ANAS S.p.A.

Direzione Progettazione e Realizzazione Lavori

S.S. N. 9 "VIA EMILIA"
VARIANTE DI CASALPUSTERLENGO ED ELIMINAZIONE PASSAGGIO A LIVELLO SULLA S.P. EX S.S. N.234

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HP02

H - PROGETTO STRUTTURALE OPERE PRINCIPALI
CV02 - CAVALCAVIA ASSE 80
RELAZIONE DI CALCOLO IMPALCATO

CODICE PROGETTO			NOME FILE	REVISIONE	SCALA:
PROGETTO	LIV. PROG.	N. PROG.	HP02-P80CV02STRRE02_B.dwg		
COMI	E	1701	CODICE ELAB. P80CV02STRRE02	B	----

D					
C					
B	EMISSIONE A SEGUITO DI ISTRUTTORIA	LUGLIO 2018	ING. NICOLA LIGAS	PROF. ING. LUIGI MONTERISI	ING. VALERIO BAJETTI
A	EMISSIONE	DICEMBRE 2017	ING. NICOLA LIGAS	PROF. ING. LUIGI MONTERISI	ING. VALERIO BAJETTI
REV.	DESCRIZIONE	DATA	REDATTO	VERIFICATO	APPROVATO

SOMMARIO

1 GENERALITÀ

1.1. PREMESSE

La presente relazione riporta i calcoli statici relativi alla progettazione esecutiva del Cavalcavia Asse 80, intersecante alla Pk. 6+539.97 la Variante di Casalpusterlengo alla S.S. n. 9 "Via Emilia".
L'opera in oggetto presenta uno schema statico di trave continua su tre campate aventi luci tra gli assi di appoggio pari a 31+38+31 m.
L'impalcato è composto, da quattro travi continue in acciaio a doppio T ad altezza variabile sostenenti la soletta di scorrimento stradale in calcestruzzo armato ordinario.
In riguardo agli aspetti sismici, l'impalcato è isolato alla sommità delle pile e spalle mediante isolatori elastomerici armati.

Dimensioni dell'impalcato:

Larghezza marciapiedi	= 1.90 m	(larghezza utile 1.20 m)
Larghezza carreggiata, categoria C2	= 9.50 m	
Larghezza totale soletta	= 13.30 m	
Numero delle travi	= 4	
Interasse travi	= 3.20 m	
Altezza delle travi (variabile)	= 1.00÷2.00 m	
Spessore soletta	= 30÷42 cm	(lastra 6 cm + getto 24÷36 cm)

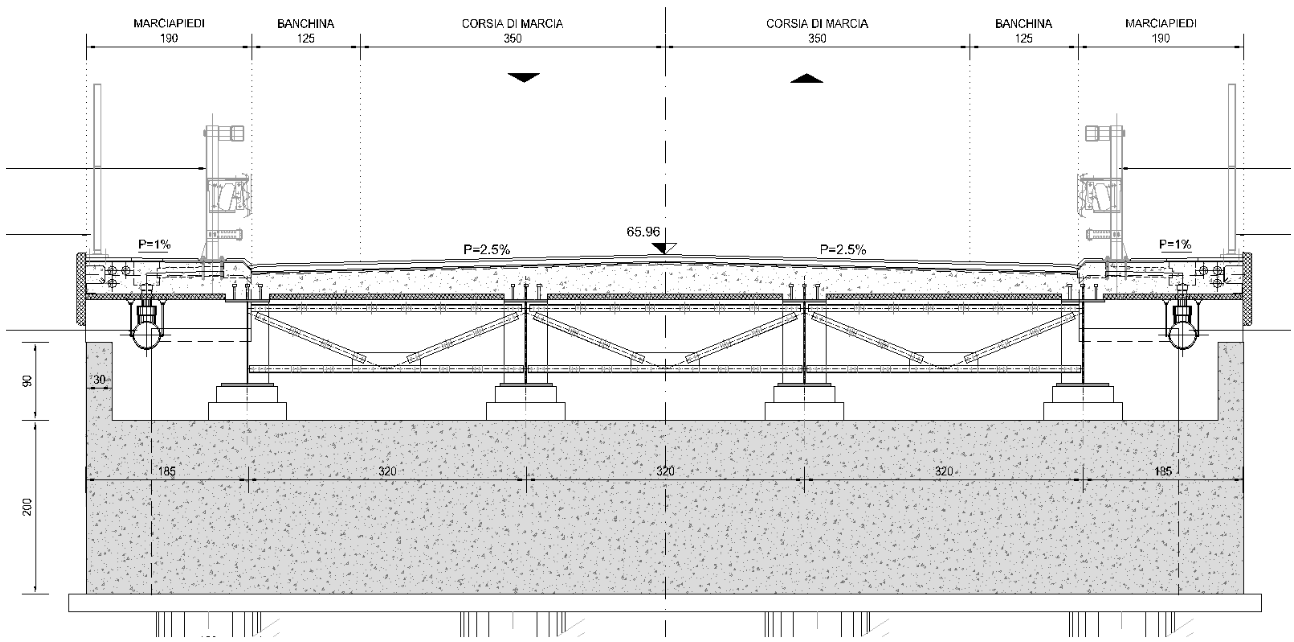


FIGURA 1 - SEZIONE TIPICA IMPALCATO (SU SPALLA)

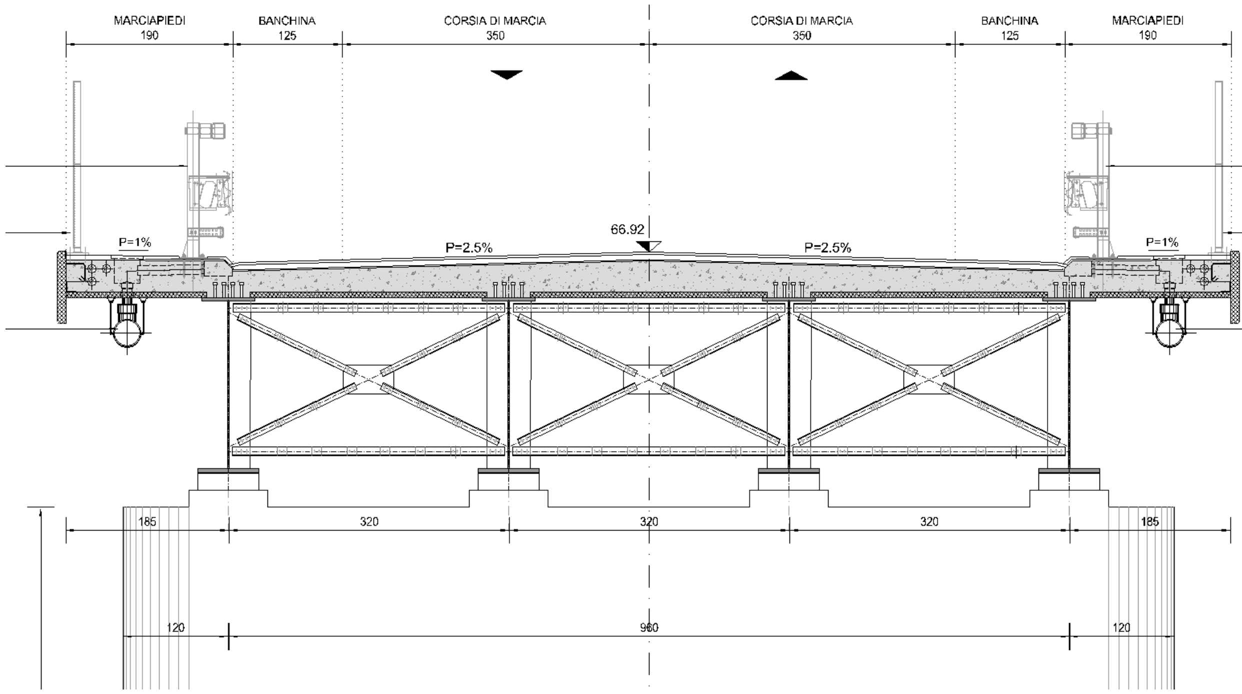


FIGURA 2- SEZIONE IMPALCATO (SU PILA)

1.2. NORMATIVA

Nella redazione dei calcoli statici ci si è attenuti alle prescrizioni della Normativa vigente; in particolare:

· **Legge n°1086 del 05/11/1971**
"Norme per la disciplina delle opere in conglomerato cementizio armato, normale e precompresso ed a struttura metallica"

- **Legge n°64 del 02/02/1974**:"Provvedimenti per le costruzioni con particolari prescrizioni per le zone sismiche"

· **Decreto Ministeriale 14/01/2008**
"Norme tecniche per le costruzioni"

- **Circolare Min. 02/02/2009, n° 617**
"Istruzioni per l'applicazione delle Norme tecniche per le costruzioni di cui al D.M. 14/01/2008"

- **UNI EN 1993-1-1:2005**
"Eurocodice 3 – Progettazione delle strutture in acciaio – Parte 1-1: Regole generali e regole per gli edifici"

- **UNI EN 1993-1-5:2007**
"Eurocodice 3 - Progettazione delle strutture in acciaio – Parte 1-5: Elementi strutturali a lastra"

- **UNI EN 1993-1-9:2005**
"Eurocodice 3 - Progettazione delle strutture in acciaio – Parte 1-9: Fatica"

- **UNI EN 1993-1-10:2005**

"Eurocodice 3 - Progettazione delle strutture in acciaio – Parte 1-10: Resilienza del materiale e proprietà attraverso lo spessore"

- UNI EN 1993-2:2007
"Eurocodice 3 - Progettazione delle strutture in acciaio – Parte 2: Ponti in acciaio"

- UNI EN 1994-1-1:2005
"Eurocodice 4 - Progettazione delle strutture composte acciaio-calcestruzzo – Parte 1-1: Regole generali e regole per gli edifici"

- UNI EN 1994-2:2006
"Eurocodice 4 - Progettazione delle strutture composte acciaio-calcestruzzo – Parte 2: Regole generali e regole per i ponti"

1.3. MATERIALI

I materiali di previsto impiego sono elencati nelle seguenti tabelle:

Calcestruzzo (rif. par. 11.2.10 DM 14.01.2008)		
Resistenza caratteristica cubica a 28 gg del calcestruzzo Rck	**40**	N/mm^2
Resistenza caratteristica cilindrica	**32**	N/mm^2
Resistenza cilindrica media **fcm** = fck+8	40.00	N/mm^2
Resistenza media a trazione semplice assiale **fctm** = 0,30*fck^(2/3)	3.02	N/mm^2
Resistenza caratteristica a trazione semplice assiale **fctk** = 0,7*fctm	2.12	N/mm^2
Resistenza media a trazione per flessione **fcfm** = 1,2*fctm	3.63	N/mm^2
Modulo elastico secante tra 0 e 0,40 fcm **Ecm** = 22000 (fcm/10)^0,3	33346	N/mm^2
Coefficiente di Poisson (cls fessurato/non fessurato)	0/0,2	
Coefficiente di dilatazione termica α	1.0E-5	1/C°
Coefficiente riduttivo per le resistenze di lunga durata α**cc**	0.85	
Coefficiente parziale di sicurezza relativo al calcestruzzo γ**c**	1.5	
Resistenza di calcolo a compressione del calcestruzzo **fcd** = αcc fck/ γc (per spessori > 50 mm)	18.13	N/mm^2
Resistenza di calcolo a compressione del calcestruzzo **fcd** = 0.8 αcc fck/ γc (per spessori ≤ 50 mm)	14.51	N/mm^2
Resistenza di calcolo a trazione del calcestruzzo **fctd** = fctk/ γc (per spessori > 50 mm)	1.41	N/mm^2
Resistenza di calcolo a trazione del calcestruzzo **fctd** = 0.8 fctk/ γc (per spessori ≤ 50 mm)	1.13	N/mm^2
Stati Limite di Esercizio: Tensione massima di compressione per combinazioni caratteristiche σ**c** = 0.6 fck	19.20	N/mm^2
Stati Limite di Esercizio: Tensione massima di compressione per combinazioni quasi permanenti σ**c** = 0.45 fck	14.40	N/mm^2
Tensione tangenziale di aderenza caratteristica acciaio-calcestruzzo **fbk** = 2,25 η fctk (η =1)	4.76	N/mm^2
Tensione tangenziale di aderenza di calcolo acciaio-calcestruzzo **fbd** = fbk/ γc	3.18	N/mm^2

Acciaio per cemento armato B450C (rif. par. 11.3.2.1 DM 14.01.2008)		
Valore nominale della tensione caratteristica di snervamento **fy,nom**	**450**	N/mm^2
Valore nominale della tensione caratteristica di rottura **ft,nom**	**540**	N/mm^2
Coefficiente parziale di sicurezza relativo all'acciaio γ**s**	1.15	
Resistenza di calcolo dell'acciaio **fyd** = fyk/ γs	391.3	N/mm^2
Stati Limite di Esercizio: Tensione massima per combinazioni caratteristiche σ**s** = 0.8 fyk	360.0	N/mm^2

Acciaio per strutture (rif. par. 11.3.4 DM 14.01.2008)		
Tipo acciaio	**S 355 W**	
Modulo elastico **E**	210000	N/mm^2
Coefficiente di Poisson ν	0.3	
Modulo di elasticità trasversale G	80769	N/mm^2
Coefficiente di dilatazione termica α	1.2E-05	1/C°
Tensione caratteristica di snervamento **fyk** (spessore <= 40 mm)	355	N/mm^2
Tensione caratteristica di rottura **ftk** (spessore <= 40 mm)	510	N/mm^2
Tensione caratteristica di snervamento **fyk** (40 mm < spessore <= 80 mm)	335	N/mm^2
Tensione caratteristica di rottura **ftk** (40 mm < spessore <= 80 mm)	490	N/mm^2

Coefficienti di omogeneizzazione:

- sezioni composte acciaio/cls: $m = E_s / E_c = 210000 / 33346 = 6.3$
- sezioni in cls. armato: $m = 15$

Acciaio connettori trave/soletta tipo “Nelson” tipo: S 235 J2+C450

tensione caratteristica di snervamento $f_{yk} \geq 350$ N/mm^2

tensione caratteristica di rottura: $f_{tk} \geq 450$ N/mm^2

2 MODELLAZIONE STRUTTURALE

Il viadotto è stato schematizzato in un modello ad elementi finiti di tipo “trave” (beam), risolto mediante il programma di calcolo “MIDAS/Civil 2015”, versione 1.2, realizzato da “MIDAS Information Technology, Co., Ltd.; Areum B/D 4° floor, 258-1 Seohyeon-dong, Bundang-gu, Seongnam, Gyeonggi-do, 463-824, Korea”; distribuito in Italia da “CSPFea s.c., via Zuccherificio 5/D, 35042 Este (PD)”.

L’affidabilità del codice di calcolo è assicurata da una vasta documentazione teorica e di supporto e da una serie di esempi di verifica in cui i risultati ottenuti sono confrontati con risultati teorici tratti dalla letteratura specialistica o, in mancanza, con risultati di altri codici di calcolo indipendenti.

Il programma, ancorché utilizzabile come codice agli “elementi finiti” di tipo generale, è stato scelto perché volto soprattutto al calcolo di ponti (semplici, continui, strallati, sospesi, ecc.) consentendo tra l’altro la gestione di fasi costruttive successive, l’introduzione di cavi di precompressione, il calcolo delle relative perdite immediate (attrito) e differite (ritiro, fluage, rilassamento) e una gestione semi-automatica di ricerca degli effetti massimi e minimi dovuti ai carichi mobili, nonché la possibilità di effettuare analisi dinamiche lineari con spettro di risposta o dinamiche non lineari (time-history).

La modellazione è stata estesa all’impalcato e ai fusti delle pile, la base dei fusti è considerata incastrata; le spalle sono solamente descritte con un vincolo di incastro.

L’analisi globale della struttura è condotta secondo il metodo “Elastico”; tutti gli elementi strutturali sono considerati indefinitamente elastici.

Viene condotta un’analisi statica per le condizioni di carico relative a permanenti, carichi mobili, frenamento, vento, carichi termici, e un’analisi dinamica lineare per gli effetti delle azioni sismiche.

Si allegano i dati della modellazione strutturale e la spiegazione delle convenzioni usate nei files di dati del programma.

L’impalcato segue longitudinalmente l’asse coordinato X (da sinistra verso destra), le pile seguono l’asse Z (dall’alto verso il basso); l’asse Y (trasversale) forma con i precedenti una terna destrorsa.

I nodi degli elementi strutturali sono posizionati secondo la disposizione reale; quando necessario sono tra loro collegati da “vincoli rigidi”.

La numerazione degli elementi è la seguente (xxx: numeri variabili):

- travi principali: da 101÷401 a 140÷440 ordinati per X crescente (+1) e quindi per Y crescente (+100 per ogni trave)
- trasversi intermedi: 1xxx, ordinati per Y, Z e X crescenti
- trasversi su pile: 2xxx, ordinati per Y, Z, e X crescenti
- controventi: 3xxx, ordinati per X, Y e Z crescenti
- pile: 4xxx, ordinati per Z crescente e quindi per X crescente

Per la ripartizione trasversale dei carichi si sono inoltre schematizzati elementi trasversali fittizi rappresentanti la soletta.

La soletta considerata nelle sezioni composte è limitata alla parte gettata in opera, esclusa quindi la lastra prefabbricata inferiore, di 6 cm di spessore.

Si è assunta un'accelerazione gravitazionale pari a g = 9,806 m/s^2.

Le unità di misura utilizzate sono coerenti con il Sistema Internazionale:

lunghezze:	m	(metri)
masse:	t	(tonnellate)
forze	kN	(kilo-Newton)

I materiali usati nella modellazione hanno le caratteristiche di calcolo seguenti:

b) calcestruzzo (C32/40):

- modulo di elasticità: E = 33345 N/mm^2
- coefficiente di Poisson: ν = 0,20
- coefficiente di dilatazione termica: α = 0.00001 C^{-1}
- peso specifico: γ = 25 kN/m^3
- massa specifica: m = 2.55 t/m^3

c) acciaio strutturale viadotto (S355W):

- modulo di elasticità: E = 210000 N/mm^2
- coefficiente di Poisson: ν = 0.30
- coefficiente di dilatazione termica: α = 0.000012 C^{-1}
- peso specifico(*): γ = 88.6 kN/m^3
- massa specifica(*): m = 9.03 t/m^3

NOTA (*): le caratteristiche volumiche dell'acciaio son aumentate del 15% per tener conto degli elementi non schematizzati nel modello (irrigidimenti, piastre, bulloni, saldature, connettori).

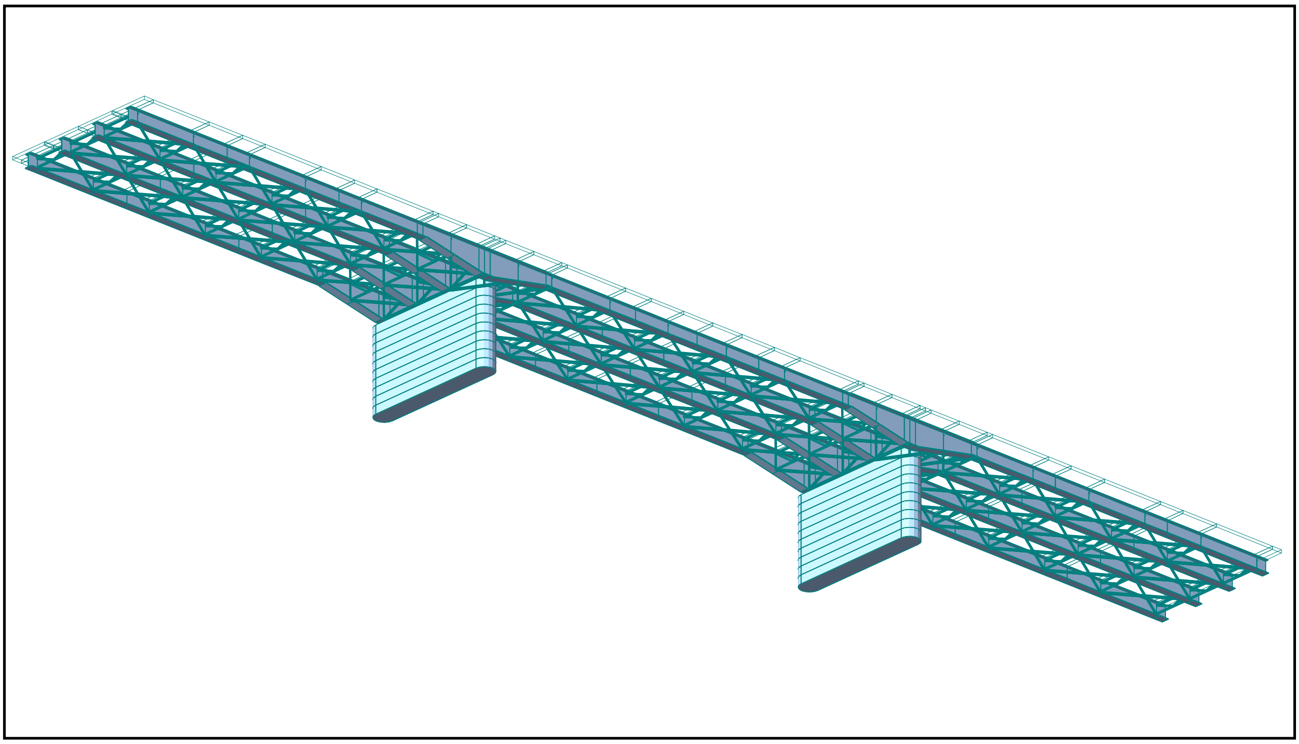


FIGURA 3 - SCHEMA DI CALCOLO – ASSONOMETRIA

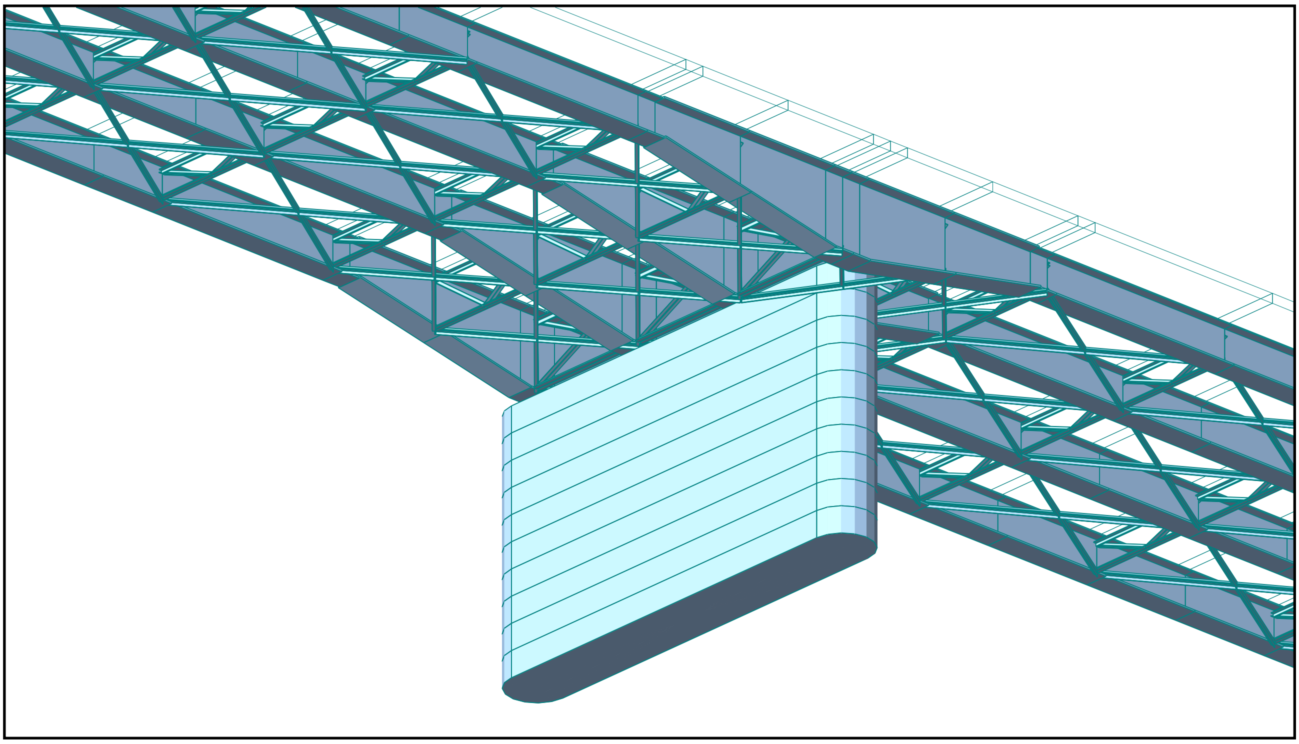
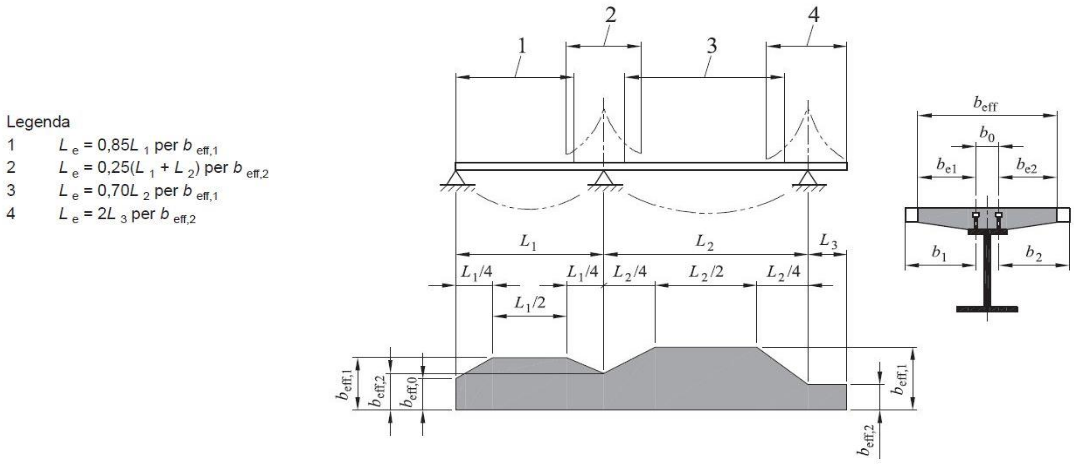


FIGURA 4 - SCHEMA DI CALCOLO – PARTICOLARE SU PILA

2.1 LARGHEZZE "EFFICACI" DI SOLETTA COLLABORANTE

Nel calcolo delle sezioni composte si tiene conto di una larghezza di soletta collaborante determinata secondo NTC 2008 # 4.3.2.3; il calcolo è riassunto nella seguente tabella.

TRAVE CONTINUA - CALCOLO DELLE LARGHEZZE EFFICACI DI SOLETTA COLLABORANTE - NTC 2008, § 4.3.2.3.



CAVALCAVIA ASSE 80 TRAVI ESTERNE	Appoggio / Campata	Estremità / Intermedio	Luce (m)	b_0 (m)	b_1 (m)	b_2 (m)	L_e (m)	L_e / 8 (m)	b_{e1} (m)	b_{e2} (m)	β_1	β_2	b_{eff} (m)
Spalla 1	Appoggio	Estremità		0.300	1.450	1.700	26.350	3.294	1.450	1.700	1.000	0.938	3.344
	Campata	Estremità	31.000	0.300	1.450	1.700	26.350	3.294	1.450	1.700	1.000	1.000	3.450
Pila 1	Appoggio	Intermedio		0.300	1.450	1.700	17.250	2.156	1.450	1.700	1.000	1.000	3.450
	Campata	Intermedio	38.000	0.300	1.450	1.700	26.600	3.325	1.450	1.700	1.000	1.000	3.450
Pila 2	Appoggio	Intermedio		0.300	1.450	1.700	17.250	2.156	1.450	1.700	1.000	1.000	3.450
	Campata	Estremità	31.000	0.300	1.450	1.700	26.350	3.294	1.450	1.700	1.000	1.000	3.450
Spalla 2	Appoggio	Estremità		0.300	1.450	1.700	26.350	3.294	1.450	1.700	1.000	0.938	3.344

CAVALCAVIA ASSE 80 TRAVI INTERNE	Appoggio / Campata	Estremità / Intermedio	Luce (m)	b_0 (m)	b_1 (m)	b_2 (m)	L_e (m)	L_e / 8 (m)	b_{e1} (m)	b_{e2} (m)	β_1	β_2	b_{eff} (m)
Spalla 1	Appoggio	Estremità		0.300	1.450	1.450	26.350	3.294	1.450	1.450	1.000	1.000	3.200
	Campata	Estremità	31.000	0.300	1.450	1.450	26.350	3.294	1.450	1.450	1.000	1.000	3.200
Pila 1	Appoggio	Intermedio		0.300	1.450	1.450	17.250	2.156	1.450	1.450	1.000	1.000	3.200
	Campata	Intermedio	38.000	0.300	1.450	1.450	26.600	3.325	1.450	1.450	1.000	1.000	3.200
Pila 2	Appoggio	Intermedio		0.300	1.450	1.450	17.250	2.156	1.450	1.450	1.000	1.000	3.200
	Campata	Estremità	31.000	0.300	1.450	1.450	26.350	3.294	1.450	1.450	1.000	1.000	3.200
Spalla 2	Appoggio	Estremità		0.300	1.450	1.450	26.350	3.294	1.450	1.450	1.000	1.000	3.200

3 DISPOSITIVI DI APPOGGIO E ISOLAMENTO

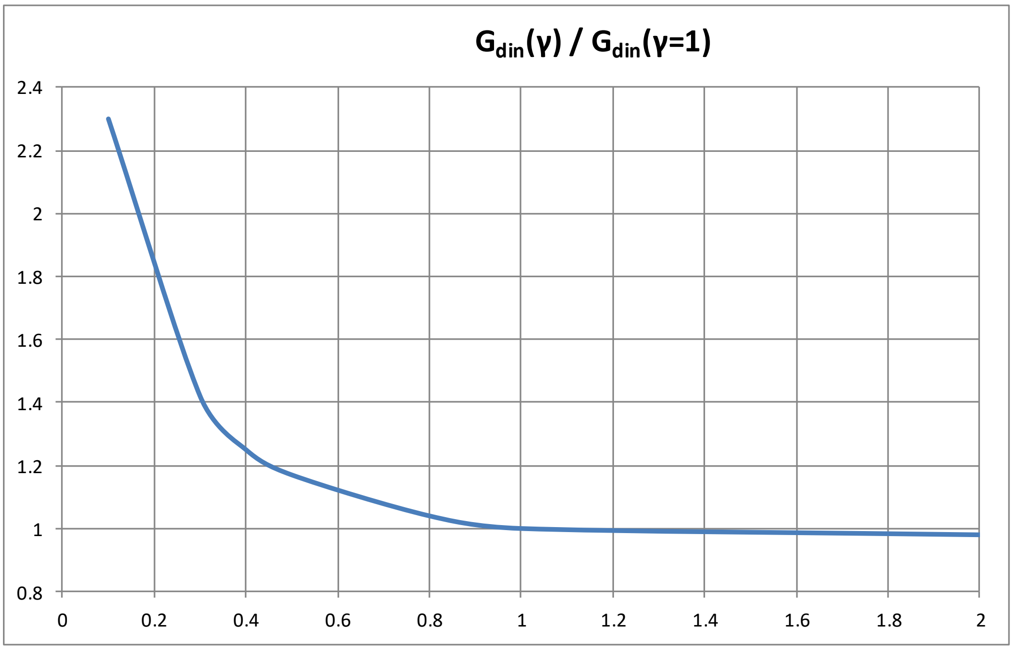
Alla sommità delle pile e spalle sono disposti apparecchi di appoggio antisismici costituiti da isolatori elastomerici armati, costituiti da strati alternati di lamiere di acciaio ed elastomero, collegati mediante vulcanizzazione.

Gli isolatori sono caratterizzati da una elevata rigidezza verticale, una ridotta rigidezza orizzontale e una modesta capacità dissipativa; queste caratteristiche consentono, rispettivamente, di sostenere i carichi verticali senza apprezzabili cedimenti, di contenere gli spostamenti sismici orizzontali dell’ impalcato e aumentare i periodi di vibrazione dell’impalcato in modo da limitare le forze dinamiche orizzontali trasmesse dall’impalcato alle pile/spalle.

Le caratteristiche di progetto degli isolatori sono riportate nella seguente tabella

Caratteristiche di progetto isolatore		SPALLE	PILE	
Diametro elastomero	Øg=	300	450	mm
Spessore totale elastomero	te=	76	78	mm
Altezza totale escluse piastre di ancoraggio	h=	152	154	mm
Altezza totale comprese piastre di ancoraggio	H=	202	204	mm
Lato piastre di ancoraggio	Z=	350	500	mm
Modulo di elasticità tang. dinamico elastomero (γ = d/te = 1)	G(din)=	1.4	1.4	N/mmq
Deformazione massima statica di progetto SLU/SLD (d/te ≤ 1)	du=	76	78	mm
Deformazione massima sismica di progetto SLC (d/te ≤ 2)	dc=	152	156	mm
Rigidezza orizzontale equivalente (γ = d/te = 1)	Ke=	1.30	2.85	kN/mm
Rigidezza verticale	Kv=	768	1794	kN/mm

Il modulo tangenziale dinamico e quindi la rigidezza orizzontale equivalente sono definiti per una deformazione di taglio $\gamma = \frac{\Delta}{t_e} = 1$; G_{din} varia molto nel campo $\gamma < 1$ mentre per valori $1 < \gamma < 2$ risulta pressoché costante; la variazione media del modulo dinamico tangenziale in funzione della deformazione di taglio è rappresentata nel seguente grafico.



4 ANALISI DEI CARICHI

Qui di seguito si riporta l'analisi dei carichi eseguita distinguendo tra carichi permanenti ed accidentali.

4.1 CARICHI PERMANENTI

a) calcestruzzo pile:

- peso specifico: γ = 25 kN/m^3
- massa specifica: m = 2.55 t/m^3

b) acciaio strutturale: si definisce un incremento forfetario del 15% per tener conto degli elementi non rappresentati nel modello (piastrame, bulloneria, saldature, ecc.):

- peso specifico: γ = 88.5 kN/m^3

- massa specifica: m = 9.03 t/m^3

c) peso soletta: il peso viene assegnato sulle singole travi (sezione reagente solo acciaio):

- travi esterne: g_1 = 25 x (0.30 +0.34) / 2 x (1.85 + 1.60) = 27.60 kN/m
- travi interne: g_1 = 25 x (0.34 + 0.42) /2 x 3.20 = 30.40 kN/m

4.2 SOVRACCARICHI PERMANENTI (FINITURE)

Le finiture vengono assegnate sulle singole travi (con soletta collaborante) con la loro eccentricità Y rispetto all'asse trave:

- trave esterna:

- pavimentazione:	g_2 = 2.5 x 1.55 = 3.88 kN/m	e = -0.825 m
- cordolo:	g_2 = 25 x 0.15 x 1.90 = 7.13 kN/m	e = +0.90 m
- veletta:	g_2 = 25 x 0.1 x 0.8 = 2 kN/m	e = +1.875 m
- sicurvia:	g_2 = 0.8 kN/m	e = +0.35 m
- parapetto:	g_2 = 0.5 kN/m	e = +1.75 m
- Totale finiture:	g_2 = 14.31 kN/m	e = +0.57 m

- travi interne: - pavimentazione: g_2 = 2.5 x 3.2 = 8 kN/m e = 0

4.3 CARICHI MOBILI DI ESERCIZIO

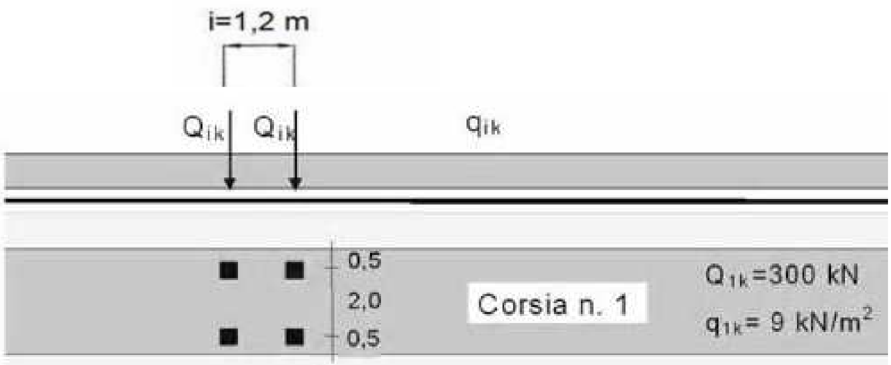
L'impalcato si considera caricato secondo lo schema di carico 1 previsto dal D.M. 14/02/2008:

- una colonna di carico costituita da:

Q_{1k} mezzo convenzionale da 600 kN a due assi

q_{1k} carico ripartito pari a 9 kN/m^2 (27 kN/m)

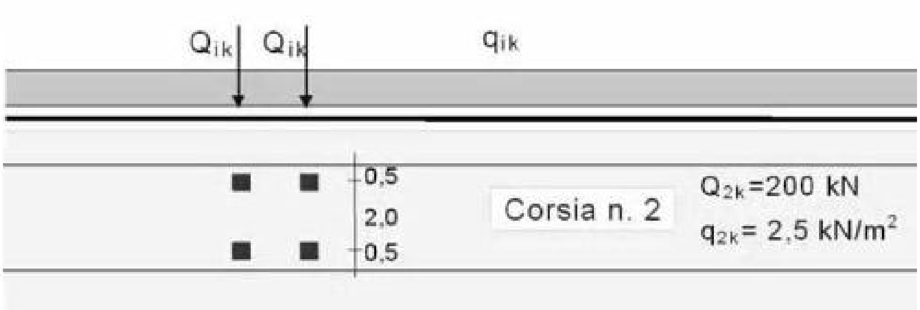
Lo schema longitudinale della colonna è il seguente:



- una seconda colonna di carico analoga alla precedente ma con carichi pari a:

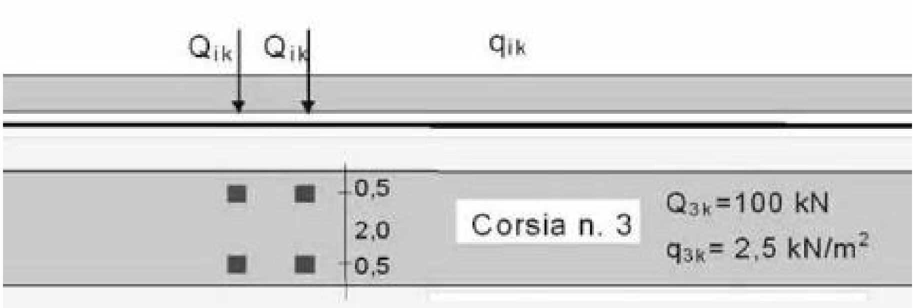
Q_{2k} mezzo convenzionale da 400 kN a due assi

q_{2k} carico ripartito pari a 2.5 kN/m^2 (7.5 kN/m)



- una terza colonna di carico analoga alla precedente ma con carichi pari a:

Q_{2k} mezzo convenzionale da 200 kN a due assi
q_{2k} carico ripartito pari a 2.5 kN/m^2 (7.5 kN/m)



L'area rimanente viene caricata con un carico q_{rk} pari a 2.5 kN/m^2.
Sui marciapiedi si assume lo schema di carico 5, pari a 5.0 kN/m^2 che, in combinazione con i precedenti, assume il valore di 2.5 kN/m^2.
Lo schema complessivo di carico è rappresentato nelle seguenti figure, fermo restando che le corsie di carico possono essere scambiate o trascurate se più gravose per l'elemento considerato.

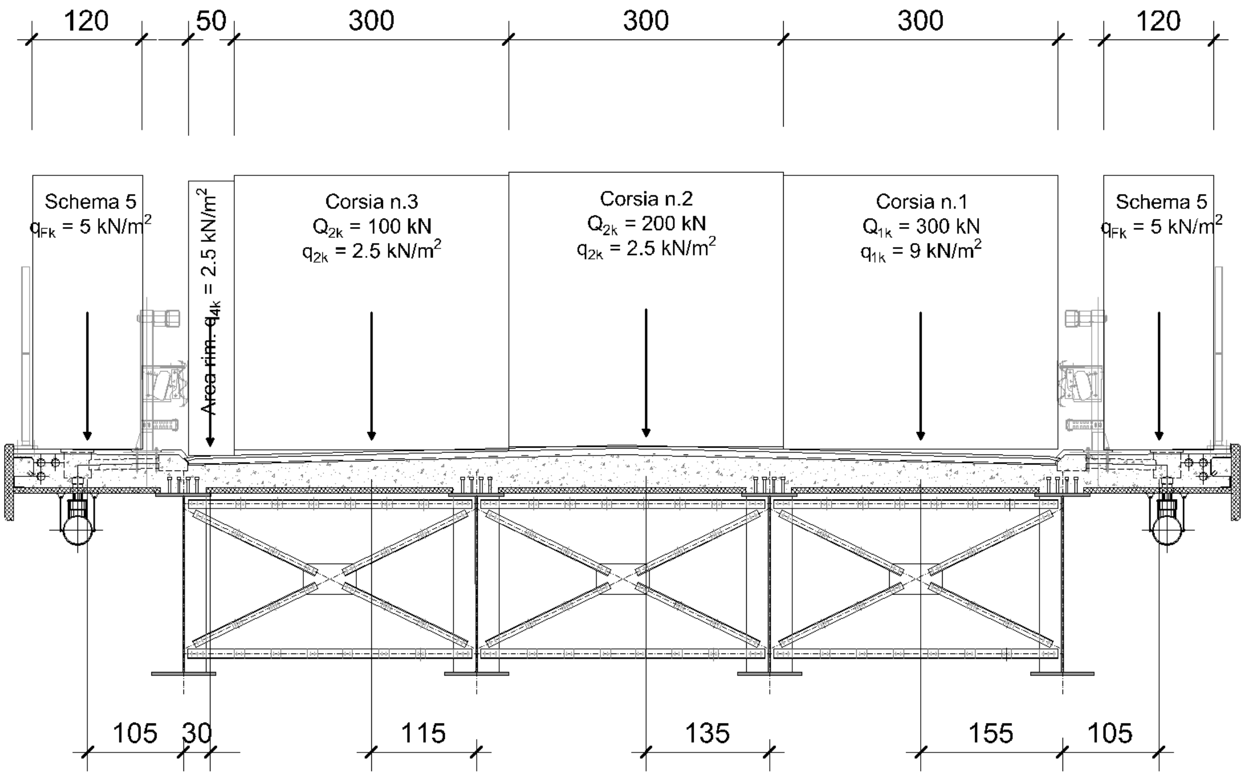


FIGURA 5 – CARICHI VARIABILI – DISPOSIZIONE A DX

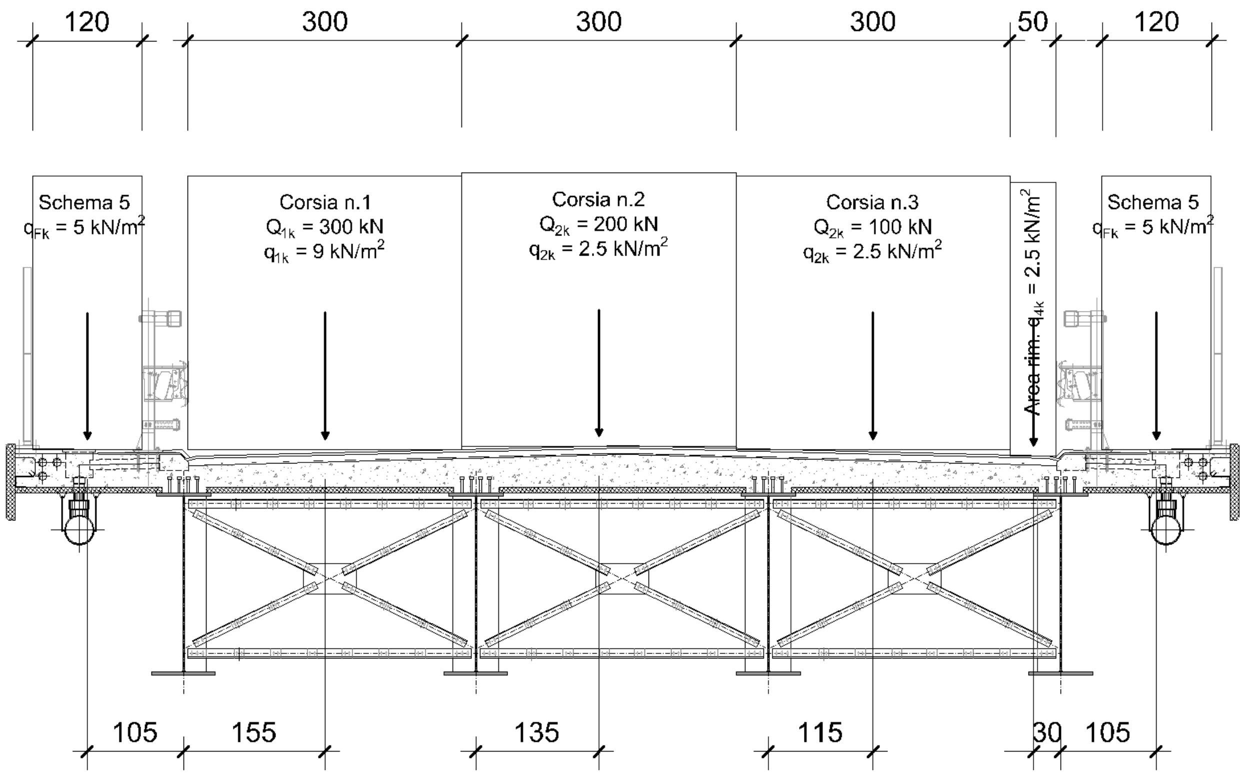


FIGURA 6 – CARICHI VARIABILI – DISPOSIZIONE A SX

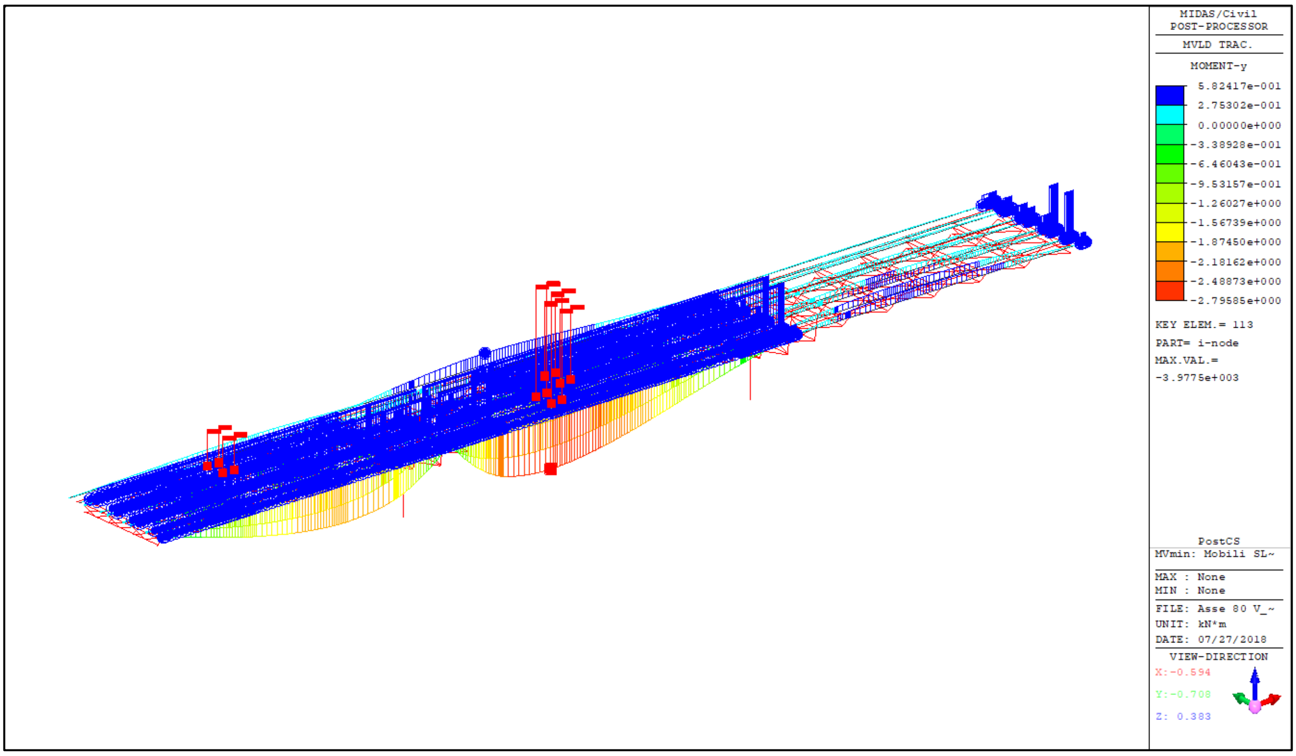
Il D.M. del 2008, in accordo con quanto previsto dagli eurocodici, considera il coefficiente dinamico già compreso nel valore dei carichi mobili. La disposizione longitudinale e trasversale più gravosa dei carichi viene determinata automaticamente dal programma di calcolo per ogni sezione e componente di sollecitazione massima e minima.
Per la valutazione degli effetti dei carichi mobili agli stati limite di esercizio si applicano ai carichi i coefficienti di combinazione (NTC2008):

- Carichi tandem: $\psi_0 = 0.75$ $\psi_1 = 0.75$ $\psi_2 = 0$
- Carichi distribuiti: $\psi_0 = 0.4$ $\psi_1 = 0.4$ $\psi_2 = 0$

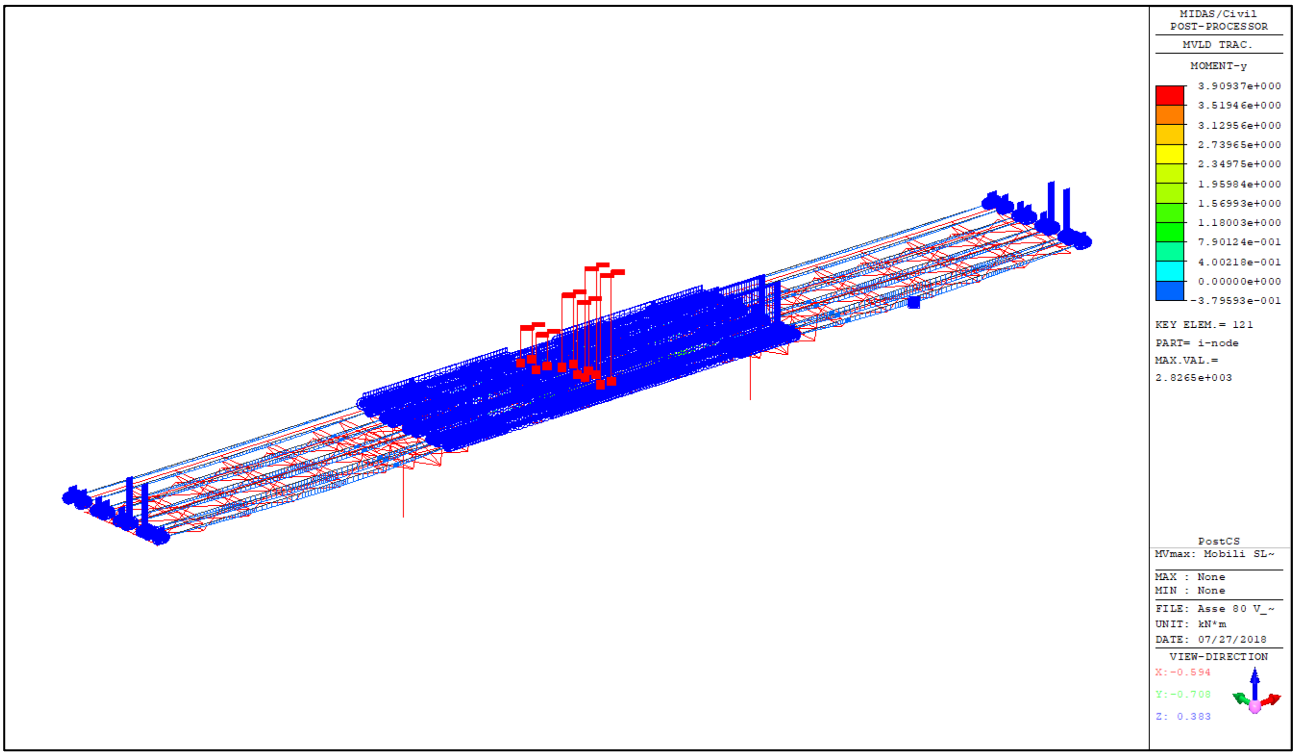
L'applicazione dei carichi mobili al modello strutturale è composta dei seguenti passi:

- definizione delle corsie di carico (Traffic Line Lanes) come sequenza di elementi (travi composte), caricati con la effettiva eccentricità trasversale;
- definizione degli schemi di carico transitanti sulle corsie e/o marciapiedi (Vehicles)
- definizione dei casi di carico (Moving Load Cases); per ognuno di essi si definiscono le corsie da caricare e gli schemi di carico transitanti e se considerare i coefficienti ψ (SLE) o no (SLU);
- definizione della discretizzazione dei punti di carico, assunto pari a 1/10 della lunghezza del singolo elemento caricato, nel presente caso quindi 25÷50 cm.

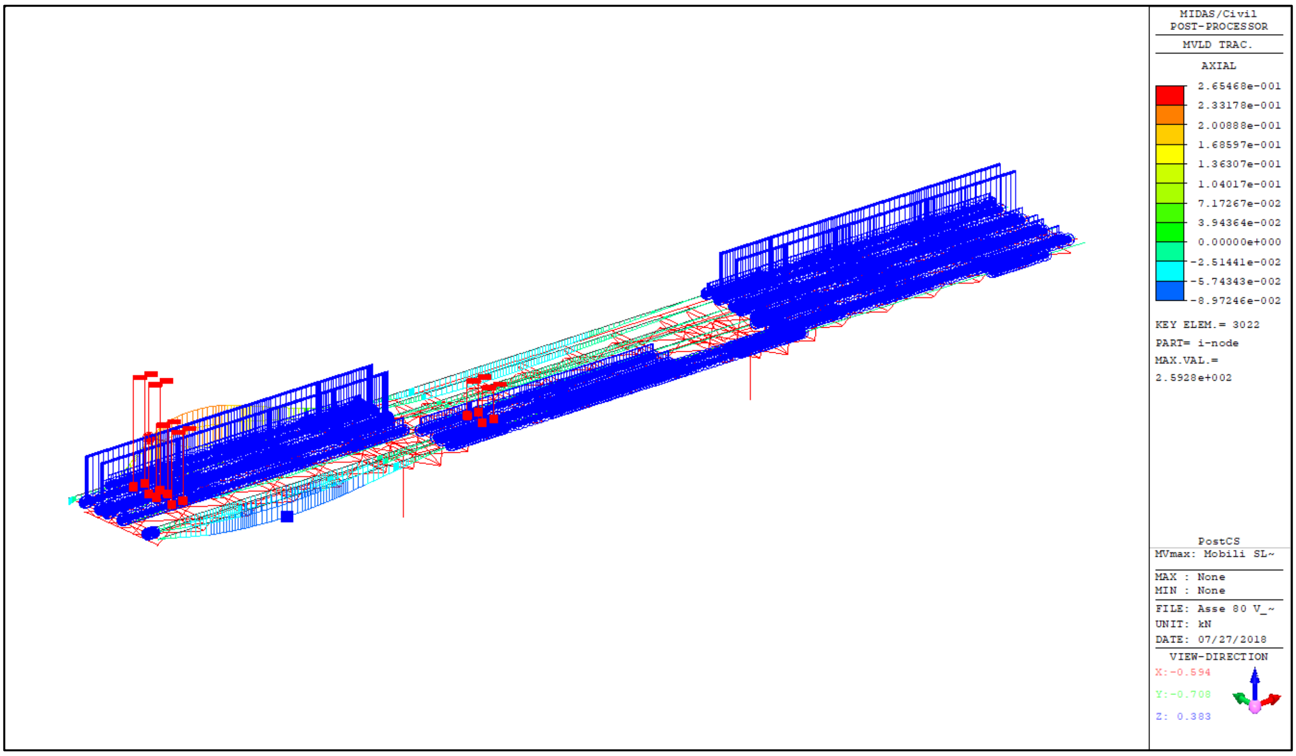
Nel calcolo vengono quindi generate le linee d'influenza per ogni colonna di carico, ognuna delle quali provoca il massimo o il minimo di una singola componente di sforzo (N, Vy, Vz, Mx, My, Mz) per un nodo di un elemento del modello; ciò è esteso a tutti i nodi ed elementi presenti nel modello di calcolo; ovviamente se viene ricercato il massimo vengono caricati solo i tratti aventi linea d'influenza positiva e viceversa per i minimi.
Seguono alcuni esempi grafici.



CARICHI MOBILI SLU A DX - DISPOSIZIONE MINIMO MY ELEMENTO 113, NODO INIZIALE (TRAVE ESTERNA, ASSE PILA)



CARICHI MOBILI SLU A SX - DISPOSIZIONE MASSIMO MY ELEMENTO 121, NODO INIZIALE (TRAVE ESTERNA MEZZERIA)



CARICHI MOBILI SLU A SX - DISPOSIZIONE MASSIMO FX ELEMENTO 3022, NODO INIZIALE (CONTROVENTO)

4.4 CARICHI MOBILI PER VERIFICHE A FATICA

4.4.1 VERIFICHE PER VITA ILLIMITATA

Le verifiche a fatica per vita illimitata (NTC 5.1.4.3) vengono eseguite per le anime e le saldature delle travi.

L'impalcato si considera caricato secondo il modello di carico a fatica 2, applicato sulla corsia lenta; il veicolo più gravoso viene determinato automaticamente considerando i massimi e minimi dell'inviluppo delle sollecitazioni ottenute per ciascun veicolo.

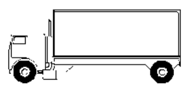
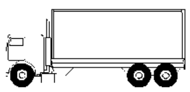
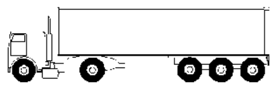
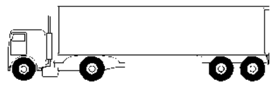
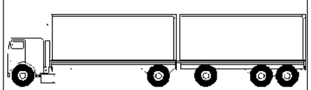
SAGOMA del VEICOLO	Distanza tra gli assi (m)	Carico frequente per asse (kN)	Tipo di ruota (Tab. 5.1.IX)
	4,5	90 190	A B
	4,20 1,30	80 140 140	A B B
	3,20 5,20 1,30 1,30	90 180 120 120 120	A B C C C
	3,40 6,00 1,80	90 190 140 140	A B B B
	4,80 3,60 4,40 1,30	90 180 120 110 110	A B C C C

FIGURA 7 – MODELLO DI CARICO AI FATICA N. 2

4.4.2 VERIFICHE A DANNEGGIAMENTO

Le verifiche a danneggiamento si effettuano per i connettori trave/soletta (pioli Nelson).

L'impalcato si considera caricato secondo il modello di carico a fatica 3, applicato sulla corsia lenta; il modello consiste in 4 assi di 120 kN di peso (480 kN totali).

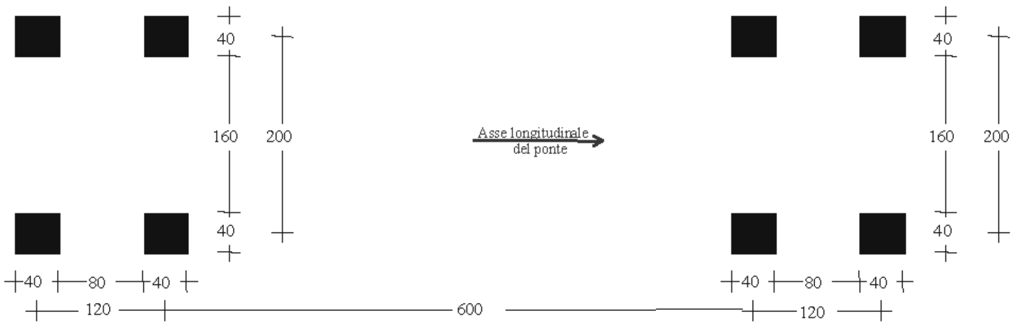
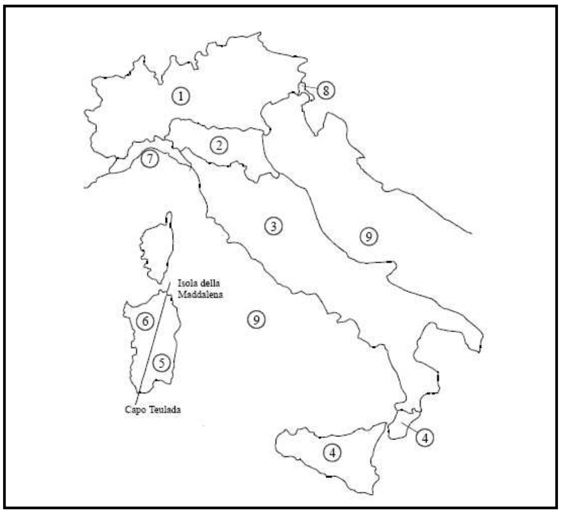


FIGURA 8 – MODELLO DI CARICO AI FATICA N.3

4.5 AZIONE DEL VENTO TRASVERSALE

Nel D.M. 2008 si valuta l'azione del vento in base alla zona considerata e non ad un valore convenzionale; l'opera si trova in zona 1) Valle d'Aosta, Piemonte, Lombardia, Trentino Alto Adige, Veneto, Friuli Venezia Giulia (con l'eccezione della provincia di Trieste).



NTC 2008 - Figura 3.3.1

La pressione esterna è definita da:

$$p = q \cdot c_e \cdot c_p \cdot c_d$$

La pressione cinetica di riferimento q (in N/m²) in zona 1 è data dall'espressione:

$$q_b = \frac{1}{2} \cdot \rho \cdot v_b^2 = \frac{1}{2} \cdot 1.25 \cdot 25^2 = 391 \text{ N/m}^2 \quad (0.391 \text{ kN/m}^2)$$

dove: $\rho = 1.25$ kg/m^3 densità dell'aria, assunta costante

$v_b(T_R)$ è la velocità di riferimento del vento (in m/s)

$v_{b,0} = 25$ m/s ($a_S < a_0$)

considerando un'altitudine sul livello del mare del sito: $a_s = 70$ m e un periodo di ritorno di 50 anni.

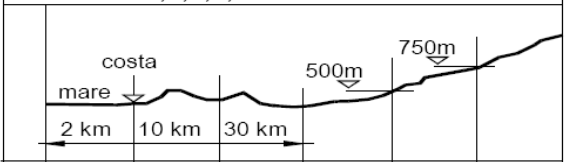
c_e è il coefficiente di esposizione; avendo una classe di rugosità D

Classi di rugosità del terreno

Classe di rugosità del terreno	Descrizione
A	Aree urbane in cui almeno il 15% della superficie sia coperto da edifici la cui altezza media superi i 15 m
B	Aree urbane (non di classe A), suburbane, industriali e boschive
C	Aree con ostacoli diffusi (alberi, case, muri, recinzioni); aree con rugosità non riconducibile alle classi A, B, D
D	Aree prive di ostacoli (aperta campagna, aeroporti, aree agricole, pascoli, zone paludose o sabbiose, superfici innevate o ghiacciate, mare, laghi,….)

in zona 1, si ottiene una categoria di esposizione II

ZONE 1,2,3,4,5



A	- -	IV	IV	V	V	V
B	- -	III	III	IV	IV	IV
C	- -	*	III	III	IV	IV
D	I	II	II	II	III	**

* Categoria II in zona 1,2,3,4
Categoria III in zona 5

** Categoria III in zona 2,3,4,5
Categoria IV in zona 1

a cui corrispondono i seguenti parametri per la definizione del coefficiente di esposizione

Parametri per la definizione del coefficiente di esposizione

Categoria di esposizione del sito	k_r	Z_0 (m)	Z_{min} (m)
I	0,17	0,01	2
II	0,19	0,05	4
III	0,20	0,10	5
IV	0,22	0,30	8
V	0,23	0,70	12

Con l'opera in costruzione avente altezza massima sul terreno (compresi carichi mobili):

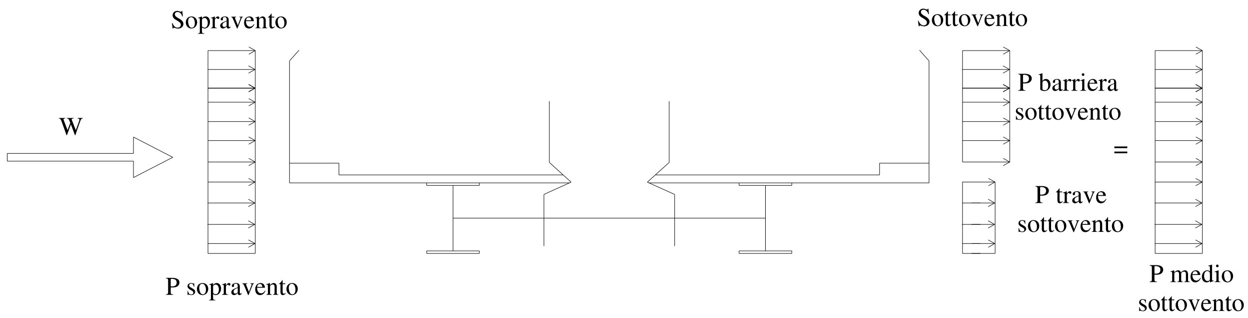
$z \approx 12$ m > $z_{min} = 4$ m

$c_e(z) = k_r^2 \cdot c_t \cdot \alpha \cdot [7 + c_t \cdot \alpha] = 0.19^2 \cdot 68.4 = 2.47$

dove $\alpha = \ln(z/z_0) = \ln(12/0.05) = 5.48$; $c_t = 1$

c_d è il coefficiente dinamico; posto pari ad uno

c_p è il coefficiente di forma; nel caso di travi multiple (Circ. 02/02/2009, C3.3.10.4) si ha, per i vari elementi:



- travi principali, altezza h = 1 m, distanza reciproca media d = 3.2 m:
    - a) lato sopravento: $c_{p1} = 1.4$
    - b) lato sottovento: d / h = 3.2 / 1 = 3.2 (2 < d/h < 5)

      $\mu = 0.52$

      $c_{p2} = 1.4 \times (0.52 + 0.52^2 + 0.52^3 + 0.52^4) = 1.41$
- travi principali, altezza h = 2 m, distanza reciproca media d = 3.2 m:
    - a) lato sopravento: $c_{p1} = 1.4$
    - b) lato sottovento: d / h = 3.2 / 2 = 1.6 (d/h < 2)

      $\mu = 0.2$

      $c_{p2} = 1.4 \times (0.2 + 0.2^2 + 0.2^3 + 0.2^4) = 0.35$
- soletta, cordolo, sicurvia: per il solo lato sopravento si ha:

  $c_p = 1.2$

La pressione esterna sulle strutture è quindi definita dalle espressioni seguenti:

a) impalcato con travi h = 1 m:

a1) lato sopravento: $p = q \cdot c_e \cdot c_p \cdot c_d = 0.391 \cdot 2.47 \cdot (1.4 \cdot 1.0 + 1.2 \cdot 1.45) = 1.35 + 1.68 = 3.03$ kN/m

con eccentricità rispetto al piano stradale di riferimento:

$e_z = (-1.35 \cdot 0.90 + 1.68 \cdot 0.27) / 3.03 = -0.25$ m

a2) lato sottovento: $p = q \cdot c_e \cdot c_p \cdot c_d = 0.391 \cdot 2.47 \cdot (1.41 \cdot 1.0 + 1.2 \cdot 1.15) = 1.36 + 1.33 = 2.69$ kN/m

con eccentricità rispetto al piano stradale:

$e_z = (-1.36 \cdot 0.90 + 1.33 \cdot 1.15) / 2.69 = +0.11$ m

b) impalcato con travi h = 2 m:

b1) lato sopravento: $p = q \cdot c_e \cdot c_p \cdot c_d = 0.391 \cdot 2.47 \cdot (1.4 \cdot 2.0 + 1.2 \cdot 1.45) = 2.70 + 1.68 = 4.38$ kN/m

con eccentricità rispetto al piano stradale di riferimento:

$e_z = (-2.70 \cdot 1.40 + 1.68 \cdot 0.27) / 4.38 = -0.76$ m

b2) lato sottovento: $p = q \cdot c_e \cdot c_p \cdot c_d = 0.391 \cdot 2.47 \cdot (0.35 \cdot 2.0 + 1.2 \cdot 1.15) = 0.68 + 1.33 = 2.01$ kN/m

con eccentricità rispetto al piano stradale:

$e_z = (-0.68 \cdot 1.40 + 1.33 \cdot 1.15) / 2.01 = +0.29$ m

Sulle pile si ha: $p = 0.391 \cdot 2.47 \cdot 1.50 = 1.45$ kN/m

La pressione dovuta ai carichi mobili, per l'altezza pari a 2.0 vale:

$p = 0.391 \cdot 2.47 \cdot 1.2 \cdot 2.00 = 2.32$ kN/m con eccentricità rispetto al piano stradale:

$e_z = 1 + 2.00 / 2 = +2.00$ m

Vento su pile: 0.391 x 1.2 x 2.47 x 1.5 = 1.74 kN/m

-

4.6 AZIONE DI FRENAMENTO

L'azione di frenamento è funzione del carico verticale totale agente sulla corsia convenzionale n. 1 ed è uguale a:

$F_f = 0.6 \times (2xQ_{1k}) + 0.10q_{1k} \times w_1 \times L =$

$= 0.6 \times (2x300) + 0.10 \times 9 \times 3 \times 101.60 = 634.3$ kN (180 kN $\leq F_f \leq$ 900 kN)

L'azione si considera uniformemente distribuita sulle travi principali:

$$q_x = \frac{634.3}{4 \cdot 101.6} = 1.56 \text{ kN/m/trave}$$

4.7 DILATAZIONE TERMICA DIFFERENZIALE

Si assume che le travi dell'impalcato (sezioni miste acciaio/cls.) siano soggette alla variazione termica differenziale: $\Delta T/H = \pm 5°$.

4.8 DILATAZIONE TERMICA UNIFORME

Si assume che le travi dell'impalcato (sezioni miste acciaio/cls.) siano soggette alla variazione termica uniforme: $\Delta T = \pm 15°$.

4.9 AZIONI SISMICHE

La stima dei parametri spettrali necessari per la definizione dell'azione sismica è stata effettuata utilizzando le informazioni disponibili nel reticolo di riferimento (tabella 1 – Allegato B – D.M. 14 gennaio 2008).

Considerando l'ubicazione del sito in oggetto (Lat: 45.1671; Long: 9.6526) ed ipotizzando una costruzione caratterizzata da:

- una vita nominale di 50 anni, ricadente in classe d'uso pari a IV (ponti di importanza critica per il mantenimento delle vie di comunicazione…);
- una categoria topografica T1;
- una categoria C per il sottosuolo;

Si hanno i seguenti valori dei **parametri spettrali**:

STATO LIMITE	T_R [anni]	a_g [g]	F_o [-]	T_C^* [s]
SLO	60	0.0379	2.575	0.229
SLD	101	0.0463	2.541	0.257
SLV	949	0.1011	2.541	0.298
SLC	1950	0.1283	2.528	0.305

Le espressioni dello spettro elastico S_e di risposta secondo le NTC-08 sono le seguenti:

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

$$T_B \le T < T_C \qquad S_e(T) = a_g \cdot S \cdot \eta \cdot F_o$$

$$T_C \le T < T_D \qquad S_e(T) = a_g \cdot S \cdot \eta \cdot F_o \cdot \left(\frac{T_C}{T} \right)$$

$$T_D \le T \qquad S_e(T) = a_g \cdot S \cdot \eta \cdot F_o \cdot \left(\frac{T_C T_D}{T^2} \right)$$

Trattandosi di struttura sismicamente isolata si assume:

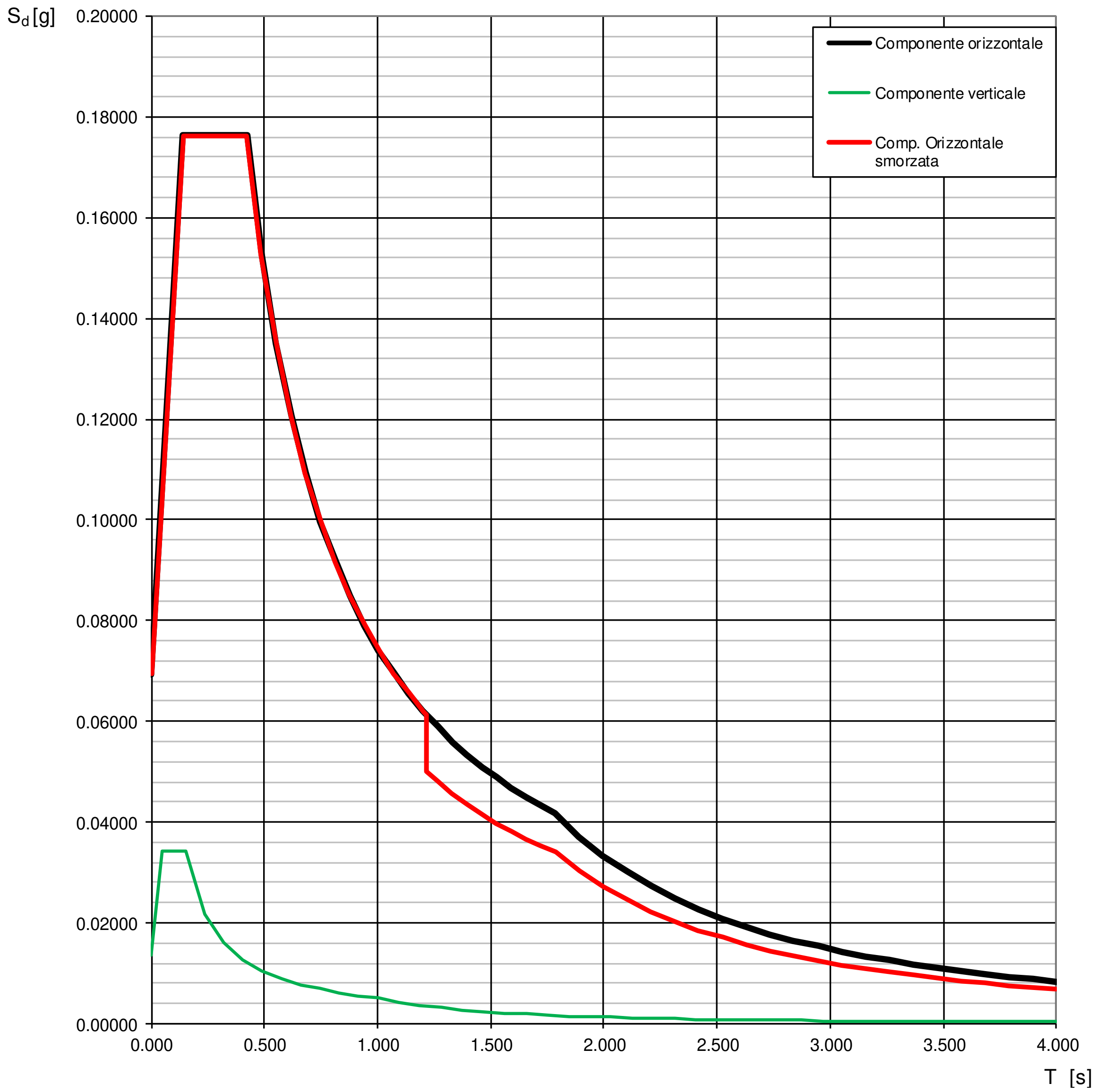
- coefficiente di smorzamento viscoso convenzionale: $\xi = 5$ %
- fattore di smorzamento viscoso: $\eta = \sqrt{\frac{10}{5+\xi}} = 1$
- fattore di struttura: q = 1

Lo spettro elastico definito viene ridotto per tutto il campo di periodi $T \geq 0{,}8T_{is}$, assumendo:

- periodo di vibrazione struttura isolata: $T_{is} = 1.517$ s
- coefficiente di smorzamento viscoso isolatori: $\xi = 10$ %
- coefficiente riduttivo $\eta = \sqrt{\frac{10}{5+\xi}} = \sqrt{\frac{10}{5+10}} = 0.816$ (≥ 0.55).

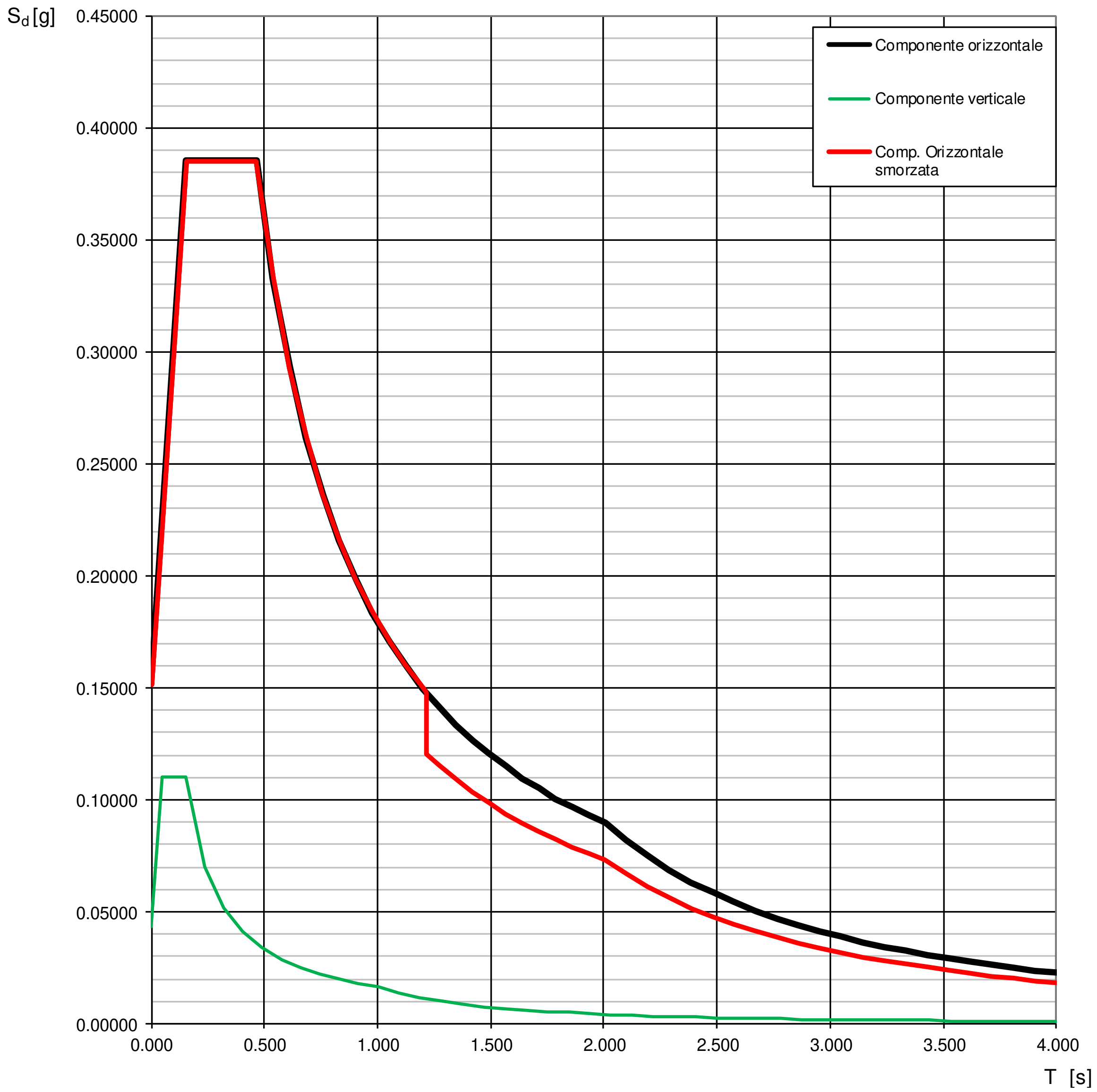
Si ottengono i seguenti andamenti degli spettri. Noto il periodo (ascissa) si ricava il relativo coefficiente sismico (ordinata).

Spettri di risposta elastici (componenti orizz. e vert.) per lo stato limite: SLD



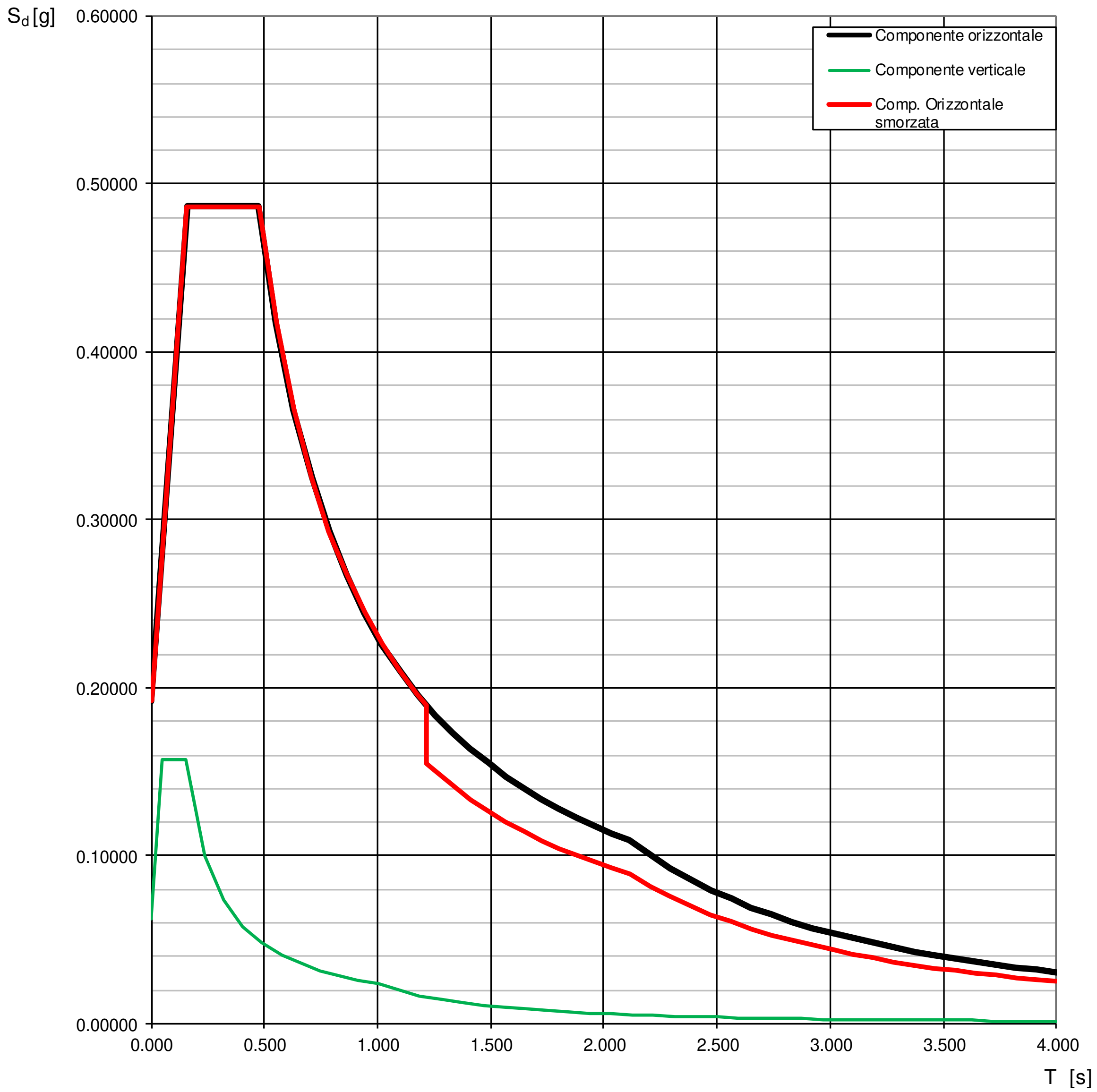
Spettri di risposta elastici e smorzati SLD

Spettri di risposta elastici (componenti orizz. e vert.) per lo stato limite: SLV



Spettri di risposta elastici e smorzati SLV

Spettri di risposta elastici (componenti orizz. e vert.) per lo stato limite: SLC



Spettri di risposta elastici e smorzati SLC

4.10 FENOMENI DEFORMATIVI LENTI DELLA SOLETTA IN CALCESTRUZZO

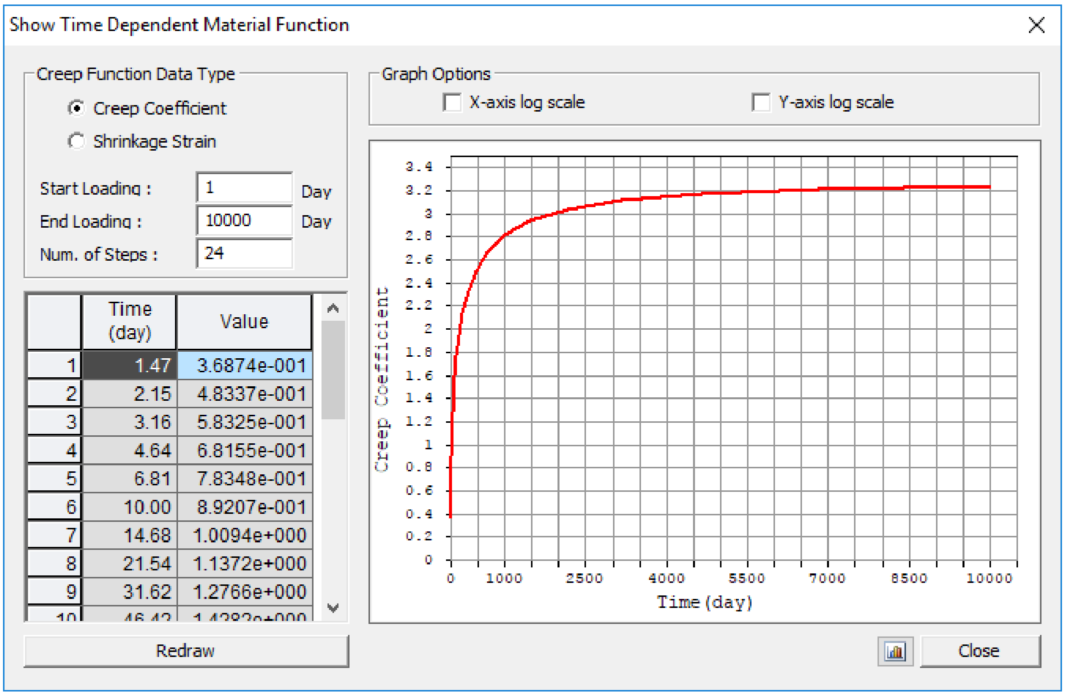
Come già detto, l'influenza di ritiro e fluage della soletta sulla struttura metallica viene considerata automaticamente dal programma di calcolo sulla base delle relazioni stabilite dal codice EN 1992-2 con i seguenti dati:

- resistenza caratteristica cilindrica a 28 gg: f_{ck} = 32 N/mm^2
- umidità relativa ambiente: 70 %
- perimetro esposto all'atmosfera: h = 2 x Ac / u = 0.30 m
- calcestruzzo a indurimento normale: N
- età del calcestruzzo iniziale per il ritiro: 1 gg

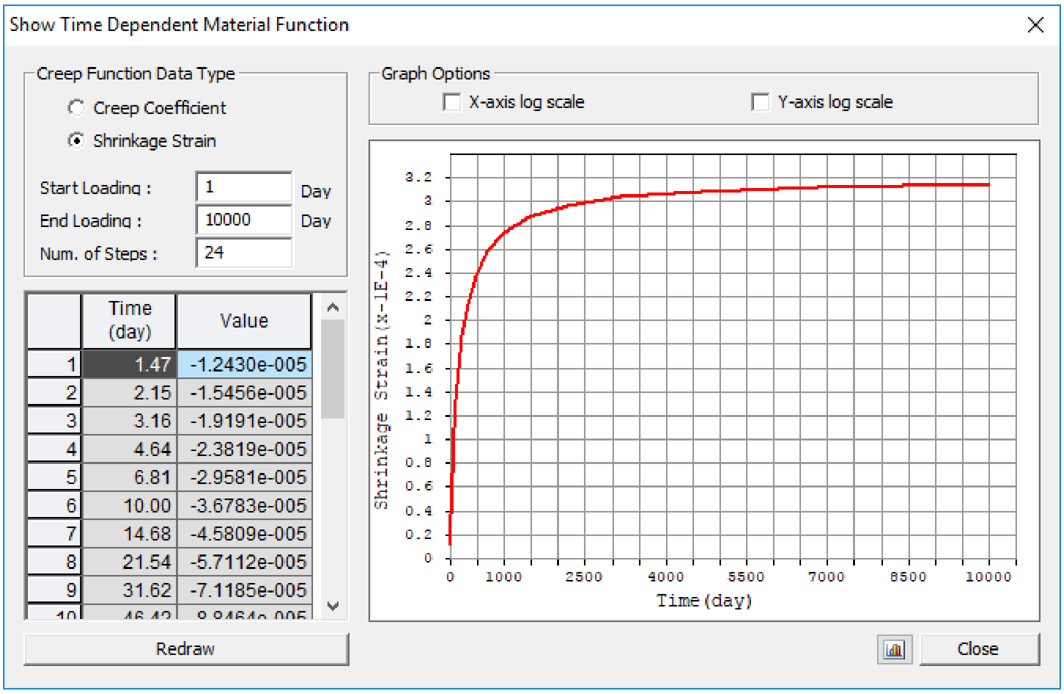
La variazione della resistenza caratteristica del calcestruzzo nel tempo viene determinata con la formula:

$$f_c(t) = f_{ck} \times e^{0,25 \times \left[1 - \left(\frac{28}{t}\right)^{0,5}\right]} .$$

Si ottengono i seguenti diagrammi di fluage e ritiro:



CREEP (FLUAGE)



SHRINKAGE (RITIRO)

5 COMBINAZIONI DI CARICO

I coefficienti moltiplicativi delle singole azioni sono riassunti nelle tabelle seguenti, per le condizioni di carico statiche e sismiche.
Nelle seguenti tabelle i carichi permanenti (pesi e finiture) non appaiono esplicitamente in combinazione perché il loro contributo alle sollecitazioni deriva dagli schemi statici in fase costruttiva (diversi che nella fase di esercizio) e sono quindi accumulati nei "Dead Load" e "Erection Load 1".

Le combinazioni di carico "GEN" (generali) sono utilizzate per le reazioni, gli appoggi e comunque tutto ciò che non è di acciaio e/o composto acciaio/cls.
Le combinazioni di carico "ST" sono viceversa utilizzate per le strutture in acciaio e/o acciaio/cls.
Ogni combinazione di verifica viene generata in rispetto dei par. 2.5.3, 5.1.3.12 e 7.3.5 delle NTC 2008; segue una descrizione dettagliata di esempio.

Combinazione: "ST SLU Mobili": combinazione di verifica strutturale allo SLU in cui i "Carichi Mobili" sono il carico variabile dominante mentre gli altri (Vento, Frenamento, Termici) sono assunti attraverso i coefficienti di combinazione ψ_0 .
Preliminarmente per i carichi variabili che possono avere segno opposto si generano le combinazioni "negative" che vengono poi inviluppate in modo da ottenere i massimi e i minimi.

1) "Termico unif. -15°": combinazione: "Termico unif. +15°" x (-1)
2) "Termico diff. -5°/H": combinazione: "Termico diff. +5°/H" x (-1)
6) "Termico unif. INV": inviluppo delle comb. "Termico unif. +15°" e "Termico unif. -15°"
7) "Termico diff. INV": inviluppo delle comb. "Termico diff. +5°/H" e "Termico diff. -5°/H"

Analogamente si inviluppano le comndizioni dei carichi mobili disposti "a sinistra" e "a destra":
11) "Mobili SLU INV": inviluppo delle comb. "Mobili SLU Dx" e "Mobili SLU Sx"

La generazione della combinazione di cui sopra comprende quindi la somma dei seguenti casi di carico (riferimento alle tabelle NTC 2008):
- "Dead Load" x 1.35: pesi strutturali permanenti (tab. 5.1.V)
- "Erection Load 1" x 1.5: peso finiture (permanenti non strutturali), (tab. 5.1.V)
- "Creep secondary" x 1.2: parte reale (iperstatica) dell'effetto del fluage della soletta in cls. (tab. 5.1.V)
- "Shrinkage secondary" x 1.2: parte reale (iperstatica) del ritiro della soletta in cls. (tab. 5.1.V)
- "Mobili SLU INV" x 1.35: inviluppo carichi mobili; carico variabile dominante (tab. 5.1.V)
- "Vento strutture" x (1.5 x 0.6) = 0.9: carico variabile (tab. 5.1.V e tab. 5.1.VI)
- "Vento Mobili" x (1.5 x 0.6) = 0.9: carico variabile(tab. 5.1.V e tab. 5.1.VI)
- "Termico unif. INV" x (1.2 x 0.6) = 0.72: carico variabile (tab. 5.1.V e tab. 5.1.VI)
- "Termico diff. INV" x (1.2 x 0.6) = 0.72: carico variabile (tab. 5.1.V e tab. 5.1.VI)

La combinazione così composta è di tipo "Strength/Stress", utilizzata per le verifiche allo SLU; le altre combinazioni dello stesso tipo sono ottenute per rotazione del carico variabile dominante.

