEAM
	1143	1.00	Exclusive	LC	A	7	MAX-VZ BEAM
	1144	1.00	Exclusive	LC	A	7	MIN-VZ BEAM
	1145	1.00	Exclusive	LC	A	7	MAX-MT BEAM
	1146	1.00	Exclusive	LC	A	7	MIN-MT BEAM
	1147	1.00	Exclusive	LC	A	7	MAX-N BEAM
	1148	1.00	Exclusive	LC	A	7	MIN-N BEAM
	1149	1.00	Exclusive	LC	A	7	MAX-MZ BEAM
	1150	1.00	Exclusive	LC	A	7	MIN-MZ BEAM
	1151	1.00	Exclusive	LC	A	7	MAX-VY BEAM
	1152	1.00	Exclusive	LC	A	7	MIN-VY BEAM
	1153	1.00	Exclusive	LC	A	7	MAXPHIX NODE _temporary
	1154	1.00	Exclusive	LC	A	7	MINPHIX NODE _temporary
	1155	1.00	Exclusive	LC	A	7	MAXPHIY NODE _temporary
	1156	1.00	Exclusive	LC	A	7	MINPHIY NODE _temporary
	1157	1.00	Exclusive	LC	A	7	MAXPHIZ NODE _temporary
	1158	1.00	Exclusive	LC	A	7	MINPHIZ NODE _temporary

Combination rule Number 213
Service: Frequent combination
Superposition according to manual MAXIMA formula 5
Resulting loadcases type Y_X

Loadcase selection and Actions							
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor Type of loadcase							
C	G	1.20	0.00	1.00	1.00	1.00	Ritiro
	5015	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5025	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5035	1.00	Conditional	LC			creep&shrinkage t-inf
	5036	1.00	Combined with	LC			creep&shrinkage t-inf
	5037	1.00	Combined with	LC			creep&shrinkage t-inf
G_1	G	1.35	1.00	1.00	1.00	1.00	dead load g1
	5003	1.00	permanent	load	grouped	in load cases	Foundation
	5004	1.00	permanent	load	grouped	in load cases	Spinta terre
	5010	1.00	permanent	load	grouped	in load cases	DL-beams
	5020	1.00	permanent	load	grouped	in load cases	liquid concrete slab
	5021	1.00	permanent	load	grouped	in load cases	support change
G_2	G	1.50	0.00	1.00	1.00	1.00	G non strutturali
	5028	1.00	permanent	load	grouped	in load cases	G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
	5009	0.90	permanent	load	grouped	in actions	prestress beams
	5009	0.20	Conditional	LC			prestress beams
Y_3	Q	1.00	0.00	1.00	1.00	1.00	freq without gpc

Geometria ponticello
Final Superpos. with pkinf-pksub -> LC 9000...

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title	
LC factor				Type of loadcase				
1341	1.00	Exclusive	LC	A	7		MAX-MY	BEAM
1342	1.00	Exclusive	LC	A	7		MIN-MY	BEAM
1343	1.00	Exclusive	LC	A	7		MAX-VZ	BEAM
1344	1.00	Exclusive	LC	A	7		MIN-VZ	BEAM
1345	1.00	Exclusive	LC	A	7		MAX-MT	BEAM
1346	1.00	Exclusive	LC	A	7		MIN-MT	BEAM
1347	1.00	Exclusive	LC	A	7		MAX-N	BEAM
1348	1.00	Exclusive	LC	A	7		MIN-N	BEAM
1349	1.00	Exclusive	LC	A	7		MAX-MZ	BEAM
1350	1.00	Exclusive	LC	A	7		MIN-MZ	BEAM
1351	1.00	Exclusive	LC	A	7		MAX-VY	BEAM
1352	1.00	Exclusive	LC	A	7		MIN-VY	BEAM
1353	1.00	Exclusive	LC	A	7		MAXPHIX	NODE _temporary
1354	1.00	Exclusive	LC	A	7		MINPHIX	NODE _temporary
1355	1.00	Exclusive	LC	A	7		MAXPHIY	NODE _temporary
1356	1.00	Exclusive	LC	A	7		MINPHIY	NODE _temporary
1357	1.00	Exclusive	LC	A	7		MAXPHIZ	NODE _temporary
1358	1.00	Exclusive	LC	A	7		MINPHIZ	NODE _temporary

Combination rule Number 214

Service: Permanent combination

Superposition according to manual MAXIMA formula 7
Resulting loadcases type Y_X

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title	
LC factor				Type of loadcase				
C	G	1.20	0.00	1.00	1.00	1.00	Ritiro	
	5015	1.00	permanent	load	grouped in actions		creep&shrinkage	
	5025	1.00	permanent	load	grouped in actions		creep&shrinkage	
	5035	1.00	Conditional	LC			creep&shrinkage t-inf	
	5036	1.00	Combined with	LC			creep&shrinkage t-inf	
	5037	1.00	Combined with	LC			creep&shrinkage t-inf	
G_1	G	1.35	1.00	1.00	1.00	1.00	dead load g1	
	5003	1.00	permanent	load	grouped in load cases		Foundation	
	5004	1.00	permanent	load	grouped in load cases		Spinta terre	
	5010	1.00	permanent	load	grouped in load cases		DL-beams	
	5020	1.00	permanent	load	grouped in load cases		liquid concrete slab	
	5021	1.00	permanent	load	grouped in load cases		support change	
G_2	G	1.50	0.00	1.00	1.00	1.00	G non strutturali	
	5028	1.00	permanent	load	grouped in load cases		G_2	
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2	
	5009	0.90	permanent	load	grouped in actions		prestress beams	
	5009	0.20	Conditional	LC			prestress beams	
Y_4	Q	1.00	0.00	1.00	1.00	1.00	perm without gpc	
	1441	1.00	Exclusive	LC	A	7	MAX-MY	BEAM
	1442	1.00	Exclusive	LC	A	7	MIN-MY	BEAM
	1443	1.00	Exclusive	LC	A	7	MAX-VZ	BEAM
	1444	1.00	Exclusive	LC	A	7	MIN-VZ	BEAM
	1445	1.00	Exclusive	LC	A	7	MAX-MT	BEAM
	1446	1.00	Exclusive	LC	A	7	MIN-MT	BEAM
	1447	1.00	Exclusive	LC	A	7	MAX-N	BEAM
	1448	1.00	Exclusive	LC	A	7	MIN-N	BEAM
	1449	1.00	Exclusive	LC	A	7	MAX-MZ	BEAM
	1450	1.00	Exclusive	LC	A	7	MIN-MZ	BEAM
	1451	1.00	Exclusive	LC	A	7	MAX-VY	BEAM
	1452	1.00	Exclusive	LC	A	7	MIN-VY	BEAM
	1453	1.00	Exclusive	LC	A	7	MAXPHIX	NODE _temporary
	1454	1.00	Exclusive	LC	A	7	MINPHIX	NODE _temporary
	1455	1.00	Exclusive	LC	A	7	MAXPHIY	NODE _temporary
	1456	1.00	Exclusive	LC	A	7	MINPHIY	NODE _temporary
	1457	1.00	Exclusive	LC	A	7	MAXPHIZ	NODE _temporary
	1458	1.00	Exclusive	LC	A	7	MINPHIZ	NODE _temporary

Generated Loadcases

Number	Comb	Title
9121	211	MAX-MY BEAM
9122	211	MIN-MY BEAM
9123	211	MAX-VZ BEAM
9124	211	MIN-VZ BEAM
9125	211	MAX-MT BEAM
9126	211	MIN-MT BEAM
9127	211	MAX-N BEAM
9128	211	MIN-N BEAM
9129	211	MAX-MZ BEAM
9130	211	MIN-MZ BEAM

Geometria ponticello
Final Superpos. with pkinf-pksub -> LC 9000...

Generated Loadcases

Number	Comb	Title	
9131	211	MAX-VY	BEAM
9132	211	MIN-VY	BEAM
9121	211	MAX-PX	NODE BEAM-MY_SPRI-P_R_infsub
9122	211	MIN-PX	NODE BEAM-MY_SPRI-P_R_infsub
9123	211	MAX-PY	NODE BEAM-VZ_SPRI-T_R_infsub
9124	211	MIN-PY	NODE BEAM-VZ_SPRI-T_R_infsub
9125	211	MAX-PZ	NODE BEAM-MT_SPRI-M_R_infsub
9126	211	MIN-PZ	NODE BEAM-MT_SPRI-M_R_infsub
9127	211	MAX-UX	NODE BEAM--N_SP-PTX_R_infsub
9128	211	MIN-UX	NODE BEAM--N_SP-PTX_R_infsub
9129	211	MAX-UY	NODE BEAM-MZ_SP-PTY_R_infsub
9130	211	MIN-UY	NODE BEAM-MZ_SP-PTY_R_infsub
9131	211	MAX-UZ	NODE BEAM-VY_SP-PTZ_R_infsub
9132	211	MIN-UZ	NODE BEAM-VY_SP-PTZ_R_infsub
9133	211	MAXPHIX	NODE _R_infsub
9134	211	MINPHIX	NODE _R_infsub
9135	211	MAXPHIY	NODE _R_infsub
9136	211	MINPHIY	NODE _R_infsub
9137	211	MAXPHIZ	NODE _R_infsub
9138	211	MINPHIZ	NODE _R_infsub
9321	213	MAX-MY	BEAM
9322	213	MIN-MY	BEAM
9323	213	MAX-VZ	BEAM
9324	213	MIN-VZ	BEAM
9325	213	MAX-MT	BEAM
9326	213	MIN-MT	BEAM
9327	213	MAX-N	BEAM
9328	213	MIN-N	BEAM
9329	213	MAX-MZ	BEAM
9330	213	MIN-MZ	BEAM
9331	213	MAX-VY	BEAM
9332	213	MIN-VY	BEAM
9321	213	MAX-PX	NODE BEAM-MY_SPRI-P_F_infsub
9322	213	MIN-PX	NODE BEAM-MY_SPRI-P_F_infsub
9323	213	MAX-PY	NODE BEAM-VZ_SPRI-T_F_infsub
9324	213	MIN-PY	NODE BEAM-VZ_SPRI-T_F_infsub
9325	213	MAX-PZ	NODE BEAM-MT_SPRI-M_F_infsub
9326	213	MIN-PZ	NODE BEAM-MT_SPRI-M_F_infsub
9327	213	MAX-UX	NODE BEAM--N_SP-PTX_F_infsub
9328	213	MIN-UX	NODE BEAM--N_SP-PTX_F_infsub
9329	213	MAX-UY	NODE BEAM-MZ_SP-PTY_F_infsub
9330	213	MIN-UY	NODE BEAM-MZ_SP-PTY_F_infsub
9331	213	MAX-UZ	NODE BEAM-VY_SP-PTZ_F_infsub
9332	213	MIN-UZ	NODE BEAM-VY_SP-PTZ_F_infsub
9333	213	MAXPHIX	NODE _F_infsub
9334	213	MINPHIX	NODE _F_infsub
9335	213	MAXPHIY	NODE _F_infsub
9336	213	MINPHIY	NODE _F_infsub
9337	213	MAXPHIZ	NODE _F_infsub
9338	213	MINPHIZ	NODE _F_infsub
9421	214	MAX-MY	BEAM
9422	214	MIN-MY	BEAM
9423	214	MAX-VZ	BEAM
9424	214	MIN-VZ	BEAM
9425	214	MAX-MT	BEAM
9426	214	MIN-MT	BEAM
9427	214	MAX-N	BEAM
9428	214	MIN-N	BEAM
9429	214	MAX-MZ	BEAM
9430	214	MIN-MZ	BEAM
9431	214	MAX-VY	BEAM
9432	214	MIN-VY	BEAM
9421	214	MAX-PX	NODE BEAM-MY_SPRI-P_P_infsub
9422	214	MIN-PX	NODE BEAM-MY_SPRI-P_P_infsub
9423	214	MAX-PY	NODE BEAM-VZ_SPRI-T_P_infsub
9424	214	MIN-PY	NODE BEAM-VZ_SPRI-T_P_infsub
9425	214	MAX-PZ	NODE BEAM-MT_SPRI-M_P_infsub
9426	214	MIN-PZ	NODE BEAM-MT_SPRI-M_P_infsub
9427	214	MAX-UX	NODE BEAM--N_SP-PTX_P_infsub
9428	214	MIN-UX	NODE BEAM--N_SP-PTX_P_infsub
9429	214	MAX-UY	NODE BEAM-MZ_SP-PTY_P_infsub
9430	214	MIN-UY	NODE BEAM-MZ_SP-PTY_P_infsub
9431	214	MAX-UZ	NODE BEAM-VY_SP-PTZ_P_infsub
9432	214	MIN-UZ	NODE BEAM-VY_SP-PTZ_P_infsub
9433	214	MAXPHIX	NODE _P_infsub
9434	214	MINPHIX	NODE _P_infsub
9435	214	MAXPHIY	NODE _P_infsub
9436	214	MINPHIY	NODE _P_infsub

Geometria ponticello
Final Superpos. with pkinf-pksub -> LC 9000...

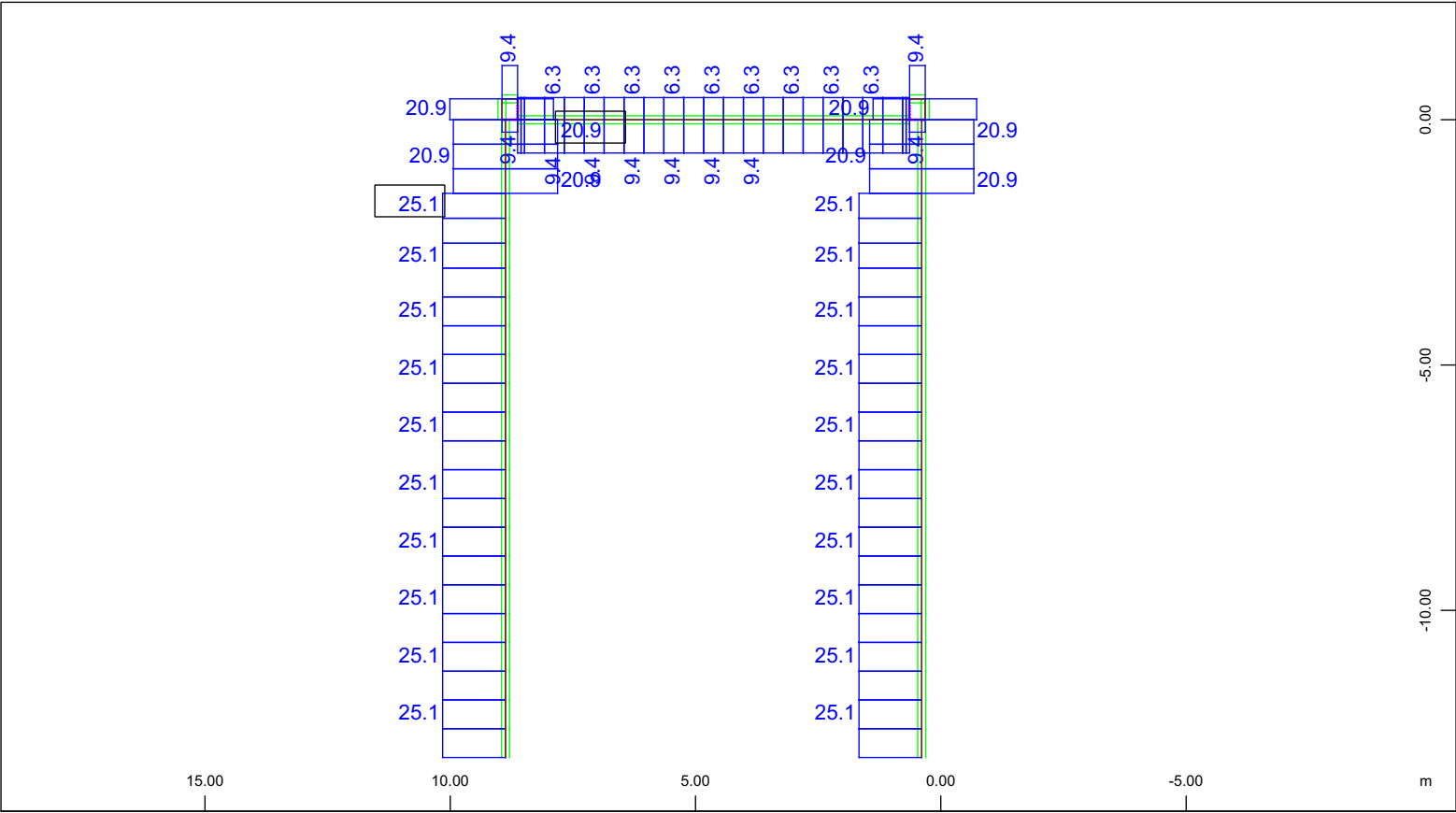
Generated Loadcases

Number	Comb	Title		
9437	214	MAXPHIZ	NODE	_P_infsb
9438	214	MINPHIZ	NODE	_P_infsb

Geometria ponticello
Armatura minima

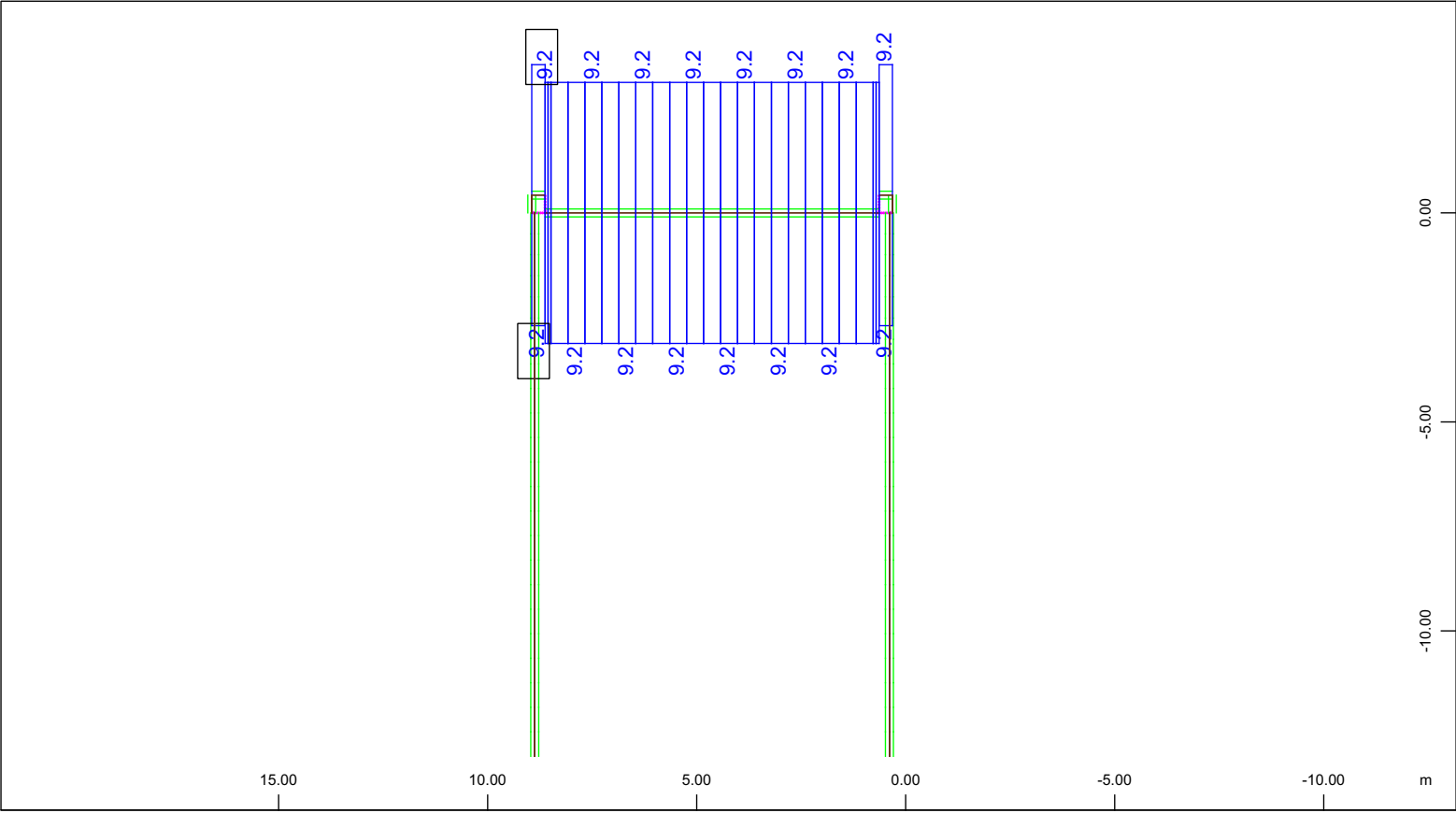
The forces and moments are refered to the total gross section gravity center

Geometria ponticello
Armatura Minima



Beam Elements , Longitudinal Reinforcements Lay. 1, Design Case 1 , 1 cm 3D = 20.0 cm2 (Max=25.1)
Beam Elements , Longitudinal Reinforcements Lay. 2, Design Case 1 , 1 cm 3D = 20.0 cm2 (Max=20.9)

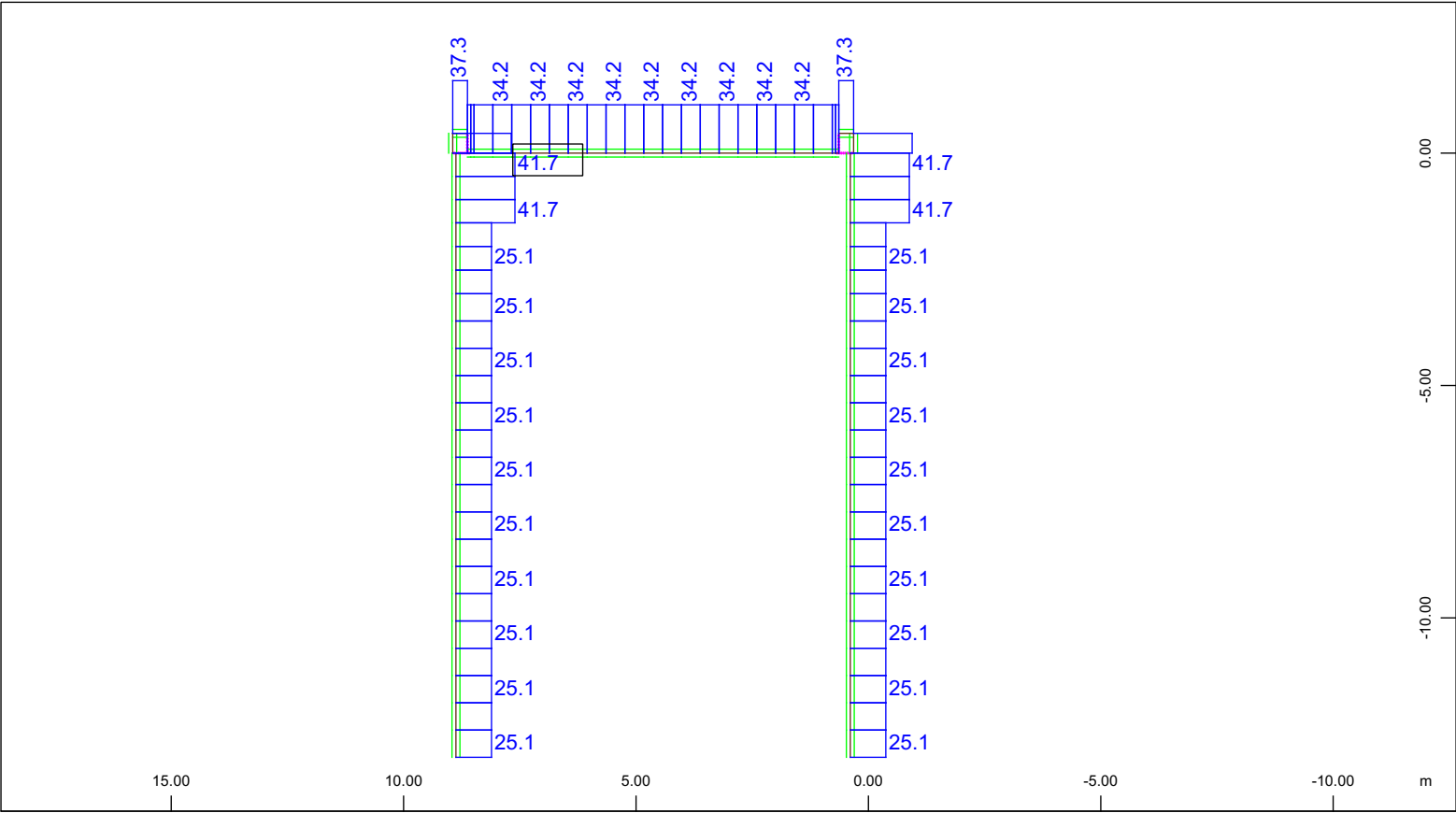
M 1 : 144
X * 0.707
Y * 0.707



Beam Elements , Longitudinal Reinforcements Lay. 3, Design Case 1 , 1 cm 3D = 5.00 cm2 (Max=9.24)
Beam Elements , Longitudinal Reinforcements Lay. 4, Design Case 1 , 1 cm 3D = 5.00 cm2 (Max=9.24)

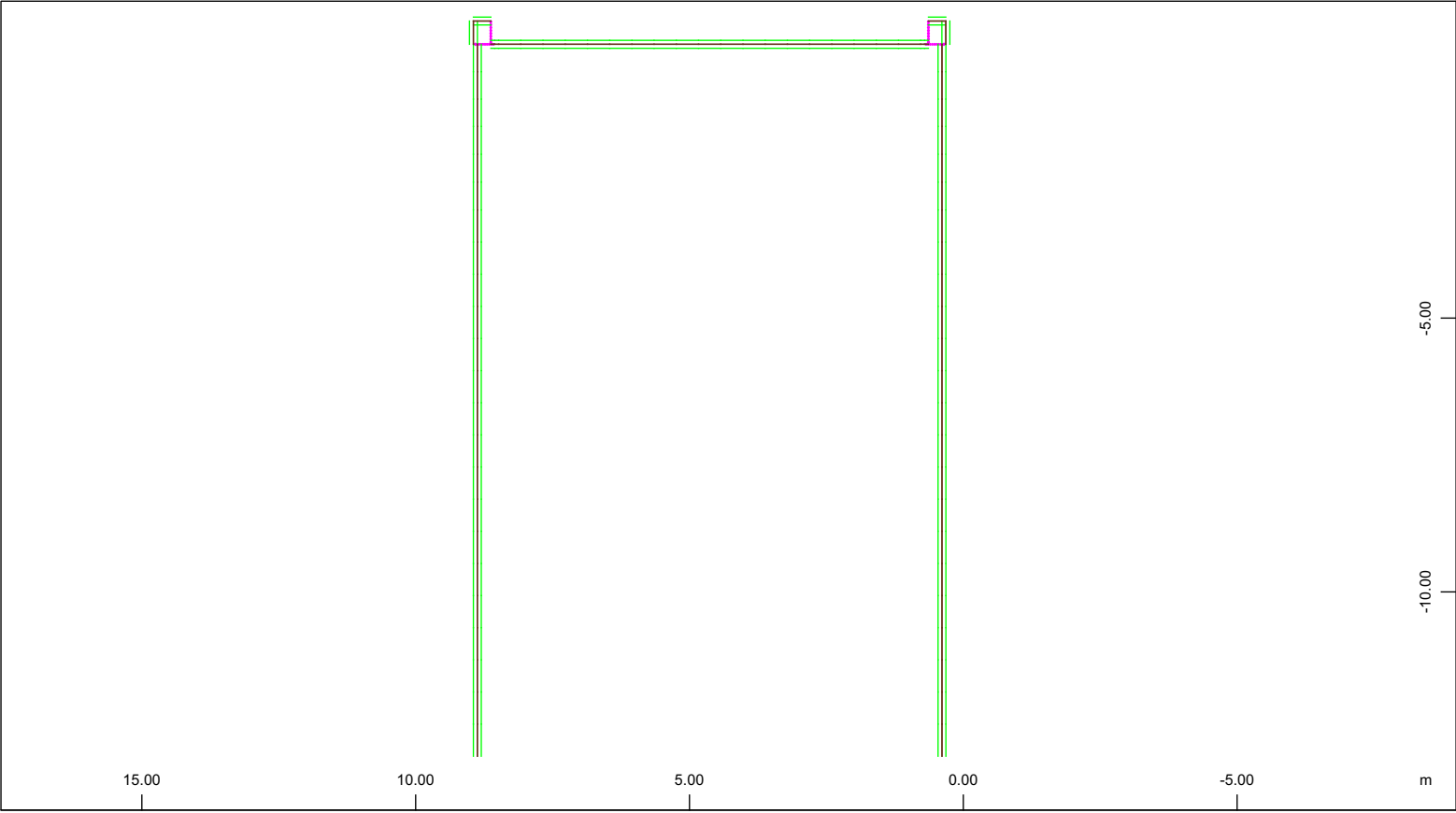
M 1 : 169
X * 0.707
Y * 0.707

Geometria ponticello
Armatura Minima



Beam Elements , Longitudinal reinforcements (total), Design Case 1 , 1 cm 3D = 50.0 cm2 (Max=41.7)

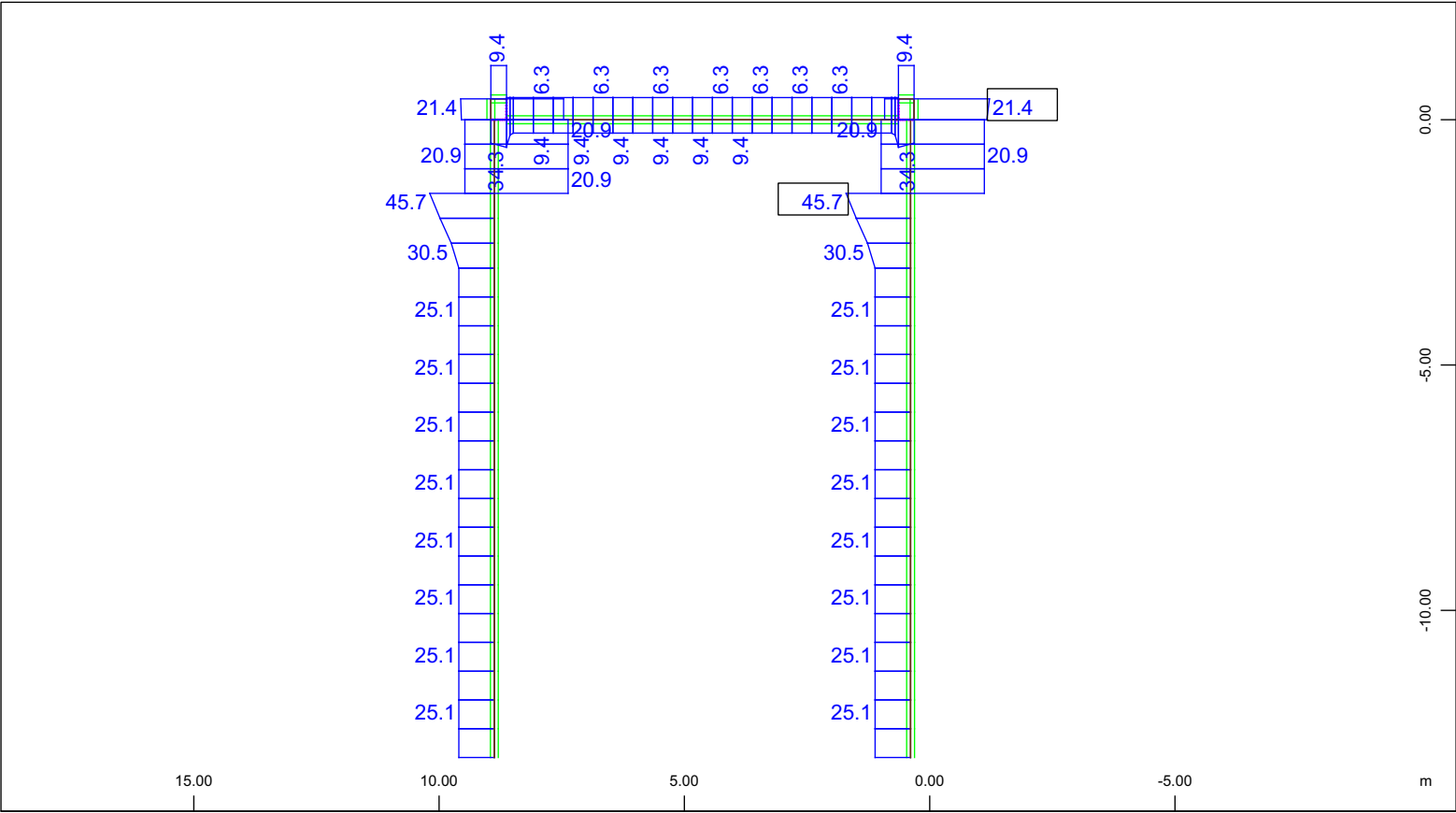
M 1 : 152
X * 0.707
Y * 0.707



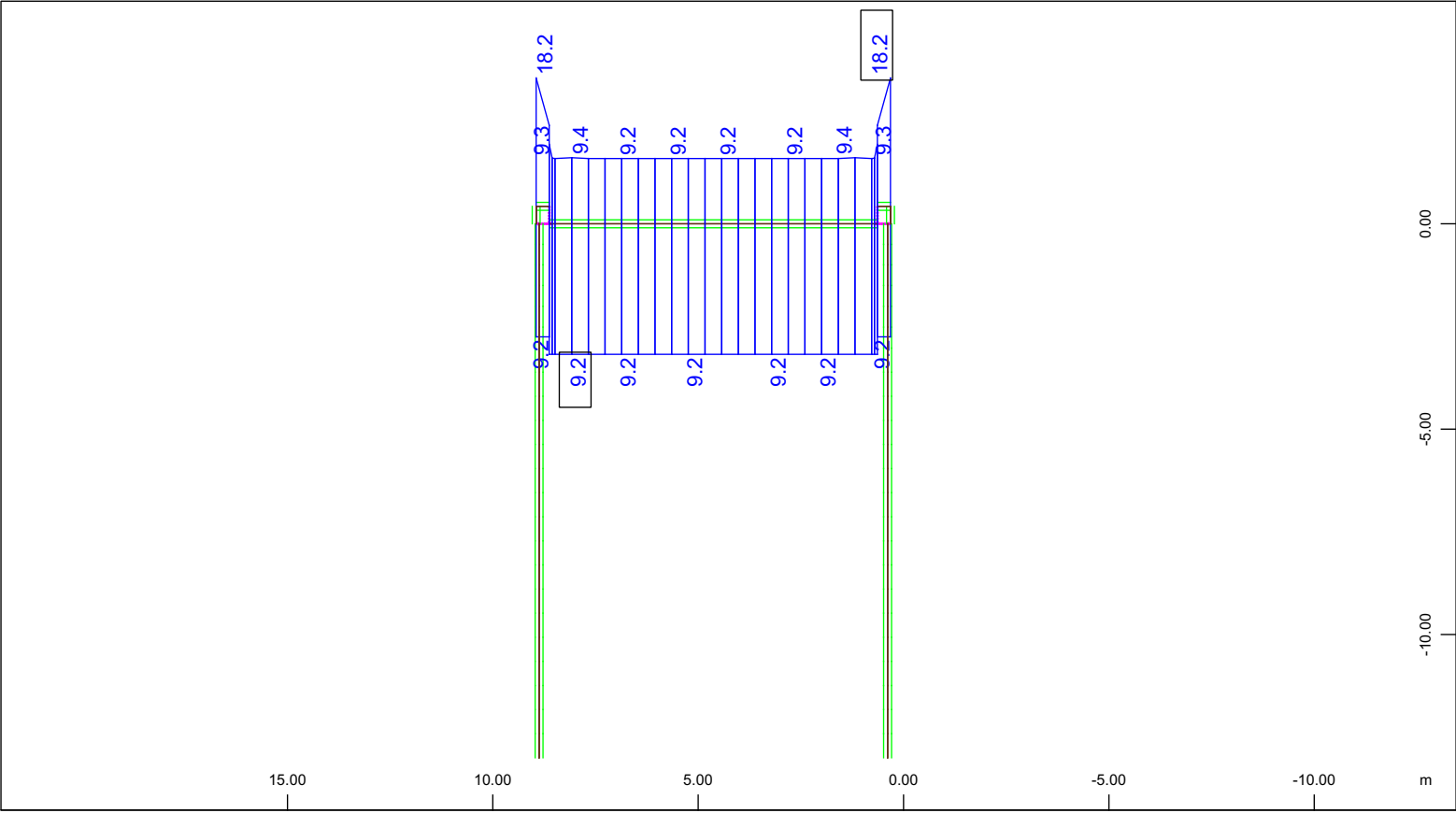
Beam Elements , Shear reinforcements (maximum), Design Case 1 , 1 cm 3D = 0 cm²/m (Max=0)

M 1 : 129
X * 0.707
Y * 0.707

Geometria ponticello
Graphical Output

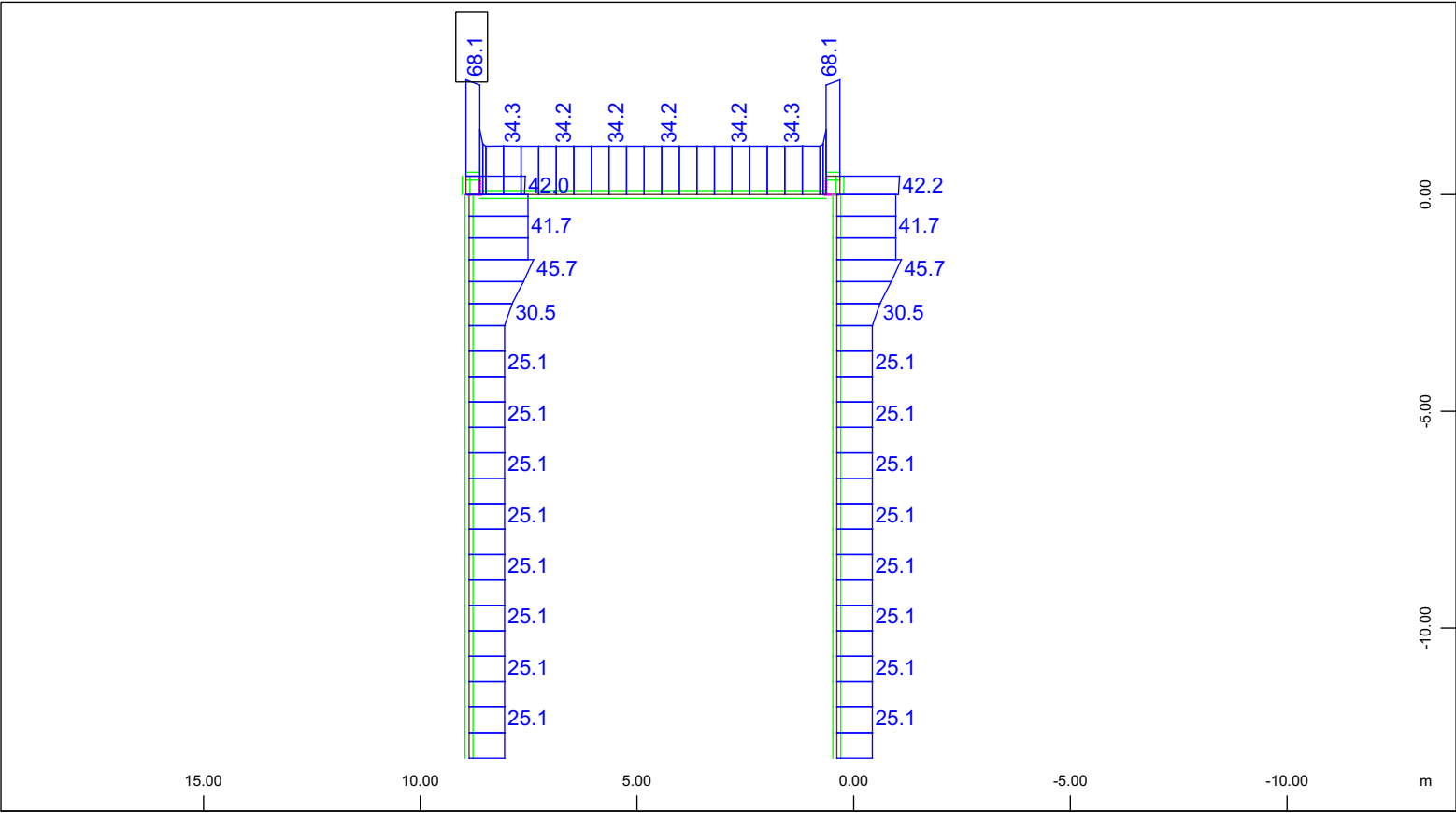


Beam Elements , Longitudinal Reinforcements Lay. 1, Design Case 12 , 1 cm = 50.0 cm2 (Max=45.7)
Beam Elements , Longitudinal Reinforcements Lay. 2, Design Case 12 , 1 cm = 20.0 cm2 (Max=21.4)
M 1 : 144
X * 0.707
Y * 0.707

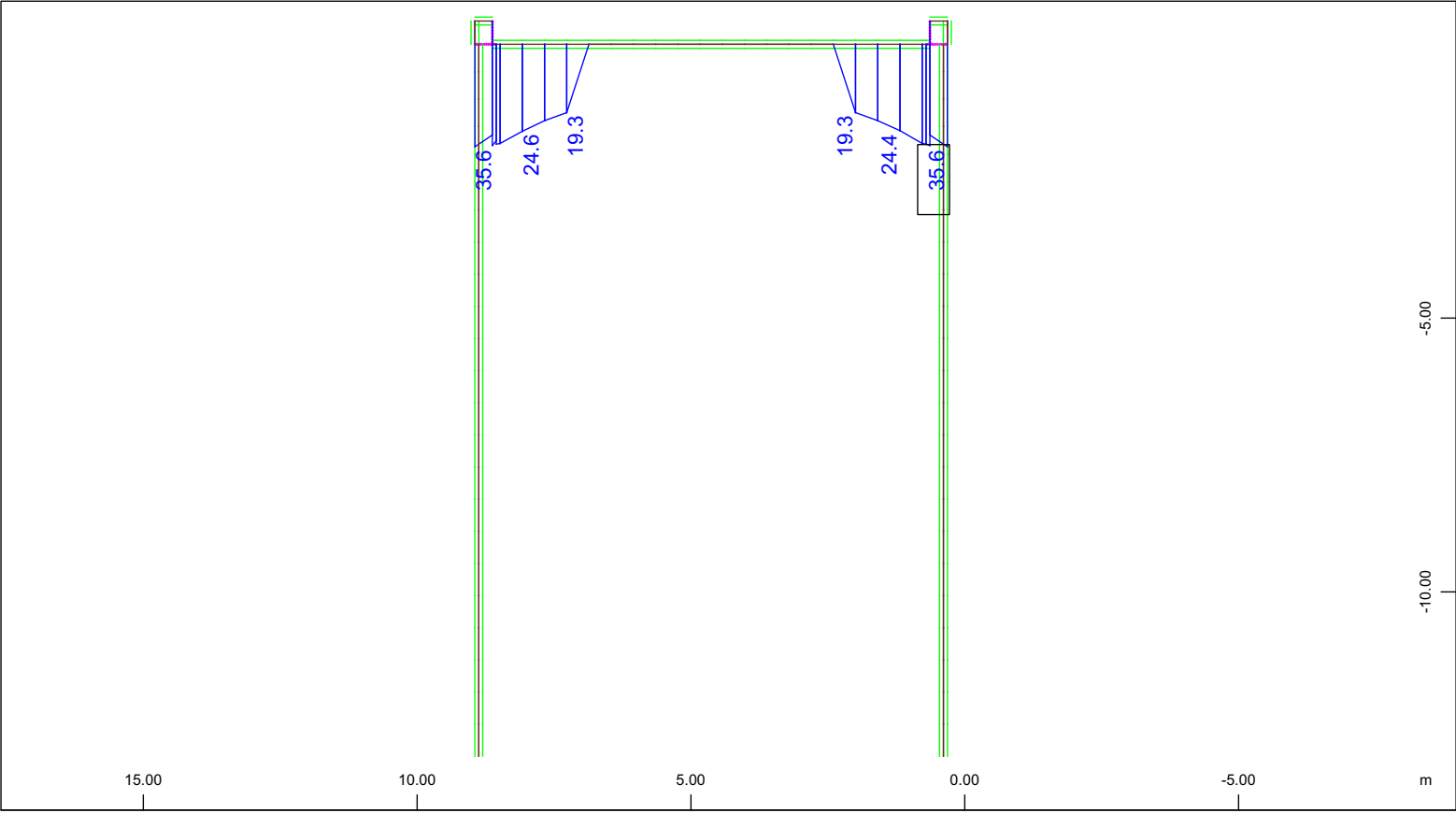


Beam Elements , Longitudinal Reinforcements Lay. 3, Design Case 12 , 1 cm = 5.00 cm2 (Max=9.24)
Beam Elements , Longitudinal Reinforcements Lay. 4, Design Case 12 , 1 cm = 10.0 cm2 (Max=18.2)
M 1 : 172
X * 0.707
Y * 0.707

Geometria ponticello
Graphical Output

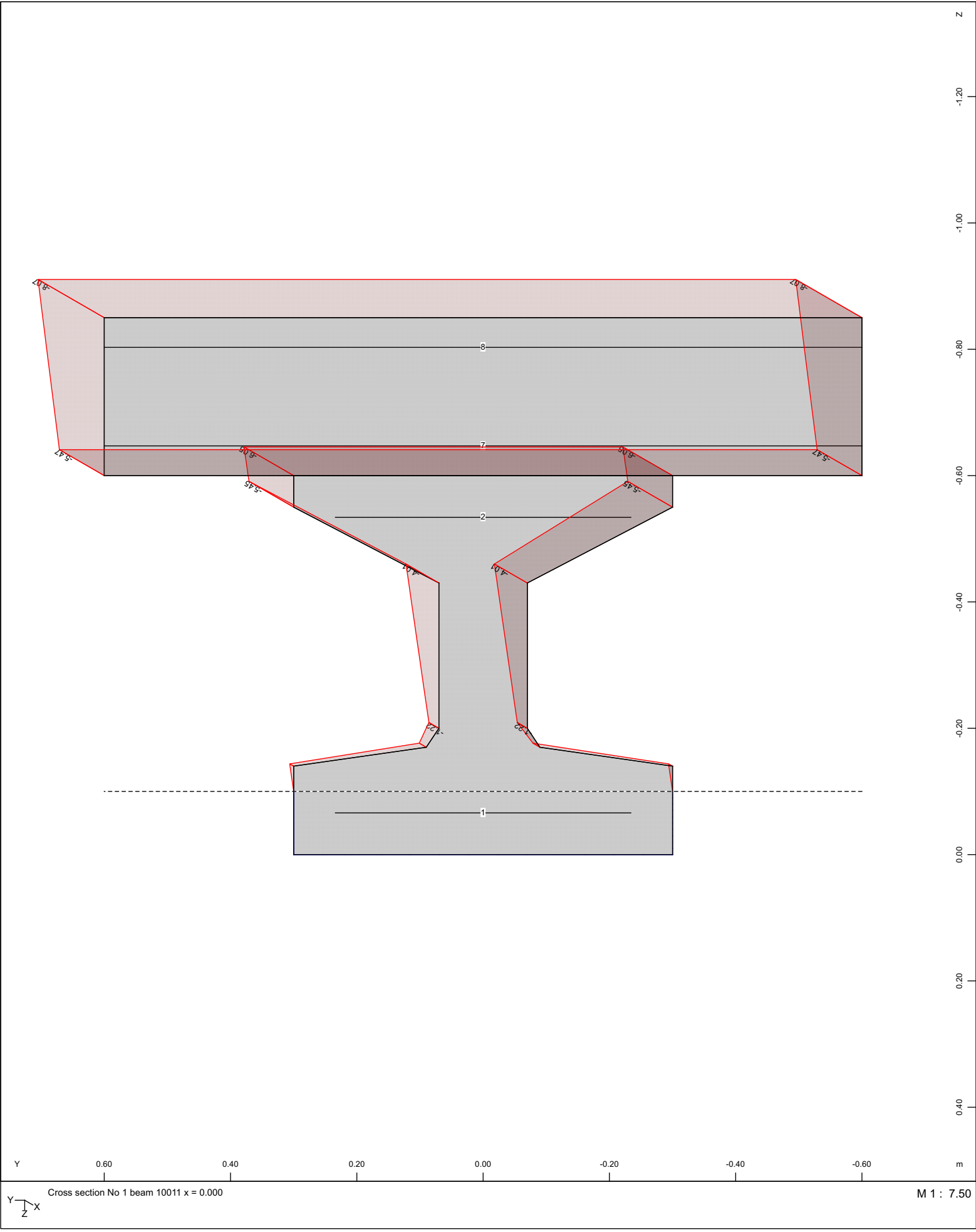


Beam Elements , Longitudinal reinforcements (total), Design Case 12 , 1 cm = 50.0 cm2 (Max=68.1) M 1 : 163
X * 0.707
Y * 0.707

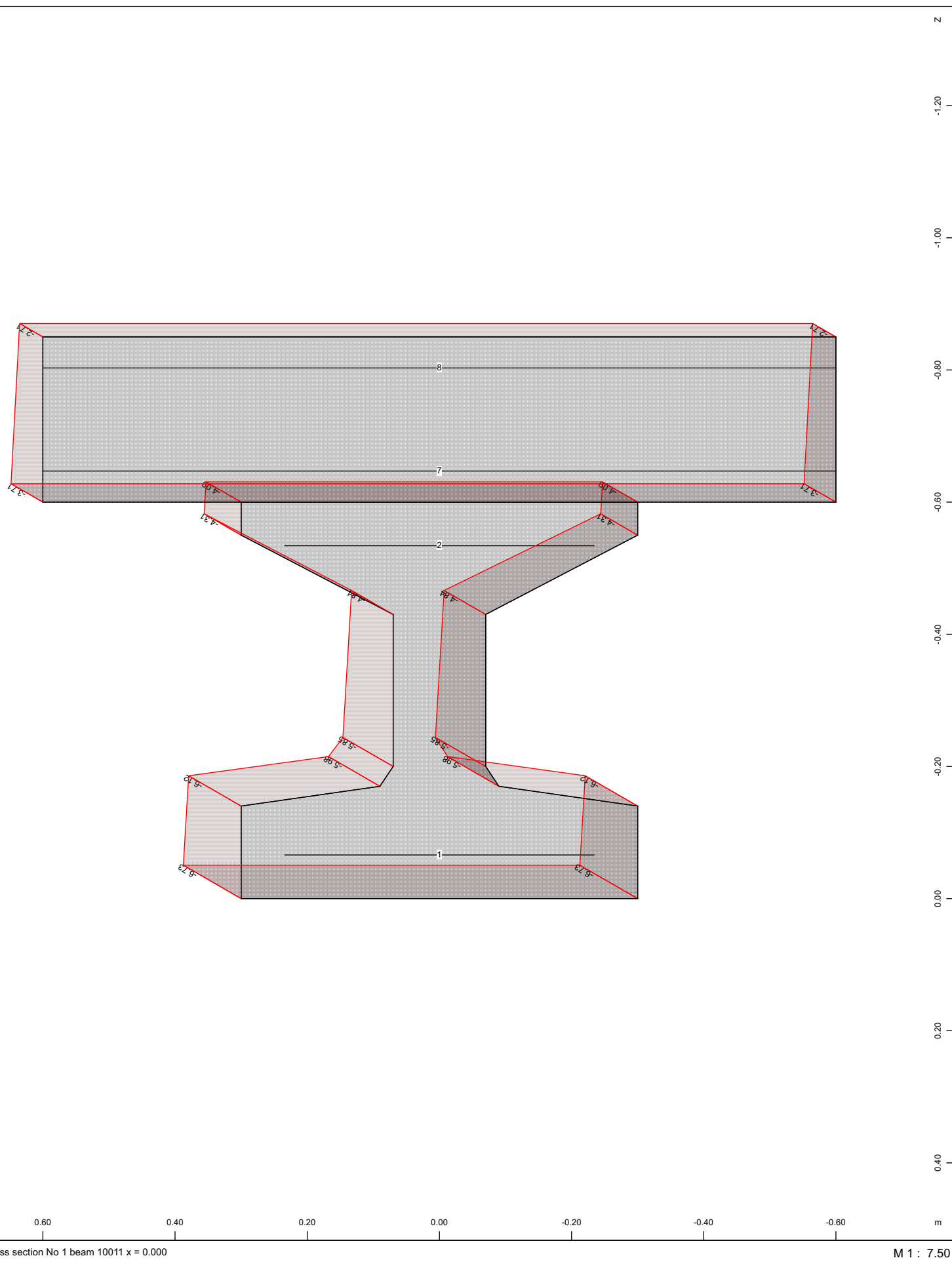


Beam Elements , Shear reinforcements (maximum), Design Case 12 , 1 cm = 20.0 cm2/m (Max=35.6) M 1 : 129
X * 0.707
Y * 0.707

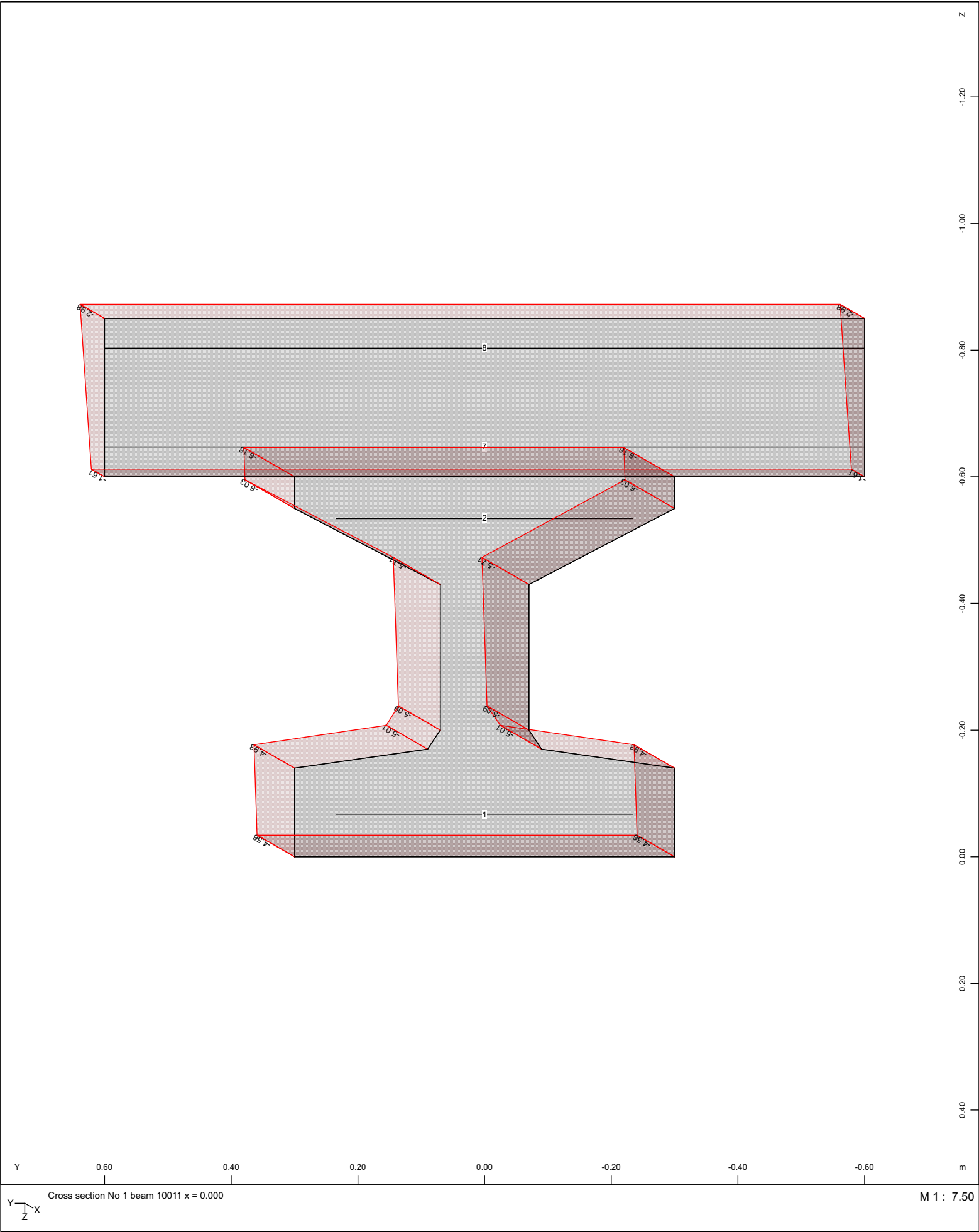
Geometria ponticello
Total stresses plot for SLS RARE



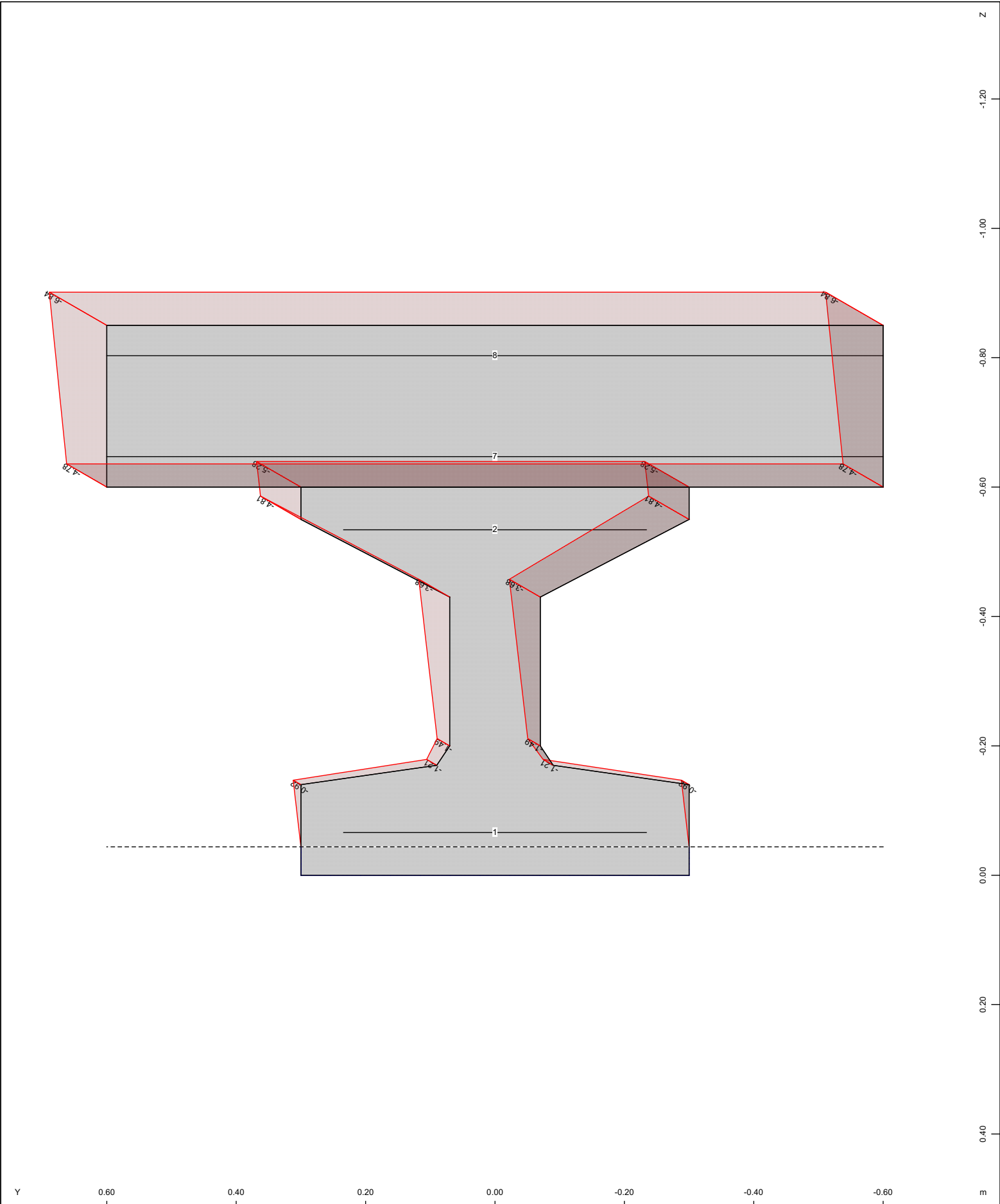
Geometria ponticello
Total stresses plot for SLS QP



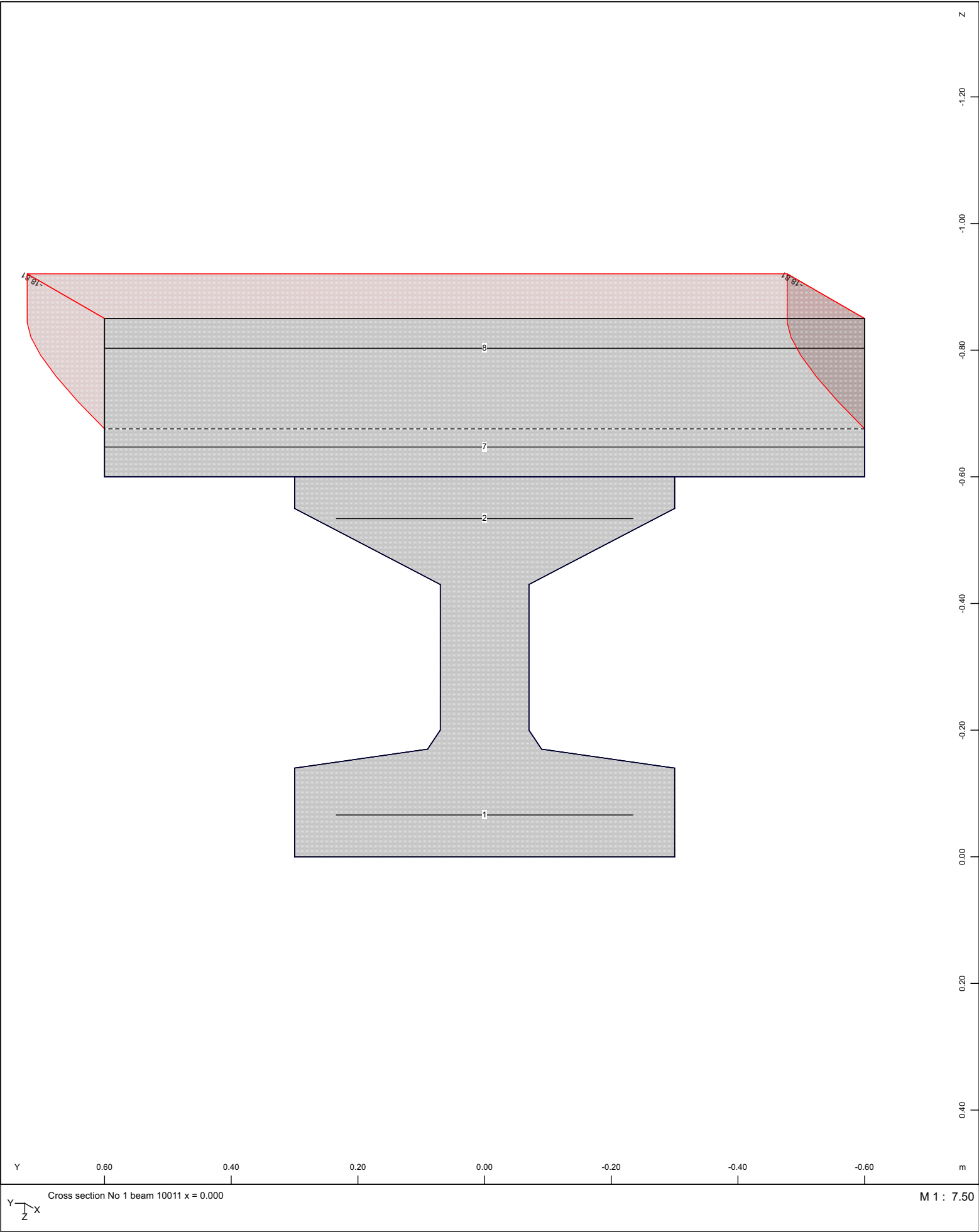
Geometria ponticello
Total stresses plot for SLS QP decompression



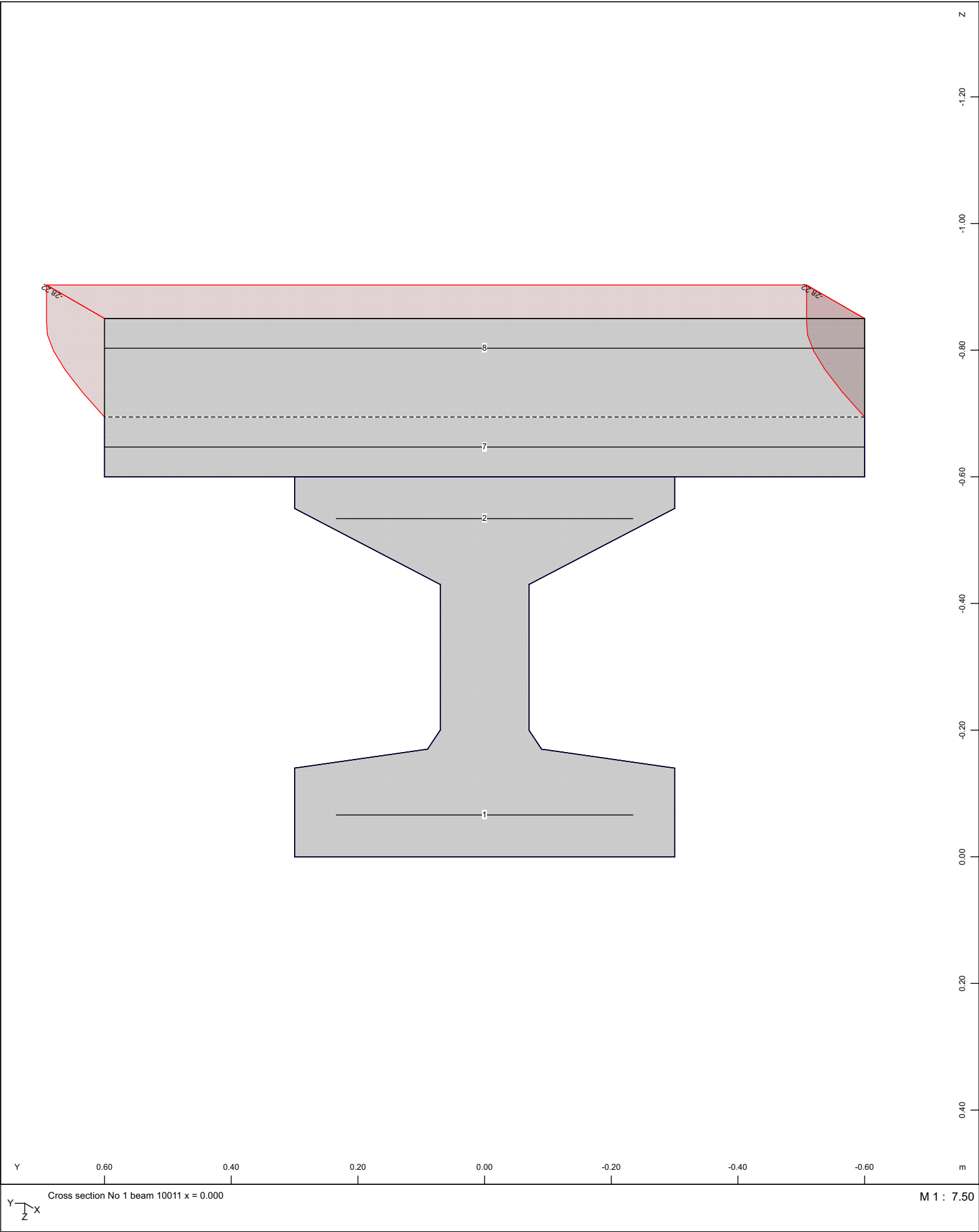
Geometria ponticello
Total stresses plot for SLS FREQUENT



Geometria ponticello
Total stresses plot for ULS



Geometria ponticello
Total stresses plot for SLV



Intervento 1.09bis

Impalcato 7

ALLEGATO – PARTE 3

Impalcato Tipo C - L = 14.9 m semi-integrale

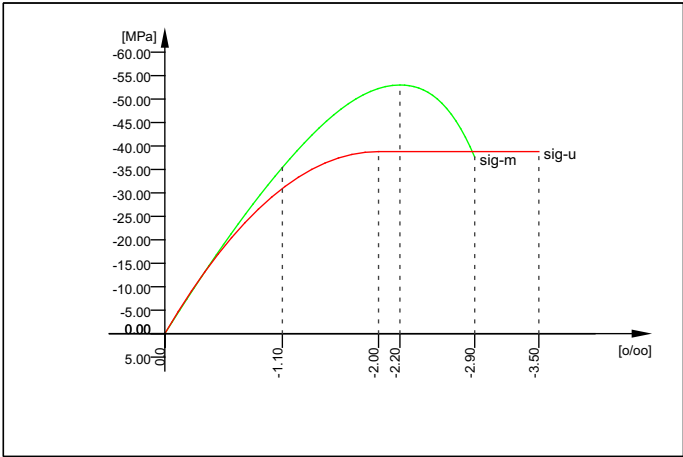
Output Modello di calcolo.

Parametri, Materiali e Sezioni

Default design code is Decreto Ministeriale per le Costruzioni 2008 (Italia) V 25.0
structure class: A2 (ponti_strad)
Wind zone : 1 cat. III
Snow load zone : I
Earthquake zone : 1

No. 1 CA 45/55 (Italia) (mod)

Youngs-modulus	E	36416 [MPa]	Safetyfactor		1.50 [-]
Poisson-Ratio	mu	0.20 [-]	Strength	fc	38.80 [MPa]
Shear-modulus	G	15173 [MPa]	Nomin. strength	fcn	45.00 [MPa]
Compression modulus		20231 [MPa]	Tens. strength	fctm	3.83 [MPa]
Weight		25.0 [kN/m3]	5 % t.strength	fctk	2.68 [MPa]
Weight buoyancy		25.0 [kN/m3]	95 % t.strength	fctk	4.93 [MPa]
Temp.elongat.coeff.		1.00E-05 [1/°K]	Bond strength	fbd	3.99 [MPa]
			Service strength		53.00 [MPa]
			Fatigue strength		21.21 [MPa]
Stress-Strain for serviceability			eps[o/oo]	sig-m[MPa]	E-t[MPa]
Is only valid within the defined stress range			0.000	0.00	36283
			-1.100	-35.40	26746
			-2.200	-53.00	0
			-2.900	-37.62	-53828
			Safetyfactor		1.20
Stress-Strain for ultimate load			eps[o/oo]	sig-u[MPa]	E-t[MPa]
Is only valid within the defined stress range			0.000	0.00	38802
			-2.000	-38.80	0
			-3.500	-38.80	0
			Safetyfactor		1.50

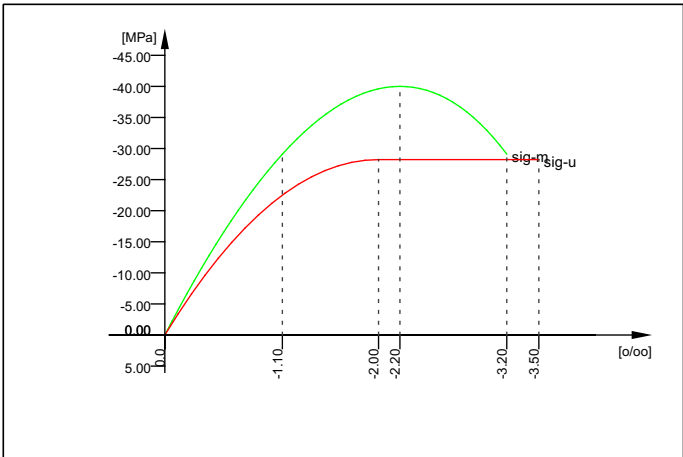


CA 45/55 (Italia) (mod)

No. 2 CA 32/40 (Italia) (mod)

Youngs-modulus	E	33643 [MPa]	Safetyfactor		1.50 [-]
Poisson-Ratio	mu	0.20 [-]	Strength	fc	28.22 [MPa]
Shear-modulus	G	14018 [MPa]	Nomin. strength	fcn	32.00 [MPa]
Compression modulus		18690 [MPa]	Tens. strength	fctm	3.10 [MPa]
Weight		25.0 [kN/m3]	5 % t.strength	fctk	2.17 [MPa]
Weight buoyancy		25.0 [kN/m3]	95 % t.strength	fctk	3.93 [MPa]
Temp.elongat.coeff.		1.00E-05 [1/°K]	Bond strength	fbd	3.18 [MPa]
			Service strength		40.00 [MPa]
			Fatigue strength		16.41 [MPa]
Stress-Strain for serviceability			eps[o/oo]	sig-m[MPa]	E-t[MPa]
Is only valid within the defined stress range			0.000	0.00	33346
			-1.100	-29.09	18930
			-2.200	-40.00	0
			-3.200	-29.11	-22873
			Safetyfactor		1.20
Stress-Strain for ultimate load			eps[o/oo]	sig-u[MPa]	E-t[MPa]
Is only valid within the defined stress range			0.000	0.00	28220
			-2.000	-28.22	0
			-3.500	-28.22	0
			Safetyfactor		1.50

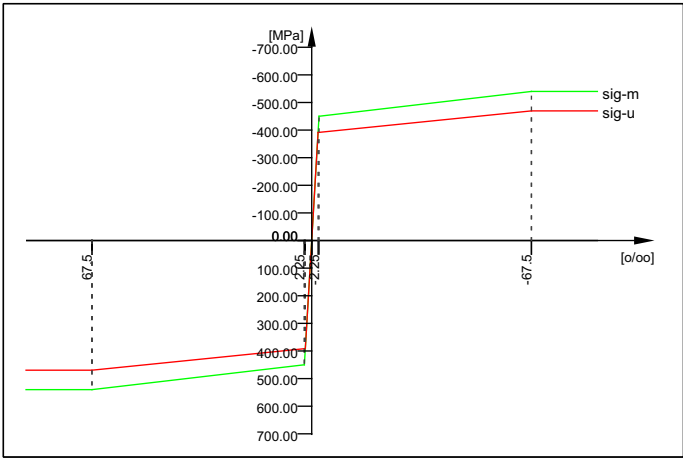
Parametri, Materiali e Sezioni



CA 32/40 (Italia) (mod)

No. 3 B 450 C (Italia)

Youngs-modulus	E	200000 [MPa]	Safetyfactor	1.15 [-]
Poisson-Ratio	mu	0.30 [-]	Yield stress	fy 450.00 [MPa]
Shear-modulus	G	76923 [MPa]	Compr.yield val.	fyc 450.00 [MPa]
Compression modulus		166667 [MPa]	Tens. strength	ft 540.00 [MPa]
Weight		78.5 [kN/m3]	Compr. strength	fc 540.00 [MPa]
Weight buoyancy		78.5 [kN/m3]	Ultim. plast. strain	67.50 [o/oo]
Temp.elongat.coeff.	1.20E-05	[1/°K]	relative bond coeff.	1.00 [-]
max. thickness	32.00	[mm]	EC2 bondcoeff. K1	0.80 [-]
			Hardening modulus	0.00 [MPa]
			Proportional limit	450.00 [MPa]
			Dynamic stress range	152.17 [MPa]
Stress-Strain for serviceability	eps[o/oo]	sig-m[MPa]	E-t[MPa]	
Is also extended beyond the	1000.000	540.00	0	
defined stress range	67.500	540.00	0	
	2.250	450.00	1379	
	0.000	0.00	200000	
	-2.250	-450.00	200000	
	-67.500	-540.00	1379	
	-1000.000	-540.00	0	
	Safetyfactor		1.15	
Stress-Strain for ultimate load	eps[o/oo]	sig-u[MPa]	E-t[MPa]	
Is also extended beyond the	1000.000	469.57	0	
defined stress range	67.500	469.57	0	
	1.957	391.30	1194	
	0.000	0.00	200000	
	-1.957	-391.30	200000	
	-67.500	-469.57	1194	
	-1000.000	-469.57	0	
	Safetyfactor		(1.15)	



B 450 C (Italia)

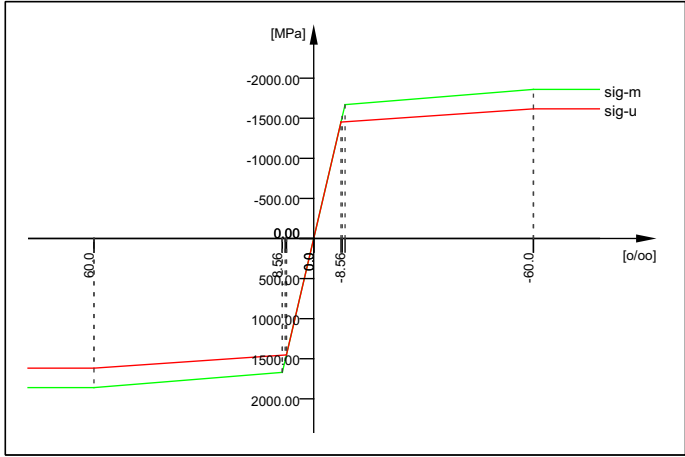
No. 4 Y 1770 (EN 1992) (mod)

Youngs-modulus	E	195000 [MPa]	Safetyfactor	1.15 [-]
Poisson-Ratio	mu	0.30 [-]	Yield stress	fy 1670.00 [MPa]
Shear-modulus	G	75000 [MPa]	Compr.yield val.	fyc 1670.00 [MPa]
Compression modulus		162500 [MPa]	Tens. strength	ft 1860.00 [MPa]
Weight		78.5 [kN/m3]	Compr. strength	fc 1860.00 [MPa]
Weight buoyancy		78.5 [kN/m3]	Ultim. plast. strain	60.00 [o/oo]
Temp.elongat.coeff.	1.20E-05	[1/°K]	relative bond coeff.	0.75 [-]
Relaxation	EC-2	Class 1	EC2 bondcoeff. K1	1.60 [-]

Parametri, Materiali e Sezioni

No. 4 Y 1770 (EN 1992) (mod)

Relaxation	0.70*fpk	8.00 [%]	Hardening modulus	0.00 [MPa]
			Proportional limit	1520.00 [MPa]
			Dynamic stress range	160.87 [MPa]
Stress-Strain for serviceability	eps[o/oo]	sig-m[MPa]	E-t[MPa]	
Is also extended beyond the	1000.000	1860.00	0	
defined stress range	60.000	1860.00	0	
	8.564	1670.00	3694	
	7.795	1520.00	195000	
	0.000	0.00	195000	
	-7.795	-1520.00	195000	
	-8.564	-1670.00	195000	
	-60.000	-1860.00	3694	
	-1000.000	-1860.00	0	
	Safetyfactor		1.15	
Stress-Strain for ultimate load	eps[o/oo]	sig-u[MPa]	E-t[MPa]	
Is also extended beyond the	1000.000	1617.39	0	
defined stress range	60.000	1617.39	0	
	7.447	1452.17	3144	
	0.000	0.00	195000	
	-7.447	-1452.17	195000	
	-60.000	-1617.39	3144	
	-1000.000	-1617.39	0	
	Safetyfactor		(1.15)	

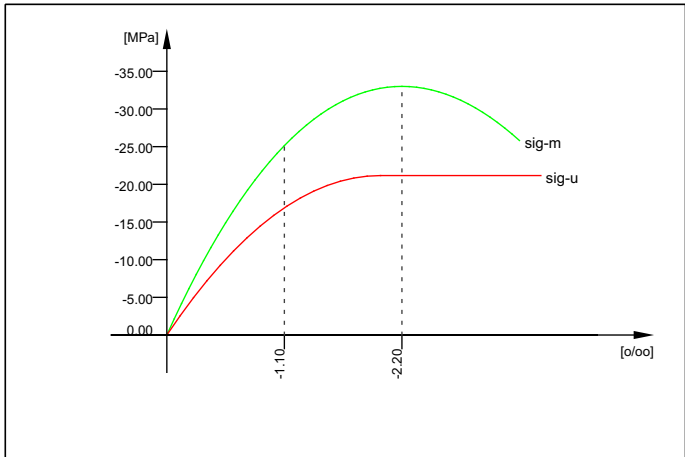


Y 1770 (EN 1992) (mod)

No. 5 CA 25/30 (Italia) (mod)

Youngs-modulus	E	31447 [MPa]	Safetyfactor	1.50 [-]	
Poisson-Ratio	mu	0.20 [-]	Strength	fc	21.16 [MPa]
Shear-modulus	G	13103 [MPa]	Nomin. strength	fcn	25.00 [MPa]
Compression modulus		17471 [MPa]	Tens. strength	fctm	2.56 [MPa]
Weight		25.0 [kN/m3]	5 % t.strength	fctk	1.79 [MPa]
Weight buoyancy		25.0 [kN/m3]	95 % t.strength	fctk	3.33 [MPa]
Temp.elongat.coeff.	1.00E-05	[1/°K]	Bond strength	fbd	2.69 [MPa]
			Service strength		33.00 [MPa]
			Fatigue strength		12.70 [MPa]
Stress-Strain for serviceability			eps[o/oo]	sig-m[MPa]	E-t[MPa]
Is only valid within the defined			0.000	0.00	31476
stress range			-1.100	-25.14	14632
			-2.200	-33.00	0
			-3.300	-25.81	-12791
			Safetyfactor		1.20
Stress-Strain for ultimate load			eps[o/oo]	sig-u[MPa]	E-t[MPa]
Is only valid within the defined			0.000	0.00	21165
stress range			-2.000	-21.17	0
			-3.500	-21.16	0
			Safetyfactor		1.50

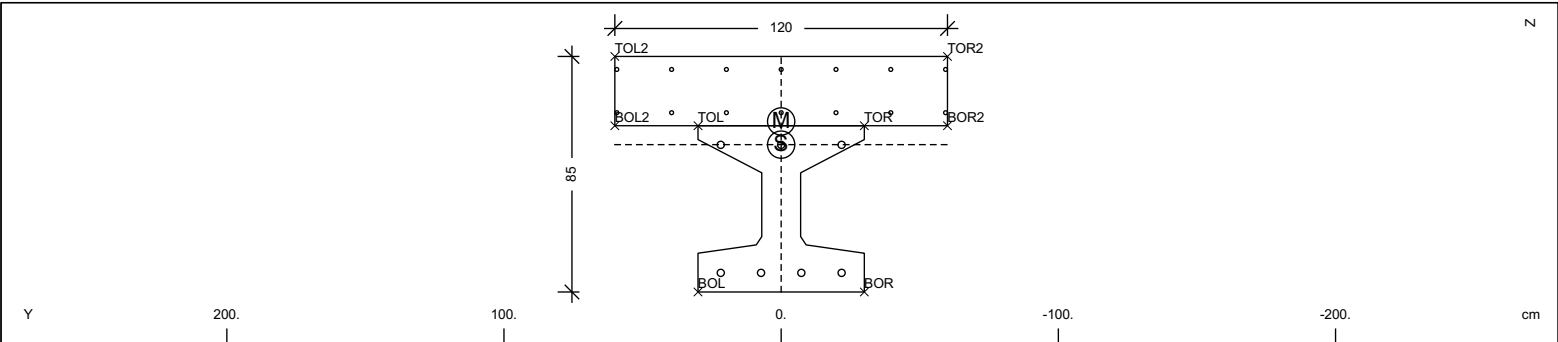
Parametri, Materiali e Sezioni



CA 25/30 (Italia) (mod)

Cross-sections static properties								
No.	Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
	NoR	It[m4]	[m2]	[m4]	[m]	[m]	[MPa]	[kN/m]
1	= Trave							
(BEAM)	= Composit with materials: 1 2							
	1	5.0462E-01		3.581E-02	0.000	0.000	36416	12.68
	3	1.220E-02		3.886E-02	-0.532	-0.616	15173	
1.1	= CS 9							
	1	2.0710E-01		9.119E-03	0.000	0.000	36416	5.18
	3	1.723E-03		4.377E-03	-0.281	-0.251	15173	
1.2	= CS 22							
	1	5.0462E-01		3.581E-02	0.000	0.000	36416	12.68
	3	1.220E-02		3.886E-02	-0.532	-0.616	15173	
2	= Retrotrave+soletta in situ							
(BEAM)	2	1.0200E+00		6.141E-02	0.000	0.000	33643	25.50
	3	1.386E-01		1.224E-01	0.000	0.000	14018	
3	= paraghiaia							
(CENT)	2	1.0800E+00		1.296E-01	-0.450	-0.450	33643	27.00
	3	1.579E-01		7.290E-02	0.000	0.000	14018	
4	= diaframma							
(CENT)	2	1.3200E+00		1.584E-01	0.000	0.000	33643	33.00
	3	2.441E-01		1.331E-01	0.000	0.000	14018	
5	= palo							
(CENT)	5	5.0265E-01		2.011E-02	0.000	0.000	31447	12.57
	3	4.021E-02		2.011E-02	0.000	0.000	13103	

Cross section No. 1 - Trave



Cross section No. 1 - Trave

Static properties of cross section							
Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[cm]	[MPa]	[kN/m]
1	5.0462E-01		3.581E-02	0.00	0.00	36416	12.68
3	1.220E-02		3.886E-02	-53.17	-61.55	15173	

Additional static properties of cross section							
Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
	ymax	zmax	hzmin	AB		Tau-B	Tau-Vz
[1/°K]	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-60.00	-31.83		2.608E-01	3	9.445E+00	7.765E-25
	60.00	53.17		5.071E-01			2.807E+00

Section values for warping							
Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.1702	0.1702	0.000	0.000	0.000	0.000	0.00	36.29

Parametri, Materiali e Sezioni

Partial cross sections

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	2.0710E-01		9.119E-03	0.00	36416	5.18
3	2.842E-03		4.377E-03	-28.13	15173	
2	3.0000E-01		1.563E-03	0.00	33643	7.50
3	1.013E-02		3.600E-02	-72.50	14018	

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	4.8425E-01		3.390E-02	0.00	30347	12.17
	1.220E-02		3.763E-02	-53.52	12644	

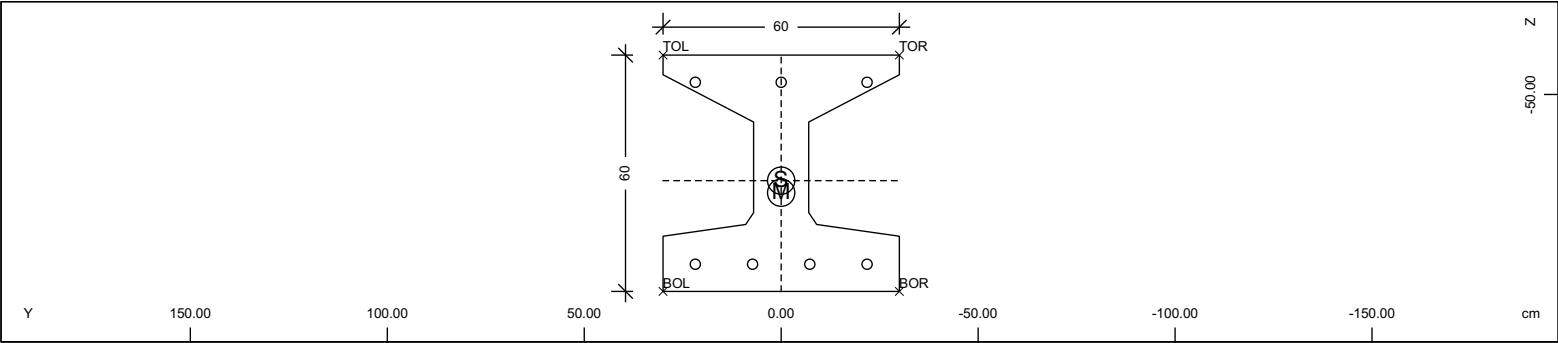
Additional Design Data

M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[cm]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	5.955	16.95			0.0	0.188	0.087	0.101	0.000
1	3.055	13.56			0.0	0.034	0.023	0.011	0.000
2	2.900	20.69			0.0	0.094	0.004	0.090	

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	1	3	15.93	15.93		0.00	-6.90			
M2	1	3	10.62	10.62	10.62	0.00	-53.10			
M3	2	3	9.24	9.24	9.24	0.00	-64.70			
M4	2	3	9.24	9.24		0.00	-80.30			

Cross section No. 1.1 = CS 9



Cross section No. 1

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	2.0710E-01		9.119E-03	0.00	36416	5.18
3	1.723E-03		4.377E-03	-28.13	15173	

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
	ymin	zmin	hzmin	AB		Tau-B	Tau-Vz
[1/°K]	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-30.00	-31.87			3		
	30.00	28.13		2.071E-01			

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0819	0.0819	0.000	0.000	0.000	0.000	0.00	-8.98

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	2.0710E-01		9.119E-03	0.00	30347	5.18
	1.723E-03		4.377E-03	-28.13	12644	

Additional Design Data

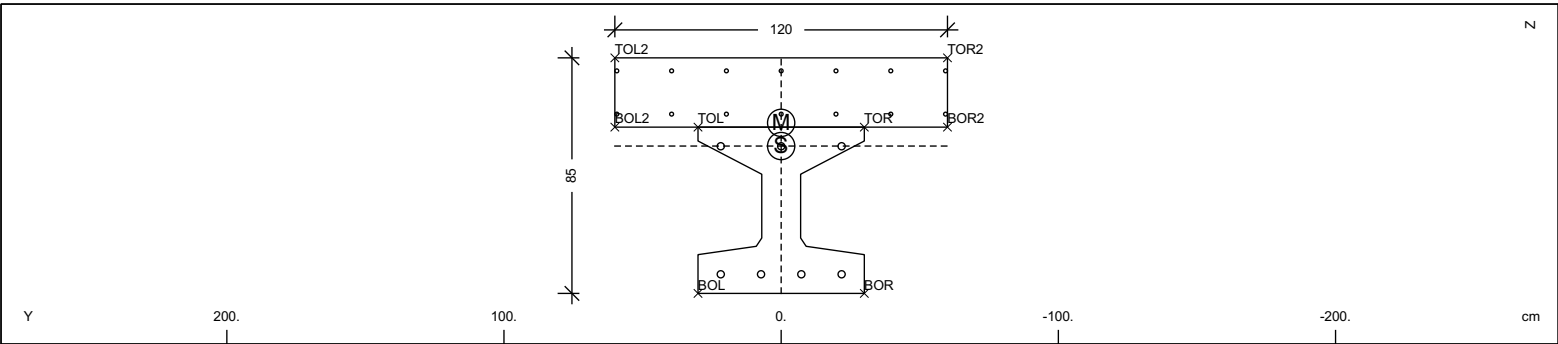
M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[cm]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	3.055	13.56			0.0	0.034	0.023	0.011	0.000

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	1	3	15.93	15.93		0.00	-6.90			
M2	1	3	10.62	10.62	10.62	0.00	-53.10			

Parametri, Materiali e Sezioni

Cross section No. 1.2 = CS 22



Cross section No. 1

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	5.0462E-01		3.581E-02	0.00	36416	12.68
3	1.220E-02		3.886E-02	-53.17	15173	

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
[1/°K]	ymin	zmin	hzmin	AB		Tau-B	Tau-Vz
	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-60.00	-31.83			3	9.445E+00	7.765E-25
	60.00	53.17		5.071E-01			2.807E+00

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.1702	0.1702	0.000	0.000	0.000	0.000	0.00	36.29

Partial cross sections

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	2.0710E-01		9.119E-03	0.00	36416	5.18
3	2.842E-03		4.377E-03	-28.13	15173	
2	3.0000E-01		1.563E-03	0.00	33643	7.50
3	1.013E-02		3.600E-02	-72.50	14018	

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	4.8425E-01		3.390E-02	0.00	30347	12.17
	1.220E-02		3.763E-02	-53.52	12644	

Additional Design Data

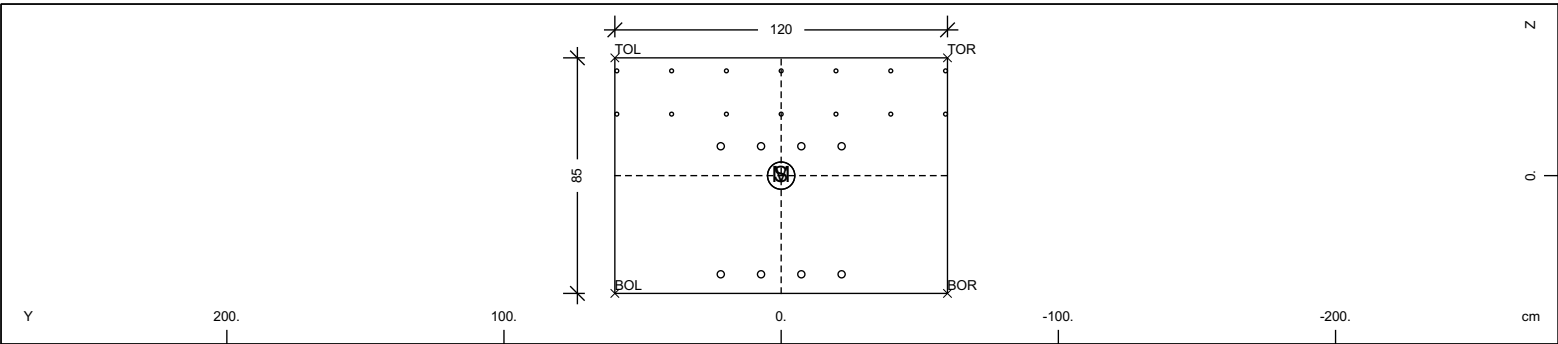
M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[m2/m]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	5.955		16.95		0.0	0.188	0.087	0.101	0.000
1	3.055		13.56		0.0	0.034	0.023	0.011	0.000
2	2.900		20.69		0.0	0.094	0.004	0.090	

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	1	3	15.93	15.93		0.00	-6.90			
M2	1	3	10.62	10.62	10.62	0.00	-53.10			
M3	2	3	9.24	9.24	9.24	0.00	-64.70			
M4	2	3	9.24	9.24		0.00	-80.30			

Parametri, Materiali e Sezioni

Cross section No. 2 - Retrotrave+soletta in situ



Cross section No. 2 - Retrotrave+soletta in situ

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[cm]	[MPa]	[kN/m]
2	1.0200E+00		6.141E-02	0.00	0.00	33643	25.50
3	1.386E-01		1.224E-01	0.00	0.00	14018	

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
[1/°K]	ymax	zmax	hzmin	AB		Tau-B	Tau-Vz
	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-60.00	-42.50		5.719E-01	3	3.522E+00	
	60.00	42.50		1.020E+00			1.471E+00

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0880	0.0880	0.000	0.000	0.000	0.000	0.00	0.00

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
2	1.0200E+00		6.141E-02	0.00	28036	25.50
	1.386E-01		1.224E-01	0.00	11682	

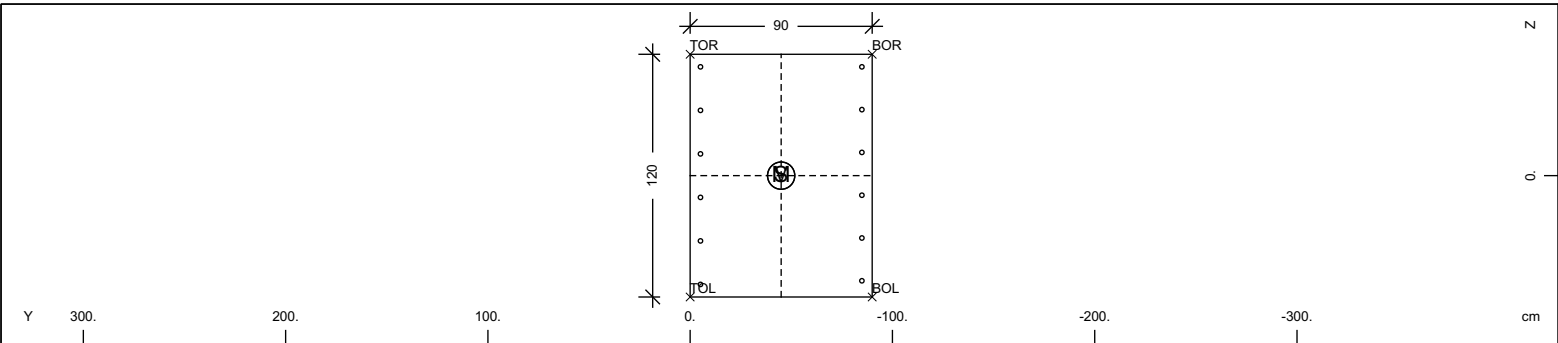
Additional Design Data

M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[m2/m]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	4.100		49.76		0.0	0.460	0.154	0.306	

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	2	3	15.93	15.93		0.00	35.60			
M2	2	3	15.93	15.93	15.93	0.00	-10.60			
M3	2	3	9.24	9.24	9.24	0.00	-22.20			
M4	2	3	9.24	9.24		0.00	-37.80			

Cross section No. 3 - paraghiaia



Cross section No. 3 - paraghiaia

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[cm]	[MPa]	[kN/m]
2	1.0800E+00		1.296E-01	-45.00	-45.00	33643	27.00
3	1.579E-01		7.290E-02	0.00	0.00	14018	

Parametri, Materiali e Sezioni

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
	y _{max}	z _{max}	hzmin	AB		Tau-B	Tau-Vz
[1/°K]	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-45.00	-60.00		6.061E-01	3	3.216E+00	1.389E+00
	45.00	60.00		1.080E+00			1.916E-07

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0842	0.0842	0.000	0.000	0.000	0.000	0.00	0.00

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
2	1.0800E+00		1.296E-01	-45.00	28036	27.00
	1.579E-01		7.290E-02	0.00	11682	

Additional Design Data

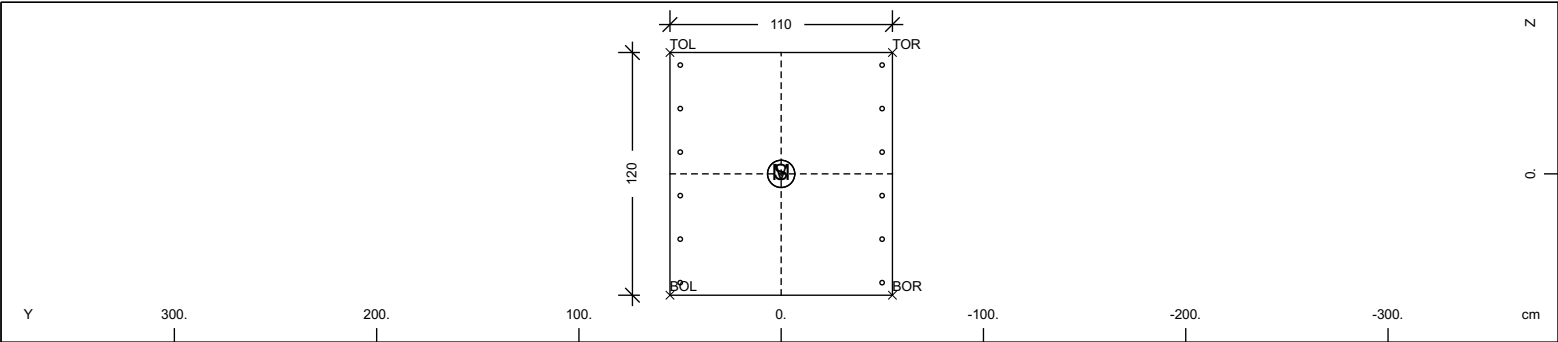
M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[m2/m]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	4.200		51.43		0.0	0.506	0.324	0.182	

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	2	3	20.87	20.87		-5.10	0.00			
M2	2	3	20.53	20.53		-84.90	-0.90			

Cross section rotated by 90.00 degrees

Cross section No. 4 - diaframma



Cross section No. 4 - diaframma

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[cm]	[MPa]	[kN/m]
2	1.3200E+00		1.584E-01	0.00	0.00	33643	33.00
3	2.441E-01		1.331E-01	0.00	0.00	14018	

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
	y _{max}	z _{max}	hzmin	AB		Tau-B	Tau-Vz
[1/°K]	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-55.00	-60.00		7.423E-01	3	2.353E+00	1.136E+00
	55.00	60.00		1.320E+00			

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0643	0.0643	0.000	0.000	0.000	0.000	0.00	0.00

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
2	1.3200E+00		1.584E-01	0.00	28036	33.00
	2.441E-01		1.331E-01	0.00	11682	

Additional Design Data

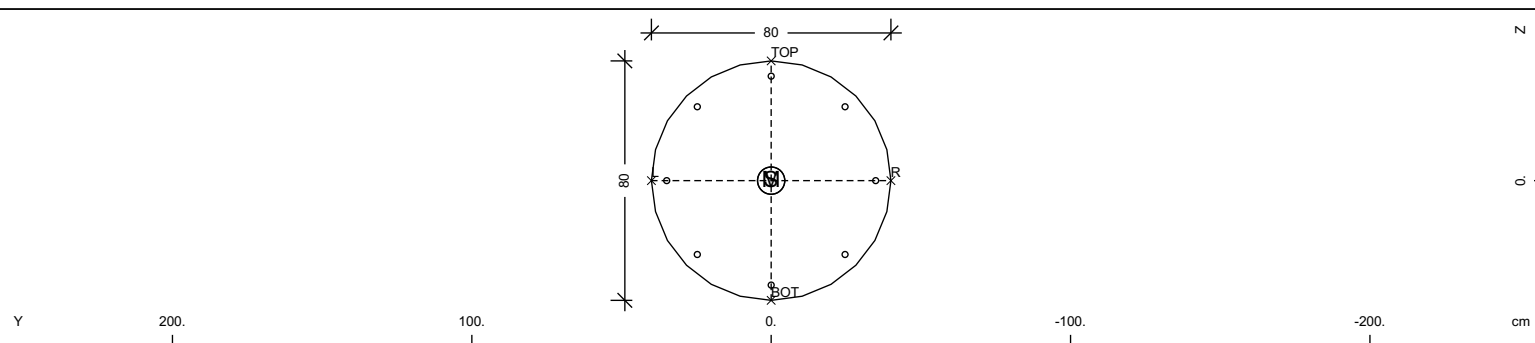
M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[m2/m]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	4.600		57.39		0.0	0.729	0.396	0.333	

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	2	3	20.87	20.87		-49.90	0.00			
M2	2	3	20.87	20.87		49.90	0.00			

Parametri, Materiali e Sezioni

Cross section No. 5 - palo



Cross section No. 5 - palo

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[cm]	[MPa]	[kN/m]
5	5.0265E-01		2.011E-02	0.00	0.00	31447	12.57
3	4.021E-02		2.011E-02	0.00	0.00	13103	

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
	ymax	zmax	hzmin	AB		Tau-B	Tau-Vz
[1/°K]	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-40.00	-40.00		2.913E-01	3	8.629E+00	2.637E+00
	40.00	40.00		5.027E-01			1.458E-07

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
5	5.0265E-01		2.011E-02	0.00	26206	12.57
	4.021E-02		2.011E-02	0.00	10919	

Additional Design Data

M	periphery-O/I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[cm]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	2.513	40.00			0.0	0.101	0.050	0.050	

Reinforcement global values

Layer	mS	mR	area [cm ²]	lower-A [cm ²]	upper-A [cm ²]	yL [cm]	zL [cm]	L-tors [cm]	N-pr [kN]	M-pr [kNm]
M1	5	3	25.13	25.13		0.00	0.00			

Bore Profile No. 1 profilo sx

[illegible]

Bore Profile No. 2 profilo dx

[illegible]

Geometria ponticello

Structural Points

Number	x[m]	y[m]	z[m]	t[m]	h[m]	Title /	Support Conditions
1	0.450	0.000	0.000	0.000	0.000		
2	0.900	0.000	0.000	0.000	0.000		
3	1.000	0.000	0.000	0.000	0.000	XP	
4	1.100	0.000	0.000	0.000	0.000		
5	15.600	0.000	0.000	0.000	0.000		
6	15.700	0.000	0.000	0.000	0.000		
7	15.800	0.000	0.000	0.000	0.000		
8	16.250	0.000	0.000	0.000	0.000		
11	0.450	0.000	0.425	0.000	0.000		
12	0.900	0.000	0.425	0.000	0.000		
17	15.800	0.000	0.425	0.000	0.000		
18	16.250	0.000	0.425	0.000	0.000		
20	16.150	0.000	-3.025	0.000	0.000		
100	0.550	0.000	0.000	0.000	0.000		
108	16.150	0.000	-13.000	0.000	0.000	PP	
111	16.150	0.000	-1.500	0.000	0.000		
200	16.150	0.000	0.000	0.000	0.000		

Structural Lines

Number	Ref	gpt-a	gpt-b	Grp	MNo	b[m]	div	Title /	Support Conditions
2		2	3	1					
3		3	4	1					
4		4	5	1					
5		5	6	1					
6		6	7	1					
7		17	18	2					
10		108	20	3					
11		20	111	3					
13		8	18	4					
15		111	200	3					

Structural Lines - Beam Elements

Number	GPT-A	GPT-B	Type	Grp	NoS	NoP	div	Hinges-start	Hinges-end
2	2	3		1	1	0	0		
3	3	4		1	1	0	0		
4	4	5		1	1	0	0		
5	5	6		1	1	0	0		
6	6	7		1	1	0	0		
7	17	18		2	2	0	0		
10	108	20		3	5	2	0		
11	20	111		3	5	2	0		
13	8	18		4	3	0	0		
15	111	200		3	4	2	0		



Vincoli dappoggio a tempo infinito

Groups

Grp	number	type	min-no	max-no	Title
1	29	BEAM	10001	10029	
2	1	BEAM	20001	20001	
3	1	KINE	30003	30003	
	23	BEAM	30001	30023	
	24	base	30000	39999	
4	1	BEAM	40001	40001	
10	4	KINE	100010	100010	
20	1	KINE	200020	200020	

Nodal Coordinates and Supports

Number	X[m]	Y[m]	Z[m]	Support Conditions		
1	0.450	0.000	0.000			
2	0.900	0.000	0.000			
3	1.000	0.000	0.000	PY	PZ	
4	1.100	0.000	0.000			
5	15.600	0.000	0.000			
6	15.700	0.000	0.000			
7	15.800	0.000	0.000			
8	16.250	0.000	0.000			
11	0.450	0.000	0.425			
12	0.900	0.000	0.425			
17	15.800	0.000	0.425			
18	16.250	0.000	0.425			
20	16.150	0.000	-3.025			
100	0.550	0.000	0.000			
108	16.150	0.000	-13.000	PX	PY	PZ
111	16.150	0.000	-1.500			
200	16.150	0.000	0.000			
201	1.680	0.000	0.000			
202	2.260	0.000	0.000			
203	2.840	0.000	0.000			
204	3.420	0.000	0.000			
205	4.000	0.000	0.000			
206	4.580	0.000	0.000			
207	5.160	0.000	0.000			
208	5.740	0.000	0.000			
209	6.320	0.000	0.000			
210	6.900	0.000	0.000			
211	7.480	0.000	0.000			
212	8.060	0.000	0.000			
213	8.640	0.000	0.000			
214	9.220	0.000	0.000			
215	9.800	0.000	0.000			
216	10.380	0.000	0.000			
217	10.960	0.000	0.000			
218	11.540	0.000	0.000			
219	12.120	0.000	0.000			
220	12.700	0.000	0.000			
221	13.280	0.000	0.000			
222	13.860	0.000	0.000			
223	14.440	0.000	0.000			
224	15.020	0.000	0.000			
225	16.150	0.000	-12.413			
226	16.150	0.000	-11.826			
227	16.150	0.000	-11.240			
228	16.150	0.000	-10.653			
229	16.150	0.000	-10.066			
230	16.150	0.000	-9.479			
231	16.150	0.000	-8.893			
232	16.150	0.000	-8.306			
233	16.150	0.000	-7.719			
234	16.150	0.000	-7.132			
235	16.150	0.000	-6.546			
236	16.150	0.000	-5.959			
237	16.150	0.000	-5.372			
238	16.150	0.000	-4.785			
239	16.150	0.000	-4.199			
240	16.150	0.000	-3.612			
241	16.150	0.000	-2.517			
242	16.150	0.000	-2.008			
243	16.150	0.000	-1.000			
244	16.150	0.000	-0.500			