CAVALCAVIA ASSE 80 - COMBINAZIONI DI CARICO - GENERALE

NUMERO COMBINAZIONE	NOME COMBINAZIONE	Active/Inactive	Add/Envelope/ABS/SRSS	Peso acciaio	Peso soletta	Finiture	Vento Strutture (Y+)	Vento Mobili (Y+)	Frenamento (X+)	Termico unif. +15°	Termico diff. +5°/H	SLD long X+	SLD trasv Y+	SLD vert Z+	SLV long X+	SLV trasv Y+	SLV vert Z+	SLC long X+	SLC trasv Y+	SLC vert Z+	Mobili SLU-DX	Mobili SLU-SX	Mobili SLE-DX	Mobili SLE-SX	Fatica VITA ILL.	Fatica DANN.ACC.
			TIPO CARICO	ST	ST	ST	ST	ST	ST	ST	ST	RS	RS	RS	RS	RS	RS	RS	RS	RS	MV	MV	MV	MV	MV	MV
1	Vento Strutture (Y-)	Inactive	Add				-1																			
2	Vento Mobili (Y-)	Inactive	Add					-1																		
3	Frenamento (X-)	Inactive	Add						-1																	
4	Termico unif. -15°	Inactive	Add							-1																
5	Termico diff. -5°/H	Inactive	Add								-1															
6	SLD Long (X-)	Inactive	Add									-1														
7	SLD Trasv (Y-)	Inactive	Add										-1													
8	SLD Vert (Z-)	Inactive	Add											-1												
9	SLV Long (X-)	Inactive	Add												-1											
10	SLV Trasv (Y-)	Inactive	Add													-1										
11	SLV Vert (Z-)	Inactive	Add														-1									
12	SLC Long (X-)	Inactive	Add															-1								
13	SLC Trasv (Y-)	Inactive	Add																-1							
14	SLC Vert (Z-)	Inactive	Add																	-1						
15	Vento Strutture INV	Inactive	Envelope				1																			
16	Vento Mobili INV	Inactive	Envelope					1																		
17	Frenamento INV	Inactive	Envelope						1																	
18	Termico unif. INV	Inactive	Envelope							1																
19	Termico diff. INV	Inactive	Envelope								1															
20	SLD Long INV	Inactive	Envelope									1														
21	SLD Trasv INV	Inactive	Envelope										1													
22	SLD Vert INV	Inactive	Envelope											1												
23	SLV Long INV	Inactive	Envelope												1											
24	SLV Trasv INV	Inactive	Envelope													1										
25	SLV Vert INV	Inactive	Envelope														1									
26	SLC Long INV	Inactive	Envelope															1								
27	SLC Trasv INV	Inactive	Envelope																1							
28	SLC Vert INV	Inactive	Envelope																	1						
29	Mobili SLU INV	Inactive	Envelope																		1	1				
30	Mobili SLE INV	Inactive	Envelope																				1	1		
31	GEN SLU Mobili	Active	Add																							
32	GEN SLU Vento	Active	Add																							
33	GEN SLU Frenamento	Active	Add																							
34	GEN SLU Termico	Active	Add																							
35	GEN SLD Long	Active	Add																							
36	GEN SLD Trasv	Active	Add																							
37	GEN SLD Vert	Active	Add																							
38	GEN SLV Long	Active	Add																							
39	GEN SLV Trasv	Active	Add																							
40	GEN SLV Vert	Active	Add																							
41	GEN SLC Long	Active	Add																							
42	GEN SLC Trasv	Active	Add																							
43	GEN SLC Vert	Active	Add																							
44	GEN RARA Mobili	Active	Add																							
45	GEN RARA Vento	Active	Add																							
46	GEN RARA Frenam	Active	Add																							
47	GEN RARA Termico	Active	Add																							
48	GEN FREQ Mobili	Active	Add																							
49	GEN FREQ Vento	Active	Add																							
50	GEN FREQ Termico	Active	Add																							
51	GEN Q.P.	Active	Add																							

NUMERO COMBINAZIONE	NOME COMBINAZIONE	Dead Load	Erection Load 1	Erection Load 2	Erection Load 3	Tendon Primary	Tendon Secondary	Creep Primary	Creep Secondary	Shrinkage Primary	Shrinkage Secondary	Summation	Vento Strutture (Y-)	Vento Mobili (Y-)	Frenamento (X-)	Termico unif. -15°	Termico diff. -5°/H	SLD Long (X-)	SLD Trasv (Y-)	SLD Vert (Z-)	SLV Long (X-)	SLV Trasv (Y-)	SLV Vert (Z-)	SLC Long (X-)	SLC Trasv (Y-)	SLC Vert (Z-)
	TIPO CARICO	CS	CS	CS	CS	CS	CS	CS	CS	CS	CS	CS	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB
1	Vento Strutture (Y-)																									
2	Vento Mobili (Y-)																									
3	Frenamento (X-)																									
4	Termico unif. -15°																									
5	Termico diff. -5°/H																									
6	SLD Long (X-)																									
7	SLD Trasv (Y-)																									
8	SLD Vert (Z-)																									
9	SLV Long (X-)																									
10	SLV Trasv (Y-)																									
11	SLV Vert (Z-)																									
12	SLC Long (X-)																									
13	SLC Trasv (Y-)																									
14	SLC Vert (Z-)																									
15	Vento Strutture INV												1													
16	Vento Mobili INV													1												
17	Frenamento INV														1											
18	Termico unif. INV															1										
19	Termico diff. INV																1									
20	SLD Long INV																	1								
21	SLD Trasv INV																		1							
22	SLD Vert INV																			1						
23	SLV Long INV																				1					
24	SLV Trasv INV																					1				
25	SLV Vert INV																						1			
26	SLC Long INV																							1		
27	SLC Trasv INV																								1	
28	SLC Vert INV																									1
29	Mobili SLU INV																									
30	Mobili SLE INV																									
31	GEN SLU Mobili	1.35	1.5						1.2		1.2															
32	GEN SLU Vento	1.35	1.5						1.2		1.2															
33	GEN SLU Frenamento	1.35	1.5						1.2		1.2															
34	GEN SLU Termico	1.35	1.5						1.2		1.2															
35	GEN SLD Long											1														
36	GEN SLD Trasv											1														
37	GEN SLD Vert											1														
38	GEN SLV Long											1														
39	GEN SLV Trasv											1														
40	GEN SLV Vert											1														
41	GEN SLC Long											1														
42	GEN SLC Trasv											1														
43	GEN SLC Vert											1														
44	GEN RARA Mobili											1														
45	GEN RARA Vento											1														
46	GEN RARA Frenam											1														
47	GEN RARA Termico											1														
48	GEN FREQ Mobili											1														
49	GEN FREQ Vento											1														
50	GEN FREQ Termico											1														
51	GEN Q.P.											1														

NUMERO COMBINAZIONE	NOME COMBINAZIONE	Vento Strutture INV	Vento Mobili INV	Frenamento INV	Termico unif. INV	Termico diff. INV	SLD Long INV	SLD Trasv INV	SLD Vert INV	SLV Long INV	SLV Trasv INV	SLV Vert INV	SLC Long INV	SLC Trasv INV	SLC Vert INV	Mobili SLU INV	Mobili SLE INV
	TIPO CARICO	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB
1	Vento Strutture (Y-)																
2	Vento Mobili (Y-)																
3	Frenamento (X-)																
4	Termico unif. -15°																
5	Termico diff. -5°/H																
6	SLD Long (X-)																
7	SLD Trasv (Y-)																
8	SLD Vert (Z-)																
9	SLV Long (X-)																
10	SLV Trasv (Y-)																
11	SLV Vert (Z-)																
12	SLC Long (X-)																
13	SLC Trasv (Y-)																
14	SLC Vert (Z-)																
15	Vento Strutture INV																
16	Vento Mobili INV																
17	Frenamento INV																
18	Termico unif. INV																
19	Termico diff. INV																
20	SLD Long INV																
21	SLD Trasv INV																
22	SLD Vert INV																
23	SLV Long INV																
24	SLV Trasv INV																
25	SLV Vert INV																
26	SLC Long INV																
27	SLC Trasv INV																
28	SLC Vert INV																
29	Mobili SLU INV																
30	Mobili SLE INV																
31	GEN SLU Mobili	0.9	0.9		0.72	0.72										1.35	
32	GEN SLU Vento	1.5	1.5		0.72	0.72											1.35
33	GEN SLU Frenamento			1.35	0.72	0.72											1.35
34	GEN SLU Termico	0.9	0.9		1.2	1.2											1.35
35	GEN SLD Long				0.5	0.5	1	0.3	0.3								
36	GEN SLD Trasv				0.5	0.5	0.3	1	0.3								
37	GEN SLD Vert				0.5	0.5	0.3	0.3	1								
38	GEN SLV Long				0.5	0.5				1	0.3	0.3					
39	GEN SLV Trasv				0.5	0.5				0.3	1	0.3					
40	GEN SLV Vert				0.5	0.5				0.3	0.3	1					
41	GEN SLC Long				0.5	0.5							1	0.3	0.3		
42	GEN SLC Trasv				0.5	0.5							0.3	1	0.3		
43	GEN SLC Vert				0.5	0.5							0.3	0.3	1		
44	GEN RARA Mobili	0.6	0.6		0.6	0.6										1	
45	GEN RARA Vento	1	1		0.6	0.6											1
46	GEN RARA Frenam			1	0.6	0.6											1
47	GEN RARA Termico	0.6	0.6		1	1											1
48	GEN FREQ Mobili				0.5	0.5											1
49	GEN FREQ Vento	0.2	0.2		0.5	0.5											
50	GEN FREQ Termico				0.6	0.6											
51	GEN Q.P.				0.5	0.5											

LEGENDA CARICHI:

ST:	CARICHI STATICI PERMANENTI (FASE FINALE)
ST:	CARICHI STATICI VARIABILI
RS:	CARICHI SISMICI DA ANALISI MODALE CON SPETTRO DI RISPOSTA (CQC)
TH:	CARICHI SISMICI DA ANALISI DINAMICA NON LINEARE (Time History)
MV:	CARICHI MOBILI (RICERCA MASSIMI E MINIMI)
SM:	CEDIMENTI VINCOLARI (RICERCA MASSIMI E MINIMI)
CS	CARICHI STATICI PERMANENTI (FASI COSTRUTTIVE)
CB:	COMBINAZIONI DI CARICHI INTERMEDIE:
CB:	COMBINAZIONI DI CARICHI FINALI DI VERIFICA:

Inactive: Combinazioni intermedie non visualizzate
Active: Combinazioni finali visualizzate

Add: Somma di carichi con coefficienti moltiplicativi dati
Envelope: Inviluppo di carichi (massimi e minimi)

CAVALCAVIA ASSE 80 - COMBINAZIONI DI CARICO - ACCIAIO/SEZIONI COMPOSTE - IMPALCATO

			TIPO CARICO	ST	ST	ST	ST	ST	ST	ST	ST	RS	RS	RS	RS	RS	RS	RS	RS	RS	MV	MV	MV	MV	MV	MV	CS	CS	CS	CS	CS	CS	CS	CS	CS	CS	CS	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB
NUMERO COMBINAZIONE	NOME COMBINAZIONE	Strength/Stress /Serviceability	Add/Envelope	Peso acciaio e pile	Peso soletta	Finiture	Vento Strutture (Y+)	Vento Mobili (Y+)	Frenamento (X+)	Termico unif. +15°	Termico diff. +5°/H	SLD long X+	SLD trasv Y+	SLD vert Z+	SLV long X+	SLV trasv Y+	SLV vert Z+	SLC long X+	SLC trasv Y+	SLC vert Z+	Mobili SLU-DX	Mobili SLU-SX	Mobili SLE-DX	Mobili SLE-SX	Fatica VITA ILL.	Fatica DANN.ACC.	Dead Load	Erection Load 1	Erection Load 2	Erection Load 3	Tendon Primary	Tendon Secondary	Creep Primary	Creep Secondary	Shrinkage Primary	Shrinkage Secondary	Summation	Vento Strutture (Y-)	Vento Mobili (Y-)	Frenamento (X-)	Termico unif. -15°	Termico diff. -5°/H	SLV Long (X-)	SLV Trasv (Y-)	SLV Vert (Z-)	Vento Strutture INV	Vento Mobili INV	Frenamento INV	Termico unif. INV	Termico diff. INV	SLV Long INV	SLV Trasv INV	SLV Vert INV	Mobili SLU INV	Mobili SLE INV
1	Vento Strutture (Y-)	Inactive	Add			-1																																																				
2	Vento Mobili (Y-)	Inactive	Add				-1																																																			
3	Frenamento (X-)	Inactive	Add					-1																																																		
4	Termico unif. -15°	Inactive	Add						-1																																																	
5	Termico diff. -5°/H	Inactive	Add							-1																																																
6	SLV Long (X-)	Inactive	Add											-1																																												
7	SLV Trasv (Y-)	Inactive	Add												-1																																											
8	SLV Vert (Z-)	Inactive	Add													-1																																										
9	Vento Strutture INV	Inactive	Envelope			1																														1																	
10	Vento Mobili INV	Inactive	Envelope				1																														1																
11	Frenamento INV	Inactive	Envelope					1																														1															
12	Termico unif. INV	Inactive	Envelope						1																														1														
13	Termico diff. INV	Inactive	Envelope							1																														1													
14	SLV Long INV	Inactive	Envelope											1																										1												
15	SLV Trasv INV	Inactive	Envelope												1																												1											
16	SLV Vert INV	Inactive	Envelope													1																													1										
17	Mobili SLU INV	Inactive	Envelope																			1	1																																
18	Mobili SLE INV	Inactive	Envelope																					1	1																														
19	ST SLU Mobili	Strength/Stress	Add																									1.35	1.5						1.2		1.2										0.9	0.9		0.72	0.72				1.35	
20	ST SLU Vento	Strength/Stress	Add																									1.35	1.5						1.2		1.2										1.5	1.5		0.72	0.72					1.35
21	ST SLU Frenamento	Strength/Stress	Add																									1.35	1.5						1.2		1.2												1.35	0.72	0.72					1.35
22	ST SLU Termico	Strength/Stress	Add																									1.35	1.5						1.2		1.2										0.9	0.9		1.2	1.2					1.35
23	ST SLV Long	Strength/Stress	Add																																			1												0.5	0.5	1	0.3	0.3		
24	ST SLV Trasv	Strength/Stress	Add																																			1												0.5	0.5	0.3	1	0.3		
25	ST SLV Vert	Strength/Stress	Add																																			1												0.5	0.5	0.3	0.3	1		
26	ST FATICA VITA ILL.	Inactive	Add																						1												1																		
27	ST FATICA DANN.ACC.	Inactive	Add																							1											1																		
28	ST RARA Mobili	Serviceability	Add																																			1									0.6	0.6		0.6	0.6				1	
29	ST RARA Vento	Serviceability	Add																																			1									1	1		0.6	0.6					1
30	ST RARA Frenamento	Serviceability	Add																																			1											1	0.6	0.6					1
31	ST RARA Termico	Serviceability	Add																																			1									0.6	0.6		1	1					1
32	ST FREQ Mobili	Serviceability	Add																																			1												0.5	0.5					1
33	ST FREQ Vento	Serviceability	Add																																			1									0.2	0.2		0.5	0.5					
34	ST FREQ Termico	Serviceability	Add																																			1												0.6	0.6					
35	ST Q.P.	Serviceability	Add																																			1												0.5	0.5					

LEGENDA CARICHI:

ST:	CARICHI STATICI PERMANENTI (FASE FINALE)
ST:	CARICHI STATICI VARIABILI
RS:	CARICHI SISMICI DA ANALISI MODALE CON SPETTRO DI RISPOSTA (CQC)
TH:	CARICHI SISMICI DA ANALISI DINAMICA NON LINEARE (Time History)
MV:	CARICHI MOBILI (RICERCA MASSIMI E MINIMI)
SM:	CEDIMENTI VINCOLARI (RICERCA MASSIMI E MINIMI)
CS	CARICHI STATICI PERMANENTI (FASI COSTRUTTIVE)
CB:	COMBINAZIONI DI CARICHI INTERMEDIE
CB:	COMBINAZIONI DI CARICHI FINALI DI VERIFICA

Inactive:	Combinazioni intermedie non visualizzate
Strength/Stress:	Combinazioni per verifiche allo stato limite ultimo
Serviceability:	Combinazioni per verifiche allo stato limite di esercizio (rare/frequenti/quasi permanenti)
Add:	Somma di carichi con coefficienti moltiplicativi dati
Envelope:	Inviluppo di carichi (massimi e minimi)

6 CALCOLO DELLE SOLLECITAZIONI

Le travi composte acciaio-calcestruzzo vengono analizzate dal programma secondo le fasi di costruzione (construction stage):

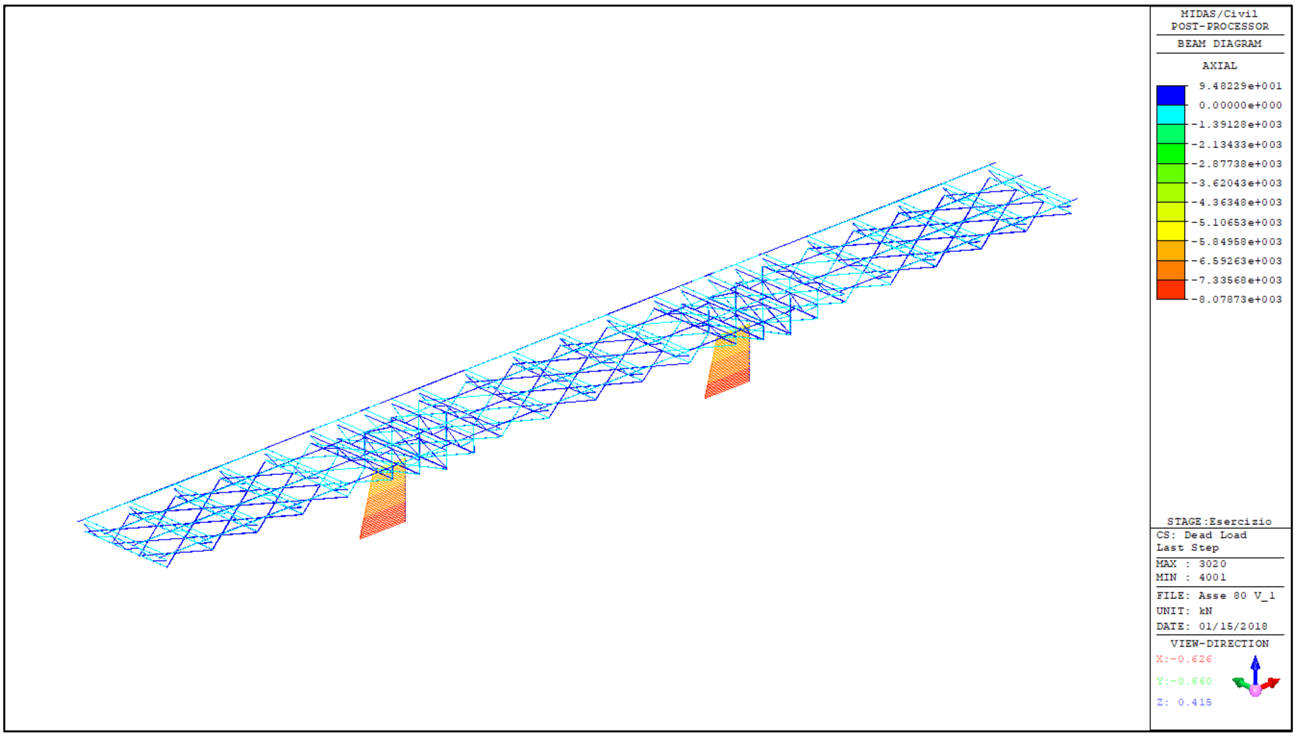
- fase 1: corrisponde alla fase costruttiva fino al getto della soletta (30 giorni):
  - sezione reagente: trave di acciaio (soletta non reagente)
  - carichi applicati: peso strutture acciaio e peso soletta
- fase 2: corrisponde a una fase costruttiva di lunga durata (10000 giorni) in cui la soletta ha caratteristiche elastiche variabili nel tempo e si tiene conto dei fenomeni di interazione lenti di ritiro e fluage, valutati secondo gli schemi EN 1992-2:
  - sezione reagente: trave di acciaio e soletta (con modulo variabile)
  - carichi applicati: finiture, ritiro, fluage della soletta
- fase 3: corrisponde alla fase di esercizio:
  - sezione reagente: trave acciaio + soletta (modulo costante)
  - carichi applicati: carichi di esercizio (vento, carichi mobili, termici, frenamento, sisma)

Si è assunta un'accelerazione gravitazionale pari a g = 9,806 m/s^2.

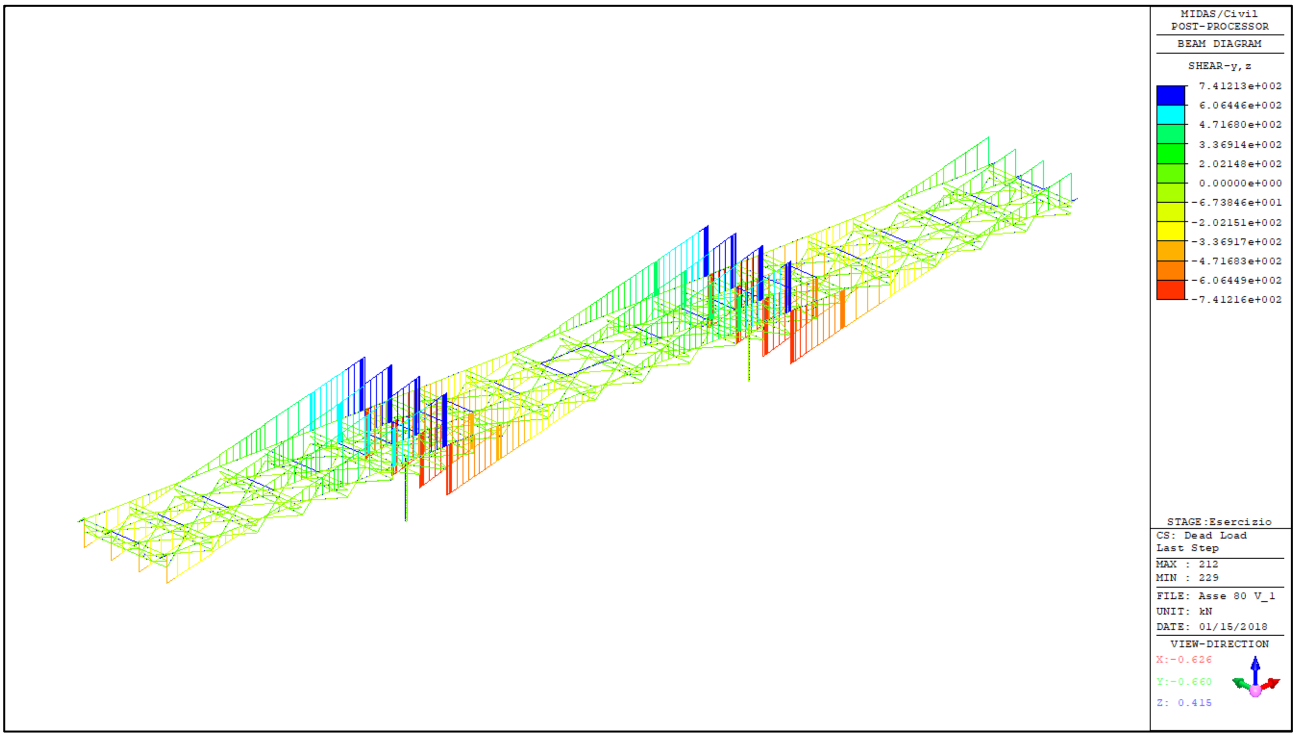
Le unità di misura utilizzate sono coerenti con il Sistema Internazionale:

lunghezze:	m	(metri)
masse:	t	(tonnellate)
forze	kN	(kilo-Newton)

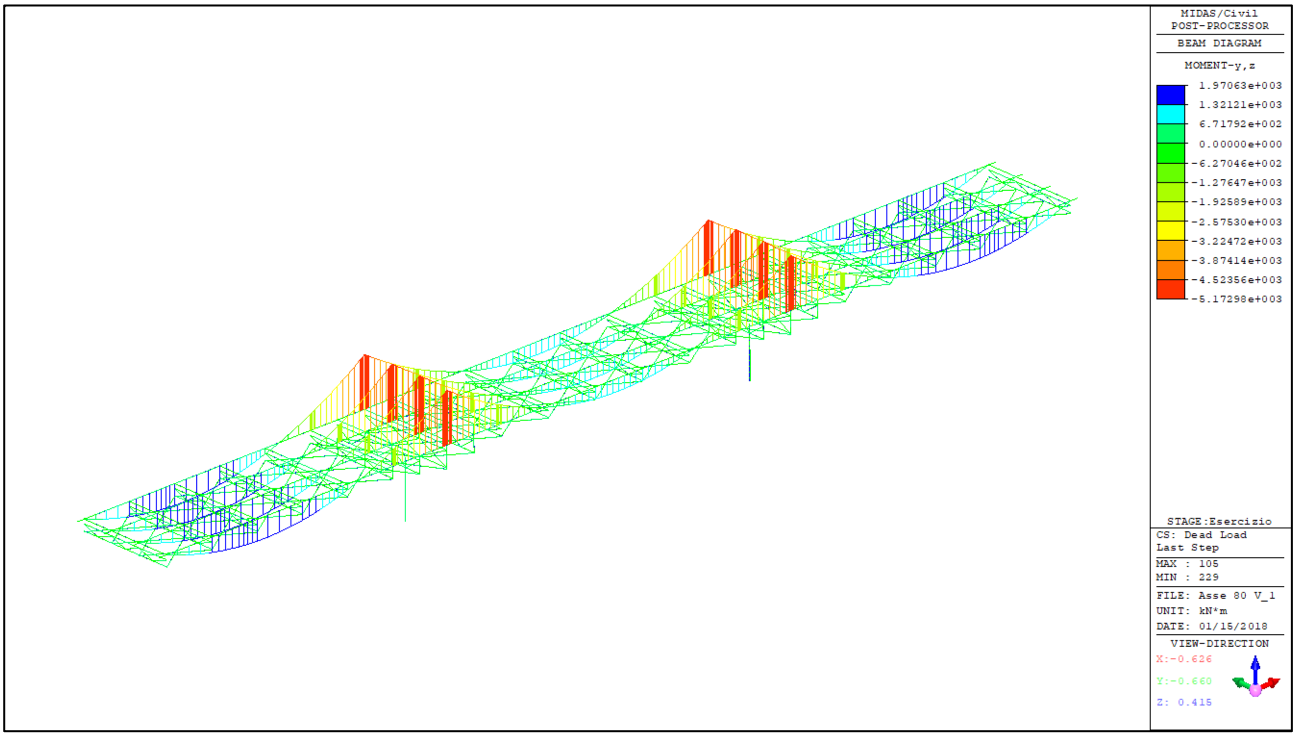
Seguono diagrammi delle azioni calcolate sulle travi composte dell'impalcato e le pile per le singole condizioni di carico (variabili inviluppati ±).



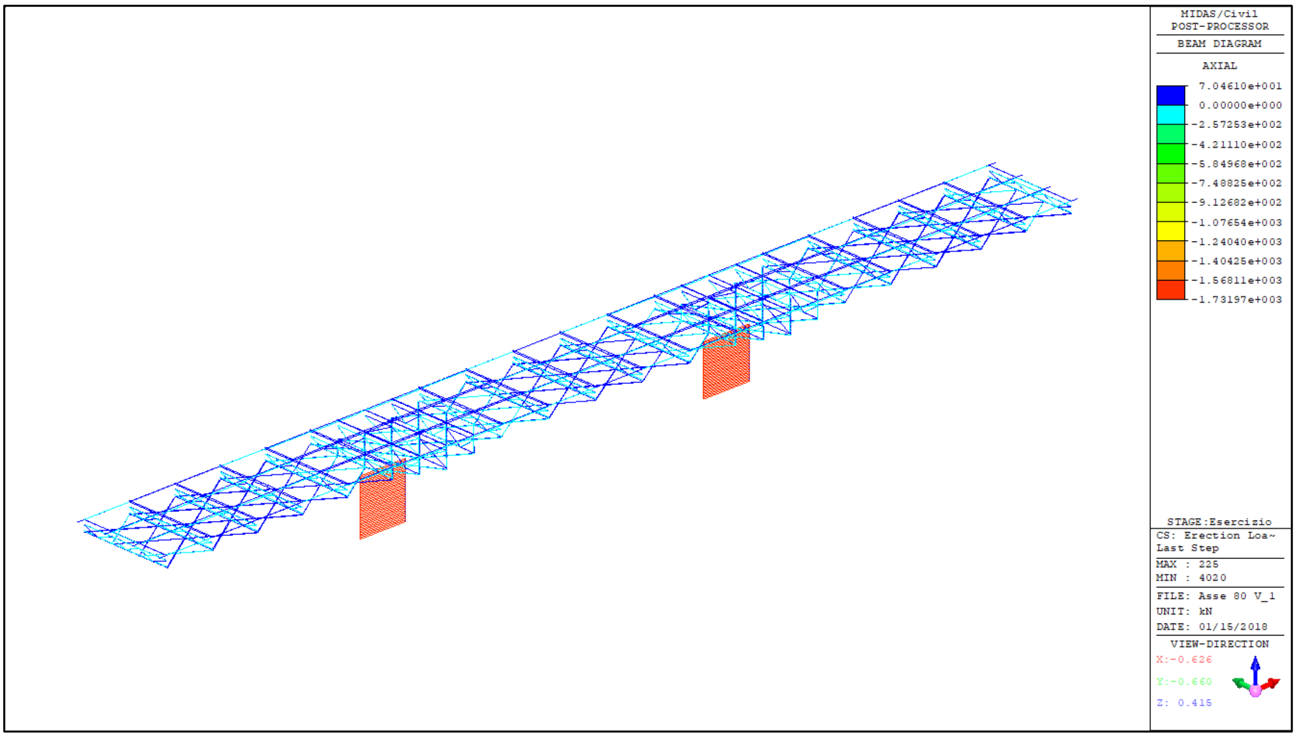
Peso travi e soletta (dead loads) - Diagramma sforzi assiali



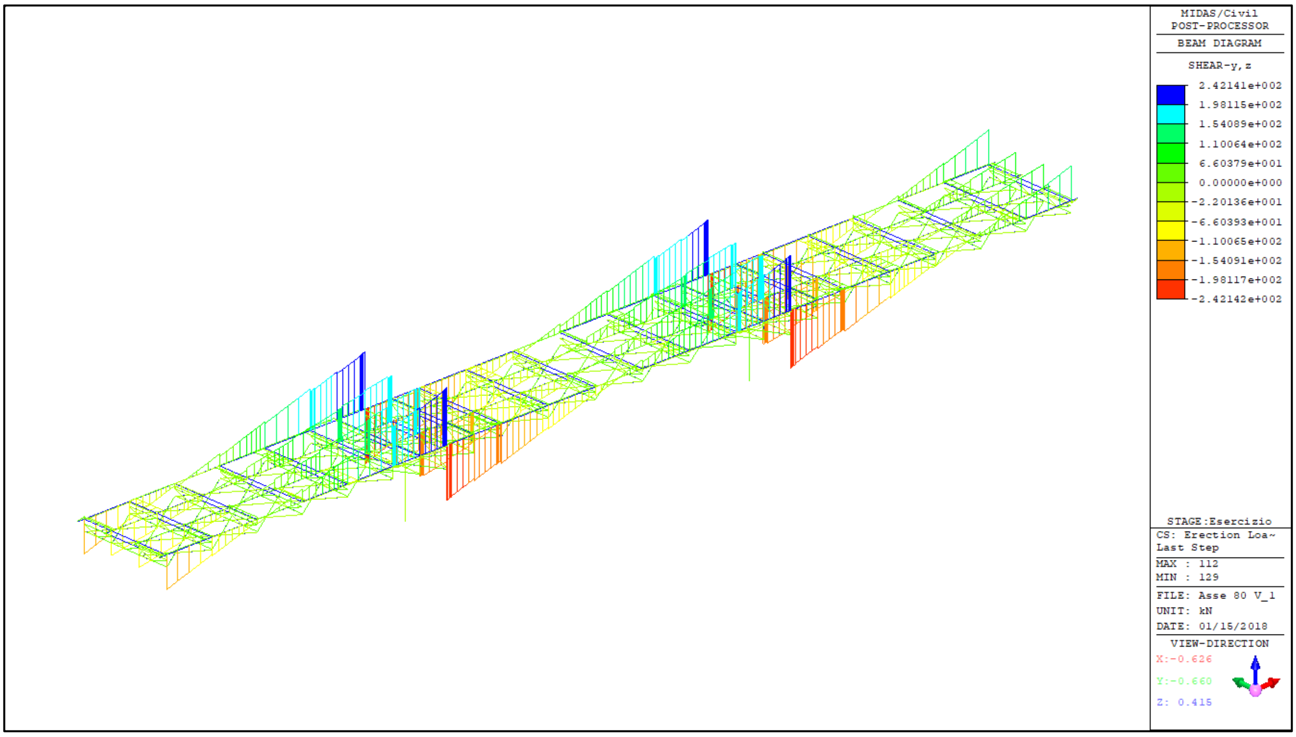
Peso travi e soletta (dead loads)- Diagramma sforzi taglianti



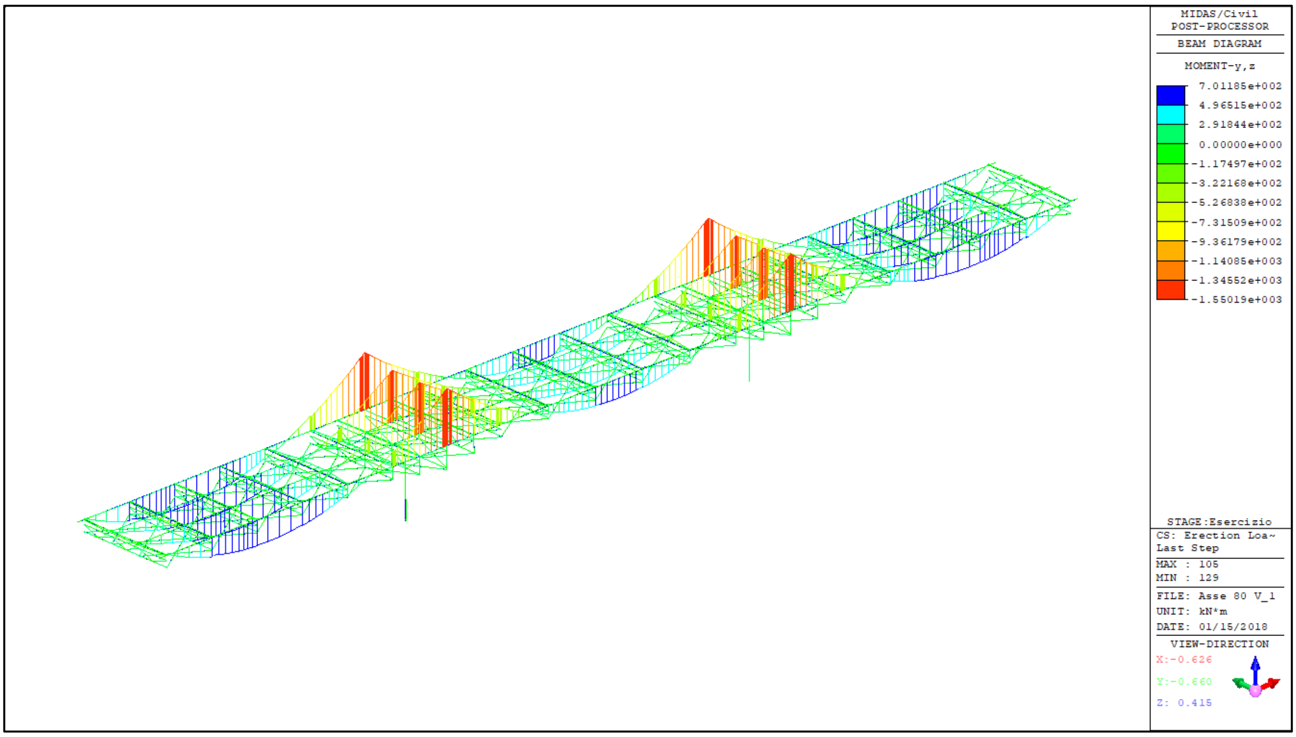
Peso travi e soletta (dead loads) - Diagramma momenti flettenti



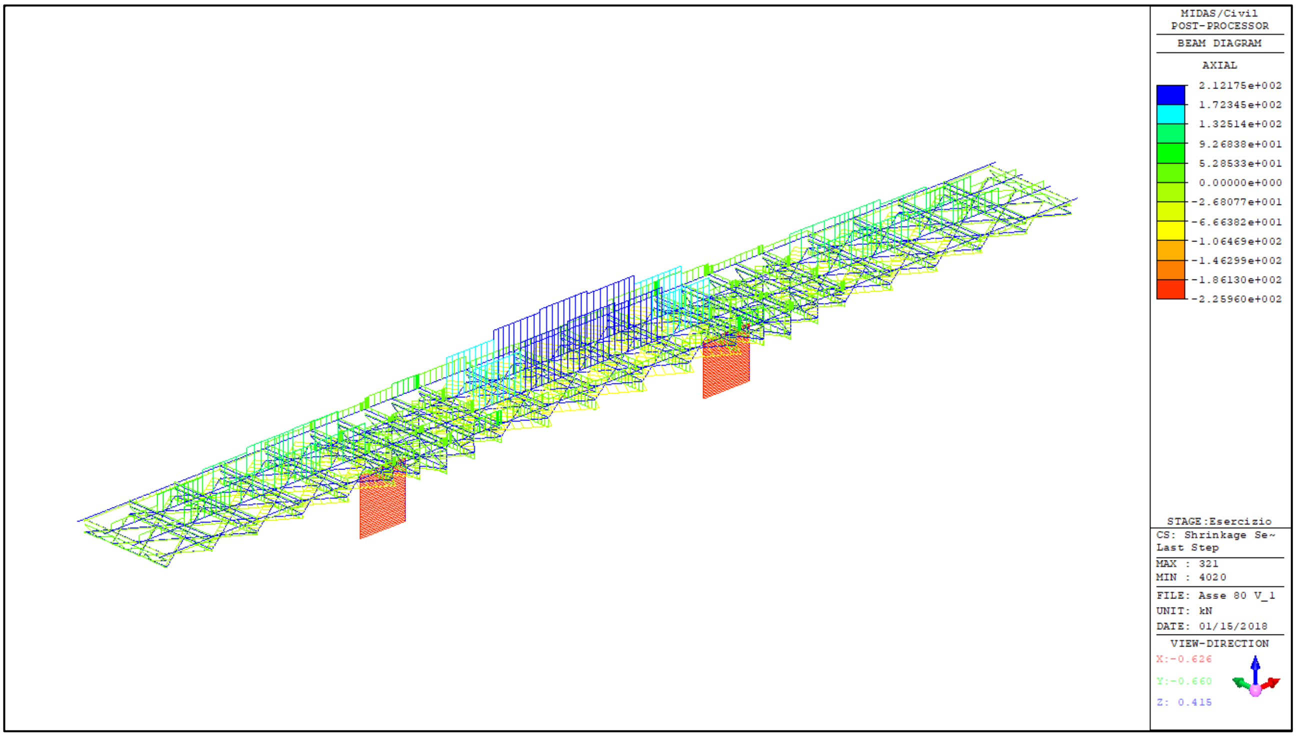
Finiture – Diagramma sforzi assiali



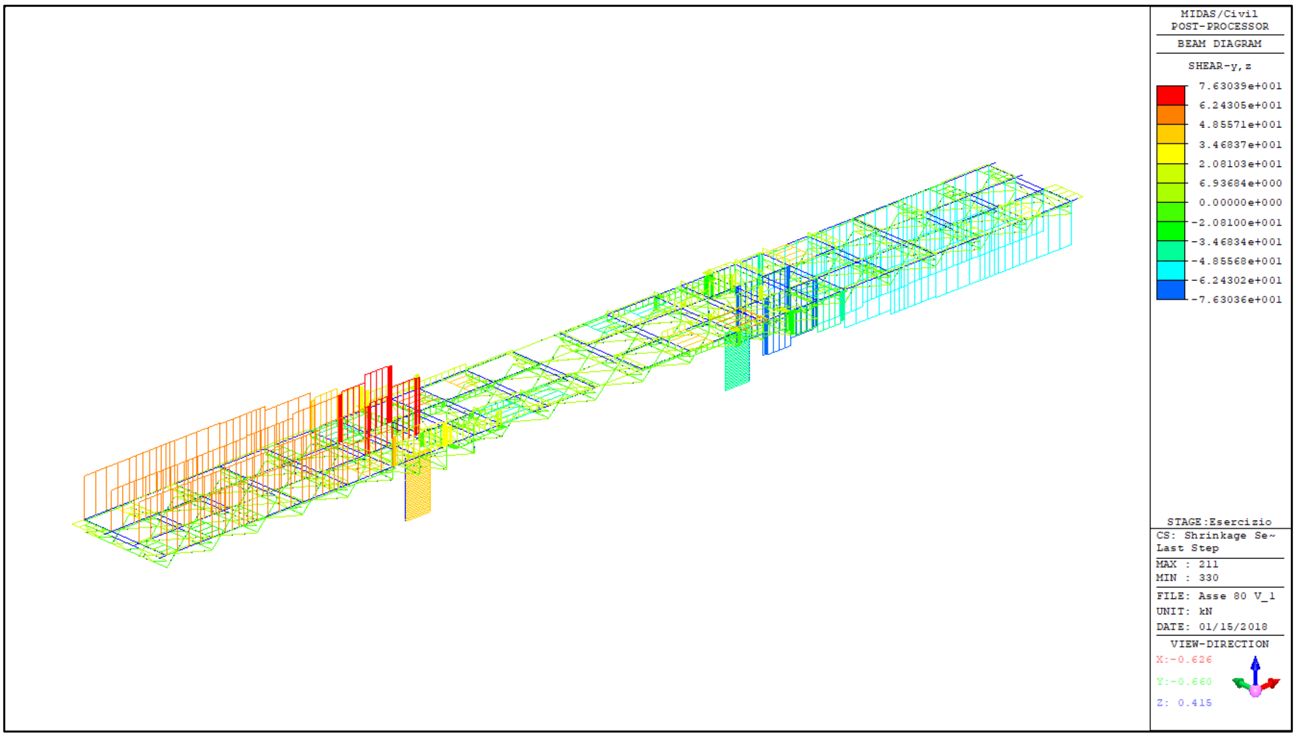
Finiture – Diagramma sforzi taglianti



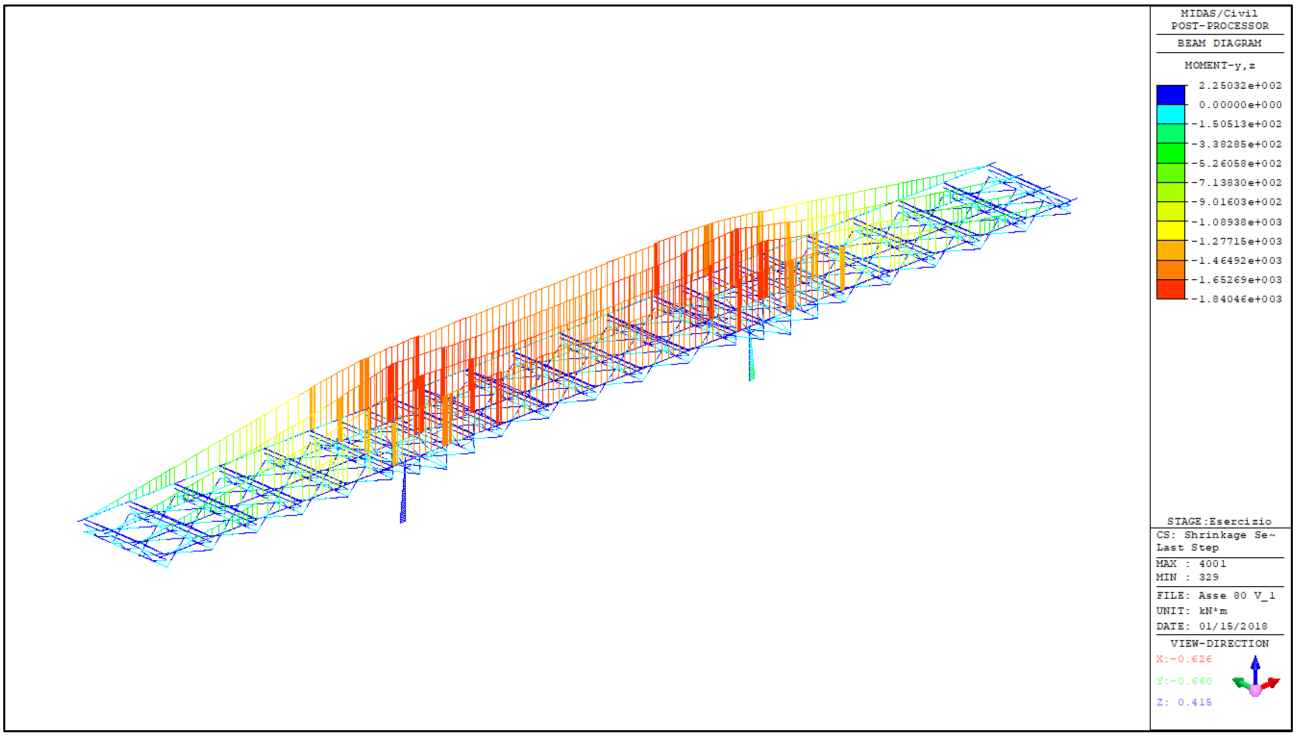
Finiture – Diagramma momenti flettenti



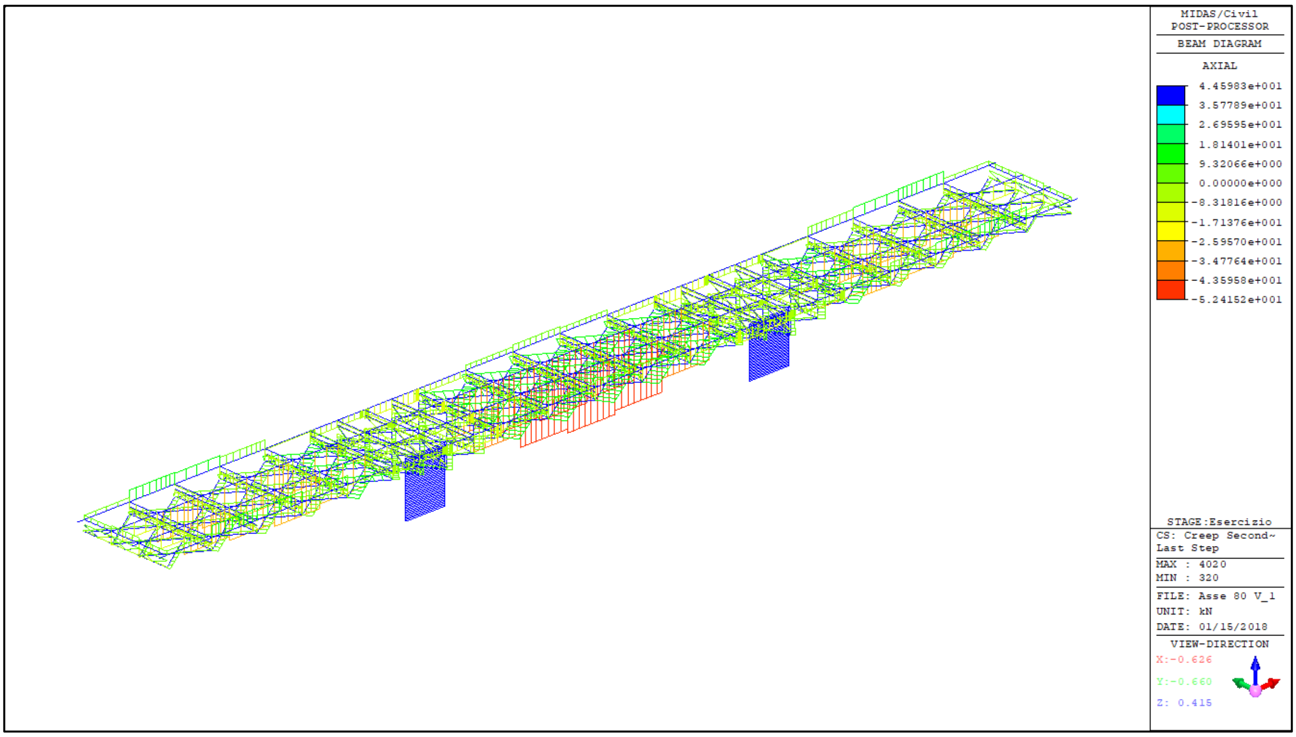
Ritiro soletta - Diagramma sforzi assiali



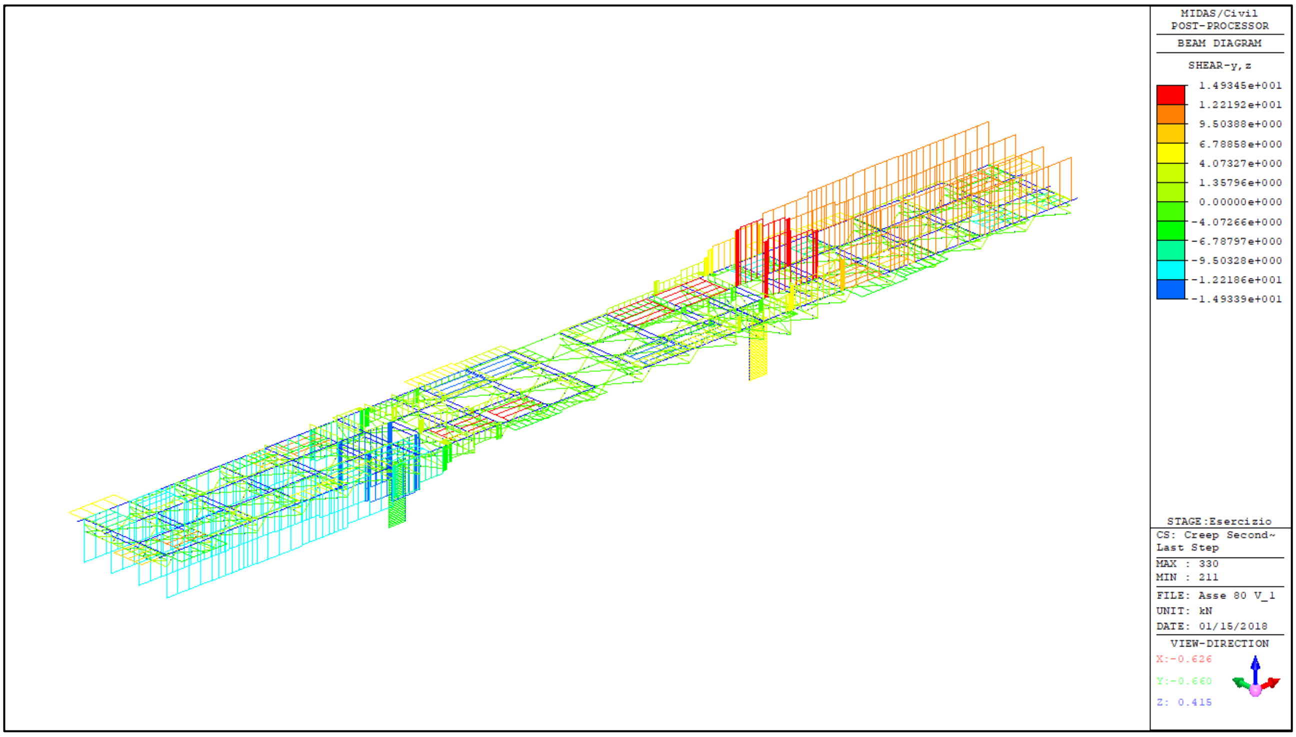
Ritiro soletta - Diagramma sforzi taglianti



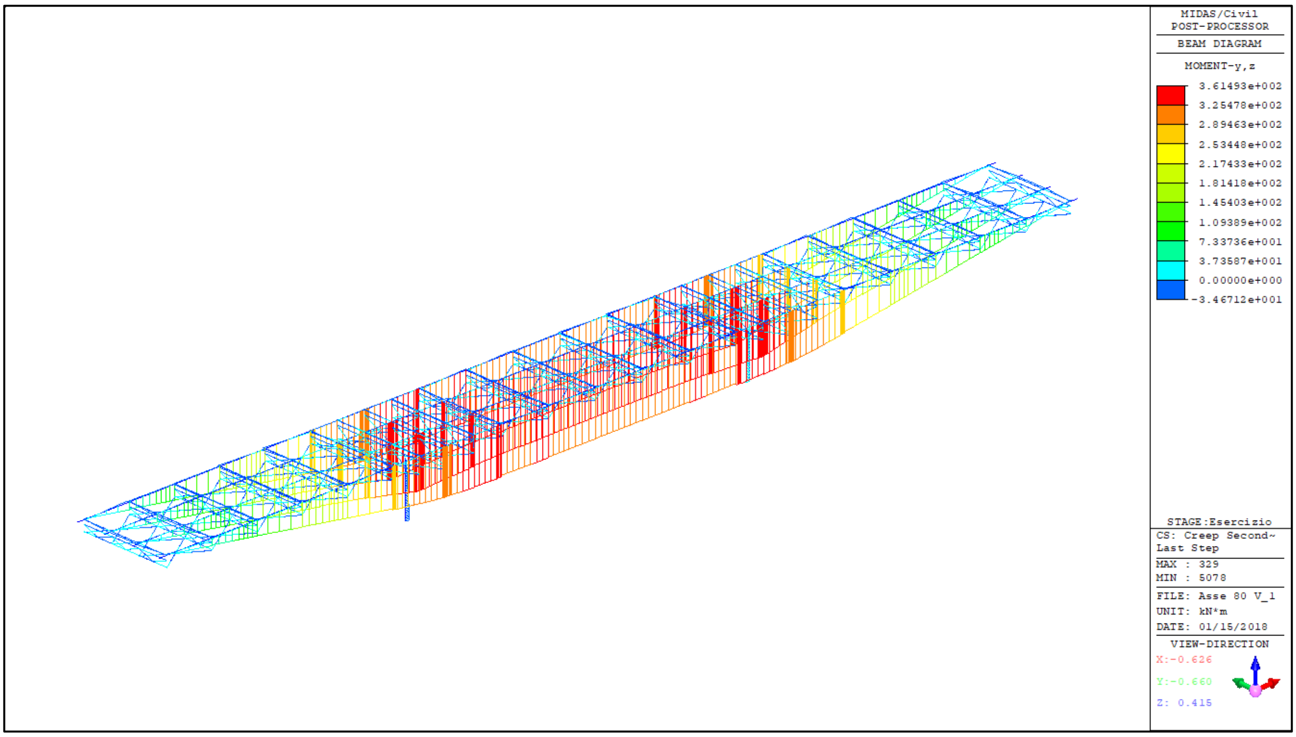
Ritiro soletta - Diagramma momenti flettenti



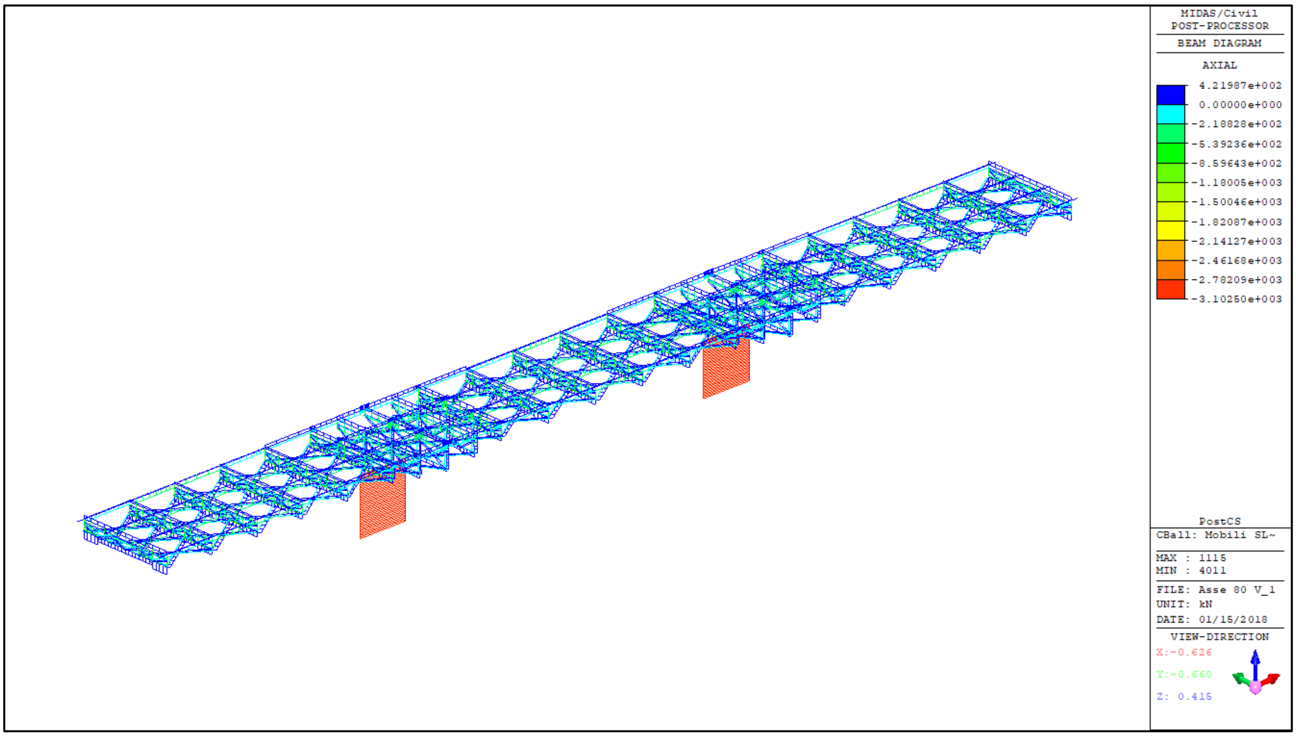
Fluage soletta - Diagramma sforzi assiali



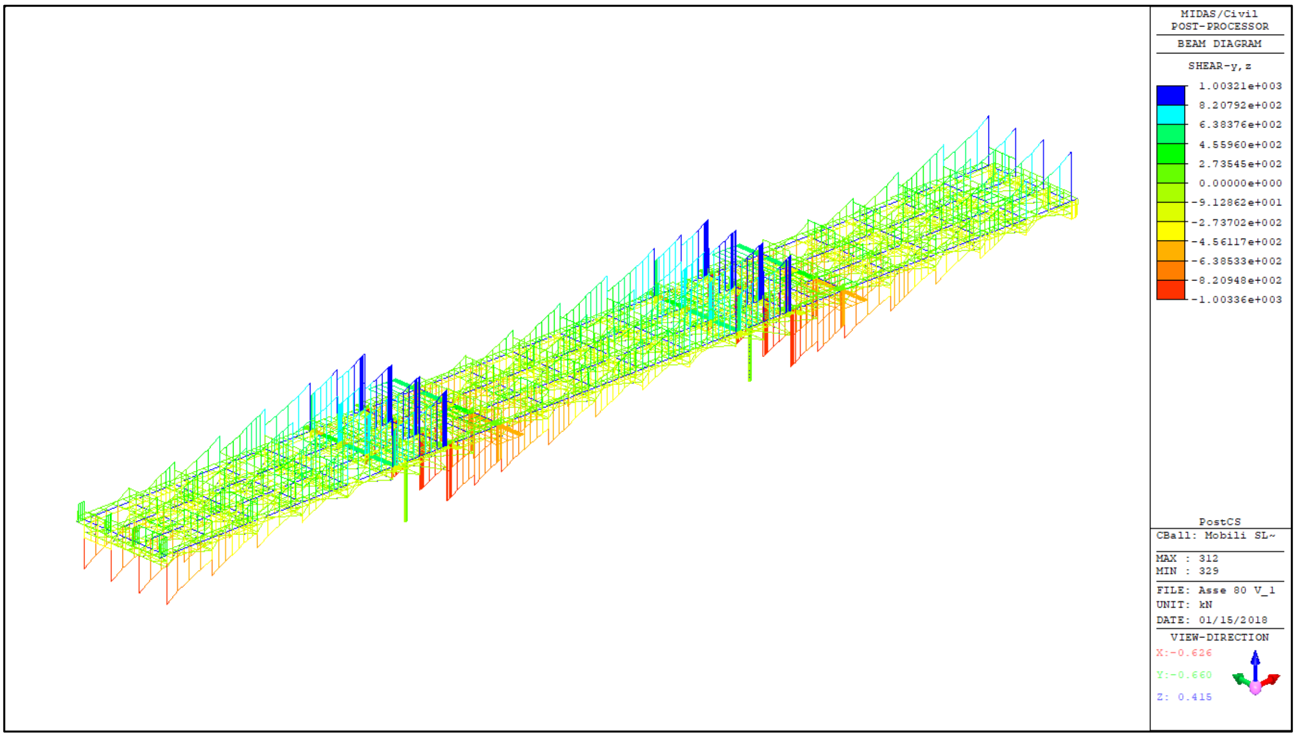
Fluage soletta - Diagramma sforzi taglianti



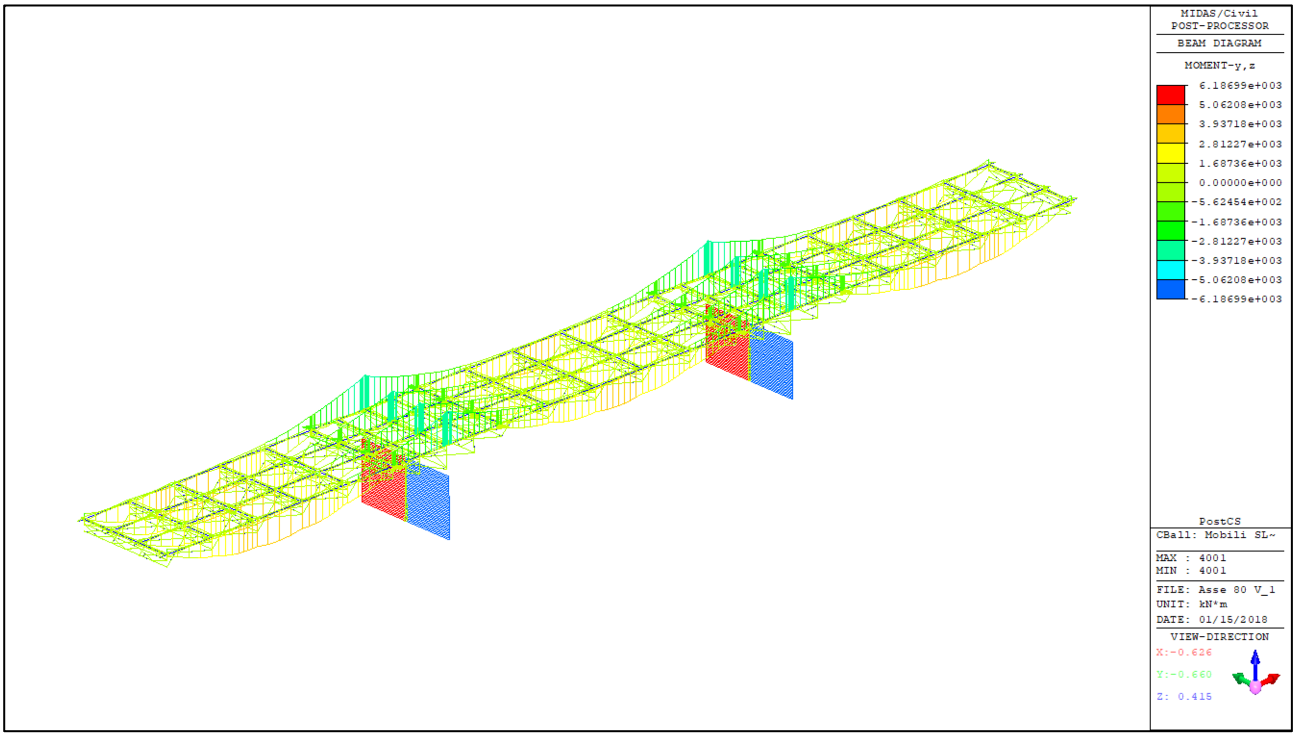
Fluage soletta - Diagramma momenti flettenti



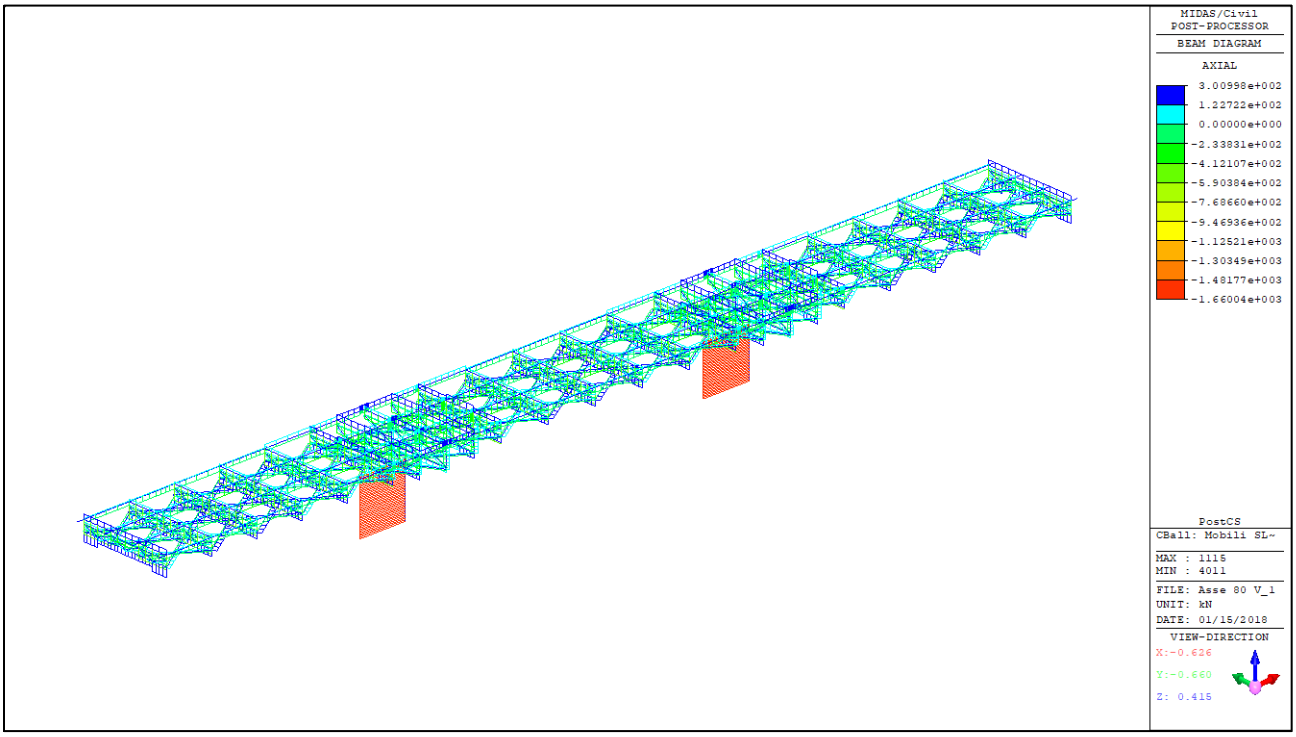
Inviluppo carichi mobili SLU - Diagramma sforzi assiali



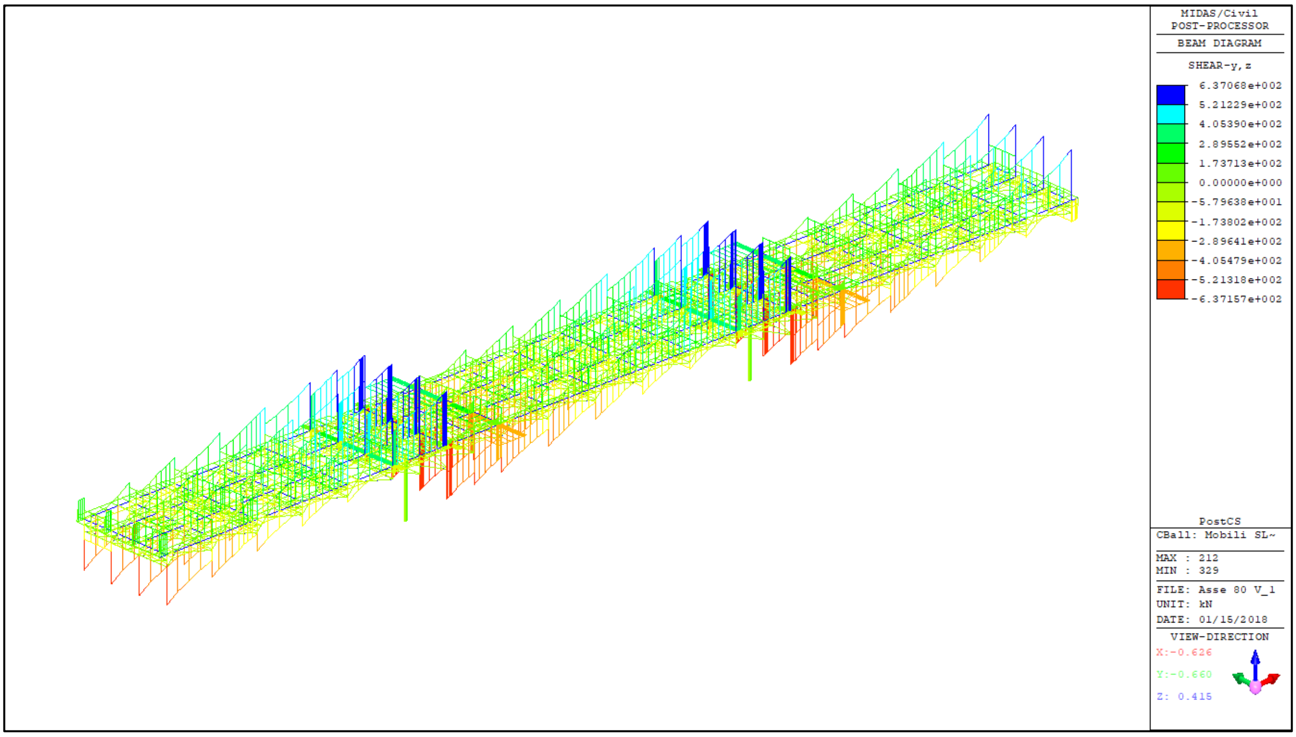
Inviluppo carichi mobili SLU - Diagramma sforzi taglianti



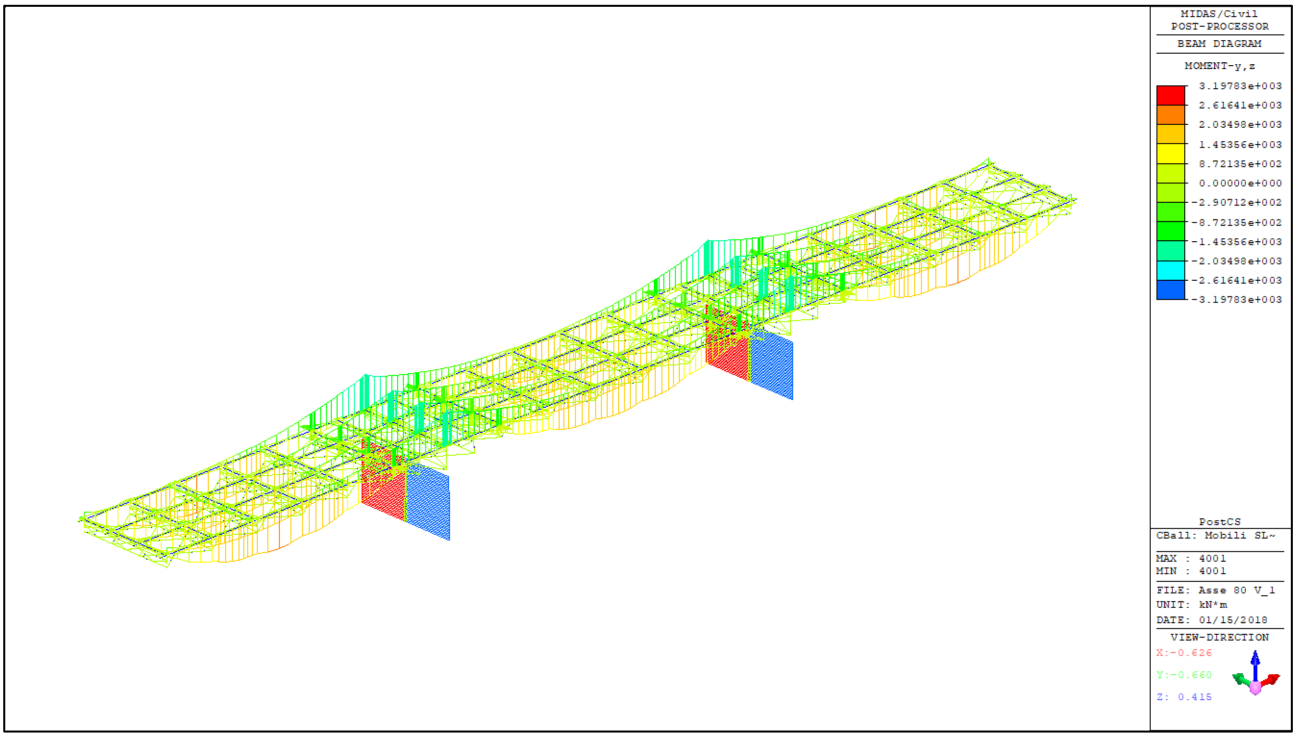
Inviluppo carichi mobili SLU - Diagramma momenti flettenti



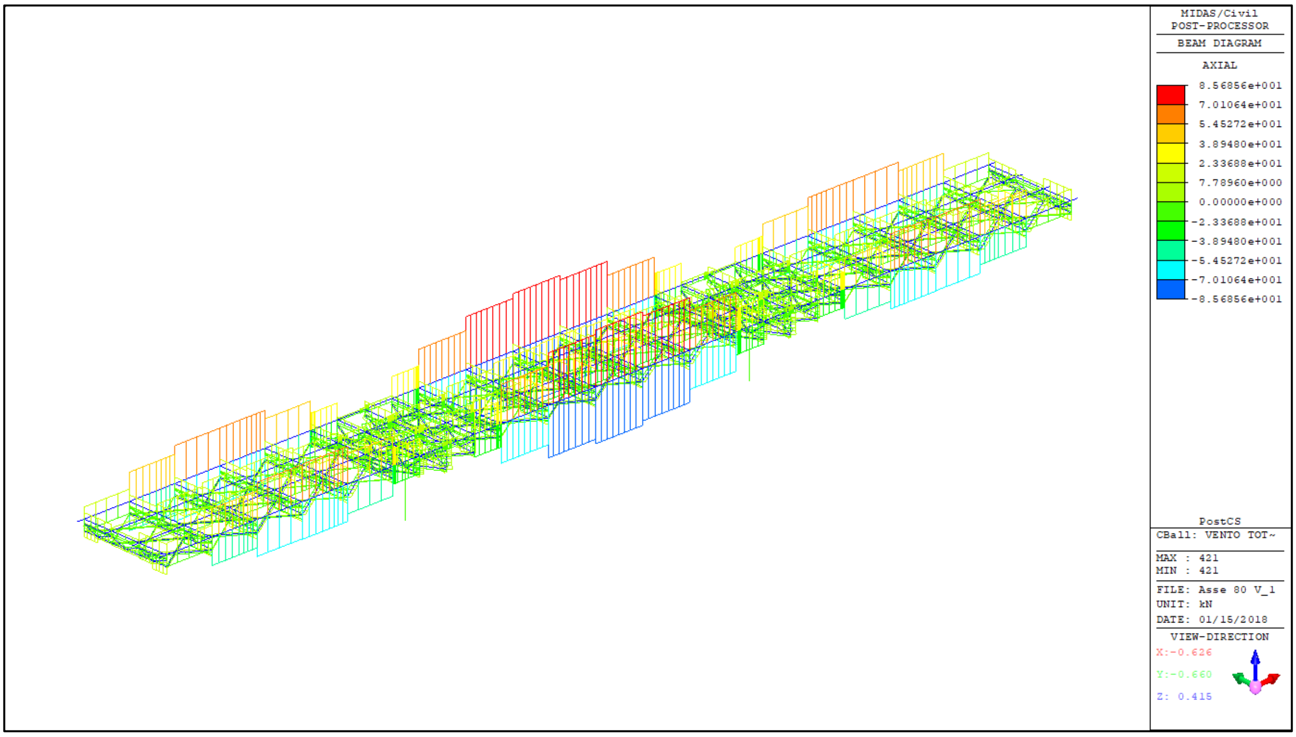
Inviluppo carichi mobili SLE - Diagramma sforzi assiali



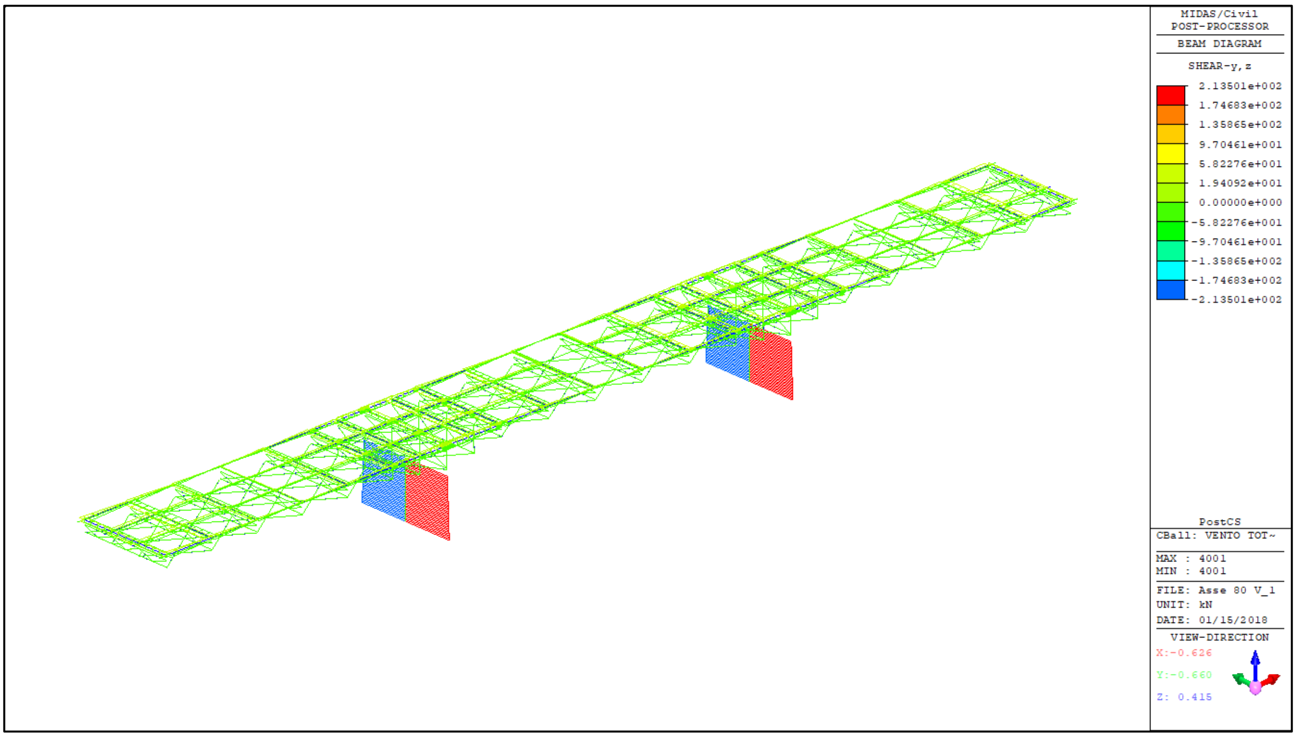
Inviluppo carichi mobili SLE - Diagramma sforzi taglianti



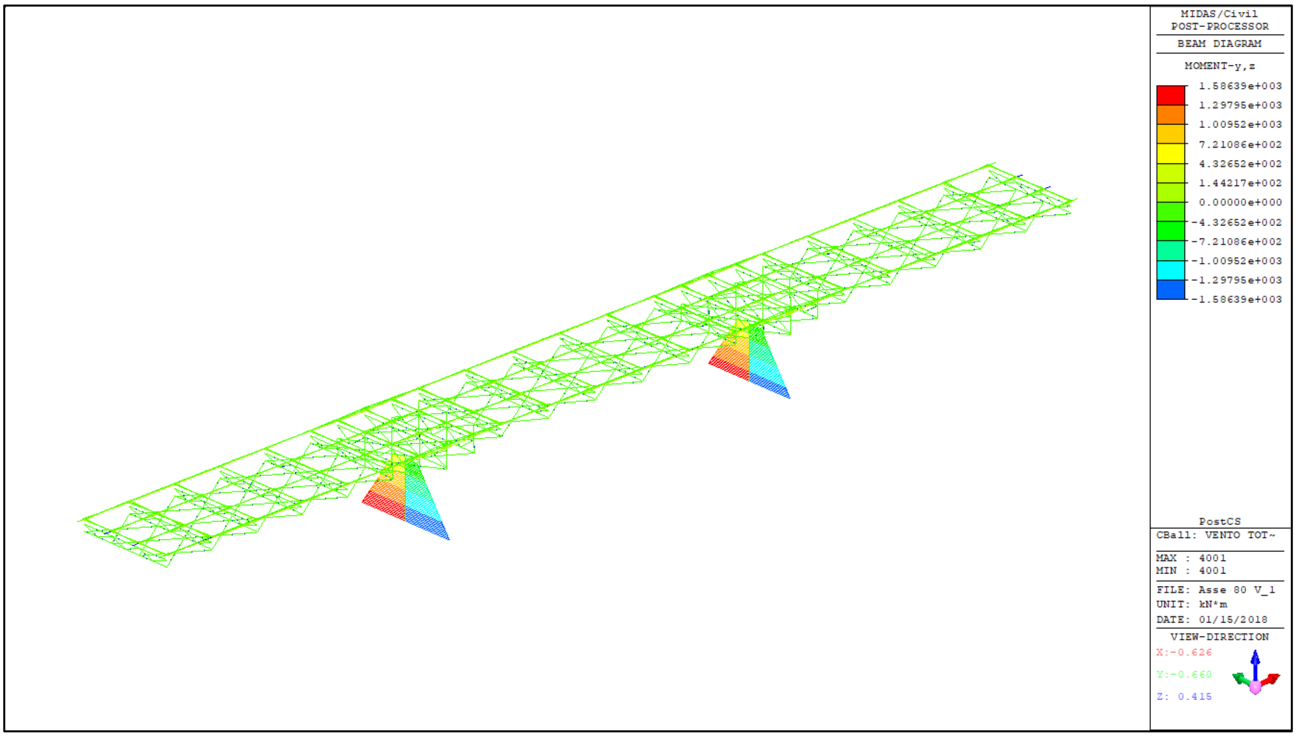
Inviluppo carichi mobili SLE - Diagramma momenti flettenti



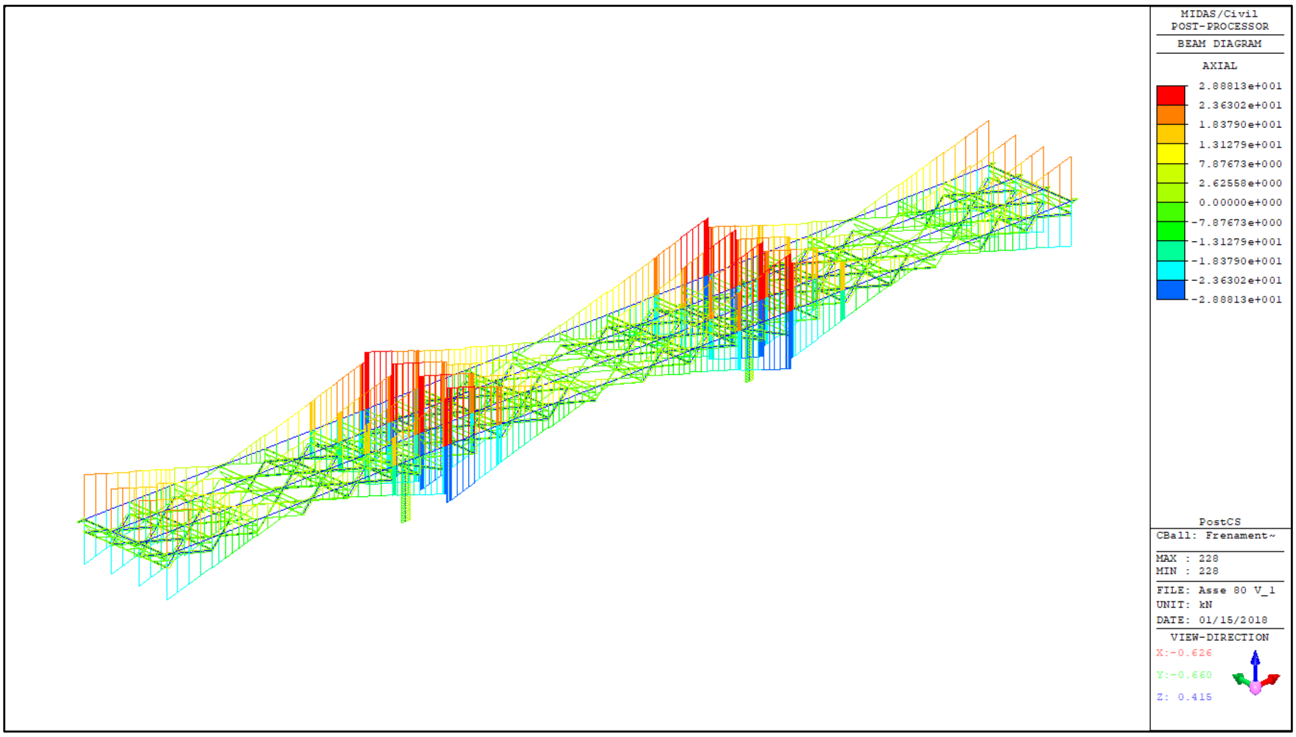
Vento trasversale (strutture e mobili) - Diagramma sforzi assiali



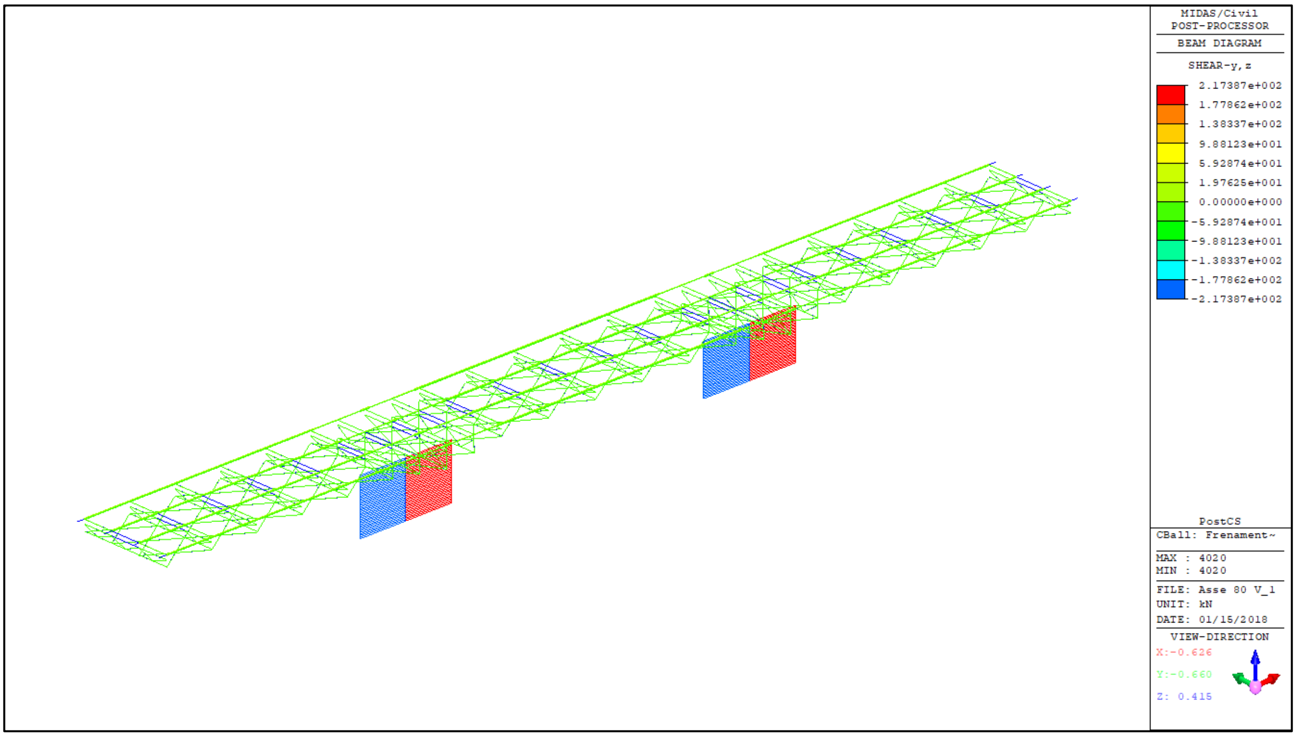
Vento trasversale (strutture e mobili) - Diagramma sforzi taglianti



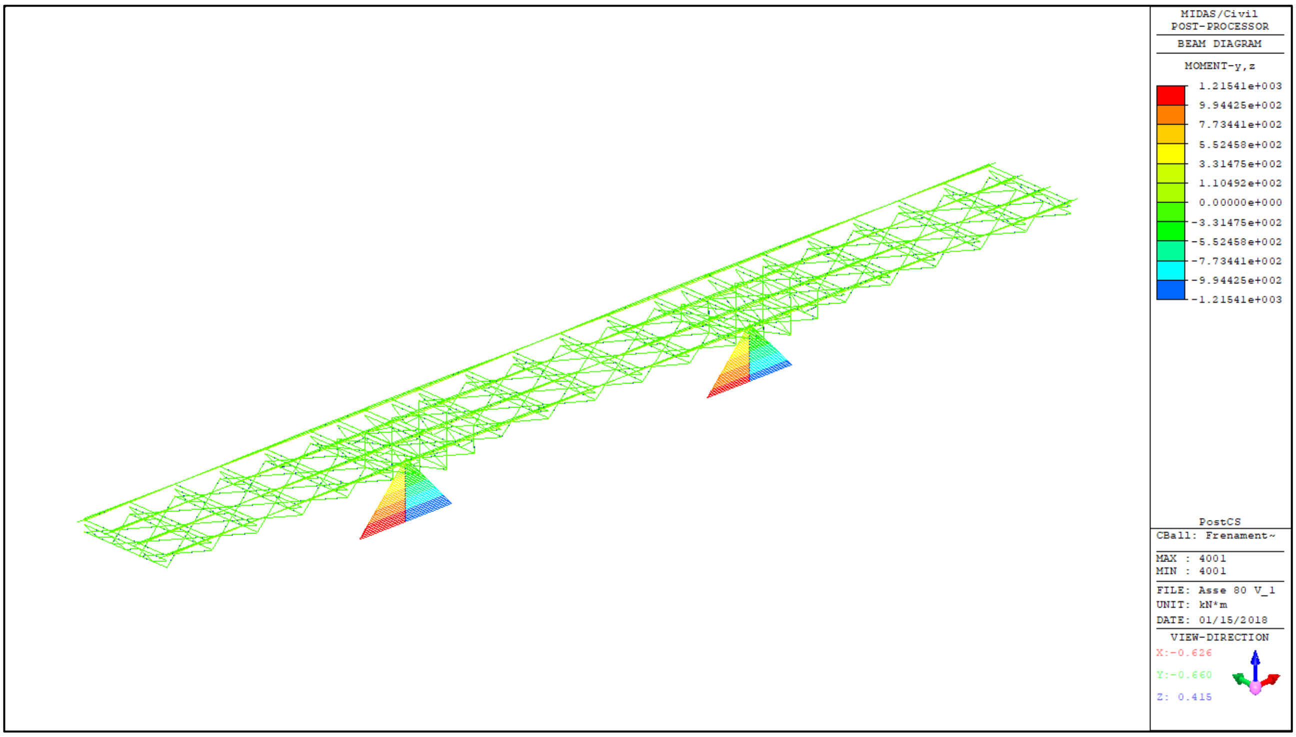
Vento trasversale (strutture e mobili) - Diagramma momenti flettenti



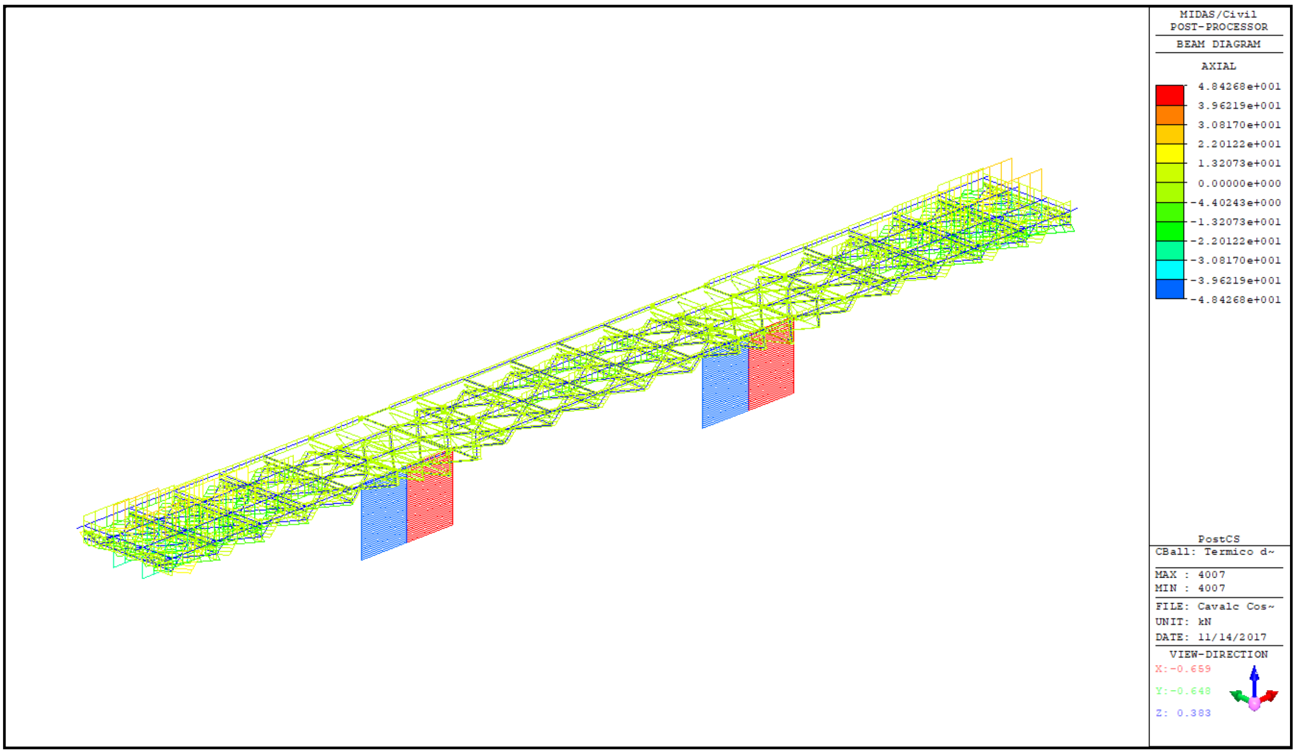
Frenamento - Diagramma sforzi assiali



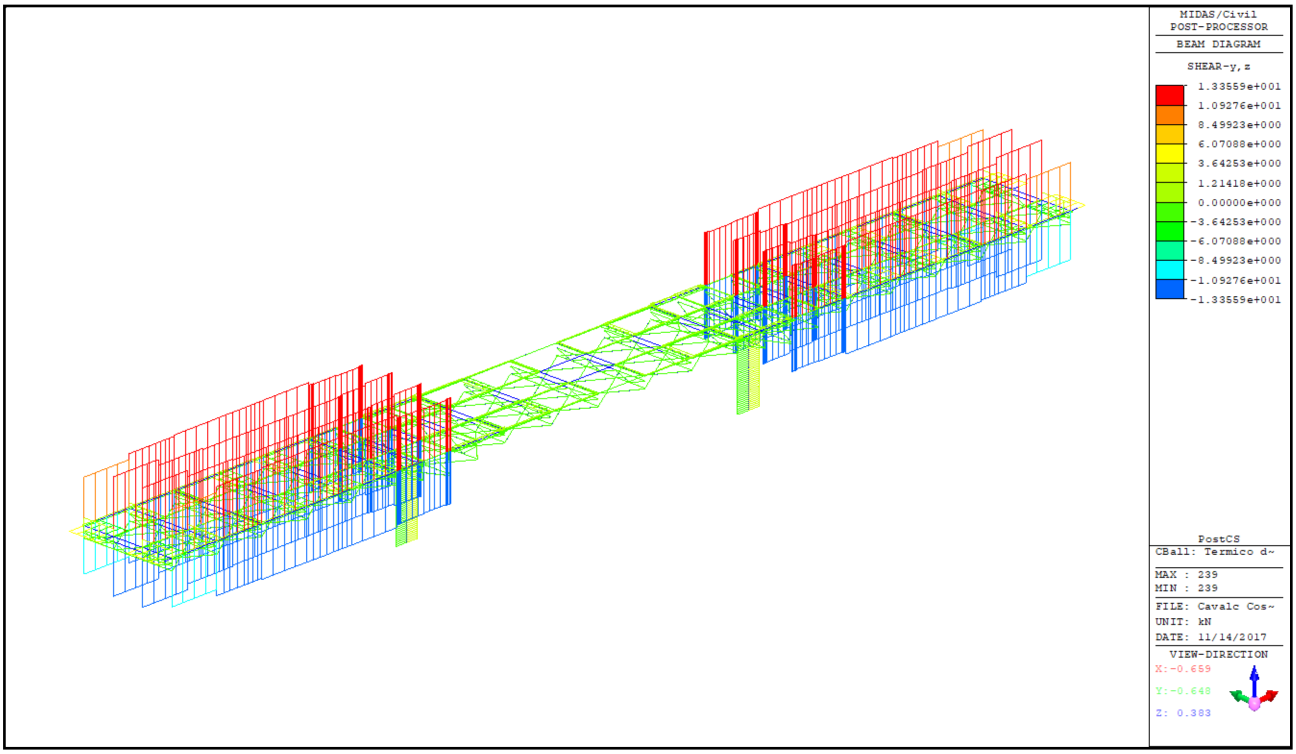
Frenamento - Diagramma sforzi taglianti



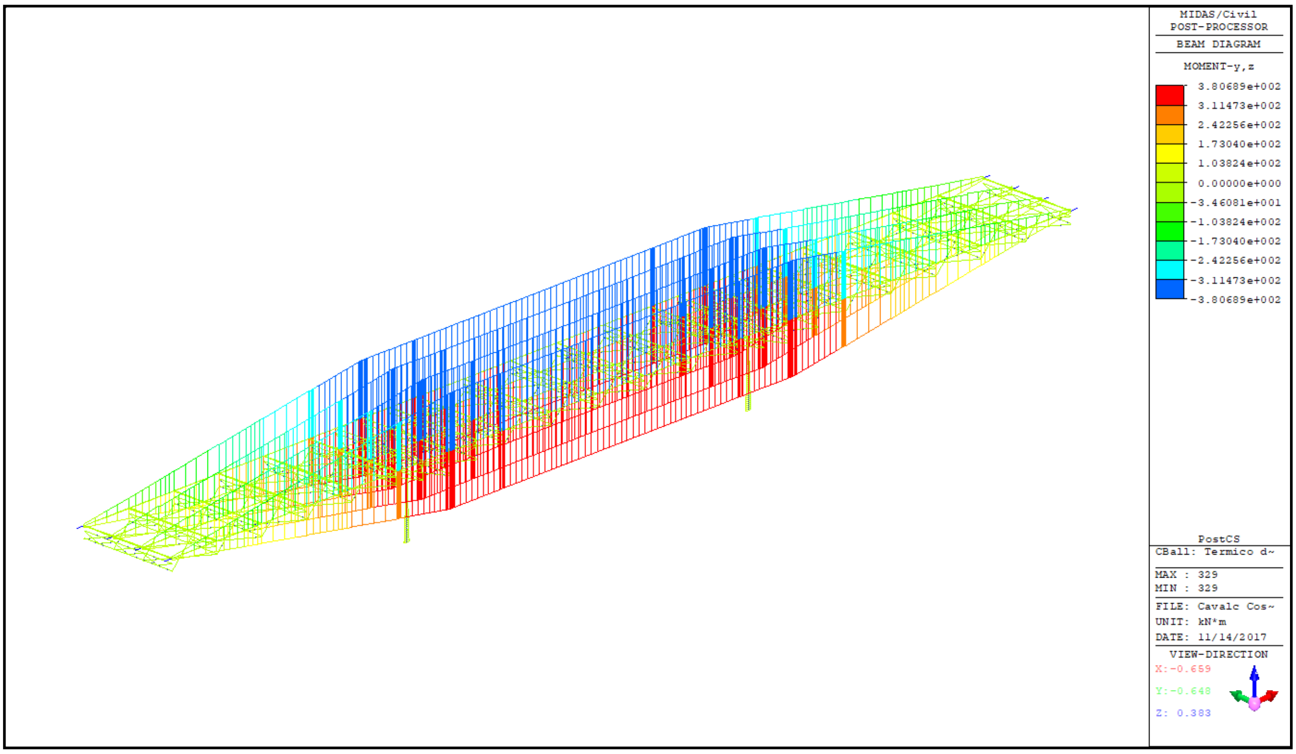
Frenamento - Diagramma momenti flettenti



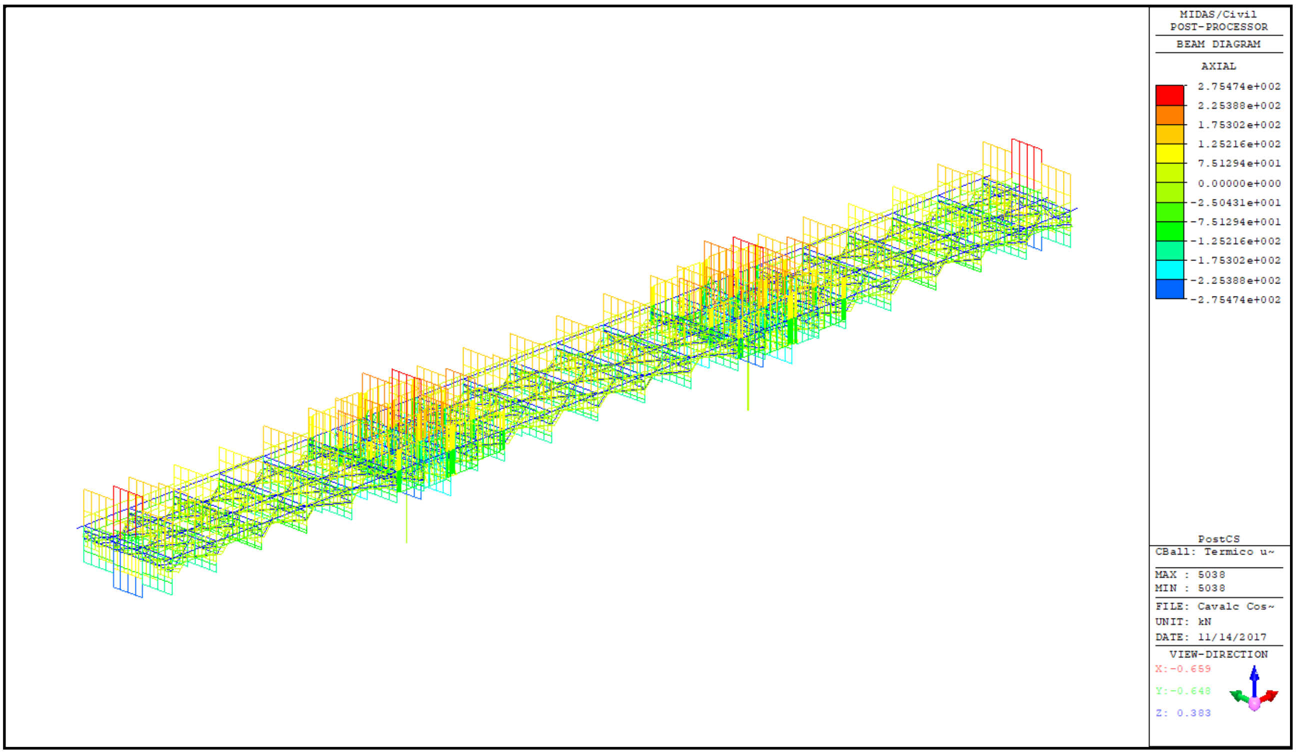
Inviluppo differenziale termico ±5°/H - Diagramma sforzi assiali



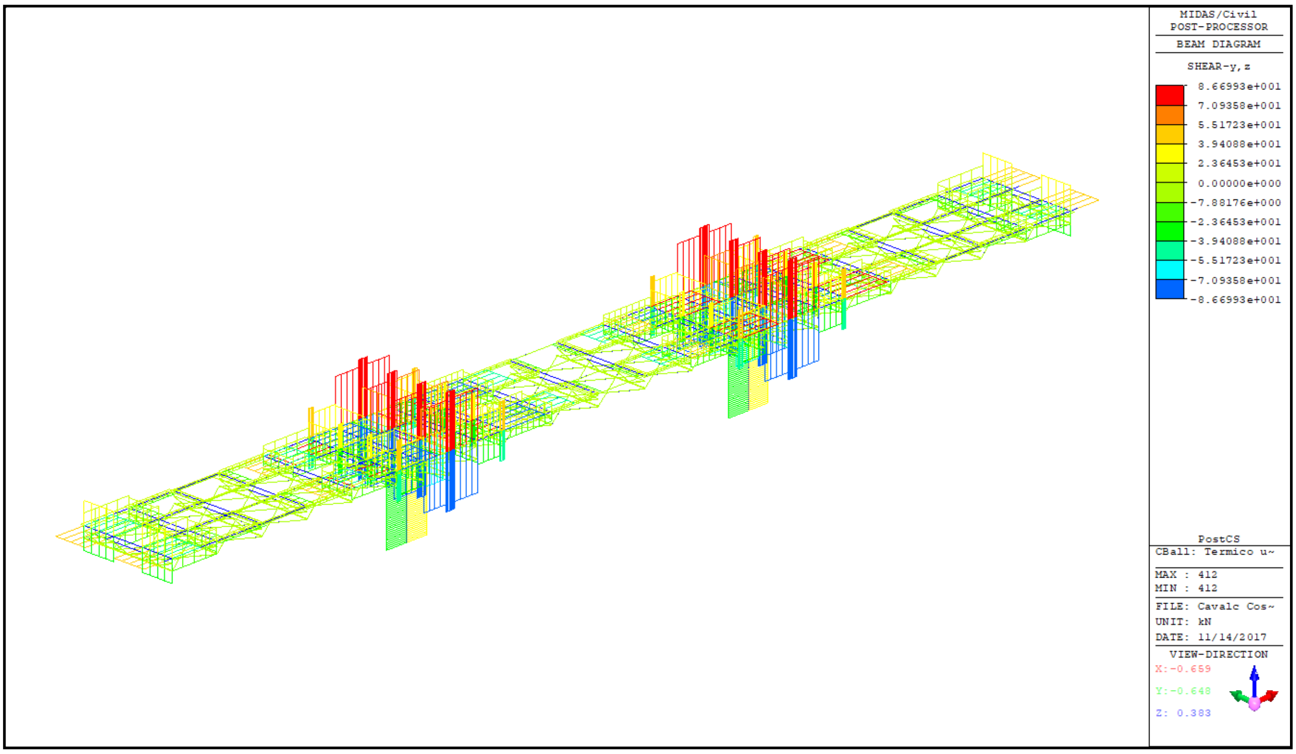
Inviluppo differenziale termico ±5°/H - Diagramma sforzi taglianti



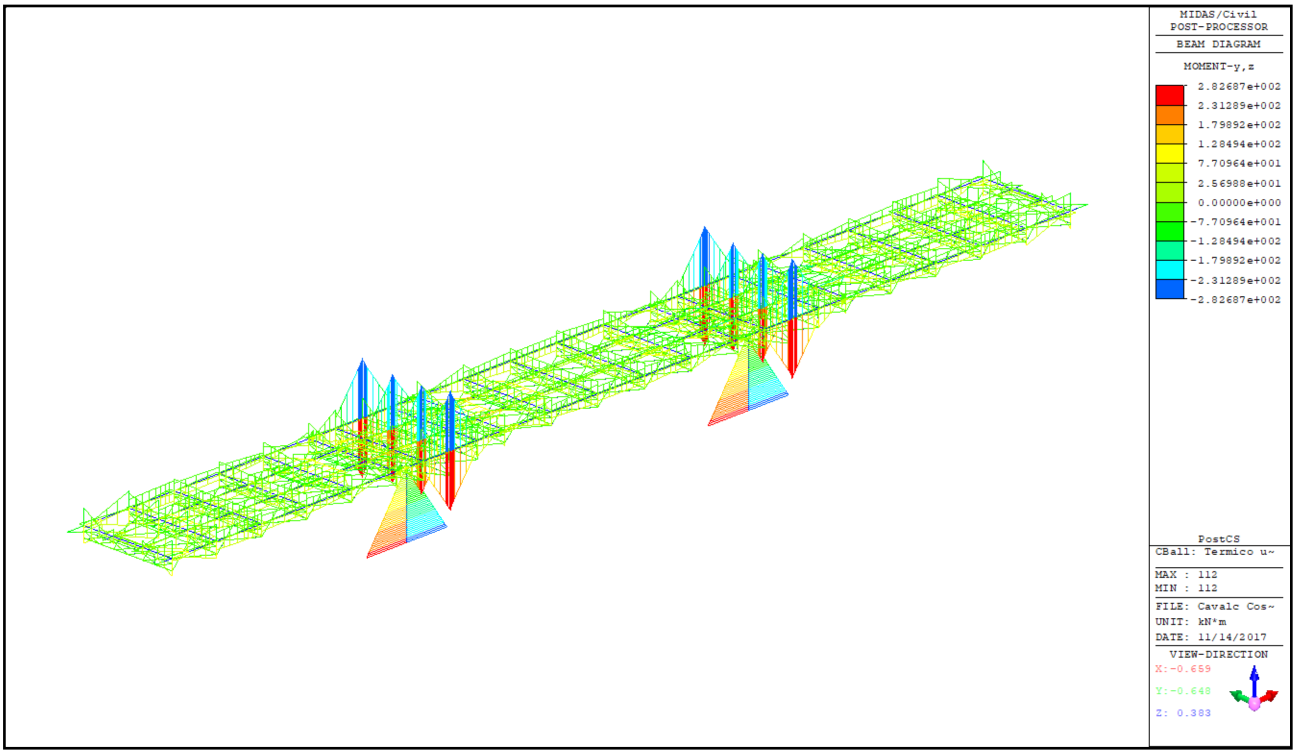
Inviluppo differenziale termico ±5°/H - Diagramma momenti flettenti



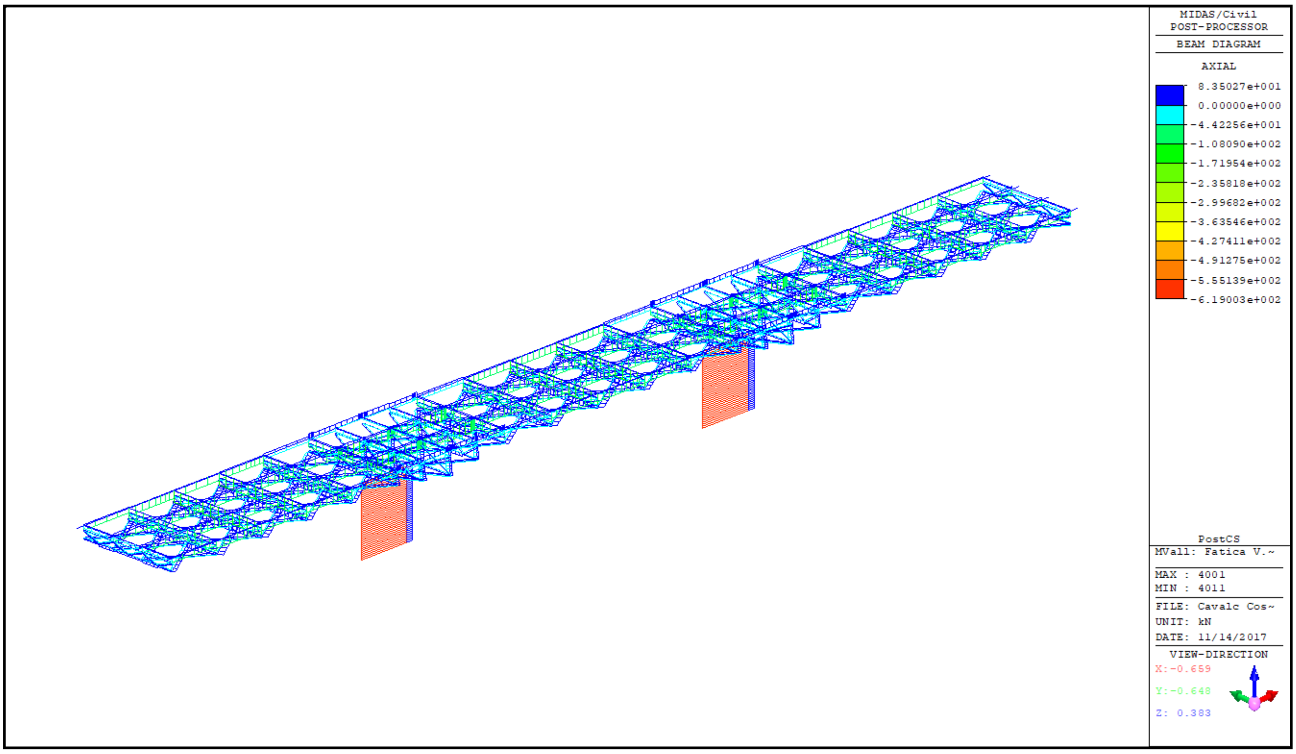
Inviluppo termico uniforme ±15°- Diagramma sforzi assiali



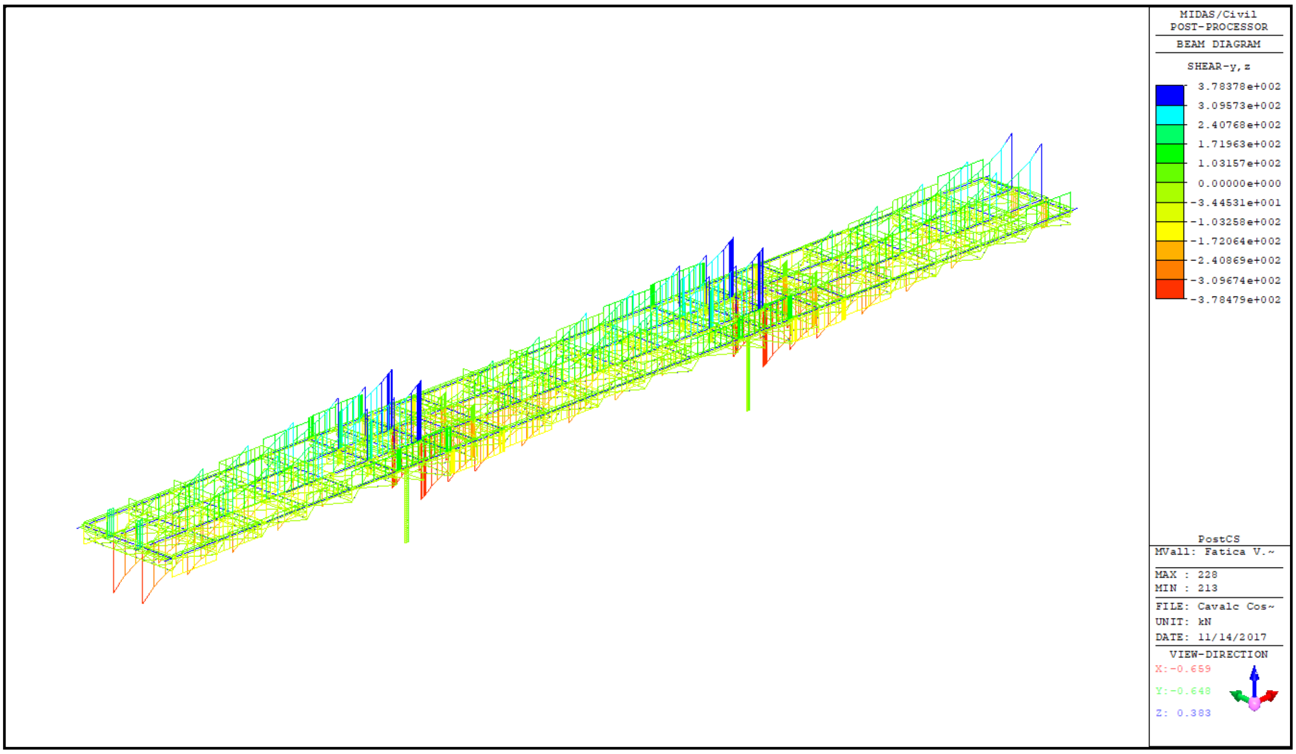
Inviluppo termico uniforme ±15°- Diagramma sforzi taglianti



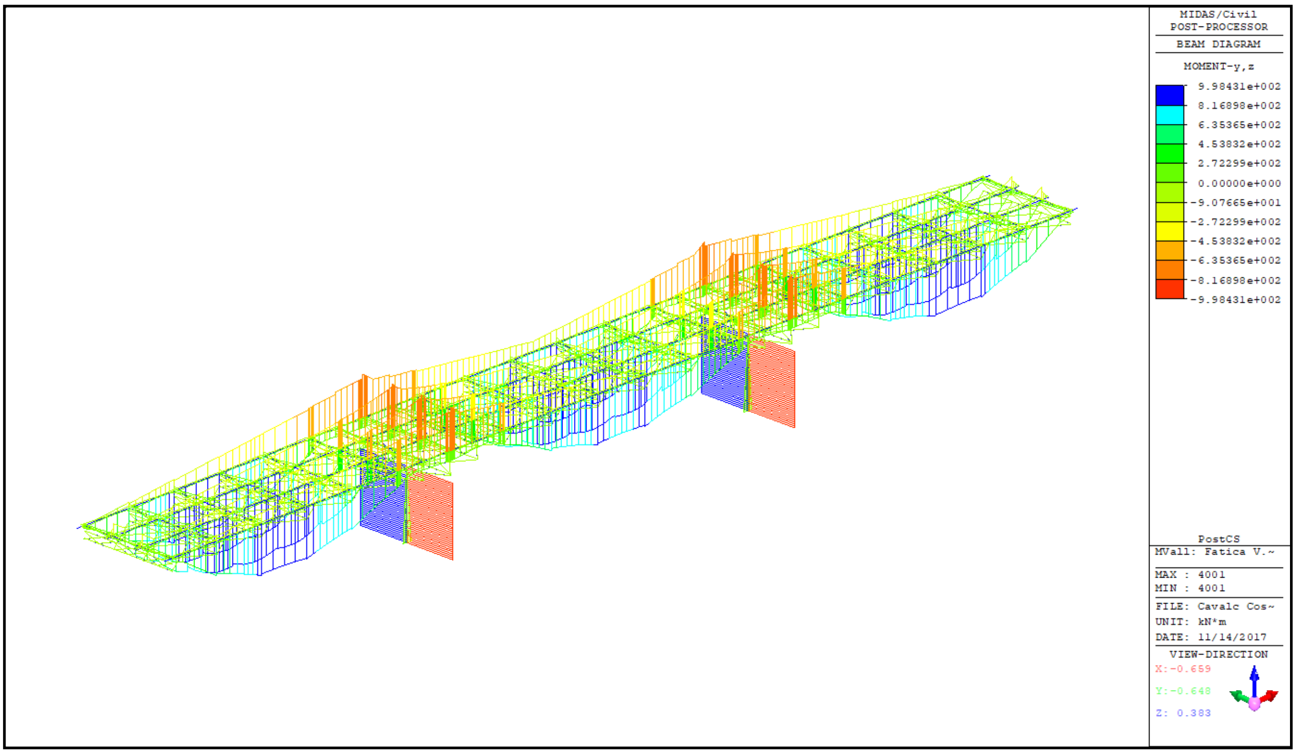
Inviluppo termico uniforme ±15° - Diagramma momenti flettenti



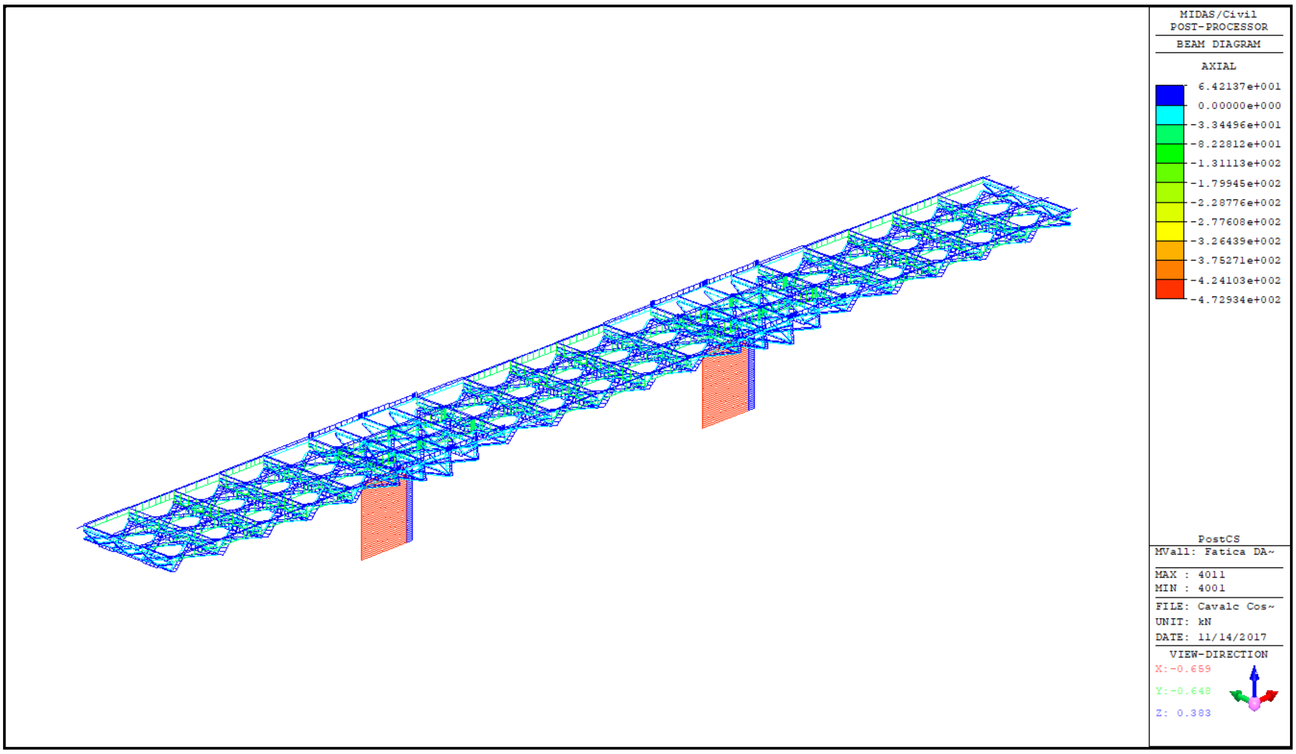
Carichi mobili fatica schema 2 (vita ill.) - Diagramma sforzi assiali



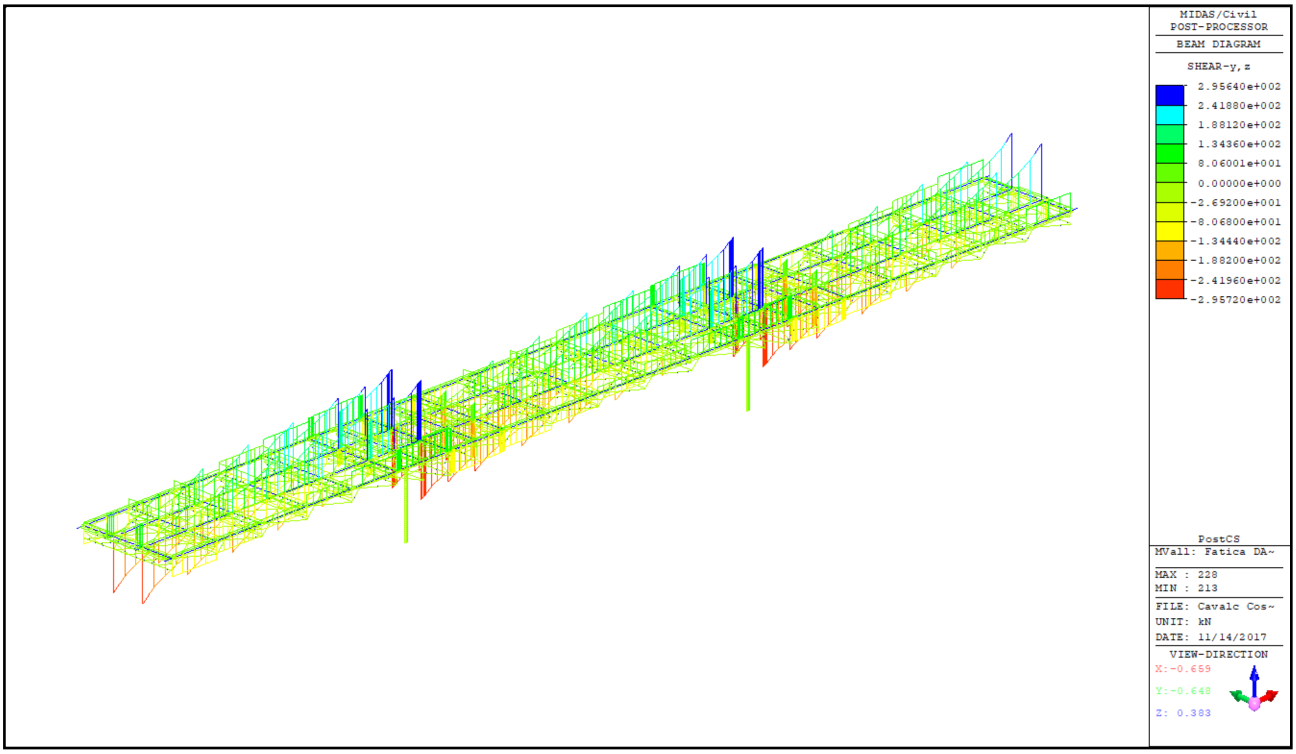
Carichi mobili fatica schema 2 (vita ill.) - Diagramma sforzi taglianti



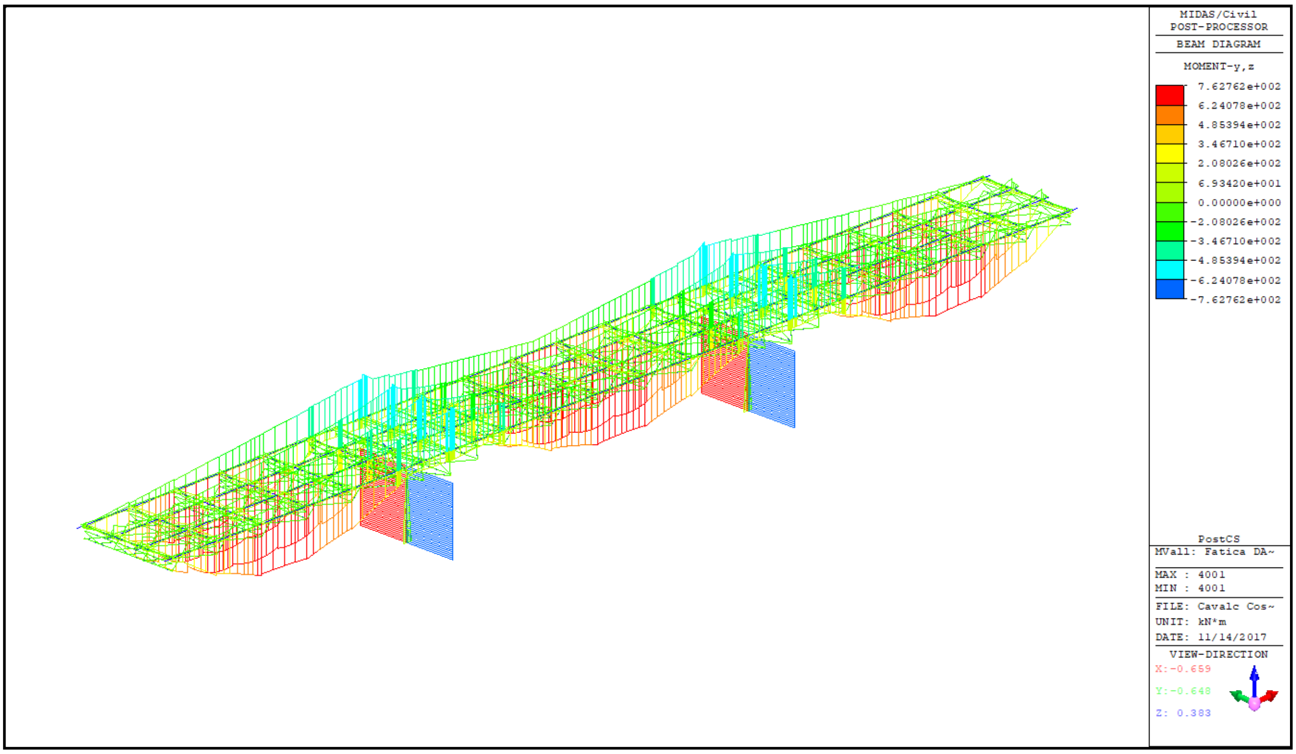
Carichi mobili fatica schema 2 (vita ill.) - Diagramma momenti flettenti



Inviluppo carichi mobili fatica schema 3 (dann.) - Diagramma sforzi assiali



Inviluppo carichi mobili fatica schema 3 (dann.) - Diagramma sforzi taglianti



Inviluppo carichi mobili fatica schema 3 (dann.) - Diagramma momenti flettenti

7 RISPOSTA SISMICA DELLA STRUTTURA

Sono stati determinati 40 modi di vibrazione con il metodo "Ritz Vectors"; i periodi determinati variano da 1.517 s a 0.0057 s; le masse eccitate risultano:

- dir. X: 98.36 %
- dir. Y: 96.91 %
- dir. Z: 96.63 %

Seguono schermate programma di calcolo.

EIGENVALUE ANALYSIS				
Mode No	Frequency (rad/sec)	Frequency (cycle/sec)	Period (sec)	Tolerance
1	4.141684	0.659169	1.517061	0.0000e+000
2	4.147372	0.660075	1.514980	0.0000e+000
3	4.552548	0.724561	1.380147	0.0000e+000
4	10.501335	1.671339	0.598323	0.0000e+000
5	15.100786	2.403365	0.416083	0.0000e+000
6	15.886037	2.528341	0.395516	0.0000e+000
7	19.046502	3.031345	0.329887	0.0000e+000
8	20.484184	3.260159	0.306733	0.0000e+000
9	20.969351	3.337376	0.299637	0.0000e+000
10	25.464820	4.052852	0.246740	0.0000e+000
11	40.266623	6.408632	0.156040	0.0000e+000
12	42.855605	6.820681	0.146613	0.0000e+000
13	46.950097	7.472340	0.133827	0.0000e+000
14	52.050809	8.284144	0.120713	0.0000e+000
15	57.142138	9.094454	0.109957	0.0000e+000
16	57.597127	9.166867	0.109089	0.0000e+000
17	61.402911	9.772577	0.102327	0.0000e+000
18	63.513330	10.108460	0.098927	0.0000e+000
19	63.776428	10.150334	0.098519	0.0000e+000
20	64.061995	10.195783	0.098080	0.0000e+000
21	71.126530	11.320139	0.088338	0.0000e+000
22	76.209149	12.129063	0.082447	0.0000e+000
23	85.226812	13.564268	0.073723	0.0000e+000
24	86.883004	13.827860	0.072318	0.0000e+000
25	90.620751	14.422740	0.069335	0.0000e+000
26	102.596331	16.328713	0.061242	0.0000e+000
27	105.190062	16.741518	0.059732	0.0000e+000
28	111.828694	17.798089	0.056186	0.0000e+000
29	117.778402	18.745015	0.053348	0.0000e+000
30	130.295025	20.737097	0.048223	0.0000e+000
31	164.179470	26.129974	0.038270	0.0000e+000
32	167.012164	26.580811	0.037621	0.0000e+000
33	180.060468	28.657514	0.034895	0.0000e+000
34	196.388404	31.256185	0.031994	0.0000e+000
35	215.635282	34.319421	0.029138	0.0000e+000
36	252.700206	40.218487	0.024864	0.0000e+000
37	473.458694	75.353291	0.013271	0.0000e+000
38	613.508881	97.642971	0.010241	0.0000e+000
39	921.890297	146.723398	0.006816	0.0000e+000
40	1096.957683	174.586238	0.005728	0.0000e+000

MODAL PARTICIPATION MASSES PRINTOUT												
Mode	TRAN-X		TRAN-Y		TRAN-Z		ROTN-X		ROTN-Y		ROTN-Z	
No	MASS(%)	SUM(%)	MASS(%)	SUM(%)	MASS(%)	SUM(%)	MASS(%)	SUM(%)	MASS(%)	SUM(%)	MASS(%)	SUM(%)
1	0.00	0.00	80.88	80.88	0.00	0.00	5.49	5.49	0.00	0.00	0.00	0.00
2	80.97	80.97	0.00	80.88	0.00	0.00	0.00	5.49	0.13	0.13	0.00	0.00
3	0.00	80.97	0.00	80.88	0.00	0.00	0.00	5.49	0.00	0.13	91.03	91.03
4	0.00	80.97	0.00	80.88	0.04	0.04	0.00	5.49	0.00	0.13	0.00	91.03
5	0.00	80.97	0.01	80.88	0.00	0.04	1.42	6.91	0.00	0.13	0.00	91.03
6	0.00	80.97	0.00	80.88	0.00	0.04	0.00	6.91	52.73	52.86	0.00	91.03
7	0.00	80.97	0.00	80.89	0.00	0.04	5.35	12.26	0.00	52.86	0.00	91.03
8	0.00	80.97	0.00	80.89	54.72	54.76	0.00	12.26	0.00	52.86	0.00	91.03
9	0.00	80.97	0.00	80.89	0.00	54.76	0.00	12.26	0.00	52.86	0.00	91.04
10	0.00	80.97	0.00	80.89	0.00	54.76	41.02	53.28	0.00	52.86	0.00	91.04
11	0.00	80.97	0.00	80.89	0.00	54.76	0.00	53.28	10.11	62.97	0.00	91.04
12	0.00	80.97	0.00	80.89	0.00	54.76	0.00	53.28	0.01	62.98	0.00	91.04
13	0.00	80.97	0.00	80.89	0.00	54.76	0.00	53.28	0.00	62.98	0.00	91.04
14	0.00	80.97	0.00	80.89	0.34	55.09	0.00	53.28	0.00	62.98	0.00	91.04
15	0.00	80.97	0.00	80.89	0.00	55.09	0.31	53.60	0.01	62.99	0.00	91.04
16	0.00	80.97	0.00	80.89	0.00	55.09	0.00	53.60	0.13	63.11	0.00	91.04
17	0.00	80.97	0.00	80.89	0.01	55.10	0.00	53.60	0.00	63.11	0.00	91.04
18	0.00	80.97	0.00	80.89	0.00	55.10	0.00	53.60	0.02	63.13	0.00	91.04
19	0.00	80.97	0.00	80.89	0.02	55.12	0.00	53.60	0.00	63.13	0.00	91.04
20	0.00	80.97	0.00	80.89	0.01	55.13	0.01	53.60	0.01	63.15	0.00	91.04
21	0.00	80.97	0.00	80.89	0.00	55.13	0.36	53.96	0.01	63.16	0.00	91.04
22	0.00	80.97	0.00	80.89	0.13	55.26	0.00	53.96	0.00	63.16	0.00	91.04
23	0.00	80.97	0.00	80.89	3.66	58.93	0.00	53.96	0.00	63.16	0.00	91.04
24	0.00	80.97	0.00	80.89	0.00	58.93	2.06	56.02	0.01	63.17	0.00	91.04
25	0.00	80.97	0.00	80.89	0.06	58.99	1.98	58.00	0.03	63.20	0.00	91.04
26	0.00	80.97	0.00	80.89	0.18	59.17	0.54	58.53	2.43	65.63	0.00	91.04
27	0.00	80.97	0.00	80.89	2.24	61.41	0.49	59.03	0.59	66.23	0.00	91.04
28	0.00	80.97	0.00	80.89	10.38	71.78	0.00	59.03	0.09	66.32	0.00	91.04
29	0.00	80.97	0.00	80.89	0.29	72.08	3.96	62.99	0.12	66.44	0.00	91.04
30	0.00	80.97	0.00	80.89	0.11	72.18	1.12	64.11	1.43	67.86	0.00	91.04
31	6.50	87.47	0.00	80.89	0.00	72.18	0.02	64.13	0.04	67.90	0.00	91.04
32	0.05	87.52	0.00	80.89	0.40	72.58	2.45	66.57	1.39	69.30	0.02	91.06
33	0.01	87.53	0.00	80.89	1.19	73.78	1.00	67.57	0.07	69.37	0.01	91.07
34	5.99	93.52	0.00	80.89	0.00	73.78	0.00	67.57	0.07	69.44	0.00	91.07
35	0.00	93.52	0.00	80.89	3.53	77.31	0.01	67.58	0.34	69.78	0.00	91.07
36	0.00	93.52	0.00	80.89	3.67	80.98	0.00	67.58	0.42	70.19	0.00	91.08
37	0.01	93.53	0.01	80.90	1.71	82.69	0.00	67.58	0.50	70.70	0.01	91.08
38	0.00	93.53	16.00	96.90	0.01	82.70	14.04	81.62	0.00	70.70	0.13	91.21
39	4.05	97.58	0.00	96.90	1.66	84.36	0.00	81.62	0.11	70.81	0.00	91.21
40	0.78	98.36	0.01	96.91	12.27	96.63	0.02	81.64	0.04	70.85	0.01	91.22

8 VERIFICA DELLE TRAVI COMPOSTE ACCIAIO/CALCESTRUZZO

Le travature principali dell'impalcato sono così composte:

- altezza travi metalliche (variabile): $h = 1000 \div 2000$ mm
- larghezza piattabanda superiore (variabile): $b_s = 500 \div 600$ mm
- larghezza piattabanda inferiore (variabile): $b_i = 600 \div 700$ mm
- spessore piattabande (variabile): $s = 30 \div 40$ mm
- spessore anima (variabile): $t = 12 \div 20$ mm
- soletta cls. collaborante: Travi centrali: b x h = 3200 x 240 mm
  Travi laterali: b x h = 3450 x 240 mm
- distanza soletta collaborante/trave: 60 mm

Nei casi in cui la soletta in cls. risulti tesa si trascura il contributo della stessa e si considera unicamente il contributo delle armature longitudinali superiori e inferiori:

- conci C4: 1 Ø 20 / 10 cm
- conci C3, C5: 1 Ø 20 / 20 cm
- altri tratti: 1 Ø 16 / 20 cm

- ricoprimento armature inferiori: 8 cm
- ricoprimento armature superiori: 5 cm

Si riporta la verifica dettagliata di una singola sezione, presa ad esempio di calcolo; seguono i tabulati delle verifiche condensate delle singole sezioni, asta per asta, eseguite secondo NTC 2008 ed EuroCodice 4-2.

Element Number : 104
Position Information : J

1 **Design Condition**

1.1 Design Parameters

- Partial factors

γ_C for concrete	1.50	γ_V for headed sutd	1.25
γ_S for reinforcing steel	1.15	γ_{Ff} for equivalent constant Amplitude stress range	1.00
γ_{M0} for structural steel	1.05	γ_{Mf} for fatigue strength	1.15
γ_{M1} for structural steel	1.10	$\gamma_{Mf,s}$ for fatigue strength of studs in shear	1.00

1.2 Material Information

- Structural steel

f_{sk} = 355.000 MPa , E_s = 210000.000 MPa

- Concrete

f_{ck} = 32.000 MPa , E_{cm} = 33000.000 MPa

- Reinforcement

f_{yk} = 450.000 MPa , E_r = 210000.000 MPa

1.3 Sectional Information

Slab

B_c	2950.000	mm	t_c	240.000	mm	H_h	60.000	mm

Girder

H_w	930.000	mm	B_1	500.000	mm	B_2	600.000	mm
t_w	15.000	mm	t_{f1}	30.000	mm	t_{f2}	40.000	mm

Before

$A_{,a}$	52950.000	mm^2
$I_{y,a}$	9738865300.992	mm^4
$I_{z,a}$	1032761562.500	mm^4
$C_{y,a}$	300.000	mm
$C_{z,a}$	421.147	mm

After

$A_{,c}$	165370.210	mm^2
$I_{y,c}$	31006989969.831	mm^4
$I_{z,c}$	82560834857.937	mm^4
$C_{y,c}$	1475.000	mm
$C_{z,c}$	937.022	mm

Crack

$A_{,c}$	58980.000	mm^2
$I_{y,c}$	12777911732.514	mm^4
$I_{z,c}$	5535258072.226	mm^4
$C_{y,c}$	1475.000	mm
$C_{z,c}$	497.197	mm

2 Bending Resistance

2.1 Positive Moment

- Design load

Load combination name : ST SLU Mobili

$N_{a,Ed}$ = -139.922 kN
$N_{c,Ed}$ = -33.949 kN
$M_{a,Ed}$ = 2654.006 kN・m
$M_{c,Ed}$ = 4677.637 kN・m

- Stress

Top Flange

Left	y_1	-250.000	mm	z_1	62.978	mm	σ_1	-169.764	MPa
	y_2	-7.500	mm	z_2	62.978	mm	σ_2	-170.086	MPa
Right	y_1	250.000	mm	z_1	62.978	mm	σ_1	-170.427	MPa
	y_2	7.500	mm	z_2	62.978	mm	σ_2	-170.106	MPa

Bottom Flange

Left	y_1	-300.000	mm	z_1	-937.022	mm	σ_1	253.677	MPa
	y_2	-7.500	mm	z_2	-937.022	mm	σ_2	253.289	MPa
Right	y_1	300.000	mm	z_1	-937.022	mm	σ_1	252.881	MPa
	y_2	7.500	mm	z_2	-937.022	mm	σ_2	253.269	MPa

Web

Right	y_1	0.000	mm	z_1	32.978	mm	σ_1	-157.394	MPa
	y_2	0.000	mm	z_2	-897.022	mm	σ_2	236.344	MPa

- Classification of sections

Part	Class
Top flange	1
Web	1
Bottom flange	1
Section	1

- Plastic resistance moment, $M_{pl,Rd}$

Plastic NA = 985.023 mm

N_{slab} = 12838.400 kN
$N_{g,top}$ = 2531.871 kN (Upper side of PNA)
$N_{g,bot}$ = 15370.271 kN (Lower side of PNA)

$M_{pl,Rd}$ = 12635.695 kN・m
x_{pl} = 314.977 mm
M_{Rd} = $\beta M_{pl,Rd}$ = 12635.695 kN・m
here, β = 1.000

M_{Rd} = 12635.695 kN・m 〉 M_{Ed} = 7331.643 kN・m ...OK

3 Resistance to Vertical Shear

- Design load

Load combination name : ST SLU Mobili

N_{Ed} = 48.061 kN

$M_{a,Ed}$ = 2654.006 kN · m

$M_{c,Ed}$ = 3482.839 kN · m

$V_{Ed,a}$ = -47.615 kN

$V_{Ed,c}$ = 581.580 kN

V_{Ed} = 533.964 kN

- Stress

Top Flange

Left	y_1	-250.000	mm	z_1	62.978	mm	σ_1	-167.523	MPa
	y_2	-7.500	mm	z_2	62.978	mm	σ_2	-167.183	MPa
Right	y_1	250.000	mm	z_1	62.978	mm	σ_1	-166.823	MPa
	y_2	7.500	mm	z_2	62.978	mm	σ_2	-167.162	MPa

Bottom Flange

Left	y_1	-300.000	mm	z_1	-937.022	mm	σ_1	217.248	MPa
	y_2	-7.500	mm	z_2	-937.022	mm	σ_2	217.658	MPa
Right	y_1	300.000	mm	z_1	-937.022	mm	σ_1	218.088	MPa
	y_2	7.500	mm	z_2	-937.022	mm	σ_2	217.679	MPa

Web

Right	y_1	0.000	mm	z_1	32.978	mm	σ_1	-155.628	MPa
	y_2	0.000	mm	z_2	-897.022	mm	σ_2	202.275	MPa

- Classification of sections

Part	Class
Top flange	1
Web	1
Bottom flange	1
Section	1

- Plastic resistance moment, $M_{pl,Rd}$

Plastic NA = 985.023 mm

N_{slab} = 12838.400 kN

$N_{g,top}$ = 2531.871 kN

$N_{g,bot}$ = 15370.271 kN

$M_{pl,Rd}$ = 12635.695 kN · m

- Calculation. $V_{bw,Rd}$

Web

$k_\tau = 5.34+4.00 \cdot (h_w/a)^2+k_{\tau st}$ = 5.478 when a/h_w = 5.376 ≥ 1

where, h_w = 930.000 mm

$2.1/t \cdot (I_{sl}/h_w)^{1/3}$ = 0.000

$k_{\tau st} = 9 \cdot (h_w/a)^2 \cdot ((I_{sl} / (t^3 \cdot h_w))^3)^{1/4} > 2.1/t \cdot (I_{sl}/h_w)^{1/3}$ = 0.000

I_{sl} = 0.000 mm^4

t = 15.000 mm

$\lambda_w = h_w / (37.4 \cdot t \cdot \varepsilon \cdot \sqrt{k_\tau}$ = 0.871

Contribution from the web

$X_w = 0.83 / \lambda_w$ = 0.953 $0.83/\eta \le \lambda_w < 1.08$

$$V_{bw,Rd} = \frac{X_w \cdot f_{yw} \cdot h_w \cdot t}{\sqrt{3} \cdot \gamma_{M1}} = 2478.296 \text{ kN}$$

V_{Rd} = 2478.296 kN

$V_{Edi} = V_{Ed}$ / Num. of Web = 533.964 kN

$\eta'_3 = V_{Edi} / V_{bw,Rd}$ = 0.215 ≤ 1.0

Contribution from the flange

$M_{f,Rd0}$ = 10338.805 kN · m

$M_{f,Rd0}$ is calculated as $M_{pl,Rd}$ but neglecting the web contribution.

$$\text{Reduction factor for } N_{Ed} = 1 - \frac{N_{Ed}}{(A_{f1}+A_{f2}) \cdot f_{yf}/\gamma_{M0}} = 1.000$$

$M_{f,Rd}$ = Reduction factor for $N_{Ed} \cdot M_{f,Rd0}$ = 10338.805 kN · m

$$V_{bf,Rd} = \frac{b_f \cdot t_f^2 \cdot f_{yf}}{c \cdot \gamma_{M1}} \left(1 - \left(\frac{M_{Ed}}{M_{f,Rd}} \right)^2 \right) = 0.000 \text{ kN}$$

where, $M_{f,Rd}$ = 10338.805 kN · m

M_{Ed} = 82307.578 kN · m (Taken as the greatest value of $(\sum\sigma_i)W$)

$$c = a \cdot \left(0.25 + \frac{1.6 \cdot b_f \cdot t_f^2 \cdot f_{yf}}{t \cdot h_w^2 \cdot f_{yw}}\right) = 1527.489$$

$V_{Edi} / (V_{bw,Rd}+V_{bf,Rd})$ = 0.215 ≤ 1.0 … OK

4 **Resistance to Lateral Torsional Buckling**

- Design load

Load combination name : ST SLU Mobili

N_{Ed} = -173.871 kN
M_{Ed} = 4677.637 kN · m
V_1 = -206.883 kN
V_2 = 128.218 kN
M_1 = 7065.803 kN · m
M_2 = 7331.643 kN · m
$M_{pl,Rd}$ = 12635.695 kN · m
$M_{el,Rd}$ = 10044.064 kN · m

- $M_{b,Rd}$ Buckling resistance moment

L = 2000.000 m
c = C_d / l = 0.000
γ = c · L^4 / (E · I) = 0.000
μ = V_2 / V_1 = 0.620
Φ = 2 · (1-M_2/M_1) / (1+μ) = 0.045
m_1 = 1+0.44 · (1+μ) · $Φ^{1.5}$+(3+2 · Φ) · γ/(350-50 · μ) = 1.007
m_2 = 1+0.44 · (1+μ) · $Φ^{1.5}$+(0.195+(0.05+μ/100) · Φ) · $γ^{0.5}$ = 1.007
m = Min(m_1, m_2) = 1.007
$α_{LT}$ = 0.490
$λ_{LT}$ = 1.103 · L/b · √(f_y/Em) · √(1+A_{wc}/(3 · A = 0.182
$Φ_{LT}$ = 0.5 · (1+$α_{LT}$ · ($λ_{LT}$ - 0.2)+$λ_{LT}^2$) = 0.512

$$X_{LT} = \frac{1}{Φ_{LT} + \sqrt{(Φ_{LT}^2 - λ_{LT}^2)}} = 1$$

M_{Rd} = 12635.695 kN · m
$M_{b,Rd}$ = X_{LT} · M_{Rd} = 12635.695 kN · m

- $N_{b,Rd}$ Buckling resistance moment

$X_{LT,N}$ = 0.996
$N_{b,Rd}$ = X_{LT} · Area · f_{yd} = 55693.514 kN

$$\text{Combined Ratio} = \frac{N_{Ed}}{N_{b,Rd}} + \frac{M_{Ed}}{M_{b,Rd}} = 0.373314224$$

5 **Resistance to Longitudinal Shear**

- Design load

Load combination name : ST SLU Mobili

$N_{c,el}$ = 6442.914 kN
$N_{c,f}$ = 12838.400 kN
M_{Ed} = 6136.844 kN · m
V_{Ed} = 581.580 kN
$M_{pl,Rd}$ = 12635.695 kN · m
$M_{el,Rd}$ = 10044.064 kN · m

- Shear resistance of a single connector

$P_{Rd,1} = 0.8 \cdot f_u \cdot \pi \cdot d^2 / 4 / \gamma_V$ = 111.478 kN
$P_{Rd,2} = 0.29 \cdot \alpha \cdot d^2 \cdot \sqrt{(f_{ck} \cdot E_{cm})} / \gamma_V$ = 117.497 kN
$P_{Rd} = \mathrm{Min}(P_{Rd,1}, P_{Rd,2})$ = 111.478 kN

where, f_u = 450.000 MPa
α = 1 for $h_{sc}/d > 4$
Num. = 3
d = 22.200 mm
h_{sc} = 175.000 mm
Space = 200.000 mm

- Verification

$v_{L,Ed} = V_{Ed} \cdot (A \cdot z / I)$ = 515.263 kN/m
$v_{L,Rd} = P_{Rd} \cdot$ Num./Space = 1672.167 kN/m
$v_{L,Ed} \leq v_{L,Rd}$ … OK

6 **Resistance to Fatigue**

- Design load

Load comb ST FATICA DANN.ACC.

M_y = 2041.722 kN · m

- Shear stress range for the connector

$\Delta\tau = F_{sc} / A_{sc}$ = 9.092 MPa
where, $F_{sc} = v_{L,Ed} \cdot$ space of stud / number of stud = 3.519 kN
A_{sc} = 387.076 mm^2

- Damage equivalent factor

$\lambda_v = \lambda_{v,1} \cdot \lambda_{v,2} \cdot \lambda_{v,3} \cdot \lambda_{v,4}$ = 1.484
where, $\lambda_{v,1}$ = 1.550
$\lambda_{v,2}$ = 1.100
$\lambda_{v,3}$ = 0.871
$\lambda_{v,4}$ = 1.000

- Equivalent constant amplitude range of shear stress related to 2 million cycles

$\Delta\tau_{E,2} = \lambda_v \cdot \Delta\tau$ = 13.495 MPa

- Verification

$\gamma_{Ff} \cdot \Delta\tau_{E,2} / (\Delta\tau_c / \gamma_{Mf,s})$ = 0.150 ≤ 1

7 **Stress Limitation**

- In the structural steel

Characteristic load combination name : ST RARA Mobili

$\sigma_{Ed,ser}$ = -184.371 MPa (Bottom-left fiber in the flange)

$\tau_{Ed,ser}$ = 7.302 MPa (Neutral axis in the web)

$\sigma_{Ed,ser} \le f_y / \gamma_{M,ser}$

-184.371 MPa ≤ 355.000 MPa … OK

$\tau_{Ed,ser} \le f_y / (\sqrt{3} \cdot \gamma_{M,ser})$

7.302 MPa ≤ 204.959 MPa … OK

$\sqrt{(\sigma_{Ed,ser}^2 + 3\tau_{Ed,ser}^2)} \le f_y / \gamma_{M,ser}$

184.805 MPa ≤ 355.000 MPa … OK

- In the concrete of the slab

Characteristic load combination name : ST RARA Mobili

$\sigma_c \le k_1 f_{ck}$

6.798 MPa ≤ 19.200 MPa … OK

- In the reinforcement

Load combination name : ST RARA Mobili

$\sigma_s \le k_3 f_{yk}$

-37.666 MPa

Rebar is under compression. No need to check.

8 **Longitudinal Shear for SLS(Serviceability limit state)**

- Shear resistance of a single connector

Load combination name : ST RARA Mobili

$P_{Rd,1} = 0.8 \cdot f_u \cdot \pi \cdot d^2 / 4 / \gamma_V$ = 111.478 kN

$P_{Rd,2} = 0.29 \cdot \alpha \cdot d^2 \cdot \sqrt{(f_{ck} \cdot E_{cm})} / \gamma_V$ = 117.497 kN

$P_{Rd} = \mathrm{Min}(P_{Rd,1}, P_{Rd,2})$ = 111.478 kN

$P_{Rd,ser} = k_s \cdot P_{Rd}$ = 66.887 kN

where, f_u = 450.000 MPa

α = 1 for $h_{sc}/d > 4$

Num. = 3

d = 22.200 mm

h_{sc} = 175.000 mm

Space = 200.000 mm

k_s = 0.600

- Verification

$v_{L,Ed} = V_{Ed} \cdot (A \cdot z / I)$ = 387.773 kN/m

$v_{L,Rd} = P_{Rd,ser} \cdot \mathrm{Num./Space}$ = 1003.300 kN/m

$v_{L,Ed} \le v_{L,Rd}$ … OK

8.1 VERIFICHE DI RESISTENZA A FLESSIONE ALLO SLU

Si riportano le verifiche allo stato limite ultimo per flessione delle sezioni composte travi-soletta.
I coefficienti parziali per SLU assunti sono i seguenti:

$\gamma_C = 1.5$ materiale calcestruzzo

$\gamma_S = 1.15$ acciaio armature soletta

$\gamma_{M0} = 1.05$ acciaio strutturale: resistenza sezioni

Seguono i tabulati di calcolo per ogni asta considerata, per le combinazioni di carichi positiva e negativa più gravose.

Dati tabulati:

Elem Property: nome delle caratteristiche geometriche dell'elemento

Elem:	numero dell'elemento
Position:	nodo iniziale (I) o finale (J) dell'elemento
Lcom:	combinazione di carico positivo o negativo più gravosa
Type:	sollecitazione (massima o minima)
Top class:	classificazione flangia superiore
Bot class:	classificazione flangia inferiore
Web class:	classificazione anima
Sect. class:	classificazione complessiva sezione
Ma,Ed:	momento di calcolo applicato alla trave in acciaio isolata
Mc,Ed:	momento di calcolo applicato alla sezione composta
Mpl,Rd:	momento resistente plastico, per sezioni di classe 1 e 2
Mel,Rd:	momento resistente elastico, per sezioni di classe 3, efficace per classe 4
M_Rd:	momento resistente effettivo della sezione

La condizione di verifica della sezione è la seguente:

Verification ratio: $$\frac{Ma,Ed + Mc,Ed}{M\_Rd} \le 1$$

Elem property	Elem number	Position [node]	Positive/ Negative	Lcom	Type	Top Class	Bot Class	Web Class	Sect. Class	Ma,Ed (kN*m)	Mc,Ed (kN*m)	Mpl,Rd (kN*m)	Mel,Rd (kN*m)	M_Rd (kN*m)	Verif. Ratio
Concio 1	101	I[719]	Neg	ST SLV Long	FX-MIN	2	3	4	4	0.00	-0.60	8011.39	6350.05	6350.05	0.000
Concio 1	101	I[719]	Pos	ST SLV Long	FX-MAX	1	1	1	1	0.00	0.60	10750.90	9086.69	10750.90	0.000
Concio 1	101	J[720]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-13.72	-343.84	8011.39	6363.77	6363.77	0.056
Concio 1	101	J[720]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	102	I[720]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-34.14	-865.38	8011.39	6384.18	6384.18	0.141
Concio 1	102	I[720]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	-34.14	232.04	10750.90	9101.69	10750.90	0.018
Concio 1	102	J[721]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	102	J[721]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1889.00	3524.43	10750.90	8256.38	10750.90	0.504
Concio 1	103	I[721]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	103	I[721]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1867.51	3235.71	10750.90	8265.83	10750.90	0.475
Concio 1	103	J[722]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	103	J[722]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2464.89	4593.24	10750.90	8003.25	10750.90	0.657
Concio 2	104	I[722]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 2	104	I[722]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2471.60	4594.21	12635.70	10122.68	12635.70	0.559
Concio 2	104	J[723]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 2	104	J[723]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2654.01	4677.64	12635.70	10044.06	12635.70	0.580
Concio 2	105	I[723]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 2	105	I[723]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2655.98	4610.79	12635.70	10043.21	12635.70	0.575
Concio 2	105	J[724]	Neg	ST SLU Mobili	MY-MIN	2	1	1	2	2261.86	-292.17	9000.58	4380.05	9000.58	0.219
Concio 2	105	J[724]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2261.86	4191.53	12635.70	10213.07	12635.70	0.511
Concio 2	106	I[724]	Neg	ST SLU Frenamento	MY-MIN	2	1	1	2	2274.09	-286.90	9000.58	4367.82	9000.58	0.221
Concio 2	106	I[724]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2274.09	4299.66	12635.70	10207.80	12635.70	0.520
Concio 2	106	J[725]	Neg	ST SLV Vert	FX-MAX	2	1	1	2	1087.20	-95.99	9000.58	5554.71	9000.58	0.110
Concio 2	106	J[725]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1467.72	3524.92	12635.70	10555.33	12635.70	0.395
Concio 3	107	I[725]	Neg	ST SLV Vert	FX-MAX	2	1	1	2	1086.79	-97.94	10249.33	6848.87	10249.33	0.096
Concio 3	107	I[725]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1467.16	3525.39	13386.70	11067.30	13386.70	0.373
Concio 3	107	J[726]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	710.53	-1609.20	10249.33	7225.13	10249.33	0.088
Concio 3	107	J[726]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	710.53	2174.40	13386.70	11425.43	13386.70	0.216
Concio 3	108	I[726]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	736.76	-1558.36	10249.33	7198.90	10249.33	0.080
Concio 3	108	I[726]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	736.76	2432.61	13386.70	11413.01	13386.70	0.237
Concio 3	108	J[727]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-1970.02	-4227.83	10249.33	8951.27	10249.33	0.605
Concio 3	108	J[727]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 3	109	I[727]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-1960.11	-4114.23	10249.33	8952.86	10249.33	0.593
Concio 3	109	I[727]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 3	109	J[728]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2286.73	-4465.04	10249.33	8775.36	10249.33	0.659
Concio 3	109	J[728]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	110	I[728]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-2283.89	-4447.79	13376.13	10750.38	10750.38	0.626
Concio 4 H=var	110	I[728]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	110	J[729]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4105.85	-6450.78	21530.83	16899.82	16899.82	0.625
Concio 4 H=var	110	J[729]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	111	I[729]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4105.32	-6423.14	21530.83	16899.90	16899.90	0.623
Concio 4 H=var	111	I[729]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	111	J[730]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6195.80	-8769.70	30530.77	23173.54	23173.54	0.646
Concio 4 H=var	111	J[730]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	112	I[730]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6195.80	-8769.70	30530.77	23173.28	23173.28	0.646
Concio 4 H=200	112	I[730]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000

Concio 4 H=200	112	J[731]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6646.06	-9402.83	30530.77	23132.45	23132.45	0.694
Concio 4 H=200	112	J[731]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	113	I[731]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6638.47	-9455.35	30530.77	23133.14	23133.14	0.696
Concio 4 H=200	113	I[731]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	113	J[732]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6215.38	-8832.54	30530.77	23171.51	23171.51	0.649
Concio 4 H=200	113	J[732]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	114	I[732]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6215.38	-8832.54	30530.77	23171.56	23171.56	0.649
Concio 4 H=var	114	I[732]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	114	J[733]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4258.59	-6516.98	21530.83	16878.64	16878.64	0.638
Concio 4 H=var	114	J[733]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	115	I[733]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4254.46	-6543.31	21530.83	16879.21	16879.21	0.640
Concio 4 H=var	115	I[733]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	115	J[734]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-2570.83	-4778.59	13376.13	10698.99	10698.99	0.687
Concio 4 H=var	115	J[734]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	116	I[734]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2574.42	-4768.78	10249.33	8556.43	10249.33	0.716
Concio 5	116	I[734]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	116	J[735]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2276.35	-4472.84	10249.33	8783.25	10249.33	0.659
Concio 5	116	J[735]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	117	I[735]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2281.02	-4549.90	10249.33	8779.70	10249.33	0.666
Concio 5	117	I[735]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	117	J[736]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	211.26	-2336.76	10249.33	7724.40	10249.33	0.207
Concio 5	117	J[736]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	211.26	1672.85	13386.70	11661.74	13386.70	0.141
Concio 5	118	I[736]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	187.77	-2357.73	10249.33	7747.89	10249.33	0.212
Concio 5	118	I[736]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	187.77	1425.22	13386.70	11672.86	13386.70	0.120
Concio 5	118	J[737]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	888.92	-1932.90	10249.33	7046.74	10249.33	0.102
Concio 5	118	J[737]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	888.92	2727.66	13386.70	11340.99	13386.70	0.270
Concio 6	119	I[737]	Neg	ST SLU Termico	MY-MIN	1	2	2	2	889.33	-1933.97	8775.51	5644.61	8775.51	0.119
Concio 6	119	I[737]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	889.33	2727.36	12181.58	10480.17	12181.58	0.297
Concio 6	119	J[738]	Neg	ST SLU Mobili	MX-MIN	2	1	2	2	1444.28	-37.50	8775.51	5089.66	8775.51	0.160
Concio 6	119	J[738]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1444.28	3158.55	12181.58	10256.59	12181.58	0.378
Concio 6	120	I[738]	Neg	ST SLU Termico	FX-MAX	2	1	2	2	1436.50	-133.37	8775.51	5097.44	8775.51	0.148
Concio 6	120	I[738]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1436.50	3069.75	12181.58	10259.73	12181.58	0.370
Concio 6	120	J[739]	Neg	ST SLU Termico	FX-MAX	2	1	2	2	1582.69	-43.54	8775.51	4951.25	8775.51	0.175
Concio 6	120	J[739]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1582.69	3602.92	12181.58	10200.83	12181.58	0.426
Concio 6	121	I[739]	Neg	ST SLU Termico	FX-MAX	2	1	2	2	1582.69	-43.54	8775.51	4951.25	8775.51	0.175
Concio 6	121	I[739]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1582.69	3602.92	12181.58	10200.83	12181.58	0.426
Concio 6	121	J[740]	Neg	ST SLU Termico	FX-MAX	2	1	2	2	1436.48	-98.81	8775.51	5097.46	8775.51	0.152
Concio 6	121	J[740]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1436.48	3069.90	12181.58	10259.73	12181.58	0.370
Concio 6	122	I[740]	Neg	ST SLU Termico	FX-MAX	2	1	2	2	1444.26	-203.32	8775.51	5089.68	8775.51	0.141
Concio 6	122	I[740]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1444.26	3158.24	12181.58	10256.60	12181.58	0.378
Concio 6	122	J[741]	Neg	ST SLU Termico	MY-MIN	1	2	2	2	889.28	-1933.87	8775.51	5644.65	8775.51	0.119
Concio 6	122	J[741]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	889.28	2726.62	12181.58	10480.19	12181.58	0.297
Concio 5	123	I[741]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	888.87	-1932.80	10249.33	7046.79	10249.33	0.102
Concio 5	123	I[741]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	888.87	2726.94	13386.70	11341.02	13386.70	0.270
Concio 5	123	J[742]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	187.70	-2357.53	10249.33	7747.96	10249.33	0.212
Concio 5	123	J[742]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	187.70	1425.42	13386.70	11672.89	13386.70	0.121
Concio 5	124	I[742]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	211.19	-2336.60	10249.33	7724.47	10249.33	0.207
Concio 5	124	I[742]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	211.19	1672.31	13386.70	11661.77	13386.70	0.141
Concio 5	124	J[743]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2281.12	-4551.05	10249.33	8779.62	10249.33	0.667
Concio 5	124	J[743]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	125	I[743]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2276.46	-4473.85	10249.33	8783.17	10249.33	0.659
Concio 5	125	I[743]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	125	J[744]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2574.53	-4769.72	10249.33	8556.34	10249.33	0.717
Concio 5	125	J[744]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	126	I[744]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-2570.94	-4779.66	13376.13	10698.97	10698.97	0.687
Concio 4 H=var	126	I[744]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	126	J[745]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4254.59	-6544.69	21530.83	16879.19	16879.19	0.640
Concio 4 H=var	126	J[745]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	127	I[745]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4258.72	-6518.32	21530.83	16878.62	16878.62	0.639
Concio 4 H=var	127	I[745]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	127	J[746]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6215.52	-8833.55	30530.77	23171.55	23171.55	0.649
Concio 4 H=var	127	J[746]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	128	I[746]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6215.52	-8833.55	30530.77	23171.50	23171.50	0.649
Concio 4 H=200	128	I[746]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	128	J[747]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6638.61	-9456.01	30530.77	23133.13	23133.13	0.696
Concio 4 H=200	128	J[747]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	129	I[747]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6646.21	-9403.83	30530.77	23132.44	23132.44	0.694
Concio 4 H=200	129	I[747]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	129	J[748]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6195.95	-8770.48	30530.77	23173.27	23173.27	0.646
Concio 4 H=200	129	J[748]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	130	I[748]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6195.95	-8770.48	30530.77	23173.53	23173.53	0.646
Concio 4 H=var	130	I[748]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	130	J[749]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4105.45	-6423.08	21530.83	16899.88	16899.88	0.623
Concio 4 H=var	130	J[749]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	131	I[749]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4105.99	-6450.716	21530.83	16899.8	16899.8	0.625
Concio 4 H=var	131	I[749]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	131	J[750]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-2284.02	-4447.55	13376.13	10750.36	10750.36	0.626
Concio 4 H=var	131	J[750]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 3	132	I[750]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2286.85	-4464.81	10249.33	8775.26	10249.33	0.659
Concio 3	132	I[750]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000

Concio 3	132	J[751]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-1960.24	-4113.88	10249.33	8952.84	10249.33	0.593
Concio 3	132	J[751]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 3	133	I[751]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-1970.14	-4227.50	10249.33	8951.25	10249.33	0.605
Concio 3	133	I[751]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 3	133	J[752]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	736.66	-1558.53	10249.33	7199.00	10249.33	0.080
Concio 3	133	J[752]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	736.66	2432.91	13386.70	11413.06	13386.70	0.237
Concio 3	134	I[752]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	710.42	-1609.51	10249.33	7225.24	10249.33	0.088
Concio 3	134	I[752]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	710.42	2174.62	13386.70	11425.48	13386.70	0.216
Concio 3	134	J[753]	Neg	ST SLV Vert	FX-MAX	2	1	1	2	1086.72	-97.76	10249.33	6848.94	10249.33	0.096
Concio 3	134	J[753]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1467.07	3525.99	13386.70	11067.35	13386.70	0.373
Concio 2	135	I[753]	Neg	ST SLV Vert	FX-MAX	2	1	1	2	1087.13	-95.80	9000.58	5554.78	9000.58	0.110
Concio 2	135	I[753]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1467.63	3525.52	12635.70	10555.37	12635.70	0.395
Concio 2	135	J[754]	Neg	ST SLU Frenamento	MY-MIN	2	1	1	2	2274.02	-287.18	9000.58	4367.90	9000.58	0.221
Concio 2	135	J[754]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2274.02	4300.66	12635.70	10207.83	12635.70	0.520
Concio 2	136	I[754]	Neg	ST SLU Mobili	MY-MIN	2	1	1	2	2261.79	-292.30	9000.58	4380.13	9000.58	0.219
Concio 2	136	I[754]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2261.79	4191.27	12635.70	10213.11	12635.70	0.511
Concio 2	136	J[755]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 2	136	J[755]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2655.93	4610.87	12635.70	10043.23	12635.70	0.575
Concio 2	137	I[755]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 2	137	I[755]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2653.95	4677.41	12635.70	10044.09	12635.70	0.580
Concio 2	137	J[756]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 2	137	J[756]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2471.56	4594.32	12635.70	10122.70	12635.70	0.559
Concio 1	138	I[756]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	138	I[756]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2464.85	4593.41	10750.90	8003.27	10750.90	0.657
Concio 1	138	J[757]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	138	J[757]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1867.48	3235.64	10750.90	8265.84	10750.90	0.475
Concio 1	139	I[757]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	139	I[757]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1888.97	3524.39	10750.90	8256.40	10750.90	0.504
Concio 1	139	J[758]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-34.14	-865.29	8011.39	6384.18	6384.18	0.141
Concio 1	139	J[758]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	-34.14	232.09	10750.90	9101.69	10750.90	0.018
Concio 1	140	I[758]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-13.72	-343.82	8011.39	6363.77	6363.77	0.056
Concio 1	140	I[758]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	140	J[759]	Neg	ST SLV Long	FX-MIN	2	3	4	4	0.00	-0.60	8011.39	6350.05	6350.05	0.000
Concio 1	140	J[759]	Pos	ST SLV Long	FX-MAX	1	1	1	1	0.00	0.60	10750.90	9086.69	10750.90	0.000
Concio 1	201	I[760]	Neg	ST SLV Long	FX-MIN	2	3	4	4	0.00	-0.53	8093.91	6479.08	6479.08	0.000
Concio 1	201	I[760]	Pos	ST SLV Long	FX-MAX	1	1	1	1	0.00	0.53	10954.92	9129.34	10954.92	0.000
Concio 1	201	J[761]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-14.93	-339.51	8093.91	6494.02	6494.02	0.055
Concio 1	201	J[761]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	202	I[761]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-41.87	-511.14	8093.91	6520.95	6520.95	0.085
Concio 1	202	I[761]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	-41.87	235.20	10954.92	9148.03	10954.92	0.018
Concio 1	202	J[762]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	202	J[762]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1882.97	3446.75	10954.92	8288.97	10954.92	0.487
Concio 1	203	I[762]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	203	I[762]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1855.06	3212.42	10954.92	8301.42	10954.92	0.463
Concio 1	203	J[763]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	203	J[763]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2459.13	4167.93	10954.92	8031.82	10954.92	0.605
Concio 2	204	I[763]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 2	204	I[763]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2468.10	4173.87	12846.08	10158.17	12846.08	0.517
Concio 2	204	J[764]	Neg	ST SLV Vert	FX-MIN	2	1	1	2	1952.64	-45.11	9113.78	4824.04	9113.78	0.209
Concio 2	204	J[764]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2636.06	4415.66	12846.08	10084.71	12846.08	0.549
Concio 2	205	I[764]	Neg	ST SLV Vert	FX-MIN	2	1	1	2	1956.15	-19.10	9113.78	4820.53	9113.78	0.213
Concio 2	205	I[764]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2640.81	4472.04	12846.08	10082.64	12846.08	0.554
Concio 2	205	J[765]	Neg	ST SLU Mobili	MY-MIN	2	1	1	2	2263.92	-160.67	9113.78	4512.76	9113.78	0.231
Concio 2	205	J[765]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2263.92	4123.20	12846.08	10247.47	12846.08	0.497
Concio 2	206	I[765]	Neg	ST SLU Mobili	MY-MIN	2	1	1	2	2276.14	-149.87	9113.78	4500.54	9113.78	0.233
Concio 2	206	I[765]	Pos	ST SLU Mobili	FZ-MAX	1	1	1	1	2276.14	4117.19	12846.08	10242.12	12846.08	0.498
Concio 2	206	J[766]	Neg	ST SLV Vert	FX-MAX	2	1	1	2	1107.75	-129.26	9113.78	5668.93	9113.78	0.107
Concio 2	206	J[766]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1495.47	3215.24	12846.08	10583.54	12846.08	0.367
Concio 3	207	I[766]	Neg	ST SLV Vert	FX-MAX	2	1	1	2	1107.16	-131.17	10397.59	7033.59	10397.59	0.094
Concio 3	207	I[766]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1494.67	3216.07	13602.15	11101.44	13602.15	0.346
Concio 3	207	J[767]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	736.26	-1547.73	10397.59	7404.49	10397.59	0.078
Concio 3	207	J[767]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	736.26	2363.29	13602.15	11465.91	13602.15	0.228
Concio 3	208	I[767]	Neg	ST SLU Mobili	MY-MIN	3	1	1	3	770.24	-1405.91	10397.59	7370.51	7370.51	0.086
Concio 3	208	I[767]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	770.24	2538.73	13602.15	11449.58	13602.15	0.243
Concio 3	208	J[768]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-1976.97	-3826.71	10397.59	8994.18	10397.59	0.558
Concio 3	208	J[768]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 3	209	I[768]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-1967.65	-3861.22	10397.59	8995.75	10397.59	0.561
Concio 3	209	I[768]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 3	209	J[769]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2306.60	-4164.77	10397.59	8938.69	10397.59	0.622
Concio 3	209	J[769]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	210	I[769]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-2303.85	-4226.25	13534.54	10825.92	10825.92	0.603
Concio 4 H=var	210	I[769]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	210	J[770]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4201.30	-5945.46	21870.53	16988.30	16988.30	0.597
Concio 4 H=var	210	J[770]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	211	I[770]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4200.62	-5961.92	21870.53	16988.40	16988.40	0.598
Concio 4 H=var	211	I[770]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	211	J[771]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6466.65	-8168.04	31054.78	23218.83	23218.83	0.630
Concio 4 H=var	211	J[771]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	212	I[771]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6466.65	-8168.04	31054.78	23218.46	23218.46	0.630
Concio 4 H=200	212	I[771]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000

Concio 4 H=200	212	J[772]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6954.85	-8673.02	31054.78	23171.96	23171.96	0.674
Concio 4 H=200	212	J[772]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	213	I[772]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6952.54	-8743.33	31054.78	23172.18	23172.18	0.677
Concio 4 H=200	213	I[772]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	213	J[773]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6492.83	-8153.85	31054.78	23215.97	23215.97	0.631
Concio 4 H=200	213	J[773]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	214	I[773]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6492.83	-8153.85	31054.78	23216.22	23216.22	0.631
Concio 4 H=var	214	I[773]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	214	J[774]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4368.80	-6100.40	21870.53	16963.53	16963.53	0.617
Concio 4 H=var	214	J[774]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	215	I[774]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4370.81	-6091.47	21870.53	16963.24	16963.24	0.617
Concio 4 H=var	215	I[774]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	215	J[775]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-2611.59	-4568.36	13534.54	10767.41	10767.41	0.667
Concio 4 H=var	215	J[775]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	216	I[775]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2614.32	-4526.73	10397.59	8705.68	10397.59	0.687
Concio 5	216	I[775]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	216	J[776]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2302.99	-4246.77	10397.59	8939.30	10397.59	0.630
Concio 5	216	J[776]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	217	I[776]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2306.95	-4217.80	10397.59	8938.63	10397.59	0.628
Concio 5	217	I[776]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	217	J[777]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	245.14	-2286.49	10397.59	7895.61	10397.59	0.196
Concio 5	217	J[777]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	245.14	1768.76	13602.15	11701.94	13602.15	0.148
Concio 5	218	I[777]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	211.50	-2291.13	10397.59	7929.25	10397.59	0.200
Concio 5	218	I[777]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	211.50	1585.71	13602.15	11718.10	13602.15	0.132
Concio 5	218	J[778]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	921.63	-1898.55	10397.59	7219.13	10397.59	0.094
Concio 5	218	J[778]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	921.63	2361.89	13602.15	11376.83	13602.15	0.241
Concio 6	219	I[778]	Neg	ST SLU Termico	MY-MIN	1	2	2	2	922.73	-1896.31	8891.06	5747.34	8891.06	0.110
Concio 6	219	I[778]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	922.73	2361.56	12388.93	10506.24	12388.93	0.265
Concio 6	219	J[779]	Neg	ST SLU Termico	FY-MIN	2	1	2	2	1460.50	-40.00	8891.06	5209.57	8891.06	0.160
Concio 6	219	J[779]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1460.50	3018.13	12388.93	10286.45	12388.93	0.362
Concio 6	220	I[779]	Neg	ST SLV Vert	FX-MAX	2	1	2	2	1074.88	-525.42	8891.06	5595.19	8891.06	0.062
Concio 6	220	I[779]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1451.08	2985.63	12388.93	10290.30	12388.93	0.358
Concio 6	220	J[780]	Neg	ST SLV Vert	FX-MAX	2	1	2	2	1192.63	-493.87	8891.06	5477.44	8891.06	0.079
Concio 6	220	J[780]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1610.05	3096.51	12388.93	10225.33	12388.93	0.380
Concio 6	221	I[780]	Neg	ST SLV Vert	FX-MAX	2	1	2	2	1192.63	-493.93	8891.06	5477.44	8891.06	0.079
Concio 6	221	I[780]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1610.05	3096.51	12388.93	10225.33	12388.93	0.380
Concio 6	221	J[781]	Neg	ST SLV Vert	FX-MAX	2	1	2	2	1074.86	-525.45	8891.06	5595.21	8891.06	0.062
Concio 6	221	J[781]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1451.06	2985.87	12388.93	10290.31	12388.93	0.358
Concio 6	222	I[781]	Neg	ST SLV Vert	FX-MAX	2	1	2	2	1081.84	-521.12	8891.06	5588.23	8891.06	0.063
Concio 6	222	I[781]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1460.48	3017.83	12388.93	10286.46	12388.93	0.361
Concio 6	222	J[782]	Neg	ST SLU Termico	MY-MIN	1	2	2	2	922.69	-1896.26	8891.06	5747.38	8891.06	0.110
Concio 6	222	J[782]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	922.69	2360.99	12388.93	10506.26	12388.93	0.265
Concio 5	223	I[782]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	921.58	-1898.50	10397.59	7219.17	10397.59	0.094
Concio 5	223	I[782]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	921.58	2361.32	13602.15	11376.85	13602.15	0.241
Concio 5	223	J[783]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	211.44	-2291.05	10397.59	7929.32	10397.59	0.200
Concio 5	223	J[783]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	211.44	1586.29	13602.15	11718.13	13602.15	0.132
Concio 5	224	I[783]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	245.08	-2286.66	10397.59	7895.67	10397.59	0.196
Concio 5	224	I[783]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	245.08	1768.55	13602.15	11701.97	13602.15	0.148
Concio 5	224	J[784]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2307.05	-4218.30	10397.59	8938.61	10397.59	0.628
Concio 5	224	J[784]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	225	I[784]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2303.10	-4247.17	10397.59	8939.28	10397.59	0.630
Concio 5	225	I[784]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	225	J[785]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2614.43	-4527.20	10397.59	8705.59	10397.59	0.687
Concio 5	225	J[785]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	226	I[785]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-2611.69	-4568.68	13534.54	10767.39	10767.39	0.667
Concio 4 H=var	226	I[785]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	226	J[786]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4370.93	-6091.84	21870.53	16963.22	16963.22	0.617
Concio 4 H=var	226	J[786]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	227	I[786]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4368.93	-6100.87	21870.53	16963.51	16963.51	0.617
Concio 4 H=var	227	I[786]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	227	J[787]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6492.99	-8154.46	31054.78	23216.21	23216.21	0.631
Concio 4 H=var	227	J[787]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	228	I[787]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6492.99	-8154.46	31054.78	23215.95	23215.95	0.631
Concio 4 H=200	228	I[787]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	228	J[788]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6952.70	-8743.74	31054.78	23172.17	23172.17	0.677
Concio 4 H=200	228	J[788]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	229	I[788]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6955.01	-8673.35	31054.78	23171.95	23171.95	0.674
Concio 4 H=200	229	I[788]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	229	J[789]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6466.81	-8168.20	31054.78	23218.45	23218.45	0.630
Concio 4 H=200	229	J[789]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	230	I[789]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6466.81	-8168.20	31054.78	23218.82	23218.82	0.630
Concio 4 H=var	230	I[789]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	230	J[790]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4200.77	-5962.43	21870.53	16988.38	16988.38	0.598
Concio 4 H=var	230	J[790]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	231	I[790]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4201.45	-5945.75	21870.53	16988.28	16988.28	0.597
Concio 4 H=var	231	I[790]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	231	J[791]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-2303.98	-4226.41	13534.54	10825.90	10825.90	0.603
Concio 4 H=var	231	J[791]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 3	232	I[791]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2306.73	-4164.86	10397.59	8938.67	10397.59	0.622
Concio 3	232	I[791]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000

Concio 3	232	J[792]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-1967.78	-3861.30	10397.59	8995.72	10397.59	0.561
Concio 3	232	J[792]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 3	233	I[792]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-1977.10	-3826.42	10397.59	8994.15	10397.59	0.558
Concio 3	233	I[792]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 3	233	J[793]	Neg	ST SLU Mobili	MY-MIN	3	1	1	3	770.14	-1405.88	10397.59	7370.61	7370.61	0.086
Concio 3	233	J[793]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	770.14	2538.74	13602.15	11449.63	13602.15	0.243
Concio 3	234	I[793]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	736.16	-1547.90	10397.59	7404.59	10397.59	0.078
Concio 3	234	I[793]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	736.16	2362.56	13602.15	11465.96	13602.15	0.228
Concio 3	234	J[794]	Neg	ST SLV Vert	FX-MAX	2	1	1	2	1107.09	-130.90	10397.59	7033.66	10397.59	0.094
Concio 3	234	J[794]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1494.58	3216.58	13602.15	11101.48	13602.15	0.346
Concio 2	235	I[794]	Neg	ST SLV Vert	FX-MAX	2	1	1	2	1107.69	-128.98	9113.78	5669.00	9113.78	0.107
Concio 2	235	I[794]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1495.38	3215.75	12846.08	10583.58	12846.08	0.367
Concio 2	235	J[795]	Neg	ST SLU Mobili	MY-MIN	2	1	1	2	2276.07	-149.97	9113.78	4500.61	9113.78	0.233
Concio 2	235	J[795]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2276.07	4103.68	12846.08	10242.15	12846.08	0.497
Concio 2	236	I[795]	Neg	ST SLU Mobili	MY-MIN	2	1	1	2	2263.84	-160.75	9113.78	4512.84	9113.78	0.231
Concio 2	236	I[795]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2263.84	4123.27	12846.08	10247.50	12846.08	0.497
Concio 2	236	J[796]	Neg	ST SLV Vert	FX-MIN	2	1	1	2	1956.12	-19.13	9113.78	4820.57	9113.78	0.213
Concio 2	236	J[796]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2640.76	4472.26	12846.08	10082.66	12846.08	0.554
Concio 2	237	I[796]	Neg	ST SLV Vert	FX-MIN	2	1	1	2	1952.60	-45.15	9113.78	4824.08	9113.78	0.209
Concio 2	237	I[796]	Pos	ST SLU Mobili	FZ-MAX	1	1	1	1	2636.01	4454.72	12846.08	10084.74	12846.08	0.552
Concio 2	237	J[797]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 2	237	J[797]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2468.06	4173.90	12846.08	10158.19	12846.08	0.517
Concio 1	238	I[797]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	238	I[797]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2459.09	4167.96	10954.92	8031.84	10954.92	0.605
Concio 1	238	J[798]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	238	J[798]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1855.04	3212.08	10954.92	8301.43	10954.92	0.463
Concio 1	239	I[798]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	239	I[798]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1882.94	3446.60	10954.92	8288.98	10954.92	0.486
Concio 1	239	J[799]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-41.87	-511.28	8093.91	6520.95	6520.95	0.085
Concio 1	239	J[799]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	-41.87	235.11	10954.92	9148.03	10954.92	0.018
Concio 1	240	I[799]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-14.93	-339.49	8093.91	6494.02	6494.02	0.055
Concio 1	240	I[799]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	240	J[800]	Neg	ST SLV Long	FX-MIN	2	3	4	4	0.00	-0.53	8093.91	6479.08	6479.08	0.000
Concio 1	240	J[800]	Pos	ST SLV Long	FX-MAX	1	1	1	1	0.00	0.53	10954.92	9129.34	10954.92	0.000
Concio 1	301	I[801]	Neg	ST SLV Long	FX-MIN	2	3	4	4	0.00	-0.53	8093.91	6479.08	6479.08	0.000
Concio 1	301	I[801]	Pos	ST SLV Long	FX-MAX	1	1	1	1	0.00	0.53	10954.92	9129.34	10954.92	0.000
Concio 1	301	J[802]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-14.93	-339.51	8093.91	6494.02	6494.02	0.055
Concio 1	301	J[802]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	302	I[802]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-41.87	-510.22	8093.91	6520.95	6520.95	0.085
Concio 1	302	I[802]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	-41.87	234.31	10954.92	9148.03	10954.92	0.018
Concio 1	302	J[803]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	302	J[803]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1882.97	3452.34	10954.92	8288.97	10954.92	0.487
Concio 1	303	I[803]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	303	I[803]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1855.06	3214.51	10954.92	8301.42	10954.92	0.463
Concio 1	303	J[804]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	303	J[804]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2459.13	4171.67	10954.92	8031.82	10954.92	0.605
Concio 2	304	I[804]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 2	304	I[804]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2468.10	4177.65	12846.08	10158.17	12846.08	0.517
Concio 2	304	J[805]	Neg	ST SLV Vert	FX-MIN	2	1	1	2	1952.64	-45.11	9113.78	4824.04	9113.78	0.209
Concio 2	304	J[805]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2636.06	4420.54	12846.08	10084.71	12846.08	0.549
Concio 2	305	I[805]	Neg	ST SLV Vert	FX-MIN	2	1	1	2	1956.15	-19.10	9113.78	4820.53	9113.78	0.213
Concio 2	305	I[805]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2640.81	4474.94	12846.08	10082.64	12846.08	0.554
Concio 2	305	J[806]	Neg	ST SLU Mobili	MY-MIN	2	1	1	2	2263.92	-163.17	9113.78	4512.76	9113.78	0.231
Concio 2	305	J[806]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2263.92	4125.71	12846.08	10247.47	12846.08	0.497
Concio 2	306	I[806]	Neg	ST SLU Mobili	MY-MIN	2	1	1	2	2276.14	-154.56	9113.78	4500.54	9113.78	0.233
Concio 2	306	I[806]	Pos	ST SLU Mobili	FZ-MAX	1	1	1	1	2276.14	4121.88	12846.08	10242.12	12846.08	0.498
Concio 2	306	J[807]	Neg	ST SLV Vert	FX-MAX	2	1	1	2	1107.75	-129.28	9113.78	5668.93	9113.78	0.107
Concio 2	306	J[807]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1495.47	3217.67	12846.08	10583.54	12846.08	0.367
Concio 3	307	I[807]	Neg	ST SLV Vert	FX-MAX	2	1	1	2	1107.16	-131.18	10397.59	7033.59	10397.59	0.094
Concio 3	307	I[807]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1494.67	3218.52	13602.15	11101.44	13602.15	0.347
Concio 3	307	J[808]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	736.26	-1548.67	10397.59	7404.49	10397.59	0.078
Concio 3	307	J[808]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	736.26	2364.22	13602.15	11465.91	13602.15	0.228
Concio 3	308	I[808]	Neg	ST SLU Vento	MY-MIN	3	1	1	3	770.24	-1388.91	10397.59	7370.51	7370.51	0.084
Concio 3	308	I[808]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	770.24	2541.45	13602.15	11449.58	13602.15	0.243
Concio 3	308	J[809]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-1976.97	-3830.21	10397.59	8994.18	10397.59	0.559
Concio 3	308	J[809]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 3	309	I[809]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-1967.65	-3864.27	10397.59	8995.75	10397.59	0.561
Concio 3	309	I[809]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 3	309	J[810]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2306.60	-4169.81	10397.59	8938.69	10397.59	0.623
Concio 3	309	J[810]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	310	I[810]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-2303.85	-4227.44	13534.54	10825.92	10825.92	0.603
Concio 4 H=var	310	I[810]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	310	J[811]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4201.30	-5954.13	21870.53	16988.30	16988.30	0.598
Concio 4 H=var	310	J[811]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	311	I[811]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4200.62	-5968.78	21870.53	16988.40	16988.40	0.599
Concio 4 H=var	311	I[811]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	311	J[812]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6466.65	-8182.83	31054.78	23218.83	23218.83	0.631
Concio 4 H=var	311	J[812]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	312	I[812]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6466.65	-8182.83	31054.78	23218.46	23218.46	0.631
Concio 4 H=200	312	I[812]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000

Concio 4 H=200	312	J[813]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6954.85	-8689.66	31054.78	23171.96	23171.96	0.675
Concio 4 H=200	312	J[813]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	313	I[813]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6952.54	-8760.11	31054.78	23172.18	23172.18	0.678
Concio 4 H=200	313	I[813]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	313	J[814]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6492.83	-8168.64	31054.78	23215.97	23215.97	0.632
Concio 4 H=200	313	J[814]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	314	I[814]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6492.83	-8168.64	31054.78	23216.22	23216.22	0.632
Concio 4 H=var	314	I[814]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	314	J[815]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4368.80	-6106.73	21870.53	16963.53	16963.53	0.618
Concio 4 H=var	314	J[815]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	315	I[815]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4370.81	-6099.76	21870.53	16963.24	16963.24	0.617
Concio 4 H=var	315	I[815]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	315	J[816]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-2611.59	-4569.02	13534.54	10767.41	10767.41	0.667
Concio 4 H=var	315	J[816]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	316	I[816]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2614.32	-4532.17	10397.59	8705.68	10397.59	0.687
Concio 5	316	I[816]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	316	J[817]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2302.99	-4249.22	10397.59	8939.30	10397.59	0.630
Concio 5	316	J[817]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	317	I[817]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2306.95	-4222.06	10397.59	8938.63	10397.59	0.628
Concio 5	317	I[817]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	317	J[818]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	245.14	-2289.72	10397.59	7895.61	10397.59	0.197
Concio 5	317	J[818]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	245.14	1771.99	13602.15	11701.94	13602.15	0.148
Concio 5	318	I[818]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	211.50	-2293.01	10397.59	7929.25	10397.59	0.200
Concio 5	318	I[818]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	211.50	1587.61	13602.15	11718.10	13602.15	0.132
Concio 5	318	J[819]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	921.63	-1901.97	10397.59	7219.13	10397.59	0.094
Concio 5	318	J[819]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	921.63	2365.31	13602.15	11376.83	13602.15	0.242
Concio 6	319	I[819]	Neg	ST SLU Termico	MY-MIN	1	2	2	2	922.73	-1899.66	8891.06	5747.34	8891.06	0.110
Concio 6	319	I[819]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	922.73	2364.91	12388.93	10506.24	12388.93	0.265
Concio 6	319	J[820]	Neg	ST SLV Vert	FX-MAX	2	1	2	2	1081.85	-521.08	8891.06	5588.22	8891.06	0.063
Concio 6	319	J[820]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1460.50	3023.42	12388.93	10286.45	12388.93	0.362
Concio 6	320	I[820]	Neg	ST SLV Vert	FX-MAX	2	1	2	2	1074.88	-525.39	8891.06	5595.19	8891.06	0.062
Concio 6	320	I[820]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1451.08	2989.13	12388.93	10290.30	12388.93	0.358
Concio 6	320	J[821]	Neg	ST SLU Termico	MZ-MIN	2	1	2	2	1610.05	-119.42	8891.06	5060.02	8891.06	0.168
Concio 6	320	J[821]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1610.05	3100.00	12388.93	10225.33	12388.93	0.380
Concio 6	321	I[821]	Neg	ST SLU Termico	MZ-MIN	2	1	2	2	1610.05	-119.42	8891.06	5060.02	8891.06	0.168
Concio 6	321	I[821]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1610.05	3100.00	12388.93	10225.33	12388.93	0.380
Concio 6	321	J[822]	Neg	ST SLV Vert	FX-MAX	2	1	2	2	1074.86	-525.42	8891.06	5595.21	8891.06	0.062
Concio 6	321	J[822]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1451.06	2989.35	12388.93	10290.31	12388.93	0.358
Concio 6	322	I[822]	Neg	ST SLU Termico	FY-MIN	2	1	2	2	1460.48	-44.85	8891.06	5209.59	8891.06	0.159
Concio 6	322	I[822]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1460.48	3023.18	12388.93	10286.46	12388.93	0.362
Concio 6	322	J[823]	Neg	ST SLU Termico	MY-MIN	1	2	2	2	922.69	-1899.63	8891.06	5747.38	8891.06	0.110
Concio 6	322	J[823]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	922.69	2364.36	12388.93	10506.26	12388.93	0.265
Concio 5	323	I[823]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	921.58	-1901.94	10397.59	7219.17	10397.59	0.094
Concio 5	323	I[823]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	921.58	2364.76	13602.15	11376.85	13602.15	0.242
Concio 5	323	J[824]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	211.44	-2292.92	10397.59	7929.32	10397.59	0.200
Concio 5	323	J[824]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	211.44	1588.16	13602.15	11718.13	13602.15	0.132
Concio 5	324	I[824]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	245.08	-2289.66	10397.59	7895.67	10397.59	0.197
Concio 5	324	I[824]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	245.08	1771.55	13602.15	11701.97	13602.15	0.148
Concio 5	324	J[825]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2307.05	-4222.68	10397.59	8938.61	10397.59	0.628
Concio 5	324	J[825]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	325	I[825]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2303.10	-4249.72	10397.59	8939.28	10397.59	0.630
Concio 5	325	I[825]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	325	J[826]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2614.43	-4532.72	10397.59	8705.59	10397.59	0.687
Concio 5	325	J[826]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	326	I[826]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-2611.69	-4569.58	13534.54	10767.39	10767.39	0.667
Concio 4 H=var	326	I[826]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	326	J[827]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4370.93	-6100.41	21870.53	16963.22	16963.22	0.617
Concio 4 H=var	326	J[827]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	327	I[827]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4368.93	-6107.56	21870.53	16963.51	16963.51	0.618
Concio 4 H=var	327	I[827]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	327	J[828]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6492.99	-8169.25	31054.78	23216.21	23216.21	0.632
Concio 4 H=var	327	J[828]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	328	I[828]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6492.99	-8169.25	31054.78	23215.95	23215.95	0.632
Concio 4 H=200	328	I[828]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	328	J[829]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6952.70	-8760.42	31054.78	23172.17	23172.17	0.678
Concio 4 H=200	328	J[829]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	329	I[829]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6955.01	-8690.07	31054.78	23171.95	23171.95	0.675
Concio 4 H=200	329	I[829]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	329	J[830]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6466.81	-8182.97	31054.78	23218.45	23218.45	0.631
Concio 4 H=200	329	J[830]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	330	I[830]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6466.81	-8182.97	31054.78	23218.82	23218.82	0.631
Concio 4 H=var	330	I[830]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	330	J[831]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4200.77	-5968.92	21870.53	16988.38	16988.38	0.599
Concio 4 H=var	330	J[831]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	331	I[831]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4201.45	-5954.13	21870.53	16988.28	16988.28	0.598
Concio 4 H=var	331	I[831]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	331	J[832]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-2303.98	-4227.36	13534.54	10825.90	10825.90	0.603
Concio 4 H=var	331	J[832]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 3	332	I[832]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2306.73	-4169.81	10397.59	8938.67	10397.59	0.623
Concio 3	332	I[832]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000