MIN	0.450	0.000	-13.000			
MAX	16.250	0.000	0.425			

Vincoli dappoggio a tempo infinito

Kinematic Constraints

Grp	LV	Node	type	reference	dx	dy	dz	df
10	1	6	KMXZ	200	0.000	-1.000	0.000	
20	1	7	KF	17	0.000	0.000	-0.425	
3	1	8	KF	200	0.100	0.000	0.000	
10	1	6	KPY0	200	1.000	0.000	0.000	
10	1	6	KPZ0	200	1.000	0.000	0.000	
10	1	6	KPX0	200	1.000	0.000	0.000	

Beam Elements

Grp	Number	Node	x[m]	NoS	NoP	reference	Hinges	direction	local	y-axis
1	10001	2	0.000	1	0-0	0.000		0.000	-1.000	0.000
		3	0.100	1		0.100				
1	10002	3	0.000	1	0-0	0.000		0.000	-1.000	0.000
		4	0.100	1		0.100				
1	10003	4	0.000	1	0-0	0.000		0.000	-1.000	0.000
		201	0.580	1		0.580				
1	10004	201	0.000	1	0-0	0.580		0.000	-1.000	0.000
		202	0.580	1		1.160				
1	10005	202	0.000	1	0-0	1.160		0.000	-1.000	0.000
		203	0.580	1		1.740				
1	10006	203	0.000	1	0-0	1.740		0.000	-1.000	0.000
		204	0.580	1		2.320				
1	10007	204	0.000	1	0-0	2.320		0.000	-1.000	0.000
		205	0.580	1		2.900				
1	10008	205	0.000	1	0-0	2.900		0.000	-1.000	0.000
		206	0.580	1		3.480				
1	10009	206	0.000	1	0-0	3.480		0.000	-1.000	0.000
		207	0.580	1		4.060				
1	10010	207	0.000	1	0-0	4.060		0.000	-1.000	0.000
		208	0.580	1		4.640				
1	10011	208	0.000	1	0-0	4.640		0.000	-1.000	0.000
		209	0.580	1		5.220				
1	10012	209	0.000	1	0-0	5.220		0.000	-1.000	0.000
		210	0.580	1		5.800				
1	10013	210	0.000	1	0-0	5.800		0.000	-1.000	0.000
		211	0.580	1		6.380				
1	10014	211	0.000	1	0-0	6.380		0.000	-1.000	0.000
		212	0.580	1		6.960				
1	10015	212	0.000	1	0-0	6.960		0.000	-1.000	0.000
		213	0.580	1		7.540				
1	10016	213	0.000	1	0-0	7.540		0.000	-1.000	0.000
		214	0.580	1		8.120				
1	10017	214	0.000	1	0-0	8.120		0.000	-1.000	0.000
		215	0.580	1		8.700				
1	10018	215	0.000	1	0-0	8.700		0.000	-1.000	0.000
		216	0.580	1		9.280				
1	10019	216	0.000	1	0-0	9.280		0.000	-1.000	0.000
		217	0.580	1		9.860				
1	10020	217	0.000	1	0-0	9.860		0.000	-1.000	0.000
		218	0.580	1		10.440				
1	10021	218	0.000	1	0-0	10.440		0.000	-1.000	0.000
		219	0.580	1		11.020				
1	10022	219	0.000	1	0-0	11.020		0.000	-1.000	0.000
		220	0.580	1		11.600				
1	10023	220	0.000	1	0-0	11.600		0.000	-1.000	0.000
		221	0.580	1		12.180				
1	10024	221	0.000	1	0-0	12.180		0.000	-1.000	0.000
		222	0.580	1		12.760				
1	10025	222	0.000	1	0-0	12.760		0.000	-1.000	0.000
		223	0.580	1		13.340				
1	10026	223	0.000	1	0-0	13.340		0.000	-1.000	0.000
		224	0.580	1		13.920				
1	10027	224	0.000	1	0-0	13.920		0.000	-1.000	0.000
		5	0.580	1		14.500				
1	10028	5	0.000	1	0-0	0.000		0.000	-1.000	0.000
		6	0.100	1		0.100				
1	10029	6	0.000	1	0-0	0.000		0.000	-1.000	0.000
		7	0.100	1		0.100				
2	20001	17	0.000	2	0-0	0.000		0.000	-1.000	0.000
		18	0.450	2		0.450				
3	30001	108	0.000	5	2	0.000		1.000	0.000	0.000
		225	0.587	5		0.587				
3	30002	225	0.000	5	2	0.587		1.000	0.000	0.000
		226	0.587	5		1.174				
3	30003	226	0.000	5	2	1.174		1.000	0.000	0.000
		227	0.587	5		1.760				
3	30004	227	0.000	5	2	1.760		1.000	0.000	0.000
		228	0.587	5		2.347				
3	30005	228	0.000	5	2	2.347		1.000	0.000	0.000
		229	0.587	5		2.934				



Vincoli dappoggio a tempo infinito

Beam Elements

Grp	Number	Node	x[m]	NoS	NoP	reference	Hinges	direction	local	y-axis
3	30006	229	0.000	5	2	2.934		1.000	0.000	0.000
		230	0.587	5		3.521				
3	30007	230	0.000	5	2	3.521		1.000	0.000	0.000
		231	0.587	5		4.107				
3	30008	231	0.000	5	2	4.107		1.000	0.000	0.000
		232	0.587	5		4.694				
3	30009	232	0.000	5	2	4.694		1.000	0.000	0.000
		233	0.587	5		5.281				
3	30010	233	0.000	5	2	5.281		1.000	0.000	0.000
		234	0.587	5		5.868				
3	30011	234	0.000	5	2	5.868		1.000	0.000	0.000
		235	0.587	5		6.454				
3	30012	235	0.000	5	2	6.454		1.000	0.000	0.000
		236	0.587	5		7.041				
3	30013	236	0.000	5	2	7.041		1.000	0.000	0.000
		237	0.587	5		7.628				
3	30014	237	0.000	5	2	7.628		1.000	0.000	0.000
		238	0.587	5		8.215				
3	30015	238	0.000	5	2	8.215		1.000	0.000	0.000
		239	0.587	5		8.801				
3	30016	239	0.000	5	2	8.801		1.000	0.000	0.000
		240	0.587	5		9.388				
3	30017	240	0.000	5	2	9.388		1.000	0.000	0.000
		20	0.587	5		9.975				
3	30018	20	0.000	5	2	0.000		1.000	0.000	0.000
		241	0.508	5		0.508				
3	30019	241	0.000	5	2	0.508		1.000	0.000	0.000
		242	0.508	5		1.017				
3	30020	242	0.000	5	2	1.017		1.000	0.000	0.000
		111	0.508	5		1.525				
3	30021	111	0.000	4	2	0.000		1.000	0.000	0.000
		243	0.500	4		0.500				
3	30022	243	0.000	4	2	0.500		1.000	0.000	0.000
		244	0.500	4		1.000				
3	30023	244	0.000	4	2	1.000		1.000	0.000	0.000
		200	0.500	4		1.500				
4	40001	8	0.000	3		0.000		1.000	0.000	0.000
		18	0.425	3		0.425				

Summary of all beam elements

Groups				
Grp	TotLength [m]	Max.Length [m]	TotWeight [t]	Surface [m2]
1	14.900	0.580	18.889	43.210
2	0.450	0.450	1.148	1.845
3	13.000	0.587	19.401	35.803
4	0.425	0.425	1.148	1.785

Sum	28.775		40.586	82.643

PRESTRESSING SYSTEM		Group No :	1	System:6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA : 1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:195000 N/mm2
Tensile strength	:	1860 N/mm2		
Diameter of duct	:	13.4 mm	Area of each tendon	: 140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	: 0.0 mm
Coefficient of Friction			Crack width	
MUE due to overstress	:	0.000	Associated eff. area	: 1.4 cm2
MUE due to release	:	0.000	Effective diameter	: 1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	: 5.9 cm

Construction/Prestress.Stage:	Tref. inf. 1		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]



Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	2	System:	6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 2 **Geometry of Tendons:** 2 **Tendons:** 1

Construction/Prestress.Stage:	Tref. inf. 2	
Title of the Tondon Group		
Fitting/grouting/removing	9/ 9/ 0	
Sequence of Prestressing	from left	
Length of geometry	:	14.900 m
Influence in XY-plane	:	14.900 m
Length of tendon	:	14.900 m
Force transition	:	0.750 m/lin
Given Prestressing ZVi/ZVdsgn	Given Prestressing	
general	:	Overstress : 208. kN
due to overstress	:	Release :
at prestressing anchor	:	Restress :
at dead anchor	:	Wedge slip :
Prestressingfrom left		
Station	Beam Section	+Frict -Frict Overst. Releas Restres Slip activ
0.00	10001 0.000	1.000 1.000 1.000 1.000 1.000 1.000 0.000
14.90	10029 1.000	1.000 1.000 1.000 1.000 1.000 1.000 0.000
Elongation in mm:	113.7 113.7	113.7 113.7 113.7 113.7 113.7

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	3	System:6-19 140mm2	
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 3 Geometry of Tendons: 3 Tendons: 1

Construction/Prestress.Stage:	Tref. inf. 3		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	4	System: 6-19 140mm2	
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 4 Geometry of Tendons: 4 Tendons: 1

Construction/Prestress.Stage:	Tref. inf. 4		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	5	System: 6-19 140mm2	
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 5 Geometry of Tendons: 5 Tendons: 1

Construction/Prestress.Stage:	Tref. inf. 5		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]



Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	6	System:	6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 6 **Geometry of Tendons:** 6 **Tendons:** 1

Construction/Prestress.Stage:	Tref. inf. 6	
Title of the Tondon Group	:	
Fitting/grouting/removing	:	9/ 9/ 0
Sequence of Prestressing	:	from left
Length of geometry	:	14.900 m
Influence in XY-plane	:	14.900 m
Length of tendon	:	14.900 m
Force transition	:	0.750 m/lin
Given Prestressing ZVi/ZVdsgn		Given Prestressing
general	:	Overstress : 208. kN
due to overstress	:	Release :
at prestressing anchor	:	Restress :
at dead anchor	:	Wedge slip :
Prestressingfrom left		
Station	Beam Section	+Frict -Frict Overst. Releas Restres Slip activ
0.00	10001 0.000	1.000 1.000 1.000 1.000 1.000 1.000 0.000
14.90	10029 1.000	1.000 1.000 1.000 1.000 1.000 1.000 0.000
Elongation in mm:	113.7 113.7	113.7 113.7 113.7 113.7 113.7

PRESTRESSING SYSTEM		Group No :	7	System:6-19 140mm2	
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Construction/Prestress.Stage:		Tref. inf. 7	
Title of the Tondon Group :			
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing	ZVi/ZVdsgn	Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	8	System:6-19 140mm2	
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 8 Geometry of Tendons: 8 Tendons: 1

Construction/Prestress.Stage:	Tref. inf. 8		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	10	System:6-19 140mm2	
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 10 Geometry of Tendons: 10 Tendons: 1

Construction/Prestress.Stage:	Tref. int. 10		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	11	System:6-19 140mm2	
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 11 Geometry of Tendons: 11 Tendons: 1

Construction/Prestress.Stage:	Tref. int. 11		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

PRESTRESSING SYSTEM		Group No :	12	System: 6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA : 1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	: 195000 N/mm2
Tensile strength	:	1860 N/mm2		
Diameter of duct	:	13.4 mm	Area of each tendon	: 140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	: 0.0 mm
Coefficient of Friction			Crack width	
MUE due to overstress	:	0.000	Associated eff. area	: 1.4 cm2
MUE due to release	:	0.000	Effective diameter	: 1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	: 5.9 cm

```

Construction/Prestress.Stage:      Tref. int. 12
Title of the Tondon Group   :
Fitting/grouting/removing    :      9/   9/   0
Sequence of Prestressing     :      from left

```

Length of geometry	:	14.900	m		
Influence in XY-plane	:	14.900	m		
Length of tendon	:	14.900	m		
Force transition	:	0.750	m/lin		
Given Prestressing	ZVi/ZVdsgn			Given Prestressing	
general	:			Overstress	: 208. kN
due to overstress	:			Release	:
at prestressing anchor	:			Restress	:
at dead anchor	:			Wedge slip	:

[illegible]

Elongation in mm: 113.7 113.7 113.7 113.7 113.7 113.7 113.7

PRESTRESSING SYSTEM		Group No :	13	System: 6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA : 1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	: 195000 N/mm2
Tensile strength	:	1860 N/mm2		
Diameter of duct	:	13.4 mm	Area of each tendon	: 140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	: 0.0 mm
Coefficient of Friction			Crack width	
MUE due to overstress	:	0.000	Associated eff. area	: 1.4 cm2
MUE due to release	:	0.000	Effective diameter	: 1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	: 5.9 cm

```

Construction/Prestress.Stage:      Tref. int. 13
Title of the Tondon Group   :
Fitting/grouting/removing    :      9/   9/   0
Sequence of Prestressing     :      from left

```

Length of geometry	:	14.900	m		
Influence in XY-plane	:	14.900	m		
Length of tendon	:	14.900	m		
Force transition	:	0.750	m/lin		
Given Prestressing	ZVi/ZVdsgn			Given Prestressing	
general	:			Overstress	: 208. kN
due to overstress	:			Release	:
at prestressing anchor	:			Restress	:
at dead anchor	:			Wedge slip	:

[illegible]

Elongation in mm: 113.7 113.7 113.7 113.7 113.7 113.7 113.7

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	14	System:6-19 140mm2	
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 14 Geometry of Tendons: 14 Tendons: 1

Construction/Prestress.Stage:	Tref. int. 14		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	15	System: 6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA : 1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	: 195000 N/mm2
Tensile strength	:	1860 N/mm2		
Diameter of duct	:	13.4 mm	Area of each tendon	: 140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	: 0.0 mm
Coefficient of Friction			Crack width	
MUE due to overstress	:	0.000	Associated eff. area	: 1.4 cm2
MUE due to release	:	0.000	Effective diameter	: 1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	: 5.9 cm

Group No: 15 Geometry of Tendons: 15 Tendons: 1

Construction/Prestress.Stage:	Tref. int. 15		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	16	System:6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA : 1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:195000 N/mm2
Tensile strength	:	1860 N/mm2		
Diameter of duct	:	13.4 mm	Area of each tendon	: 140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	: 0.0 mm
Coefficient of Friction			Crack width	
MUE due to overstress	:	0.000	Associated eff. area	: 1.4 cm2
MUE due to release	:	0.000	Effective diameter	: 1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	: 5.9 cm

Group No: 16 Geometry of Tendons: 16 Tendons: 1

Construction/Prestress.Stage:	Tref. int. 16		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	17	System: 6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA : 1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	: 195000 N/mm2
Tensile strength	:	1860 N/mm2		
Diameter of duct	:	13.4 mm	Area of each tendon	: 140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	: 0.0 mm
Coefficient of Friction			Crack width	
MUE due to overstress	:	0.000	Associated eff. area	: 1.4 cm2
MUE due to release	:	0.000	Effective diameter	: 1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	: 5.9 cm

Group No: 17 Geometry of Tendons: 17 Tendons: 1

Construction/Prestress.Stage:	Tref. int. 17		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	18	System:6-19 140mm2	
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 18 Geometry of Tendons: 18 Tendons: 1

Construction/Prestress.Stage:	Tref. int. 18		
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM	Group No :	22	System:6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses ZV/ZA : 1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus :195000 N/mm2
Tensile strength	:	1860 N/mm2	
Diameter of duct	:	13.4 mm	Area of each tendon : 140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor : 0.0 mm
Coefficient of Friction			Crack width
MUE due to overstress	:	0.000	Associated eff. area : 1.4 cm2
MUE due to release	:	0.000	Effective diameter : 1.3 cm
BETA	:	0.000 deg /m	Effective circumfer. : 5.9 cm

Group No: 22 Geometry of Tendons: 22 Tendons: 1

Construction/Prestress.Stage:		Tref. sup. 22	
Title of the Tondon Group	:		
Fitting/grouting/removing	:	9/ 9/ 0	
Sequence of Prestressing	:	from left	
Length of geometry	:	14.900 m	
Influence in XY-plane	:	14.900 m	
Length of tendon	:	14.900 m	
Force transition	:	0.750 m/lin	
Given Prestressing ZVi/ZVdsgn		Given Prestressing	
general	:	Overstress	: 208. kN
due to overstress	:	Release	:
at prestressing anchor	:	Restress	:
at dead anchor	:	Wedge slip	:

[illegible]

Geometria ponticello
Sistema di precompressione

PRESTRESSING SYSTEM		Group No :	23	System:	6-19 140mm2
Basic force	ZV :	208 kN	Basic stresses	ZV/ZA :	1488 N/mm2
Yield strength	:	1670 N/mm2	Young's Modulus	:	195000 N/mm2
Tensile strength	:	1860 N/mm2			
Diameter of duct	:	13.4 mm	Area of each tendon	:	140 mm2
Permissible radius	:	0.00 m	Slip at prestr.anchor	:	0.0 mm
Coefficient of Friction			Crack width		
MUE due to overstress	:	0.000	Associated eff. area	:	1.4 cm2
MUE due to release	:	0.000	Effective diameter	:	1.3 cm
BETA	:	0.000 deg /m	Effective circumfer.	:	5.9 cm

Group No: 23 Geometry of Tendons: 23 Tendons: 1

Construction/Prestress.Stage: Tref. sup. 23
Title of the Tondon Group :
Fitting/grouting/removing : 9/ 9/ 0
Sequence of Prestressing : from left

Length of geometry : 14.900 m
Influence in XY-plane : 14.900 m
Length of tendon : 14.900 m
Force transition : 0.750 m/lin
Given Prestressing ZVi/ZVdsgn Given Prestressing
general : Overstress : 208. kN
due to overstress : Release :
at prestressing anchor : Restress :
at dead anchor : Wedge slip :

Prestressingfrom left									
Station	Beam	Section	+Frict	-Frict	Overst.	Releas	Restres	Slip	activ
0.00	10001	0.000	1.000	1.000	1.000	1.000	1.000	1.000	0.000
14.90	10029	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.000
Elongation in mm:			113.7	113.7	113.7	113.7	113.7	113.7	113.7

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 1 Geometry of Tendons: 1 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. inf. 1
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.16	-6.42
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.16	-6.42
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.32	-12.83
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.32	-12.83
0.39		0.19	-109.25	0.00	0.00	0.00	-51.76	-25.24
0.59		0.39	-162.95	0.00	0.00	0.00	-77.20	-37.64
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-98.69	-48.12
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-98.69	-48.12
14.31		0.19	-162.95	0.00	0.00	0.00	-77.20	-37.64
14.51		0.39	-109.25	0.00	0.00	0.00	-51.76	-25.24
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-26.32	-12.83
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-26.32	-12.83
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-13.16	-6.42
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-13.16	-6.42
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 2 Geometry of Tendons: 2 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. inf. 2
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.16	-4.58
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.16	-4.58
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.32	-9.17
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.32	-9.17
0.39		0.19	-109.25	0.00	0.00	0.00	-51.76	-18.03
0.59		0.39	-162.95	0.00	0.00	0.00	-77.20	-26.89
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-98.69	-34.37
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-98.69	-34.37
14.31		0.19	-162.95	0.00	0.00	0.00	-77.20	-26.89
14.51		0.39	-109.25	0.00	0.00	0.00	-51.76	-18.03
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-26.32	-9.17
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-26.32	-9.17
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-13.16	-4.58
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-13.16	-4.58
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 3 Geometry of Tendons: 3 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. inf. 3
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.16	-2.75
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.16	-2.75
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.32	-5.50
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.32	-5.50
0.39		0.19	-109.25	0.00	0.00	0.00	-51.76	-10.82
0.59		0.39	-162.95	0.00	0.00	0.00	-77.20	-16.13
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62



Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-98.69	-20.62
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-98.69	-20.62
14.31		0.19	-162.95	0.00	0.00	0.00	-77.20	-16.13
14.51		0.39	-109.25	0.00	0.00	0.00	-51.76	-10.82
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-26.32	-5.50
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-26.32	-5.50
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-13.16	-2.75
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-13.16	-2.75
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 4 Geometry of Tendons: 4 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. inf. 4
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.16	-0.92
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.16	-0.92
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.32	-1.83
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.32	-1.83
0.39		0.19	-109.25	0.00	0.00	0.00	-51.76	-3.61
0.59		0.39	-162.95	0.00	0.00	0.00	-77.20	-5.38
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-98.69	-6.87
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-98.69	-6.87
14.31		0.19	-162.95	0.00	0.00	0.00	-77.20	-5.38
14.51		0.39	-109.25	0.00	0.00	0.00	-51.76	-3.61
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-26.32	-1.83
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-26.32	-1.83
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-13.16	-0.92
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-13.16	-0.92
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 5 Geometry of Tendons: 5 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. inf. 5
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.16	0.92
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.16	0.92
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.32	1.83
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.32	1.83
0.39		0.19	-109.25	0.00	0.00	0.00	-51.76	3.61
0.59		0.39	-162.95	0.00	0.00	0.00	-77.20	5.38
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87



Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-98.69	6.87
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-98.69	6.87
14.31		0.19	-162.95	0.00	0.00	0.00	-77.20	5.38
14.51		0.39	-109.25	0.00	0.00	0.00	-51.76	3.61
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-26.32	1.83
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-26.32	1.83
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-13.16	0.92
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-13.16	0.92
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 6 Geometry of Tendons: 6 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. inf. 6
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.16	2.75
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.16	2.75
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.32	5.50
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.32	5.50
0.39		0.19	-109.25	0.00	0.00	0.00	-51.76	10.82
0.59		0.39	-162.95	0.00	0.00	0.00	-77.20	16.13
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-98.69	20.62
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-98.69	20.62



Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
14.31		0.19	-162.95	0.00	0.00	0.00	-77.20	16.13
14.51		0.39	-109.25	0.00	0.00	0.00	-51.76	10.82
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-26.32	5.50
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-26.32	5.50
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-13.16	2.75
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-13.16	2.75
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 7 Geometry of Tendons: 7 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. inf. 7
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.16	4.58
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.16	4.58
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.32	9.17
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.32	9.17
0.39		0.19	-109.25	0.00	0.00	0.00	-51.76	18.03
0.59		0.39	-162.95	0.00	0.00	0.00	-77.20	26.89
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-98.69	34.37
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-98.69	34.37
14.31		0.19	-162.95	0.00	0.00	0.00	-77.20	26.89
14.51		0.39	-109.25	0.00	0.00	0.00	-51.76	18.03
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-26.32	9.17
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-26.32	9.17
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-13.16	4.58

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-13.16	4.58
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 8 Geometry of Tendons: 8 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. inf. 8
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-13.16	6.42
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-13.16	6.42
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-26.32	12.83
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-26.32	12.83
0.39		0.19	-109.25	0.00	0.00	0.00	-51.76	25.24
0.59		0.39	-162.95	0.00	0.00	0.00	-77.20	37.64
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-98.69	48.12
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-98.69	48.12
14.31		0.19	-162.95	0.00	0.00	0.00	-77.20	37.64
14.51		0.39	-109.25	0.00	0.00	0.00	-51.76	25.24
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-26.32	12.83
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-26.32	12.83
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-13.16	6.42
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-13.16	6.42
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00



Geometria ponticello
Sistema di precompressione

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 9 Geometry of Tendons: 9 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. int. 9
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x(m)	N(kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	-6.42
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	-6.42
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	-12.83
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	-12.83
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	-25.24
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	-37.64
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	-48.12
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	-48.12
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	-37.64
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	-25.24
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	-12.83
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	-12.83
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	-6.42
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	-6.42
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 10 Geometry of Tendons: 10 Tendons: 1

Area of statical influence : station 0.00 to station 14.90



Geometria ponticello
Sistema di precompressione

Construction/Prestress.Stage: Tref. int. 10
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	-5.35
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	-5.35
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	-10.69
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	-10.69
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	-21.03
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	-31.37
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	-40.10
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	-40.10
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	-31.37
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	-21.03
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	-10.69
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	-10.69
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	-5.35
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	-5.35
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 11 Geometry of Tendons: 11 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. int. 11
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	-4.28

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	-4.28
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	-8.56
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	-8.56
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	-16.82
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	-25.09
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	-32.08
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	-32.08
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	-25.09
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	-16.82
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	-8.56
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	-8.56
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	-4.28
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	-4.28
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 12 Geometry of Tendons: 12 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. int. 12
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	-3.21
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	-3.21
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	-6.42
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	-6.42
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	-12.62
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	-18.82

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	-24.06
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	-24.06
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	-18.82
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	-12.62
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	-6.42
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	-6.42
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	-3.21
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	-3.21
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 13 Geometry of Tendons: 13 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. int. 13
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	-2.14
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	-2.14
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	-4.28
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	-4.28
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	-8.41
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	-12.55
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	-16.04
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	-16.04
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	-12.55
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	-8.41
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	-4.28
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	-4.28
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	-2.14
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	-2.14
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 14 Geometry of Tendons: 14 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. int. 14
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	-1.07
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	-1.07
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	-2.14
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	-2.14
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	-4.21
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	-6.27
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	-8.02
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	-8.02
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	-6.27
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	-4.21
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	-2.14
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	-2.14
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	-1.07
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	-1.07
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 15 Geometry of Tendons: 15 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. int. 15
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	0.00
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	0.00
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	0.00
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	0.00
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	0.00
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	0.00
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	0.00
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	0.00
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	0.00
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	0.00
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	0.00
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	0.00
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	0.00
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	0.00
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 16 Geometry of Tendons: 16 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. int. 16
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	1.07
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	1.07
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	2.14
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	2.14
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	4.21
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	6.27
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02



Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	8.02
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	8.02
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	6.27
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	4.21
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	2.14
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	2.14
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	1.07
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	1.07
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 17 Geometry of Tendons: 17 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. int. 17
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	2.14
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	2.14
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	4.28
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	4.28
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	8.41
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	12.55
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04



Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	16.04
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	16.04
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	12.55
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	8.41
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	4.28
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	4.28
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	2.14
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	2.14
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 18 Geometry of Tendons: 18 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. int. 18
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	3.21
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	3.21
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	6.42
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	6.42
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	12.62
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	18.82
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	24.06
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	24.06
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	18.82
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	12.62
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	6.42
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	6.42
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	3.21
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	3.21
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 19 Geometry of Tendons: 19 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. int. 19
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	4.28
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	4.28
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	8.56
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	8.56
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	16.82
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	25.09
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	32.08
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	32.08
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	25.09
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	16.82
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	8.55
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	8.55
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	4.28
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	4.28
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 20 Geometry of Tendons: 20 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. int. 20
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	5.35
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	5.35
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	10.69
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	10.69
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	21.03
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	31.37
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10



Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	40.10
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	40.10
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	31.37
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	21.03
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	10.69
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	10.69
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	5.35
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	5.35
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 21 Geometry of Tendons: 21 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. int. 21
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	-11.77	6.42
0.10	10002	0.00	-27.78	0.00	0.00	0.00	-11.77	6.42
0.20	10002	0.10	-55.55	0.00	0.00	0.00	-23.54	12.83
0.20	10003	0.00	-55.55	0.00	0.00	0.00	-23.54	12.83
0.39		0.19	-109.25	0.00	0.00	0.00	-46.30	25.24
0.59		0.39	-162.95	0.00	0.00	0.00	-69.05	37.64
0.78	10003	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
0.78	10004	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
1.36	10004	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
1.36	10005	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
1.94	10005	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
1.94	10006	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
2.52	10006	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
2.52	10007	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
3.10	10007	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
3.10	10008	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
3.68	10008	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
3.68	10009	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
4.26	10009	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
4.26	10010	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
4.84	10010	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
4.84	10011	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
5.42	10011	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
5.42	10012	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
6.00	10012	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
6.00	10013	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
6.58	10013	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
6.58	10014	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
7.16	10014	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
7.16	10015	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
7.74	10015	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
7.74	10016	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
8.32	10016	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
8.32	10017	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
8.90	10017	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
8.90	10018	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
9.48	10018	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
9.48	10019	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
10.06	10019	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
10.06	10020	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
10.64	10020	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
10.64	10021	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
11.22	10021	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
11.22	10022	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
11.80	10022	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
11.80	10023	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
12.38	10023	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
12.38	10024	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
12.96	10024	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
12.96	10025	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
13.54	10025	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
13.54	10026	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12



Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
14.12	10026	0.58	-208.32	0.00	0.00	0.00	-88.28	48.12
14.12	10027	0.00	-208.32	0.00	0.00	0.00	-88.28	48.12
14.31		0.19	-162.95	0.00	0.00	0.00	-69.05	37.64
14.51		0.39	-109.25	0.00	0.00	0.00	-46.30	25.24
14.70	10027	0.58	-55.55	0.00	0.00	0.00	-23.54	12.83
14.70	10028	0.00	-55.55	0.00	0.00	0.00	-23.54	12.83
14.80	10028	0.10	-27.78	0.00	0.00	0.00	-11.77	6.42
14.80	10029	0.00	-27.78	0.00	0.00	0.00	-11.77	6.42
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 22 Geometry of Tendons: 22 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. sup. 22
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	0.28	-6.42
0.10	10002	0.00	-27.78	0.00	0.00	0.00	0.28	-6.42
0.20	10002	0.10	-55.55	0.00	0.00	0.00	0.57	-12.83
0.20	10003	0.00	-55.55	0.00	0.00	0.00	0.57	-12.83
0.39		0.19	-109.25	0.00	0.00	0.00	1.12	-25.24
0.59		0.39	-162.95	0.00	0.00	0.00	1.67	-37.64
0.78	10003	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
0.78	10004	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
1.36	10004	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
1.36	10005	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
1.94	10005	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
1.94	10006	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
2.52	10006	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
2.52	10007	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
3.10	10007	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
3.10	10008	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
3.68	10008	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
3.68	10009	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
4.26	10009	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
4.26	10010	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
4.84	10010	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
4.84	10011	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
5.42	10011	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
5.42	10012	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
6.00	10012	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
6.00	10013	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
6.58	10013	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
6.58	10014	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
7.16	10014	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
7.16	10015	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
7.74	10015	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
7.74	10016	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
8.32	10016	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
8.32	10017	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
8.90	10017	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
8.90	10018	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
9.48	10018	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
9.48	10019	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
10.06	10019	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
10.06	10020	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
10.64	10020	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
10.64	10021	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
11.22	10021	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
11.22	10022	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
11.80	10022	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
11.80	10023	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
12.38	10023	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
12.38	10024	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
12.96	10024	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
12.96	10025	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
13.54	10025	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
13.54	10026	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
14.12	10026	0.58	-208.32	0.00	0.00	0.00	2.14	-48.12
14.12	10027	0.00	-208.32	0.00	0.00	0.00	2.14	-48.12
14.31		0.19	-162.95	0.00	0.00	0.00	1.67	-37.64
14.51		0.39	-109.25	0.00	0.00	0.00	1.12	-25.24
14.70	10027	0.58	-55.55	0.00	0.00	0.00	0.57	-12.83

Geometria ponticello
Sistema di precompressione

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
14.70	10028	0.00	-55.55	0.00	0.00	0.00	0.57	-12.83
14.80	10028	0.10	-27.78	0.00	0.00	0.00	0.28	-6.42
14.80	10029	0.00	-27.78	0.00	0.00	0.00	0.28	-6.42
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

UNRESTRAINT FORCES OF PRESTRESSING Load Case: 20
(Referring to the Cross Section of ICS1)

Group No: 23 Geometry of Tendons: 23 Tendons: 1

Area of statical influence : station 0.00 to station 14.90
Construction/Prestress.Stage: Tref. sup. 23
Fitting/grouting/removing : 9/ 9/ 0

Station	Beam	x (m)	N (kN)	QZ (kN)	QY (kN)	MT (kNm)	MY (kNm)	MZ (kNm)
0.00	10001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	10001	0.10	-27.78	0.00	0.00	0.00	0.28	6.42
0.10	10002	0.00	-27.78	0.00	0.00	0.00	0.28	6.42
0.20	10002	0.10	-55.55	0.00	0.00	0.00	0.57	12.83
0.20	10003	0.00	-55.55	0.00	0.00	0.00	0.57	12.83
0.39		0.19	-109.25	0.00	0.00	0.00	1.12	25.24
0.59		0.39	-162.95	0.00	0.00	0.00	1.67	37.64
0.78	10003	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
0.78	10004	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
1.36	10004	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
1.36	10005	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
1.94	10005	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
1.94	10006	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
2.52	10006	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
2.52	10007	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
3.10	10007	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
3.10	10008	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
3.68	10008	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
3.68	10009	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
4.26	10009	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
4.26	10010	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
4.84	10010	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
4.84	10011	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
5.42	10011	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
5.42	10012	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
6.00	10012	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
6.00	10013	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
6.58	10013	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
6.58	10014	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
7.16	10014	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
7.16	10015	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
7.74	10015	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
7.74	10016	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
8.32	10016	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
8.32	10017	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
8.90	10017	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
8.90	10018	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
9.48	10018	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
9.48	10019	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
10.06	10019	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
10.06	10020	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
10.64	10020	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
10.64	10021	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
11.22	10021	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
11.22	10022	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
11.80	10022	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
11.80	10023	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
12.38	10023	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
12.38	10024	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
12.96	10024	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
12.96	10025	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
13.54	10025	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
13.54	10026	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
14.12	10026	0.58	-208.32	0.00	0.00	0.00	2.14	48.12
14.12	10027	0.00	-208.32	0.00	0.00	0.00	2.14	48.12
14.31		0.19	-162.95	0.00	0.00	0.00	1.67	37.64
14.51		0.39	-109.25	0.00	0.00	0.00	1.12	25.24
14.70	10027	0.58	-55.55	0.00	0.00	0.00	0.57	12.83
14.70	10028	0.00	-55.55	0.00	0.00	0.00	0.57	12.83
14.80	10028	0.10	-27.78	0.00	0.00	0.00	0.28	6.42
14.80	10029	0.00	-27.78	0.00	0.00	0.00	0.28	6.42
14.90	10029	0.10	0.00	0.00	0.00	0.00	0.00	0.00

Geometria ponticello
Sistema di precompressione

STORED PRESTRESSING IN CDBASE:

Refline	-	-	FROM	TO	Typ								
Refline	Spline	-	FROM	TO	NFIRM	EXZ	DO						
Refline	Spline	Tendon	FROM	TO	NFIRM	NSP	ANWS	LF	LF0	IBA1	IBA2	IBA3	
1	-	-	0.00	14.90	CBEA								
1	1	-	0.00	14.90	319	-	13.4						
1	1	1	0.00	14.90	319	1	LE	20	20	9	9	0	
1	2	-	0.00	14.90	319	-	13.4						
1	2	2	0.00	14.90	319	1	LE	20	20	9	9	0	
1	3	-	0.00	14.90	319	-	13.4						
1	3	3	0.00	14.90	319	1	LE	20	20	9	9	0	
1	4	-	0.00	14.90	319	-	13.4						
1	4	4	0.00	14.90	319	1	LE	20	20	9	9	0	
1	5	-	0.00	14.90	319	-	13.4						
1	5	5	0.00	14.90	319	1	LE	20	20	9	9	0	
1	6	-	0.00	14.90	319	-	13.4						
1	6	6	0.00	14.90	319	1	LE	20	20	9	9	0	
1	7	-	0.00	14.90	319	-	13.4						
1	7	7	0.00	14.90	319	1	LE	20	20	9	9	0	
1	8	-	0.00	14.90	319	-	13.4						
1	8	8	0.00	14.90	319	1	LE	20	20	9	9	0	
1	9	-	0.00	14.90	319	-	13.4						
1	9	9	0.00	14.90	319	1	LE	20	20	9	9	0	
1	10	-	0.00	14.90	319	-	13.4						
1	10	10	0.00	14.90	319	1	LE	20	20	9	9	0	
1	11	-	0.00	14.90	319	-	13.4						
1	11	11	0.00	14.90	319	1	LE	20	20	9	9	0	
1	12	-	0.00	14.90	319	-	13.4						
1	12	12	0.00	14.90	319	1	LE	20	20	9	9	0	
1	13	-	0.00	14.90	319	-	13.4						
1	13	13	0.00	14.90	319	1	LE	20	20	9	9	0	
1	14	-	0.00	14.90	319	-	13.4						
1	14	14	0.00	14.90	319	1	LE	20	20	9	9	0	
1	15	-	0.00	14.90	319	-	13.4						
1	15	15	0.00	14.90	319	1	LE	20	20	9	9	0	
1	16	-	0.00	14.90	319	-	13.4						
1	16	16	0.00	14.90	319	1	LE	20	20	9	9	0	
1	17	-	0.00	14.90	319	-	13.4						
1	17	17	0.00	14.90	319	1	LE	20	20	9	9	0	
1	18	-	0.00	14.90	319	-	13.4						
1	18	18	0.00	14.90	319	1	LE	20	20	9	9	0	
1	19	-	0.00	14.90	319	-	13.4						
1	19	19	0.00	14.90	319	1	LE	20	20	9	9	0	
1	20	-	0.00	14.90	319	-	13.4						
1	20	20	0.00	14.90	319	1	LE	20	20	9	9	0	
1	21	-	0.00	14.90	319	-	13.4						
1	21	21	0.00	14.90	319	1	LE	20	20	9	9	0	
1	22	-	0.00	14.90	319	-	13.4						
1	22	22	0.00	14.90	319	1	LE	20	20	9	9	0	
1	23	-	0.00	14.90	319	-	13.4						
1	23	23	0.00	14.90	319	1	LE	20	20	9	9	0	

FROM,TO in (m), EXZ,DO in (mm)

Geometria ponticello
Definizione dei Casi di Carico

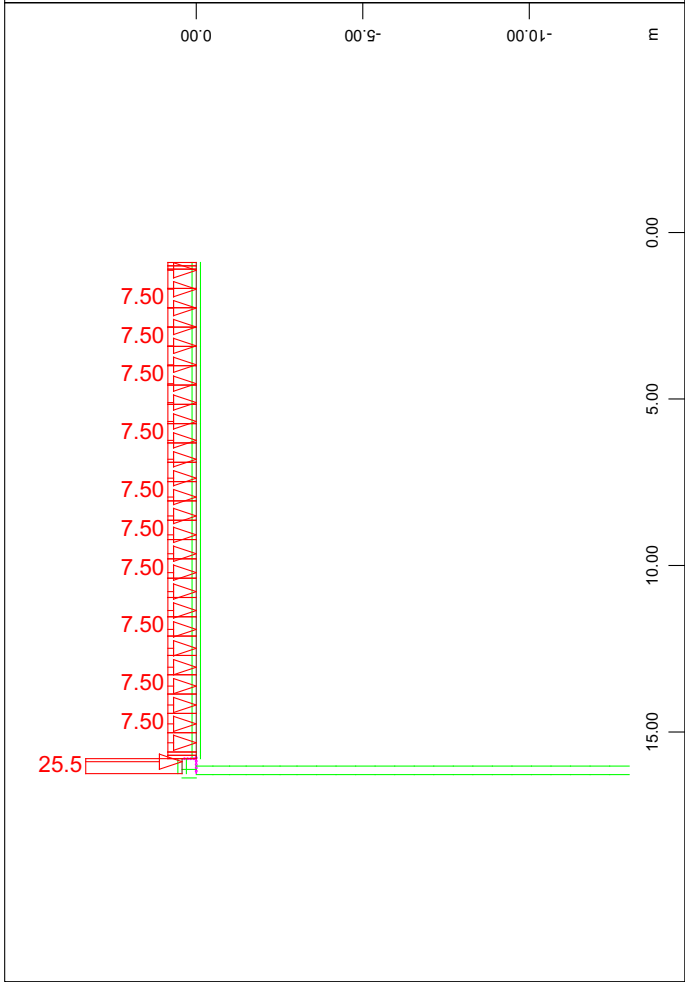
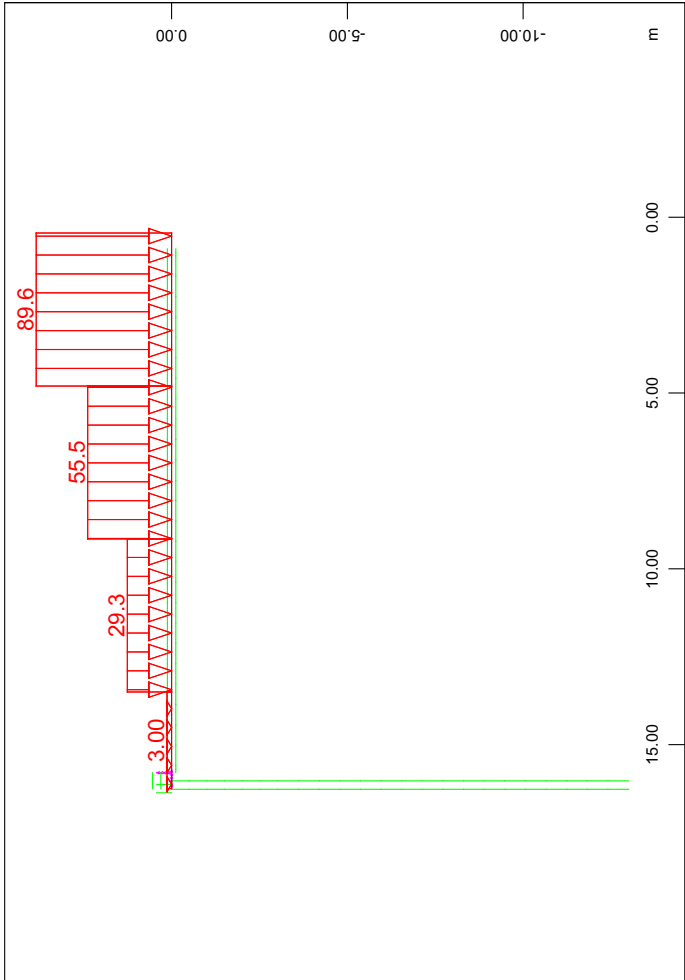
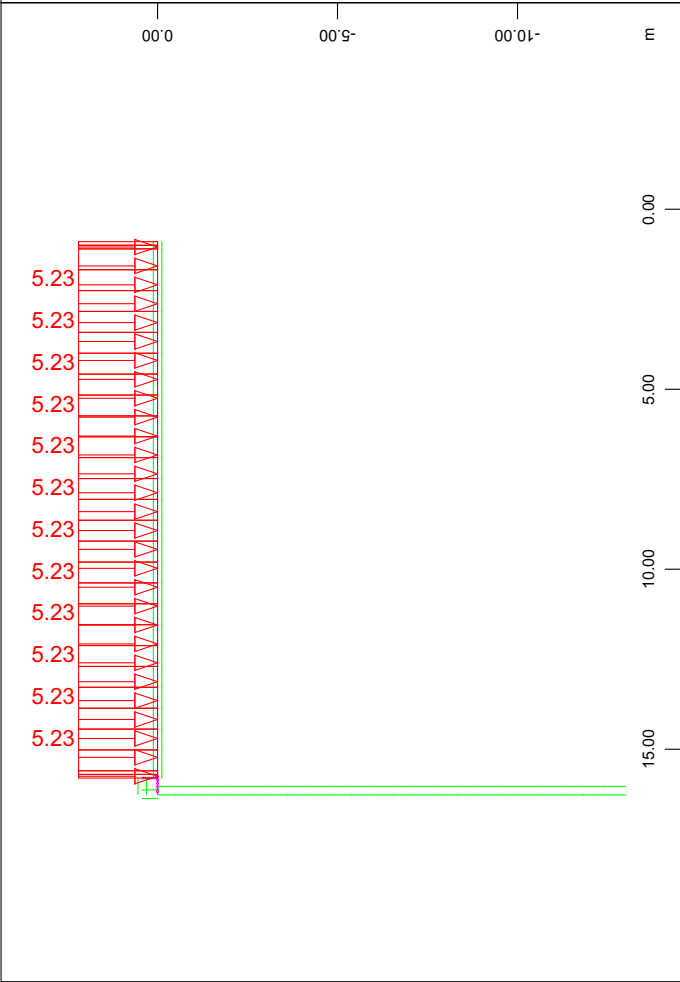
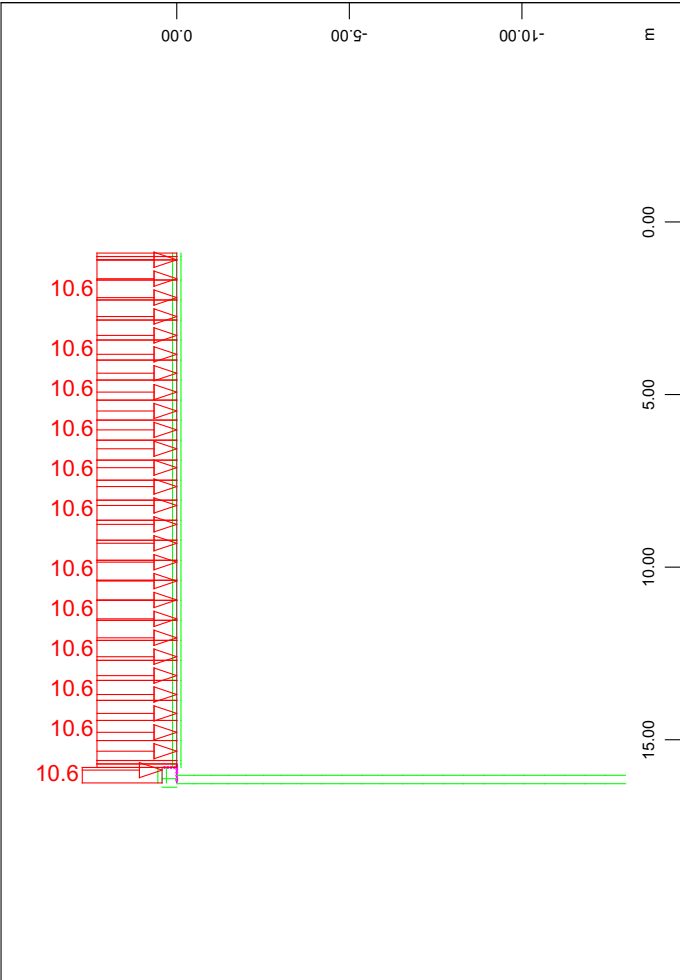
Actions									
type	T	sup	Title	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2
C	G	perc	Ritiro	1.20	0.00	1.00	1.00	1.00	1.00
G1	G	perm	Carichi G1	1.35	1.00	1.00	1.00	1.00	1.00
G2	G	perc	Carichi G2	1.50	0.00	1.00	1.00	1.00	1.00
R	G	perm	Spinta delle terre	1.35	1.00	1.00	1.00	1.00	1.00
P	P	perm	Carichi G2	1.00	1.00	1.00	1.00	1.00	1.00
Q	Q	cond	variable load	1.35	0.00	1.00	0.75	0.75	0.00
Q_A	Q	excl	Carichi V da traffico	1.35	0.00	1.00	0.75	0.75	0.00
Q_B	Q	perc	Carichi V da traffico sismico	1.00	1.00	1.00	1.00	1.00	1.00
Q_C	Q	usex	Carichi di frenatura	1.35	0.00	1.00	0.75	0.75	0.00
T	Q	unsi	Temperatura	1.20	0.00	1.00	0.60	0.60	0.50
E	E	usex	Earthquake	1.00	1.00	1.00	1.00	1.00	1.00
E_X	E	excl	Sisma	1.00	1.00	1.00	1.00	1.00	1.00

Geometria ponticello
Analisi Lineare

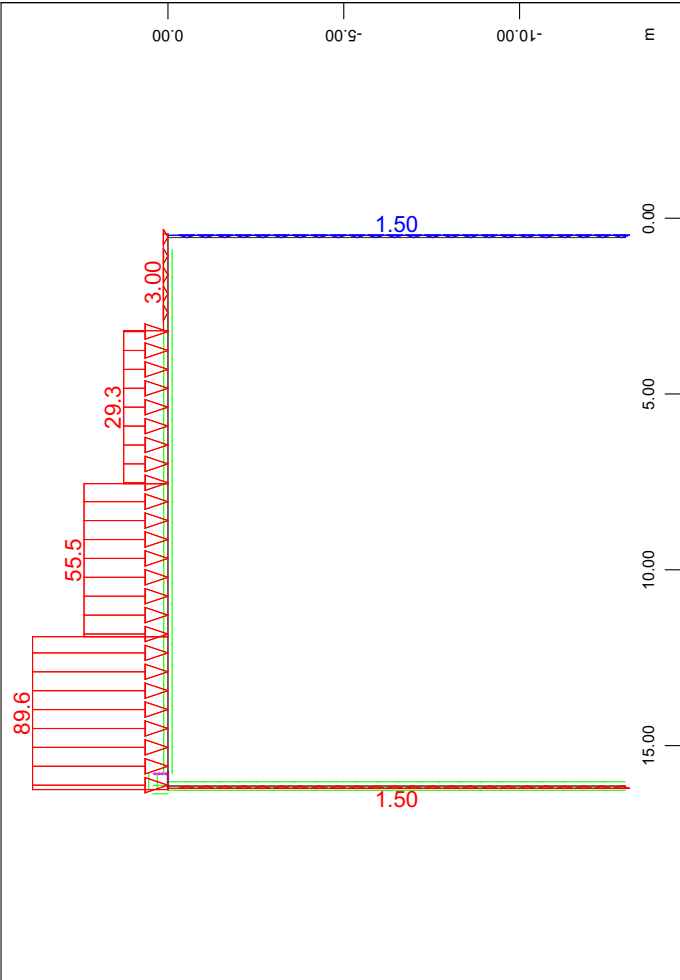
Sum of Reactions and Loads

LC Title	PXX[kN]	PYY[kN]	PZZ[kN]
1 Pp trave cap	0.0	0.0	77.9
	0.0	0.0	-77.9
2 Pp soletta+retrotr.	0.1	0.0	123.2
	0.0	0.0	-123.2
3 Pavimentazione	0.1	0.0	162.1
	0.0	0.0	-162.1
4 Q 1	0.4	0.0	726.2
	0.0	0.0	-726.2
5 Q 1_1	0.4	0.0	726.2
	0.0	0.0	-726.2
6 Q 2	0.5	0.0	765.1
	0.0	0.0	-765.1
7 Q 2_1	0.5	0.0	765.1
	0.0	0.0	-765.1
8 Q 3	0.4	0.0	726.2
	0.0	0.0	-726.2
9 Q 3_1	0.4	0.0	726.2
	0.0	0.0	-726.2
10 Q 4	0.5	0.0	765.1
	0.0	0.0	-765.1
11 Q 4_1	0.5	0.0	765.1
	0.0	0.0	-765.1
12 Q 5	0.5	0.0	741.5
	0.0	0.0	-741.5
13 Q 5_1	0.5	0.0	741.5
	0.0	0.0	-741.5
14 Q 6	0.5	0.0	765.1
	0.0	0.0	-765.1
15 Q 6_1	0.5	0.0	765.1
	0.0	0.0	-765.1
16 Q 7	0.5	0.0	765.1
	0.0	0.0	-765.1
17 Q 7_1	0.5	0.0	765.1
	0.0	0.0	-765.1
18 Q 8	0.6	0.0	765.1
	0.0	0.0	-765.1
19 Q 8_1	0.6	0.0	765.1
	0.0	0.0	-765.1
20 Basic prestressing forces	-0.8	0.0	0.0
	0.0	0.0	0.0
21 Variazione uniforme	0.0	0.0	0.0
	0.0	0.0	0.0
22 Variazione non uniforme	0.1	0.0	0.0
	0.0	0.0	0.0
23 Spinta terre	0.0	0.0	0.0
	0.0	0.0	0.0
24 Q f/a	-25.6	0.0	0.0
	25.4	0.0	0.0
25 Q -f/a	25.6	0.0	0.0
	-25.4	0.0	0.0
26 Sisma X_1	-227.8	0.0	0.0
	226.5	0.0	0.0
27 Sisma X_2	227.8	0.0	0.0
	-226.5	0.0	0.0
28 Sisma X_3	-132.8	0.0	0.0
	132.1	0.0	0.0
29 Sisma X_4	132.8	0.0	0.0
	-132.1	0.0	0.0
30 Qk sismico	0.1	0.0	148.9
	0.0	0.0	-148.9

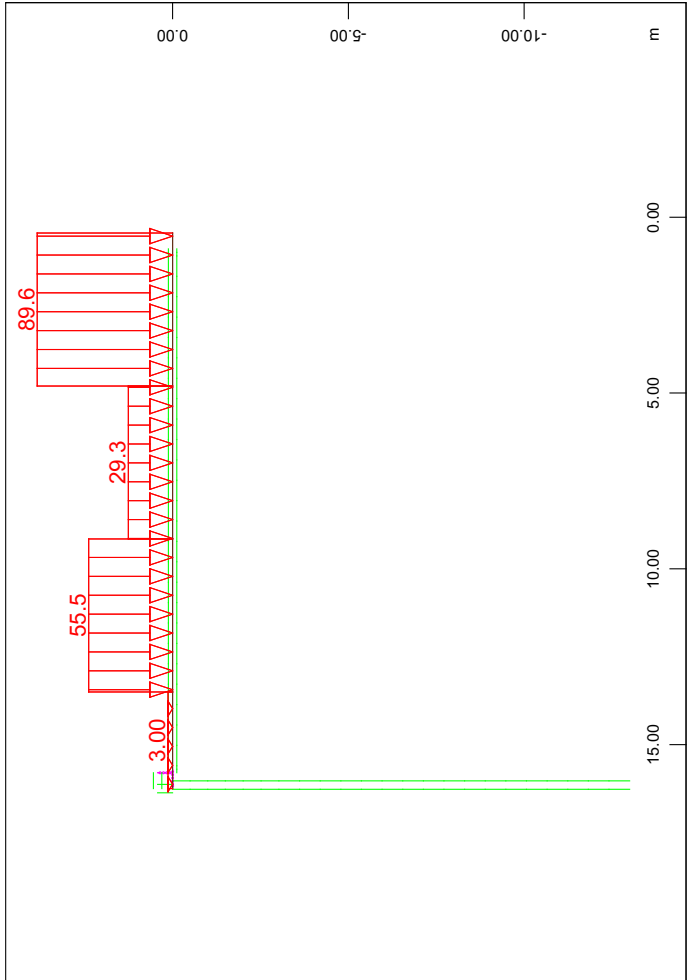
Geometria ponticello
Rappresentazione dei Carichi



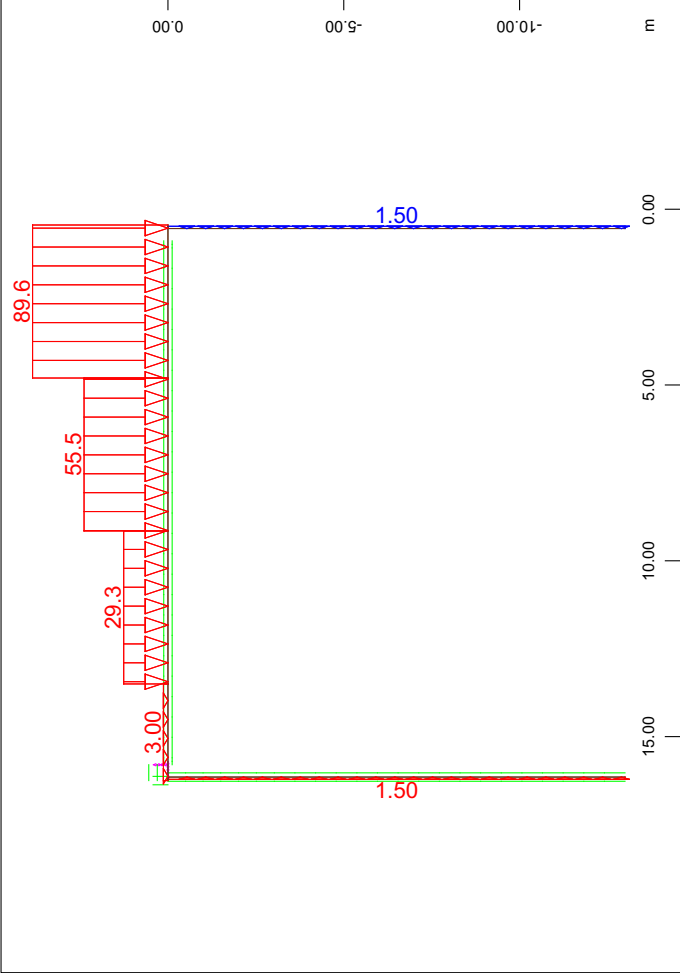
Geometria ponticello
Rappresentazione dei Carichi



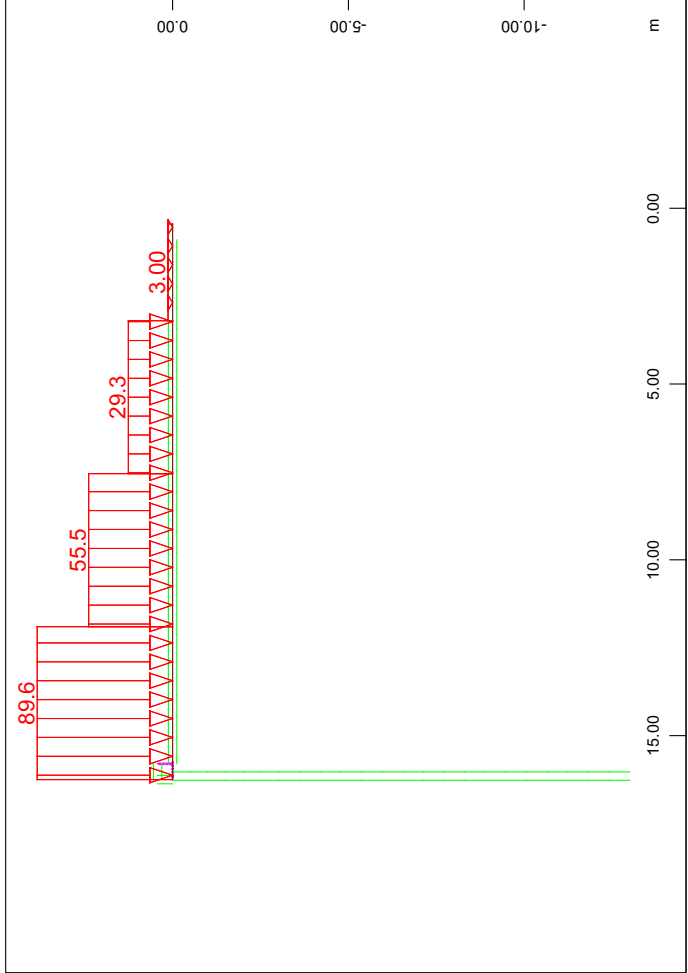
All loads, Loadcase 7 Q 2_1 , (1 cm 3D = unit) Free line load (force) in global X (Unit=50.0 kN/m) (force) in global Z (Unit=50.0 kN/m)



All loads, Loadcase 8 Q 3 , (1 cm 3D = unit) Free line load (force) in global X (Unit=50.0 kN/m) (force) in global Z (Unit=50.0 kN/m)

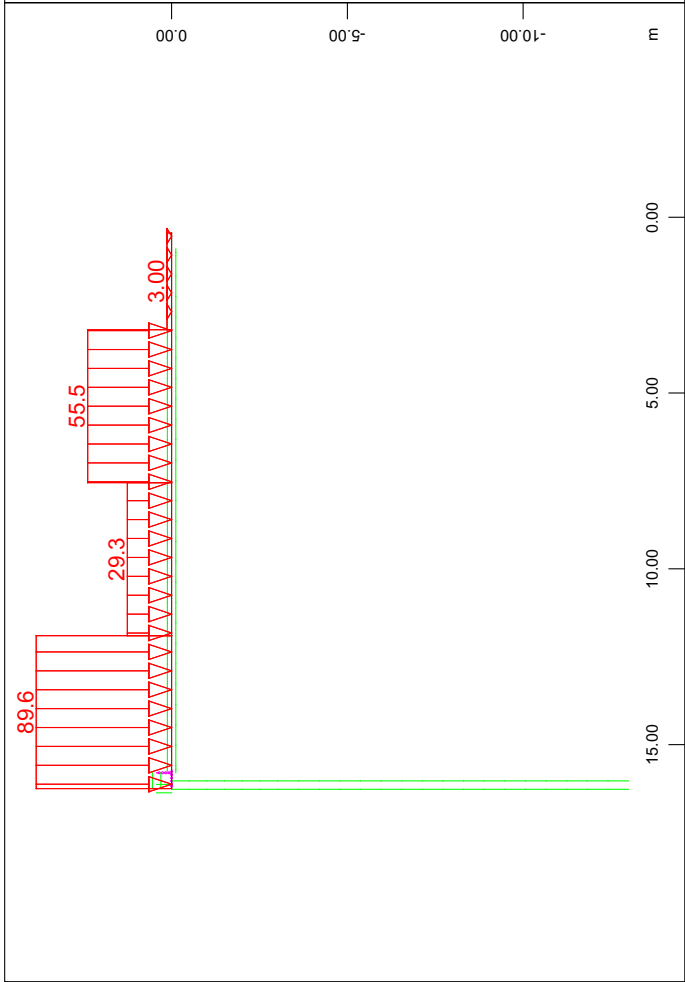
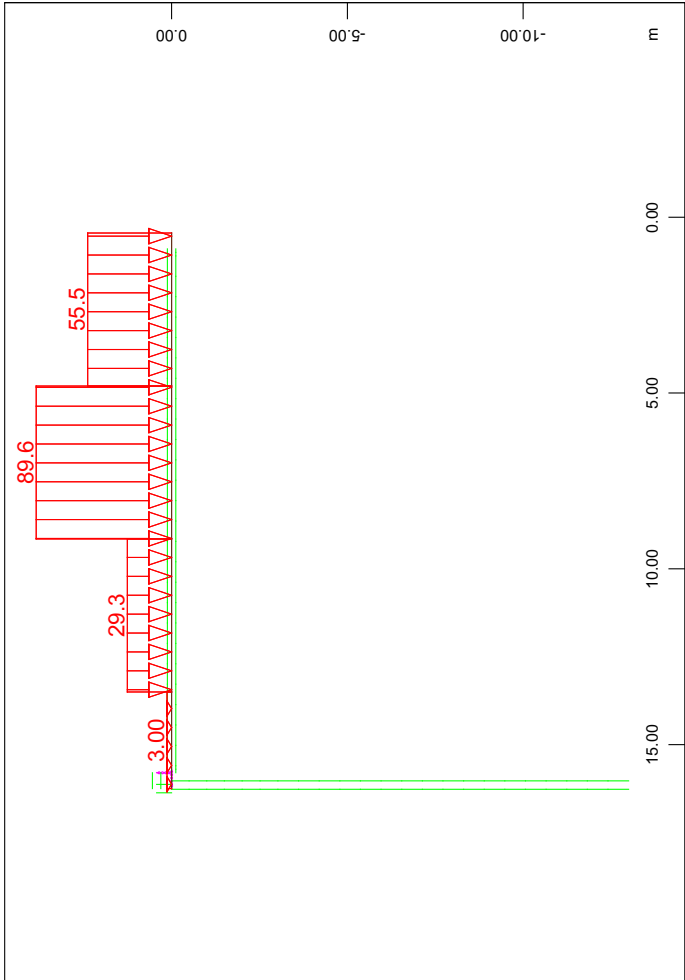
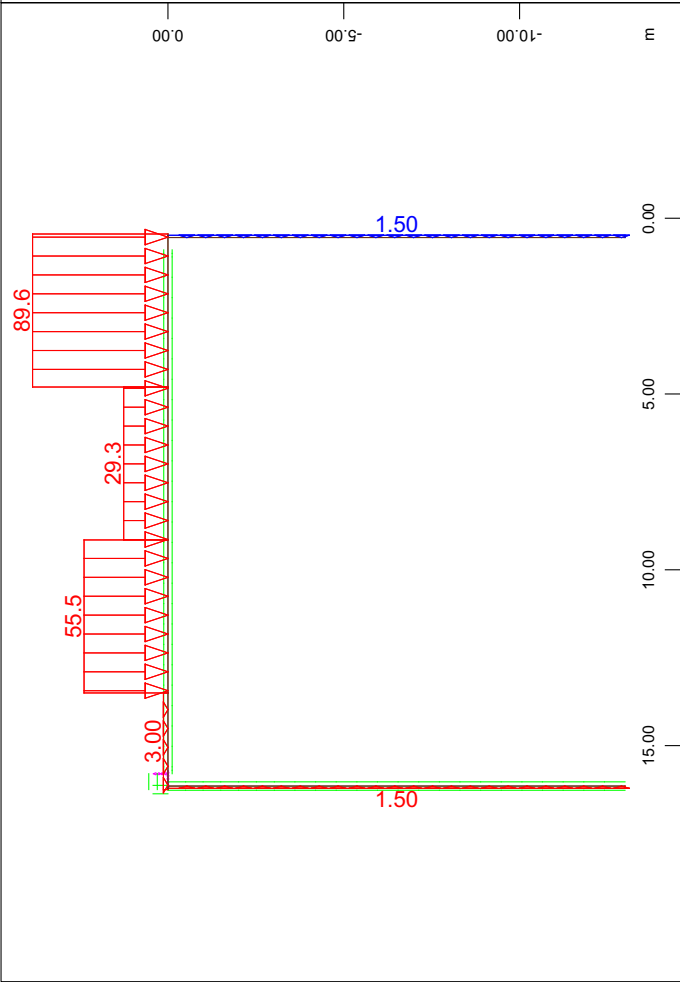
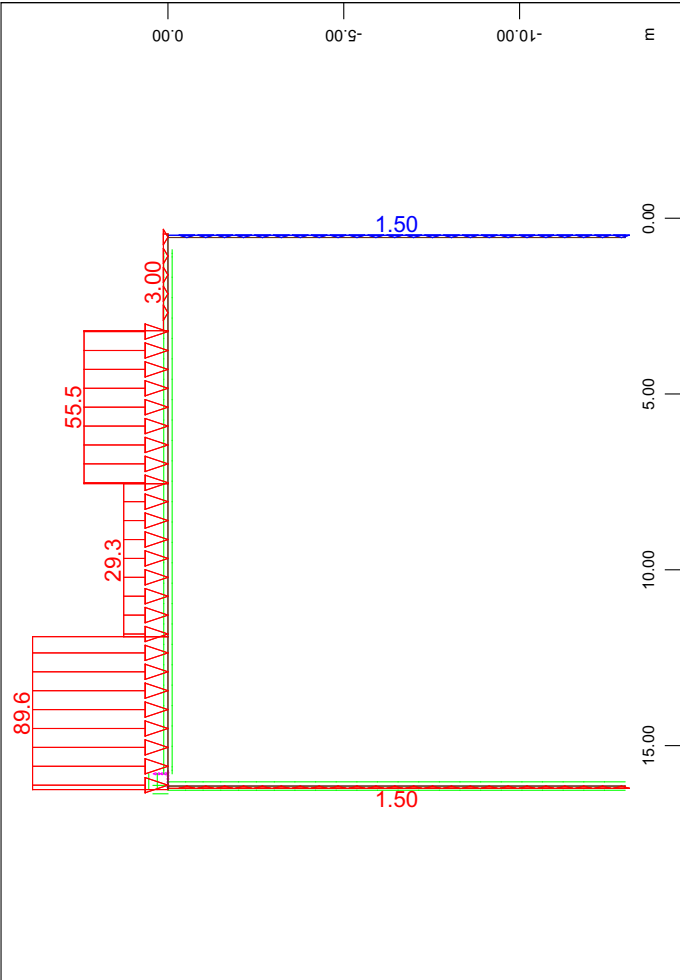


All loads, Loadcase 5 Q 1_1 , (1 cm 3D = unit) Free line load (force) in global X (Unit=50.0 kN/m) (force) in global Z (Unit=50.0 kN/m)

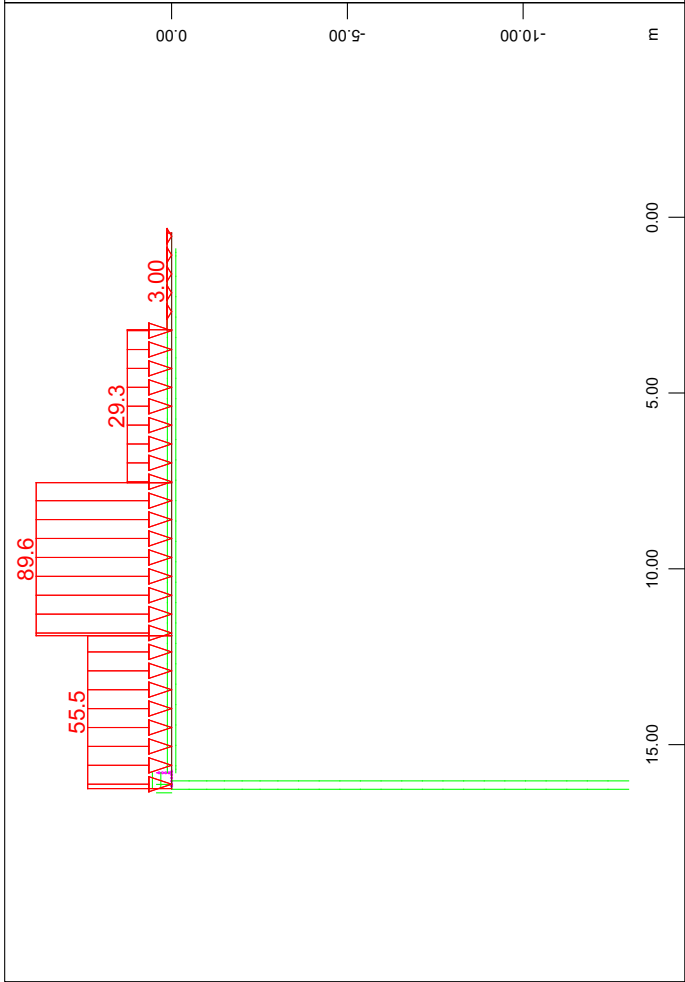
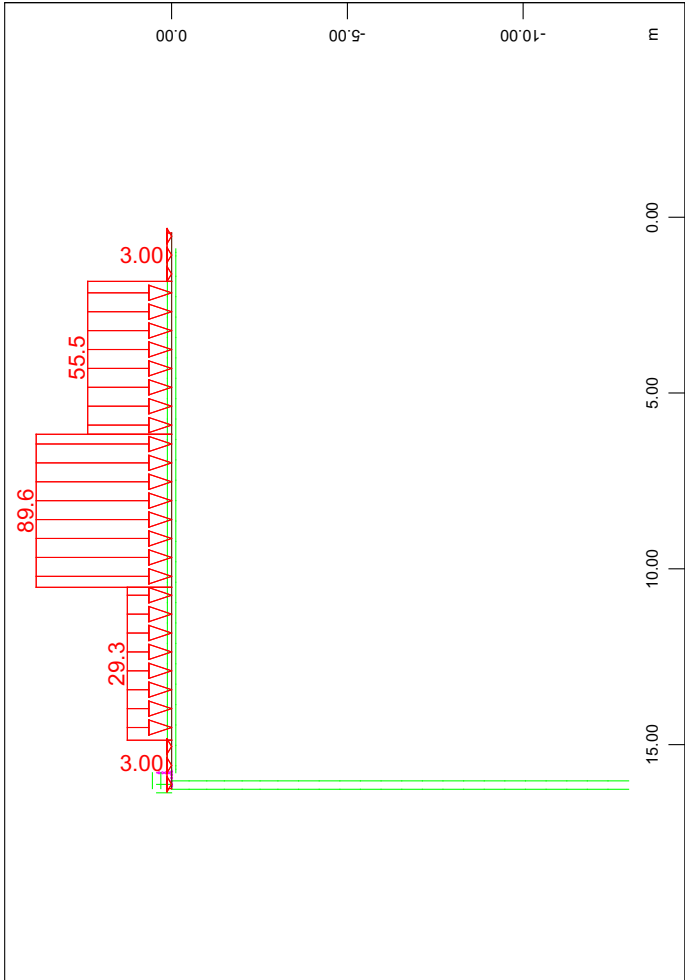
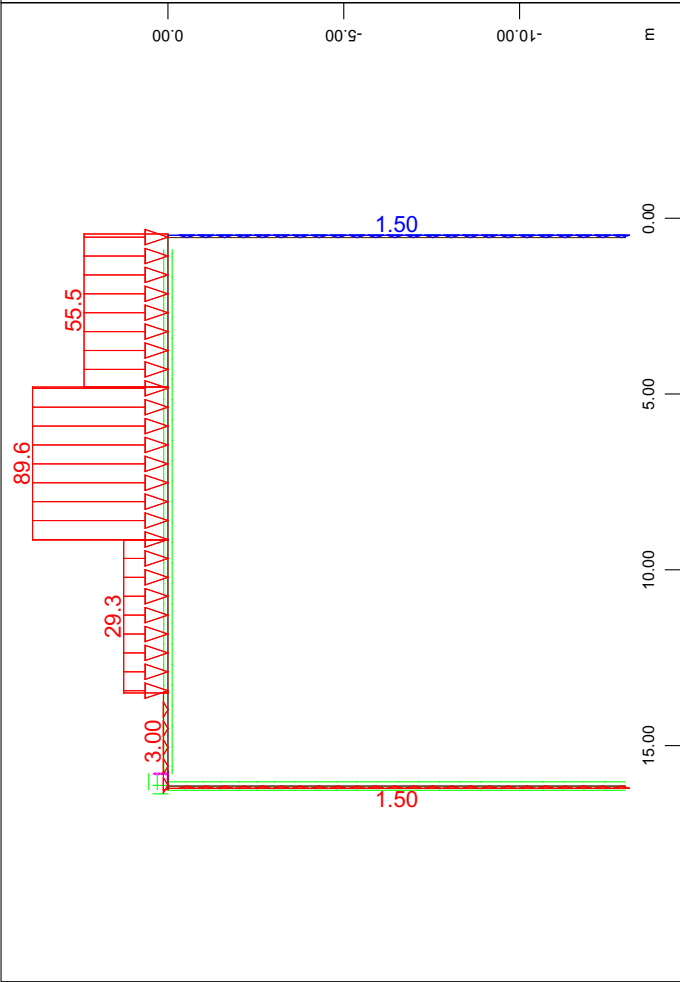
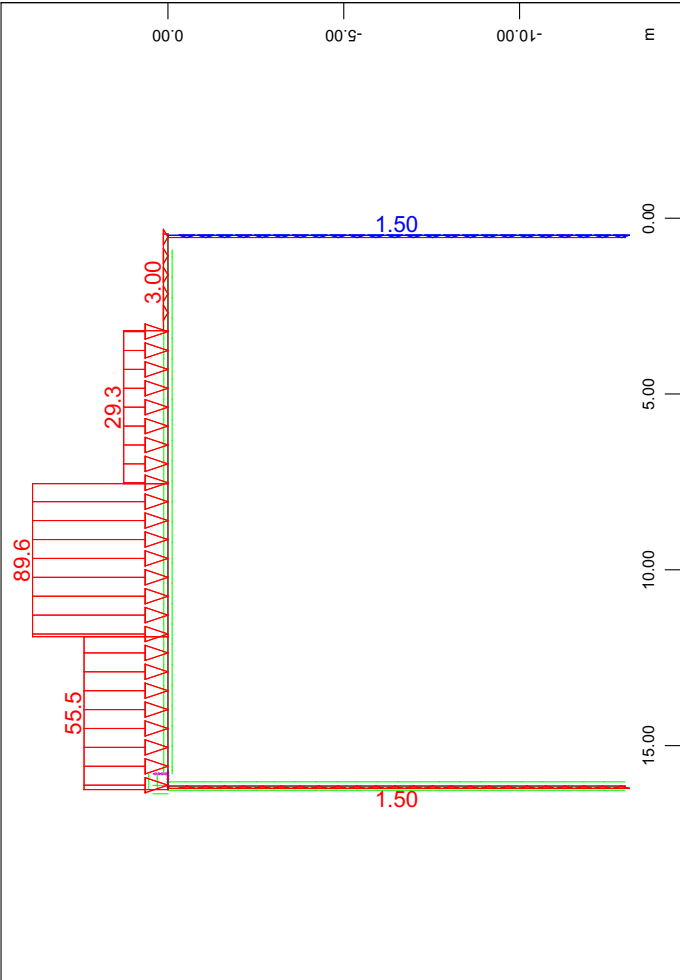


All loads, Loadcase 6 Q 2 , (1 cm 3D = unit) Free line load (force) in global X (Unit=50.0 kN/m) (force) in global Z (Unit=50.0 kN/m)

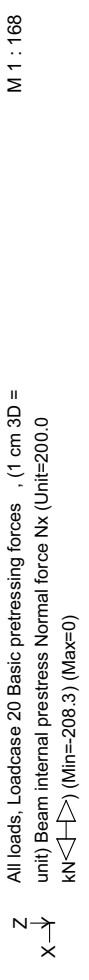
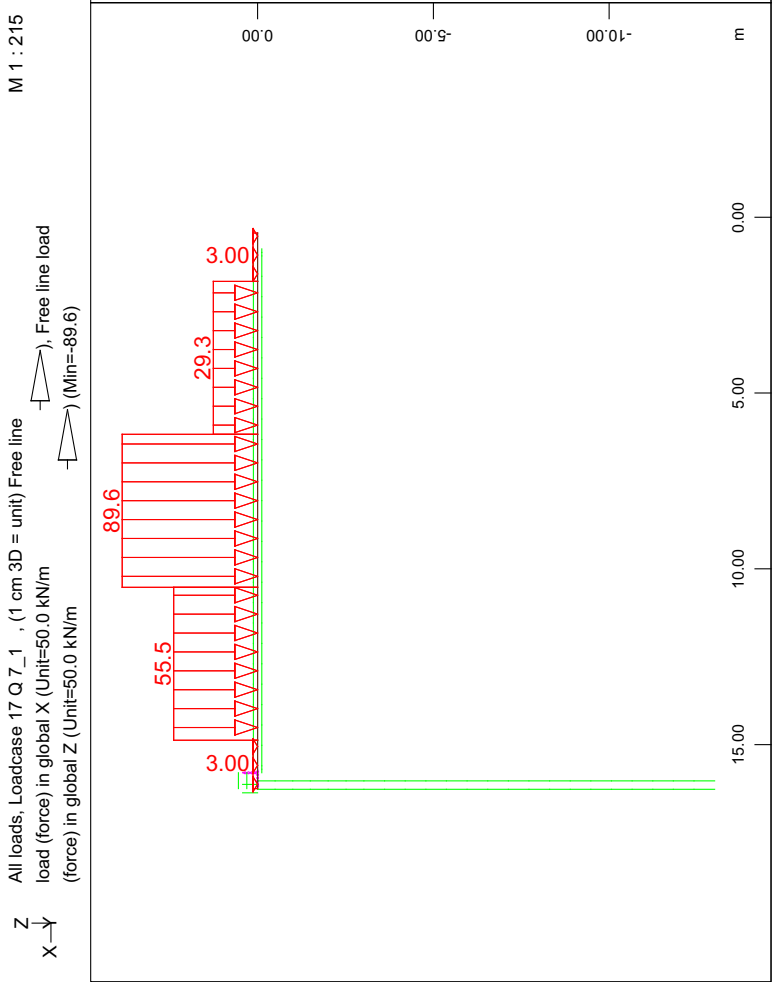
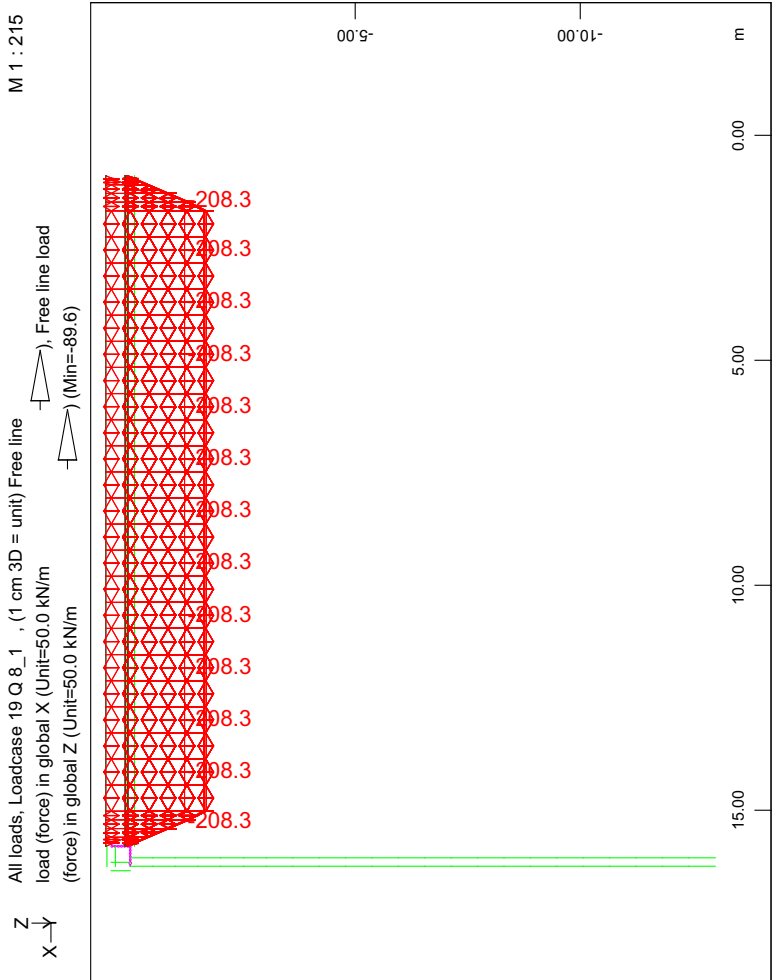
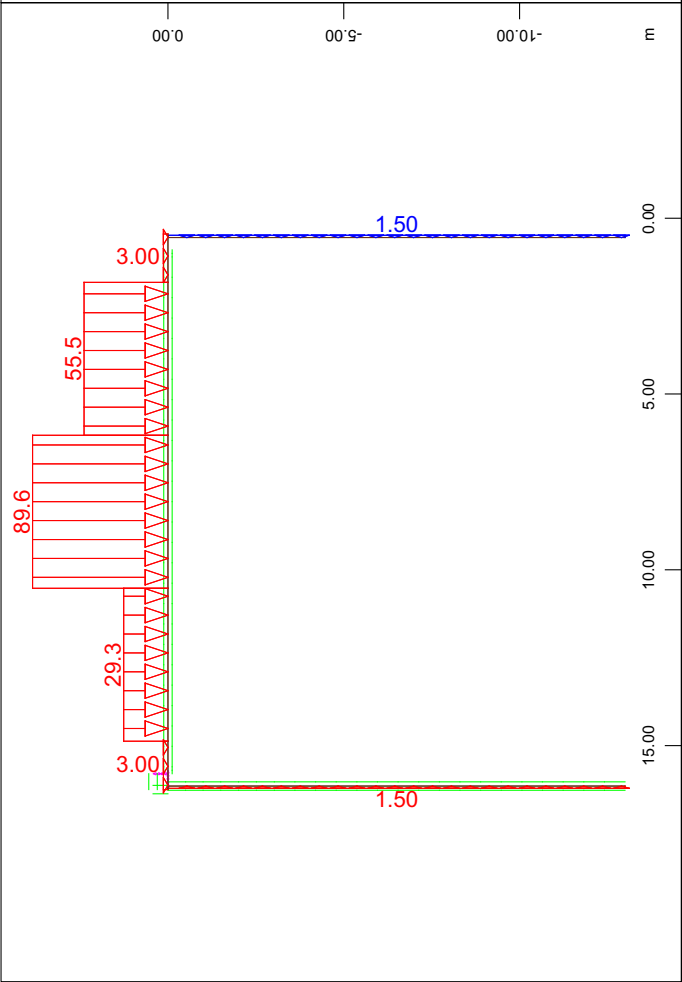
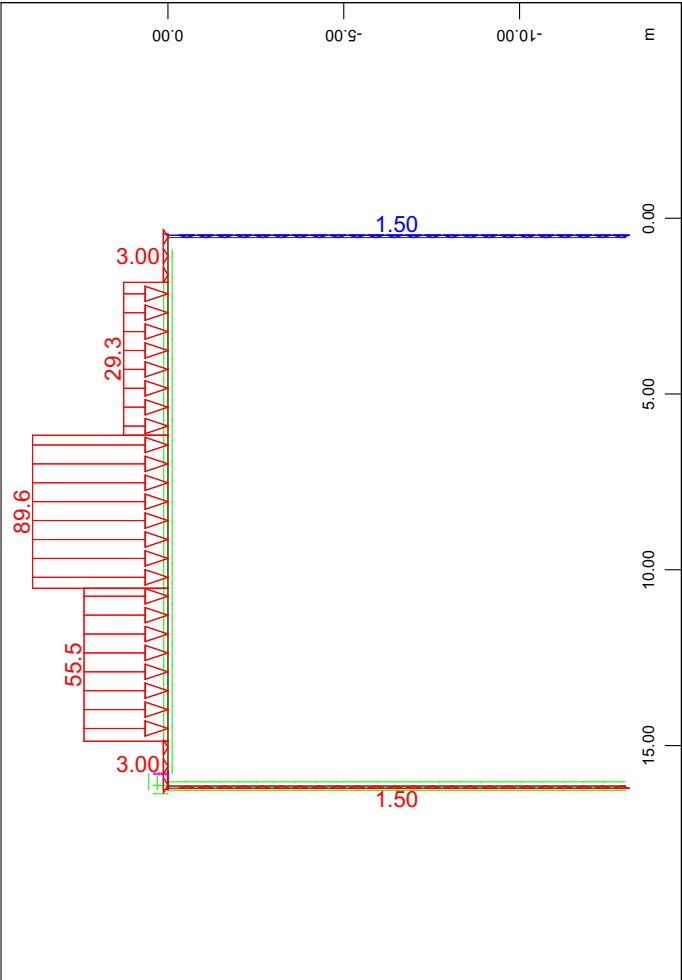
Geometria ponticello
Rappresentazione dei Carichi



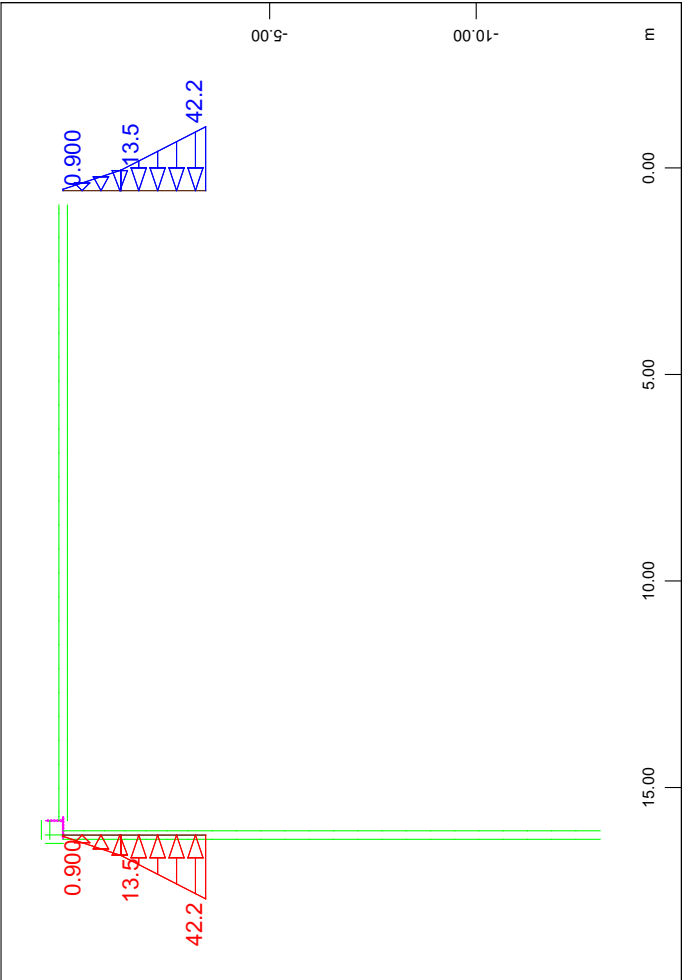
Geometria ponticello
Rappresentazione dei Carichi



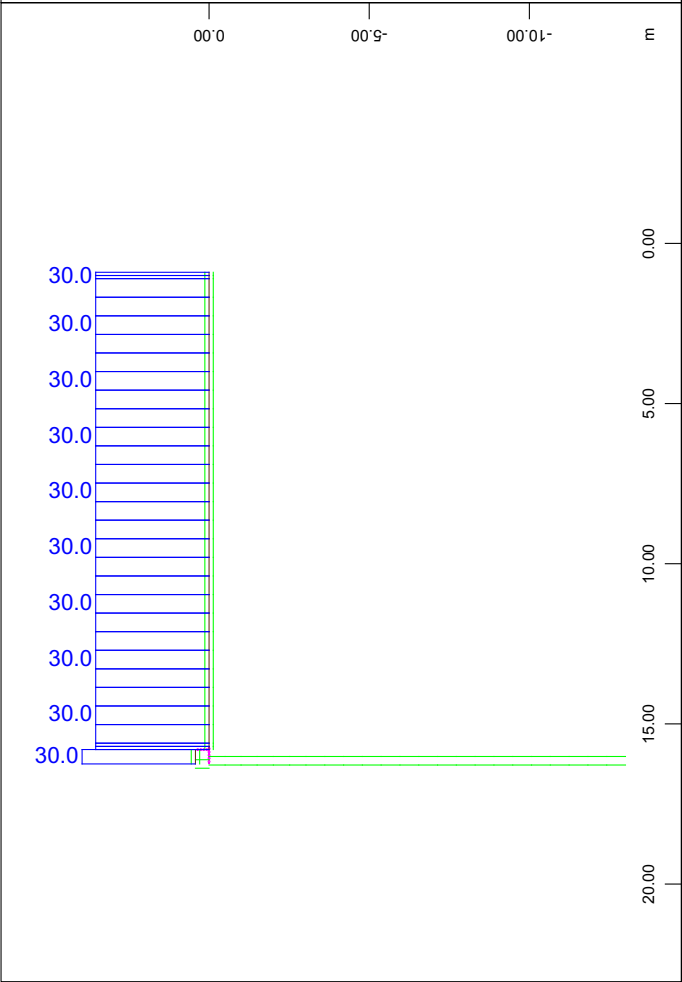
Geometria ponticello
Rappresentazione dei Carichi



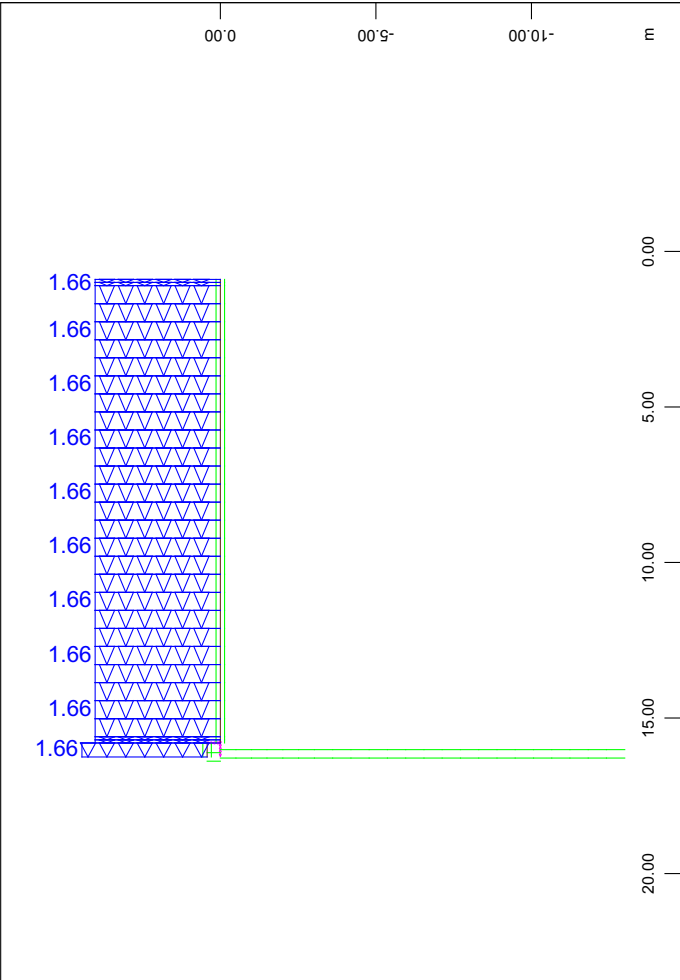
Geometria ponticello
Rappresentazione dei Carichi



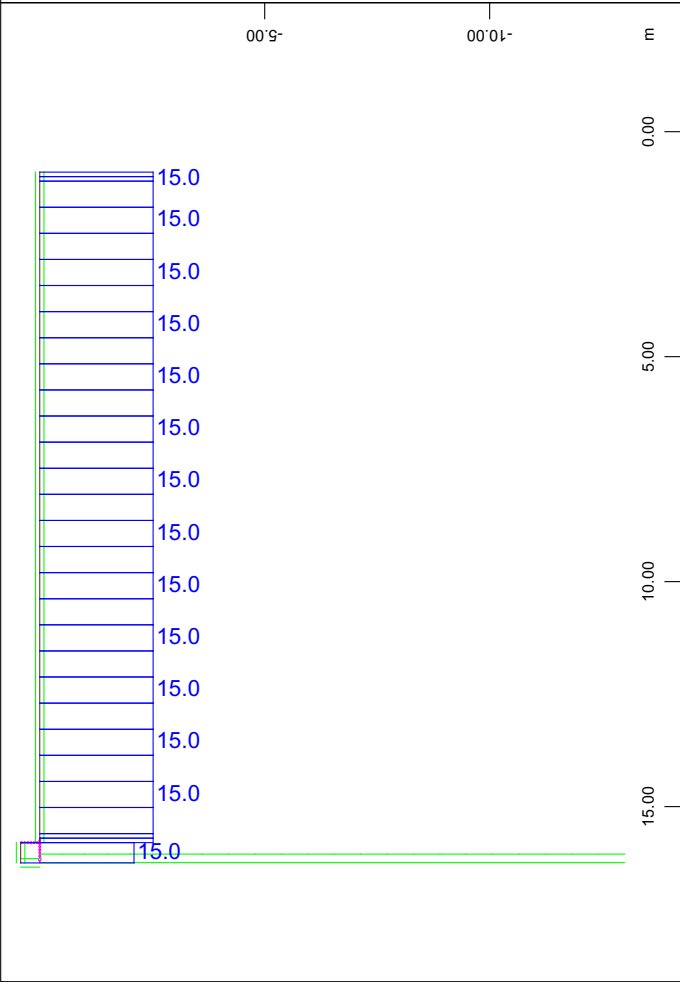
M 1 : 183
All loads, Loadcase 23 Spinta terre , (1 cm 3D = unit) Free line load (force) in global X (Unit=50.0 kN/m) (Min=-42.2) (Max=42.2)



M 1 : 236
All loads, Loadcase 21 Variazione uniforme , (1 cm 3D = unit) Free line load (uniform temperature change) (Unit=20.0 °C) (Max=30.0)



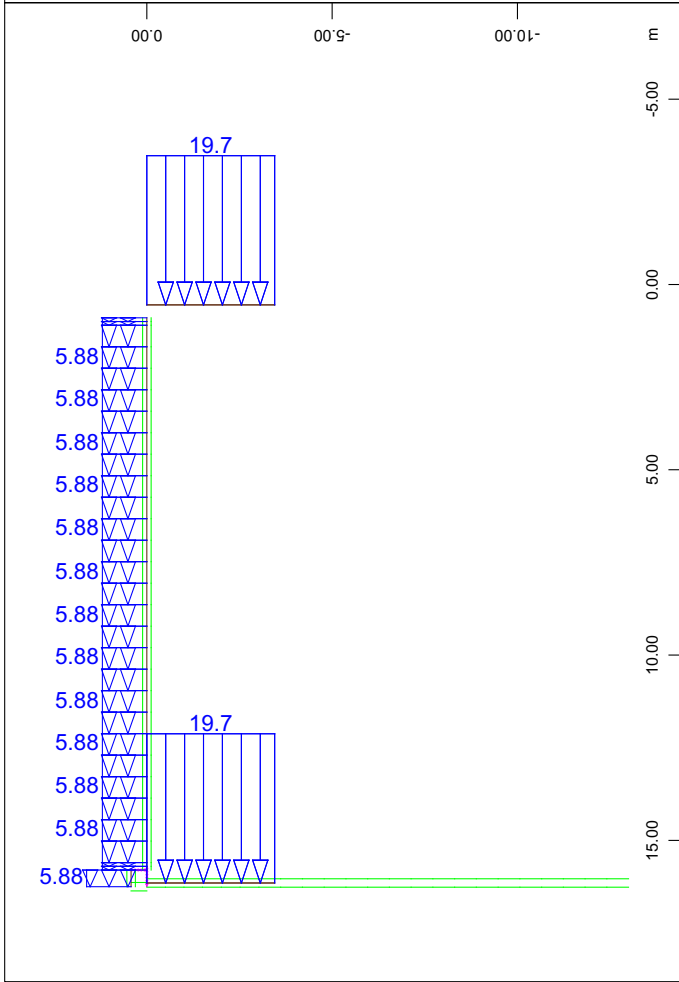
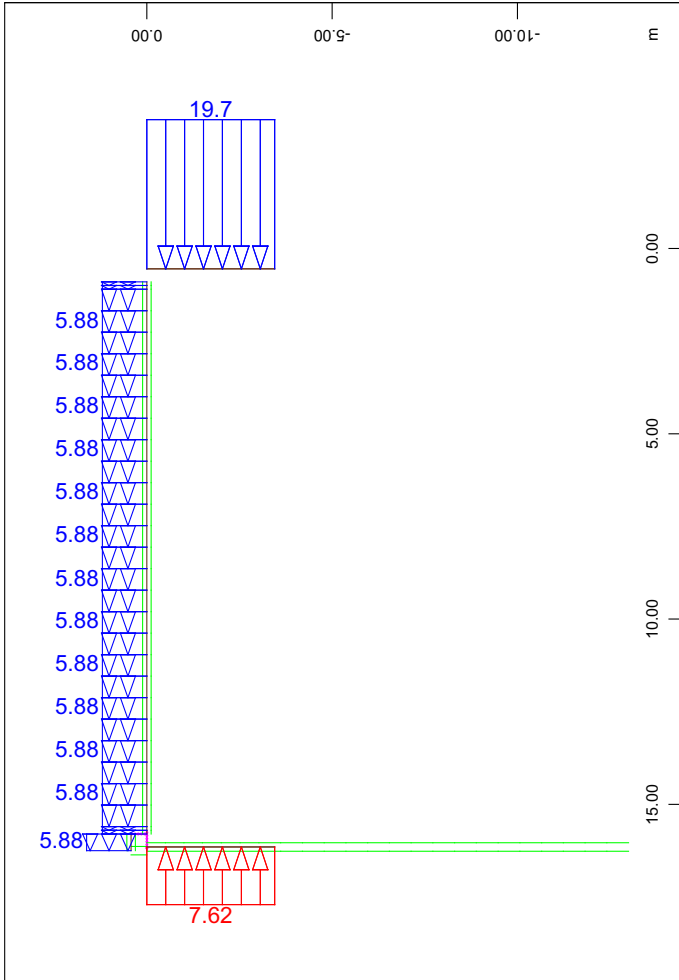
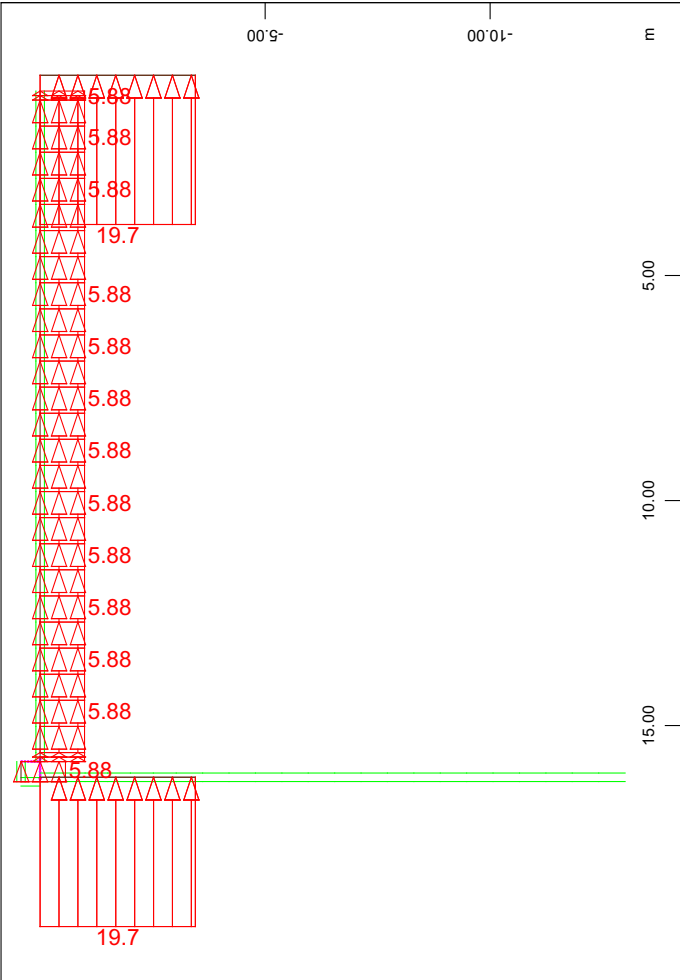
M 1 : 243
All loads, Loadcase 24 Q f/a , (1 cm 3D = unit) Free line load (force) in global X (Unit=1.00 kN/m) (Max=1.66)



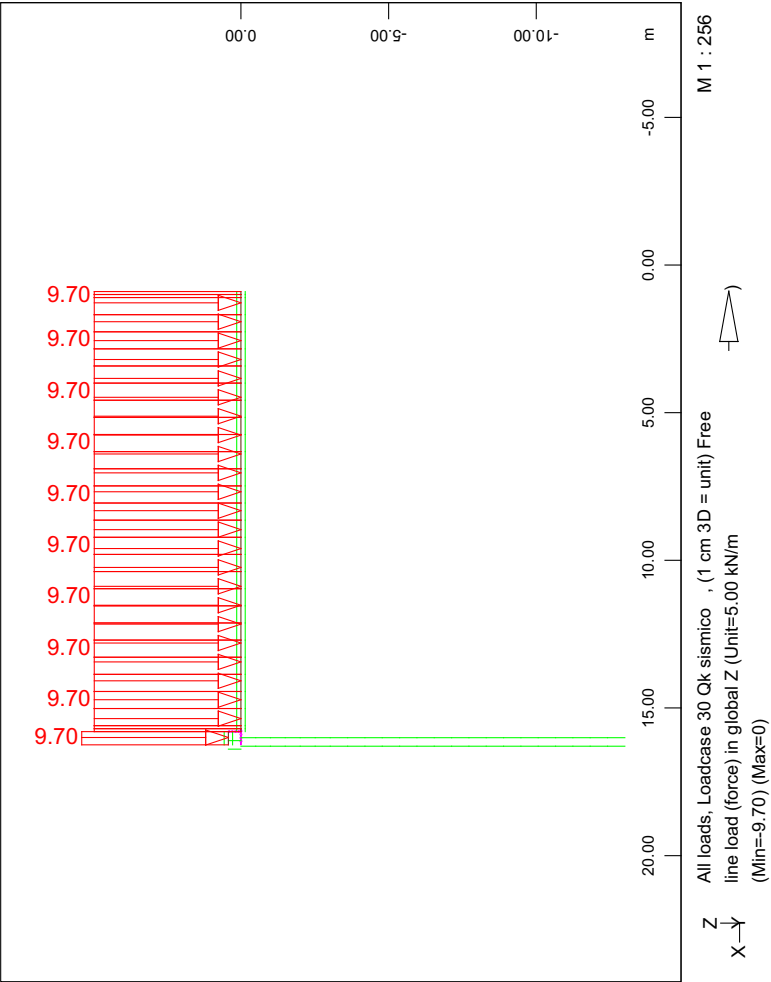
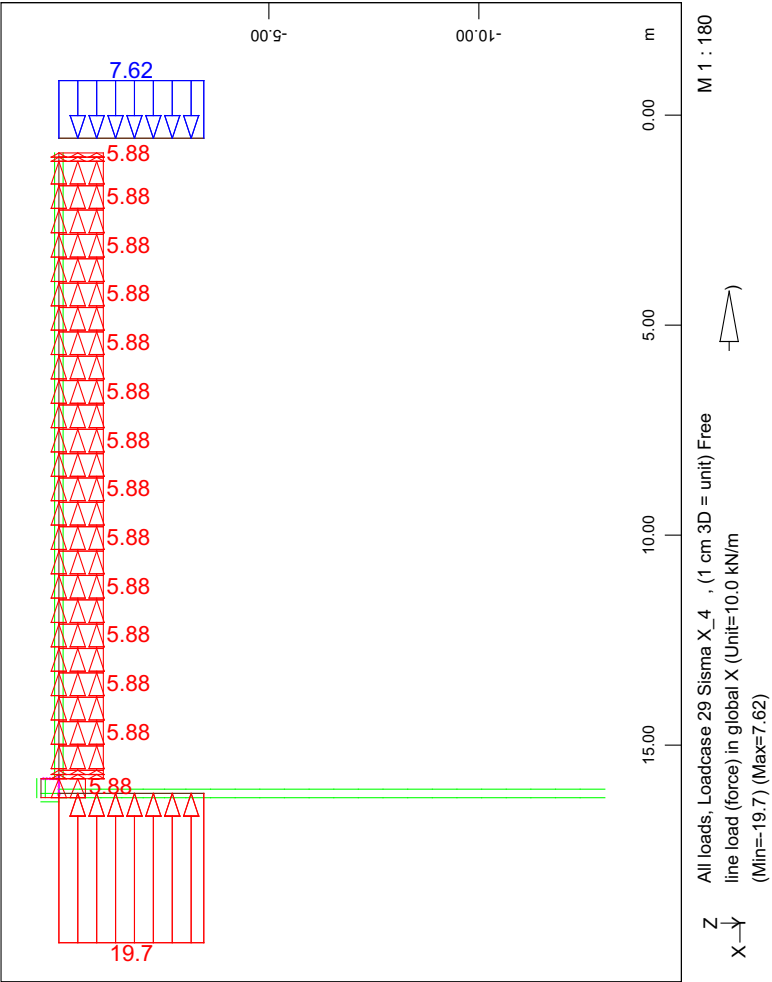
M 1 : 168
All loads, Loadcase 22 Variazione non uniforme , (1 cm 3D = unit) Free line load (temperature difference) in local z (Unit=10.0 °C) (Max=15.0)