Concio 3	332	J[833]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-1967.78	-3864.25	10397.59	8995.72	10397.59	0.561
Concio 3	332	J[833]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 3	333	I[833]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-1977.10	-3829.87	10397.59	8994.15	10397.59	0.558
Concio 3	333	I[833]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 3	333	J[834]	Neg	ST SLU Vento	MY-MIN	3	1	1	3	770.14	-1389.17	10397.59	7370.61	7370.61	0.084
Concio 3	333	J[834]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	770.14	2541.69	13602.15	11449.63	13602.15	0.243
Concio 3	334	I[834]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	736.16	-1548.85	10397.59	7404.59	10397.59	0.078
Concio 3	334	I[834]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	736.16	2363.50	13602.15	11465.96	13602.15	0.228
Concio 3	334	J[835]	Neg	ST SLV Vert	FX-MAX	2	1	1	2	1107.09	-130.94	10397.59	7033.66	10397.59	0.094
Concio 3	334	J[835]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1494.58	3219.01	13602.15	11101.48	13602.15	0.347
Concio 2	335	I[835]	Neg	ST SLV Vert	FX-MAX	2	1	1	2	1107.69	-129.02	9113.78	5669.00	9113.78	0.107
Concio 2	335	I[835]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1495.38	3218.14	12846.08	10583.58	12846.08	0.367
Concio 2	335	J[836]	Neg	ST SLU Mobili	MY-MIN	2	1	1	2	2276.07	-154.58	9113.78	4500.61	9113.78	0.233
Concio 2	335	J[836]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2276.07	4108.29	12846.08	10242.15	12846.08	0.497
Concio 2	336	I[836]	Neg	ST SLU Mobili	MY-MIN	2	1	1	2	2263.84	-163.21	9113.78	4512.84	9113.78	0.230
Concio 2	336	I[836]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2263.84	4125.73	12846.08	10247.50	12846.08	0.497
Concio 2	336	J[837]	Neg	ST SLV Vert	FX-MIN	2	1	1	2	1956.12	-19.12	9113.78	4820.57	9113.78	0.213
Concio 2	336	J[837]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2640.76	4475.23	12846.08	10082.66	12846.08	0.554
Concio 2	337	I[837]	Neg	ST SLV Vert	FX-MIN	2	1	1	2	1952.60	-45.15	9113.78	4824.08	9113.78	0.209
Concio 2	337	I[837]	Pos	ST SLU Mobili	FZ-MAX	1	1	1	1	2636.01	4459.58	12846.08	10084.74	12846.08	0.552
Concio 2	337	J[838]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 2	337	J[838]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2468.06	4177.66	12846.08	10158.19	12846.08	0.517
Concio 1	338	I[838]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	338	I[838]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2459.09	4171.68	10954.92	8031.84	10954.92	0.605
Concio 1	338	J[839]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	338	J[839]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1855.04	3214.16	10954.92	8301.43	10954.92	0.463
Concio 1	339	I[839]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	339	I[839]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1882.94	3452.21	10954.92	8288.98	10954.92	0.487
Concio 1	339	J[840]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-41.87	-510.37	8093.91	6520.95	6520.95	0.085
Concio 1	339	J[840]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	-41.87	234.20	10954.92	9148.03	10954.92	0.018
Concio 1	340	I[840]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-14.93	-339.49	8093.91	6494.02	6494.02	0.055
Concio 1	340	I[840]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	340	J[841]	Neg	ST SLV Long	FX-MIN	2	3	4	4	0.00	-0.53	8093.91	6479.08	6479.08	0.000
Concio 1	340	J[841]	Pos	ST SLV Long	FX-MAX	1	1	1	1	0.00	0.53	10954.92	9129.34	10954.92	0.000
Concio 1	401	I[842]	Neg	ST SLV Long	FX-MIN	2	3	4	4	0.00	-0.60	8011.39	6350.05	6350.05	0.000
Concio 1	401	I[842]	Pos	ST SLV Long	FX-MAX	1	1	1	1	0.00	0.60	10750.90	9086.69	10750.90	0.000
Concio 1	401	J[843]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-13.72	-343.84	8011.39	6363.77	6363.77	0.056
Concio 1	401	J[843]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	402	I[843]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-34.14	-864.76	8011.39	6384.18	6384.18	0.141
Concio 1	402	I[843]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	-34.14	231.43	10750.90	9101.69	10750.90	0.018
Concio 1	402	J[844]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	402	J[844]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1889.00	3513.41	10750.90	8256.38	10750.90	0.503
Concio 1	403	I[844]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	403	I[844]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1867.51	3229.65	10750.90	8265.83	10750.90	0.474
Concio 1	403	J[845]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	403	J[845]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2464.89	4586.27	10750.90	8003.25	10750.90	0.656
Concio 2	404	I[845]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 2	404	I[845]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2471.60	4587.03	12635.70	10122.68	12635.70	0.559
Concio 2	404	J[846]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 2	404	J[846]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2654.01	4669.62	12635.70	10044.06	12635.70	0.580
Concio 2	405	I[846]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 2	405	I[846]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2655.98	4604.20	12635.70	10043.21	12635.70	0.575
Concio 2	405	J[847]	Neg	ST SLU Mobili	MY-MIN	2	1	1	2	2261.86	-286.76	9000.58	4380.05	9000.58	0.219
Concio 2	405	J[847]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2261.86	4186.12	12635.70	10213.07	12635.70	0.510
Concio 2	406	I[847]	Neg	ST SLU Frenamento	MY-MIN	2	1	1	2	2274.09	-286.90	9000.58	4367.82	9000.58	0.221
Concio 2	406	I[847]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2274.09	4292.59	12635.70	10207.80	12635.70	0.520
Concio 2	406	J[848]	Neg	ST SLV Vert	FX-MAX	2	1	1	2	1087.20	-95.97	9000.58	5554.71	9000.58	0.110
Concio 2	406	J[848]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1467.72	3520.36	12635.70	10555.33	12635.70	0.395
Concio 3	407	I[848]	Neg	ST SLV Vert	FX-MAX	2	1	1	2	1086.79	-97.92	10249.33	6848.87	10249.33	0.096
Concio 3	407	I[848]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1467.16	3520.84	13386.70	11067.30	13386.70	0.373
Concio 3	407	J[849]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	710.53	-1606.43	10249.33	7225.13	10249.33	0.087
Concio 3	407	J[849]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	710.53	2171.63	13386.70	11425.43	13386.70	0.215
Concio 3	408	I[849]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	736.76	-1550.89	10249.33	7198.90	10249.33	0.079
Concio 3	408	I[849]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	736.76	2425.20	13386.70	11413.01	13386.70	0.236
Concio 3	408	J[850]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-1970.02	-4219.45	10249.33	8951.27	10249.33	0.604
Concio 3	408	J[850]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 3	409	I[850]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-1960.11	-4110.39	10249.33	8952.86	10249.33	0.592
Concio 3	409	I[850]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 3	409	J[851]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2286.73	-4458.69	10249.33	8775.36	10249.33	0.658
Concio 3	409	J[851]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	410	I[851]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-2283.89	-4444.71	13376.13	10750.38	10750.38	0.626
Concio 4 H=var	410	I[851]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	410	J[852]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4105.85	-6440.43	21530.83	16899.82	16899.82	0.624
Concio 4 H=var	410	J[852]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	411	I[852]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4105.32	-6413.82	21530.83	16899.90	16899.90	0.622
Concio 4 H=var	411	I[852]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	411	J[853]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6195.80	-8752.34	30530.77	23173.54	23173.54	0.645
Concio 4 H=var	411	J[853]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	412	I[853]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6195.80	-8752.34	30530.77	23173.28	23173.28	0.645
Concio 4 H=200	412	I[853]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000

Concio 4 H=200	412	J[854]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6646.06	-9383.65	30530.77	23132.45	23132.45	0.693
Concio 4 H=200	412	J[854]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	413	I[854]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6638.47	-9436.20	30530.77	23133.14	23133.14	0.695
Concio 4 H=200	413	I[854]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	413	J[855]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6215.38	-8815.26	30530.77	23171.51	23171.51	0.649
Concio 4 H=200	413	J[855]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	414	I[855]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6215.38	-8815.26	30530.77	23171.56	23171.56	0.649
Concio 4 H=var	414	I[855]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	414	J[856]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4258.59	-6507.79	21530.83	16878.64	16878.64	0.638
Concio 4 H=var	414	J[856]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	415	I[856]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4254.46	-6533.22	21530.83	16879.21	16879.21	0.639
Concio 4 H=var	415	I[856]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	415	J[857]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-2570.83	-4775.47	13376.13	10698.99	10698.99	0.687
Concio 4 H=var	415	J[857]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	416	I[857]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2574.42	-4761.97	10249.33	8556.43	10249.33	0.716
Concio 5	416	I[857]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	416	J[858]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2276.35	-4468.52	10249.33	8783.25	10249.33	0.658
Concio 5	416	J[858]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	417	I[858]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2281.02	-4540.89	10249.33	8779.70	10249.33	0.666
Concio 5	417	I[858]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	417	J[859]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	211.26	-2329.74	10249.33	7724.40	10249.33	0.207
Concio 5	417	J[859]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	211.26	1665.84	13386.70	11661.74	13386.70	0.140
Concio 5	418	I[859]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	187.77	-2355.39	10249.33	7747.89	10249.33	0.211
Concio 5	418	I[859]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	187.77	1422.88	13386.70	11672.86	13386.70	0.120
Concio 5	418	J[860]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	888.92	-1929.02	10249.33	7046.74	10249.33	0.101
Concio 5	418	J[860]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	888.92	2723.78	13386.70	11340.99	13386.70	0.270
Concio 6	419	I[860]	Neg	ST SLU Termico	MY-MIN	1	2	2	2	889.33	-1930.08	8775.51	5644.61	8775.51	0.119
Concio 6	419	I[860]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	889.33	2723.46	12181.58	10480.17	12181.58	0.297
Concio 6	419	J[861]	Neg	ST SLU Termico	FX-MAX	2	1	2	2	1444.28	-209.14	8775.51	5089.66	8775.51	0.141
Concio 6	419	J[861]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1444.28	3152.72	12181.58	10256.59	12181.58	0.377
Concio 6	420	I[861]	Neg	ST SLU Termico	FX-MAX	2	1	2	2	1436.50	-137.74	8775.51	5097.44	8775.51	0.148
Concio 6	420	I[861]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1436.50	3065.38	12181.58	10259.73	12181.58	0.370
Concio 6	420	J[862]	Neg	ST SLU Termico	FX-MAX	2	1	2	2	1582.69	-47.91	8775.51	4951.25	8775.51	0.175
Concio 6	420	J[862]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1582.69	3598.55	12181.58	10200.83	12181.58	0.425
Concio 6	421	I[862]	Neg	ST SLU Termico	FX-MAX	2	1	2	2	1582.69	-47.91	8775.51	4951.25	8775.51	0.175
Concio 6	421	I[862]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1582.69	3598.55	12181.58	10200.83	12181.58	0.425
Concio 6	421	J[863]	Neg	ST SLU Termico	FX-MAX	2	1	2	2	1436.48	-103.17	8775.51	5097.46	8775.51	0.152
Concio 6	421	J[863]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1436.48	3065.54	12181.58	10259.73	12181.58	0.370
Concio 6	422	I[863]	Neg	ST SLU Mobili	MX-MIN	2	1	2	2	1444.26	-31.72	8775.51	5089.68	8775.51	0.161
Concio 6	422	I[863]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1444.26	3152.38	12181.58	10256.60	12181.58	0.377
Concio 6	422	J[864]	Neg	ST SLU Termico	MY-MIN	1	2	2	2	889.28	-1929.99	8775.51	5644.65	8775.51	0.119
Concio 6	422	J[864]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	889.28	2722.73	12181.58	10480.19	12181.58	0.297
Concio 5	423	I[864]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	888.87	-1928.93	10249.33	7046.79	10249.33	0.101
Concio 5	423	I[864]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	888.87	2723.07	13386.70	11341.02	13386.70	0.270
Concio 5	423	J[865]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	187.70	-2355.23	10249.33	7747.96	10249.33	0.211
Concio 5	423	J[865]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	187.70	1423.12	13386.70	11672.89	13386.70	0.120
Concio 5	424	I[865]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	211.19	-2329.61	10249.33	7724.47	10249.33	0.207
Concio 5	424	I[865]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	211.19	1665.32	13386.70	11661.77	13386.70	0.140
Concio 5	424	J[866]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2281.12	-4541.81	10249.33	8779.62	10249.33	0.666
Concio 5	424	J[866]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	425	I[866]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2276.46	-4469.26	10249.33	8783.17	10249.33	0.658
Concio 5	425	I[866]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 5	425	J[867]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2574.53	-4762.66	10249.33	8556.34	10249.33	0.716
Concio 5	425	J[867]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	426	I[867]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-2570.94	-4776.18	13376.13	10698.97	10698.97	0.687
Concio 4 H=var	426	I[867]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	426	J[868]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4254.59	-6534.10	21530.83	16879.19	16879.19	0.639
Concio 4 H=var	426	J[868]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	427	I[868]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4258.72	-6508.67	21530.83	16878.62	16878.62	0.638
Concio 4 H=var	427	I[868]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	427	J[869]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6215.52	-8816.10	30530.77	23171.55	23171.55	0.649
Concio 4 H=var	427	J[869]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	428	I[869]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6215.52	-8816.10	30530.77	23171.50	23171.50	0.649
Concio 4 H=200	428	I[869]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	428	J[870]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6638.61	-9436.80	30530.77	23133.13	23133.13	0.695
Concio 4 H=200	428	J[870]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	429	I[870]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6646.21	-9384.70	30530.77	23132.44	23132.44	0.693
Concio 4 H=200	429	I[870]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=200	429	J[871]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6195.95	-8753.23	30530.77	23173.27	23173.27	0.645
Concio 4 H=200	429	J[871]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	430	I[871]	Neg	ST SLU Mobili	MY-MIN	1	3	4	4	-6195.95	-8753.23	30530.77	23173.53	23173.53	0.645
Concio 4 H=var	430	I[871]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	430	J[872]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4105.45	-6414.14	21530.83	16899.88	16899.88	0.622
Concio 4 H=var	430	J[872]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	431	I[872]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-4105.99	-6440.79	21530.83	16899.80	16899.80	0.624
Concio 4 H=var	431	I[872]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 4 H=var	431	J[873]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-2284.02	-4444.82	13376.13	10750.36	10750.36	0.626
Concio 4 H=var	431	J[873]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 3	432	I[873]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-2286.85	-4458.71	10249.33	8775.26	10249.33	0.658
Concio 3	432	I[873]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000

Concio 3	432	J[874]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-1960.24	-4110.29	10249.33	8952.84	10249.33	0.592
Concio 3	432	J[874]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 3	433	I[874]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	-1970.14	-4219.38	10249.33	8951.25	10249.33	0.604
Concio 3	433	I[874]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 3	433	J[875]	Neg	ST SLU Mobili	MY-MIN	1	1	1	1	736.66	-1551.09	10249.33	7199.00	10249.33	0.079
Concio 3	433	J[875]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	736.66	2425.47	13386.70	11413.06	13386.70	0.236
Concio 3	434	I[875]	Neg	ST SLU Termico	MY-MIN	1	1	1	1	710.42	-1606.72	10249.33	7225.24	10249.33	0.087
Concio 3	434	I[875]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	710.42	2171.82	13386.70	11425.48	13386.70	0.215
Concio 3	434	J[876]	Neg	ST SLV Vert	FX-MAX	2	1	1	2	1086.72	-97.79	10249.33	6848.94	10249.33	0.096
Concio 3	434	J[876]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1467.07	3521.45	13386.70	11067.35	13386.70	0.373
Concio 2	435	I[876]	Neg	ST SLV Vert	FX-MAX	2	1	1	2	1087.13	-95.84	9000.58	5554.78	9000.58	0.110
Concio 2	435	I[876]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1467.63	3520.97	12635.70	10555.37	12635.70	0.395
Concio 2	435	J[877]	Neg	ST SLU Frenamento	MY-MIN	2	1	1	2	2274.02	-287.18	9000.58	4367.90	9000.58	0.221
Concio 2	435	J[877]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2274.02	4293.48	12635.70	10207.83	12635.70	0.520
Concio 2	436	I[877]	Neg	ST SLU Mobili	MY-MIN	2	1	1	2	2261.79	-286.92	9000.58	4380.13	9000.58	0.219
Concio 2	436	I[877]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2261.79	4185.89	12635.70	10213.11	12635.70	0.510
Concio 2	436	J[878]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 2	436	J[878]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2655.93	4604.33	12635.70	10043.23	12635.70	0.575
Concio 2	437	I[878]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 2	437	I[878]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2653.95	4669.42	12635.70	10044.09	12635.70	0.580
Concio 2	437	J[879]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 2	437	J[879]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2471.56	4587.17	12635.70	10122.70	12635.70	0.559
Concio 1	438	I[879]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	438	I[879]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	2464.85	4586.11	10750.90	8003.27	10750.90	0.656
Concio 1	438	J[880]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	438	J[880]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1867.48	3229.59	10750.90	8265.84	10750.90	0.474
Concio 1	439	I[880]	Neg	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	439	I[880]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	1888.97	3513.38	10750.90	8256.40	10750.90	0.503
Concio 1	439	J[881]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-34.14	-864.67	8011.39	6384.18	6384.18	0.141
Concio 1	439	J[881]	Pos	ST SLU Mobili	MY-MAX	1	1	1	1	-34.14	231.47	10750.90	9101.69	10750.90	0.018
Concio 1	440	I[881]	Neg	ST SLU Mobili	MY-MIN	1	3	3	3	-13.72	-343.82	8011.39	6363.77	6363.77	0.056
Concio 1	440	I[881]	Pos	-	-	-	-	-	-	-	-	-	-	-	0.000
Concio 1	440	J[882]	Neg	ST SLV Long	FX-MIN	2	3	4	4	0.00	-0.60	8011.39	6350.05	6350.05	0.000
Concio 1	440	J[882]	Pos	ST SLV Long	FX-MAX	1	1	1	1	0.00	0.60	10750.90	9086.69	10750.90	0.000

8.2 VERIFICHE DI RESISTENZA AL TAGLIO VERTICALE ALLO SLU

Si effettuano le verifiche allo stato limite ultimo per taglio verticale delle sezioni composte travi-soletta.

Seguono i tabulati di calcolo per ogni asta considerata, per le combinazione di carichi più gravose.

Dati tabulati:

Elem Property:	nome delle caratteristiche geometriche dell'elemento
Elem:	numero dell'elemento
Position:	nodo iniziale (I) o finale (J) dell'elemento
Lcom:	combinazione di carico My positivo o negativo più gravosa
Type:	sollecitazione (massima o minima)
Top class:	classificazione flangia superiore
Bot class:	classificazione flangia inferiore
Web class:	classificazione anima
Sect. class:	classificazione complessiva sezione
N_Ed:	sforzo assiale di calcolo
M_Ed:	momento di calcolo
V_Ed:	sforzo tagliante di calcolo
Vpl,Rd:	resistenza al taglio della sezione di acciaio (≥ V_Ed)
Vb,Rd:	resistenza all'instabilità per taglio dell'anima di acciaio (≥ V_Ed)

La condizione di verifica della sezione è la seguente:

Verification ratio: $$\frac{V\_Ed}{\min\left(V_{pl,Rd}, V_{b,Rd}\right)} \leq 1$$

Elem property	Elem number	Position	Lcom	Type	Top Class	Bot Class	Web Class	Sect. Class	N_Ed (kN)	M_Ed (kN*m)	V_Ed (kN)	Vpl,Rd (kN)	Vb,Rd (kN)	Verif. Ratio
Concio 1	101	I[719]	ST SLV Vert	FX-MAX	1	1	1	1	0.91	4.70	1.95	3302.77	2574.42	0.001
Concio 1	101	J[720]	ST SLU Mobili	FZ-MAX	1	3	3	3	0.00	364.81	488.88	3302.77	2574.10	0.190
Concio 1	102	I[720]	ST SLU Mobili	FZ-MIN	1	3	3	3	-176.76	545.44	-1851.81	3302.77	2573.69	0.720
Concio 1	102	J[721]	ST SLU Mobili	FZ-MIN	1	1	1	1	-112.46	104944.97	-888.31	3302.77	2478.97	0.358
Concio 1	103	I[721]	ST SLU Mobili	FZ-MIN	1	1	1	1	-168.15	105089.54	-1239.71	3302.77	2478.97	0.500
Concio 1	103	J[722]	ST SLU Mobili	FZ-MIN	1	1	1	1	-154.93	137952.75	-653.94	3302.77	2478.97	0.264
Concio 2	104	I[722]	ST SLU Mobili	FZ-MIN	1	1	1	1	-154.93	78315.91	-653.94	3267.64	2478.30	0.264
Concio 2	104	J[723]	ST SLU Mobili	FZ-MAX	1	1	1	1	48.06	82307.58	533.96	3267.64	2478.30	0.215
Concio 2	105	I[723]	ST SLU Mobili	FZ-MIN	1	1	1	1	-158.33	83443.88	-685.68	3267.64	2478.30	0.277
Concio 2	105	J[724]	ST SLU Mobili	FZ-MAX	1	1	1	1	46.70	70363.41	1047.83	3267.64	2478.30	0.423
Concio 2	106	I[724]	ST SLU Mobili	FZ-MAX	1	1	1	1	7.97	71281.84	672.79	3267.64	2478.30	0.271
Concio 2	106	J[725]	ST SLU Mobili	FZ-MAX	1	1	1	1	51.06	46711.40	1209.65	3267.64	2478.30	0.488
Concio 3	107	I[725]	ST SLU Mobili	FZ-MAX	1	1	1	1	51.06	39378.38	1209.65	4356.85	4158.81	0.291
Concio 3	107	J[726]	ST SLU Mobili	FZ-MAX	1	1	1	1	31.10	19590.25	1591.06	4356.85	4158.81	0.383
Concio 3	108	I[726]	ST SLU Mobili	FZ-MAX	1	1	1	1	8.41	20132.37	1222.11	4356.85	4158.81	0.294
Concio 3	108	J[727]	ST SLU Mobili	FZ-MAX	1	1	1	1	65.51	4955.86	2127.92	4356.85	4158.81	0.512
Concio 3	109	I[727]	ST SLU Mobili	FZ-MAX	1	1	1	1	80.54	4576.03	1793.51	4356.85	4158.81	0.431
Concio 3	109	J[728]	ST SLU Mobili	FZ-MAX	1	1	1	1	67.20	5504.77	1898.05	4356.85	4158.81	0.456
Concio 4 H=var	110	I[728]	ST SLU Mobili	FZ-MAX	1	3	3	3	-3.38	6217.04	1889.58	4310.00	4114.09	0.459
Concio 4 H=var	110	J[729]	ST SLU Mobili	FZ-MAX	1	3	3	3	86.93	11411.42	2393.14	6652.39	4857.52	0.493
Concio 4 H=var	111	I[729]	ST SLU Mobili	FZ-MAX	1	3	3	3	-3.77	11084.47	2140.77	6652.39	4868.83	0.440
Concio 4 H=var	111	J[730]	ST SLU Mobili	FZ-MAX	1	3	4	4	118.04	14680.02	2631.24	8994.79	5349.50	0.492
Concio 4 H=200	112	I[730]	ST SLU Mobili	FZ-MAX	1	3	4	4	233.81	14825.48	2630.64	8994.79	5345.38	0.492
Concio 4 H=200	112	J[731]	ST SLU Mobili	FZ-MAX	1	3	4	4	186.19	16016.71	2729.74	8994.79	5310.17	0.514
Concio 4 H=200	113	I[731]	ST SLU Mobili	FZ-MIN	1	3	4	4	8.51	17127.13	-2591.14	8994.79	5274.91	0.491
Concio 4 H=200	113	J[732]	ST SLU Mobili	FZ-MIN	1	3	4	4	44.44	15920.96	-2492.01	8994.79	5313.11	0.469
Concio 4 H=var	114	I[732]	ST SLU Mobili	FZ-MIN	1	3	4	4	-94.08	15680.40	-2495.34	8994.79	5317.85	0.469
Concio 4 H=var	114	J[733]	ST SLU Mobili	FZ-MIN	1	3	3	3	-215.31	12229.86	-2004.30	6652.39	4821.77	0.416
Concio 4 H=var	115	I[733]	ST SLU Mobili	FZ-MIN	1	3	3	3	-125.43	12676.45	-2251.32	6652.39	4806.74	0.468
Concio 4 H=var	115	J[734]	ST SLU Mobili	FZ-MIN	1	3	3	3	-219.20	7839.05	-1747.90	4310.00	4114.09	0.425
Concio 5	116	I[734]	ST SLU Mobili	FZ-MIN	1	1	1	1	-154.00	7028.10	-1752.57	4356.85	4158.81	0.421
Concio 5	116	J[735]	ST SLU Mobili	FZ-MIN	1	1	1	1	-130.82	6162.26	-1648.03	4356.85	4158.81	0.396
Concio 5	117	I[735]	ST SLU Mobili	FZ-MIN	1	1	1	1	-40.67	6596.51	-1983.83	4356.85	4158.81	0.477
Concio 5	117	J[736]	ST SLU Mobili	FZ-MIN	1	1	1	1	-106.02	5903.77	-1051.28	4356.85	4158.81	0.253
Concio 5	118	I[736]	ST SLU Mobili	FZ-MIN	1	1	1	1	-153.48	5628.67	-1431.92	4356.85	4158.81	0.344
Concio 5	118	J[737]	ST SLU Mobili	FZ-MIN	1	1	1	1	-135.09	24018.65	-999.49	4356.85	4158.81	0.240
Concio 6	119	I[737]	ST SLU Mobili	FZ-MIN	1	1	1	1	-135.09	32301.86	-999.49	2614.11	1592.23	0.628
Concio 6	119	J[738]	ST SLU Mobili	FZ-MIN	1	1	1	1	-181.35	51480.53	-489.09	2614.11	1592.23	0.307
Concio 6	120	I[738]	ST SLU Mobili	FZ-MIN	1	1	1	1	-177.42	51224.83	-871.63	2614.11	1592.23	0.547
Concio 6	120	J[739]	ST SLU Mobili	FZ-MIN	1	1	1	1	-157.97	56668.03	-380.56	2614.11	1592.23	0.239
Concio 6	121	I[739]	ST SLU Mobili	FZ-MIN	1	1	1	1	-157.97	56668.03	-380.56	2614.11	1592.23	0.239
Concio 6	121	J[740]	ST SLU Mobili	FZ-MAX	1	1	1	1	64.14	51073.72	871.45	2614.11	1592.23	0.547
Concio 6	122	I[740]	ST SLU Mobili	FZ-MAX	1	1	1	1	40.59	51392.00	489.05	2614.11	1592.23	0.307
Concio 6	122	J[741]	ST SLU Mobili	FZ-MAX	1	1	1	1	86.84	32183.33	999.36	2614.11	1592.23	0.628
Concio 5	123	I[741]	ST SLU Mobili	FZ-MAX	1	1	1	1	86.84	24079.37	999.36	4356.85	4158.81	0.240
Concio 5	123	J[742]	ST SLU Mobili	FZ-MAX	1	1	1	1	68.48	5666.04	1431.82	4356.85	4158.81	0.344
Concio 5	124	I[742]	ST SLU Mobili	FZ-MAX	1	1	1	1	62.26	6146.95	1051.25	4356.85	4158.81	0.253
Concio 5	124	J[743]	ST SLU Mobili	FZ-MAX	1	1	1	1	127.63	6041.76	1983.62	4356.85	4158.81	0.477
Concio 5	125	I[743]	ST SLU Mobili	FZ-MAX	1	1	1	1	74.71	5634.31	1647.91	4356.85	4158.81	0.396
Concio 5	125	J[744]	ST SLU Mobili	FZ-MAX	1	1	1	1	62.87	6480.81	1752.44	4356.85	4158.81	0.421
Concio 4 H=var	126	I[744]	ST SLU Mobili	FZ-MAX	1	3	3	3	13.70	7312.27	1747.76	4310.00	4114.09	0.425
Concio 4 H=var	126	J[745]	ST SLU Mobili	FZ-MAX	1	3	3	3	103.83	11997.65	2251.15	6652.39	4836.26	0.465
Concio 4 H=var	127	I[745]	ST SLU Mobili	FZ-MAX	1	3	3	3	-4.59	11636.35	2003.98	6652.39	4849.38	0.413
Concio 4 H=var	127	J[746]	ST SLU Mobili	FZ-MAX	1	3	4	4	122.95	14795.11	2494.95	8994.79	5346.25	0.467
Concio 4 H=200	128	I[746]	ST SLU Mobili	FZ-MAX	1	3	4	4	229.59	14927.83	2491.61	8994.79	5342.47	0.466
Concio 4 H=200	128	J[747]	ST SLU Mobili	FZ-MAX	1	3	4	4	185.47	16046.23	2590.74	8994.79	5309.27	0.488
Concio 4 H=200	129	I[747]	ST SLU Mobili	FZ-MIN	1	3	4	4	-2.95	17100.23	-2730.30	8994.79	5275.69	0.518
Concio 4 H=200	129	J[748]	ST SLU Mobili	FZ-MIN	1	3	4	4	33.30	15817.08	-2631.20	8994.79	5316.26	0.495
Concio 4 H=var	130	I[748]	ST SLU Mobili	FZ-MIN	1	3	4	4	-110.34	15551.10	-2631.76	8994.79	5321.32	0.495
Concio 4 H=var	130	J[749]	ST SLU Mobili	FZ-MIN	1	3	3	3	-228.73	11645.06	-2141.23	6652.39	4843.60	0.442
Concio 4 H=var	131	I[749]	ST SLU Mobili	FZ-MIN	1	3	3	3	-137.74	12057.33	-2393.41	6652.39	4830.47	0.495
Concio 4 H=var	131	J[750]	ST SLU Mobili	FZ-MIN	1	3	3	3	-235.31	6636.02	-1889.82	4310.00	4114.09	0.459
Concio 3	132	I[750]	ST SLU Mobili	FZ-MIN	1	1	1	1	-140.19	5983.16	-1898.35	4356.85	4158.81	0.456
Concio 3	132	J[751]	ST SLU Mobili	FZ-MIN	1	1	1	1	-118.87	5009.30	-1793.79	4356.85	4158.81	0.431
Concio 3	133	I[751]	ST SLU Mobili	FZ-MIN	1	1	1	1	-82.78	5443.60	-2128.28	4356.85	4158.81	0.512
Concio 3	133	J[752]	ST SLU Mobili	FZ-MIN	1	1	1	1	-139.87	20043.82	-1222.28	4356.85	4158.81	0.294
Concio 3	134	I[752]	ST SLU Mobili	FZ-MIN	1	1	1	1	-128.19	19586.18	-1591.32	4356.85	4158.81	0.383
Concio 3	134	J[753]	ST SLU Mobili	FZ-MIN	1	1	1	1	-108.20	39387.24	-1209.96	4356.85	4158.81	0.291
Concio 2	135	I[753]	ST SLU Mobili	FZ-MIN	1	1	1	1	-108.20	46789.61	-1209.96	3267.64	2478.30	0.488
Concio 2	135	J[754]	ST SLU Mobili	FZ-MIN	1	1	1	1	-151.28	71379.14	-673.02	3267.64	2478.30	0.272
Concio 2	136	I[754]	ST SLU Mobili	FZ-MIN	1	1	1	1	-133.47	70534.90	-1048.23	3267.64	2478.30	0.423
Concio 2	136	J[755]	ST SLU Mobili	FZ-MAX	1	1	1	1	21.83	83189.79	685.24	3267.64	2478.30	0.276
Concio 2	137	I[755]	ST SLU Mobili	FZ-MIN	1	1	1	1	-120.88	82491.16	-534.26	3267.64	2478.30	0.216
Concio 2	137	J[756]	ST SLU Mobili	FZ-MAX	1	1	1	1	14.00	78078.87	653.66	3267.64	2478.30	0.264

Concio 1	138	I[756]	ST SLU Mobili	FZ-MAX	1	1	1	1	14.00	137299.45	653.66	3302.77	2478.97	0.264
Concio 1	138	J[757]	ST SLU Mobili	FZ-MAX	1	1	1	1	0.82	104361.04	1239.37	3302.77	2478.97	0.500
Concio 1	139	I[757]	ST SLU Mobili	FZ-MAX	1	1	1	1	4.47	104588.72	887.94	3302.77	2478.97	0.358
Concio 1	139	J[758]	ST SLU Mobili	FZ-MAX	1	3	3	3	-59.75	490.02	1851.39	3302.77	2573.84	0.719
Concio 1	140	I[758]	ST SLU Mobili	MY-MIN	1	3	3	3	0.00	364.79	-488.88	3302.77	2574.10	0.190
Concio 1	140	J[759]	ST SLV Vert	FX-MAX	1	1	1	1	0.93	4.81	1.95	3302.77	2574.42	0.001
Concio 1	201	I[760]	ST SLV Vert	FX-MAX	1	1	1	1	0.83	6.99	1.66	3302.77	2574.42	0.001
Concio 1	201	J[761]	ST SLU Mobili	FZ-MAX	1	3	3	3	0.00	362.88	481.10	3302.77	2574.11	0.187
Concio 1	202	I[761]	ST SLU Mobili	FZ-MIN	1	3	4	4	-209.01	432.40	-1809.45	3302.77	2573.96	0.703
Concio 1	202	J[762]	ST SLU Mobili	FZ-MIN	1	1	1	1	-212.98	175385.90	-910.77	3302.77	2478.97	0.367
Concio 1	203	I[762]	ST SLU Mobili	FZ-MIN	1	1	1	1	-270.02	175882.34	-1180.90	3302.77	2478.97	0.476
Concio 1	203	J[763]	ST SLU Mobili	FZ-MIN	1	1	1	1	-239.61	230515.39	-688.84	3302.77	2478.97	0.278
Concio 2	204	I[763]	ST SLU Mobili	FZ-MIN	1	1	1	1	-239.61	100137.83	-688.84	3267.64	2478.30	0.278
Concio 2	204	J[764]	ST SLU Mobili	FZ-MAX	1	1	1	1	-95.80	105306.01	587.12	3267.64	2478.30	0.237
Concio 2	205	I[764]	ST SLU Mobili	FZ-MIN	1	1	1	1	-241.62	106026.67	-708.83	3267.64	2478.30	0.286
Concio 2	205	J[765]	ST SLU Mobili	FZ-MAX	1	1	1	1	-138.28	91358.72	1041.51	3267.64	2478.30	0.420
Concio 2	206	I[765]	ST SLU Mobili	FZ-MAX	1	1	1	1	-171.61	92061.27	768.29	3267.64	2478.30	0.310
Concio 2	206	J[766]	ST SLU Mobili	FZ-MAX	1	1	1	1	-37.40	61040.57	1196.25	3267.64	2478.30	0.483
Concio 3	207	I[766]	ST SLU Mobili	FZ-MAX	1	1	1	1	-37.40	49583.71	1196.25	4356.85	4158.81	0.288
Concio 3	207	J[767]	ST SLU Mobili	FZ-MAX	1	1	1	1	-83.84	25523.43	1519.24	4356.85	4158.81	0.365
Concio 3	208	I[767]	ST SLU Mobili	FZ-MAX	1	1	1	1	-31.00	25819.16	1253.83	4356.85	4158.81	0.301
Concio 3	208	J[768]	ST SLU Mobili	FZ-MAX	1	1	1	1	49.66	4777.25	2051.43	4356.85	4158.81	0.493
Concio 3	209	I[768]	ST SLU Mobili	FZ-MAX	1	1	1	1	-13.91	4216.90	1844.09	4356.85	4158.81	0.443
Concio 3	209	J[769]	ST SLU Mobili	FZ-MAX	1	1	1	1	26.88	5262.92	1921.44	4356.85	4158.81	0.462
Concio 4 H=var	210	I[769]	ST SLU Mobili	FZ-MAX	1	3	3	3	-16.68	6153.80	1911.52	4310.00	4114.09	0.465
Concio 4 H=var	210	J[770]	ST SLU Mobili	FZ-MAX	1	3	3	3	169.23	11616.81	2351.29	6652.39	4853.99	0.484
Concio 4 H=var	211	I[770]	ST SLU Mobili	FZ-MAX	1	3	3	3	91.83	11246.29	2256.18	6652.39	4866.87	0.464
Concio 4 H=var	211	J[771]	ST SLU Mobili	FZ-MAX	1	3	4	4	189.44	14990.67	2707.25	8994.79	5343.65	0.507
Concio 4 H=200	212	I[771]	ST SLU Mobili	FZ-MAX	1	3	3	3	309.05	17599.64	2701.29	8994.79	5263.30	0.513
Concio 4 H=200	212	J[772]	ST SLU Mobili	FZ-MAX	1	3	4	4	285.70	16425.70	2788.41	8994.79	5301.05	0.526
Concio 4 H=200	213	I[772]	ST SLU Mobili	FZ-MIN	1	3	4	4	77.71	17335.81	-2644.30	8994.79	5272.01	0.502
Concio 4 H=200	213	J[773]	ST SLU Mobili	FZ-MIN	1	3	4	4	90.94	16055.40	-2557.22	8994.79	5312.42	0.481
Concio 4 H=var	214	I[773]	ST SLU Mobili	FZ-MIN	1	3	4	4	-49.43	15854.32	-2563.54	8994.79	5317.14	0.482
Concio 4 H=var	214	J[774]	ST SLU Mobili	FZ-MIN	1	3	3	3	-143.40	12356.55	-2112.61	6652.39	4823.18	0.438
Concio 4 H=var	215	I[774]	ST SLU Mobili	FZ-MIN	1	3	3	3	-6.22	12797.51	-2211.34	6652.39	4809.98	0.460
Concio 4 H=var	215	J[775]	ST SLU Mobili	FZ-MIN	1	3	3	3	-196.96	7828.08	-1772.55	4310.00	4114.09	0.431
Concio 5	216	I[775]	ST SLU Mobili	FZ-MIN	1	1	1	1	-141.54	6802.73	-1782.46	4356.85	4158.81	0.429
Concio 5	216	J[776]	ST SLU Mobili	FZ-MIN	1	1	1	1	-172.29	5841.65	-1705.20	4356.85	4158.81	0.410
Concio 5	217	I[776]	ST SLU Mobili	FZ-MIN	1	1	1	1	11.03	6471.43	-1920.04	4356.85	4158.81	0.462
Concio 5	217	J[777]	ST SLU Mobili	FZ-MIN	1	1	1	1	-41.09	8337.48	-1131.80	4356.85	4158.81	0.272
Concio 5	218	I[777]	ST SLU Mobili	FZ-MIN	1	1	1	1	-66.69	7984.75	-1371.77	4356.85	4158.81	0.330
Concio 5	218	J[778]	ST SLU Mobili	FZ-MIN	1	1	1	1	-22.91	30558.75	-1001.01	4356.85	4158.81	0.241
Concio 6	219	I[778]	ST SLU Mobili	FZ-MIN	1	1	1	1	-22.91	44142.09	-1001.01	2614.11	1592.23	0.629
Concio 6	219	J[779]	ST SLU Mobili	FZ-MIN	1	1	1	1	-161.81	69382.37	-597.57	2614.11	1592.23	0.375
Concio 6	220	I[779]	ST SLU Mobili	FZ-MIN	1	1	1	1	-128.82	68606.78	-882.68	2614.11	1592.23	0.554
Concio 6	220	J[780]	ST SLU Mobili	FZ-MIN	1	1	1	1	-83.75	76114.53	-464.45	2614.11	1592.23	0.292
Concio 6	221	I[780]	ST SLU Mobili	FZ-MIN	1	1	1	1	-83.75	76114.53	-464.45	2614.11	1592.23	0.292
Concio 6	221	J[781]	ST SLU Mobili	FZ-MAX	1	1	1	1	-41.34	68896.90	882.52	2614.11	1592.23	0.554
Concio 6	222	I[781]	ST SLU Mobili	FZ-MAX	1	1	1	1	-75.44	69599.66	597.54	2614.11	1592.23	0.375
Concio 6	222	J[782]	ST SLU Mobili	FZ-MAX	1	1	1	1	63.45	44345.19	1000.84	2614.11	1592.23	0.629
Concio 5	223	I[782]	ST SLU Mobili	FZ-MAX	1	1	1	1	63.45	30867.76	1000.84	4356.85	4158.81	0.241
Concio 5	223	J[783]	ST SLU Mobili	FZ-MAX	1	1	1	1	19.75	8282.80	1371.63	4356.85	4158.81	0.330
Concio 5	224	I[783]	ST SLU Mobili	FZ-MAX	1	1	1	1	67.23	8625.16	1131.89	4356.85	4158.81	0.272
Concio 5	224	J[784]	ST SLU Mobili	FZ-MAX	1	1	1	1	119.40	5902.19	1919.84	4356.85	4158.81	0.462
Concio 5	225	I[784]	ST SLU Mobili	FZ-MAX	1	1	1	1	-4.84	5323.78	1704.98	4356.85	4158.81	0.410
Concio 5	225	J[785]	ST SLU Mobili	FZ-MAX	1	1	1	1	36.66	6263.05	1782.23	4356.85	4158.81	0.429
Concio 4 H=var	226	I[785]	ST SLU Mobili	FZ-MAX	1	3	3	3	-0.44	7314.71	1772.34	4310.00	4114.09	0.431
Concio 4 H=var	226	J[786]	ST SLU Mobili	FZ-MAX	1	3	3	3	185.88	12219.33	2211.19	6652.39	4832.15	0.458
Concio 4 H=var	227	I[786]	ST SLU Mobili	FZ-MAX	1	3	3	3	105.22	11829.10	2112.35	6652.39	4846.42	0.436
Concio 4 H=var	227	J[787]	ST SLU Mobili	FZ-MAX	1	3	4	4	205.71	15103.96	2563.26	8994.79	5340.43	0.480
Concio 4 H=200	228	I[787]	ST SLU Mobili	FZ-MAX	1	3	3	3	316.93	17718.63	2556.92	8994.79	5259.33	0.486
Concio 4 H=200	228	J[788]	ST SLU Mobili	FZ-MAX	1	3	4	4	295.11	16457.19	2644.01	8994.79	5300.07	0.499
Concio 4 H=200	229	I[788]	ST SLU Mobili	FZ-MIN	1	3	4	4	82.89	17294.85	-2788.77	8994.79	5273.35	0.529
Concio 4 H=200	229	J[789]	ST SLU Mobili	FZ-MIN	1	3	4	4	96.32	15929.54	-2701.65	8994.79	5316.22	0.508
Concio 4 H=var	230	I[789]	ST SLU Mobili	FZ-MIN	1	3	4	4	-51.46	15721.34	-2707.58	8994.79	5321.07	0.509
Concio 4 H=var	230	J[790]	ST SLU Mobili	FZ-MIN	1	3	3	3	-143.77	11710.53	-2256.50	6652.39	4847.21	0.466
Concio 4 H=var	231	I[790]	ST SLU Mobili	FZ-MIN	1	3	3	3	-3.17	12133.13	-2351.50	6652.39	4835.26	0.486
Concio 4 H=var	231	J[791]	ST SLU Mobili	FZ-MIN	1	3	3	3	-195.03	6596.74	-1911.79	4310.00	4114.09	0.465
Concio 3	232	I[791]	ST SLU Mobili	FZ-MIN	1	1	1	1	-131.68	5687.76	-1921.72	4356.85	4158.81	0.462
Concio 3	232	J[792]	ST SLU Mobili	FZ-MIN	1	1	1	1	-163.15	4651.69	-1844.36	4356.85	4158.81	0.443
Concio 3	233	I[792]	ST SLU Mobili	FZ-MIN	1	1	1	1	-34.68	5229.37	-2051.69	4356.85	4158.81	0.493
Concio 3	233	J[793]	ST SLU Mobili	FZ-MIN	1	1	1	1	-115.27	25616.46	-1253.97	4356.85	4158.81	0.302
Concio 3	234	I[793]	ST SLU Mobili	FZ-MIN	1	1	1	1	-155.12	25333.36	-1519.48	4356.85	4158.81	0.365
Concio 3	234	J[794]	ST SLU Mobili	FZ-MIN	1	1	1	1	-108.62	49416.43	-1196.53	4356.85	4158.81	0.288
Concio 2	235	I[794]	ST SLU Mobili	FZ-MIN	1	1	1	1	-108.62	60918.18	-1196.53	3267.64	2478.30	0.483
Concio 2	235	J[795]	ST SLU Mobili	FZ-MIN	1	1	1	1	-242.83	91973.20	-768.46	3267.64	2478.30	0.310
Concio 2	236	I[795]	ST SLU Mobili	FZ-MIN	1	1	1	1	-229.05	91351.04	-1041.81	3267.64	2478.30	0.420
Concio 2	236	J[796]	ST SLU Mobili	FZ-MAX	1	1	1	1	-150.89	105950.25	708.53	3267.64	2478.30	0.286
Concio 2	237	I[796]	ST SLU Mobili	FZ-MIN	1	1	1	1	-205.86	105420.07	-587.35	3267.64	2478.30	0.237
Concio 2	237	J[797]	ST SLU Mobili	FZ-MAX	1	1	1	1	-129.66	99976.76	688.63	3267.64	2478.30	0.278

Concio 1	238	I[797]	ST SLU Mobili	FZ-MAX	1	1	1	1	-129.66	229800.28	688.63	3302.77	2478.97	0.278
Concio 1	238	J[798]	ST SLU Mobili	FZ-MAX	1	1	1	1	-159.98	175101.61	1180.65	3302.77	2478.97	0.476
Concio 1	239	I[798]	ST SLU Mobili	FZ-MAX	1	1	1	1	-90.45	174583.44	910.56	3302.77	2478.97	0.367
Concio 1	239	J[799]	ST SLU Mobili	FZ-MAX	1	3	3	3	-86.32	312.69	1809.07	3302.77	2574.18	0.703
Concio 1	240	I[799]	ST SLU Mobili	MY-MIN	1	3	3	3	0.00	362.86	-481.10	3302.77	2574.11	0.187
Concio 1	240	J[800]	ST SLV Vert	FX-MAX	1	1	1	1	0.86	7.17	1.66	3302.77	2574.42	0.001
Concio 1	301	I[801]	ST SLV Vert	FX-MAX	1	1	1	1	0.83	6.98	1.66	3302.77	2574.42	0.001
Concio 1	301	J[802]	ST SLU Mobili	FZ-MAX	1	3	3	3	0.00	362.88	481.10	3302.77	2574.11	0.187
Concio 1	302	I[802]	ST SLU Mobili	FZ-MIN	3	3	4	4	-206.44	430.42	-1810.38	3302.77	2573.96	0.703
Concio 1	302	J[803]	ST SLU Mobili	FZ-MIN	1	1	1	1	-210.40	175357.95	-911.70	3302.77	2478.97	0.368
Concio 1	303	I[803]	ST SLU Mobili	FZ-MIN	1	1	1	1	-268.74	175869.16	-1181.45	3302.77	2478.97	0.477
Concio 1	303	J[804]	ST SLU Mobili	FZ-MIN	1	1	1	1	-238.33	230500.57	-689.39	3302.77	2478.97	0.278
Concio 2	304	I[804]	ST SLU Mobili	FZ-MIN	1	1	1	1	-238.33	100129.41	-689.39	3267.64	2478.30	0.278
Concio 2	304	J[805]	ST SLU Mobili	FZ-MAX	1	1	1	1	-97.08	105315.52	587.67	3267.64	2478.30	0.237
Concio 2	305	I[805]	ST SLU Mobili	FZ-MIN	1	1	1	1	-239.94	106017.54	-708.91	3267.64	2478.30	0.286
Concio 2	305	J[806]	ST SLU Mobili	FZ-MAX	1	1	1	1	-139.97	91367.33	1041.62	3267.64	2478.30	0.420
Concio 2	306	I[806]	ST SLU Mobili	FZ-MAX	1	1	1	1	-175.94	92081.68	769.05	3267.64	2478.30	0.310
Concio 2	306	J[807]	ST SLU Mobili	FZ-MAX	1	1	1	1	-41.73	61058.71	1197.01	3267.64	2478.30	0.483
Concio 3	307	I[807]	ST SLU Mobili	FZ-MAX	1	1	1	1	-41.73	49599.08	1197.01	4356.85	4158.81	0.288
Concio 3	307	J[808]	ST SLU Mobili	FZ-MAX	1	1	1	1	-88.17	25537.29	1520.00	4356.85	4158.81	0.365
Concio 3	308	I[808]	ST SLU Mobili	FZ-MAX	1	1	1	1	-40.72	25850.90	1255.01	4356.85	4158.81	0.302
Concio 3	308	J[809]	ST SLU Mobili	FZ-MAX	1	1	1	1	39.93	4772.01	2052.61	4356.85	4158.81	0.494
Concio 3	309	I[809]	ST SLU Mobili	FZ-MAX	1	1	1	1	-19.24	4212.90	1845.48	4356.85	4158.81	0.444
Concio 3	309	J[810]	ST SLU Mobili	FZ-MAX	1	1	1	1	21.55	5256.92	1922.83	4356.85	4158.81	0.462
Concio 4 H=var	310	I[810]	ST SLU Mobili	FZ-MAX	1	3	3	3	-21.69	6151.16	1913.87	4310.00	4114.09	0.465
Concio 4 H=var	310	J[811]	ST SLU Mobili	FZ-MAX	1	3	3	3	164.22	11606.19	2353.64	6652.39	4854.36	0.485
Concio 4 H=var	311	I[811]	ST SLU Mobili	FZ-MAX	1	3	3	3	87.74	11237.84	2259.11	6652.39	4867.16	0.464
Concio 4 H=var	311	J[812]	ST SLU Mobili	FZ-MAX	1	3	4	4	185.35	14974.30	2710.18	8994.79	5344.12	0.507
Concio 4 H=200	312	I[812]	ST SLU Mobili	FZ-MAX	1	3	3	3	304.40	17582.58	2703.17	8994.79	5263.87	0.514
Concio 4 H=200	312	J[813]	ST SLU Mobili	FZ-MAX	1	3	4	4	281.05	16407.26	2790.29	8994.79	5301.62	0.526
Concio 4 H=200	313	I[813]	ST SLU Mobili	FZ-MIN	1	3	4	4	83.00	17354.63	-2646.17	8994.79	5271.40	0.502
Concio 4 H=200	313	J[814]	ST SLU Mobili	FZ-MIN	1	3	4	4	96.22	16072.23	-2559.09	8994.79	5311.91	0.482
Concio 4 H=var	314	I[814]	ST SLU Mobili	FZ-MIN	1	3	4	4	-44.71	15875.87	-2566.52	8994.79	5316.62	0.483
Concio 4 H=var	314	J[815]	ST SLU Mobili	FZ-MIN	1	3	3	3	-138.68	12364.72	-2115.59	6652.39	4823.00	0.439
Concio 4 H=var	315	I[815]	ST SLU Mobili	FZ-MIN	1	3	3	3	0.32	12808.36	-2213.83	6652.39	4809.73	0.460
Concio 4 H=var	315	J[816]	ST SLU Mobili	FZ-MIN	1	3	3	3	-190.42	7830.63	-1775.04	4310.00	4114.09	0.431
Concio 5	316	I[816]	ST SLU Mobili	FZ-MIN	1	1	1	1	-134.66	6809.40	-1783.85	4356.85	4158.81	0.429
Concio 5	316	J[817]	ST SLU Mobili	FZ-MIN	1	1	1	1	-165.41	5845.33	-1706.59	4356.85	4158.81	0.410
Concio 5	317	I[817]	ST SLU Mobili	FZ-MIN	1	1	1	1	21.24	6477.51	-1921.24	4356.85	4158.81	0.462
Concio 5	317	J[818]	ST SLU Mobili	FZ-MIN	1	1	1	1	-30.88	8303.77	-1133.00	4356.85	4158.81	0.272
Concio 5	318	I[818]	ST SLU Mobili	FZ-MIN	1	1	1	1	-61.84	7968.40	-1372.44	4356.85	4158.81	0.330
Concio 5	318	J[819]	ST SLU Mobili	FZ-MIN	1	1	1	1	-18.07	30540.86	-1001.67	4356.85	4158.81	0.241
Concio 6	319	I[819]	ST SLU Mobili	FZ-MIN	1	1	1	1	-18.07	44118.32	-1001.67	2614.11	1592.23	0.629
Concio 6	319	J[820]	ST SLU Mobili	FZ-MIN	1	1	1	1	-156.96	69356.67	-598.23	2614.11	1592.23	0.376
Concio 6	320	I[820]	ST SLU Mobili	FZ-MIN	1	1	1	1	-125.05	68587.39	-882.69	2614.11	1592.23	0.554
Concio 6	320	J[821]	ST SLU Mobili	FZ-MIN	1	1	1	1	-79.97	76095.14	-464.45	2614.11	1592.23	0.292
Concio 6	321	I[821]	ST SLU Mobili	FZ-MIN	1	1	1	1	-79.97	76095.14	-464.45	2614.11	1592.23	0.292
Concio 6	321	J[822]	ST SLU Mobili	FZ-MAX	1	1	1	1	-45.11	68916.28	882.52	2614.11	1592.23	0.554
Concio 6	322	I[822]	ST SLU Mobili	FZ-MAX	1	1	1	1	-80.20	69625.05	598.22	2614.11	1592.23	0.376
Concio 6	322	J[823]	ST SLU Mobili	FZ-MAX	1	1	1	1	58.69	44368.61	1001.52	2614.11	1592.23	0.629
Concio 5	323	I[823]	ST SLU Mobili	FZ-MAX	1	1	1	1	58.69	30885.40	1001.52	4356.85	4158.81	0.241
Concio 5	323	J[824]	ST SLU Mobili	FZ-MAX	1	1	1	1	14.99	8298.87	1372.31	4356.85	4158.81	0.330
Concio 5	324	I[824]	ST SLU Mobili	FZ-MAX	1	1	1	1	57.34	8657.65	1133.07	4356.85	4158.81	0.272
Concio 5	324	J[825]	ST SLU Mobili	FZ-MAX	1	1	1	1	109.51	5896.05	1921.02	4356.85	4158.81	0.462
Concio 5	325	I[825]	ST SLU Mobili	FZ-MAX	1	1	1	1	-11.61	5320.03	1706.35	4356.85	4158.81	0.410
Concio 5	325	J[826]	ST SLU Mobili	FZ-MAX	1	1	1	1	29.89	6256.32	1783.61	4356.85	4158.81	0.429
Concio 4 H=var	326	I[826]	ST SLU Mobili	FZ-MAX	1	3	3	3	-6.88	7311.94	1774.81	4310.00	4114.09	0.431
Concio 4 H=var	326	J[827]	ST SLU Mobili	FZ-MAX	1	3	3	3	179.44	12208.24	2213.66	6652.39	4832.56	0.458
Concio 4 H=var	327	I[827]	ST SLU Mobili	FZ-MAX	1	3	3	3	100.65	11820.62	2115.40	6652.39	4846.72	0.436
Concio 4 H=var	327	J[828]	ST SLU Mobili	FZ-MAX	1	3	4	4	201.14	15087.41	2566.32	8994.79	5340.90	0.481
Concio 4 H=200	328	I[828]	ST SLU Mobili	FZ-MAX	1	3	3	3	311.79	17701.32	2558.88	8994.79	5259.91	0.486
Concio 4 H=200	328	J[829]	ST SLU Mobili	FZ-MAX	1	3	4	4	289.97	16438.52	2645.96	8994.79	5300.65	0.499
Concio 4 H=200	329	I[829]	ST SLU Mobili	FZ-MIN	1	3	4	4	87.67	17313.42	-2790.58	8994.79	5272.75	0.529
Concio 4 H=200	329	J[830]	ST SLU Mobili	FZ-MIN	1	3	4	4	101.10	15946.16	-2703.47	8994.79	5315.72	0.509
Concio 4 H=var	330	I[830]	ST SLU Mobili	FZ-MIN	1	3	4	4	-47.23	15742.17	-2710.46	8994.79	5320.57	0.509
Concio 4 H=var	330	J[831]	ST SLU Mobili	FZ-MIN	1	3	3	3	-139.54	11718.67	-2259.38	6652.39	4847.02	0.466
Concio 4 H=var	331	I[831]	ST SLU Mobili	FZ-MIN	1	3	3	3	1.93	12143.49	-2353.89	6652.39	4834.96	0.487
Concio 4 H=var	331	J[832]	ST SLU Mobili	FZ-MIN	1	3	3	3	-189.93	6599.17	-1914.18	4310.00	4114.09	0.465
Concio 3	332	I[832]	ST SLU Mobili	FZ-MIN	1	1	1	1	-126.25	5693.68	-1923.14	4356.85	4158.81	0.462
Concio 3	332	J[833]	ST SLU Mobili	FZ-MIN	1	1	1	1	-157.73	4655.61	-1845.78	4356.85	4158.81	0.444
Concio 3	333	I[833]	ST SLU Mobili	FZ-MIN	1	1	1	1	-24.89	5234.57	-2052.89	4356.85	4158.81	0.494
Concio 3	333	J[834]	ST SLU Mobili	FZ-MIN	1	1	1	1	-105.48	25584.31	-1255.17	4356.85	4158.81	0.302
Concio 3	334	I[834]	ST SLU Mobili	FZ-MIN	1	1	1	1	-150.68	25319.18	-1520.22	4356.85	4158.81	0.366
Concio 3	334	J[835]	ST SLU Mobili	FZ-MIN	1	1	1	1	-104.18	49400.77	-1197.27	4356.85	4158.81	0.288
Concio 2	335	I[835]	ST SLU Mobili	FZ-MIN	1	1	1	1	-104.18	60899.68	-1197.27	3267.64	2478.30	0.483
Concio 2	335	J[836]	ST SLU Mobili	FZ-MIN	1	1	1	1	-238.39	91952.48	-769.20	3267.64	2478.30	0.310
Concio 2	336	I[836]	ST SLU Mobili	FZ-MIN	1	1	1	1	-227.34	91342.34	-1041.89	3267.64	2478.30	0.420
Concio 2	336	J[837]	ST SLU Mobili	FZ-MAX	1	1	1	1	-152.61	105959.46	708.62	3267.64	2478.30	0.286
Concio 2	337	I[837]	ST SLU Mobili	FZ-MIN	1	1	1	1	-204.57	105410.54	-587.90	3267.64	2478.30	0.237
Concio 2	337	J[838]	ST SLU Mobili	FZ-MAX	1	1	1	1	-130.94	99985.20	689.18	3267.64	2478.30	0.278

Concio 1	338	I[838]	ST SLU Mobili	FZ-MAX	1	1	1	1	-130.94	229815.18	689.18	3302.77	2478.97	0.278
Concio 1	338	J[839]	ST SLU Mobili	FZ-MAX	1	1	1	1	-161.26	175114.86	1181.19	3302.77	2478.97	0.476
Concio 1	339	I[839]	ST SLU Mobili	FZ-MAX	1	1	1	1	-93.03	174611.44	911.50	3302.77	2478.97	0.368
Concio 1	339	J[840]	ST SLU Mobili	FZ-MAX	3	3	3	3	-88.90	313.92	1810.01	3302.77	2574.18	0.703
Concio 1	340	I[840]	ST SLU Mobili	MY-MIN	1	3	3	3	0.00	362.86	-481.10	3302.77	2574.11	0.187
Concio 1	340	J[841]	ST SLV Vert	FX-MAX	1	1	1	1	0.85	7.16	1.66	3302.77	2574.42	0.001
Concio 1	401	I[842]	ST SLV Vert	FX-MAX	1	1	1	1	0.91	4.69	1.96	3302.77	2574.42	0.001
Concio 1	401	J[843]	ST SLU Mobili	FZ-MAX	1	3	3	3	0.00	364.81	488.88	3302.77	2574.10	0.190
Concio 1	402	I[843]	ST SLU Mobili	FZ-MIN	3	3	3	3	-175.41	544.65	-1849.52	3302.77	2573.69	0.719
Concio 1	402	J[844]	ST SLU Mobili	FZ-MIN	1	1	1	1	-111.11	104948.56	-886.19	3302.77	2478.97	0.357
Concio 1	403	I[844]	ST SLU Mobili	FZ-MIN	1	1	1	1	-163.77	105071.70	-1239.29	3302.77	2478.97	0.500
Concio 1	403	J[845]	ST SLU Mobili	FZ-MIN	1	1	1	1	-150.55	137936.16	-653.53	3302.77	2478.97	0.264
Concio 2	404	I[845]	ST SLU Mobili	FZ-MIN	1	1	1	1	-150.55	78310.07	-653.53	3267.64	2478.30	0.264
Concio 2	404	J[846]	ST SLU Mobili	FZ-MAX	1	1	1	1	43.69	82312.58	533.55	3267.64	2478.30	0.215
Concio 2	405	I[846]	ST SLU Mobili	FZ-MIN	1	1	1	1	-153.81	83436.99	-685.32	3267.64	2478.30	0.277
Concio 2	405	J[847]	ST SLU Mobili	FZ-MAX	1	1	1	1	42.18	70371.48	1047.50	3267.64	2478.30	0.423
Concio 2	406	I[847]	ST SLU Mobili	FZ-MAX	1	1	1	1	6.60	71278.67	671.93	3267.64	2478.30	0.271
Concio 2	406	J[848]	ST SLU Mobili	FZ-MAX	1	1	1	1	49.69	46710.91	1208.79	3267.64	2478.30	0.488
Concio 3	407	I[848]	ST SLU Mobili	FZ-MAX	1	1	1	1	49.69	39377.29	1208.79	4356.85	4158.81	0.291
Concio 3	407	J[849]	ST SLU Mobili	FZ-MAX	1	1	1	1	29.73	19590.94	1590.20	4356.85	4158.81	0.382
Concio 3	408	I[849]	ST SLU Mobili	FZ-MAX	1	1	1	1	14.38	20109.83	1219.32	4356.85	4158.81	0.293
Concio 3	408	J[850]	ST SLU Mobili	FZ-MAX	1	1	1	1	71.48	4965.33	2125.13	4356.85	4158.81	0.511
Concio 3	409	I[850]	ST SLU Mobili	FZ-MAX	1	1	1	1	86.75	4581.00	1790.03	4356.85	4158.81	0.430
Concio 3	409	J[851]	ST SLU Mobili	FZ-MAX	1	1	1	1	73.41	5512.25	1894.58	4356.85	4158.81	0.456
Concio 4 H=var	410	I[851]	ST SLU Mobili	FZ-MAX	1	3	3	3	3.12	6222.00	1886.68	4310.00	4114.09	0.459
Concio 4 H=var	410	J[852]	ST SLU Mobili	FZ-MAX	1	3	3	3	93.43	11424.31	2390.24	6652.39	4857.06	0.492
Concio 4 H=var	411	I[852]	ST SLU Mobili	FZ-MAX	1	3	3	3	-9.52	11091.63	2137.60	6652.39	4868.46	0.439
Concio 4 H=var	411	J[853]	ST SLU Mobili	FZ-MAX	1	3	4	4	112.28	14695.12	2628.07	8994.79	5349.07	0.491
Concio 4 H=200	412	I[853]	ST SLU Mobili	FZ-MAX	1	3	4	4	230.18	14841.42	2627.05	8994.79	5344.93	0.492
Concio 4 H=200	412	J[854]	ST SLU Mobili	FZ-MAX	1	3	4	4	182.56	16034.45	2726.14	8994.79	5309.63	0.513
Concio 4 H=200	413	I[854]	ST SLU Mobili	FZ-MIN	1	3	4	4	10.56	17108.79	-2587.46	8994.79	5275.51	0.490
Concio 4 H=200	413	J[855]	ST SLU Mobili	FZ-MIN	1	3	4	4	46.49	15904.47	-2488.32	8994.79	5313.61	0.468
Concio 4 H=var	414	I[855]	ST SLU Mobili	FZ-MIN	1	3	4	4	-89.79	15669.05	-2492.09	8994.79	5318.31	0.469
Concio 4 H=var	414	J[856]	ST SLU Mobili	FZ-MIN	1	3	3	3	-211.03	12222.37	-2001.06	6652.39	4822.18	0.415
Concio 4 H=var	415	I[856]	ST SLU Mobili	FZ-MIN	1	3	3	3	-132.25	12663.61	-2248.51	6652.39	4807.05	0.468
Concio 4 H=var	415	J[857]	ST SLU Mobili	FZ-MIN	1	3	3	3	-226.02	7833.97	-1745.09	4310.00	4114.09	0.424
Concio 5	416	I[857]	ST SLU Mobili	FZ-MIN	1	1	1	1	-160.53	7020.12	-1749.16	4356.85	4158.81	0.421
Concio 5	416	J[858]	ST SLU Mobili	FZ-MIN	1	1	1	1	-137.36	6156.75	-1644.61	4356.85	4158.81	0.395
Concio 5	417	I[858]	ST SLU Mobili	FZ-MIN	1	1	1	1	-47.02	6586.39	-1981.18	4356.85	4158.81	0.476
Concio 5	417	J[859]	ST SLU Mobili	FZ-MIN	1	1	1	1	-112.36	5926.86	-1048.64	4356.85	4158.81	0.252
Concio 5	418	I[859]	ST SLU Mobili	FZ-MIN	1	1	1	1	-152.53	5628.61	-1431.25	4356.85	4158.81	0.344
Concio 5	418	J[860]	ST SLU Mobili	FZ-MIN	1	1	1	1	-134.15	24020.13	-998.82	4356.85	4158.81	0.240
Concio 6	419	I[860]	ST SLU Mobili	FZ-MIN	1	1	1	1	-134.15	32302.58	-998.82	2614.11	1592.23	0.627
Concio 6	419	J[861]	ST SLU Mobili	FZ-MIN	1	1	1	1	-180.40	51483.18	-488.42	2614.11	1592.23	0.307
Concio 6	420	I[861]	ST SLU Mobili	FZ-MIN	1	1	1	1	-174.95	51220.94	-871.62	2614.11	1592.23	0.547
Concio 6	420	J[862]	ST SLU Mobili	FZ-MIN	1	1	1	1	-155.51	56664.13	-380.56	2614.11	1592.23	0.239
Concio 6	421	I[862]	ST SLU Mobili	FZ-MIN	1	1	1	1	-155.51	56664.13	-380.56	2614.11	1592.23	0.239
Concio 6	421	J[863]	ST SLU Mobili	FZ-MAX	1	1	1	1	61.67	51077.62	871.45	2614.11	1592.23	0.547
Concio 6	422	I[863]	ST SLU Mobili	FZ-MAX	1	1	1	1	39.58	51389.52	488.37	2614.11	1592.23	0.307
Concio 6	422	J[864]	ST SLU Mobili	FZ-MAX	1	1	1	1	85.82	32182.84	998.68	2614.11	1592.23	0.627
Concio 5	423	I[864]	ST SLU Mobili	FZ-MAX	1	1	1	1	85.82	24078.05	998.68	4356.85	4158.81	0.240
Concio 5	423	J[865]	ST SLU Mobili	FZ-MAX	1	1	1	1	67.47	5666.30	1431.14	4356.85	4158.81	0.344
Concio 5	424	I[865]	ST SLU Mobili	FZ-MAX	1	1	1	1	68.34	6124.56	1048.55	4356.85	4158.81	0.252
Concio 5	424	J[866]	ST SLU Mobili	FZ-MAX	1	1	1	1	133.71	6052.11	1980.92	4356.85	4158.81	0.476
Concio 5	425	I[866]	ST SLU Mobili	FZ-MAX	1	1	1	1	80.98	5640.04	1644.48	4356.85	4158.81	0.395
Concio 5	425	J[867]	ST SLU Mobili	FZ-MAX	1	1	1	1	69.14	6489.01	1749.02	4356.85	4158.81	0.421
Concio 4 H=var	426	I[867]	ST SLU Mobili	FZ-MAX	1	3	3	3	20.25	7317.64	1744.92	4310.00	4114.09	0.424
Concio 4 H=var	426	J[868]	ST SLU Mobili	FZ-MAX	1	3	3	3	110.38	12010.83	2248.31	6652.39	4835.77	0.465
Concio 4 H=var	427	I[868]	ST SLU Mobili	FZ-MAX	1	3	3	3	-8.90	11644.31	2000.87	6652.39	4848.99	0.413
Concio 4 H=var	427	J[869]	ST SLU Mobili	FZ-MAX	1	3	4	4	118.64	14810.84	2491.85	8994.79	5345.80	0.466
Concio 4 H=200	428	I[869]	ST SLU Mobili	FZ-MAX	1	3	4	4	227.50	14944.44	2488.08	8994.79	5341.99	0.466
Concio 4 H=200	428	J[870]	ST SLU Mobili	FZ-MAX	1	3	4	4	183.37	16064.61	2587.21	8994.79	5308.70	0.487
Concio 4 H=200	429	I[870]	ST SLU Mobili	FZ-MIN	1	3	4	4	0.67	17085.47	-2726.55	8994.79	5276.27	0.517
Concio 4 H=200	429	J[871]	ST SLU Mobili	FZ-MIN	1	3	4	4	36.92	15801.26	-2627.45	8994.79	5316.74	0.494
Concio 4 H=var	430	I[871]	ST SLU Mobili	FZ-MIN	1	3	4	4	-104.56	15541.87	-2628.46	8994.79	5321.76	0.494
Concio 4 H=var	430	J[872]	ST SLU Mobili	FZ-MIN	1	3	3	3	-222.95	11638.36	-2137.92	6652.39	4843.99	0.441
Concio 4 H=var	431	I[872]	ST SLU Mobili	FZ-MIN	1	3	3	3	-144.50	12044.77	-2390.55	6652.39	4830.77	0.495
Concio 4 H=var	431	J[873]	ST SLU Mobili	FZ-MIN	1	3	3	3	-242.07	6631.34	-1886.96	4310.00	4114.09	0.459
Concio 3	432	I[873]	ST SLU Mobili	FZ-MIN	1	1	1	1	-146.66	5975.89	-1894.89	4356.85	4158.81	0.456
Concio 3	432	J[874]	ST SLU Mobili	FZ-MIN	1	1	1	1	-125.35	5004.53	-1790.33	4356.85	4158.81	0.430
Concio 3	433	I[874]	ST SLU Mobili	FZ-MIN	1	1	1	1	-89.03	5434.34	-2125.54	4356.85	4158.81	0.511
Concio 3	433	J[875]	ST SLU Mobili	FZ-MIN	1	1	1	1	-146.11	20067.06	-1219.55	4356.85	4158.81	0.293
Concio 3	434	I[875]	ST SLU Mobili	FZ-MIN	1	1	1	1	-126.90	19585.71	-1590.45	4356.85	4158.81	0.382
Concio 3	434	J[876]	ST SLU Mobili	FZ-MIN	1	1	1	1	-106.91	39388.52	-1209.09	4356.85	4158.81	0.291
Concio 2	435	I[876]	ST SLU Mobili	FZ-MIN	1	1	1	1	-106.91	46790.32	-1209.09	3267.64	2478.30	0.488
Concio 2	435	J[877]	ST SLU Mobili	FZ-MIN	1	1	1	1	-149.99	71382.48	-672.15	3267.64	2478.30	0.271
Concio 2	436	I[877]	ST SLU Mobili	FZ-MIN	1	1	1	1	-128.97	70526.87	-1047.89	3267.64	2478.30	0.423
Concio 2	436	J[878]	ST SLU Mobili	FZ-MAX	1	1	1	1	17.33	83196.65	684.90	3267.64	2478.30	0.276
Concio 2	437	I[878]	ST SLU Mobili	FZ-MIN	1	1	1	1	-116.52	82486.16	-533.84	3267.64	2478.30	0.215
Concio 2	437	J[879]	ST SLU Mobili	FZ-MAX	1	1	1	1	9.64	78084.71	653.24	3267.64	2478.30	0.264

Concio 1	438	I[879]	ST SLU Mobili	FZ-MAX	1	1	1	1	9.64	137316.01	653.24	3302.77	2478.97	0.264
Concio 1	438	J[880]	ST SLU Mobili	FZ-MAX	1	1	1	1	-3.55	104378.85	1238.95	3302.77	2478.97	0.500
Concio 1	439	I[880]	ST SLU Mobili	FZ-MAX	1	1	1	1	3.11	104585.12	885.66	3302.77	2478.97	0.357
Concio 1	439	J[881]	ST SLU Mobili	FZ-MAX	1	3	3	3	-61.11	490.81	1849.11	3302.77	2573.84	0.718
Concio 1	440	I[881]	ST SLU Mobili	MY-MIN	1	3	3	3	0.00	364.79	-488.88	3302.77	2574.10	0.190
Concio 1	440	J[882]	ST SLV Vert	FX-MAX	1	1	1	1	0.93	4.79	1.96	3302.77	2574.42	0.001

8.3 VERIFICHE ALL'INSTABILITÀ FLESSO-TORSIONALE DELL'ANIMA

Si effettuano le verifiche allo stato limite ultimo per instabilità flesso-torsionale delle sezioni composte travi-soletta secondo lo schema ad U invertita (Circ. 02/02/2009, C4.3.4.4).

I coefficienti parziali per SLU assunti sono i seguenti:

$\gamma_{M1} = 1.10$ acciaio strutturale: resistenza all'instabilità (ponti)

Seguono i tabulati di calcolo per ogni asta considerata, per le combinazioni di carichi più gravose.

Dati tabulati:

Elem Property: nome delle caratteristiche geometriche dell'elemento
Elem: numero dell'elemento
Position: nodo iniziale (I) o finale (J) dell'elemento
Lcom: combinazione di carico positivo o negativo più gravosa
Type: sollecitazione (massima o minima)
Sect. class: classificazione complessiva sezione
N_Ed: sforzo assiale di calcolo
M_Ed: momento di calcolo
Nb,Rd: sforzo assiale resistente all'instabilità del corrente compresso
Mb,Rd: momento resistente all'instabilità
Mcr: momento critico

Interaction ratio: condizione di verifica: $\frac{N\_Ed}{Nb,Rd} + \frac{M\_Ed}{Mb,Rd} \leq 1$

Elem property	Elem number	Position	Lcom	Type	Sect. Class	N_Ed (kN)	M_Ed (kN*m)	Nb,Rd (kN)	Mb,Rd (kN*m)	Mcr (kN*m)	Interaction Ratio
Concio 1	101	I[719]	ST SLV Long	FX-MIN	4	-1.90	-0.60	17963.00	6350.05	109.96	0.000
Concio 1	101	J[720]	ST SLU Mobili	MY-MIN	3	0.00	-343.84	17963.00	6363.77	112.41	0.054
Concio 1	102	I[720]	ST SLU Mobili	MY-MIN	3	-231.67	-865.38	15885.38	6132.56	25.55	0.156
Concio 1	102	J[721]	ST SLU Mobili	MY-MAX	1	-65.22	3524.43	46848.01	10054.75	45.54	0.352
Concio 1	103	I[721]	ST SLU Mobili	MY-MAX	1	-221.28	3235.71	51956.43	10463.93	46.70	0.314
Concio 1	103	J[722]	ST SLU Mobili	MY-MAX	1	-162.48	4593.24	51956.43	10463.93	46.70	0.442
Concio 2	104	I[722]	ST SLU Mobili	MY-MAX	1	-162.48	4594.21	55693.51	12635.70	86.73	0.367
Concio 2	104	J[723]	ST SLU Mobili	MY-MAX	1	-173.87	4677.64	55693.51	12635.70	86.73	0.373
Concio 2	105	I[723]	ST SLU Mobili	MY-MAX	1	-216.89	4610.79	46533.18	11019.82	38.64	0.423
Concio 2	105	J[724]	ST SLU Mobili	MY-MAX	1	-237.77	4191.53	46533.18	11019.82	38.64	0.386
Concio 2	106	I[724]	ST SLU Mobili	MY-MAX	1	-179.58	4299.66	52741.05	12258.24	65.60	0.354
Concio 2	106	J[725]	ST SLU Mobili	MY-MAX	1	-134.81	3524.92	52741.05	12258.24	65.60	0.290
Concio 3	107	I[725]	ST SLU Mobili	MY-MAX	1	-134.81	3525.39	57024.39	13386.70	115.43	0.266
Concio 3	107	J[726]	ST SLU Mobili	MY-MAX	1	-146.73	2174.40	57024.39	13386.70	115.43	0.165
Concio 3	108	I[726]	ST SLU Mobili	MY-MAX	1	57.11	2432.61	47184.76	12485.79	116.45	0.196
Concio 3	108	J[727]	ST SLU Mobili	MY-MIN	1	-60.10	-4227.83	20044.03	9733.87	31.08	0.437
Concio 3	109	I[727]	ST SLU Mobili	MY-MIN	1	-48.75	-4114.23	22659.14	10249.33	169.81	0.404
Concio 3	109	J[728]	ST SLU Mobili	MY-MIN	1	-48.65	-4465.04	22659.14	10249.33	169.81	0.438
Concio 4 H=var	110	I[728]	ST SLU Mobili	MY-MIN	3	-178.80	-4447.79	29959.30	10750.38	78.45	0.420
Concio 4 H=var	110	J[729]	ST SLU Mobili	MY-MIN	3	-196.18	-6450.78	33340.25	16899.82	78.34	0.388
Concio 4 H=var	111	I[729]	ST SLU Mobili	MY-MIN	3	-196.83	-6423.14	33340.25	16899.90	75.35	0.386
Concio 4 H=var	111	J[730]	ST SLU Mobili	MY-MIN	4	-234.69	-8769.70	36721.20	23173.54	76.04	0.385
Concio 4 H=200	112	I[730]	ST SLU Mobili	MY-MIN	4	-30.87	-8769.70	36721.20	23173.28	330.95	0.379
Concio 4 H=200	112	J[731]	ST SLU Mobili	MY-MIN	4	-32.89	-9402.83	36721.20	23132.45	330.95	0.407
Concio 4 H=200	113	I[731]	ST SLU Mobili	MY-MIN	4	-14.70	-9455.35	36721.20	23133.14	330.49	0.409
Concio 4 H=200	113	J[732]	ST SLU Mobili	MY-MIN	4	-17.06	-8832.54	36721.20	23171.51	330.49	0.382
Concio 4 H=var	114	I[732]	ST SLU Mobili	MY-MIN	4	-213.03	-8832.54	36721.20	23171.56	75.47	0.387
Concio 4 H=var	114	J[733]	ST SLU Mobili	MY-MIN	3	-146.09	-6516.98	33340.25	16878.64	74.78	0.391
Concio 4 H=var	115	I[733]	ST SLU Mobili	MY-MIN	3	-141.57	-6543.31	33340.25	16879.21	76.39	0.392

Concio 4 H=var	115	J[734]	ST SLU Mobili	MY-MIN	3	-124.02	-4778.59	29959.30	10698.99	76.50	0.451
Concio 5	116	I[734]	ST SLU Mobili	MY-MIN	1	-8.36	-4768.78	22659.14	10249.33	168.00	0.466
Concio 5	116	J[735]	ST SLU Mobili	MY-MIN	1	-7.84	-4472.84	22659.14	10249.33	168.00	0.437
Concio 5	117	I[735]	ST SLU Mobili	MY-MIN	1	1.98	-4549.90	19837.42	9560.39	27.13	0.476
Concio 5	117	J[736]	ST SLU Termico	MY-MIN	1	38.23	-2336.76	19837.42	9525.08	26.59	0.247
Concio 5	118	I[736]	ST SLU Termico	MY-MIN	1	-131.03	-2357.73	22659.14	10249.33	48.43	0.236
Concio 5	118	J[737]	ST SLU Mobili	MY-MAX	1	-55.78	2727.66	56079.69	13386.70	109.32	0.205
Concio 6	119	I[737]	ST SLU Mobili	MY-MAX	1	-55.78	2727.36	52344.97	11874.62	64.35	0.231
Concio 6	119	J[738]	ST SLU Mobili	MY-MAX	1	-103.84	3158.55	52344.97	11874.62	64.35	0.268
Concio 6	120	I[738]	ST SLU Mobili	MY-MAX	1	-135.66	3069.75	53194.79	11988.26	68.49	0.259
Concio 6	120	J[739]	ST SLU Mobili	MY-MAX	1	-102.57	3602.92	53194.79	11988.26	68.49	0.303
Concio 6	121	I[739]	ST SLU Mobili	MY-MAX	1	-102.57	3602.92	53194.79	11994.06	68.49	0.302
Concio 6	121	J[740]	ST SLU Mobili	MY-MAX	1	-135.66	3069.90	53194.79	11994.06	68.49	0.259
Concio 6	122	I[740]	ST SLU Mobili	MY-MAX	1	-103.80	3158.24	52344.97	11862.87	64.35	0.268
Concio 6	122	J[741]	ST SLU Mobili	MY-MAX	1	-55.75	2726.62	52344.97	11862.87	64.35	0.231
Concio 5	123	I[741]	ST SLU Mobili	MY-MAX	1	-55.75	2726.94	56079.69	13386.70	109.31	0.205
Concio 5	123	J[742]	ST SLU Termico	MY-MIN	1	-131.06	-2357.53	22659.14	10249.33	48.43	0.236
Concio 5	124	I[742]	ST SLU Termico	MY-MIN	1	38.14	-2336.60	19837.42	9527.28	26.59	0.247
Concio 5	124	J[743]	ST SLU Mobili	MY-MIN	1	1.86	-4551.05	19837.42	9562.14	27.13	0.476
Concio 5	125	I[743]	ST SLU Mobili	MY-MIN	1	-7.91	-4473.85	22659.14	10249.33	168.00	0.437
Concio 5	125	J[744]	ST SLU Mobili	MY-MIN	1	-8.43	-4769.72	22659.14	10249.33	168.00	0.466
Concio 4 H=var	126	I[744]	ST SLU Mobili	MY-MIN	3	-124.08	-4779.66	29959.30	10698.97	76.50	0.451
Concio 4 H=var	126	J[745]	ST SLU Mobili	MY-MIN	3	-141.62	-6544.69	33340.25	16879.19	76.39	0.392
Concio 4 H=var	127	I[745]	ST SLU Mobili	MY-MIN	3	-146.01	-6518.32	33340.25	16878.62	74.78	0.391
Concio 4 H=var	127	J[746]	ST SLU Mobili	MY-MIN	4	-212.97	-8833.55	36721.20	23171.55	75.46	0.387
Concio 4 H=200	128	I[746]	ST SLU Mobili	MY-MIN	4	-17.03	-8833.55	36721.20	23171.50	330.48	0.382
Concio 4 H=200	128	J[747]	ST SLU Mobili	MY-MIN	4	-14.68	-9456.01	36721.20	23133.13	330.48	0.409
Concio 4 H=200	129	I[747]	ST SLU Mobili	MY-MIN	4	-33.00	-9403.83	36721.20	23132.44	330.95	0.407
Concio 4 H=200	129	J[748]	ST SLU Mobili	MY-MIN	4	-30.98	-8770.48	36721.20	23173.27	330.95	0.379
Concio 4 H=var	130	I[748]	ST SLU Mobili	MY-MIN	4	-234.84	-8770.48	36721.20	23173.53	76.04	0.385
Concio 4 H=var	130	J[749]	ST SLU Mobili	MY-MIN	3	-196.97	-6423.08	33340.25	16899.88	75.35	0.386
Concio 4 H=var	131	I[749]	ST SLU Mobili	MY-MIN	3	-196.14	-6450.72	33340.25	16899.80	78.34	0.388
Concio 4 H=var	131	J[750]	ST SLU Mobili	MY-MIN	3	-178.76	-4447.55	29959.30	10750.36	78.45	0.420
Concio 3	132	I[750]	ST SLU Mobili	MY-MIN	1	-48.59	-4464.81	22659.14	10249.33	169.81	0.438
Concio 3	132	J[751]	ST SLU Mobili	MY-MIN	1	-48.69	-4113.88	22659.14	10249.33	169.81	0.404
Concio 3	133	I[751]	ST SLU Mobili	MY-MIN	1	-59.99	-4227.50	20044.03	9731.69	31.08	0.437
Concio 3	133	J[752]	ST SLU Mobili	MY-MAX	1	56.94	2432.91	47184.76	12510.32	116.46	0.196
Concio 3	134	I[752]	ST SLU Mobili	MY-MAX	1	-146.88	2174.62	57024.39	13386.70	115.43	0.165
Concio 3	134	J[753]	ST SLU Mobili	MY-MAX	1	-134.91	3525.99	57024.39	13386.70	115.43	0.266
Concio 2	135	I[753]	ST SLU Mobili	MY-MAX	1	-134.91	3525.52	52741.05	12266.66	65.61	0.290
Concio 2	135	J[754]	ST SLU Mobili	MY-MAX	1	-179.65	4300.66	52741.05	12266.66	65.61	0.354
Concio 2	136	I[754]	ST SLU Mobili	MY-MAX	1	-237.84	4191.27	46533.18	11018.84	38.65	0.386
Concio 2	136	J[755]	ST SLU Mobili	MY-MAX	1	-216.84	4610.87	46533.18	11018.84	38.65	0.423
Concio 2	137	I[755]	ST SLU Mobili	MY-MAX	1	-173.85	4677.41	55693.51	12635.70	86.72	0.373
Concio 2	137	J[756]	ST SLU Mobili	MY-MAX	1	-162.43	4594.32	55693.51	12635.70	86.72	0.367
Concio 1	138	I[756]	ST SLU Mobili	MY-MAX	1	-162.43	4593.41	51956.43	10455.29	46.70	0.443
Concio 1	138	J[757]	ST SLU Mobili	MY-MAX	1	-221.26	3235.64	51956.43	10455.29	46.70	0.314
Concio 1	139	I[757]	ST SLU Mobili	MY-MAX	1	-65.21	3524.39	46848.01	10030.53	45.54	0.353
Concio 1	139	J[758]	ST SLU Mobili	MY-MIN	3	-231.65	-865.29	15885.38	6135.56	25.55	0.156
Concio 1	140	I[758]	ST SLU Mobili	MY-MIN	3	0.00	-343.82	17963.00	6363.77	112.41	0.054
Concio 1	140	J[759]	ST SLV Long	FX-MIN	4	-1.91	-0.60	17963.00	6350.05	109.95	0.000
Concio 1	201	I[760]	ST SLV Long	FX-MIN	4	-1.75	-0.53	18098.91	6479.08	110.14	0.000
Concio 1	201	J[761]	ST SLU Mobili	MY-MIN	3	0.00	-339.51	18098.91	6494.02	112.51	0.052
Concio 1	202	I[761]	ST SLU Mobili	MY-MIN	3	-336.52	-511.14	16005.57	6263.29	23.59	0.103
Concio 1	202	J[762]	ST SLU Mobili	MY-MAX	1	-180.23	3446.75	49645.95	10249.23	45.74	0.340
Concio 1	203	I[762]	ST SLU Mobili	MY-MAX	1	-401.19	3212.42	55059.46	10637.44	45.78	0.309
Concio 1	203	J[763]	ST SLU Mobili	MY-MAX	1	-366.25	4167.93	55059.46	10637.44	45.78	0.399
Concio 2	204	I[763]	ST SLU Mobili	MY-MAX	1	-366.25	4173.87	58902.07	12846.08	88.15	0.331
Concio 2	204	J[764]	ST SLU Mobili	MY-MAX	1	-416.77	4415.66	58902.07	12846.08	88.15	0.351
Concio 2	205	I[764]	ST SLU Mobili	MY-MAX	1	-511.06	4472.04	49214.00	11196.81	38.59	0.410
Concio 2	205	J[765]	ST SLU Mobili	MY-MAX	1	-507.40	4123.20	49214.00	11196.81	38.59	0.379
Concio 2	206	I[765]	ST SLU Mobili	FZ-MAX	1	-289.80	4117.19	55779.51	12490.55	67.80	0.335
Concio 2	206	J[766]	ST SLU Mobili	MY-MAX	1	-221.71	3215.24	55779.51	12474.68	66.66	0.262
Concio 3	207	I[766]	ST SLU Mobili	MY-MAX	1	-221.71	3216.07	60219.77	13602.15	110.72	0.240
Concio 3	207	J[767]	ST SLU Mobili	MY-MAX	1	-338.41	2363.29	60219.77	13602.15	110.72	0.179
Concio 3	208	I[767]	ST SLU Mobili	MY-MIN	3	207.48	-1405.91	20231.85	7001.85	31.59	0.211
Concio 3	208	J[768]	ST SLU Mobili	MY-MIN	1	184.51	-3826.71	20231.85	9877.53	31.59	0.397
Concio 3	209	I[768]	ST SLU Mobili	MY-MIN	1	130.85	-3861.22	22871.47	10397.59	170.08	0.377
Concio 3	209	J[769]	ST SLU Mobili	MY-MIN	1	129.37	-4164.77	22871.47	10397.59	170.08	0.406
Concio 4 H=var	210	I[769]	ST SLU Mobili	MY-MIN	3	3.78	-4226.25	30596.27	10825.92	79.16	0.391
Concio 4 H=var	210	J[770]	ST SLU Mobili	MY-MIN	3	-68.02	-5945.46	33977.22	16988.30	78.75	0.352
Concio 4 H=var	211	I[770]	ST SLU Mobili	MY-MIN	3	-88.04	-5961.92	33977.22	16988.40	76.42	0.354
Concio 4 H=var	211	J[771]	ST SLU Mobili	MY-MIN	4	-209.20	-8168.04	37358.17	23218.83	76.93	0.357
Concio 4 H=200	212	I[771]	ST SLU Mobili	MY-MIN	4	-22.87	-8168.04	37358.17	23218.46	332.27	0.352
Concio 4 H=200	212	J[772]	ST SLU Mobili	MY-MIN	4	-96.24	-8673.02	37358.17	23171.96	332.27	0.377
Concio 4 H=200	213	I[772]	ST SLU Mobili	MY-MIN	4	-110.79	-8743.33	37358.17	23172.18	332.88	0.380
Concio 4 H=200	213	J[773]	ST SLU Mobili	MY-MIN	4	-85.45	-8153.85	37358.17	23215.97	332.88	0.354
Concio 4 H=var	214	I[773]	ST SLU Mobili	MY-MIN	4	-280.96	-8153.85	37358.17	23216.22	75.99	0.359
Concio 4 H=var	214	J[774]	ST SLU Mobili	MY-MIN	3	-78.89	-6100.40	33977.22	16963.53	75.48	0.362
Concio 4 H=var	215	I[774]	ST SLU Mobili	MY-MIN	3	-64.06	-6091.47	33977.22	16963.24	76.79	0.361

Concio 4 H=var	215	J[775]	ST SLU Mobili	MY-MIN	3	10.95	-4568.36	30596.27	10767.41	77.19	0.425
Concio 5	216	I[775]	ST SLU Mobili	MY-MIN	1	124.14	-4526.73	22871.47	10397.59	168.54	0.441
Concio 5	216	J[776]	ST SLU Mobili	MY-MIN	1	126.09	-4246.77	22871.47	10397.59	168.54	0.414
Concio 5	217	I[776]	ST SLU Mobili	MY-MIN	1	240.13	-4217.80	20023.30	9700.76	27.49	0.447
Concio 5	217	J[777]	ST SLU Termico	MY-MIN	1	238.20	-2286.49	20023.30	9660.62	26.71	0.249
Concio 5	218	I[777]	ST SLU Termico	MY-MIN	1	21.70	-2291.13	22871.47	10397.59	48.87	0.221
Concio 5	218	J[778]	ST SLU Termico	MY-MIN	1	30.38	-1898.55	22871.47	10397.59	48.87	0.184
Concio 6	219	I[778]	ST SLU Termico	MY-MIN	2	30.38	-1896.31	18787.18	8891.06	40.26	0.215
Concio 6	219	J[779]	ST SLU Mobili	MY-MAX	1	-231.34	3018.13	55412.36	12090.64	66.47	0.254
Concio 6	220	I[779]	ST SLU Mobili	MY-MAX	1	-351.80	2985.63	56311.98	12170.78	66.02	0.252
Concio 6	220	J[780]	ST SLU Mobili	MY-MAX	1	-206.65	3096.51	56311.98	12170.78	66.02	0.258
Concio 6	221	I[780]	ST SLU Mobili	MY-MAX	1	-206.65	3096.51	56311.98	12172.05	66.02	0.258
Concio 6	221	J[781]	ST SLU Mobili	MY-MAX	1	-351.88	2985.87	56311.98	12172.05	66.02	0.252
Concio 6	222	I[781]	ST SLU Mobili	MY-MAX	1	-231.31	3017.83	55412.36	12090.03	66.47	0.254
Concio 6	222	J[782]	ST SLU Termico	MY-MIN	2	30.44	-1896.26	18787.18	8891.06	40.26	0.215
Concio 5	223	I[782]	ST SLU Termico	MY-MIN	1	30.44	-1898.50	22871.47	10397.59	48.87	0.184
Concio 5	223	J[783]	ST SLU Termico	MY-MIN	1	21.76	-2291.05	22871.47	10397.59	48.87	0.221
Concio 5	224	I[783]	ST SLU Termico	MY-MIN	1	238.38	-2286.66	20023.30	9662.14	26.71	0.249
Concio 5	224	J[784]	ST SLU Mobili	MY-MIN	1	240.33	-4218.30	20023.30	9701.72	27.49	0.447
Concio 5	225	I[784]	ST SLU Mobili	MY-MIN	1	126.39	-4247.17	22871.47	10397.59	168.54	0.414
Concio 5	225	J[785]	ST SLU Mobili	MY-MIN	1	124.97	-4527.20	22871.47	10397.59	168.54	0.441
Concio 4 H=var	226	I[785]	ST SLU Mobili	MY-MIN	3	11.25	-4568.68	30596.27	10767.39	77.19	0.425
Concio 4 H=var	226	J[786]	ST SLU Mobili	MY-MIN	3	-63.78	-6091.84	33977.22	16963.22	76.79	0.361
Concio 4 H=var	227	I[786]	ST SLU Mobili	MY-MIN	3	-78.67	-6100.87	33977.22	16963.51	75.48	0.362
Concio 4 H=var	227	J[787]	ST SLU Mobili	MY-MIN	4	-280.67	-8154.46	37358.17	23216.21	75.99	0.359
Concio 4 H=200	228	I[787]	ST SLU Mobili	MY-MIN	4	-85.17	-8154.46	37358.17	23215.95	332.88	0.354
Concio 4 H=200	228	J[788]	ST SLU Mobili	MY-MIN	4	-110.53	-8743.74	37358.17	23172.17	332.88	0.380
Concio 4 H=200	229	I[788]	ST SLU Mobili	MY-MIN	4	-96.47	-8673.35	37358.17	23171.95	332.27	0.377
Concio 4 H=200	229	J[789]	ST SLU Mobili	MY-MIN	4	-23.06	-8168.20	37358.17	23218.45	332.27	0.352
Concio 4 H=var	230	I[789]	ST SLU Mobili	MY-MIN	4	-209.41	-8168.20	37358.17	23218.82	76.93	0.357
Concio 4 H=var	230	J[790]	ST SLU Mobili	MY-MIN	3	-88.26	-5962.43	33977.22	16988.38	76.42	0.354
Concio 4 H=var	231	I[790]	ST SLU Mobili	MY-MIN	3	-68.29	-5945.75	33977.22	16988.28	78.75	0.352
Concio 4 H=var	231	J[791]	ST SLU Mobili	MY-MIN	3	3.50	-4226.41	30596.27	10825.90	79.16	0.391
Concio 3	232	I[791]	ST SLU Mobili	MY-MIN	1	129.09	-4164.86	22871.47	10397.59	170.08	0.406
Concio 3	232	J[792]	ST SLU Mobili	MY-MIN	1	130.57	-3861.30	22871.47	10397.59	170.08	0.377
Concio 3	233	I[792]	ST SLU Mobili	MY-MIN	1	184.33	-3826.42	20231.85	9876.14	31.59	0.397
Concio 3	233	J[793]	ST SLU Mobili	MY-MIN	3	207.31	-1405.88	20231.85	7000.96	31.59	0.211
Concio 3	234	I[793]	ST SLU Mobili	MY-MAX	1	-338.41	2362.56	60219.77	13602.15	110.73	0.179
Concio 3	234	J[794]	ST SLU Mobili	MY-MAX	1	-221.61	3216.58	60219.77	13602.15	110.73	0.240
Concio 2	235	I[794]	ST SLU Mobili	MY-MAX	1	-221.61	3215.75	55779.51	12481.93	66.66	0.262
Concio 2	235	J[795]	ST SLU Mobili	MY-MAX	1	-319.74	4103.68	55779.51	12481.93	66.66	0.335
Concio 2	236	I[795]	ST SLU Mobili	MY-MAX	1	-507.26	4123.27	49214.00	11199.36	38.59	0.379
Concio 2	236	J[796]	ST SLU Mobili	MY-MAX	1	-511.10	4472.26	49214.00	11199.36	38.59	0.410
Concio 2	237	I[796]	ST SLU Mobili	FZ-MAX	1	-461.91	4454.72	58902.07	12846.08	88.81	0.355
Concio 2	237	J[797]	ST SLU Mobili	MY-MAX	1	-366.27	4173.90	58902.07	12846.08	88.15	0.331
Concio 1	238	I[797]	ST SLU Mobili	MY-MAX	1	-366.27	4167.96	55059.46	10631.08	45.78	0.399
Concio 1	238	J[798]	ST SLU Mobili	MY-MAX	1	-401.15	3212.08	55059.46	10631.08	45.78	0.309
Concio 1	239	I[798]	ST SLU Mobili	MY-MAX	1	-180.28	3446.60	49645.95	10214.57	45.74	0.341
Concio 1	239	J[799]	ST SLU Mobili	MY-MIN	3	-336.42	-511.28	16005.57	6266.12	23.59	0.103
Concio 1	240	I[799]	ST SLU Mobili	MY-MIN	3	0.00	-339.49	18098.91	6494.02	112.51	0.052
Concio 1	240	J[800]	ST SLV Long	FX-MIN	4	-1.76	-0.53	18098.91	6479.08	110.13	0.000
Concio 1	301	I[801]	ST SLV Long	FX-MIN	4	-1.75	-0.53	18098.91	6479.08	110.14	0.000
Concio 1	301	J[802]	ST SLU Mobili	MY-MIN	3	0.00	-339.51	18098.91	6494.02	112.51	0.052
Concio 1	302	I[802]	ST SLU Mobili	MY-MIN	3	-333.94	-510.22	16005.57	6263.24	23.60	0.102
Concio 1	302	J[803]	ST SLU Mobili	MY-MAX	1	-182.81	3452.34	49645.95	10249.44	45.74	0.341
Concio 1	303	I[803]	ST SLU Mobili	MY-MAX	1	-402.46	3214.51	55059.46	10637.52	45.78	0.310
Concio 1	303	J[804]	ST SLU Mobili	MY-MAX	1	-367.53	4171.67	55059.46	10637.52	45.78	0.399
Concio 2	304	I[804]	ST SLU Mobili	MY-MAX	1	-367.53	4177.65	58902.07	12846.08	88.16	0.331
Concio 2	304	J[805]	ST SLU Mobili	MY-MAX	1	-418.04	4420.54	58902.07	12846.08	88.16	0.351
Concio 2	305	I[805]	ST SLU Mobili	MY-MAX	1	-512.74	4474.94	49214.00	11196.82	38.59	0.410
Concio 2	305	J[806]	ST SLU Mobili	MY-MAX	1	-509.09	4125.71	49214.00	11196.82	38.59	0.379
Concio 2	306	I[806]	ST SLU Mobili	FZ-MAX	1	-294.14	4121.88	55779.51	12490.63	67.81	0.335
Concio 2	306	J[807]	ST SLU Mobili	MY-MAX	1	-226.04	3217.67	55779.51	12474.77	66.66	0.262
Concio 3	307	I[807]	ST SLU Mobili	MY-MAX	1	-226.04	3218.52	60219.77	13602.15	110.73	0.240
Concio 3	307	J[808]	ST SLU Mobili	MY-MAX	1	-342.74	2364.22	60219.77	13602.15	110.73	0.180
Concio 3	308	I[808]	ST SLU Vento	MY-MIN	3	180.45	-1388.91	20231.85	6994.11	31.39	0.208
Concio 3	308	J[809]	ST SLU Mobili	MY-MIN	1	194.24	-3830.21	20231.85	9877.32	31.59	0.397
Concio 3	309	I[809]	ST SLU Mobili	MY-MIN	1	136.18	-3864.27	22871.47	10397.59	170.10	0.378
Concio 3	309	J[810]	ST SLU Mobili	MY-MIN	1	134.70	-4169.81	22871.47	10397.59	170.10	0.407
Concio 4 H=var	310	I[810]	ST SLU Mobili	MY-MIN	3	8.79	-4227.44	30596.27	10825.92	79.18	0.391
Concio 4 H=var	310	J[811]	ST SLU Mobili	MY-MIN	3	-63.01	-5954.13	33977.22	16988.30	78.77	0.352
Concio 4 H=var	311	I[811]	ST SLU Mobili	MY-MIN	3	-83.95	-5968.78	33977.22	16988.40	76.43	0.354
Concio 4 H=var	311	J[812]	ST SLU Mobili	MY-MIN	4	-205.11	-8182.83	37358.17	23218.83	76.94	0.358
Concio 4 H=200	312	I[812]	ST SLU Mobili	MY-MIN	4	-18.22	-8182.83	37358.17	23218.46	332.28	0.353
Concio 4 H=200	312	J[813]	ST SLU Mobili	MY-MIN	4	-91.59	-8689.66	37358.17	23171.96	332.28	0.378
Concio 4 H=200	313	I[813]	ST SLU Mobili	MY-MIN	4	-105.50	-8760.11	37358.17	23172.18	332.89	0.381
Concio 4 H=200	313	J[814]	ST SLU Mobili	MY-MIN	4	-80.16	-8168.64	37358.17	23215.97	332.89	0.354
Concio 4 H=var	314	I[814]	ST SLU Mobili	MY-MIN	4	-276.24	-8168.64	37358.17	23216.22	76.01	0.359
Concio 4 H=var	314	J[815]	ST SLU Mobili	MY-MIN	3	-74.17	-6106.73	33977.22	16963.53	75.50	0.362
Concio 4 H=var	315	I[815]	ST SLU Mobili	MY-MIN	3	-57.52	-6099.76	33977.22	16963.24	76.81	0.361

Concio 4 H=var	315	J[816]	ST SLU Mobili	MY-MIN	3	17.50	-4569.02	30596.27	10767.41	77.21	0.425
Concio 5	316	I[816]	ST SLU Mobili	MY-MIN	1	131.02	-4532.17	22871.47	10397.59	168.57	0.442
Concio 5	316	J[817]	ST SLU Mobili	MY-MIN	1	132.97	-4249.22	22871.47	10397.59	168.57	0.415
Concio 5	317	I[817]	ST SLU Mobili	MY-MIN	1	250.35	-4222.06	20023.30	9700.50	27.48	0.448
Concio 5	317	J[818]	ST SLU Termico	MY-MIN	1	248.41	-2289.72	20023.30	9660.36	26.71	0.249
Concio 5	318	I[818]	ST SLU Termico	MY-MIN	1	26.55	-2293.01	22871.47	10397.59	48.84	0.222
Concio 5	318	J[819]	ST SLU Termico	MY-MIN	1	35.22	-1901.97	22871.47	10397.59	48.84	0.185
Concio 6	319	I[819]	ST SLU Termico	MY-MIN	2	35.22	-1899.66	18787.18	8891.06	40.13	0.216
Concio 6	319	J[820]	ST SLU Mobili	MY-MAX	1	-236.19	3023.42	55412.36	12090.72	66.47	0.254
Concio 6	320	I[820]	ST SLU Mobili	MY-MAX	1	-355.58	2989.13	56311.98	12170.77	66.02	0.252
Concio 6	320	J[821]	ST SLU Mobili	MY-MAX	1	-210.42	3100.00	56311.98	12170.77	66.02	0.258
Concio 6	321	I[821]	ST SLU Mobili	MY-MAX	1	-210.42	3100.00	56311.98	12172.04	66.01	0.258
Concio 6	321	J[822]	ST SLU Mobili	MY-MAX	1	-355.65	2989.35	56311.98	12172.04	66.01	0.252
Concio 6	322	I[822]	ST SLU Mobili	MY-MAX	1	-236.07	3023.18	55412.36	12090.09	66.48	0.254
Concio 6	322	J[823]	ST SLU Termico	MY-MIN	2	35.20	-1899.63	18787.18	8891.06	40.13	0.216
Concio 5	323	I[823]	ST SLU Termico	MY-MIN	1	35.20	-1901.94	22871.47	10397.59	48.84	0.185
Concio 5	323	J[824]	ST SLU Termico	MY-MIN	1	26.52	-2292.92	22871.47	10397.59	48.84	0.222
Concio 5	324	I[824]	ST SLU Termico	MY-MIN	1	248.27	-2289.66	20023.30	9662.01	26.71	0.249
Concio 5	324	J[825]	ST SLU Mobili	MY-MIN	1	250.21	-4222.68	20023.30	9701.59	27.48	0.448
Concio 5	325	I[825]	ST SLU Mobili	MY-MIN	1	133.16	-4249.72	22871.47	10397.59	168.57	0.415
Concio 5	325	J[826]	ST SLU Mobili	MY-MIN	1	131.74	-4532.72	22871.47	10397.59	168.57	0.442
Concio 4 H=var	326	I[826]	ST SLU Mobili	MY-MIN	3	17.69	-4569.58	30596.27	10767.39	77.21	0.425
Concio 4 H=var	326	J[827]	ST SLU Mobili	MY-MIN	3	-57.34	-6100.41	33977.22	16963.22	76.81	0.361
Concio 4 H=var	327	I[827]	ST SLU Mobili	MY-MIN	3	-74.10	-6107.56	33977.22	16963.51	75.50	0.362
Concio 4 H=var	327	J[828]	ST SLU Mobili	MY-MIN	4	-276.09	-8169.25	37358.17	23216.21	76.01	0.359
Concio 4 H=200	328	I[828]	ST SLU Mobili	MY-MIN	4	-80.03	-8169.25	37358.17	23215.95	332.89	0.354
Concio 4 H=200	328	J[829]	ST SLU Mobili	MY-MIN	4	-105.38	-8760.42	37358.17	23172.17	332.89	0.381
Concio 4 H=200	329	I[829]	ST SLU Mobili	MY-MIN	4	-91.69	-8690.07	37358.17	23171.95	332.28	0.378
Concio 4 H=200	329	J[830]	ST SLU Mobili	MY-MIN	4	-18.28	-8182.97	37358.17	23218.45	332.28	0.353
Concio 4 H=var	330	I[830]	ST SLU Mobili	MY-MIN	4	-205.18	-8182.97	37358.17	23218.82	76.94	0.358
Concio 4 H=var	330	J[831]	ST SLU Mobili	MY-MIN	3	-84.03	-5968.92	33977.22	16988.38	76.43	0.354
Concio 4 H=var	331	I[831]	ST SLU Mobili	MY-MIN	3	-63.19	-5954.13	33977.22	16988.28	78.77	0.352
Concio 4 H=var	331	J[832]	ST SLU Mobili	MY-MIN	3	8.60	-4227.36	30596.27	10825.90	79.18	0.391
Concio 3	332	I[832]	ST SLU Mobili	MY-MIN	1	134.52	-4169.81	22871.47	10397.59	170.10	0.407
Concio 3	332	J[833]	ST SLU Mobili	MY-MIN	1	136.00	-3864.25	22871.47	10397.59	170.10	0.378
Concio 3	333	I[833]	ST SLU Mobili	MY-MIN	1	194.12	-3829.87	20231.85	9875.83	31.59	0.397
Concio 3	333	J[834]	ST SLU Vento	MY-MIN	3	180.24	-1389.17	20231.85	6993.03	31.39	0.208
Concio 3	334	I[834]	ST SLU Mobili	MY-MAX	1	-342.85	2363.50	60219.77	13602.15	110.74	0.180
Concio 3	334	J[835]	ST SLU Mobili	MY-MAX	1	-226.05	3219.01	60219.77	13602.15	110.74	0.240
Concio 2	335	I[835]	ST SLU Mobili	MY-MAX	1	-226.05	3218.14	55779.51	12482.05	66.67	0.262
Concio 2	335	J[836]	ST SLU Mobili	MY-MAX	1	-324.18	4108.29	55779.51	12482.05	66.67	0.335
Concio 2	336	I[836]	ST SLU Mobili	MY-MAX	1	-508.98	4125.73	49214.00	11199.35	38.59	0.379
Concio 2	336	J[837]	ST SLU Mobili	MY-MAX	1	-512.81	4475.23	49214.00	11199.35	38.59	0.410
Concio 2	337	I[837]	ST SLU Mobili	FZ-MAX	1	-463.20	4459.58	58902.07	12846.08	88.82	0.355
Concio 2	337	J[838]	ST SLU Mobili	MY-MAX	1	-367.55	4177.66	58902.07	12846.08	88.16	0.331
Concio 1	338	I[838]	ST SLU Mobili	MY-MAX	1	-367.55	4171.68	55059.46	10631.13	45.78	0.399
Concio 1	338	J[839]	ST SLU Mobili	MY-MAX	1	-402.44	3214.16	55059.46	10631.13	45.78	0.310
Concio 1	339	I[839]	ST SLU Mobili	MY-MAX	1	-182.85	3452.21	49645.95	10214.70	45.75	0.342
Concio 1	339	J[840]	ST SLU Mobili	MY-MIN	3	-333.84	-510.37	16005.57	6266.17	23.60	0.102
Concio 1	340	I[840]	ST SLU Mobili	MY-MIN	3	0.00	-339.49	18098.91	6494.02	112.51	0.052
Concio 1	340	J[841]	ST SLV Long	FX-MIN	4	-1.76	-0.53	18098.91	6479.08	110.13	0.000
Concio 1	401	I[842]	ST SLV Long	FX-MIN	4	-1.90	-0.60	17963.00	6350.05	109.96	0.000
Concio 1	401	J[843]	ST SLU Mobili	MY-MIN	3	0.00	-343.84	17963.00	6363.77	112.41	0.054
Concio 1	402	I[843]	ST SLU Mobili	MY-MIN	3	-230.31	-864.76	15885.38	6132.68	25.51	0.156
Concio 1	402	J[844]	ST SLU Mobili	MY-MAX	1	-66.57	3513.41	46848.01	10054.61	45.54	0.351
Concio 1	403	I[844]	ST SLU Mobili	MY-MAX	1	-225.65	3229.65	51956.43	10463.99	46.70	0.313
Concio 1	403	J[845]	ST SLU Mobili	MY-MAX	1	-166.85	4586.27	51956.43	10463.99	46.70	0.442
Concio 2	404	I[845]	ST SLU Mobili	MY-MAX	1	-166.85	4587.03	55693.51	12635.70	86.72	0.366
Concio 2	404	J[846]	ST SLU Mobili	MY-MAX	1	-178.24	4669.62	55693.51	12635.70	86.72	0.373
Concio 2	405	I[846]	ST SLU Mobili	MY-MAX	1	-221.42	4604.20	46533.18	11019.76	38.64	0.423
Concio 2	405	J[847]	ST SLU Mobili	MY-MAX	1	-242.30	4186.12	46533.18	11019.76	38.64	0.385
Concio 2	406	I[847]	ST SLU Mobili	MY-MAX	1	-180.94	4292.59	52741.05	12258.18	65.60	0.354
Concio 2	406	J[848]	ST SLU Mobili	MY-MAX	1	-136.18	3520.36	52741.05	12258.18	65.60	0.290
Concio 3	407	I[848]	ST SLU Mobili	MY-MAX	1	-136.18	3520.84	57024.39	13386.70	115.43	0.265
Concio 3	407	J[849]	ST SLU Mobili	MY-MAX	1	-148.10	2171.63	57024.39	13386.70	115.43	0.165
Concio 3	408	I[849]	ST SLU Mobili	MY-MAX	1	63.08	2425.20	47184.76	12485.82	116.68	0.196
Concio 3	408	J[850]	ST SLU Mobili	MY-MIN	1	-66.06	-4219.45	20044.03	9734.38	31.10	0.437
Concio 3	409	I[850]	ST SLU Mobili	MY-MIN	1	-54.96	-4110.39	22659.14	10249.33	169.78	0.404
Concio 3	409	J[851]	ST SLU Mobili	MY-MIN	1	-54.86	-4458.69	22659.14	10249.33	169.78	0.437
Concio 4 H=var	410	I[851]	ST SLU Mobili	MY-MIN	3	-185.30	-4444.71	29959.30	10750.38	78.44	0.420
Concio 4 H=var	410	J[852]	ST SLU Mobili	MY-MIN	3	-202.68	-6440.43	33340.25	16899.82	78.33	0.387
Concio 4 H=var	411	I[852]	ST SLU Mobili	MY-MIN	3	-191.08	-6413.82	33340.25	16899.90	75.34	0.385
Concio 4 H=var	411	J[853]	ST SLU Mobili	MY-MIN	4	-228.94	-8752.34	36721.20	23173.54	76.03	0.384
Concio 4 H=200	412	I[853]	ST SLU Mobili	MY-MIN	4	-27.24	-8752.34	36721.20	23173.28	330.94	0.378
Concio 4 H=200	412	J[854]	ST SLU Mobili	MY-MIN	4	-29.26	-9383.65	36721.20	23132.45	330.94	0.406
Concio 4 H=200	413	I[854]	ST SLU Mobili	MY-MIN	4	-12.65	-9436.20	36721.20	23133.14	330.48	0.408
Concio 4 H=200	413	J[855]	ST SLU Mobili	MY-MIN	4	-15.01	-8815.26	36721.20	23171.51	330.48	0.381
Concio 4 H=var	414	I[855]	ST SLU Mobili	MY-MIN	4	-208.74	-8815.26	36721.20	23171.56	75.46	0.386
Concio 4 H=var	414	J[856]	ST SLU Mobili	MY-MIN	3	-141.81	-6507.79	33340.25	16878.64	74.77	0.390
Concio 4 H=var	415	I[856]	ST SLU Mobili	MY-MIN	3	-148.38	-6533.22	33340.25	16879.21	76.37	0.392

Concio 4 H=var	415	J[857]	ST SLU Mobili	MY-MIN	3	-130.83	-4775.47	29959.30	10698.99	76.48	0.451
Concio 5	416	I[857]	ST SLU Mobili	MY-MIN	1	-14.90	-4761.97	22659.14	10249.33	167.97	0.465
Concio 5	416	J[858]	ST SLU Mobili	MY-MIN	1	-14.38	-4468.52	22659.14	10249.33	167.97	0.437
Concio 5	417	I[858]	ST SLU Mobili	MY-MIN	1	-4.37	-4540.89	19837.42	9560.96	27.14	0.475
Concio 5	417	J[859]	ST SLU Termico	MY-MIN	1	31.88	-2329.74	19837.42	9525.65	26.60	0.246
Concio 5	418	I[859]	ST SLU Termico	MY-MIN	1	-130.08	-2355.39	22659.14	10249.33	48.46	0.236
Concio 5	418	J[860]	ST SLU Mobili	MY-MAX	1	-56.73	2723.78	56079.69	13386.70	109.33	0.205
Concio 6	419	I[860]	ST SLU Mobili	MY-MAX	1	-56.73	2723.46	52344.97	11874.49	64.34	0.230
Concio 6	419	J[861]	ST SLU Mobili	MY-MAX	1	-104.78	3152.72	52344.97	11874.49	64.34	0.268
Concio 6	420	I[861]	ST SLU Mobili	MY-MAX	1	-138.13	3065.38	53194.79	11988.30	68.49	0.258
Concio 6	420	J[862]	ST SLU Mobili	MY-MAX	1	-105.04	3598.55	53194.79	11988.30	68.49	0.302
Concio 6	421	I[862]	ST SLU Mobili	MY-MAX	1	-105.04	3598.55	53194.79	11994.11	68.49	0.302
Concio 6	421	J[863]	ST SLU Mobili	MY-MAX	1	-138.12	3065.54	53194.79	11994.11	68.49	0.258
Concio 6	422	I[863]	ST SLU Mobili	MY-MAX	1	-104.82	3152.38	52344.97	11862.80	64.35	0.268
Concio 6	422	J[864]	ST SLU Mobili	MY-MAX	1	-56.76	2722.73	52344.97	11862.80	64.35	0.231
Concio 5	423	I[864]	ST SLU Mobili	MY-MAX	1	-56.76	2723.07	56079.69	13386.70	109.32	0.204
Concio 5	423	J[865]	ST SLU Termico	MY-MIN	1	-130.04	-2355.23	22659.14	10249.33	48.46	0.236
Concio 5	424	I[865]	ST SLU Termico	MY-MIN	1	32.06	-2329.61	19837.42	9527.59	26.60	0.246
Concio 5	424	J[866]	ST SLU Mobili	MY-MIN	1	-4.22	-4541.81	19837.42	9562.43	27.14	0.475
Concio 5	425	I[866]	ST SLU Mobili	MY-MIN	1	-14.18	-4469.26	22659.14	10249.33	167.97	0.437
Concio 5	425	J[867]	ST SLU Mobili	MY-MIN	1	-14.70	-4762.66	22659.14	10249.33	167.97	0.465
Concio 4 H=var	426	I[867]	ST SLU Mobili	MY-MIN	3	-130.63	-4776.18	29959.30	10698.97	76.48	0.451
Concio 4 H=var	426	J[868]	ST SLU Mobili	MY-MIN	3	-148.18	-6534.10	33340.25	16879.19	76.37	0.392
Concio 4 H=var	427	I[868]	ST SLU Mobili	MY-MIN	3	-141.71	-6508.67	33340.25	16878.62	74.77	0.390
Concio 4 H=var	427	J[869]	ST SLU Mobili	MY-MIN	4	-208.67	-8816.10	36721.20	23171.55	75.46	0.386
Concio 4 H=200	428	I[869]	ST SLU Mobili	MY-MIN	4	-14.94	-8816.10	36721.20	23171.50	330.47	0.381
Concio 4 H=200	428	J[870]	ST SLU Mobili	MY-MIN	4	-12.58	-9436.80	36721.20	23133.13	330.47	0.408
Concio 4 H=200	429	I[870]	ST SLU Mobili	MY-MIN	4	-29.39	-9384.70	36721.20	23132.44	330.95	0.407
Concio 4 H=200	429	J[871]	ST SLU Mobili	MY-MIN	4	-27.36	-8753.23	36721.20	23173.27	330.95	0.379
Concio 4 H=var	430	I[871]	ST SLU Mobili	MY-MIN	4	-229.07	-8753.23	36721.20	23173.53	76.03	0.384
Concio 4 H=var	430	J[872]	ST SLU Mobili	MY-MIN	3	-191.19	-6414.14	33340.25	16899.88	75.34	0.385
Concio 4 H=var	431	I[872]	ST SLU Mobili	MY-MIN	3	-202.90	-6440.79	33340.25	16899.80	78.33	0.387
Concio 4 H=var	431	J[873]	ST SLU Mobili	MY-MIN	3	-185.52	-4444.82	29959.30	10750.36	78.44	0.420
Concio 3	432	I[873]	ST SLU Mobili	MY-MIN	1	-55.07	-4458.71	22659.14	10249.33	169.78	0.438
Concio 3	432	J[874]	ST SLU Mobili	MY-MIN	1	-55.17	-4110.29	22659.14	10249.33	169.78	0.404
Concio 3	433	I[874]	ST SLU Mobili	MY-MIN	1	-66.24	-4219.38	20044.03	9732.42	31.10	0.437
Concio 3	433	J[875]	ST SLU Mobili	MY-MAX	1	63.18	2425.47	47184.76	12510.21	116.69	0.195
Concio 3	434	I[875]	ST SLU Mobili	MY-MAX	1	-148.17	2171.82	57024.39	13386.70	115.43	0.165
Concio 3	434	J[876]	ST SLU Mobili	MY-MAX	1	-136.20	3521.45	57024.39	13386.70	115.43	0.265
Concio 2	435	I[876]	ST SLU Mobili	MY-MAX	1	-136.20	3520.97	52741.05	12266.55	65.60	0.290
Concio 2	435	J[877]	ST SLU Mobili	MY-MAX	1	-180.94	4293.48	52741.05	12266.55	65.60	0.353
Concio 2	436	I[877]	ST SLU Mobili	MY-MAX	1	-242.34	4185.89	46533.18	11018.78	38.64	0.385
Concio 2	436	J[878]	ST SLU Mobili	MY-MAX	1	-221.35	4604.33	46533.18	11018.78	38.64	0.423
Concio 2	437	I[878]	ST SLU Mobili	MY-MAX	1	-178.22	4669.42	55693.51	12635.70	86.72	0.373
Concio 2	437	J[879]	ST SLU Mobili	MY-MAX	1	-166.80	4587.17	55693.51	12635.70	86.72	0.366
Concio 1	438	I[879]	ST SLU Mobili	MY-MAX	1	-166.80	4586.11	51956.43	10455.35	46.70	0.442
Concio 1	438	J[880]	ST SLU Mobili	MY-MAX	1	-225.62	3229.59	51956.43	10455.35	46.70	0.313
Concio 1	439	I[880]	ST SLU Mobili	MY-MAX	1	-66.57	3513.38	46848.01	10030.61	45.54	0.352
Concio 1	439	J[881]	ST SLU Mobili	MY-MIN	3	-230.30	-864.67	15885.38	6135.43	25.51	0.155
Concio 1	440	I[881]	ST SLU Mobili	MY-MIN	3	0.00	-343.82	17963.00	6363.77	112.41	0.054
Concio 1	440	J[882]	ST SLV Long	FX-MIN	4	-1.91	-0.60	17963.00	6350.05	109.95	0.000

8.4 VERIFICA DELLE TENSIONI IN ESERCIZIO

Si effettuano le verifiche allo stato limite di esercizio (SLE) delle tensioni massime nell'acciaio delle travi, nel calcestruzzo della soletta e nelle armature della soletta.
Seguono i tabulati di calcolo per ogni asta considerata, per le combinazioni di carichi più gravose.
Dati tabulati:

Elem: numero dell'elemento
Position: nodo iniziale (I) o finale (J) dell'elemento
Lcom: combinazione di carico più gravosa
Type: tipo combinazione (caratteristica, frequente, quasi permanente)

Flange travi in acciaio:

Sigma_Ed_ser: tensione assiale massima
Tau_Ed_ser: tensione tangenziale massima
SQRT(sigma^2+3 tau^2): tensione ideale
ALW = $f_{yk} / \gamma_{M,ser}$: tensione limite

Soletta in calcestruzzo:

Sigma_c:	tensione assiale massima
k*fck:	tensione limite (comb. caratteristica: k_1 = 0.6; quasi perm.: k_2 = 0.45)

Armatura soletta:

Sigma_s:	tensione assiale massima
k*fsk:	tensione limite (comb. caratteristica: k_3 = 0.8)

Elem property	Elem number	Position	Top and Bottom Flange of Structural Steel								Concrete Deck				Reinforcement in Deck				VERIFICATION
			Lcom	Type	Sigma_Ed,ser (kN/m^2)	ALW (kN/m^2)	Tau_Ed,ser (kN/m^2)	ALW (kN/m^2)	SQRT(sigma^2 +3tau^2) (kN/m^2)	ALW (kN/m^2)	Lcom	Type	Sigma_c (kN/m^2)	k*fck (kN/m^2)	Lcom	Type	Sigma_s (kN/m^2)	k*fsk (kN/m^2)	
Concio 1	101	I[719]	ST RARA Vento	Characteristic	0.00	355000	0.00	204959.35	0.00	355000	ST RARA Vento	Characteristic	0.00	19200	ST RARA Vento	Characteristic	0.00	360000	Verified
Concio 1	101	J[720]	ST RARA Mobili	Characteristic	12833.04	355000	25593.18	204959.35	46148.88	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	15932.16	360000	Verified
Concio 1	102	I[720]	ST RARA Mobili	Characteristic	54608.72	355000	69137.32	204959.35	131613.14	355000	ST RARA Mobili	Characteristic	1187.98	19200	ST RARA Mobili	Characteristic	161015.00	360000	Verified
Concio 1	102	J[721]	ST RARA Mobili	Characteristic	-169231.38	355000	21361.41	204959.35	173228.72	355000	ST RARA Mobili	Characteristic	5972.84	19200	ST RARA Mobili	Characteristic	-32844.51	360000	Verified
Concio 1	103	I[721]	ST RARA Mobili	Characteristic	-158928.91	355000	40058.42	204959.35	173414.04	355000	ST RARA Mobili	Characteristic	5460.95	19200	ST RARA Mobili	Characteristic	-30039.25	360000	Verified
Concio 1	103	J[722]	ST RARA Mobili	Characteristic	-219023.50	355000	10154.99	204959.35	219728.62	355000	ST RARA Mobili	Characteristic	6857.64	19200	ST RARA Mobili	Characteristic	-37221.91	360000	Verified
Concio 2	104	I[722]	ST RARA Mobili	Characteristic	-177538.79	355000	10264.18	204959.35	178426.69	355000	ST RARA Mobili	Characteristic	6366.92	19200	ST RARA Mobili	Characteristic	-35105.06	360000	Verified
Concio 2	104	J[723]	ST RARA Mobili	Characteristic	-184371.27	355000	7301.63	204959.35	184804.51	355000	ST RARA Mobili	Characteristic	6798.49	19200	ST RARA Mobili	Characteristic	-37665.68	360000	Verified
Concio 2	105	I[723]	ST RARA Mobili	Characteristic	-182754.92	355000	11816.43	204959.35	183897.37	355000	ST RARA Mobili	Characteristic	6657.61	19200	ST RARA Mobili	Characteristic	-36875.27	360000	Verified
Concio 2	105	J[724]	ST RARA Mobili	Characteristic	-160733.18	355000	36271.21	204959.35	172574.49	355000	ST RARA Mobili	Characteristic	6319.03	19200	ST RARA Mobili	Characteristic	-35164.24	360000	Verified
Concio 2	106	I[724]	ST RARA Mobili	Characteristic	-164131.70	355000	34658.90	204959.35	174765.36	355000	ST RARA Mobili	Characteristic	6403.12	19200	ST RARA Mobili	Characteristic	35978.72	360000	Verified
Concio 2	106	J[725]	ST RARA Mobili	Characteristic	-121302.52	355000	62685.56	204959.35	162796.63	355000	ST RARA Mobili	Characteristic	4745.52	19200	ST RARA Mobili	Characteristic	55152.88	360000	Verified
Concio 3	107	I[725]	ST RARA Mobili	Characteristic	-116754.52	355000	47014.17	204959.35	142346.81	355000	ST RARA Mobili	Characteristic	4720.93	19200	ST RARA Mobili	Characteristic	45687.60	360000	Verified
Concio 3	107	J[726]	ST RARA Mobili	Characteristic	-64656.21	355000	61923.21	204959.35	125235.29	355000	ST RARA Mobili	Characteristic	3408.36	19200	ST RARA Mobili	Characteristic	67259.93	360000	Verified
Concio 3	108	I[726]	ST RARA Mobili	Characteristic	-72988.83	355000	47863.70	204959.35	110454.38	355000	ST RARA Mobili	Characteristic	4044.01	19200	ST RARA Mobili	Characteristic	75920.53	360000	Verified
Concio 3	108	J[727]	ST RARA Mobili	Characteristic	-186596.47	355000	53371.20	204959.35	208239.52	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	166043.30	360000	Verified
Concio 3	109	I[727]	ST RARA Mobili	Characteristic	-186290.62	355000	47939.33	204959.35	203957.68	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	243125.63	360000	Verified
Concio 3	109	J[728]	ST RARA Mobili	Characteristic	-208052.97	355000	50106.23	204959.35	225428.35	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	203378.61	360000	Verified
Concio 4 H=var	110	I[728]	ST RARA Mobili	Characteristic	166946.16	355000	50845.33	204959.35	188750.53	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	116798.62	360000	Verified
Concio 4 H=var	110	J[729]	ST RARA Mobili	Characteristic	163337.23	355000	39993.83	204959.35	177419.19	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	109260.31	360000	Verified
Concio 4 H=var	111	I[729]	ST RARA Mobili	Characteristic	163610.71	355000	37063.92	204959.35	175754.56	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	90272.97	360000	Verified
Concio 4 H=var	111	J[730]	ST RARA Mobili	Characteristic	166786.02	355000	37017.00	204959.35	178685.06	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	103805.02	360000	Verified
Concio 4 H=20	112	I[730]	ST RARA Mobili	Characteristic	165330.66	355000	36876.89	204959.35	177239.79	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	107039.32	360000	Verified
Concio 4 H=20	112	J[731]	ST RARA Mobili	Characteristic	178563.38	355000	38112.05	204959.35	190374.54	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	123320.12	360000	Verified
Concio 4 H=20	113	I[731]	ST RARA Mobili	Characteristic	179476.58	355000	40334.93	204959.35	192594.30	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	124061.57	360000	Verified
Concio 4 H=20	113	J[732]	ST RARA Mobili	Characteristic	166481.30	355000	39069.56	204959.35	179708.98	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	110245.62	360000	Verified
Concio 4 H=var	114	I[732]	ST RARA Mobili	Characteristic	167871.26	355000	38896.19	204959.35	180885.32	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	106832.34	360000	Verified
Concio 4 H=var	114	J[733]	ST RARA Mobili	Characteristic	167217.89	355000	37979.83	204959.35	179692.03	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	92311.39	360000	Verified
Concio 4 H=var	115	I[733]	ST RARA Mobili	Characteristic	166493.57	355000	38860.18	204959.35	179584.10	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	113670.55	360000	Verified
Concio 4 H=var	115	J[734]	ST RARA Mobili	Characteristic	182244.02	355000	48989.21	204959.35	201029.13	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	129681.25	360000	Verified
Concio 5	116	I[734]	ST RARA Mobili	Characteristic	-228671.30	355000	48419.47	204959.35	243564.98	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	231121.48	360000	Verified
Concio 5	116	J[735]	ST RARA Mobili	Characteristic	-209661.13	355000	46342.99	204959.35	224501.24	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	269730.71	360000	Verified
Concio 5	117	I[735]	ST RARA Mobili	Characteristic	-208583.04	355000	49456.52	204959.35	225487.75	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	188432.16	360000	Verified
Concio 5	117	J[736]	ST RARA Termico	Characteristic	65747.49	355000	22886.44	204959.35	76773.04	355000	ST RARA Mobili	Characteristic	3004.83	19200	ST RARA Mobili	Characteristic	106881.67	360000	Verified
Concio 5	118	I[736]	ST RARA Termico	Characteristic	67693.70	355000	24588.31	204959.35	79976.20	355000	ST RARA Mobili	Characteristic	2524.46	19200	ST RARA Mobili	Characteristic	98630.36	360000	Verified
Concio 5	118	J[737]	ST RARA Mobili	Characteristic	-81253.41	355000	21734.20	204959.35	89550.23	355000	ST RARA Mobili	Characteristic	3562.88	19200	ST RARA Mobili	Characteristic	81338.03	360000	Verified
Concio 6	119	I[737]	ST RARA Mobili	Characteristic	-86664.79	355000	36223.66	204959.35	106991.81	355000	ST RARA Mobili	Characteristic	3592.17	19200	ST RARA Mobili	Characteristic	98856.71	360000	Verified
Concio 6	119	J[738]	ST RARA Mobili	Characteristic	-113831.46	355000	2851.20	204959.35	113938.53	355000	ST RARA Mobili	Characteristic	4730.66	19200	ST RARA Mobili	Characteristic	95766.49	360000	Verified
Concio 6	120	I[738]	ST RARA Mobili	Characteristic	-111162.80	355000	5938.27	204959.35	111637.62	355000	ST RARA Mobili	Characteristic	4621.77	19200	ST RARA Mobili	Characteristic	86840.38	360000	Verified
Concio 6	120	J[739]	ST RARA Mobili	Characteristic	-128311.77	355000	3363.98	204959.35	128443.99	355000	ST RARA Mobili	Characteristic	4733.81	19200	ST RARA Mobili	Characteristic	79838.82	360000	Verified
Concio 6	121	I[739]	ST RARA Mobili	Characteristic	-128311.77	355000	3363.98	204959.35	128443.99	355000	ST RARA Mobili	Characteristic	4733.81	19200	ST RARA Mobili	Characteristic	79838.82	360000	Verified
Concio 6	121	J[740]	ST RARA Mobili	Characteristic	-111166.22	355000	32816.00	204959.35	124854.30	355000	ST RARA Mobili	Characteristic	4622.18	19200	ST RARA Mobili	Characteristic	86838.68	360000	Verified
Concio 6	122	I[740]	ST RARA Mobili	Characteristic	-113823.77	355000	30381.63	204959.35	125399.29	355000	ST RARA Mobili	Characteristic	4730.06	19200	ST RARA Mobili	Characteristic	95769.96	360000	Verified
Concio 6	122	J[741]	ST RARA Mobili	Characteristic	-86646.78	355000	63747.52	204959.35	140352.78	355000	ST RARA Mobili	Characteristic	3591.14	19200	ST RARA Mobili	Characteristic	98848.33	360000	Verified
Concio 5	123	I[741]	ST RARA Mobili	Characteristic	-81237.18	355000	38248.50	204959.35	104825.20	355000	ST RARA Mobili	Characteristic	3561.88	19200	ST RARA Mobili	Characteristic	81331.68	360000	Verified
Concio 5	123	J[742]	ST RARA Termico	Characteristic	67689.52	355000	24076.39	204959.35	79504.02	355000	ST RARA Mobili	Characteristic	2524.87	19200	ST RARA Mobili	Characteristic	98615.68	360000	Verified
Concio 5	124	I[742]	ST RARA Termico	Characteristic	65744.77	355000	20825.25	204959.35	74989.66	355000	ST RARA Mobili	Characteristic	3004.02	19200	ST RARA Mobili	Characteristic	106871.62	360000	Verified
Concio 5	124	J[743]	ST RARA Mobili	Characteristic	-208620.15	355000	48007.59	204959.35	224580.84	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	188460.36	360000	Verified
Concio 5	125	I[743]	ST RARA Mobili	Characteristic	-209706.69	355000	42473.01	204959.35	222235.83	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	262311.14	360000	Verified
Concio 5	125	J[744]	ST RARA Mobili	Characteristic	-228711.84	355000	44549.53	204959.35	241377.48	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	220809.79	360000	Verified
Concio 4 H=var	126	I[744]	ST RARA Mobili	Characteristic	182281.10	355000	45371.55	204959.35	198499.70	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	129798.97	360000	Verified
Concio 4 H=var	126	J[745]	ST RARA Mobili	Characteristic	166514.11	355000	36516.37	204959.35	178121.55	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	113734.21	360000	Verified
Concio 4 H=var	127	I[745]	ST RARA Mobili	Characteristic	167229.37	355000	33680.06	204959.35	177112.11	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	92295.55	360000	Verified
Concio 4 H=var	127	J[746]	ST RARA Mobili	Characteristic	167875.47	355000	35715.47	204959.35	178910.48	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	104450.02	360000	Verified
Concio 4 H=20	128	I[746]	ST RARA Mobili	Characteristic	166484.49	355000	35572.56	204959.35	177519.88	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	107658.59	360000	Verified
Concio 4 H=20	128	J[747]	ST RARA Mobili	Characteristic	179494.60	355000	36837.90	204959.35	190497.78	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	124106.64	360000	Verified
Concio 4 H=20	129	I[747]	ST RARA Mobili	Characteristic	178572.16	355000	41931.09	204959.35	192776.21	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	123314.72	360000	Verified
Concio 4 H=20	129	J[748]	ST RARA Mobili	Characteristic	165348.94	355000	40696.22	204959.35	179746.54	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	108852.92	360000	Verified
Concio 4 H=var	130	I[748]	ST RARA Mobili	Characteristic	166803.35	355000	40475.12	204959.35	180936.63	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	105427.21	360000	Verified
Concio 4 H=var	130	J[749]	ST RARA Mobili	Characteristic	163622.46	355000	41738.85	204959.35	178881.82	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	90306.54	360000	Verified
Concio 4 H=var	131	I[749]	ST RARA Mobili	Characteristic	163339.22	355000	42728.92	204959.35	179323.68	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	109212.49	360000	Verified
Concio 4 H=var	131	J[750]	ST RARA Mobili	Characteristic	166934.77	355000	55066.81	204959.35	192260.97	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	116702.10	360000	Verified
Concio 3	132	I[750]	ST RARA Mobili	Characteristic	-208039.76	355000	54685.10	204959.35	228586.80	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	211570.45	360000	Verified
Concio 3	132	J[751]	ST RARA Mobili	Characteristic	-186271.65	355000	52518.21	204959.35	207295.96	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	247647.15	360000	Verified
Concio 3	133	I[751]	ST RARA Mobili	Characteristic	-186589.06	355000	55703.16	204959.35	210057.14	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	166075.58	360000	Verified
Concio 3	133	J[752]	ST RARA Mobili	Characteristic	-72991.15	355000	29420.55	204959.35	89019.19	355000	ST RARA Mobili	Characteristic	4044.24	19200	ST RARA Mobili	Characteristic	75941.01	360000	Verified
Concio 3	134	I[752]	ST RARA Mobili	Characteristic	-64657.21	355000	44516.59	204959.35	100626.71	355000	ST RARA Mobili	Characteristic	3478.89	19200	ST RARA Mobili	Characteristic	67286.90	360000	Verified
Concio 3	134	J[753]	ST RARA Mobili	Characteristic	-116763.87	355000	29609.94	204959.35	127530.58	355000	ST RARA Mobili	Characteristic	4721.81	19200	ST RARA Mobili	Characteristic	45698.70	360000	Verified

Concio 2	135	J[753]	ST RARA Mobili	Characteristic	-121312.46	355000	39479.92	204959.35	139257.70	355000	ST RARA Mobili	Characteristic	4746.41	19200	ST RARA Mobili	Characteristic	55167.71	360000	Verified
Concio 2	135	J[754]	ST RARA Mobili	Characteristic	-164151.97	355000	11449.76	204959.35	165345.58	355000	ST RARA Mobili	Characteristic	6405.08	19200	ST RARA Mobili	Characteristic	35977.44	360000	Verified
Concio 2	136	I[754]	ST RARA Mobili	Characteristic	-160724.11	355000	13535.44	204959.35	162424.94	355000	ST RARA Mobili	Characteristic	6318.35	19200	ST RARA Mobili	Characteristic	-35160.36	360000	Verified
Concio 2	136	J[755]	ST RARA Mobili	Characteristic	-182754.34	355000	34541.23	204959.35	192297.78	355000	ST RARA Mobili	Characteristic	6656.85	19200	ST RARA Mobili	Characteristic	-36870.63	360000	Verified
Concio 2	137	I[755]	ST RARA Mobili	Characteristic	-184364.07	355000	15646.11	204959.35	186345.15	355000	ST RARA Mobili	Characteristic	7253.17	19200	ST RARA Mobili	Characteristic	-40465.61	360000	Verified
Concio 2	137	J[756]	ST RARA Mobili	Characteristic	-177540.12	355000	33211.04	204959.35	186626.41	355000	ST RARA Mobili	Characteristic	6366.94	19200	ST RARA Mobili	Characteristic	-35105.05	360000	Verified
Concio 1	138	I[756]	ST RARA Mobili	Characteristic	-219026.43	355000	32857.73	204959.35	226299.51	355000	ST RARA Mobili	Characteristic	6857.74	19200	ST RARA Mobili	Characteristic	-37222.33	360000	Verified
Concio 1	138	J[757]	ST RARA Mobili	Characteristic	-158926.63	355000	62756.40	204959.35	192542.90	355000	ST RARA Mobili	Characteristic	5461.39	19200	ST RARA Mobili	Characteristic	-30041.97	360000	Verified
Concio 1	139	I[757]	ST RARA Mobili	Characteristic	-169229.03	355000	45754.27	204959.35	186865.79	355000	ST RARA Mobili	Characteristic	5979.52	19200	ST RARA Mobili	Characteristic	-32889.31	360000	Verified
Concio 1	139	J[758]	ST RARA Mobili	Characteristic	54560.68	355000	72247.49	204959.35	136513.62	355000	ST RARA Mobili	Characteristic	1188.04	19200	ST RARA Mobili	Characteristic	160812.64	360000	Verified
Concio 1	140	I[758]	ST RARA Mobili	Characteristic	12832.22	355000	25593.17	204959.35	46148.64	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	15931.11	360000	Verified
Concio 1	140	J[759]	ST RARA Frenamento	Characteristic	0.00	355000	0.00	204959.35	0.00	355000	ST RARA Frenamento	Characteristic	0.00	19200	ST RARA Frenamento	Characteristic	0.00	360000	Verified
Concio 1	201	I[760]	ST RARA Frenamento	Characteristic	0.00	355000	0.00	204959.35	0.00	355000	ST RARA Frenamento	Characteristic	0.00	19200	ST RARA Frenamento	Characteristic	0.00	360000	Verified
Concio 1	201	J[761]	ST RARA Mobili	Characteristic	12618.88	355000	25223.82	204959.35	45474.81	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili		18514.70	360000	Verified
Concio 1	202	I[761]	ST RARA Mobili	Characteristic	30596.40	355000	53473.87	204959.35	97542.33	355000	ST RARA Mobili	Characteristic	735.64	19200	ST RARA Mobili	Characteristic	112382.98	360000	Verified
Concio 1	202	J[762]	ST RARA Mobili	Characteristic	-165490.14	355000	22879.77	204959.35	170168.85	355000	ST RARA Mobili	Characteristic	5013.59	19200	ST RARA Mobili	Characteristic	-27099.57	360000	Verified
Concio 1	203	I[762]	ST RARA Mobili	Characteristic	-155752.24	355000	30478.34	204959.35	164455.31	355000	ST RARA Mobili	Characteristic	4722.75	19200	ST RARA Mobili	Characteristic	-25600.09	360000	Verified
Concio 1	203	J[763]	ST RARA Mobili	Characteristic	-204835.14	355000	11221.51	204959.35	205755.19	355000	ST RARA Mobili	Characteristic	5866.08	19200	ST RARA Mobili	Characteristic	-31638.50	360000	Verified
Concio 2	204	I[763]	ST RARA Mobili	Characteristic	-166009.48	355000	11342.17	204959.35	167167.83	355000	ST RARA Mobili	Characteristic	5434.77	19200	ST RARA Mobili	Characteristic	-29794.14	360000	Verified
Concio 2	204	J[764]	ST RARA Mobili	Characteristic	-176172.98	355000	3149.79	204959.35	176257.43	355000	ST RARA Mobili	Characteristic	5724.18	19200	ST RARA Mobili	Characteristic	-31625.14	360000	Verified
Concio 2	205	I[764]	ST RARA Mobili	Characteristic	-177786.15	355000	13600.08	204959.35	179339.91	355000	ST RARA Mobili	Characteristic	6119.59	19200	ST RARA Mobili	Characteristic	-33740.13	360000	Verified
Concio 2	205	J[765]	ST RARA Mobili	Characteristic	-157389.97	355000	19734.21	204959.35	161058.74	355000	ST RARA Mobili	Characteristic	5556.99	19200	ST RARA Mobili	Characteristic	-30625.32	360000	Verified
Concio 2	206	I[765]	ST RARA Mobili	Characteristic	-158977.17	355000	40875.00	204959.35	174028.84	355000	ST RARA Mobili	Characteristic	5357.92	19200	ST RARA Mobili	Characteristic	33975.52	360000	Verified
Concio 2	206	J[766]	ST RARA Mobili	Characteristic	-114148.09	355000	57930.20	204959.35	151978.65	355000	ST RARA Mobili	Characteristic	4014.67	19200	ST RARA Mobili	Characteristic	54621.36	360000	Verified
Concio 3	207	I[766]	ST RARA Mobili	Characteristic	-109933.27	355000	43447.65	204959.35	133223.19	355000	ST RARA Mobili	Characteristic	3991.02	19200	ST RARA Mobili	Characteristic	45402.55	360000	Verified
Concio 3	207	J[767]	ST RARA Mobili	Characteristic	-67878.46	355000	40127.90	204959.35	97150.56	355000	ST RARA Mobili	Characteristic	3122.96	19200	ST RARA Mobili	Characteristic	65363.03	360000	Verified
Concio 3	208	I[767]	ST RARA Mobili	Characteristic	-75318.92	355000	49566.83	204959.35	114208.37	355000	ST RARA Mobili	Characteristic	3335.53	19200	ST RARA Mobili	Characteristic	73831.50	360000	Verified
Concio 3	208	J[768]	ST RARA Mobili	Characteristic	-177932.38	355000	50182.31	204959.35	198027.08	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	150639.25	360000	Verified
Concio 3	209	I[768]	ST RARA Mobili	Characteristic	-176727.51	355000	48666.88	204959.35	195800.94	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	218561.89	360000	Verified
Concio 3	209	J[769]	ST RARA Mobili	Characteristic	-197982.37	355000	50056.62	204959.35	216134.25	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	185445.19	360000	Verified
Concio 4 H=var	210	I[769]	ST RARA Mobili	Characteristic	158364.17	355000	51319.82	204959.35	181605.02	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	105183.02	360000	Verified
Concio 4 H=var	210	J[770]	ST RARA Mobili	Characteristic	155900.87	355000	39583.31	204959.35	170310.29	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	93532.78	360000	Verified
Concio 4 H=var	211	I[770]	ST RARA Mobili	Characteristic	156112.17	355000	39621.93	204959.35	170530.65	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	84210.27	360000	Verified
Concio 4 H=var	211	J[771]	ST RARA Mobili	Characteristic	160677.83	355000	34181.66	204959.35	171238.20	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	99035.59	360000	Verified
Concio 4 H=20	212	I[771]	ST RARA Mobili	Characteristic	159334.85	355000	34024.94	204959.35	169884.33	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	101722.97	360000	Verified
Concio 4 H=20	212	J[772]	ST RARA Mobili	Characteristic	171444.09	355000	38937.62	204959.35	184232.17	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	115559.33	360000	Verified
Concio 4 H=20	213	I[772]	ST RARA Mobili	Characteristic	171248.92	355000	41065.57	204959.35	185432.84	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	119225.11	360000	Verified
Concio 4 H=20	213	J[773]	ST RARA Mobili	Characteristic	159451.63	355000	39168.95	204959.35	173284.28	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	104297.25	360000	Verified
Concio 4 H=var	214	I[773]	ST RARA Mobili	Characteristic	160951.51	355000	38842.54	204959.35	174446.61	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	101626.59	360000	Verified
Concio 4 H=var	214	J[774]	ST RARA Mobili	Characteristic	161102.75	355000	39386.47	204959.35	174951.36	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	86682.98	360000	Verified
Concio 4 H=var	215	I[774]	ST RARA Mobili	Characteristic	160824.69	355000	37574.96	204959.35	173494.14	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	99600.79	360000	Verified
Concio 4 H=var	215	J[775]	ST RARA Mobili	Characteristic	174694.36	355000	48192.54	204959.35	193612.19	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	117325.29	360000	Verified
Concio 5	216	I[775]	ST RARA Mobili	Characteristic	-219911.21	355000	47434.98	204959.35	234757.69	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	213548.26	360000	Verified
Concio 5	216	J[776]	ST RARA Mobili	Characteristic	-200664.54	355000	46039.63	204959.35	215928.69	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	244566.98	360000	Verified
Concio 5	217	I[776]	ST RARA Mobili	Characteristic	-202552.33	355000	46243.39	204959.35	217813.68	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	167437.87	360000	Verified
Concio 5	217	J[777]	ST RARA Termico	Characteristic	61015.92	355000	23511.36	204959.35	73357.31	355000	ST RARA Mobili	Characteristic	2322.32	19200	ST RARA Mobili	Characteristic	106594.07	360000	Verified
Concio 5	218	I[777]	ST RARA Termico	Characteristic	62862.70	355000	22973.13	204959.35	74397.66	355000	ST RARA Mobili	Characteristic	2014.76	19200	ST RARA Mobili	Characteristic	96837.20	360000	Verified
Concio 5	218	J[778]	ST RARA Mobili	Characteristic	-73341.20	355000	19204.47	204959.35	80531.78	355000	ST RARA Mobili	Characteristic	2743.59	19200	ST RARA Mobili	Characteristic	80595.50	360000	Verified
Concio 6	219	I[778]	ST RARA Mobili	Characteristic	-78075.50	355000	32007.45	204959.35	95756.01	355000	ST RARA Mobili	Characteristic	2769.26	19200	ST RARA Mobili	Characteristic	98311.02	360000	Verified
Concio 6	219	J[779]	ST RARA Mobili	Characteristic	-109796.88	355000	19862.59	204959.35	115060.51	355000	ST RARA Mobili	Characteristic	3747.28	19200	ST RARA Mobili	Characteristic	93317.05	360000	Verified
Concio 6	220	I[779]	ST RARA Mobili	Characteristic	-107999.45	355000	5191.65	204959.35	108373.15	355000	ST RARA Mobili	Characteristic	3946.01	19200	ST RARA Mobili	Characteristic	84575.46	360000	Verified
Concio 6	220	J[780]	ST RARA Mobili	Characteristic	-115995.85	355000	2650.21	204959.35	116086.64	355000	ST RARA Mobili	Characteristic	3785.22	19200	ST RARA Mobili	Characteristic	78206.77	360000	Verified
Concio 6	221	I[780]	ST RARA Mobili	Characteristic	-115995.85	355000	2650.21	204959.35	116086.64	355000	ST RARA Mobili	Characteristic	3785.22	19200	ST RARA Mobili	Characteristic	78206.77	360000	Verified
Concio 6	221	J[781]	ST RARA Mobili	Characteristic	-108004.17	355000	12730.97	204959.35	110232.18	355000	ST RARA Mobili	Characteristic	3946.51	19200	ST RARA Mobili	Characteristic	84587.69	360000	Verified
Concio 6	222	I[781]	ST RARA Mobili	Characteristic	-109789.35	355000	38133.64	204959.35	128125.82	355000	ST RARA Mobili	Characteristic	3746.58	19200	ST RARA Mobili	Characteristic	93332.35	360000	Verified
Concio 6	222	J[782]	ST RARA Mobili	Characteristic	-78061.01	355000	59231.13	204959.35	128912.77	355000	ST RARA Mobili	Characteristic	2768.69	19200	ST RARA Mobili	Characteristic	98315.07	360000	Verified
Concio 5	223	I[782]	ST RARA Mobili	Characteristic	-73327.83	355000	35538.68	204959.35	95739.04	355000	ST RARA Mobili	Characteristic	2743.03	19200	ST RARA Mobili	Characteristic	80598.10	360000	Verified
Concio 5	223	J[783]	ST RARA Termico	Characteristic	62862.05	355000	22645.00	204959.35	74094.71	355000	ST RARA Mobili	Characteristic	2015.97	19200	ST RARA Mobili	Characteristic	96835.35	360000	Verified
Concio 5	224	I[783]	ST RARA Termico	Characteristic	61024.09	355000	21854.90	204959.35	71811.20	355000	ST RARA Mobili	Characteristic	2322.45	19200	ST RARA Mobili	Characteristic	106617.13	360000	Verified
Concio 5	224	J[784]	ST RARA Mobili	Characteristic	-202569.96	355000	45200.14	204959.35	217172.15	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	167457.67	360000	Verified
Concio 5	225	I[784]	ST RARA Mobili	Characteristic	-200678.20	355000	43477.13	204959.35	214342.07	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	239002.28	360000	Verified
Concio 5	225	J[785]	ST RARA Mobili	Characteristic	-219937.26	355000	44865.98	204959.35	233262.23	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	203949.31	360000	Verified
Concio 4 H=var	226	I[785]	ST RARA Mobili	Characteristic	174703.00	355000	46144.41	204959.35	192117.30	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	117781.06	360000	Verified
Concio 4 H=var	226	J[786]	ST RARA Mobili	Characteristic	160832.56	355000	36246.21	204959.35	172651.32	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	98082.81	360000	Verified
Concio 4 H=var	227	I[786]	ST RARA Mobili	Characteristic	161106.06	355000	36193.82	204959.35	172873.19	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	86672.23	360000	Verified
Concio 4 H=var	227	J[787]	ST RARA Mobili	Characteristic	160954.05	355000	36478.48	204959.35	172911.09	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	99875.25	360000	Verified
Concio 4 H=20	228	I[787]	ST RARA Mobili	Characteristic	159454.41	355000	36412.75	204959.35	171474.12	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	102514.03	360000	Verified
Concio 4 H=20	228	J[788]	ST RARA Mobili	Characteristic	171248.51	355000	38307.78	204959.35	183653.23	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	116172.41	360000	Verified
Concio 4 H=20	229	I[788]	ST RARA Mobili	Characteristic	171454.77	355000	42063.92	204959.35	186292.39	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	118078.39	360000	Verified
Concio 4 H=20	229	J[789]	ST RARA Mobili	Characteristic	159336.13	355000	37148.12	204959.35	171836.99	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	102962.23	360000	Verified

Concio 4 H=var	230	I[789]	ST RARA Mobili	Characteristic	160679.14	355000	36934.86	204959.35	172946.05	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	100237.33	360000	Verified
Concio 4 H=var	230	J[790]	ST RARA Mobili	Characteristic	156126.88	355000	43343.30	204959.35	173238.36	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	84233.70	360000	Verified
Concio 4 H=var	231	I[790]	ST RARA Mobili	Characteristic	155906.13	355000	41444.29	204959.35	171638.02	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	93516.66	360000	Verified
Concio 4 H=var	231	J[791]	ST RARA Mobili	Characteristic	158372.13	355000	54189.73	204959.35	184095.93	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	100416.68	360000	Verified
Concio 3	232	I[791]	ST RARA Mobili	Characteristic	-197985.93	355000	53384.08	204959.35	218513.18	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	186670.60	360000	Verified
Concio 3	232	J[792]	ST RARA Mobili	Characteristic	-176734.16	355000	51994.13	204959.35	198356.08	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	219137.00	360000	Verified
Concio 3	233	I[792]	ST RARA Mobili	Characteristic	-177930.22	355000	52005.53	204959.35	199431.42	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	150633.82	360000	Verified
Concio 3	233	J[793]	ST RARA Mobili	Characteristic	-75316.93	355000	31627.78	204959.35	93132.11	355000	ST RARA Mobili	Characteristic	3335.33	19200	ST RARA Mobili	Characteristic	73828.93	360000	Verified
Concio 3	234	I[793]	ST RARA Mobili	Characteristic	-67859.31	355000	23007.03	204959.35	78694.70	355000	ST RARA Mobili	Characteristic	3121.66	19200	ST RARA Mobili	Characteristic	65377.10	360000	Verified
Concio 3	234	J[794]	ST RARA Mobili	Characteristic	-109941.64	355000	26324.52	204959.35	119021.45	355000	ST RARA Mobili	Characteristic	3991.51	19200	ST RARA Mobili	Characteristic	45402.26	360000	Verified
Concio 2	235	I[794]	ST RARA Mobili	Characteristic	-114156.85	355000	35099.36	204959.35	129335.54	355000	ST RARA Mobili	Characteristic	4015.16	19200	ST RARA Mobili	Characteristic	54619.78	360000	Verified
Concio 2	235	J[795]	ST RARA Mobili	Characteristic	-158353.61	355000	15024.03	204959.35	160477.50	355000	ST RARA Mobili	Characteristic	5359.42	19200	ST RARA Mobili	Characteristic	33979.49	360000	Verified
Concio 2	236	I[795]	ST RARA Mobili	Characteristic	-157390.14	355000	4318.95	204959.35	157567.81	355000	ST RARA Mobili	Characteristic	5557.37	19200	ST RARA Mobili	Characteristic	-30627.52	360000	Verified
Concio 2	236	J[796]	ST RARA Mobili	Characteristic	-177788.50	355000	1816.45	204959.35	177816.34	355000	ST RARA Mobili	Characteristic	6119.26	19200	ST RARA Mobili	Characteristic	-33738.03	360000	Verified
Concio 2	237	I[796]	ST RARA Mobili	Characteristic	-176918.47	355000	22129.24	204959.35	181022.80	355000	ST RARA Mobili	Characteristic	5747.79	19200	ST RARA Mobili	Characteristic	-31626.83	360000	Verified
Concio 2	237	J[797]	ST RARA Mobili	Characteristic	-166008.51	355000	34140.25	204959.35	176225.69	355000	ST RARA Mobili	Characteristic	5434.69	19200	ST RARA Mobili	Characteristic	-29793.63	360000	Verified
Concio 1	238	I[797]	ST RARA Mobili	Characteristic	-204834.05	355000	33777.03	204959.35	213025.00	355000	ST RARA Mobili	Characteristic	5866.00	19200	ST RARA Mobili	Characteristic	-31638.03	360000	Verified
Concio 1	238	J[798]	ST RARA Mobili	Characteristic	-155742.75	355000	53033.29	204959.35	180813.15	355000	ST RARA Mobili	Characteristic	4722.84	19200	ST RARA Mobili	Characteristic	-25682.66	360000	Verified
Concio 1	239	I[798]	ST RARA Mobili	Characteristic	-165485.02	355000	47120.56	204959.35	184516.49	355000	ST RARA Mobili	Characteristic	5018.21	19200	ST RARA Mobili	Characteristic	-27129.11	360000	Verified
Concio 1	239	J[799]	ST RARA Mobili	Characteristic	30598.32	355000	56442.44	204959.35	102437.81	355000	ST RARA Mobili	Characteristic	735.12	19200	ST RARA Mobili	Characteristic	112376.71	360000	Verified
Concio 1	240	I[799]	ST RARA Mobili	Characteristic	12618.14	355000	25223.81	204959.35	45474.60	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	-	18514.70	360000	Verified
Concio 1	240	J[800]	ST RARA Vento	Characteristic	0.00	355000	0.00	204959.35	0.00	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	0.00	360000	Verified
Concio 1	301	I[801]	ST RARA Frenamento	Characteristic	0.00	355000	0.00	204959.35	0.00	355000	ST RARA Frenamento	Characteristic	0.00	19200	ST RARA Frenamento	Characteristic	0.00	360000	Verified
Concio 1	301	J[802]	ST RARA Mobili	Characteristic	12618.88	355000	25223.82	204959.35	45474.81	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	-	18514.70	360000	Verified
Concio 1	302	I[802]	ST RARA Mobili	Characteristic	34087.57	355000	74535.41	204959.35	133523.57	355000	ST RARA Mobili	Characteristic	957.79	19200	ST RARA Mobili	Characteristic	112360.18	360000	Verified
Concio 1	302	J[803]	ST RARA Mobili	Characteristic	-165412.53	355000	22835.53	204959.35	170075.54	355000	ST RARA Mobili	Characteristic	4787.14	19200	ST RARA Mobili	Characteristic	-25744.99	360000	Verified
Concio 1	303	I[803]	ST RARA Mobili	Characteristic	-155633.49	355000	30452.36	204959.35	164328.40	355000	ST RARA Mobili	Characteristic	4590.61	19200	ST RARA Mobili	Characteristic	-25573.15	360000	Verified
Concio 1	303	J[804]	ST RARA Mobili	Characteristic	-204965.36	355000	11195.52	204959.35	205880.59	355000	ST RARA Mobili	Characteristic	5811.87	19200	ST RARA Mobili	Characteristic	-31312.61	360000	Verified
Concio 2	304	I[804]	ST RARA Mobili	Characteristic	-166082.21	355000	11315.90	204959.35	167234.71	355000	ST RARA Mobili	Characteristic	5380.32	19200	ST RARA Mobili	Characteristic	-29467.37	360000	Verified
Concio 2	304	J[805]	ST RARA Mobili	Characteristic	-176492.18	355000	3176.05	204959.35	176577.89	355000	ST RARA Mobili	Characteristic	5761.42	19200	ST RARA Mobili	Characteristic	-31910.61	360000	Verified
Concio 2	305	I[805]	ST RARA Mobili	Characteristic	-177867.10	355000	13604.70	204959.35	179421.21	355000	ST RARA Mobili	Characteristic	6148.76	19200	ST RARA Mobili	Characteristic	-33912.85	360000	Verified
Concio 2	305	J[806]	ST RARA Mobili	Characteristic	-157545.44	355000	19738.83	204959.35	161212.38	355000	ST RARA Mobili	Characteristic	5654.43	19200	ST RARA Mobili	Characteristic	36374.12	360000	Verified
Concio 2	306	I[806]	ST RARA Mobili	Characteristic	-159156.98	355000	40911.19	204959.35	174218.60	355000	ST RARA Mobili	Characteristic	5404.93	19200	ST RARA Mobili	Characteristic	-29675.02	360000	Verified
Concio 2	306	J[807]	ST RARA Mobili	Characteristic	-114224.86	355000	57966.39	204959.35	152077.69	355000	ST RARA Mobili	Characteristic	4057.35	19200	ST RARA Mobili	Characteristic	59680.25	360000	Verified
Concio 3	307	I[807]	ST RARA Mobili	Characteristic	-110008.41	355000	43474.79	204959.35	133311.75	355000	ST RARA Mobili	Characteristic	4033.64	19200	ST RARA Mobili	Characteristic	48862.32	360000	Verified
Concio 3	307	J[808]	ST RARA Mobili	Characteristic	-67809.02	355000	40155.04	204959.35	97135.70	355000	ST RARA Mobili	Characteristic	3066.86	19200	ST RARA Mobili	Characteristic	66279.12	360000	Verified
Concio 3	308	I[808]	ST RARA Mobili	Characteristic	-75155.05	355000	49608.81	204959.35	114155.09	355000	ST RARA Mobili	Characteristic	3164.06	19200	ST RARA Mobili	Characteristic	71513.89	360000	Verified
Concio 3	308	J[809]	ST RARA Mobili	Characteristic	-178055.50	355000	50140.33	204959.35	198105.83	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	148511.26	360000	Verified
Concio 3	309	I[809]	ST RARA Mobili	Characteristic	-178091.55	355000	48616.90	204959.35	196995.96	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	235351.31	360000	Verified
Concio 3	309	J[810]	ST RARA Mobili	Characteristic	-199162.61	355000	50006.64	204959.35	217181.34	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	201947.90	360000	Verified
Concio 4 H=var	310	I[810]	ST RARA Mobili	Characteristic	159069.48	355000	51234.57	204959.35	182148.41	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	110204.18	360000	Verified
Concio 4 H=var	310	J[811]	ST RARA Mobili	Characteristic	157048.87	355000	39528.08	204959.35	171323.54	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	85952.50	360000	Verified
Concio 4 H=var	311	I[811]	ST RARA Mobili	Characteristic	156213.06	355000	39553.04	204959.35	170575.05	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	80598.14	360000	Verified
Concio 4 H=var	311	J[812]	ST RARA Mobili	Characteristic	161130.95	355000	34130.70	204959.35	171633.03	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	96696.49	360000	Verified
Concio 4 H=20	312	I[812]	ST RARA Mobili	Characteristic	159787.16	355000	33992.29	204959.35	170289.06	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	100699.05	360000	Verified
Concio 4 H=20	312	J[813]	ST RARA Mobili	Characteristic	171022.18	355000	38904.97	204959.35	183818.87	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	114989.78	360000	Verified
Concio 4 H=20	313	I[813]	ST RARA Mobili	Characteristic	170549.65	355000	41097.99	204959.35	184808.86	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	110809.85	360000	Verified
Concio 4 H=20	313	J[814]	ST RARA Mobili	Characteristic	159107.76	355000	39201.37	204959.35	172989.94	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	96726.88	360000	Verified
Concio 4 H=var	314	I[814]	ST RARA Mobili	Characteristic	160529.27	355000	38894.29	204959.35	174091.77	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	94307.26	360000	Verified
Concio 4 H=var	314	J[815]	ST RARA Mobili	Characteristic	161285.70	355000	39456.44	204959.35	175167.09	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	83558.68	360000	Verified
Concio 4 H=var	315	I[815]	ST RARA Mobili	Characteristic	162196.11	355000	37633.47	204959.35	174803.93	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	91601.93	360000	Verified
Concio 4 H=var	315	J[816]	ST RARA Mobili	Characteristic	175541.74	355000	48282.85	204959.35	194444.34	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	123879.33	360000	Verified
Concio 5	316	I[816]	ST RARA Mobili	Characteristic	-221348.56	355000	47484.80	204959.35	236134.71	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	224939.75	360000	Verified
Concio 5	316	J[817]	ST RARA Mobili	Characteristic	-202033.76	355000	46089.45	204959.35	217233.40	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	258844.95	360000	Verified
Concio 5	317	I[817]	ST RARA Mobili	Characteristic	-202842.00	355000	46286.39	204959.35	218110.45	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	166244.63	360000	Verified
Concio 5	317	J[818]	ST RARA Termico	Characteristic	59323.92	355000	23554.36	204959.35	71998.28	355000	ST RARA Mobili	Characteristic	2090.71	19200	ST RARA Mobili	Characteristic	98410.06	360000	Verified
Concio 5	318	I[818]	ST RARA Termico	Characteristic	62776.65	355000	22997.05	204959.35	74347.16	355000	ST RARA Mobili	Characteristic	1996.10	19200	ST RARA Mobili	Characteristic	96671.42	360000	Verified
Concio 5	318	J[819]	ST RARA Mobili	Characteristic	-73435.29	355000	19180.55	204959.35	80600.38	355000	ST RARA Mobili	Characteristic	2789.57	19200	ST RARA Mobili	Characteristic	84045.21	360000	Verified
Concio 6	319	I[819]	ST RARA Mobili	Characteristic	-78172.96	355000	31967.58	204959.35	95795.56	355000	ST RARA Mobili	Characteristic	2815.32	19200	ST RARA Mobili	Characteristic	103348.57	360000	Verified
Concio 6	319	J[820]	ST RARA Mobili	Characteristic	-110071.01	355000	19822.72	204959.35	115301.55	355000	ST RARA Mobili	Characteristic	3910.07	19200	ST RARA Mobili	Characteristic	89824.77	360000	Verified
Concio 6	320	I[820]	ST RARA Mobili	Characteristic	-108115.92	355000	5191.77	204959.35	108489.24	355000	ST RARA Mobili	Characteristic	4001.57	19200	ST RARA Mobili	Characteristic	90263.19	360000	Verified
Concio 6	320	J[821]	ST RARA Mobili	Characteristic	-116112.06	355000	2650.32	204959.35	116202.77	355000	ST RARA Mobili	Characteristic	3840.64	19200	ST RARA Mobili	Characteristic	83881.65	360000	Verified
Concio 6	321	I[821]	ST RARA Mobili	Characteristic	-116112.06	355000	2650.32	204959.35	116202.77	355000	ST RARA Mobili	Characteristic	3840.64	19200	ST RARA Mobili	Characteristic	83881.65	360000	Verified
Concio 6	321	J[822]	ST RARA Mobili	Characteristic	-108120.13	355000	12731.08	204959.35	110345.83	355000	ST RARA Mobili	Characteristic	4001.79	19200	ST RARA Mobili	Characteristic	90249.72	360000	Verified
Concio 6	322	I[822]	ST RARA Mobili	Characteristic	-110065.37	355000	38174.37	204959.35	128398.73	355000	ST RARA Mobili	Characteristic	3909.69	19200	ST RARA Mobili	Characteristic	89837.33	360000	Verified
Concio 6	322	J[823]	ST RARA Mobili	Characteristic	-78159.07	355000	59271.86	204959.35	129028.29	355000	ST RARA Mobili	Characteristic	2814.67	19200	ST RARA Mobili	Characteristic	103347.93	360000	Verified
Concio 5	323	I[823]	ST RARA Mobili	Characteristic	-73422.45	355000	35563.11	204959.35	95838.72	355000	ST RARA Mobili	Characteristic	2788.94	19200	ST RARA Mobili	Characteristic	84044.51	360000	Verified
Concio 5	323	J[824]	ST RARA Termico	Characteristic	62778.56	355000	22620.57	204959.35	74001.47	355000	ST RARA Mobili	Characteristic	1976.85	19200	ST RARA Mobili	Characteristic	96678.82	360000	Verified
Concio 5	324	I[824]	ST RARA Termico	Characteristic	59327.75	355000	21812.61	204959.35	70335.99	355000	ST RARA Mobili	Characteristic	2089.90	19200	ST RARA Mobili	Characteristic	98417.12	360000	Verified
Concio 5	324	J[825]	ST RARA Mobili	Characteristic	-202861.92	355000	45157.85	204959.35	217418.15	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	166283.60	360000	Verified

Concio 5	325	I[825]	ST RARA Mobili	Characteristic	-202049.54	355000	43427.78	204959.35	215596.69	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	259045.38	360000	Verified
Concio 5	325	J[826]	ST RARA Mobili	Characteristic	-221372.81	355000	44816.63	204959.35	234587.96	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	225039.38	360000	Verified
Concio 4 H=var	326	I[826]	ST RARA Mobili	Characteristic	175554.21	355000	46054.91	204959.35	192827.50	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	123944.46	360000	Verified
Concio 4 H=var	326	J[827]	ST RARA Mobili	Characteristic	162205.01	355000	36188.22	204959.35	173894.30	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	93985.52	360000	Verified
Concio 4 H=var	327	I[827]	ST RARA Mobili	Characteristic	161294.44	355000	36122.15	204959.35	173003.83	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	83550.45	360000	Verified
Concio 4 H=var	327	J[828]	ST RARA Mobili	Characteristic	160539.61	355000	36425.48	204959.35	172491.77	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	97300.53	360000	Verified
Concio 4 H=20	328	I[828]	ST RARA Mobili	Characteristic	159111.03	355000	36378.85	204959.35	171133.23	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	101252.28	360000	Verified
Concio 4 H=20	328	J[829]	ST RARA Mobili	Characteristic	170559.22	355000	38273.88	204959.35	182989.39	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	114973.85	360000	Verified
Concio 4 H=20	329	I[829]	ST RARA Mobili	Characteristic	171022.76	355000	42095.40	204959.35	185916.25	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	109725.15	360000	Verified
Concio 4 H=20	329	J[830]	ST RARA Mobili	Characteristic	159794.39	355000	37179.60	204959.35	172282.37	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	96190.54	360000	Verified
Concio 4 H=var	330	I[830]	ST RARA Mobili	Characteristic	161138.22	355000	36984.86	204959.35	173404.64	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	93169.36	360000	Verified
Concio 4 H=var	330	J[831]	ST RARA Mobili	Characteristic	156223.10	355000	43410.90	204959.35	173375.82	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	80621.06	360000	Verified
Concio 4 H=var	331	I[831]	ST RARA Mobili	Characteristic	157053.47	355000	41500.38	204959.35	172721.27	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	86197.28	360000	Verified
Concio 4 H=var	331	J[832]	ST RARA Mobili	Characteristic	159074.08	355000	54276.31	204959.35	184776.40	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	110165.81	360000	Verified
Concio 3	332	I[832]	ST RARA Mobili	Characteristic	-199168.23	355000	53435.07	204959.35	219622.18	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	201840.92	360000	Verified
Concio 3	332	J[833]	ST RARA Mobili	Characteristic	-178097.41	355000	52045.13	204959.35	199611.55	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	235177.23	360000	Verified
Concio 3	333	I[833]	ST RARA Mobili	Characteristic	-178049.24	355000	52048.73	204959.35	199571.40	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	148480.59	360000	Verified
Concio 3	333	J[834]	ST RARA Mobili	Characteristic	-75157.38	355000	31584.58	204959.35	92959.07	355000	ST RARA Mobili	Characteristic	3164.42	19200	ST RARA Mobili	Characteristic	71512.20	360000	Verified
Concio 3	334	I[834]	ST RARA Mobili	Characteristic	-67789.58	355000	22980.51	204959.35	78611.31	355000	ST RARA Mobili	Characteristic	3065.57	19200	ST RARA Mobili	Characteristic	66280.78	360000	Verified
Concio 3	334	J[835]	ST RARA Mobili	Characteristic	-110015.97	355000	26298.00	204959.35	119072.53	355000	ST RARA Mobili	Characteristic	4034.21	19200	ST RARA Mobili	Characteristic	48865.13	360000	Verified
Concio 2	335	I[835]	ST RARA Mobili	Characteristic	-114232.45	355000	35064.00	204959.35	129373.51	355000	ST RARA Mobili	Characteristic	4057.90	19200	ST RARA Mobili	Characteristic	59683.32	360000	Verified
Concio 2	335	J[836]	ST RARA Mobili	Characteristic	-158404.56	355000	14988.67	204959.35	160517.87	355000	ST RARA Mobili	Characteristic	5281.83	19200	ST RARA Mobili	Characteristic	29177.35	360000	Verified
Concio 2	336	I[836]	ST RARA Mobili	Characteristic	-157544.57	355000	4314.87	204959.35	157721.74	355000	ST RARA Mobili	Characteristic	5654.79	19200	ST RARA Mobili	Characteristic	36383.05	360000	Verified
Concio 2	336	J[837]	ST RARA Mobili	Characteristic	-177871.18	355000	1820.52	204959.35	177899.13	355000	ST RARA Mobili	Characteristic	6148.65	19200	ST RARA Mobili	Characteristic	-33912.02	360000	Verified
Concio 2	337	I[837]	ST RARA Mobili	Characteristic	-177237.28	355000	22155.45	204959.35	181344.00	355000	ST RARA Mobili	Characteristic	5898.65	19200	ST RARA Mobili	Characteristic	-32411.27	360000	Verified
Concio 2	337	J[838]	ST RARA Mobili	Characteristic	-166081.08	355000	34166.45	204959.35	176309.29	355000	ST RARA Mobili	Characteristic	5473.89	19200	ST RARA Mobili	Characteristic	-30050.52	360000	Verified
Concio 1	338	I[838]	ST RARA Mobili	Characteristic	-204964.01	355000	33802.95	204959.35	213162.29	355000	ST RARA Mobili	Characteristic	5900.50	19200	ST RARA Mobili	Characteristic	-31875.07	360000	Verified
Concio 1	338	J[839]	ST RARA Mobili	Characteristic	-155623.42	355000	53059.22	204959.35	180733.20	355000	ST RARA Mobili	Characteristic	4815.13	19200	ST RARA Mobili	Characteristic	-26396.19	360000	Verified
Concio 1	339	I[839]	ST RARA Mobili	Characteristic	-165407.65	355000	47165.04	204959.35	184481.20	355000	ST RARA Mobili	Characteristic	4791.71	19200	ST RARA Mobili	Characteristic	-25774.18	360000	Verified
Concio 1	339	J[840]	ST RARA Mobili	Characteristic	34086.38	355000	71453.87	204959.35	128369.97	355000	ST RARA Mobili	Characteristic	957.36	19200	ST RARA Mobili	Characteristic	112365.62	360000	Verified
Concio 1	340	I[840]	ST RARA Mobili	Characteristic	12618.14	355000	25223.81	204959.35	45474.60	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	-	18514.70	360000	Verified
Concio 1	340	J[841]	ST RARA Vento	Characteristic	0.00	355000	0.00	204959.35	0.00	355000	ST RARA Vento	Characteristic	0.00	19200	ST RARA Vento	Characteristic	0.00	360000	Verified
Concio 1	401	I[842]	ST RARA Frenamento	Characteristic	0.00	355000	0.00	204959.35	0.00	355000	ST RARA Frenamento	Characteristic	0.00	19200	ST RARA Frenamento	Characteristic	0.00	360000	Verified
Concio 1	401	J[843]	ST RARA Mobili	Characteristic	12804.43	355000	25593.18	204959.35	46140.93	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	15798.65	360000	Verified
Concio 1	402	I[843]	ST RARA Mobili	Characteristic	57531.88	355000	72156.40	204959.35	137584.73	355000	ST RARA Mobili	Characteristic	867.42	19200	ST RARA Mobili	Characteristic	160070.81	360000	Verified
Concio 1	402	J[844]	ST RARA Mobili	Characteristic	-168695.28	355000	21469.32	204959.35	172745.17	355000	ST RARA Mobili	Characteristic	5760.57	19200	ST RARA Mobili	Characteristic	-31572.05	360000	Verified
Concio 1	403	I[844]	ST RARA Mobili	Characteristic	-158511.53	355000	40078.19	204959.35	173045.34	355000	ST RARA Mobili	Characteristic	5263.57	19200	ST RARA Mobili	Characteristic	-28853.15	360000	Verified
Concio 1	403	J[845]	ST RARA Mobili	Characteristic	-218953.94	355000	10174.76	204959.35	219662.03	355000	ST RARA Mobili	Characteristic	6944.59	19200	ST RARA Mobili	Characteristic	-37753.89	360000	Verified
Concio 2	404	I[845]	ST RARA Mobili	Characteristic	-177497.14	355000	10284.16	204959.35	178388.69	355000	ST RARA Mobili	Characteristic	6453.96	19200	ST RARA Mobili	Characteristic	-35636.53	360000	Verified
Concio 2	404	J[846]	ST RARA Mobili	Characteristic	-183929.02	355000	7281.65	204959.35	184360.93	355000	ST RARA Mobili	Characteristic	7043.41	19200	ST RARA Mobili	Characteristic	-39204.84	360000	Verified
Concio 2	405	I[846]	ST RARA Mobili	Characteristic	-182544.66	355000	11832.84	204959.35	183691.59	355000	ST RARA Mobili	Characteristic	6606.62	19200	ST RARA Mobili	Characteristic	-36572.68	360000	Verified
Concio 2	405	J[847]	ST RARA Mobili	Characteristic	-160483.14	355000	36254.80	204959.35	172331.27	355000	ST RARA Mobili	Characteristic	6220.37	19200	ST RARA Mobili	Characteristic	40072.14	360000	Verified
Concio 2	406	I[847]	ST RARA Mobili	Characteristic	-163900.29	355000	34616.32	204959.35	174522.70	355000	ST RARA Mobili	Characteristic	6330.57	19200	ST RARA Mobili	Characteristic	-35156.51	360000	Verified
Concio 2	406	J[848]	ST RARA Mobili	Characteristic	-121288.75	355000	62642.98	204959.35	162737.18	355000	ST RARA Mobili	Characteristic	4805.42	19200	ST RARA Mobili	Characteristic	62578.34	360000	Verified
Concio 3	407	I[848]	ST RARA Mobili	Characteristic	-116745.58	355000	46982.24	204959.35	142307.84	355000	ST RARA Mobili	Characteristic	4780.84	19200	ST RARA Mobili	Characteristic	50984.87	360000	Verified
Concio 3	407	J[849]	ST RARA Mobili	Characteristic	-64486.39	355000	61891.27	204959.35	125100.30	355000	ST RARA Mobili	Characteristic	3391.41	19200	ST RARA Mobili	Characteristic	70468.84	360000	Verified
Concio 3	408	I[849]	ST RARA Mobili	Characteristic	-72703.52	355000	47763.84	204959.35	110136.08	355000	ST RARA Mobili	Characteristic	3884.02	19200	ST RARA Mobili	Characteristic	69757.48	360000	Verified
Concio 3	408	J[850]	ST RARA Mobili	Characteristic	-188703.03	355000	53471.05	204959.35	210205.36	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	170279.70	360000	Verified
Concio 3	409	I[850]	ST RARA Mobili	Characteristic	-187851.85	355000	48063.83	204959.35	205471.93	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	260065.54	360000	Verified
Concio 3	409	J[851]	ST RARA Mobili	Characteristic	-209217.84	355000	50230.73	204959.35	226586.58	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	221957.86	360000	Verified
Concio 4 H=var	410	I[851]	ST RARA Mobili	Characteristic	167989.43	355000	50950.39	204959.35	189758.47	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	123376.23	360000	Verified
Concio 4 H=var	410	J[852]	ST RARA Mobili	Characteristic	164022.14	355000	40061.89	204959.35	178095.84	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	101179.58	360000	Verified
Concio 4 H=var	411	I[852]	ST RARA Mobili	Characteristic	164658.86	355000	37138.39	204959.35	176777.60	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	95024.43	360000	Verified
Concio 4 H=var	411	J[853]	ST RARA Mobili	Characteristic	165855.10	355000	37072.07	204959.35	177850.86	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	96122.85	360000	Verified
Concio 4 H=20	412	I[853]	ST RARA Mobili	Characteristic	164402.71	355000	36939.34	204959.35	176413.71	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	99316.87	360000	Verified
Concio 4 H=20	412	J[854]	ST RARA Mobili	Characteristic	177304.69	355000	38174.50	204959.35	189232.22	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	113118.38	360000	Verified
Concio 4 H=20	413	I[854]	ST RARA Mobili	Characteristic	177962.57	355000	40270.98	204959.35	191143.75	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	113957.67	360000	Verified
Concio 4 H=20	413	J[855]	ST RARA Mobili	Characteristic	165416.11	355000	39005.62	204959.35	178680.74	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	105423.51	360000	Verified
Concio 4 H=var	414	I[855]	ST RARA Mobili	Characteristic	166802.76	355000	38839.92	204959.35	179857.66	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	100189.75	360000	Verified
Concio 4 H=var	414	J[856]	ST RARA Mobili	Characteristic	168543.78	355000	37903.74	204959.35	180878.65	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	100508.10	360000	Verified
Concio 4 H=var	415	I[856]	ST RARA Mobili	Characteristic	167391.20	355000	38794.20	204959.35	180374.01	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	104165.85	360000	Verified
Concio 4 H=var	415	J[857]	ST RARA Mobili	Characteristic	183434.83	355000	48887.37	204959.35	202035.30	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	136842.22	360000	Verified
Concio 5	416	I[857]	ST RARA Mobili	Characteristic	-230014.08	355000	48297.11	204959.35	244753.57	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	242351.31	360000	Verified
Concio 5	416	J[858]	ST RARA Mobili	Characteristic	-211474.42	355000	46220.62	204959.35	226120.47	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	283335.20	360000	Verified
Concio 5	417	I[858]	ST RARA Mobili	Characteristic	-211132.20	355000	49361.71	204959.35	227786.17	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	184312.34	360000	Verified
Concio 5	417	J[859]	ST RARA Termico	Characteristic	64290.38	355000	22791.63	204959.35	75442.88	355000	ST RARA Mobili	Characteristic	2717.65	19200	ST RARA Mobili	Characteristic	100016.05	360000	Verified
Concio 5	418	I[859]	ST RARA Termico	Characteristic	67411.28	355000	24564.37	204959.35	79715.15	355000	ST RARA Mobili	Characteristic	2423.15	19200	ST RARA Mobili	Characteristic	99520.05	360000	Verified
Concio 5	418	J[860]	ST RARA Mobili	Characteristic	-81265.08	355000	21758.15	204959.35	89578.26	355000	ST RARA Mobili	Characteristic	3628.03	19200	ST RARA Mobili	Characteristic	86688.02	360000	Verified
Concio 6	419	I[860]	ST RARA Mobili	Characteristic	-86669.66	355000	36263.57	204959.35	107036.30	355000	ST RARA Mobili	Characteristic	3657.29	19200	ST RARA Mobili	Characteristic	106681.75	360000	Verified
Concio 6	419	J[861]	ST RARA Mobili	Characteristic	-113560.69	355000	2891.10	204959.35	113671.04	355000	ST RARA Mobili	Characteristic	4611.60	19200	ST RARA Mobili	Characteristic	88239.98	360000	Verified

Concio 6	420	I[861]	ST RARA Mobili	Characteristic	-111002.82	355000	5938.40	204959.35	111478.34	355000	ST RARA Mobili	Characteristic	4572.37	19200	ST RARA Mobili	Characteristic	92163.14	360000	Verified
Concio 6	420	J[862]	ST RARA Mobili	Characteristic	-128308.50	355000	3363.85	204959.35	128440.71	355000	ST RARA Mobili	Characteristic	4805.50	19200	ST RARA Mobili	Characteristic	87042.39	360000	Verified
Concio 6	421	I[862]	ST RARA Mobili	Characteristic	-128308.50	355000	3363.85	204959.35	128440.71	355000	ST RARA Mobili	Characteristic	4805.50	19200	ST RARA Mobili	Characteristic	87042.39	360000	Verified
Concio 6	421	J[863]	ST RARA Mobili	Characteristic	-111006.52	355000	32815.86	204959.35	124712.03	355000	ST RARA Mobili	Characteristic	4572.92	19200	ST RARA Mobili	Characteristic	92149.19	360000	Verified
Concio 6	422	I[863]	ST RARA Mobili	Characteristic	-113551.90	355000	30340.83	204959.35	125122.87	355000	ST RARA Mobili	Characteristic	4610.84	19200	ST RARA Mobili	Characteristic	88251.66	360000	Verified
Concio 6	422	J[864]	ST RARA Mobili	Characteristic	-86651.58	355000	63706.72	204959.35	140300.15	355000	ST RARA Mobili	Characteristic	3656.34	19200	ST RARA Mobili	Characteristic	106678.04	360000	Verified
Concio 5	423	I[864]	ST RARA Mobili	Characteristic	-81248.80	355000	38224.02	204959.35	104807.42	355000	ST RARA Mobili	Characteristic	3627.11	19200	ST RARA Mobili	Characteristic	86685.06	360000	Verified
Concio 5	423	J[865]	ST RARA Termico	Characteristic	67411.76	355000	24100.87	204959.35	79289.99	355000	ST RARA Mobili	Characteristic	2423.59	19200	ST RARA Mobili	Characteristic	99527.21	360000	Verified
Concio 5	424	I[865]	ST RARA Termico	Characteristic	64290.11	355000	20921.80	204959.35	73799.61	355000	ST RARA Mobili	Characteristic	2716.93	19200	ST RARA Mobili	Characteristic	100026.43	360000	Verified
Concio 5	424	J[866]	ST RARA Mobili	Characteristic	-211161.14	355000	48104.14	204959.35	227004.51	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	184356.42	360000	Verified
Concio 5	425	I[866]	ST RARA Mobili	Characteristic	-211497.38	355000	42595.68	204959.35	223996.25	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	283525.56	360000	Verified
Concio 5	425	J[867]	ST RARA Mobili	Characteristic	-230036.13	355000	44672.20	204959.35	242700.30	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	242490.41	360000	Verified
Concio 4 H=var	426	I[867]	ST RARA Mobili	Characteristic	183451.15	355000	45474.57	204959.35	199645.02	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	136909.85	360000	Verified
Concio 4 H=var	426	J[868]	ST RARA Mobili	Characteristic	167403.94	355000	36583.11	204959.35	178994.56	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	105249.50	360000	Verified
Concio 4 H=var	427	I[868]	ST RARA Mobili	Characteristic	168554.04	355000	33752.95	204959.35	178404.74	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	100477.27	360000	Verified
Concio 4 H=var	427	J[869]	ST RARA Mobili	Characteristic	166814.44	355000	35769.39	204959.35	177947.76	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	97694.00	360000	Verified
Concio 4 H=20	428	I[869]	ST RARA Mobili	Characteristic	165427.53	355000	35633.86	204959.35	176566.09	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	100837.41	360000	Verified
Concio 4 H=20	428	J[870]	ST RARA Mobili	Characteristic	177973.00	355000	36899.21	204959.35	189100.62	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	113941.30	360000	Verified
Concio 4 H=20	429	I[870]	ST RARA Mobili	Characteristic	177314.17	355000	41866.02	204959.35	191568.81	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	113143.45	360000	Verified
Concio 4 H=20	429	J[871]	ST RARA Mobili	Characteristic	164411.85	355000	40631.15	204959.35	178840.51	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	104599.54	360000	Verified
Concio 4 H=var	430	I[871]	ST RARA Mobili	Characteristic	165864.01	355000	40417.71	204959.35	180032.34	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	99337.84	360000	Verified
Concio 4 H=var	430	J[872]	ST RARA Mobili	Characteristic	164671.03	355000	41661.22	204959.35	179787.43	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	95045.94	360000	Verified
Concio 4 H=var	431	I[872]	ST RARA Mobili	Characteristic	164031.43	355000	42661.66	204959.35	179906.54	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	100274.80	360000	Verified
Concio 4 H=var	431	J[873]	ST RARA Mobili	Characteristic	167998.70	355000	54963.00	204959.35	193096.75	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	123330.44	360000	Verified
Concio 3	432	I[873]	ST RARA Mobili	Characteristic	-209223.71	355000	54560.97	204959.35	229576.26	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	221851.62	360000	Verified
Concio 3	432	J[874]	ST RARA Mobili	Characteristic	-187855.35	355000	52394.08	204959.35	208626.58	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	259915.75	360000	Verified
Concio 3	433	I[874]	ST RARA Mobili	Characteristic	-188705.74	355000	55605.11	204959.35	211862.31	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	170274.50	360000	Verified
Concio 3	433	J[875]	ST RARA Mobili	Characteristic	-72706.35	355000	29518.60	204959.35	88883.39	355000	ST RARA Mobili	Characteristic	3853.42	19200	ST RARA Mobili	Characteristic	69754.27	360000	Verified
Concio 3	434	I[875]	ST RARA Mobili	Characteristic	-64487.10	355000	44547.92	204959.35	100559.12	355000	ST RARA Mobili	Characteristic	3320.51	19200	ST RARA Mobili	Characteristic	70468.91	360000	Verified
Concio 3	434	J[876]	ST RARA Mobili	Characteristic	-116755.33	355000	29641.27	204959.35	127544.58	355000	ST RARA Mobili	Characteristic	4781.63	19200	ST RARA Mobili	Characteristic	50991.30	360000	Verified
Concio 2	435	I[876]	ST RARA Mobili	Characteristic	-121299.13	355000	39521.69	204959.35	139281.62	355000	ST RARA Mobili	Characteristic	4806.21	19200	ST RARA Mobili	Characteristic	62585.35	360000	Verified
Concio 2	435	J[877]	ST RARA Mobili	Characteristic	-163918.61	355000	11491.53	204959.35	165122.62	355000	ST RARA Mobili	Characteristic	6332.49	19200	ST RARA Mobili	Characteristic	-35167.44	360000	Verified
Concio 2	436	I[877]	ST RARA Mobili	Characteristic	-160474.73	355000	13551.74	204959.35	162182.27	355000	ST RARA Mobili	Characteristic	6219.68	19200	ST RARA Mobili	Characteristic	40087.95	360000	Verified
Concio 2	436	J[878]	ST RARA Mobili	Characteristic	-182544.92	355000	34524.93	204959.35	192089.98	355000	ST RARA Mobili	Characteristic	6605.84	19200	ST RARA Mobili	Characteristic	-36567.85	360000	Verified
Concio 2	437	I[878]	ST RARA Mobili	Characteristic	-183922.28	355000	15626.21	204959.35	185903.04	355000	ST RARA Mobili	Characteristic	6910.73	19200	ST RARA Mobili	Characteristic	-38686.88	360000	Verified
Concio 2	437	J[879]	ST RARA Mobili	Characteristic	-177498.76	355000	33191.14	204959.35	186576.43	355000	ST RARA Mobili	Characteristic	6453.98	19200	ST RARA Mobili	Characteristic	-35636.53	360000	Verified
Concio 1	438	I[879]	ST RARA Mobili	Characteristic	-218947.97	355000	32838.04	204959.35	226215.00	355000	ST RARA Mobili	Characteristic	6944.19	19200	ST RARA Mobili	Characteristic	-37751.65	360000	Verified
Concio 1	438	J[880]	ST RARA Mobili	Characteristic	-158509.58	355000	62736.70	204959.35	192179.52	355000	ST RARA Mobili	Characteristic	5263.95	19200	ST RARA Mobili	Characteristic	-28855.47	360000	Verified
Concio 1	439	I[880]	ST RARA Mobili	Characteristic	-168693.34	355000	45646.44	204959.35	186301.47	355000	ST RARA Mobili	Characteristic	5767.21	19200	ST RARA Mobili	Characteristic	-31616.62	360000	Verified
Concio 1	439	J[881]	ST RARA Mobili	Characteristic	57485.95	355000	69227.08	204959.35	132972.94	355000	ST RARA Mobili	Characteristic	867.40	19200	ST RARA Mobili	Characteristic	159871.92	360000	Verified
Concio 1	440	I[881]	ST RARA Mobili	Characteristic	12803.61	355000	25593.17	204959.35	46140.69	355000	ST RARA Mobili	Characteristic	0.00	19200	ST RARA Mobili	Characteristic	15797.59	360000	Verified
Concio 1	440	J[882]	ST RARA Frenamento	Characteristic	0.00	355000	0.00	204959.35	0.00	355000	ST RARA Frenamento	Characteristic	0.00	19200	ST RARA Frenamento	Characteristic	0.00	360000	Verified

8.5 VERIFICHE A FATICA

Si effettuano le verifiche allo stato limite di fatica per vita illimitata dei profilati metallici e delle saldature anima/piattabanda.
L'impalcato si considera caricato secondo il modello di carico a fatica 2, applicato sulla corsia lenta; il veicolo più gravoso è risultato essere il 3°: semirimorchio a 5 assi per un peso complessivo di 630 kN (ved. 3.4.1).
Si assume che le strutture siano sensibili alla rottura per fatica e che essa produca conseguenze significative; il coefficiente parziale di sicurezza per le verifiche è quindi pari a: γ_{Mf} = 1.35.

Le caratteristiche resistenti (elastiche) tengono conto del contributo del calcestruzzo della soletta se compressa, se tesa tengono conto solamente dell'armatura.
La verifica viene eseguita per ogni tipologia di trave (concio) per:

a) profilato metallico: tensioni normali: $\Delta\sigma_C = 112\ N/mm^2$
b) profilato metallico: tensioni tangenziali: $\Delta\tau_C = 100\ N/mm^2$
c) saldature: tensioni tangenziali: $\Delta\tau_C = 80\ N/mm^2$

Seguono le verifiche eseguite per ogni tipologia di sezione all'interno della quale si sono individuate le condizioni:

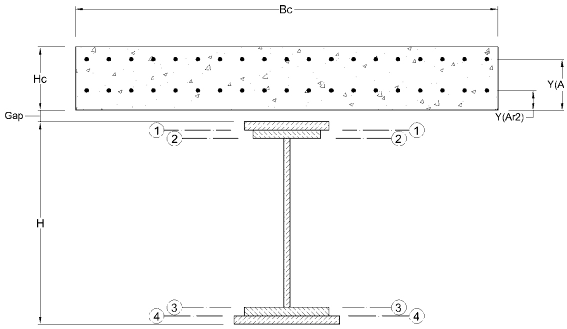
1) ΔM massimo e ΔT associato (per verifica a)
2) ΔT massimo e ΔM associato (per verifiche b, c)

VERIFICA ALLO STATO LIMITE DI FATICA (VERIFICA PER VITA ILLIMITATA): **CONCI C1**

Legenda

As	Area profilo metallico
Yg_inf(s)	Baricentro profilo metallico
H	Altezza profilo metallico
Yg_inf	Baricentro della sezione composta
Jc	Momento d'inerzia della sezione composta
Sc_max	Momento statico massimo della sezione del profilo
Sp	Spessore anima in corrispondenza della sezione con momento statico massimo Sc_max
b	Larghezza dei piatti (piattabande, anime, ecc.)
t	Spessore dei piatti (piattabande, anime, ecc.)
A	Sezione resistente dei piatti (piattabande, anime, ecc.)
Z	Distanza baricentro dei piatti(piattabande, anime, ecc.) dal baricentro della sezione composta
S_i	Momento statico della sezione i_esima di attacco dei piatti in esame(piattabande, anime, ecc.)
$\Delta\tau$ e $\Delta\sigma$	Delta di tensione tangenziale e normale degli elementi da verificare
C.ANG	Saldatura a cordone d'angolo
a	Larghezza della gola del cordone d'angolo (somma)
P.PEN	Saldatura a piena penetrazione (spessore resistente= spessore anima)
$\gamma_{Mf,s}$	1.35 (coeff. di sicurezza a fatica)
Es/Ec	6.30 (coeff. di omogeneizzazione acciaio/cls.)
Bc	320 cm (base efficace soletta in cls.)
Hc	24 cm (altezza soletta in cls.)
Gap	6 cm (distanza tra profilo metallico e soletta)
Ar1	32.16 cm^2 (area di armatura soletta)
Y(Ar1)	20 cm (distanza dal lembo inferiore della soletta dell'armatura Ar1)
Ar2	32.16 cm^2 (area di armatura soletta)
Y(Ar2)	2 cm (distanza dal lembo inferiore della soletta dell'armatura Ar2)
Ar_compr?	SI (considerare o no le armature della soletta se in compressione)

SCHEMA SEZIONE COMPOSTA



Caratteristiche geometriche

STATO CLS	As cm^2	Sp cm	Yg_inf(s) cm	Js cm^4	H cm	Yg_inf cm	Jc cm^4	Wsup cm^3	Winf cm^3	Sc_max cm^3	Jc/Sc_max m	DESCRIZIONE
Compr.	471.0	1.5	46.91	875818	100.0	98.88	2678605	-2396436	27089	24421.6	1.097	CLS in compressione
Teso	471.0	1.5	46.91	875818	100.0	55.33	1159041	-25948	20947	11743.6	0.987	CLS in trazione

Caratteristiche con sezione avente il CLS totalmente o parzialmente in compressione

POSIZ.	b cm	t cm	A cm^2	Z cm	S_i cm^3	Jc/S_i m	TIPO SALDAT.	a mm	DESCRIZIONE	
sez.max.	94.0	1.5	141.0	48.88					ANIMA	
sez 1	0.0	0.0	0.0	-1.12	0.0		C.ANG.	0.0	PIATTO RINFORZO SUP.	
sez 2	50.0	3.0	150.0	0.38	24421.2	1.097	C.ANG.	14.1	ANIMA-PIATTABANDA SUP.	(2 SALD.10x10 mm)
sez 3	60.0	3.0	180.0	97.38	17528.8	1.528	C.ANG.	14.1	ANIMA-PIATTABANDA INF.	(2 SALD.10x10 mm)
sez 4	0.0	0.0	0.0	98.88	0.0		C.ANG.	0.0	PIATTO RINFORZO INF.	