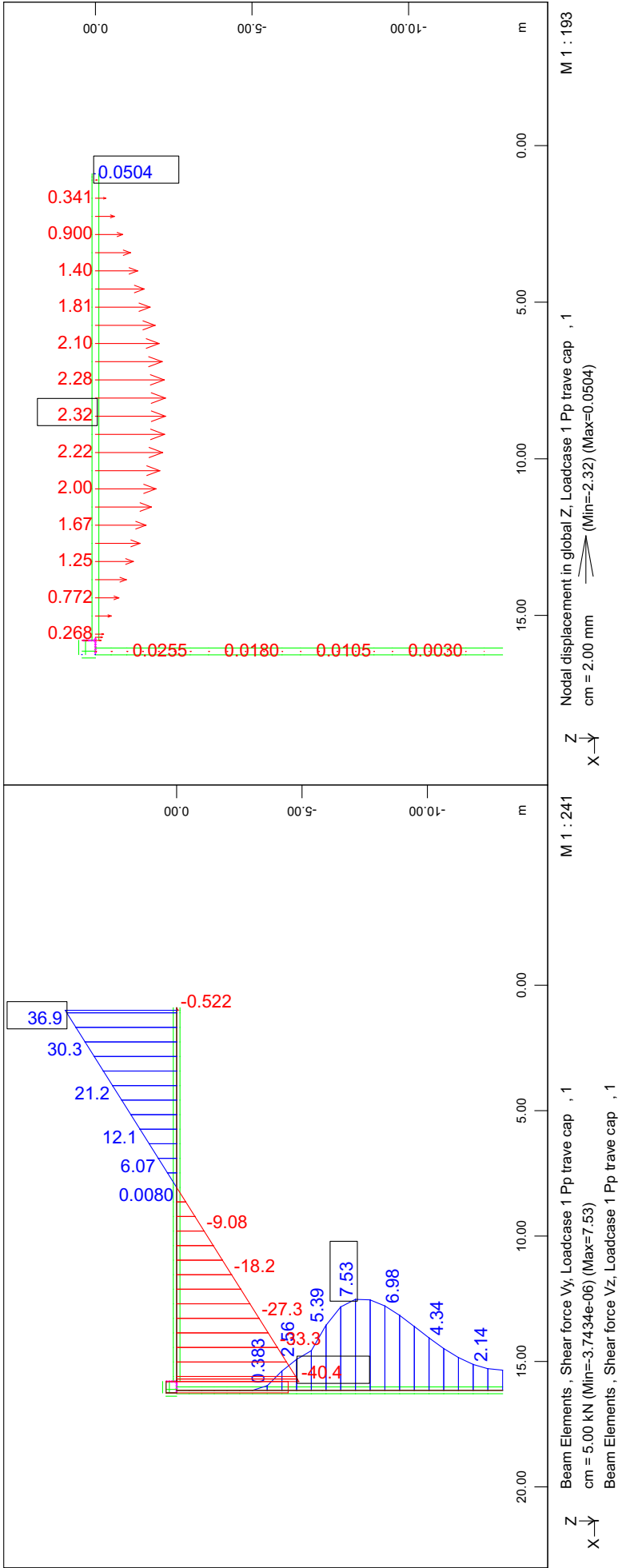
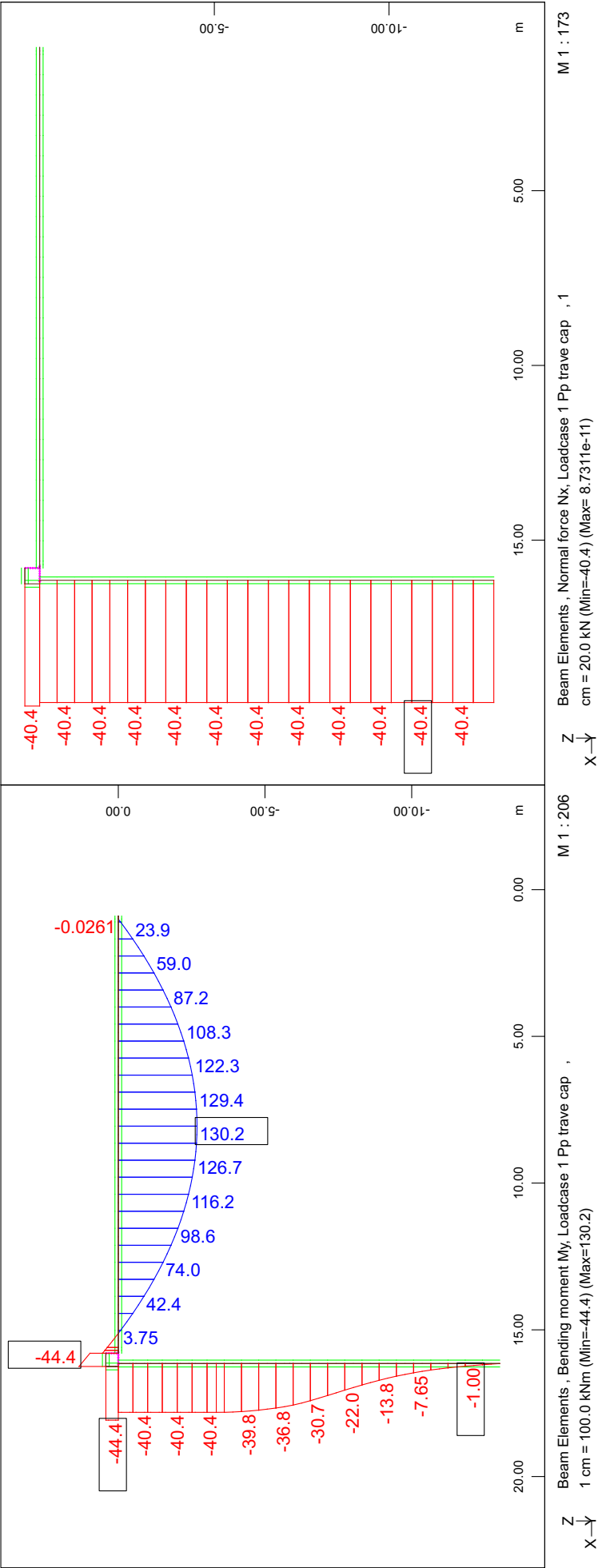
Geometria ponticello
Rappresentazione dei Carichi



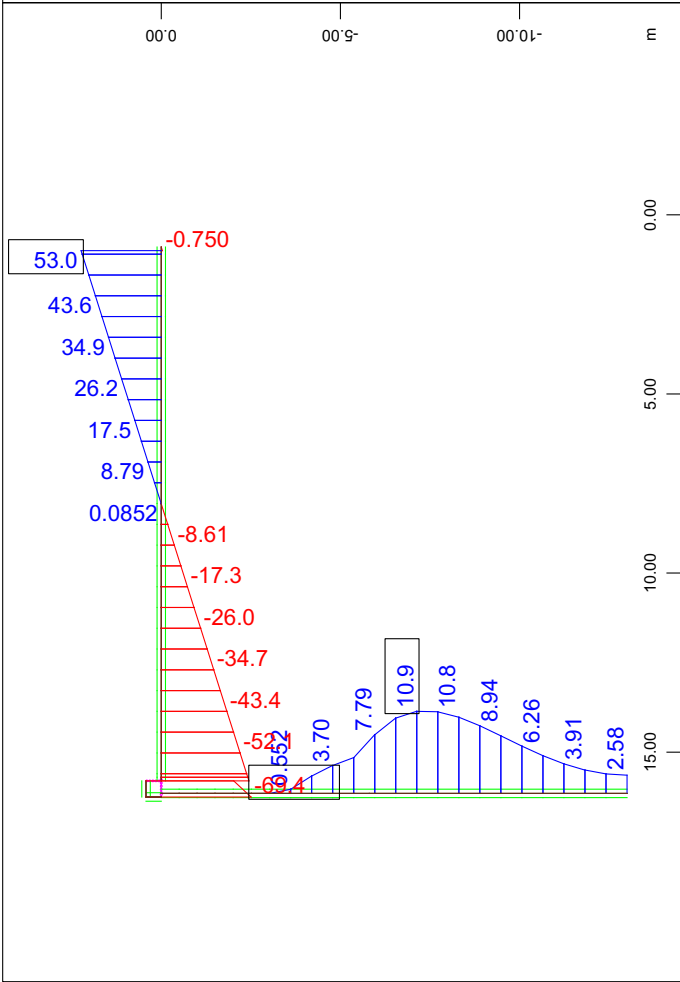
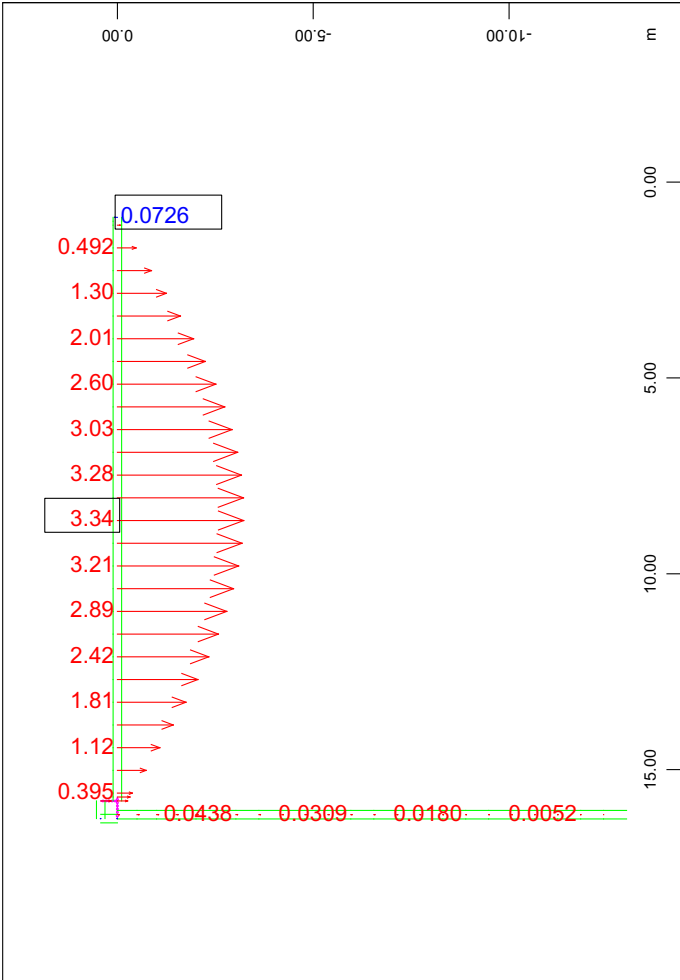
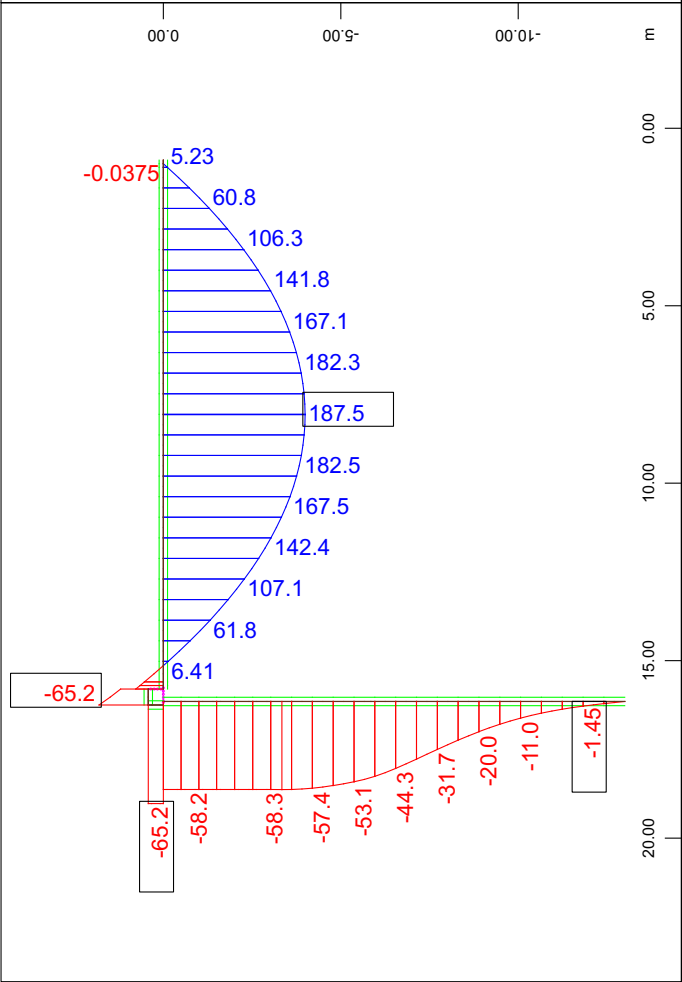
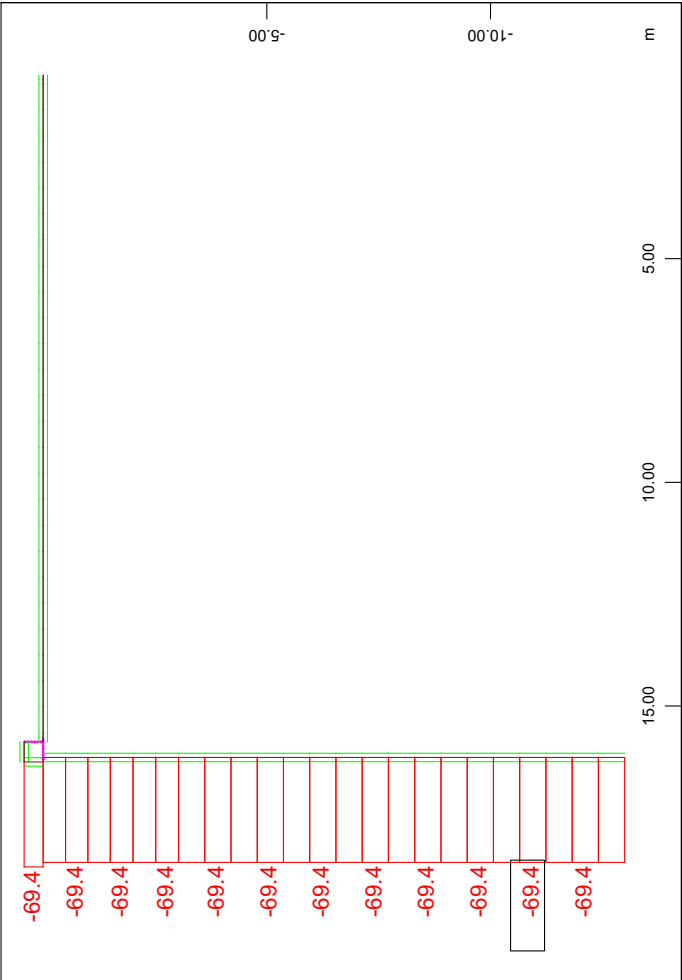
Geometria ponticello
Rappresentazione dei Carichi



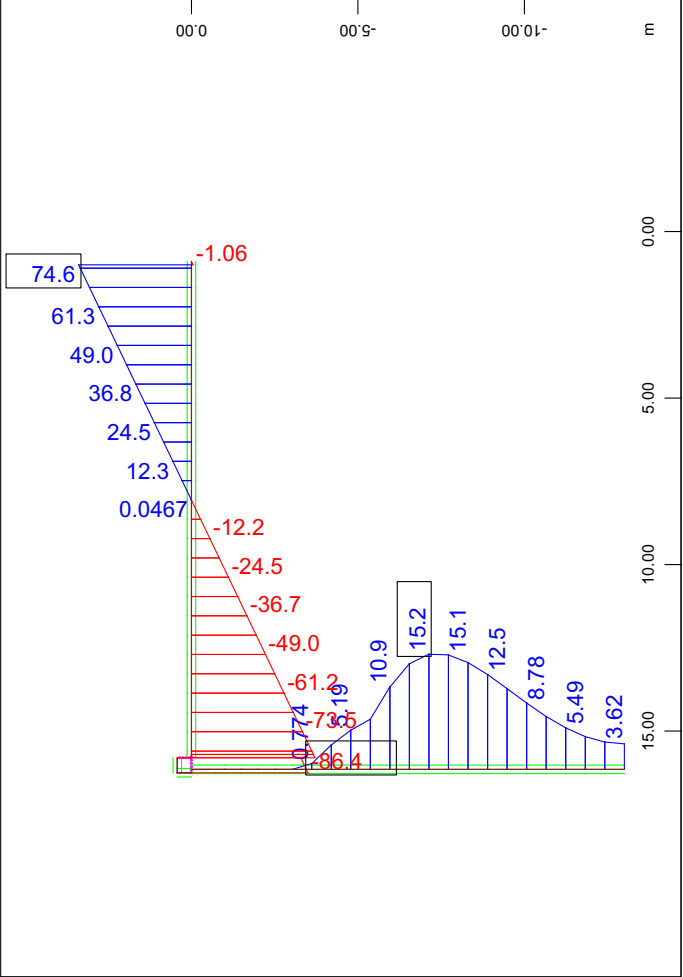
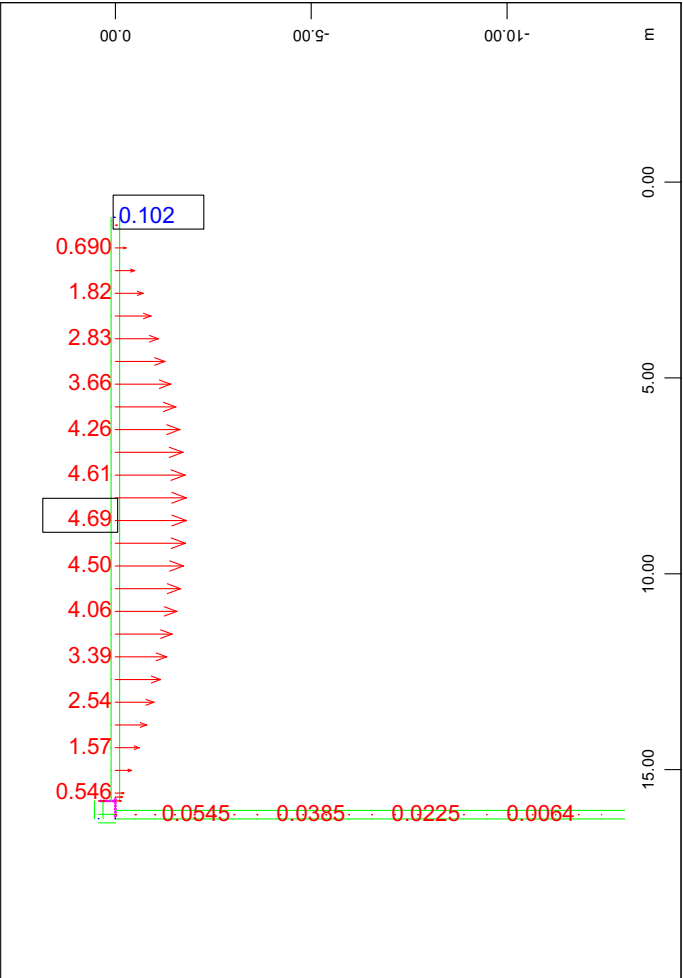
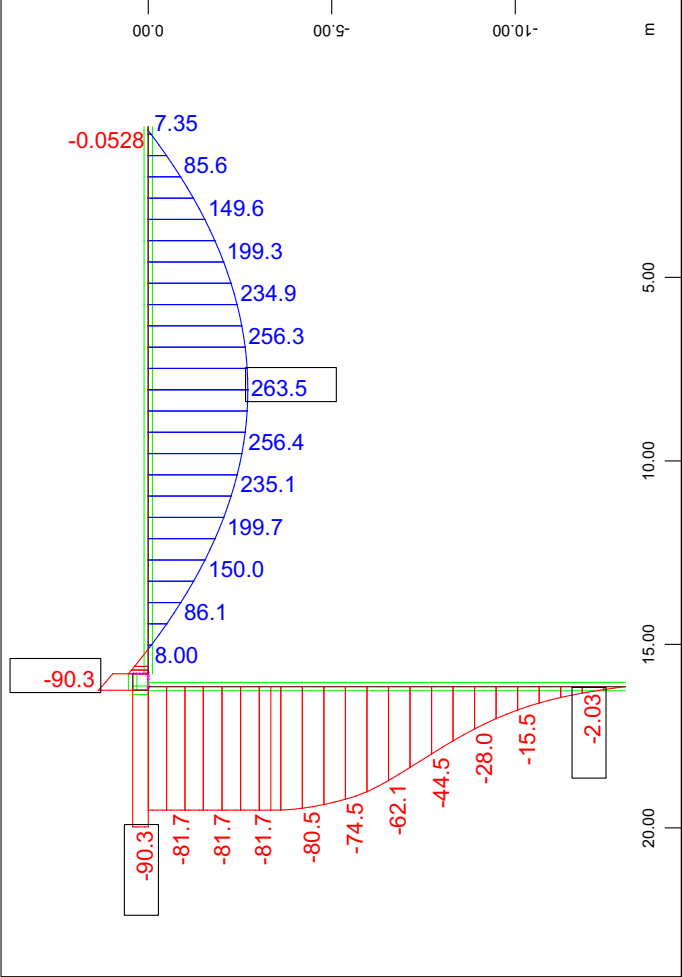
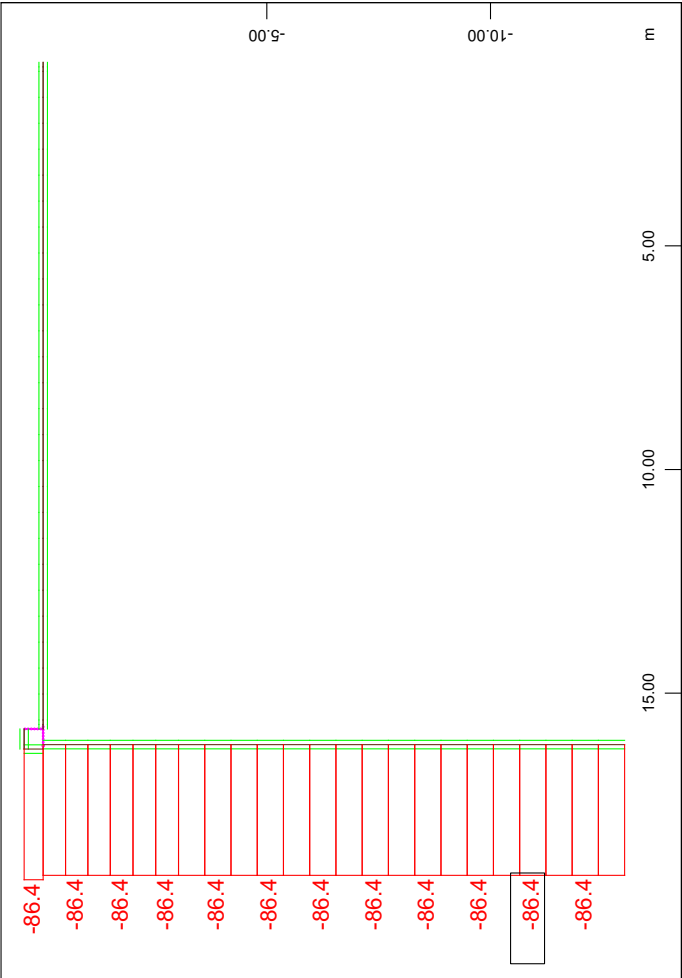
Geometria ponticello
Rappresentazione sollecitazioni elementari



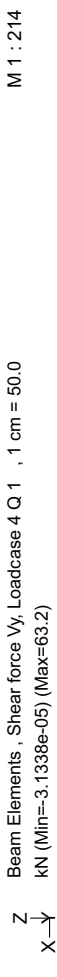
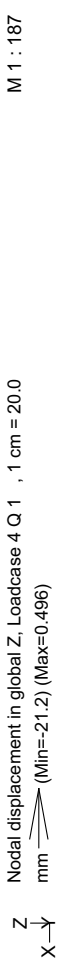
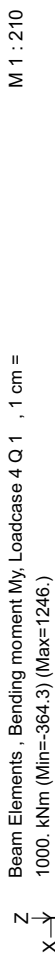
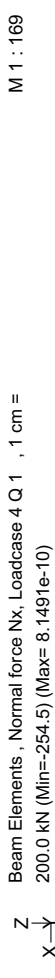
Geometria ponticello
Rappresentazione sollecitazioni elementari



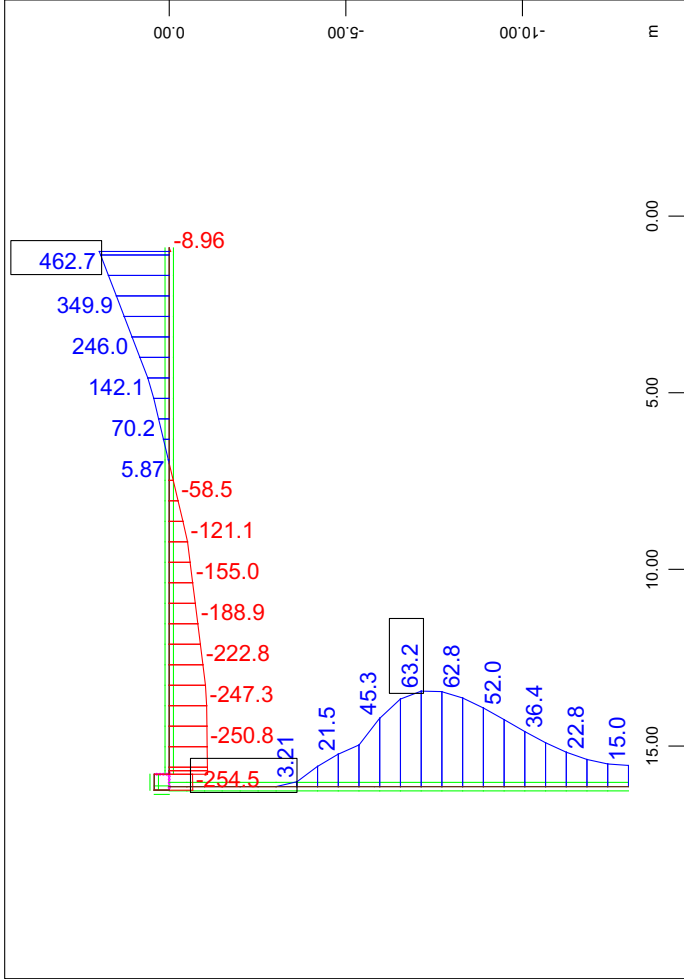
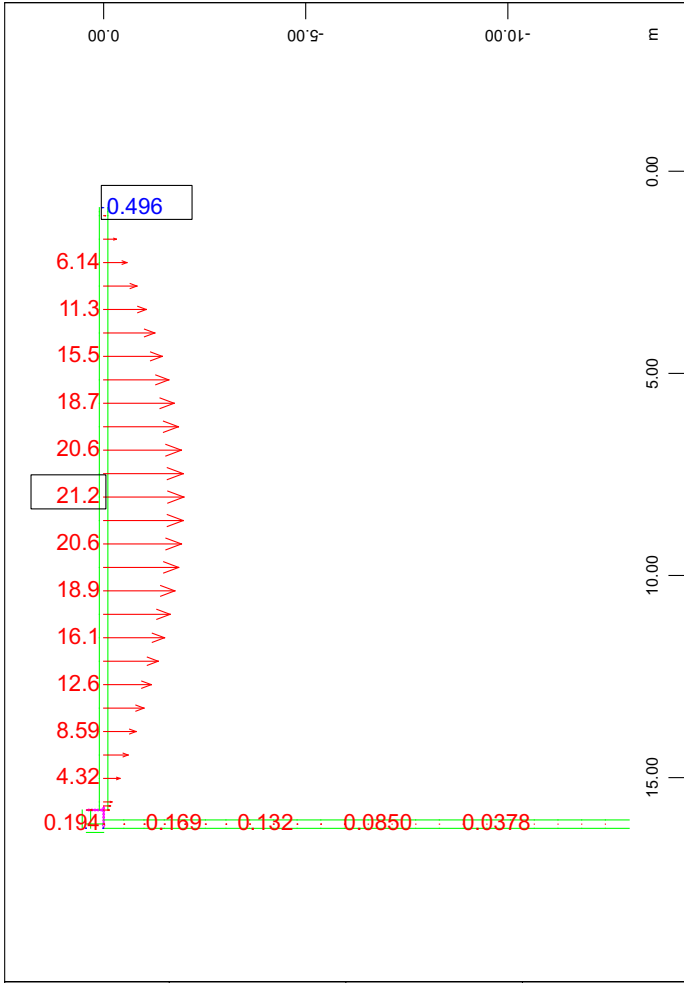
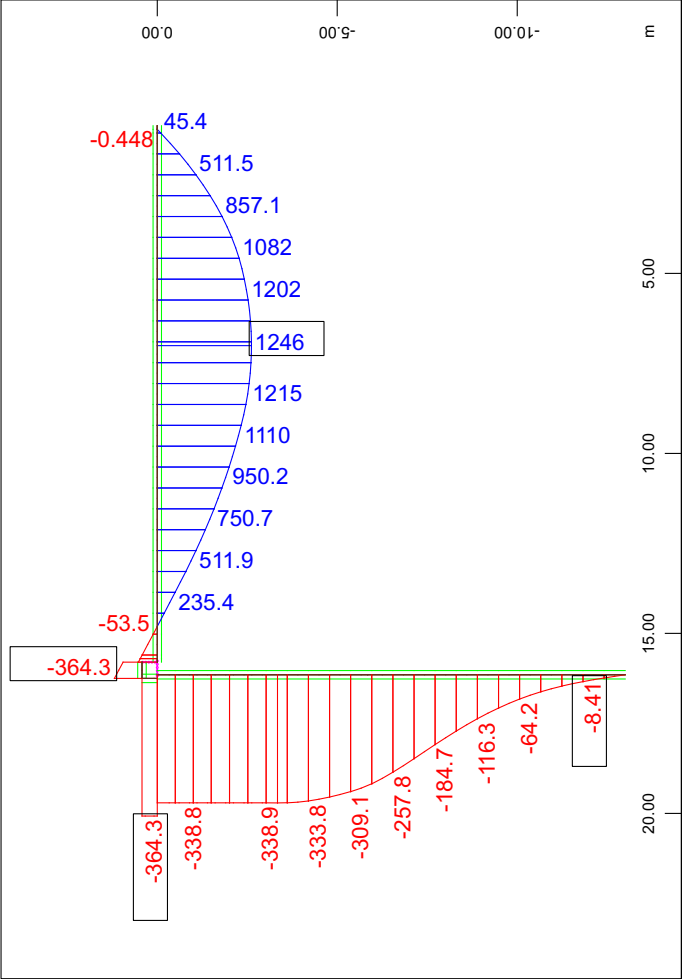
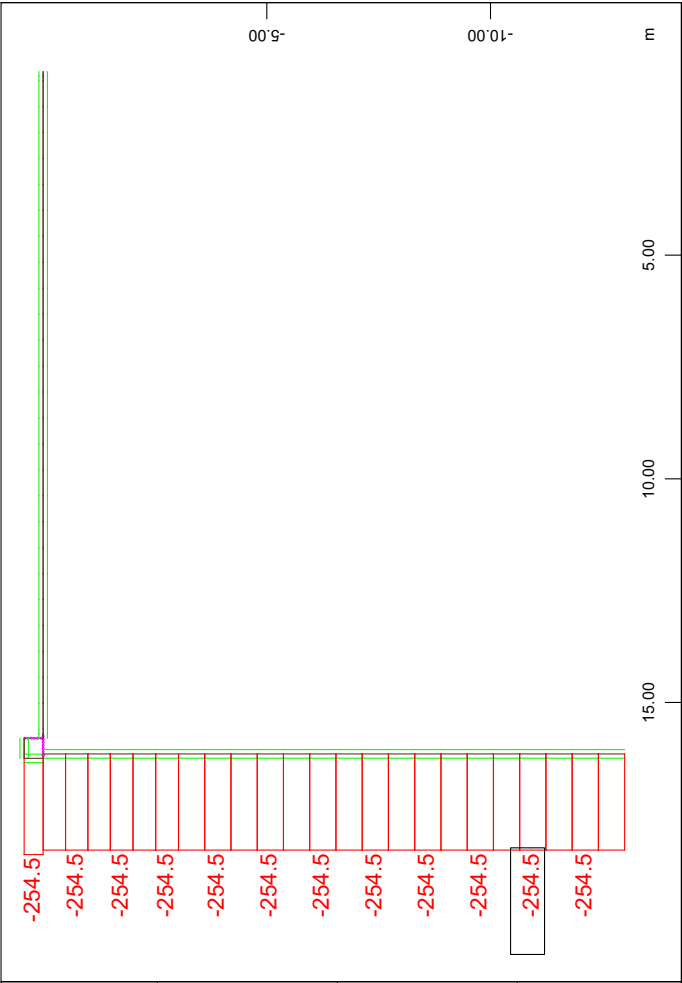
Geometria ponticello
Rappresentazione sollecitazioni elementari



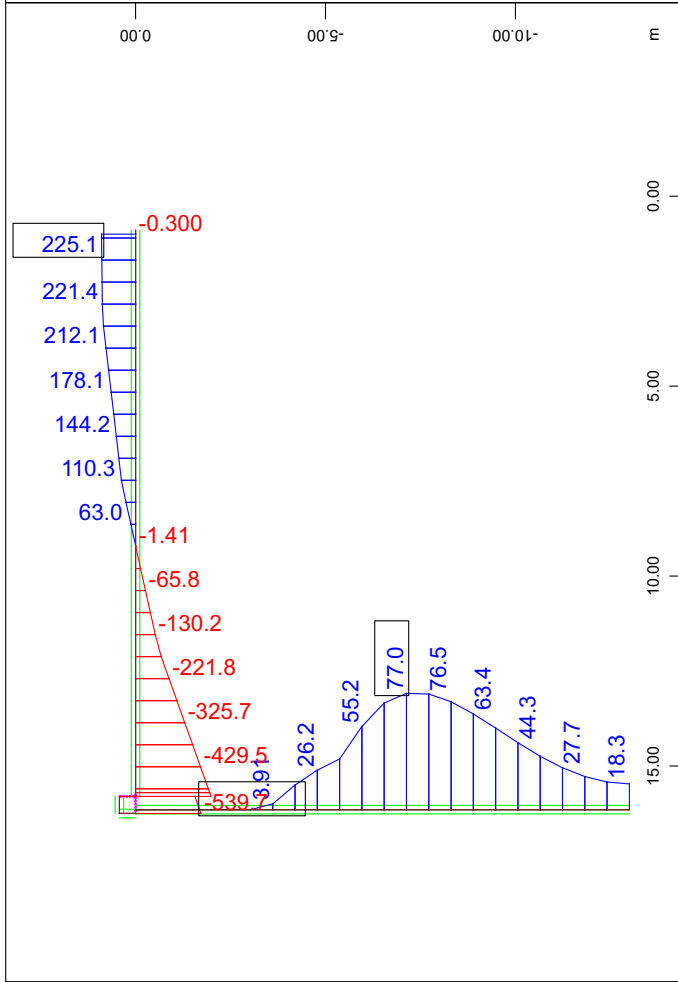
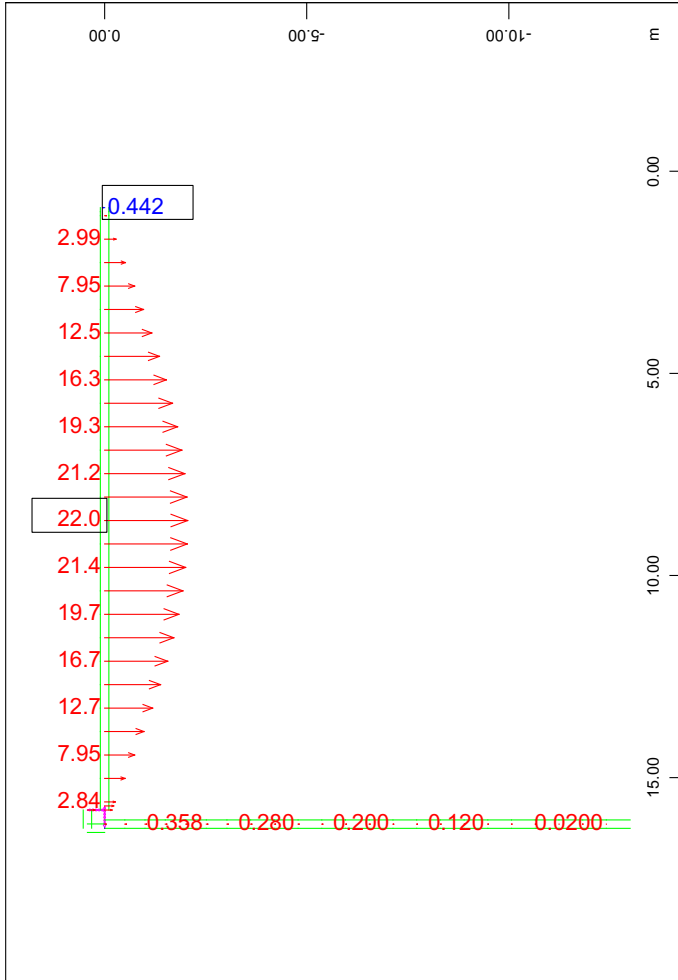
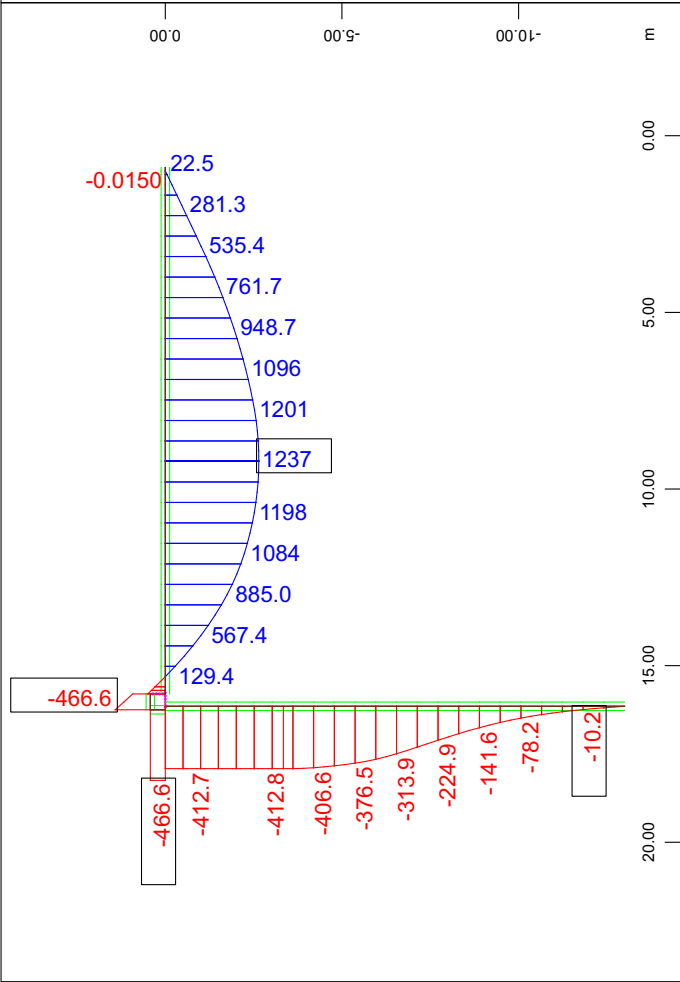
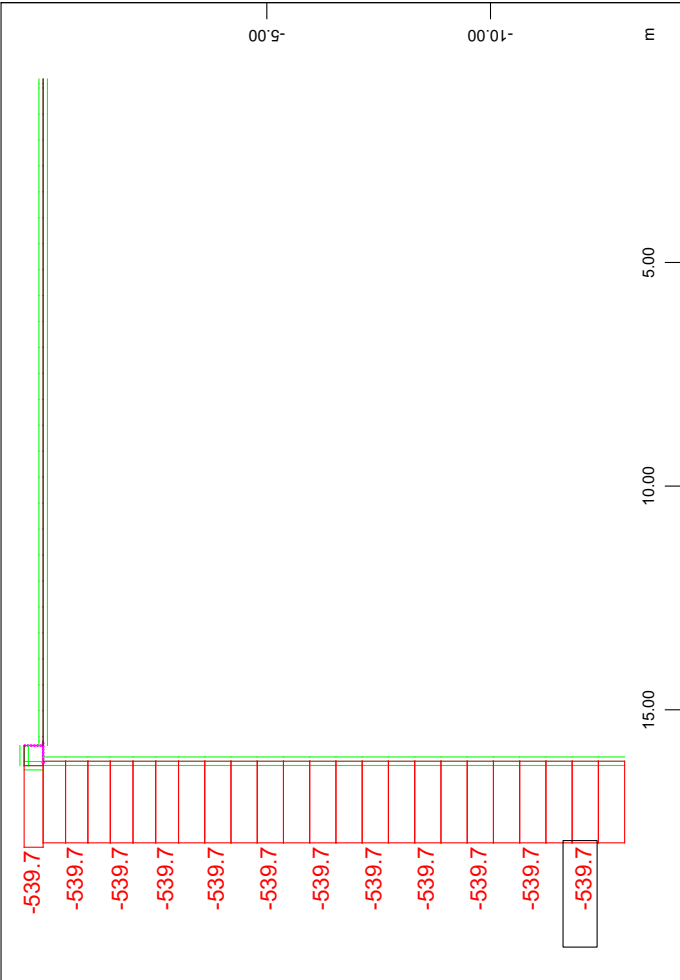
Rappresentazione sollecitazioni elementari



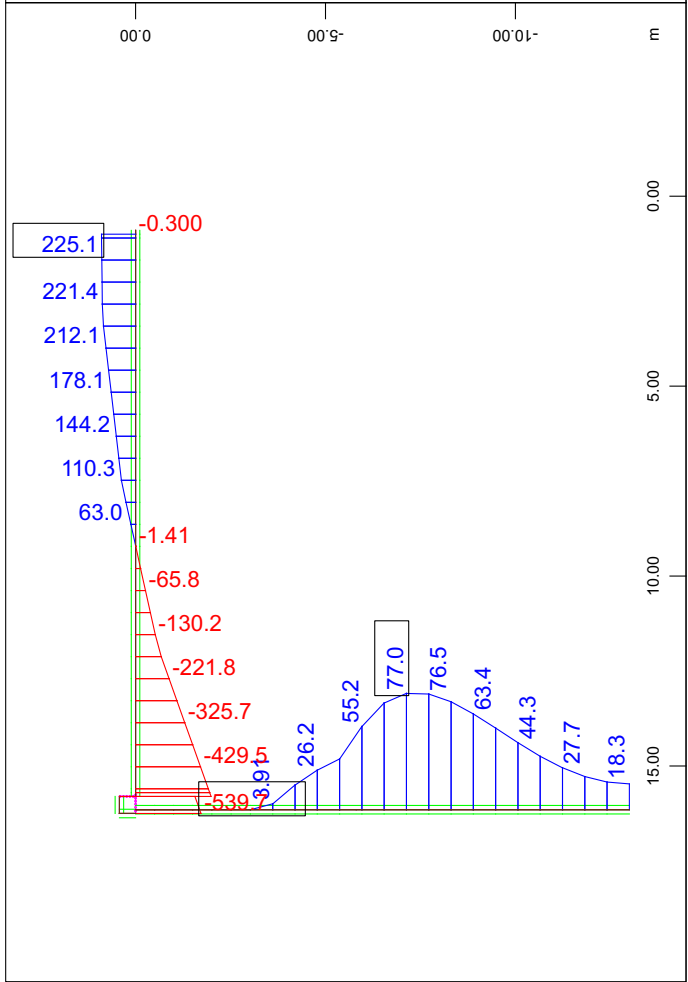
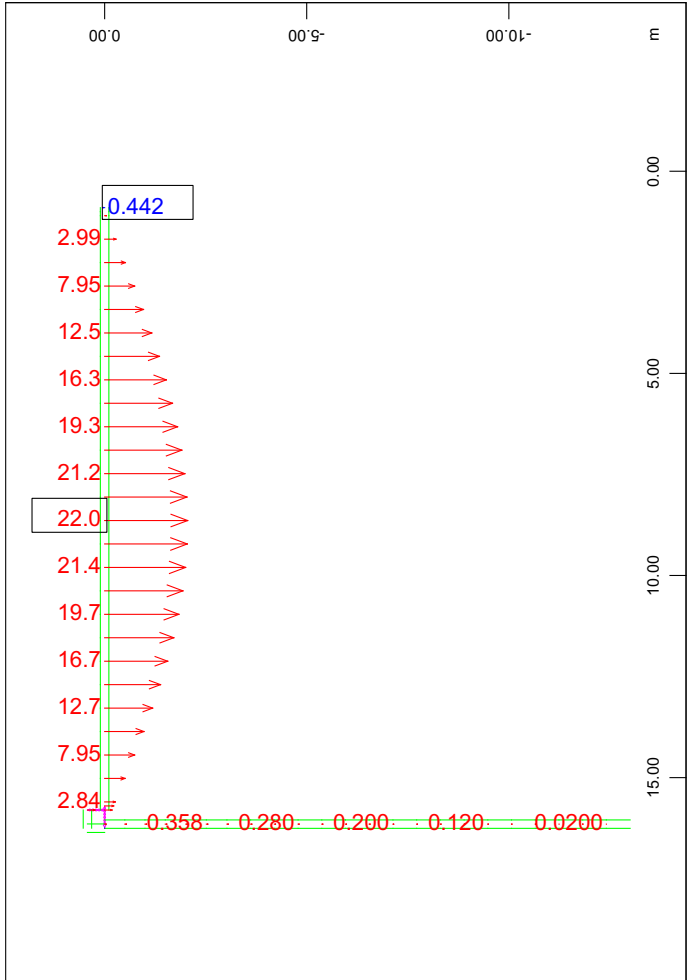
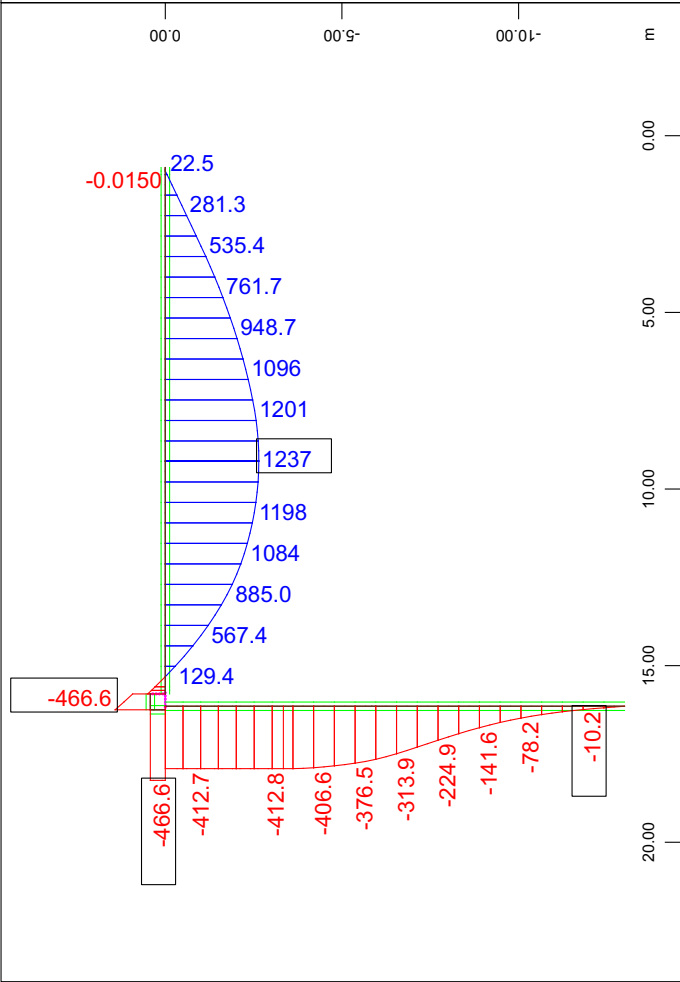
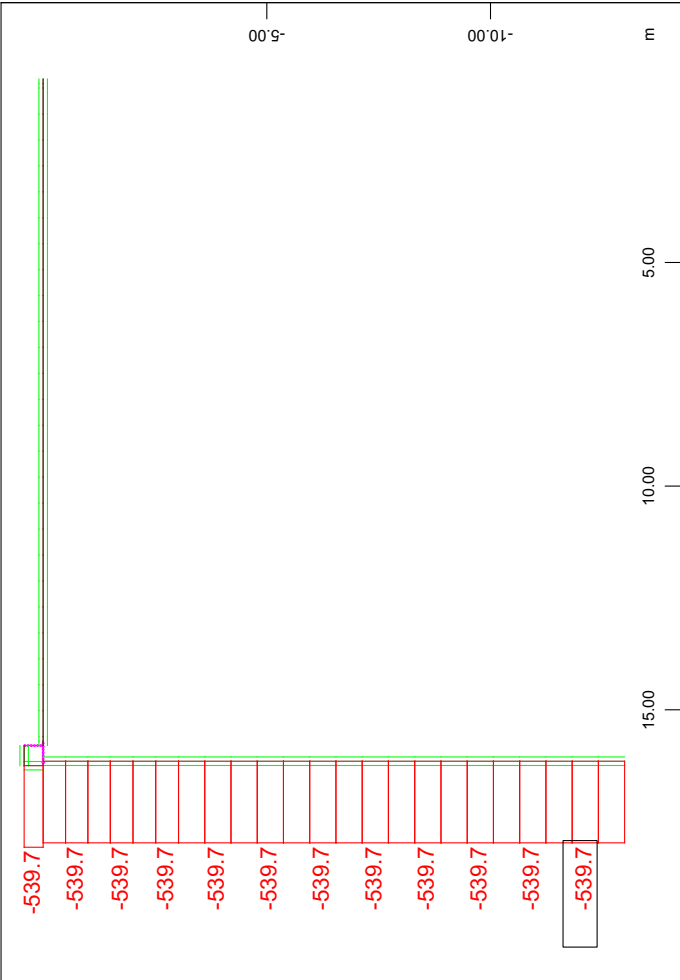
Geometria ponticello
Rappresentazione sollecitazioni elementari



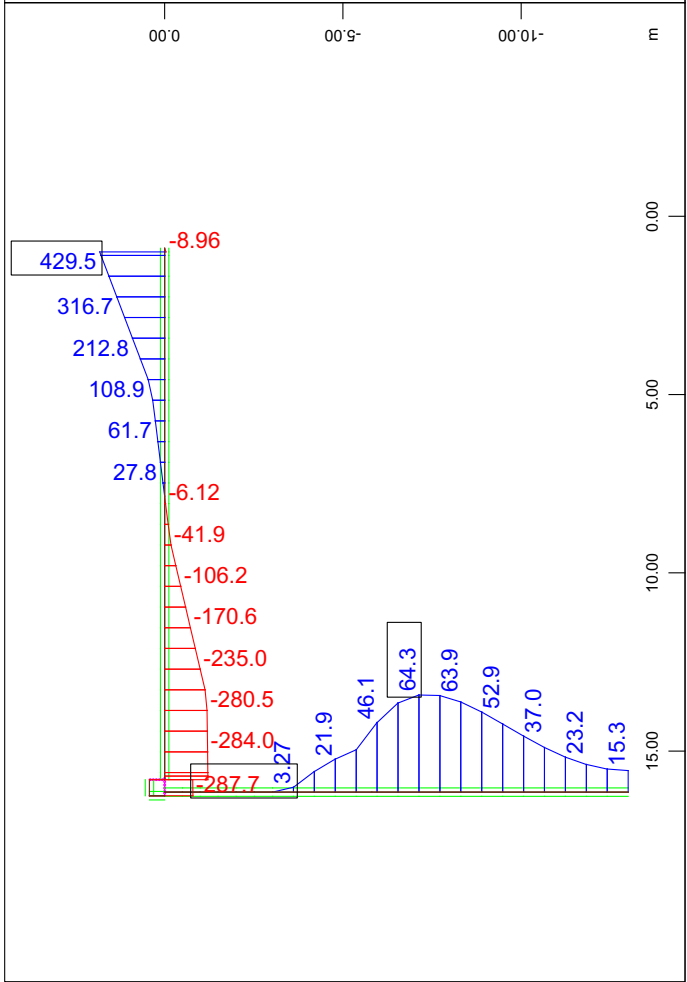
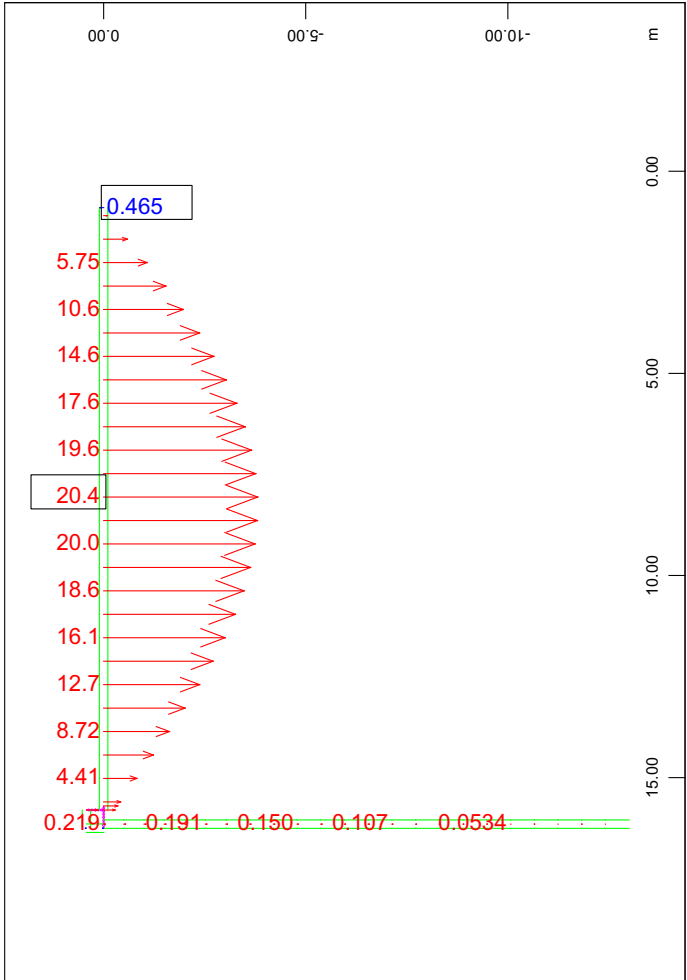
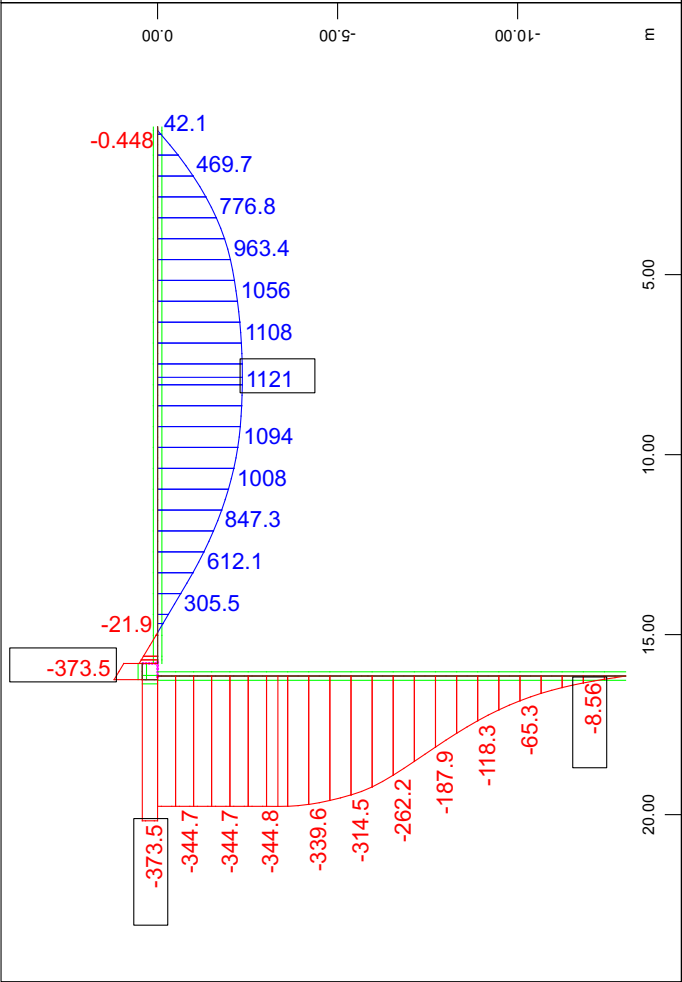
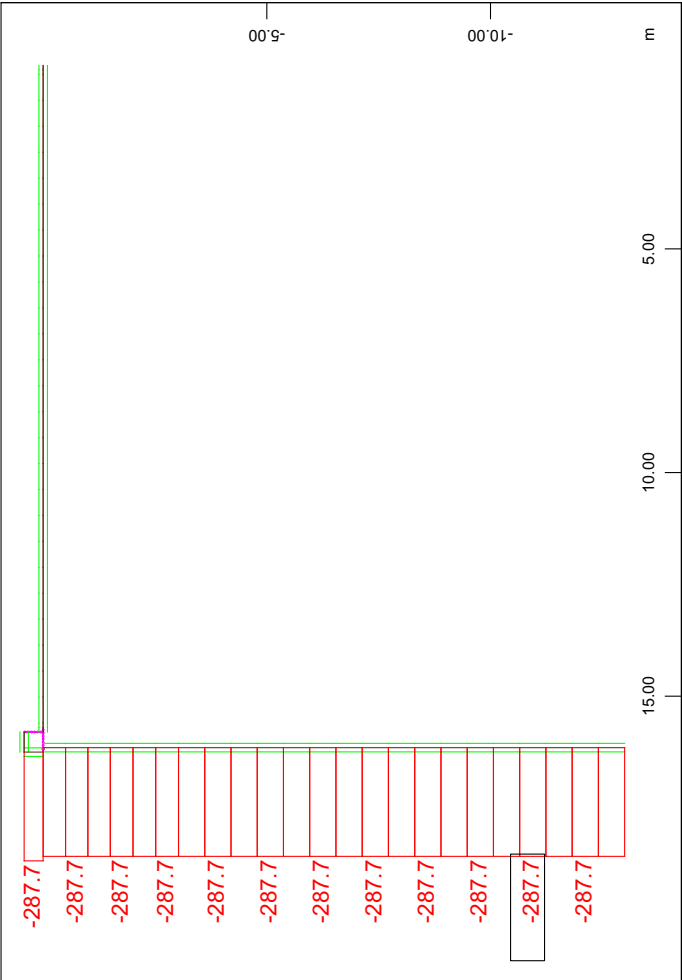
Geometria ponticello
Rappresentazione sollecitazioni elementari



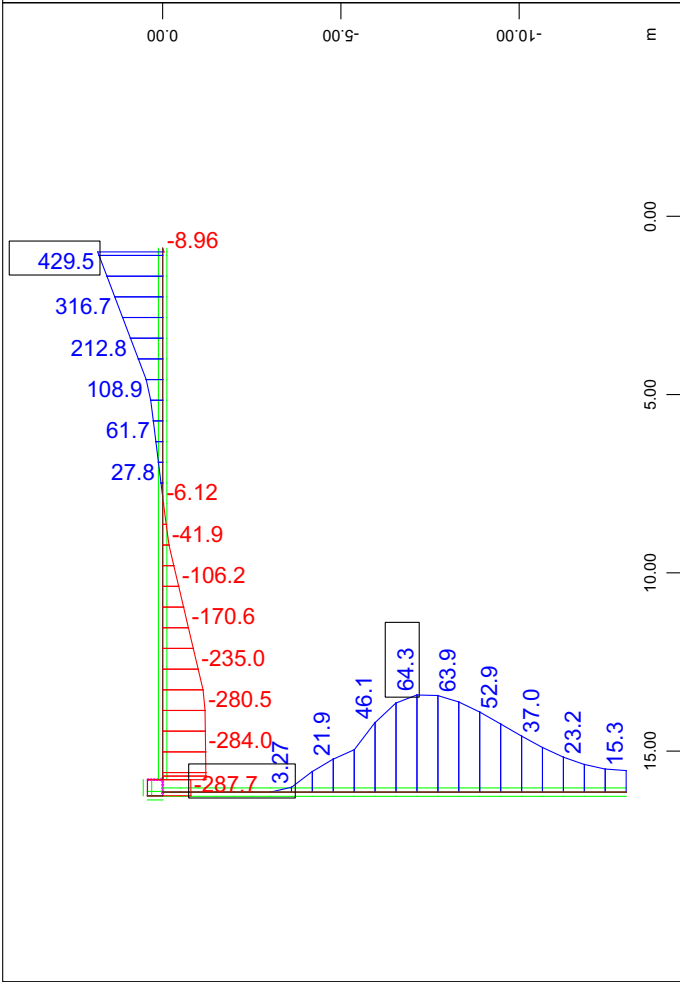
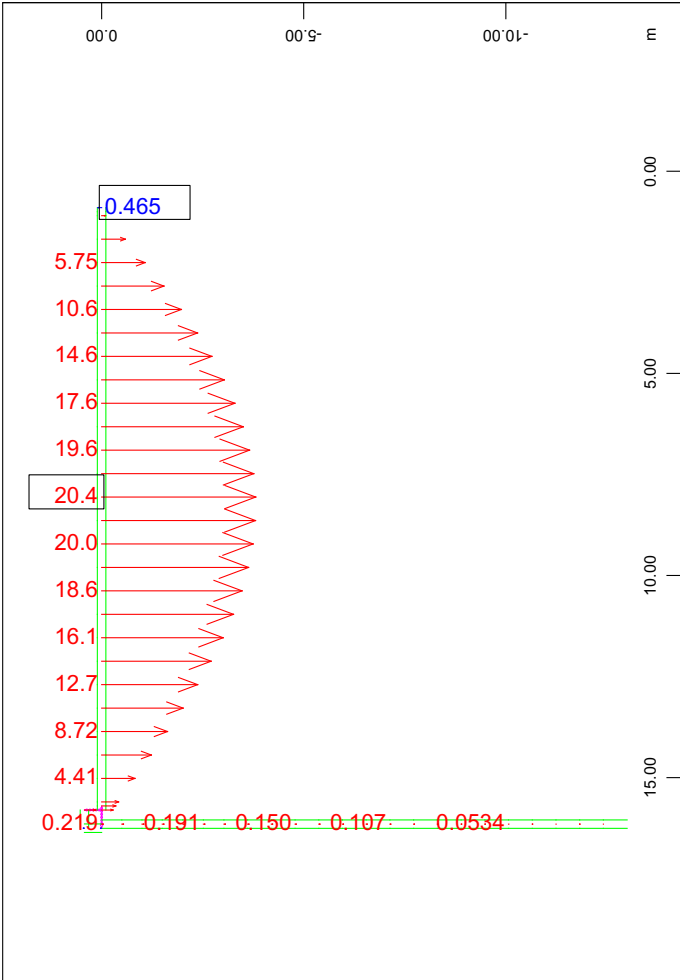
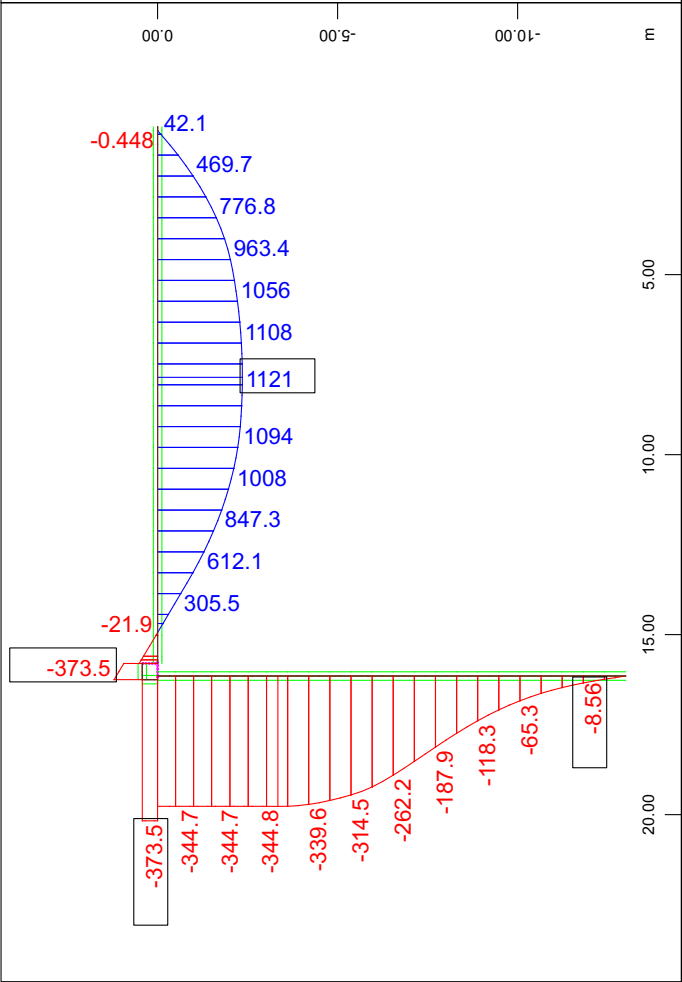
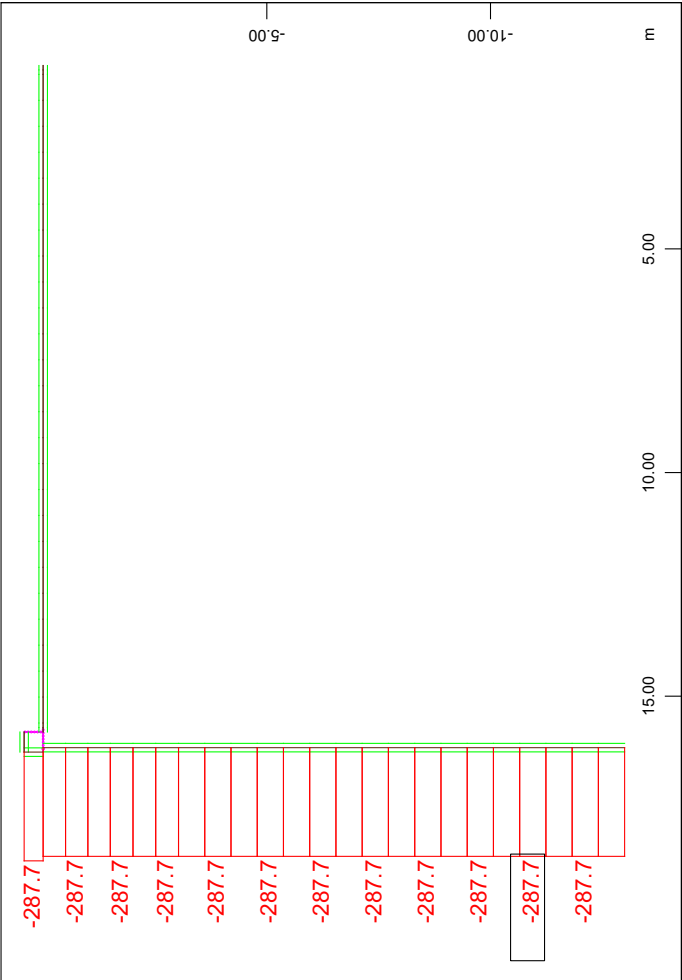
Geometria ponticello
Rappresentazione sollecitazioni elementari



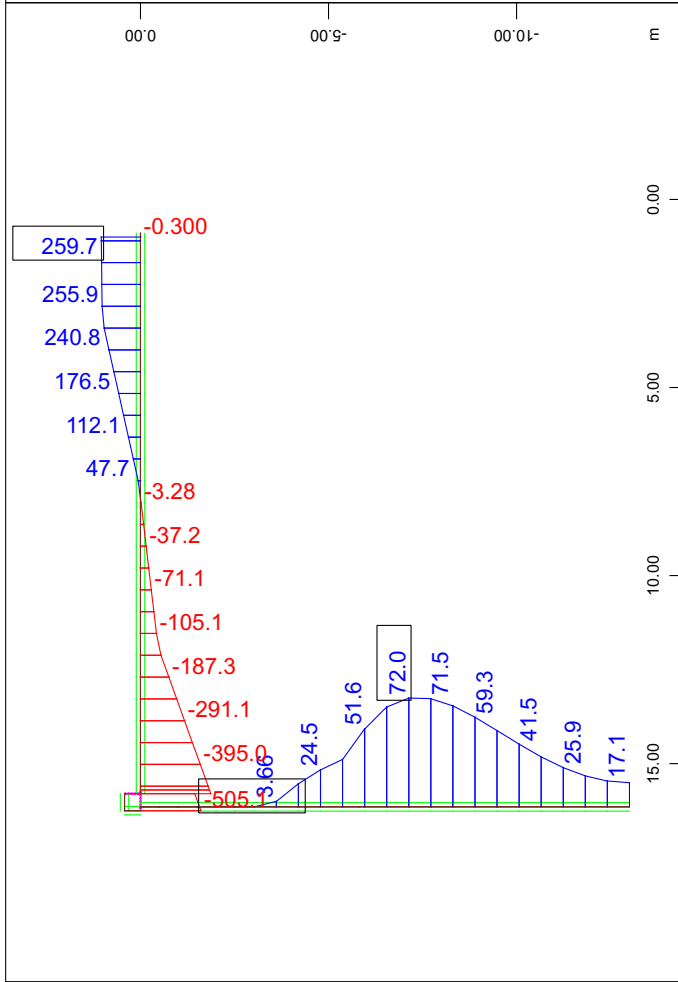
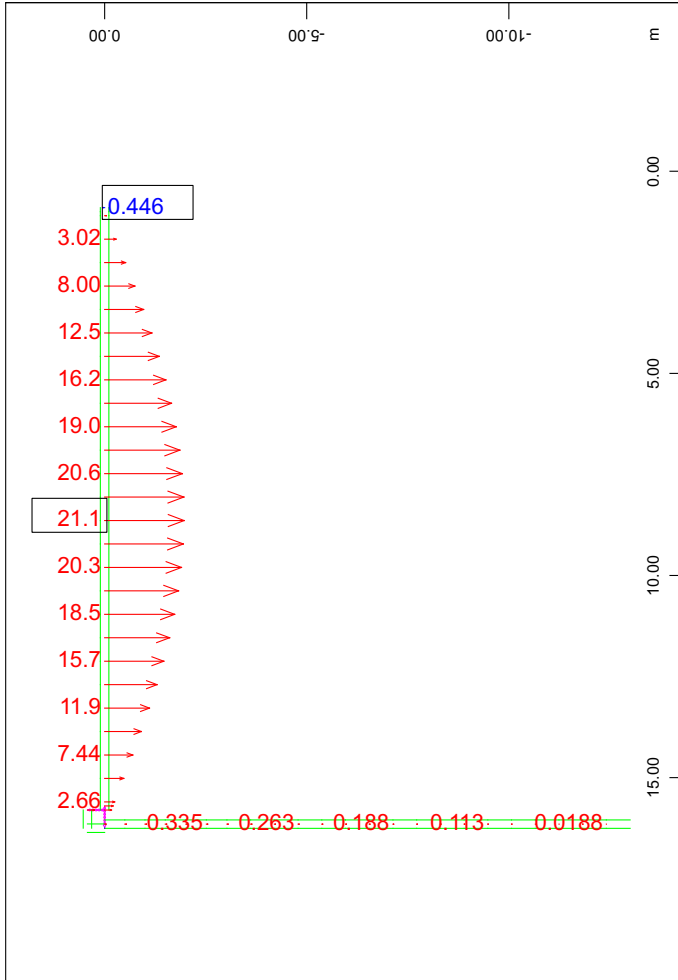
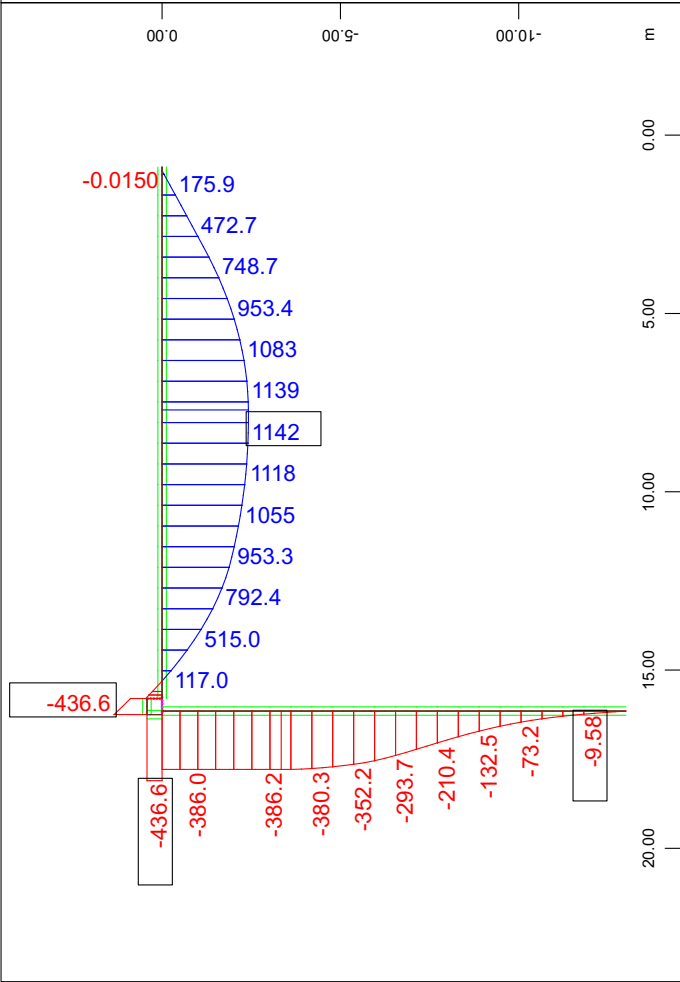
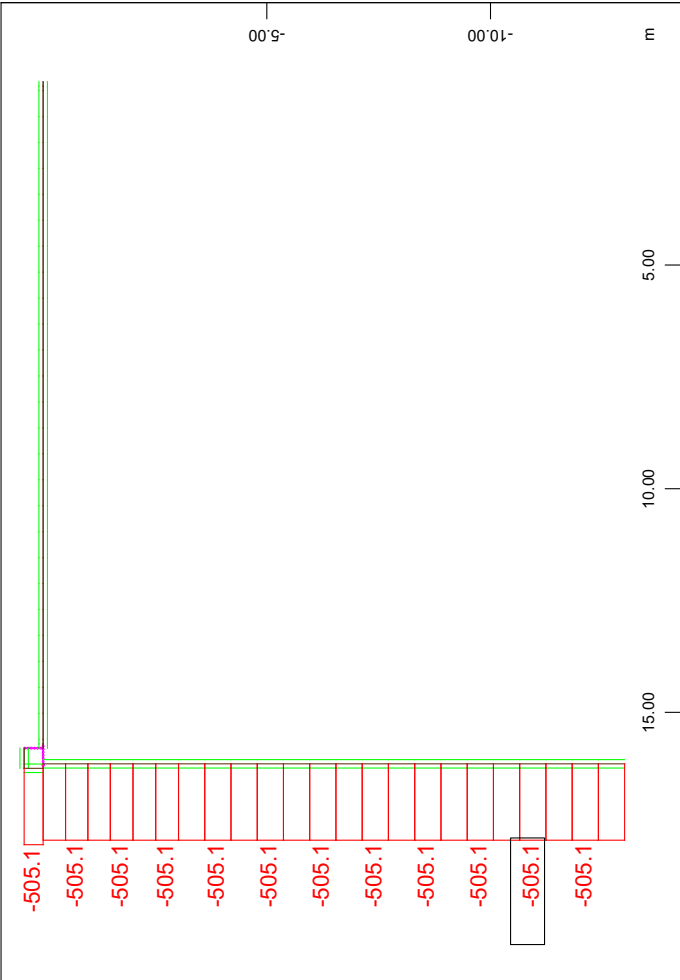
Geometria ponticello
Rappresentazione sollecitazioni elementari



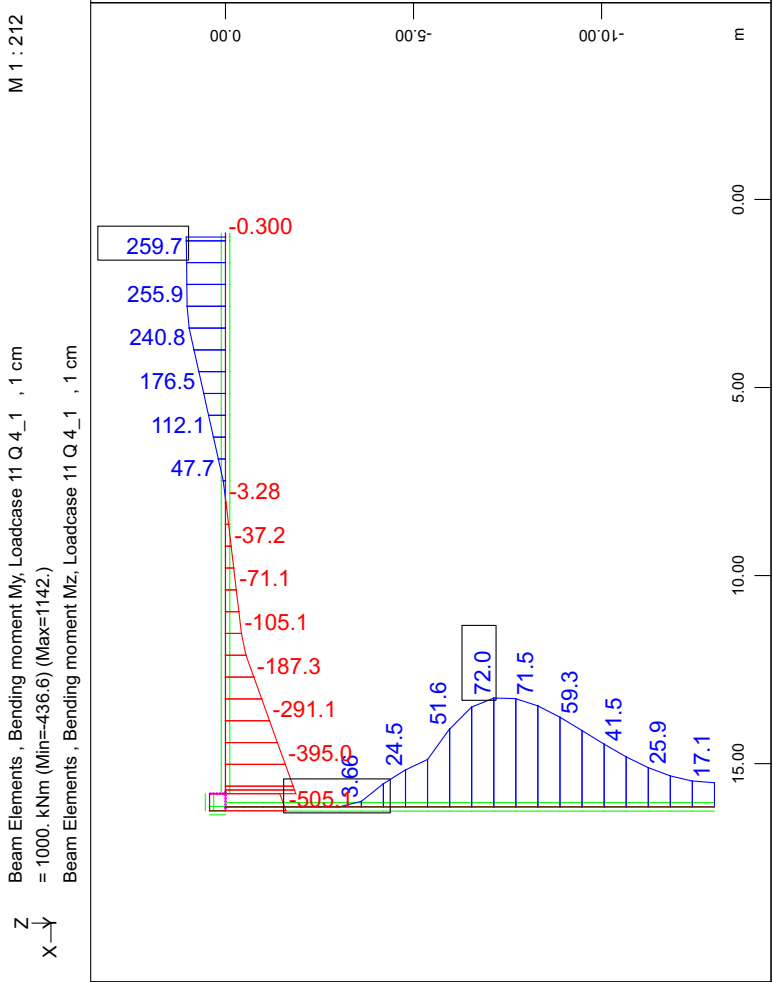
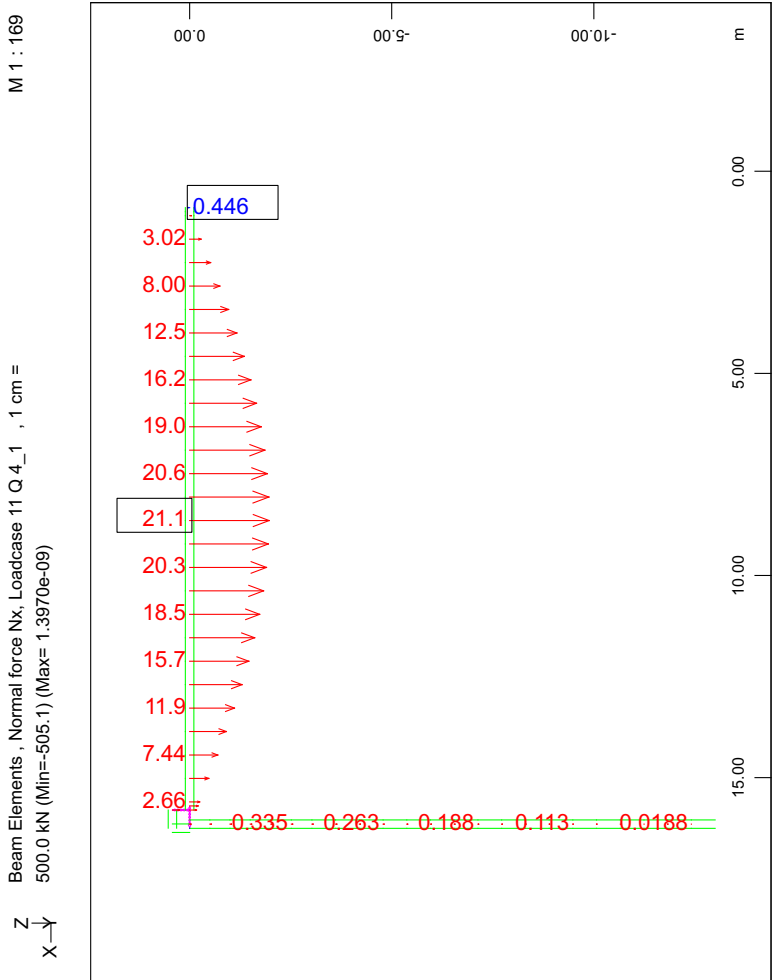
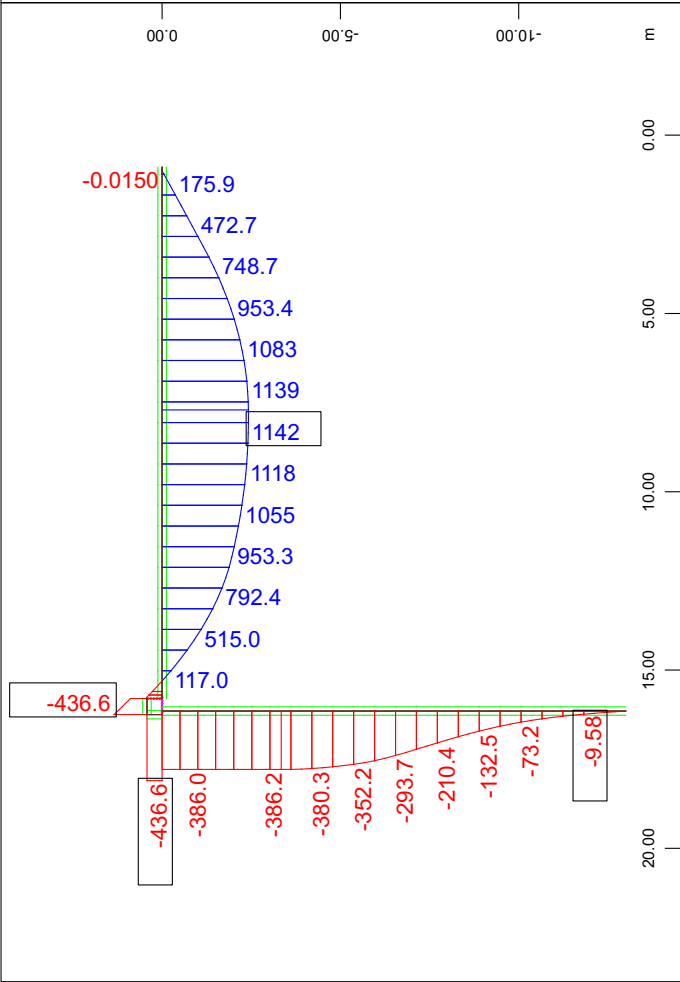
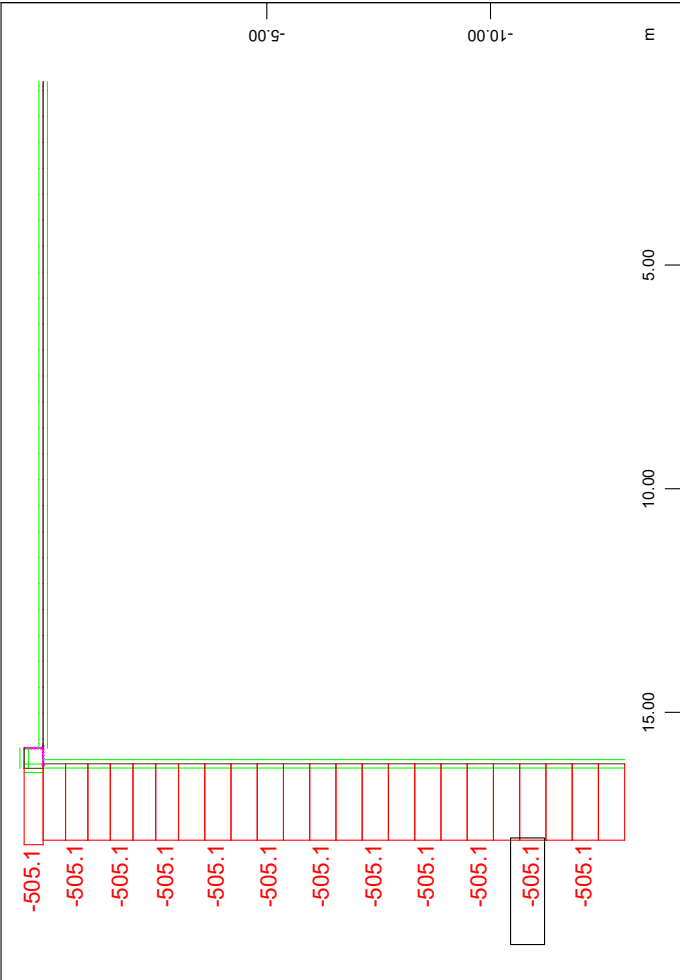
Geometria ponticello
Rappresentazione sollecitazioni elementari



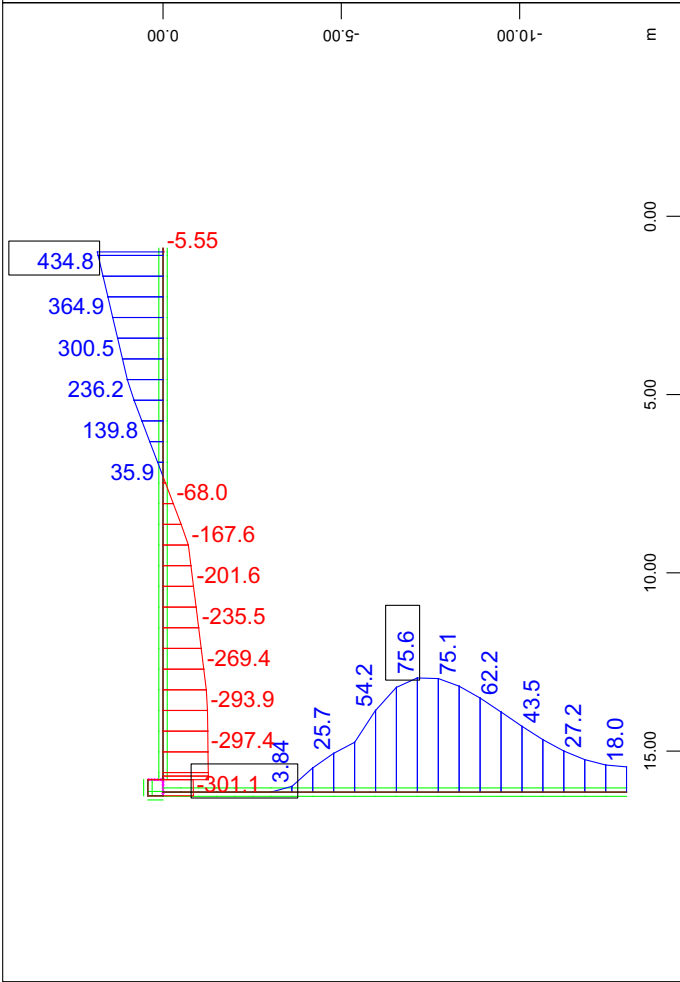
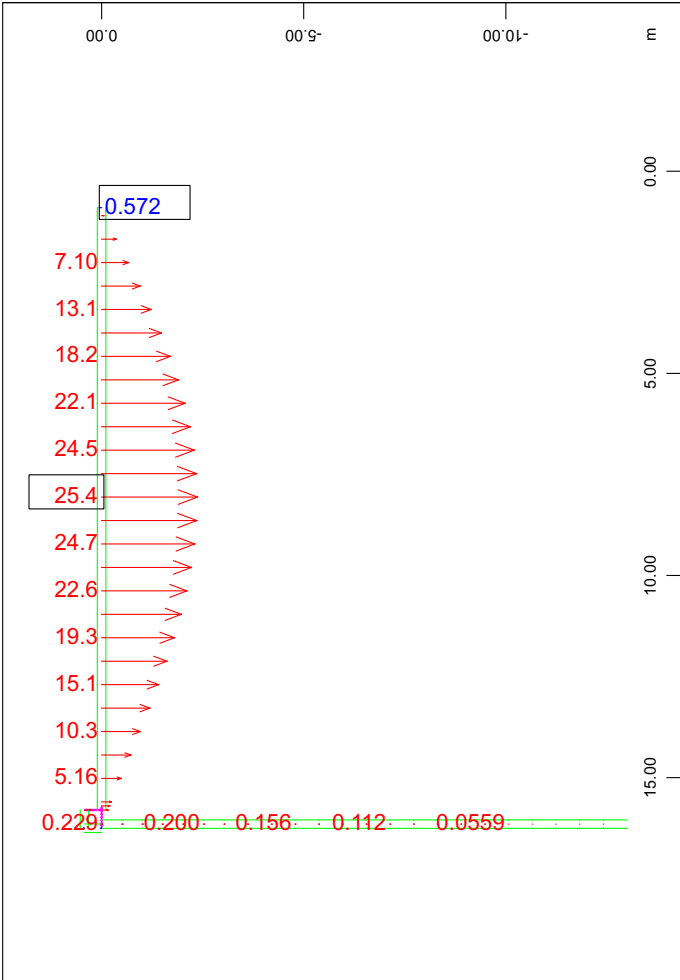
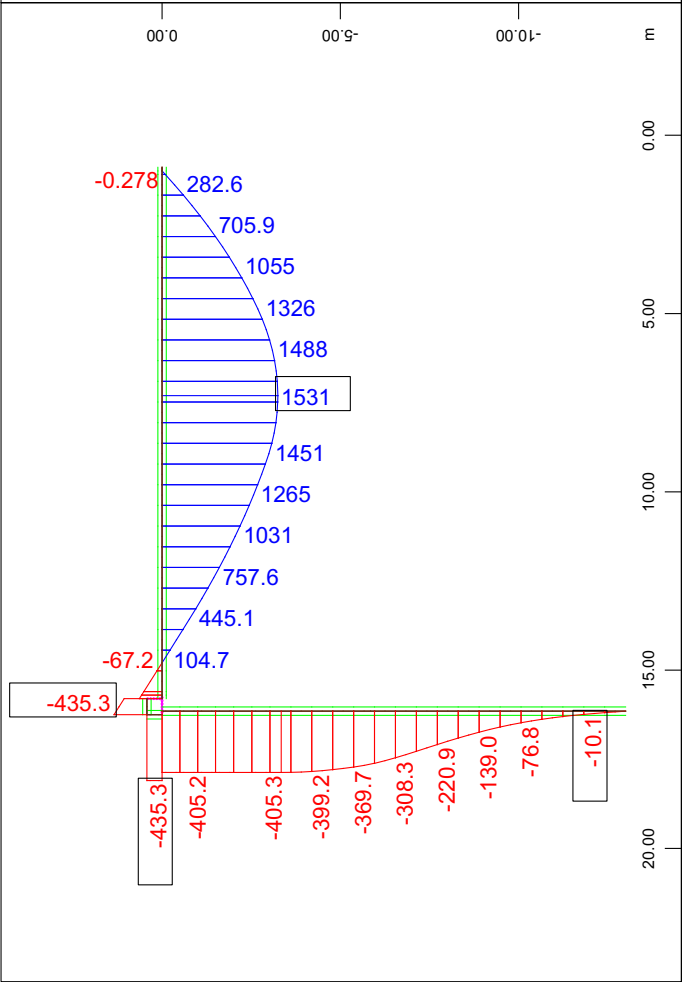
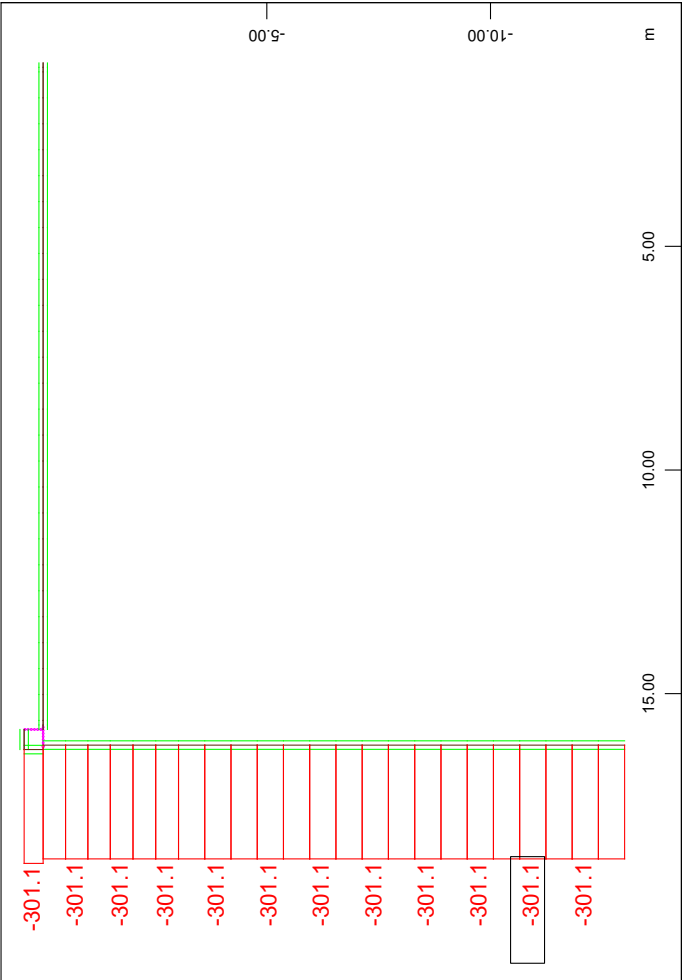
Geometria ponticello
Rappresentazione sollecitazioni elementari



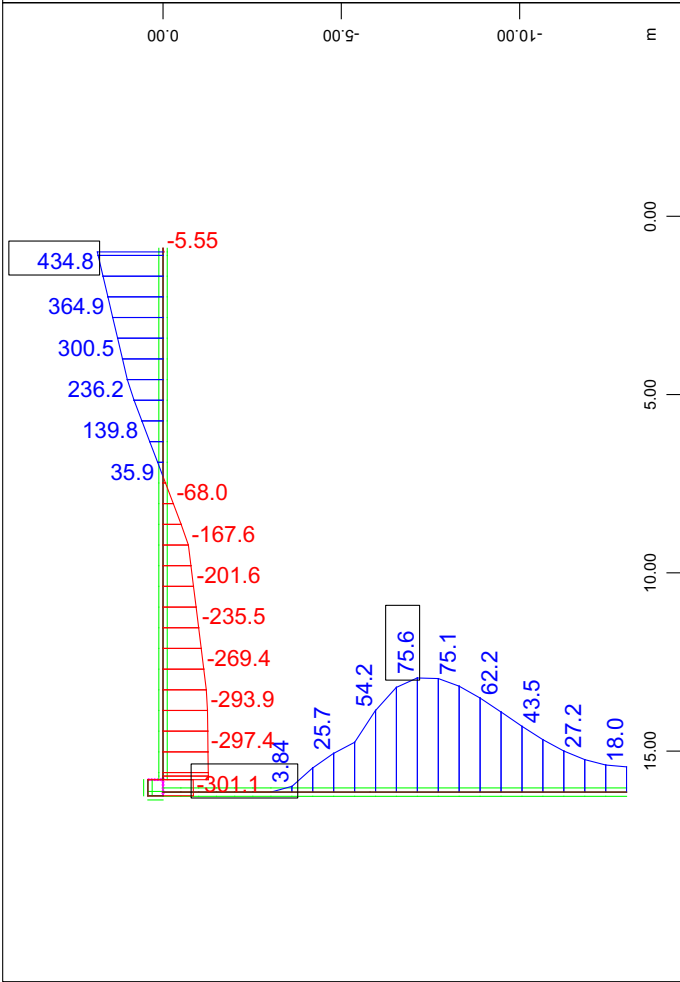
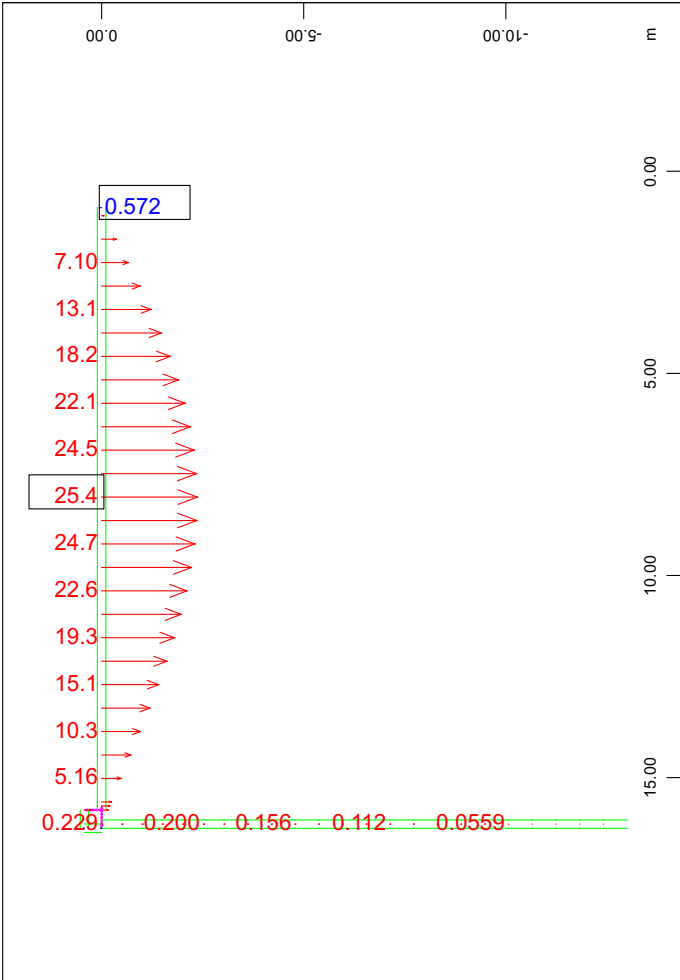
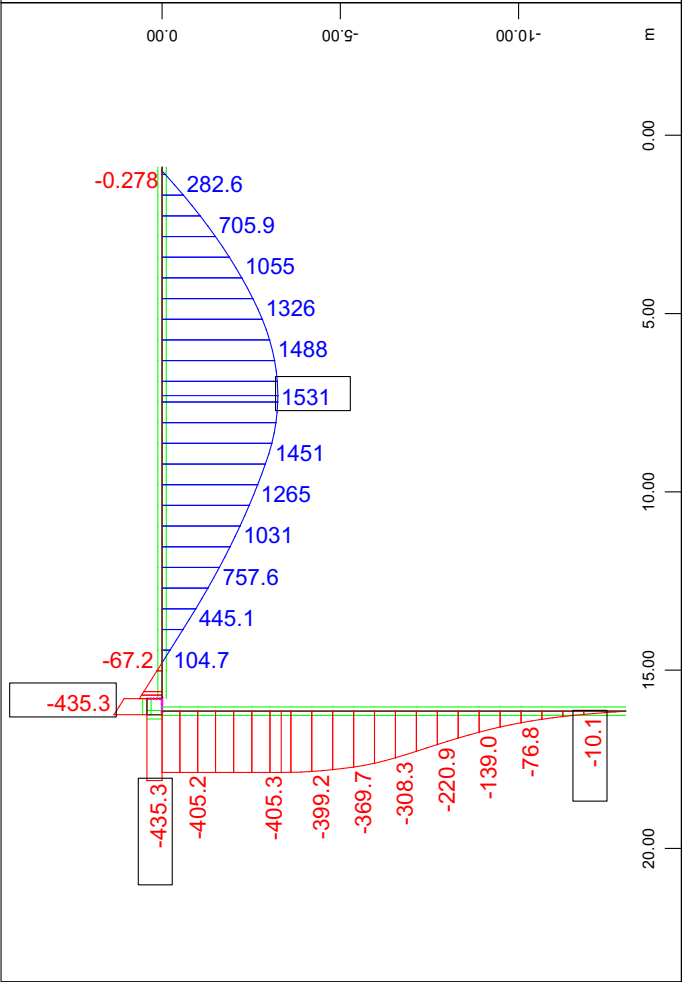
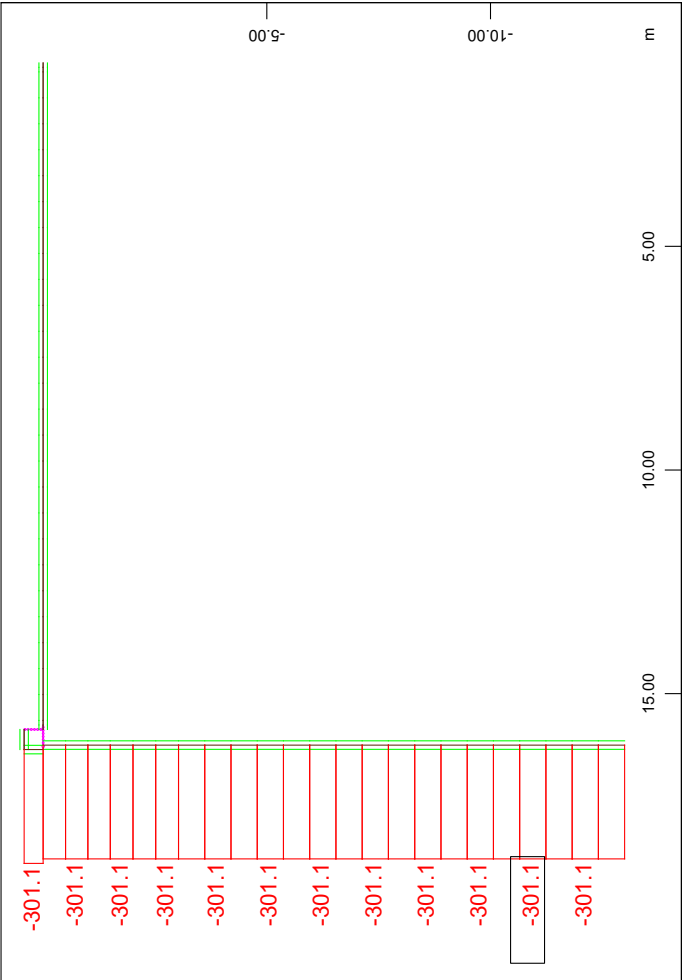
Geometria ponticello
Rappresentazione sollecitazioni elementari



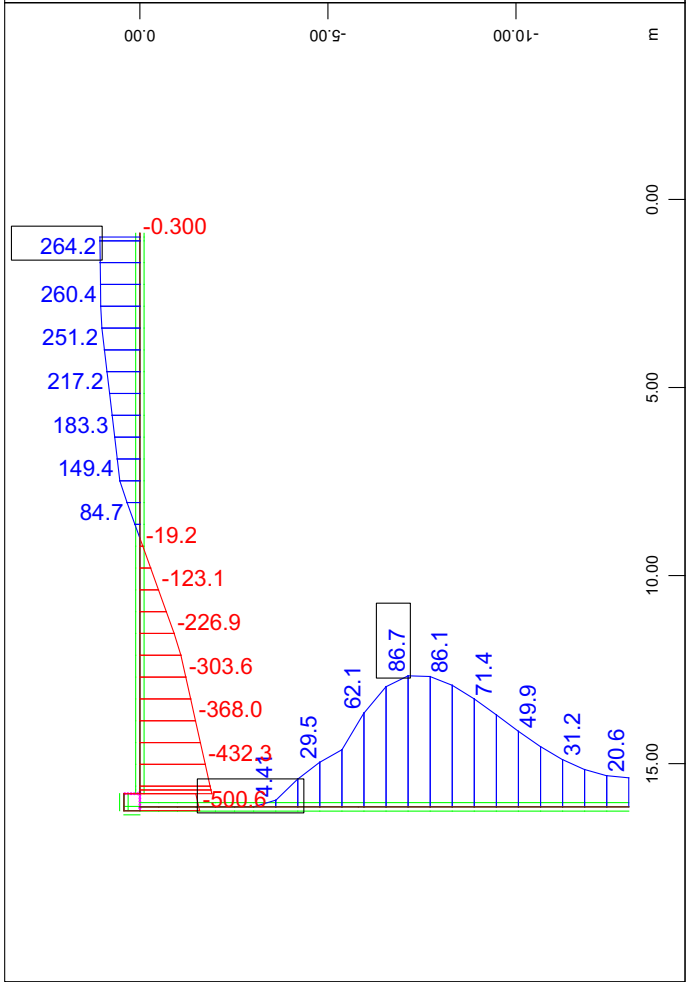
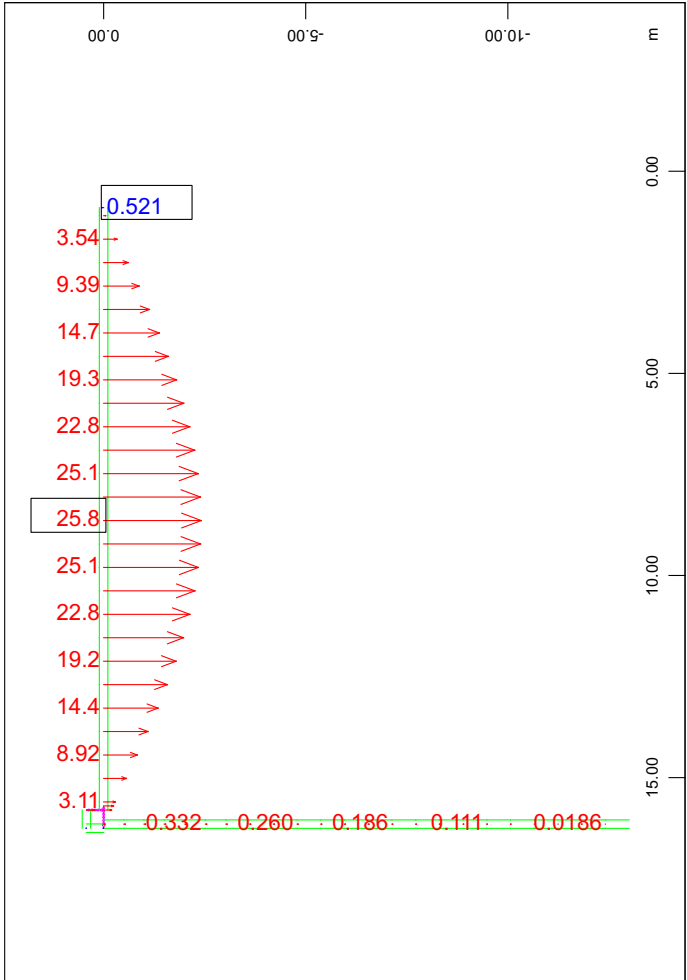
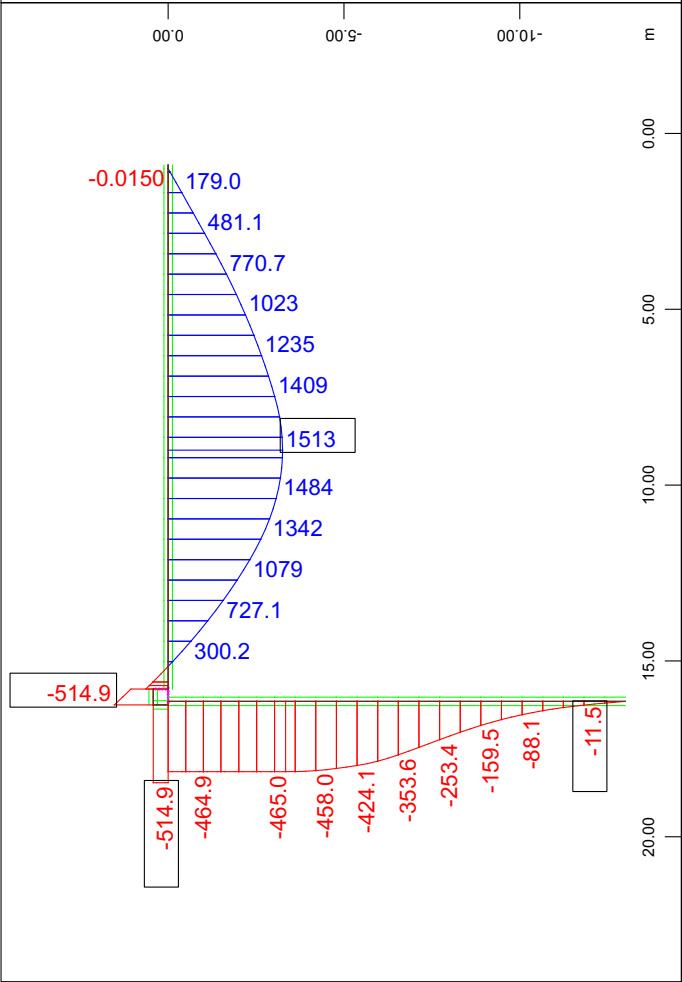
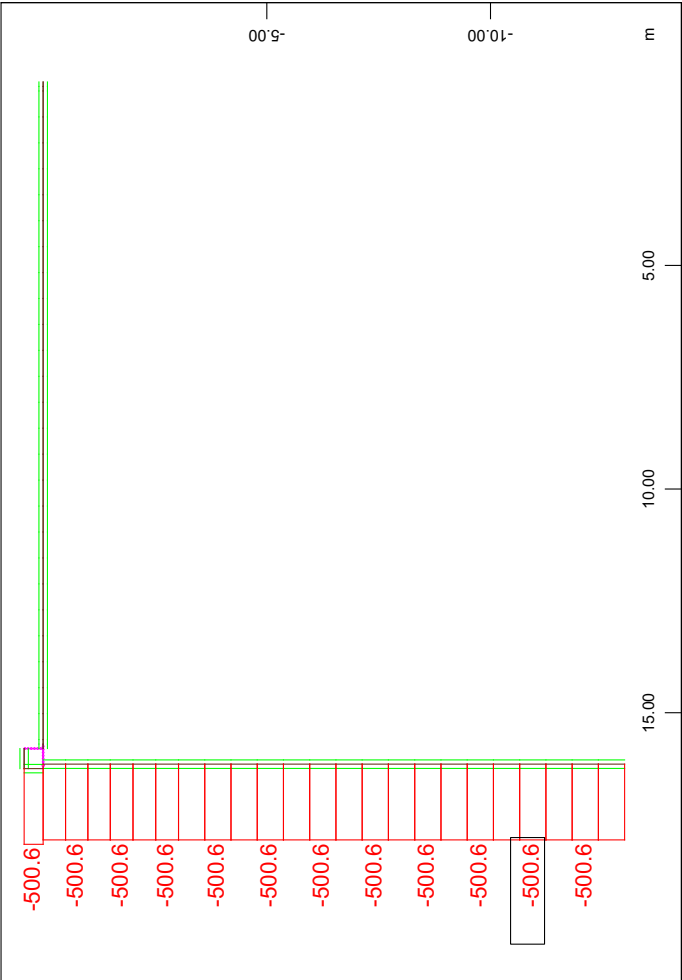
Geometria ponticello
Rappresentazione sollecitazioni elementari