Caratteristiche con sezione avente il CLS totalmente in trazione

POSIZ.	b cm	t cm	A cm^2	Z cm	S_i cm^3	Jc/S_i m	TIPO SALDAT.	a mm	DESCRIZIONE
sez.max.	94.0	1.5	141.0	5.33					ANIMA
sez 1	0.0	0.0	0.0	-44.67	0.0		C.ANG.	0.0	PIATTO RINFORZO SUP.
sez 2	50.0	3.0	150.0	-43.17	10441.4	1.110	C.ANG.	14.1	ANIMA-PIATTABANDA SUP.
sez 3	60.0	3.0	180.0	53.83	9689.7	1.196	C.ANG.	14.1	ANIMA-PIATTABANDA INF.
sez 4	0.0	0.0	0.0	55.33	0.0		C.ANG.	0.0	PIATTO RINFORZO INF.

Sollecitazioni flettenti e taglianti associate (con segno)

TIPO DI COMBINAZIONE	M(max) kNm	M(min) kNm	V(max) kN	V(min) kN	Elemento n°
DM(max) - DT(ass)	2952.5	1901.0	-65.1	-67.0	203
DM(ass) - DT(max)	-13.6	-317.6	34.1	414.1	201

VERIFICA (tensioni normali) DEL PROFILATO METALLICO

POSIZ.	σ inf(+) N/mm^2	σ inf(-) N/mm^2	$\Delta\sigma$ N/mm^2	$\Delta\sigma c$ N/mm^2	$\Delta\sigma D/\gamma Mf,s$ N/mm^2	$\Delta\sigma < \Delta\sigma D/\gamma Mf,s$	
sez. max	109.0	70.2	38.82	112.0	61.14	VERIFICATO	<--Tab. C.4.2.XIV (3) $\Delta\sigma c$=112 ;Tab. C.4.2.XV (2) $\Delta\sigma c$=112

VERIFICA (tensioni tangenziali) DEL PROFILATO E DEI COLLEGAMENTI SALDATI

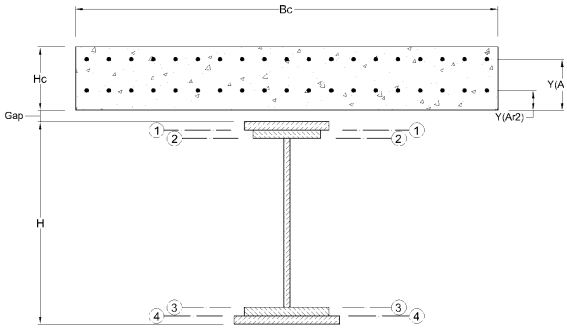
POSIZ.	$\tau(+)$ N/mm^2	$\tau(-)$ N/mm^2	$\Delta\tau$ N/mm^2	$\Delta\tau c$ N/mm^2	$\Delta\tau D/\gamma Mf,s$ N/mm^2	$\Delta\tau < \Delta\tau D/\gamma Mf,s$	
sez. max	2.30	27.97	25.67	100.0	33.85	VERIFICATO	<--Tab. C.4.2.XIIIb (6) $\Delta\tau c$=100
sez 1	0.00	0.00	0.00	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80
sez 2	2.17	26.38	24.21	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80
sez 3	2.01	24.48	22.46	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80
sez 4	0.00	0.00	0.00	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80

VERIFICA ALLO STATO LIMITE DI FATICA (VERIFICA PER VITA ILLIMITATA): **CONCI C2**

Legenda

As	Area profilo metallico
Yg_inf(s)	Baricentro profilo metallico
H	Altezza profilo metallico
Yg_inf	Baricentro della sezione composta
Jc	Momento d'inerzia della sezione composta
Sc_max	Momento statico massimo della sezione del profilo
Sp	Spessore anima in corrispondenza della sezione con momento statico massimo Sc_max
b	Larghezza dei piatti (piattabande, anime, ecc.)
t	Spessore dei piatti (piattabande, anime, ecc.)
A	Sezione resistente dei piatti (piattabande, anime, ecc.)
Z	Distanza baricentro dei piatti(piattabande, anime, ecc.) dal baricentro della sezione composta
S_i	Momento statico della sezione i_esima di attacco dei piatti in esame(piattabande, anime, ecc.)
$\Delta\tau$ e $\Delta\sigma$	Delta di tensione tangenziale e normale degli elementi da verificare
C.ANG	Saldatura a cordone d'angolo
a	Larghezza della gola del cordone d'angolo (somma)
P.PEN	Saldatura a piena penetrazione (spessore resistente= spessore anima)
$\gamma_{Mf,s}$	1.35 (coeff. di sicurezza a fatica)
Es/Ec	6.30 (coeff. di omogeneizzazione acciaio/cls.)
Bc	320 cm (base efficace soletta in cls.)
Hc	24 cm (altezza soletta in cls.)
Gap	6 cm (distanza tra profilo metallico e soletta)
Ar1	32.16 cm^2 (area di armatura soletta)
Y(Ar1)	20 cm (distanza dal lembo inferiore della soletta dell'armatura Ar1)
Ar2	32.16 cm^2 (area di armatura soletta)
Y(Ar2)	2 cm (distanza dal lembo inferiore della soletta dell'armatura Ar2)
Ar_compr?	SI (considerare o no le armature della soletta se in compressione)

SCHEMA SEZIONE COMPOSTA



Caratteristiche geometriche

STATO CLS	As cm^2	Sp cm	Yg_inf(s) cm	Js cm^4	H cm	Yg_inf cm	Jc cm^4	Wsup cm^3	Winf cm^3	Sc_max cm^3	Jc/Sc_max m	DESCRIZIONE
Compr.	529.5	1.5	42.11	973886	100.0	95.80	3193890	-761155	33338	28833.9	1.108	CLS in compressione
Teso	529.5	1.5	42.11	973886	100.0	50.22	1300762	-26131	25900	13175.6	0.987	CLS in trazione

Caratteristiche con sezione avente il CLS totalmente o parzialmente in compressione

POSIZ.	b cm	t cm	A cm^2	Z cm	S_i cm^3	Jc/S_i m	TIPO SALDAT.	a mm	DESCRIZIONE	
sez.max.	93.0	1.5	139.5	45.30					ANIMA	
sez 1	0.0	0.0	0.0	-4.20	0.0		C.ANG.	0.0	PIATTO RINFORZO SUP.	
sez 2	50.0	3.0	150.0	-2.70	28832.8	1.108	C.ANG.	14.1	ANIMA-PIATTABANDA SUP.	(2 SALD.10x10 mm)
sez 3	60.0	4.0	240.0	93.80	22512.9	1.419	C.ANG.	14.1	ANIMA-PIATTABANDA INF.	(2 SALD.10x10 mm)
sez 4	0.0	0.0	0.0	95.80	0.0		C.ANG.	0.0	PIATTO RINFORZO INF.	

Caratteristiche con sezione avente il CLS totalmente in trazione

POSIZ.	b cm	t cm	A cm^2	Z cm	S_i cm^3	Jc/S_i m	TIPO SALDAT.	a mm	DESCRIZIONE
sez.max.	93.0	1.5	139.5	-0.28					ANIMA
sez 1	0.0	0.0	0.0	-49.78	0.0		C.ANG.	0.0	PIATTO RINFORZO SUP.
sez 2	50.0	3.0	150.0	-48.28	11534.4	1.128	C.ANG.	14.1	ANIMA-PIATTABANDA SUP.
sez 3	60.0	4.0	240.0	48.22	11573.2	1.124	C.ANG.	14.1	ANIMA-PIATTABANDA INF.
sez 4	0.0	0.0	0.0	50.22	0.0		C.ANG.	0.0	PIATTO RINFORZO INF.

Sollecitazioni flettenti e taglianti associate (con segno)

TIPO DI COMBINAZIONE	M(max) kNm	M(min) kNm	V(max) kN	V(min) kN	Elemento n°
DM(max) - DT(ass)	1624.8	372.9	495.7	383.0	206
DM(ass) - DT(max)	2424.3	2638.7	-126.2	-434.1	236

VERIFICA (tensioni normali) DEL PROFILATO METALLICO

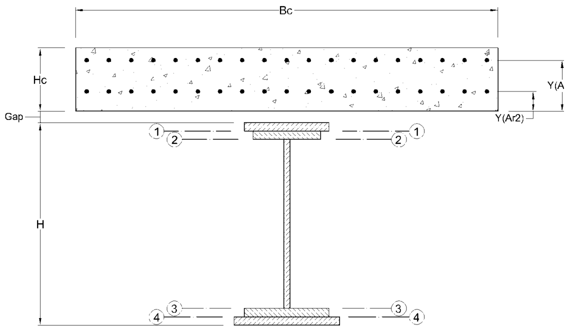
POSIZ.	σ inf(+) N/mm^2	σ inf(-) N/mm^2	$\Delta\sigma$ N/mm^2	$\Delta\sigma c$ N/mm^2	$\Delta\sigma D/\gamma Mf,s$ N/mm^2	$\Delta\sigma < \Delta\sigma D/\gamma Mf,s$	
sez. max	48.7	11.2	37.55	112.0	61.14	VERIFICATO	<--Tab. C.4.2.XIV (3) $\Delta\sigma c$=112 ;Tab. C.4.2.XV (2) $\Delta\sigma c$=112

VERIFICA (tensioni tangenziali) DEL PROFILATO E DEI COLLEGAMENTI SALDATI

POSIZ.	$\tau(+)$ N/mm^2	$\tau(-)$ N/mm^2	$\Delta\tau$ N/mm^2	$\Delta\tau c$ N/mm^2	$\Delta\tau D/\gamma Mf,s$ N/mm^2	$\Delta\tau < \Delta\tau D/\gamma Mf,s$	
sez. max	-7.59	-26.13	18.53	100.0	33.85	VERIFICATO	<--Tab. C.4.2.XIIIb (6) $\Delta\tau c$=100
sez 1	0.00	0.00	0.00	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80
sez 2	-8.05	-27.71	19.66	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80
sez 3	-6.29	-21.64	15.35	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80
sez 4	0.00	0.00	0.00	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80

VERIFICA ALLO STATO LIMITE DI FATICA (VERIFICA PER VITA ILLIMITATA): **CONCI C3**

SCHEMA SEZIONE COMPOSTA



Legenda

As	Area profilo metallico
Yg_inf(s)	Baricentro profilo metallico
H	Altezza profilo metallico
Yg_inf	Baricentro della sezione composta
Jc	Momento d'inerzia della sezione composta
Sc_max	Momento statico massimo della sezione del profilo
Sp	Spessore anima in corrispondenza della sezione con momento statico massimo Sc_max
b	Larghezza dei piatti (piattabande, anime, ecc.)
t	Spessore dei piatti (piattabande, anime, ecc.)
A	Sezione resistente dei piatti (piattabande, anime, ecc.)
Z	Distanza baricentro dei piatti(piattabande, anime, ecc.) dal baricentro della sezione composta
S_i	Momento statico della sezione i_esima di attacco dei piatti in esame(piattabande, anime, ecc.)
$\Delta\tau$ e $\Delta\sigma$	Delta di tensione tangenziale e normale degli elementi da verificare
C.ANG	Saldatura a cordone d'angolo
a	Larghezza della gola del cordone d'angolo (somma)
P.PEN	Saldatura a piena penetrazione (spessore resistente= spessore anima)
$\gamma_{Mf,s}$	1.35 (coeff. di sicurezza a fatica)
Es/Ec	6.30 (coeff. di omogeneizzazione acciaio/cls.)
Bc	320 cm (base efficace soletta in cls.)
Hc	24 cm (altezza soletta in cls.)
Gap	6 cm (distanza tra profilo metallico e soletta)
Ar1	32.16 cm^2 (area di armatura soletta)
Y(Ar1)	20 cm (distanza dal lembo inferiore della soletta dell'armatura Ar1)
Ar2	32.16 cm^2 (area di armatura soletta)
Y(Ar2)	2 cm (distanza dal lembo inferiore della soletta dell'armatura Ar2)
Ar_compr?	SI (considerare o no le armature della soletta se in compressione)

Caratteristiche geometriche

STATO CLS	As cm^2	Sp cm	Yg_inf(s) cm	Js cm^4	H cm	Yg_inf cm	Jc cm^4	Wsup cm^3	Winf cm^3	Sc_max cm^3	Jc/Sc_max m	DESCRIZIONE
Compr.	576.0	2.0	42.79	1010400	100.0	94.67	3320287	-623177	35071	30462.7	1.090	CLS in compressione
Teso	576.0	2.0	42.79	1010400	100.0	50.24	1334247	-26816	26555	13717.2	0.973	CLS in trazione

Caratteristiche con sezione avente il CLS totalmente o parzialmente in compressione

POSIZ.	b cm	t cm	A cm^2	Z cm	S_i cm^3	Jc/S_i m	TIPO SALDAT.	a mm	DESCRIZIONE	
sez.max.	93.0	2.0	186.0	44.17					ANIMA	
sez 1	0.0	0.0	0.0	-5.33	0.0		C.ANG.	0.0	PIATTO RINFORZO SUP.	
sez 2	50.0	3.0	150.0	-3.83	30457.3	1.090	C.ANG.	14.1	ANIMA-PIATTABANDA SUP.	(2 SALD.10x10 mm)
sez 3	60.0	4.0	240.0	92.67	22241.3	1.493	C.ANG.	14.1	ANIMA-PIATTABANDA INF.	(2 SALD.10x10 mm)
sez 4	0.0	0.0	0.0	94.67	0.0		C.ANG.	0.0	PIATTO RINFORZO INF.	

Caratteristiche con sezione avente il CLS totalmente in trazione

POSIZ.	b cm	t cm	A cm^2	Z cm	S_i cm^3	Jc/S_i m	TIPO SALDAT.	a mm	DESCRIZIONE
sez.max.	93.0	2.0	186.0	-0.26					ANIMA
sez 1	0.0	0.0	0.0	-49.76	0.0		C.ANG.	0.0	PIATTO RINFORZO SUP.
sez 2	50.0	3.0	150.0	-48.26	11531.1	1.157	C.ANG.	14.1	ANIMA-PIATTABANDA SUP.
sez 3	60.0	4.0	240.0	48.24	11578.7	1.152	C.ANG.	14.1	ANIMA-PIATTABANDA INF.
sez 4	0.0	0.0	0.0	50.24	0.0		C.ANG.	0.0	PIATTO RINFORZO INF.

Sollecitazioni flettenti e taglianti associate (con segno)

TIPO DI COMBINAZIONE	M(max) kNm	M(min) kNm	V(max) kN	V(min) kN	Elemento n°
DM(max) - DT(ass)	1623.9	371.7	495.7	383.0	207
DM(ass) - DT(max)	-2571.0	-2488.6	-636.4	-984.4	233

VERIFICA (tensioni normali) DEL PROFILATO METALLICO

POSIZ.	σ inf(+) N/mm^2	σ inf(-) N/mm^2	$\Delta\sigma$ N/mm^2	$\Delta\sigma c$ N/mm^2	$\Delta\sigma D/\gamma Mf,s$ N/mm^2	$\Delta\sigma < \Delta\sigma D/\gamma Mf,s$	
sez. max	46.3	10.6	35.70	112.0	61.14	VERIFICATO	<--Tab. C.4.2.XIV (3) $\Delta\sigma c$=112 ;Tab. C.4.2.XV (2) $\Delta\sigma c$=112

VERIFICA (tensioni tangenziali) DEL PROFILATO E DEI COLLEGAMENTI SALDATI

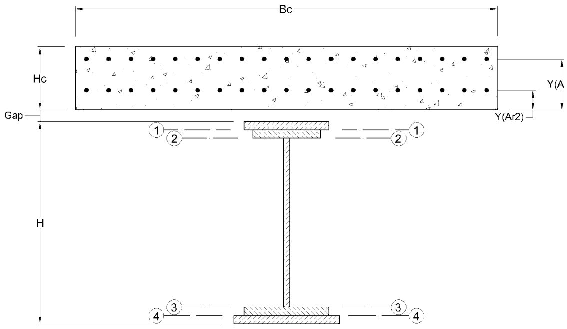
POSIZ.	$\tau(+)$ N/mm^2	$\tau(-)$ N/mm^2	$\Delta\tau$ N/mm^2	$\Delta\tau c$ N/mm^2	$\Delta\tau D/\gamma Mf,s$ N/mm^2	$\Delta\tau < \Delta\tau D/\gamma Mf,s$	
sez. max	-32.71	-50.60	17.89	100.0	33.85	VERIFICATO	<--Tab. C.4.2.XIIIb (6) $\Delta\tau c$=100
sez 1	0.00	0.00	0.00	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80
sez 2	-38.89	-60.16	21.27	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80
sez 3	-39.05	-60.41	21.36	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80
sez 4	0.00	0.00	0.00	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80

VERIFICA ALLO STATO LIMITE DI FATICA (VERIFICA PER VITA ILLIMITATA): **CONCI C4**

Legenda

As	Area profilo metallico
Yg_inf(s)	Baricentro profilo metallico
H	Altezza profilo metallico
Yg_inf	Baricentro della sezione composta
Jc	Momento d'inerzia della sezione composta
Sc_max	Momento statico massimo della sezione del profilo
Sp	Spessore anima in corrispondenza della sezione con momento statico massimo Sc_max
b	Larghezza dei piatti (piattabande, anime, ecc.)
t	Spessore dei piatti (piattabande, anime, ecc.)
A	Sezione resistente dei piatti (piattabande, anime, ecc.)
Z	Distanza baricentro dei piatti(piattabande, anime, ecc.) dal baricentro della sezione composta
S_i	Momento statico della sezione i_esima di attacco dei piatti in esame(piattabande, anime, ecc.)
$\Delta\tau$ e $\Delta\sigma$	Delta di tensione tangenziale e normale degli elementi da verificare
C.ANG	Saldatura a cordone d'angolo
a	Larghezza della gola del cordone d'angolo (somma)
P.PEN	Saldatura a piena penetrazione (spessore resistente= spessore anima)
$\gamma_{Mf,s}$	1.35 (coeff. di sicurezza a fatica)
Es/Ec	6.30 (coeff. di omogeneizzazione acciaio/cls.)
Bc	320 cm (base efficace soletta in cls.)
Hc	24 cm (altezza soletta in cls.)
Gap	6 cm (distanza tra profilo metallico e soletta)
Ar1	100.48 cm^2 (area di armatura soletta)
Y(Ar1)	20 cm (distanza dal lembo inferiore della soletta dell'armatura Ar1)
Ar2	100.48 cm^2 (area di armatura soletta)
Y(Ar2)	2 cm (distanza dal lembo inferiore della soletta dell'armatura Ar2)
Ar_compr?	SI (considerare o no le armature della soletta se in compressione)

SCHEMA SEZIONE COMPOSTA



Caratteristiche geometriche

STATO CLS	As cm^2	Sp cm	Yg_inf(s) cm	Js cm^4	H cm	Yg_inf cm	Jc cm^4	Wsup cm^3	Winf cm^3	Sc_max cm^3	Jc/Sc_max m	DESCRIZIONE
Compr.	904.0	2.0	95.66	6157420	200.0	170.33	14481460	-488151	85018	74800.6	1.936	CLS in compressione
Teso	904.0	2.0	95.66	6157420	200.0	117.73	8594389	-104463	73002	45338.0	1.896	CLS in trazione

Caratteristiche con sezione avente il CLS totalmente o parzialmente in compressione

POSIZ.	b cm	t cm	A cm^2	Z cm	S_i cm^3	Jc/S_i m	TIPO SALDAT.	a mm	DESCRIZIONE	
sez.max.	192.0	2.0	384.0	70.33					ANIMA	
sez 1	0.0	0.0	0.0	-29.67	0.0		C.ANG.	0.0	PIATTO RINFORZO SUP.	
sez 2	60.0	4.0	240.0	-27.67	74141.8	1.953	C.ANG.	14.1	ANIMA-PIATTABANDA SUP.	(2 SALD.10x10 mm)
sez 3	70.0	4.0	280.0	168.33	47133.5	3.072	C.ANG.	14.1	ANIMA-PIATTABANDA INF.	(2 SALD.10x10 mm)
sez 4	0.0	0.0	0.0	170.33	0.0		C.ANG.	0.0	PIATTO RINFORZO INF.	

Caratteristiche con sezione avente il CLS totalmente in trazione

POSIZ.	b cm	t cm	A cm^2	Z cm	S_i cm^3	Jc/S_i m	TIPO SALDAT.	a mm	DESCRIZIONE
sez.max.	192.0	2.0	384.0	17.73					ANIMA
sez 1	0.0	0.0	0.0	-82.27	0.0		C.ANG.	0.0	PIATTO RINFORZO SUP.
sez 2	60.0	4.0	240.0	-80.27	39211.5	2.192	C.ANG.	14.1	ANIMA-PIATTABANDA SUP.
sez 3	70.0	4.0	280.0	115.73	32403.9	2.652	C.ANG.	14.1	ANIMA-PIATTABANDA INF.
sez 4	0.0	0.0	0.0	117.73	0.0		C.ANG.	0.0	PIATTO RINFORZO INF.

Sollecitazioni flettenti e taglianti associate (con segno)

TIPO DI COMBINAZIONE	M(max) kNm	M(min) kNm	V(max) kN	V(min) kN	Elemento n°
DM(max) - DT(ass)	-7871.7	-8931.9	-879.1	-1139.0	213
DM(ass) - DT(max)	-8498.5	-7852.3	1275.7	876.9	228

VERIFICA (tensioni normali) DEL PROFILATO METALLICO

POSIZ.	σ inf(+) N/mm²	σ inf(-) N/mm²	$\Delta\sigma$ N/mm²	$\Delta\sigma c$ N/mm²	$\Delta\sigma D/\gamma Mf,s$ N/mm²	$\Delta\sigma < \Delta\sigma D/\gamma Mf,s$	
sez. max	-107.8	-122.4	14.52	112.0	61.14	VERIFICATO	<--Tab. C.4.2.XIV (3) $\Delta\sigma c$=112 ;Tab. C.4.2.XV (2) $\Delta\sigma c$=112

VERIFICA (tensioni tangenziali) DEL PROFILATO E DEI COLLEGAMENTI SALDATI

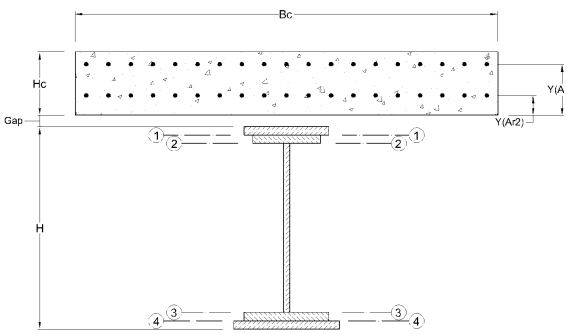
POSIZ.	$\tau(+)$ N/mm²	$\tau(-)$ N/mm²	$\Delta\tau$ N/mm²	$\Delta\tau c$ N/mm²	$\Delta\tau D/\gamma Mf,s$ N/mm²	$\Delta\tau < \Delta\tau D/\gamma Mf,s$	
sez. max	33.65	23.13	10.52	100.0	33.85	VERIFICATO	<--Tab. C.4.2.XIIIb (6) $\Delta\tau c$=100
sez 1	0.00	0.00	0.00	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80
sez 2	41.16	28.29	12.86	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80
sez 3	34.01	23.38	10.63	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80
sez 4	0.00	0.00	0.00	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80

VERIFICA ALLO STATO LIMITE DI FATICA (VERIFICA PER VITA ILLIMITATA): **CONCI C5**

Legenda

As	Area profilo metallico
Yg_inf(s)	Baricentro profilo metallico
H	Altezza profilo metallico
Yg_inf	Baricentro della sezione composta
Jc	Momento d'inerzia della sezione composta
Sc_max	Momento statico massimo della sezione del profilo
Sp	Spessore anima in corrispondenza della sezione con momento statico massimo Sc_max
b	Larghezza dei piatti (piattabande, anime, ecc.)
t	Spessore dei piatti (piattabande, anime, ecc.)
A	Sezione resistente dei piatti (piattabande, anime, ecc.)
Z	Distanza baricentro dei piatti(piattabande, anime, ecc.) dal baricentro della sezione composta
S_i	Momento statico della sezione i_esima di attacco dei piatti in esame(piattabande, anime, ecc.)
$\Delta\tau$ e $\Delta\sigma$	Delta di tensione tangenziale e normale degli elementi da verificare
C.ANG	Saldatura a cordone d'angolo
a	Larghezza della gola del cordone d'angolo (somma)
P.PEN	Saldatura a piena penetrazione (spessore resistente= spessore anima)
$\gamma_{Mf,s}$	1.35 (coeff. di sicurezza a fatica)
Es/Ec	6.30 (coeff. di omogeneizzazione acciaio/cls.)
Bc	320 cm (base efficace soletta in cls.)
Hc	24 cm (altezza soletta in cls.)
Gap	6 cm (distanza tra profilo metallico e soletta)
Ar1	32.16 cm^2 (area di armatura soletta)
Y(Ar1)	20 cm (distanza dal lembo inferiore della soletta dell'armatura Ar1)
Ar2	32.16 cm^2 (area di armatura soletta)
Y(Ar2)	2 cm (distanza dal lembo inferiore della soletta dell'armatura Ar2)
Ar_compr?	SI (considerare o no le armature della soletta se in compressione)

SCHEMA SEZIONE COMPOSTA



Caratteristiche geometriche

STATO CLS	As cm^2	Sp cm	Yg_inf(s) cm	Js cm^4	H cm	Yg_inf cm	Jc cm^4	Wsup cm^3	Winf cm^3	Sc_max cm^3	Jc/Sc_max m	DESCRIZIONE
Compr.	576.0	2.0	42.79	1010407	100.0	94.67	3320294	-623178	35072	30462.7	1.090	CLS in compressione
Teso	576.0	2.0	42.79	1010407	100.0	50.24	1334254	-26816	26555	13717.2	0.973	CLS in trazione

Caratteristiche con sezione avente il CLS totalmente o parzialmente in compressione

POSIZ.	b cm	t cm	A cm^2	Z cm	S_i cm^3	Jc/S_i m	TIPO SALDAT.	a mm	DESCRIZIONE	
sez.max.	93.0	2.0	186.0	44.17					ANIMA	
sez 1	0.0	0.0	0.0	-5.33	0.0		C.ANG.	0.0	PIATTO RINFORZO SUP.	
sez 2	50.0	3.0	150.0	-3.83	30457.3	1.090	C.ANG.	14.1	ANIMA-PIATTABANDA SUP.	(2 SALD.10x10 mm)
sez 3	60.0	4.0	240.0	92.67	22241.3	1.493	C.ANG.	14.1	ANIMA-PIATTABANDA INF.	(2 SALD.10x10 mm)
sez 4	0.0	0.0	0.0	94.67	0.0		C.ANG.	0.0	PIATTO RINFORZO INF	

Caratteristiche con sezione avente il CLS totalmente in trazione

POSIZ.	b cm	t cm	A cm^2	Z cm	S_i cm^3	Jc/S_i m	TIPO SALDAT.	a mm	DESCRIZIONE
sez.max.	93.0	2.0	186.0	-0.26					ANIMA
sez 1	0.0	0.0	0.0	-49.76	0.0		C.ANG.	0.0	PIATTO RINFORZO SUP.
sez 2	50.0	3.0	150.0	-48.26	11531.1	1.157	C.ANG.	14.1	ANIMA-PIATTABANDA SUP.
sez 3	60.0	4.0	240.0	48.24	11578.7	1.152	C.ANG.	14.1	ANIMA-PIATTABANDA INF.
sez 4	0.0	0.0	0.0	50.24	0.0		C.ANG.	0.0	PIATTO RINFORZO INF

Sollecitazioni flettenti e taglianti associate (con segno)

TIPO DI COMBINAZIONE	M(max) kNm	M(min) kNm	V(max) kN	V(min) kN	Elemento n°
DM(max) - DT(ass)	551.4	-616.8	374.9	268.1	223
DM(ass) - DT(max)	-3128.3	-3084.9	-546.0	-896.5	217

VERIFICA (tensioni normali) DEL PROFILATO METALLICO

POSIZ.	σ inf(+) N/mm²	σ inf(-) N/mm²	$\Delta\sigma$ N/mm²	$\Delta\sigma c$ N/mm²	$\Delta\sigma D/\gamma Mf,s$ N/mm²	$\Delta\sigma < \Delta\sigma D/\gamma Mf,s$	
sez. max	15.7	-23.2	38.95	112.0	61.14	VERIFICATO	<--Tab. C.4.2.XIV (3) $\Delta\sigma c$=112 ;Tab. C.4.2.XV (2) $\Delta\sigma c$=112

VERIFICA (tensioni tangenziali) DEL PROFILATO E DEI COLLEGAMENTI SALDATI

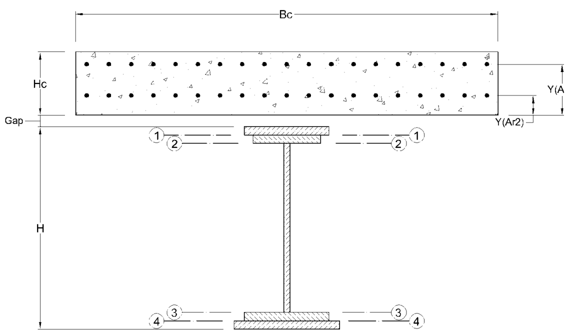
POSIZ.	$\tau(+)$ N/mm²	$\tau(-)$ N/mm²	$\Delta\tau$ N/mm²	$\Delta\tau c$ N/mm²	$\Delta\tau D/\gamma Mf,s$ N/mm²	$\Delta\tau < \Delta\tau D/\gamma Mf,s$	
sez. max	-28.07	-46.08	18.02	100.0	33.85	VERIFICATO	<--Tab. C.4.2.XIIIb (6) $\Delta\tau c$=100
sez 1	0.00	0.00	0.00	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80
sez 2	-33.37	-54.79	21.42	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80
sez 3	-33.50	-55.01	21.51	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80
sez 4	0.00	0.00	0.00	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80

VERIFICA ALLO STATO LIMITE DI FATICA (VERIFICA PER VITA ILLIMITATA): **CONCI C6**

Legenda

As	Area profilo metallico
Yg_inf(s)	Baricentro profilo metallico
H	Altezza profilo metallico
Yg_inf	Baricentro della sezione composta
Jc	Momento d'inerzia della sezione composta
Sc_max	Momento statico massimo della sezione del profilo
Sp	Spessore anima in corrispondenza della sezione con momento statico massimo Sc_max
b	Larghezza dei piatti (piattabande, anime, ecc.)
t	Spessore dei piatti (piattabande, anime, ecc.)
A	Sezione resistente dei piatti (piattabande, anime, ecc.)
Z	Distanza baricentro dei piatti(piattabande, anime, ecc.) dal baricentro della sezione composta
S_i	Momento statico della sezione i_esima di attacco dei piatti in esame(piattabande, anime, ecc.)
$\Delta\tau$ e $\Delta\sigma$	Delta di tensione tangenziale e normale degli elementi da verificare
C.ANG	Saldatura a cordone d'angolo
a	Larghezza della gola del cordone d'angolo (somma)
P.PEN	Saldatura a piena penetrazione (spessore resistente= spessore anima)
$\gamma_{Mf,s}$	1.35 (coeff. di sicurezza a fatica)
Es/Ec	6.30 (coeff. di omogeneizzazione acciaio/cls.)
Bc	320 cm (base efficace soletta in cls.)
Hc	24 cm (altezza soletta in cls.)
Gap	6 cm (distanza tra profilo metallico e soletta)
Ar1	32.16 cm^2 (area di armatura soletta)
Y(Ar1)	20 cm (distanza dal lembo inferiore della soletta dell'armatura Ar1)
Ar2	32.16 cm^2 (area di armatura soletta)
Y(Ar2)	2 cm (distanza dal lembo inferiore della soletta dell'armatura Ar2)
Ar_compr?	SI (considerare o no le armature della soletta se in compressione)

SCHEMA SEZIONE COMPOSTA



Caratteristiche geometriche

STATO CLS	As cm^2	Sp cm	Yg_inf(s) cm	Js cm^4	H cm	Yg_inf cm	Jc cm^4	Wsup cm^3	Winf cm^3	Sc_max cm^3	Jc/Sc_max m	DESCRIZIONE
Compr.	501.6	1.2	41.65	951707	100.0	96.51	3115259	-893577	32278	27818.6	1.120	CLS in compressione
Teso	501.6	1.2	41.65	951707	100.0	50.21	1280596	-25722	25503	12852.8	0.996	CLS in trazione

Caratteristiche con sezione avente il CLS totalmente o parzialmente in compressione

POSIZ.	b cm	t cm	A cm^2	Z cm	S_i cm^3	Jc/S_i m	TIPO SALDAT.	a mm	DESCRIZIONE	
sez.max.	93.0	1.2	111.6	46.01					ANIMA	
sez 1	0.0	0.0	0.0	-3.49	0.0		C.ANG.	0.0	PIATTO RINFORZO SUP.	
sez 2	50.0	3.0	150.0	-1.99	27818.4	1.120	C.ANG.	14.1	ANIMA-PIATTABANDA SUP.	(2 SALD.10x10 mm)
sez 3	60.0	4.0	240.0	94.51	22683.3	1.373	C.ANG.	14.1	ANIMA-PIATTABANDA INF.	(2 SALD.10x10 mm)
sez 4	0.0	0.0	0.0	96.51	0.0		C.ANG.	0.0	PIATTO RINFORZO INF	

Caratteristiche con sezione avente il CLS totalmente in trazione

POSIZ.	b cm	t cm	A cm^2	Z cm	S_i cm^3	Jc/S_i m	TIPO SALDAT.	a mm	DESCRIZIONE
sez.max.	93.0	1.2	111.6	-0.29					ANIMA
sez 1	0.0	0.0	0.0	-49.79	0.0		C.ANG.	0.0	PIATTO RINFORZO SUP.
sez 2	50.0	3.0	150.0	-48.29	11539.4	1.110	C.ANG.	14.1	ANIMA-PIATTABANDA SUP.
sez 3	60.0	4.0	240.0	48.21	11571.3	1.107	C.ANG.	14.1	ANIMA-PIATTABANDA INF.
sez 4	0.0	0.0	0.0	50.21	0.0		C.ANG.	0.0	PIATTO RINFORZO INF

Sollecitazioni flettenti e taglianti associate (con segno)

TIPO DI COMBINAZIONE	M(max) kNm	M(min) kNm	V(max) kN	V(min) kN	Elemento n°
DM(max) - DT(ass)	553.7	-613.7	374.9	268.1	222
DM(ass) - DT(max)	992.4	1220.7	-16.1	-331.4	220

VERIFICA (tensioni normali) DEL PROFILATO METALLICO

POSIZ.	σ inf(+) N/mm^2	σ inf(-) N/mm^2	$\Delta\sigma$ N/mm^2	$\Delta\sigma c$ N/mm^2	$\Delta\sigma D/\gamma Mf,s$ N/mm^2	$\Delta\sigma < \Delta\sigma D/\gamma Mf,s$	
sez. max	17.2	-24.1	41.22	112.0	61.14	VERIFICATO	<--Tab. C.4.2.XIV (3) $\Delta\sigma c$=112 ;Tab. C.4.2.XV (2) $\Delta\sigma c$=112

VERIFICA (tensioni tangenziali) DEL PROFILATO E DEI COLLEGAMENTI SALDATI

POSIZ.	$\tau(+)$ N/mm^2	$\tau(-)$ N/mm^2	$\Delta\tau$ N/mm^2	$\Delta\tau c$ N/mm^2	$\Delta\tau D/\gamma Mf,s$ N/mm^2	$\Delta\tau < \Delta\tau D/\gamma Mf,s$	
sez. max	-1.20	-24.66	23.46	100.0	33.85	VERIFICATO	<--Tab. C.4.2.XIIIb (6) $\Delta\tau c$=100
sez 1	0.00	0.00	0.00	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80
sez 2	-1.02	-20.93	19.91	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80
sez 3	-0.83	-17.06	16.23	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80
sez 4	0.00	0.00	0.00	80.0	27.08	VERIFICATO	<--Tab. C.4.2.XVIIb (8) $\Delta\tau c$=80

9 VERIFICHE DEI CONNETTORI “NELSON”

Dati connettori:

numero per fila:	3 (C2, C6); 4 (C1, C3, C4, C5)
interasse file:	0.20 m
diametro:	22 mm (7/8”)
altezza:	175 mm
resistenza a rottura:	450 N/mm^2

9.1 STATO LIMITE ULTIMO – RESISTENZA AL TAGLIO LONGITUDINALE

Si effettuano le verifiche allo stato limite ultimo per taglio longitudinale dei connettori trave-soletta.
I coefficienti parziali per SLU assunti sono i seguenti:

$\gamma_V = 1.25$: connettori: resistenza allo SLU

Seguono i tabulati di calcolo per ogni asta considerata, per le combinazione di carichi più gravose.
Dati tabulati:

Elem property:	nome delle caratteristiche geometriche dell’elemento
Elem:	numero dell’elemento
Position:	nodo iniziale (I) o finale (J) dell’elemento
Lcom:	combinazione di carico più gravosa
Type:	sollecitazione (massima o minima)
V_L,Ed:	sforzo di taglio longitudinale agente sulla larghezza della regione inelastica
v_L,Ed:	sforzo di taglio longitudinale di calcolo per unità di lunghezza (m) all’interfaccia trave-soletta
P_Rd:	resistenza al taglio del singolo connettore “Nelson”
v_L,Rd:	resistenza al taglio longitudinale per trave e per unità di lunghezza
$v\_Ed = \dfrac{v\_L,Ed}{2 \times t_c}$	(t_c = spessore della soletta)

Condizione di verifica: Verification Ratio: $\dfrac{v\_L,Ed}{v\_L,Rd} \leq 1$

Elem property	Elem number	Position	Lcom	Type	V_L,Ed (kN)	v_L,Ed (kN/m)	P_Rd (kN)	v_L,Rd (kN/m)	Verif. Ratio
Concio 1	101	I[719]	ST SLV Vert	FX-MAX	1.95	1.77	111.48	2229.56	0.001
Concio 1	101	J[720]	ST SLU Mobili	FZ-MAX	454.57	412.07	111.48	2229.56	0.185
Concio 1	102	I[720]	ST SLU Mobili	FZ-MIN	-1359.96	1232.82	111.48	2229.56	0.553
Concio 1	102	J[721]	ST SLU Mobili	FZ-MIN	-610.91	553.79	111.48	2229.56	0.248
Concio 1	103	I[721]	ST SLU Mobili	FZ-MIN	-976.25	884.98	111.48	2229.56	0.397
Concio 1	103	J[722]	ST SLU Mobili	FZ-MIN	-519.15	470.62	111.48	2229.56	0.211
Concio 2	104	I[722]	ST SLU Mobili	FZ-MIN	-519.15	459.95	111.48	1672.17	0.275
Concio 2	104	J[723]	ST SLU Mobili	FZ-MAX	581.58	515.26	111.48	1672.17	0.308
Concio 2	105	I[723]	ST SLU Mobili	FZ-MIN	-655.53	580.78	111.48	1672.17	0.347
Concio 2	105	J[724]	ST SLU Mobili	FZ-MAX	860.04	761.97	111.48	1672.17	0.456
Concio 2	106	I[724]	ST SLU Mobili	FZ-MAX	469.38	415.86	111.48	1672.17	0.249
Concio 2	106	J[725]	ST SLU Mobili	FZ-MAX	875.47	775.64	111.48	1672.17	0.464
Concio 3	107	I[725]	ST SLU Mobili	FZ-MAX	875.47	784.50	111.48	2229.56	0.352
Concio 3	107	J[726]	ST SLU Mobili	FZ-MAX	1168.60	1047.16	111.48	2229.56	0.470
Concio 3	108	I[726]	ST SLU Mobili	FZ-MAX	791.12	708.91	111.48	2229.56	0.318
Concio 3	108	J[727]	ST SLU Mobili	FZ-MAX	1476.21	1322.81	111.48	2229.56	0.593

Concio 3	109	I[727]	ST SLU Mobili	FZ-MAX	1151.31	1031.67	111.48	2229.56	0.463
Concio 3	109	J[728]	ST SLU Mobili	FZ-MAX	1233.79	1105.58	111.48	2229.56	0.496
Concio 4 H=var	110	I[728]	ST SLU Mobili	FZ-MAX	1222.33	1069.33	111.48	2229.56	0.480
Concio 4 H=var	110	J[729]	ST SLU Mobili	FZ-MAX	1610.08	971.14	111.48	2229.56	0.436
Concio 4 H=var	111	I[729]	ST SLU Mobili	FZ-MAX	1368.07	825.16	111.48	2229.56	0.370
Concio 4 H=var	111	J[730]	ST SLU Mobili	FZ-MAX	1739.82	798.20	111.48	2229.56	0.358
Concio 4 H=200	112	I[730]	ST SLU Mobili	FZ-MAX	1742.14	799.26	111.48	2229.56	0.358
Concio 4 H=200	112	J[731]	ST SLU Mobili	FZ-MAX	1817.20	833.70	111.48	2229.56	0.374
Concio 4 H=200	113	I[731]	ST SLU Mobili	FZ-MIN	-1732.95	795.04	111.48	2229.56	0.357
Concio 4 H=200	113	J[732]	ST SLU Mobili	FZ-MIN	-1657.84	760.59	111.48	2229.56	0.341
Concio 4 H=var	114	I[732]	ST SLU Mobili	FZ-MIN	-1657.12	760.25	111.48	2229.56	0.341
Concio 4 H=var	114	J[733]	ST SLU Mobili	FZ-MIN	-1284.80	774.94	111.48	2229.56	0.348
Concio 4 H=var	115	I[733]	ST SLU Mobili	FZ-MIN	-1523.31	918.80	111.48	2229.56	0.412
Concio 4 H=var	115	J[734]	ST SLU Mobili	FZ-MIN	-1135.69	993.53	111.48	2229.56	0.446
Concio 5	116	I[734]	ST SLU Mobili	FZ-MIN	-1145.39	1026.37	111.48	2229.56	0.460
Concio 5	116	J[735]	ST SLU Mobili	FZ-MIN	-1062.92	952.47	111.48	2229.56	0.427
Concio 5	117	I[735]	ST SLU Mobili	FZ-MIN	-1389.77	1245.35	111.48	2229.56	0.559
Concio 5	117	J[736]	ST SLU Mobili	FZ-MIN	-686.77	615.41	111.48	2229.56	0.276
Concio 5	118	I[736]	ST SLU Mobili	FZ-MIN	-1076.31	964.46	111.48	2229.56	0.433
Concio 5	118	J[737]	ST SLU Mobili	FZ-MIN	-745.41	667.95	111.48	2229.56	0.300
Concio 6	119	I[737]	ST SLU Mobili	FZ-MIN	-745.41	655.19	111.48	1672.17	0.392
Concio 6	119	J[738]	ST SLU Mobili	FZ-MAX	477.56	419.75	111.48	1672.17	0.251
Concio 6	120	I[738]	ST SLU Mobili	FZ-MIN	-759.17	667.28	111.48	1672.17	0.399
Concio 6	120	J[739]	ST SLU Mobili	FZ-MIN	-380.57	334.50	111.48	1672.17	0.200
Concio 6	121	I[739]	ST SLU Mobili	FZ-MIN	-380.57	334.50	111.48	1672.17	0.200
Concio 6	121	J[740]	ST SLU Mobili	FZ-MAX	758.99	667.12	111.48	1672.17	0.399
Concio 6	122	I[740]	ST SLU Mobili	FZ-MIN	-477.80	419.97	111.48	1672.17	0.251
Concio 6	122	J[741]	ST SLU Mobili	FZ-MAX	745.27	655.06	111.48	1672.17	0.392
Concio 5	123	I[741]	ST SLU Mobili	FZ-MAX	745.27	667.82	111.48	2229.56	0.300
Concio 5	123	J[742]	ST SLU Mobili	FZ-MAX	1076.20	964.36	111.48	2229.56	0.433
Concio 5	124	I[742]	ST SLU Mobili	FZ-MAX	686.73	615.37	111.48	2229.56	0.276
Concio 5	124	J[743]	ST SLU Mobili	FZ-MAX	1389.55	1245.15	111.48	2229.56	0.558
Concio 5	125	I[743]	ST SLU Mobili	FZ-MAX	1062.79	952.35	111.48	2229.56	0.427
Concio 5	125	J[744]	ST SLU Mobili	FZ-MAX	1145.26	1026.25	111.48	2229.56	0.460
Concio 4 H=var	126	I[744]	ST SLU Mobili	FZ-MAX	1135.54	993.40	111.48	2229.56	0.446
Concio 4 H=var	126	J[745]	ST SLU Mobili	FZ-MAX	1523.13	918.69	111.48	2229.56	0.412
Concio 4 H=var	127	I[745]	ST SLU Mobili	FZ-MAX	1284.47	774.74	111.48	2229.56	0.347
Concio 4 H=var	127	J[746]	ST SLU Mobili	FZ-MAX	1656.73	760.08	111.48	2229.56	0.341
Concio 4 H=200	128	I[746]	ST SLU Mobili	FZ-MAX	1657.44	760.40	111.48	2229.56	0.341
Concio 4 H=200	128	J[747]	ST SLU Mobili	FZ-MAX	1732.54	794.86	111.48	2229.56	0.357
Concio 4 H=200	129	I[747]	ST SLU Mobili	FZ-MIN	-1817.75	833.95	111.48	2229.56	0.374
Concio 4 H=200	129	J[748]	ST SLU Mobili	FZ-MIN	-1742.69	799.51	111.48	2229.56	0.359
Concio 4 H=var	130	I[748]	ST SLU Mobili	FZ-MIN	-1740.34	798.44	111.48	2229.56	0.358
Concio 4 H=var	130	J[749]	ST SLU Mobili	FZ-MIN	-1368.53	825.44	111.48	2229.56	0.370
Concio 4 H=var	131	I[749]	ST SLU Mobili	FZ-MIN	-1610.36	971.30	111.48	2229.56	0.436
Concio 4 H=var	131	J[750]	ST SLU Mobili	FZ-MIN	-1222.57	1069.54	111.48	2229.56	0.480
Concio 3	132	I[750]	ST SLU Mobili	FZ-MIN	-1234.08	1105.84	111.48	2229.56	0.496
Concio 3	132	J[751]	ST SLU Mobili	FZ-MIN	-1151.60	1031.93	111.48	2229.56	0.463
Concio 3	133	I[751]	ST SLU Mobili	FZ-MIN	-1476.56	1323.12	111.48	2229.56	0.593
Concio 3	133	J[752]	ST SLU Mobili	FZ-MIN	-791.28	709.06	111.48	2229.56	0.318
Concio 3	134	I[752]	ST SLU Mobili	FZ-MIN	-1168.86	1047.39	111.48	2229.56	0.470
Concio 3	134	J[753]	ST SLU Mobili	FZ-MIN	-875.78	784.77	111.48	2229.56	0.352
Concio 2	135	I[753]	ST SLU Mobili	FZ-MIN	-875.78	775.92	111.48	1672.17	0.464
Concio 2	135	J[754]	ST SLU Mobili	FZ-MIN	-469.61	416.06	111.48	1672.17	0.249
Concio 2	136	I[754]	ST SLU Mobili	FZ-MIN	-860.43	762.32	111.48	1672.17	0.456
Concio 2	136	J[755]	ST SLU Mobili	FZ-MAX	655.10	580.40	111.48	1672.17	0.347
Concio 2	137	I[755]	ST SLU Mobili	FZ-MIN	-581.87	515.52	111.48	1672.17	0.308
Concio 2	137	J[756]	ST SLU Mobili	FZ-MAX	518.87	459.70	111.48	1672.17	0.275
Concio 1	138	I[756]	ST SLU Mobili	FZ-MAX	518.87	470.36	111.48	2229.56	0.211

Concio 1	138	J[757]	ST SLU Mobili	FZ-MAX	975.91	884.68	111.48	2229.56	0.397
Concio 1	139	I[757]	ST SLU Mobili	FZ-MAX	610.54	553.46	111.48	2229.56	0.248
Concio 1	139	J[758]	ST SLU Mobili	FZ-MAX	1359.55	1232.44	111.48	2229.56	0.553
Concio 1	140	I[758]	ST SLU Mobili	FZ-MIN	-454.57	412.07	111.48	2229.56	0.185
Concio 1	140	J[759]	ST SLV Vert	FX-MAX	1.95	1.77	111.48	2229.56	0.001
Concio 1	201	I[760]	ST SLV Vert	FX-MAX	1.66	1.51	111.48	2229.56	0.001
Concio 1	201	J[761]	ST SLU Mobili	FZ-MAX	443.76	403.87	111.48	2229.56	0.181
Concio 1	202	I[761]	ST SLU Mobili	FZ-MIN	-1307.81	1190.23	111.48	2229.56	0.534
Concio 1	202	J[762]	ST SLU Mobili	FZ-MIN	-642.47	584.71	111.48	2229.56	0.262
Concio 1	203	I[762]	ST SLU Mobili	FZ-MIN	-909.54	827.77	111.48	2229.56	0.371
Concio 1	203	J[763]	ST SLU Mobili	FZ-MIN	-557.49	507.37	111.48	2229.56	0.228
Concio 2	204	I[763]	ST SLU Mobili	FZ-MIN	-557.49	496.03	111.48	1672.17	0.297
Concio 2	204	J[764]	ST SLU Mobili	FZ-MAX	623.74	554.97	111.48	1672.17	0.332
Concio 2	205	I[764]	ST SLU Mobili	FZ-MIN	-665.79	592.39	111.48	1672.17	0.354
Concio 2	205	J[765]	ST SLU Mobili	FZ-MAX	847.71	754.25	111.48	1672.17	0.451
Concio 2	206	I[765]	ST SLU Mobili	FZ-MAX	579.12	515.28	111.48	1672.17	0.308
Concio 2	206	J[766]	ST SLU Mobili	FZ-MAX	864.97	769.61	111.48	1672.17	0.460
Concio 3	207	I[766]	ST SLU Mobili	FZ-MAX	864.97	778.81	111.48	2229.56	0.349
Concio 3	207	J[767]	ST SLU Mobili	FZ-MAX	1092.11	983.32	111.48	2229.56	0.441
Concio 3	208	I[767]	ST SLU Mobili	FZ-MAX	824.19	742.09	111.48	2229.56	0.333
Concio 3	208	J[768]	ST SLU Mobili	FZ-MAX	1382.18	1244.49	111.48	2229.56	0.558
Concio 3	209	I[768]	ST SLU Mobili	FZ-MAX	1178.16	1060.80	111.48	2229.56	0.476
Concio 3	209	J[769]	ST SLU Mobili	FZ-MAX	1231.55	1108.87	111.48	2229.56	0.497
Concio 4 H=var	210	I[769]	ST SLU Mobili	FZ-MAX	1218.98	1074.36	111.48	2229.56	0.482
Concio 4 H=var	210	J[770]	ST SLU Mobili	FZ-MAX	1533.45	934.44	111.48	2229.56	0.419
Concio 4 H=var	211	I[770]	ST SLU Mobili	FZ-MAX	1418.38	864.32	111.48	2229.56	0.388
Concio 4 H=var	211	J[771]	ST SLU Mobili	FZ-MAX	1741.23	808.66	111.48	2229.56	0.363
Concio 4 H=200	212	I[771]	ST SLU Mobili	FZ-MAX	1737.84	807.08	111.48	2229.56	0.362
Concio 4 H=200	212	J[772]	ST SLU Mobili	FZ-MAX	1799.04	835.50	111.48	2229.56	0.375
Concio 4 H=200	213	I[772]	ST SLU Mobili	FZ-MIN	-1711.92	795.04	111.48	2229.56	0.357
Concio 4 H=200	213	J[773]	ST SLU Mobili	FZ-MIN	-1650.76	766.64	111.48	2229.56	0.344
Concio 4 H=var	214	I[773]	ST SLU Mobili	FZ-MIN	-1654.03	768.16	111.48	2229.56	0.345
Concio 4 H=var	214	J[774]	ST SLU Mobili	FZ-MIN	-1331.32	811.26	111.48	2229.56	0.364
Concio 4 H=var	215	I[774]	ST SLU Mobili	FZ-MIN	-1448.50	882.67	111.48	2229.56	0.396
Concio 4 H=var	215	J[775]	ST SLU Mobili	FZ-MIN	-1135.02	1000.35	111.48	2229.56	0.449
Concio 5	216	I[775]	ST SLU Mobili	FZ-MIN	-1147.83	1033.49	111.48	2229.56	0.464
Concio 5	216	J[776]	ST SLU Mobili	FZ-MIN	-1094.53	985.50	111.48	2229.56	0.442
Concio 5	217	I[776]	ST SLU Mobili	FZ-MIN	-1304.65	1174.69	111.48	2229.56	0.527
Concio 5	217	J[777]	ST SLU Mobili	FZ-MIN	-765.62	689.35	111.48	2229.56	0.309
Concio 5	218	I[777]	ST SLU Mobili	FZ-MIN	-1007.91	907.51	111.48	2229.56	0.407
Concio 5	218	J[778]	ST SLU Mobili	FZ-MIN	-747.37	672.92	111.48	2229.56	0.302
Concio 6	219	I[778]	ST SLU Mobili	FZ-MIN	-747.37	659.49	111.48	1672.17	0.394
Concio 6	219	J[779]	ST SLU Mobili	FZ-MAX	533.39	470.68	111.48	1672.17	0.281
Concio 6	220	I[779]	ST SLU Mobili	FZ-MIN	-760.40	670.99	111.48	1672.17	0.401
Concio 6	220	J[780]	ST SLU Mobili	FZ-MIN	-464.45	409.84	111.48	1672.17	0.245
Concio 6	221	I[780]	ST SLU Mobili	FZ-MIN	-464.45	409.84	111.48	1672.17	0.245
Concio 6	221	J[781]	ST SLU Mobili	FZ-MAX	760.22	670.84	111.48	1672.17	0.401
Concio 6	222	I[781]	ST SLU Mobili	FZ-MIN	-533.59	470.85	111.48	1672.17	0.282
Concio 6	222	J[782]	ST SLU Mobili	FZ-MAX	747.19	659.34	111.48	1672.17	0.394
Concio 5	223	I[782]	ST SLU Mobili	FZ-MAX	747.19	672.76	111.48	2229.56	0.302
Concio 5	223	J[783]	ST SLU Mobili	FZ-MAX	1007.76	907.37	111.48	2229.56	0.407
Concio 5	224	I[783]	ST SLU Mobili	FZ-MAX	765.70	689.43	111.48	2229.56	0.309
Concio 5	224	J[784]	ST SLU Mobili	FZ-MAX	1304.45	1174.50	111.48	2229.56	0.527
Concio 5	225	I[784]	ST SLU Mobili	FZ-MAX	1094.30	985.29	111.48	2229.56	0.442
Concio 5	225	J[785]	ST SLU Mobili	FZ-MAX	1147.59	1033.27	111.48	2229.56	0.463
Concio 4 H=var	226	I[785]	ST SLU Mobili	FZ-MAX	1134.79	1000.16	111.48	2229.56	0.449
Concio 4 H=var	226	J[786]	ST SLU Mobili	FZ-MAX	1448.34	882.57	111.48	2229.56	0.396
Concio 4 H=var	227	I[786]	ST SLU Mobili	FZ-MAX	1331.04	811.10	111.48	2229.56	0.364
Concio 4 H=var	227	J[787]	ST SLU Mobili	FZ-MAX	1653.74	768.02	111.48	2229.56	0.344

Concio 4 H=200	228	I[787]	ST SLU Mobili	FZ-MAX	1650.45	766.50	111.48	2229.56	0.344
Concio 4 H=200	228	J[788]	ST SLU Mobili	FZ-MAX	1711.62	794.90	111.48	2229.56	0.357
Concio 4 H=200	229	I[788]	ST SLU Mobili	FZ-MIN	-1799.40	835.67	111.48	2229.56	0.375
Concio 4 H=200	229	J[789]	ST SLU Mobili	FZ-MIN	-1738.20	807.25	111.48	2229.56	0.362
Concio 4 H=var	230	I[789]	ST SLU Mobili	FZ-MIN	-1741.57	808.81	111.48	2229.56	0.363
Concio 4 H=var	230	J[790]	ST SLU Mobili	FZ-MIN	-1418.70	864.51	111.48	2229.56	0.388
Concio 4 H=var	231	I[790]	ST SLU Mobili	FZ-MIN	-1533.66	934.56	111.48	2229.56	0.419
Concio 4 H=var	231	J[791]	ST SLU Mobili	FZ-MIN	-1219.25	1074.59	111.48	2229.56	0.482
Concio 3	232	I[791]	ST SLU Mobili	FZ-MIN	-1231.82	1109.12	111.48	2229.56	0.497
Concio 3	232	J[792]	ST SLU Mobili	FZ-MIN	-1178.43	1061.04	111.48	2229.56	0.476
Concio 3	233	I[792]	ST SLU Mobili	FZ-MIN	-1382.43	1244.72	111.48	2229.56	0.558
Concio 3	233	J[793]	ST SLU Mobili	FZ-MIN	-824.33	742.21	111.48	2229.56	0.333
Concio 3	234	I[793]	ST SLU Mobili	FZ-MIN	-1092.35	983.53	111.48	2229.56	0.441
Concio 3	234	J[794]	ST SLU Mobili	FZ-MIN	-865.25	779.05	111.48	2229.56	0.349
Concio 2	235	I[794]	ST SLU Mobili	FZ-MIN	-865.25	769.86	111.48	1672.17	0.460
Concio 2	235	J[795]	ST SLU Mobili	FZ-MIN	-579.28	515.41	111.48	1672.17	0.308
Concio 2	236	I[795]	ST SLU Mobili	FZ-MIN	-848.00	754.51	111.48	1672.17	0.451
Concio 2	236	J[796]	ST SLU Mobili	FZ-MAX	665.49	592.13	111.48	1672.17	0.354
Concio 2	237	I[796]	ST SLU Mobili	FZ-MIN	-623.96	555.17	111.48	1672.17	0.332
Concio 2	237	J[797]	ST SLU Mobili	FZ-MAX	557.29	495.85	111.48	1672.17	0.297
Concio 1	238	I[797]	ST SLU Mobili	FZ-MAX	557.29	507.19	111.48	2229.56	0.227
Concio 1	238	J[798]	ST SLU Mobili	FZ-MAX	909.29	827.55	111.48	2229.56	0.371
Concio 1	239	I[798]	ST SLU Mobili	FZ-MAX	642.27	584.53	111.48	2229.56	0.262
Concio 1	239	J[799]	ST SLU Mobili	FZ-MAX	1307.43	1189.89	111.48	2229.56	0.534
Concio 1	240	I[799]	ST SLU Mobili	FZ-MIN	-443.76	403.86	111.48	2229.56	0.181
Concio 1	240	J[800]	ST SLV Vert	FX-MAX	1.66	1.51	111.48	2229.56	0.001
Concio 1	301	I[801]	ST SLV Vert	FX-MAX	1.66	1.51	111.48	2229.56	0.001
Concio 1	301	J[802]	ST SLU Mobili	FZ-MAX	443.76	403.87	111.48	2229.56	0.181
Concio 1	302	I[802]	ST SLU Mobili	FZ-MIN	-1308.74	1191.08	111.48	2229.56	0.534
Concio 1	302	J[803]	ST SLU Mobili	FZ-MIN	-643.41	585.57	111.48	2229.56	0.263
Concio 1	303	I[803]	ST SLU Mobili	FZ-MIN	-910.09	828.27	111.48	2229.56	0.371
Concio 1	303	J[804]	ST SLU Mobili	FZ-MIN	-558.04	507.87	111.48	2229.56	0.228
Concio 2	304	I[804]	ST SLU Mobili	FZ-MIN	-558.04	496.52	111.48	1672.17	0.297
Concio 2	304	J[805]	ST SLU Mobili	FZ-MAX	624.29	555.46	111.48	1672.17	0.332
Concio 2	305	I[805]	ST SLU Mobili	FZ-MIN	-665.86	592.45	111.48	1672.17	0.354
Concio 2	305	J[806]	ST SLU Mobili	FZ-MAX	847.82	754.35	111.48	1672.17	0.451
Concio 2	306	I[806]	ST SLU Mobili	FZ-MAX	579.88	515.95	111.48	1672.17	0.309
Concio 2	306	J[807]	ST SLU Mobili	FZ-MAX	865.73	770.29	111.48	1672.17	0.461
Concio 3	307	I[807]	ST SLU Mobili	FZ-MAX	865.73	779.49	111.48	2229.56	0.350
Concio 3	307	J[808]	ST SLU Mobili	FZ-MAX	1092.87	984.00	111.48	2229.56	0.441
Concio 3	308	I[808]	ST SLU Mobili	FZ-MAX	825.38	743.16	111.48	2229.56	0.333
Concio 3	308	J[809]	ST SLU Mobili	FZ-MAX	1383.36	1245.56	111.48	2229.56	0.559
Concio 3	309	I[809]	ST SLU Mobili	FZ-MAX	1179.56	1062.05	111.48	2229.56	0.476
Concio 3	309	J[810]	ST SLU Mobili	FZ-MAX	1232.95	1110.13	111.48	2229.56	0.498
Concio 4 H=var	310	I[810]	ST SLU Mobili	FZ-MAX	1221.33	1076.42	111.48	2229.56	0.483
Concio 4 H=var	310	J[811]	ST SLU Mobili	FZ-MAX	1535.80	935.86	111.48	2229.56	0.420
Concio 4 H=var	311	I[811]	ST SLU Mobili	FZ-MAX	1421.31	866.10	111.48	2229.56	0.388
Concio 4 H=var	311	J[812]	ST SLU Mobili	FZ-MAX	1744.17	810.02	111.48	2229.56	0.363
Concio 4 H=200	312	I[812]	ST SLU Mobili	FZ-MAX	1739.72	807.95	111.48	2229.56	0.362
Concio 4 H=200	312	J[813]	ST SLU Mobili	FZ-MAX	1800.92	836.38	111.48	2229.56	0.375
Concio 4 H=200	313	I[813]	ST SLU Mobili	FZ-MIN	-1713.79	795.91	111.48	2229.56	0.357
Concio 4 H=200	313	J[814]	ST SLU Mobili	FZ-MIN	-1652.63	767.51	111.48	2229.56	0.344
Concio 4 H=var	314	I[814]	ST SLU Mobili	FZ-MIN	-1657.01	769.54	111.48	2229.56	0.345
Concio 4 H=var	314	J[815]	ST SLU Mobili	FZ-MIN	-1334.30	813.08	111.48	2229.56	0.365
Concio 4 H=var	315	I[815]	ST SLU Mobili	FZ-MIN	-1450.99	884.19	111.48	2229.56	0.397
Concio 4 H=var	315	J[816]	ST SLU Mobili	FZ-MIN	-1137.51	1002.55	111.48	2229.56	0.450
Concio 5	316	I[816]	ST SLU Mobili	FZ-MIN	-1149.22	1034.74	111.48	2229.56	0.464
Concio 5	316	J[817]	ST SLU Mobili	FZ-MIN	-1095.92	986.75	111.48	2229.56	0.443
Concio 5	317	I[817]	ST SLU Mobili	FZ-MIN	-1305.85	1175.77	111.48	2229.56	0.527

Concio 5	317	J[818]	ST SLU Mobili	FZ-MIN	-766.82	690.43	111.48	2229.56	0.310
Concio 5	318	I[818]	ST SLU Mobili	FZ-MIN	-1008.58	908.11	111.48	2229.56	0.407
Concio 5	318	J[819]	ST SLU Mobili	FZ-MIN	-748.03	673.52	111.48	2229.56	0.302
Concio 6	319	I[819]	ST SLU Mobili	FZ-MIN	-748.03	660.08	111.48	1672.17	0.395
Concio 6	319	J[820]	ST SLU Mobili	FZ-MAX	534.06	471.26	111.48	1672.17	0.282
Concio 6	320	I[820]	ST SLU Mobili	FZ-MIN	-760.40	670.99	111.48	1672.17	0.401
Concio 6	320	J[821]	ST SLU Mobili	FZ-MIN	-464.46	409.84	111.48	1672.17	0.245
Concio 6	321	I[821]	ST SLU Mobili	FZ-MIN	-464.46	409.84	111.48	1672.17	0.245
Concio 6	321	J[822]	ST SLU Mobili	FZ-MAX	760.23	670.84	111.48	1672.17	0.401
Concio 6	322	I[822]	ST SLU Mobili	FZ-MIN	-534.27	471.45	111.48	1672.17	0.282
Concio 6	322	J[823]	ST SLU Mobili	FZ-MAX	747.87	659.94	111.48	1672.17	0.395
Concio 5	323	I[823]	ST SLU Mobili	FZ-MAX	747.87	673.37	111.48	2229.56	0.302
Concio 5	323	J[824]	ST SLU Mobili	FZ-MAX	1008.44	907.98	111.48	2229.56	0.407
Concio 5	324	I[824]	ST SLU Mobili	FZ-MAX	766.88	690.49	111.48	2229.56	0.310
Concio 5	324	J[825]	ST SLU Mobili	FZ-MAX	1305.62	1175.56	111.48	2229.56	0.527
Concio 5	325	I[825]	ST SLU Mobili	FZ-MAX	1095.67	986.53	111.48	2229.56	0.442
Concio 5	325	J[826]	ST SLU Mobili	FZ-MAX	1148.97	1034.51	111.48	2229.56	0.464
Concio 4 H=var	326	I[826]	ST SLU Mobili	FZ-MAX	1137.26	1002.33	111.48	2229.56	0.450
Concio 4 H=var	326	J[827]	ST SLU Mobili	FZ-MAX	1450.81	884.08	111.48	2229.56	0.397
Concio 4 H=var	327	I[827]	ST SLU Mobili	FZ-MAX	1334.10	812.96	111.48	2229.56	0.365
Concio 4 H=var	327	J[828]	ST SLU Mobili	FZ-MAX	1656.79	769.44	111.48	2229.56	0.345
Concio 4 H=200	328	I[828]	ST SLU Mobili	FZ-MAX	1652.41	767.40	111.48	2229.56	0.344
Concio 4 H=200	328	J[829]	ST SLU Mobili	FZ-MAX	1713.57	795.81	111.48	2229.56	0.357
Concio 4 H=200	329	I[829]	ST SLU Mobili	FZ-MIN	-1801.21	836.51	111.48	2229.56	0.375
Concio 4 H=200	329	J[830]	ST SLU Mobili	FZ-MIN	-1740.02	808.09	111.48	2229.56	0.362
Concio 4 H=var	330	I[830]	ST SLU Mobili	FZ-MIN	-1744.44	810.15	111.48	2229.56	0.363
Concio 4 H=var	330	J[831]	ST SLU Mobili	FZ-MIN	-1421.58	866.26	111.48	2229.56	0.389
Concio 4 H=var	331	I[831]	ST SLU Mobili	FZ-MIN	-1536.05	936.02	111.48	2229.56	0.420
Concio 4 H=var	331	J[832]	ST SLU Mobili	FZ-MIN	-1221.64	1076.70	111.48	2229.56	0.483
Concio 3	332	I[832]	ST SLU Mobili	FZ-MIN	-1233.25	1110.40	111.48	2229.56	0.498
Concio 3	332	J[833]	ST SLU Mobili	FZ-MIN	-1179.85	1062.32	111.48	2229.56	0.476
Concio 3	333	I[833]	ST SLU Mobili	FZ-MIN	-1383.63	1245.80	111.48	2229.56	0.559
Concio 3	333	J[834]	ST SLU Mobili	FZ-MIN	-825.54	743.30	111.48	2229.56	0.333
Concio 3	334	I[834]	ST SLU Mobili	FZ-MIN	-1093.09	984.20	111.48	2229.56	0.441
Concio 3	334	J[835]	ST SLU Mobili	FZ-MIN	-865.99	779.72	111.48	2229.56	0.350
Concio 2	335	I[835]	ST SLU Mobili	FZ-MIN	-865.99	770.51	111.48	1672.17	0.461
Concio 2	335	J[836]	ST SLU Mobili	FZ-MIN	-580.02	516.07	111.48	1672.17	0.309
Concio 2	336	I[836]	ST SLU Mobili	FZ-MIN	-848.09	754.59	111.48	1672.17	0.451
Concio 2	336	J[837]	ST SLU Mobili	FZ-MAX	665.58	592.20	111.48	1672.17	0.354
Concio 2	337	I[837]	ST SLU Mobili	FZ-MIN	-624.50	555.65	111.48	1672.17	0.332
Concio 2	337	J[838]	ST SLU Mobili	FZ-MAX	557.84	496.34	111.48	1672.17	0.297
Concio 1	338	I[838]	ST SLU Mobili	FZ-MAX	557.84	507.68	111.48	2229.56	0.228
Concio 1	338	J[839]	ST SLU Mobili	FZ-MAX	909.84	828.05	111.48	2229.56	0.371
Concio 1	339	I[839]	ST SLU Mobili	FZ-MAX	643.21	585.38	111.48	2229.56	0.263
Concio 1	339	J[840]	ST SLU Mobili	FZ-MAX	1308.37	1190.75	111.48	2229.56	0.534
Concio 1	340	I[840]	ST SLU Mobili	FZ-MIN	-443.76	403.86	111.48	2229.56	0.181
Concio 1	340	J[841]	ST SLV Vert	FX-MAX	1.66	1.51	111.48	2229.56	0.001
Concio 1	401	I[842]	ST SLV Vert	FX-MAX	1.96	1.77	111.48	2229.56	0.001
Concio 1	401	J[843]	ST SLU Mobili	FZ-MAX	454.57	412.07	111.48	2229.56	0.185
Concio 1	402	I[843]	ST SLU Mobili	FZ-MIN	-1357.68	1230.75	111.48	2229.56	0.552
Concio 1	402	J[844]	ST SLU Mobili	FZ-MIN	-608.79	551.87	111.48	2229.56	0.248
Concio 1	403	I[844]	ST SLU Mobili	FZ-MIN	-975.83	884.60	111.48	2229.56	0.397
Concio 1	403	J[845]	ST SLU Mobili	FZ-MIN	-518.73	470.24	111.48	2229.56	0.211
Concio 2	404	I[845]	ST SLU Mobili	FZ-MIN	-518.73	459.58	111.48	1672.17	0.275
Concio 2	404	J[846]	ST SLU Mobili	FZ-MAX	581.16	514.89	111.48	1672.17	0.308
Concio 2	405	I[846]	ST SLU Mobili	FZ-MIN	-655.17	580.47	111.48	1672.17	0.347
Concio 2	405	J[847]	ST SLU Mobili	FZ-MAX	859.71	761.68	111.48	1672.17	0.456
Concio 2	406	I[847]	ST SLU Mobili	FZ-MAX	468.52	415.09	111.48	1672.17	0.248
Concio 2	406	J[848]	ST SLU Mobili	FZ-MAX	874.61	774.88	111.48	1672.17	0.463

Concio 3	407	I[848]	ST SLU Mobili	FZ-MAX	874.61	783.73	111.48	2229.56	0.352
Concio 3	407	J[849]	ST SLU Mobili	FZ-MAX	1167.74	1046.39	111.48	2229.56	0.469
Concio 3	408	I[849]	ST SLU Mobili	FZ-MAX	788.33	706.41	111.48	2229.56	0.317
Concio 3	408	J[850]	ST SLU Mobili	FZ-MAX	1473.42	1320.30	111.48	2229.56	0.592
Concio 3	409	I[850]	ST SLU Mobili	FZ-MAX	1147.84	1028.56	111.48	2229.56	0.461
Concio 3	409	J[851]	ST SLU Mobili	FZ-MAX	1230.32	1102.47	111.48	2229.56	0.494
Concio 4 H=var	410	I[851]	ST SLU Mobili	FZ-MAX	1219.43	1066.79	111.48	2229.56	0.478
Concio 4 H=var	410	J[852]	ST SLU Mobili	FZ-MAX	1607.19	969.39	111.48	2229.56	0.435
Concio 4 H=var	411	I[852]	ST SLU Mobili	FZ-MAX	1364.90	823.25	111.48	2229.56	0.369
Concio 4 H=var	411	J[853]	ST SLU Mobili	FZ-MAX	1736.65	796.74	111.48	2229.56	0.357
Concio 4 H=200	412	I[853]	ST SLU Mobili	FZ-MAX	1738.54	797.61	111.48	2229.56	0.358
Concio 4 H=200	412	J[854]	ST SLU Mobili	FZ-MAX	1813.60	832.05	111.48	2229.56	0.373
Concio 4 H=200	413	I[854]	ST SLU Mobili	FZ-MIN	-1729.26	793.35	111.48	2229.56	0.356
Concio 4 H=200	413	J[855]	ST SLU Mobili	FZ-MIN	-1654.16	758.90	111.48	2229.56	0.340
Concio 4 H=var	414	I[855]	ST SLU Mobili	FZ-MIN	-1653.88	758.77	111.48	2229.56	0.340
Concio 4 H=var	414	J[856]	ST SLU Mobili	FZ-MIN	-1281.56	772.98	111.48	2229.56	0.347
Concio 4 H=var	415	I[856]	ST SLU Mobili	FZ-MIN	-1520.49	917.10	111.48	2229.56	0.411
Concio 4 H=var	415	J[857]	ST SLU Mobili	FZ-MIN	-1132.88	991.07	111.48	2229.56	0.445
Concio 5	416	I[857]	ST SLU Mobili	FZ-MIN	-1141.98	1023.31	111.48	2229.56	0.459
Concio 5	416	J[858]	ST SLU Mobili	FZ-MIN	-1059.51	949.41	111.48	2229.56	0.426
Concio 5	417	I[858]	ST SLU Mobili	FZ-MIN	-1387.13	1242.98	111.48	2229.56	0.558
Concio 5	417	J[859]	ST SLU Mobili	FZ-MIN	-684.13	613.04	111.48	2229.56	0.275
Concio 5	418	I[859]	ST SLU Mobili	FZ-MIN	-1075.64	963.86	111.48	2229.56	0.432
Concio 5	418	J[860]	ST SLU Mobili	FZ-MIN	-744.74	667.35	111.48	2229.56	0.299
Concio 6	419	I[860]	ST SLU Mobili	FZ-MIN	-744.74	654.60	111.48	1672.17	0.391
Concio 6	419	J[861]	ST SLU Mobili	FZ-MAX	476.89	419.17	111.48	1672.17	0.251
Concio 6	420	I[861]	ST SLU Mobili	FZ-MIN	-759.17	667.27	111.48	1672.17	0.399
Concio 6	420	J[862]	ST SLU Mobili	FZ-MIN	-380.56	334.50	111.48	1672.17	0.200
Concio 6	421	I[862]	ST SLU Mobili	FZ-MIN	-380.56	334.50	111.48	1672.17	0.200
Concio 6	421	J[863]	ST SLU Mobili	FZ-MAX	758.99	667.12	111.48	1672.17	0.399
Concio 6	422	I[863]	ST SLU Mobili	FZ-MIN	-477.12	419.37	111.48	1672.17	0.251
Concio 6	422	J[864]	ST SLU Mobili	FZ-MAX	744.59	654.46	111.48	1672.17	0.391
Concio 5	423	I[864]	ST SLU Mobili	FZ-MAX	744.59	667.21	111.48	2229.56	0.299
Concio 5	423	J[865]	ST SLU Mobili	FZ-MAX	1075.51	963.75	111.48	2229.56	0.432
Concio 5	424	I[865]	ST SLU Mobili	FZ-MAX	684.04	612.95	111.48	2229.56	0.275
Concio 5	424	J[866]	ST SLU Mobili	FZ-MAX	1386.86	1242.74	111.48	2229.56	0.557
Concio 5	425	I[866]	ST SLU Mobili	FZ-MAX	1059.37	949.28	111.48	2229.56	0.426
Concio 5	425	J[867]	ST SLU Mobili	FZ-MAX	1141.83	1023.18	111.48	2229.56	0.459
Concio 4 H=var	426	I[867]	ST SLU Mobili	FZ-MAX	1132.70	990.92	111.48	2229.56	0.444
Concio 4 H=var	426	J[868]	ST SLU Mobili	FZ-MAX	1520.29	916.98	111.48	2229.56	0.411
Concio 4 H=var	427	I[868]	ST SLU Mobili	FZ-MAX	1281.37	772.87	111.48	2229.56	0.347
Concio 4 H=var	427	J[869]	ST SLU Mobili	FZ-MAX	1653.62	758.65	111.48	2229.56	0.340
Concio 4 H=200	428	I[869]	ST SLU Mobili	FZ-MAX	1653.91	758.78	111.48	2229.56	0.340
Concio 4 H=200	428	J[870]	ST SLU Mobili	FZ-MAX	1729.01	793.24	111.48	2229.56	0.356
Concio 4 H=200	429	I[870]	ST SLU Mobili	FZ-MIN	-1814.01	832.23	111.48	2229.56	0.373
Concio 4 H=200	429	J[871]	ST SLU Mobili	FZ-MIN	-1738.94	797.79	111.48	2229.56	0.358
Concio 4 H=var	430	I[871]	ST SLU Mobili	FZ-MIN	-1737.03	796.92	111.48	2229.56	0.357
Concio 4 H=var	430	J[872]	ST SLU Mobili	FZ-MIN	-1365.22	823.45	111.48	2229.56	0.369
Concio 4 H=var	431	I[872]	ST SLU Mobili	FZ-MIN	-1607.49	969.57	111.48	2229.56	0.435
Concio 4 H=var	431	J[873]	ST SLU Mobili	FZ-MIN	-1219.70	1067.03	111.48	2229.56	0.479
Concio 3	432	I[873]	ST SLU Mobili	FZ-MIN	-1230.62	1102.74	111.48	2229.56	0.495
Concio 3	432	J[874]	ST SLU Mobili	FZ-MIN	-1148.14	1028.83	111.48	2229.56	0.461
Concio 3	433	I[874]	ST SLU Mobili	FZ-MIN	-1473.82	1320.67	111.48	2229.56	0.592
Concio 3	433	J[875]	ST SLU Mobili	FZ-MIN	-788.55	706.61	111.48	2229.56	0.317
Concio 3	434	I[875]	ST SLU Mobili	FZ-MIN	-1167.98	1046.61	111.48	2229.56	0.469
Concio 3	434	J[876]	ST SLU Mobili	FZ-MIN	-874.91	783.99	111.48	2229.56	0.352
Concio 2	435	I[876]	ST SLU Mobili	FZ-MIN	-874.91	775.14	111.48	1672.17	0.464
Concio 2	435	J[877]	ST SLU Mobili	FZ-MIN	-468.74	415.29	111.48	1672.17	0.248
Concio 2	436	I[877]	ST SLU Mobili	FZ-MIN	-860.09	762.02	111.48	1672.17	0.456

Concio 2	436	J[878]	ST SLU Mobili	FZ-MAX	654.75	580.09	111.48	1672.17	0.347
Concio 2	437	I[878]	ST SLU Mobili	FZ-MIN	-581.46	515.15	111.48	1672.17	0.308
Concio 2	437	J[879]	ST SLU Mobili	FZ-MAX	518.45	459.33	111.48	1672.17	0.275
Concio 1	438	I[879]	ST SLU Mobili	FZ-MAX	518.45	469.98	111.48	2229.56	0.211
Concio 1	438	J[880]	ST SLU Mobili	FZ-MAX	975.50	884.30	111.48	2229.56	0.397
Concio 1	439	I[880]	ST SLU Mobili	FZ-MAX	608.26	551.40	111.48	2229.56	0.247
Concio 1	439	J[881]	ST SLU Mobili	FZ-MAX	1357.27	1230.38	111.48	2229.56	0.552
Concio 1	440	I[881]	ST SLU Mobili	MZ-MAX	-454.57	412.07	111.48	2229.56	0.185
Concio 1	440	J[882]	ST SLV Vert	FX-MAX	1.96	1.77	111.48	2229.56	0.001

9.2 STATO LIMITE DI ESERCIZIO – RESISTENZA AL TAGLIO LONGITUDINALE

Si effettuano le verifiche allo stato limite di esercizio per taglio longitudinale dei connettori trave-soletta.
I coefficienti parziali per SLE assunti sono i seguenti:

k_s = 0.60 connettori: resistenza allo SLE

Seguono i tabulati di calcolo per ogni asta considerata, per le combinazione di carichi più gravose.
Dati tabulati:

Elem property: nome delle caratteristiche geometriche dell'elemento
Elem: numero dell'elemento
Position: nodo iniziale (I) o finale (J) dell'elemento
Lcom: combinazione di carico più gravosa
Type: tipo combinazione (caratteristica, frequente, quasi permanente)
V_c,Ed: sforzo di taglio longitudinale agente sulla larghezza della regione inelastica
v_L,Ed: sforzo di taglio longitudinale di calcolo per unità di lunghezza (m) all'interfaccia trave-soletta
P_Rd,ser: resistenza al taglio (SLE) del singolo connettore "Nelson"
v_L,Rd: resistenza al taglio longitudinale per trave e per unità di lunghezza

Condizione di verifica: Verification Ratio: $\frac{v\_L,Ed}{v\_L,Rd} \leq 1$

Elem property	Elem number	Position	Lcom	Type	V_c,Ed (kN)	v_L,Ed (kN/m)	P_Rd_ser (kN)	v_L,Rd (kN/m)	Verif. Ratio
Concio 1	101	I[719]	ST RARA Mobili	Characteristic	0.00	0.00	66.89	1337.73	0.000
Concio 1	101	J[720]	ST RARA Mobili	Characteristic	335.45	304.09	66.89	1337.73	0.227
Concio 1	102	I[720]	ST RARA Mobili	Characteristic	-987.37	895.06	66.89	1337.73	0.669
Concio 1	102	J[721]	ST RARA Mobili	Characteristic	-440.47	399.29	66.89	1337.73	0.298
Concio 1	103	I[721]	ST RARA Mobili	Characteristic	-709.80	643.44	66.89	1337.73	0.481
Concio 1	103	J[722]	ST RARA Mobili	Characteristic	-375.98	340.83	66.89	1337.73	0.255
Concio 2	104	I[722]	ST RARA Mobili	Characteristic	-375.98	333.11	66.89	1003.30	0.332
Concio 2	104	J[723]	ST RARA Mobili	Characteristic	437.68	387.77	66.89	1003.30	0.386
Concio 2	105	I[723]	ST RARA Mobili	Characteristic	-479.13	424.50	66.89	1003.30	0.423
Concio 2	105	J[724]	ST RARA Mobili	Characteristic	637.34	564.66	66.89	1003.30	0.563
Concio 2	106	I[724]	ST RARA Mobili	Characteristic	349.11	309.30	66.89	1003.30	0.308
Concio 2	106	J[725]	ST RARA Mobili	Characteristic	645.15	571.59	66.89	1003.30	0.570
Concio 3	107	I[725]	ST RARA Mobili	Characteristic	645.15	578.11	66.89	1337.73	0.432
Concio 3	107	J[726]	ST RARA Mobili	Characteristic	859.10	769.83	66.89	1337.73	0.575
Concio 3	108	I[726]	ST RARA Mobili	Characteristic	580.27	519.97	66.89	1337.73	0.389
Concio 3	108	J[727]	ST RARA Mobili	Characteristic	1079.79	967.58	66.89	1337.73	0.723
Concio 3	109	I[727]	ST RARA Mobili	Characteristic	840.80	753.42	66.89	1337.73	0.563

Concio 3	109	J[728]	ST RARA Mobili	Characteristic	901.10	807.46	66.89	1337.73	0.604
Concio 4 H=var	110	I[728]	ST RARA Mobili	Characteristic	892.46	780.75	66.89	1337.73	0.584
Concio 4 H=var	110	J[729]	ST RARA Mobili	Characteristic	1175.71	709.14	66.89	1337.73	0.530
Concio 4 H=var	111	I[729]	ST RARA Mobili	Characteristic	998.93	602.51	66.89	1337.73	0.450
Concio 4 H=var	111	J[730]	ST RARA Mobili	Characteristic	1270.32	582.80	66.89	1337.73	0.436
Concio 4 H=200	112	I[730]	ST RARA Mobili	Characteristic	1272.18	583.65	66.89	1337.73	0.436
Concio 4 H=200	112	J[731]	ST RARA Mobili	Characteristic	1326.99	608.80	66.89	1337.73	0.455
Concio 4 H=200	113	I[731]	ST RARA Mobili	Characteristic	-1259.61	577.88	66.89	1337.73	0.432
Concio 4 H=200	113	J[732]	ST RARA Mobili	Characteristic	-1204.77	552.73	66.89	1337.73	0.413
Concio 4 H=var	114	I[732]	ST RARA Mobili	Characteristic	-1204.27	552.50	66.89	1337.73	0.413
Concio 4 H=var	114	J[733]	ST RARA Mobili	Characteristic	-932.46	562.42	66.89	1337.73	0.420
Concio 4 H=var	115	I[733]	ST RARA Mobili	Characteristic	-1106.50	667.40	66.89	1337.73	0.499
Concio 4 H=var	115	J[734]	ST RARA Mobili	Characteristic	-823.35	720.29	66.89	1337.73	0.538
Concio 5	116	I[734]	ST RARA Mobili	Characteristic	-830.52	744.22	66.89	1337.73	0.556
Concio 5	116	J[735]	ST RARA Mobili	Characteristic	-770.23	690.19	66.89	1337.73	0.516
Concio 5	117	I[735]	ST RARA Mobili	Characteristic	-1010.59	905.57	66.89	1337.73	0.677
Concio 5	117	J[736]	ST RARA Mobili	Characteristic	-498.11	446.35	66.89	1337.73	0.334
Concio 5	118	I[736]	ST RARA Mobili	Characteristic	-785.94	704.26	66.89	1337.73	0.526
Concio 5	118	J[737]	ST RARA Mobili	Characteristic	-544.48	487.90	66.89	1337.73	0.365
Concio 6	119	I[737]	ST RARA Mobili	Characteristic	-544.48	478.58	66.89	1003.30	0.477
Concio 6	119	J[738]	ST RARA Mobili	Characteristic	356.73	313.55	66.89	1003.30	0.313
Concio 6	120	I[738]	ST RARA Mobili	Characteristic	-558.21	490.64	66.89	1003.30	0.489
Concio 6	120	J[739]	ST RARA Mobili	Characteristic	-281.90	247.78	66.89	1003.30	0.247
Concio 6	121	I[739]	ST RARA Mobili	Characteristic	-281.90	247.78	66.89	1003.30	0.247
Concio 6	121	J[740]	ST RARA Mobili	Characteristic	558.08	490.53	66.89	1003.30	0.489
Concio 6	122	I[740]	ST RARA Mobili	Characteristic	-356.91	313.71	66.89	1003.30	0.313
Concio 6	122	J[741]	ST RARA Mobili	Characteristic	544.38	478.48	66.89	1003.30	0.477
Concio 5	123	I[741]	ST RARA Mobili	Characteristic	544.38	487.81	66.89	1337.73	0.365
Concio 5	123	J[742]	ST RARA Mobili	Characteristic	785.85	704.19	66.89	1337.73	0.526
Concio 5	124	I[742]	ST RARA Mobili	Characteristic	498.08	446.32	66.89	1337.73	0.334
Concio 5	124	J[743]	ST RARA Mobili	Characteristic	1010.41	905.42	66.89	1337.73	0.677
Concio 5	125	I[743]	ST RARA Mobili	Characteristic	770.13	690.10	66.89	1337.73	0.516
Concio 5	125	J[744]	ST RARA Mobili	Characteristic	830.42	744.12	66.89	1337.73	0.556
Concio 4 H=var	126	I[744]	ST RARA Mobili	Characteristic	823.25	720.20	66.89	1337.73	0.538
Concio 4 H=var	126	J[745]	ST RARA Mobili	Characteristic	1106.37	667.32	66.89	1337.73	0.499
Concio 4 H=var	127	I[745]	ST RARA Mobili	Characteristic	932.23	562.28	66.89	1337.73	0.420
Concio 4 H=var	127	J[746]	ST RARA Mobili	Characteristic	1203.99	552.37	66.89	1337.73	0.413
Concio 4 H=200	128	I[746]	ST RARA Mobili	Characteristic	1204.49	552.60	66.89	1337.73	0.413
Concio 4 H=200	128	J[747]	ST RARA Mobili	Characteristic	1259.32	577.75	66.89	1337.73	0.432
Concio 4 H=200	129	I[747]	ST RARA Mobili	Characteristic	-1327.38	608.98	66.89	1337.73	0.455
Concio 4 H=200	129	J[748]	ST RARA Mobili	Characteristic	-1272.57	583.83	66.89	1337.73	0.436
Concio 4 H=var	130	I[748]	ST RARA Mobili	Characteristic	-1270.68	582.97	66.89	1337.73	0.436
Concio 4 H=var	130	J[749]	ST RARA Mobili	Characteristic	-999.25	602.71	66.89	1337.73	0.451
Concio 4 H=var	131	I[749]	ST RARA Mobili	Characteristic	-1175.91	709.26	66.89	1337.73	0.530
Concio 4 H=var	131	J[750]	ST RARA Mobili	Characteristic	-892.64	780.90	66.89	1337.73	0.584
Concio 3	132	I[750]	ST RARA Mobili	Characteristic	-901.31	807.65	66.89	1337.73	0.604
Concio 3	132	J[751]	ST RARA Mobili	Characteristic	-841.01	753.61	66.89	1337.73	0.563
Concio 3	133	I[751]	ST RARA Mobili	Characteristic	-1080.05	967.82	66.89	1337.73	0.723
Concio 3	133	J[752]	ST RARA Mobili	Characteristic	-580.40	520.08	66.89	1337.73	0.389
Concio 3	134	I[752]	ST RARA Mobili	Characteristic	-859.30	770.00	66.89	1337.73	0.576
Concio 3	134	J[753]	ST RARA Mobili	Characteristic	-645.38	578.32	66.89	1337.73	0.432
Concio 2	135	I[753]	ST RARA Mobili	Characteristic	-645.38	571.79	66.89	1003.30	0.570
Concio 2	135	J[754]	ST RARA Mobili	Characteristic	-349.28	309.46	66.89	1003.30	0.308
Concio 2	136	I[754]	ST RARA Mobili	Characteristic	-637.63	564.92	66.89	1003.30	0.563
Concio 2	136	J[755]	ST RARA Mobili	Characteristic	478.81	424.21	66.89	1003.30	0.423
Concio 2	137	I[755]	ST RARA Mobili	Characteristic	-437.90	387.96	66.89	1003.30	0.387
Concio 2	137	J[756]	ST RARA Mobili	Characteristic	375.77	332.92	66.89	1003.30	0.332
Concio 1	138	I[756]	ST RARA Mobili	Characteristic	375.77	340.64	66.89	1337.73	0.255
Concio 1	138	J[757]	ST RARA Mobili	Characteristic	709.55	643.22	66.89	1337.73	0.481

Concio 1	139	I[757]	ST RARA Mobili	Characteristic	440.20	399.05	66.89	1337.73	0.298
Concio 1	139	J[758]	ST RARA Mobili	Characteristic	987.07	894.79	66.89	1337.73	0.669
Concio 1	140	I[758]	ST RARA Mobili	Characteristic	-335.45	304.09	66.89	1337.73	0.227
Concio 1	140	J[759]	ST RARA Mobili	Characteristic	0.00	0.00	66.89	1337.73	0.000
Concio 1	201	I[760]	ST RARA Mobili	Characteristic	0.00	0.00	66.89	1337.73	0.000
Concio 1	201	J[761]	ST RARA Mobili	Characteristic	386.40	351.66	66.89	1337.73	0.263
Concio 1	202	I[761]	ST RARA Mobili	Characteristic	-954.38	868.58	66.89	1337.73	0.649
Concio 1	202	J[762]	ST RARA Mobili	Characteristic	-465.98	424.09	66.89	1337.73	0.317
Concio 1	203	I[762]	ST RARA Mobili	Characteristic	-663.29	603.66	66.89	1337.73	0.451
Concio 1	203	J[763]	ST RARA Mobili	Characteristic	-405.18	368.75	66.89	1337.73	0.276
Concio 2	204	I[763]	ST RARA Mobili	Characteristic	-405.18	360.51	66.89	1003.30	0.359
Concio 2	204	J[764]	ST RARA Mobili	Characteristic	469.87	418.07	66.89	1003.30	0.417
Concio 2	205	I[764]	ST RARA Mobili	Characteristic	-488.28	434.45	66.89	1003.30	0.433
Concio 2	205	J[765]	ST RARA Mobili	Characteristic	630.04	560.58	66.89	1003.30	0.559
Concio 2	206	I[765]	ST RARA Mobili	Characteristic	430.08	382.66	66.89	1003.30	0.381
Concio 2	206	J[766]	ST RARA Mobili	Characteristic	639.15	568.69	66.89	1003.30	0.567
Concio 3	207	I[766]	ST RARA Mobili	Characteristic	639.15	575.48	66.89	1337.73	0.430
Concio 3	207	J[767]	ST RARA Mobili	Characteristic	805.63	725.37	66.89	1337.73	0.542
Concio 3	208	I[767]	ST RARA Mobili	Characteristic	607.53	547.01	66.89	1337.73	0.409
Concio 3	208	J[768]	ST RARA Mobili	Characteristic	1016.41	915.16	66.89	1337.73	0.684
Concio 3	209	I[768]	ST RARA Mobili	Characteristic	866.19	779.90	66.89	1337.73	0.583
Concio 3	209	J[769]	ST RARA Mobili	Characteristic	905.29	815.11	66.89	1337.73	0.609
Concio 4 H=var	210	I[769]	ST RARA Mobili	Characteristic	895.21	789.00	66.89	1337.73	0.590
Concio 4 H=var	210	J[770]	ST RARA Mobili	Characteristic	1125.93	686.10	66.89	1337.73	0.513
Concio 4 H=var	211	I[770]	ST RARA Mobili	Characteristic	1043.45	635.84	66.89	1337.73	0.475
Concio 4 H=var	211	J[771]	ST RARA Mobili	Characteristic	1280.37	594.63	66.89	1337.73	0.445
Concio 4 H=200	212	I[771]	ST RARA Mobili	Characteristic	1279.08	594.03	66.89	1337.73	0.444
Concio 4 H=200	212	J[772]	ST RARA Mobili	Characteristic	1323.97	614.87	66.89	1337.73	0.460
Concio 4 H=200	213	I[772]	ST RARA Mobili	Characteristic	-1254.54	582.63	66.89	1337.73	0.436
Concio 4 H=200	213	J[773]	ST RARA Mobili	Characteristic	-1209.68	561.80	66.89	1337.73	0.420
Concio 4 H=var	214	I[773]	ST RARA Mobili	Characteristic	-1210.92	562.37	66.89	1337.73	0.420
Concio 4 H=var	214	J[774]	ST RARA Mobili	Characteristic	-974.10	593.58	66.89	1337.73	0.444
Concio 4 H=var	215	I[774]	ST RARA Mobili	Characteristic	-1058.23	644.85	66.89	1337.73	0.482
Concio 4 H=var	215	J[775]	ST RARA Mobili	Characteristic	-828.24	729.98	66.89	1337.73	0.546
Concio 5	216	I[775]	ST RARA Mobili	Characteristic	-838.48	754.96	66.89	1337.73	0.564
Concio 5	216	J[776]	ST RARA Mobili	Characteristic	-799.44	719.81	66.89	1337.73	0.538
Concio 5	217	I[776]	ST RARA Mobili	Characteristic	-954.32	859.25	66.89	1337.73	0.642
Concio 5	217	J[777]	ST RARA Mobili	Characteristic	-559.66	503.91	66.89	1337.73	0.377
Concio 5	218	I[777]	ST RARA Mobili	Characteristic	-738.71	665.12	66.89	1337.73	0.497
Concio 5	218	J[778]	ST RARA Mobili	Characteristic	-547.76	493.19	66.89	1337.73	0.369
Concio 6	219	I[778]	ST RARA Mobili	Characteristic	-547.76	483.35	66.89	1003.30	0.482
Concio 6	219	J[779]	ST RARA Mobili	Characteristic	398.67	351.80	66.89	1003.30	0.351
Concio 6	220	I[779]	ST RARA Mobili	Characteristic	-560.95	494.99	66.89	1003.30	0.493
Concio 6	220	J[780]	ST RARA Mobili	Characteristic	-344.04	303.59	66.89	1003.30	0.303
Concio 6	221	I[780]	ST RARA Mobili	Characteristic	-344.04	303.59	66.89	1003.30	0.303
Concio 6	221	J[781]	ST RARA Mobili	Characteristic	560.82	494.88	66.89	1003.30	0.493
Concio 6	222	I[781]	ST RARA Mobili	Characteristic	-398.82	351.93	66.89	1003.30	0.351
Concio 6	222	J[782]	ST RARA Mobili	Characteristic	547.63	483.24	66.89	1003.30	0.482
Concio 5	223	I[782]	ST RARA Mobili	Characteristic	547.63	493.07	66.89	1337.73	0.369
Concio 5	223	J[783]	ST RARA Mobili	Characteristic	738.60	665.02	66.89	1337.73	0.497
Concio 5	224	I[783]	ST RARA Mobili	Characteristic	559.72	503.96	66.89	1337.73	0.377
Concio 5	224	J[784]	ST RARA Mobili	Characteristic	954.17	859.12	66.89	1337.73	0.642
Concio 5	225	I[784]	ST RARA Mobili	Characteristic	799.27	719.65	66.89	1337.73	0.538
Concio 5	225	J[785]	ST RARA Mobili	Characteristic	838.31	754.80	66.89	1337.73	0.564
Concio 4 H=var	226	I[785]	ST RARA Mobili	Characteristic	828.08	729.83	66.89	1337.73	0.546
Concio 4 H=var	226	J[786]	ST RARA Mobili	Characteristic	1058.11	644.78	66.89	1337.73	0.482
Concio 4 H=var	227	I[786]	ST RARA Mobili	Characteristic	973.90	593.47	66.89	1337.73	0.444
Concio 4 H=var	227	J[787]	ST RARA Mobili	Characteristic	1210.71	562.28	66.89	1337.73	0.420
Concio 4 H=200	228	I[787]	ST RARA Mobili	Characteristic	1209.47	561.70	66.89	1337.73	0.420