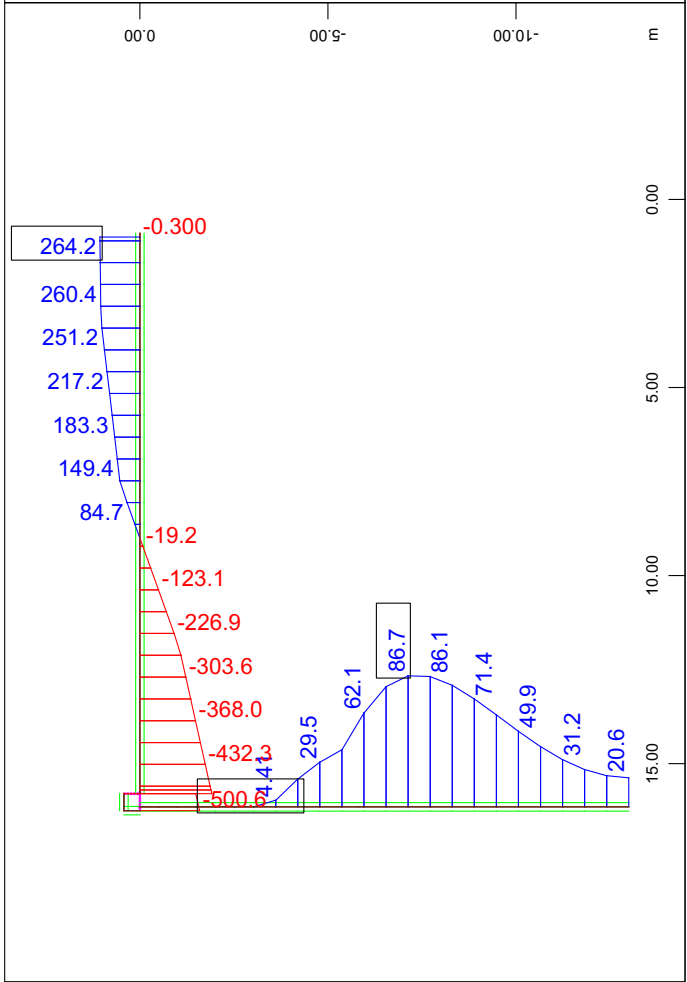
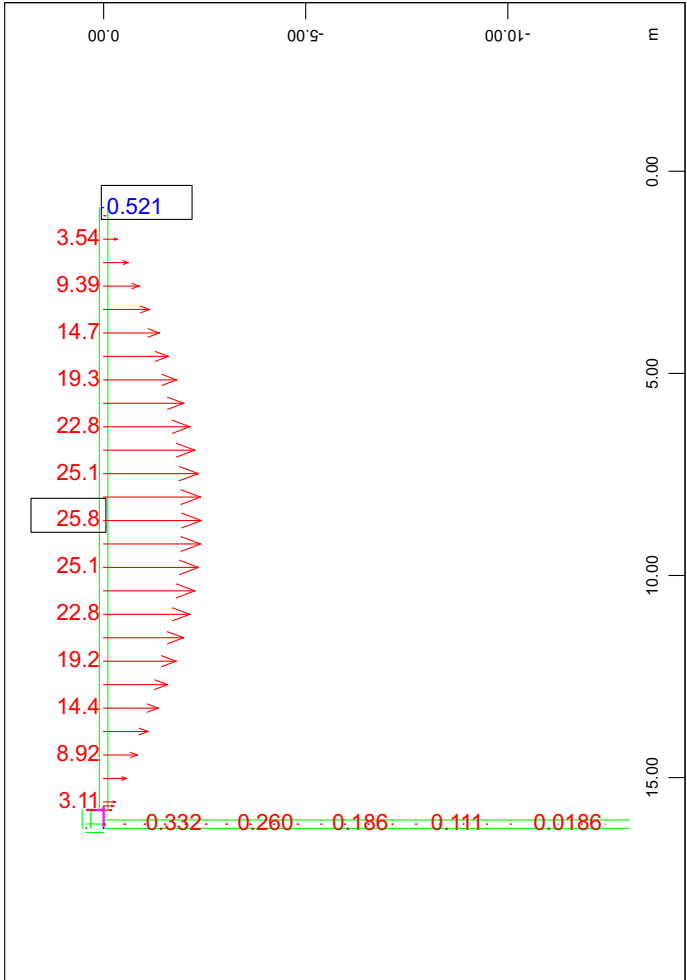
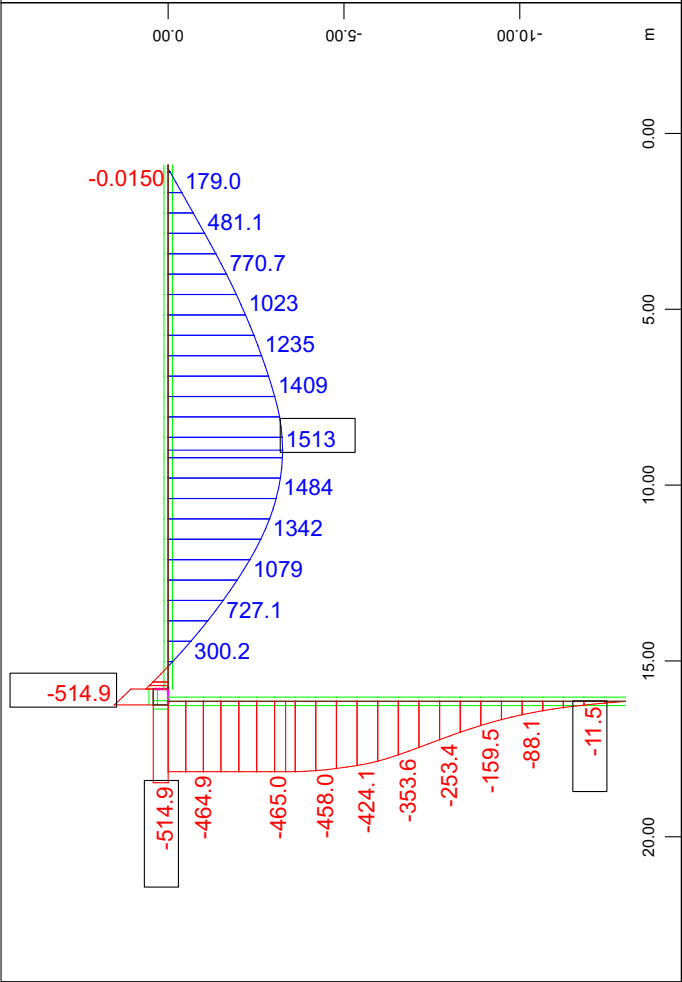
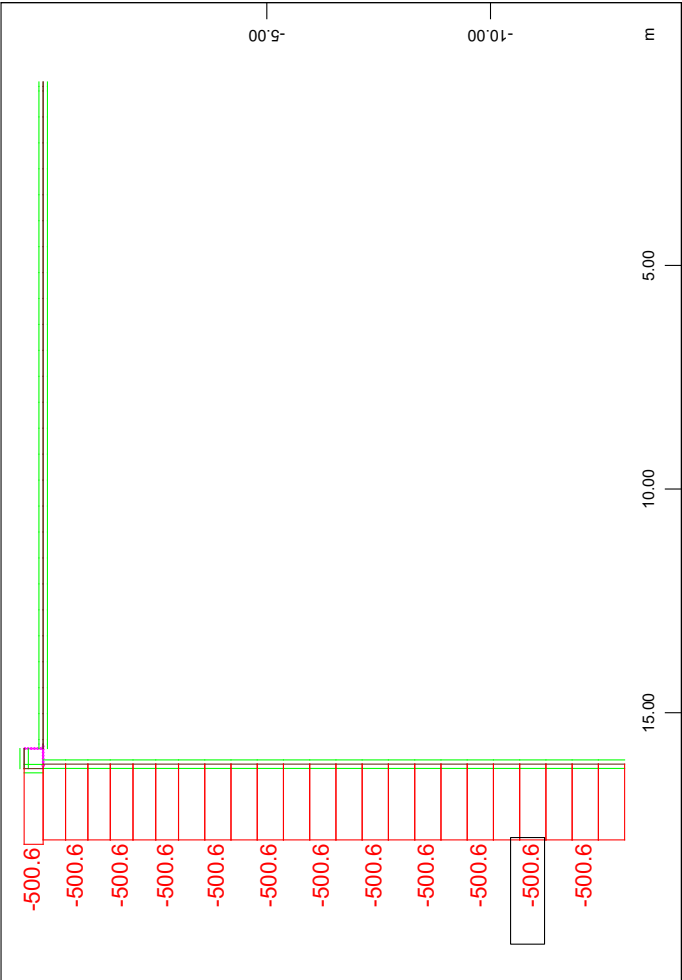
Geometria ponticello
Rappresentazione sollecitazioni elementari



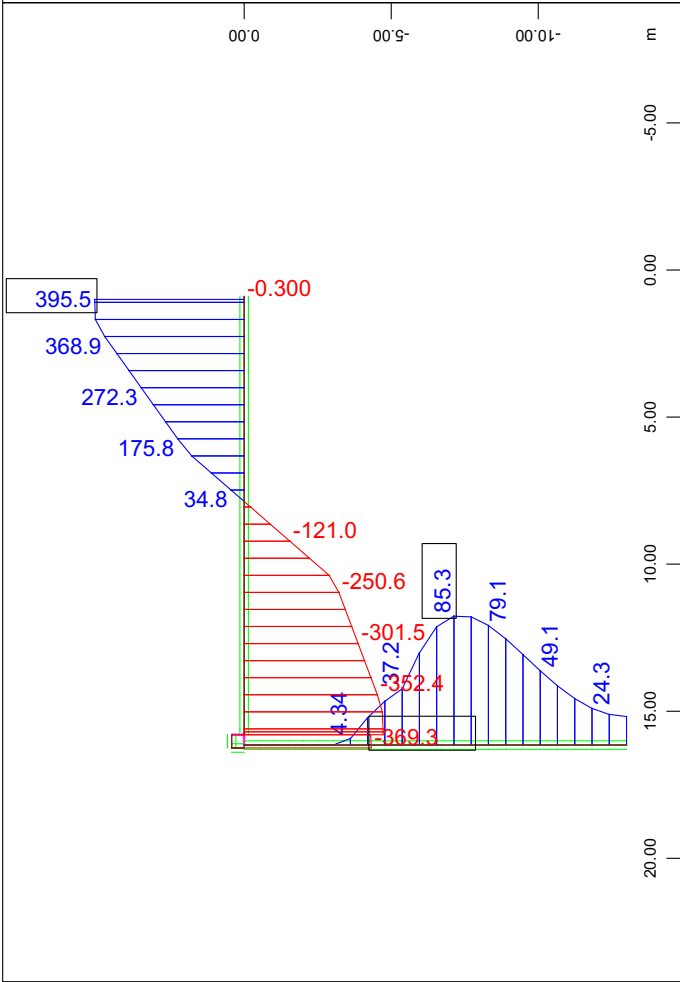
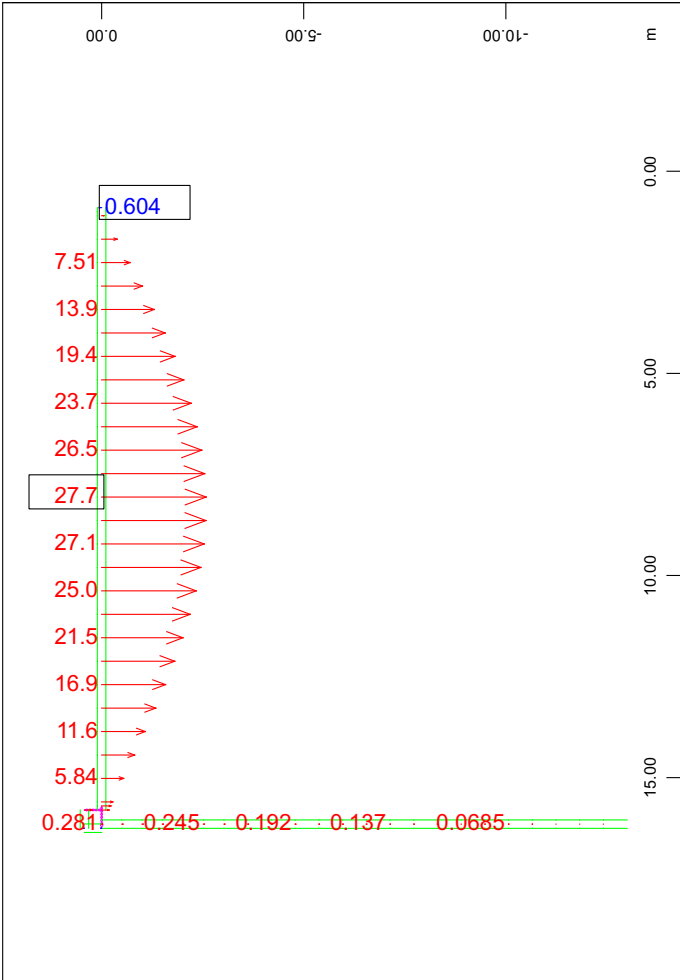
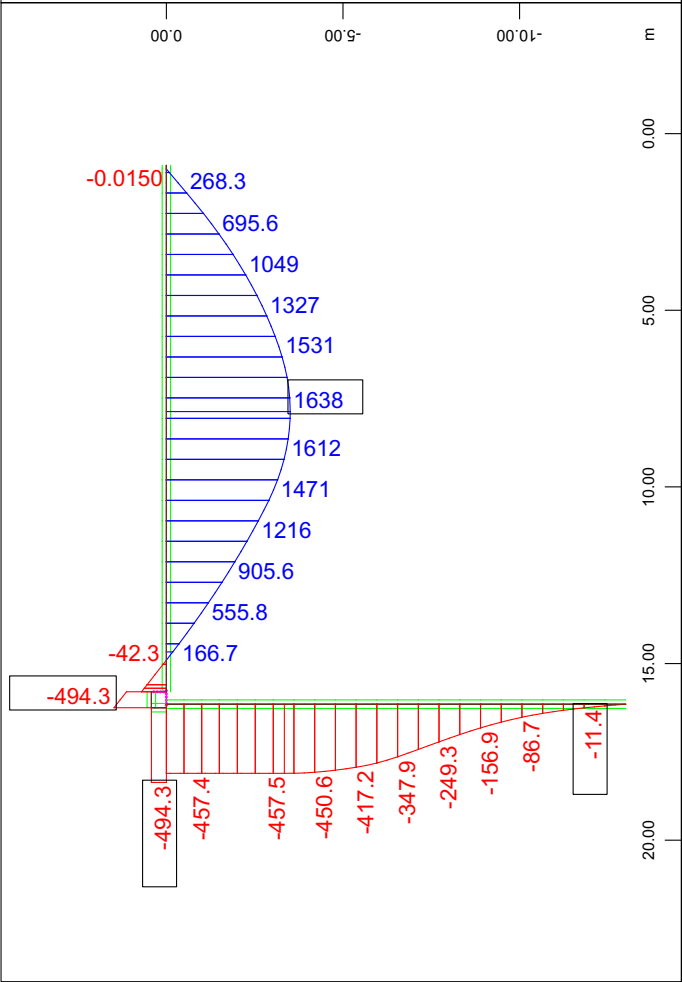
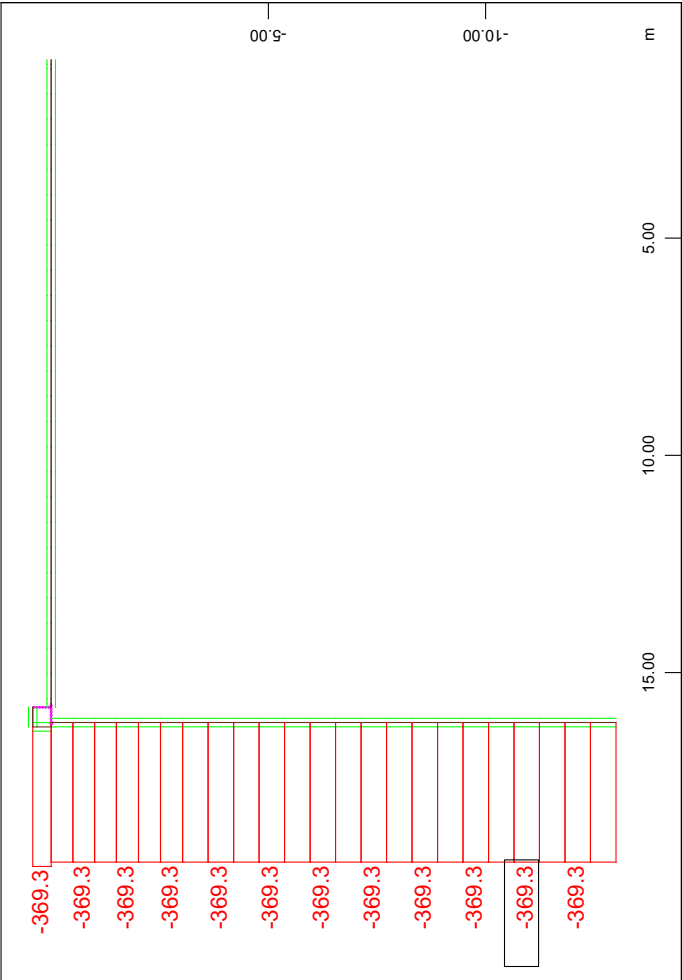
Geometria ponticello
Rappresentazione sollecitazioni elementari



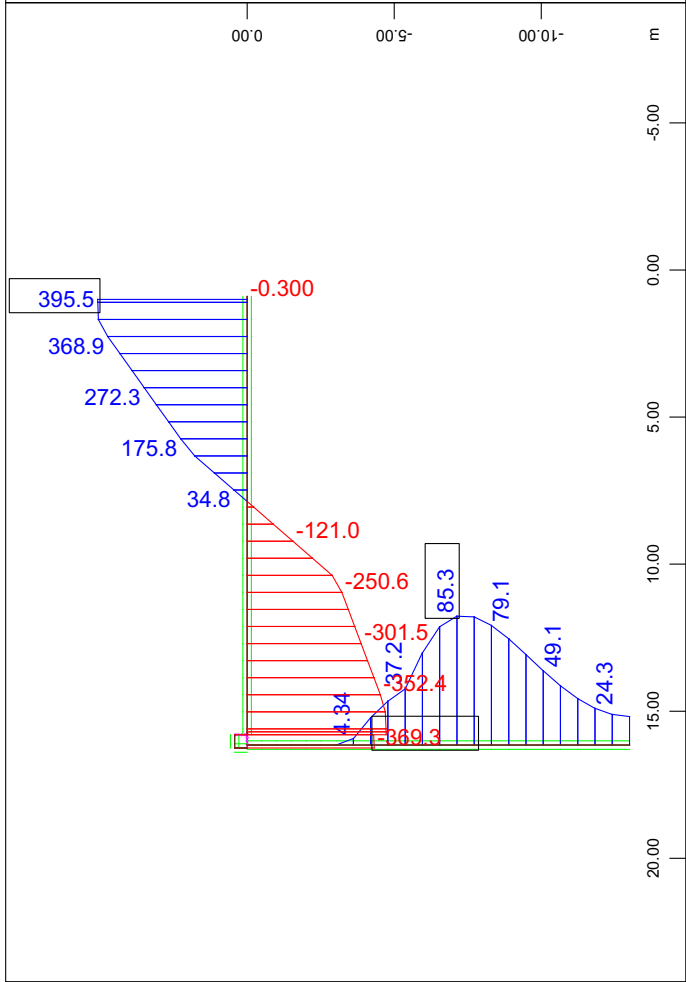
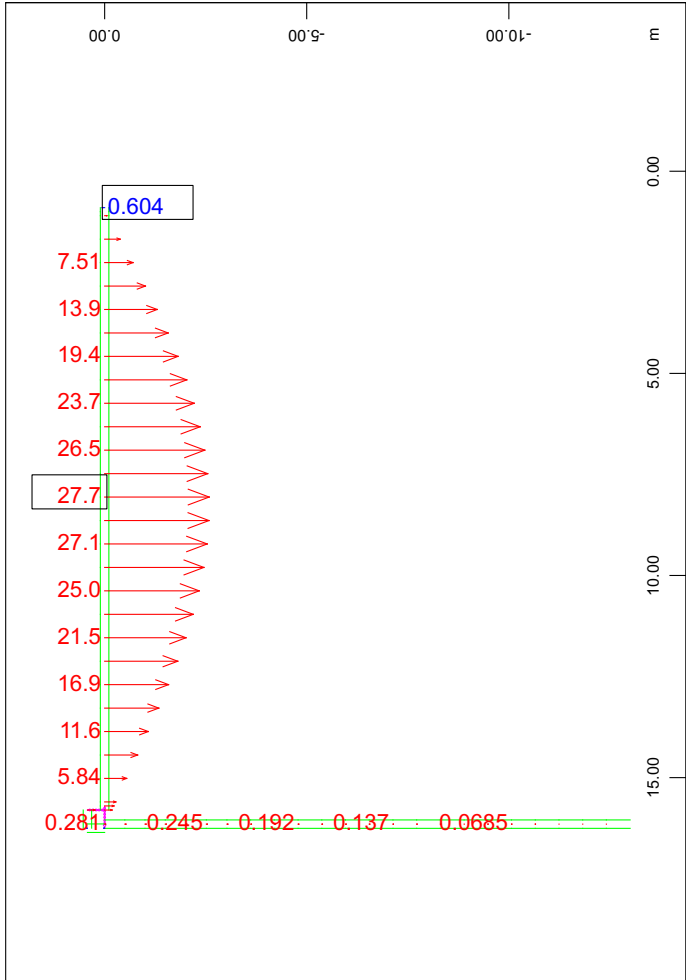
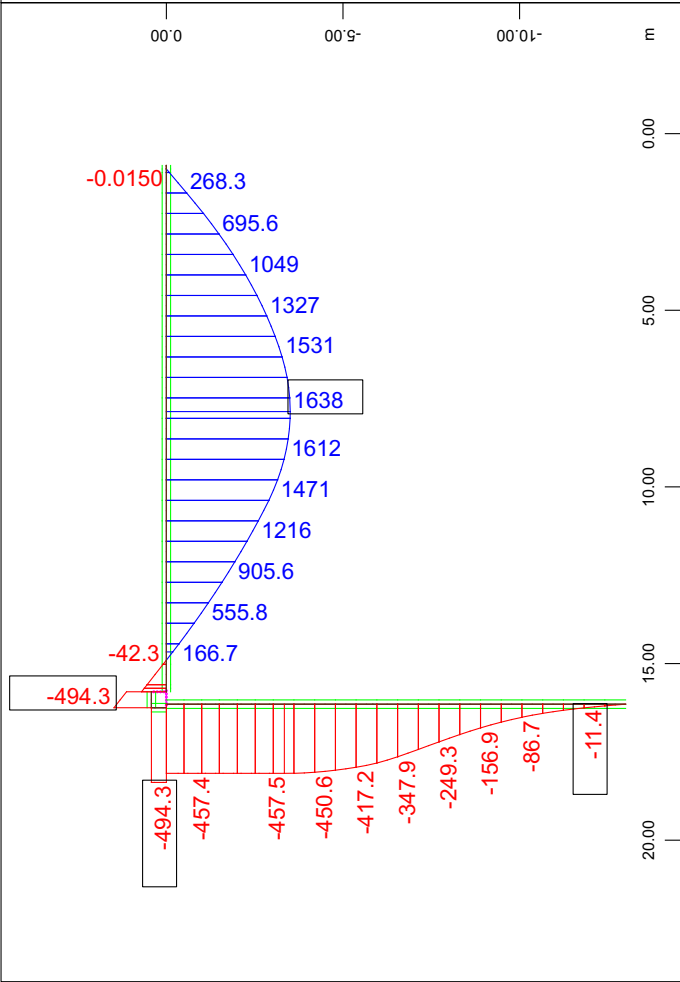
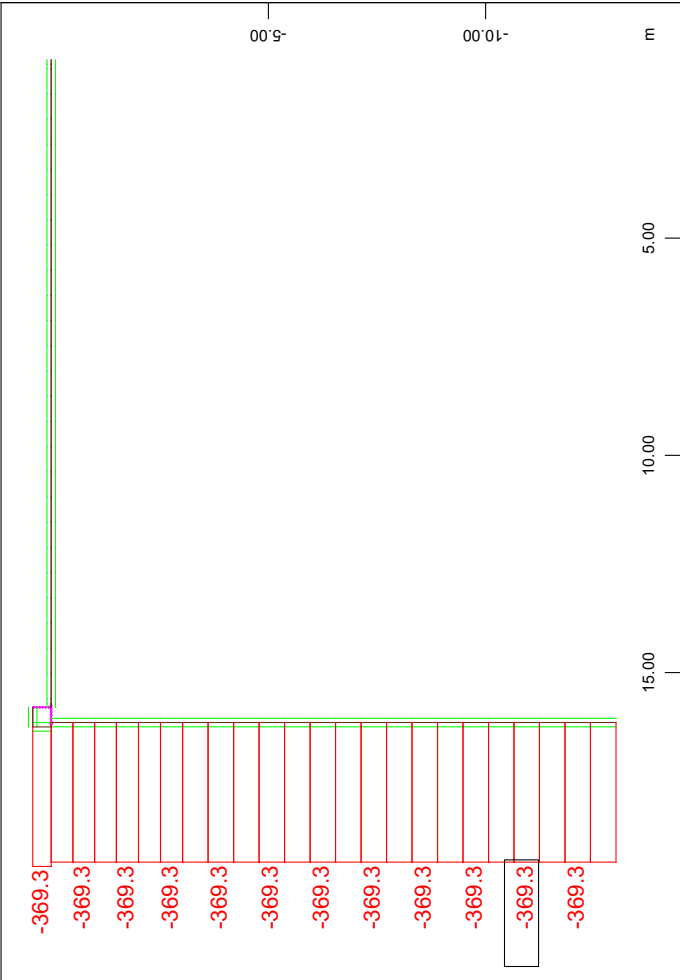
Geometria ponticello
Rappresentazione sollecitazioni elementari



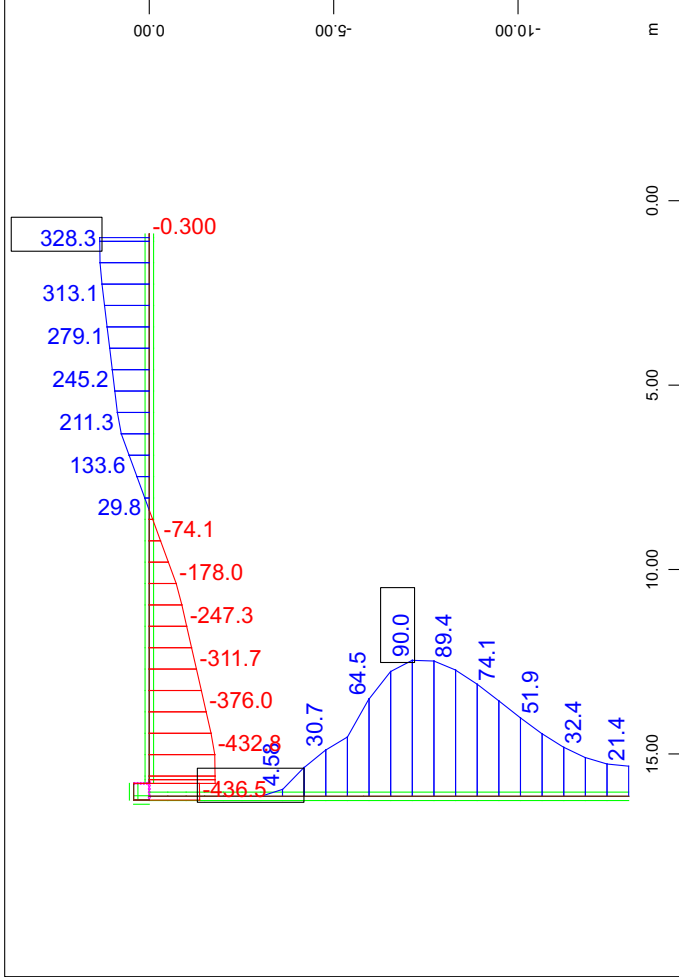
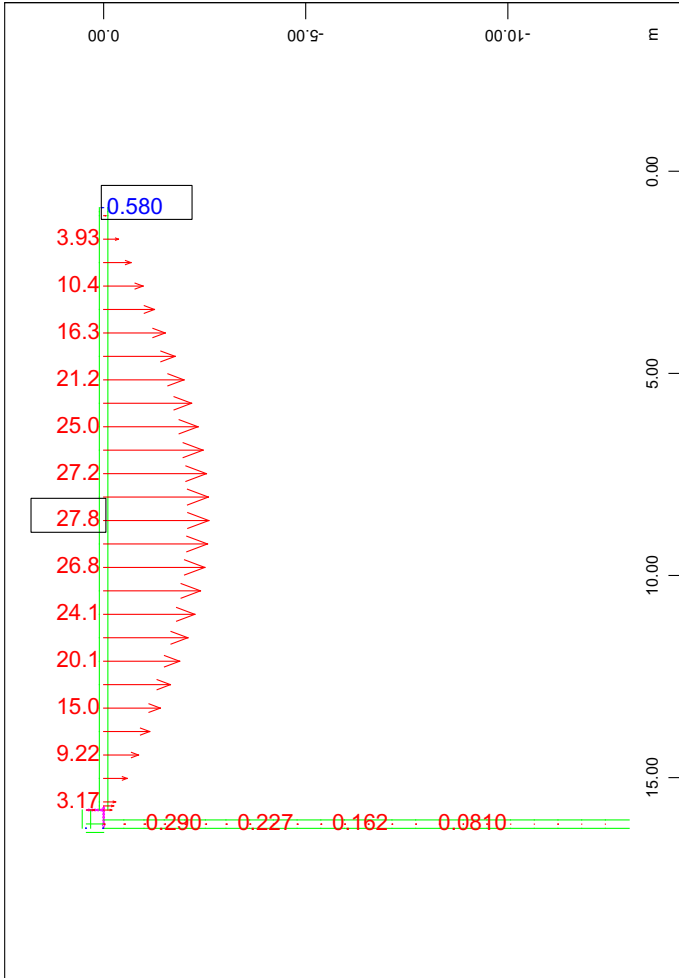
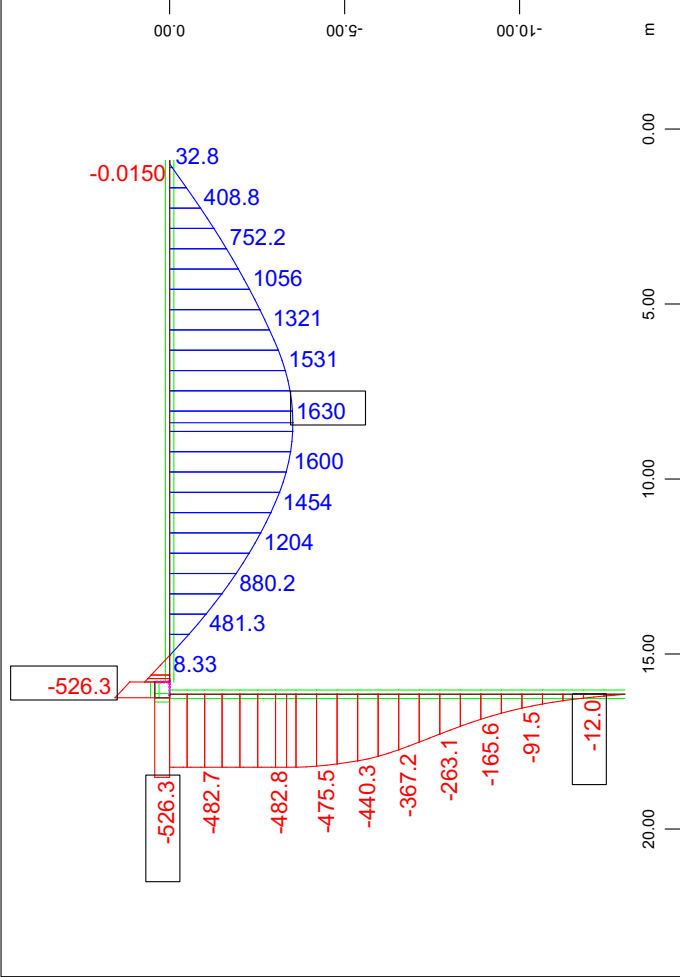
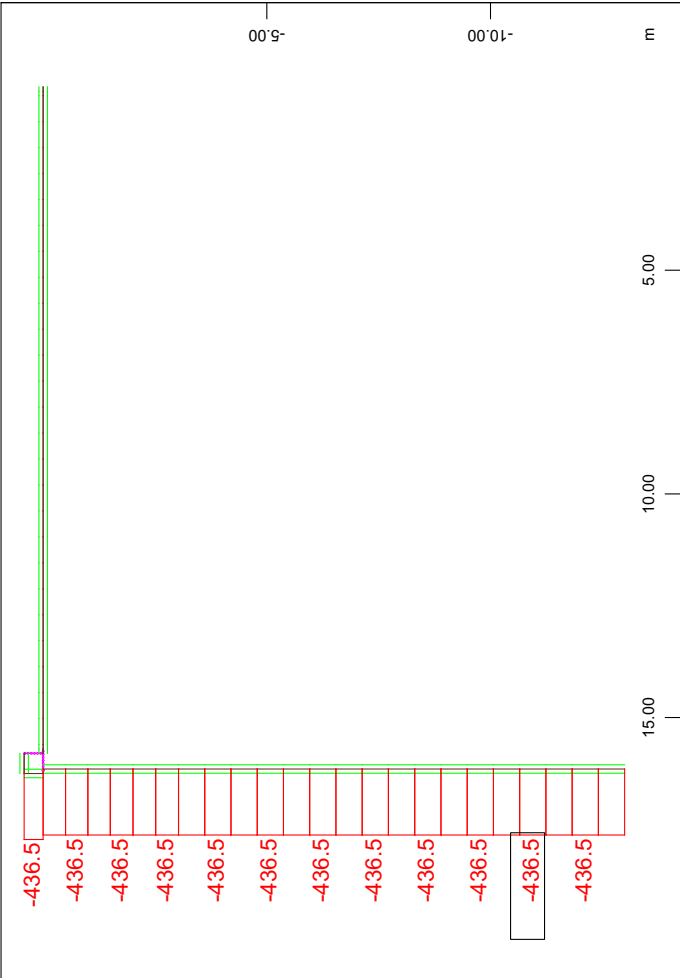
Geometria ponticello
Rappresentazione sollecitazioni elementari



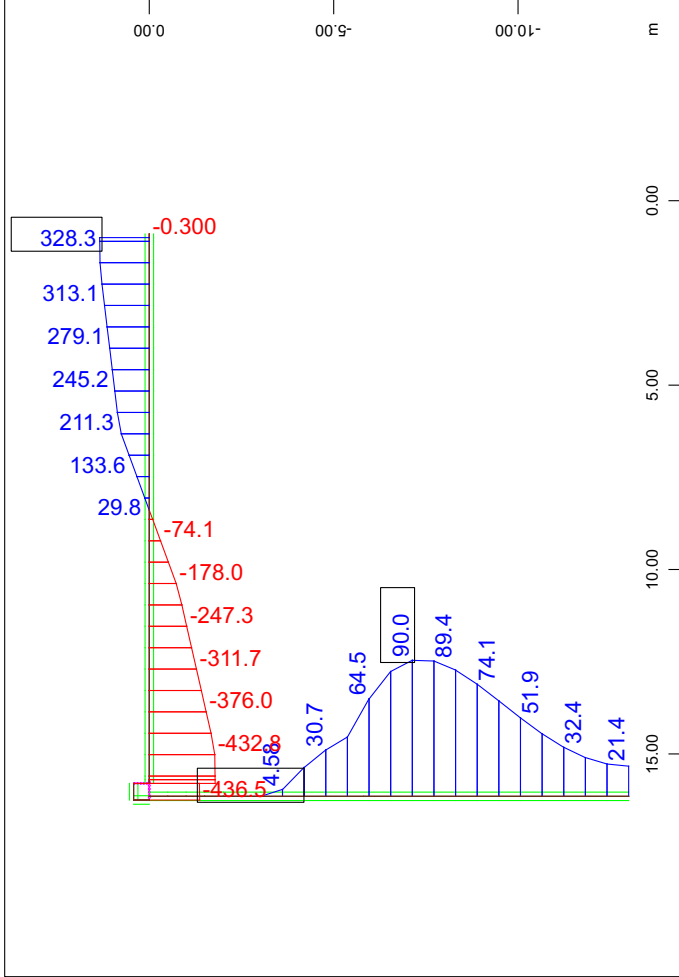
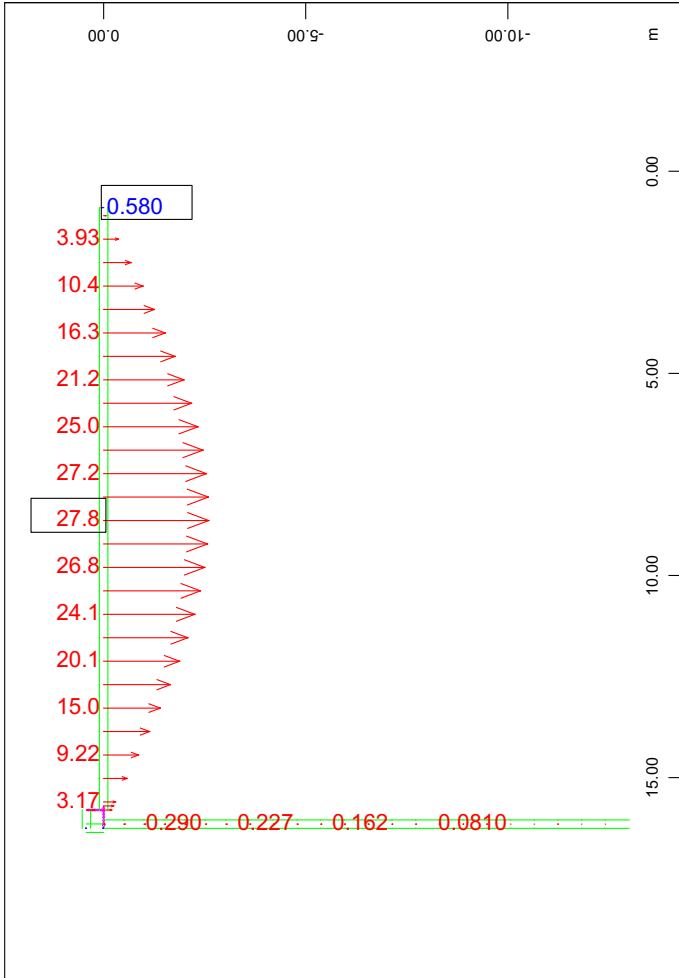
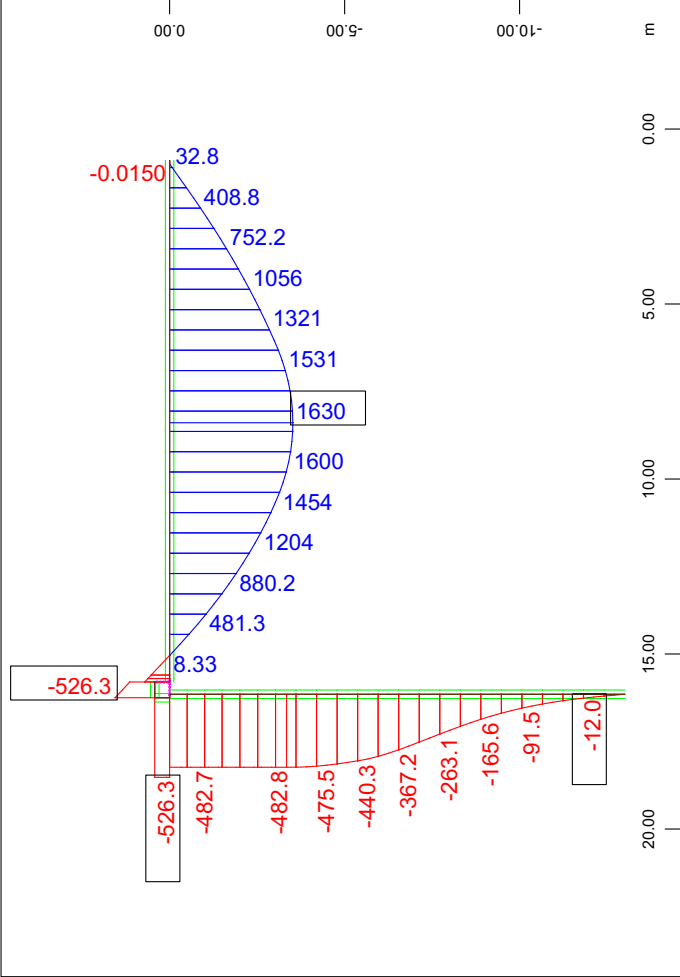
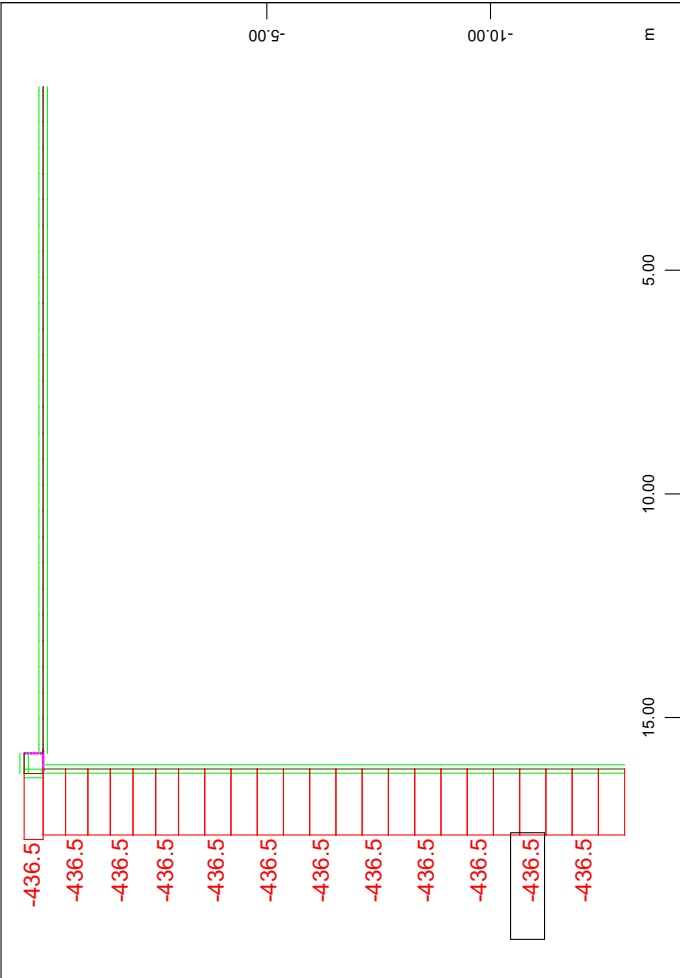
Geometria ponticello
Rappresentazione sollecitazioni elementari



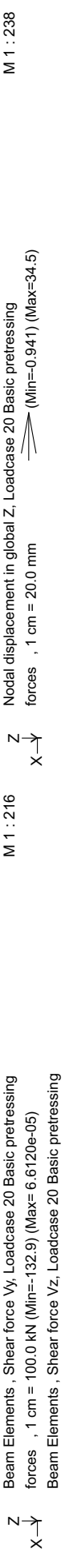
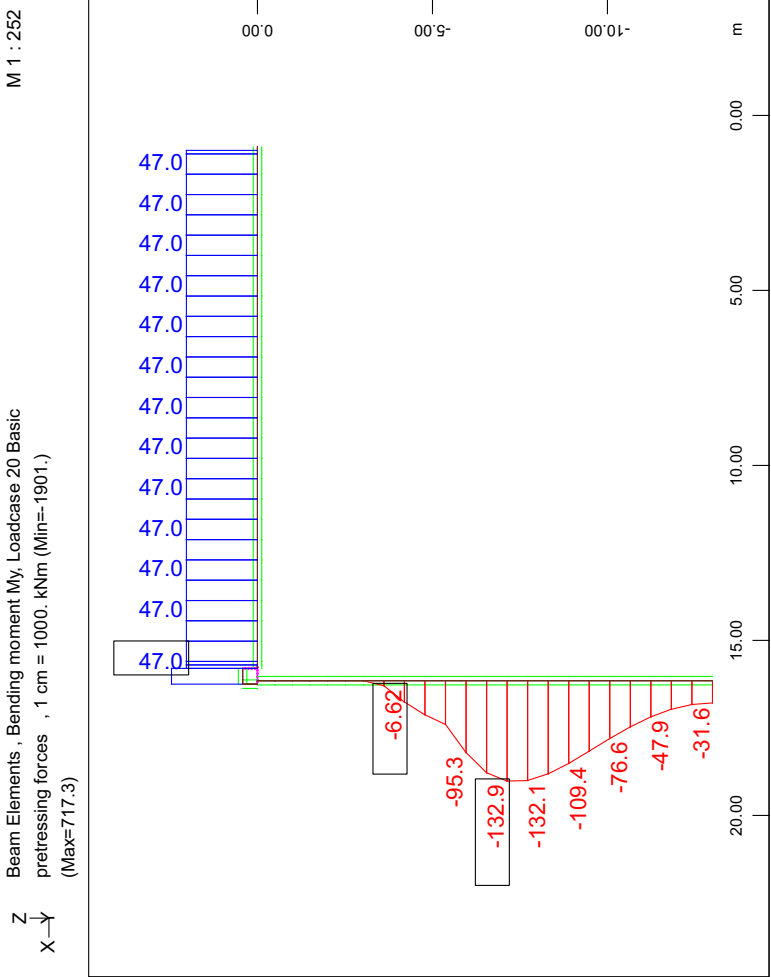
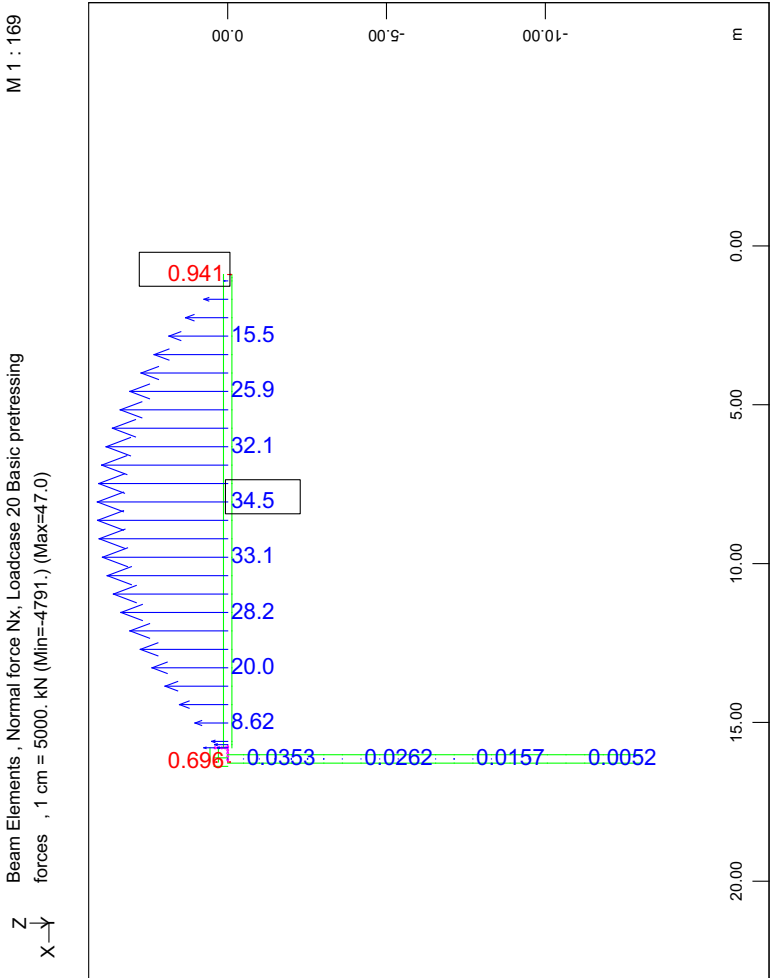
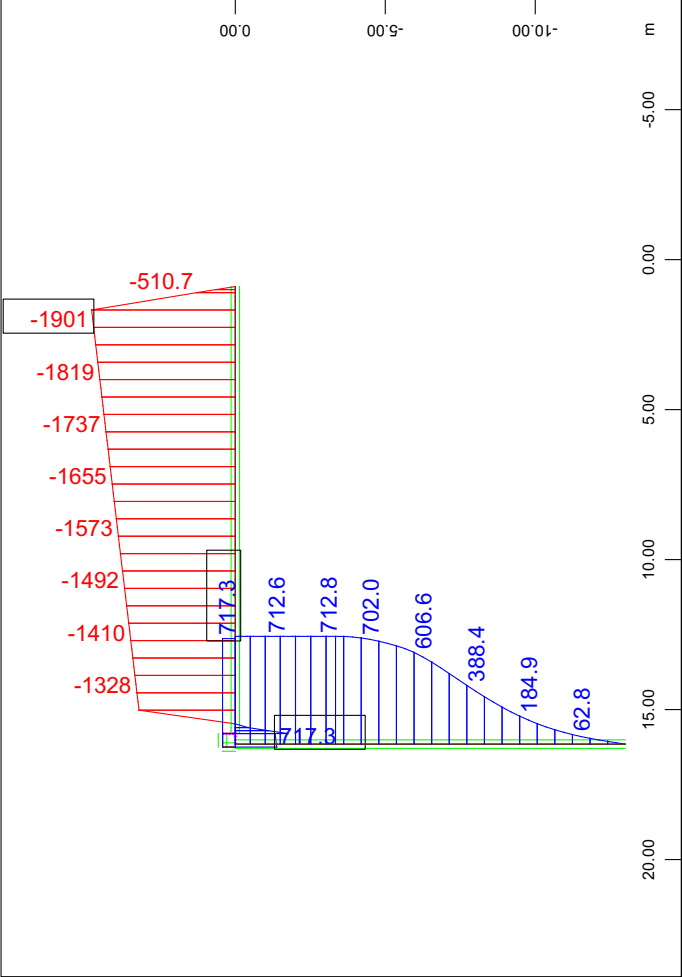
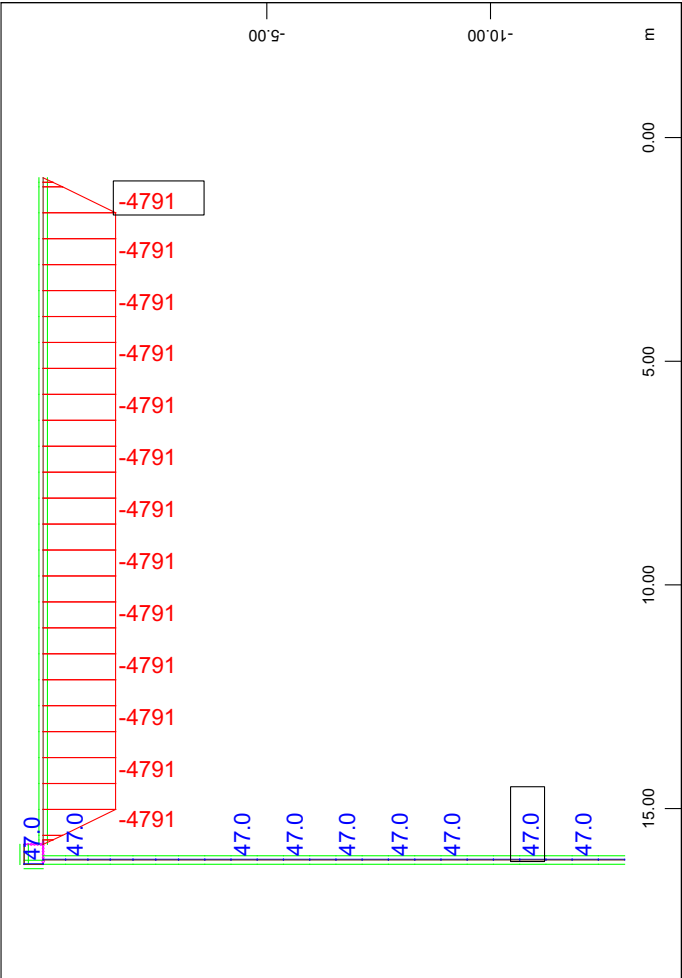
Geometria ponticello
Rappresentazione sollecitazioni elementari



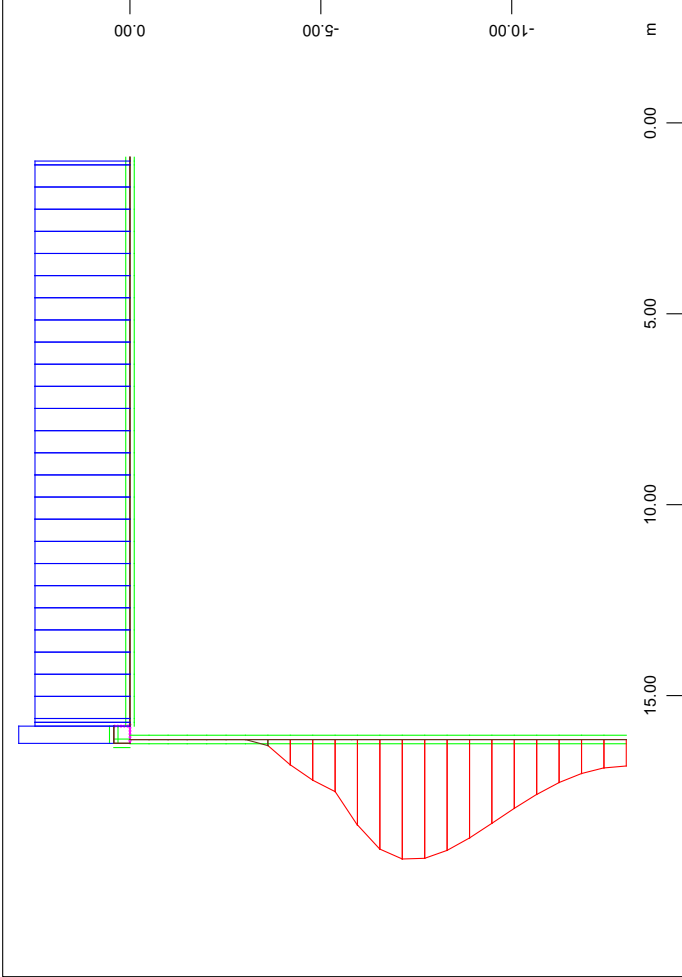
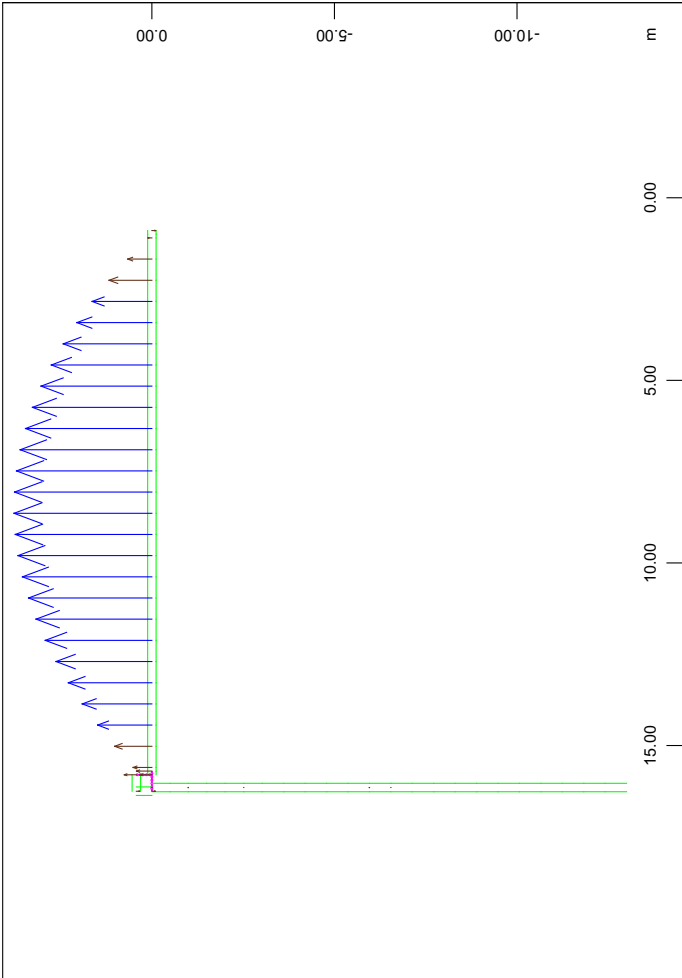
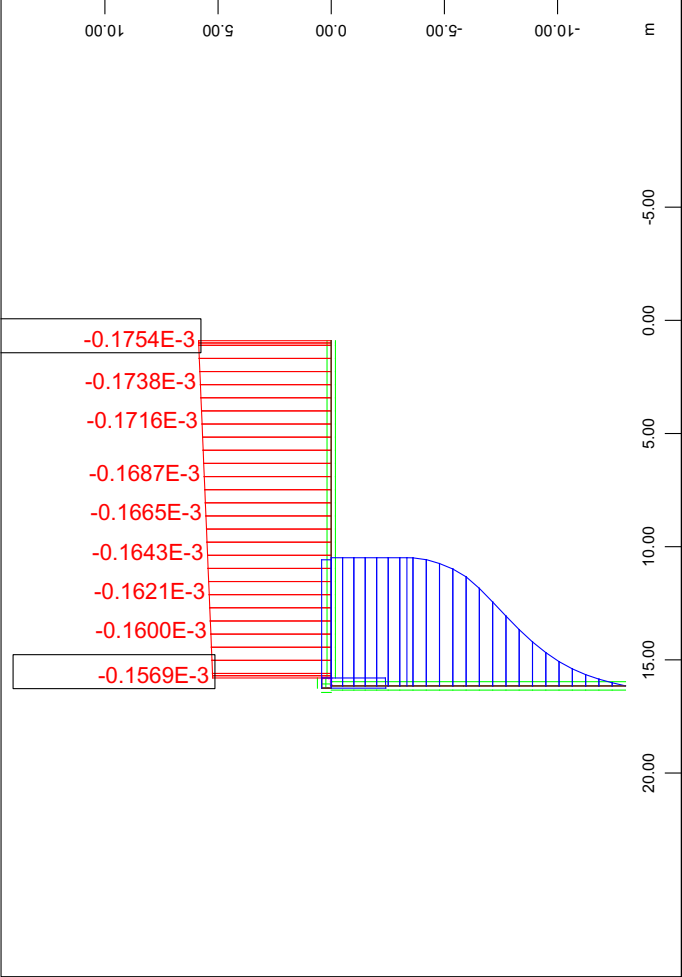
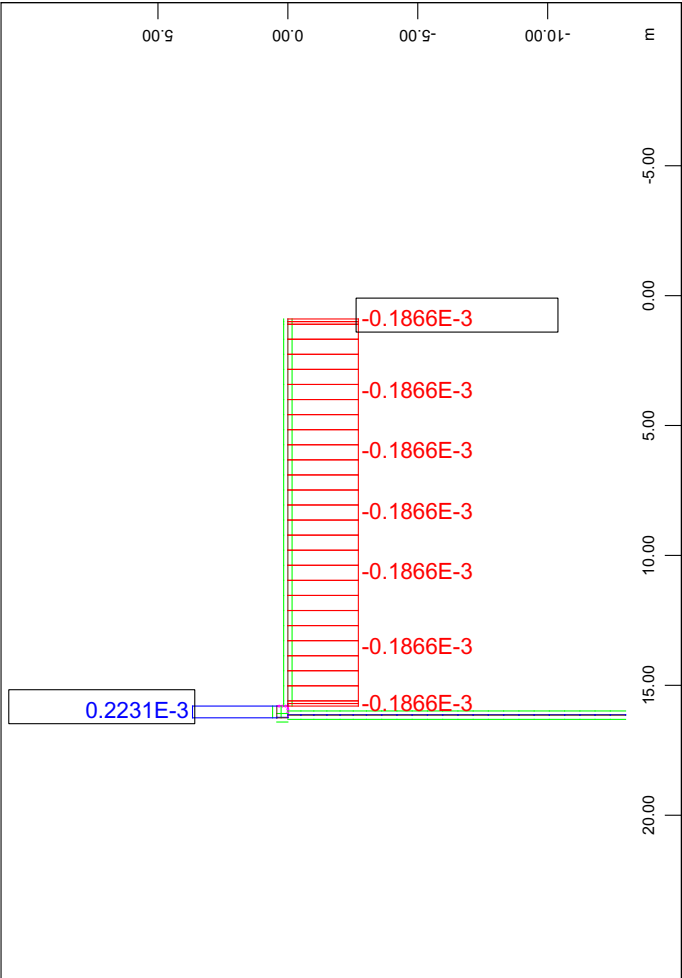
Geometria ponticello
Rappresentazione sollecitazioni elementari



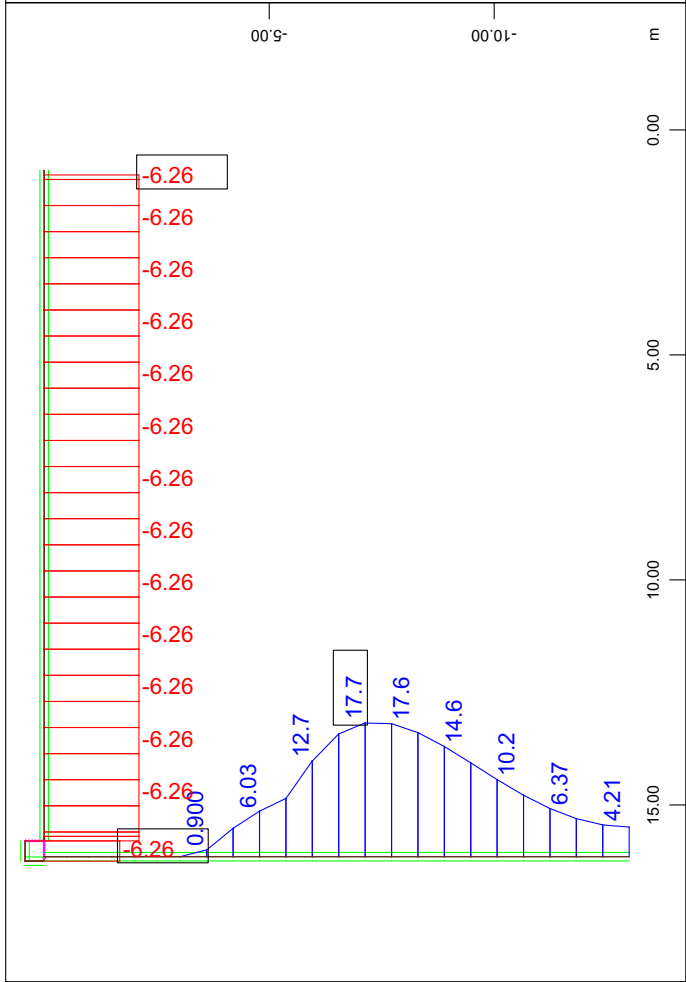
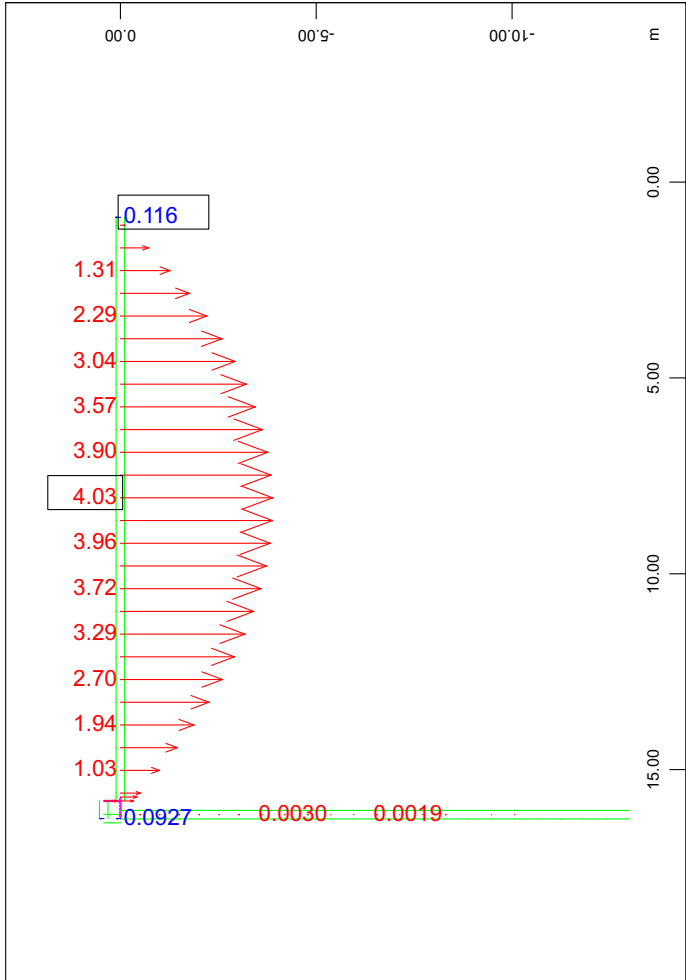
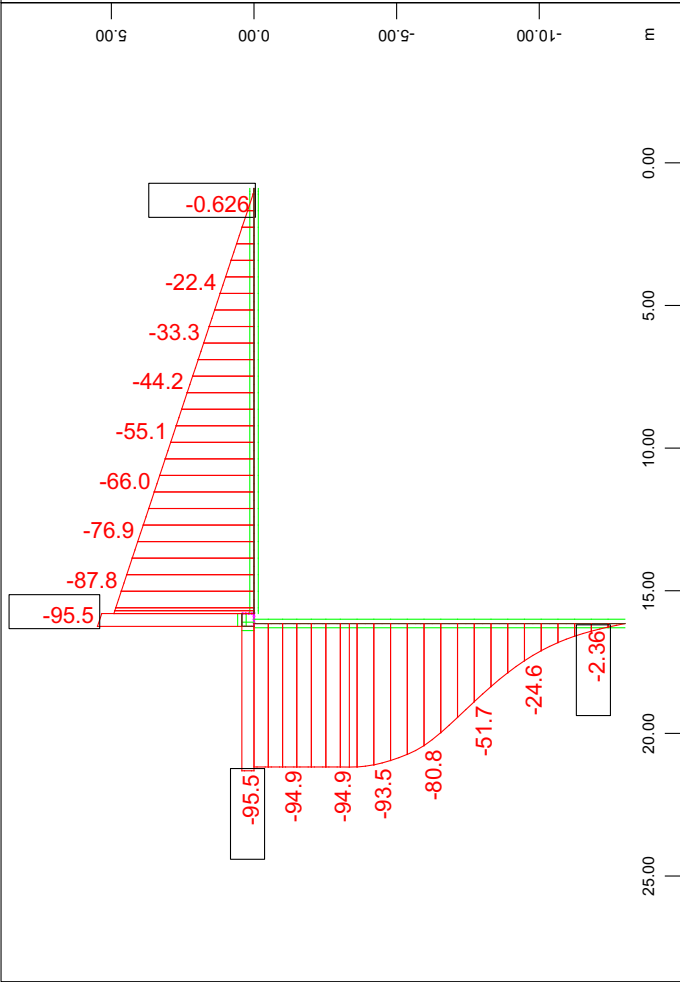
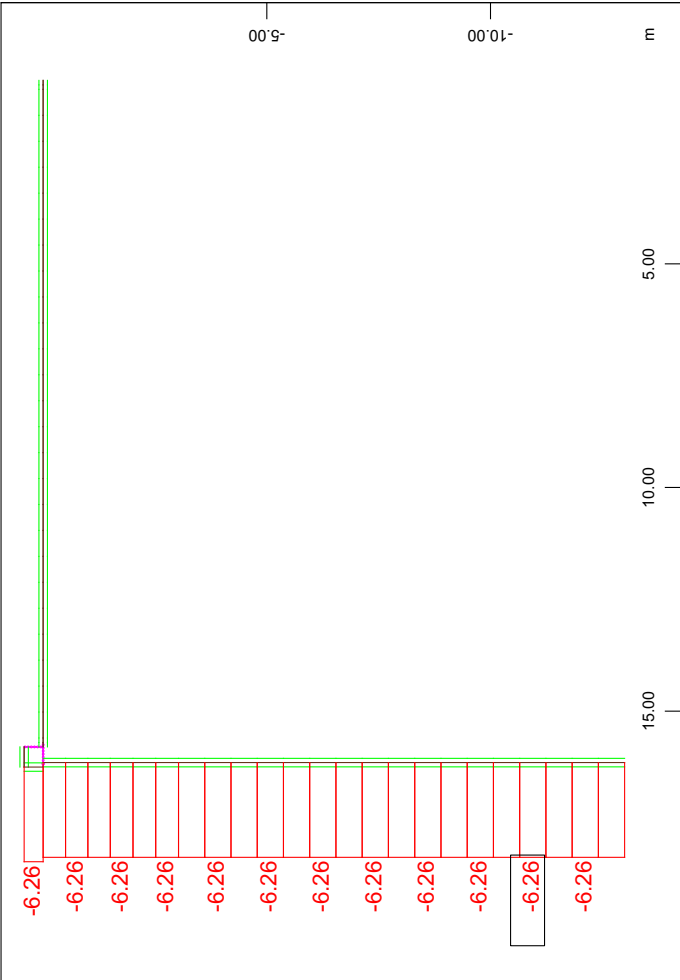
Geometria ponticello
Rappresentazione sollecitazioni elementari



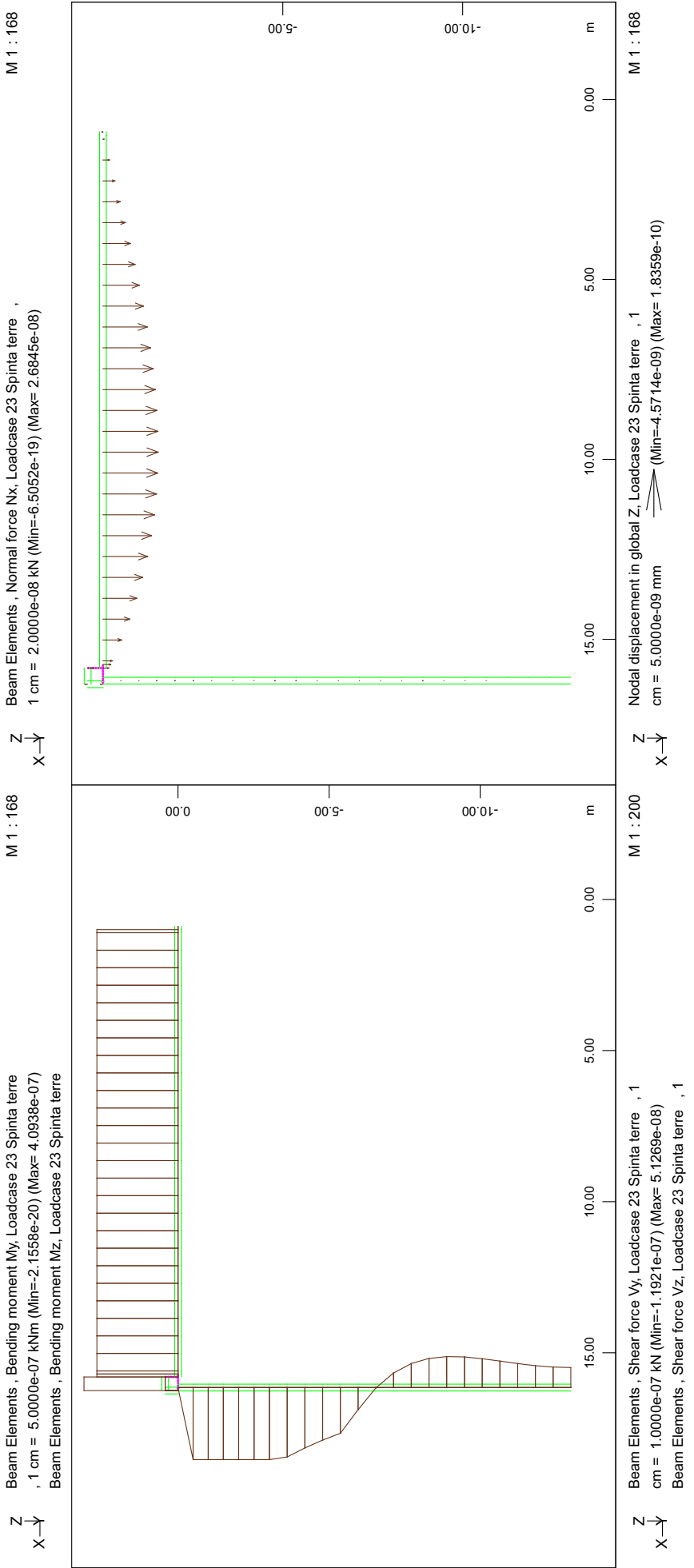
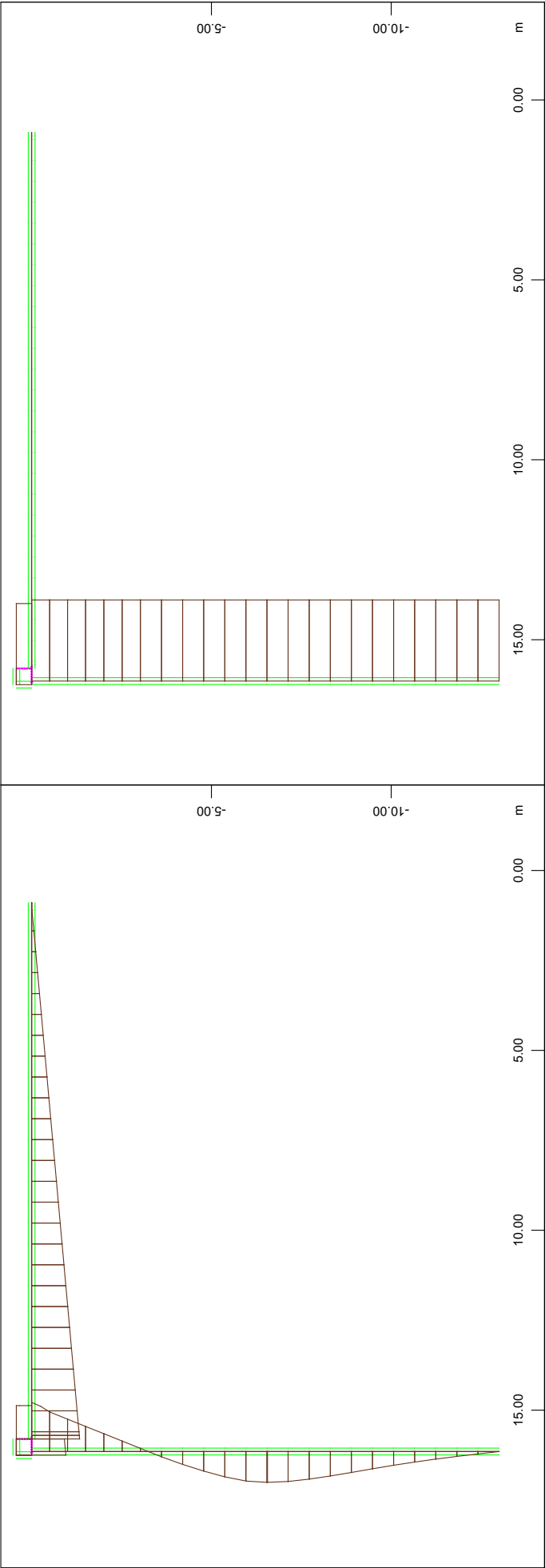
Geometria ponticello
Rappresentazione sollecitazioni elementari



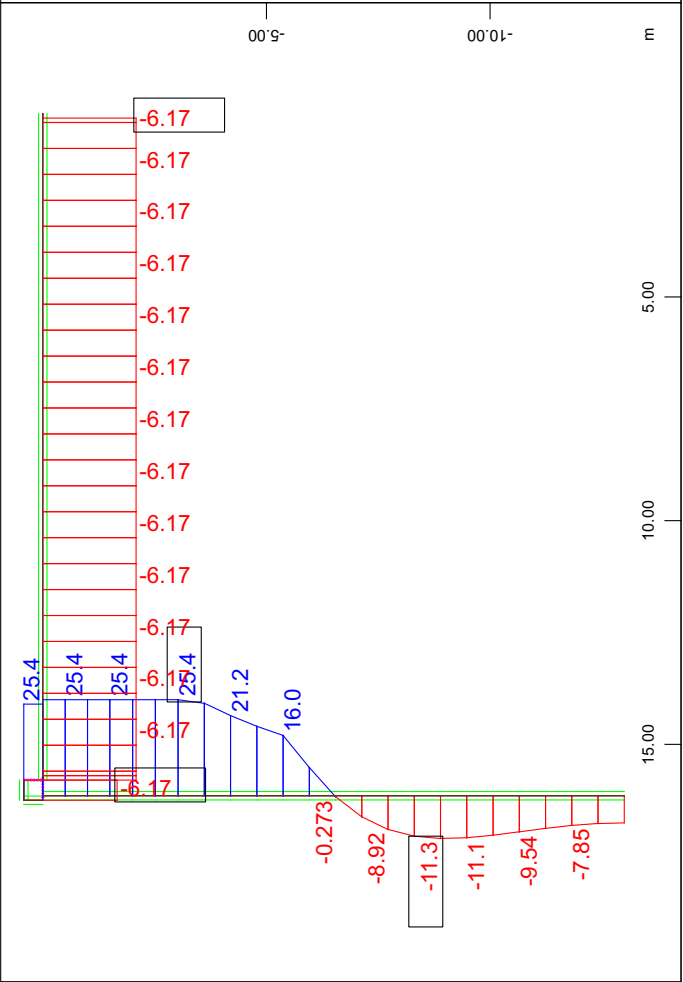
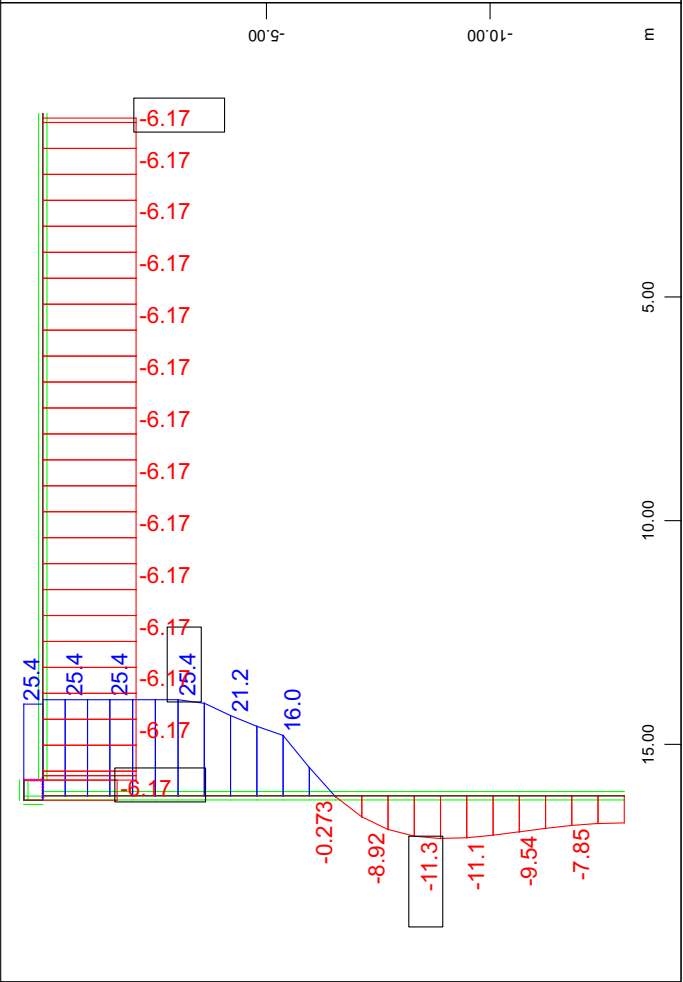
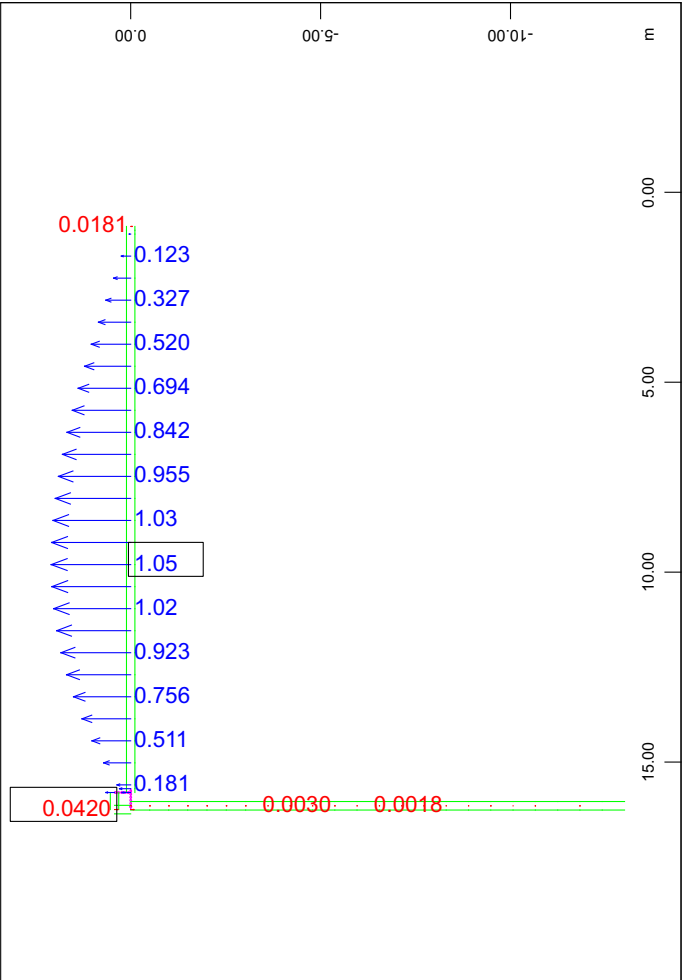
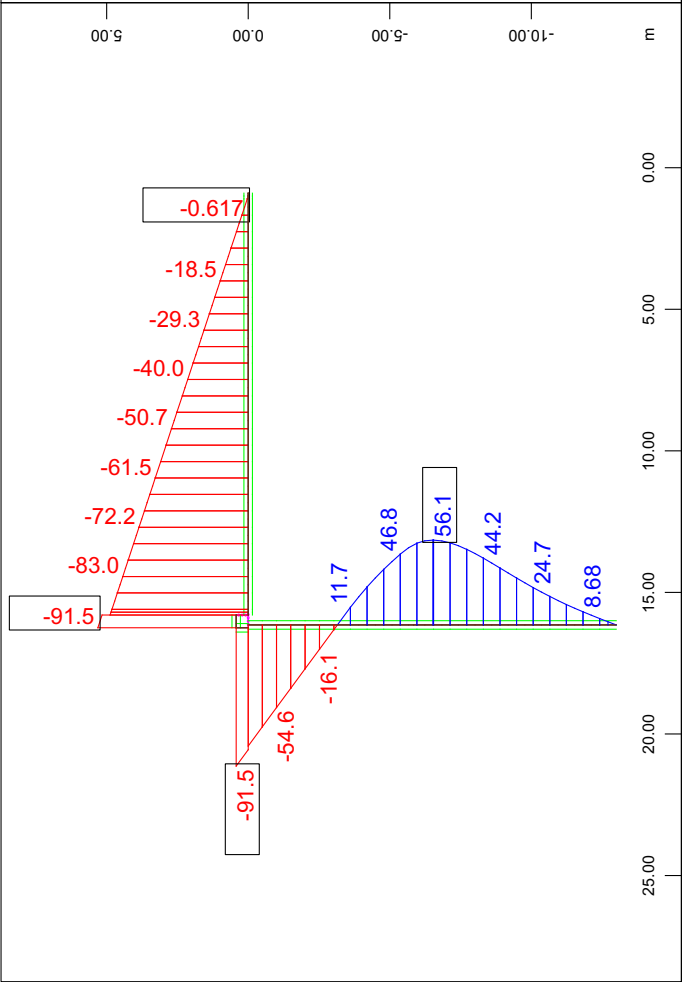
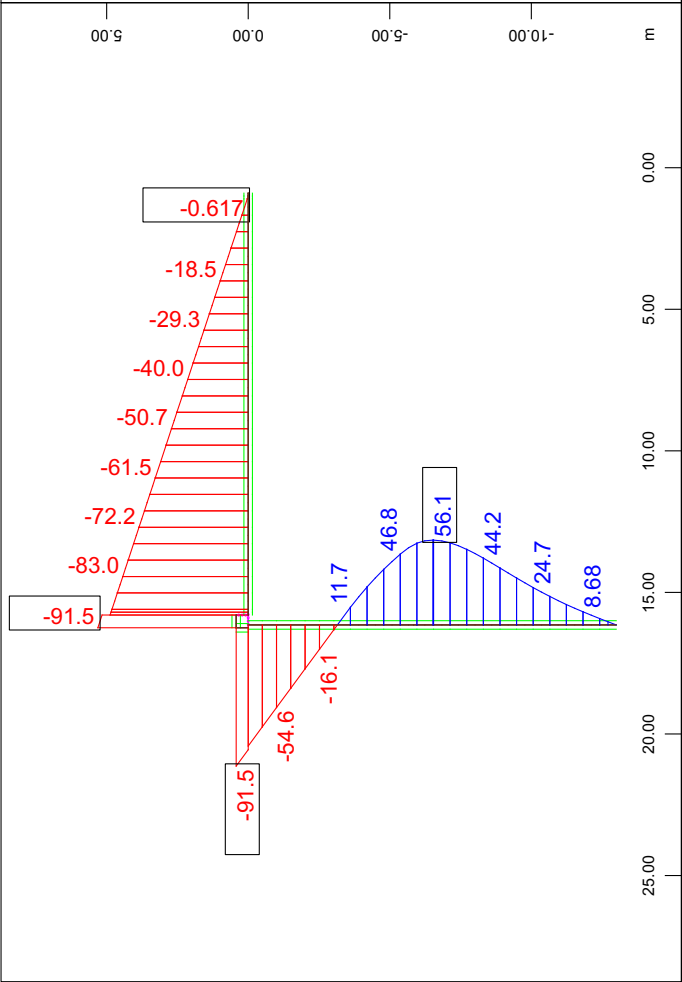
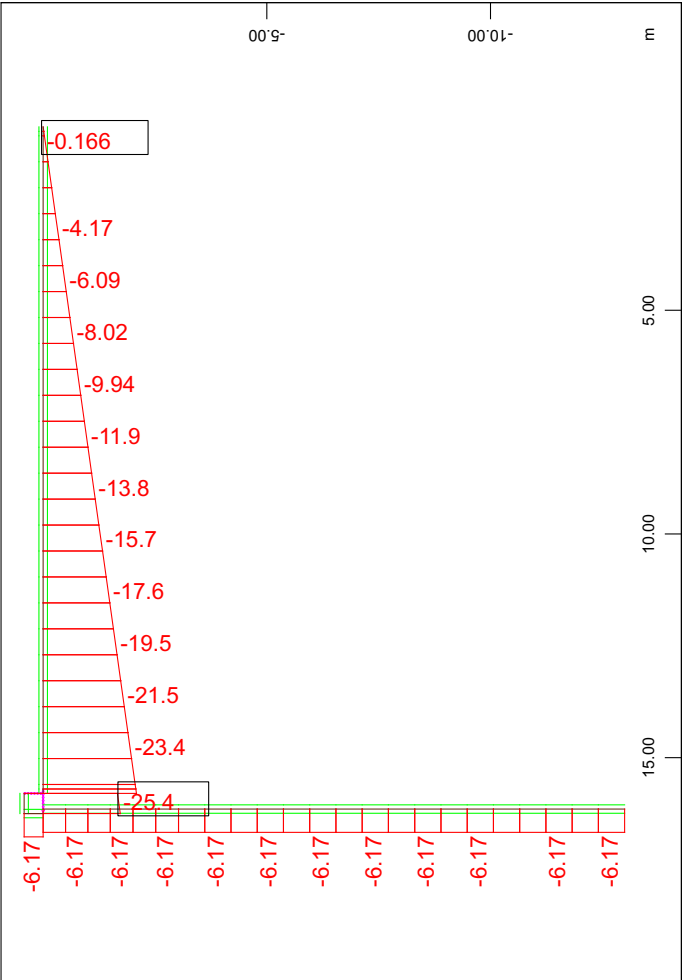
Geometria ponticello
Rappresentazione sollecitazioni elementari



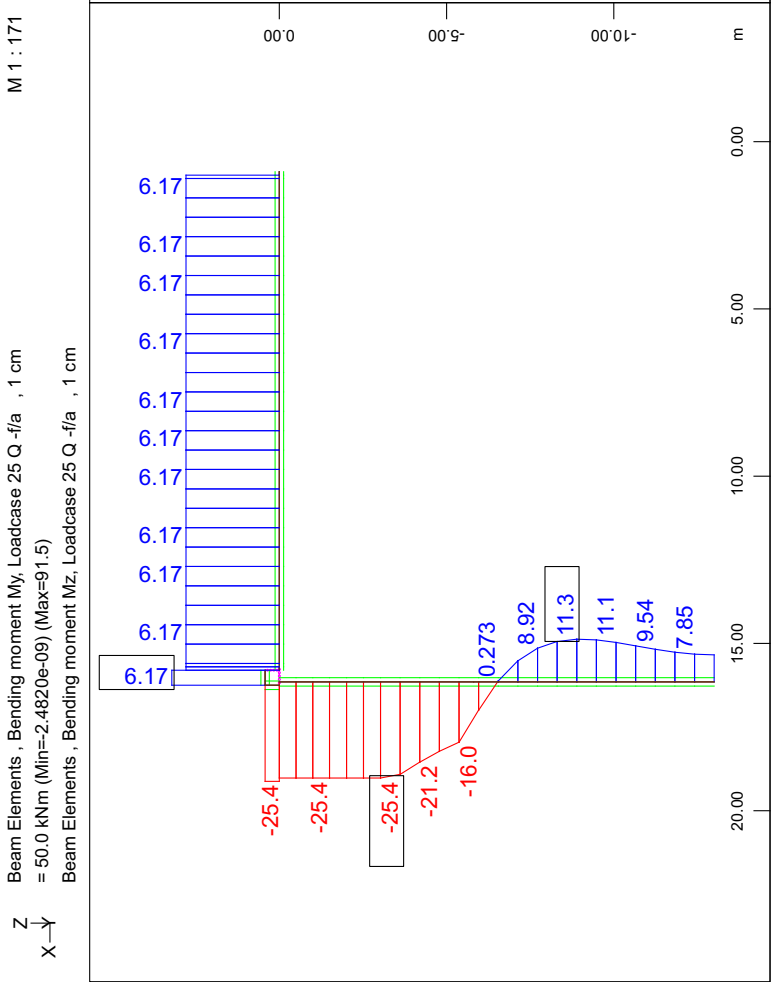
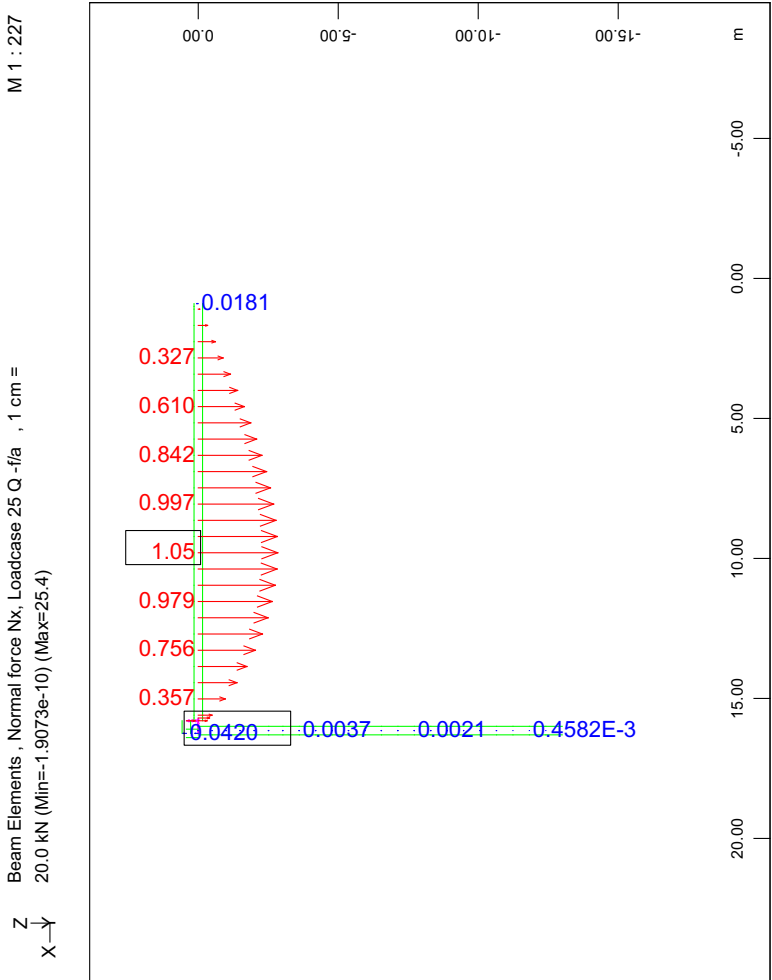
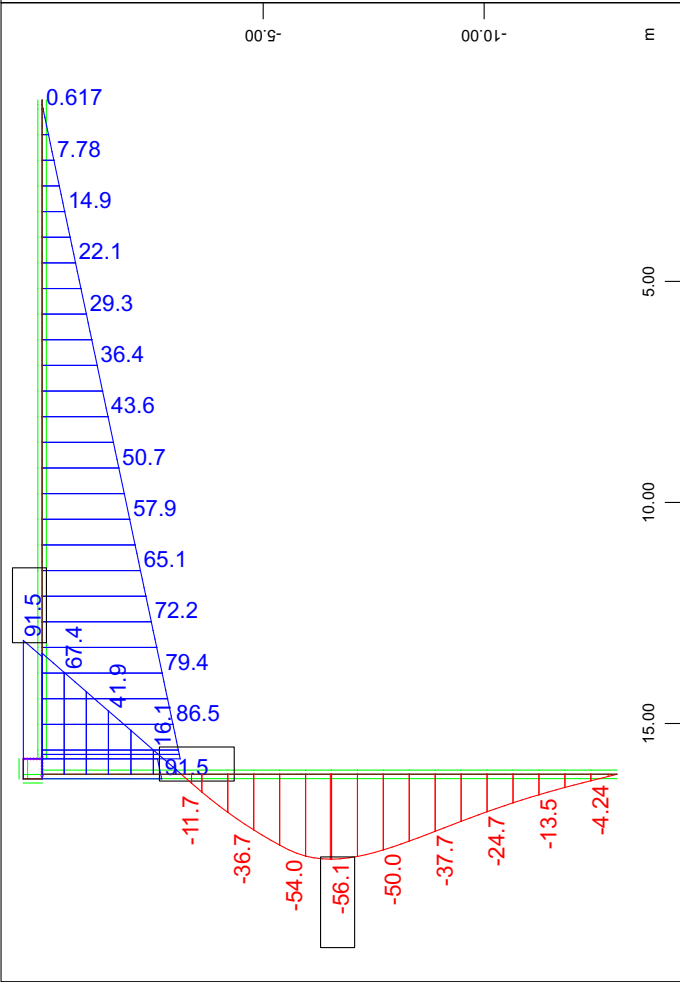
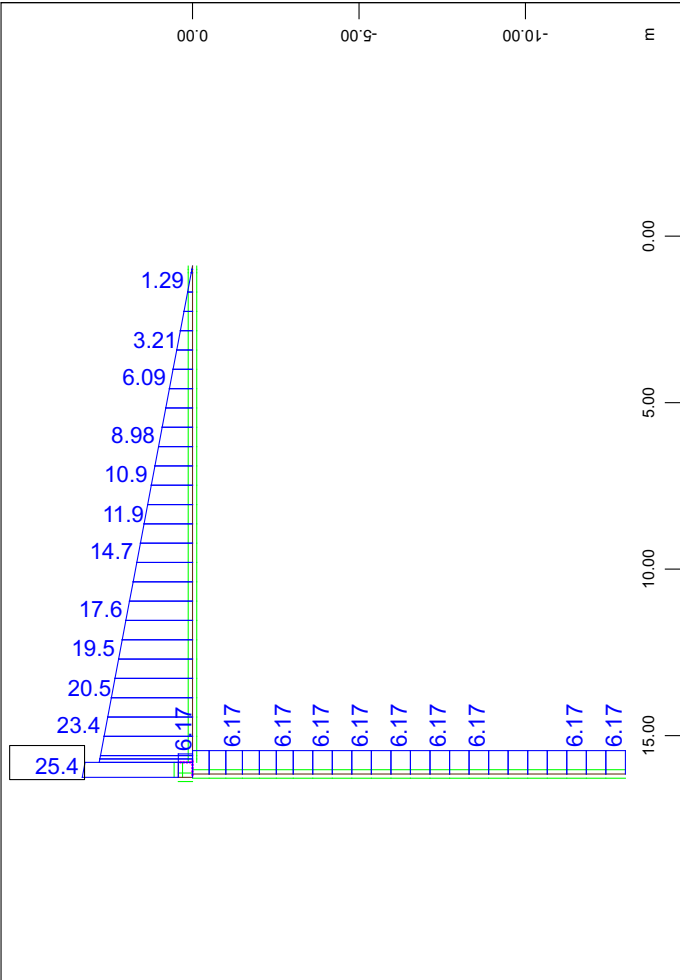
Geometria ponticello
Rappresentazione sollecitazioni elementari



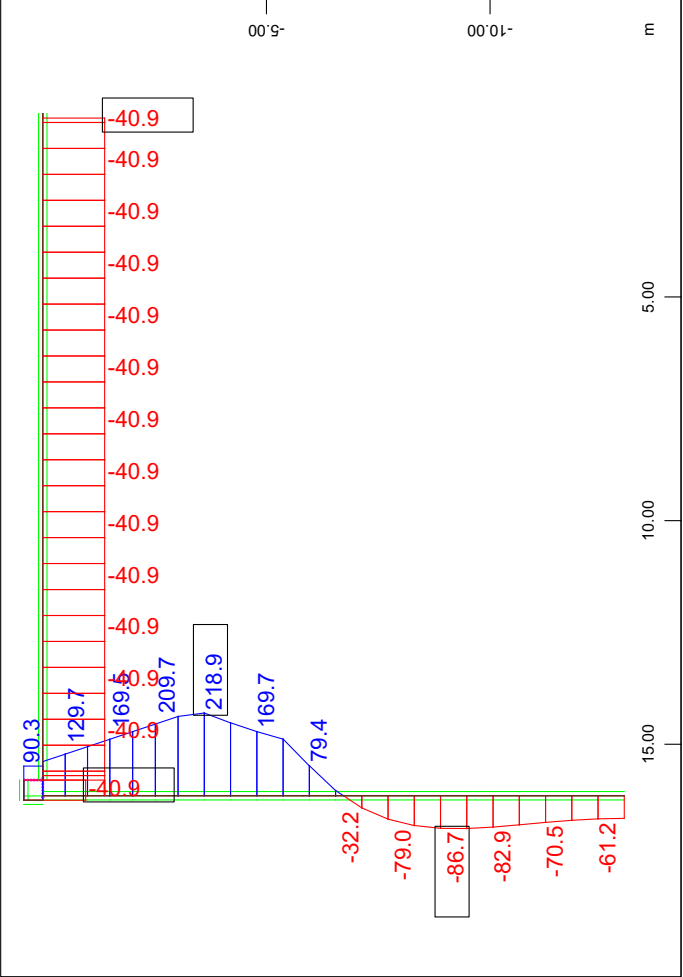
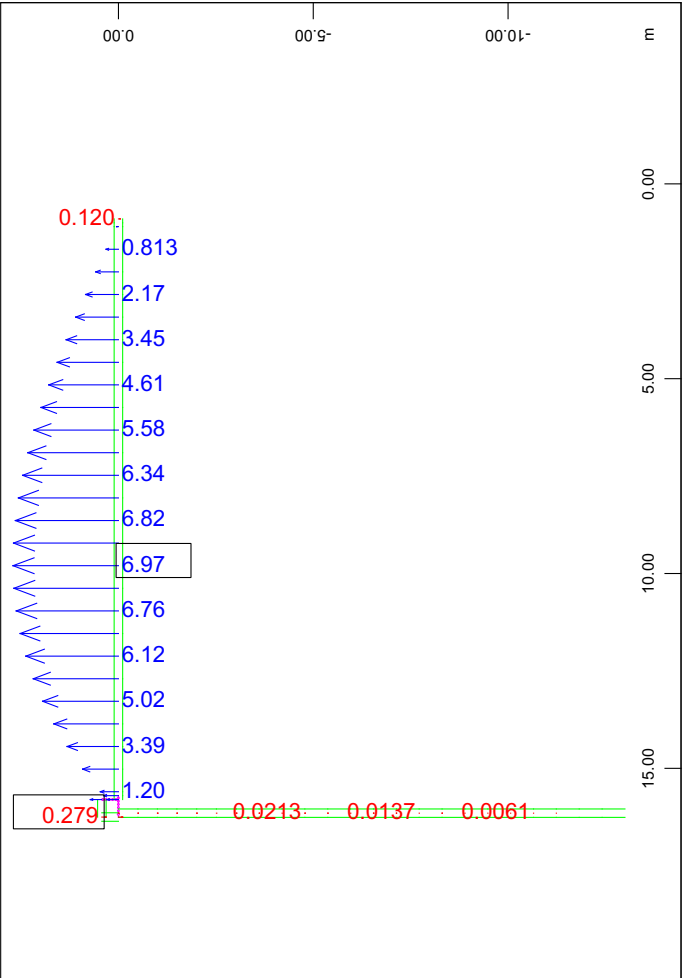
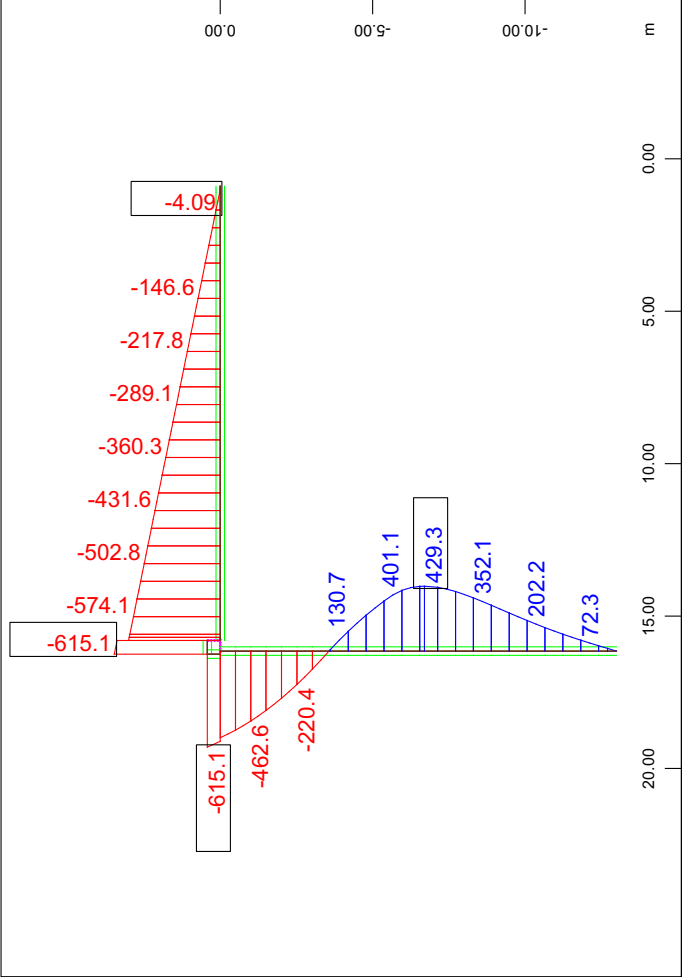
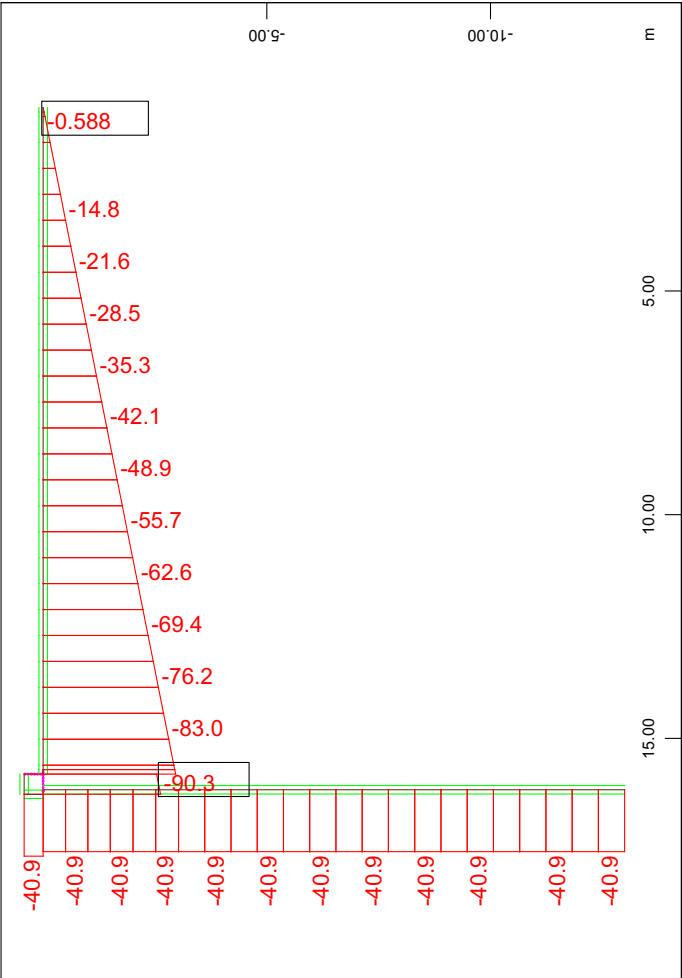
Geometria ponticello
Rappresentazione sollecitazioni elementari