Concio 4 H=200	228	J[788]	ST RARA Mobili	Characteristic	1254.33	582.53	66.89	1337.73	0.435
Concio 4 H=200	229	I[788]	ST RARA Mobili	Characteristic	-1324.23	614.99	66.89	1337.73	0.460
Concio 4 H=200	229	J[789]	ST RARA Mobili	Characteristic	-1279.34	594.15	66.89	1337.73	0.444
Concio 4 H=var	230	I[789]	ST RARA Mobili	Characteristic	-1280.61	594.74	66.89	1337.73	0.445
Concio 4 H=var	230	J[790]	ST RARA Mobili	Characteristic	-1043.67	635.98	66.89	1337.73	0.475
Concio 4 H=var	231	I[790]	ST RARA Mobili	Characteristic	-1126.08	686.20	66.89	1337.73	0.513
Concio 4 H=var	231	J[791]	ST RARA Mobili	Characteristic	-895.41	789.17	66.89	1337.73	0.590
Concio 3	232	I[791]	ST RARA Mobili	Characteristic	-905.49	815.29	66.89	1337.73	0.609
Concio 3	232	J[792]	ST RARA Mobili	Characteristic	-866.39	780.08	66.89	1337.73	0.583
Concio 3	233	I[792]	ST RARA Mobili	Characteristic	-1016.60	915.33	66.89	1337.73	0.684
Concio 3	233	J[793]	ST RARA Mobili	Characteristic	-607.64	547.11	66.89	1337.73	0.409
Concio 3	234	I[793]	ST RARA Mobili	Characteristic	-805.80	725.53	66.89	1337.73	0.542
Concio 3	234	J[794]	ST RARA Mobili	Characteristic	-639.35	575.66	66.89	1337.73	0.430
Concio 2	235	I[794]	ST RARA Mobili	Characteristic	-639.35	568.87	66.89	1003.30	0.567
Concio 2	235	J[795]	ST RARA Mobili	Characteristic	-430.19	382.77	66.89	1003.30	0.382
Concio 2	236	I[795]	ST RARA Mobili	Characteristic	-630.25	560.77	66.89	1003.30	0.559
Concio 2	236	J[796]	ST RARA Mobili	Characteristic	488.06	434.26	66.89	1003.30	0.433
Concio 2	237	I[796]	ST RARA Mobili	Characteristic	-470.03	418.21	66.89	1003.30	0.417
Concio 2	237	J[797]	ST RARA Mobili	Characteristic	405.03	360.38	66.89	1003.30	0.359
Concio 1	238	I[797]	ST RARA Mobili	Characteristic	405.03	368.61	66.89	1337.73	0.276
Concio 1	238	J[798]	ST RARA Mobili	Characteristic	663.11	603.49	66.89	1337.73	0.451
Concio 1	239	I[798]	ST RARA Mobili	Characteristic	465.83	423.95	66.89	1337.73	0.317
Concio 1	239	J[799]	ST RARA Mobili	Characteristic	954.10	868.33	66.89	1337.73	0.649
Concio 1	240	I[799]	ST RARA Mobili	Characteristic	-386.40	351.66	66.89	1337.73	0.263
Concio 1	240	J[800]	ST RARA Mobili	Characteristic	0.00	0.00	66.89	1337.73	0.000
Concio 1	301	I[801]	ST RARA Mobili	Characteristic	0.00	0.00	66.89	1337.73	0.000
Concio 1	301	J[802]	ST RARA Mobili	Characteristic	386.40	351.66	66.89	1337.73	0.263
Concio 1	302	I[802]	ST RARA Mobili	Characteristic	-955.00	869.15	66.89	1337.73	0.650
Concio 1	302	J[803]	ST RARA Mobili	Characteristic	-466.61	424.66	66.89	1337.73	0.317
Concio 1	303	I[803]	ST RARA Mobili	Characteristic	-663.66	603.99	66.89	1337.73	0.452
Concio 1	303	J[804]	ST RARA Mobili	Characteristic	-405.55	369.09	66.89	1337.73	0.276
Concio 2	304	I[804]	ST RARA Mobili	Characteristic	-405.55	360.84	66.89	1003.30	0.360
Concio 2	304	J[805]	ST RARA Mobili	Characteristic	470.24	418.40	66.89	1003.30	0.417
Concio 2	305	I[805]	ST RARA Mobili	Characteristic	-488.33	434.49	66.89	1003.30	0.433
Concio 2	305	J[806]	ST RARA Mobili	Characteristic	630.12	560.65	66.89	1003.30	0.559
Concio 2	306	I[806]	ST RARA Mobili	Characteristic	430.58	383.11	66.89	1003.30	0.382
Concio 2	306	J[807]	ST RARA Mobili	Characteristic	639.66	569.14	66.89	1003.30	0.567
Concio 3	307	I[807]	ST RARA Mobili	Characteristic	639.66	575.94	66.89	1337.73	0.431
Concio 3	307	J[808]	ST RARA Mobili	Characteristic	806.13	725.83	66.89	1337.73	0.543
Concio 3	308	I[808]	ST RARA Mobili	Characteristic	608.32	547.72	66.89	1337.73	0.409
Concio 3	308	J[809]	ST RARA Mobili	Characteristic	1017.20	915.87	66.89	1337.73	0.685
Concio 3	309	I[809]	ST RARA Mobili	Characteristic	867.12	780.74	66.89	1337.73	0.584
Concio 3	309	J[810]	ST RARA Mobili	Characteristic	906.22	815.95	66.89	1337.73	0.610
Concio 4 H=var	310	I[810]	ST RARA Mobili	Characteristic	896.77	790.38	66.89	1337.73	0.591
Concio 4 H=var	310	J[811]	ST RARA Mobili	Characteristic	1127.49	687.06	66.89	1337.73	0.514
Concio 4 H=var	311	I[811]	ST RARA Mobili	Characteristic	1045.40	637.03	66.89	1337.73	0.476
Concio 4 H=var	311	J[812]	ST RARA Mobili	Characteristic	1282.33	595.53	66.89	1337.73	0.445
Concio 4 H=200	312	I[812]	ST RARA Mobili	Characteristic	1280.33	594.61	66.89	1337.73	0.444
Concio 4 H=200	312	J[813]	ST RARA Mobili	Characteristic	1325.22	615.46	66.89	1337.73	0.460
Concio 4 H=200	313	I[813]	ST RARA Mobili	Characteristic	-1255.79	583.21	66.89	1337.73	0.436
Concio 4 H=200	313	J[814]	ST RARA Mobili	Characteristic	-1210.93	562.38	66.89	1337.73	0.420
Concio 4 H=var	314	I[814]	ST RARA Mobili	Characteristic	-1212.91	563.29	66.89	1337.73	0.421
Concio 4 H=var	314	J[815]	ST RARA Mobili	Characteristic	-976.09	594.79	66.89	1337.73	0.445
Concio 4 H=var	315	I[815]	ST RARA Mobili	Characteristic	-1059.89	645.86	66.89	1337.73	0.483
Concio 4 H=var	315	J[816]	ST RARA Mobili	Characteristic	-829.90	731.44	66.89	1337.73	0.547
Concio 5	316	I[816]	ST RARA Mobili	Characteristic	-839.41	755.79	66.89	1337.73	0.565
Concio 5	316	J[817]	ST RARA Mobili	Characteristic	-800.37	720.64	66.89	1337.73	0.539
Concio 5	317	I[817]	ST RARA Mobili	Characteristic	-955.12	859.97	66.89	1337.73	0.643
Concio 5	317	J[818]	ST RARA Mobili	Characteristic	-560.46	504.63	66.89	1337.73	0.377

Concio 5	318	I[818]	ST RARA Mobili	Characteristic	-739.15	665.52	66.89	1337.73	0.497
Concio 5	318	J[819]	ST RARA Mobili	Characteristic	-548.20	493.59	66.89	1337.73	0.369
Concio 6	319	I[819]	ST RARA Mobili	Characteristic	-548.20	483.74	66.89	1003.30	0.482
Concio 6	319	J[820]	ST RARA Mobili	Characteristic	399.12	352.19	66.89	1003.30	0.351
Concio 6	320	I[820]	ST RARA Mobili	Characteristic	-560.95	494.99	66.89	1003.30	0.493
Concio 6	320	J[821]	ST RARA Mobili	Characteristic	-344.04	303.59	66.89	1003.30	0.303
Concio 6	321	I[821]	ST RARA Mobili	Characteristic	-344.04	303.59	66.89	1003.30	0.303
Concio 6	321	J[822]	ST RARA Mobili	Characteristic	560.82	494.88	66.89	1003.30	0.493
Concio 6	322	I[822]	ST RARA Mobili	Characteristic	-399.27	352.33	66.89	1003.30	0.351
Concio 6	322	J[823]	ST RARA Mobili	Characteristic	548.08	483.64	66.89	1003.30	0.482
Concio 5	323	I[823]	ST RARA Mobili	Characteristic	548.08	493.48	66.89	1337.73	0.369
Concio 5	323	J[824]	ST RARA Mobili	Characteristic	739.05	665.43	66.89	1337.73	0.497
Concio 5	324	I[824]	ST RARA Mobili	Characteristic	560.50	504.67	66.89	1337.73	0.377
Concio 5	324	J[825]	ST RARA Mobili	Characteristic	954.95	859.82	66.89	1337.73	0.643
Concio 5	325	I[825]	ST RARA Mobili	Characteristic	800.19	720.48	66.89	1337.73	0.539
Concio 5	325	J[826]	ST RARA Mobili	Characteristic	839.23	755.63	66.89	1337.73	0.565
Concio 4 H=var	326	I[826]	ST RARA Mobili	Characteristic	829.72	731.28	66.89	1337.73	0.547
Concio 4 H=var	326	J[827]	ST RARA Mobili	Characteristic	1059.76	645.78	66.89	1337.73	0.483
Concio 4 H=var	327	I[827]	ST RARA Mobili	Characteristic	975.94	594.71	66.89	1337.73	0.445
Concio 4 H=var	327	J[828]	ST RARA Mobili	Characteristic	1212.75	563.22	66.89	1337.73	0.421
Concio 4 H=200	328	I[828]	ST RARA Mobili	Characteristic	1210.77	562.30	66.89	1337.73	0.420
Concio 4 H=200	328	J[829]	ST RARA Mobili	Characteristic	1255.63	583.14	66.89	1337.73	0.436
Concio 4 H=200	329	I[829]	ST RARA Mobili	Characteristic	-1325.43	615.55	66.89	1337.73	0.460
Concio 4 H=200	329	J[830]	ST RARA Mobili	Characteristic	-1280.55	594.71	66.89	1337.73	0.445
Concio 4 H=var	330	I[830]	ST RARA Mobili	Characteristic	-1282.53	595.63	66.89	1337.73	0.445
Concio 4 H=var	330	J[831]	ST RARA Mobili	Characteristic	-1045.59	637.15	66.89	1337.73	0.476
Concio 4 H=var	331	I[831]	ST RARA Mobili	Characteristic	-1127.67	687.17	66.89	1337.73	0.514
Concio 4 H=var	331	J[832]	ST RARA Mobili	Characteristic	-897.00	790.58	66.89	1337.73	0.591
Concio 3	332	I[832]	ST RARA Mobili	Characteristic	-906.44	816.15	66.89	1337.73	0.610
Concio 3	332	J[833]	ST RARA Mobili	Characteristic	-867.34	780.94	66.89	1337.73	0.584
Concio 3	333	I[833]	ST RARA Mobili	Characteristic	-1017.40	916.05	66.89	1337.73	0.685
Concio 3	333	J[834]	ST RARA Mobili	Characteristic	-608.44	547.83	66.89	1337.73	0.410
Concio 3	334	I[834]	ST RARA Mobili	Characteristic	-806.30	725.98	66.89	1337.73	0.543
Concio 3	334	J[835]	ST RARA Mobili	Characteristic	-639.85	576.11	66.89	1337.73	0.431
Concio 2	335	I[835]	ST RARA Mobili	Characteristic	-639.85	569.31	66.89	1003.30	0.567
Concio 2	335	J[836]	ST RARA Mobili	Characteristic	-430.69	383.21	66.89	1003.30	0.382
Concio 2	336	I[836]	ST RARA Mobili	Characteristic	-630.31	560.82	66.89	1003.30	0.559
Concio 2	336	J[837]	ST RARA Mobili	Characteristic	488.12	434.31	66.89	1003.30	0.433
Concio 2	337	I[837]	ST RARA Mobili	Characteristic	-470.40	418.54	66.89	1003.30	0.417
Concio 2	337	J[838]	ST RARA Mobili	Characteristic	405.39	360.70	66.89	1003.30	0.360
Concio 1	338	I[838]	ST RARA Mobili	Characteristic	405.39	368.95	66.89	1337.73	0.276
Concio 1	338	J[839]	ST RARA Mobili	Characteristic	663.47	603.83	66.89	1337.73	0.451
Concio 1	339	I[839]	ST RARA Mobili	Characteristic	466.46	424.52	66.89	1337.73	0.317
Concio 1	339	J[840]	ST RARA Mobili	Characteristic	954.73	868.90	66.89	1337.73	0.650
Concio 1	340	I[840]	ST RARA Mobili	Characteristic	-386.40	351.66	66.89	1337.73	0.263
Concio 1	340	J[841]	ST RARA Mobili	Characteristic	0.00	0.00	66.89	1337.73	0.000
Concio 1	401	I[842]	ST RARA Mobili	Characteristic	0.00	0.00	66.89	1337.73	0.000
Concio 1	401	J[843]	ST RARA Mobili	Characteristic	335.45	304.09	66.89	1337.73	0.227
Concio 1	402	I[843]	ST RARA Mobili	Characteristic	-985.85	893.69	66.89	1337.73	0.668
Concio 1	402	J[844]	ST RARA Mobili	Characteristic	-439.07	398.02	66.89	1337.73	0.298
Concio 1	403	I[844]	ST RARA Mobili	Characteristic	-709.52	643.19	66.89	1337.73	0.481
Concio 1	403	J[845]	ST RARA Mobili	Characteristic	-375.70	340.58	66.89	1337.73	0.255
Concio 2	404	I[845]	ST RARA Mobili	Characteristic	-375.70	332.86	66.89	1003.30	0.332
Concio 2	404	J[846]	ST RARA Mobili	Characteristic	437.40	387.53	66.89	1003.30	0.386
Concio 2	405	I[846]	ST RARA Mobili	Characteristic	-478.89	424.28	66.89	1003.30	0.423
Concio 2	405	J[847]	ST RARA Mobili	Characteristic	637.12	564.47	66.89	1003.30	0.563
Concio 2	406	I[847]	ST RARA Mobili	Characteristic	348.54	308.80	66.89	1003.30	0.308
Concio 2	406	J[848]	ST RARA Mobili	Characteristic	644.58	571.08	66.89	1003.30	0.569
Concio 3	407	I[848]	ST RARA Mobili	Characteristic	644.58	577.60	66.89	1337.73	0.432

Concio 3	407	J[849]	ST RARA Mobili	Characteristic	858.53	769.31	66.89	1337.73	0.575
Concio 3	408	I[849]	ST RARA Mobili	Characteristic	578.41	518.30	66.89	1337.73	0.387
Concio 3	408	J[850]	ST RARA Mobili	Characteristic	1077.93	965.92	66.89	1337.73	0.722
Concio 3	409	I[850]	ST RARA Mobili	Characteristic	838.48	751.35	66.89	1337.73	0.562
Concio 3	409	J[851]	ST RARA Mobili	Characteristic	898.78	805.38	66.89	1337.73	0.602
Concio 4 H=var	410	I[851]	ST RARA Mobili	Characteristic	890.53	779.06	66.89	1337.73	0.582
Concio 4 H=var	410	J[852]	ST RARA Mobili	Characteristic	1173.77	707.97	66.89	1337.73	0.529
Concio 4 H=var	411	I[852]	ST RARA Mobili	Characteristic	996.81	601.24	66.89	1337.73	0.449
Concio 4 H=var	411	J[853]	ST RARA Mobili	Characteristic	1268.20	581.83	66.89	1337.73	0.435
Concio 4 H=200	412	I[853]	ST RARA Mobili	Characteristic	1269.78	582.55	66.89	1337.73	0.435
Concio 4 H=200	412	J[854]	ST RARA Mobili	Characteristic	1324.59	607.70	66.89	1337.73	0.454
Concio 4 H=200	413	I[854]	ST RARA Mobili	Characteristic	-1257.15	576.76	66.89	1337.73	0.431
Concio 4 H=200	413	J[855]	ST RARA Mobili	Characteristic	-1202.32	551.60	66.89	1337.73	0.412
Concio 4 H=var	414	I[855]	ST RARA Mobili	Characteristic	-1202.11	551.50	66.89	1337.73	0.412
Concio 4 H=var	414	J[856]	ST RARA Mobili	Characteristic	-930.30	561.12	66.89	1337.73	0.419
Concio 4 H=var	415	I[856]	ST RARA Mobili	Characteristic	-1104.63	666.26	66.89	1337.73	0.498
Concio 4 H=var	415	J[857]	ST RARA Mobili	Characteristic	-821.48	718.65	66.89	1337.73	0.537
Concio 5	416	I[857]	ST RARA Mobili	Characteristic	-828.24	742.18	66.89	1337.73	0.555
Concio 5	416	J[858]	ST RARA Mobili	Characteristic	-767.95	688.15	66.89	1337.73	0.514
Concio 5	417	I[858]	ST RARA Mobili	Characteristic	-1008.82	903.99	66.89	1337.73	0.676
Concio 5	417	J[859]	ST RARA Mobili	Characteristic	-496.35	444.77	66.89	1337.73	0.332
Concio 5	418	I[859]	ST RARA Mobili	Characteristic	-785.49	703.86	66.89	1337.73	0.526
Concio 5	418	J[860]	ST RARA Mobili	Characteristic	-544.04	487.50	66.89	1337.73	0.364
Concio 6	419	I[860]	ST RARA Mobili	Characteristic	-544.04	478.19	66.89	1003.30	0.477
Concio 6	419	J[861]	ST RARA Mobili	Characteristic	356.29	313.16	66.89	1003.30	0.312
Concio 6	420	I[861]	ST RARA Mobili	Characteristic	-558.21	490.64	66.89	1003.30	0.489
Concio 6	420	J[862]	ST RARA Mobili	Characteristic	-281.90	247.78	66.89	1003.30	0.247
Concio 6	421	I[862]	ST RARA Mobili	Characteristic	-281.90	247.78	66.89	1003.30	0.247
Concio 6	421	J[863]	ST RARA Mobili	Characteristic	558.08	490.52	66.89	1003.30	0.489
Concio 6	422	I[863]	ST RARA Mobili	Characteristic	-356.46	313.31	66.89	1003.30	0.312
Concio 6	422	J[864]	ST RARA Mobili	Characteristic	543.92	478.08	66.89	1003.30	0.477
Concio 5	423	I[864]	ST RARA Mobili	Characteristic	543.92	487.40	66.89	1337.73	0.364
Concio 5	423	J[865]	ST RARA Mobili	Characteristic	785.39	703.78	66.89	1337.73	0.526
Concio 5	424	I[865]	ST RARA Mobili	Characteristic	496.28	444.71	66.89	1337.73	0.332
Concio 5	424	J[866]	ST RARA Mobili	Characteristic	1008.62	903.81	66.89	1337.73	0.676
Concio 5	425	I[866]	ST RARA Mobili	Characteristic	767.84	688.05	66.89	1337.73	0.514
Concio 5	425	J[867]	ST RARA Mobili	Characteristic	828.13	742.08	66.89	1337.73	0.555
Concio 4 H=var	426	I[867]	ST RARA Mobili	Characteristic	821.35	718.54	66.89	1337.73	0.537
Concio 4 H=var	426	J[868]	ST RARA Mobili	Characteristic	1104.48	666.17	66.89	1337.73	0.498
Concio 4 H=var	427	I[868]	ST RARA Mobili	Characteristic	930.16	561.03	66.89	1337.73	0.419
Concio 4 H=var	427	J[869]	ST RARA Mobili	Characteristic	1201.92	551.42	66.89	1337.73	0.412
Concio 4 H=200	428	I[869]	ST RARA Mobili	Characteristic	1202.14	551.52	66.89	1337.73	0.412
Concio 4 H=200	428	J[870]	ST RARA Mobili	Characteristic	1256.97	576.67	66.89	1337.73	0.431
Concio 4 H=200	429	I[870]	ST RARA Mobili	Characteristic	-1324.88	607.83	66.89	1337.73	0.454
Concio 4 H=200	429	J[871]	ST RARA Mobili	Characteristic	-1270.07	582.68	66.89	1337.73	0.436
Concio 4 H=var	430	I[871]	ST RARA Mobili	Characteristic	-1268.48	581.95	66.89	1337.73	0.435
Concio 4 H=var	430	J[872]	ST RARA Mobili	Characteristic	-997.04	601.38	66.89	1337.73	0.450
Concio 4 H=var	431	I[872]	ST RARA Mobili	Characteristic	-1174.00	708.11	66.89	1337.73	0.529
Concio 4 H=var	431	J[873]	ST RARA Mobili	Characteristic	-890.73	779.23	66.89	1337.73	0.583
Concio 3	432	I[873]	ST RARA Mobili	Characteristic	-899.00	805.58	66.89	1337.73	0.602
Concio 3	432	J[874]	ST RARA Mobili	Characteristic	-838.70	751.54	66.89	1337.73	0.562
Concio 3	433	I[874]	ST RARA Mobili	Characteristic	-1078.23	966.18	66.89	1337.73	0.722
Concio 3	433	J[875]	ST RARA Mobili	Characteristic	-578.57	518.45	66.89	1337.73	0.388
Concio 3	434	I[875]	ST RARA Mobili	Characteristic	-858.71	769.48	66.89	1337.73	0.575
Concio 3	434	J[876]	ST RARA Mobili	Characteristic	-644.80	577.79	66.89	1337.73	0.432
Concio 2	435	I[876]	ST RARA Mobili	Characteristic	-644.80	571.27	66.89	1003.30	0.569
Concio 2	435	J[877]	ST RARA Mobili	Characteristic	-348.70	308.94	66.89	1003.30	0.308
Concio 2	436	I[877]	ST RARA Mobili	Characteristic	-637.40	564.72	66.89	1003.30	0.563
Concio 2	436	J[878]	ST RARA Mobili	Characteristic	478.58	424.01	66.89	1003.30	0.423

Concio 2	437	I[878]	ST RARA Mobili	Characteristic	-437.62	387.72	66.89	1003.30	0.386
Concio 2	437	J[879]	ST RARA Mobili	Characteristic	375.49	332.68	66.89	1003.30	0.332
Concio 1	438	I[879]	ST RARA Mobili	Characteristic	375.49	340.39	66.89	1337.73	0.254
Concio 1	438	J[880]	ST RARA Mobili	Characteristic	709.28	642.97	66.89	1337.73	0.481
Concio 1	439	I[880]	ST RARA Mobili	Characteristic	438.68	397.67	66.89	1337.73	0.297
Concio 1	439	J[881]	ST RARA Mobili	Characteristic	985.55	893.41	66.89	1337.73	0.668
Concio 1	440	I[881]	ST RARA Mobili	Characteristic	-335.45	304.09	66.89	1337.73	0.227
Concio 1	440	J[882]	ST RARA Mobili	Characteristic	0.00	0.00	66.89	1337.73	0.000

9.3 STATO LIMITE ULTIMO DI FATICA – RESISTENZA AL TAGLIO LONGITUDINALE

Si effettuano le verifiche allo stato limite ultimo per fatica a "danneggiamento accettabile" dei connettori trave-soletta.
L'impalcato si considera caricato secondo il modello di carico a fatica 3, applicato sulla corsia lenta (ved. 3.4.2).
Il coefficiente parziale di sicurezza per le verifiche dei connettori è pari a:

$\gamma_{Mf,s} = 1$ EN 1994-1-1:2005; § 6.8.2

I coefficienti di equivalenza assumono i seguenti valori:

$\lambda_{v1} = 1.55$: EN 1994-2:2005, § 6.8.6.2(4)

$$\lambda_{v2} = \frac{Q_{M1}}{Q_0}\left(\frac{N_{obs}}{N_0}\right)^{1/8} = 1.10: \quad \text{EN 1993-2, § 9.5.2}$$

Q_{M1} = 440 kN: massa complessiva a pieno carico autotreno o autoarticolato a 5 assi

Q_0 = 480 kN

$N_{obs} = 2 \times 10^6$: flusso annuo di veicoli pesanti sulla corsia lenta per strade ed autostrade caratterizzate da intenso traffico pesante.

$N_0 = 2 \times 10^6$

$$\lambda_{v3} = \left(\frac{t_{ld}}{100}\right)^{1/8} = 0.871$$

t_{ld} = 50 anni: vita di progetto del ponte

$\lambda_{v4} = 1$: fattore per traffico pesante sulle altre corsie

$$\lambda_v = \lambda_{v1} \cdot \lambda_{v2} \cdot \lambda_{v3} \cdot \lambda_{v4} = 1.484$$

Seguono i tabulati di calcolo per ogni asta considerata, per le combinazioni di carichi più gravose.
Dati tabulati:

Elem property: nome delle caratteristiche geometriche dell'elemento
Elem: numero dell'elemento
Position: nodo iniziale (I) o finale (J) dell'elemento
Lcom: combinazione di carico più gravosa
Type: sollecitazione (massima o minima)
Lamda_v: coefficienti di danno equivalente
Delta_Tau: ampiezza delle tensioni tangenziali per il carico da fatica
Delta_Tau_E,2 = Lamda_v x Delta_Tau: ampiezza costante delle tensioni tangenziali relative a 2×10^6 cicli di carico all'anno
Delta_Tau_c: tensione tangenziale limite (resistenza a fatica connettori a piolo)

$$\text{Verification Ratio} = \gamma_{Mf,s}\,\frac{\text{Delta\_Tau\_E\_2}}{\text{Delta\_Tau\_c}} \quad \text{verificato se} \leq 1$$

Elem property	Elem number	Position	Lcom	Type	Lamda_v	Delta_Tau (kN/m^2)	Delta_Tau_E_2 (kN/m^2)	Delta_Tau_c (kN/m^2)	Verif. Ratio
Concio 1	101	I[719]	ST FATICA DANN.ACC.	FX-MAX	1.484	0.000	0.000	90000.000	0.000
Concio 1	101	J[720]	ST FATICA DANN.ACC.	FX-MAX	1.484	1340.530	1989.733	90000.000	0.022
Concio 1	102	I[720]	ST FATICA DANN.ACC.	FZ-MIN	1.484	25686.225	38125.774	90000.000	0.424
Concio 1	102	J[721]	ST FATICA DANN.ACC.	FZ-MIN	1.484	17307.913	25689.940	90000.000	0.285
Concio 1	103	I[721]	ST FATICA DANN.ACC.	FY-MIN	1.484	13094.068	19435.377	90000.000	0.216
Concio 1	103	J[722]	ST FATICA DANN.ACC.	FY-MIN	1.484	8067.081	11973.877	90000.000	0.133
Concio 2	104	I[722]	ST FATICA DANN.ACC.	FY-MIN	1.484	10512.408	15603.449	90000.000	0.173
Concio 2	104	J[723]	ST FATICA DANN.ACC.	MY-MIN	1.484	9091.624	13494.595	90000.000	0.150
Concio 2	105	I[723]	ST FATICA DANN.ACC.	FY-MAX	1.484	7472.608	11091.507	90000.000	0.123
Concio 2	105	J[724]	ST FATICA DANN.ACC.	MZ-MIN	1.484	18846.335	27973.402	90000.000	0.311
Concio 2	106	I[724]	ST FATICA DANN.ACC.	FX-MIN	1.484	22584.508	33521.930	90000.000	0.373
Concio 2	106	J[725]	ST FATICA DANN.ACC.	MZ-MIN	1.484	29148.470	43264.746	90000.000	0.481
Concio 3	107	I[725]	ST FATICA DANN.ACC.	MZ-MIN	1.484	22110.854	32818.891	90000.000	0.365
Concio 3	107	J[726]	ST FATICA DANN.ACC.	MZ-MIN	1.484	26185.267	38866.496	90000.000	0.432
Concio 3	108	I[726]	ST FATICA DANN.ACC.	FZ-MAX	1.484	26936.646	39981.760	90000.000	0.444
Concio 3	108	J[727]	ST FATICA DANN.ACC.	MZ-MIN	1.484	37076.412	55032.100	90000.000	0.612
Concio 3	109	I[727]	ST FATICA DANN.ACC.	FZ-MAX	1.484	35035.588	52002.927	90000.000	0.578
Concio 3	109	J[728]	ST FATICA DANN.ACC.	FZ-MAX	1.484	35863.782	53232.206	90000.000	0.592
Concio 4 H=var	110	I[728]	ST FATICA DANN.ACC.	MX-MIN	1.484	35318.228	52422.447	90000.000	0.583
Concio 4 H=var	110	J[729]	ST FATICA DANN.ACC.	MZ-MIN	1.484	29390.096	43623.388	90000.000	0.485
Concio 4 H=var	111	I[729]	ST FATICA DANN.ACC.	FZ-MAX	1.484	27098.383	40221.824	90000.000	0.447
Concio 4 H=var	111	J[730]	ST FATICA DANN.ACC.	FZ-MAX	1.484	22940.947	34050.988	90000.000	0.378
Concio 4 H=200	112	I[730]	ST FATICA DANN.ACC.	MX-MIN	1.484	23794.002	35317.169	90000.000	0.392
Concio 4 H=200	112	J[731]	ST FATICA DANN.ACC.	MZ-MIN	1.484	24884.262	36935.429	90000.000	0.410
Concio 4 H=200	113	I[731]	ST FATICA DANN.ACC.	FY-MIN	1.484	21859.004	32445.073	90000.000	0.361
Concio 4 H=200	113	J[732]	ST FATICA DANN.ACC.	FY-MIN	1.484	21393.438	31754.038	90000.000	0.353
Concio 4 H=var	114	I[732]	ST FATICA DANN.ACC.	FY-MIN	1.484	21634.393	32111.686	90000.000	0.357
Concio 4 H=var	114	J[733]	ST FATICA DANN.ACC.	FY-MIN	1.484	25380.660	37672.228	90000.000	0.419
Concio 4 H=var	115	I[733]	ST FATICA DANN.ACC.	FZ-MIN	1.484	25294.055	37543.680	90000.000	0.417
Concio 4 H=var	115	J[734]	ST FATICA DANN.ACC.	FZ-MIN	1.484	32244.083	47859.529	90000.000	0.532
Concio 5	116	I[734]	ST FATICA DANN.ACC.	FZ-MIN	1.484	32497.590	48235.806	90000.000	0.536
Concio 5	116	J[735]	ST FATICA DANN.ACC.	FZ-MIN	1.484	31669.396	47006.527	90000.000	0.522
Concio 5	117	I[735]	ST FATICA DANN.ACC.	MZ-MIN	1.484	31593.476	46893.839	90000.000	0.521
Concio 5	117	J[736]	ST FATICA DANN.ACC.	FZ-MIN	1.484	22920.355	34020.425	90000.000	0.378
Concio 5	118	I[736]	ST FATICA DANN.ACC.	FZ-MIN	1.484	20410.672	30295.330	90000.000	0.337
Concio 5	118	J[737]	ST FATICA DANN.ACC.	FZ-MIN	1.484	16600.979	24640.646	90000.000	0.274
Concio 6	119	I[737]	ST FATICA DANN.ACC.	FZ-MIN	1.484	21711.611	32226.299	90000.000	0.358
Concio 6	119	J[738]	ST FATICA DANN.ACC.	FZ-MIN	1.484	15429.315	22901.558	90000.000	0.255
Concio 6	120	I[738]	ST FATICA DANN.ACC.	FZ-MIN	1.484	12045.473	17878.960	90000.000	0.199
Concio 6	120	J[739]	ST FATICA DANN.ACC.	FZ-MIN	1.484	6413.070	9518.847	90000.000	0.106
Concio 6	121	I[739]	ST FATICA DANN.ACC.	FZ-MIN	1.484	6413.070	9518.847	90000.000	0.106
Concio 6	121	J[740]	ST FATICA DANN.ACC.	MZ-MIN	1.484	11828.741	17557.266	90000.000	0.195
Concio 6	122	I[740]	ST FATICA DANN.ACC.	FX-MIN	1.484	13413.492	19909.494	90000.000	0.221
Concio 6	122	J[741]	ST FATICA DANN.ACC.	MZ-MIN	1.484	20774.952	30836.026	90000.000	0.343
Concio 5	123	I[741]	ST FATICA DANN.ACC.	MZ-MIN	1.484	15884.797	23577.626	90000.000	0.262
Concio 5	123	J[742]	ST FATICA DANN.ACC.	MZ-MIN	1.484	20225.767	30020.878	90000.000	0.334
Concio 5	124	I[742]	ST FATICA DANN.ACC.	FZ-MAX	1.484	20280.306	30101.829	90000.000	0.335
Concio 5	124	J[743]	ST FATICA DANN.ACC.	MZ-MIN	1.484	31019.101	46041.301	90000.000	0.512
Concio 5	125	I[743]	ST FATICA DANN.ACC.	FZ-MAX	1.484	28580.183	42421.243	90000.000	0.471
Concio 5	125	J[744]	ST FATICA DANN.ACC.	FZ-MAX	1.484	29408.377	43650.522	90000.000	0.485
Concio 4 H=var	126	I[744]	ST FATICA DANN.ACC.	MX-MIN	1.484	29164.747	43288.905	90000.000	0.481
Concio 4 H=var	126	J[745]	ST FATICA DANN.ACC.	MZ-MIN	1.484	25147.567	37326.249	90000.000	0.415
Concio 4 H=var	127	I[745]	ST FATICA DANN.ACC.	FZ-MAX	1.484	22962.677	34083.243	90000.000	0.379
Concio 4 H=var	127	J[746]	ST FATICA DANN.ACC.	MZ-MIN	1.484	21440.012	31823.168	90000.000	0.354
Concio 4 H=200	128	I[746]	ST FATICA DANN.ACC.	MZ-MIN	1.484	21293.918	31606.323	90000.000	0.351
Concio 4 H=200	128	J[747]	ST FATICA DANN.ACC.	MZ-MIN	1.484	21698.704	32207.141	90000.000	0.358

Concio 4 H=200	129	I[747]	ST FATICA DANN.ACC.	FY-MIN	1.484	25061.161	37197.999	90000.000	0.413
Concio 4 H=200	129	J[748]	ST FATICA DANN.ACC.	FY-MIN	1.484	24595.595	36506.964	90000.000	0.406
Concio 4 H=var	130	I[748]	ST FATICA DANN.ACC.	FY-MIN	1.484	24782.205	36783.947	90000.000	0.409
Concio 4 H=var	130	J[749]	ST FATICA DANN.ACC.	FY-MIN	1.484	29519.081	43814.839	90000.000	0.487
Concio 4 H=var	131	I[749]	ST FATICA DANN.ACC.	FZ-MIN	1.484	29519.736	43815.811	90000.000	0.487
Concio 4 H=var	131	J[750]	ST FATICA DANN.ACC.	FZ-MIN	1.484	38373.058	56956.697	90000.000	0.633
Concio 3	132	I[750]	ST FATICA DANN.ACC.	FZ-MIN	1.484	38952.278	57816.426	90000.000	0.642
Concio 3	132	J[751]	ST FATICA DANN.ACC.	FZ-MIN	1.484	38124.084	56587.147	90000.000	0.629
Concio 3	133	I[751]	ST FATICA DANN.ACC.	MZ-MIN	1.484	37807.795	56117.683	90000.000	0.624
Concio 3	133	J[752]	ST FATICA DANN.ACC.	FZ-MIN	1.484	29479.774	43756.495	90000.000	0.486
Concio 3	134	I[752]	ST FATICA DANN.ACC.	MZ-MIN	1.484	26646.452	39551.028	90000.000	0.440
Concio 3	134	J[753]	ST FATICA DANN.ACC.	FZ-MIN	1.484	23302.856	34588.166	90000.000	0.384
Concio 2	135	I[753]	ST FATICA DANN.ACC.	FZ-MIN	1.484	30719.872	45597.159	90000.000	0.507
Concio 2	135	J[754]	ST FATICA DANN.ACC.	FZ-MIN	1.484	24169.083	35873.898	90000.000	0.399
Concio 2	136	I[754]	ST FATICA DANN.ACC.	FY-MIN	1.484	19410.049	28810.117	90000.000	0.320
Concio 2	136	J[755]	ST FATICA DANN.ACC.	FY-MIN	1.484	8492.068	12604.681	90000.000	0.140
Concio 2	137	I[755]	ST FATICA DANN.ACC.	FZ-MIN	1.484	9080.597	13478.227	90000.000	0.150
Concio 2	137	J[756]	ST FATICA DANN.ACC.	FX-MIN	1.484	8979.964	13328.859	90000.000	0.148
Concio 1	138	I[756]	ST FATICA DANN.ACC.	FX-MIN	1.484	6891.104	10228.387	90000.000	0.114
Concio 1	138	J[757]	ST FATICA DANN.ACC.	MZ-MIN	1.484	12826.399	19038.079	90000.000	0.212
Concio 1	139	I[757]	ST FATICA DANN.ACC.	FX-MIN	1.484	15913.302	23619.934	90000.000	0.262
Concio 1	139	J[758]	ST FATICA DANN.ACC.	MZ-MIN	1.484	24816.542	36834.914	90000.000	0.409
Concio 1	140	I[758]	ST FATICA DANN.ACC.	FX-MAX	1.484	1340.530	1989.733	90000.000	0.022
Concio 1	140	J[759]	ST FATICA DANN.ACC.	FX-MAX	1.484	0.000	0.000	90000.000	0.000
Concio 1	201	I[760]	ST FATICA DANN.ACC.	FX-MAX	1.484	0.000	0.000	90000.000	0.000
Concio 1	201	J[761]	ST FATICA DANN.ACC.	FZ-MAX	1.484	14859.676	22056.049	90000.000	0.245
Concio 1	202	I[761]	ST FATICA DANN.ACC.	FZ-MIN	1.484	39471.667	58587.350	90000.000	0.651
Concio 1	202	J[762]	ST FATICA DANN.ACC.	MX-MAX	1.484	14478.741	21490.632	90000.000	0.239
Concio 1	203	I[762]	ST FATICA DANN.ACC.	FY-MIN	1.484	30212.998	44844.812	90000.000	0.498
Concio 1	203	J[763]	ST FATICA DANN.ACC.	FY-MIN	1.484	14930.316	22160.899	90000.000	0.246
Concio 2	204	I[763]	ST FATICA DANN.ACC.	FY-MIN	1.484	19462.107	28887.385	90000.000	0.321
Concio 2	204	J[764]	ST FATICA DANN.ACC.	MX-MIN	1.484	30646.395	45488.099	90000.000	0.505
Concio 2	205	I[764]	ST FATICA DANN.ACC.	FZ-MIN	1.484	18761.810	27847.943	90000.000	0.309
Concio 2	205	J[765]	ST FATICA DANN.ACC.	MX-MIN	1.484	44182.711	65579.899	90000.000	0.729
Concio 2	206	I[765]	ST FATICA DANN.ACC.	MX-MIN	1.484	30019.125	44557.048	90000.000	0.495
Concio 2	206	J[766]	ST FATICA DANN.ACC.	MX-MIN	1.484	45293.443	67228.547	90000.000	0.747
Concio 3	207	I[766]	ST FATICA DANN.ACC.	MX-MIN	1.484	34375.915	51023.783	90000.000	0.567
Concio 3	207	J[767]	ST FATICA DANN.ACC.	MX-MIN	1.484	43402.482	64421.815	90000.000	0.716
Concio 3	208	I[767]	ST FATICA DANN.ACC.	MX-MIN	1.484	33266.055	49376.430	90000.000	0.549
Concio 3	208	J[768]	ST FATICA DANN.ACC.	MX-MIN	1.484	54346.026	80665.192	90000.000	0.896
Concio 3	209	I[768]	ST FATICA DANN.ACC.	FZ-MAX	1.484	42742.694	63442.499	90000.000	0.705
Concio 3	209	J[769]	ST FATICA DANN.ACC.	MX-MIN	1.484	45688.719	67815.250	90000.000	0.754
Concio 4 H=var	210	I[769]	ST FATICA DANN.ACC.	MX-MIN	1.484	46642.661	69231.175	90000.000	0.769
Concio 4 H=var	210	J[770]	ST FATICA DANN.ACC.	MX-MIN	1.484	40559.600	60202.156	90000.000	0.669
Concio 4 H=var	211	I[770]	ST FATICA DANN.ACC.	FZ-MAX	1.484	34712.643	51523.585	90000.000	0.573
Concio 4 H=var	211	J[771]	ST FATICA DANN.ACC.	MX-MIN	1.484	34517.899	51234.527	90000.000	0.569
Concio 4 H=200	212	I[771]	ST FATICA DANN.ACC.	MX-MIN	1.484	34377.352	51025.916	90000.000	0.567
Concio 4 H=200	212	J[772]	ST FATICA DANN.ACC.	MX-MIN	1.484	35726.282	53028.116	90000.000	0.589
Concio 4 H=200	213	I[772]	ST FATICA DANN.ACC.	FZ-MIN	1.484	29643.797	43999.954	90000.000	0.489
Concio 4 H=200	213	J[773]	ST FATICA DANN.ACC.	FZ-MIN	1.484	28124.259	41744.520	90000.000	0.464
Concio 4 H=var	214	I[773]	ST FATICA DANN.ACC.	FZ-MIN	1.484	28517.591	42328.339	90000.000	0.470
Concio 4 H=var	214	J[774]	ST FATICA DANN.ACC.	FX-MIN	1.484	28560.595	42392.168	90000.000	0.471
Concio 4 H=var	215	I[774]	ST FATICA DANN.ACC.	FZ-MIN	1.484	32548.832	48311.864	90000.000	0.537
Concio 4 H=var	215	J[775]	ST FATICA DANN.ACC.	FX-MIN	1.484	38871.418	57696.407	90000.000	0.641
Concio 5	216	I[775]	ST FATICA DANN.ACC.	FX-MIN	1.484	39661.600	58869.266	90000.000	0.654
Concio 5	216	J[776]	ST FATICA DANN.ACC.	FX-MIN	1.484	39196.377	58178.739	90000.000	0.646
Concio 5	217	I[776]	ST FATICA DANN.ACC.	FZ-MIN	1.484	42677.023	63345.023	90000.000	0.704
Concio 5	217	J[777]	ST FATICA DANN.ACC.	FX-MIN	1.484	27574.516	40928.543	90000.000	0.455
Concio 5	218	I[777]	ST FATICA DANN.ACC.	FZ-MIN	1.484	31280.501	46429.294	90000.000	0.516

Concio 5	218	J[778]	ST FATICA DANN.ACC.	FZ-MIN	1.484	19544.647	29009.899	90000.000	0.322
Concio 6	219	I[778]	ST FATICA DANN.ACC.	FZ-MIN	1.484	25539.571	37908.097	90000.000	0.421
Concio 6	219	J[779]	ST FATICA DANN.ACC.	MX-MIN	1.484	23355.022	34665.595	90000.000	0.385
Concio 6	220	I[779]	ST FATICA DANN.ACC.	FZ-MIN	1.484	28092.565	41697.477	90000.000	0.463
Concio 6	220	J[780]	ST FATICA DANN.ACC.	MX-MIN	1.484	21439.220	31821.993	90000.000	0.354
Concio 6	221	I[780]	ST FATICA DANN.ACC.	MX-MIN	1.484	21439.220	31821.993	90000.000	0.354
Concio 6	221	J[781]	ST FATICA DANN.ACC.	MX-MIN	1.484	36231.889	53778.584	90000.000	0.598
Concio 6	222	I[781]	ST FATICA DANN.ACC.	MX-MIN	1.484	21739.445	32267.613	90000.000	0.359
Concio 6	222	J[782]	ST FATICA DANN.ACC.	MX-MIN	1.484	35698.277	52986.549	90000.000	0.589
Concio 5	223	I[782]	ST FATICA DANN.ACC.	MX-MIN	1.484	27318.792	40548.974	90000.000	0.451
Concio 5	223	J[783]	ST FATICA DANN.ACC.	MX-MIN	1.484	37472.447	55619.931	90000.000	0.618
Concio 5	224	I[783]	ST FATICA DANN.ACC.	MX-MIN	1.484	26860.199	39868.290	90000.000	0.443
Concio 5	224	J[784]	ST FATICA DANN.ACC.	MX-MIN	1.484	48662.629	72229.391	90000.000	0.803
Concio 5	225	I[784]	ST FATICA DANN.ACC.	FZ-MAX	1.484	36659.139	54412.746	90000.000	0.605
Concio 5	225	J[785]	ST FATICA DANN.ACC.	MX-MIN	1.484	39558.097	58715.636	90000.000	0.652
Concio 4 H=var	226	I[785]	ST FATICA DANN.ACC.	MX-MIN	1.484	40765.157	60507.262	90000.000	0.672
Concio 4 H=var	226	J[786]	ST FATICA DANN.ACC.	MX-MIN	1.484	36472.757	54136.101	90000.000	0.602
Concio 4 H=var	227	I[786]	ST FATICA DANN.ACC.	FZ-MAX	1.484	30506.645	45280.668	90000.000	0.503
Concio 4 H=var	227	J[787]	ST FATICA DANN.ACC.	MX-MIN	1.484	31309.859	46472.870	90000.000	0.516
Concio 4 H=200	228	I[787]	ST FATICA DANN.ACC.	MX-MIN	1.484	31144.582	46227.551	90000.000	0.514
Concio 4 H=200	228	J[788]	ST FATICA DANN.ACC.	MX-MIN	1.484	32491.567	48226.866	90000.000	0.536
Concio 4 H=200	229	I[788]	ST FATICA DANN.ACC.	FZ-MIN	1.484	32888.108	48815.447	90000.000	0.542
Concio 4 H=200	229	J[789]	ST FATICA DANN.ACC.	FZ-MIN	1.484	31366.224	46556.532	90000.000	0.517
Concio 4 H=var	230	I[789]	ST FATICA DANN.ACC.	FZ-MIN	1.484	31729.694	47096.026	90000.000	0.523
Concio 4 H=var	230	J[790]	ST FATICA DANN.ACC.	FX-MIN	1.484	32838.376	48741.631	90000.000	0.542
Concio 4 H=var	231	I[790]	ST FATICA DANN.ACC.	FZ-MIN	1.484	36649.916	54399.057	90000.000	0.604
Concio 4 H=var	231	J[791]	ST FATICA DANN.ACC.	FX-MIN	1.484	44780.109	66466.611	90000.000	0.739
Concio 3	232	I[791]	ST FATICA DANN.ACC.	FX-MIN	1.484	45880.059	68099.254	90000.000	0.757
Concio 3	232	J[792]	ST FATICA DANN.ACC.	FX-MIN	1.484	45414.835	67408.728	90000.000	0.749
Concio 3	233	I[792]	ST FATICA DANN.ACC.	FZ-MIN	1.484	48364.034	71786.190	90000.000	0.798
Concio 3	233	J[793]	ST FATICA DANN.ACC.	FX-MIN	1.484	33703.255	50025.360	90000.000	0.556
Concio 3	234	I[793]	ST FATICA DANN.ACC.	FZ-MIN	1.484	37252.823	55293.944	90000.000	0.614
Concio 3	234	J[794]	ST FATICA DANN.ACC.	FZ-MIN	1.484	26909.890	39942.046	90000.000	0.444
Concio 2	235	I[794]	ST FATICA DANN.ACC.	FZ-MIN	1.484	35456.265	52627.335	90000.000	0.585
Concio 2	235	J[795]	ST FATICA DANN.ACC.	FY-MIN	1.484	24131.030	35817.415	90000.000	0.398
Concio 2	236	I[795]	ST FATICA DANN.ACC.	FZ-MIN	1.484	36229.745	53775.402	90000.000	0.598
Concio 2	236	J[796]	ST FATICA DANN.ACC.	MX-MIN	1.484	26906.177	39936.535	90000.000	0.444
Concio 2	237	I[796]	ST FATICA DANN.ACC.	FZ-MIN	1.484	23187.661	34417.184	90000.000	0.382
Concio 2	237	J[797]	ST FATICA DANN.ACC.	MX-MIN	1.484	21676.391	32174.022	90000.000	0.358
Concio 1	238	I[797]	ST FATICA DANN.ACC.	MX-MIN	1.484	16628.999	24682.236	90000.000	0.274
Concio 1	238	J[798]	ST FATICA DANN.ACC.	MX-MIN	1.484	30109.376	44691.006	90000.000	0.497
Concio 1	239	I[798]	ST FATICA DANN.ACC.	FZ-MAX	1.484	16855.280	25018.102	90000.000	0.278
Concio 1	239	J[799]	ST FATICA DANN.ACC.	MX-MIN	1.484	43191.979	64109.367	90000.000	0.712
Concio 1	240	I[799]	ST FATICA DANN.ACC.	FZ-MIN	1.484	14859.676	22056.049	90000.000	0.245
Concio 1	240	J[800]	ST FATICA DANN.ACC.	FX-MAX	1.484	0.000	0.000	90000.000	0.000
Concio 1	301	I[801]	ST FATICA DANN.ACC.	FX-MAX	1.484	0.000	0.000	90000.000	0.000
Concio 1	301	J[802]	ST FATICA DANN.ACC.	FZ-MAX	1.484	14859.676	22056.049	90000.000	0.245
Concio 1	302	I[802]	ST FATICA DANN.ACC.	FZ-MIN	1.484	39471.671	58587.355	90000.000	0.651
Concio 1	302	J[803]	ST FATICA DANN.ACC.	MX-MIN	1.484	19372.016	28753.664	90000.000	0.320
Concio 1	303	I[803]	ST FATICA DANN.ACC.	FZ-MIN	1.484	24085.483	35749.811	90000.000	0.397
Concio 1	303	J[804]	ST FATICA DANN.ACC.	FZ-MAX	1.484	13670.483	20290.943	90000.000	0.226
Concio 2	304	I[804]	ST FATICA DANN.ACC.	FZ-MAX	1.484	17819.877	26449.842	90000.000	0.294
Concio 2	304	J[805]	ST FATICA DANN.ACC.	FZ-MAX	1.484	29548.348	43858.279	90000.000	0.487
Concio 2	305	I[805]	ST FATICA DANN.ACC.	FZ-MIN	1.484	18761.805	27847.936	90000.000	0.309
Concio 2	305	J[806]	ST FATICA DANN.ACC.	FZ-MAX	1.484	41736.055	61948.355	90000.000	0.688
Concio 2	306	I[806]	ST FATICA DANN.ACC.	FZ-MAX	1.484	28662.116	42542.855	90000.000	0.473
Concio 2	306	J[807]	ST FATICA DANN.ACC.	FZ-MAX	1.484	42894.205	63667.384	90000.000	0.707
Concio 3	307	I[807]	ST FATICA DANN.ACC.	FZ-MAX	1.484	32554.989	48321.002	90000.000	0.537
Concio 3	307	J[808]	ST FATICA DANN.ACC.	FZ-MAX	1.484	40758.746	60497.746	90000.000	0.672

Concio 3	308	I[808]	ST FATICA DANN.ACC.	FZ-MAX	1.484	31433.279	46656.062	90000.000	0.518
Concio 3	308	J[809]	ST FATICA DANN.ACC.	FZ-MAX	1.484	50810.420	75417.333	90000.000	0.838
Concio 3	309	I[809]	ST FATICA DANN.ACC.	FZ-MAX	1.484	42742.694	63442.499	90000.000	0.705
Concio 3	309	J[810]	ST FATICA DANN.ACC.	FZ-MAX	1.484	44532.632	66099.284	90000.000	0.734
Concio 4 H=var	310	I[810]	ST FATICA DANN.ACC.	FZ-MAX	1.484	43937.202	65215.493	90000.000	0.725
Concio 4 H=var	310	J[811]	ST FATICA DANN.ACC.	FZ-MAX	1.484	38067.346	56502.932	90000.000	0.628
Concio 4 H=var	311	I[811]	ST FATICA DANN.ACC.	FZ-MAX	1.484	34712.643	51523.585	90000.000	0.573
Concio 4 H=var	311	J[812]	ST FATICA DANN.ACC.	FZ-MAX	1.484	32434.021	48141.451	90000.000	0.535
Concio 4 H=200	312	I[812]	ST FATICA DANN.ACC.	FZ-MAX	1.484	32157.630	47731.207	90000.000	0.530
Concio 4 H=200	312	J[813]	ST FATICA DANN.ACC.	FZ-MAX	1.484	33374.747	49537.761	90000.000	0.550
Concio 4 H=200	313	I[813]	ST FATICA DANN.ACC.	FZ-MIN	1.484	29643.797	43999.954	90000.000	0.489
Concio 4 H=200	313	J[814]	ST FATICA DANN.ACC.	FZ-MIN	1.484	28124.259	41744.520	90000.000	0.464
Concio 4 H=var	314	I[814]	ST FATICA DANN.ACC.	FZ-MIN	1.484	28517.590	42328.336	90000.000	0.470
Concio 4 H=var	314	J[815]	ST FATICA DANN.ACC.	FX-MIN	1.484	28560.595	42392.168	90000.000	0.471
Concio 4 H=var	315	I[815]	ST FATICA DANN.ACC.	FZ-MIN	1.484	32548.831	48311.862	90000.000	0.537
Concio 4 H=var	315	J[816]	ST FATICA DANN.ACC.	FX-MIN	1.484	38871.417	57696.405	90000.000	0.641
Concio 5	316	I[816]	ST FATICA DANN.ACC.	FX-MIN	1.484	39661.600	58869.266	90000.000	0.654
Concio 5	316	J[817]	ST FATICA DANN.ACC.	FX-MIN	1.484	39196.377	58178.739	90000.000	0.646
Concio 5	317	I[817]	ST FATICA DANN.ACC.	FZ-MIN	1.484	42677.023	63345.023	90000.000	0.704
Concio 5	317	J[818]	ST FATICA DANN.ACC.	MX-MIN	1.484	30781.081	45688.012	90000.000	0.508
Concio 5	318	I[818]	ST FATICA DANN.ACC.	FZ-MIN	1.484	31280.499	46429.291	90000.000	0.516
Concio 5	318	J[819]	ST FATICA DANN.ACC.	FZ-MIN	1.484	19544.649	29009.902	90000.000	0.322
Concio 6	319	I[819]	ST FATICA DANN.ACC.	FZ-MIN	1.484	25539.574	37908.101	90000.000	0.421
Concio 6	319	J[820]	ST FATICA DANN.ACC.	FZ-MAX	1.484	21508.946	31925.485	90000.000	0.355
Concio 6	320	I[820]	ST FATICA DANN.ACC.	FZ-MIN	1.484	28092.565	41697.477	90000.000	0.463
Concio 6	320	J[821]	ST FATICA DANN.ACC.	FZ-MAX	1.484	19916.963	29562.523	90000.000	0.329
Concio 6	321	I[821]	ST FATICA DANN.ACC.	FZ-MAX	1.484	19916.963	29562.523	90000.000	0.329
Concio 6	321	J[822]	ST FATICA DANN.ACC.	FZ-MAX	1.484	33504.590	49730.484	90000.000	0.553
Concio 6	322	I[822]	ST FATICA DANN.ACC.	FZ-MAX	1.484	20152.447	29912.050	90000.000	0.332
Concio 6	322	J[823]	ST FATICA DANN.ACC.	FZ-MAX	1.484	33281.533	49399.403	90000.000	0.549
Concio 5	323	I[823]	ST FATICA DANN.ACC.	FZ-MAX	1.484	25469.332	37803.842	90000.000	0.420
Concio 5	323	J[824]	ST FATICA DANN.ACC.	FZ-MAX	1.484	34748.127	51576.253	90000.000	0.573
Concio 5	324	I[824]	ST FATICA DANN.ACC.	FZ-MAX	1.484	25141.387	37317.077	90000.000	0.415
Concio 5	324	J[825]	ST FATICA DANN.ACC.	FZ-MAX	1.484	45069.710	66896.462	90000.000	0.743
Concio 5	325	I[825]	ST FATICA DANN.ACC.	FZ-MAX	1.484	36659.139	54412.746	90000.000	0.605
Concio 5	325	J[826]	ST FATICA DANN.ACC.	FZ-MAX	1.484	38440.636	57057.002	90000.000	0.634
Concio 4 H=var	326	I[826]	ST FATICA DANN.ACC.	FZ-MAX	1.484	38035.897	56456.252	90000.000	0.627
Concio 4 H=var	326	J[827]	ST FATICA DANN.ACC.	FZ-MAX	1.484	33966.328	50415.838	90000.000	0.560
Concio 4 H=var	327	I[827]	ST FATICA DANN.ACC.	FZ-MAX	1.484	30506.645	45280.668	90000.000	0.503
Concio 4 H=var	327	J[828]	ST FATICA DANN.ACC.	FZ-MAX	1.484	29222.207	43374.192	90000.000	0.482
Concio 4 H=200	328	I[828]	ST FATICA DANN.ACC.	FZ-MAX	1.484	28915.669	42919.202	90000.000	0.477
Concio 4 H=200	328	J[829]	ST FATICA DANN.ACC.	FZ-MAX	1.484	30130.899	44722.953	90000.000	0.497
Concio 4 H=200	329	I[829]	ST FATICA DANN.ACC.	FZ-MIN	1.484	32888.108	48815.447	90000.000	0.542
Concio 4 H=200	329	J[830]	ST FATICA DANN.ACC.	FZ-MIN	1.484	31366.224	46556.532	90000.000	0.517
Concio 4 H=var	330	I[830]	ST FATICA DANN.ACC.	FZ-MIN	1.484	31729.692	47096.024	90000.000	0.523
Concio 4 H=var	330	J[831]	ST FATICA DANN.ACC.	FX-MIN	1.484	32838.376	48741.631	90000.000	0.542
Concio 4 H=var	331	I[831]	ST FATICA DANN.ACC.	FZ-MIN	1.484	36649.916	54399.057	90000.000	0.604
Concio 4 H=var	331	J[832]	ST FATICA DANN.ACC.	FX-MIN	1.484	44780.108	66466.608	90000.000	0.739
Concio 3	332	I[832]	ST FATICA DANN.ACC.	FX-MIN	1.484	45880.058	68099.251	90000.000	0.757
Concio 3	332	J[833]	ST FATICA DANN.ACC.	FX-MIN	1.484	45414.834	67408.725	90000.000	0.749
Concio 3	333	I[833]	ST FATICA DANN.ACC.	FZ-MIN	1.484	48364.034	71786.190	90000.000	0.798
Concio 3	333	J[834]	ST FATICA DANN.ACC.	FX-MIN	1.484	33703.255	50025.360	90000.000	0.556
Concio 3	334	I[834]	ST FATICA DANN.ACC.	FZ-MIN	1.484	37252.825	55293.947	90000.000	0.614
Concio 3	334	J[835]	ST FATICA DANN.ACC.	FZ-MIN	1.484	26909.890	39942.046	90000.000	0.444
Concio 2	335	I[835]	ST FATICA DANN.ACC.	FZ-MIN	1.484	35456.265	52627.335	90000.000	0.585
Concio 2	335	J[836]	ST FATICA DANN.ACC.	FY-MAX	1.484	20898.299	31019.109	90000.000	0.345
Concio 2	336	I[836]	ST FATICA DANN.ACC.	FZ-MIN	1.484	36229.745	53775.402	90000.000	0.598
Concio 2	336	J[837]	ST FATICA DANN.ACC.	FZ-MAX	1.484	24315.101	36090.630	90000.000	0.401
Concio 2	337	I[837]	ST FATICA DANN.ACC.	FZ-MIN	1.484	23187.661	34417.184	90000.000	0.382

Concio 2	337	J[838]	ST FATICA DANN.ACC.	FZ-MAX	1.484	19676.453	29205.537	90000.000	0.325
Concio 1	338	I[838]	ST FATICA DANN.ACC.	FZ-MAX	1.484	15094.751	22404.969	90000.000	0.249
Concio 1	338	J[839]	ST FATICA DANN.ACC.	FZ-MAX	1.484	27521.682	40850.122	90000.000	0.454
Concio 1	339	I[839]	ST FATICA DANN.ACC.	FZ-MAX	1.484	16855.280	25018.102	90000.000	0.278
Concio 1	339	J[840]	ST FATICA DANN.ACC.	FZ-MAX	1.484	39847.351	59144.973	90000.000	0.657
Concio 1	340	I[840]	ST FATICA DANN.ACC.	FZ-MIN	1.484	14859.676	22056.049	90000.000	0.245
Concio 1	340	J[841]	ST FATICA DANN.ACC.	FX-MAX	1.484	0.000	0.000	90000.000	0.000
Concio 1	401	I[842]	ST FATICA DANN.ACC.	FX-MAX	1.484	0.000	0.000	90000.000	0.000
Concio 1	401	J[843]	ST FATICA DANN.ACC.	FX-MAX	1.484	1340.530	1989.733	90000.000	0.022
Concio 1	402	I[843]	ST FATICA DANN.ACC.	FZ-MIN	1.484	25686.225	38125.774	90000.000	0.424
Concio 1	402	J[844]	ST FATICA DANN.ACC.	FZ-MIN	1.484	17307.913	25689.940	90000.000	0.285
Concio 1	403	I[844]	ST FATICA DANN.ACC.	FZ-MIN	1.484	13094.067	19435.375	90000.000	0.216
Concio 1	403	J[845]	ST FATICA DANN.ACC.	FZ-MIN	1.484	8067.080	11973.875	90000.000	0.133
Concio 2	404	I[845]	ST FATICA DANN.ACC.	FZ-MIN	1.484	10512.407	15603.447	90000.000	0.173
Concio 2	404	J[846]	ST FATICA DANN.ACC.	MY-MIN	1.484	9091.624	13494.595	90000.000	0.150
Concio 2	405	I[846]	ST FATICA DANN.ACC.	MX-MIN	1.484	7995.824	11868.111	90000.000	0.132
Concio 2	405	J[847]	ST FATICA DANN.ACC.	MX-MIN	1.484	18913.805	28073.547	90000.000	0.312
Concio 2	406	I[847]	ST FATICA DANN.ACC.	MZ-MIN	1.484	23833.186	35375.329	90000.000	0.393
Concio 2	406	J[848]	ST FATICA DANN.ACC.	FY-MIN	1.484	30341.785	45035.970	90000.000	0.500
Concio 3	407	I[848]	ST FATICA DANN.ACC.	FY-MIN	1.484	23016.055	34162.470	90000.000	0.380
Concio 3	407	J[849]	ST FATICA DANN.ACC.	FY-MIN	1.484	26328.831	39079.586	90000.000	0.434
Concio 3	408	I[849]	ST FATICA DANN.ACC.	FY-MIN	1.484	29368.259	43590.975	90000.000	0.484
Concio 3	408	J[850]	ST FATICA DANN.ACC.	FY-MIN	1.484	37650.199	55883.765	90000.000	0.621
Concio 3	409	I[850]	ST FATICA DANN.ACC.	FY-MIN	1.484	37470.759	55617.424	90000.000	0.618
Concio 3	409	J[851]	ST FATICA DANN.ACC.	FY-MIN	1.484	38298.953	56846.703	90000.000	0.632
Concio 4 H=var	410	I[851]	ST FATICA DANN.ACC.	FY-MIN	1.484	37558.973	55748.359	90000.000	0.619
Concio 4 H=var	410	J[852]	ST FATICA DANN.ACC.	FY-MIN	1.484	28958.457	42982.711	90000.000	0.478
Concio 4 H=var	411	I[852]	ST FATICA DANN.ACC.	FY-MIN	1.484	29120.105	43222.643	90000.000	0.480
Concio 4 H=var	411	J[853]	ST FATICA DANN.ACC.	FY-MIN	1.484	24478.731	36333.504	90000.000	0.404
Concio 4 H=200	412	I[853]	ST FATICA DANN.ACC.	FY-MIN	1.484	24337.004	36123.141	90000.000	0.401
Concio 4 H=200	412	J[854]	ST FATICA DANN.ACC.	FY-MIN	1.484	24802.571	36814.176	90000.000	0.409
Concio 4 H=200	413	I[854]	ST FATICA DANN.ACC.	FZ-MIN	1.484	21814.549	32379.088	90000.000	0.360
Concio 4 H=200	413	J[855]	ST FATICA DANN.ACC.	FZ-MIN	1.484	21348.982	31688.054	90000.000	0.352
Concio 4 H=var	414	I[855]	ST FATICA DANN.ACC.	FZ-MIN	1.484	21585.191	32038.656	90000.000	0.356
Concio 4 H=var	414	J[856]	ST FATICA DANN.ACC.	MZ-MIN	1.484	25342.486	37615.565	90000.000	0.418
Concio 4 H=var	415	I[856]	ST FATICA DANN.ACC.	FZ-MIN	1.484	25294.055	37543.680	90000.000	0.417
Concio 4 H=var	415	J[857]	ST FATICA DANN.ACC.	FZ-MIN	1.484	32244.083	47859.529	90000.000	0.532
Concio 5	416	I[857]	ST FATICA DANN.ACC.	FZ-MIN	1.484	32497.592	48235.808	90000.000	0.536
Concio 5	416	J[858]	ST FATICA DANN.ACC.	FZ-MIN	1.484	31669.398	47006.529	90000.000	0.522
Concio 5	417	I[858]	ST FATICA DANN.ACC.	FZ-MIN	1.484	31533.573	46804.926	90000.000	0.520
Concio 5	417	J[859]	ST FATICA DANN.ACC.	FZ-MIN	1.484	22920.355	34020.425	90000.000	0.378
Concio 5	418	I[859]	ST FATICA DANN.ACC.	FZ-MIN	1.484	20410.672	30295.330	90000.000	0.337
Concio 5	418	J[860]	ST FATICA DANN.ACC.	FZ-MIN	1.484	16600.979	24640.646	90000.000	0.274
Concio 6	419	I[860]	ST FATICA DANN.ACC.	FZ-MIN	1.484	21711.611	32226.299	90000.000	0.358
Concio 6	419	J[861]	ST FATICA DANN.ACC.	FZ-MIN	1.484	15429.315	22901.558	90000.000	0.255
Concio 6	420	I[861]	ST FATICA DANN.ACC.	FZ-MIN	1.484	12045.473	17878.960	90000.000	0.199
Concio 6	420	J[862]	ST FATICA DANN.ACC.	FZ-MIN	1.484	6413.070	9518.847	90000.000	0.106
Concio 6	421	I[862]	ST FATICA DANN.ACC.	FZ-MIN	1.484	6413.070	9518.847	90000.000	0.106
Concio 6	421	J[863]	ST FATICA DANN.ACC.	FY-MIN	1.484	11828.740	17557.265	90000.000	0.195
Concio 6	422	I[863]	ST FATICA DANN.ACC.	FY-MIN	1.484	15226.400	22600.373	90000.000	0.251
Concio 6	422	J[864]	ST FATICA DANN.ACC.	FY-MIN	1.484	21508.696	31925.115	90000.000	0.355
Concio 5	423	I[864]	ST FATICA DANN.ACC.	FY-MIN	1.484	16445.828	24410.357	90000.000	0.271
Concio 5	423	J[865]	ST FATICA DANN.ACC.	FY-MIN	1.484	20255.520	30065.040	90000.000	0.334
Concio 5	424	I[865]	ST FATICA DANN.ACC.	FY-MIN	1.484	22773.016	33801.730	90000.000	0.376
Concio 5	424	J[866]	ST FATICA DANN.ACC.	FY-MIN	1.484	31386.233	46586.232	90000.000	0.518
Concio 5	425	I[866]	ST FATICA DANN.ACC.	FY-MIN	1.484	30923.473	45899.362	90000.000	0.510
Concio 5	425	J[867]	ST FATICA DANN.ACC.	FY-MIN	1.484	31751.667	47128.641	90000.000	0.524
Concio 4 H=var	426	I[867]	ST FATICA DANN.ACC.	FY-MIN	1.484	31342.734	46521.666	90000.000	0.517
Concio 4 H=var	426	J[868]	ST FATICA DANN.ACC.	FY-MIN	1.484	24672.611	36621.278	90000.000	0.407

Concio 4 H=var	427	I[868]	ST FATICA DANN.ACC.	FY-MIN	1.484	25009.271	37120.978	90000.000	0.413
Concio 4 H=var	427	J[869]	ST FATICA DANN.ACC.	FY-MIN	1.484	21351.903	31692.388	90000.000	0.352
Concio 4 H=200	428	I[869]	ST FATICA DANN.ACC.	FY-MIN	1.484	21159.193	31406.352	90000.000	0.349
Concio 4 H=200	428	J[870]	ST FATICA DANN.ACC.	FY-MIN	1.484	21624.760	32097.387	90000.000	0.357
Concio 4 H=200	429	I[870]	ST FATICA DANN.ACC.	FZ-MIN	1.484	25020.934	37138.290	90000.000	0.413
Concio 4 H=200	429	J[871]	ST FATICA DANN.ACC.	FZ-MIN	1.484	24555.368	36447.255	90000.000	0.405
Concio 4 H=var	430	I[871]	ST FATICA DANN.ACC.	FZ-MIN	1.484	24742.990	36725.740	90000.000	0.408
Concio 4 H=var	430	J[872]	ST FATICA DANN.ACC.	MZ-MIN	1.484	29477.583	43753.244	90000.000	0.486
Concio 4 H=var	431	I[872]	ST FATICA DANN.ACC.	FZ-MIN	1.484	29519.736	43815.811	90000.000	0.487
Concio 4 H=var	431	J[873]	ST FATICA DANN.ACC.	FZ-MIN	1.484	38373.058	56956.697	90000.000	0.633
Concio 3	432	I[873]	ST FATICA DANN.ACC.	FZ-MIN	1.484	38952.278	57816.426	90000.000	0.642
Concio 3	432	J[874]	ST FATICA DANN.ACC.	FZ-MIN	1.484	38124.084	56587.147	90000.000	0.629
Concio 3	433	I[874]	ST FATICA DANN.ACC.	FZ-MIN	1.484	37761.713	56049.284	90000.000	0.623
Concio 3	433	J[875]	ST FATICA DANN.ACC.	FZ-MIN	1.484	29479.773	43756.494	90000.000	0.486
Concio 3	434	I[875]	ST FATICA DANN.ACC.	FZ-MIN	1.484	26615.632	39505.282	90000.000	0.439
Concio 3	434	J[876]	ST FATICA DANN.ACC.	FZ-MIN	1.484	23302.856	34588.166	90000.000	0.384
Concio 2	435	I[876]	ST FATICA DANN.ACC.	FZ-MIN	1.484	30719.872	45597.159	90000.000	0.507
Concio 2	435	J[877]	ST FATICA DANN.ACC.	FZ-MIN	1.484	24169.083	35873.898	90000.000	0.399
Concio 2	436	I[877]	ST FATICA DANN.ACC.	FZ-MIN	1.484	19410.049	28810.117	90000.000	0.320
Concio 2	436	J[878]	ST FATICA DANN.ACC.	FZ-MIN	1.484	8492.068	12604.681	90000.000	0.140
Concio 2	437	I[878]	ST FATICA DANN.ACC.	FZ-MIN	1.484	9080.597	13478.227	90000.000	0.150
Concio 2	437	J[879]	ST FATICA DANN.ACC.	FY-MIN	1.484	10163.601	15085.719	90000.000	0.168
Concio 1	438	I[879]	ST FATICA DANN.ACC.	FY-MIN	1.484	7799.411	11576.577	90000.000	0.129
Concio 1	438	J[880]	ST FATICA DANN.ACC.	FY-MIN	1.484	12826.398	19038.077	90000.000	0.212
Concio 1	439	I[880]	ST FATICA DANN.ACC.	FY-MIN	1.484	17022.191	25265.846	90000.000	0.281
Concio 1	439	J[881]	ST FATICA DANN.ACC.	FY-MIN	1.484	25400.503	37701.680	90000.000	0.419
Concio 1	440	I[881]	ST FATICA DANN.ACC.	FX-MAX	1.484	1340.530	1989.733	90000.000	0.022
Concio 1	440	J[882]	ST FATICA DANN.ACC.	FX-MAX	1.484	0.000	0.000	90000.000	0.000

10 VERIFICHE DI RESISTENZA DEI PROFILATI IN ACCIAIO ALLO S.L.U.

Si effettuano le verifiche di resistenza dei diaframmi e dei controventi allo stato limite ultimo; seguono gli schemi grafici e i tabulati di calcolo estesi degli elementi maggiormente sollecitati.

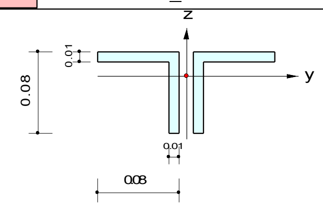
10.1 DIAFRAMMI SU SPALLE E INTERMEDI – TRASVERSI INFERIORI

MIDAS/Civil **Steel Checking Result**

Company		Project Title	CASALPUSTERLENGO
Author	Renato Vaira	File Name	D:\...\Asse 80 V_1.mcb

1. Design Information

Design Code : Eurocode3-2:05
Unit System : kN, m
Member No : 1110
Material : S355W (No:1)
(Fy = 355000, Es = 210000000)
Section Name : HINF_CORR 2L80x10d15 (No:18)
(Built-up Section).
Member Length : 1.60000



Depth	0.08000	Web Thick	0.01000
Flg Width	0.08000	Flg Thick	0.01000
BTB Spacing	0.01500		
Area	0.00300	Asz	0.00133
Qyb	0.00159	Qzb	0.00320
Iyy	0.00000	Izz	0.00000
Ybar	0.08750	Zbar	0.05633
Wely	0.00003	Welz	0.00005
ry	0.02436	rz	0.03955

2. Member Forces

Axial Force Fxx = 543.631 (LCB: 19+, POS:I)
Bending Moments My = 1.22405, Mz = 1.01223
End Moments Myi = 1.22405, Myj = 1.67647 (for Lb)
Myi = 1.22405, Myj = 1.67647 (for Ly)
Mzi = 1.01223, Mzj = 0.25618 (for Lz)
Shear Forces Fyy = 0.79234 (LCB: 19+, POS:I)
Fzz = -3.0661 (LCB: 19-, POS:J)

3. Design Parameters

Unbraced Lengths Ly = 1.60000, Lz = 1.60000, Lb = 1.60000
Effective Length Factors Ky = 0.65, Kz = 1.30
Equivalent Uniform Moment Factors Cmy = 1.00, Cmz = 1.00, CmLT = 1.00

4. Checking Results

Axial Resistance
N_Ed/Nt_Rd = 543.63/1014.29 = 0.536 < 1.000 .... O.K
Bending Resistance
M_Edy/M_Rdy = 1.2241/19.2503 = 0.064 < 1.000 .... O.K
M_Edz/M_Rdz = 1.0122/31.6119 = 0.032 < 1.000 .... O.K
Combined Resistance
RNRd = MAX[M_Edy/Mny_Rd, M_Edz/Mnz_Rd]
Rmax1 = (M_Edy/Mny_Rd)^Alpha + (M_Edz/Mnz_Rd)^Beta
Rcom = N_Ed/(A*fy/Gamma_M0), Rbend = M_Edy/My_Rd + M_Edz/Mz_Rd
Rmax = MAX[RNRd, Rmax1, (Rcom+Rbend)] = 0.632 < 1.000 .... O.K
Shear Resistance
V_Edy/Vy_Rd = 0.003 < 1.000 .... O.K
V_Edz/Vz_Rd = 0.010 < 1.000 .... O.K

Modeling, Integrated Design & Analysis Software
http://www.MidasUser.com
MIDAS/Civil V 8.3.5
Print Date/Time : 01/15/2018 20:17

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       +==============================================================+
       |  MIDAS(Modeling, Integrated Design & Analysis Software)      |
       |  MIDAS/Civil - Design & checking system for windows          |
       +==============================================================+
       |  Steel Member Applicable Code Checking                       |
       |  Based On  AASHTO-LRFD12, AASHTO-LRFD02, AASHTO-LFD96,       |
       |            AASHTO-ASD96, AISC-LRFD2K, AISC-LRFD93,           |
       |            AISC-ASD89, Eurocode3-2:05, BS5950-90,            |
       |            IS:800-2007, IS:800-1984                          |
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       |                                                              |
       |                                             (c)SINCE 1989    |
       +==============================================================+
       |  MIDAS Information Technology Co.,Ltd.          (MIDAS IT)   |
       |  MIDAS IT Design Development Team                            |
       +==============================================================+
       |            HomePage : www.MidasUser.com                      |
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       |  MIDAS/Civil  Version 8.3.5                                  |
       +==============================================================+


    *. DEFINITION OF LOAD COMBINATIONS WITH SCALING UP FACTORS.
 -----------------------------------------------------------------------------
      LCB   C     Loadcase Name(Factor) + Loadcase Name(Factor) + Loadcase Name(Factor)
 -----------------------------------------------------------------------------
      19+   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                 +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLU INV(
1.350)
      19-   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                 +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLU INV(
1.350)
      20+   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Vento Strutture INV( 1.500) +Vento Mobili
INV( 1.500)
                 +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLE INV(
1.350)
      20-   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Vento Strutture INV( 1.500) +Vento Mobili
INV( 1.500)
                 +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLE INV(
1.350)
      21+   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Frenamento INV( 1.350) +Termico unif. INV(
0.720)
                 +Termico diff. INV( 0.720) +Mobili SLE INV( 1.350)
      21-   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Frenamento INV( 1.350) +Termico unif. INV(
0.720)
                 +Termico diff. INV( 0.720) +Mobili SLE INV( 1.350)
      22+   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
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                +Termico unif. INV( 1.200) +Termico diff. INV( 1.200) +Mobili SLE INV(
1.350)
     22-  1        Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                +Termico unif. INV( 1.200) +Termico diff. INV( 1.200) +Mobili SLE INV(
1.350)
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    23+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                +  SLV Long INV( 1.000) + SLV Trasv INV( 0.300) +  SLV Vert INV( 0.300)
    23-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                +  SLV Long INV( 1.000) + SLV Trasv INV( 0.300) +  SLV Vert INV( 0.300)
    24+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                +  SLV Long INV( 0.300) + SLV Trasv INV( 1.000) +  SLV Vert INV( 0.300)
    24-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                +  SLV Long INV( 0.300) + SLV Trasv INV( 1.000) +  SLV Vert INV( 0.300)
    25+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                +  SLV Long INV( 0.300) + SLV Trasv INV( 0.300) +  SLV Vert INV( 1.000)
    25-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                +  SLV Long INV( 0.300) + SLV Trasv INV( 0.300) +  SLV Vert INV( 1.000)
    28+   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLU INV(
1.000)
    28-   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLU INV(
1.000)
    29+   2        Summation( 1.000) +Vento Strutture INV( 1.000) +Vento Mobili INV(
1.000)
                +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLE INV(
1.000)
    29-   2        Summation( 1.000) +Vento Strutture INV( 1.000) +Vento Mobili INV(
1.000)
                +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLE INV(
1.000)
    30+   2        Summation( 1.000) +Frenamento INV( 1.000) +Termico unif. INV( 0.600)
                +Termico diff. INV( 0.600) +Mobili SLE INV( 1.000)
    30-   2        Summation( 1.000) +Frenamento INV( 1.000) +Termico unif. INV( 0.600)
                +Termico diff. INV( 0.600) +Mobili SLE INV( 1.000)
    31+   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                +Termico unif. INV( 1.000) +Termico diff. INV( 1.000) +Mobili SLE INV(
1.000)
    31-   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                +Termico unif. INV( 1.000) +Termico diff. INV( 1.000) +Mobili SLE INV(
1.000)
    32+   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                +Mobili SLE INV( 1.000)
    32-   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                +Mobili SLE INV( 1.000)
    33+   2        Summation( 1.000) +Vento Strutture INV( 0.200) +Vento Mobili INV(
0.200)
                +Termico unif. INV( 0.500) +Termico diff. INV( 0.500)
    33-   2        Summation( 1.000) +Vento Strutture INV( 0.200) +Vento Mobili INV(
0.200)
                +Termico unif. INV( 0.500) +Termico diff. INV( 0.500)
    34+   2        Summation( 1.000) +Termico unif. INV( 0.600) +Termico diff. INV(
0.600)
    34-   2        Summation( 1.000) +Termico unif. INV( 0.600) +Termico diff. INV(
0.600)
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     35+   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
     35-   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
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      *. PROJECT      : CASALPUSTERLENGO
      *. MEMBER NO    =    1110,  ELEMENT TYPE = Beam
      *. LOADCOMB NO =     19+,  MATERIAL NO  =      1,  SECTION NO =     18
      *. UNIT SYSTEM : kN, m

      *. SECTION PROPERTIES : Designation = HINF_CORR 2L80x10d15
         Shape      = 2L - Section. (Built-up)
         Depth      =       0.080,  Flg Width    =       0.080,  BTB Spacing =       0.015
         Web Thick =       0.010,  Flg Thick    =       0.010

         Area = 3.00000e-003,  Avy  = 1.60000e-003,  Avz  = 1.60000e-003
         Ybar = 8.75000e-002,  Zbar = 5.63333e-002,  Qyb  = 1.58672e-003,  Qzb  =
3.20000e-003
         Wely = 3.15917e-005,  Welz = 5.36429e-005,  Wply = 5.69375e-005,  Wplz =
9.35000e-005
         Iyy  = 1.77967e-006,  Izz  = 4.69375e-006,  Iyz  = 0.00000e+000
         iy   = 2.43562e-002,  iz   = 3.95548e-002
         J    = 1.00000e-007,  Cwp  = 4.24931e-011

      *. DESIGN PARAMETERS FOR STRENGTH EVALUATION :
         Ly   = 1.60000e+000,  Lz   = 1.60000e+000,  Lu   = 1.60000e+000
         Ky   = 6.50000e-001,  Kz   = 1.30000e+000

      *. MATERIAL PROPERTIES :
         Fy   = 3.55000e+005,  Es   = 2.10000e+008,  MATERIAL NAME  = S355W


      *. FORCES AND MOMENTS AT (I) POINT :
         Axial Force       Fxx = 5.43631e+002
         Shear Forces      Fyy = 7.92336e-001,  Fzz = 1.62507e+000
         Bending Moments   My  = 1.22405e+000,  Mz  = 1.01223e+000
         End Moments       Myi = 1.22405e+000,  Myj = 1.67647e+000  (for Lb)
                           Myi = 1.22405e+000,  Myj = 1.67647e+000  (for Ly)
                           Mzi = 1.01223e+000,  Mzj = 2.56180e-001  (for Lz)

      *. Sign conventions for stress and axial force.
         - Stress : Compression positive.
         - Axial force: Tension positive.


================================================================================
   [[[*]]]   CLASSIFY LEFT FLANGE OF SECTION (BTR).
================================================================================

      ( ). Determine classification of tension flanges(double angle).
           -. Not Checking the Section Classification.

      ( ). Determine classification of tension flanges(double angle).
           -. Not Checking the Section Classification.

================================================================================
   [[[*]]]   CLASSIFY WEB OF SECTION (HTR).
================================================================================
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      ( ). Determine classification of tension elements(Double angle).
           -. Not Checking the Section Classification.

====================================================================================
   [[[*]]]   APPLIED FACTORS.
====================================================================================

      ( ). Calculate equivalent uniform moment factors (Cmy,Cmz,CmLT).
           [ Eurocode3:05 Annex A. Table A.1, A.2 ]
           -. Cmy,0     = 0.841
           -. Cmz,0     = 0.758
           -. Cmy  (Default or User Defined Value) = 1.000
           -. Cmz  (Default or User Defined Value) = 1.000
           -. CmLT (Default or User Defined Value) = 1.000

      ( ). Partial Factors (Gamma_Mi).
           [ Eurocode3:05 6.1 ]
           -. Gamma_M0 =  1.05
           -. Gamma_M1 =  1.10
           -. Gamma_M2 =  1.25

====================================================================================
   [[[*]]]   CHECK AXIAL RESISTANCE.
====================================================================================

      ( ). Check slenderness ratio of axial tension member (l/i).
           [ Eurocode3:05  6.3.1 ]
           -. l/i  =    65.7  <   300.0  ---> O.K.

      ( ). Calculate parameters for combined resistance.
           -. Lambda1    = Pi * SQRT(Es/fy)    =  76.409
           -. Lambda_bz = (KLz/iz) / Lambda1 =   0.529

      ( ). Calculate axial tensile resistance (Nt_Rd).
         [ Eurocode3:05  6.2.3 ]
           -. Nt_Rd  = fy * Area / Gamma_M0 =       1014.29 kN.

      ( ). Check ratio of axial resistance (N_Ed/Nt_Rd).
               N_Ed             543.63
           -. -----  =  ---------------  =  0.536  <  1.000  --->  O.K.
              Nt_Rd            1014.29

====================================================================================
   [[[*]]]   CHECK SHEAR RESISTANCE.
====================================================================================

      ( ). Calculate shear area.
           [ Eurocode3:05  6.2.6, EN1993-1-5:04 5.1 NOTE 2 ]
           -. Avy    = 2*B*tf =        0.0016 m^2.
           -. Avz    = 2*h*tw =        0.0016 m^2.
```

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      ( ). Calculate plastic shear resistance in local-y direction (Vpl_Rdy).
           [ Eurocode3:05  6.1, 6.2.6 ]
           -. Vpl_Rdy = [ Avy*fy/SQRT(3) ] / Gamma_M0 =        312.32 kN.

      ( ). Check ratio of shear resistance (V_Edy/Vpl_Rdy).
           ( LCB =  19+, POS =    I )
           -. Applied shear force : V_Edy    =          0.79 kN.
               V_Edy                 0.79
           -. -------  =  ---------------  =  0.003  <  1.000  --->  O.K.
              Vpl_Rdy              312.32

      ( ). Calculate plastic shear resistance in local-z direction (Vpl_Rdz).
           [ Eurocode3:05  6.1, 6.2.6 ]
           -. Vpl_Rdz = [ Avz*fy/SQRT(3) ] / Gamma_M0 =        312.32 kN.

      ( ). Shear Buckling Check.
           [ Eurocode3:05 6.2.6 ]
           -. HTR < 72*e/Eta   --->  No need to check!

      ( ). Check ratio of shear resistance (V_Edz/Vpl_Rdz).
           ( LCB =  19-, POS =    J )
           -. Applied shear force : V_Edz    =          3.07 kN.
               V_Edz                 3.07
           -. -------  =  ---------------  =  0.010  <  1.000  --->  O.K.
              Vpl_Rdz              312.32

=====================================================================================
   [[[*]]]   CHECK BENDING MOMENT RESISTANCE ABOUT MAJOR AXIS.
=====================================================================================

      ( ). Calculate plastic resistance moment about major axis.
           [ Eurocode3:05  6.1, 6.2.5 ]
           -. Wply     =   5.6938e-005 m^3.
           -. Mc_Rdy   = Wply * fy / Gamma_M0 =         19.25 kN-m.

      ( ). Check ratio of moment resistance (M_Edy/Mc_Rdy).
               M_Edy                 1.22
           -. ------  =  ---------------  =  0.064  <  1.000  --->  O.K.
              Mc_Rdy                19.25

=====================================================================================
   [[[*]]]   CHECK BENDING MOMENT RESISTANCE ABOUT MINOR AXIS.
=====================================================================================

      ( ). Calculate plastic resistance moment about minor axis.
           [ Eurocode3:05  6.1, 6.2.5 ]
           -. Wplz     =   9.3500e-005 m^3.
           -. Mc_Rdz   = Wplz * fy / Gamma_M0 =         31.61 kN-m.
```

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      ( ). Check ratio of moment resistance (M_Edz/Mc_Rdz).
              M_Edz                 1.01
           -. ------  =  ---------------  =  0.032  <  1.000  --->  O.K.
              Mc_Rdz               31.61

=========================================================================================
   [[[*]]]   CHECK INTERACTION OF COMBINED RESISTANCE.
=========================================================================================

      ( ). Calculate Major reduced design resistance of bending and shear.
           [ Eurocode3:05  6.2.8 (6.30) ]
           -. In case of V_Edz / Vpl_Rdz < 0.5
           -. My_Rd = Mc_Rdy =         19.25 kN-m.

      ( ). Calculate Minor reduced design resistance of bending and shear.
           [ Eurocode3:05  6.2.8 (6.30) ]
           -. In case of V_Edy / Vpl_Rdy < 0.5
           -. Mz_Rd = Mc_Rdz =         31.61 kN-m.

      ( ). Check general interaction ratio.
           [ Eurocode3:05  6.2.1 (6.2) ] - Class1 or Class2
                        N_Ed     M_Edy     M_Edz
           -. Rmax1   = ------ + ------- + -------
                        N_Rd     My_Rd     Mz_Rd
                      = 0.632  <  1.000  --->  O.K.

      ( ). Check interaction ratio of bending and axial force member.
           [ Eurocode3:05  6.2.9 (6.31 ~ 6.41) ] - Class1 or Class2
           -. n       = N_Ed / Npl_Rd    =  0.536
           -. a       = MIN[ (Area-2b*tf)/Area, 0.5 ] =  0.500
           -. Alpha   =  2.000
           -. Beta    = MAX[ 5*n, 1.0 ] =  2.680
           -. Mny_Rd = MIN[ Mply_Rd*(1-n)/(1-0.5*a), Mply_Rd ] =        11.91 kN-m.
           -. Rmaxy   = M_Edy / Mny_Rd =  0.103  <  1.000  --->  O.K.

           -. In case of n > a
           -. Mnz_Rd = Mplz_Rd * [ 1 - ((n-a)/(1-a))^2 ] =        31.45 kN-m.
           -. Rmaxz   = M_Edz / Mnz_Rd =  0.032  <  1.000  --->  O.K.

                        [ | M_Edy  |^(Alpha)  | M_Edz  |^(Beta) ]
           -. Rmax2   = [ |--------|      +   |--------|        ]
                        [ | Mny_Rd |          | Mnz_Rd |        ]
                      = 0.011  <  1.000  --->  O.K.