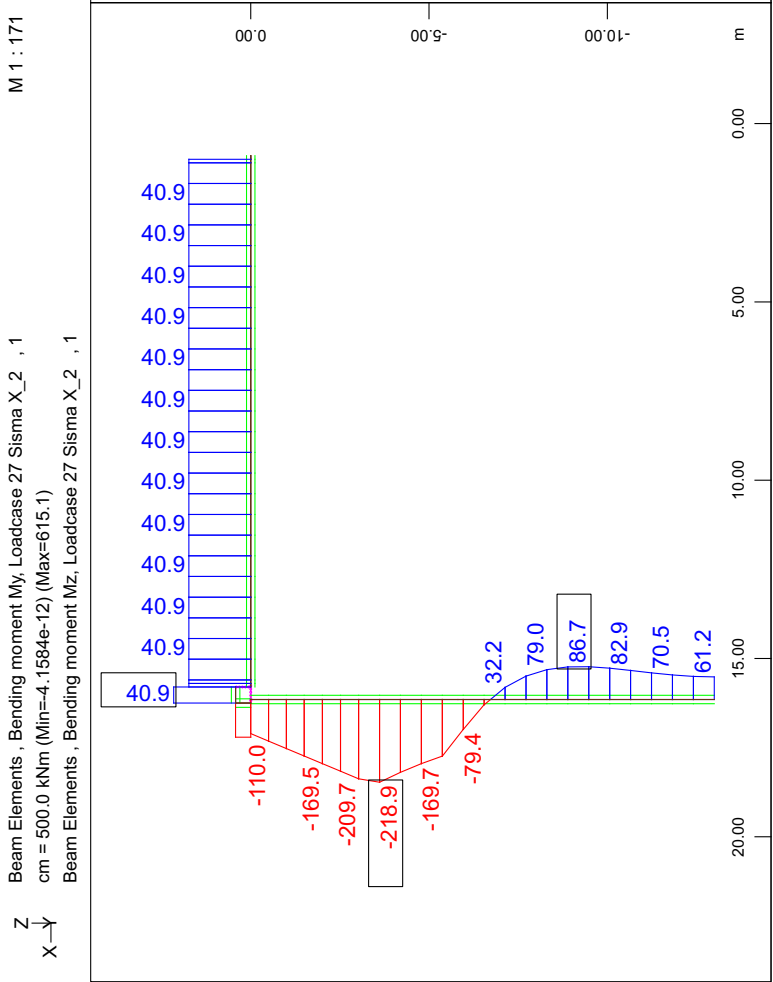
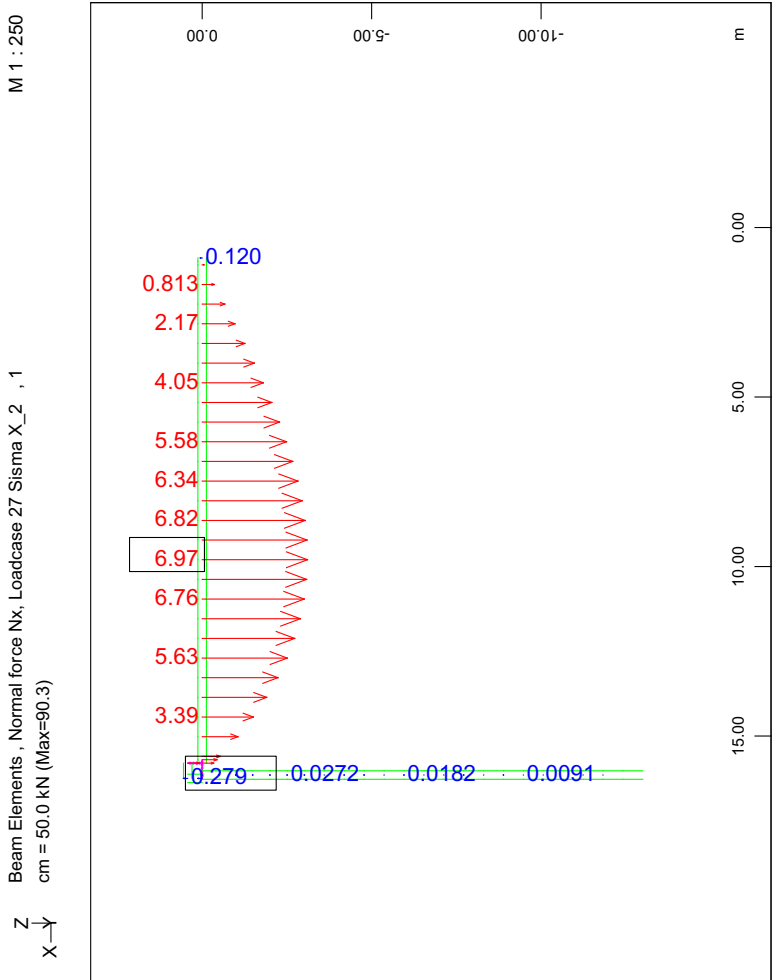
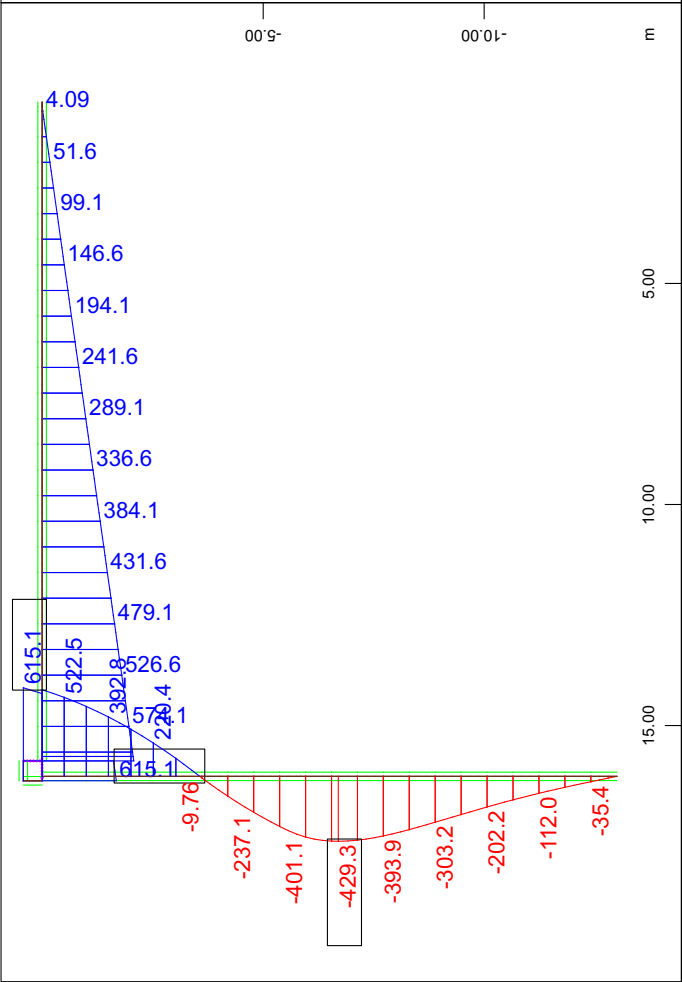
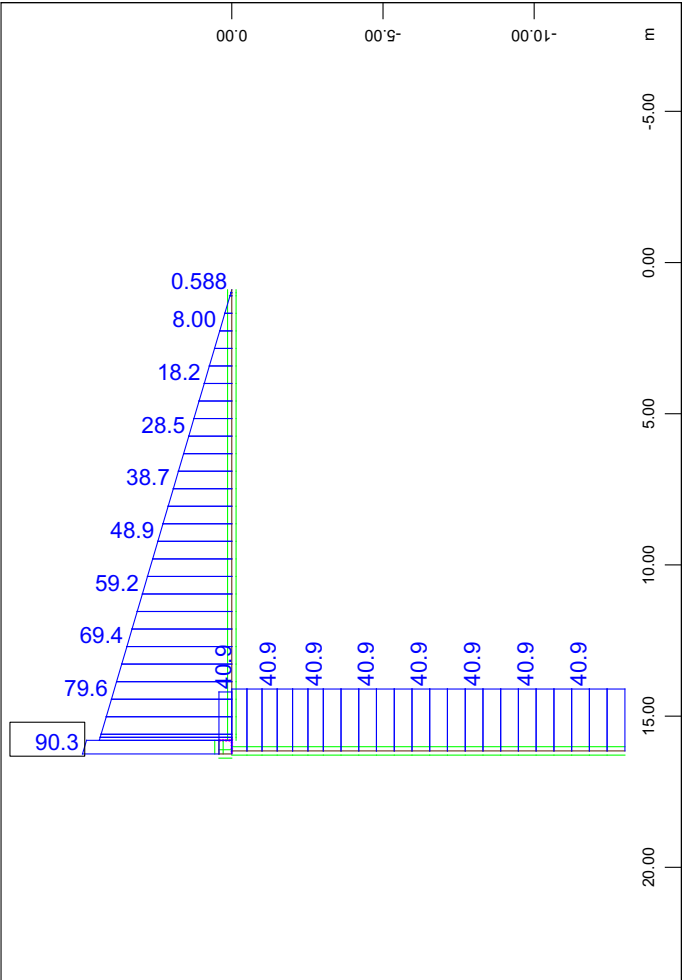
Geometria ponticello
Rappresentazione sollecitazioni elementari



Geometria ponticello
Rappresentazione sollecitazioni elementari

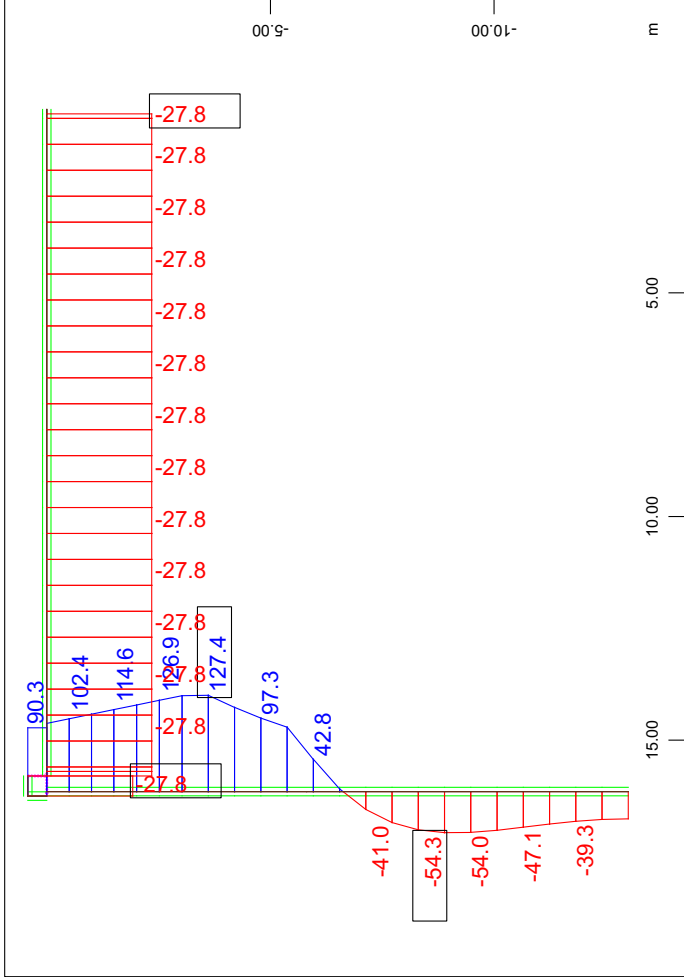
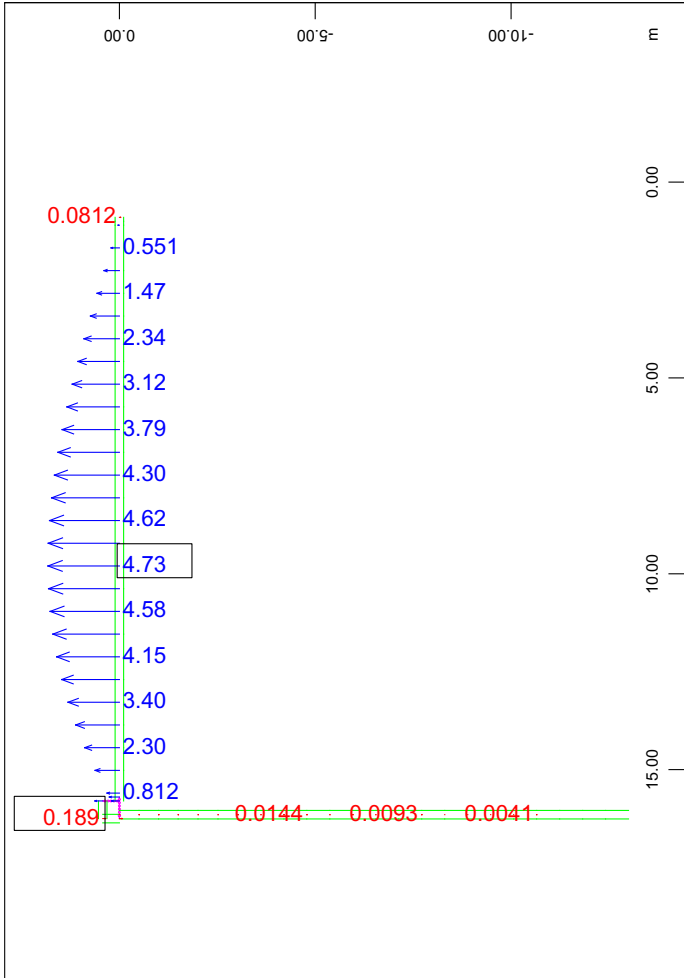
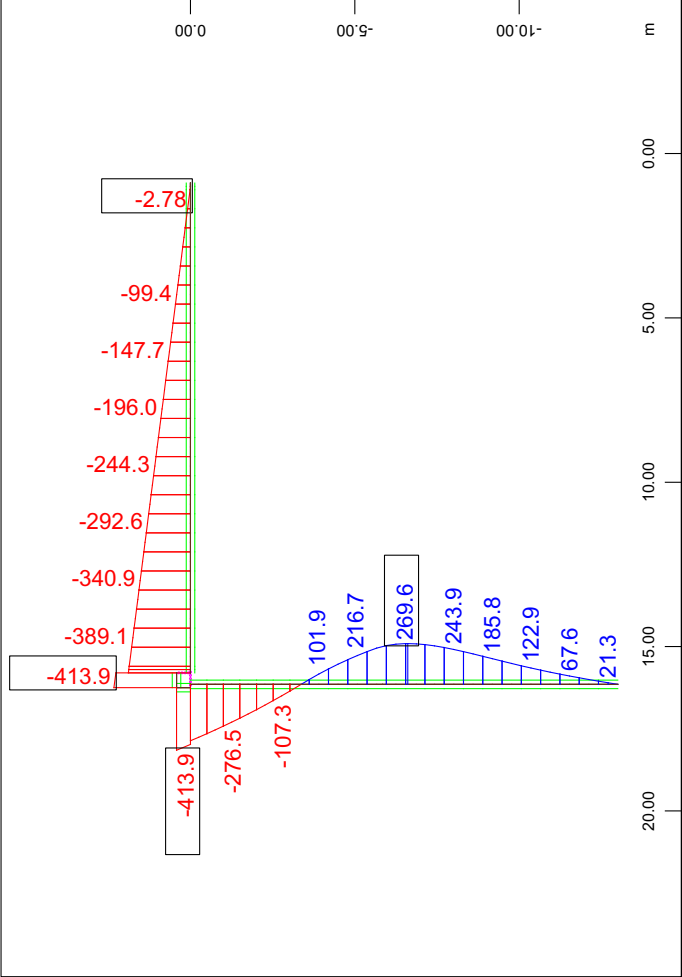
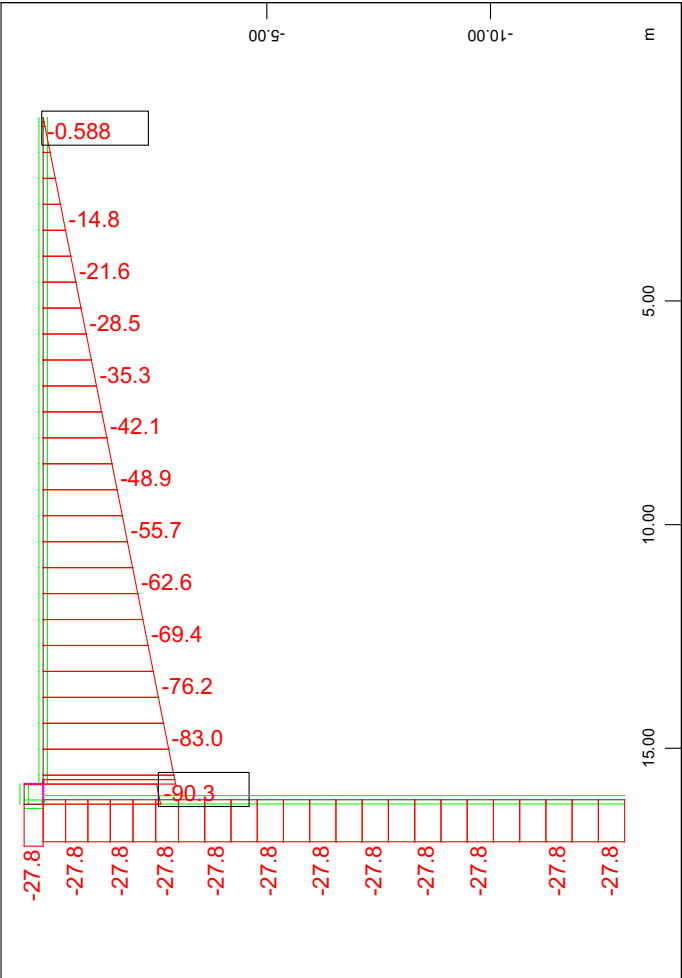


Geometria ponticello
Rappresentazione sollecitazioni elementari

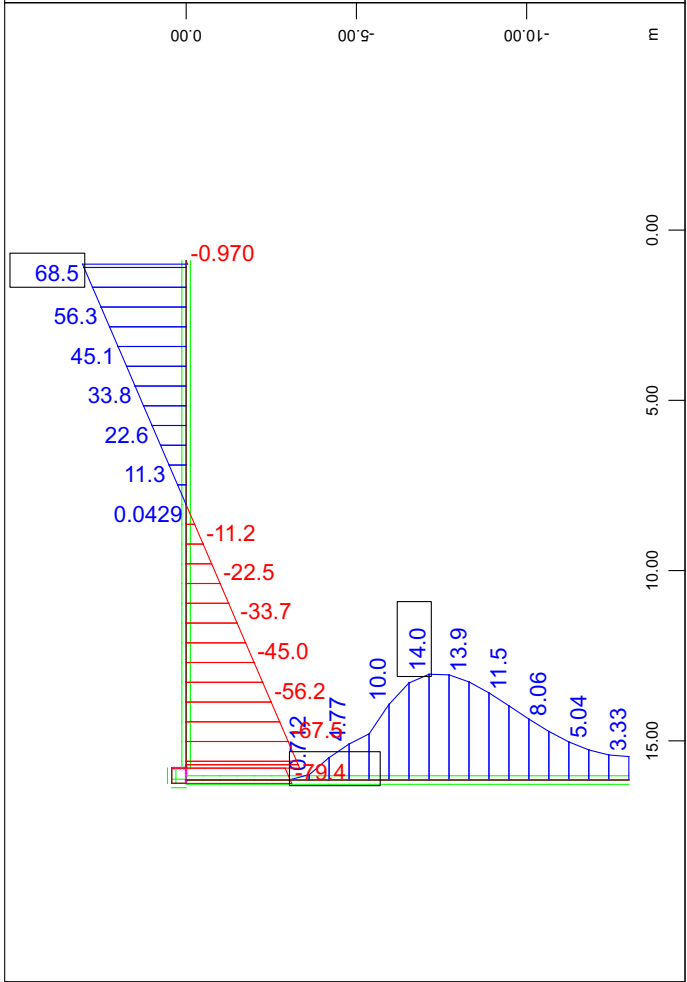
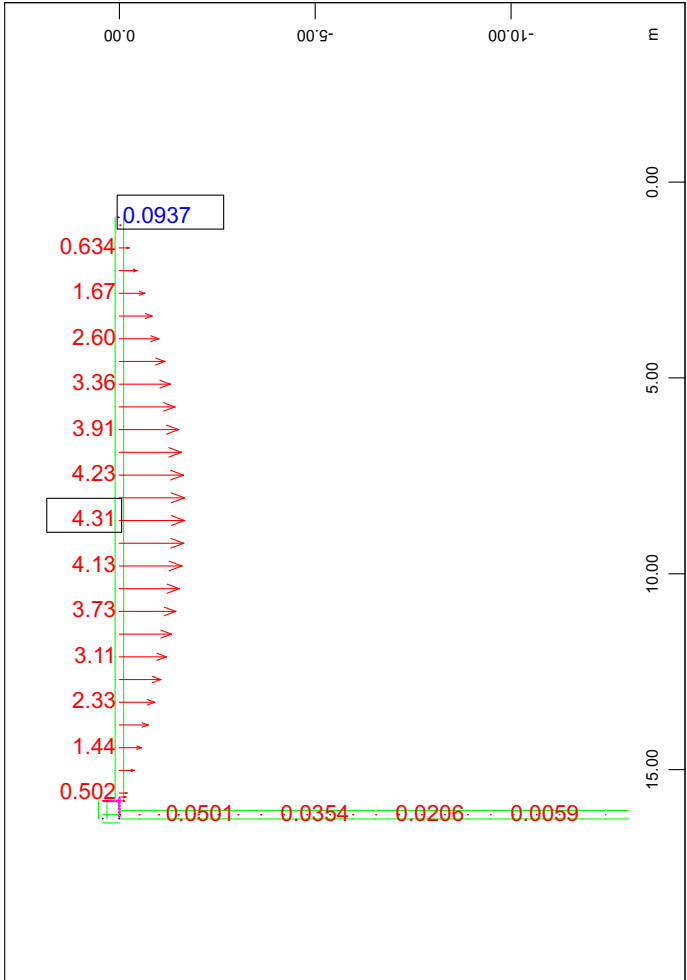
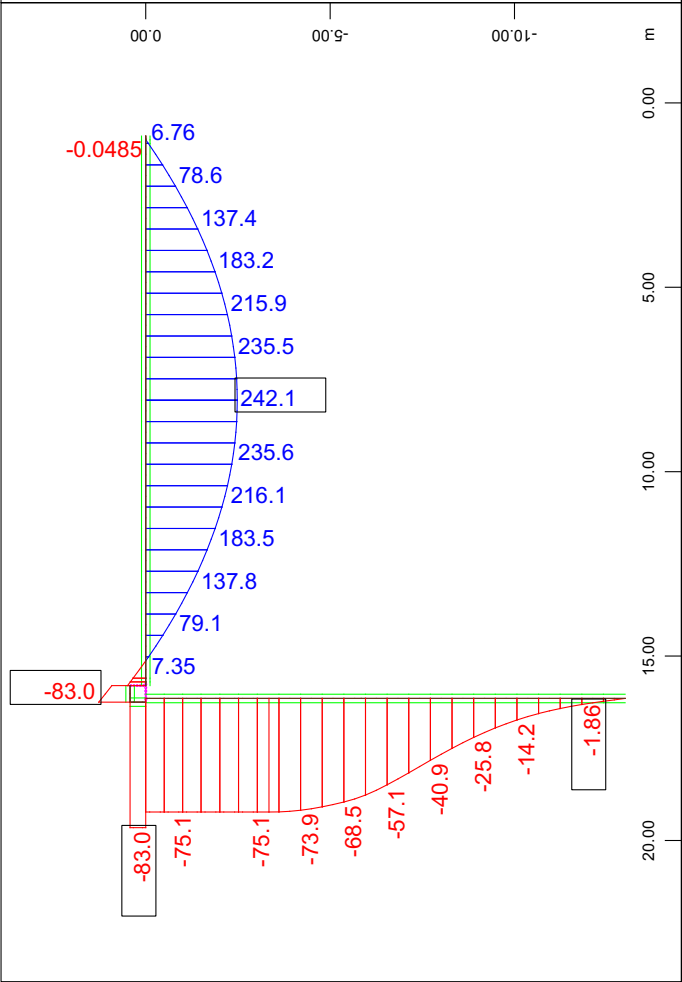
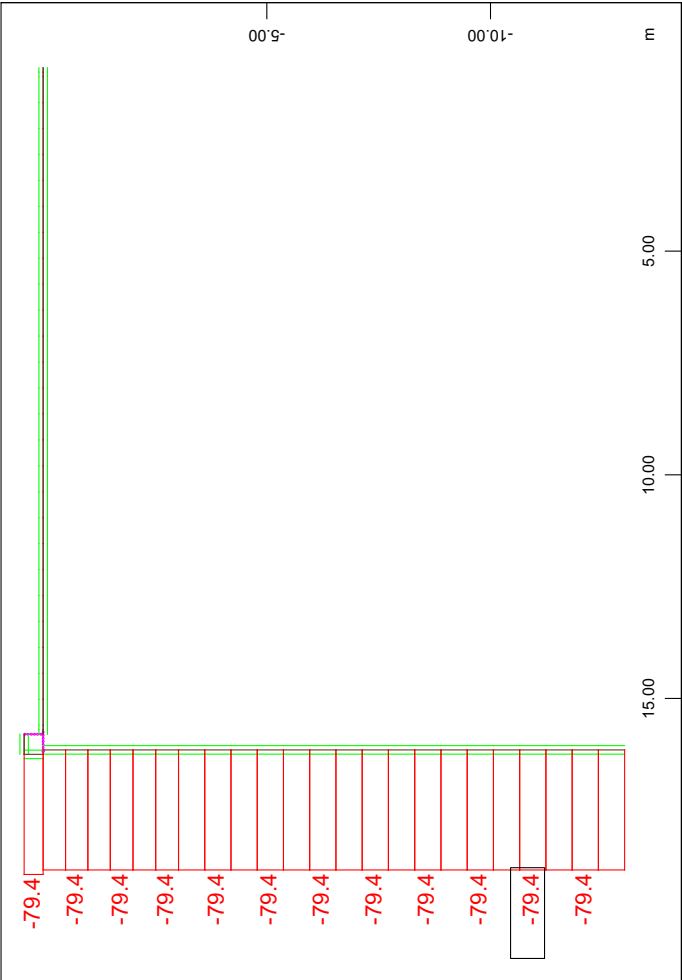


M 1 : 250
M 1 : 223
M 1 : 212
Z
X
Z
X
Z
X

Geometria ponticello
Rappresentazione sollecitazioni elementari



Geometria ponticello
Rappresentazione sollecitazioni elementari



Geometria ponticello
Design Concept

Overview used actions

Type usage
G : taken from the CSM CS table
P : taken from the CSM CS table
C : taken from the CSM CS table
B : taken from the CSM CS table
Q_A : SLS + ULS
Q_B :
Q_C : SLS + ULS
E_X :
T : temperature
.

Superposition and design concept:

In a first presuperposition, the variable actions are combined without GPC (G=dead load, P=prestress, C=creep+shrinkage) in a first separate MAXIMA run.
For the rare action combination RARE the produced max-min forces are stored in a presuperposition KOMB ... TYPE Y_1 ans stored with load case numbers 1141-1152.
Is some codes with LC 1161-1172 an additional combination traffic + wind without temperature is created also TYPE Y_1, LC 1141-1152 then contains temperature without wind.
For wind without traffic a further presuperposition Y_1 is created (e.g. loadcase number 1181-1192).
.
A following Maxima run then creates the final combination RARE with the precombinations Y_1 and the permanent actions GPC (G=dead load, P=prestress, C=C+S.) in loadcase 1121-1132.
.
In the same way precombinations and final MAXIMA combinations for nonfrequent with Y_2 LC 1200ff, frequent with Y_3 LC 1300ff, permanent with Y_4 LC 1400ff and if necessary for Y_9 1900ff with 1.0 psi-values for reaction forces are created.
For design inclusive the load safety factors GAMU the combination DESI (presuperposition Y_D) with LC 2100.ff is created, for a simplified stress range check FATI with LC 2500.ff.
.
These final combinations are used directly for QUAD elements e.g. for a design in BEMESS - LF DESI.
.
Using prestressed or composite sections, the load parts GPC must be assigned to cross section construction stages (netto, ideell). Thus the parts GPC must be defined in AQB separately, e.g. LC 5010 TYPE G_1 CT CS0 REF PART
These LC definitions are summarized in block #include loadca_aqb. The corresponding variable actions are then added with the prepared precombination Y_1 to Y_D , e.g.
COMB MAXR LC1 G LC2 P LC3 C LC4 Y_1 1.0 LCST
.
. For graphical checks the forces and stresses of the
. AQB combinations are stored with COMB LCST. For this the following
. sceme will be used:
.

Overview created loadcases and design numbers

convention loadcase numbering:
1100 = rare combination 1700 = in construction stages
1200 = nonfrequent combination
1300 = frequent combination
1400 = permanent combination 1800 = in construction stages
1900 = 1.0 superposition
2100 = design 2200 = in construction stages
2500 = accidental
2600 = earthquake
2800 = Fatigue LM3 2900 = Fatigue simplified stress range LM1
For WINGRAF-views: MAXIMA superposition results start with MAX or MIN in the loadcase title, 1020-ff have 100 % prestress, 9020-er have 90%
Only for the BEAM-AQB-combinations the LC number is further devided in:
10-th number: 00 = 100 % prestress
70 = 75 % prestress -> loadcase 9000...
90 = 90 % prestress -> loadcase 9000...
10 = 110 % prestress -> loadcase 9000...
20+30 = 90 % prestress fatigue LM1+LM3 -> 9000...
1-th number: 0+1 = maximum/minimum value uncracked design I
5+6 = maximum/minimum value cracked design II
With this convention the following BEAM-AQB-LCST loadcase numbers appear:
.
combination prestress uncracked cracked II
max LC min max LC min
SLS rare Pk,inf 90% 9190 9191 9195 9196

Geometria ponticello
Design Concept

		Pm	100%	1100	1101	1105	1106
		Pk,sub	110%	9110	9111	9115	9116
SLS nonfrequent		Pk,inf	90%	9290	9291	9295	9296
		Pm	100%	1200	1201	1205	1206
		Pk,sub	110%	9210	9211	9215	9216
SLS frequent		Pk,inf	90%	9390	9391	9395	9396
		Pm	100%	1300	1301	1305	1306
		Pk,sub	110%	9310	9311	9315	9316
Fatigue weld+couplings		Pk,inf	75%	9370	9371	9375	9376
stress range LM1		Pk,inf	90%	9320	9321	9325	9326
LM3 midspan		Pk,inf	90%	9330	9331	9335	9336
LM3 innersupports		Pk,inf	90%	9340	9341	9345	9346
SLS permanent		Pk,inf	90%	9490	9491	9495	9496
		Pm	100%	1400	1401	1405	1406
		Pk,sub	110%	9410	9411	9415	9416
. 9000- LC for prestress		ne. 100% !					
ULS	[desi]	Pm	100%	-	-	2105	2106

Geometria ponticello
presuperposition actions without GPC

Superpositioning combinations:
rare, nonf, freq, perm, 1.0*, desi, acci, earq, fatigue
LC 1140, 1240, 1340, 1440, 1940, 2140, 2540, 2640, 2840, 2940
Type=Y_1, Y_2, Y_3, Y_4, Y_9, Y_D, Y_A, Y_E, Y_F, Y_G
.

Superposition according to Decreto Ministeriale per le Costruzioni 2008

Combination rule Number 11
Service: Rare combination
Superposition according to manual MAXIMA formula 4
Resulting loadcases type Y_1

Loadcase selection and Actions										
Act	type	γ-u	γ-f	γ-a	ψ-0	ψ-1	ψ-2			
		LC factor	Type	Type of loadcase		Title				
Q_A	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi V da traffico		
	4	1.00	Exclusive	LC	A80			Q 1		
	5	1.00	Exclusive	LC	A80			Q 1_1		
	6	1.00	Exclusive	LC	A80			Q 2_		
	7	1.00	Exclusive	LC	A80			Q 2_1		
	8	1.00	Exclusive	LC	A80			Q 3_		
	9	1.00	Exclusive	LC	A80			Q 3_1		
	10	1.00	Exclusive	LC	A80			Q 4_		
	11	1.00	Exclusive	LC	A80			Q 4_1		
	12	1.00	Exclusive	LC	A80			Q 5_		
	13	1.00	Exclusive	LC	A80			Q 5_1		
	14	1.00	Exclusive	LC	A80			Q 6_		
	15	1.00	Exclusive	LC	A80			Q 6_1		
	16	1.00	Exclusive	LC	A80			Q 7_		
	17	1.00	Exclusive	LC	A80			Q 7_1		
	18	1.00	Exclusive	LC	A80			Q 8_		
	19	1.00	Exclusive	LC	A80			Q 8_1		
	Q_C	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi di frenatura	
		24	1.00	Exclusive	LC	A81			Q f/a	
25		1.00	Exclusive	LC	A81			Q -f/a		
T	Q	1.20	0.00	1.00	0.60	0.60	0.50	Temperatura		
	21	1.00	UnsignedCond	LC				Variazione uniforme		
	22	1.00	UnsignedCond	LC				Variazione non uniforme		

Combination rule Number 13
Service: Frequent combination
Superposition according to manual MAXIMA formula 5
Resulting loadcases type Y_3

Loadcase selection and Actions										
Act	type	γ-u	γ-f	γ-a	ψ-0	ψ-1	ψ-2			
LC factor		Type	of loadcase		Title					
Q_A	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi V da traffico		
	4	1.00	Exclusive	LC	A80			Q 1		
	5	1.00	Exclusive	LC	A80			Q 1_1		
	6	1.00	Exclusive	LC	A80			Q 2_1		
	7	1.00	Exclusive	LC	A80			Q 2_1		
	8	1.00	Exclusive	LC	A80			Q 3_1		
	9	1.00	Exclusive	LC	A80			Q 3_1		
	10	1.00	Exclusive	LC	A80			Q 4_1		
	11	1.00	Exclusive	LC	A80			Q 4_1		
	12	1.00	Exclusive	LC	A80			Q 5_1		
	13	1.00	Exclusive	LC	A80			Q 5_1		
	14	1.00	Exclusive	LC	A80			Q 6_1		
	15	1.00	Exclusive	LC	A80			Q 6_1		
	16	1.00	Exclusive	LC	A80			Q 7_1		
	17	1.00	Exclusive	LC	A80			Q 7_1		
	18	1.00	Exclusive	LC	A80			Q 8_1		
	19	1.00	Exclusive	LC	A80			Q 8_1		
	Q_C	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi di frenatura	
		24	1.00	Exclusive	LC	A81			Q f/a	
25		1.00	Exclusive	LC	A81			Q -f/a		
T	Q	1.20	0.00	1.00	0.60	0.60	0.50	Temperatura		
	21	1.00	UnsignedCond	LC				Variazione uniforme		
	22	1.00	UnsignedCond	LC				Variazione non uniforme		

Combination rule Number 14
Service: Permanent combination
Superposition according to manual MAXIMA formula 7
Resulting loadcases type Y_4

Geometria ponticello
presuperposition actions without GPC

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
		LC factor	Type of loadcase					
Q_A	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi V da traffico
	4	1.00	Exclusive	LC	A80			Q 1
	5	1.00	Exclusive	LC	A80			Q 1_1
	6	1.00	Exclusive	LC	A80			Q 2
	7	1.00	Exclusive	LC	A80			Q 2_1
	8	1.00	Exclusive	LC	A80			Q 3
	9	1.00	Exclusive	LC	A80			Q 3_1
	10	1.00	Exclusive	LC	A80			Q 4
	11	1.00	Exclusive	LC	A80			Q 4_1
	12	1.00	Exclusive	LC	A80			Q 5
	13	1.00	Exclusive	LC	A80			Q 5_1
	14	1.00	Exclusive	LC	A80			Q 6
	15	1.00	Exclusive	LC	A80			Q 6_1
	16	1.00	Exclusive	LC	A80			Q 7
	17	1.00	Exclusive	LC	A80			Q 7_1
	18	1.00	Exclusive	LC	A80			Q 8
	19	1.00	Exclusive	LC	A80			Q 8_1
Q_C	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi di frenatura
	24	1.00	Exclusive	LC	A81			Q f/a
	25	1.00	Exclusive	LC	A81			Q -f/a
T	Q	1.20	0.00	1.00	0.60	0.60	0.50	Temperatura
	21	1.00	UnsignedCond	LC				Variazione uniforme
	22	1.00	UnsignedCond	LC				Variazione non uniforme

Combination rule Number 19

Service: Rare combination

Superposition according to manual MAXIMA formula 4

Resulting loadcases type Y_9

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
		LC factor	Type of loadcase					
Q_A	Q	1.00	0.00	1.00	1.00	1.00	1.00	Carichi V da traffico
	4	1.00	Exclusive	LC	A51			Q 1
	5	1.00	Exclusive	LC	A51			Q 1_1
	6	1.00	Exclusive	LC	A51			Q 2
	7	1.00	Exclusive	LC	A51			Q 2_1
	8	1.00	Exclusive	LC	A51			Q 3
	9	1.00	Exclusive	LC	A51			Q 3_1
	10	1.00	Exclusive	LC	A51			Q 4
	11	1.00	Exclusive	LC	A51			Q 4_1
	12	1.00	Exclusive	LC	A51			Q 5
	13	1.00	Exclusive	LC	A51			Q 5_1
	14	1.00	Exclusive	LC	A51			Q 6
	15	1.00	Exclusive	LC	A51			Q 6_1
	16	1.00	Exclusive	LC	A51			Q 7
	17	1.00	Exclusive	LC	A51			Q 7_1
	18	1.00	Exclusive	LC	A51			Q 8
	19	1.00	Exclusive	LC	A51			Q 8_1
Q_C	Q	1.00	0.00	1.00	1.00	1.00	1.00	Carichi di frenatura
	24	1.00	Exclusive	LC	X53			Q f/a
	25	1.00	Exclusive	LC	X53			Q -f/a
T	Q	1.00	0.00	1.00	1.00	1.00	1.00	Temperatura
	21	1.00	UnsignedCond	LC				Variazione uniforme
	22	1.00	UnsignedCond	LC				Variazione non uniforme

Combination rule Number 21

Ultimate Design combination

Superposition according to manual MAXIMA formula 1

Resulting loadcases type Y_D

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
		LC factor	Type of loadcase					
Q_A	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi V da traffico
	4	1.00	Exclusive	LC	A80			Q 1
	5	1.00	Exclusive	LC	A80			Q 1_1
	6	1.00	Exclusive	LC	A80			Q 2
	7	1.00	Exclusive	LC	A80			Q 2_1
	8	1.00	Exclusive	LC	A80			Q 3
	9	1.00	Exclusive	LC	A80			Q 3_1
	10	1.00	Exclusive	LC	A80			Q 4
	11	1.00	Exclusive	LC	A80			Q 4_1
	12	1.00	Exclusive	LC	A80			Q 5
	13	1.00	Exclusive	LC	A80			Q 5_1

Geometria ponticello
presuperposition actions without GPC

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
		LC factor	Type of loadcase					
	14	1.00	Exclusive	LC	A80		Q 6	
	15	1.00	Exclusive	LC	A80		Q 6_1	
	16	1.00	Exclusive	LC	A80		Q 7	
	17	1.00	Exclusive	LC	A80		Q 7_1	
	18	1.00	Exclusive	LC	A80		Q 8	
	19	1.00	Exclusive	LC	A80		Q 8_1	
Q_C	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi di frenatura
	24	1.00	Exclusive	LC	A81		Q f/a	
	25	1.00	Exclusive	LC	A81		Q -f/a	
T	Q	1.20	0.00	1.00	0.60	0.60	0.50	Temperatura
	21	1.00	UnsignedCond	LC				Variazione uniforme
	22	1.00	UnsignedCond	LC				Variazione non uniforme

Combination rule Number 26

Ultimate Earthquake combin.

Superposition according to manual MAXIMA formula 3
Resulting loadcases type Y_E

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
		LC factor	Type of loadcase					
E_X	E	1.00	1.00	1.00	1.00	1.00	1.00	Sisma
	26	1.00	Exclusive	LC	A10			Sisma X_1
	27	1.00	Exclusive	LC	A10			Sisma X_2
	28	1.00	Exclusive	LC	A10			Sisma X_3
	29	1.00	Exclusive	LC	A10			Sisma X_4
Q_B	Q	1.00	1.00	1.00	1.00	1.00	1.00	Carichi V da traffico sismico
	30	1.00	Exclusive	LC	A80			Qk sismico
T	Q	1.20	0.00	1.00	0.60	0.60	0.50	Temperatura
	21	1.00	UnsignedCond	LC				Variazione uniforme
	22	1.00	UnsignedCond	LC				Variazione non uniforme

Combination rule Number 29

Service: Rare combination

Superposition according to manual MAXIMA formula 4
Resulting loadcases type Y_G

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
		LC factor	Type of loadcase					
Q_A	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi V da traffico
	4	1.00	Exclusive	LC	A80		Q 1	
	5	1.00	Exclusive	LC	A80		Q 1_1	
	6	1.00	Exclusive	LC	A80		Q 2	
	7	1.00	Exclusive	LC	A80		Q 2_1	
	8	1.00	Exclusive	LC	A80		Q 3	
	9	1.00	Exclusive	LC	A80		Q 3_1	
	10	1.00	Exclusive	LC	A80		Q 4	
	11	1.00	Exclusive	LC	A80		Q 4_1	
	12	1.00	Exclusive	LC	A80		Q 5	
	13	1.00	Exclusive	LC	A80		Q 5_1	
	14	1.00	Exclusive	LC	A80		Q 6	
	15	1.00	Exclusive	LC	A80		Q 6_1	
	16	1.00	Exclusive	LC	A80		Q 7	
	17	1.00	Exclusive	LC	A80		Q 7_1	
	18	1.00	Exclusive	LC	A80		Q 8	
	19	1.00	Exclusive	LC	A80		Q 8_1	
Q_C	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi di frenatura
	24	1.00	Exclusive	LC	A81		Q f/a	
	25	1.00	Exclusive	LC	A81		Q -f/a	

Generated Loadcases

Number	Comb	Title
1141	11	MAX-MY BEAM
1142	11	MIN-MY BEAM
1143	11	MAX-VZ BEAM
1144	11	MIN-VZ BEAM
1145	11	MAX-MT BEAM
1146	11	MIN-MT BEAM
1147	11	MAX-N BEAM
1148	11	MIN-N BEAM
1149	11	MAX-MZ BEAM
1150	11	MIN-MZ BEAM
1151	11	MAX-VY BEAM
1152	11	MIN-VY BEAM

Geometria ponticello
presuperposition actions without GPC

Generated Loadcases

Number	Comb	Title	
1141	11	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
1142	11	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
1143	11	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
1144	11	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
1145	11	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
1146	11	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
1147	11	MAX-UX	NODE BEAM--N_SP-PTX_temporary
1148	11	MIN-UX	NODE BEAM--N_SP-PTX_temporary
1149	11	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
1150	11	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
1151	11	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
1152	11	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
1153	11	MAXPHIX	NODE _temporary
1154	11	MINPHIX	NODE _temporary
1155	11	MAXPHIY	NODE _temporary
1156	11	MINPHIY	NODE _temporary
1157	11	MAXPHIZ	NODE _temporary
1158	11	MINPHIZ	NODE _temporary
1341	13	MAX-MY	BEAM
1342	13	MIN-MY	BEAM
1343	13	MAX-VZ	BEAM
1344	13	MIN-VZ	BEAM
1345	13	MAX-MT	BEAM
1346	13	MIN-MT	BEAM
1347	13	MAX-N	BEAM
1348	13	MIN-N	BEAM
1349	13	MAX-MZ	BEAM
1350	13	MIN-MZ	BEAM
1351	13	MAX-VY	BEAM
1352	13	MIN-VY	BEAM
1341	13	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
1342	13	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
1343	13	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
1344	13	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
1345	13	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
1346	13	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
1347	13	MAX-UX	NODE BEAM--N_SP-PTX_temporary
1348	13	MIN-UX	NODE BEAM--N_SP-PTX_temporary
1349	13	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
1350	13	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
1351	13	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
1352	13	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
1353	13	MAXPHIX	NODE _temporary
1354	13	MINPHIX	NODE _temporary
1355	13	MAXPHIY	NODE _temporary
1356	13	MINPHIY	NODE _temporary
1357	13	MAXPHIZ	NODE _temporary
1358	13	MINPHIZ	NODE _temporary
1441	14	MAX-MY	BEAM
1442	14	MIN-MY	BEAM
1443	14	MAX-VZ	BEAM
1444	14	MIN-VZ	BEAM
1445	14	MAX-MT	BEAM
1446	14	MIN-MT	BEAM
1447	14	MAX-N	BEAM
1448	14	MIN-N	BEAM
1449	14	MAX-MZ	BEAM
1450	14	MIN-MZ	BEAM
1451	14	MAX-VY	BEAM
1452	14	MIN-VY	BEAM
1441	14	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
1442	14	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
1443	14	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
1444	14	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
1445	14	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
1446	14	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
1447	14	MAX-UX	NODE BEAM--N_SP-PTX_temporary
1448	14	MIN-UX	NODE BEAM--N_SP-PTX_temporary
1449	14	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
1450	14	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
1451	14	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
1452	14	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
1453	14	MAXPHIX	NODE _temporary
1454	14	MINPHIX	NODE _temporary
1455	14	MAXPHIY	NODE _temporary
1456	14	MINPHIY	NODE _temporary
1457	14	MAXPHIZ	NODE _temporary
1458	14	MINPHIZ	NODE _temporary



Geometria ponticello
presuperposition actions without GPC

Generated Loadcases

Number	Comb	Title	
1941	19	MAX-MY	BEAM
1942	19	MIN-MY	BEAM
1943	19	MAX-VZ	BEAM
1944	19	MIN-VZ	BEAM
1945	19	MAX-MT	BEAM
1946	19	MIN-MT	BEAM
1947	19	MAX-N	BEAM
1948	19	MIN-N	BEAM
1949	19	MAX-MZ	BEAM
1950	19	MIN-MZ	BEAM
1951	19	MAX-VY	BEAM
1952	19	MIN-VY	BEAM
1941	19	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
1942	19	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
1943	19	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
1944	19	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
1945	19	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
1946	19	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
1947	19	MAX-UX	NODE BEAM--N_SP-PTX_temporary
1948	19	MIN-UX	NODE BEAM--N_SP-PTX_temporary
1949	19	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
1950	19	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
1951	19	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
1952	19	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
1953	19	MAXPHIX	NODE _temporary
1954	19	MINPHIX	NODE _temporary
1955	19	MAXPHIY	NODE _temporary
1956	19	MINPHIY	NODE _temporary
1957	19	MAXPHIZ	NODE _temporary
1958	19	MINPHIZ	NODE _temporary
2141	21	MAX-MY	BEAM
2142	21	MIN-MY	BEAM
2143	21	MAX-VZ	BEAM
2144	21	MIN-VZ	BEAM
2145	21	MAX-MT	BEAM
2146	21	MIN-MT	BEAM
2147	21	MAX-N	BEAM
2148	21	MIN-N	BEAM
2149	21	MAX-MZ	BEAM
2150	21	MIN-MZ	BEAM
2151	21	MAX-VY	BEAM
2152	21	MIN-VY	BEAM
2141	21	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
2142	21	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
2143	21	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
2144	21	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
2145	21	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
2146	21	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
2147	21	MAX-UX	NODE BEAM--N_SP-PTX_temporary
2148	21	MIN-UX	NODE BEAM--N_SP-PTX_temporary
2149	21	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
2150	21	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
2151	21	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
2152	21	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
2153	21	MAXPHIX	NODE _temporary
2154	21	MINPHIX	NODE _temporary
2155	21	MAXPHIY	NODE _temporary
2156	21	MINPHIY	NODE _temporary
2157	21	MAXPHIZ	NODE _temporary
2158	21	MINPHIZ	NODE _temporary
2641	26	MAX-MY	BEAM
2642	26	MIN-MY	BEAM
2643	26	MAX-VZ	BEAM
2644	26	MIN-VZ	BEAM
2645	26	MAX-MT	BEAM
2646	26	MIN-MT	BEAM
2647	26	MAX-N	BEAM
2648	26	MIN-N	BEAM
2649	26	MAX-MZ	BEAM
2650	26	MIN-MZ	BEAM
2651	26	MAX-VY	BEAM
2652	26	MIN-VY	BEAM
2641	26	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
2642	26	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
2643	26	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
2644	26	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
2645	26	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
2646	26	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary

Geometria ponticello
presuperposition actions without GPC

Generated Loadcases

Number	Comb	Title	
2647	26	MAX-UX	NODE BEAM--N_SP-PTX_temporary
2648	26	MIN-UX	NODE BEAM--N_SP-PTX_temporary
2649	26	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
2650	26	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
2651	26	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
2652	26	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
2653	26	MAXPHIX	NODE _temporary
2654	26	MINPHIX	NODE _temporary
2655	26	MAXPHIY	NODE _temporary
2656	26	MINPHIY	NODE _temporary
2657	26	MAXPHIZ	NODE _temporary
2658	26	MINPHIZ	NODE _temporary
2941	29	MAX-MY	BEAM
2942	29	MIN-MY	BEAM
2943	29	MAX-VZ	BEAM
2944	29	MIN-VZ	BEAM
2945	29	MAX-MT	BEAM
2946	29	MIN-MT	BEAM
2947	29	MAX-N	BEAM
2948	29	MIN-N	BEAM
2949	29	MAX-MZ	BEAM
2950	29	MIN-MZ	BEAM
2951	29	MAX-VY	BEAM
2952	29	MIN-VY	BEAM
2941	29	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
2942	29	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
2943	29	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
2944	29	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
2945	29	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
2946	29	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
2947	29	MAX-UX	NODE BEAM--N_SP-PTX_temporary
2948	29	MIN-UX	NODE BEAM--N_SP-PTX_temporary
2949	29	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
2950	29	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
2951	29	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
2952	29	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
2953	29	MAXPHIX	NODE _temporary
2954	29	MINPHIX	NODE _temporary
2955	29	MAXPHIY	NODE _temporary
2956	29	MINPHIY	NODE _temporary
2957	29	MAXPHIZ	NODE _temporary
2958	29	MINPHIZ	NODE _temporary

Geometria ponticello
Final Superposition SLS and ULS including GPC

Superpositioning combinations:
rare, nonf, freq, perm, 1.0*, desi, acci, earq, fatigue
LC 1120, 1220, 1320, 1420, 1920, 2120, 2520, 2620, 2820, 2920
Type=Y_1, Y_2, Y_3, Y_4, Y_9, Y_D, Y_A, Y_E, Y_F, Y_G
.

Superposition according to Decreto Ministeriale per le Costruzioni 2008

Combination rule Number 111
Service: Rare combination
Superposition according to manual MAXIMA formula 4
Resulting loadcases type Service: Rare combination

Loadcase selection and Actions							
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor Type of loadcase							
C	G	1.20	0.00	1.00	1.00	1.00	Ritiro
5015	1.00	permanent	load	grouped	in	actions	creep&shrinkage
5025	1.00	permanent	load	grouped	in	actions	creep&shrinkage
5035	1.00	Conditional	LC				creep&shrinkage t-inf
5036	1.00	Combined	with	LC			creep&shrinkage t-inf
5037	1.00	Combined	with	LC			creep&shrinkage t-inf
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load g1
5003	1.00	permanent	load	grouped	in	load cases	Foundation
5004	1.00	permanent	load	grouped	in	load cases	Spinta terre
5010	1.00	permanent	load	grouped	in	load cases	DL-beams
5020	1.00	permanent	load	grouped	in	load cases	liquid concrete slab
5021	1.00	permanent	load	grouped	in	load cases	support change
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali
5028	1.00	permanent	load	grouped	in	load cases	G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
5009	1.00	permanent	load	grouped	in	actions	prestress beams
Y_1	Q	1.00	0.00	1.00	1.00	1.00	rare without gpc
1141	1.00	Exclusive	LC	A	7		MAX-MY BEAM
1142	1.00	Exclusive	LC	A	7		MIN-MY BEAM
1143	1.00	Exclusive	LC	A	7		MAX-VZ BEAM
1144	1.00	Exclusive	LC	A	7		MIN-VZ BEAM
1145	1.00	Exclusive	LC	A	7		MAX-MT BEAM
1146	1.00	Exclusive	LC	A	7		MIN-MT BEAM
1147	1.00	Exclusive	LC	A	7		MAX-N BEAM
1148	1.00	Exclusive	LC	A	7		MIN-N BEAM
1149	1.00	Exclusive	LC	A	7		MAX-MZ BEAM
1150	1.00	Exclusive	LC	A	7		MIN-MZ BEAM
1151	1.00	Exclusive	LC	A	7		MAX-VY BEAM
1152	1.00	Exclusive	LC	A	7		MIN-VY BEAM
1153	1.00	Exclusive	LC	A	7		MAXPHIX NODE _temporary
1154	1.00	Exclusive	LC	A	7		MINPHIX NODE _temporary
1155	1.00	Exclusive	LC	A	7		MAXPHIY NODE _temporary
1156	1.00	Exclusive	LC	A	7		MINPHIY NODE _temporary
1157	1.00	Exclusive	LC	A	7		MAXPHIZ NODE _temporary
1158	1.00	Exclusive	LC	A	7		MINPHIZ NODE _temporary

Combination rule Number 113
Service: Frequent combination
Superposition according to manual MAXIMA formula 5
Resulting loadcases type Service: Frequent combination

Loadcase selection and Actions							
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor Type of loadcase							
C	G	1.20	0.00	1.00	1.00	1.00	Ritiro
5015	1.00	permanent	load	grouped	in	actions	creep&shrinkage
5025	1.00	permanent	load	grouped	in	actions	creep&shrinkage
5035	1.00	Conditional	LC				creep&shrinkage t-inf
5036	1.00	Combined	with	LC			creep&shrinkage t-inf
5037	1.00	Combined	with	LC			creep&shrinkage t-inf
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load g1
5003	1.00	permanent	load	grouped	in	load cases	Foundation
5004	1.00	permanent	load	grouped	in	load cases	Spinta terre
5010	1.00	permanent	load	grouped	in	load cases	DL-beams
5020	1.00	permanent	load	grouped	in	load cases	liquid concrete slab
5021	1.00	permanent	load	grouped	in	load cases	support change
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali
5028	1.00	permanent	load	grouped	in	load cases	G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
5009	1.00	permanent	load	grouped	in	actions	prestress beams
Y_3	Q	1.00	0.00	1.00	1.00	1.00	freq without gpc
1341	1.00	Exclusive	LC	A	7		MAX-MY BEAM

Geometria ponticello
Final Superposition SLS and ULS including GPC

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	
LC factor	Type of loadcase						Title
1342	1.00	Exclusive	LC	A	7	MIN-MY BEAM	
1343	1.00	Exclusive	LC	A	7	MAX-VZ BEAM	
1344	1.00	Exclusive	LC	A	7	MIN-VZ BEAM	
1345	1.00	Exclusive	LC	A	7	MAX-MT BEAM	
1346	1.00	Exclusive	LC	A	7	MIN-MT BEAM	
1347	1.00	Exclusive	LC	A	7	MAX-N BEAM	
1348	1.00	Exclusive	LC	A	7	MIN-N BEAM	
1349	1.00	Exclusive	LC	A	7	MAX-MZ BEAM	
1350	1.00	Exclusive	LC	A	7	MIN-MZ BEAM	
1351	1.00	Exclusive	LC	A	7	MAX-VY BEAM	
1352	1.00	Exclusive	LC	A	7	MIN-VY BEAM	
1353	1.00	Exclusive	LC	A	7	MAXPHIX NODE	_temporary
1354	1.00	Exclusive	LC	A	7	MINPHIX NODE	_temporary
1355	1.00	Exclusive	LC	A	7	MAXPHIY NODE	_temporary
1356	1.00	Exclusive	LC	A	7	MINPHIY NODE	_temporary
1357	1.00	Exclusive	LC	A	7	MAXPHIZ NODE	_temporary
1358	1.00	Exclusive	LC	A	7	MINPHIZ NODE	_temporary

Combination rule Number 114

Service: Permanent combination

Superposition according to manual MAXIMA formula 7
Resulting loadcases type Service: Permanent combination

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2		
LC factor		Type of loadcase						Title	
C	G	1.20	0.00	1.00	1.00	1.00	1.00	Ritiro	
5015	1.00	permanent	load grouped in actions					creep&shrinkage	
5025	1.00	permanent	load grouped in actions					creep&shrinkage	
5035	1.00	Conditional LC						creep&shrinkage t-inf	
5036	1.00	Combined with LC						creep&shrinkage t-inf	
5037	1.00	Combined with LC						creep&shrinkage t-inf	
G_1	G	1.00	1.00	1.00	1.00	1.00	1.00	dead load g1	
5003	1.00	permanent	load grouped in load cases					Foundation	
5004	1.00	permanent	load grouped in load cases					Spinta terre	
5010	1.00	permanent	load grouped in load cases					DL-beams	
5020	1.00	permanent	load grouped in load cases					liquid concrete slab	
5021	1.00	permanent	load grouped in load cases					support change	
G_2	G	1.00	1.00	1.00	1.00	1.00	1.00	G non strutturali	
5028	1.00	permanent	load grouped in load cases					G_2	
P	P	1.00	1.00	1.00	1.00	1.00	1.00	Carichi G2	
5009	1.00	permanent	load grouped in actions					prestress beams	
Y_4	Q	1.00	0.00	1.00	1.00	1.00	1.00	perm without gpc	
1441	1.00	Exclusive LC	A 7					MAX-MY BEAM	
1442	1.00	Exclusive LC	A 7					MIN-MY BEAM	
1443	1.00	Exclusive LC	A 7					MAX-VZ BEAM	
1444	1.00	Exclusive LC	A 7					MIN-VZ BEAM	
1445	1.00	Exclusive LC	A 7					MAX-MT BEAM	
1446	1.00	Exclusive LC	A 7					MIN-MT BEAM	
1447	1.00	Exclusive LC	A 7					MAX-N BEAM	
1448	1.00	Exclusive LC	A 7					MIN-N BEAM	
1449	1.00	Exclusive LC	A 7					MAX-MZ BEAM	
1450	1.00	Exclusive LC	A 7					MIN-MZ BEAM	
1451	1.00	Exclusive LC	A 7					MAX-VY BEAM	
1452	1.00	Exclusive LC	A 7					MIN-VY BEAM	
1453	1.00	Exclusive LC	A 7					MAXPHIX NODE	_temporary
1454	1.00	Exclusive LC	A 7					MINPHIX NODE	_temporary
1455	1.00	Exclusive LC	A 7					MAXPHIY NODE	_temporary
1456	1.00	Exclusive LC	A 7					MINPHIY NODE	_temporary
1457	1.00	Exclusive LC	A 7					MAXPHIZ NODE	_temporary
1458	1.00	Exclusive LC	A 7					MINPHIZ NODE	_temporary

Combination rule Number 119

Service: Rare combination

Superposition according to manual MAXIMA formula 4
Resulting loadcases type Y_X

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2		
	LC factor	Type of loadcase						Title
C	G	1.00	1.00	1.00	1.00	1.00	Ritiro	
5015	1.00	permanent load grouped in actions						creep&shrinkage
5025	1.00	permanent load grouped in actions						creep&shrinkage
5035	1.00	Conditional LC						creep&shrinkage t-inf
5036	1.00	Combined with LC						creep&shrinkage t-inf

Geometria ponticello
Final Superposition SLS and ULS including GPC

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor			Type of loadcase				
5037	1.00		Combined with LC				creep&shrinkage t-inf
G_1	G	1.00	1.00 1.00	1.00	1.00	1.00	dead load gl
5003	1.00		permanent load grouped in load cases				Foundation
5004	1.00		permanent load grouped in load cases				Spinta terre
5010	1.00		permanent load grouped in load cases				DL-beams
5020	1.00		permanent load grouped in load cases				liquid concrete slab
5021	1.00		permanent load grouped in load cases				support change
G_2	G	1.00	1.00 1.00	1.00	1.00	1.00	G non strutturali
5028	1.00		permanent load grouped in load cases				G_2
P	P	1.00	1.00 1.00	1.00	1.00	1.00	Carichi G2
5009	1.00		permanent load grouped in actions				prestress beams
Y_9	Q	1.00	0.00 1.00	1.00	1.00	1.00	1.0* without gpc
1941	1.00		Exclusive LC	A 7			MAX-MY BEAM
1942	1.00		Exclusive LC	A 7			MIN-MY BEAM
1943	1.00		Exclusive LC	A 7			MAX-VZ BEAM
1944	1.00		Exclusive LC	A 7			MIN-VZ BEAM
1945	1.00		Exclusive LC	A 7			MAX-MT BEAM
1946	1.00		Exclusive LC	A 7			MIN-MT BEAM
1947	1.00		Exclusive LC	A 7			MAX-N BEAM
1948	1.00		Exclusive LC	A 7			MIN-N BEAM
1949	1.00		Exclusive LC	A 7			MAX-MZ BEAM
1950	1.00		Exclusive LC	A 7			MIN-MZ BEAM
1951	1.00		Exclusive LC	A 7			MAX-VY BEAM
1952	1.00		Exclusive LC	A 7			MIN-VY BEAM
1953	1.00		Exclusive LC	A 7			MAXPHIX NODE _temporary
1954	1.00		Exclusive LC	A 7			MINPHIX NODE _temporary
1955	1.00		Exclusive LC	A 7			MAXPHIY NODE _temporary
1956	1.00		Exclusive LC	A 7			MINPHIY NODE _temporary
1957	1.00		Exclusive LC	A 7			MAXPHIZ NODE _temporary
1958	1.00		Exclusive LC	A 7			MINPHIZ NODE _temporary

Combination rule Number 121
Ultimate Design combination

Superposition according to manual MAXIMA formula 1
Resulting loadcases type Ultimate Design combination

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor			Type of loadcase				
C	G	1.35	1.00 1.00	1.00	1.00	1.00	Ritiro
5015	1.00		permanent load grouped in actions				creep&shrinkage
5025	1.00		permanent load grouped in actions				creep&shrinkage
5035	1.00		Conditional LC				creep&shrinkage t-inf
5036	1.00		Combined with LC				creep&shrinkage t-inf
5037	1.00		Combined with LC				creep&shrinkage t-inf
G_1	G	1.00	1.00 1.00	1.00	1.00	1.00	dead load gl
5003	1.00		permanent load grouped in load cases				Foundation
5004	1.00		permanent load grouped in load cases				Spinta terre
5010	1.00		permanent load grouped in load cases				DL-beams
5020	1.00		permanent load grouped in load cases				liquid concrete slab
5021	1.00		permanent load grouped in load cases				support change
G_2	G	1.00	1.00 1.00	1.00	1.00	1.00	G non strutturali
5028	1.00		permanent load grouped in load cases				G_2
P	P	1.00	1.00 1.00	1.00	1.00	1.00	Carichi G2
5009	1.00		permanent load grouped in actions				prestress beams
Y_D	Q	1.00	0.00 1.00	1.00	1.00	1.00	desi without gpc
2141	1.00		Exclusive LC	A 7			MAX-MY BEAM
2142	1.00		Exclusive LC	A 7			MIN-MY BEAM
2143	1.00		Exclusive LC	A 7			MAX-VZ BEAM
2144	1.00		Exclusive LC	A 7			MIN-VZ BEAM
2145	1.00		Exclusive LC	A 7			MAX-MT BEAM
2146	1.00		Exclusive LC	A 7			MIN-MT BEAM
2147	1.00		Exclusive LC	A 7			MAX-N BEAM
2148	1.00		Exclusive LC	A 7			MIN-N BEAM
2149	1.00		Exclusive LC	A 7			MAX-MZ BEAM
2150	1.00		Exclusive LC	A 7			MIN-MZ BEAM
2151	1.00		Exclusive LC	A 7			MAX-VY BEAM
2152	1.00		Exclusive LC	A 7			MIN-VY BEAM
2153	1.00		Exclusive LC	A 7			MAXPHIX NODE _temporary
2154	1.00		Exclusive LC	A 7			MINPHIX NODE _temporary
2155	1.00		Exclusive LC	A 7			MAXPHIY NODE _temporary
2156	1.00		Exclusive LC	A 7			MINPHIY NODE _temporary
2157	1.00		Exclusive LC	A 7			MAXPHIZ NODE _temporary
2158	1.00		Exclusive LC	A 7			MINPHIZ NODE _temporary

Geometria ponticello
Final Superposition SLS and ULS including GPC

Combination rule Number 126
Ultimate Earthquake combin.
Superposition according to manual MAXIMA formula 3
Resulting loadcases type Ultimate Earthquake combin.

Loadcase selection and Actions							
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor		Type of loadcase					
C	G	1.20	0.00	1.00	1.00	1.00	Ritiro
	5015	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5025	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5035	1.00	Conditional	LC			creep&shrinkage t-inf
	5036	1.00	Combined with	LC			creep&shrinkage t-inf
	5037	1.00	Combined with	LC			creep&shrinkage t-inf
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load g1
	5003	1.00	permanent	load	grouped	in load cases	Foundation
	5004	1.00	permanent	load	grouped	in load cases	Spinta terre
	5010	1.00	permanent	load	grouped	in load cases	DL-beams
	5020	1.00	permanent	load	grouped	in load cases	liquid concrete slab
	5021	1.00	permanent	load	grouped	in load cases	support change
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali
	5028	1.00	permanent	load	grouped	in load cases	G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
	5009	1.00	permanent	load	grouped	in actions	prestress beams
Y_E	Q	1.00	0.00	1.00	1.00	1.00	earq without gpc
	2641	1.00	Exclusive	LC	A 7		MAX-MY BEAM
	2642	1.00	Exclusive	LC	A 7		MIN-MY BEAM
	2643	1.00	Exclusive	LC	A 7		MAX-VZ BEAM
	2644	1.00	Exclusive	LC	A 7		MIN-VZ BEAM
	2645	1.00	Exclusive	LC	A 7		MAX-MT BEAM
	2646	1.00	Exclusive	LC	A 7		MIN-MT BEAM
	2647	1.00	Exclusive	LC	A 7		MAX-N BEAM
	2648	1.00	Exclusive	LC	A 7		MIN-N BEAM
	2649	1.00	Exclusive	LC	A 7		MAX-MZ BEAM
	2650	1.00	Exclusive	LC	A 7		MIN-MZ BEAM
	2651	1.00	Exclusive	LC	A 7		MAX-VY BEAM
	2652	1.00	Exclusive	LC	A 7		MIN-VY BEAM
	2653	1.00	Exclusive	LC	A 7		MAXPHIX NODE _temporary
	2654	1.00	Exclusive	LC	A 7		MINPHIX NODE _temporary
	2655	1.00	Exclusive	LC	A 7		MAXPHIY NODE _temporary
	2656	1.00	Exclusive	LC	A 7		MINPHIY NODE _temporary
	2657	1.00	Exclusive	LC	A 7		MAXPHIZ NODE _temporary
	2658	1.00	Exclusive	LC	A 7		MINPHIZ NODE _temporary

Combination rule Number 129
Service: Rare combination
Superposition according to manual MAXIMA formula 4
Resulting loadcases type Service: Rare combination

Loadcase selection and Actions							
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor		Type of loadcase					
C	G	1.00	1.00	1.00	1.00	1.00	Ritiro
	5015	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5025	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5035	1.00	permanent	load	grouped	in actions	creep&shrinkage t-inf
	5036	1.00	permanent	load	grouped	in actions	creep&shrinkage t-inf
	5037	1.00	permanent	load	grouped	in actions	creep&shrinkage t-inf
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load g1
	5003	1.00	permanent	load	grouped	in load cases	Foundation
	5004	1.00	permanent	load	grouped	in load cases	Spinta terre
	5010	1.00	permanent	load	grouped	in load cases	DL-beams
	5020	1.00	permanent	load	grouped	in load cases	liquid concrete slab
	5021	1.00	permanent	load	grouped	in load cases	support change
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali
	5028	1.00	permanent	load	grouped	in load cases	G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
	5009	0.90	permanent	load	grouped	in actions	prestress beams
Y_G	Q	1.00	0.00	1.00	1.00	1.00	stress range L+Q
	2941	1.00	Exclusive	LC	A 7		MAX-MY BEAM
	2942	1.00	Exclusive	LC	A 7		MIN-MY BEAM
	2943	1.00	Exclusive	LC	A 7		MAX-VZ BEAM
	2944	1.00	Exclusive	LC	A 7		MIN-VZ BEAM
	2945	1.00	Exclusive	LC	A 7		MAX-MT BEAM
	2946	1.00	Exclusive	LC	A 7		MIN-MT BEAM
	2947	1.00	Exclusive	LC	A 7		MAX-N BEAM
	2948	1.00	Exclusive	LC	A 7		MIN-N BEAM
	2949	1.00	Exclusive	LC	A 7		MAX-MZ BEAM
	2950	1.00	Exclusive	LC	A 7		MIN-MZ BEAM

Geometria ponticello
Final Superposition SLS and ULS including GPC

Loadcase selection and Actions

Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC		factor	Type of loadcase					
2951		1.00	Exclusive	LC	A 7		MAX-VY	BEAM
2952		1.00	Exclusive	LC	A 7		MIN-VY	BEAM
2953		1.00	Exclusive	LC	A 7		MAXPHIX	NODE _temporary
2954		1.00	Exclusive	LC	A 7		MINPHIX	NODE _temporary
2955		1.00	Exclusive	LC	A 7		MAXPHIY	NODE _temporary
2956		1.00	Exclusive	LC	A 7		MINPHIY	NODE _temporary
2957		1.00	Exclusive	LC	A 7		MAXPHIZ	NODE _temporary
2958		1.00	Exclusive	LC	A 7		MINPHIZ	NODE _temporary

Generated Loadcases

Number	Comb	Title	
1121	111	MAXR-MY	BEAM
1122	111	MINR-MY	BEAM
1123	111	MAXR-VZ	BEAM
1124	111	MINR-VZ	BEAM
1125	111	MAXR-MT	BEAM
1126	111	MINR-MT	BEAM
1127	111	MAXR-N	BEAM
1128	111	MINR-N	BEAM
1129	111	MAXR-MZ	BEAM
1130	111	MINR-MZ	BEAM
1131	111	MAXR-VY	BEAM
1132	111	MINR-VY	BEAM
1121	111	MAXR-PX	NODE BEAM-MY_SPRI-P_rare
1122	111	MINR-PX	NODE BEAM-MY_SPRI-P_rare
1123	111	MAXR-PY	NODE BEAM-VZ_SPRI-T_rare
1124	111	MINR-PY	NODE BEAM-VZ_SPRI-T_rare
1125	111	MAXR-PZ	NODE BEAM-MT_SPRI-M_rare
1126	111	MINR-PZ	NODE BEAM-MT_SPRI-M_rare
1127	111	MAXR-UX	NODE BEAM--N_SP-PTX_rare
1128	111	MINR-UX	NODE BEAM--N_SP-PTX_rare
1129	111	MAXR-UY	NODE BEAM-MZ_SP-PTY_rare
1130	111	MINR-UY	NODE BEAM-MZ_SP-PTY_rare
1131	111	MAXR-UZ	NODE BEAM-VY_SP-PTZ_rare
1132	111	MINR-UZ	NODE BEAM-VY_SP-PTZ_rare
1133	111	MAXRPHIX	NODE _rare
1134	111	MINRPHIX	NODE _rare
1135	111	MAXRPHIY	NODE _rare
1136	111	MINRPHIY	NODE _rare
1137	111	MAXRPHIZ	NODE _rare
1138	111	MINRPHIZ	NODE _rare
1321	113	MAXF-MY	BEAM
1322	113	MINF-MY	BEAM
1323	113	MAXF-VZ	BEAM
1324	113	MINF-VZ	BEAM
1325	113	MAXF-MT	BEAM
1326	113	MINF-MT	BEAM
1327	113	MAXF-N	BEAM
1328	113	MINF-N	BEAM
1329	113	MAXF-MZ	BEAM
1330	113	MINF-MZ	BEAM
1331	113	MAXF-VY	BEAM
1332	113	MINF-VY	BEAM
1321	113	MAXF-PX	NODE BEAM-MY_SPRI-P_freq
1322	113	MINF-PX	NODE BEAM-MY_SPRI-P_freq
1323	113	MAXF-PY	NODE BEAM-VZ_SPRI-T_freq
1324	113	MINF-PY	NODE BEAM-VZ_SPRI-T_freq
1325	113	MAXF-PZ	NODE BEAM-MT_SPRI-M_freq
1326	113	MINF-PZ	NODE BEAM-MT_SPRI-M_freq
1327	113	MAXF-UX	NODE BEAM--N_SP-PTX_freq
1328	113	MINF-UX	NODE BEAM--N_SP-PTX_freq
1329	113	MAXF-UY	NODE BEAM-MZ_SP-PTY_freq
1330	113	MINF-UY	NODE BEAM-MZ_SP-PTY_freq
1331	113	MAXF-UZ	NODE BEAM-VY_SP-PTZ_freq
1332	113	MINF-UZ	NODE BEAM-VY_SP-PTZ_freq
1333	113	MAXFPHIX	NODE _freq
1334	113	MINFPHIX	NODE _freq
1335	113	MAXFPHIY	NODE _freq
1336	113	MINFPHIY	NODE _freq
1337	113	MAXFPHIZ	NODE _freq
1338	113	MINFPHIZ	NODE _freq
1421	114	MAXP-MY	BEAM
1422	114	MINP-MY	BEAM
1423	114	MAXP-VZ	BEAM
1424	114	MINP-VZ	BEAM
1425	114	MAXP-MT	BEAM
1426	114	MINP-MT	BEAM

Geometria ponticello
Final Superposition SLS and ULS including GPC

Generated Loadcases

Number	Comb	Title	
1427	114	MAXP-N	BEAM
1428	114	MINP-N	BEAM
1429	114	MAXP-MZ	BEAM
1430	114	MINP-MZ	BEAM
1431	114	MAXP-VY	BEAM
1432	114	MINP-VY	BEAM
1421	114	MAXP-PX	NODE BEAM-MY_SPRI-P_perm
1422	114	MINP-PX	NODE BEAM-MY_SPRI-P_perm
1423	114	MAXP-PY	NODE BEAM-VZ_SPRI-T_perm
1424	114	MINP-PY	NODE BEAM-VZ_SPRI-T_perm
1425	114	MAXP-PZ	NODE BEAM-MT_SPRI-M_perm
1426	114	MINP-PZ	NODE BEAM-MT_SPRI-M_perm
1427	114	MAXP-UX	NODE BEAM--N_SP-PTX_perm
1428	114	MINP-UX	NODE BEAM--N_SP-PTX_perm
1429	114	MAXP-UY	NODE BEAM-MZ_SP-PTY_perm
1430	114	MINP-UY	NODE BEAM-MZ_SP-PTY_perm
1431	114	MAXP-UZ	NODE BEAM-VY_SP-PTZ_perm
1432	114	MINP-UZ	NODE BEAM-VY_SP-PTZ_perm
1433	114	MAXPPHIX	NODE _perm
1434	114	MINPPHIX	NODE _perm
1435	114	MAXPPHIY	NODE _perm
1436	114	MINPPHIY	NODE _perm
1437	114	MAXPPHIZ	NODE _perm
1438	114	MINPPHIZ	NODE _perm
1921	119	MAX-MY	BEAM
1922	119	MIN-MY	BEAM
1923	119	MAX-VZ	BEAM
1924	119	MIN-VZ	BEAM
1925	119	MAX-MT	BEAM
1926	119	MIN-MT	BEAM
1927	119	MAX-N	BEAM
1928	119	MIN-N	BEAM
1929	119	MAX-MZ	BEAM
1930	119	MIN-MZ	BEAM
1931	119	MAX-VY	BEAM
1932	119	MIN-VY	BEAM
1921	119	MAX-PX	NODE BEAM-MY_SPRI-P_1.0_
1922	119	MIN-PX	NODE BEAM-MY_SPRI-P_1.0_
1923	119	MAX-PY	NODE BEAM-VZ_SPRI-T_1.0_
1924	119	MIN-PY	NODE BEAM-VZ_SPRI-T_1.0_
1925	119	MAX-PZ	NODE BEAM-MT_SPRI-M_1.0_
1926	119	MIN-PZ	NODE BEAM-MT_SPRI-M_1.0_
1927	119	MAX-UX	NODE BEAM--N_SP-PTX_1.0_
1928	119	MIN-UX	NODE BEAM--N_SP-PTX_1.0_
1929	119	MAX-UY	NODE BEAM-MZ_SP-PTY_1.0_
1930	119	MIN-UY	NODE BEAM-MZ_SP-PTY_1.0_
1931	119	MAX-UZ	NODE BEAM-VY_SP-PTZ_1.0_
1932	119	MIN-UZ	NODE BEAM-VY_SP-PTZ_1.0_
1933	119	MAXPHIX	NODE _1.0_
1934	119	MINPHIX	NODE _1.0_
1935	119	MAXPHIY	NODE _1.0_
1936	119	MINPHIY	NODE _1.0_
1937	119	MAXPHIZ	NODE _1.0_
1938	119	MINPHIZ	NODE _1.0_
2121	121	MAX-MY	BEAM
2122	121	MIN-MY	BEAM
2123	121	MAX-VZ	BEAM
2124	121	MIN-VZ	BEAM
2125	121	MAX-MT	BEAM
2126	121	MIN-MT	BEAM
2127	121	MAX-N	BEAM
2128	121	MIN-N	BEAM
2129	121	MAX-MZ	BEAM
2130	121	MIN-MZ	BEAM
2131	121	MAX-VY	BEAM
2132	121	MIN-VY	BEAM
2121	121	MAX-PX	NODE BEAM-MY_SPRI-P_desi
2122	121	MIN-PX	NODE BEAM-MY_SPRI-P_desi
2123	121	MAX-PY	NODE BEAM-VZ_SPRI-T_desi
2124	121	MIN-PY	NODE BEAM-VZ_SPRI-T_desi
2125	121	MAX-PZ	NODE BEAM-MT_SPRI-M_desi
2126	121	MIN-PZ	NODE BEAM-MT_SPRI-M_desi
2127	121	MAX-UX	NODE BEAM--N_SP-PTX_desi
2128	121	MIN-UX	NODE BEAM--N_SP-PTX_desi
2129	121	MAX-UY	NODE BEAM-MZ_SP-PTY_desi
2130	121	MIN-UY	NODE BEAM-MZ_SP-PTY_desi
2131	121	MAX-UZ	NODE BEAM-VY_SP-PTZ_desi
2132	121	MIN-UZ	NODE BEAM-VY_SP-PTZ_desi

Geometria ponticello
Final Superposition SLS and ULS including GPC

Generated Loadcases

Number	Comb	Title	
2133	121	MAXPHIX	NODE _desi
2134	121	MINPHIX	NODE _desi
2135	121	MAXPHIY	NODE _desi
2136	121	MINPHIY	NODE _desi
2137	121	MAXPHIZ	NODE _desi
2138	121	MINPHIZ	NODE _desi
2621	126	MAXE-MY	BEAM
2622	126	MINE-MY	BEAM
2623	126	MAXE-VZ	BEAM
2624	126	MINE-VZ	BEAM
2625	126	MAXE-MT	BEAM
2626	126	MINE-MT	BEAM
2627	126	MAXE-N	BEAM
2628	126	MINE-N	BEAM
2629	126	MAXE-MZ	BEAM
2630	126	MINE-MZ	BEAM
2631	126	MAXE-VY	BEAM
2632	126	MINE-VY	BEAM
2621	126	MAXE-PX	NODE BEAM-MY_SPRI-P_earq
2622	126	MINE-PX	NODE BEAM-MY_SPRI-P_earq
2623	126	MAXE-PY	NODE BEAM-VZ_SPRI-T_earq
2624	126	MINE-PY	NODE BEAM-VZ_SPRI-T_earq
2625	126	MAXE-PZ	NODE BEAM-MT_SPRI-M_earq
2626	126	MINE-PZ	NODE BEAM-MT_SPRI-M_earq
2627	126	MAXE-UX	NODE BEAM--N_SP-PTX_earq
2628	126	MINE-UX	NODE BEAM--N_SP-PTX_earq
2629	126	MAXE-UY	NODE BEAM-MZ_SP-PTY_earq
2630	126	MINE-UY	NODE BEAM-MZ_SP-PTY_earq
2631	126	MAXE-UZ	NODE BEAM-VY_SP-PTZ_earq
2632	126	MINE-UZ	NODE BEAM-VY_SP-PTZ_earq
2633	126	MAXEPHIX	NODE _earq
2634	126	MINEPHIX	NODE _earq
2635	126	MAXEPHIY	NODE _earq
2636	126	MINEPHIY	NODE _earq
2637	126	MAXEPHIZ	NODE _earq
2638	126	MINEPHIZ	NODE _earq
2921	129	MAXR-MY	BEAM
2922	129	MINR-MY	BEAM
2923	129	MAXR-VZ	BEAM
2924	129	MINR-VZ	BEAM
2925	129	MAXR-MT	BEAM
2926	129	MINR-MT	BEAM
2927	129	MAXR-N	BEAM
2928	129	MINR-N	BEAM
2929	129	MAXR-MZ	BEAM
2930	129	MINR-MZ	BEAM
2931	129	MAXR-VY	BEAM
2932	129	MINR-VY	BEAM
2921	129	MAXR-PX	NODE BEAM-MY_SPRI-P_rare
2922	129	MINR-PX	NODE BEAM-MY_SPRI-P_rare
2923	129	MAXR-PY	NODE BEAM-VZ_SPRI-T_rare
2924	129	MINR-PY	NODE BEAM-VZ_SPRI-T_rare
2925	129	MAXR-PZ	NODE BEAM-MT_SPRI-M_rare
2926	129	MINR-PZ	NODE BEAM-MT_SPRI-M_rare
2927	129	MAXR-UX	NODE BEAM--N_SP-PTX_rare
2928	129	MINR-UX	NODE BEAM--N_SP-PTX_rare
2929	129	MAXR-UY	NODE BEAM-MZ_SP-PTY_rare
2930	129	MINR-UY	NODE BEAM-MZ_SP-PTY_rare
2931	129	MAXR-UZ	NODE BEAM-VY_SP-PTZ_rare
2932	129	MINR-UZ	NODE BEAM-VY_SP-PTZ_rare
2933	129	MAXRPHIX	NODE _rare
2934	129	MINRPHIX	NODE _rare
2935	129	MAXRPHIY	NODE _rare
2936	129	MINRPHIY	NODE _rare
2937	129	MAXRPHIZ	NODE _rare
2938	129	MINRPHIZ	NODE _rare

Geometria ponticello
Final Superpos. with pkinf-pksub -> LC 9000...

Superpositioning combinations:
rare, nonf, freq, perm, 1.0*, desi, acci, earq, fatigue
LC 9120, 9220, 9320, 9420 pkinf+pksub
.

Superposition according to Decreto Ministeriale per le Costruzioni 2008

Combination rule Number 211
Service: Rare combination
Superposition according to manual MAXIMA formula 4
Resulting loadcases type Y_X

Loadcase selection and Actions							
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor Type of loadcase							
C	G	1.20	0.00	1.00	1.00	1.00	Ritiro
	5015	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5025	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5035	1.00	Conditional	LC			creep&shrinkage t-inf
	5036	1.00	Combined with	LC			creep&shrinkage t-inf
	5037	1.00	Combined with	LC			creep&shrinkage t-inf
G_1	G	1.35	1.00	1.00	1.00	1.00	dead load g1
	5003	1.00	permanent	load	grouped	in load cases	Foundation
	5004	1.00	permanent	load	grouped	in load cases	Spinta terre
	5010	1.00	permanent	load	grouped	in load cases	DL-beams
	5020	1.00	permanent	load	grouped	in load cases	liquid concrete slab
	5021	1.00	permanent	load	grouped	in load cases	support change
G_2	G	1.50	0.00	1.00	1.00	1.00	G non strutturali
	5028	1.00	permanent	load	grouped	in load cases	G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
	5009	0.90	permanent	load	grouped	in actions	prestress beams
	5009	0.20	Conditional	LC			prestress beams
Y_1	Q	1.00	0.00	1.00	1.00	1.00	rare without gpc
	1141	1.00	Exclusive	LC	A	7	MAX-MY BEAM
	1142	1.00	Exclusive	LC	A	7	MIN-MY BEAM
	1143	1.00	Exclusive	LC	A	7	MAX-VZ BEAM
	1144	1.00	Exclusive	LC	A	7	MIN-VZ BEAM
	1145	1.00	Exclusive	LC	A	7	MAX-MT BEAM
	1146	1.00	Exclusive	LC	A	7	MIN-MT BEAM
	1147	1.00	Exclusive	LC	A	7	MAX-N BEAM
	1148	1.00	Exclusive	LC	A	7	MIN-N BEAM
	1149	1.00	Exclusive	LC	A	7	MAX-MZ BEAM
	1150	1.00	Exclusive	LC	A	7	MIN-MZ BEAM
	1151	1.00	Exclusive	LC	A	7	MAX-VY BEAM
	1152	1.00	Exclusive	LC	A	7	MIN-VY BEAM
	1153	1.00	Exclusive	LC	A	7	MAXPHIX NODE _temporary
	1154	1.00	Exclusive	LC	A	7	MINPHIX NODE _temporary
	1155	1.00	Exclusive	LC	A	7	MAXPHIY NODE _temporary
	1156	1.00	Exclusive	LC	A	7	MINPHIY NODE _temporary
	1157	1.00	Exclusive	LC	A	7	MAXPHIZ NODE _temporary
	1158	1.00	Exclusive	LC	A	7	MINPHIZ NODE _temporary

Combination rule Number 213
Service: Frequent combination
Superposition according to manual MAXIMA formula 5
Resulting loadcases type Y_X

Loadcase selection and Actions							
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor Type of loadcase							
C	G	1.20	0.00	1.00	1.00	1.00	Ritiro
	5015	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5025	1.00	permanent	load	grouped	in actions	creep&shrinkage
	5035	1.00	Conditional	LC			creep&shrinkage t-inf
	5036	1.00	Combined with	LC			creep&shrinkage t-inf
	5037	1.00	Combined with	LC			creep&shrinkage t-inf
G_1	G	1.35	1.00	1.00	1.00	1.00	dead load g1
	5003	1.00	permanent	load	grouped	in load cases	Foundation
	5004	1.00	permanent	load	grouped	in load cases	Spinta terre
	5010	1.00	permanent	load	grouped	in load cases	DL-beams
	5020	1.00	permanent	load	grouped	in load cases	liquid concrete slab
	5021	1.00	permanent	load	grouped	in load cases	support change
G_2	G	1.50	0.00	1.00	1.00	1.00	G non strutturali
	5028	1.00	permanent	load	grouped	in load cases	G_2
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2
	5009	0.90	permanent	load	grouped	in actions	prestress beams
	5009	0.20	Conditional	LC			prestress beams
Y_3	Q	1.00	0.00	1.00	1.00	1.00	freq without gpc

Geometria ponticello
Final Superpos. with pkinf-pksub -> LC 9000...

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title	
LC factor		Type of loadcase						
1341	1.00	Exclusive	LC	A	7		MAX-MY	BEAM
1342	1.00	Exclusive	LC	A	7		MIN-MY	BEAM
1343	1.00	Exclusive	LC	A	7		MAX-VZ	BEAM
1344	1.00	Exclusive	LC	A	7		MIN-VZ	BEAM
1345	1.00	Exclusive	LC	A	7		MAX-MT	BEAM
1346	1.00	Exclusive	LC	A	7		MIN-MT	BEAM
1347	1.00	Exclusive	LC	A	7		MAX-N	BEAM
1348	1.00	Exclusive	LC	A	7		MIN-N	BEAM
1349	1.00	Exclusive	LC	A	7		MAX-MZ	BEAM
1350	1.00	Exclusive	LC	A	7		MIN-MZ	BEAM
1351	1.00	Exclusive	LC	A	7		MAX-VY	BEAM
1352	1.00	Exclusive	LC	A	7		MIN-VY	BEAM
1353	1.00	Exclusive	LC	A	7		MAXPHIX	NODE _temporary
1354	1.00	Exclusive	LC	A	7		MINPHIX	NODE _temporary
1355	1.00	Exclusive	LC	A	7		MAXPHIY	NODE _temporary
1356	1.00	Exclusive	LC	A	7		MINPHIY	NODE _temporary
1357	1.00	Exclusive	LC	A	7		MAXPHIZ	NODE _temporary
1358	1.00	Exclusive	LC	A	7		MINPHIZ	NODE _temporary

Combination rule Number 214

Service: Permanent combination

Superposition according to manual MAXIMA formula 7
Resulting loadcases type Y_X

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title	
LC factor		Type of loadcase						
C	G	1.20	0.00	1.00	1.00	1.00	Ritiro	
5015	1.00	permanent	load grouped in actions				creep&shrinkage	
5025	1.00	permanent	load grouped in actions				creep&shrinkage	
5035	1.00	Conditional	LC				creep&shrinkage t-inf	
5036	1.00	Combined with	LC				creep&shrinkage t-inf	
5037	1.00	Combined with	LC				creep&shrinkage t-inf	
G_1	G	1.35	1.00	1.00	1.00	1.00	dead load g1	
5003	1.00	permanent	load grouped in load cases				Foundation	
5004	1.00	permanent	load grouped in load cases				Spinta terre	
5010	1.00	permanent	load grouped in load cases				DL-beams	
5020	1.00	permanent	load grouped in load cases				liquid concrete slab	
5021	1.00	permanent	load grouped in load cases				support change	
G_2	G	1.50	0.00	1.00	1.00	1.00	G non strutturali	
5028	1.00	permanent	load grouped in load cases				G_2	
P	P	1.00	1.00	1.00	1.00	1.00	Carichi G2	
5009	0.90	permanent	load grouped in actions				prestress beams	
5009	0.20	Conditional	LC				prestress beams	
Y_4	Q	1.00	0.00	1.00	1.00	1.00	perm without gpc	
1441	1.00	Exclusive	LC	A	7		MAX-MY	BEAM
1442	1.00	Exclusive	LC	A	7		MIN-MY	BEAM
1443	1.00	Exclusive	LC	A	7		MAX-VZ	BEAM
1444	1.00	Exclusive	LC	A	7		MIN-VZ	BEAM
1445	1.00	Exclusive	LC	A	7		MAX-MT	BEAM
1446	1.00	Exclusive	LC	A	7		MIN-MT	BEAM
1447	1.00	Exclusive	LC	A	7		MAX-N	BEAM
1448	1.00	Exclusive	LC	A	7		MIN-N	BEAM
1449	1.00	Exclusive	LC	A	7		MAX-MZ	BEAM
1450	1.00	Exclusive	LC	A	7		MIN-MZ	BEAM
1451	1.00	Exclusive	LC	A	7		MAX-VY	BEAM
1452	1.00	Exclusive	LC	A	7		MIN-VY	BEAM
1453	1.00	Exclusive	LC	A	7		MAXPHIX	NODE _temporary
1454	1.00	Exclusive	LC	A	7		MINPHIX	NODE _temporary
1455	1.00	Exclusive	LC	A	7		MAXPHIY	NODE _temporary
1456	1.00	Exclusive	LC	A	7		MINPHIY	NODE _temporary
1457	1.00	Exclusive	LC	A	7		MAXPHIZ	NODE _temporary
1458	1.00	Exclusive	LC	A	7		MINPHIZ	NODE _temporary

Generated Loadcases

Number	Comb	Title
9121	211	MAX-MY BEAM
9122	211	MIN-MY BEAM
9123	211	MAX-VZ BEAM
9124	211	MIN-VZ BEAM
9125	211	MAX-MT BEAM
9126	211	MIN-MT BEAM
9127	211	MAX-N BEAM
9128	211	MIN-N BEAM
9129	211	MAX-MZ BEAM
9130	211	MIN-MZ BEAM

Geometria ponticello
Final Superpos. with pkinf-pksub -> LC 9000...

Generated Loadcases

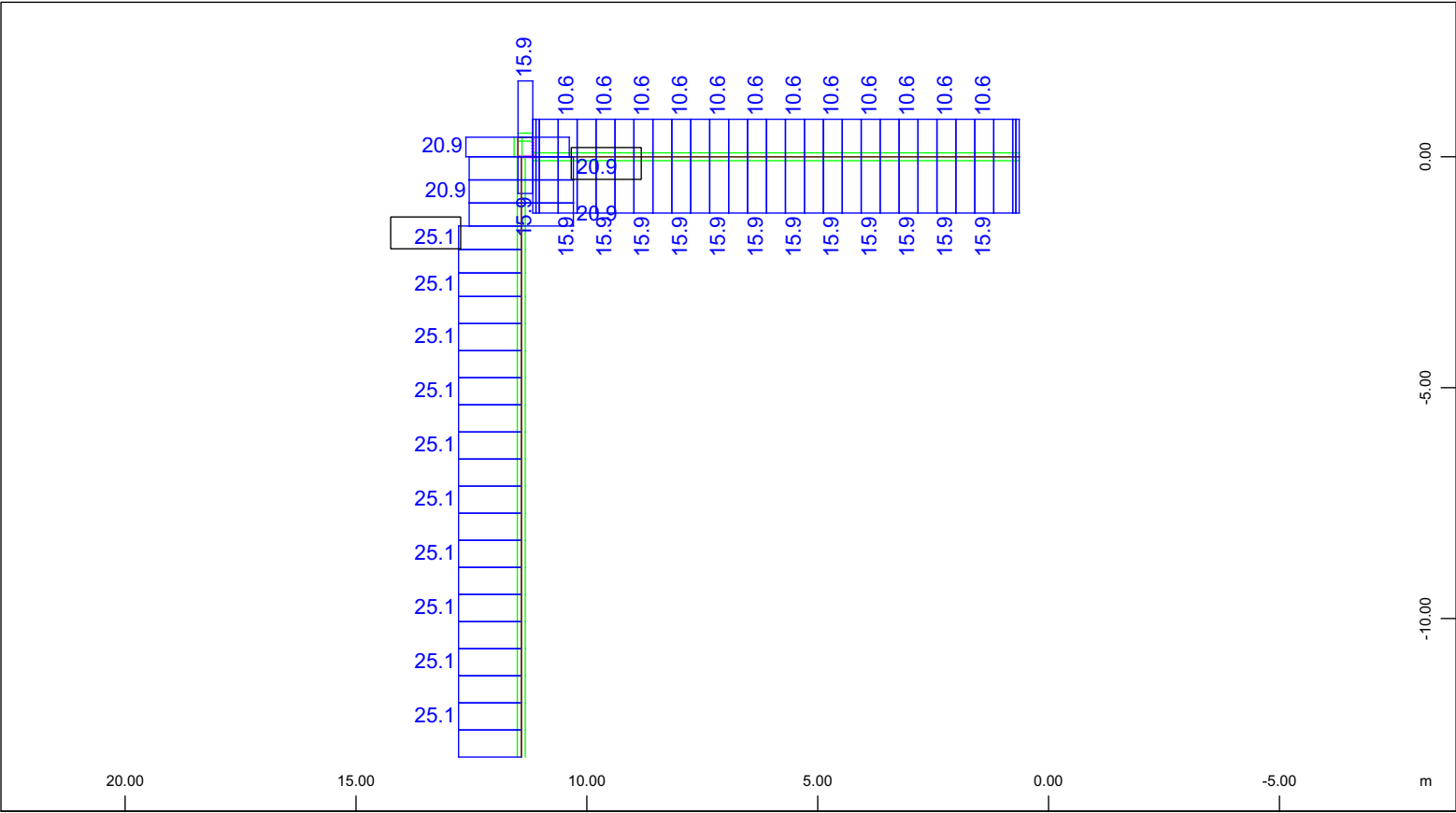
Number	Comb	Title	
9131	211	MAX-VY	BEAM
9132	211	MIN-VY	BEAM
9121	211	MAX-PX	NODE BEAM-MY_SPRI-P_R_infsub
9122	211	MIN-PX	NODE BEAM-MY_SPRI-P_R_infsub
9123	211	MAX-PY	NODE BEAM-VZ_SPRI-T_R_infsub
9124	211	MIN-PY	NODE BEAM-VZ_SPRI-T_R_infsub
9125	211	MAX-PZ	NODE BEAM-MT_SPRI-M_R_infsub
9126	211	MIN-PZ	NODE BEAM-MT_SPRI-M_R_infsub
9127	211	MAX-UX	NODE BEAM--N_SP-PTX_R_infsub
9128	211	MIN-UX	NODE BEAM--N_SP-PTX_R_infsub
9129	211	MAX-UY	NODE BEAM-MZ_SP-PTY_R_infsub
9130	211	MIN-UY	NODE BEAM-MZ_SP-PTY_R_infsub
9131	211	MAX-UZ	NODE BEAM-VY_SP-PTZ_R_infsub
9132	211	MIN-UZ	NODE BEAM-VY_SP-PTZ_R_infsub
9133	211	MAXPHIX	NODE _R_infsub
9134	211	MINPHIX	NODE _R_infsub
9135	211	MAXPHIY	NODE _R_infsub
9136	211	MINPHIY	NODE _R_infsub
9137	211	MAXPHIZ	NODE _R_infsub
9138	211	MINPHIZ	NODE _R_infsub
9321	213	MAX-MY	BEAM
9322	213	MIN-MY	BEAM
9323	213	MAX-VZ	BEAM
9324	213	MIN-VZ	BEAM
9325	213	MAX-MT	BEAM
9326	213	MIN-MT	BEAM
9327	213	MAX-N	BEAM
9328	213	MIN-N	BEAM
9329	213	MAX-MZ	BEAM
9330	213	MIN-MZ	BEAM
9331	213	MAX-VY	BEAM
9332	213	MIN-VY	BEAM
9321	213	MAX-PX	NODE BEAM-MY_SPRI-P_F_infsub
9322	213	MIN-PX	NODE BEAM-MY_SPRI-P_F_infsub
9323	213	MAX-PY	NODE BEAM-VZ_SPRI-T_F_infsub
9324	213	MIN-PY	NODE BEAM-VZ_SPRI-T_F_infsub
9325	213	MAX-PZ	NODE BEAM-MT_SPRI-M_F_infsub
9326	213	MIN-PZ	NODE BEAM-MT_SPRI-M_F_infsub
9327	213	MAX-UX	NODE BEAM--N_SP-PTX_F_infsub
9328	213	MIN-UX	NODE BEAM--N_SP-PTX_F_infsub
9329	213	MAX-UY	NODE BEAM-MZ_SP-PTY_F_infsub
9330	213	MIN-UY	NODE BEAM-MZ_SP-PTY_F_infsub
9331	213	MAX-UZ	NODE BEAM-VY_SP-PTZ_F_infsub
9332	213	MIN-UZ	NODE BEAM-VY_SP-PTZ_F_infsub
9333	213	MAXPHIX	NODE _F_infsub
9334	213	MINPHIX	NODE _F_infsub
9335	213	MAXPHIY	NODE _F_infsub
9336	213	MINPHIY	NODE _F_infsub
9337	213	MAXPHIZ	NODE _F_infsub
9338	213	MINPHIZ	NODE _F_infsub
9421	214	MAX-MY	BEAM
9422	214	MIN-MY	BEAM
9423	214	MAX-VZ	BEAM
9424	214	MIN-VZ	BEAM
9425	214	MAX-MT	BEAM
9426	214	MIN-MT	BEAM
9427	214	MAX-N	BEAM
9428	214	MIN-N	BEAM
9429	214	MAX-MZ	BEAM
9430	214	MIN-MZ	BEAM
9431	214	MAX-VY	BEAM
9432	214	MIN-VY	BEAM
9421	214	MAX-PX	NODE BEAM-MY_SPRI-P_P_infsub
9422	214	MIN-PX	NODE BEAM-MY_SPRI-P_P_infsub
9423	214	MAX-PY	NODE BEAM-VZ_SPRI-T_P_infsub
9424	214	MIN-PY	NODE BEAM-VZ_SPRI-T_P_infsub
9425	214	MAX-PZ	NODE BEAM-MT_SPRI-M_P_infsub
9426	214	MIN-PZ	NODE BEAM-MT_SPRI-M_P_infsub
9427	214	MAX-UX	NODE BEAM--N_SP-PTX_P_infsub
9428	214	MIN-UX	NODE BEAM--N_SP-PTX_P_infsub
9429	214	MAX-UY	NODE BEAM-MZ_SP-PTY_P_infsub
9430	214	MIN-UY	NODE BEAM-MZ_SP-PTY_P_infsub
9431	214	MAX-UZ	NODE BEAM-VY_SP-PTZ_P_infsub
9432	214	MIN-UZ	NODE BEAM-VY_SP-PTZ_P_infsub
9433	214	MAXPHIX	NODE _P_infsub
9434	214	MINPHIX	NODE _P_infsub
9435	214	MAXPHIY	NODE _P_infsub
9436	214	MINPHIY	NODE _P_infsub

Geometria ponticello
Final Superpos. with pkinf-pksub -> LC 9000...

Generated Loadcases

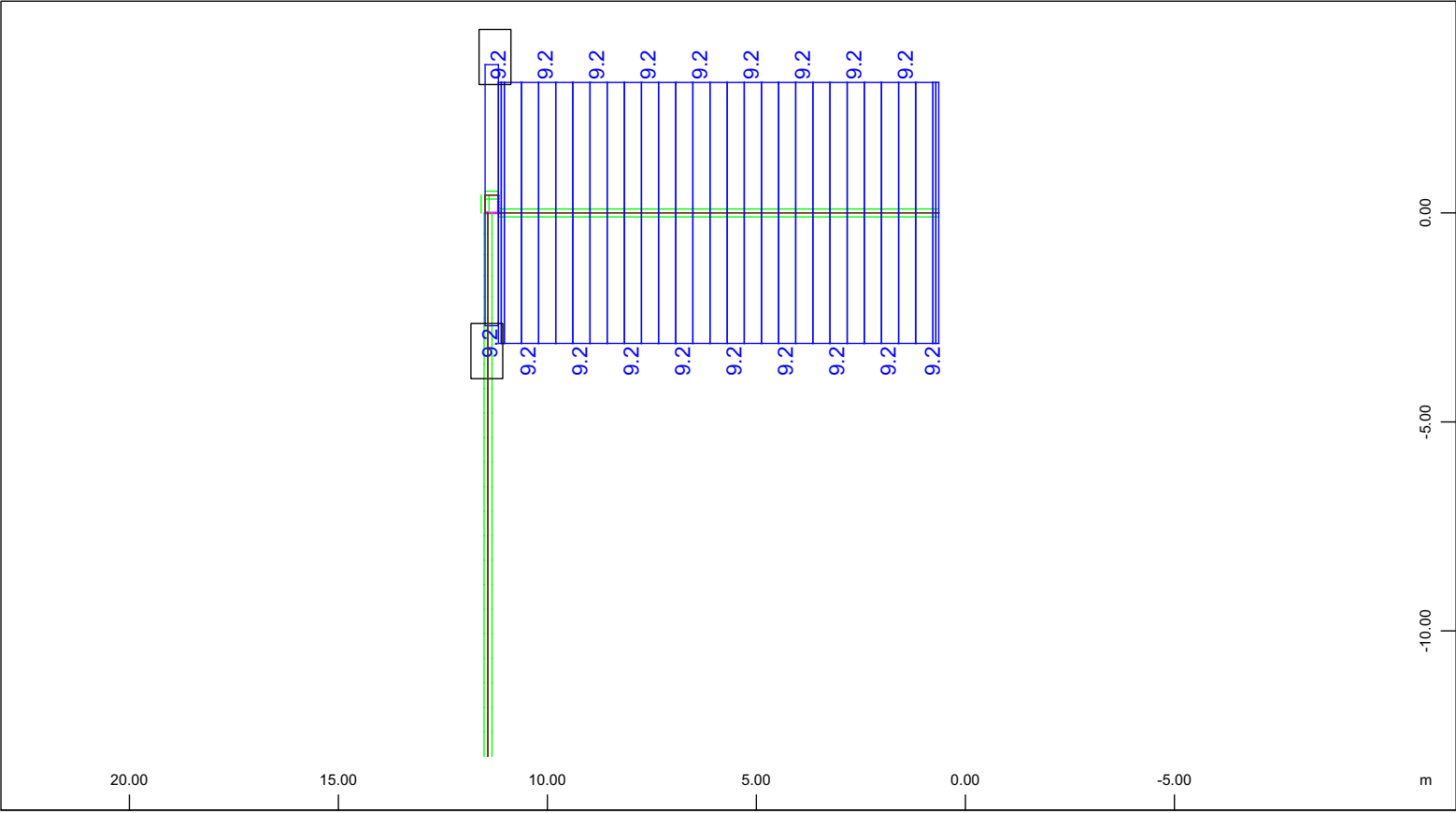
Number	Comb	Title		
9437	214	MAXPHIZ	NODE	_P_infsb
9438	214	MINPHIZ	NODE	_P_infsb

Geometria ponticello
Armatura Minima



Beam Elements , Longitudinal Reinforcements Lay. 1, Design Case 1 , 1 cm 3D = 20.0 cm2 (Max=25.1)
Beam Elements , Longitudinal Reinforcements Lay. 2, Design Case 1 , 1 cm 3D = 20.0 cm2 (Max=20.9)

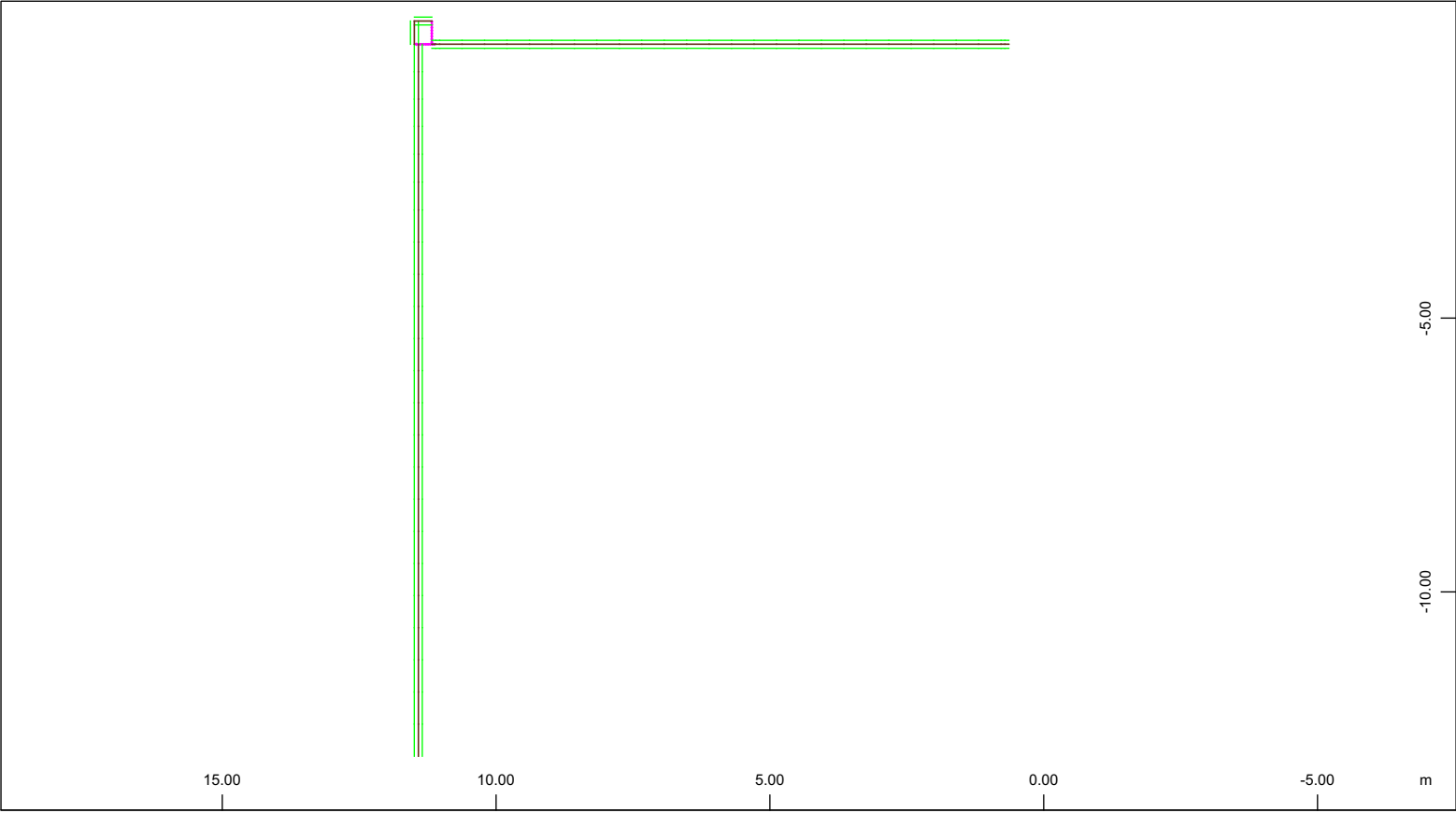
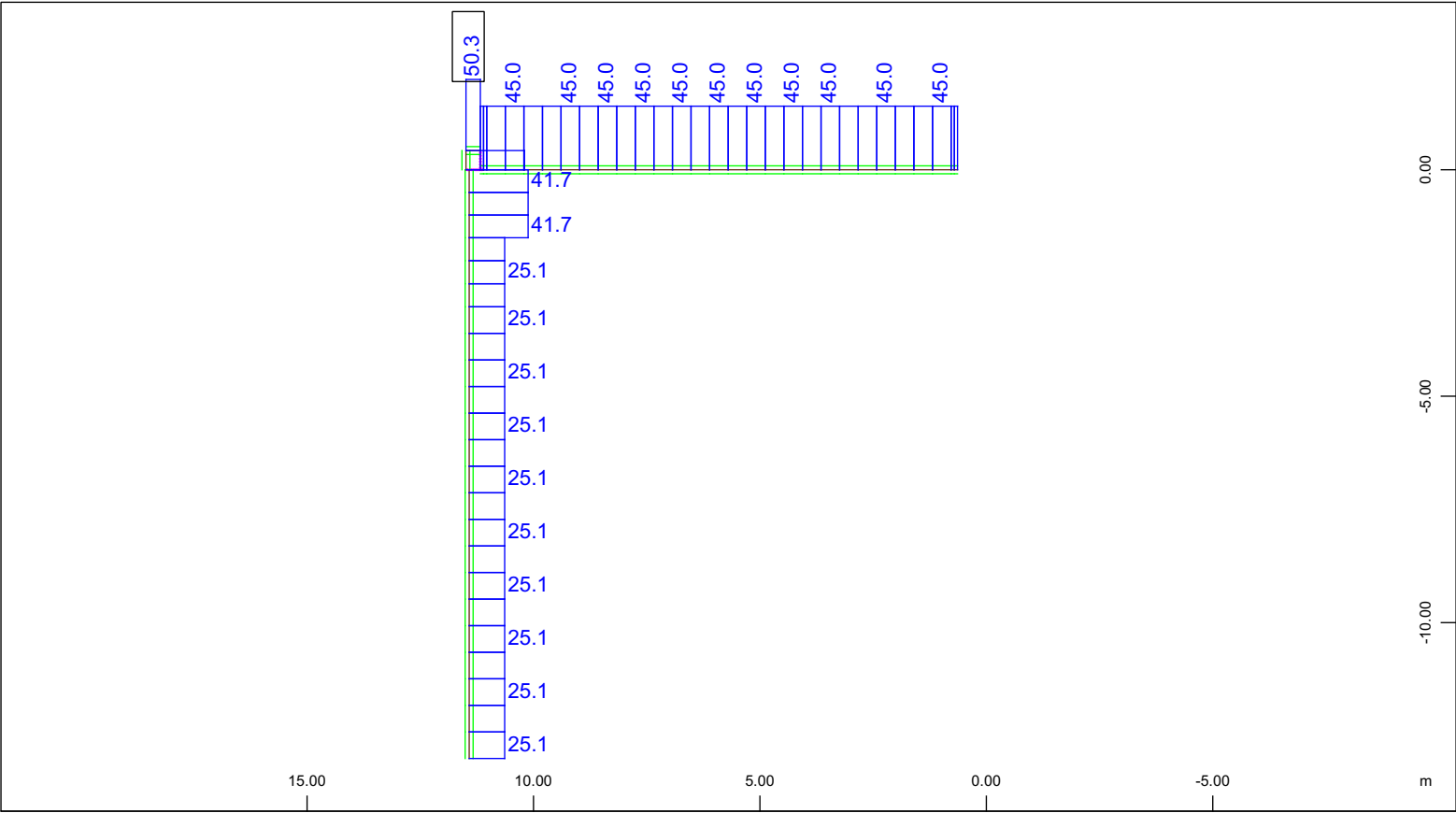
M 1 : 153
X * 0.707
Y * 0.707



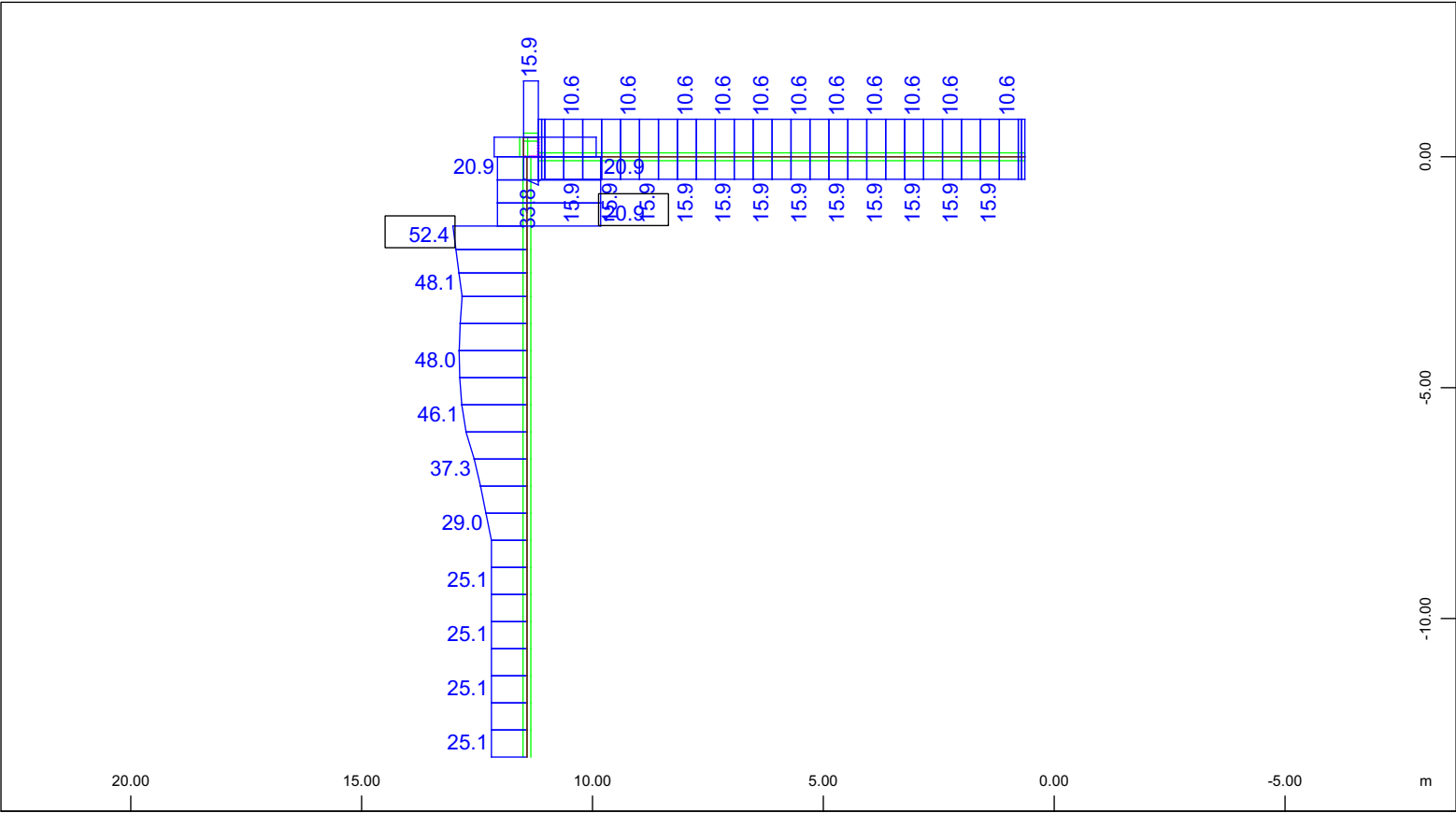
Beam Elements , Longitudinal Reinforcements Lay. 3, Design Case 1 , 1 cm 3D = 5.00 cm2 (Max=9.24)
Beam Elements , Longitudinal Reinforcements Lay. 4, Design Case 1 , 1 cm 3D = 5.00 cm2 (Max=9.24)

M 1 : 169
X * 0.707
Y * 0.707

Geometria ponticello
Armatura Minima

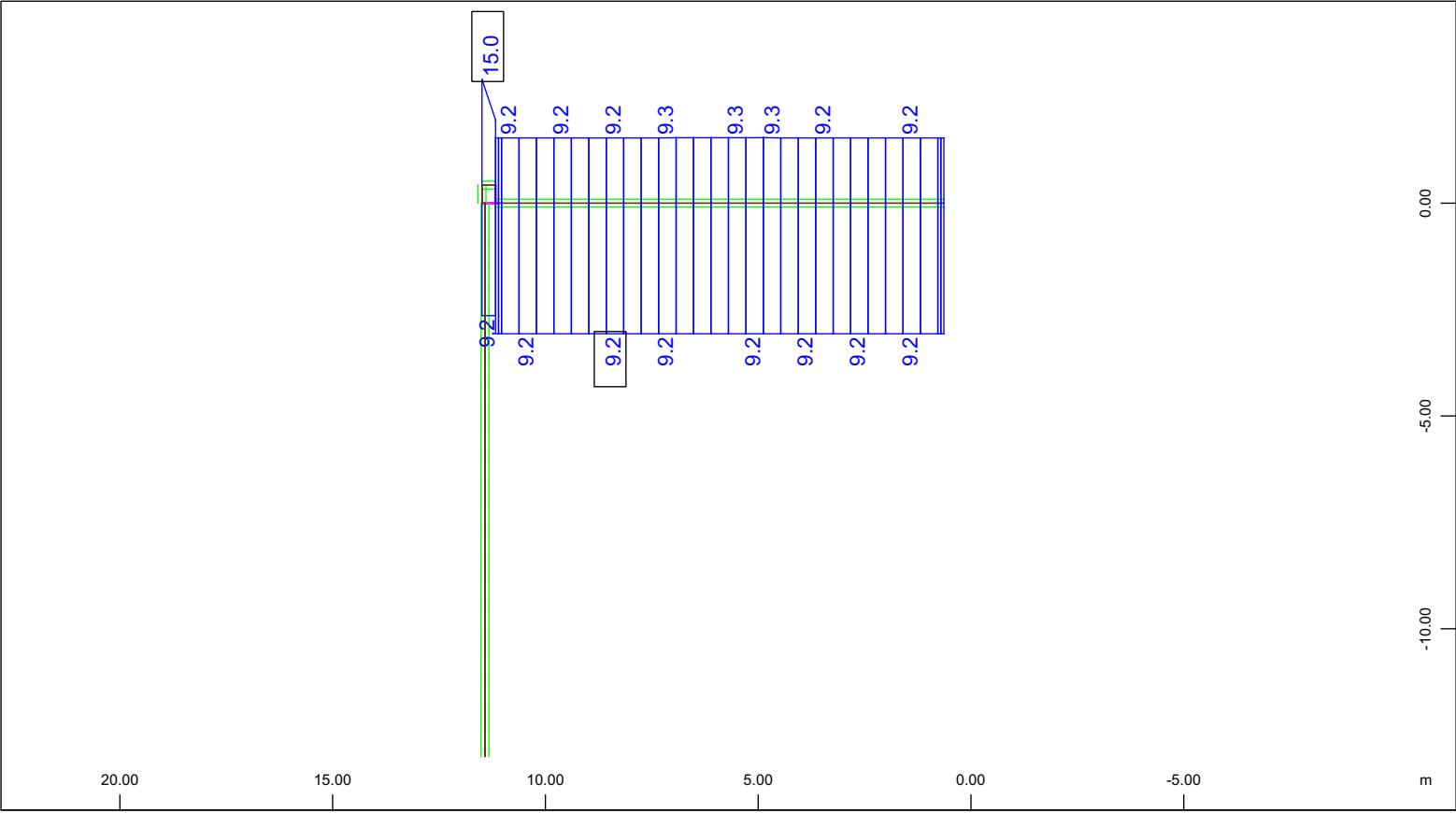



Geometria ponticello
Graphical Output



 Beam Elements , Longitudinal Reinforcements Lay. 1, Design Case 12 , 1 cm = 50.0 cm2 (Max=52.4)
 Beam Elements , Longitudinal Reinforcements Lay. 2, Design Case 12 , 1 cm = 20.0 cm2 (Max=20.9)

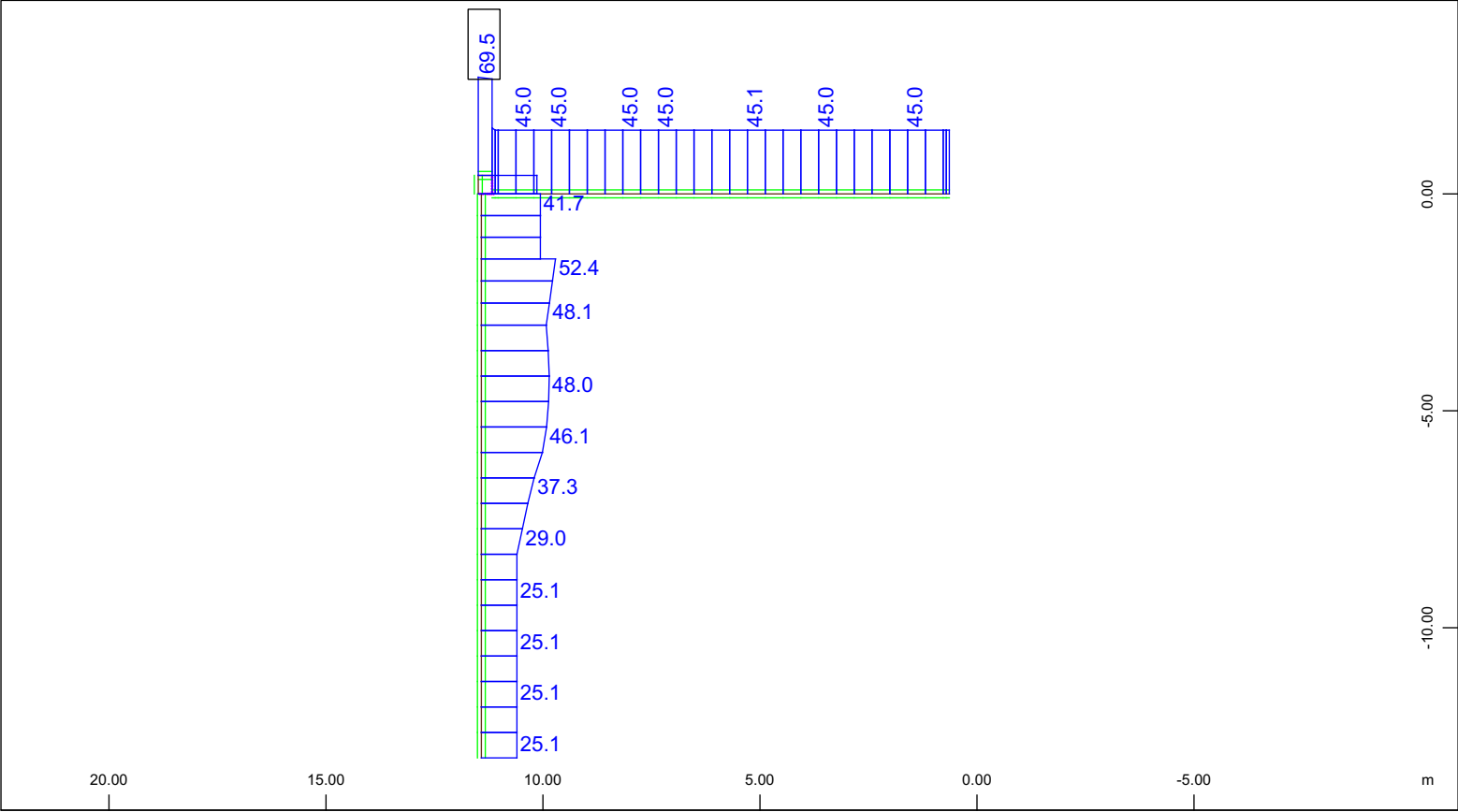
M 1 : 153
X * 0.707
Y * 0.707



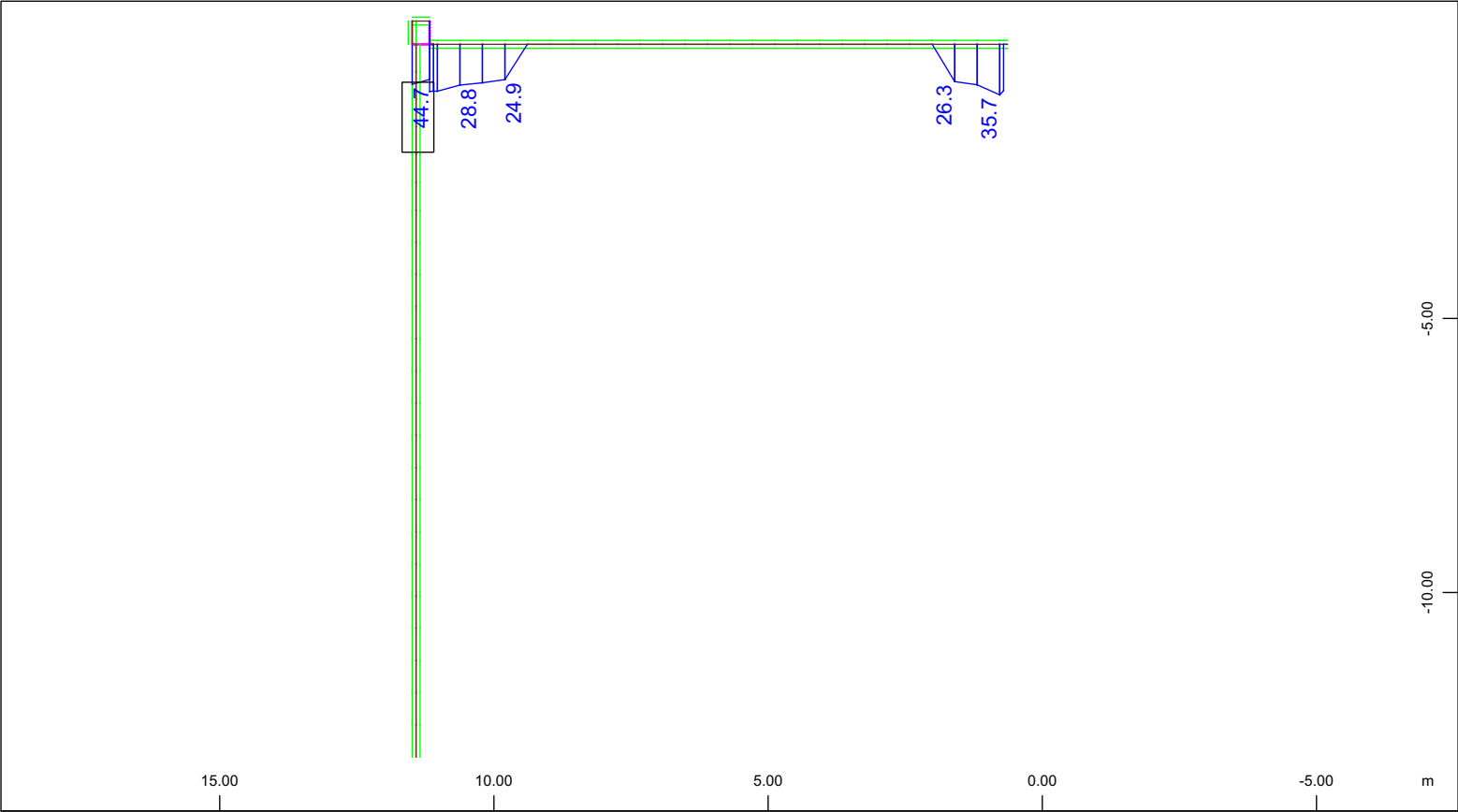

 Beam Elements , Longitudinal Reinforcements Lay. 3, Design Case 12 , 1 cm = 5.00 cm2 (Max=9.24)
 Beam Elements , Longitudinal Reinforcements Lay. 4, Design Case 12 , 1 cm = 10.0 cm2 (Max=15.0)

M 1 : 166
X * 0.707
Y * 0.707

Geometria ponticello
Graphical Output

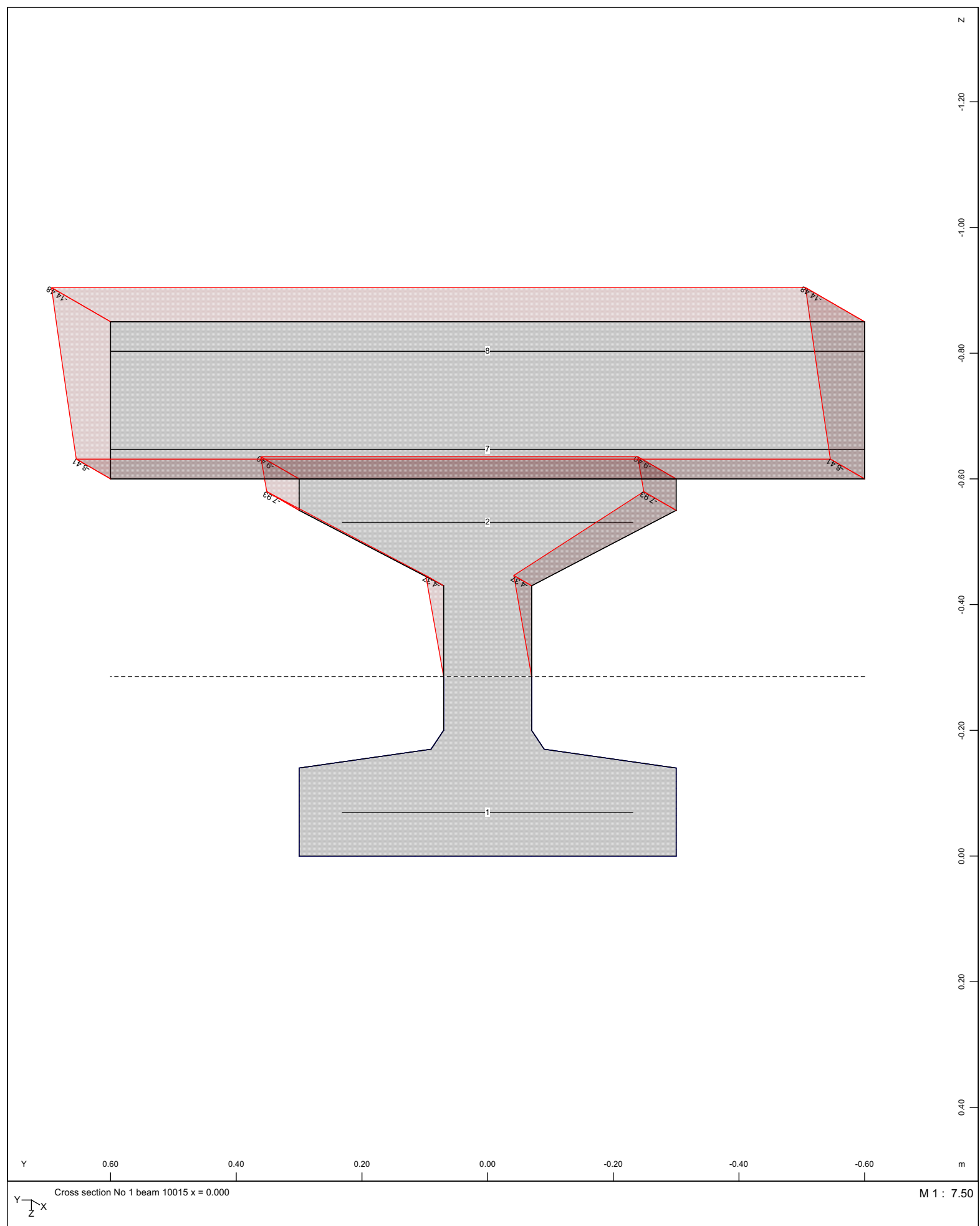


M 1 : 163
X * 0.707
Y * 0.707

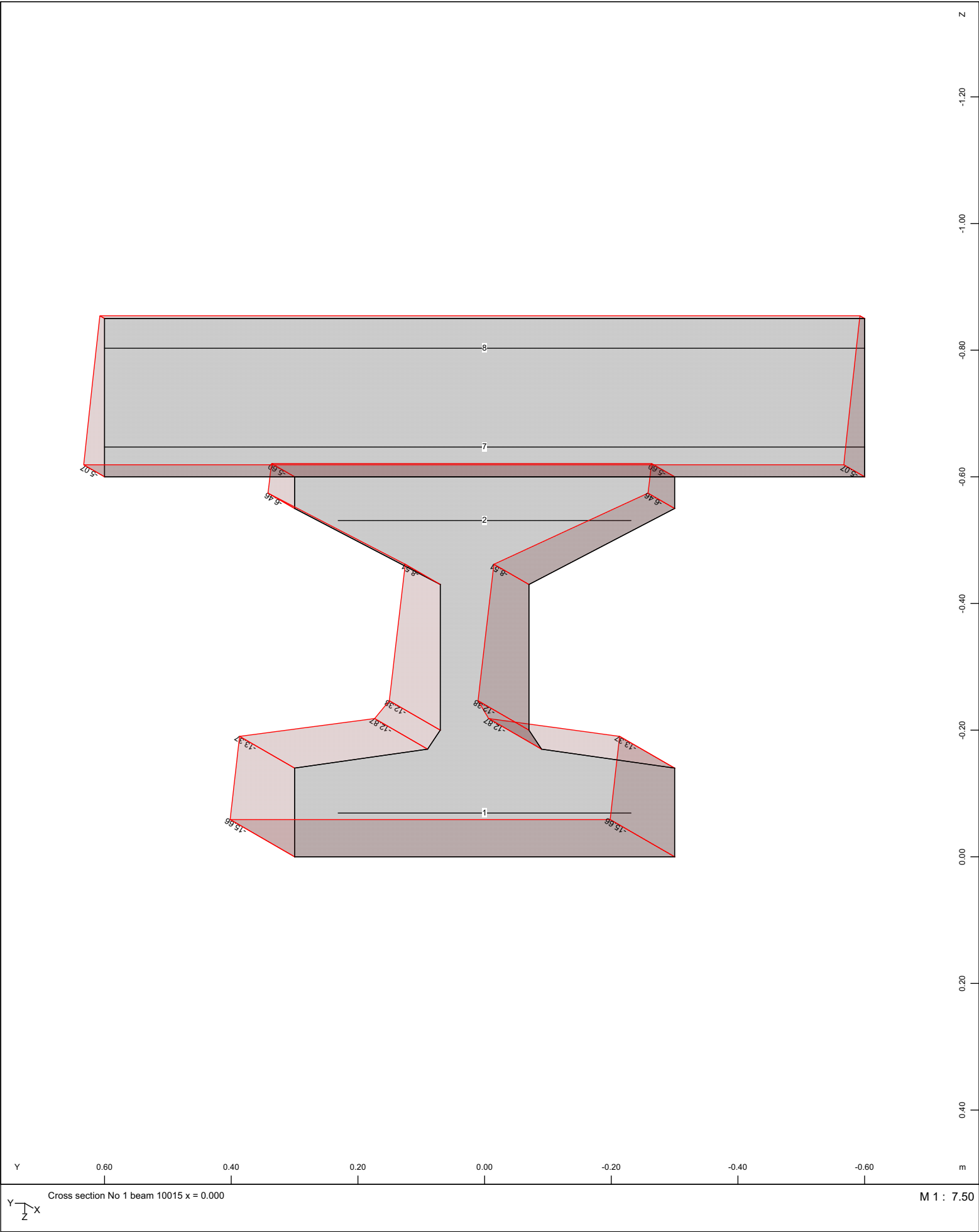


M 1 : 129
X * 0.707
Y * 0.707

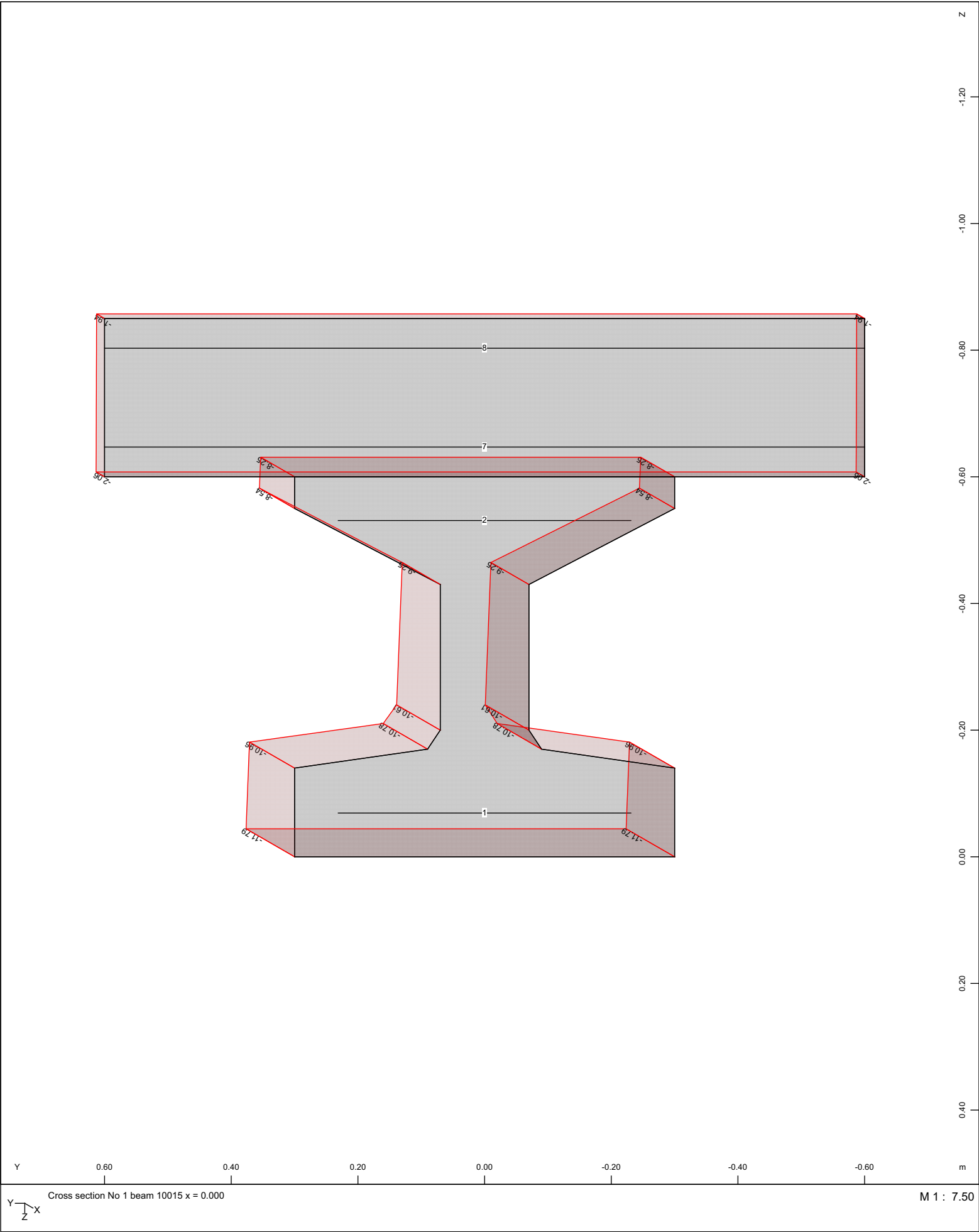
Geometria ponticello
Total stresses plot for SLS RARE



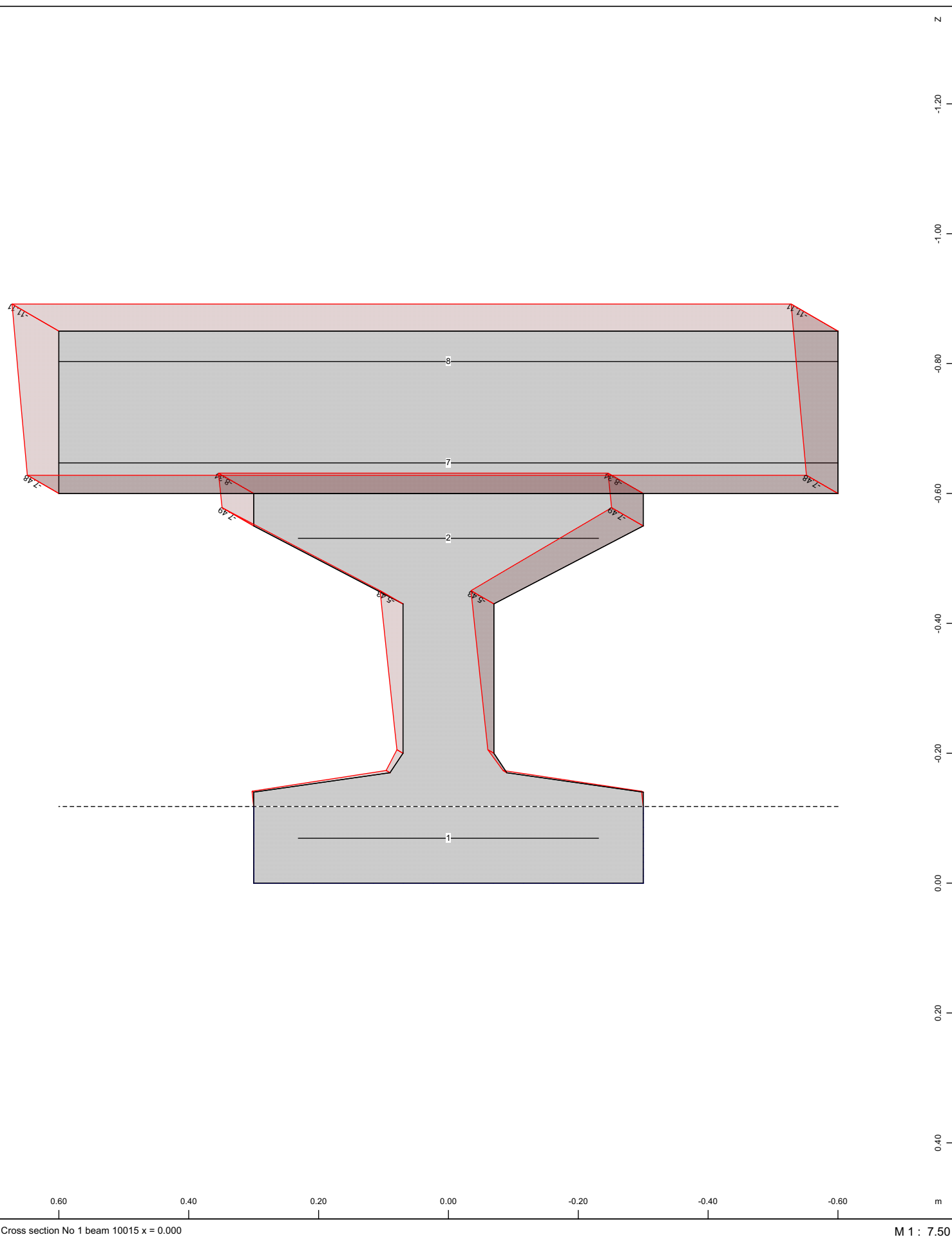
Geometria ponticello
Total stresses plot for SLS QP



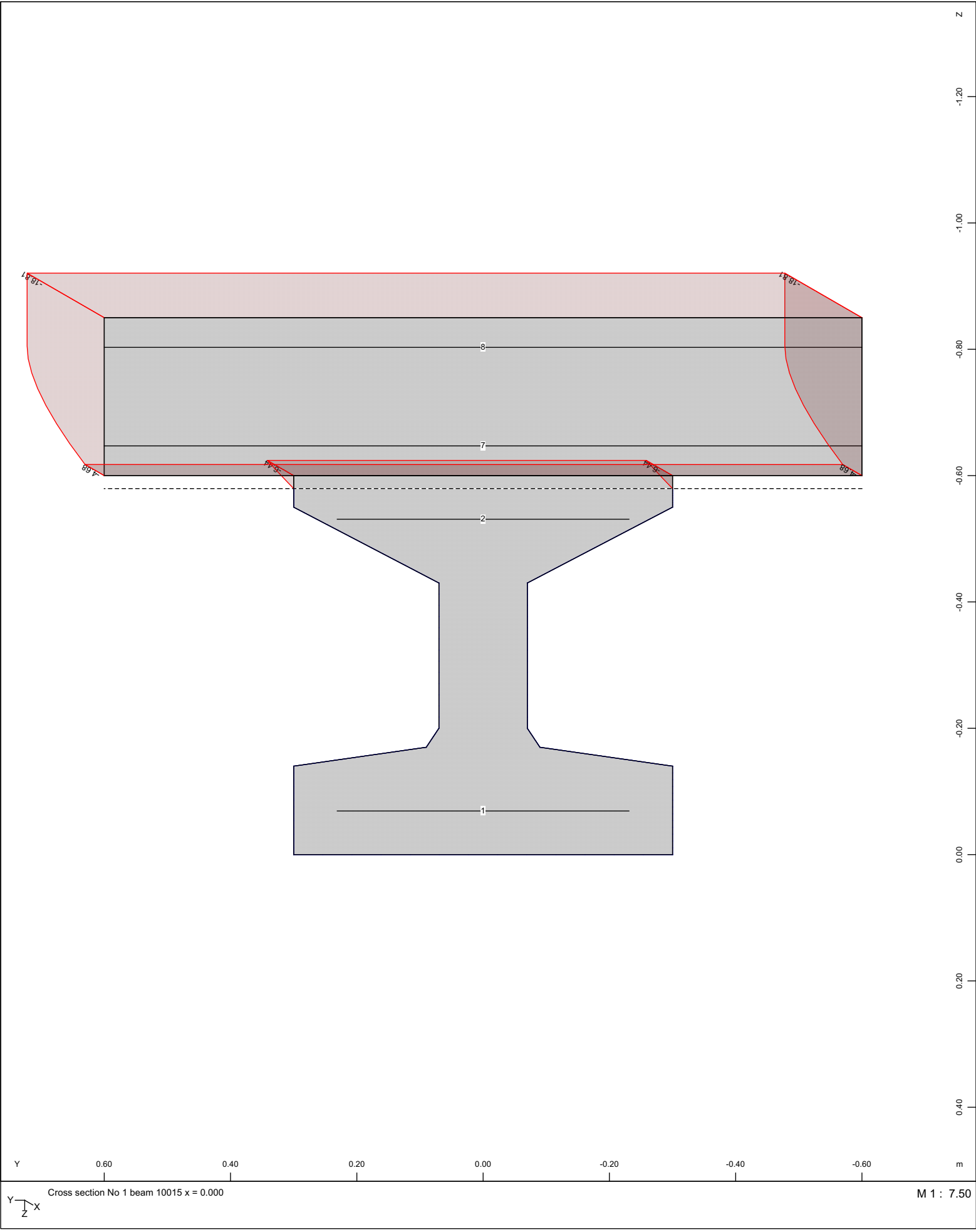
Geometria ponticello
Total stresses plot for SLS QP decompression



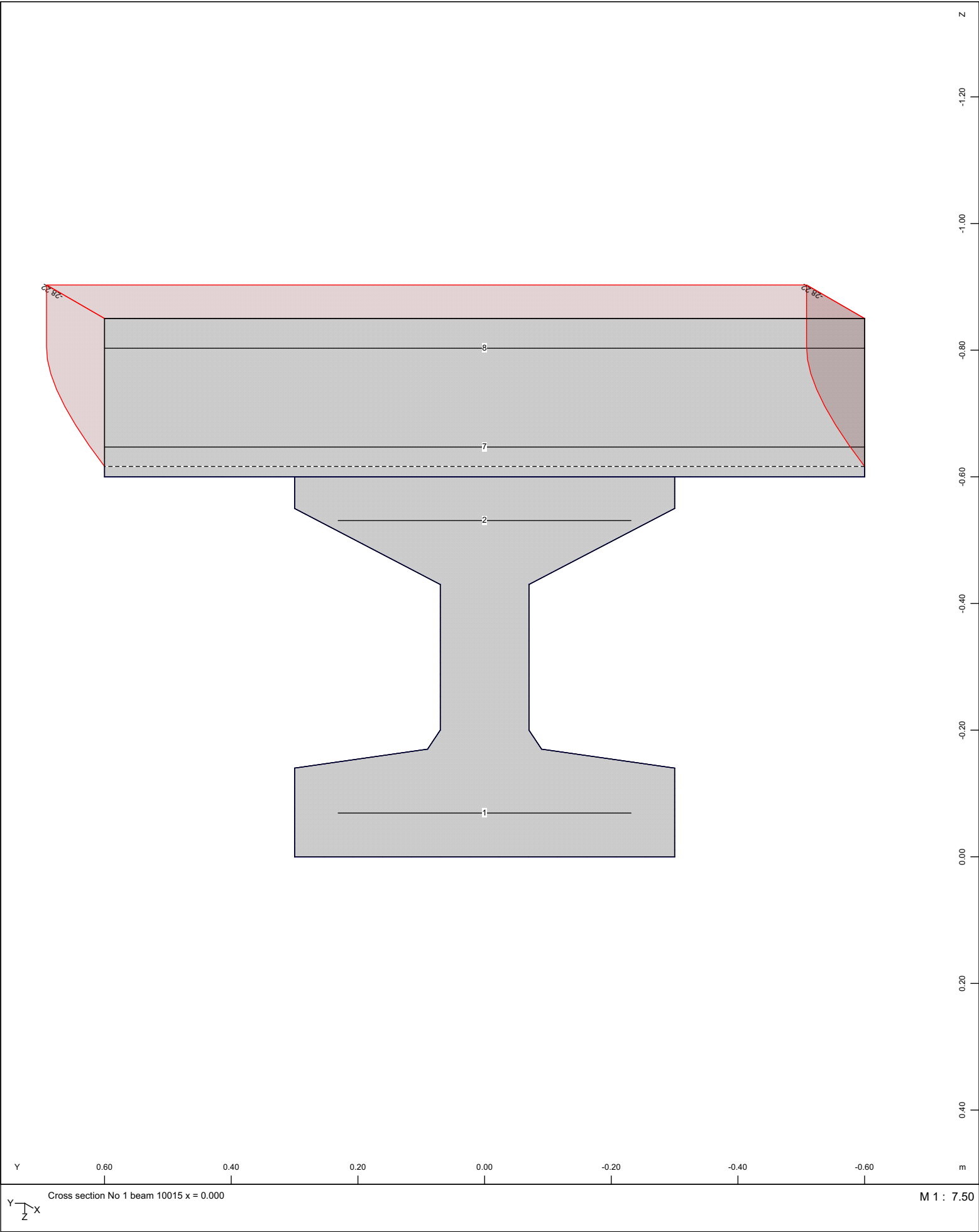
Total stresses plot for SLS FREQUENT



Geometria ponticello
Total stresses plot for ULS



Geometria ponticello
Total stresses plot for SLV



Intervento 1.09bis

Impalcato 7

ALLEGATO – PARTE 4

Telaio con trave ad “L” - $L = 8.4$ m

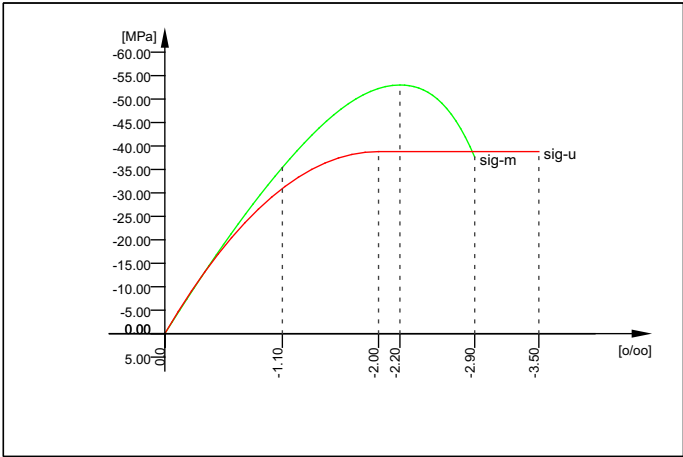
Output Modello di calcolo.

Parametri, Materiali e Sezioni

Default design code is Decreto Ministeriale per le Costruzioni 2008 (Italia) V 25.0
structure class: A2 (ponti_strad)
Wind zone : 1 cat. III
Snow load zone : I
Earthquake zone : 1

No. 1 CA 45/55 (Italia) (mod)

Youngs-modulus	E	36416 [MPa]	Safetyfactor		1.50 [-]
Poisson-Ratio	mu	0.20 [-]	Strength	fc	38.80 [MPa]
Shear-modulus	G	15173 [MPa]	Nomin. strength	fcn	45.00 [MPa]
Compression modulus		20231 [MPa]	Tens. strength	fctm	3.83 [MPa]
Weight		25.0 [kN/m3]	5 % t.strength	fctk	2.68 [MPa]
Weight buoyancy		25.0 [kN/m3]	95 % t.strength	fctk	4.93 [MPa]
Temp.elongat.coeff.		1.00E-05 [1/°K]	Bond strength	fbd	3.99 [MPa]
			Service strength		53.00 [MPa]
			Fatigue strength		21.21 [MPa]
Stress-Strain for serviceability			eps[o/oo]	sig-m[MPa]	E-t[MPa]
Is only valid within the defined stress range			0.000	0.00	36283
			-1.100	-35.40	26746
			-2.200	-53.00	0
			-2.900	-37.62	-53828
			Safetyfactor		1.20
Stress-Strain for ultimate load			eps[o/oo]	sig-u[MPa]	E-t[MPa]
Is only valid within the defined stress range			0.000	0.00	38802
			-2.000	-38.80	0
			-3.500	-38.80	0
			Safetyfactor		1.50

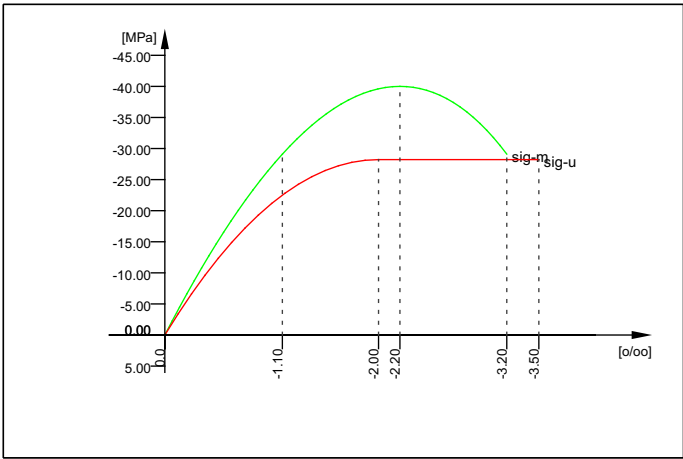


CA 45/55 (Italia) (mod)

No. 2 CA 32/40 (Italia) (mod)

Youngs-modulus	E	33643 [MPa]	Safetyfactor		1.50 [-]
Poisson-Ratio	mu	0.20 [-]	Strength	fc	28.22 [MPa]
Shear-modulus	G	14018 [MPa]	Nomin. strength	fcn	32.00 [MPa]
Compression modulus		18690 [MPa]	Tens. strength	fctm	3.10 [MPa]
Weight		25.0 [kN/m3]	5 % t.strength	fctk	2.17 [MPa]
Weight buoyancy		25.0 [kN/m3]	95 % t.strength	fctk	3.93 [MPa]
Temp.elongat.coeff.		1.00E-05 [1/°K]	Bond strength	fbd	3.18 [MPa]
			Service strength		40.00 [MPa]
			Fatigue strength		16.41 [MPa]
Stress-Strain for serviceability			eps[o/oo]	sig-m[MPa]	E-t[MPa]
Is only valid within the defined stress range			0.000	0.00	33346
			-1.100	-29.09	18930
			-2.200	-40.00	0
			-3.200	-29.11	-22873
			Safetyfactor		1.20
Stress-Strain for ultimate load			eps[o/oo]	sig-u[MPa]	E-t[MPa]
Is only valid within the defined stress range			0.000	0.00	28220
			-2.000	-28.22	0
			-3.500	-28.22	0
			Safetyfactor		1.50

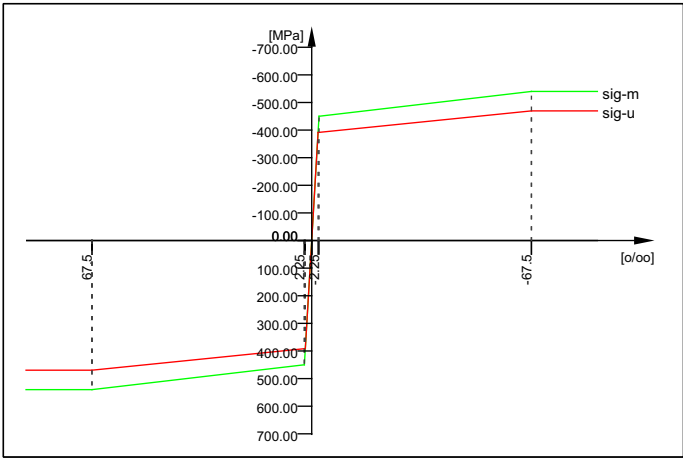
Parametri, Materiali e Sezioni



CA 32/40 (Italia) (mod)

No. 3 B 450 C (Italia)

Youngs-modulus	E	200000 [MPa]	Safetyfactor	1.15 [-]
Poisson-Ratio	mu	0.30 [-]	Yield stress	fy 450.00 [MPa]
Shear-modulus	G	76923 [MPa]	Compr.yield val.	fyc 450.00 [MPa]
Compression modulus		166667 [MPa]	Tens. strength	ft 540.00 [MPa]
Weight		78.5 [kN/m3]	Compr. strength	fc 540.00 [MPa]
Weight buoyancy		78.5 [kN/m3]	Ultim. plast. strain	67.50 [o/oo]
Temp.elongat.coeff.	1.20E-05	[1/°K]	relative bond coeff.	1.00 [-]
max. thickness	32.00	[mm]	EC2 bondcoeff. K1	0.80 [-]
			Hardening modulus	0.00 [MPa]
			Proportional limit	450.00 [MPa]
			Dynamic stress range	152.17 [MPa]
Stress-Strain for serviceability	eps[o/oo]	sig-m[MPa]	E-t[MPa]	
Is also extended beyond the	1000.000	540.00	0	
defined stress range	67.500	540.00	0	
	2.250	450.00	1379	
	0.000	0.00	200000	
	-2.250	-450.00	200000	
	-67.500	-540.00	1379	
	-1000.000	-540.00	0	
	Safetyfactor	1.15		
Stress-Strain for ultimate load	eps[o/oo]	sig-u[MPa]	E-t[MPa]	
Is also extended beyond the	1000.000	469.57	0	
defined stress range	67.500	469.57	0	
	1.957	391.30	1194	
	0.000	0.00	200000	
	-1.957	-391.30	200000	
	-67.500	-469.57	1194	
	-1000.000	-469.57	0	
	Safetyfactor	(1.15)		



B 450 C (Italia)

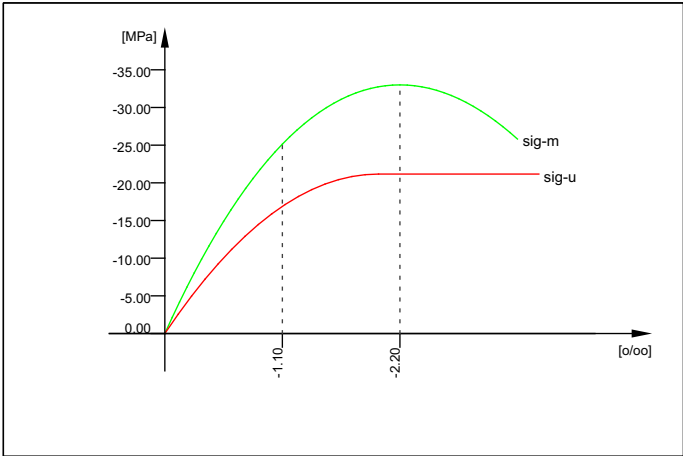
No. 5 CA 25/30 (Italia) (mod)

Youngs-modulus	E	31447 [MPa]	Safetyfactor	1.50 [-]
Poisson-Ratio	mu	0.20 [-]	Strength	fc 21.16 [MPa]
Shear-modulus	G	13103 [MPa]	Nomin. strength	fcn 25.00 [MPa]
Compression modulus		17471 [MPa]	Tens. strength	fctm 2.56 [MPa]
Weight		25.0 [kN/m3]	5 % t.strength	fctk 1.79 [MPa]
Weight buoyancy		25.0 [kN/m3]	95 % t.strength	fctk 3.33 [MPa]
Temp.elongat.coeff.	1.00E-05	[1/°K]	Bond strength	fbd 2.69 [MPa]
			Service strength	33.00 [MPa]

Parametri, Materiali e Sezioni

No. 5 CA 25/30 (Italia) (mod)

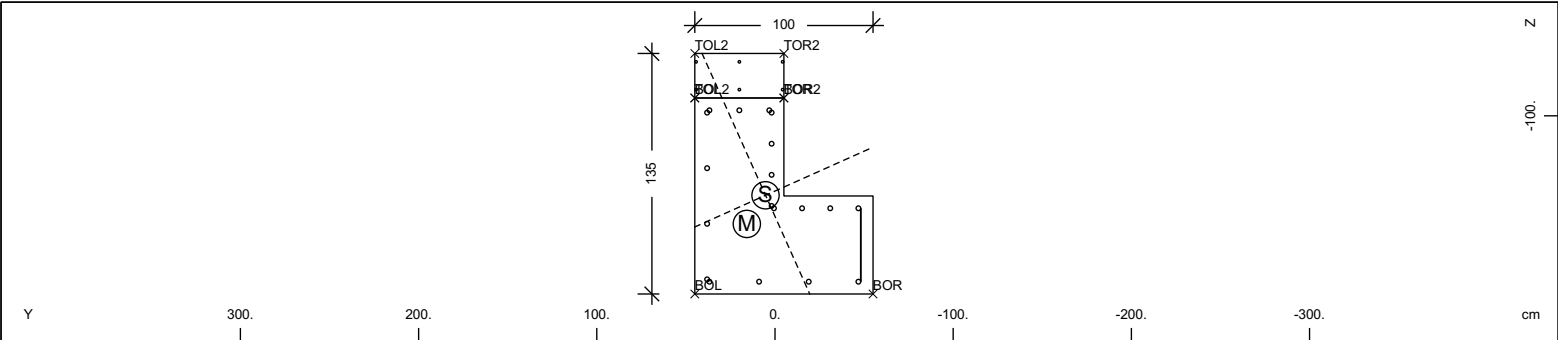
Stress-Strain for serviceability Is only valid within the defined stress range	Fatigue strength		12.70 [MPa]
	eps[o/oo]	sig-m[MPa]	E-t[MPa]
	0.000	0.00	31476
	-1.100	-25.14	14632
	-2.200	-33.00	0
Stress-Strain for ultimate load Is only valid within the defined stress range	-3.300	-25.81	-12791
	Safetyfactor		1.20
	eps[o/oo]	sig-u[MPa]	E-t[MPa]
	0.000	0.00	21165
	-2.000	-21.17	0
	-3.500	-21.16	0
	Safetyfactor		1.50



CA 25/30 (Italia) (mod)

Cross-sections		static		properties					
No.	Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam	
	NoR	It[m4]	[m2]	[m4]	[m]	[m]	[MPa]	[kN/m]	
1	=	Trave							
(BEAM)	=	Composit	with materials:		1	2			
	1	9.7977E-01		1.421E-01	0.053	0.158	36416	23.75	
	3	7.483E-02		7.125E-02	-0.554	-0.393	15173		
				-3.964E-02					
1.1	=	CS 9							
	1	8.2500E-01		7.626E-02	0.033	0.122	36416	20.62	
	3	6.474E-02		6.302E-02	-0.458	-0.352	15173		
				-2.521E-02					
1.2	=	CS 22							
	1	9.7977E-01		1.421E-01	0.053	0.158	36416	23.75	
	3	7.483E-02		7.125E-02	-0.554	-0.393	15173		
				-3.964E-02					
3	=	paraghiaia							
(CENT)	2	5.4000E-01		3.645E-02	-0.300	-0.300	33643	13.50	
	3	3.807E-02		1.620E-02	0.000	0.000	14018		
4	=	diaframma							
(CENT)	2	9.9000E-01		6.682E-02	0.000	0.000	33643	24.75	
	3	1.353E-01		9.983E-02	0.000	0.000	14018		
5	=	palo							
(CENT)	5	5.0265E-01		2.011E-02	0.000	0.000	31447	12.57	
	3	4.021E-02		2.011E-02	0.000	0.000	13103		

Cross section No. 1 - Trave



Cross section No. 1 - Trave

Parametri, Materiali e Sezioni

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[cm]	[MPa]	[kN/m]
1	9.7977E-01		1.421E-01	5.30	15.81	36416	23.75
3	7.483E-02		7.125E-02	-55.40	-39.31	15173	
			-3.964E-02				

Main axis of inertia rotated at 24.11 [°]
Main moments of inertia 1.5980E-01 5.3508E-02 [m4]

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
[1/°K]	ymax	zmax	hzmin	AB		Tau-B	Tau-Vz
	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-60.30	-79.60		5.542E-01	3	6.164E+00	4.508E-01
	39.70	55.40		9.500E-01			2.034E+00

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.1667	0.2004	0.000	0.000	0.000	0.000	-30.82	-29.71

Partial cross sections

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	8.2500E-01		7.626E-02	3.33	36416	20.62
3	4.842E-02		6.302E-02	-45.83	15173	
			-2.521E-02			
2	1.2500E-01		6.510E-04	20.00	33643	3.12
3	2.859E-02		2.604E-03	-122.50	14018	

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	9.4048E-01		1.364E-01	5.38	30347	22.80
	7.483E-02		6.824E-02	-55.25	12644	
			-3.815E-02			

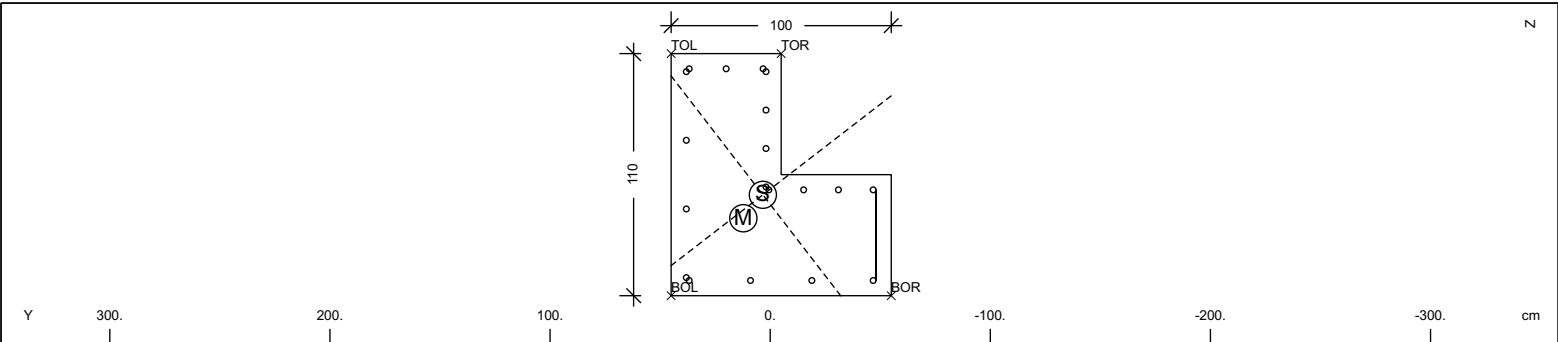
Additional Design Data

M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[m2/m]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	5.700		34.38		0.0	0.523	0.352	0.172	-0.098
1	4.200		39.29		0.0	0.348	0.191	0.158	-0.063
2	1.500		16.67		0.0	0.008	0.002	0.007	0.000

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	1	3	15.93	15.93		-5.00	-6.90	72.96		
M2	1	3	15.93	15.93		-23.10	-48.10	72.96		
M3	1	3	10.62	10.62		20.00	-103.10	48.64		
M4	1	3	15.93	15.93		38.10	-55.00	72.96		
M5	1	3	15.93	15.93		1.90	-75.60	72.96		
M6	1	3	5.31	5.31		-48.10	-27.50	24.32		
M7	2	3	3.85	3.85	3.85	20.00	-114.70			
M8	2	3	3.85	3.85		20.00	-130.30			

Cross section No. 1.1 = CS 9



Cross section No. 1

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	8.2500E-01		7.626E-02	3.33	36416	20.62
3	6.474E-02		6.302E-02	-45.83	15173	
			-2.521E-02			

Parametri, Materiali e Sezioni

Main axis of inertia rotated at 37.65 [°]
Main moments of inertia 9.5700E-02 4.3576E-02 [m4]

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
	ymax	zmax	hzmin	AB		Tau-B	Tau-Vz
[1/°K]	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-58.33	-64.17		5.542E-01	3		
	41.67	45.83		8.250E-01			

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.1385	0.1554	0.000	0.000	0.000	0.000	-22.53	-29.09

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	8.2500E-01		7.626E-02	3.33	30347	20.62
	6.474E-02		6.302E-02	-45.83	12644	
			-2.521E-02			

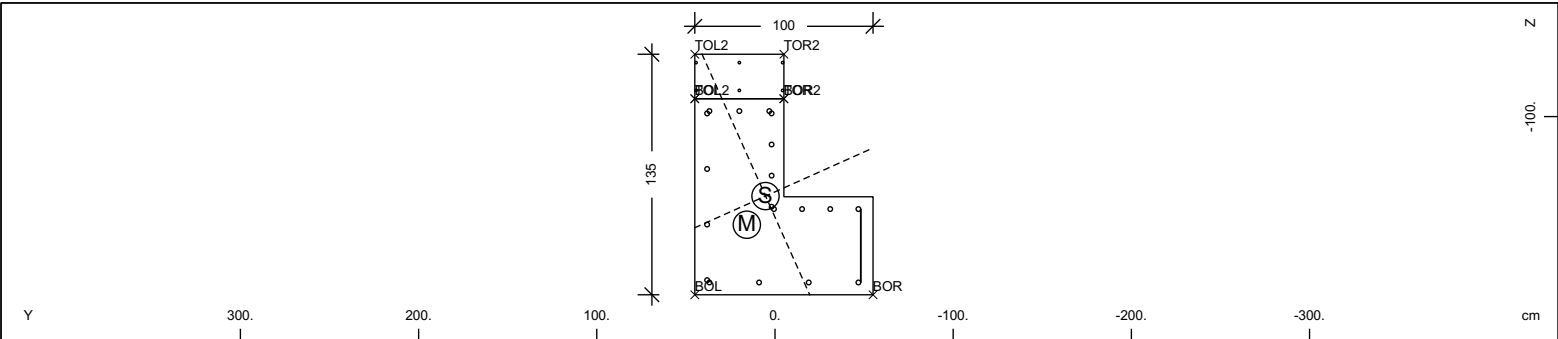
Additional Design Data

M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[m2/m]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	4.200		39.29		0.0	0.348	0.191	0.158	-0.063

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	1	3	15.93	15.93		-5.00	-6.90	72.96		
M2	1	3	15.93	15.93		-23.10	-48.10	72.96		
M3	1	3	10.62	10.62		20.00	-103.10	48.64		
M4	1	3	15.93	15.93		38.10	-55.00	72.96		
M5	1	3	15.93	15.93		1.90	-75.60	72.96		
M6	1	3	5.31	5.31		-48.10	-27.50	24.32		

Cross section No. 1.2 = CS 22



Cross section No. 1

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	9.7977E-01		1.421E-01	5.30	36416	23.75
3	7.483E-02		7.125E-02	-55.40	15173	
			-3.964E-02			

Main axis of inertia rotated at 24.11 [°]
Main moments of inertia 1.5980E-01 5.3508E-02 [m4]

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
	ymax	zmax	hzmin	AB		Tau-B	Tau-Vz
[1/°K]	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-60.30	-79.60		5.542E-01	3	6.164E+00	4.508E-01
	39.70	55.40		9.500E-01			2.034E+00

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.1667	0.2004	0.000	0.000	0.000	0.000	-30.82	-29.71

Partial cross sections

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	8.2500E-01		7.626E-02	3.33	36416	20.62
3	4.842E-02		6.302E-02	-45.83	15173	
			-2.521E-02			

Parametri, Materiali e Sezioni

2	1.2500E-01	6.510E-04	20.00	33643	3.12
3	2.859E-02	2.604E-03	-122.50	14018	

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
1	9.4048E-01		1.364E-01	5.38	30347	22.80
	7.483E-02		6.824E-02	-55.25	12644	
			-3.815E-02			

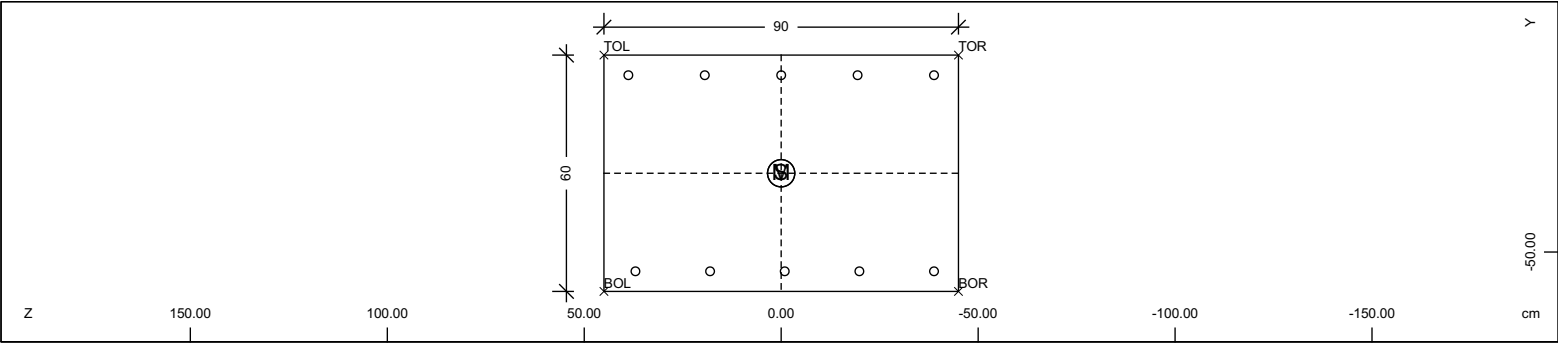
Additional Design Data

M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[m2/m]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	5.700		34.38		0.0	0.523	0.352	0.172	-0.098
1	4.200		39.29		0.0	0.348	0.191	0.158	-0.063
2	1.500		16.67		0.0	0.008	0.002	0.007	0.000

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	1	3	15.93	15.93		-5.00	-6.90	72.96		
M2	1	3	15.93	15.93		-23.10	-48.10	72.96		
M3	1	3	10.62	10.62		20.00	-103.10	48.64		
M4	1	3	15.93	15.93		38.10	-55.00	72.96		
M5	1	3	15.93	15.93		1.90	-75.60	72.96		
M6	1	3	5.31	5.31		-48.10	-27.50	24.32		
M7	2	3	3.85	3.85	3.85	20.00	-114.70			
M8	2	3	3.85	3.85		20.00	-130.30			

Cross section No. 3 - paraghiaia



Cross section No. 3 - paraghiaia

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[cm]	[MPa]	[kN/m]
2	5.4000E-01		3.645E-02	-30.00	-30.00	33643	13.50
3	3.807E-02		1.620E-02	0.00	0.00	14018	

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
	ymax	zmax	hzmin	AB		Tau-B	Tau-Vz
[1/°K]	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-30.00	-45.00		3.024E-01	3	9.206E+00	2.778E+00
	30.00	45.00		5.400E-01			4.602E-15

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0511	0.0511	0.000	0.000	0.000	0.000	0.00	0.00

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
2	5.4000E-01		3.645E-02	-30.00	28036	13.50
	3.807E-02		1.620E-02	0.00	11682	

Additional Design Data

M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[m2/m]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	3.000		36.00		0.0	0.132	0.091	0.041	

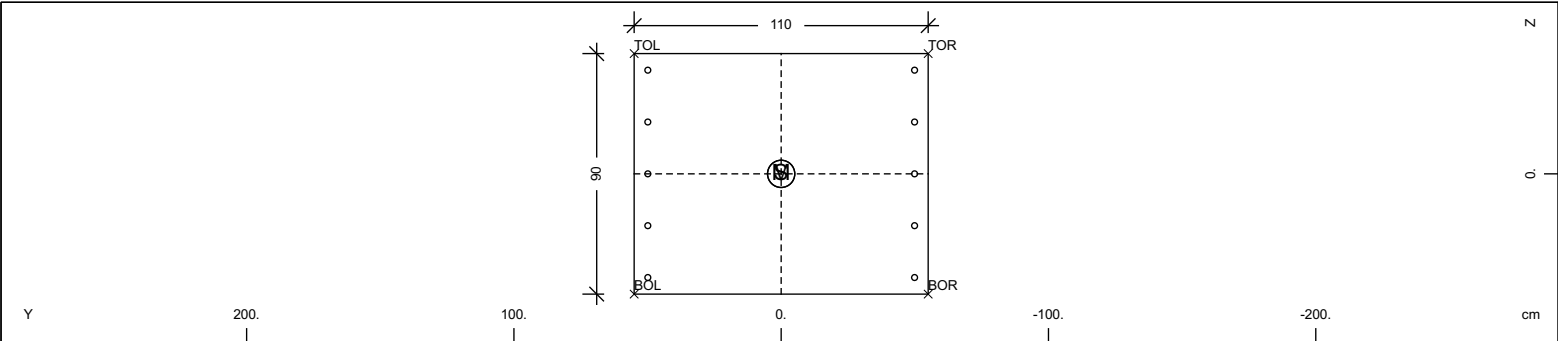
Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	2	3	15.17	15.17		-5.10	0.00			
M2	2	3	14.83	14.83		-54.90	-0.90			

Parametri, Materiali e Sezioni

Cross section rotated by 90.00 degrees

Cross section No. 4 - diaframma



Cross section No. 4 - diaframma

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[cm]	[MPa]	[kN/m]
2	9.9000E-01		6.682E-02	0.00	0.00	33643	24.75
3	1.353E-01		9.983E-02	0.00	0.00	14018	

Additional static properties of cross section

Alfa-T	ymin	zmin	hymin	AK	MB	Tau-T	Tau-Vy
[1/°K]	ymin	zmin	hzmin	AB		Tau-B	Tau-Vz
	[cm]	[cm]	[cm]	[m2]		[1/m3]	[1/m2]
1.0E-05	-55.00	-45.00		5.563E-01	3	3.641E+00	1.515E+00
	55.00	45.00		9.900E-01			

Section values for warping

Wmin[m2]	Wmax[m2]	CM[m6]	CMS[m4]	ASwyy[m6]	ASwzz[m6]	ry[cm]	rz[cm]
-0.0646	0.0646	0.000	0.000	0.000	0.000	0.00	0.00

Design values of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[MPa]	[kN/m]
2	9.9000E-01		6.682E-02	0.00	28036	24.75
	1.353E-01		9.983E-02	0.00	11682	

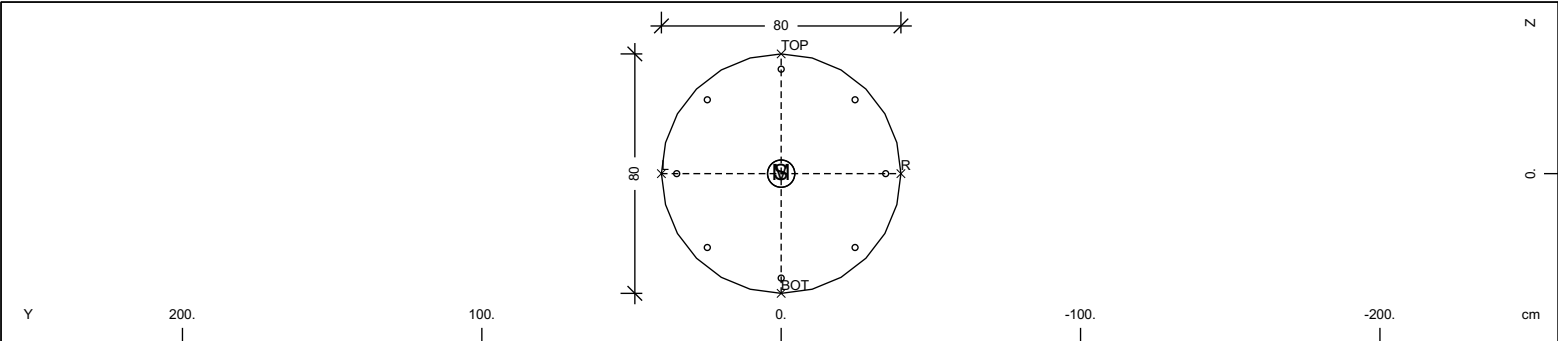
Additional Design Data

M	periphery-O/-I	deff	t-min	t-max	SMP	thet-p	thet-y	thet-z	thet-yz
	[m2/m]	[m2/m]	[cm]	[cm]	[o/o]	[tm2/m]	[tm2/m]	[tm2/m]	[tm2/m]
	4.000		49.50		0.0	0.417	0.167	0.250	

Reinforcement global values

Layer	mS	mR	area	lower-A	upper-A	yL	zL	L-tors	N-pr	M-pr
			[cm2]	[cm2]	[cm2]	[cm]	[cm]	[cm]	[kN]	[kNm]
M1	2	3	15.17	15.17		-49.90	0.00			
M2	2	3	15.17	15.17		49.90	0.00			

Cross section No. 5 - palo



Cross section No. 5 - palo

Static properties of cross section

Mat	A[m2]	Ay/Az/Ayz	Iy/Iz/Iyz	ys/zs	y/z-sc	modules	gam
NoR	It[m4]	[m2]	[m4]	[cm]	[cm]	[MPa]	[kN/m]
5	5.0265E-01		2.011E-02	0.00	0.00	31447	12.57
3	4.021E-02		2.011E-02	0.00	0.00	13103	

Geometria ponticello

Structural Points

Number	x[m]	y[m]	z[m]	t[m]	h[m]	Title /	Support Conditions
1	0.300	0.000	0.000	0.000	0.000		
2	0.600	0.000	0.000	0.000	0.000		
3	0.850	0.000	0.000	0.000	0.000		
4	1.100	0.000	0.000	0.000	0.000		
5	8.500	0.000	0.000	0.000	0.000		
6	8.750	0.000	0.000	0.000	0.000		
7	9.000	0.000	0.000	0.000	0.000		
8	9.300	0.000	0.000	0.000	0.000		
11	0.300	0.000	0.000	0.000	0.000		
12	0.600	0.000	0.000	0.000	0.000		
17	9.000	0.000	0.000	0.000	0.000		
18	9.300	0.000	0.000	0.000	0.000		
19	0.550	0.000	-3.025	0.000	0.000		
20	9.050	0.000	-3.025	0.000	0.000		
100	0.550	0.000	0.000	0.000	0.000		
101	0.550	0.000	-13.000	0.000	0.000	PP	
108	9.050	0.000	-13.000	0.000	0.000	PP	
110	0.550	0.000	-1.500	0.000	0.000		
111	9.050	0.000	-1.500	0.000	0.000		
200	9.050	0.000	0.000	0.000	0.000		

Structural Lines

Number	Ref	gpt-a	gpt-b	Grp	MNo	b[m]	div	Title /	Support Conditions
1		100	2	1					
2		2	3	1					
3		3	4	1					
4		4	5	1					
5		5	6	1					
6		6	7	1					
7		7	200	1					
8		101	19	3					
9		19	110	3					
10		108	20	3					
11		20	111	3					
14		110	100	3					
15		111	200	3					

Structural Lines - Beam Elements

Number	GPT-A	GPT-B	Type	Grp	NoS	NoP	div	Hinges-start	Hinges-end
1	100	2		1	1	0	0		
2	2	3		1	1	0	0		
3	3	4		1	1	0	0		
4	4	5		1	1	0	0		
5	5	6		1	1	0	0		
6	6	7		1	1	0	0		
7	7	200		1	1	0	0		
8	101	19		3	5	1	0		
9	19	110		3	5	1	0		
10	108	20		3	5	2	0		
11	20	111		3	5	2	0		
14	110	100		3	4	1	0		
15	111	200		3	4	2	0		



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Groups

Grp	number	type	min-no	max-no	Title
1	19	BEAM	10001	10019	
3	46	BEAM	30001	30046	

Nodal Coordinates and Supports

Number	X[m]	Y[m]	Z[m]	Support Conditions		
1	0.300	0.000	0.000			
2	0.600	0.000	0.000			
3	0.850	0.000	0.000			
4	1.100	0.000	0.000			
5	8.500	0.000	0.000			
6	8.750	0.000	0.000			
7	9.000	0.000	0.000			
8	9.300	0.000	0.000			
11	0.300	0.000	0.000			
12	0.600	0.000	0.000			
17	9.000	0.000	0.000			
18	9.300	0.000	0.000			
19	0.550	0.000	-3.025			
20	9.050	0.000	-3.025			
100	0.550	0.000	0.000			
101	0.550	0.000	-13.000	PX	PY	PZ
108	9.050	0.000	-13.000	PX	PY	PZ
110	0.550	0.000	-1.500			
111	9.050	0.000	-1.500			
200	9.050	0.000	0.000			
201	1.669	0.000	0.000			
202	2.238	0.000	0.000			
203	2.808	0.000	0.000			
204	3.377	0.000	0.000			
205	3.946	0.000	0.000			
206	4.515	0.000	0.000			
207	5.085	0.000	0.000			
208	5.654	0.000	0.000			
209	6.223	0.000	0.000			
210	6.792	0.000	0.000			
211	7.362	0.000	0.000			
212	7.931	0.000	0.000			
213	0.550	0.000	-12.413			
214	0.550	0.000	-11.826			
215	0.550	0.000	-11.240			
216	0.550	0.000	-10.653			
217	0.550	0.000	-10.066			
218	0.550	0.000	-9.479			
219	0.550	0.000	-8.893			
220	0.550	0.000	-8.306			
221	0.550	0.000	-7.719			
222	0.550	0.000	-7.132			
223	0.550	0.000	-6.546			
224	0.550	0.000	-5.959			
225	0.550	0.000	-5.372			
226	0.550	0.000	-4.785			
227	0.550	0.000	-4.199			
228	0.550	0.000	-3.612			
229	0.550	0.000	-2.517			
230	0.550	0.000	-2.008			
231	9.050	0.000	-12.413			
232	9.050	0.000	-11.826			
233	9.050	0.000	-11.240			
234	9.050	0.000	-10.653			
235	9.050	0.000	-10.066			
236	9.050	0.000	-9.479			
237	9.050	0.000	-8.893			
238	9.050	0.000	-8.306			
239	9.050	0.000	-7.719			
240	9.050	0.000	-7.132			
241	9.050	0.000	-6.546			
242	9.050	0.000	-5.959			
243	9.050	0.000	-5.372			
244	9.050	0.000	-4.785			
245	9.050	0.000	-4.199			
246	9.050	0.000	-3.612			
247	9.050	0.000	-2.517			
248	9.050	0.000	-2.008			
249	0.550	0.000	-1.000			
250	0.550	0.000	-0.500			
251	9.050	0.000	-1.000			
252	9.050	0.000	-0.500			



Vincoli dappoggio a tempo infinito

Nodal Coordinates and Supports			
Number	X[m]	Y[m]	Z[m]
MIN	0.300	0.000	-13.000
MAX	9.300	0.000	0.000

Beam Elements

Grp	Number	Node	x[m]	NoS	NoP	reference	Hinges	direction	local	y-axis
1	10001	100	0.000	1	0-0	0.000		0.000	-1.000	0.000
		2	0.050	1		0.050				
1	10002	2	0.000	1	0-0	0.000		0.000	-1.000	0.000
		3	0.250	1		0.250				
1	10003	3	0.000	1	0-0	0.000		0.000	-1.000	0.000
		4	0.250	1		0.250				
1	10004	4	0.000	1	0-0	0.000		0.000	-1.000	0.000
		201	0.569	1		0.569				
1	10005	201	0.000	1	0-0	0.569		0.000	-1.000	0.000
		202	0.569	1		1.138				
1	10006	202	0.000	1	0-0	1.138		0.000	-1.000	0.000
		203	0.569	1		1.708				
1	10007	203	0.000	1	0-0	1.708		0.000	-1.000	0.000
		204	0.569	1		2.277				
1	10008	204	0.000	1	0-0	2.277		0.000	-1.000	0.000
		205	0.569	1		2.846				
1	10009	205	0.000	1	0-0	2.846		0.000	-1.000	0.000
		206	0.569	1		3.415				
1	10010	206	0.000	1	0-0	3.415		0.000	-1.000	0.000
		207	0.569	1		3.985				
1	10011	207	0.000	1	0-0	3.985		0.000	-1.000	0.000
		208	0.569	1		4.554				
1	10012	208	0.000	1	0-0	4.554		0.000	-1.000	0.000
		209	0.569	1		5.123				
1	10013	209	0.000	1	0-0	5.123		0.000	-1.000	0.000
		210	0.569	1		5.692				
1	10014	210	0.000	1	0-0	5.692		0.000	-1.000	0.000
		211	0.569	1		6.262				
1	10015	211	0.000	1	0-0	6.262		0.000	-1.000	0.000
		212	0.569	1		6.831				
1	10016	212	0.000	1	0-0	6.831		0.000	-1.000	0.000
		5	0.569	1		7.400				
1	10017	5	0.000	1	0-0	0.000		0.000	-1.000	0.000
		6	0.250	1		0.250				
1	10018	6	0.000	1	0-0	0.000		0.000	-1.000	0.000
		7	0.250	1		0.250				
1	10019	7	0.000	1	0-0	0.000		0.000	-1.000	0.000
		200	0.050	1		0.050				
3	30001	101	0.000	5	1	0.000		1.000	0.000	0.000
		213	0.587	5		0.587				
3	30002	213	0.000	5	1	0.587		1.000	0.000	0.000
		214	0.587	5		1.174				
3	30003	214	0.000	5	1	1.174		1.000	0.000	0.000
		215	0.587	5		1.760				
3	30004	215	0.000	5	1	1.760		1.000	0.000	0.000
		216	0.587	5		2.347				
3	30005	216	0.000	5	1	2.347		1.000	0.000	0.000
		217	0.587	5		2.934				
3	30006	217	0.000	5	1	2.934		1.000	0.000	0.000
		218	0.587	5		3.521				
3	30007	218	0.000	5	1	3.521		1.000	0.000	0.000
		219	0.587	5		4.107				
3	30008	219	0.000	5	1	4.107		1.000	0.000	0.000
		220	0.587	5		4.694				
3	30009	220	0.000	5	1	4.694		1.000	0.000	0.000
		221	0.587	5		5.281				
3	30010	221	0.000	5	1	5.281		1.000	0.000	0.000
		222	0.587	5		5.868				
3	30011	222	0.000	5	1	5.868		1.000	0.000	0.000
		223	0.587	5		6.454				
3	30012	223	0.000	5	1	6.454		1.000	0.000	0.000
		224	0.587	5		7.041				
3	30013	224	0.000	5	1	7.041		1.000	0.000	0.000
		225	0.587	5		7.628				
3	30014	225	0.000	5	1	7.628		1.000	0.000	0.000
		226	0.587	5		8.215				
3	30015	226	0.000	5	1	8.215		1.000	0.000	0.000
		227	0.587	5		8.801				
3	30016	227	0.000	5	1	8.801		1.000	0.000	0.000
		228	0.587	5		9.388				
3	30017	228	0.000	5	1	9.388		1.000	0.000	0.000
		19	0.587	5		9.975				
3	30018	19	0.000	5	1	0.000		1.000	0.000	0.000

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Beam Elements

Grp	Number	Node	x[m]	NoS	NoP	reference Hinges	direction	local	y-axis
3	30018	229	0.508	5		0.508			
3	30019	229	0.000	5	1	0.508	1.000	0.000	0.000
		230	0.508	5		1.017			
3	30020	230	0.000	5	1	1.017	1.000	0.000	0.000
		110	0.508	5		1.525			
3	30021	108	0.000	5	2	0.000	1.000	0.000	0.000
		231	0.587	5		0.587			
3	30022	231	0.000	5	2	0.587	1.000	0.000	0.000
		232	0.587	5		1.174			
3	30023	232	0.000	5	2	1.174	1.000	0.000	0.000
		233	0.587	5		1.760			
3	30024	233	0.000	5	2	1.760	1.000	0.000	0.000
		234	0.587	5		2.347			
3	30025	234	0.000	5	2	2.347	1.000	0.000	0.000
		235	0.587	5		2.934			
3	30026	235	0.000	5	2	2.934	1.000	0.000	0.000
		236	0.587	5		3.521			
3	30027	236	0.000	5	2	3.521	1.000	0.000	0.000
		237	0.587	5		4.107			
3	30028	237	0.000	5	2	4.107	1.000	0.000	0.000
		238	0.587	5		4.694			
3	30029	238	0.000	5	2	4.694	1.000	0.000	0.000
		239	0.587	5		5.281			
3	30030	239	0.000	5	2	5.281	1.000	0.000	0.000
		240	0.587	5		5.868			
3	30031	240	0.000	5	2	5.868	1.000	0.000	0.000
		241	0.587	5		6.454			
3	30032	241	0.000	5	2	6.454	1.000	0.000	0.000
		242	0.587	5		7.041			
3	30033	242	0.000	5	2	7.041	1.000	0.000	0.000
		243	0.587	5		7.628			
3	30034	243	0.000	5	2	7.628	1.000	0.000	0.000
		244	0.587	5		8.215			
3	30035	244	0.000	5	2	8.215	1.000	0.000	0.000
		245	0.587	5		8.801			
3	30036	245	0.000	5	2	8.801	1.000	0.000	0.000
		246	0.587	5		9.388			
3	30037	246	0.000	5	2	9.388	1.000	0.000	0.000
		20	0.587	5		9.975			
3	30038	20	0.000	5	2	0.000	1.000	0.000	0.000
		247	0.508	5		0.508			
3	30039	247	0.000	5	2	0.508	1.000	0.000	0.000
		248	0.508	5		1.017			
3	30040	248	0.000	5	2	1.017	1.000	0.000	0.000
		111	0.508	5		1.525			
3	30041	110	0.000	4	1	0.000	1.000	0.000	0.000
		249	0.500	4		0.500			
3	30042	249	0.000	4	1	0.500	1.000	0.000	0.000
		250	0.500	4		1.000			
3	30043	250	0.000	4	1	1.000	1.000	0.000	0.000
		100	0.500	4		1.500			
3	30044	111	0.000	4	2	0.000	1.000	0.000	0.000
		251	0.500	4		0.500			
3	30045	251	0.000	4	2	0.500	1.000	0.000	0.000
		252	0.500	4		1.000			
3	30046	252	0.000	4	2	1.000	1.000	0.000	0.000
		200	0.500	4		1.500			

Summary of all beam elements

Groups				
Grp	TotLength	Max.Length	TotWeight	Surface
	[m]	[m]	[t]	[m2]
1	8.500	0.569	20.188	12.750
3	26.000	0.587	36.328	69.805

Sum	34.500		56.515	82.555

Geometria ponticello
Definizione dei Casi di Carico

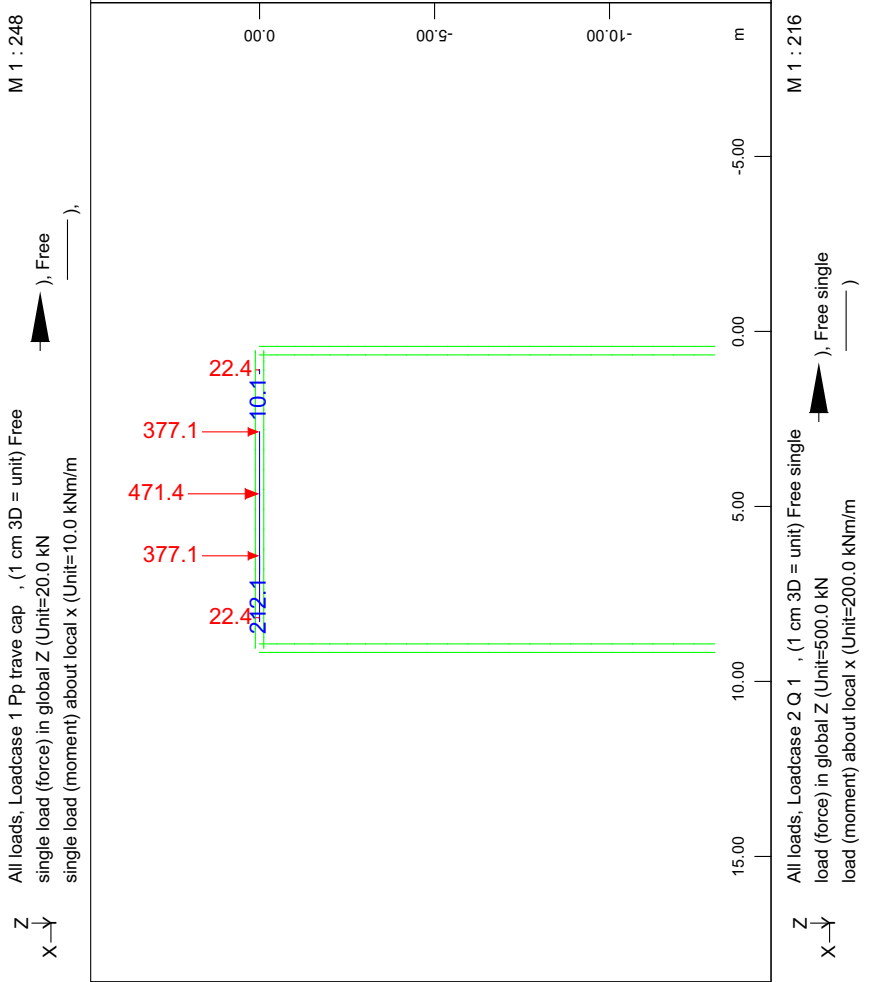
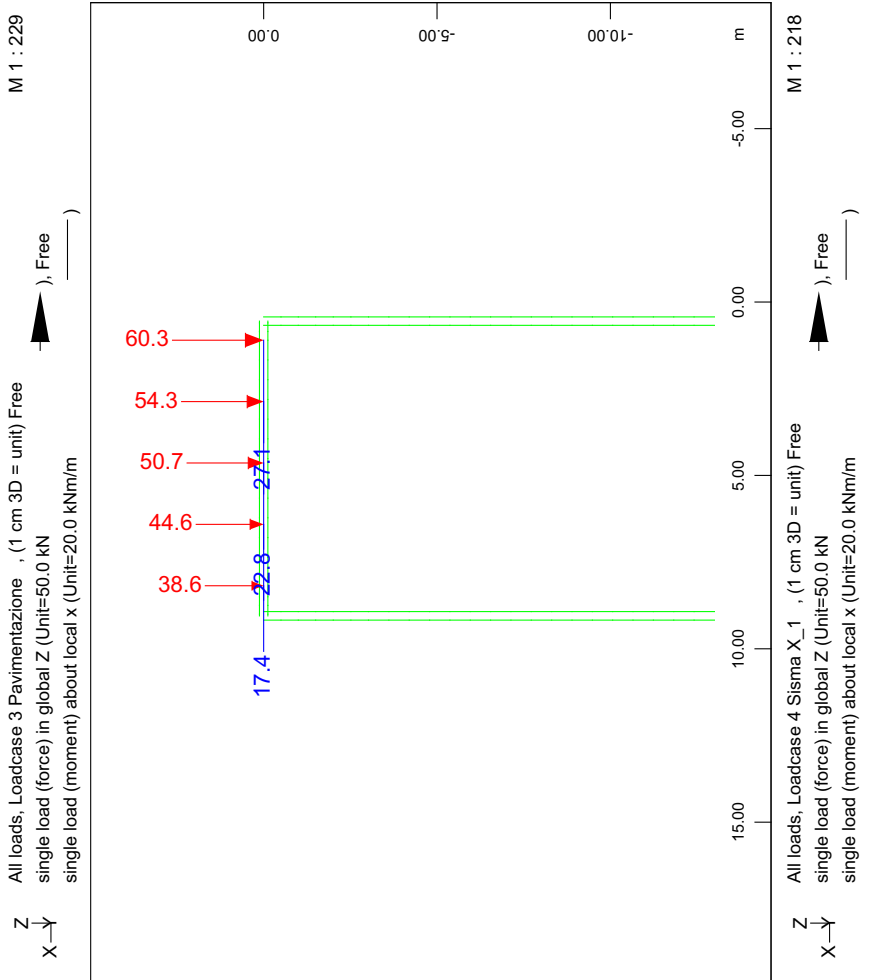
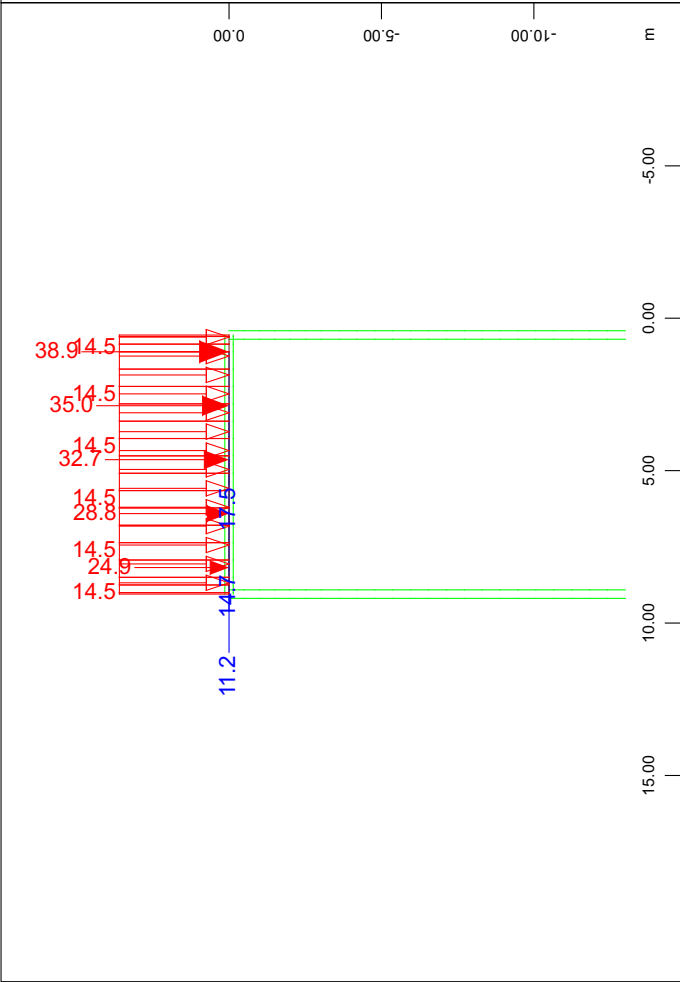
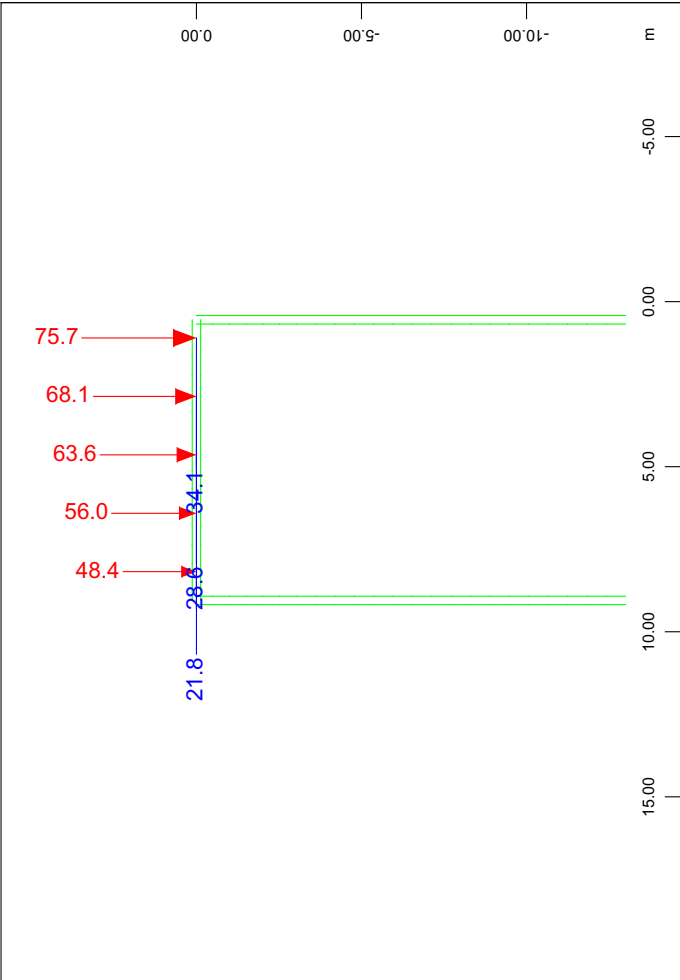
Actions									
type	T	sup	Title	$\gamma-u$	$\gamma-f$	$\gamma-a$	$\psi-0$	$\psi-1$	$\psi-2$
C	G	perc	Ritiro	1.20	0.00	1.00	1.00	1.00	1.00
G1	G	perm	Carichi G1	1.35	1.00	1.00	1.00	1.00	1.00
G2	G	perc	Carichi G2	1.50	0.00	1.00	1.00	1.00	1.00
R	G	perm	Spinta delle terre	1.35	1.00	1.00	1.00	1.00	1.00
P	P	perm	Carichi G2	1.00	1.00	1.00	1.00	1.00	1.00
Q	Q	cond	variable load	1.35	0.00	1.00	0.75	0.75	0.00
Q_A	Q	excl	Carichi V da traffico	1.35	0.00	1.00	0.75	0.75	0.00
Q_B	Q	perc	Carichi V da traffico sismico	1.00	1.00	1.00	1.00	1.00	1.00
Q_C	Q	usex	Carichi di frenatura	1.35	0.00	1.00	0.75	0.75	0.00
T	Q	unsi	Temperatura	1.20	0.00	1.00	0.60	0.60	0.50
E	E	usex	Earthquake	1.00	1.00	1.00	1.00	1.00	1.00
E_X	E	excl	Sisma	1.00	1.00	1.00	1.00	1.00	1.00

Geometria ponticello
Analisi Lineare

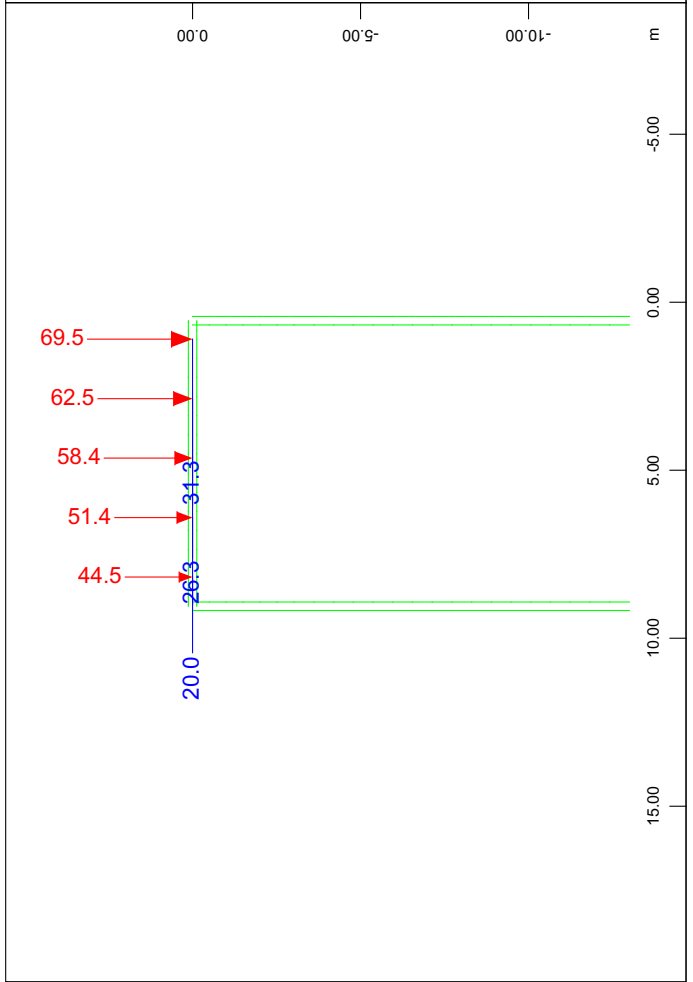
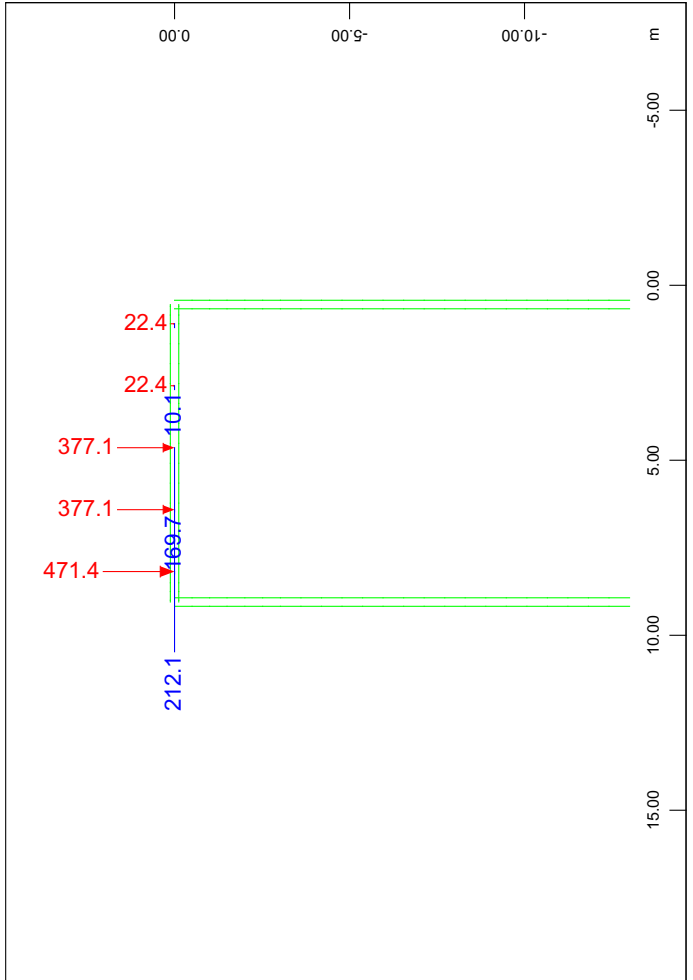
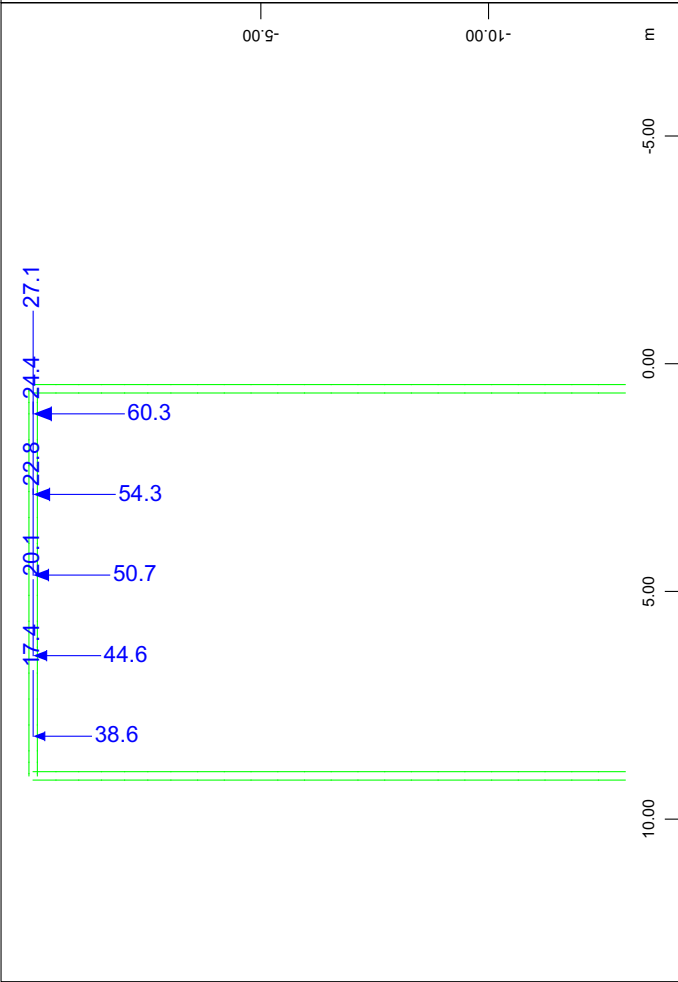
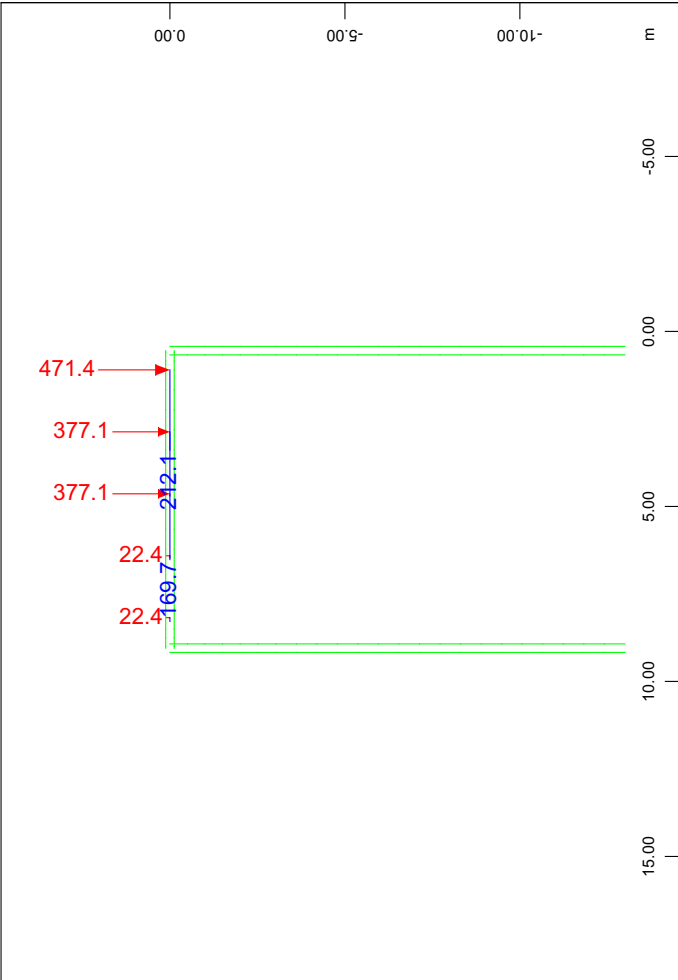
Sum of Reactions and Loads

LC Title	PXX[kN]	PYY[kN]	PZZ[kN]
1 Pp trave cap	0.0	-0.1	283.5
	0.0	0.0	-283.5
2 Q 1	0.0	-0.7	1270.3
	0.0	0.0	-1270.3
3 Pavimentazione	0.0	-0.2	311.9
	0.0	0.0	-311.9
4 Sisma X_1	0.0	-0.1	248.4
	0.0	0.0	-248.4
5 Sisma X_2	0.0	0.1	-248.4
	0.0	0.0	248.4
6 Qk sismico	0.0	-0.2	286.3
	0.0	0.0	-286.3
7 Q 2	0.0	-0.7	1270.3
	0.0	0.0	-1270.3
8 Q 3	0.0	-0.7	1270.3
	0.0	0.0	-1270.3
23 Spinta terre	0.0	0.0	0.0
	0.0	0.0	0.0

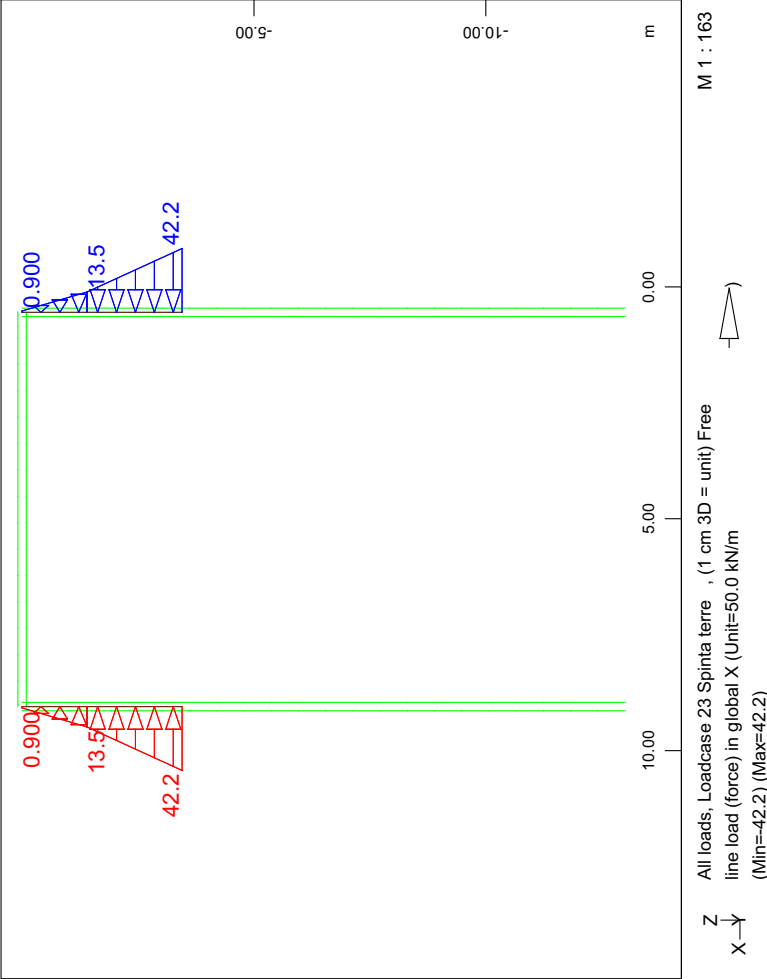
Geometria ponticello
Rappresentazione dei Carichi



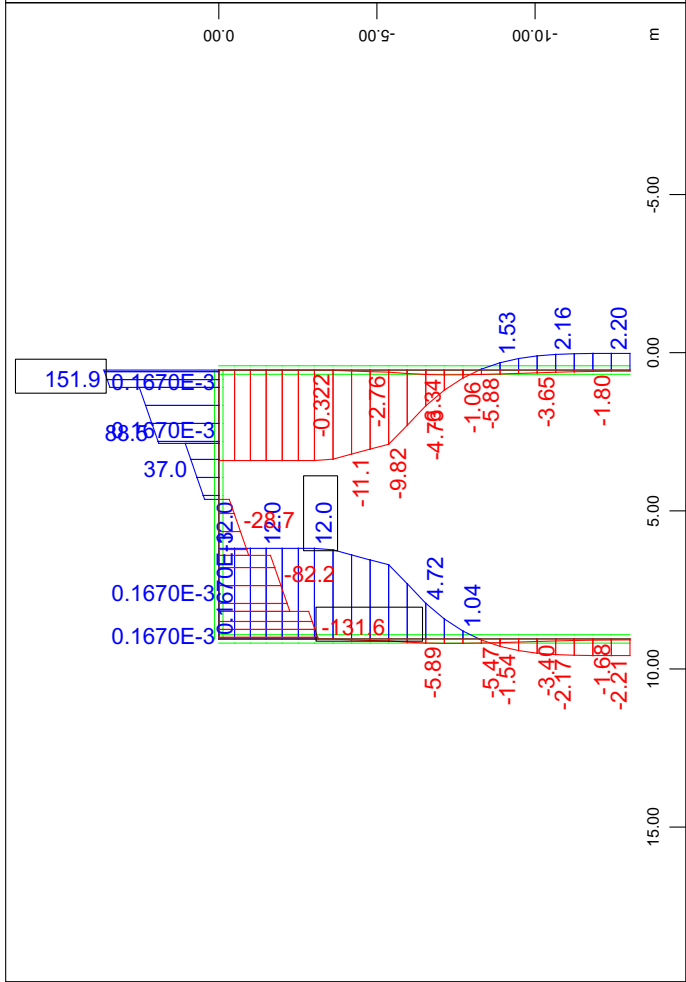
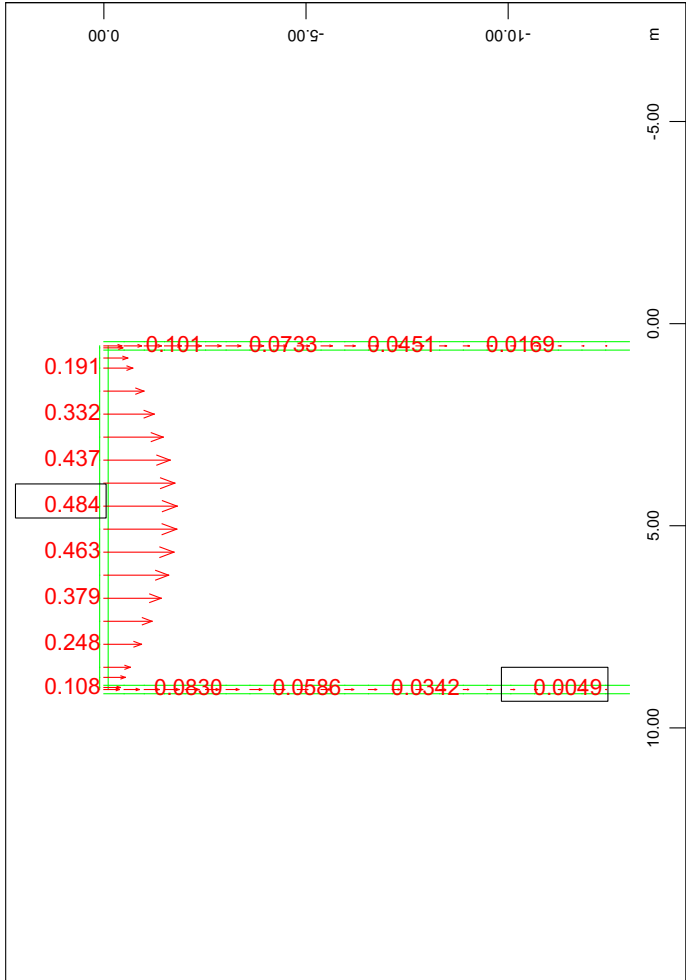
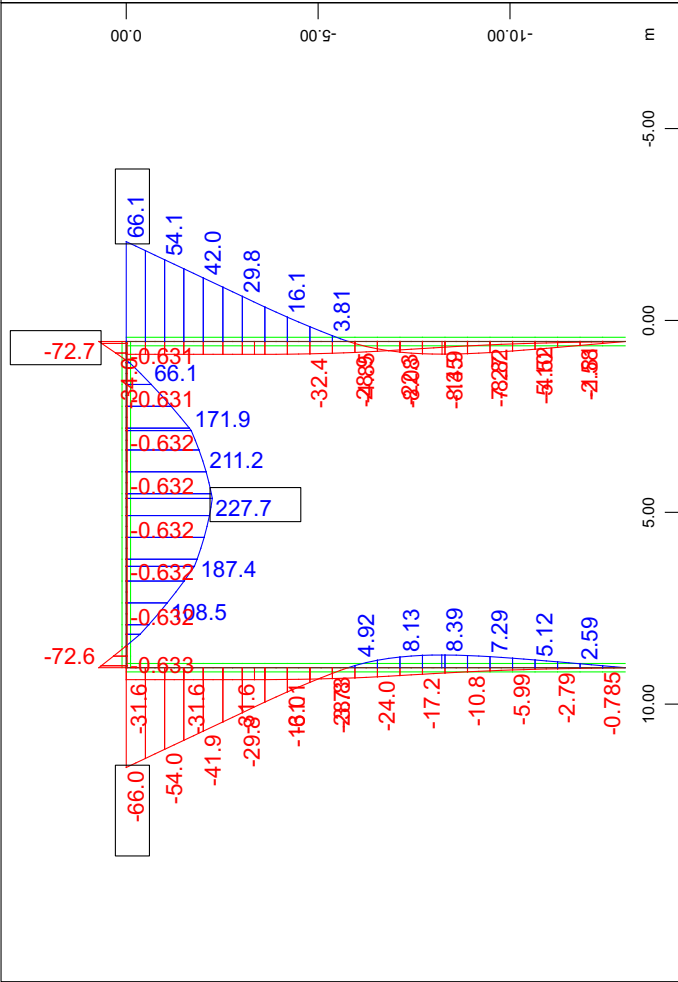
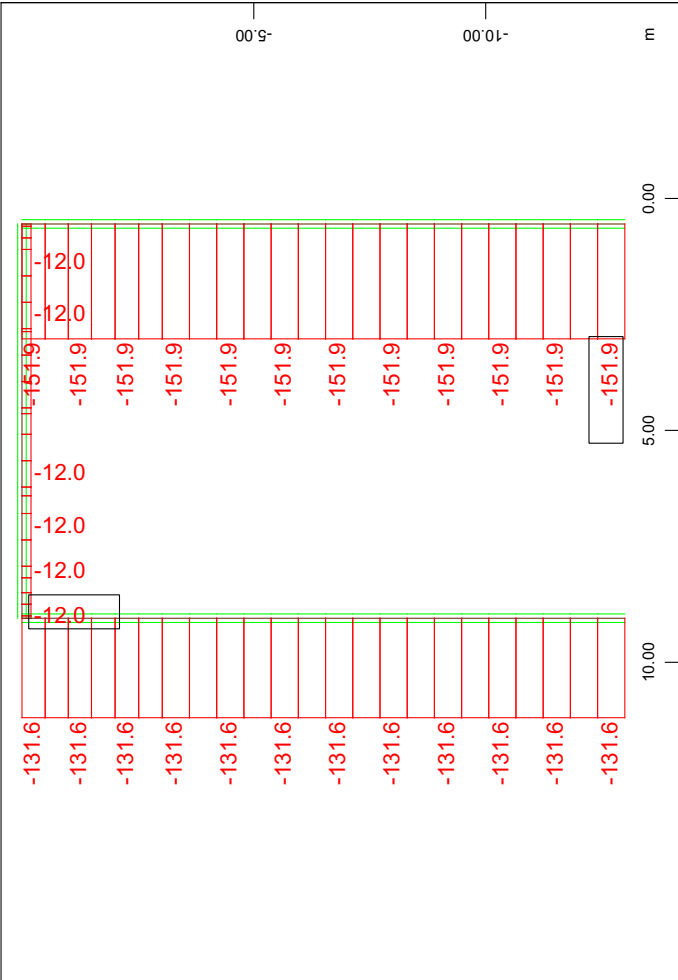
Geometria ponticello
Rappresentazione dei Carichi



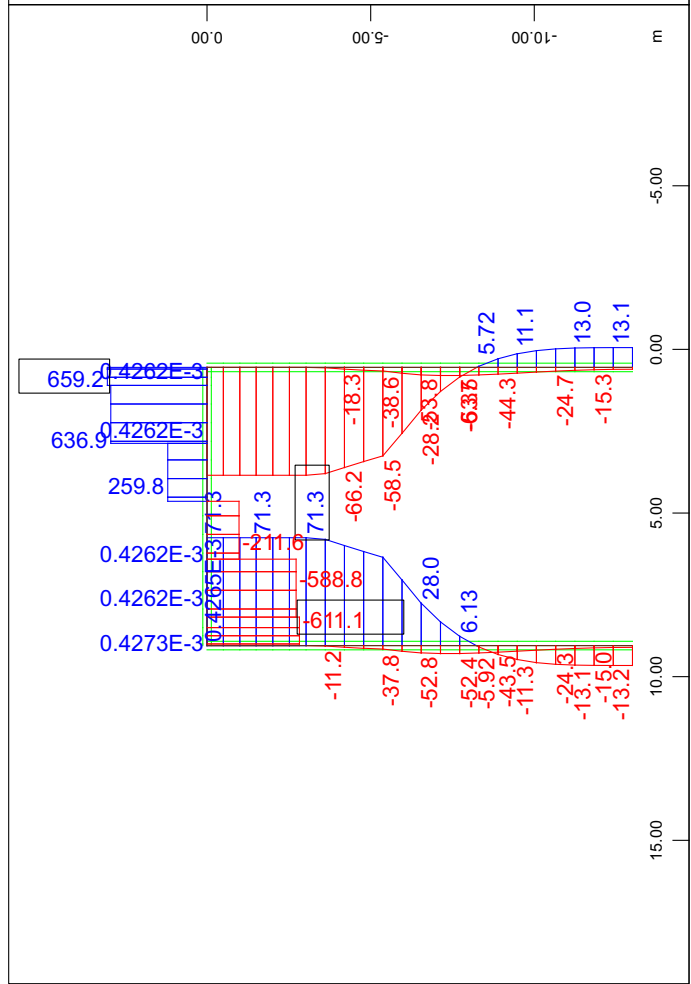
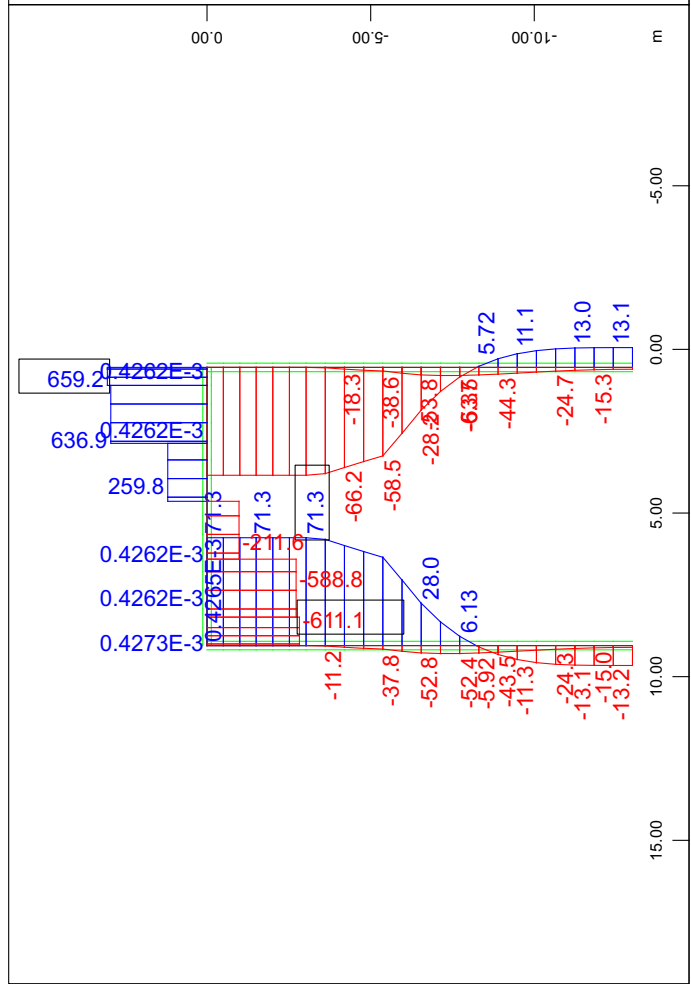
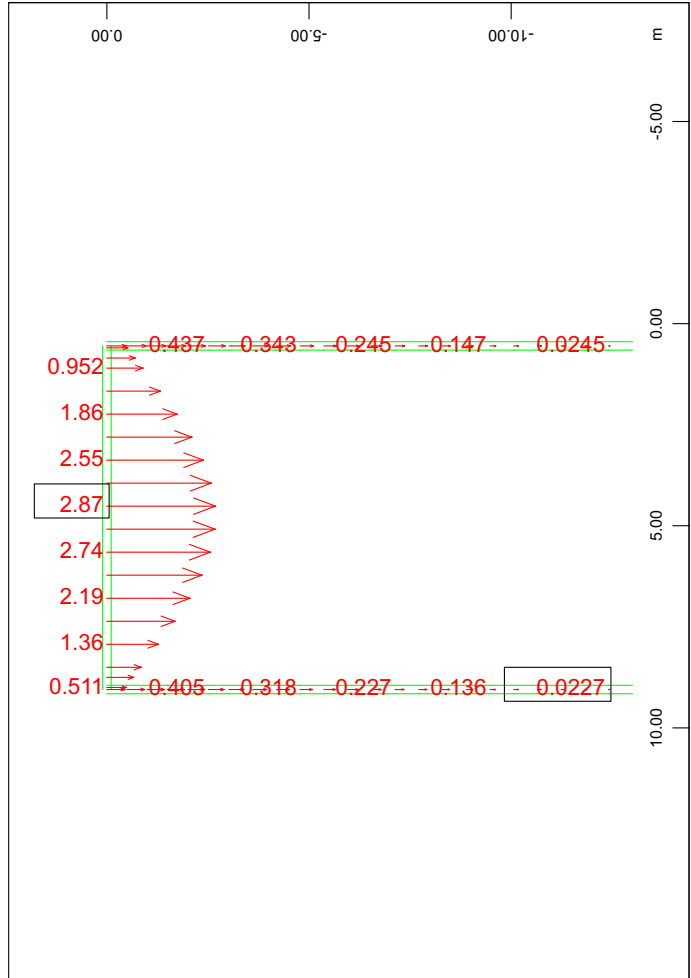
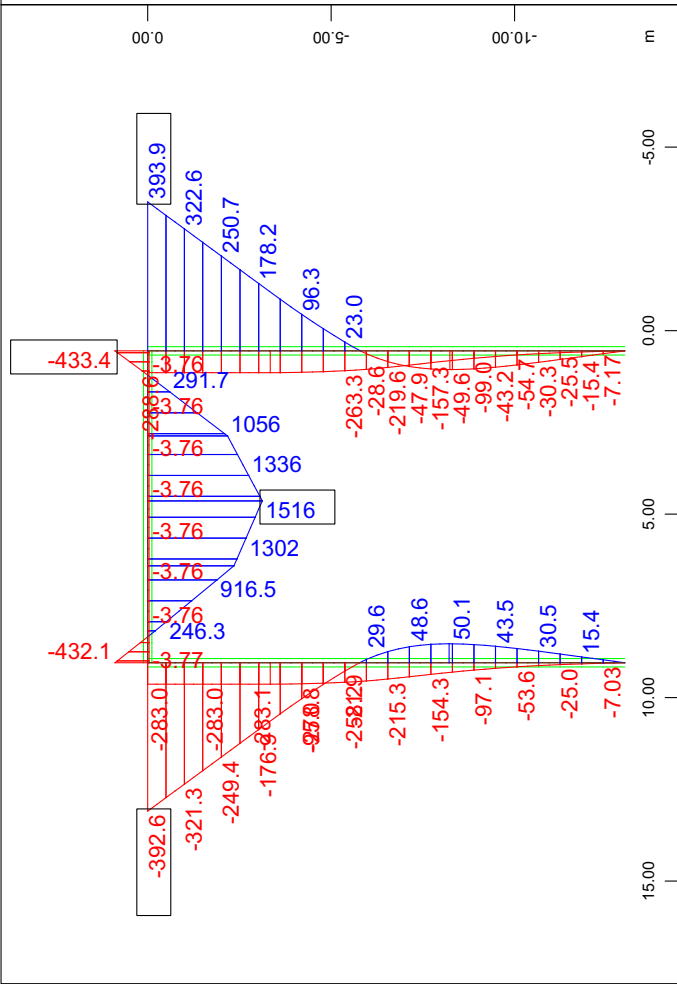
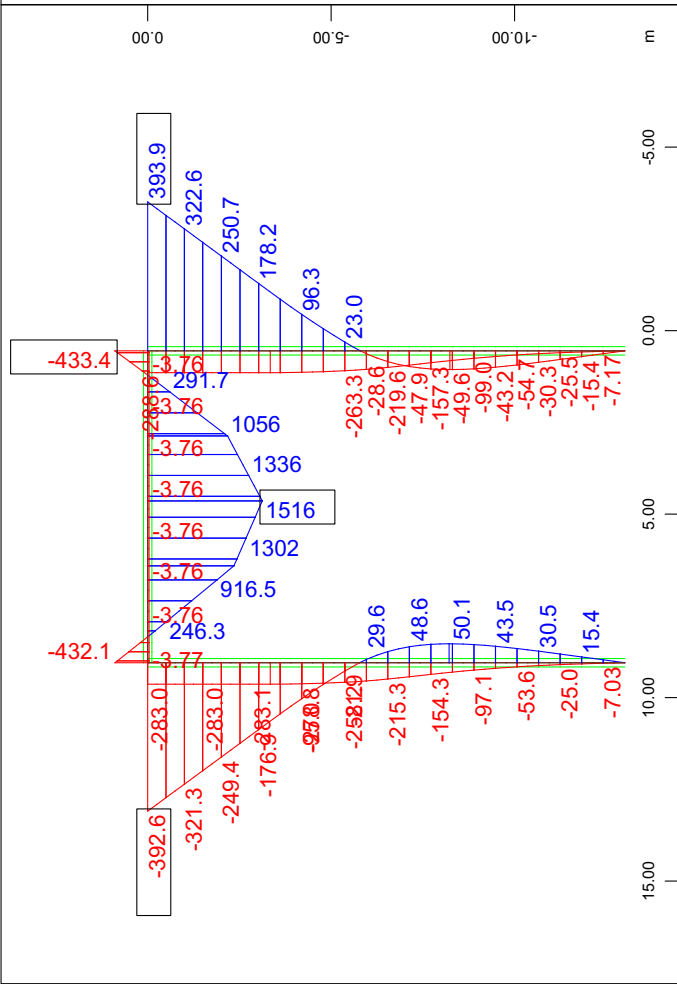
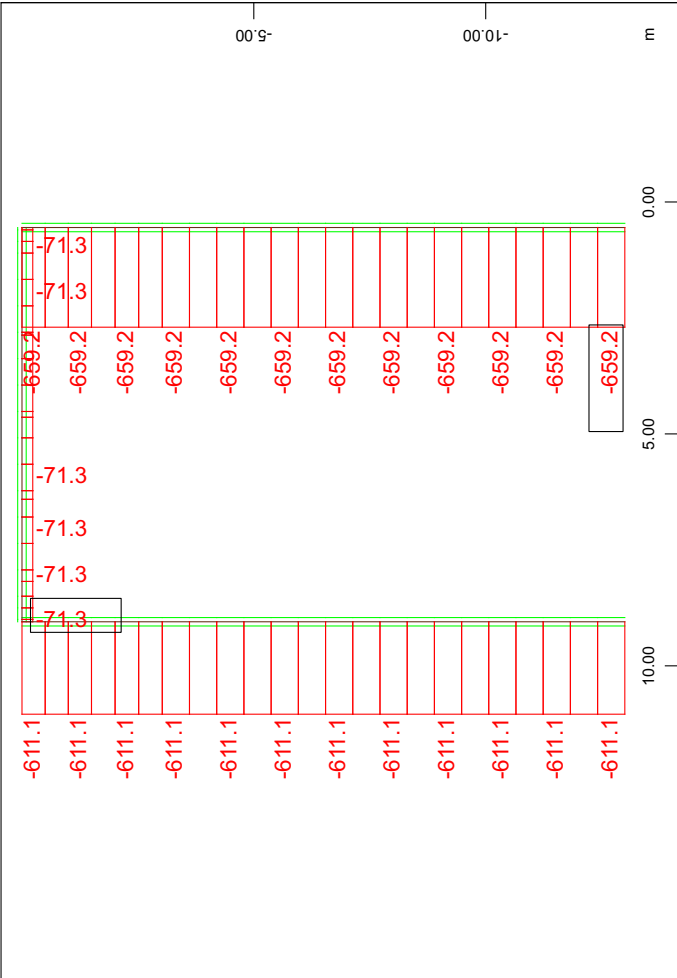
Geometria ponticello
Rappresentazione dei Carichi



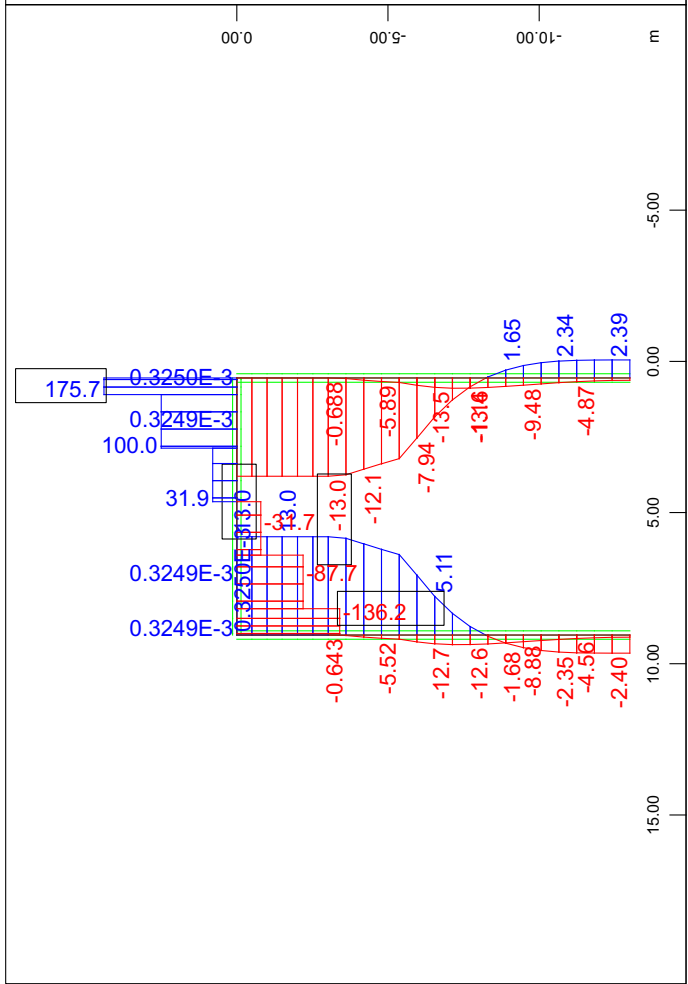
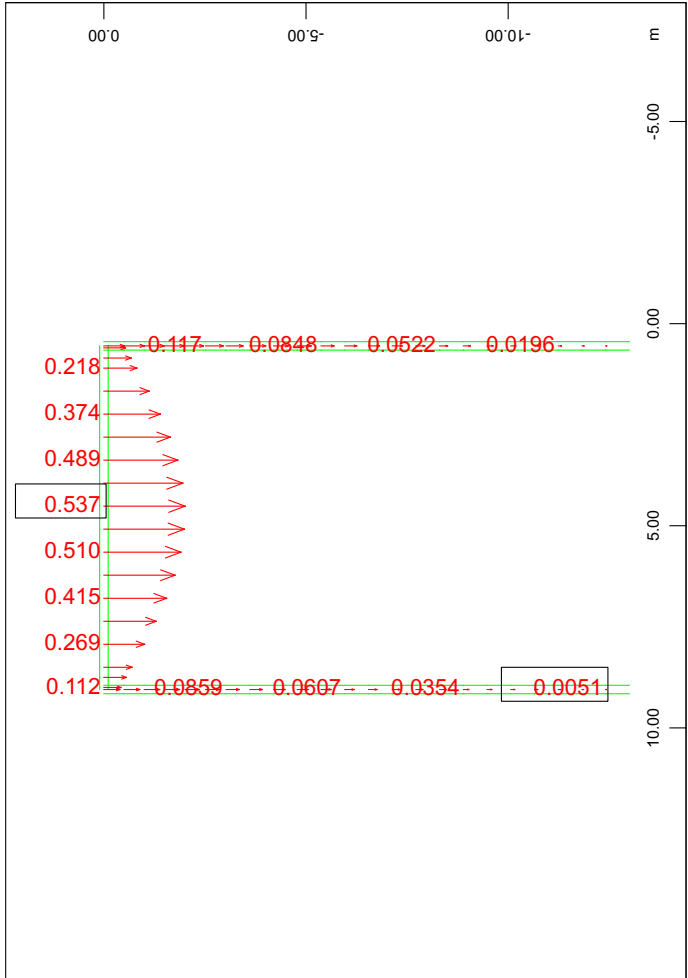
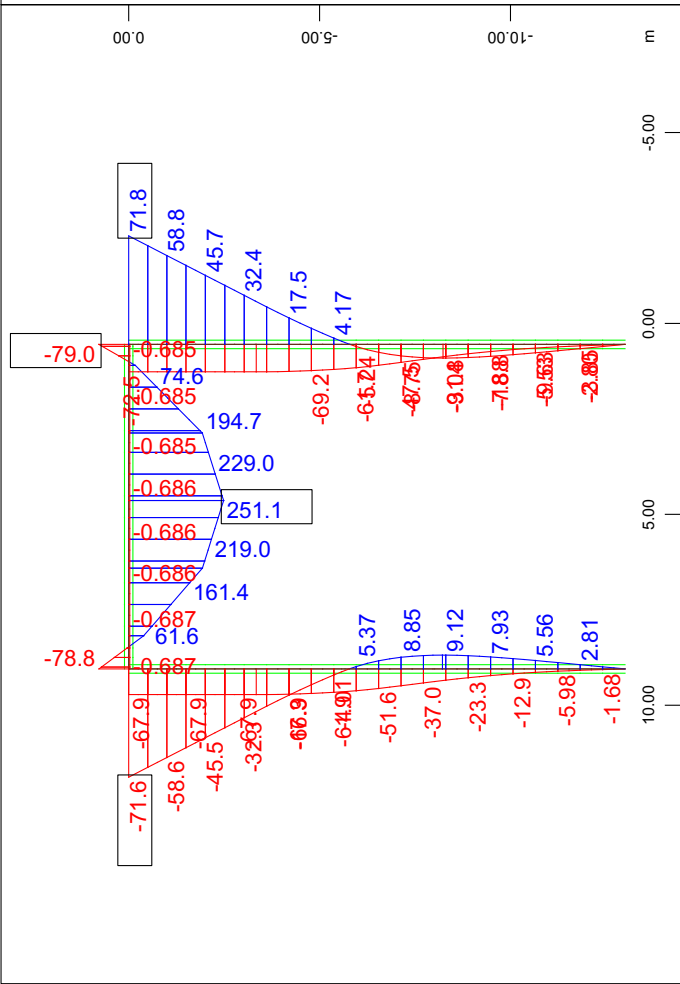
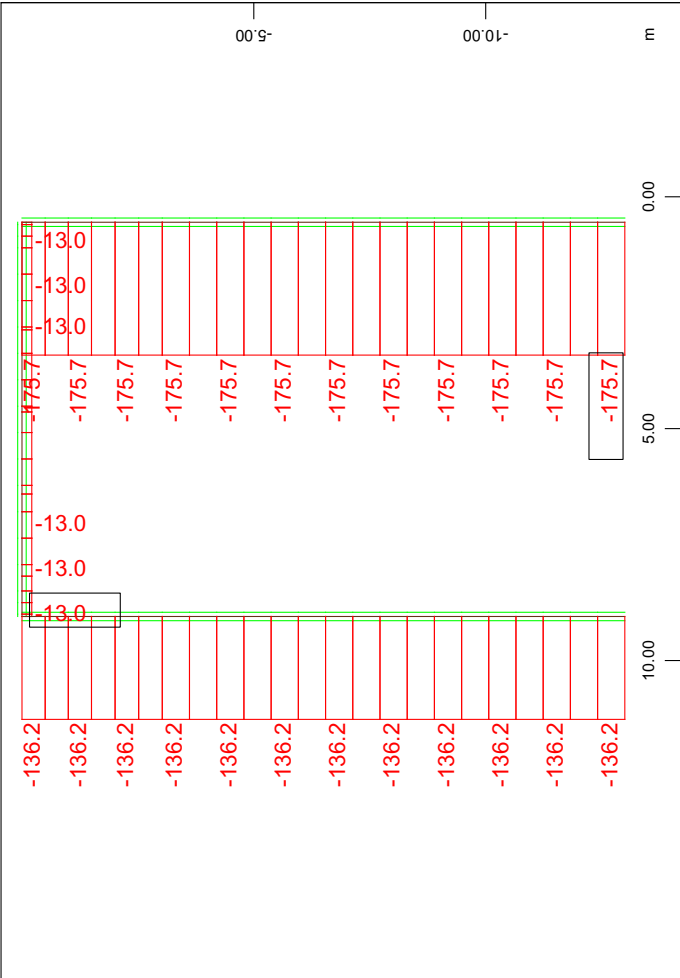
Geometria ponticello
Rappresentazione sollecitazioni elementari



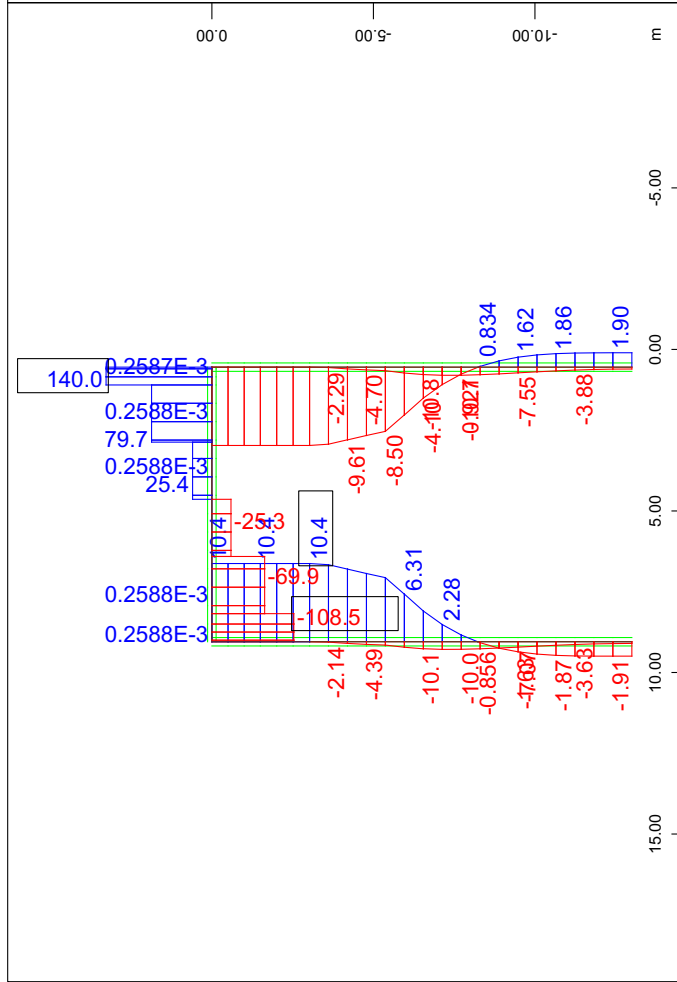
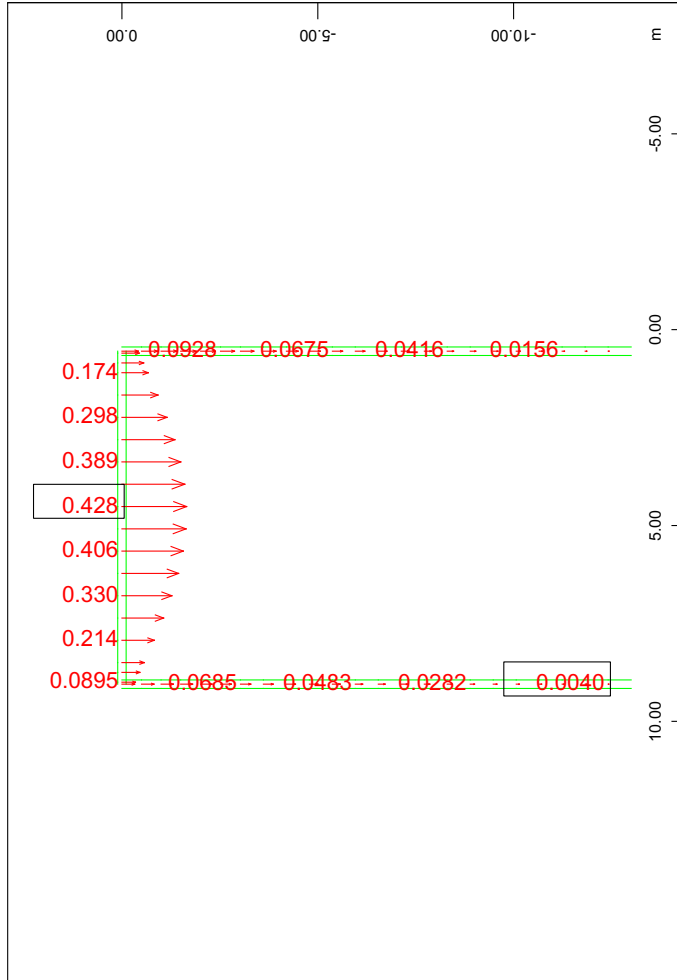
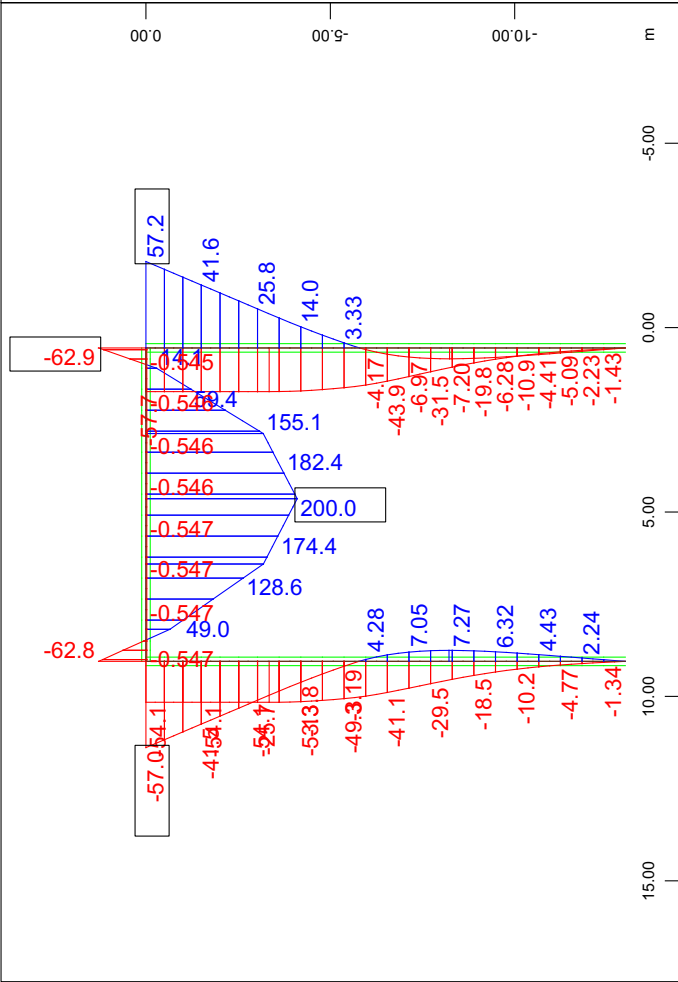
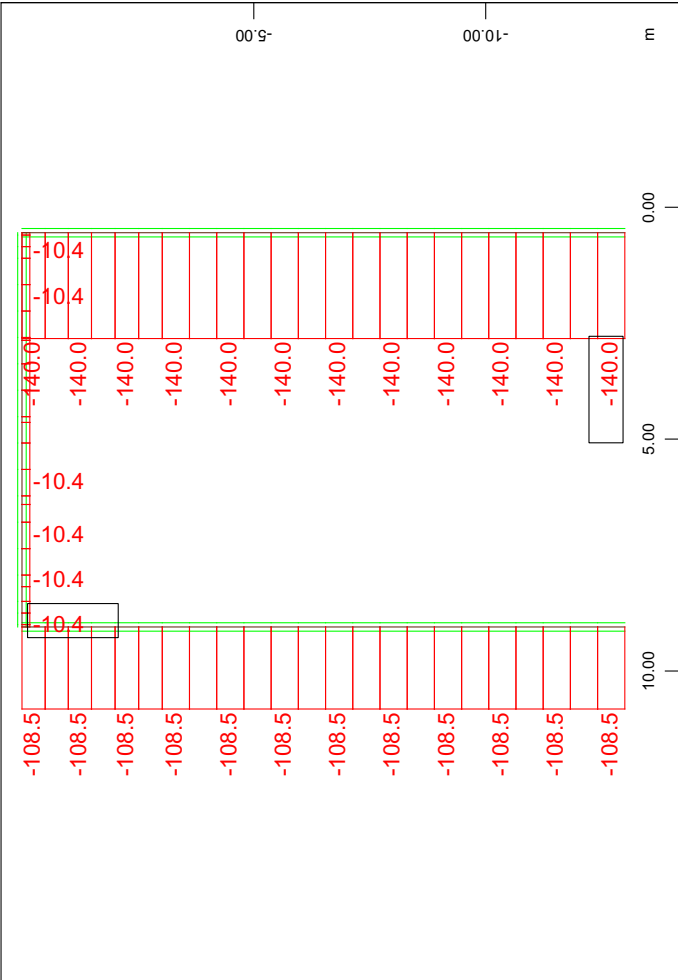
Geometria ponticello
Rappresentazione sollecitazioni elementari



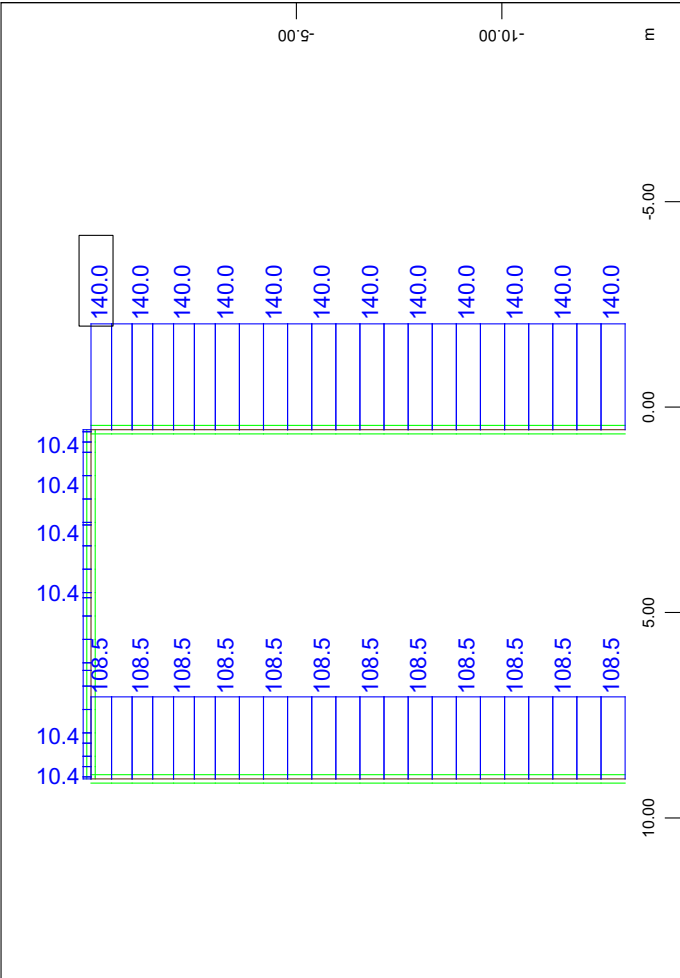
Geometria ponticello
Rappresentazione sollecitazioni elementari



Geometria ponticello
Rappresentazione sollecitazioni elementari

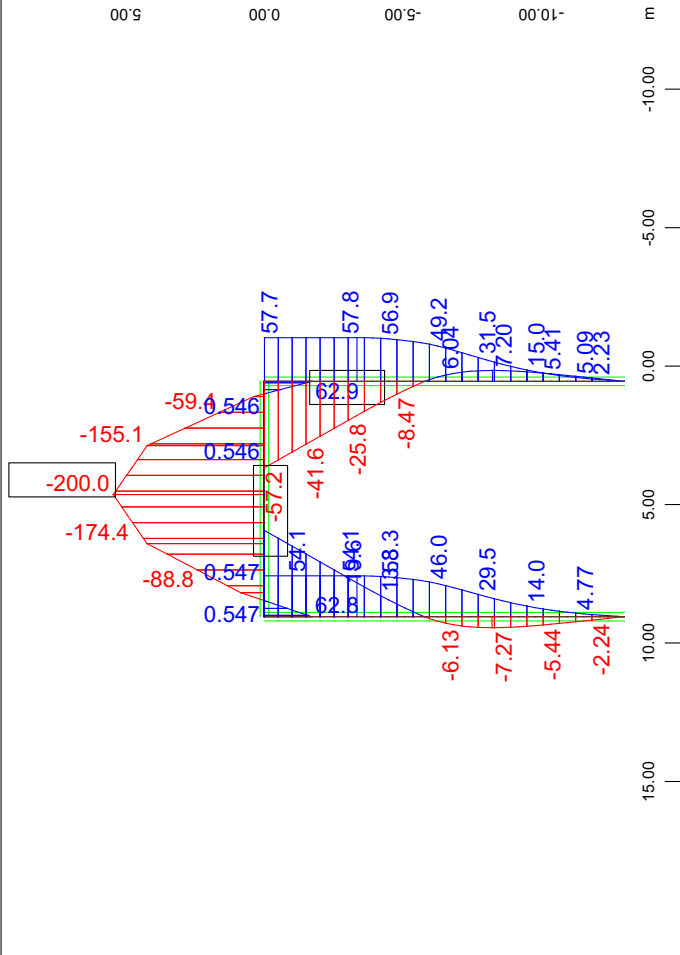


Geometria ponticello
Rappresentazione sollecitazioni elementari



Beam Elements , Normal force N_x , Loadcase 5 Sisma X_2 , 1 cm
= 100.0 kN (Max=140.0)

M 1 : 184

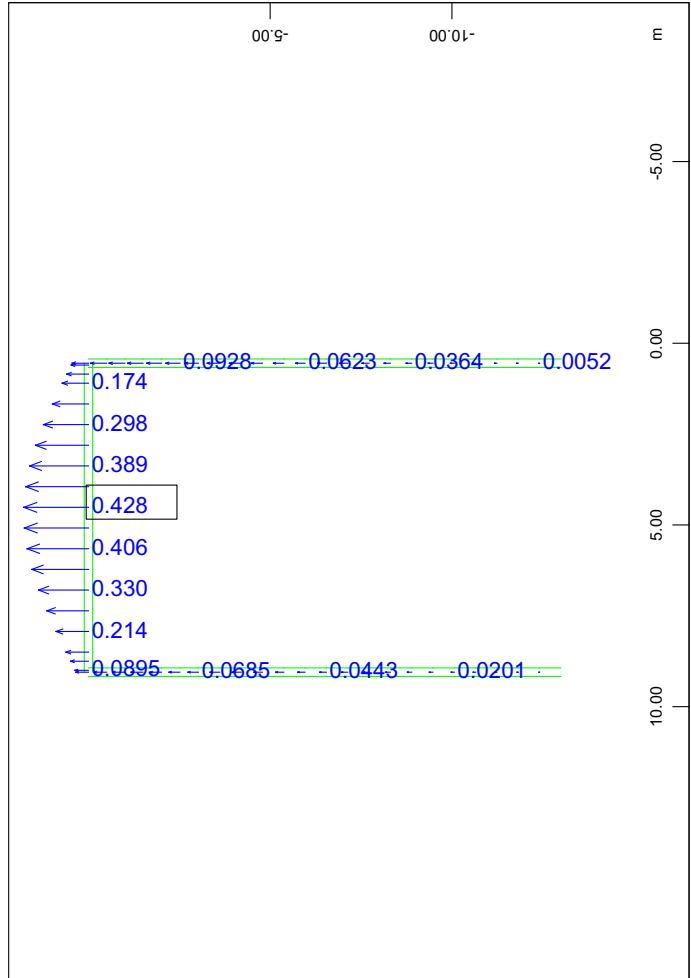


Beam Elements , Bending moment M_y , Loadcase 5 Sisma X_2 , 1 cm
= 100.0 kNm (Min=-200.0) (Max=62.9)

M 1 : 273

Beam Elements , Bending moment M_z , Loadcase 5 Sisma X_2 , 1 cm

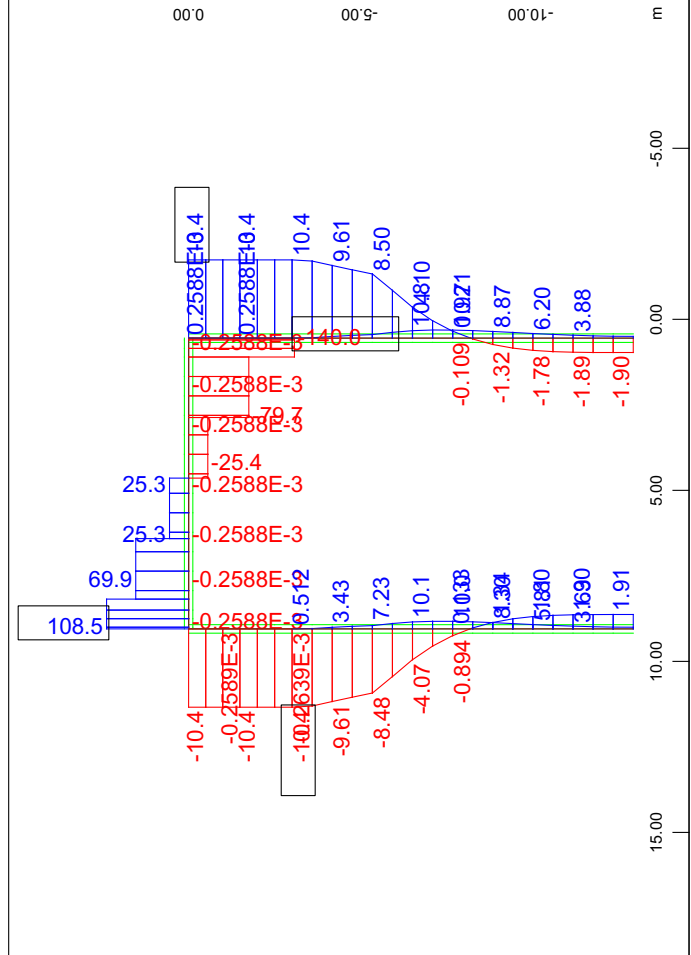
Z
X



Nodal displacement in global Z , Loadcase 5 Sisma X_2 , 1 cm
= 0.500 mm (Max=0.428)

M 1 : 208

Z
X

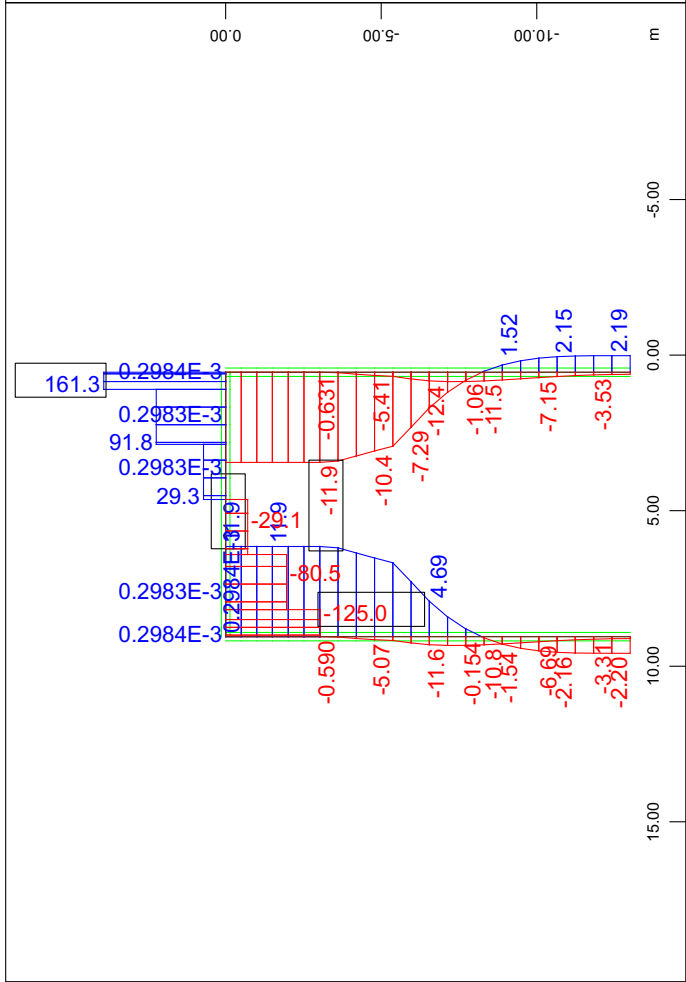
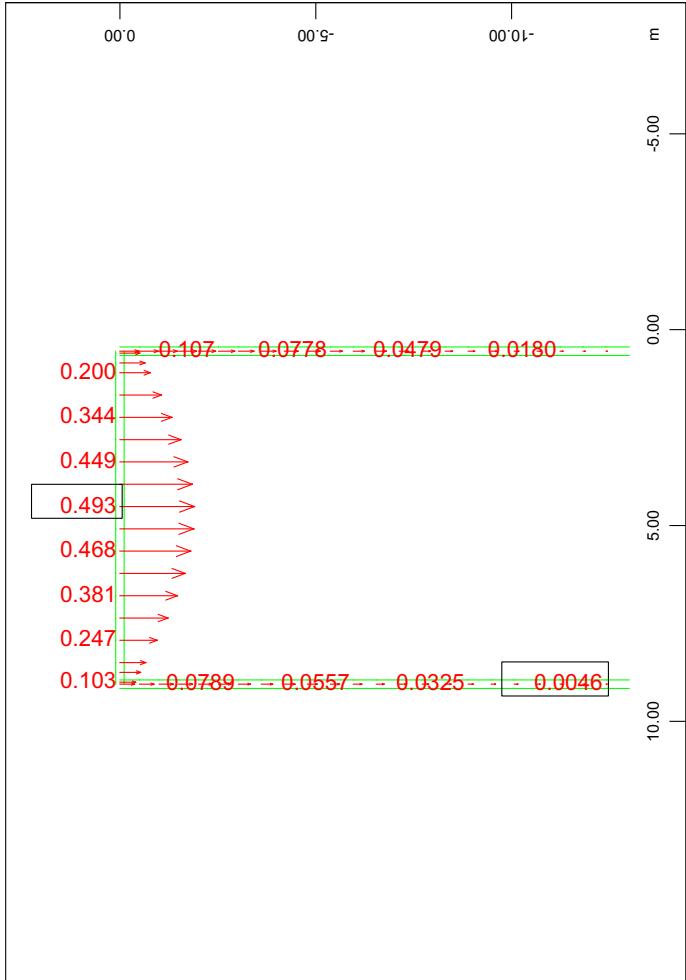
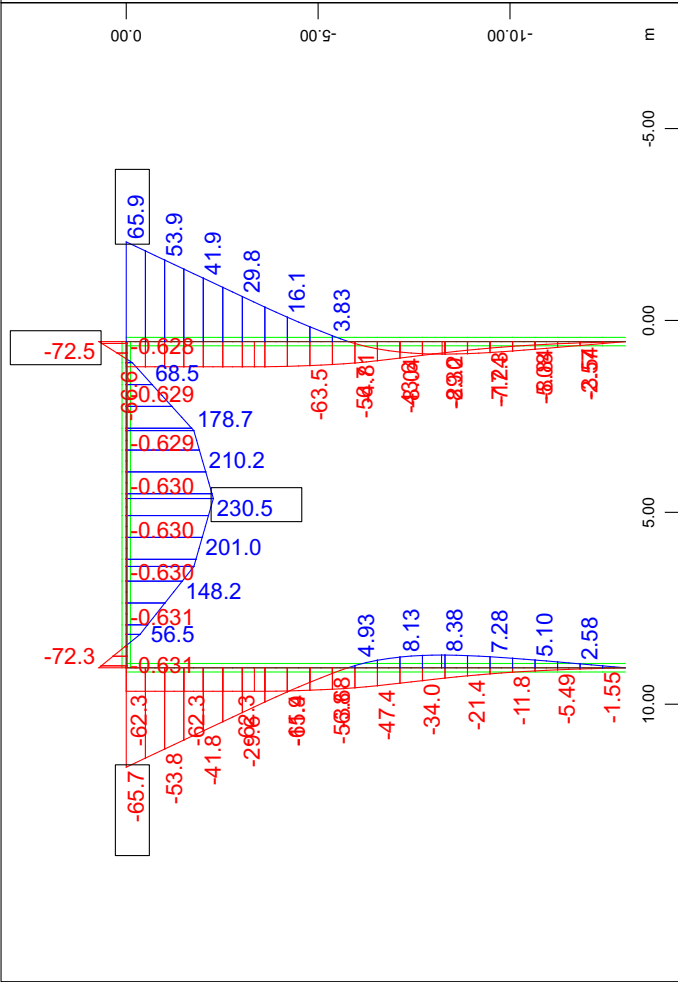
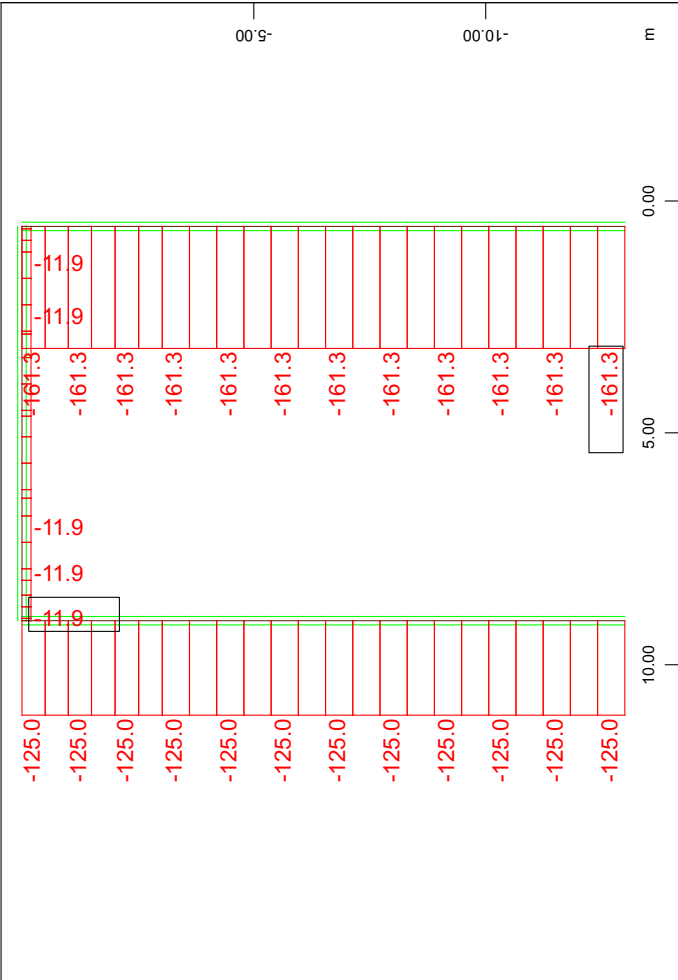


Beam Elements , Shear force V_y , Loadcase 5 Sisma X_2 , 1 cm
= 10.0 kN (Min=-10.4) (Max=10.4)

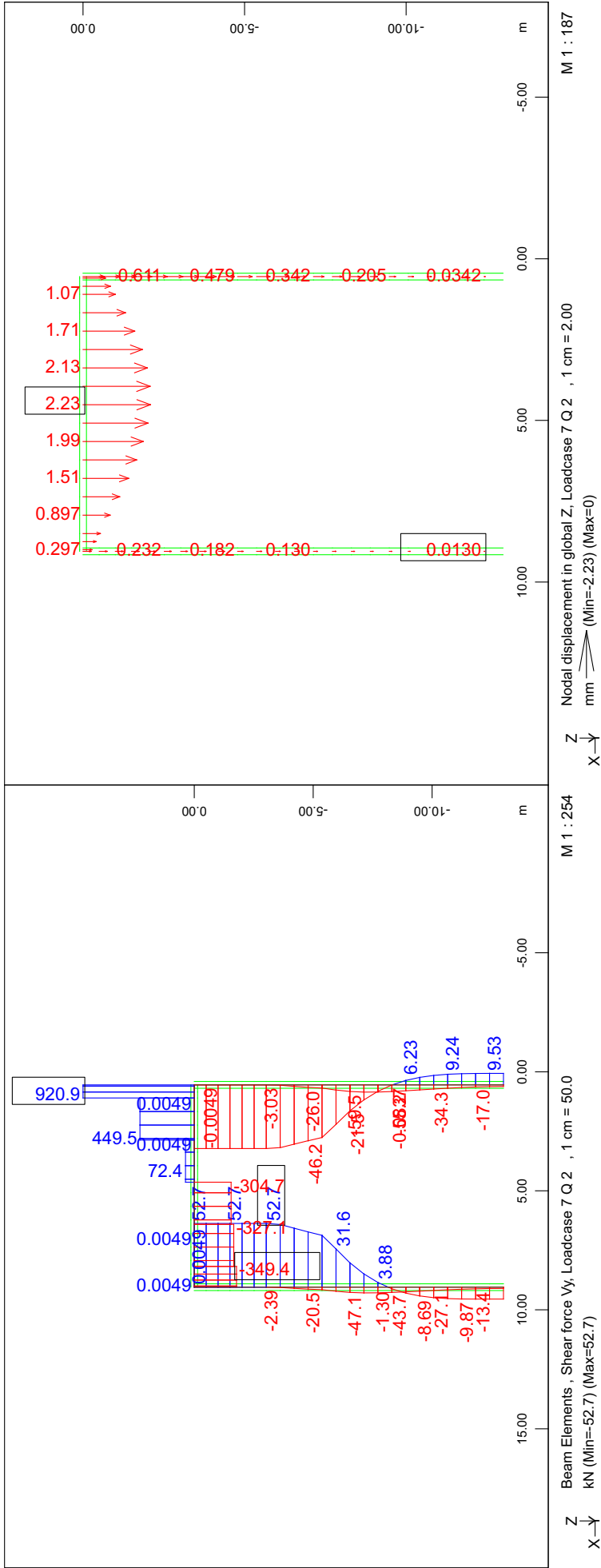
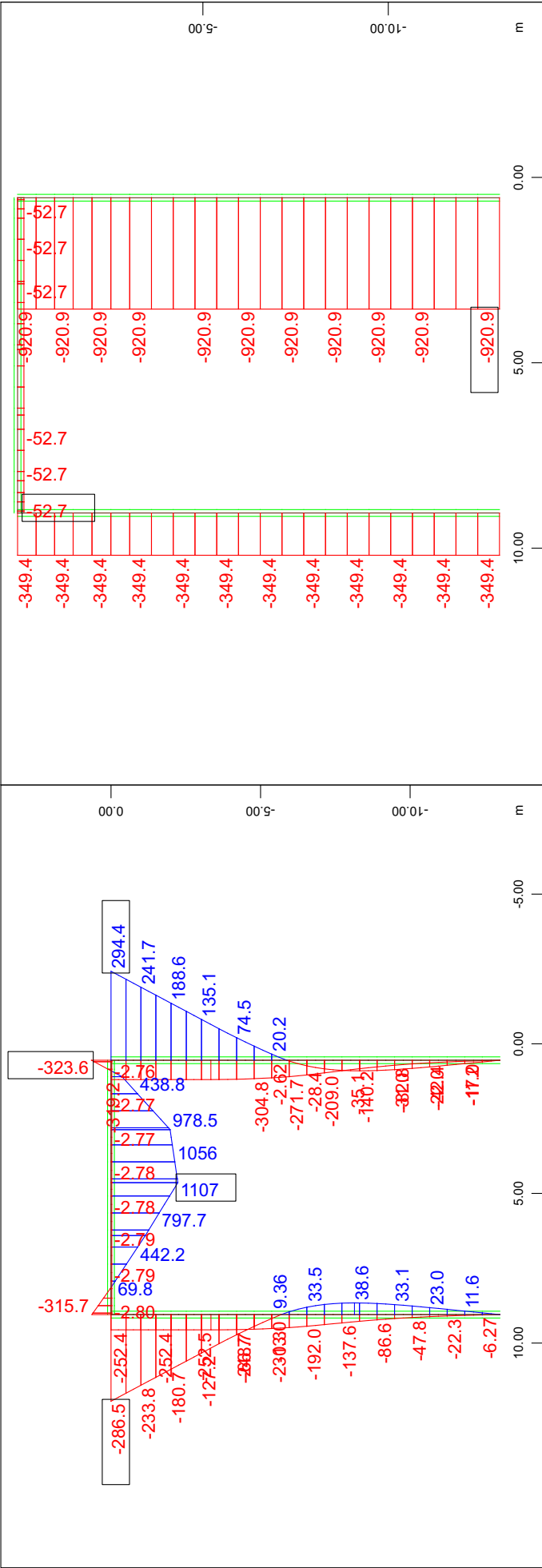
Beam Elements , Shear force V_z , Loadcase 5 Sisma X_2 , 1 cm

Z
X

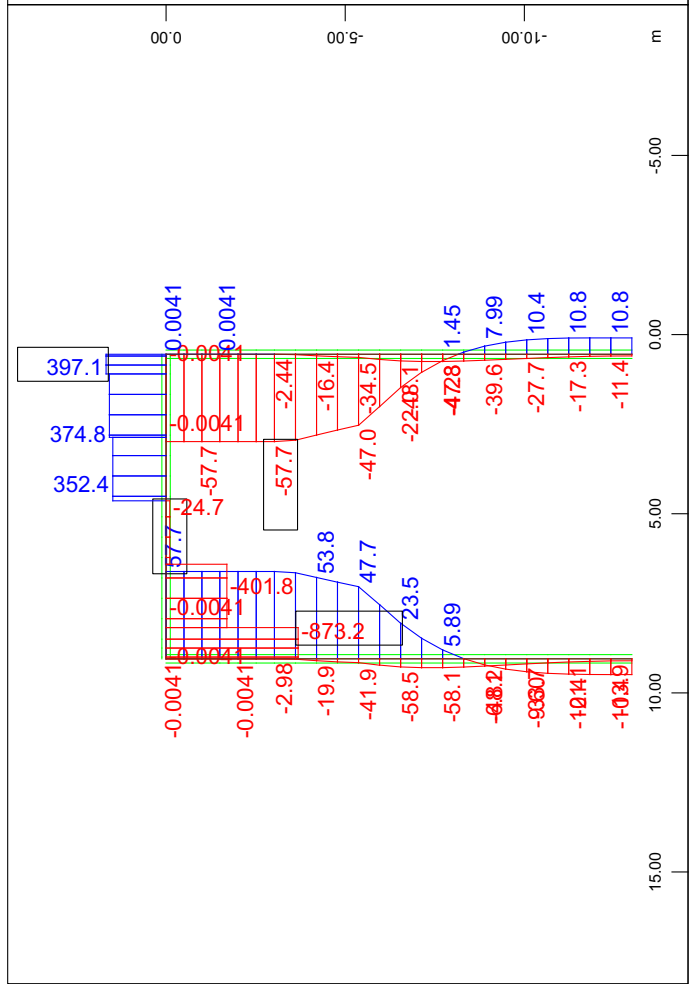
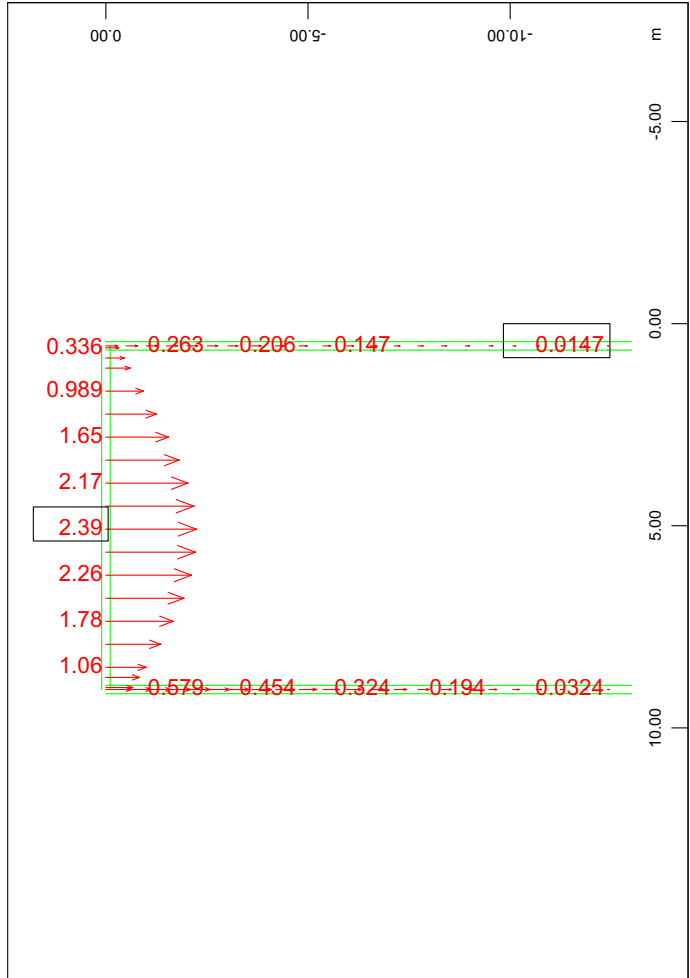
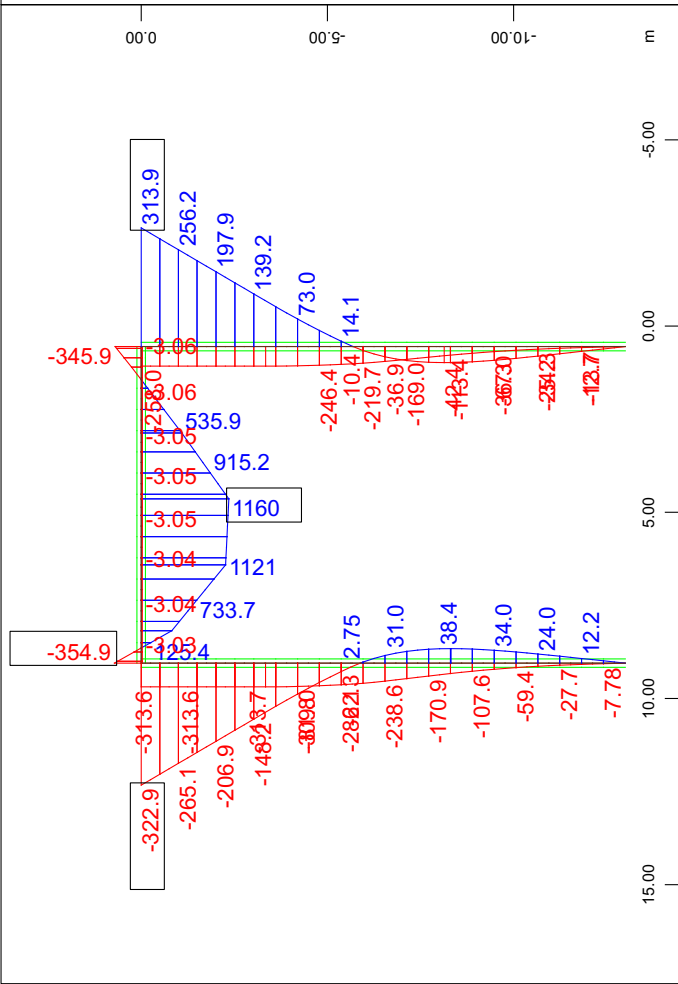
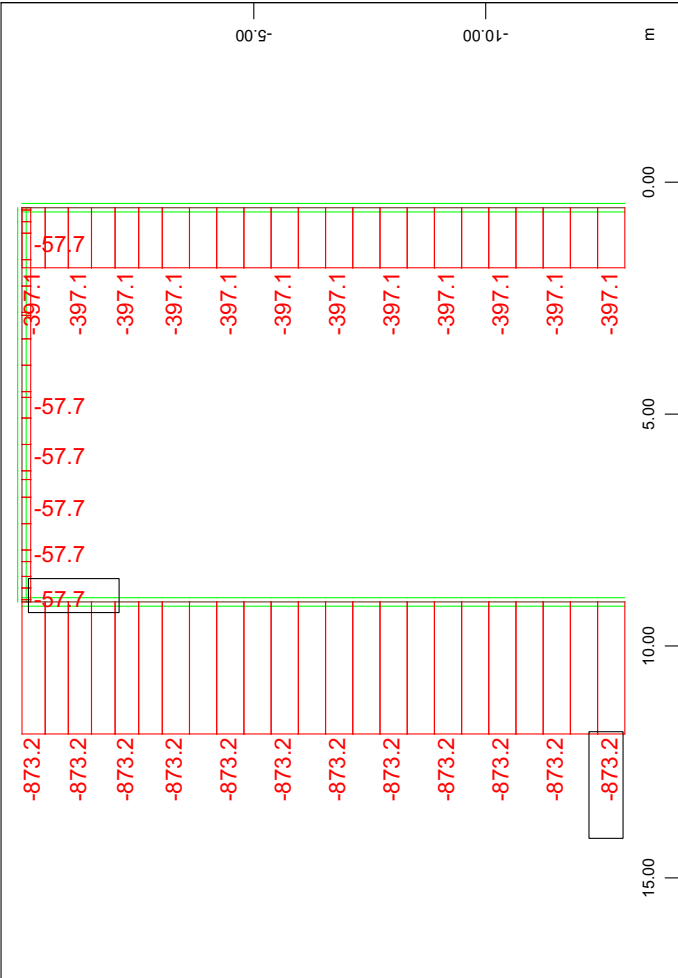
Geometria ponticello
Rappresentazione sollecitazioni elementari



Geometria ponticello
Rappresentazione sollecitazioni elementari



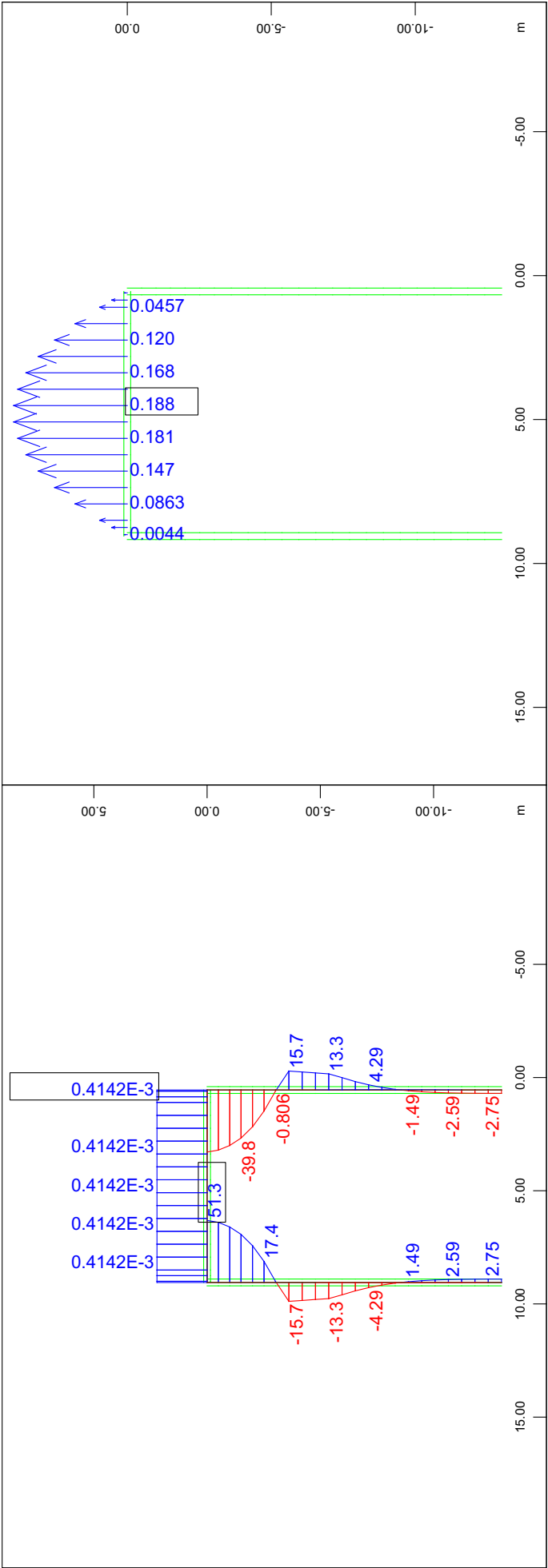
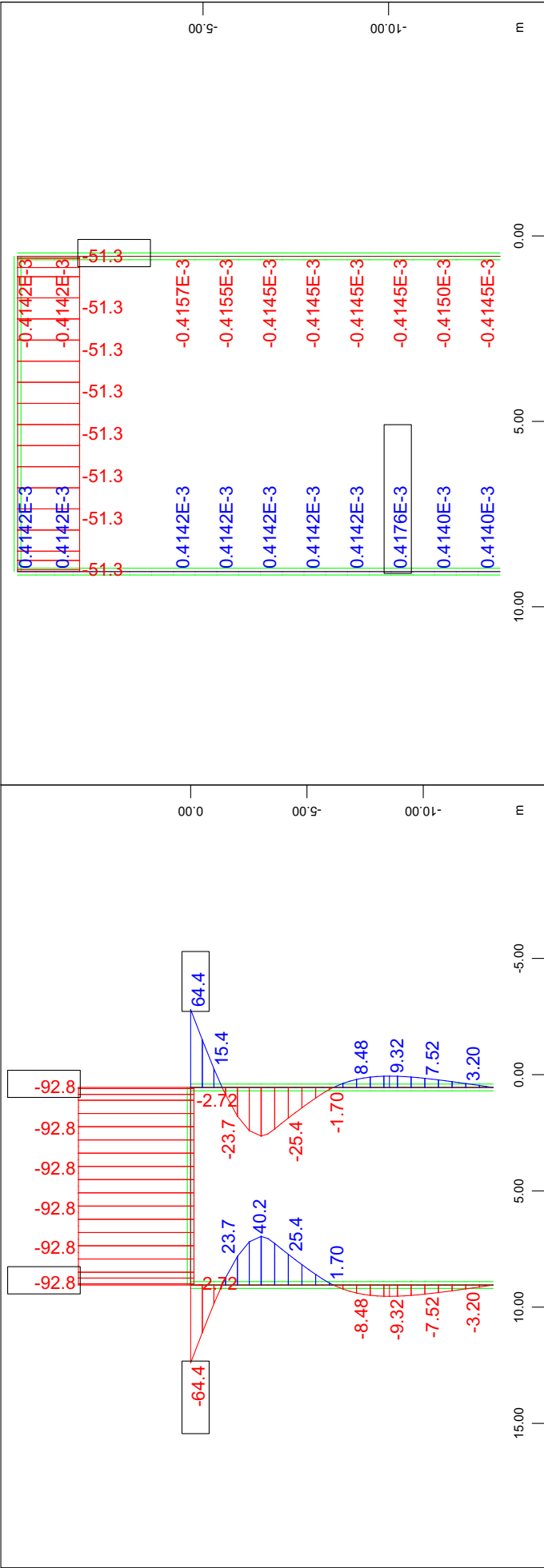
Geometria ponticello
Rappresentazione sollecitazioni elementari



Beam Elements , Bending moment Mz, Loadcase 8 Q 3 , 1 cm = 1000. kNm (Min=-354.9) (Max=1160.)

Beam Elements , Shear force Vz, Loadcase 8 Q 3 , 1 cm = 50.0 kN (Min=-57.7) (Max=57.7)

Geometria ponticello
Rappresentazione sollecitazioni elementari



Geometria ponticello
Design Concept

Overview used actions

Type usage
Q_A : SLS + ULS
Q_B :
E_X :
.

Superposition and design concept:

In a first presuperposition, the variable actions are combined without GPC (G=dead load, P=prestress, C=creep+shrinkage) in a first separate MAXIMA run.
For the rare action combination RARE the produced max-min forces are stored in a presuperposition KOMB ... TYPE Y_1 ans stored with load case numbers 1141-1152.
Is some codes with LC 1161-1172 an additional combination traffic + wind without temperature is created also TYPE Y_1, LC 1141-1152 then contains temperature without wind.
For wind without traffic a further presuperposition Y_1 is created (e.g. loadcase number 1181-1192).
.
A following Maxima run then creates the final combination RARE with the precombinations Y_1 and the permanent actions GPC (G=dead load, P=prestress, C=C+S.) in loadcase 1121-1132.
.
In the same way precombinations and final MAXIMA combinations for nonfrequent with Y_2 LC 1200ff, frequent with Y_3 LC 1300ff, permanent with Y_4 LC 1400ff and if necessary for Y_9 1900ff with 1.0 psi-values for reaction forces are created.
For design inclusive the load safety factors GAMU the combination DESI (presuperposition Y_D) with LC 2100.ff is created, for a simplified stress range check FATI with LC 2500.ff.
.
These final combinations are used directly for QUAD elements e.g. for a design in BEMESS - LF DESI.
.
Using prestressed or composite sections, the load parts GPC must be assigned to cross section construction stages (netto, ideell). Thus the parts GPC must be defined in AQB separately, e.g. LC 5010 TYPE G_1 CT CS0 REF PART
These LC definitions are summarized in block #include loadca_aqb.
The corresponding variable actions are then added with the prepared precombination Y_1 to Y_D , e.g.
COMB MAXR LC1 G LC2 P LC3 C LC4 Y_1 1.0 LCST
.
. For graphical checks the forces and stresses of the
. AQB combinations are stored with COMB LCST. For this the following
. scheme will be used:
.

Overview created loadcases and design numbers

convention loadcase numbering:
1100 = rare combination 1700 = in construction stages
1200 = nonfrequent combination
1300 = frequent combination
1400 = permanent combination 1800 = in construction stages
1900 = 1.0 superposition
2100 = design 2200 = in construction stages
2500 = accidental
2600 = earthquake
2800 = Fatigue LM3 2900 = Fatigue simplified stress range LM1
For WINGRAF-views: MAXIMA superpostion results start with MAX or MIN in the loadcase title, 1020-ff have 100 % prestress, 9020-er have 90%
Only for the BEAM-AQB-combinations the LC number is further devided in:
10-th number: 00 = 100 % prestress
70 = 75 % prestress -> loadcase 9000...
90 = 90 % prestress -> loadcase 9000...
10 = 110 % prestress -> loadcase 9000...
20+30 = 90 % prestress fatigue LM1+LM3 -> 9000...
1-th number: 0+1 = maximum/minimum value uncracked design I
5+6 = maximum/minimum value cracked design II

With this convention the following BEAM-AQB-LCST loadcase numbers appear:

combination	prestress	uncracked	cracked II	
			max LC min	max LC min
SLS rare	Pk,inf 90%	9190 9191	9195	9196
	Pm 100%	1100 1101	1105	1106
	Pk,sub 110%	9110 9111	9115	9116
SLS nonfrequent	Pk,inf 90%	9290 9291	9295	9296
	Pm 100%	1200 1201	1205	1206
	Pk,sub 110%	9210 9211	9215	9216

SLS frequent	Pk,inf	90%	9390	9391	9395	9396
	Pm	100%	1300	1301	1305	1306
	Pk,sub	110%	9310	9311	9315	9316
Fatigue weld+couplings	Pk,inf	75%	9370	9371	9375	9376
stress range LM1	Pk,inf	90%	9320	9321	9325	9326
LM3 midspan	Pk,inf	90%	9330	9331	9335	9336
LM3 innersupports	Pk,inf	90%	9340	9341	9345	9346
SLS permanent	Pk,inf	90%	9490	9491	9495	9496
	Pm	100%	1400	1401	1405	1406
	Pk,sub	110%	9410	9411	9415	9416
. 9000- LC for prestress	ne.	100% !				
ULS	[desi]	Pm	100%	-	-	2105 2106

Geometria ponticello
presuperposition actions without GPC

Superpositioning combinations:
rare, nonf, freq, perm, 1.0*, desi, acci, earq, fatigue
LC 1140, 1240, 1340, 1440, 1940, 2140, 2540, 2640, 2840, 2940
Type=Y_1, Y_2, Y_3, Y_4, Y_9, Y_D, Y_A, Y_E, Y_F, Y_G
.

Superposition according to Decreto Ministeriale per le Costruzioni 2008

Combination rule Number 11
Service: Rare combination
Superposition according to manual MAXIMA formula 4
Resulting loadcases type Y_1

Loadcase selection and Actions									
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2			
	LC factor	Type	Type of loadcase		Title				
Q_A	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi V da traffico	
	2	1.00	Exclusive	LC	A51			Q 1	
	7	1.00	Exclusive	LC	A51			Q 2	
	8	1.00	Exclusive	LC	A51			Q 3	

Combination rule Number 13
Service: Frequent combination
Superposition according to manual MAXIMA formula 5
Resulting loadcases type Y_3

Loadcase selection and Actions									
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2			
	LC factor	Type	of loadcase		Title				
Q_A	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi V da traffico	
	2	1.00	Exclusive	LC	A51			Q 1	
	7	1.00	Exclusive	LC	A51			Q 2	
	8	1.00	Exclusive	LC	A51			Q 3	

Combination rule Number 14
Service: Permanent combination
Superposition according to manual MAXIMA formula 7
Resulting loadcases type Y_4

Loadcase selection and Actions									
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2			
	LC factor	Type	Type of loadcase		Title				
Q_A	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi V da traffico	
	2	1.00	Exclusive	LC	A51			Q 1	
	7	1.00	Exclusive	LC	A51			Q 2	
	8	1.00	Exclusive	LC	A51			Q 3	

Combination rule Number 19
Service: Rare combination
Superposition according to manual MAXIMA formula 4
Resulting loadcases type Y_9

Loadcase selection and Actions									
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2			
	LC factor	Type	Type of loadcase		Title				
Q_A	Q	1.00	0.00	1.00	1.00	1.00	1.00	Carichi V da traffico	
	2	1.00	Exclusive	LC	A51			Q 1	
	7	1.00	Exclusive	LC	A51			Q 2	
	8	1.00	Exclusive	LC	A51			Q 3	

Combination rule Number 21
Ultimate Design combination
Superposition according to manual MAXIMA formula 1
Resulting loadcases type Y_D

Loadcase selection and Actions									
Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2			
	LC factor	Type	Type of loadcase		Title				
Q_A	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi V da traffico	
	2	1.00	Exclusive	LC	A51			Q 1	
	7	1.00	Exclusive	LC	A51			Q 2	
	8	1.00	Exclusive	LC	A51			Q 3	

Geometria ponticello
presuperposition actions without GPC

Combination rule Number 26
Ultimate Earthquake combin.
Superposition according to manual MAXIMA formula 3
Resulting loadcases type Y_E

Loadcase selection and Actions								
Act type	γ-u	γ-f	γ-a	ψ-0	ψ-1	ψ-2		
	LC factor	Type of loadcase		Title				
E_X	E	1.00	1.00	1.00	1.00	1.00	Sisma	
	4	1.00	Exclusive LC	A10			Sisma X_1	
	5	1.00	Exclusive LC	A10			Sisma X_2	
Q_B	Q	1.00	1.00	1.00	1.00	1.00	Carichi V da traffico sismico	
	6	1.00	Exclusive LC	A80			Qk sismico	

Combination rule Number 29
Service: Rare combination
Superposition according to manual MAXIMA formula 4
Resulting loadcases type Y_G

Loadcase selection and Actions								
Act type	γ-u	γ-f	γ-a	ψ-0	ψ-1	ψ-2		
	LC factor	Type of loadcase			Title			
Q_A	Q	1.35	0.00	1.00	0.75	0.75	0.00	Carichi V da traffico
	2	1.00	Exclusive LC	A51			Q 1	
	7	1.00	Exclusive LC	A51			Q 2	
	8	1.00	Exclusive LC	A51			Q 3	

Generated Loadcases		
Number	Comb	Title
1141	11	MAX-MY BEAM
1142	11	MIN-MY BEAM
1143	11	MAX-VZ BEAM
1144	11	MIN-VZ BEAM
1145	11	MAX-MT BEAM
1146	11	MIN-MT BEAM
1147	11	MAX-N BEAM
1148	11	MIN-N BEAM
1149	11	MAX-MZ BEAM
1150	11	MIN-MZ BEAM
1151	11	MAX-VY BEAM
1152	11	MIN-VY BEAM
1153	11	MAX-PA BEAM
1154	11	MIN-PA BEAM
1155	11	MAX-PT BEAM
1156	11	MIN-PT BEAM
1141	11	MAX-PX NODE BEAM-MY_SPRI-P_temporary
1142	11	MIN-PX NODE BEAM-MY_SPRI-P_temporary
1143	11	MAX-PY NODE BEAM-VZ_SPRI-T_temporary
1144	11	MIN-PY NODE BEAM-VZ_SPRI-T_temporary
1145	11	MAX-PZ NODE BEAM-MT_SPRI-M_temporary
1146	11	MIN-PZ NODE BEAM-MT_SPRI-M_temporary
1147	11	MAX-UX NODE BEAM--N_SP-PTX_temporary
1148	11	MIN-UX NODE BEAM--N_SP-PTX_temporary
1149	11	MAX-UY NODE BEAM-MZ_SP-PTY_temporary
1150	11	MIN-UY NODE BEAM-MZ_SP-PTY_temporary
1151	11	MAX-UZ NODE BEAM-VY_SP-PTZ_temporary
1152	11	MIN-UZ NODE BEAM-VY_SP-PTZ_temporary
1153	11	MAXPHIX NODE _temporary
1154	11	MINPHIX NODE _temporary
1155	11	MAXPHIY NODE _temporary
1156	11	MINPHIY NODE _temporary
1157	11	MAXPHIZ NODE _temporary
1158	11	MINPHIZ NODE _temporary
1341	13	MAX-MY BEAM
1342	13	MIN-MY BEAM
1343	13	MAX-VZ BEAM
1344	13	MIN-VZ BEAM
1345	13	MAX-MT BEAM
1346	13	MIN-MT BEAM
1347	13	MAX-N BEAM
1348	13	MIN-N BEAM
1349	13	MAX-MZ BEAM
1350	13	MIN-MZ BEAM
1351	13	MAX-VY BEAM
1352	13	MIN-VY BEAM
1353	13	MAX-PA BEAM
1354	13	MIN-PA BEAM
1355	13	MAX-PT BEAM
1356	13	MIN-PT BEAM

Geometria ponticello
presuperposition actions without GPC

Generated Loadcases

Number	Comb	Title	
1341	13	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
1342	13	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
1343	13	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
1344	13	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
1345	13	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
1346	13	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
1347	13	MAX-UX	NODE BEAM--N_SP-PTX_temporary
1348	13	MIN-UX	NODE BEAM--N_SP-PTX_temporary
1349	13	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
1350	13	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
1351	13	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
1352	13	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
1353	13	MAXPHIX	NODE _temporary
1354	13	MINPHIX	NODE _temporary
1355	13	MAXPHIY	NODE _temporary
1356	13	MINPHIY	NODE _temporary
1357	13	MAXPHIZ	NODE _temporary
1358	13	MINPHIZ	NODE _temporary
1441	14	MAX-MY	BEAM
1442	14	MIN-MY	BEAM
1443	14	MAX-VZ	BEAM
1444	14	MIN-VZ	BEAM
1445	14	MAX-MT	BEAM
1446	14	MIN-MT	BEAM
1447	14	MAX-N	BEAM
1448	14	MIN-N	BEAM
1449	14	MAX-MZ	BEAM
1450	14	MIN-MZ	BEAM
1451	14	MAX-VY	BEAM
1452	14	MIN-VY	BEAM
1453	14	MAX-PA	BEAM
1454	14	MIN-PA	BEAM
1455	14	MAX-PT	BEAM
1456	14	MIN-PT	BEAM
1441	14	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
1442	14	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
1443	14	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
1444	14	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
1445	14	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
1446	14	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
1447	14	MAX-UX	NODE BEAM--N_SP-PTX_temporary
1448	14	MIN-UX	NODE BEAM--N_SP-PTX_temporary
1449	14	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
1450	14	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
1451	14	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
1452	14	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
1453	14	MAXPHIX	NODE _temporary
1454	14	MINPHIX	NODE _temporary
1455	14	MAXPHIY	NODE _temporary
1456	14	MINPHIY	NODE _temporary
1457	14	MAXPHIZ	NODE _temporary
1458	14	MINPHIZ	NODE _temporary
1941	19	MAX-MY	BEAM
1942	19	MIN-MY	BEAM
1943	19	MAX-VZ	BEAM
1944	19	MIN-VZ	BEAM
1945	19	MAX-MT	BEAM
1946	19	MIN-MT	BEAM
1947	19	MAX-N	BEAM
1948	19	MIN-N	BEAM
1949	19	MAX-MZ	BEAM
1950	19	MIN-MZ	BEAM
1951	19	MAX-VY	BEAM
1952	19	MIN-VY	BEAM
1953	19	MAX-PA	BEAM
1954	19	MIN-PA	BEAM
1955	19	MAX-PT	BEAM
1956	19	MIN-PT	BEAM
1941	19	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
1942	19	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
1943	19	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
1944	19	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
1945	19	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
1946	19	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
1947	19	MAX-UX	NODE BEAM--N_SP-PTX_temporary
1948	19	MIN-UX	NODE BEAM--N_SP-PTX_temporary
1949	19	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
1950	19	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary

Geometria ponticello
presuperposition actions without GPC

Generated Loadcases

Number	Comb	Title	
1951	19	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
1952	19	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
1953	19	MAXPHIX	NODE _temporary
1954	19	MINPHIX	NODE _temporary
1955	19	MAXPHIY	NODE _temporary
1956	19	MINPHIY	NODE _temporary
1957	19	MAXPHIZ	NODE _temporary
1958	19	MINPHIZ	NODE _temporary
2141	21	MAX-MY	BEAM
2142	21	MIN-MY	BEAM
2143	21	MAX-VZ	BEAM
2144	21	MIN-VZ	BEAM
2145	21	MAX-MT	BEAM
2146	21	MIN-MT	BEAM
2147	21	MAX-N	BEAM
2148	21	MIN-N	BEAM
2149	21	MAX-MZ	BEAM
2150	21	MIN-MZ	BEAM
2151	21	MAX-VY	BEAM
2152	21	MIN-VY	BEAM
2153	21	MAX-PA	BEAM
2154	21	MIN-PA	BEAM
2155	21	MAX-PT	BEAM
2156	21	MIN-PT	BEAM
2141	21	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
2142	21	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
2143	21	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
2144	21	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
2145	21	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
2146	21	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
2147	21	MAX-UX	NODE BEAM--N_SP-PTX_temporary
2148	21	MIN-UX	NODE BEAM--N_SP-PTX_temporary
2149	21	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
2150	21	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
2151	21	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
2152	21	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
2153	21	MAXPHIX	NODE _temporary
2154	21	MINPHIX	NODE _temporary
2155	21	MAXPHIY	NODE _temporary
2156	21	MINPHIY	NODE _temporary
2157	21	MAXPHIZ	NODE _temporary
2158	21	MINPHIZ	NODE _temporary
2641	26	MAX-MY	BEAM
2642	26	MIN-MY	BEAM
2643	26	MAX-VZ	BEAM
2644	26	MIN-VZ	BEAM
2645	26	MAX-MT	BEAM
2646	26	MIN-MT	BEAM
2647	26	MAX-N	BEAM
2648	26	MIN-N	BEAM
2649	26	MAX-MZ	BEAM
2650	26	MIN-MZ	BEAM
2651	26	MAX-VY	BEAM
2652	26	MIN-VY	BEAM
2653	26	MAX-PA	BEAM
2654	26	MIN-PA	BEAM
2655	26	MAX-PT	BEAM
2656	26	MIN-PT	BEAM
2641	26	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
2642	26	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
2643	26	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
2644	26	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
2645	26	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
2646	26	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
2647	26	MAX-UX	NODE BEAM--N_SP-PTX_temporary
2648	26	MIN-UX	NODE BEAM--N_SP-PTX_temporary
2649	26	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
2650	26	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
2651	26	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
2652	26	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
2653	26	MAXPHIX	NODE _temporary
2654	26	MINPHIX	NODE _temporary
2655	26	MAXPHIY	NODE _temporary
2656	26	MINPHIY	NODE _temporary
2657	26	MAXPHIZ	NODE _temporary
2658	26	MINPHIZ	NODE _temporary
2941	29	MAX-MY	BEAM
2942	29	MIN-MY	BEAM



Geometria ponticello
presuperposition actions without GPC

Generated Loadcases

Number	Comb	Title	
2943	29	MAX-VZ	BEAM
2944	29	MIN-VZ	BEAM
2945	29	MAX-MT	BEAM
2946	29	MIN-MT	BEAM
2947	29	MAX-N	BEAM
2948	29	MIN-N	BEAM
2949	29	MAX-MZ	BEAM
2950	29	MIN-MZ	BEAM
2951	29	MAX-VY	BEAM
2952	29	MIN-VY	BEAM
2953	29	MAX-PA	BEAM
2954	29	MIN-PA	BEAM
2955	29	MAX-PT	BEAM
2956	29	MIN-PT	BEAM
2941	29	MAX-PX	NODE BEAM-MY_SPRI-P_temporary
2942	29	MIN-PX	NODE BEAM-MY_SPRI-P_temporary
2943	29	MAX-PY	NODE BEAM-VZ_SPRI-T_temporary
2944	29	MIN-PY	NODE BEAM-VZ_SPRI-T_temporary
2945	29	MAX-PZ	NODE BEAM-MT_SPRI-M_temporary
2946	29	MIN-PZ	NODE BEAM-MT_SPRI-M_temporary
2947	29	MAX-UX	NODE BEAM--N_SP-PTX_temporary
2948	29	MIN-UX	NODE BEAM--N_SP-PTX_temporary
2949	29	MAX-UY	NODE BEAM-MZ_SP-PTY_temporary
2950	29	MIN-UY	NODE BEAM-MZ_SP-PTY_temporary
2951	29	MAX-UZ	NODE BEAM-VY_SP-PTZ_temporary
2952	29	MIN-UZ	NODE BEAM-VY_SP-PTZ_temporary
2953	29	MAXPHIX	NODE _temporary
2954	29	MINPHIX	NODE _temporary
2955	29	MAXPHIY	NODE _temporary
2956	29	MINPHIY	NODE _temporary
2957	29	MAXPHIZ	NODE _temporary
2958	29	MINPHIZ	NODE _temporary

Geometria ponticello
Final Superposition SLS and ULS including GPC

Superpositioning combinations:
rare, nonf, freq, perm, 1.0*, desi, acci, earq, fatigue
LC 1120, 1220, 1320, 1420, 1920, 2120, 2520, 2620, 2820, 2920
Type=Y_1, Y_2, Y_3, Y_4, Y_9, Y_D, Y_A, Y_E, Y_F, Y_G
.

Superposition according to Decreto Ministeriale per le Costruzioni 2008

Combination rule Number 111
Service: Rare combination
Superposition according to manual MAXIMA formula 4
Resulting loadcases type Service: Rare combination

Loadcase selection and Actions							
Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2
		LC factor	Type of loadcase				
		Title					
C	G	1.20	0.00	1.00	1.00	1.00	Ritiro
	5015	1.00	permanent load	grouped in actions	creep&shrinkage		
	5025	1.00	permanent load	grouped in actions	creep&shrinkage		
	5035	1.00	Conditional LC	creep&shrinkage t-inf			
	5036	1.00	Combined with LC	creep&shrinkage t-inf			
	5037	1.00	Combined with LC	creep&shrinkage t-inf			
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali
	5028	1.00	permanent load	grouped in load cases	G_2		
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load g1
	5003	1.00	permanent load	grouped in load cases	Foundation		
	5004	1.00	permanent load	grouped in load cases	Spinta terre		
	5010	1.00	permanent load	grouped in load cases	DL-beams		
	5020	1.00	permanent load	grouped in load cases	liquid concrete slab		
	5021	1.00	permanent load	grouped in load cases	support change		
Y_1	Q	1.00	0.00	1.00	1.00	1.00	rare without gpc
	1141	1.00	Exclusive LC	A 7	MAX-MY BEAM		
	1142	1.00	Exclusive LC	A 7	MIN-MY BEAM		
	1143	1.00	Exclusive LC	A 7	MAX-VZ BEAM		
	1144	1.00	Exclusive LC	A 7	MIN-VZ BEAM		
	1145	1.00	Exclusive LC	A 7	MAX-MT BEAM		
	1146	1.00	Exclusive LC	A 7	MIN-MT BEAM		
	1147	1.00	Exclusive LC	A 7	MAX-N BEAM		
	1148	1.00	Exclusive LC	A 7	MIN-N BEAM		
	1149	1.00	Exclusive LC	A 7	MAX-MZ BEAM		
	1150	1.00	Exclusive LC	A 7	MIN-MZ BEAM		
	1151	1.00	Exclusive LC	A 7	MAX-VY BEAM		
	1152	1.00	Exclusive LC	A 7	MIN-VY BEAM		
	1153	1.00	Exclusive LC	A 7	MAX-PA BEAM		
	1154	1.00	Exclusive LC	A 7	MIN-PA BEAM		
	1155	1.00	Exclusive LC	A 7	MAX-PT BEAM		
	1156	1.00	Exclusive LC	A 7	MIN-PT BEAM		
	1157	1.00	Exclusive LC	A 7	MAXPHIZ NODE _temporary		
	1158	1.00	Exclusive LC	A 7	MINPHIZ NODE _temporary		

Combination rule Number 113
Service: Frequent combination
Superposition according to manual MAXIMA formula 5
Resulting loadcases type Service: Frequent combination

Loadcase selection and Actions								
Act	type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	
		LC factor	Type of loadcase					
								Title
C	G	1.20	0.00	1.00	1.00	1.00	1.00	Ritiro
	5015	1.00	permanent	load	grouped	in	actions	creep&shrinkage
	5025	1.00	permanent	load	grouped	in	actions	creep&shrinkage
	5035	1.00	Conditional	LC				creep&shrinkage t-inf
	5036	1.00	Combined	with	LC			creep&shrinkage t-inf
	5037	1.00	Combined	with	LC			creep&shrinkage t-inf
G_2	G	1.00	1.00	1.00	1.00	1.00	1.00	G non strutturali
	5028	1.00	permanent	load	grouped	in	load cases	G_2
G_1	G	1.00	1.00	1.00	1.00	1.00	1.00	dead load g1
	5003	1.00	permanent	load	grouped	in	load cases	Foundation
	5004	1.00	permanent	load	grouped	in	load cases	Spinta terre
	5010	1.00	permanent	load	grouped	in	load cases	DL-beams
	5020	1.00	permanent	load	grouped	in	load cases	liquid concrete slab
	5021	1.00	permanent	load	grouped	in	load cases	support change
Y_3	Q	1.00	0.00	1.00	1.00	1.00	1.00	freq without gpc
	1341	1.00	Exclusive	LC	A 7			MAX-MY BEAM
	1342	1.00	Exclusive	LC	A 7			MIN-MY BEAM
	1343	1.00	Exclusive	LC	A 7			MAX-VZ BEAM
	1344	1.00	Exclusive	LC	A 7			MIN-VZ BEAM
	1345	1.00	Exclusive	LC	A 7			MAX-MT BEAM

Geometria ponticello
Final Superposition SLS and ULS including GPC

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor Type of loadcase							
1346	1.00	Exclusive	LC	A	7	MIN-MT BEAM	
1347	1.00	Exclusive	LC	A	7	MAX-N BEAM	
1348	1.00	Exclusive	LC	A	7	MIN-N BEAM	
1349	1.00	Exclusive	LC	A	7	MAX-MZ BEAM	
1350	1.00	Exclusive	LC	A	7	MIN-MZ BEAM	
1351	1.00	Exclusive	LC	A	7	MAX-VY BEAM	
1352	1.00	Exclusive	LC	A	7	MIN-VY BEAM	
1353	1.00	Exclusive	LC	A	7	MAX-PA BEAM	
1354	1.00	Exclusive	LC	A	7	MIN-PA BEAM	
1355	1.00	Exclusive	LC	A	7	MAX-PT BEAM	
1356	1.00	Exclusive	LC	A	7	MIN-PT BEAM	
1357	1.00	Exclusive	LC	A	7	MAXPHIZ NODE	_temporary
1358	1.00	Exclusive	LC	A	7	MINPHIZ NODE	_temporary

Combination rule Number 114

Service: Permanent combination

Superposition according to manual MAXIMA formula 7
Resulting loadcases type Service: Permanent combination

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor Type of loadcase							
C	G	1.20	0.00	1.00	1.00	1.00	Ritiro
5015	1.00	permanent	load grouped in actions				creep&shrinkage
5025	1.00	permanent	load grouped in actions				creep&shrinkage
5035	1.00	Conditional	LC				creep&shrinkage t-inf
5036	1.00	Combined with	LC				creep&shrinkage t-inf
5037	1.00	Combined with	LC				creep&shrinkage t-inf
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali
5028	1.00	permanent	load grouped in load cases				G_2
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load g1
5003	1.00	permanent	load grouped in load cases				Foundation
5004	1.00	permanent	load grouped in load cases				Spinta terre
5010	1.00	permanent	load grouped in load cases				DL-beams
5020	1.00	permanent	load grouped in load cases				liquid concrete slab
5021	1.00	permanent	load grouped in load cases				support change
Y_4	Q	1.00	0.00	1.00	1.00	1.00	perm without gpc
1441	1.00	Exclusive	LC	A	7	MAX-MY BEAM	
1442	1.00	Exclusive	LC	A	7	MIN-MY BEAM	
1443	1.00	Exclusive	LC	A	7	MAX-VZ BEAM	
1444	1.00	Exclusive	LC	A	7	MIN-VZ BEAM	
1445	1.00	Exclusive	LC	A	7	MAX-MT BEAM	
1446	1.00	Exclusive	LC	A	7	MIN-MT BEAM	
1447	1.00	Exclusive	LC	A	7	MAX-N BEAM	
1448	1.00	Exclusive	LC	A	7	MIN-N BEAM	
1449	1.00	Exclusive	LC	A	7	MAX-MZ BEAM	
1450	1.00	Exclusive	LC	A	7	MIN-MZ BEAM	
1451	1.00	Exclusive	LC	A	7	MAX-VY BEAM	
1452	1.00	Exclusive	LC	A	7	MIN-VY BEAM	
1453	1.00	Exclusive	LC	A	7	MAX-PA BEAM	
1454	1.00	Exclusive	LC	A	7	MIN-PA BEAM	
1455	1.00	Exclusive	LC	A	7	MAX-PT BEAM	
1456	1.00	Exclusive	LC	A	7	MIN-PT BEAM	
1457	1.00	Exclusive	LC	A	7	MAXPHIZ NODE	_temporary
1458	1.00	Exclusive	LC	A	7	MINPHIZ NODE	_temporary

Combination rule Number 119

Service: Rare combination

Superposition according to manual MAXIMA formula 4
Resulting loadcases type Y_X

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2	Title
LC factor Type of loadcase							
C	G	1.00	1.00	1.00	1.00	1.00	Ritiro
5015	1.00	permanent	load grouped in actions				creep&shrinkage
5025	1.00	permanent	load grouped in actions				creep&shrinkage
5035	1.00	Conditional	LC				creep&shrinkage t-inf
5036	1.00	Combined with	LC				creep&shrinkage t-inf
5037	1.00	Combined with	LC				creep&shrinkage t-inf
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali
5028	1.00	permanent	load grouped in load cases				G_2
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load g1
5003	1.00	permanent	load grouped in load cases				Foundation
5004	1.00	permanent	load grouped in load cases				Spinta terre

Geometria ponticello
Final Superposition SLS and ULS including GPC

Loadcase selection and Actions

Act type	γ-u	γ-f	γ-a	ψ-0	ψ-1	ψ-2	
LC factor	Type of loadcase						Title
5010	1.00	permanent	load	grouped	in	load cases	DL-beams
5020	1.00	permanent	load	grouped	in	load cases	liquid concrete slab
5021	1.00	permanent	load	grouped	in	load cases	support change
Y_9	Q	1.00	0.00	1.00	1.00	1.00	1.0* without gpc
1941	1.00	Exclusive	LC	A	7		MAX-MY BEAM
1942	1.00	Exclusive	LC	A	7		MIN-MY BEAM
1943	1.00	Exclusive	LC	A	7		MAX-VZ BEAM
1944	1.00	Exclusive	LC	A	7		MIN-VZ BEAM
1945	1.00	Exclusive	LC	A	7		MAX-MT BEAM
1946	1.00	Exclusive	LC	A	7		MIN-MT BEAM
1947	1.00	Exclusive	LC	A	7		MAX-N BEAM
1948	1.00	Exclusive	LC	A	7		MIN-N BEAM
1949	1.00	Exclusive	LC	A	7		MAX-MZ BEAM
1950	1.00	Exclusive	LC	A	7		MIN-MZ BEAM
1951	1.00	Exclusive	LC	A	7		MAX-VY BEAM
1952	1.00	Exclusive	LC	A	7		MIN-VY BEAM
1953	1.00	Exclusive	LC	A	7		MAX-PA BEAM
1954	1.00	Exclusive	LC	A	7		MIN-PA BEAM
1955	1.00	Exclusive	LC	A	7		MAX-PT BEAM
1956	1.00	Exclusive	LC	A	7		MIN-PT BEAM
1957	1.00	Exclusive	LC	A	7		MAXPHIZ NODE _temporary
1958	1.00	Exclusive	LC	A	7		MINPHIZ NODE _temporary

Combination rule Number 121

Ultimate Design combination

Superposition according to manual MAXIMA formula 1
Resulting loadcases type Ultimate Design combination

Loadcase selection and Actions

Act	type	γ-u	γ-f	γ-a	ψ-0	ψ-1	ψ-2		
LC factor		Type of loadcase						Title	
C	G	1.35	1.00	1.00	1.00	1.00	1.00	Ritiro	
5015	1.00	permanent	load	grouped	in	actions		creep&shrinkage	
5025	1.00	permanent	load	grouped	in	actions		creep&shrinkage	
5035	1.00	Conditional	LC					creep&shrinkage t-inf	
5036	1.00	Combined with	LC					creep&shrinkage t-inf	
5037	1.00	Combined with	LC					creep&shrinkage t-inf	
G_2	G	1.00	1.00	1.00	1.00	1.00	1.00	G non strutturali	
5028	1.00	permanent	load	grouped	in	load cases		G_2	
G_1	G	1.00	1.00	1.00	1.00	1.00	1.00	dead load g1	
5003	1.00	permanent	load	grouped	in	load cases		Foundation	
5004	1.00	permanent	load	grouped	in	load cases		Spinta terre	
5010	1.00	permanent	load	grouped	in	load cases		DL-beams	
5020	1.00	permanent	load	grouped	in	load cases		liquid concrete slab	
5021	1.00	permanent	load	grouped	in	load cases		support change	
Y_D	Q	1.00	0.00	1.00	1.00	1.00	1.00	desi without gpc	
2141	1.00	Exclusive	LC	A	7			MAX-MY BEAM	
2142	1.00	Exclusive	LC	A	7			MIN-MY BEAM	
2143	1.00	Exclusive	LC	A	7			MAX-VZ BEAM	
2144	1.00	Exclusive	LC	A	7			MIN-VZ BEAM	
2145	1.00	Exclusive	LC	A	7			MAX-MT BEAM	
2146	1.00	Exclusive	LC	A	7			MIN-MT BEAM	
2147	1.00	Exclusive	LC	A	7			MAX-N BEAM	
2148	1.00	Exclusive	LC	A	7			MIN-N BEAM	
2149	1.00	Exclusive	LC	A	7			MAX-MZ BEAM	
2150	1.00	Exclusive	LC	A	7			MIN-MZ BEAM	
2151	1.00	Exclusive	LC	A	7			MAX-VY BEAM	
2152	1.00	Exclusive	LC	A	7			MIN-VY BEAM	
2153	1.00	Exclusive	LC	A	7			MAX-PA BEAM	
2154	1.00	Exclusive	LC	A	7			MIN-PA BEAM	
2155	1.00	Exclusive	LC	A	7			MAX-PT BEAM	
2156	1.00	Exclusive	LC	A	7			MIN-PT BEAM	
2157	1.00	Exclusive	LC	A	7			MAXPHIZ NODE	_temporary
2158	1.00	Exclusive	LC	A	7			MINPHIZ NODE	_temporary

Combination rule Number 126

Ultimate Earthquake combin.

Superposition according to manual MAXIMA formula 3
Resulting loadcases type Ultimate Earthquake combin.

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2		
	LC factor	Type of loadcase						Title
C	G	1.35	1.00	1.00	1.00	1.00	1.00	Ritiro
5015	1.00	permanent load grouped in actions						creep&shrinkage

Geometria ponticello
Final Superposition SLS and ULS including GPC

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2			Title
		LC factor	Type of loadcase						
5025	1.00	permanent	load grouped in actions				creep&shrinkage		
5035	1.00	Conditional	LC				creep&shrinkage t-inf		
5036	1.00	Combined with	LC				creep&shrinkage t-inf		
5037	1.00	Combined with	LC				creep&shrinkage t-inf		
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali		
5028	1.00	permanent	load grouped in load cases				G_2		
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load g1		
5003	1.00	permanent	load grouped in load cases				Foundation		
5004	1.00	permanent	load grouped in load cases				Spinta terre		
5010	1.00	permanent	load grouped in load cases				DL-beams		
5020	1.00	permanent	load grouped in load cases				liquid concrete slab		
5021	1.00	permanent	load grouped in load cases				support change		
Y_E	Q	1.00	0.00	1.00	1.00	1.00	earq without gpc		
2641	1.00	Exclusive	LC	A	7		MAX-MY BEAM		
2642	1.00	Exclusive	LC	A	7		MIN-MY BEAM		
2643	1.00	Exclusive	LC	A	7		MAX-VZ BEAM		
2644	1.00	Exclusive	LC	A	7		MIN-VZ BEAM		
2645	1.00	Exclusive	LC	A	7		MAX-MT BEAM		
2646	1.00	Exclusive	LC	A	7		MIN-MT BEAM		
2647	1.00	Exclusive	LC	A	7		MAX-N BEAM		
2648	1.00	Exclusive	LC	A	7		MIN-N BEAM		
2649	1.00	Exclusive	LC	A	7		MAX-MZ BEAM		
2650	1.00	Exclusive	LC	A	7		MIN-MZ BEAM		
2651	1.00	Exclusive	LC	A	7		MAX-VY BEAM		
2652	1.00	Exclusive	LC	A	7		MIN-VY BEAM		
2653	1.00	Exclusive	LC	A	7		MAX-PA BEAM		
2654	1.00	Exclusive	LC	A	7		MIN-PA BEAM		
2655	1.00	Exclusive	LC	A	7		MAX-PT BEAM		
2656	1.00	Exclusive	LC	A	7		MIN-PT BEAM		
2657	1.00	Exclusive	LC	A	7		MAXPHIZ NODE _temporary		
2658	1.00	Exclusive	LC	A	7		MINPHIZ NODE _temporary		

Combination rule Number 129

Service: Rare combination

Superposition according to manual MAXIMA formula 4
Resulting loadcases type Service: Rare combination

Loadcase selection and Actions

Act type	γ -u	γ -f	γ -a	ψ -0	ψ -1	ψ -2			Title
		LC factor	Type of loadcase						
C	G	1.35	1.00	1.00	1.00	1.00	Ritiro		
5015	1.00	permanent	load grouped in actions				creep&shrinkage		
5025	1.00	permanent	load grouped in actions				creep&shrinkage		
5035	1.00	Conditional	LC				creep&shrinkage t-inf		
5036	1.00	Combined with	LC				creep&shrinkage t-inf		
5037	1.00	Combined with	LC				creep&shrinkage t-inf		
G_2	G	1.00	1.00	1.00	1.00	1.00	G non strutturali		
5028	1.00	permanent	load grouped in load cases				G_2		
G_1	G	1.00	1.00	1.00	1.00	1.00	dead load g1		
5003	1.00	permanent	load grouped in load cases				Foundation		
5004	1.00	permanent	load grouped in load cases				Spinta terre		
5010	1.00	permanent	load grouped in load cases				DL-beams		
5020	1.00	permanent	load grouped in load cases				liquid concrete slab		
5021	1.00	permanent	load grouped in load cases				support change		
Y_G	Q	1.00	0.00	1.00	1.00	1.00	stress range L+Q		
2941	1.00	Exclusive	LC	A	7		MAX-MY BEAM		
2942	1.00	Exclusive	LC	A	7		MIN-MY BEAM		
2943	1.00	Exclusive	LC	A	7		MAX-VZ BEAM		
2944	1.00	Exclusive	LC	A	7		MIN-VZ BEAM		
2945	1.00	Exclusive	LC	A	7		MAX-MT BEAM		
2946	1.00	Exclusive	LC	A	7		MIN-MT BEAM		
2947	1.00	Exclusive	LC	A	7		MAX-N BEAM		
2948	1.00	Exclusive	LC	A	7		MIN-N BEAM		
2949	1.00	Exclusive	LC	A	7		MAX-MZ BEAM		
2950	1.00	Exclusive	LC	A	7		MIN-MZ BEAM		
2951	1.00	Exclusive	LC	A	7		MAX-VY BEAM		
2952	1.00	Exclusive	LC	A	7		MIN-VY BEAM		
2953	1.00	Exclusive	LC	A	7		MAX-PA BEAM		
2954	1.00	Exclusive	LC	A	7		MIN-PA BEAM		
2955	1.00	Exclusive	LC	A	7		MAX-PT BEAM		
2956	1.00	Exclusive	LC	A	7		MIN-PT BEAM		
2957	1.00	Exclusive	LC	A	7		MAXPHIZ NODE _temporary		
2958	1.00	Exclusive	LC	A	7		MINPHIZ NODE _temporary		

Geometria ponticello
Final Superposition SLS and ULS including GPC

Generated Loadcases

Number	Comb	Title	
1121	111	MAXR-MY	BEAM
1122	111	MINR-MY	BEAM
1123	111	MAXR-VZ	BEAM
1124	111	MINR-VZ	BEAM
1125	111	MAXR-MT	BEAM
1126	111	MINR-MT	BEAM
1127	111	MAXR-N	BEAM
1128	111	MINR-N	BEAM
1129	111	MAXR-MZ	BEAM
1130	111	MINR-MZ	BEAM
1131	111	MAXR-VY	BEAM
1132	111	MINR-VY	BEAM
1133	111	MAXR-PA	BEAM
1134	111	MINR-PA	BEAM
1135	111	MAXR-PT	BEAM
1136	111	MINR-PT	BEAM
1121	111	MAXR-PX	NODE BEAM-MY_SPRI-P_rare
1122	111	MINR-PX	NODE BEAM-MY_SPRI-P_rare
1123	111	MAXR-PY	NODE BEAM-VZ_SPRI-T_rare
1124	111	MINR-PY	NODE BEAM-VZ_SPRI-T_rare
1125	111	MAXR-PZ	NODE BEAM-MT_SPRI-M_rare
1126	111	MINR-PZ	NODE BEAM-MT_SPRI-M_rare
1127	111	MAXR-UX	NODE BEAM--N_SP-PTX_rare
1128	111	MINR-UX	NODE BEAM--N_SP-PTX_rare
1129	111	MAXR-UY	NODE BEAM-MZ_SP-PTY_rare
1130	111	MINR-UY	NODE BEAM-MZ_SP-PTY_rare
1131	111	MAXR-UZ	NODE BEAM-VY_SP-PTZ_rare
1132	111	MINR-UZ	NODE BEAM-VY_SP-PTZ_rare
1133	111	MAXRPHIX	NODE _rare
1134	111	MINRPHIX	NODE _rare
1135	111	MAXRPHIY	NODE _rare
1136	111	MINRPHIY	NODE _rare
1137	111	MAXRPHIZ	NODE _rare
1138	111	MINRPHIZ	NODE _rare
1321	113	MAXF-MY	BEAM
1322	113	MINF-MY	BEAM
1323	113	MAXF-VZ	BEAM
1324	113	MINF-VZ	BEAM
1325	113	MAXF-MT	BEAM
1326	113	MINF-MT	BEAM
1327	113	MAXF-N	BEAM
1328	113	MINF-N	BEAM
1329	113	MAXF-MZ	BEAM
1330	113	MINF-MZ	BEAM
1331	113	MAXF-VY	BEAM
1332	113	MINF-VY	BEAM
1333	113	MAXF-PA	BEAM
1334	113	MINF-PA	BEAM
1335	113	MAXF-PT	BEAM
1336	113	MINF-PT	BEAM
1321	113	MAXF-PX	NODE BEAM-MY_SPRI-P_freq
1322	113	MINF-PX	NODE BEAM-MY_SPRI-P_freq
1323	113	MAXF-PY	NODE BEAM-VZ_SPRI-T_freq
1324	113	MINF-PY	NODE BEAM-VZ_SPRI-T_freq
1325	113	MAXF-PZ	NODE BEAM-MT_SPRI-M_freq
1326	113	MINF-PZ	NODE BEAM-MT_SPRI-M_freq
1327	113	MAXF-UX	NODE BEAM--N_SP-PTX_freq
1328	113	MINF-UX	NODE BEAM--N_SP-PTX_freq
1329	113	MAXF-UY	NODE BEAM-MZ_SP-PTY_freq
1330	113	MINF-UY	NODE BEAM-MZ_SP-PTY_freq
1331	113	MAXF-UZ	NODE BEAM-VY_SP-PTZ_freq
1332	113	MINF-UZ	NODE BEAM-VY_SP-PTZ_freq
1333	113	MAXFPHIX	NODE _freq
1334	113	MINFPHIX	NODE _freq
1335	113	MAXFPHIY	NODE _freq
1336	113	MINFPHIY	NODE _freq
1337	113	MAXFPHIZ	NODE _freq
1338	113	MINFPHIZ	NODE _freq
1421	114	MAXP-MY	BEAM
1422	114	MINP-MY	BEAM
1423	114	MAXP-VZ	BEAM
1424	114	MINP-VZ	BEAM
1425	114	MAXP-MT	BEAM
1426	114	MINP-MT	BEAM
1427	114	MAXP-N	BEAM
1428	114	MINP-N	BEAM
1429	114	MAXP-MZ	BEAM
1430	114	MINP-MZ	BEAM

Geometria ponticello
Final Superposition SLS and ULS including GPC

Generated Loadcases

Number	Comb	Title	
1431	114	MAXP-VY	BEAM
1432	114	MINP-VY	BEAM
1433	114	MAXP-PA	BEAM
1434	114	MINP-PA	BEAM
1435	114	MAXP-PT	BEAM
1436	114	MINP-PT	BEAM
1421	114	MAXP-PX	NODE BEAM-MY_SPRI-P_perm
1422	114	MINP-PX	NODE BEAM-MY_SPRI-P_perm
1423	114	MAXP-PY	NODE BEAM-VZ_SPRI-T_perm
1424	114	MINP-PY	NODE BEAM-VZ_SPRI-T_perm
1425	114	MAXP-PZ	NODE BEAM-MT_SPRI-M_perm
1426	114	MINP-PZ	NODE BEAM-MT_SPRI-M_perm
1427	114	MAXP-UX	NODE BEAM--N_SP-PTX_perm
1428	114	MINP-UX	NODE BEAM--N_SP-PTX_perm
1429	114	MAXP-UY	NODE BEAM-MZ_SP-PTY_perm
1430	114	MINP-UY	NODE BEAM-MZ_SP-PTY_perm
1431	114	MAXP-UZ	NODE BEAM-VY_SP-PTZ_perm
1432	114	MINP-UZ	NODE BEAM-VY_SP-PTZ_perm
1433	114	MAXPPHIX	NODE _perm
1434	114	MINPPHIX	NODE _perm
1435	114	MAXPPHIY	NODE _perm
1436	114	MINPPHIY	NODE _perm
1437	114	MAXPPHIZ	NODE _perm
1438	114	MINPPHIZ	NODE _perm
1921	119	MAX-MY	BEAM
1922	119	MIN-MY	BEAM
1923	119	MAX-VZ	BEAM
1924	119	MIN-VZ	BEAM
1925	119	MAX-MT	BEAM
1926	119	MIN-MT	BEAM
1927	119	MAX-N	BEAM
1928	119	MIN-N	BEAM
1929	119	MAX-MZ	BEAM
1930	119	MIN-MZ	BEAM
1931	119	MAX-VY	BEAM
1932	119	MIN-VY	BEAM
1933	119	MAX-PA	BEAM
1934	119	MIN-PA	BEAM
1935	119	MAX-PT	BEAM
1936	119	MIN-PT	BEAM
1921	119	MAX-PX	NODE BEAM-MY_SPRI-P_1.0_
1922	119	MIN-PX	NODE BEAM-MY_SPRI-P_1.0_
1923	119	MAX-PY	NODE BEAM-VZ_SPRI-T_1.0_
1924	119	MIN-PY	NODE BEAM-VZ_SPRI-T_1.0_
1925	119	MAX-PZ	NODE BEAM-MT_SPRI-M_1.0_
1926	119	MIN-PZ	NODE BEAM-MT_SPRI-M_1.0_
1927	119	MAX-UX	NODE BEAM--N_SP-PTX_1.0_
1928	119	MIN-UX	NODE BEAM--N_SP-PTX_1.0_
1929	119	MAX-UY	NODE BEAM-MZ_SP-PTY_1.0_
1930	119	MIN-UY	NODE BEAM-MZ_SP-PTY_1.0_
1931	119	MAX-UZ	NODE BEAM-VY_SP-PTZ_1.0_
1932	119	MIN-UZ	NODE BEAM-VY_SP-PTZ_1.0_
1933	119	MAXPHIX	NODE _1.0_
1934	119	MINPHIX	NODE _1.0_
1935	119	MAXPHIY	NODE _1.0_
1936	119	MINPHIY	NODE _1.0_
1937	119	MAXPHIZ	NODE _1.0_
1938	119	MINPHIZ	NODE _1.0_
2121	121	MAX-MY	BEAM
2122	121	MIN-MY	BEAM
2123	121	MAX-VZ	BEAM
2124	121	MIN-VZ	BEAM
2125	121	MAX-MT	BEAM
2126	121	MIN-MT	BEAM
2127	121	MAX-N	BEAM
2128	121	MIN-N	BEAM
2129	121	MAX-MZ	BEAM
2130	121	MIN-MZ	BEAM
2131	121	MAX-VY	BEAM
2132	121	MIN-VY	BEAM
2133	121	MAX-PA	BEAM
2134	121	MIN-PA	BEAM
2135	121	MAX-PT	BEAM
2136	121	MIN-PT	BEAM
2121	121	MAX-PX	NODE BEAM-MY_SPRI-P_desi
2122	121	MIN-PX	NODE BEAM-MY_SPRI-P_desi
2123	121	MAX-PY	NODE BEAM-VZ_SPRI-T_desi
2124	121	MIN-PY	NODE BEAM-VZ_SPRI-T_desi

Geometria ponticello
Final Superposition SLS and ULS including GPC

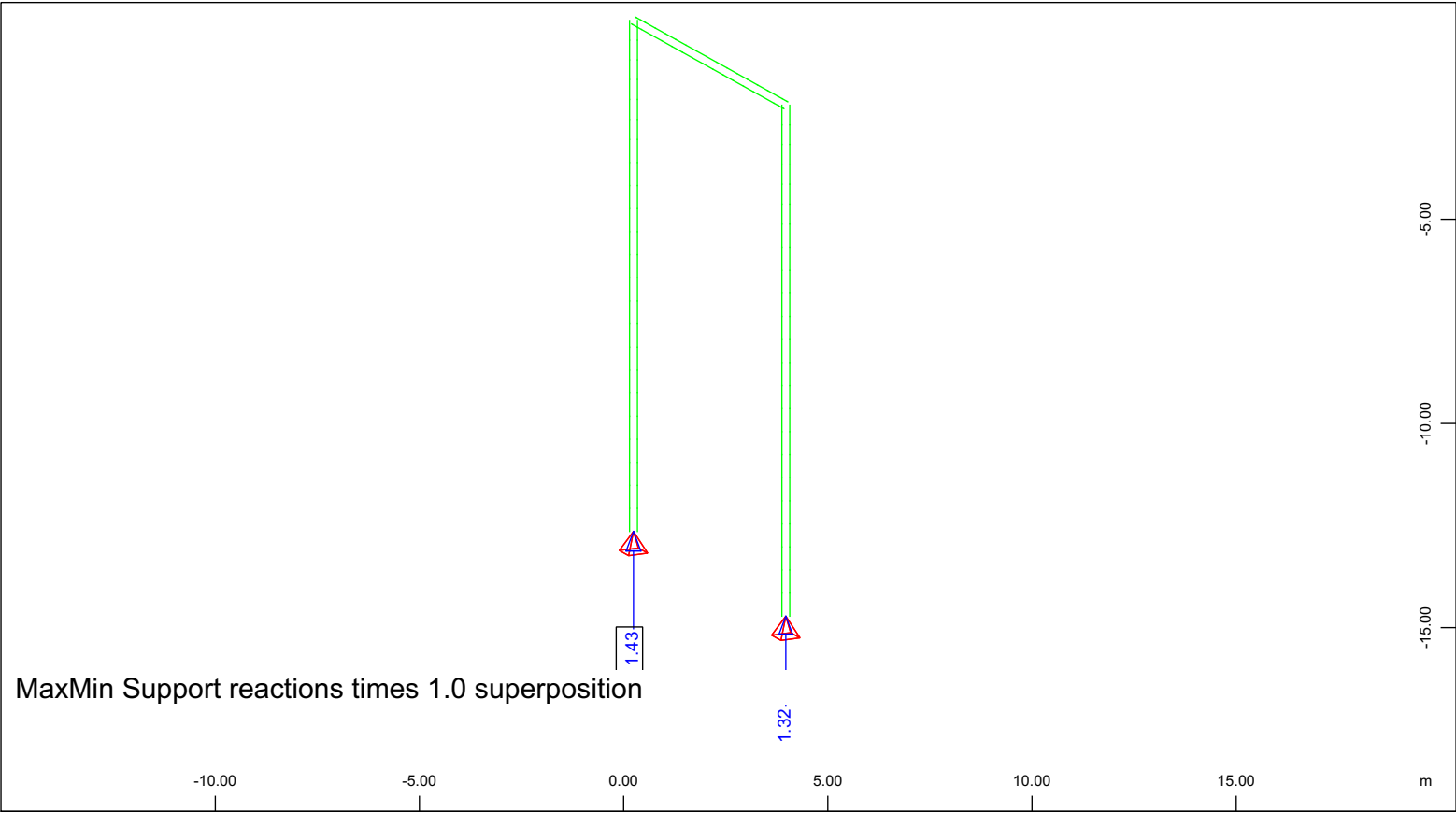
Generated Loadcases

Number	Comb	Title	
2125	121	MAX-PZ	NODE BEAM-MT_SPRI-M_desi
2126	121	MIN-PZ	NODE BEAM-MT_SPRI-M_desi
2127	121	MAX-UX	NODE BEAM--N_SP-PTX_desi
2128	121	MIN-UX	NODE BEAM--N_SP-PTX_desi
2129	121	MAX-UY	NODE BEAM-MZ_SP-PTY_desi
2130	121	MIN-UY	NODE BEAM-MZ_SP-PTY_desi
2131	121	MAX-UZ	NODE BEAM-VY_SP-PTZ_desi
2132	121	MIN-UZ	NODE BEAM-VY_SP-PTZ_desi
2133	121	MAXPHIX	NODE _desi
2134	121	MINPHIX	NODE _desi
2135	121	MAXPHIY	NODE _desi
2136	121	MINPHIY	NODE _desi
2137	121	MAXPHIZ	NODE _desi
2138	121	MINPHIZ	NODE _desi
2621	126	MAXE-MY	BEAM
2622	126	MINE-MY	BEAM
2623	126	MAXE-VZ	BEAM
2624	126	MINE-VZ	BEAM
2625	126	MAXE-MT	BEAM
2626	126	MINE-MT	BEAM
2627	126	MAXE-N	BEAM
2628	126	MINE-N	BEAM
2629	126	MAXE-MZ	BEAM
2630	126	MINE-MZ	BEAM
2631	126	MAXE-VY	BEAM
2632	126	MINE-VY	BEAM
2633	126	MAXE-PA	BEAM
2634	126	MINE-PA	BEAM
2635	126	MAXE-PT	BEAM
2636	126	MINE-PT	BEAM
2621	126	MAXE-PX	NODE BEAM-MY_SPRI-P_earq
2622	126	MINE-PX	NODE BEAM-MY_SPRI-P_earq
2623	126	MAXE-PY	NODE BEAM-VZ_SPRI-T_earq
2624	126	MINE-PY	NODE BEAM-VZ_SPRI-T_earq
2625	126	MAXE-PZ	NODE BEAM-MT_SPRI-M_earq
2626	126	MINE-PZ	NODE BEAM-MT_SPRI-M_earq
2627	126	MAXE-UX	NODE BEAM--N_SP-PTX_earq
2628	126	MINE-UX	NODE BEAM--N_SP-PTX_earq
2629	126	MAXE-UY	NODE BEAM-MZ_SP-PTY_earq
2630	126	MINE-UY	NODE BEAM-MZ_SP-PTY_earq
2631	126	MAXE-UZ	NODE BEAM-VY_SP-PTZ_earq
2632	126	MINE-UZ	NODE BEAM-VY_SP-PTZ_earq
2633	126	MAXEPHIX	NODE _earq
2634	126	MINEPHIX	NODE _earq
2635	126	MAXEPHIY	NODE _earq
2636	126	MINEPHIY	NODE _earq
2637	126	MAXEPHIZ	NODE _earq
2638	126	MINEPHIZ	NODE _earq
2921	129	MAXR-MY	BEAM
2922	129	MINR-MY	BEAM
2923	129	MAXR-VZ	BEAM
2924	129	MINR-VZ	BEAM
2925	129	MAXR-MT	BEAM
2926	129	MINR-MT	BEAM
2927	129	MAXR-N	BEAM
2928	129	MINR-N	BEAM
2929	129	MAXR-MZ	BEAM
2930	129	MINR-MZ	BEAM
2931	129	MAXR-VY	BEAM
2932	129	MINR-VY	BEAM
2933	129	MAXR-PA	BEAM
2934	129	MINR-PA	BEAM
2935	129	MAXR-PT	BEAM
2936	129	MINR-PT	BEAM
2921	129	MAXR-PX	NODE BEAM-MY_SPRI-P_rare
2922	129	MINR-PX	NODE BEAM-MY_SPRI-P_rare
2923	129	MAXR-PY	NODE BEAM-VZ_SPRI-T_rare
2924	129	MINR-PY	NODE BEAM-VZ_SPRI-T_rare
2925	129	MAXR-PZ	NODE BEAM-MT_SPRI-M_rare
2926	129	MINR-PZ	NODE BEAM-MT_SPRI-M_rare
2927	129	MAXR-UX	NODE BEAM--N_SP-PTX_rare
2928	129	MINR-UX	NODE BEAM--N_SP-PTX_rare
2929	129	MAXR-UY	NODE BEAM-MZ_SP-PTY_rare
2930	129	MINR-UY	NODE BEAM-MZ_SP-PTY_rare
2931	129	MAXR-UZ	NODE BEAM-VY_SP-PTZ_rare
2932	129	MINR-UZ	NODE BEAM-VY_SP-PTZ_rare
2933	129	MAXRPHIX	NODE _rare
2934	129	MINRPHIX	NODE _rare

Geometria ponticello
Final Superposition SLS and ULS including GPC

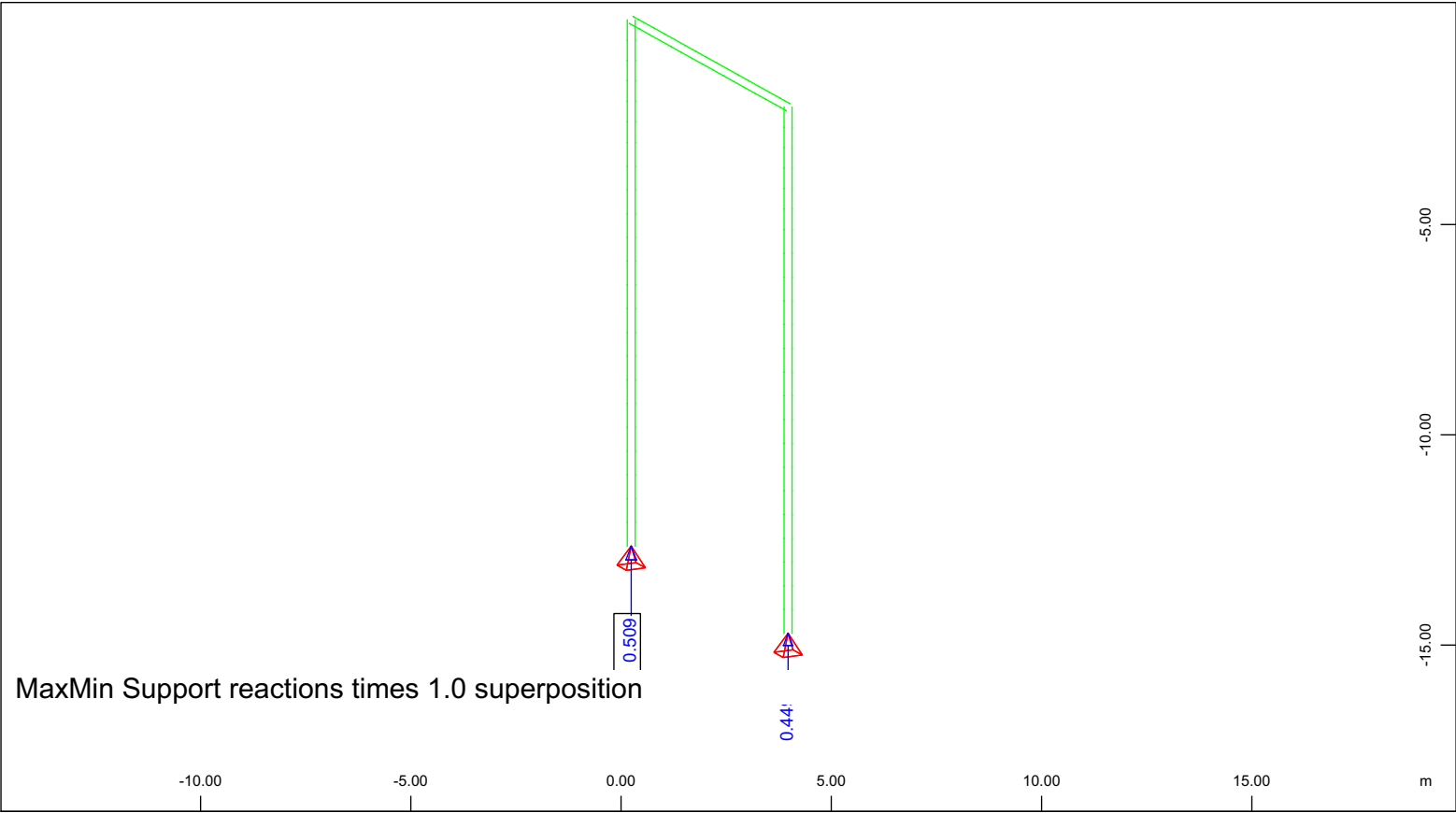
Generated Loadcases			
Number	Comb	Title	
2935	129	MAXRPHIY	NODE _rare
2936	129	MINRPHIY	NODE _rare
2937	129	MAXRPHIZ	NODE _rare
2938	129	MINRPHIZ	NODE _rare

Geometria ponticello
Support reactions of 1.0 superposition



Nodes , Support force in global Z, Loadcase 1925 1.0_ BEAM-MT_NODE-PZ_SPRI-M , 1 cm 3D =
1.00 MN (Max=1.43) (total: 2.75)

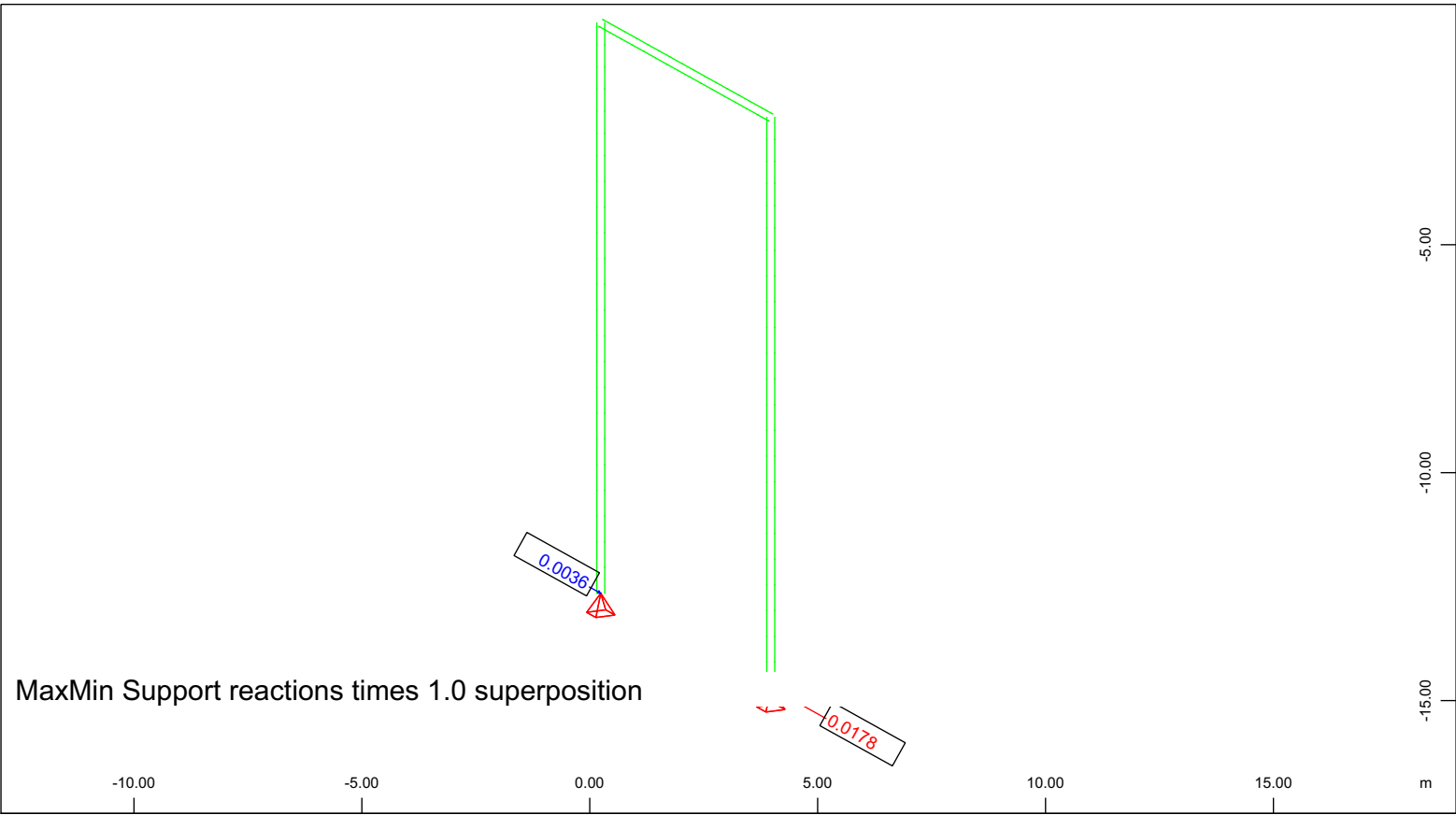
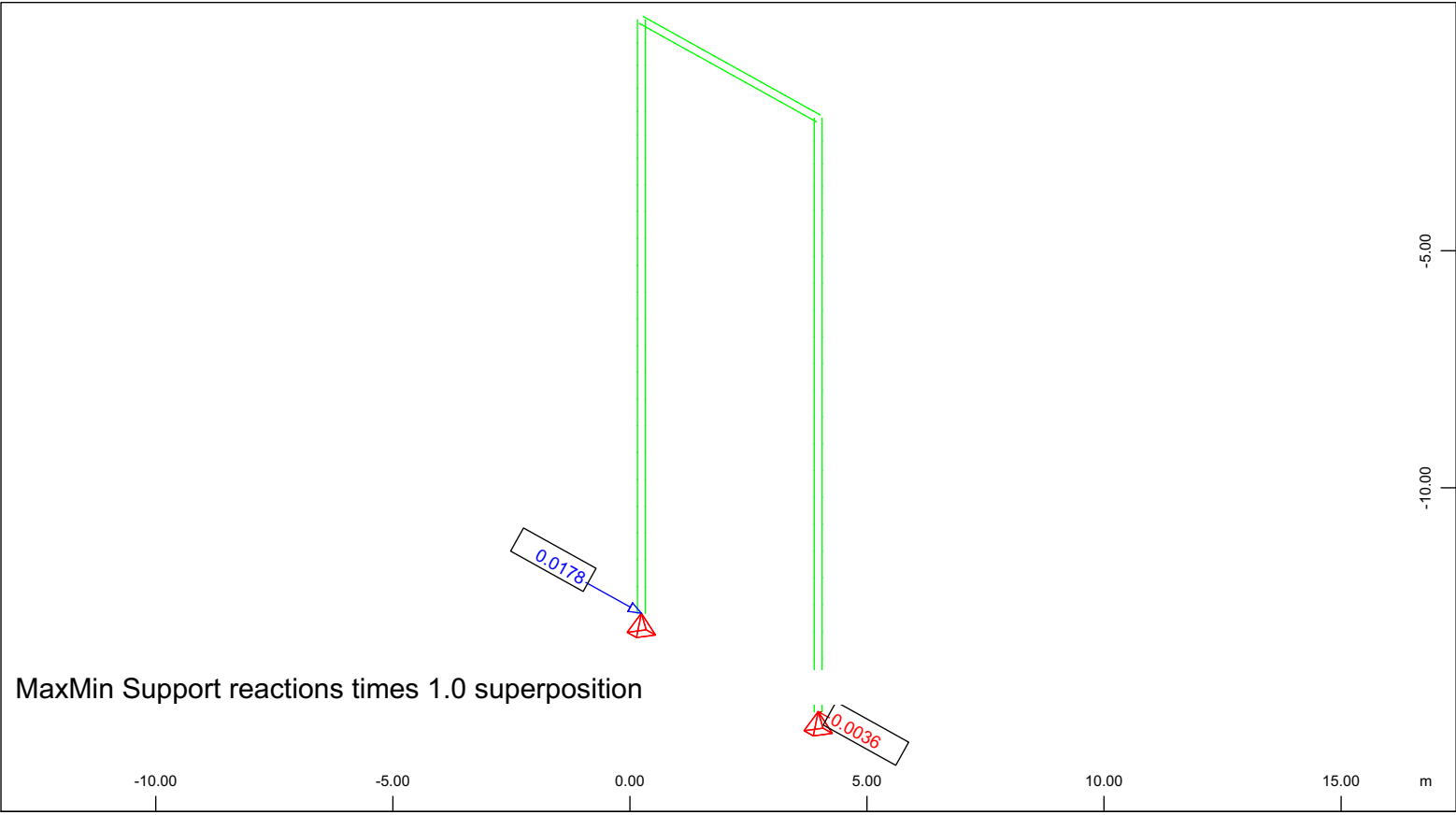
M 1 : 173
X * 0.502
Y * 0.906
Z * 0.962



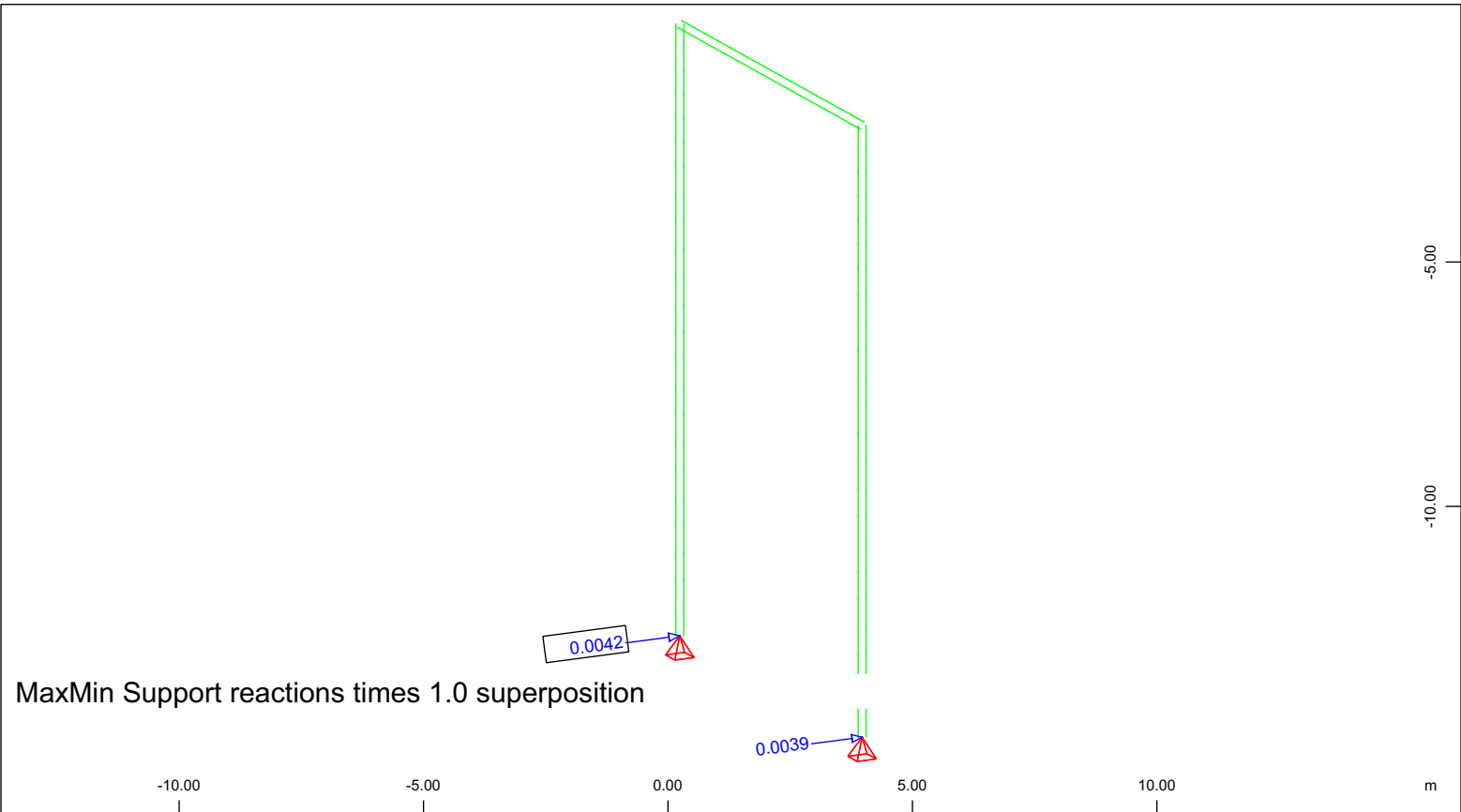
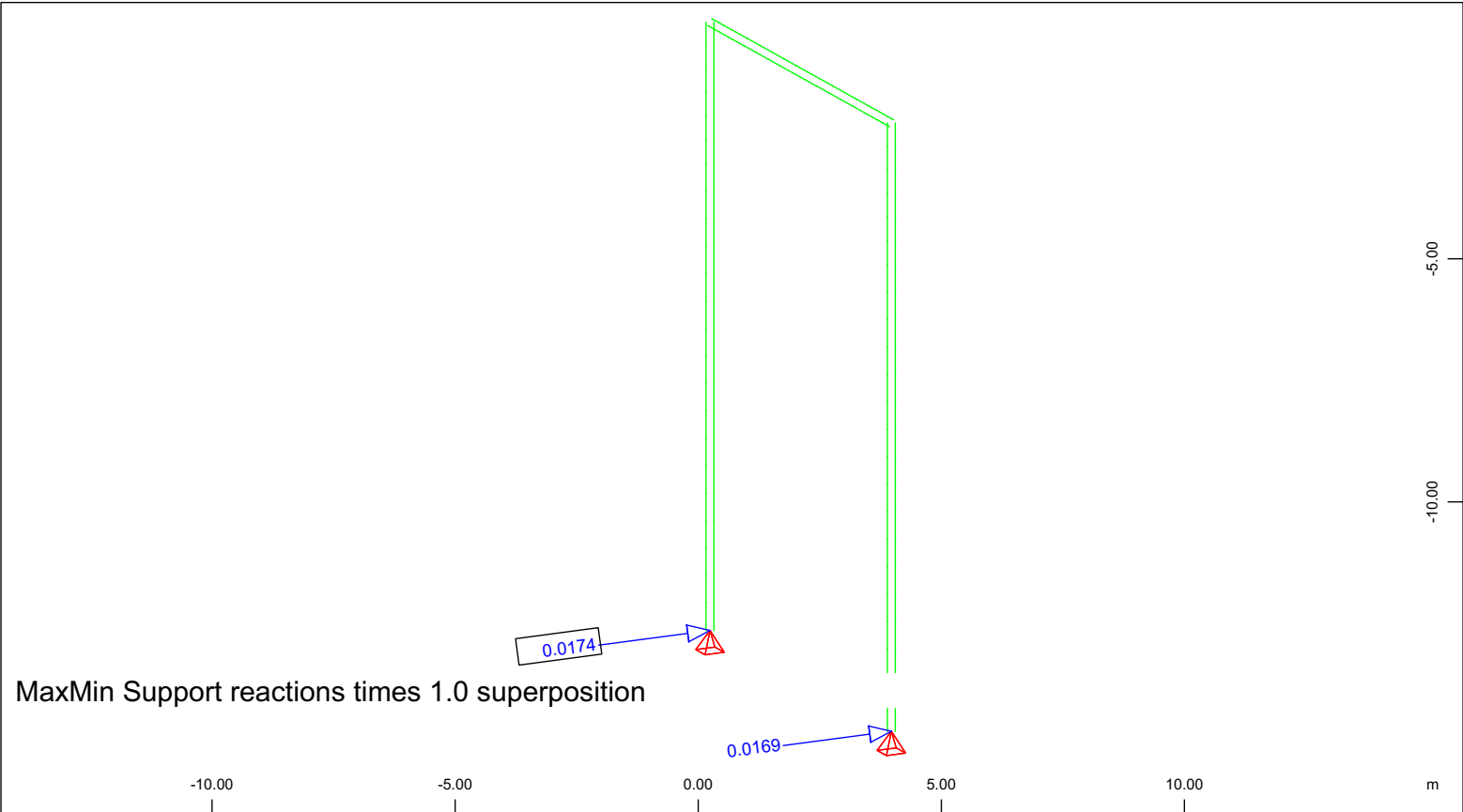
Nodes , Support force in global Z, Loadcase 1926 1.0_ BEAM-MT_NODE-PZ_SPRI-M , 1 cm 3D =
0.509 MN (Max=0.509) (total: 0.959)

M 1 : 168
X * 0.502
Y * 0.906
Z * 0.962

Geometria ponticello
Support reactions of 1.0 superposition



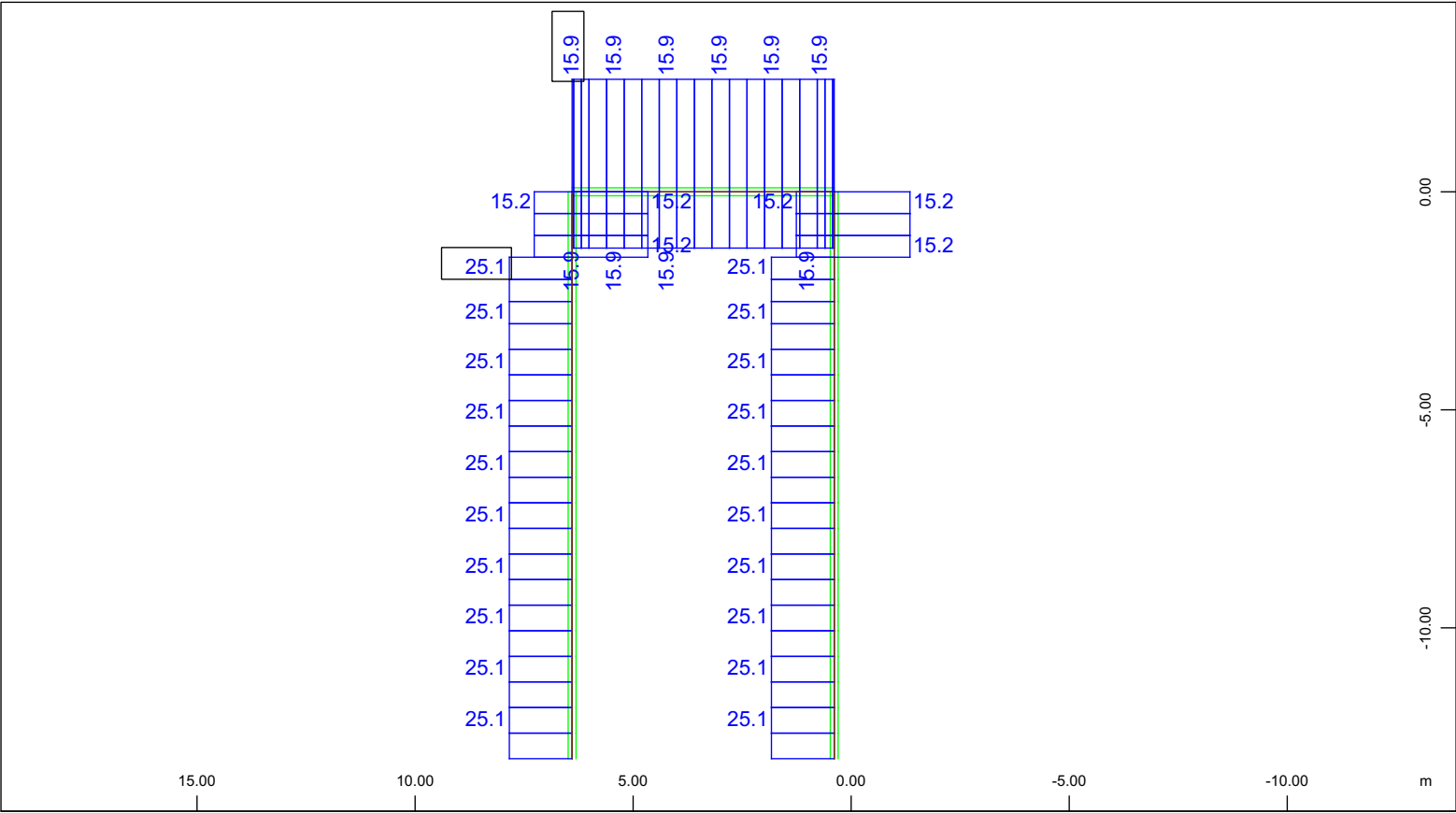
Geometria ponticello
Support reactions of 1.0 superposition



Geometria ponticello
Armatura minima

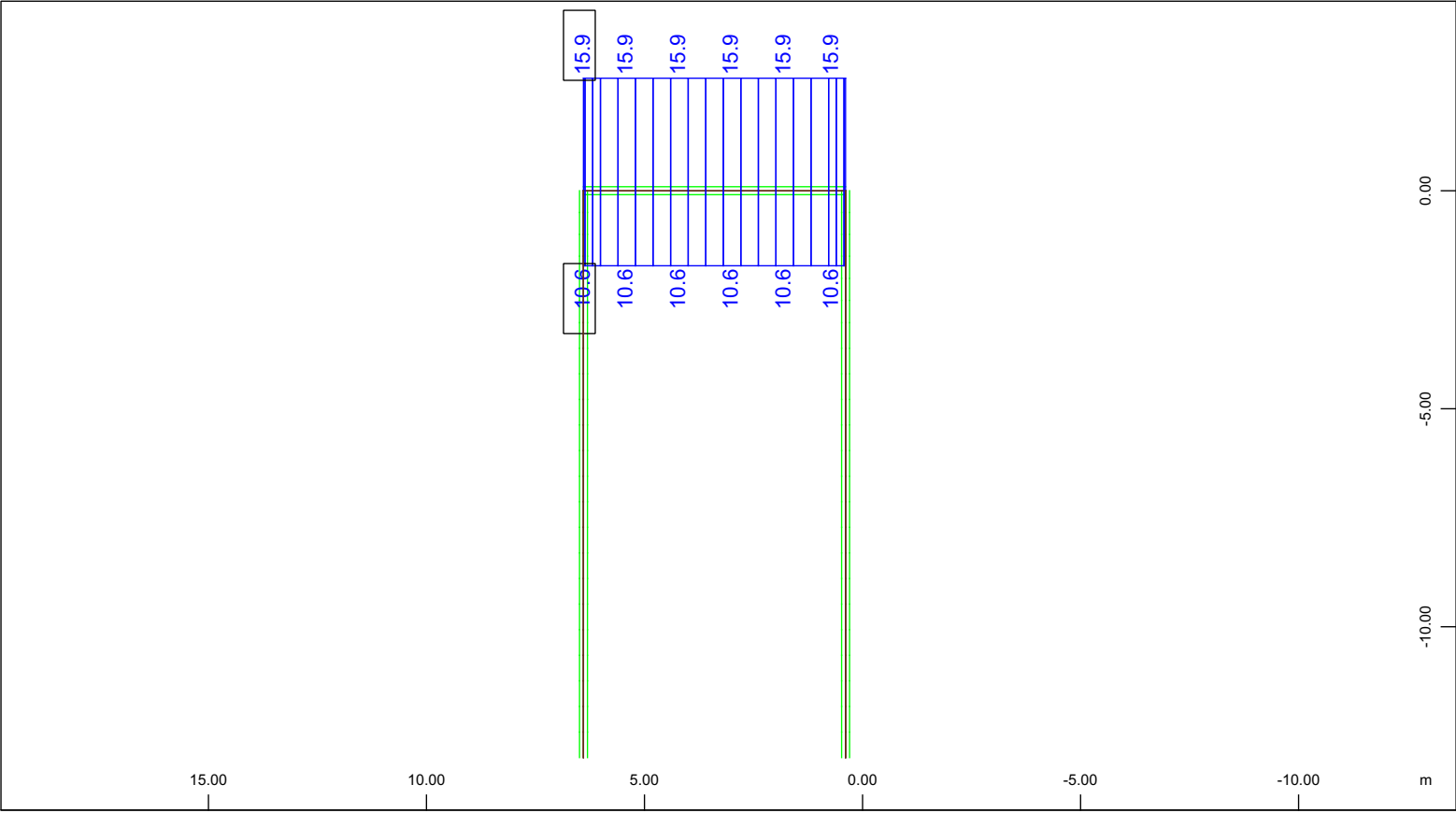
The forces and moments are refered to the total gross section gravity center

Geometria ponticello
Armatura Minima



Beam Elements , Longitudinal Reinforcements Lay. 1, Design Case 1 , 1 cm 3D = 20.0 cm2 (Max=25.1)
Beam Elements , Longitudinal Reinforcements Lay. 2, Design Case 1 , 1 cm 3D = 10.0 cm2 (Max=15.9)

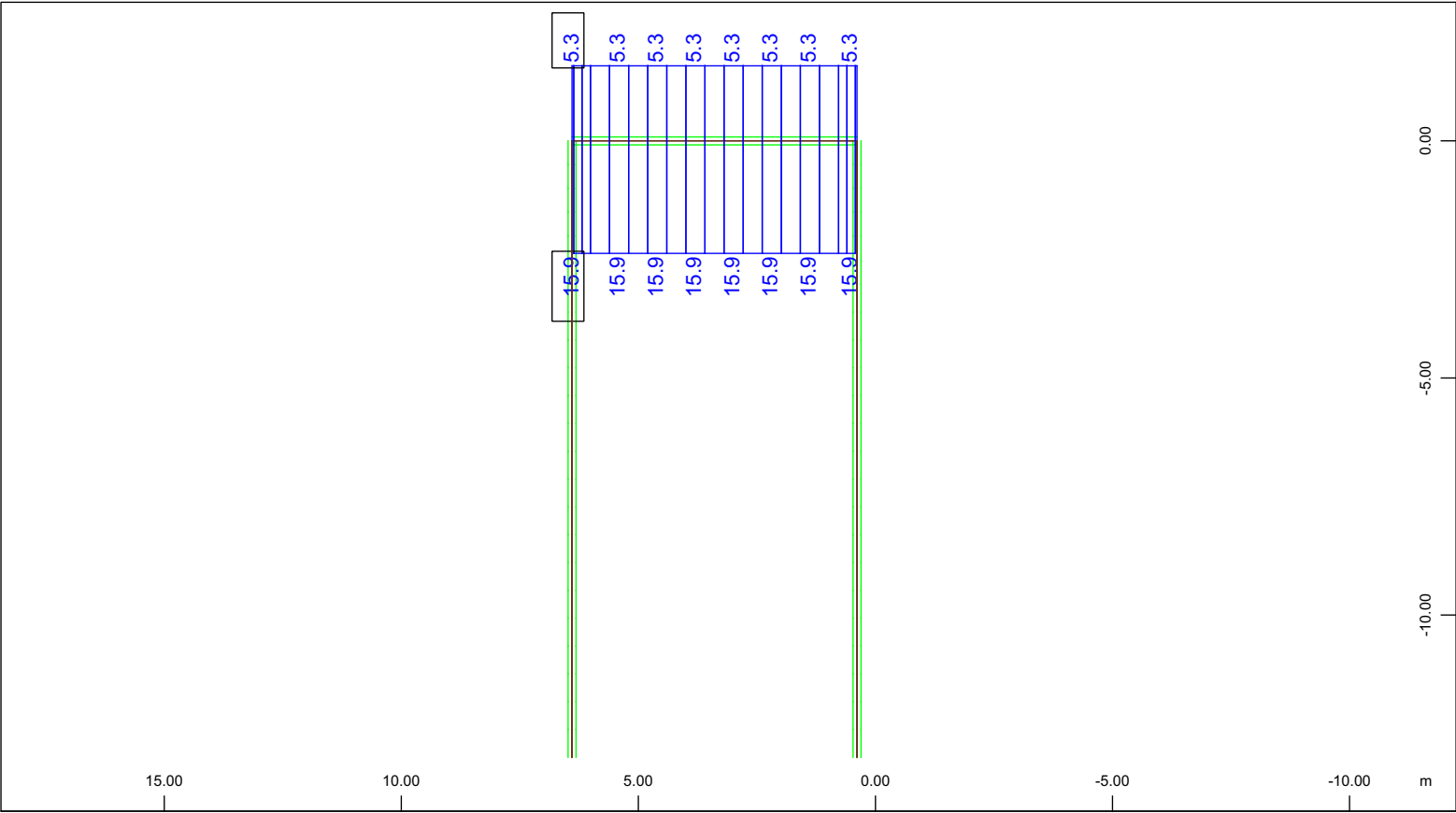
M 1 : 162
X * 0.707
Y * 0.707



Beam Elements , Longitudinal Reinforcements Lay. 3, Design Case 1 , 1 cm 3D = 10.0 cm2 (Max=10.6)
Beam Elements , Longitudinal Reinforcements Lay. 4, Design Case 1 , 1 cm 3D = 10.0 cm2 (Max=15.9)

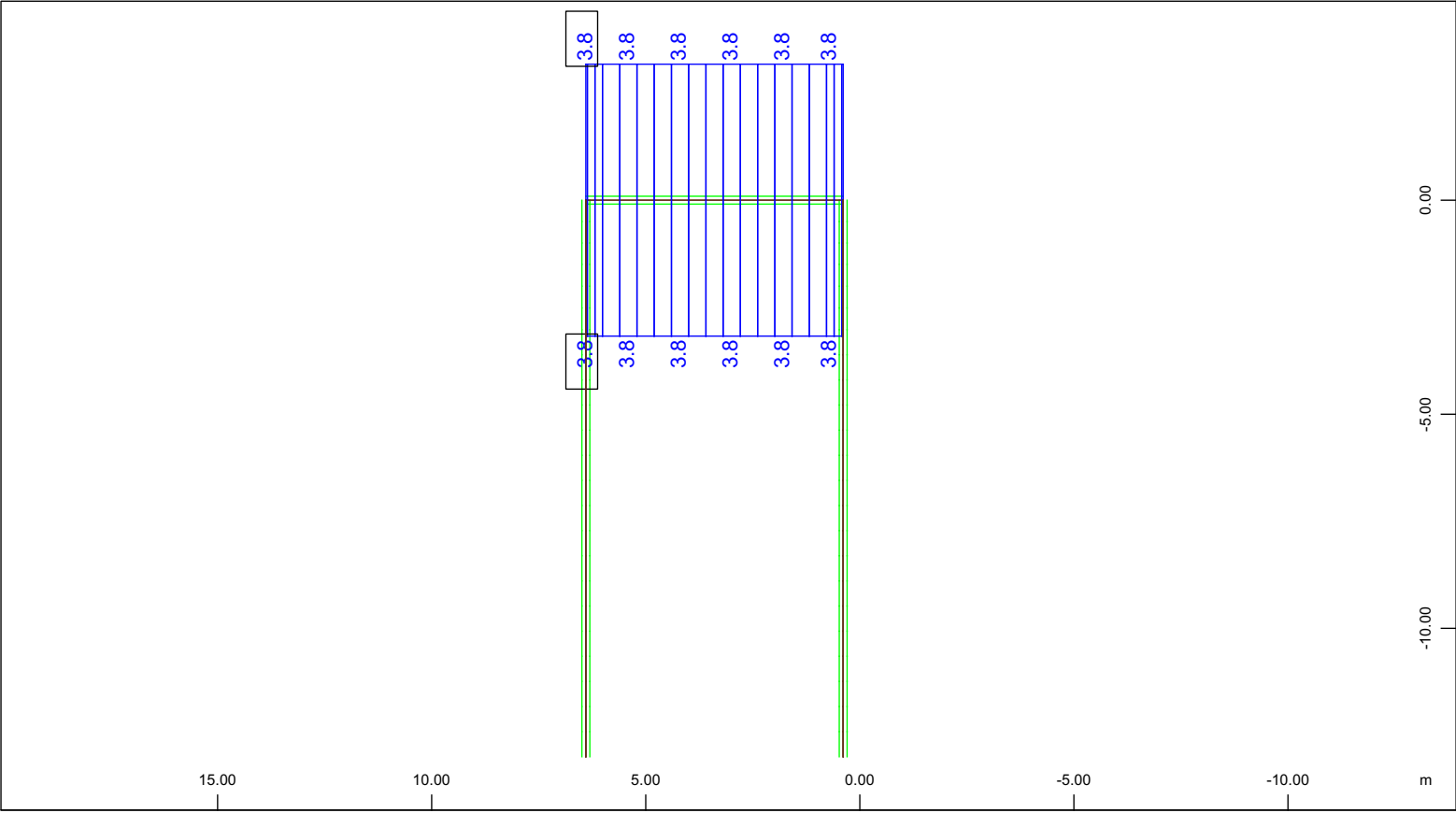
M 1 : 162
X * 0.707
Y * 0.707

Geometria ponticello
Armatura Minima



Beam Elements , Longitudinal Reinforcements Lay. 5, Design Case 1 , 1 cm 3D = 10.0 cm2 (Max=15.9)
Beam Elements , Longitudinal Reinforcements Lay. 6, Design Case 1 , 1 cm 3D = 5.00 cm2 (Max=5.31)

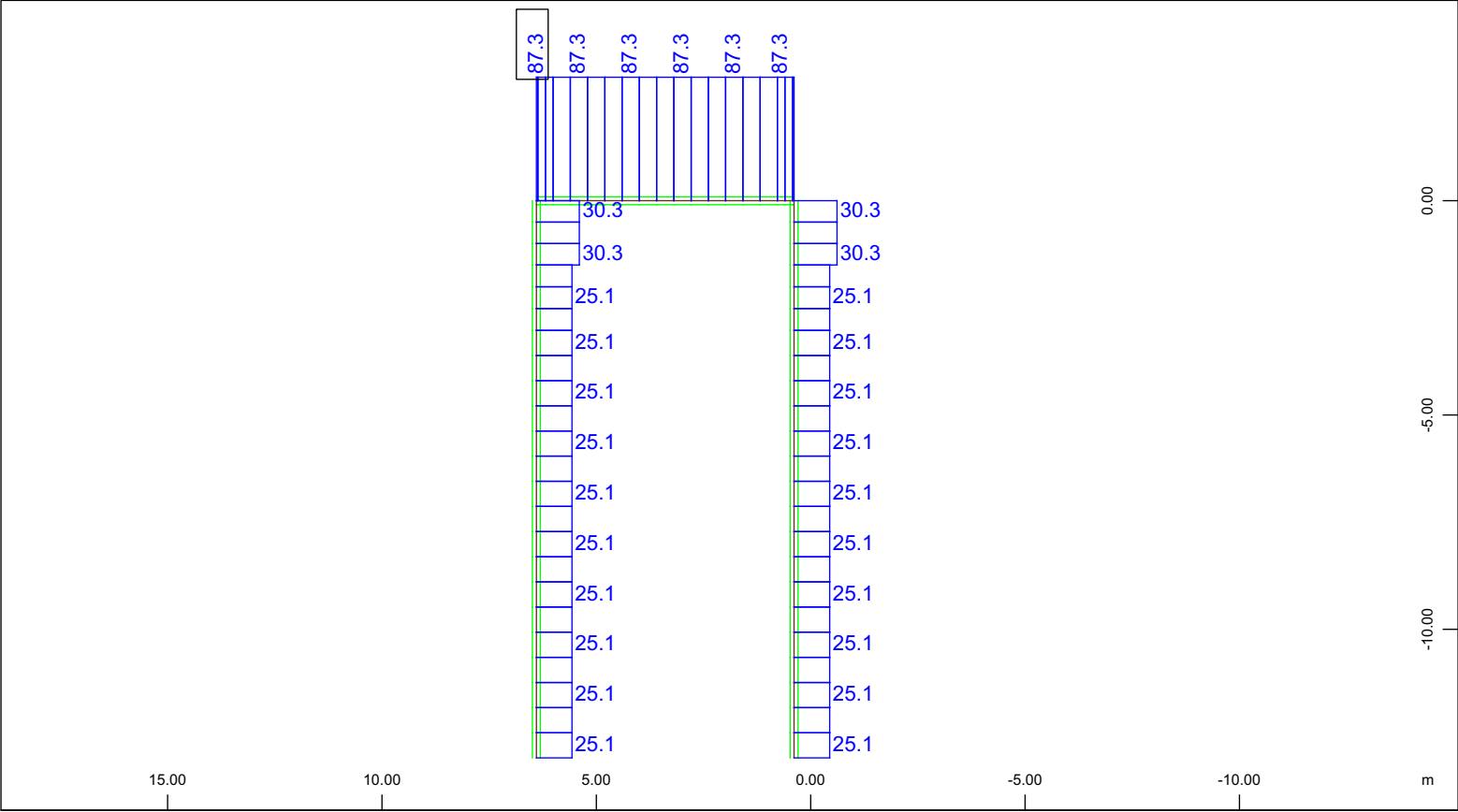
M 1 : 149
X * 0.707
Y * 0.707



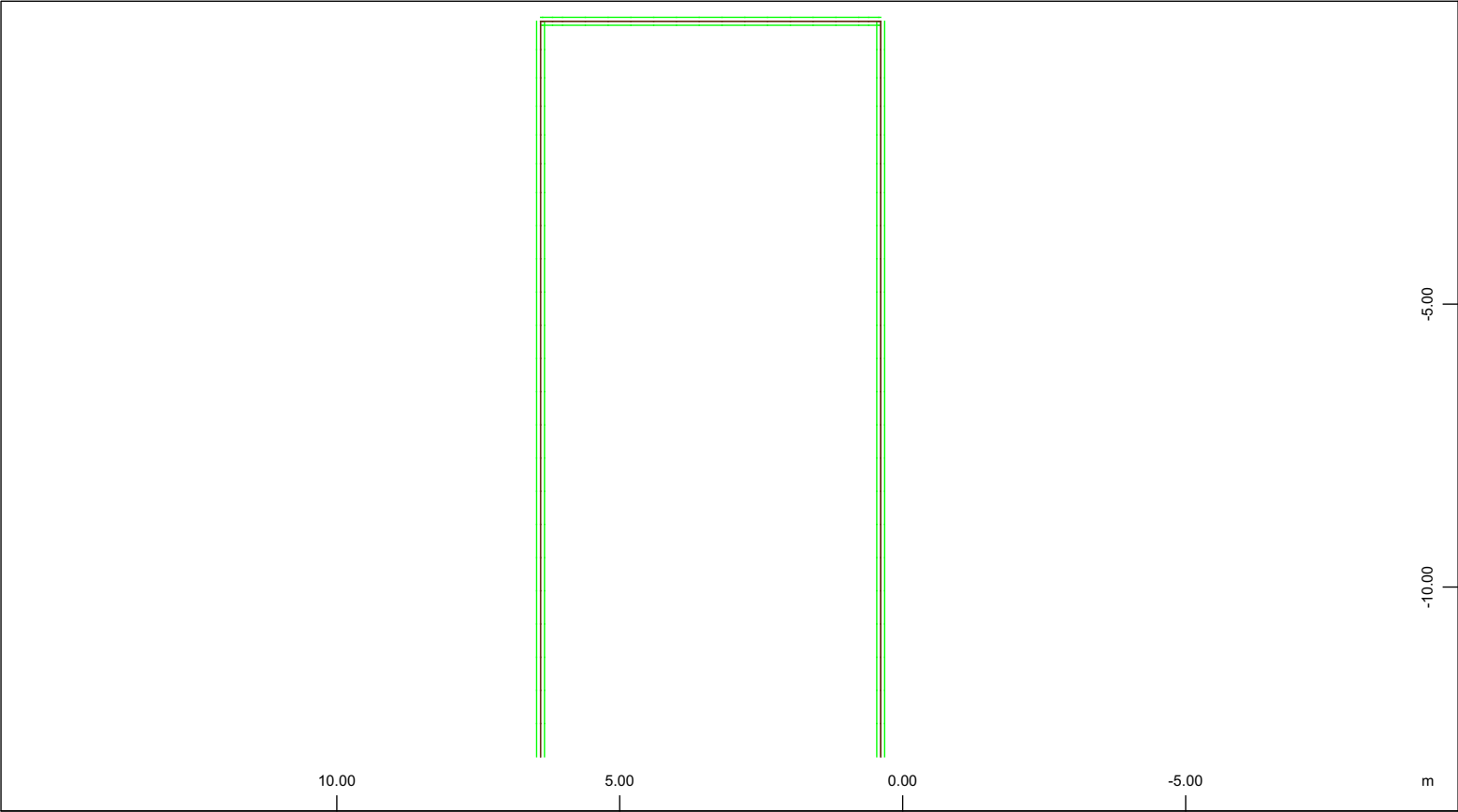
Beam Elements , Longitudinal Reinforcements Lay. 7, Design Case 1 , 1 cm 3D = 2.00 cm2 (Max=3.85)
Beam Elements , Longitudinal Reinforcements Lay. 8, Design Case 1 , 1 cm 3D = 2.00 cm2 (Max=3.85)

M 1 : 165
X * 0.707
Y * 0.707

Geometria ponticello
Armatura Minima

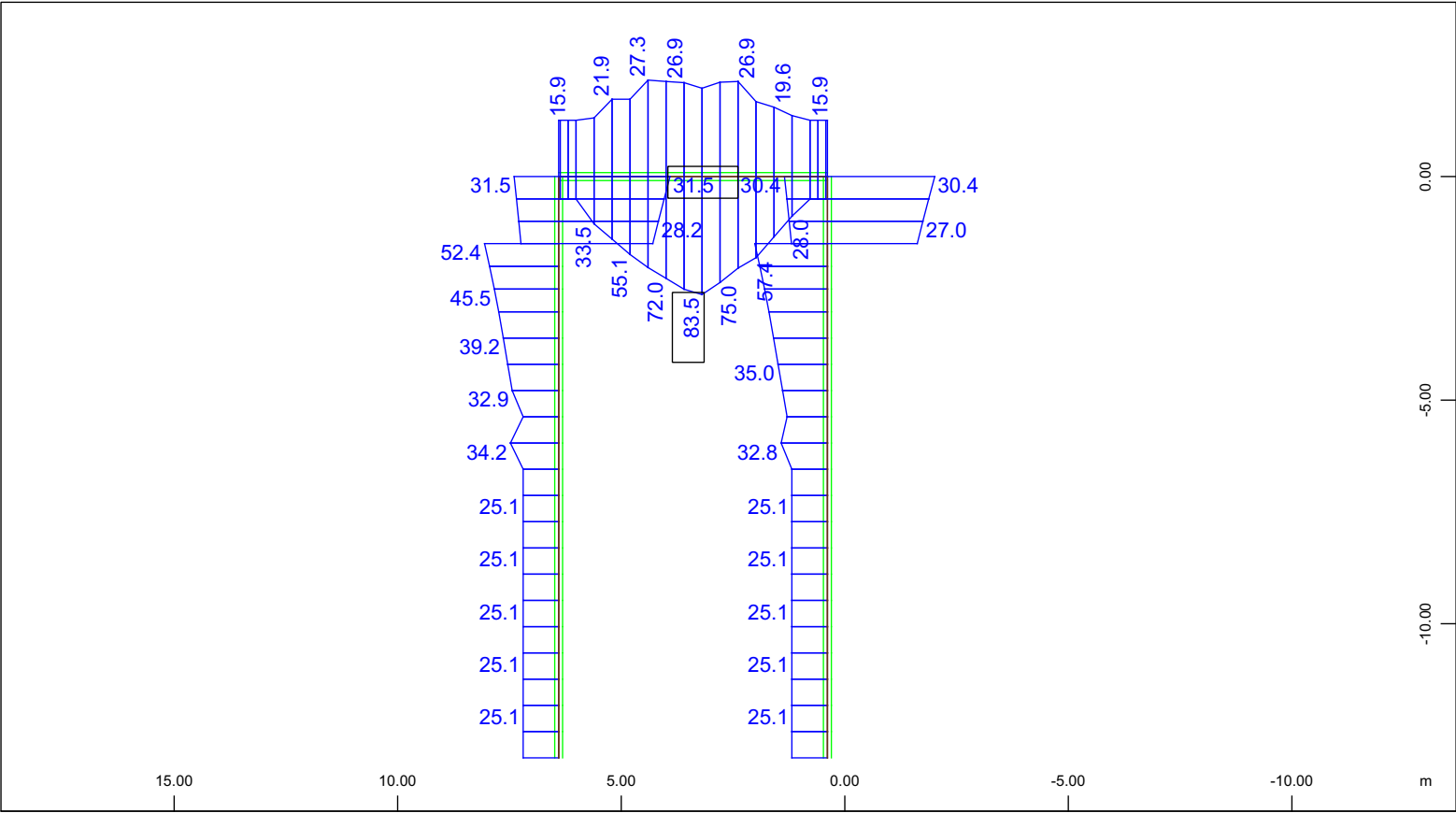


Beam Elements , Longitudinal reinforcements (total), Design Case 1 , 1 cm 3D = 50.0 cm2 (Max=87.3) M 1 : 165
X * 0.707
Y * 0.707



Beam Elements , Shear reinforcements (maximum), Design Case 1 , 1 cm 3D = 0 cm2/m (Max=0) M 1 : 125
X * 0.707
Y * 0.707

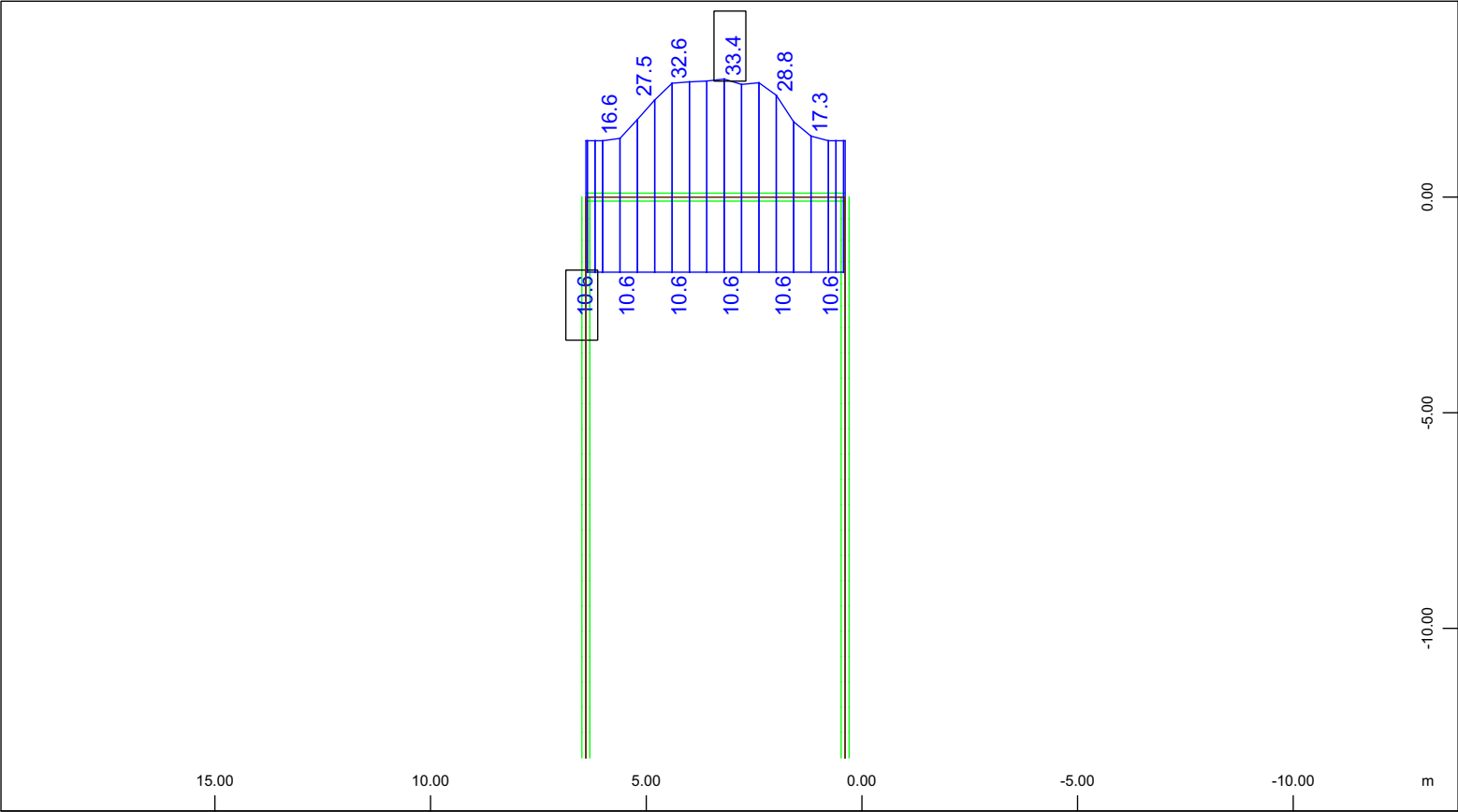
Geometria ponticello
Graphical Output



Z Beam Elements , Longitudinal Reinforcements Lay. 1, Design Case 7 , 1 cm = 50.0 cm² (Max=83.5)

X Beam Elements , Longitudinal Reinforcements Lay. 2, Design Case 7 , 1 cm = 20.0 cm² (Max=31.5)

M 1 : 158
X * 0.707
Y * 0.707

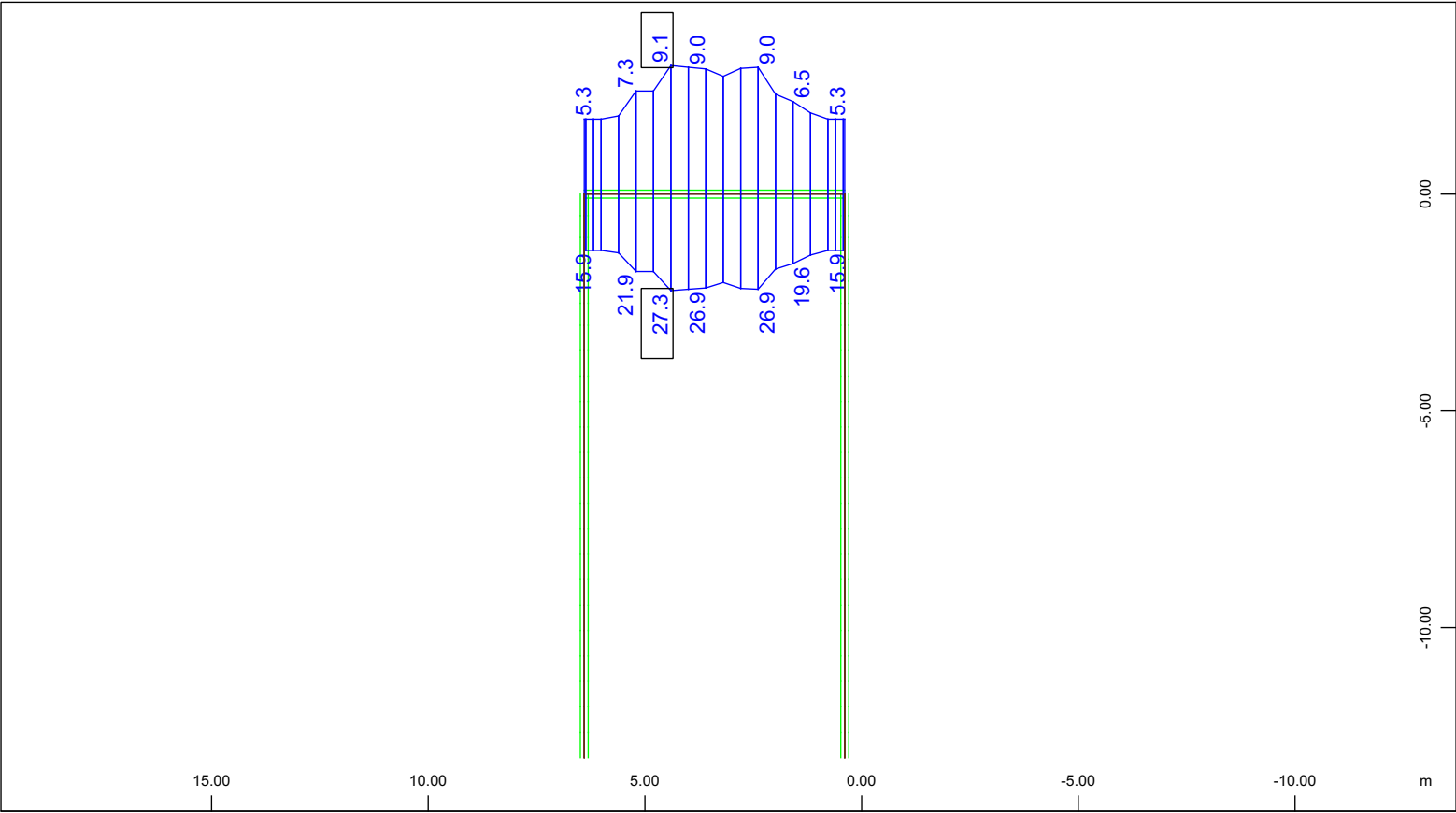


Beam Elements , Longitudinal Reinforcements Lay. 3, Design Case 7 , 1 cm = 10.0 cm2 (Max=10.6)

Beam Elements , Longitudinal Reinforcements Lay. 4, Design Case 7 , 1 cm = 20.0 cm2 (Max=33.4)

M 1 : 164
X * 0.707
Y * 0.707

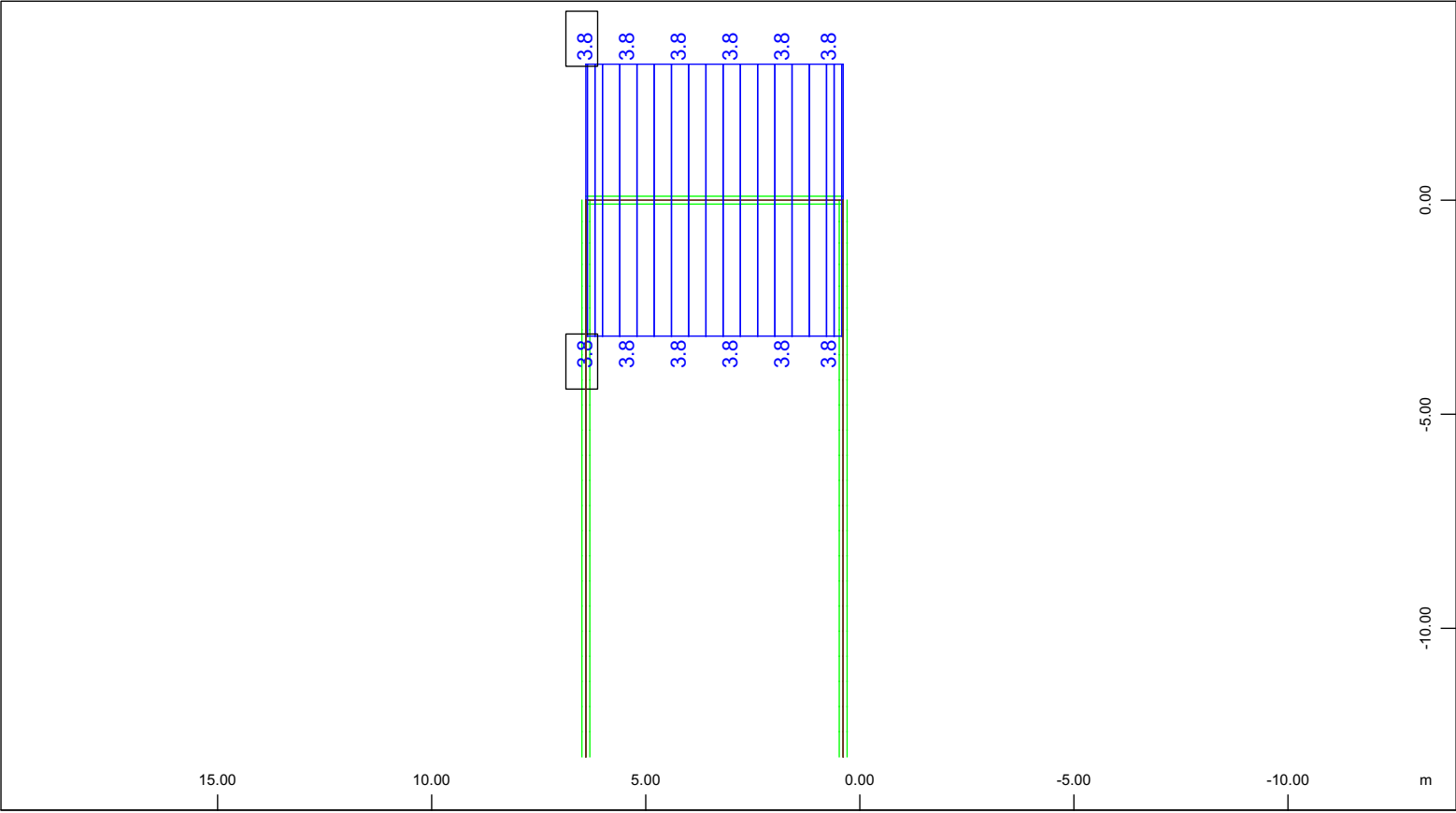
Geometria ponticello
Graphical Output



Beam Elements , Longitudinal Reinforcements Lay. 5, Design Case 7 , 1 cm = 20.0 cm² (Max=27.3)

Beam Elements , Longitudinal Reinforcements Lay. 6, Design Case 7 , 1 cm = 5.00 cm² (Max=9.10)

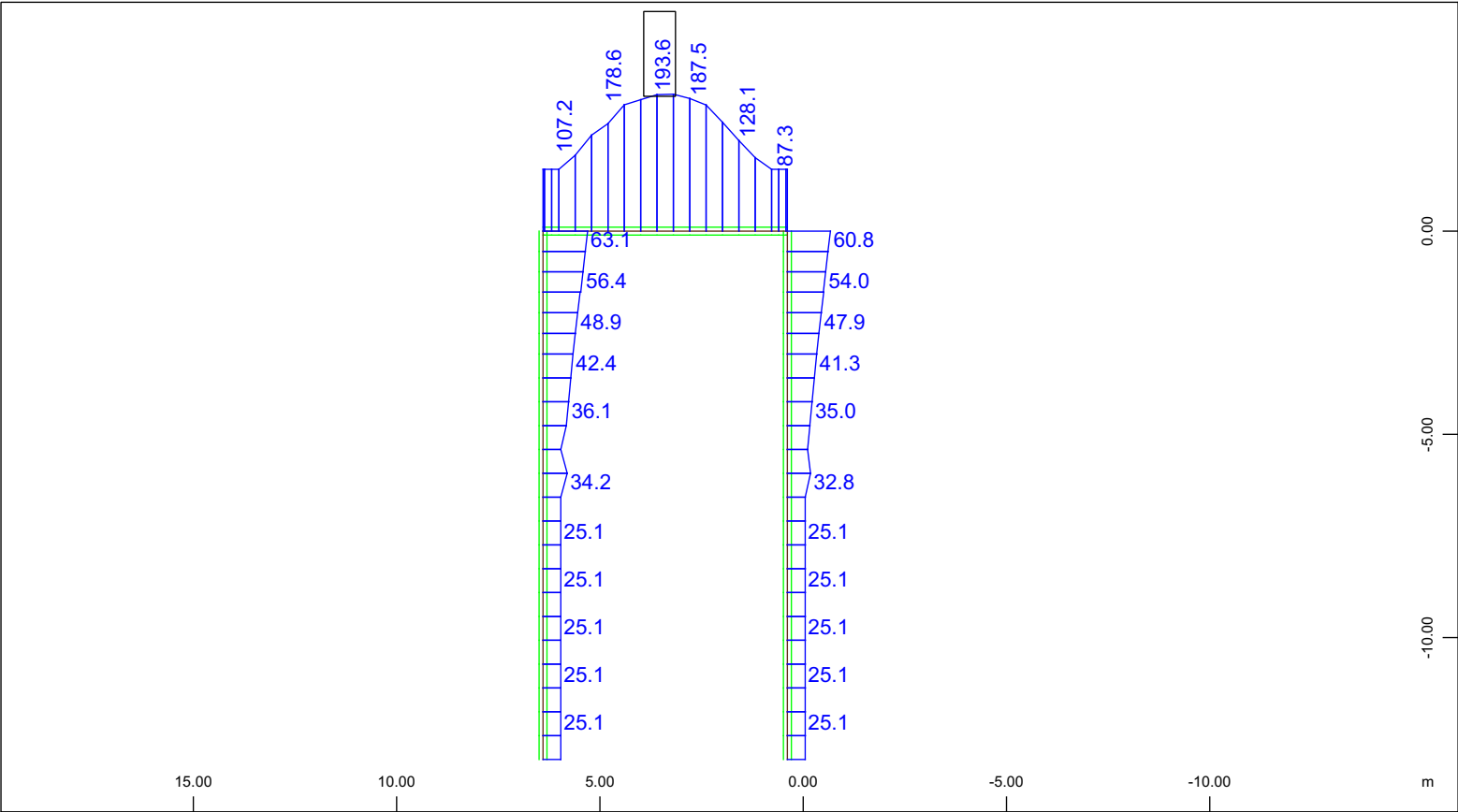
M 1 : 163
X * 0.707
Y * 0.707



Beam Elements , Longitudinal Reinforcements Lay. 7, Design Case 7 , 1 cm = 2.00 cm2 (Max=3.85)

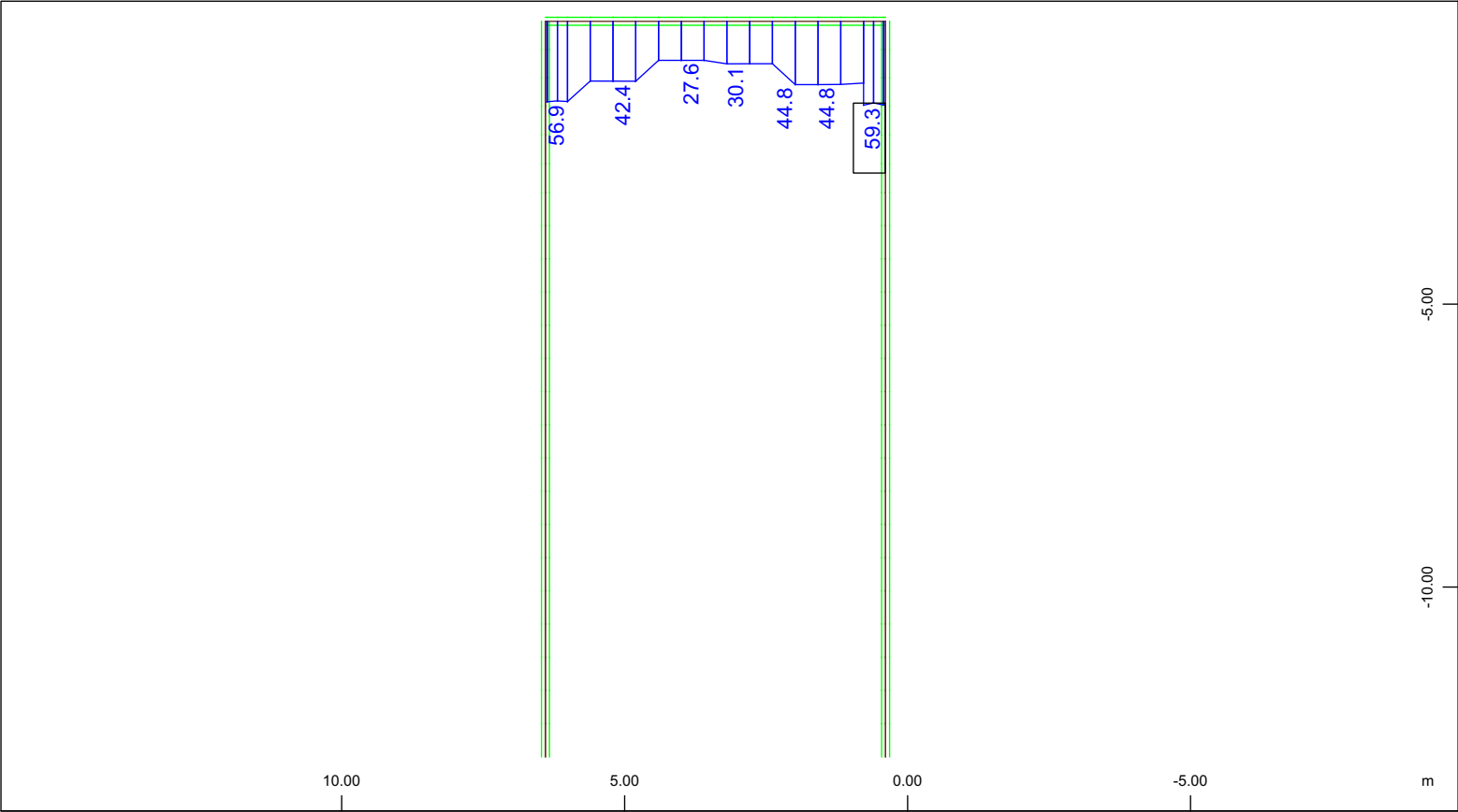
M 1 : 165
X * 0.707
Y * 0.707

Geometria ponticello
Graphical Output



Beam Elements , Longitudinal reinforcements (total), Design Case 7 , 1 cm = 100.0 cm2 (Max=193.6)

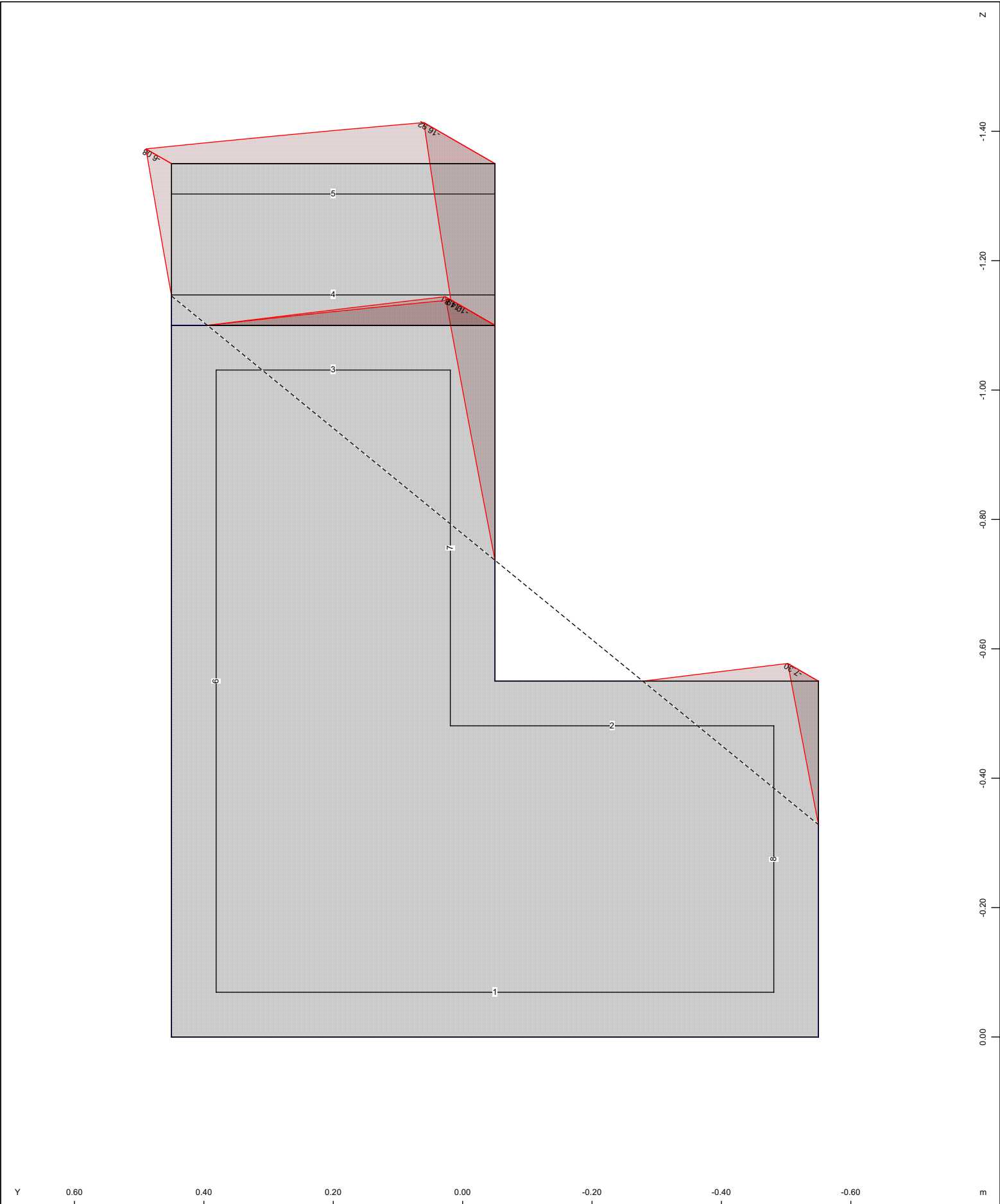
M 1 : 174
X * 0.707
Y * 0.707



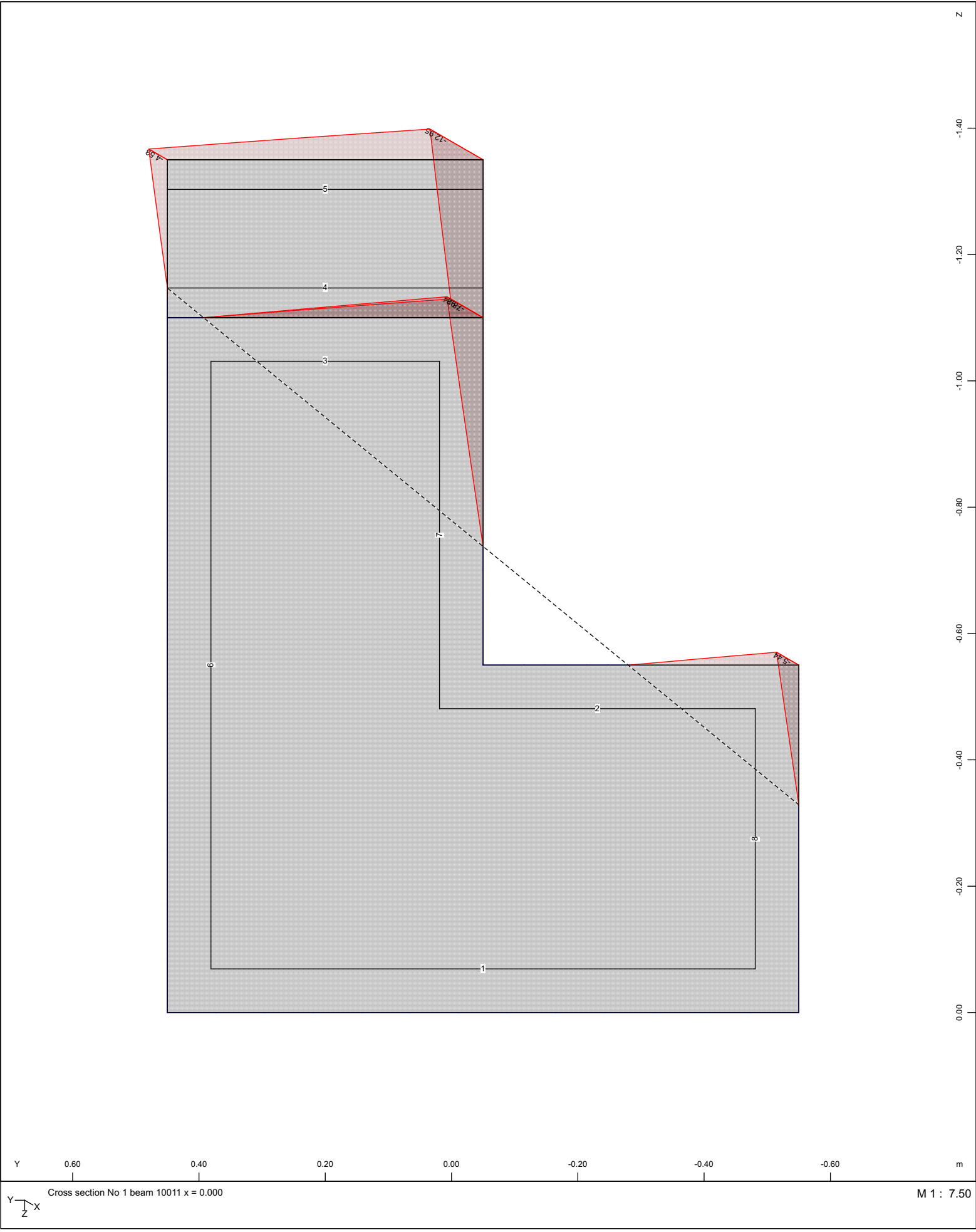
Beam Elements , Shear reinforcements (maximum), Design Case 7 , 1 cm = 50.0 cm2/m (Max=59.3)

M 1 : 125
X * 0.707
Y * 0.707

Geometria ponticello
Total stresses plot for SLS RARE



Geometria ponticello
Total stresses plot for SLS FREQUENT



Geometria ponticello
Total stresses plot for ULS