           -. Rmax    = MAX[ Rmax1, Rmax2 ] =  0.632  <  1.000  --->  O.K.
```

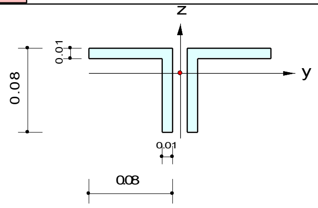
10.2 DIAFRAMMI SU SPALLE E INTERMEDI – TRASVERSI SUPERIORI

MIDAS/Civil **Steel Checking Result**

Company		**Project Title**	CASALPUSTERLENGO
Author	Renato Vaira	**File Name**	D:\...\Asse 80 V_1.mcb

1. Design Information

Design Code : Eurocode3-2:05
Unit System : kN, m
Member No : 1439
Material : S355W (No:1)
(Fy = 355000, Es = 210000000)
Section Name : HSUP_CORR 2L80x10d15 (No:17)
(Built-up Section).
Member Length : 3.20000



2. Member Forces

Axial Force Fxx = -209.74 (LCB: 22-, POS:I)
Bending Moments My = -0.6722, Mz = -0.0637
End Moments Myi = -0.6722, Myj = -0.6672 (for Lb)
Myi = -0.6722, Myj = -0.6672 (for Ly)
Mzi = -0.0637, Mzj = -0.0637 (for Lz)
Shear Forces Fyy = 0.05667 (LCB: 19+, POS:I)
Fzz = 0.93628 (LCB: 19+, POS:J)

Depth	0.08000	Web Thick	0.01000
Flg Width	0.08000	Flg Thick	0.01000
BTB Spacing	0.01500		
Area	0.00300	Asz	0.00133
Qyb	0.00159	Qzb	0.00320
Iyy	0.00000	Izz	0.00000
Ybar	0.08750	Zbar	0.05633
Wely	0.00003	Welz	0.00005
ry	0.02436	rz	0.03955

3. Design Parameters

Unbraced Lengths Ly = 3.20000, Lz = 3.20000, Lb = 3.20000
Effective Length Factors Ky = 0.65, Kz = 0.65
Equivalent Uniform Moment Factors Cmy = 1.00, Cmz = 1.00, CmLT = 1.00

4. Checking Results

Axial Resistance

N_Ed/MIN[Nc_Rd, Nb_Rd] = 209.738/508.054 = 0.413 < 1.000 .... O.K

Bending Resistance

M_Edy/M_Rdy = 0.6722/19.2503 = 0.035 < 1.000 .... O.K
M_Edz/M_Rdz = 0.0637/31.6119 = 0.002 < 1.000 .... O.K

Combined Resistance

RNRd = MAX[M_Edy/Mny_Rd, M_Edz/Mnz_Rd]
Rmax1 = (M_Edy/Mny_Rd)^Alpha + (M_Edz/Mnz_Rd)^Beta
Rcom = N_Ed/(A*fy/Gamma_M0), Rbend = M_Edy/My_Rd + M_Edz/Mz_Rd
Rc_LT1 = N_Ed/(Xiy*A*fy/Gamma_M1)
Rb_LT1 = (kyy*M_Edy)/(Xi_LT*Wply*fy/Gamma_M1) + (kyz*Msdz)/(Wplz*fy/Gamma_M1)
Rc_LT2 = N_Ed/(Xiz*A*fy/Gamma_M1)
Rb_LT2 = (Kzy*M_Edy)/(Xi_LT*Wply*fy/Gamma_M1) + (Kzz*Msdz)/(Wplz*fy/Gamma_M1)
Rmax = MAX[RNRd, Rmax1, (Rcom+Rbend), MAX(Rc_LT1+Rb_LT1, Rc_LT2+Rb_LT2)] = 0.472 < 1.000 .. O.K

Shear Resistance

V_Edy/Vy_Rd = 0.000 < 1.000 .... O.K
V_Edz/Vz_Rd = 0.003 < 1.000 .... O.K

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       +============================================================+
       |  MIDAS(Modeling, Integrated Design & Analysis Software)    |
       |  MIDAS/Civil - Design & checking system for windows        |
       +============================================================+
       |  Steel Member Applicable Code Checking                     |
       |  Based On  AASHTO-LRFD12, AASHTO-LRFD02, AASHTO-LFD96,     |
       |            AASHTO-ASD96, AISC-LRFD2K, AISC-LRFD93,         |
       |            AISC-ASD89, Eurocode3-2:05, BS5950-90,          |
       |            IS:800-2007, IS:800-1984                        |
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       |  MIDAS/Civil  Version 8.3.5                                |
       +============================================================+


    *. DEFINITION OF LOAD COMBINATIONS WITH SCALING UP FACTORS.
  ------------------------------------------------------------------------------------
     LCB   C     Loadcase Name(Factor) + Loadcase Name(Factor) + Loadcase Name(Factor)
  ------------------------------------------------------------------------------------
     19+   1        Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                 +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLU INV(
1.350)
     19-   1        Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                 +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLU INV(
1.350)
     20+   1        Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Vento Strutture INV( 1.500) +Vento Mobili
INV( 1.500)
                 +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLE INV(
1.350)
     20-   1        Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Vento Strutture INV( 1.500) +Vento Mobili
INV( 1.500)
                 +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLE INV(
1.350)
     21+   1        Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Frenamento INV( 1.350) +Termico unif. INV(
0.720)
                 +Termico diff. INV( 0.720) +Mobili SLE INV( 1.350)
     21-   1        Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Frenamento INV( 1.350) +Termico unif. INV(
0.720)
                 +Termico diff. INV( 0.720) +Mobili SLE INV( 1.350)
     22+   1        Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
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                 +Termico unif. INV( 1.200) +Termico diff. INV( 1.200) +Mobili SLE INV(
1.350)
     22-  1         Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                 +Termico unif. INV( 1.200) +Termico diff. INV( 1.200) +Mobili SLE INV(
1.350)
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     23+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 1.000) + SLV Trasv INV( 0.300) +  SLV Vert INV( 0.300)
     23-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 1.000) + SLV Trasv INV( 0.300) +  SLV Vert INV( 0.300)
     24+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 0.300) + SLV Trasv INV( 1.000) +  SLV Vert INV( 0.300)
     24-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 0.300) + SLV Trasv INV( 1.000) +  SLV Vert INV( 0.300)
     25+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 0.300) + SLV Trasv INV( 0.300) +  SLV Vert INV( 1.000)
     25-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 0.300) + SLV Trasv INV( 0.300) +  SLV Vert INV( 1.000)
     28+   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                 +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLU INV(
1.000)
     28-   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                 +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLU INV(
1.000)
     29+   2        Summation( 1.000) +Vento Strutture INV( 1.000) +Vento Mobili INV(
1.000)
                 +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLE INV(
1.000)
     29-   2        Summation( 1.000) +Vento Strutture INV( 1.000) +Vento Mobili INV(
1.000)
                 +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLE INV(
1.000)
     30+   2        Summation( 1.000) +Frenamento INV( 1.000) +Termico unif. INV( 0.600)
                 +Termico diff. INV( 0.600) +Mobili SLE INV( 1.000)
     30-   2        Summation( 1.000) +Frenamento INV( 1.000) +Termico unif. INV( 0.600)
                 +Termico diff. INV( 0.600) +Mobili SLE INV( 1.000)
     31+   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                 +Termico unif. INV( 1.000) +Termico diff. INV( 1.000) +Mobili SLE INV(
1.000)
     31-   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                 +Termico unif. INV( 1.000) +Termico diff. INV( 1.000) +Mobili SLE INV(
1.000)
     32+   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +Mobili SLE INV( 1.000)
     32-   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +Mobili SLE INV( 1.000)
     33+   2        Summation( 1.000) +Vento Strutture INV( 0.200) +Vento Mobili INV(
0.200)
                 +Termico unif. INV( 0.500) +Termico diff. INV( 0.500)
     33-   2        Summation( 1.000) +Vento Strutture INV( 0.200) +Vento Mobili INV(
0.200)
                 +Termico unif. INV( 0.500) +Termico diff. INV( 0.500)
     34+   2        Summation( 1.000) +Termico unif. INV( 0.600) +Termico diff. INV(
0.600)
     34-   2        Summation( 1.000) +Termico unif. INV( 0.600) +Termico diff. INV(
0.600)
```

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     35+   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
     35-   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
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      *. PROJECT     : CASALPUSTERLENGO
      *. MEMBER NO   =    1439,  ELEMENT TYPE = Beam
      *. LOADCOMB NO =     22-,  MATERIAL NO  =     1,  SECTION NO =    17
      *. UNIT SYSTEM : kN, m

      *. SECTION PROPERTIES : Designation = HSUP_CORR 2L80x10d15
         Shape      = 2L - Section. (Built-up)
         Depth      =      0.080,  Flg Width    =      0.080,  BTB Spacing =      0.015
         Web Thick =      0.010,  Flg Thick    =      0.010

         Area = 3.00000e-003,  Avy  = 1.60000e-003,  Avz  = 1.60000e-003
         Ybar = 8.75000e-002,  Zbar = 5.63333e-002,  Qyb  = 1.58672e-003,  Qzb  =
3.20000e-003
         Wely = 3.15917e-005,  Welz = 5.36429e-005,  Wply = 5.69375e-005,  Wplz =
9.35000e-005
         Iyy  = 1.77967e-006,  Izz  = 4.69375e-006,  Iyz  = 0.00000e+000
         iy   = 2.43562e-002,  iz   = 3.95548e-002
         J    = 1.00000e-007,  Cwp  = 4.24931e-011

      *. DESIGN PARAMETERS FOR STRENGTH EVALUATION :
         Ly   = 3.20000e+000,  Lz   = 3.20000e+000,  Lu   = 3.20000e+000
         Ky   = 6.50000e-001,  Kz   = 6.50000e-001

      *. MATERIAL PROPERTIES :
         Fy   = 3.55000e+005,  Es   = 2.10000e+008,  MATERIAL NAME  = S355W


      *. FORCES AND MOMENTS AT (I) POINT :
         Axial Force       Fxx =-2.09738e+002
         Shear Forces      Fyy =-3.87634e-002,  Fzz =-8.14924e-001
         Bending Moments   My  =-6.72164e-001,  Mz  =-6.37363e-002
         End Moments       Myi =-6.72164e-001,  Myj =-6.67178e-001  (for Lb)
                           Myi =-6.72164e-001,  Myj =-6.67178e-001  (for Ly)
                           Mzi =-6.37363e-002,  Mzj =-6.37202e-002  (for Lz)

      *. Sign conventions for stress and axial force.
         - Stress : Compression positive.
         - Axial force: Tension positive.


=======================================================================================
   [[[*]]]   CLASSIFY LEFT FLANGE OF SECTION (BTR).
=======================================================================================

      ( ). Determine classification of compression flanges(Double angle).
           [ Eurocode3:05 Table 5.2 (Sheet 3 of 3), EN 1993-1-5 ]
           -. e       = SQRT( 235/fy )   =    0.81
           -. b/t     = BTR =     7.00
           -. sigma1 =    62162.105 KPa.
           -. sigma2 =    61075.786 KPa.
           -. BTR < 9*e   ( Class 1 : Plastic ).
```

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===================================================================================
   [[[*]]]   CLASSIFY RIGHT FLANGE OF SECTION (BTR).
===================================================================================

      ( ). Determine classification of compression flanges(Double angle).
           [ Eurocode3:05 Table 5.2 (Sheet 3 of 3), EN 1993-1-5 ]
           -. e       = SQRT( 235/fy )  =    0.81
           -. b/t     = BTR =     7.00
           -. sigma1 =   60872.102 KPa.
           -. sigma2 =   59785.783 KPa.
           -. BTR < 9*e  ( Class 1 : Plastic ).

===================================================================================
   [[[*]]]   CLASSIFY WEB OF SECTION (HTR).
===================================================================================

      ( ). Determine classification of compression element(Double angles).
           [ Eurocode3:05 Table 5.2 (Sheet 3 of 3), EN 1993-1-5 ]
           -. e       = SQRT( 235/fy )  =    0.81
           -. d/t     = HTR =     8.00
           -. sigma1 =   91426.864 KPa.
           -. sigma2 =   64988.487 KPa.
           -. HTR < 10*e   ( Class 2 : Compact ).

===================================================================================
   [[[*]]]   APPLIED FACTORS.
===================================================================================

      ( ). Calculate equivalent uniform moment factors (Cmy,Cmz,CmLT).
           [ Eurocode3:05 Annex A. Table A.1, A.2 ]
           -. Cmy,0     = 0.754
           -. Cmz,0     = 0.907
           -. Cmy (Default or User Defined Value) = 1.000
           -. Cmz (Default or User Defined Value) = 1.000
           -. CmLT (Default or User Defined Value) = 1.000

      ( ). Partial Factors (Gamma_Mi).
           [ Eurocode3:05 6.1 ]
           -. Gamma_M0 =  1.05
           -. Gamma_M1 =  1.10
           -. Gamma_M2 =  1.25

===================================================================================
   [[[*]]]   CHECK AXIAL RESISTANCE.
===================================================================================

      ( ). Check slenderness ratio of axial compression member (Kl/i).
           [ Eurocode3:05   6.3.1 ]
           -. Kl/i   =    85.4  <   200.0   ---> O.K.
```

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      ( ). Calculate axial compressive resistance (Nc_Rd).
           [ Eurocode3:05  6.1, 6.2.4 ]
           -. Nc_Rd    = fy * Area / Gamma_M0 =       1014.29 kN.

      ( ). Check ratio of axial resistance (N_Ed/Nc_Rd).
               N_Ed             209.74
           -. -----  =  ---------------  =  0.207  <  1.000  ---> O.K.
              Nc_Rd            1014.29

      ( ). Calculate buckling resistance of compression member (Nb_Rdy, Nb_Rdz).
           [ Eurocode3:05  6.3.1.1, 6.3.1.2 ]
           -. Beta_A     = Aeff / Area      =   1.000
           -. Lambda1    = Pi * SQRT(Es/fy) =  76.409
           -. Lambda_by = {(KLy/iy)/Lambda1} * SQRT(Beta_A) =   1.118
           -. Ncry       = Pi^2*Es*Ryy / KLy^2                =        852.57 kN.
           -. Lambda_by > 0.2 and N_Ed/Ncry > 0.04 --> Need to check.
           -. Alphay     =   0.340
           -. Phiy       = 0.5 * [ 1 + Alphay*(Lambda_by-0.2) + Lambda_by^2 ]   =   1.281
           -. Xiy        = MIN [ 1 / [Phiy + SQRT(Phiy^2 - Lambda_by^2)], 1.0 ] =   0.525
           -. Nb_Rdy     = Xiy*Beta_A*Area*fy / Gamma_M1 =        508.05 kN.

           -. Lambda_bz = {(KLz/iz)/Lambda1} * SQRT(Beta_A) =   0.688
           -. Ncrz       = Pi^2*Es*Rzz / KLz^2                =       2248.60 kN.
           -. Lambda_bz > 0.2 and N_Ed/Ncrz > 0.04 --> Need to check.
           -. Alphaz     =   0.340
           -. Phiz       = 0.5 * [ 1 + Alphaz*(Lambda_bz-0.2) + Lambda_bz^2 ]   =   0.820
           -. Xiz        = MIN [ 1 / [Phiz + SQRT(Phiz^2 - Lambda_bz^2)], 1.0 ] =   0.790
           -. Nb_Rdz     = Xiz*Beta_A*Area*fy / Gamma_M1 =        765.18 kN.

      ( ). Check ratio of buckling resistance (N_Ed/Nb_Rd).
           -. Nb_Rd   = MIN[ Nb_Rdy, Nb_Rdz ] =       508.05 kN.
               N_Ed             209.74
           -. -----  =  ---------------  =  0.413  <  1.000  ---> O.K.
              Nb_Rd             508.05

=========================================================================================
   [[[*]]]   CHECK SHEAR RESISTANCE.
=========================================================================================

      ( ). Calculate shear area.
           [ Eurocode3:05  6.2.6, EN1993-1-5:04 5.1 NOTE 2 ]
           -. Avy    = 2*B*tf =        0.0016 m^2.
           -. Avz    = 2*h*tw =        0.0016 m^2.

      ( ). Calculate plastic shear resistance in local-y direction (Vpl_Rdy).
           [ Eurocode3:05  6.1, 6.2.6 ]
           -. Vpl_Rdy = [ Avy*fy/SQRT(3) ] / Gamma_M0 =        312.32 kN.
```

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      ( ). Check ratio of shear resistance (V_Edy/Vpl_Rdy).
           ( LCB =  19-, POS =    J )
           -. Applied shear force : V_Edy   =          0.06 kN.
               V_Edy                 0.06
           -. -------  =  ---------------  =1.814e-004  <  1.000  ---> O.K.
              Vpl_Rdy              312.32

      ( ). Calculate plastic shear resistance in local-z direction (Vpl_Rdz).
           [ Eurocode3:05  6.1, 6.2.6 ]
           -. Vpl_Rdz = [ Avz*fy/SQRT(3) ] / Gamma_M0 =        312.32 kN.

      ( ). Shear Buckling Check.
           [ Eurocode3:05 6.2.6 ]
           -. HTR < 72*e/Eta   --->  No need to check!

      ( ). Check ratio of shear resistance (V_Edz/Vpl_Rdz).
           ( LCB =  19+, POS =    J )
           -. Applied shear force : V_Edz   =          0.94 kN.
               V_Edz                 0.94
           -. -------  =  ---------------  =  0.003  <  1.000  ---> O.K.
              Vpl_Rdz              312.32

=====================================================================================
   [[[*]]]   CHECK BENDING MOMENT RESISTANCE ABOUT MAJOR AXIS.
=====================================================================================

      ( ). Calculate plastic resistance moment about major axis.
           [ Eurocode3:05  6.1, 6.2.5 ]
           -. Wply     =   5.6938e-005 m^3.
           -. Mc_Rdy   = Wply * fy / Gamma_M0 =         19.25 kN-m.

      ( ). Check ratio of moment resistance (M_Edy/Mc_Rdy).
               M_Edy                 0.67
           -. ------  =  ---------------  =  0.035  <  1.000  ---> O.K.
              Mc_Rdy                19.25

=====================================================================================
   [[[*]]]   CHECK BENDING MOMENT RESISTANCE ABOUT MINOR AXIS.
=====================================================================================

      ( ). Calculate plastic resistance moment about minor axis.
           [ Eurocode3:05  6.1, 6.2.5 ]
           -. Wplz     =   9.3500e-005 m^3.
           -. Mc_Rdz   = Wplz * fy / Gamma_M0 =         31.61 kN-m.

      ( ). Check ratio of moment resistance (M_Edz/Mc_Rdz).
              M_Edz                  0.06
           -. ------  =  ---------------  =  0.002  <  1.000  ---> O.K.
              Mc_Rdz                31.61
```

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==============================================================================
   [[[*]]]   CHECK INTERACTION OF COMBINED RESISTANCE.
==============================================================================

      ( ). Calculate Major reduced design resistance of bending and shear.
           [ Eurocode3:05  6.2.8 (6.30) ]
           -. In case of V_Edz / Vpl_Rdz < 0.5
           -. My_Rd = Mc_Rdy =         19.25 kN-m.

      ( ). Calculate Minor reduced design resistance of bending and shear.
           [ Eurocode3:05  6.2.8 (6.30) ]
           -. In case of V_Edy / Vpl_Rdy < 0.5
           -. Mz_Rd = Mc_Rdz =         31.61 kN-m.

      ( ). Check general interaction ratio.
           [ Eurocode3:05  6.2.1 (6.2) ] - Class1 or Class2
                        N_Ed      M_Edy      M_Edz
           -. Rmax1   = ------ + ------- + -------
                        N_Rd      My_Rd      Mz_Rd
                     =  0.244  <  1.000   --->  O.K.

      ( ). Check interaction ratio of bending and axial force member.
           [ Eurocode3:05  6.2.9 (6.31 ~ 6.41) ] - Class1 or Class2
           -. n       = N_Ed / Npl_Rd    =  0.207
           -. a       = MIN[ (Area-2b*tf)/Area, 0.5 ] =  0.500
           -. Alpha   =  2.000
           -. Beta    = MAX[ 5*n, 1.0 ] =  1.034
           -. Mny_Rd = MIN[ Mply_Rd*(1-n)/(1-0.5*a), Mply_Rd ] =        19.25 kN-m.
           -. Rmaxy   = M_Edy / Mny_Rd =  0.035  <  1.000  --->  O.K.

           -. In case of n < a
           -. Mnz_Rd = Mplz_Rd =          31.61 kN-m.
           -. Rmaxz   = M_Edz / Mnz_Rd =  0.002  <  1.000  --->  O.K.

                        [  | M_Edy   |^(Alpha)   | M_Edz   |^(Beta)  ]
           -. Rmax2   = [  |--------|      +    |--------|          ]
                        [  | Mny_Rd |            | Mnz_Rd |          ]
                     =  0.003  <  1.000   --->  O.K.
```

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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                        Version 8.3.5
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      ( ). Check interaction ratio of bending and axial compression member.
           [ Eurocode3:05  6.3.1, 6.2.9.3 (6.61, 6.62), Annex A ]
           -. N_Ed      =       -209.74 kN.
           -. M_Edy     =         -0.67 kN-m.
           -. M_Edz     =         -0.06 kN-m.
           -. kyy       =   1.217
           -. kyz       =   0.598
           -. kzy       =   0.805
           -. kzz       =   1.214
           -. Xiy       =   0.525
           -. Xiz       =   0.790
           -. XiLT      =   0.772
           -. N_Rk      = A*fy     =       1065.00 kN.
           -. My_Rk     = Wply*fy =          20.21 kN-m.
           -. Mz_Rk     = Wplz*fy =          33.19 kN-m.
           -. N_Ed*eNy = 0.0 (Not Slender)
           -. N_Ed*eNZ = 0.0 (Not Slender)
                               N_Ed                    M_Edy + N_Ed*eNy           M_Edz +
N_Ed*eNz
           -. Rmax_LT1 = ----------------- + kyy * ------------------- + kyz * ----------
------
                         Xiy*N_Rk/Gamma_M1         XiLT*My_Rk/Gamma_M1
Mz_Rk/Gamma_M1
                       =  0.472  <  1.000  --->  O.K.
                               N_Ed                    M_Edy + N_Ed*eNy           M_Edz +
N_Ed*eNz
           -. Rmax_LT2 = ----------------- + kzy * ------------------- + kzz * ----------
------
                         Xiz*N_Rk/Gamma_M1         XiLT*My_Rk/Gamma_M1
Mz_Rk/Gamma_M1
                       =  0.315  <  1.000  --->  O.K.

           -. Rmax    = MAX[ MAX(Rmax1, Rmax2), MAX(Rmax_LT1, Rmax_LT2) ] =  0.472  <
1.000  --->  O.K.
```

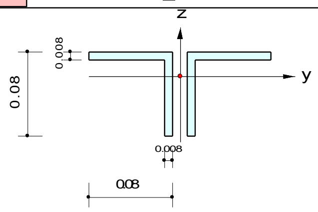
10.3 DIAFRAMMI SU SPALLE E INTERMEDI – DIAGONALI

MIDAS/Civil **Steel Checking Result**

Company		**Project Title**	CASALPUSTERLENGO
Author	Renato Vaira	**File Name**	D:\...\Asse 80 V_1.mcb

1. Design Information

Design Code : Eurocode3-2:05
Unit System : kN, m
Member No : 1422
Material : S355W (No:1)
(Fy = 355000, Es = 210000000)
Section Name : DIAG_CORR 2L80x8d15 (No:64)
(Built-up Section).
Member Length : 1.70880



2. Member Forces

Axial Force Fxx = -149.58 (LCB: 19-, POS:I)
Bending Moments My = -2.0074, Mz = -0.4795
End Moments Myi = -2.0074, Myj = -0.7248 (for Lb)
Myi = -2.0074, Myj = -0.7248 (for Ly)
Mzi = -0.4795, Mzj = -0.2886 (for Lz)
Shear Forces Fyy = -0.1119 (LCB: 19-, POS:I)
Fzz = -2.0999 (LCB: 19-, POS:J)

Depth	0.08000	Web Thick	0.00800
Flg Width	0.08000	Flg Thick	0.00800
BTB Spacing	0.01500		
Area	0.00243	Asz	0.00107
Qyb	0.00163	Qzb	0.00320
Iyy	0.00000	Izz	0.00000
Ybar	0.08750	Zbar	0.05705
Wely	0.00003	Welz	0.00004
ry	0.02462	rz	0.03916

3. Design Parameters

Unbraced Lengths Ly = 1.70880, Lz = 1.70880, Lb = 1.70880
Effective Length Factors Ky = 0.65, Kz = 1.30
Equivalent Uniform Moment Factors Cmy = 1.00, Cmz = 1.00, CmLT = 1.00

4. Checking Results

Axial Resistance
N_Ed/MIN[Nc_Rd, Nb_Rd] = 149.581/595.881 = 0.251 < 1.000 .... O.K

Bending Resistance
M_Edy/M_Rdy = 2.00740/8.34129 = 0.241 < 1.000 .... O.K
M_Edz/M_Rdz = 0.4795/11.6551 = 0.041 < 1.000 .... O.K

Combined Resistance
Rcom = N_Ed/(Aeff*fy/Gamma_M0), Rbend = (M_Edy+N_Ed*eNy)/My_Rd + (M_Edz+N_Ed*eNz)/Mz_Rd
Rc_LT1 = N_Ed/(Xiy*Aeff*fy/Gamma_M1)
Rb_LT1 = kyy*(M_Edy+N_Ed*eNy)/(Xi_LT*Weffy*fy/Gamma_M1) + kyz*(M_Edz+N_Ed*eNz)/(Weffz*fy/Gamma_M1)
Rc_LT2 = N_Ed/(Xiz*Aeff*fy/Gamma_M1)
Rb_LT2 = kzy*(M_Edzy+N_Ed*eNy)/(Xi_LT*Weffy*fy/Gamma_M1) + kzz*(M_Edz+N_Ed*eNz)/(Weffz*fy/Gamma_M1)
Rmax = MAX[Rcom+Rbend, MAX(Rc_LT1+Rb_LT1, Rc_LT2+Rb_LT2)] = 0.565 < 1.000 .... O.K

Shear Resistance
V_Edy/Vy_Rd = 0.000 < 1.000 .... O.K
V_Edz/Vz_Rd = 0.008 < 1.000 .... O.K

Modeling, Integrated Design & Analysis Software
http://www.MidasUser.com
MIDAS/Civil V 8.3.5
Print Date/Time : 01/15/2018 20:17

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       +=============================================================+
       |  MIDAS(Modeling, Integrated Design & Analysis Software)     |
       |  MIDAS/Civil - Design & checking system for windows         |
       +=============================================================+
       |  Steel Member Applicable Code Checking                      |
       |  Based On  AASHTO-LRFD12, AASHTO-LRFD02, AASHTO-LFD96,      |
       |            AASHTO-ASD96, AISC-LRFD2K, AISC-LRFD93,          |
       |            AISC-ASD89, Eurocode3-2:05, BS5950-90,           |
       |            IS:800-2007, IS:800-1984                         |
       |                                                             |
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       |                                                             |
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       |  MIDAS IT Design Development Team                           |
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       |            HomePage : www.MidasUser.com                     |
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       |  MIDAS/Civil  Version 8.3.5                                 |
       +=============================================================+


    *. DEFINITION OF LOAD COMBINATIONS WITH SCALING UP FACTORS.
-----------------------------------------------------------------------------------
     LCB  C    Loadcase Name(Factor) + Loadcase Name(Factor) + Loadcase Name(Factor)
-----------------------------------------------------------------------------------
     19+  1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLU INV(
1.350)
     19-  1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLU INV(
1.350)
     20+  1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 1.500) +Vento Mobili
INV( 1.500)
                +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLE INV(
1.350)
     20-  1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 1.500) +Vento Mobili
INV( 1.500)
                +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLE INV(
1.350)
     21+  1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Frenamento INV( 1.350) +Termico unif. INV(
0.720)
                +Termico diff. INV( 0.720) +Mobili SLE INV( 1.350)
     21-  1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Frenamento INV( 1.350) +Termico unif. INV(
0.720)
                +Termico diff. INV( 0.720) +Mobili SLE INV( 1.350)
     22+  1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
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                +Termico unif. INV( 1.200) +Termico diff. INV( 1.200) +Mobili SLE INV(
1.350)
     22-  1        Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                +Termico unif. INV( 1.200) +Termico diff. INV( 1.200) +Mobili SLE INV(
1.350)
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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                        Version 8.3.5
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     23+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 1.000) + SLV Trasv INV( 0.300) +  SLV Vert INV( 0.300)
     23-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 1.000) + SLV Trasv INV( 0.300) +  SLV Vert INV( 0.300)
     24+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 0.300) + SLV Trasv INV( 1.000) +  SLV Vert INV( 0.300)
     24-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 0.300) + SLV Trasv INV( 1.000) +  SLV Vert INV( 0.300)
     25+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 0.300) + SLV Trasv INV( 0.300) +  SLV Vert INV( 1.000)
     25-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 0.300) + SLV Trasv INV( 0.300) +  SLV Vert INV( 1.000)
     28+   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                 +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLU INV(
1.000)
     28-   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                 +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLU INV(
1.000)
     29+   2        Summation( 1.000) +Vento Strutture INV( 1.000) +Vento Mobili INV(
1.000)
                 +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLE INV(
1.000)
     29-   2        Summation( 1.000) +Vento Strutture INV( 1.000) +Vento Mobili INV(
1.000)
                 +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLE INV(
1.000)
     30+   2        Summation( 1.000) +Frenamento INV( 1.000) +Termico unif. INV( 0.600)
                 +Termico diff. INV( 0.600) +Mobili SLE INV( 1.000)
     30-   2        Summation( 1.000) +Frenamento INV( 1.000) +Termico unif. INV( 0.600)
                 +Termico diff. INV( 0.600) +Mobili SLE INV( 1.000)
     31+   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                 +Termico unif. INV( 1.000) +Termico diff. INV( 1.000) +Mobili SLE INV(
1.000)
     31-   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                 +Termico unif. INV( 1.000) +Termico diff. INV( 1.000) +Mobili SLE INV(
1.000)
     32+   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +Mobili SLE INV( 1.000)
     32-   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +Mobili SLE INV( 1.000)
     33+   2        Summation( 1.000) +Vento Strutture INV( 0.200) +Vento Mobili INV(
0.200)
                 +Termico unif. INV( 0.500) +Termico diff. INV( 0.500)
     33-   2        Summation( 1.000) +Vento Strutture INV( 0.200) +Vento Mobili INV(
0.200)
                 +Termico unif. INV( 0.500) +Termico diff. INV( 0.500)
     34+   2        Summation( 1.000) +Termico unif. INV( 0.600) +Termico diff. INV(
0.600)
     34-   2        Summation( 1.000) +Termico unif. INV( 0.600) +Termico diff. INV(
0.600)
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```
     35+   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
     35-   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                          Version 8.3.5
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      *. PROJECT      : CASALPUSTERLENGO
      *. MEMBER NO    =    1422,  ELEMENT TYPE = Beam
      *. LOADCOMB NO =     19-,  MATERIAL NO  =      1,  SECTION NO =     64
      *. UNIT SYSTEM : kN, m

      *. SECTION PROPERTIES : Designation = DIAG_CORR 2L80x8d15
         Shape      = 2L - Section. (Built-up)
         Depth      =       0.080,  Flg Width    =       0.080,  BTB Spacing =       0.015
         Web Thick =       0.008,  Flg Thick    =       0.008

         Area = 2.43200e-003,  Avy  = 1.28000e-003,  Avz  = 1.28000e-003
         Ybar = 8.75000e-002,  Zbar = 5.70526e-002,  Qyb  = 1.62750e-003,  Qzb  =
3.20000e-003
         Wely = 2.58462e-005,  Welz = 4.26190e-005,  Wply = 4.65664e-005,  Wplz =
7.40480e-005
         Iyy  = 1.47460e-006,  Izz  = 3.72916e-006,  Iyz  = 0.00000e+000
         iy   = 2.46238e-002,  iz   = 3.91583e-002
         J    = 5.18827e-008,  Cwp  = 2.31033e-011

      *. DESIGN PARAMETERS FOR STRENGTH EVALUATION :
         Ly   = 1.70880e+000,  Lz   = 1.70880e+000,  Lu   = 1.70880e+000
         Ky   = 6.50000e-001,  Kz   = 1.30000e+000

      *. MATERIAL PROPERTIES :
         Fy   = 3.55000e+005,  Es   = 2.10000e+008,  MATERIAL NAME  = S355W


      *. FORCES AND MOMENTS AT (I) POINT :
         Axial Force       Fxx =-1.49581e+002
         Shear Forces      Fyy =-1.11881e-001,  Fzz =-1.63483e+000
         Bending Moments   My  =-2.00740e+000,  Mz  =-4.79512e-001
         End Moments       Myi =-2.00740e+000,  Myj =-7.24751e-001  (for Lb)
                           Myi =-2.00740e+000,  Myj =-7.24751e-001  (for Ly)
                           Mzi =-4.79512e-001,  Mzj =-2.88619e-001  (for Lz)

      *. Sign conventions for stress and axial force.
         - Stress : Compression positive.
         - Axial force: Tension positive.


=========================================================================================
   [[[*]]]   CLASSIFY LEFT FLANGE OF SECTION (BTR).
=========================================================================================

      ( ). Determine classification of compression flanges(Double angle).
           [ Eurocode3:05 Table 5.2 (Sheet 3 of 3), EN 1993-1-5 ]
           -. e       = SQRT( 235/fy )   =    0.81
           -. b/t     = BTR =     9.00
           -. sigma1 =    41517.900 KPa.
           -. sigma2 =    31231.144 KPa.
           -. BTR_L = (H+B) / (2*tf) =    10.00
           -. BTR > 15*e or BTR_L > 11.5*e   ( Class 4 : Slender ).
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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                     Version 8.3.5
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=====================================================================================
   [[[*]]]   CLASSIFY RIGHT FLANGE OF SECTION (BTR).
=====================================================================================

      ( ). Determine classification of compression flanges(Double angle).
           [ Eurocode3:05 Table 5.2 (Sheet 3 of 3), EN 1993-1-5 ]
           -. e       = SQRT( 235/fy )   =    0.81
           -. b/t     = BTR =     9.00
           -. sigma1 =    29302.377 KPa.
           -. sigma2 =    19015.622 KPa.
           -. BTR_L = (H+B) / (2*tf) =    10.00
           -. BTR > 15*e or BTR_L > 11.5*e   ( Class 4 : Slender ).

=====================================================================================
   [[[*]]]   CLASSIFY WEB OF SECTION (HTR).
=====================================================================================

      ( ). Determine classification of compression element(Double angles).
           [ Eurocode3:05 Table 5.2 (Sheet 3 of 3), EN 1993-1-5 ]
           -. e       = SQRT( 235/fy )   =    0.81
           -. d/t     = HTR =    10.00
           -. sigma1 =   141165.378 KPa.
           -. sigma2 =    43150.375 KPa.
           -. HTR_L = (h+B) / (2*tw) =    10.00
           -. HTR > 15*e or HTR_L > 11.5*e   ( Class 4 : Slender ).

=====================================================================================
   [[[*]]]   CALCULATE EFFECTIVE AREA.
=====================================================================================

      ( ). Calculate buckling factor of outstand compression element.
           [ Eurocode3 Part 1-5 4.4, Table 4.2 ]
           -. In case of Psi   =  1.0
           -. k_sigma =  0.4300

      ( ). Calculate effective cross-section properties of left flange flange of Class 4
(Outstand element).
           [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
           -. RatT      =  9.0000
           -. Lambda_p = RatT / [ 28.4*Eps*SQRT(k_sigma) ] =  0.5940
           -. Rho      = 1.0
           -. sigma_max = MAX( sigma1, sigma2 ) =    61505.460 KPa.
           -. sigma_min = MIN( sigma1, sigma2 ) =    61505.460 KPa.
           -. r     =        0.000 m.
           -. bc    =        0.080 m.
           -. beff = Rho*bc + r =        0.080 m.
           -. Aeff = beff * tf  =  6.400e-004 m^2.
           -. yeff = beff/2     =        0.040 m.

      ( ). Calculate buckling factor of outstand compression element.
           [ Eurocode3 Part 1-5 4.4, Table 4.2 ]
```

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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                       Version 8.3.5
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           -. In case of Psi  =  1.0
           -. k_sigma =  0.4300

      ( ). Calculate effective cross-section properties of right flange flange of Class 4
(Outstand element).
           [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
           -. RatT      =  9.0000
           -. Lambda_p = RatT / [ 28.4*Eps*SQRT(k_sigma) ] =  0.5940
           -. Rho      = 1.0
           -. sigma_max = MAX( sigma1, sigma2 ) =   61505.460 KPa.
           -. sigma_min = MIN( sigma1, sigma2 ) =   61505.460 KPa.
           -. r     =        0.000 m.
           -. bc    =        0.080 m.
           -. beff = Rho*bc + r =        0.080 m.
           -. Aeff = beff * tf  =  6.400e-004 m^2.
           -. yeff = beff/2     =        0.040 m.

      ( ). Calculate buckling factor of outstand compression element.
           [ Eurocode3 Part 1-5 4.4, Table 4.2 ]
           -. In case of Psi  =  1.0
           -. k_sigma =  0.4300

      ( ). Calculate effective cross-section properties of left web of Class 4 (Internal
element).
           [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
           -. RatT      = 10.0000
           -. Lambda_p = RatT / [ 28.4*Eps*SQRT(k_sigma) ] =  0.6600
           -. Rho      = 1.0
           -. sigma_max = MAX( sigma1, sigma2 ) =   61505.460 KPa.
           -. sigma_min = MIN( sigma1, sigma2 ) =   61505.460 KPa.
           -. r      =        0.000 m.
           -. Ar     =        0.000 m^2.
           -. dc     =        0.072 m.
           -. deff1 = 2*(Rho*dc) / [ 5 - sigma_min/sigma_max ] + r =       0.036 m.
           -. Aeff1 = deff1 * tw + 2*Ar       =  2.880e-004 m^2.
           -. zeff1 = deff1/2 + tf            =       0.018 m.
           -. deff2 = (Rho*dc) - deff1 + r    =       0.036 m.
           -. Aeff2 = deff2 * tw + 2*Ar       =  2.880e-004 m^2.
           -. zeff2 = (h+2*r) - deff2/2 + tf =       0.054 m.

      ( ). Calculate buckling factor of outstand compression element.
           [ Eurocode3 Part 1-5 4.4, Table 4.2 ]
           -. In case of Psi  =  1.0
           -. k_sigma =  0.4300

      ( ). Calculate effective cross-section properties of right web of Class 4 (Internal
element).
           [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
           -. RatT      = 10.0000
           -. Lambda_p = RatT / [ 28.4*Eps*SQRT(k_sigma) ] =  0.6600
           -. Rho      = 1.0
```

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--------------------------------------------------------------------------------------------
-
 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                       Version 8.3.5
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=

            -. sigma_max = MAX( sigma1, sigma2 ) =   61505.460 KPa.
            -. sigma_min = MIN( sigma1, sigma2 ) =   61505.460 KPa.
            -. r      =        0.000 m.
            -. Ar     =        0.000 m^2.
            -. dc     =        0.072 m.
            -. deff1 = 2*(Rho*dc) / [ 5 - sigma_min/sigma_max ] + r =       0.036 m.
            -. Aeff1 = deff1 * tw + 2*Ar       =  2.880e-004 m^2.
            -. zeff1 = deff1/2 + tf            =       0.018 m.
            -. deff2 = (Rho*dc) - deff1 + r    =       0.036 m.
            -. Aeff2 = deff2 * tw + 2*Ar       =  2.880e-004 m^2.
            -. zeff2 = (h+2*r) - deff2/2 + tf =       0.054 m.

=========================================================================================
   [[[*]]]   CALCULATE EFFECTIVE SECTION MODULUS ABOUT MAJOR AXIS.
=========================================================================================

      ( ). Calculate effective cross-section properties of left flange flange of Class 4
(Outstand element).
            [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
            -. Rho        = 1.0  (Only tensile stresses).
            -. sigma_max = MAX( sigma1, sigma2 ) =  -31238.700 KPa.
            -. sigma_min = MIN( sigma1, sigma2 ) =  -31238.700 KPa.
            -. r     =        0.000 m.
            -. bc    =        0.080 m.
            -. beff = Rho*bc + r =        0.080 m.
            -. Aeff = beff * tf   =  6.400e-004 m^2.
            -. yeff = beff/2      =        0.040 m.

      ( ). Calculate effective cross-section properties of right flange flange of Class 4
(Outstand element).
            [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
            -. Rho        = 1.0  (Only tensile stresses).
            -. sigma_max = MAX( sigma1, sigma2 ) =  -31238.700 KPa.
            -. sigma_min = MIN( sigma1, sigma2 ) =  -31238.700 KPa.
            -. r     =        0.000 m.
            -. bc    =        0.080 m.
            -. beff = Rho*bc + r =        0.080 m.
            -. Aeff = beff * tf   =  6.400e-004 m^2.
            -. yeff = beff/2      =        0.040 m.

      ( ). Calculate buckling factor of outstand compression element.
            [ Eurocode3 Part 1-5 4.4, Table 4.2 ]
            -. k_sigma = 0.57 - 0.21*Psi + 0.07*Psi^2 =  0.6298

      ( ). Calculate effective cross-section properties of left web of Class 4 (Internal
element).
            [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
            -. RatT       = 10.0000
            -. Lambda_p = RatT / [ 28.4*Eps*SQRT(k_sigma) ] =  0.5453
            -. Rho        = 1.0
```

```
--------------------------------------------------------------------------------
-
 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                 Version 8.3.5
================================================================================
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          -. sigma_max = MAX( sigma1, sigma2 ) =   77666.859 KPa.
          -. sigma_min = MIN( sigma1, sigma2 ) =  -20348.144 KPa.
          -. r     =       0.000 m.
          -. Ar    =       0.000 m^2.
          -. dc    = (h*sigma_max) / (sigma_max-sigma_min)  =       0.057 m.
          -. deff1 = 0.4*Rho*dc + r           =       0.023 m.
          -. Aeff1 = deff1 * tw + 2*Ar        =  1.826e-004 m^2.
          -. zeff1 = deff1/2 + tf             =       0.011 m.
          -. deff2 = 0.6*Rho*dc + (h-dc) + r =       0.049 m.
          -. Aeff2 = deff2 * tw + 2*Ar        =  3.934e-004 m^2.
          -. zeff2 = (h+2*r) - deff2/2 + tf  =       0.047 m.

      ( ). Calculate buckling factor of outstand compression element.
          [ Eurocode3 Part 1-5 4.4, Table 4.2 ]
          -. k_sigma = 0.57 - 0.21*Psi + 0.07*Psi^2 =  0.6298

      ( ). Calculate effective cross-section properties of right web of Class 4 (Internal
element).
          [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
          -. RatT     = 10.0000
          -. Lambda_p = RatT / [ 28.4*Eps*SQRT(k_sigma) ] =  0.5453
          -. Rho      = 1.0
          -. sigma_max = MAX( sigma1, sigma2 ) =   77666.859 KPa.
          -. sigma_min = MIN( sigma1, sigma2 ) =  -20348.144 KPa.
          -. r     =       0.000 m.
          -. Ar    =       0.000 m^2.
          -. dc    = (h*sigma_max) / (sigma_max-sigma_min)  =       0.057 m.
          -. deff1 = 0.4*Rho*dc + r           =       0.023 m.
          -. Aeff1 = deff1 * tw + 2*Ar        =  1.826e-004 m^2.
          -. zeff1 = deff1/2 + tf             =       0.011 m.
          -. deff2 = 0.6*Rho*dc + (h-dc) + r =       0.049 m.
          -. Aeff2 = deff2 * tw + 2*Ar        =  3.934e-004 m^2.
          -. zeff2 = (h+2*r) - deff2/2 + tf  =       0.047 m.

===============================================================================
   [[[*]]]   CALCULATE EFFECTIVE SECTION MODULUS ABOUT MINOR AXIS.
===============================================================================

      ( ). Calculate buckling factor of outstand compression element.
          [ Eurocode3 Part 1-5 4.4, Table 4.2 ]
          -. k_sigma = 0.57 - 0.21*Psi + 0.07*Psi^2 =  0.5525

      ( ). Calculate effective cross-section properties of left flange flange of Class 4
(Outstand element).
          [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
          -. RatT     =  9.0000
          -. Lambda_p = RatT / [ 28.4*Eps*SQRT(k_sigma) ] =  0.5240
          -. Rho      = 1.0
```

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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                         Version 8.3.5
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=

            -. sigma_max = MAX( sigma1, sigma2 ) =   11251.139 KPa.
            -. sigma_min = MIN( sigma1, sigma2 ) =     964.383 KPa.
            -. r     =        0.000 m.
            -. bc    =        0.080 m.
            -. beff  = Rho*bc + r =        0.080 m.
            -. Aeff  = beff * tf  =  6.400e-004 m^2.
            -. yeff  = beff/2     =        0.040 m.

       ( ). Calculate effective cross-section properties of right flange flange of Class 4
(Outstand element).
            [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
            -. Rho       = 1.0  (Only tensile stresses).
            -. sigma_max = MAX( sigma1, sigma2 ) =    -964.383 KPa.
            -. sigma_min = MIN( sigma1, sigma2 ) =  -11251.139 KPa.
            -. r     =        0.000 m.
            -. bc    =        0.080 m.
            -. beff  = Rho*bc + r =        0.080 m.
            -. Aeff  = beff * tf  =  6.400e-004 m^2.
            -. yeff  = beff/2     =        0.040 m.

       ( ). Calculate buckling factor of outstand compression element.
            [ Eurocode3 Part 1-5 4.4, Table 4.2 ]
            -. In case of Psi   =  1.0
            -. k_sigma =  0.4300

       ( ). Calculate effective cross-section properties of left web of Class 4 (Internal
element).
            [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
            -. RatT      = 10.0000
            -. Lambda_p = RatT / [ 28.4*Eps*SQRT(k_sigma) ] =  0.6600
            -. Rho       = 1.0
            -. sigma_max = MAX( sigma1, sigma2 ) =    1993.059 KPa.
            -. sigma_min = MIN( sigma1, sigma2 ) =    1993.059 KPa.
            -. r      =        0.000 m.
            -. Ar     =        0.000 m^2.
            -. dc     =        0.072 m.
            -. deff1  = 2*(Rho*dc) / [ 5 - sigma_min/sigma_max ] + r =        0.036 m.
            -. Aeff1  = deff1  * tw + 2*Ar       =  2.880e-004 m^2.
            -. zeff1  = deff1/2 + tf             =        0.018 m.
            -. deff2  = (Rho*dc) - deff1 + r     =        0.036 m.
            -. Aeff2  = deff2  * tw + 2*Ar       =  2.880e-004 m^2.
            -. zeff2  = (h+2*r) - deff2/2 + tf =        0.054 m.

       ( ). Calculate effective cross-section properties of right web of Class 4 (Internal
element).
            [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
            -. Rho       = 1.0  (Only tensile stresses).
            -. sigma_max = MAX( sigma1, sigma2 ) =   -1993.059 KPa.
            -. sigma_min = MIN( sigma1, sigma2 ) =   -1993.059 KPa.
            -. r     =        0.000 m.
            -. Ar    =        0.000 m^2.
            -. dc    =        0.072 m.
            -. deff  = dc + r            =        0.072 m.
            -. Aeff  = deff * tw + 4*Ar =  5.760e-004 m^2.
            -. zeff  = (h+2*r) - deff/2 =        0.036 m.
```

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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                        Version 8.3.5
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=========================================================================================
   [[[*]]]   EFFECTIVE SECTION PPOPERTIES.
=========================================================================================

      ( ). Calculated effective cross-section properties of Class4 cross-section.
           -. Aeff  =        0.0024 m^2. (for calculating axial resistance)
           -. Aeffy =        0.0024 m^2.
           -. Weffy =   2.5846e-005 m^3.
           -. Aeffz =        0.0024 m^2.
           -. Weffz =   3.6115e-005 m^3.
           -. eNy   =1.4211e-017 m.
           -. eNz   =    0.0000 m.

=========================================================================================
   [[[*]]]   APPLIED FACTORS.
=========================================================================================

      ( ). Calculate equivalent uniform moment factors (Cmy,Cmz,CmLT).
           [ Eurocode3:05 Annex A. Table A.1, A.2 ]
           -. Cmy,0     = 0.940
           -. Cmz,0     = 0.926
           -. Cmy  (Default or User Defined Value) = 1.000
           -. Cmz  (Default or User Defined Value) = 1.000
           -. CmLT (Default or User Defined Value) = 1.000

      ( ). Partial Factors (Gamma_Mi).
           [ Eurocode3:05 6.1 ]
           -. Gamma_M0 =  1.05
           -. Gamma_M1 =  1.10
           -. Gamma_M2 =  1.25

=========================================================================================
   [[[*]]]   CHECK AXIAL RESISTANCE.
=========================================================================================

      ( ). Check slenderness ratio of axial compression member (Kl/i).
           [ Eurocode3:05  6.3.1 ]
           -. Kl/i  =    56.7  <   200.0  ---> O.K.

      ( ). Calculate axial compressive resistance (Nc_Rd).
           [ Eurocode3:05  6.1, 6.2.4 ]
           -. Nc_Rd     = fy * Aeff / Gamma_M0 =        822.25 kN.

      ( ). Check ratio of axial resistance (N_Ed/Nc_Rd).
               N_Ed             149.58
           -. -----  =  ---------------  =  0.182  <  1.000  --->  O.K.
              Nc_Rd             822.25
```

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--------------------------------------------------------------------------------------
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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                      Version 8.3.5
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=

      ( ). Calculate buckling resistance of compression member (Nb_Rdy, Nb_Rdz).
           [ Eurocode3:05  6.3.1.1, 6.3.1.2 ]
           -. Beta_A     = Aeff / Area       =   1.000
           -. Lambda1    = Pi * SQRT(Es/fy)  =  76.409
           -. Lambda_by = {(KLy/iy)/Lambda1} * SQRT(Beta_A) =   0.590
           -. Ncry       = Pi^2*Es*Ryy / KLy^2              =       2477.32 kN.
           -. Lambda_by > 0.2 and N_Ed/Ncry > 0.04 --> Need to check.
           -. Alphay     =   0.340
           -. Phiy       = 0.5 * [ 1 + Alphay*(Lambda_by-0.2) + Lambda_by^2 ]   =   0.741
           -. Xiy        = MIN [ 1 / [Phiy + SQRT(Phiy^2 - Lambda_by^2)], 1.0 ] =   0.842
           -. Nb_Rdy     = Xiy*Beta_A*Area*fy / Gamma_M1 =        660.77 kN.

           -. Lambda_bz = {(KLz/iz)/Lambda1} * SQRT(Beta_A) =   0.742
           -. Ncrz       = Pi^2*Es*Rzz / KLz^2              =       1566.25 kN.
           -. Lambda_bz > 0.2 and N_Ed/Ncrz > 0.04 --> Need to check.
           -. Alphaz     =   0.340
           -. Phiz       = 0.5 * [ 1 + Alphaz*(Lambda_bz-0.2) + Lambda_bz^2 ]   =   0.868
           -. Xiz        = MIN [ 1 / [Phiz + SQRT(Phiz^2 - Lambda_bz^2)], 1.0 ] =   0.759
           -. Nb_Rdz     = Xiz*Beta_A*Area*fy / Gamma_M1 =        595.88 kN.

      ( ). Check ratio of buckling resistance (N_Ed/Nb_Rd).
           -. Nb_Rd   = MIN[ Nb_Rdy, Nb_Rdz ] =        595.88 kN.
               N_Ed              149.58
           -. -----   =  ---------------  =  0.251  <  1.000  ---> O.K.
              Nb_Rd              595.88

=====================================================================================
   [[[*]]]   CHECK SHEAR RESISTANCE.
=====================================================================================

      ( ). Calculate shear area.
           [ Eurocode3:05  6.2.6, EN1993-1-5:04 5.1 NOTE 2 ]
           -. Avy    = 2*B*tf =        0.0013 m^2.
           -. Avz    = 2*h*tw =        0.0013 m^2.

      ( ). Calculate plastic shear resistance in local-y direction (Vpl_Rdy).
           [ Eurocode3:05  6.1, 6.2.6 ]
           -. Vpl_Rdy = [ Avy*fy/SQRT(3) ] / Gamma_M0 =        249.86 kN.

      ( ). Check ratio of shear resistance (V_Edy/Vpl_Rdy).
           ( LCB =  19-, POS =    I )
           -. Applied shear force : V_Edy   =          0.11 kN.
               V_Edy                0.11
           -. -------  =  ---------------  =4.478e-004  <  1.000  ---> O.K.
              Vpl_Rdy             249.86

      ( ). Calculate plastic shear resistance in local-z direction (Vpl_Rdz).
           [ Eurocode3:05  6.1, 6.2.6 ]
           -. Vpl_Rdz = [ Avz*fy/SQRT(3) ] / Gamma_M0 =        249.86 kN.
```

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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                 Version 8.3.5
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      ( ). Shear Buckling Check.
           [ Eurocode3:05 6.2.6 ]
           -. HTR < 72*e/Eta   --->  No need to check!

      ( ). Check ratio of shear resistance (V_Edz/Vpl_Rdz).
           ( LCB =  19-, POS =    J )
           -. Applied shear force : V_Edz    =          2.10 kN.
               V_Edz                 2.10
           -. -------  =  ---------------  =  0.008  <  1.000  --->  O.K.
              Vpl_Rdz              249.86

=============================================================================
   [[[*]]]   CHECK BENDING MOMENT RESISTANCE ABOUT MAJOR AXIS.
=============================================================================

      ( ). Calculate local buckling resistance moment about major axis.
           [ Eurocode3:05  6.1, 6.2.5 ]
           -. Weffy    =   2.5846e-005 m^3.
           -. Mc_Rdy   = Weffy * fy / Gamma_M1 =          8.34 kN-m.

      ( ). Check ratio of moment resistance (M_Edy/Mc_Rdy).
               M_Edy                 2.01
           -. ------  =  ---------------  =  0.241  <  1.000  --->  O.K.
              Mc_Rdy                 8.34

=============================================================================
   [[[*]]]   CHECK BENDING MOMENT RESISTANCE ABOUT MINOR AXIS.
=============================================================================

      ( ). Calculate local buckling resistance moment about minor axis.
           [ Eurocode3:05  6.1, 6.2.5 ]
           -. Weffz    =   3.6115e-005 m^3.
           -. Mc_Rdz   = Weffz * fy / Gamma_M1 =         11.66 kN-m.

      ( ). Check ratio of moment resistance (M_Edz/Mc_Rdz).
              M_Edz                  0.48
           -. ------  =  ---------------  =  0.041  <  1.000  --->  O.K.
              Mc_Rdz                11.66

=============================================================================
   [[[*]]]   CHECK INTERACTION OF COMBINED RESISTANCE.
=============================================================================

      ( ). Calculate Major reduced design resistance of bending and shear.
           [ Eurocode3:05  6.2.8 (6.30) ]
           -. In case of V_Edz / Vpl_Rdz < 0.5
           -. My_Rd = Mc_Rdy =          8.34 kN-m.
```

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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                       Version 8.3.5
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      ( ). Calculate Minor reduced design resistance of bending and shear.
           [ Eurocode3:05  6.2.8 (6.30) ]
           -. In case of V_Edy / Vpl_Rdy < 0.5
           -. Mz_Rd = Mc_Rdz =         11.66 kN-m.

      ( ). Check interaction ratio of bending and axial force.
           [ Eurocode3:05  6.2.9.3 (6.44) ] - Class4
                             N_Ed           M_Edy + N_Ed*eNz     M_Edz + N_Ed*eNy
           -. Rmax1   = ---------------- + ------------------ + ------------------
                        Aeff*fy/Gamma_M0          My_Rd                Mz_Rd
                      =  0.464  <  1.000  ---> O.K.

      ( ). Check interaction ratio of bending and axial compression member.
           [ Eurocode3:05  6.3.1, 6.2.9.3 (6.61, 6.62), Annex A ]
           -. N_Ed      =       -149.58 kN.
           -. M_Edy     =         -2.01 kN-m.
           -. M_Edz     =         -0.48 kN-m.
           -. kyy       =   1.054
           -. kyz       =   1.094
           -. kzy       =   1.038
           -. kzz       =   1.078
           -. Xiy       =   0.842
           -. Xiz       =   0.759
           -. XiLT      =   0.927
           -. Aeff      =        0.0024 m^2.
           -. Weffy     =   2.5846e-005 m^3.
           -. Weffz     =   3.6115e-005 m^3.
           -. eNy       =1.4211e-017 m.
           -. eNz       =    0.0000 m.
           -. N_Rk      = Aeff*fy  =        863.36 kN.
           -. My_Rk     = Weffy*fy =          9.18 kN-m.
           -. Mz_Rk     = Weffz*fy =         12.82 kN-m.
           -. N_Ed*eNy =     2.13e-015 kN-m.
           -. N_Ed*eNZ =          0.00 kN-m.
                               N_Ed                M_Edy + N_Ed*eNy          M_Edz +
N_Ed*eNz
           -. Rmax_LT1 = ----------------- + kyy * ------------------- + kyz * ----------
------
                         Xiy*N_Rk/Gamma_M1         XiLT*My_Rk/Gamma_M1
Mz_Rk/Gamma_M1
                       =  0.545  <  1.000  --->  O.K.
                               N_Ed                M_Edy + N_Ed*eNy          M_Edz +
N_Ed*eNz
           -. Rmax_LT2 = ----------------- + kzy * ------------------- + kzz * ----------
------
                         Xiz*N_Rk/Gamma_M1         XiLT*My_Rk/Gamma_M1
Mz_Rk/Gamma_M1
                       =  0.565  <  1.000  --->  O.K.

           -. Rmax    = MAX[ Rmax1, MAX(Rmax_LT1, Rmax_LT2) ] =  0.565  <  1.000  --->
O.K.
```

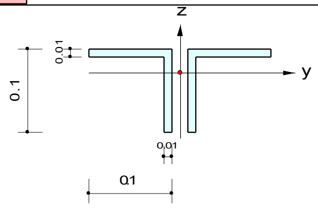
10.4 DIAFRAMMI SU PILE – TRASVERSI INFERIORI

MIDAS/Civil **Steel Checking Result**

	Company		**Project Title**	CASALPUSTERLENGO
	Author	Renato Vaira	**File Name**	D:\...\Asse 80 V_1.mcb

1. Design Information

Design Code : Eurocode3-2:05
Unit System : kN, m
Member No : 2001
Material : S355W (No:1)
(Fy = 355000, Es = 210000000)
Section Name : HINF_PILE 2L100x10d20 (No:65)
(Built-up Section).
Member Length : 3.20000



2. Member Forces

Axial Force Fxx = 365.496 (LCB: 19+, POS:J)
Bending Moments My = 1.51133, Mz = 1.03364
End Moments Myi = 0.88192, Myj = 1.51133 (for Lb)
Myi = 0.88192, Myj = 1.51133 (for Ly)
Mzi = 0.97428, Mzj = 1.03364 (for Lz)
Shear Forces Fyy = -0.6443 (LCB: 19-, POS:I)
Fzz = -1.5638 (LCB: 19-, POS:J)

Depth	0.10000	Web Thick	0.01000
Flg Width	0.10000	Flg Thick	0.01000
BTB Spacing	0.02000		
Area	0.00380	Asz	0.00167
Qyb	0.00254	Qzb	0.00500
Iyy	0.00000	Izz	0.00001
Ybar	0.11000	Zbar	0.07132
Wely	0.00005	Welz	0.00008
ry	0.03078	rz	0.04944

3. Design Parameters

Unbraced Lengths Ly = 3.20000, Lz = 3.20000, Lb = 3.20000
Effective Length Factors Ky = 0.65, Kz = 0.65
Equivalent Uniform Moment Factors Cmy = 1.00, Cmz = 1.00, CmLT = 1.00

4. Checking Results

Axial Resistance
N_Ed/Nt_Rd = 365.50/1284.76 = 0.284 < 1.000 .... O.K
Bending Resistance
M_Edy/M_Rdy = 1.5113/30.7498 = 0.049 < 1.000 .... O.K
M_Edz/M_Rdz = 1.0336/49.7000 = 0.021 < 1.000 .... O.K
Combined Resistance
RNRd = MAX[M_Edy/Mny_Rd, M_Edz/Mnz_Rd]
Rmax1 = (M_Edy/Mny_Rd)^Alpha + (M_Edz/Mnz_Rd)^Beta
Rcom = N_Ed/(A*fy/Gamma_M0), Rbend = M_Edy/My_Rd + M_Edz/Mz_Rd
Rmax = MAX[RNRd, Rmax1, (Rcom+Rbend)] = 0.354 < 1.000 .... O.K
Shear Resistance
V_Edy/Vy_Rd = 0.002 < 1.000 .... O.K
V_Edz/Vz_Rd = 0.004 < 1.000 .... O.K

Modeling, Integrated Design & Analysis Software
http://www.MidasUser.com
MIDAS/Civil V 8.3.5
Print Date/Time : 01/15/2018 20:17

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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                      Version 8.3.5
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       +==============================================================+
       |  MIDAS(Modeling, Integrated Design & Analysis Software)     |
       |  MIDAS/Civil - Design & checking system for windows         |
       +==============================================================+
       |  Steel Member Applicable Code Checking                      |
       |  Based On  AASHTO-LRFD12, AASHTO-LRFD02, AASHTO-LFD96,      |
       |            AASHTO-ASD96, AISC-LRFD2K, AISC-LRFD93,          |
       |            AISC-ASD89, Eurocode3-2:05, BS5950-90,           |
       |            IS:800-2007, IS:800-1984                         |
       |                                                             |
       |                                                             |
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    *. DEFINITION OF LOAD COMBINATIONS WITH SCALING UP FACTORS.
-------------------------------------------------------------------------------------
     LCB  C    Loadcase Name(Factor) + Loadcase Name(Factor) + Loadcase Name(Factor)
-------------------------------------------------------------------------------------
     19+  1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLU INV(
1.350)
     19-  1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLU INV(
1.350)
     20+  1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 1.500) +Vento Mobili
INV( 1.500)
                +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLE INV(
1.350)
     20-  1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 1.500) +Vento Mobili
INV( 1.500)
                +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLE INV(
1.350)
     21+  1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Frenamento INV( 1.350) +Termico unif. INV(
0.720)
                +Termico diff. INV( 0.720) +Mobili SLE INV( 1.350)
     21-  1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Frenamento INV( 1.350) +Termico unif. INV(
0.720)
                +Termico diff. INV( 0.720) +Mobili SLE INV( 1.350)
     22+  1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
```

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                +Termico unif. INV( 1.200) +Termico diff. INV( 1.200) +Mobili SLE INV(
1.350)
     22-   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                +Termico unif. INV( 1.200) +Termico diff. INV( 1.200) +Mobili SLE INV(
1.350)
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     23+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                +  SLV Long INV( 1.000) + SLV Trasv INV( 0.300) +  SLV Vert INV( 0.300)
     23-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                +  SLV Long INV( 1.000) + SLV Trasv INV( 0.300) +  SLV Vert INV( 0.300)
     24+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                +  SLV Long INV( 0.300) + SLV Trasv INV( 1.000) +  SLV Vert INV( 0.300)
     24-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                +  SLV Long INV( 0.300) + SLV Trasv INV( 1.000) +  SLV Vert INV( 0.300)
     25+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                +  SLV Long INV( 0.300) + SLV Trasv INV( 0.300) +  SLV Vert INV( 1.000)
     25-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                +  SLV Long INV( 0.300) + SLV Trasv INV( 0.300) +  SLV Vert INV( 1.000)
     28+   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLU INV(
1.000)
     28-   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLU INV(
1.000)
     29+   2        Summation( 1.000) +Vento Strutture INV( 1.000) +Vento Mobili INV(
1.000)
                +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLE INV(
1.000)
     29-   2        Summation( 1.000) +Vento Strutture INV( 1.000) +Vento Mobili INV(
1.000)
                +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLE INV(
1.000)
     30+   2        Summation( 1.000) +Frenamento INV( 1.000) +Termico unif. INV( 0.600)
                +Termico diff. INV( 0.600) +Mobili SLE INV( 1.000)
     30-   2        Summation( 1.000) +Frenamento INV( 1.000) +Termico unif. INV( 0.600)
                +Termico diff. INV( 0.600) +Mobili SLE INV( 1.000)
     31+   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                +Termico unif. INV( 1.000) +Termico diff. INV( 1.000) +Mobili SLE INV(
1.000)
     31-   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                +Termico unif. INV( 1.000) +Termico diff. INV( 1.000) +Mobili SLE INV(
1.000)
     32+   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                +Mobili SLE INV( 1.000)
     32-   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                +Mobili SLE INV( 1.000)
     33+   2        Summation( 1.000) +Vento Strutture INV( 0.200) +Vento Mobili INV(
0.200)
                +Termico unif. INV( 0.500) +Termico diff. INV( 0.500)
     33-   2        Summation( 1.000) +Vento Strutture INV( 0.200) +Vento Mobili INV(
0.200)
                +Termico unif. INV( 0.500) +Termico diff. INV( 0.500)
     34+   2        Summation( 1.000) +Termico unif. INV( 0.600) +Termico diff. INV(
0.600)
     34-   2        Summation( 1.000) +Termico unif. INV( 0.600) +Termico diff. INV(
0.600)
```

```
     35+   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
     35-   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
------------------------------------------------------------------------------------
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      *. PROJECT     : CASALPUSTERLENGO
      *. MEMBER NO   =    2001,  ELEMENT TYPE = Beam
      *. LOADCOMB NO =     19+,  MATERIAL NO  =      1,  SECTION NO =    65
      *. UNIT SYSTEM : kN, m

      *. SECTION PROPERTIES : Designation = HINF_PILE 2L100x10d20
         Shape      = 2L - Section. (Built-up)
         Depth      =       0.100,  Flg Width    =       0.100,  BTB Spacing =       0.020
         Web Thick =       0.010,  Flg Thick    =       0.010

         Area = 3.80000e-003,  Avy  = 2.00000e-003,  Avz  = 2.00000e-003
         Ybar = 1.10000e-001,  Zbar = 7.13158e-002,  Qyb  = 2.54297e-003,  Qzb  =
5.00000e-003
         Wely = 5.04809e-005,  Welz = 8.44242e-005,  Wply = 9.09500e-005,  Wplz =
1.47000e-004
         Iyy  = 3.60009e-006,  Izz  = 9.28667e-006,  Iyz  = 0.00000e+000
         iy   = 3.07797e-002,  iz   = 4.94354e-002
         J    = 1.26667e-007,  Cwp  = 8.81319e-011

      *. DESIGN PARAMETERS FOR STRENGTH EVALUATION :
         Ly   = 3.20000e+000,  Lz   = 3.20000e+000,  Lu   = 3.20000e+000
         Ky   = 6.50000e-001,  Kz   = 6.50000e-001

      *. MATERIAL PROPERTIES :
         Fy   = 3.55000e+005,  Es   = 2.10000e+008,  MATERIAL NAME  = S355W


      *. FORCES AND MOMENTS AT (J) POINT :
         Axial Force       Fxx = 3.65496e+002
         Shear Forces      Fyy = 6.12634e-001,  Fzz =-3.75782e-001
         Bending Moments   My  = 1.51133e+000,  Mz  = 1.03364e+000
         End Moments       Myi = 8.81925e-001,  Myj = 1.51133e+000  (for Lb)
                           Myi = 8.81925e-001,  Myj = 1.51133e+000  (for Ly)
                           Mzi = 9.74282e-001,  Mzj = 1.03364e+000  (for Lz)

      *. Sign conventions for stress and axial force.
         - Stress : Compression positive.
         - Axial force: Tension positive.


=======================================================================================
   [[[*]]]   CLASSIFY LEFT FLANGE OF SECTION (BTR).
=======================================================================================

      ( ). Determine classification of tension flanges(double angle).
           -. Not Checking the Section Classification.

      ( ). Determine classification of tension flanges(double angle).
           -. Not Checking the Section Classification.

=======================================================================================
   [[[*]]]   CLASSIFY WEB OF SECTION (HTR).
=======================================================================================
```

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      ( ). Determine classification of tension elements(Double angle).
           -. Not Checking the Section Classification.

===================================================================================
   [[[*]]]   APPLIED FACTORS.
===================================================================================

      ( ). Calculate equivalent uniform moment factors (Cmy,Cmz,CmLT).
           [ Eurocode3:05 Annex A. Table A.1, A.2 ]
           -. Cmy,0     = 0.788
           -. Cmz,0     = 0.918
           -. Cmy  (Default or User Defined Value) = 1.000
           -. Cmz  (Default or User Defined Value) = 1.000
           -. CmLT (Default or User Defined Value) = 1.000

      ( ). Partial Factors (Gamma_Mi).
           [ Eurocode3:05 6.1 ]
           -. Gamma_M0 =  1.05
           -. Gamma_M1 =  1.10
           -. Gamma_M2 =  1.25

===================================================================================
   [[[*]]]   CHECK AXIAL RESISTANCE.
===================================================================================

      ( ). Check slenderness ratio of axial tension member (l/i).
           [ Eurocode3:05  6.3.1 ]
           -. l/i  =   104.0  <   300.0  ---> O.K.

      ( ). Calculate parameters for combined resistance.
           -. Lambda1    = Pi * SQRT(Es/fy)    =  76.409
           -. Lambda_bz = (KLz/iz) / Lambda1 =   0.847

      ( ). Calculate axial tensile resistance (Nt_Rd).
         [ Eurocode3:05  6.2.3 ]
           -. Nt_Rd  = fy * Area / Gamma_M0 =       1284.76 kN.

      ( ). Check ratio of axial resistance (N_Ed/Nt_Rd).
               N_Ed              365.50
           -. -----  =  ---------------  =  0.284  <  1.000  --->  O.K.
              Nt_Rd             1284.76

===================================================================================
   [[[*]]]   CHECK SHEAR RESISTANCE.
===================================================================================

      ( ). Calculate shear area.
           [ Eurocode3:05  6.2.6, EN1993-1-5:04 5.1 NOTE 2 ]
           -. Avy    = 2*B*tf =        0.0020 m^2.
           -. Avz    = 2*h*tw =        0.0020 m^2.
```

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      ( ). Calculate plastic shear resistance in local-y direction (Vpl_Rdy).
           [ Eurocode3:05  6.1, 6.2.6 ]
           -. Vpl_Rdy = [ Avy*fy/SQRT(3) ] / Gamma_M0 =        390.40 kN.

      ( ). Check ratio of shear resistance (V_Edy/Vpl_Rdy).
           ( LCB =  19-, POS =    J )
           -. Applied shear force : V_Edy    =           0.64 kN.
               V_Edy                   0.64
           -. -------  =  ---------------  =  0.002  <  1.000  --->  O.K.
              Vpl_Rdy              390.40

      ( ). Calculate plastic shear resistance in local-z direction (Vpl_Rdz).
           [ Eurocode3:05  6.1, 6.2.6 ]
           -. Vpl_Rdz = [ Avz*fy/SQRT(3) ] / Gamma_M0 =        390.40 kN.

      ( ). Shear Buckling Check.
           [ Eurocode3:05 6.2.6 ]
           -. HTR < 72*e/Eta   --->  No need to check!

      ( ). Check ratio of shear resistance (V_Edz/Vpl_Rdz).
           ( LCB =  19-, POS =    J )
           -. Applied shear force : V_Edz    =           1.56 kN.
               V_Edz                   1.56
           -. -------  =  ---------------  =  0.004  <  1.000  --->  O.K.
              Vpl_Rdz              390.40

=====================================================================================
   [[[*]]]   CHECK BENDING MOMENT RESISTANCE ABOUT MAJOR AXIS.
=====================================================================================

      ( ). Calculate plastic resistance moment about major axis.
           [ Eurocode3:05  6.1, 6.2.5 ]
           -. Wply     =   9.0950e-005 m^3.
           -. Mc_Rdy   = Wply * fy / Gamma_M0 =         30.75 kN-m.

      ( ). Check ratio of moment resistance (M_Edy/Mc_Rdy).
               M_Edy                   1.51
           -. ------  =  ---------------  =  0.049  <  1.000  --->  O.K.
              Mc_Rdy                 30.75

=====================================================================================
   [[[*]]]   CHECK BENDING MOMENT RESISTANCE ABOUT MINOR AXIS.
=====================================================================================

      ( ). Calculate plastic resistance moment about minor axis.
           [ Eurocode3:05  6.1, 6.2.5 ]
           -. Wplz     =        0.0001 m^3.
           -. Mc_Rdz   = Wplz * fy / Gamma_M0 =         49.70 kN-m.
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      ( ). Check ratio of moment resistance (M_Edz/Mc_Rdz).
              M_Edz                1.03
           -. ------  =  ---------------  =  0.021  <  1.000  --->  O.K.
              Mc_Rdz              49.70

======================================================================================
   [[[*]]]   CHECK INTERACTION OF COMBINED RESISTANCE.
======================================================================================

      ( ). Calculate Major reduced design resistance of bending and shear.
           [ Eurocode3:05  6.2.8 (6.30) ]
           -. In case of V_Edz / Vpl_Rdz < 0.5
           -. My_Rd = Mc_Rdy =         30.75 kN-m.

      ( ). Calculate Minor reduced design resistance of bending and shear.
           [ Eurocode3:05  6.2.8 (6.30) ]
           -. In case of V_Edy / Vpl_Rdy < 0.5
           -. Mz_Rd = Mc_Rdz =         49.70 kN-m.

      ( ). Check general interaction ratio.
           [ Eurocode3:05  6.2.1 (6.2) ] - Class1 or Class2
                        N_Ed     M_Edy     M_Edz
           -. Rmax1  = ------ + ------- + -------
                        N_Rd     My_Rd     Mz_Rd
                     =  0.354  <  1.000  --->  O.K.

      ( ). Check interaction ratio of bending and axial force member.
           [ Eurocode3:05  6.2.9 (6.31 ~ 6.41) ] - Class1 or Class2
           -. n      = N_Ed / Npl_Rd    =  0.284
           -. a      = MIN[ (Area-2b*tf)/Area, 0.5 ] =  0.500
           -. Alpha  =  2.000
           -. Beta   = MAX[ 5*n, 1.0 ] =  1.422
           -. Mny_Rd = MIN[ Mply_Rd*(1-n)/(1-0.5*a), Mply_Rd ] =        29.34 kN-m.
           -. Rmaxy  = M_Edy / Mny_Rd =  0.052  <  1.000  --->  O.K.

           -. In case of n < a
           -. Mnz_Rd = Mplz_Rd =         49.70 kN-m.
           -. Rmaxz  = M_Edz / Mnz_Rd =  0.021  <  1.000  --->  O.K.

                        [ | M_Edy  |^(Alpha)  | M_Edz  |^(Beta) ]
           -. Rmax2  =  [ |--------|      +   |--------|        ]
                        [ | Mny_Rd |          | Mnz_Rd |        ]
                     =  0.007  <  1.000  --->  O.K.

           -. Rmax   = MAX[ Rmax1, Rmax2 ] =  0.354  <  1.000  --->  O.K.
```

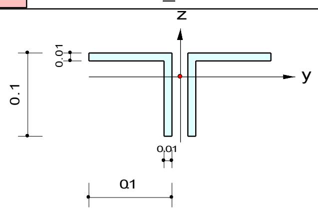
10.5 DIAFRAMMI SU PILE – TRASVERSI SUPERIORI

MIDAS/Civil **Steel Checking Result**

Company		**Project Title**	CASALPUSTERLENGO
Author	Renato Vaira	**File Name**	D:\...\Asse 80 V_1.mcb

1. Design Information

Design Code : Eurocode3-2:05
Unit System : kN, m
Member No : 2045
Material : S355W (No:1)
(Fy = 355000, Es = 210000000)
Section Name : HSUP_PILE 2L100x10d20 (No:19)
(Built-up Section).
Member Length : 3.20000



2. Member Forces

Axial Force Fxx = -136.35 (LCB: 22-, POS:J)
Bending Moments My = -1.3657, Mz = -0.1477
End Moments Myi = -0.8838, Myj = -1.3657 (for Lb)
Myi = -0.8838, Myj = -1.3657 (for Ly)
Mzi = -0.0782, Mzj = -0.1477 (for Lz)
Shear Forces Fyy = 0.11250 (LCB: 19+, POS:I)
Fzz = 1.56387 (LCB: 19+, POS:J)

Depth	0.10000	Web Thick	0.01000
Flg Width	0.10000	Flg Thick	0.01000
BTB Spacing	0.02000		
Area	0.00380	Asz	0.00167
Qyb	0.00254	Qzb	0.00500
Iyy	0.00000	Izz	0.00001
Ybar	0.11000	Zbar	0.07132
Wely	0.00005	Welz	0.00008
ry	0.03078	rz	0.04944

3. Design Parameters

Unbraced Lengths Ly = 3.20000, Lz = 3.20000, Lb = 3.20000
Effective Length Factors Ky = 0.65, Kz = 0.65
Equivalent Uniform Moment Factors Cmy = 1.00, Cmz = 1.00, CmLT = 1.00

4. Checking Results

Axial Resistance
N_Ed/MIN[Nc_Rd, Nb_Rd] = 136.353/823.126 = 0.166 < 1.000 .... O.K

Bending Resistance
M_Edy/M_Rdy = 1.3657/16.2916 = 0.084 < 1.000 .... O.K
M_Edz/M_Rdz = 0.1477/22.8706 = 0.006 < 1.000 .... O.K

Combined Resistance
Rcom = N_Ed/(Aeff*fy/Gamma_M0), Rbend = (M_Edy+N_Ed*eNy)/My_Rd + (M_Edz+N_Ed*eNz)/Mz_Rd
Rc_LT1 = N_Ed/(Xiy*Aeff*fy/Gamma_M1)
Rb_LT1 = kyy*(M_Edy+N_Ed*eNy)/(Xi_LT*Weffy*fy/Gamma_M1) + kyz*(M_Edz+N_Ed*eNz)/(Weffz*fy/Gamma_M1)
Rc_LT2 = N_Ed/(Xiz*Aeff*fy/Gamma_M1)
Rb_LT2 = kzy*(M_Edzy+N_Ed*eNy)/(Xi_LT*Weffy*fy/Gamma_M1) + kzz*(M_Edz+N_Ed*eNz)/(Weffz*fy/Gamma_M1)
Rmax = MAX[Rcom+Rbend, MAX(Rc_LT1+Rb_LT1, Rc_LT2+Rb_LT2)] = 0.275 < 1.000 .... O.K

Shear Resistance
V_Edy/Vy_Rd = 0.000 < 1.000 .... O.K
V_Edz/Vz_Rd = 0.004 < 1.000 .... O.K

Modeling, Integrated Design & Analysis Software
http://www.MidasUser.com
MIDAS/Civil V 8.3.5
Print Date/Time : 01/15/2018 20:17

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       |  MIDAS(Modeling, Integrated Design & Analysis Software)      |
       |  MIDAS/Civil - Design & checking system for windows          |
       +==============================================================+
       |  Steel Member Applicable Code Checking                       |
       |  Based On  AASHTO-LRFD12, AASHTO-LRFD02, AASHTO-LFD96,       |
       |            AASHTO-ASD96, AISC-LRFD2K, AISC-LRFD93,           |
       |            AISC-ASD89, Eurocode3-2:05, BS5950-90,            |
       |            IS:800-2007, IS:800-1984                          |
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       |  MIDAS IT Design Development Team                            |
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       |            HomePage : www.MidasUser.com                      |
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       |  MIDAS/Civil  Version 8.3.5                                  |
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    *. DEFINITION OF LOAD COMBINATIONS WITH SCALING UP FACTORS.
--------------------------------------------------------------------------------------
     LCB   C    Loadcase Name(Factor) + Loadcase Name(Factor) + Loadcase Name(Factor)
--------------------------------------------------------------------------------------
     19+   1        Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                 +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLU INV(
1.350)
     19-   1        Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                 +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLU INV(
1.350)
     20+   1        Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Vento Strutture INV( 1.500) +Vento Mobili
INV( 1.500)
                 +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLE INV(
1.350)
     20-   1        Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Vento Strutture INV( 1.500) +Vento Mobili
INV( 1.500)
                 +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLE INV(
1.350)
     21+   1        Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Frenamento INV( 1.350) +Termico unif. INV(
0.720)
                 +Termico diff. INV( 0.720) +Mobili SLE INV( 1.350)
     21-   1        Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Frenamento INV( 1.350) +Termico unif. INV(
0.720)
                 +Termico diff. INV( 0.720) +Mobili SLE INV( 1.350)
     22+   1        Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                 +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
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```
                +Termico unif. INV( 1.200) +Termico diff. INV( 1.200) +Mobili SLE INV(
1.350)
     22-  1        Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                +Termico unif. INV( 1.200) +Termico diff. INV( 1.200) +Mobili SLE INV(
1.350)
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     23+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 1.000) + SLV Trasv INV( 0.300) +  SLV Vert INV( 0.300)
     23-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 1.000) + SLV Trasv INV( 0.300) +  SLV Vert INV( 0.300)
     24+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 0.300) + SLV Trasv INV( 1.000) +  SLV Vert INV( 0.300)
     24-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 0.300) + SLV Trasv INV( 1.000) +  SLV Vert INV( 0.300)
     25+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 0.300) + SLV Trasv INV( 0.300) +  SLV Vert INV( 1.000)
     25-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 0.300) + SLV Trasv INV( 0.300) +  SLV Vert INV( 1.000)
     28+   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                 +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLU INV(
1.000)
     28-   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                 +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLU INV(
1.000)
     29+   2        Summation( 1.000) +Vento Strutture INV( 1.000) +Vento Mobili INV(
1.000)
                 +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLE INV(
1.000)
     29-   2        Summation( 1.000) +Vento Strutture INV( 1.000) +Vento Mobili INV(
1.000)
                 +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLE INV(
1.000)
     30+   2        Summation( 1.000) +Frenamento INV( 1.000) +Termico unif. INV( 0.600)
                 +Termico diff. INV( 0.600) +Mobili SLE INV( 1.000)
     30-   2        Summation( 1.000) +Frenamento INV( 1.000) +Termico unif. INV( 0.600)
                 +Termico diff. INV( 0.600) +Mobili SLE INV( 1.000)
     31+   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                 +Termico unif. INV( 1.000) +Termico diff. INV( 1.000) +Mobili SLE INV(
1.000)
     31-   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                 +Termico unif. INV( 1.000) +Termico diff. INV( 1.000) +Mobili SLE INV(
1.000)
     32+   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +Mobili SLE INV( 1.000)
     32-   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +Mobili SLE INV( 1.000)
     33+   2        Summation( 1.000) +Vento Strutture INV( 0.200) +Vento Mobili INV(
0.200)
                 +Termico unif. INV( 0.500) +Termico diff. INV( 0.500)
     33-   2        Summation( 1.000) +Vento Strutture INV( 0.200) +Vento Mobili INV(
0.200)
                 +Termico unif. INV( 0.500) +Termico diff. INV( 0.500)
     34+   2        Summation( 1.000) +Termico unif. INV( 0.600) +Termico diff. INV(
0.600)
     34-   2        Summation( 1.000) +Termico unif. INV( 0.600) +Termico diff. INV(
0.600)
```

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     35+   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
     35-   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
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      *. PROJECT     : CASALPUSTERLENGO
      *. MEMBER NO   =    2045,  ELEMENT TYPE = Beam
      *. LOADCOMB NO =     22-,  MATERIAL NO  =      1,  SECTION NO =    19
      *. UNIT SYSTEM : kN, m

      *. SECTION PROPERTIES : Designation = HSUP_PILE 2L100x10d20
         Shape      = 2L - Section. (Built-up)
         Depth      =      0.100,  Flg Width    =      0.100,  BTB Spacing =      0.020
         Web Thick =      0.010,  Flg Thick    =      0.010

         Area = 3.80000e-003,  Avy  = 2.00000e-003,  Avz  = 2.00000e-003
         Ybar = 1.10000e-001,  Zbar = 7.13158e-002,  Qyb  = 2.54297e-003,  Qzb  =
5.00000e-003
         Wely = 5.04809e-005,  Welz = 8.44242e-005,  Wply = 9.09500e-005,  Wplz =
1.47000e-004
         Iyy  = 3.60009e-006,  Izz  = 9.28667e-006,  Iyz  = 0.00000e+000
         iy   = 3.07797e-002,  iz   = 4.94354e-002
         J    = 1.26667e-007,  Cwp  = 8.81319e-011

      *. DESIGN PARAMETERS FOR STRENGTH EVALUATION :
         Ly   = 3.20000e+000,  Lz   = 3.20000e+000,  Lu   = 3.20000e+000
         Ky   = 6.50000e-001,  Kz   = 6.50000e-001

      *. MATERIAL PROPERTIES :
         Fy   = 3.55000e+005,  Es   = 2.10000e+008,  MATERIAL NAME  = S355W


      *. FORCES AND MOMENTS AT (J) POINT :
         Axial Force       Fxx =-1.36353e+002
         Shear Forces      Fyy =-4.96787e-002,  Fzz = 4.09770e-001
         Bending Moments   My  =-1.36568e+000,  Mz  =-1.47676e-001
         End Moments       Myi =-8.83830e-001,  Myj =-1.36568e+000  (for Lb)
                           Myi =-8.83830e-001,  Myj =-1.36568e+000  (for Ly)
                           Mzi =-7.81600e-002,  Mzj =-1.47676e-001  (for Lz)

      *. Sign conventions for stress and axial force.
         - Stress : Compression positive.
         - Axial force: Tension positive.


=====================================================================================
   [[[*]]]   CLASSIFY LEFT FLANGE OF SECTION (BTR).
=====================================================================================

      ( ). Determine classification of compression flanges(Double angle).
           [ Eurocode3:05 Table 5.2 (Sheet 3 of 3), EN 1993-1-5 ]
           -. e       = SQRT( 235/fy )   =    0.81
           -. b/t     = BTR =     9.00
           -. sigma1 =    26750.304 KPa.
           -. sigma2 =    25160.106 KPa.
           -. BTR_L = (H+B) / (2*tf) =   10.00
           -. BTR > 15*e or BTR_L > 11.5*e  ( Class 4 : Slender ).
```

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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                        Version 8.3.5
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=======================================================================================
   [[[*]]]   CLASSIFY RIGHT FLANGE OF SECTION (BTR).
=======================================================================================

      ( ). Determine classification of compression flanges(Double angle).
           [ Eurocode3:05 Table 5.2 (Sheet 3 of 3), EN 1993-1-5 ]
           -. e       = SQRT( 235/fy )   =    0.81
           -. b/t     = BTR =     9.00
           -. sigma1 =    24842.067 KPa.
           -. sigma2 =    23251.870 KPa.
           -. BTR_L = (H+B) / (2*tf) =    10.00
           -. BTR > 15*e or BTR_L > 11.5*e  ( Class 4 : Slender ).

=======================================================================================
   [[[*]]]   CLASSIFY WEB OF SECTION (HTR).
=======================================================================================

      ( ). Determine classification of compression element(Double angles).
           [ Eurocode3:05 Table 5.2 (Sheet 3 of 3), EN 1993-1-5 ]
           -. e       = SQRT( 235/fy )   =    0.81
           -. d/t     = HTR =    10.00
           -. sigma1 =    63253.766 KPa.
           -. sigma2 =    29112.590 KPa.
           -. HTR_L = (h+B) / (2*tw) =    10.00
           -. HTR > 15*e or HTR_L > 11.5*e  ( Class 4 : Slender ).

=======================================================================================
   [[[*]]]   CALCULATE EFFECTIVE AREA.
=======================================================================================

      ( ). Calculate buckling factor of outstand compression element.
           [ Eurocode3 Part 1-5 4.4, Table 4.2 ]
           -. In case of Psi   =  1.0
           -. k_sigma =  0.4300

      ( ). Calculate effective cross-section properties of left flange flange of Class 4
(Outstand element).
           [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
           -. RatT     =  9.0000
           -. Lambda_p = RatT / [ 28.4*Eps*SQRT(k_sigma) ] =  0.5940
           -. Rho      = 1.0
           -. sigma_max = MAX( sigma1, sigma2 ) =    35882.339 KPa.
           -. sigma_min = MIN( sigma1, sigma2 ) =    35882.339 KPa.
           -. r     =        0.000 m.
           -. bc    =        0.100 m.
           -. beff = Rho*bc + r =        0.100 m.
           -. Aeff = beff * tf  =        0.001 m^2.
           -. yeff = beff/2     =        0.050 m.

      ( ). Calculate buckling factor of outstand compression element.
           [ Eurocode3 Part 1-5 4.4, Table 4.2 ]
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           -. In case of Psi  =  1.0
           -. k_sigma =  0.4300

      ( ). Calculate effective cross-section properties of right flange flange of Class 4
(Outstand element).
           [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
           -. RatT      =  9.0000
           -. Lambda_p = RatT / [ 28.4*Eps*SQRT(k_sigma) ] =  0.5940
           -. Rho      = 1.0
           -. sigma_max = MAX( sigma1, sigma2 ) =   35882.339 KPa.
           -. sigma_min = MIN( sigma1, sigma2 ) =   35882.339 KPa.
           -. r     =       0.000 m.
           -. bc    =       0.100 m.
           -. beff = Rho*bc + r =       0.100 m.
           -. Aeff = beff * tf  =       0.001 m^2.
           -. yeff = beff/2     =       0.050 m.

      ( ). Calculate buckling factor of outstand compression element.
           [ Eurocode3 Part 1-5 4.4, Table 4.2 ]
           -. In case of Psi  =  1.0
           -. k_sigma =  0.4300

      ( ). Calculate effective cross-section properties of left web of Class 4 (Internal
element).
           [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
           -. RatT      = 10.0000
           -. Lambda_p = RatT / [ 28.4*Eps*SQRT(k_sigma) ] =  0.6600
           -. Rho      = 1.0
           -. sigma_max = MAX( sigma1, sigma2 ) =   35882.339 KPa.
           -. sigma_min = MIN( sigma1, sigma2 ) =   35882.339 KPa.
           -. r      =       0.000 m.
           -. Ar     =       0.000 m^2.
           -. dc     =       0.090 m.
           -. deff1 = 2*(Rho*dc) / [ 5 - sigma_min/sigma_max ] + r =       0.045 m.
           -. Aeff1 = deff1 * tw + 2*Ar       =  4.500e-004 m^2.
           -. zeff1 = deff1/2 + tf            =       0.022 m.
           -. deff2 = (Rho*dc) - deff1 + r    =       0.045 m.
           -. Aeff2 = deff2 * tw + 2*Ar       =  4.500e-004 m^2.
           -. zeff2 = (h+2*r) - deff2/2 + tf =       0.068 m.

      ( ). Calculate buckling factor of outstand compression element.
           [ Eurocode3 Part 1-5 4.4, Table 4.2 ]
           -. In case of Psi  =  1.0
           -. k_sigma =  0.4300

      ( ). Calculate effective cross-section properties of right web of Class 4 (Internal
element).
           [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
           -. RatT      = 10.0000
           -. Lambda_p = RatT / [ 28.4*Eps*SQRT(k_sigma) ] =  0.6600
           -. Rho      = 1.0
```

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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                         Version 8.3.5
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=

           -. sigma_max = MAX( sigma1, sigma2 ) =   35882.339 KPa.
           -. sigma_min = MIN( sigma1, sigma2 ) =   35882.339 KPa.
           -. r      =        0.000 m.
           -. Ar     =        0.000 m^2.
           -. dc     =        0.090 m.
           -. deff1 = 2*(Rho*dc) / [ 5 - sigma_min/sigma_max ] + r =       0.045 m.
           -. Aeff1 = deff1 * tw + 2*Ar       =  4.500e-004 m^2.
           -. zeff1 = deff1/2 + tf            =       0.022 m.
           -. deff2 = (Rho*dc) - deff1 + r    =       0.045 m.
           -. Aeff2 = deff2 * tw + 2*Ar       =  4.500e-004 m^2.
           -. zeff2 = (h+2*r) - deff2/2 + tf =       0.068 m.

=====================================================================================
   [[[*]]]   CALCULATE EFFECTIVE SECTION MODULUS ABOUT MAJOR AXIS.
=====================================================================================

      ( ). Calculate effective cross-section properties of left flange flange of Class 4
(Outstand element).
           [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
           -. Rho       = 1.0  (Only tensile stresses).
           -. sigma_max = MAX( sigma1, sigma2 ) =  -10881.252 KPa.
           -. sigma_min = MIN( sigma1, sigma2 ) =  -10881.252 KPa.
           -. r     =        0.000 m.
           -. bc    =        0.100 m.
           -. beff = Rho*bc + r =        0.100 m.
           -. Aeff = beff * tf  =        0.001 m^2.
           -. yeff = beff/2     =        0.050 m.

      ( ). Calculate effective cross-section properties of right flange flange of Class 4
(Outstand element).
           [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
           -. Rho       = 1.0  (Only tensile stresses).
           -. sigma_max = MAX( sigma1, sigma2 ) =  -10881.252 KPa.
           -. sigma_min = MIN( sigma1, sigma2 ) =  -10881.252 KPa.
           -. r     =        0.000 m.
           -. bc    =        0.100 m.
           -. beff = Rho*bc + r =        0.100 m.
           -. Aeff = beff * tf  =        0.001 m^2.
           -. yeff = beff/2     =        0.050 m.

      ( ). Calculate buckling factor of outstand compression element.
           [ Eurocode3 Part 1-5 4.4, Table 4.2 ]
           -. k_sigma = 0.57 - 0.21*Psi + 0.07*Psi^2 =  0.6298

      ( ). Calculate effective cross-section properties of left web of Class 4 (Internal
element).
           [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
           -. RatT      = 10.0000
           -. Lambda_p = RatT / [ 28.4*Eps*SQRT(k_sigma) ] =  0.5453
           -. Rho       = 1.0
```

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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                         Version 8.3.5
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            -. sigma_max = MAX( sigma1, sigma2 ) =   27053.388 KPa.
            -. sigma_min = MIN( sigma1, sigma2 ) =   -7087.788 KPa.
            -. r     =       0.000 m.
            -. Ar    =       0.000 m^2.
            -. dc    = (h*sigma_max) / (sigma_max-sigma_min)  =       0.071 m.
            -. deff1 = 0.4*Rho*dc + r            =       0.029 m.
            -. Aeff1 = deff1 * tw + 2*Ar         =  2.853e-004 m^2.
            -. zeff1 = deff1/2 + tf              =       0.014 m.
            -. deff2 = 0.6*Rho*dc + (h-dc) + r =       0.061 m.
            -. Aeff2 = deff2 * tw + 2*Ar         =  6.147e-004 m^2.
            -. zeff2 = (h+2*r) - deff2/2 + tf  =       0.059 m.

       ( ). Calculate buckling factor of outstand compression element.
            [ Eurocode3 Part 1-5 4.4, Table 4.2 ]
            -. k_sigma = 0.57 - 0.21*Psi + 0.07*Psi^2 =  0.6298

       ( ). Calculate effective cross-section properties of right web of Class 4 (Internal
element).
            [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
            -. RatT      = 10.0000
            -. Lambda_p = RatT / [ 28.4*Eps*SQRT(k_sigma) ] =  0.5453
            -. Rho       = 1.0
            -. sigma_max = MAX( sigma1, sigma2 ) =   27053.388 KPa.
            -. sigma_min = MIN( sigma1, sigma2 ) =   -7087.788 KPa.
            -. r     =       0.000 m.
            -. Ar    =       0.000 m^2.
            -. dc    = (h*sigma_max) / (sigma_max-sigma_min)  =       0.071 m.
            -. deff1 = 0.4*Rho*dc + r            =       0.029 m.
            -. Aeff1 = deff1 * tw + 2*Ar         =  2.853e-004 m^2.
            -. zeff1 = deff1/2 + tf              =       0.014 m.
            -. deff2 = 0.6*Rho*dc + (h-dc) + r =       0.061 m.
            -. Aeff2 = deff2 * tw + 2*Ar         =  6.147e-004 m^2.
            -. zeff2 = (h+2*r) - deff2/2 + tf  =       0.059 m.

=========================================================================================
   [[[*]]]   CALCULATE EFFECTIVE SECTION MODULUS ABOUT MINOR AXIS.
=========================================================================================

       ( ). Calculate buckling factor of outstand compression element.
            [ Eurocode3 Part 1-5 4.4, Table 4.2 ]
            -. k_sigma = 0.57 - 0.21*Psi + 0.07*Psi^2 =  0.5515

       ( ). Calculate effective cross-section properties of left flange flange of Class 4
(Outstand element).
            [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
            -. RatT      =  9.0000
            -. Lambda_p = RatT / [ 28.4*Eps*SQRT(k_sigma) ] =  0.5245
            -. Rho       = 1.0
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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                          Version 8.3.5
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           -. sigma_max = MAX( sigma1, sigma2 ) =    1749.217 KPa.
           -. sigma_min = MIN( sigma1, sigma2 ) =     159.020 KPa.
           -. r     =        0.000 m.
           -. bc    =        0.100 m.
           -. beff  = Rho*bc + r =        0.100 m.
           -. Aeff  = beff * tf  =        0.001 m^2.
           -. yeff  = beff/2     =        0.050 m.

      ( ). Calculate effective cross-section properties of right flange flange of Class 4
(Outstand element).
           [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
           -. Rho       = 1.0  (Only tensile stresses).
           -. sigma_max = MAX( sigma1, sigma2 ) =    -159.020 KPa.
           -. sigma_min = MIN( sigma1, sigma2 ) =   -1749.217 KPa.
           -. r     =        0.000 m.
           -. bc    =        0.100 m.
           -. beff  = Rho*bc + r =        0.100 m.
           -. Aeff  = beff * tf  =        0.001 m^2.
           -. yeff  = beff/2     =        0.050 m.

      ( ). Calculate buckling factor of outstand compression element.
           [ Eurocode3 Part 1-5 4.4, Table 4.2 ]
           -. In case of Psi   =  1.0
           -. k_sigma =  0.4300

      ( ). Calculate effective cross-section properties of left web of Class 4 (Internal
element).
           [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
           -. RatT      = 10.0000
           -. Lambda_p = RatT / [ 28.4*Eps*SQRT(k_sigma) ] =  0.6600
           -. Rho       = 1.0
           -. sigma_max = MAX( sigma1, sigma2 ) =     318.039 KPa.
           -. sigma_min = MIN( sigma1, sigma2 ) =     318.039 KPa.
           -. r      =        0.000 m.
           -. Ar     =        0.000 m^2.
           -. dc     =        0.090 m.
           -. deff1  = 2*(Rho*dc) / [ 5 - sigma_min/sigma_max ] + r =       0.045 m.
           -. Aeff1  = deff1 * tw + 2*Ar       =  4.500e-004 m^2.
           -. zeff1  = deff1/2 + tf            =       0.022 m.
           -. deff2  = (Rho*dc) - deff1 + r    =       0.045 m.
           -. Aeff2  = deff2 * tw + 2*Ar       =  4.500e-004 m^2.
           -. zeff2  = (h+2*r) - deff2/2 + tf =       0.068 m.

      ( ). Calculate effective cross-section properties of right web of Class 4 (Internal
element).
           [ Eurocode3 Part 1-5 4.4, Table 4.1, 4.2 ]
           -. Rho       = 1.0  (Only tensile stresses).
           -. sigma_max = MAX( sigma1, sigma2 ) =    -318.039 KPa.
           -. sigma_min = MIN( sigma1, sigma2 ) =    -318.039 KPa.
           -. r     =        0.000 m.
           -. Ar    =        0.000 m^2.
           -. dc    =        0.090 m.
           -. deff  = dc + r               =       0.090 m.
           -. Aeff  = deff * tw + 4*Ar =  9.000e-004 m^2.
           -. zeff  = (h+2*r) - deff/2 =       0.045 m.
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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                      Version 8.3.5
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===================================================================================
   [[[*]]]   EFFECTIVE SECTION PPOPERTIES.
===================================================================================

      ( ). Calculated effective cross-section properties of Class4 cross-section.
           -. Aeff  =        0.0038 m^2. (for calculating axial resistance)
           -. Aeffy =        0.0038 m^2.
           -. Weffy =   5.0481e-005 m^3.
           -. Aeffz =        0.0038 m^2.
           -. Weffz =   7.0867e-005 m^3.
           -. eNy   =    0.0000 m.
           -. eNz   =    0.0000 m.

===================================================================================
   [[[*]]]   APPLIED FACTORS.
===================================================================================

      ( ). Calculate equivalent uniform moment factors (Cmy,Cmz,CmLT).
           [ Eurocode3:05 Annex A. Table A.1, A.2 ]
           -. Cmy,0     = 0.921
           -. Cmz,0     = 0.969
           -. Cmy  (Default or User Defined Value) = 1.000
           -. Cmz  (Default or User Defined Value) = 1.000
           -. CmLT (Default or User Defined Value) = 1.000

      ( ). Partial Factors (Gamma_Mi).
           [ Eurocode3:05 6.1 ]
           -. Gamma_M0 =  1.05
           -. Gamma_M1 =  1.10
           -. Gamma_M2 =  1.25

===================================================================================
   [[[*]]]   CHECK AXIAL RESISTANCE.
===================================================================================

      ( ). Check slenderness ratio of axial compression member (Kl/i).
           [ Eurocode3:05  6.3.1 ]
           -. Kl/i  =    67.6  <   200.0  ---> O.K.

      ( ). Calculate axial compressive resistance (Nc_Rd).
           [ Eurocode3:05  6.1, 6.2.4 ]
           -. Nc_Rd     = fy * Aeff / Gamma_M0 =       1284.76 kN.

      ( ). Check ratio of axial resistance (N_Ed/Nc_Rd).
               N_Ed             136.35
           -. -----  =  ---------------  =  0.106  <  1.000  --->  O.K.
              Nc_Rd            1284.76
```

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      ( ). Calculate buckling resistance of compression member (Nb_Rdy, Nb_Rdz).
           [ Eurocode3:05  6.3.1.1, 6.3.1.2 ]
           -. Beta_A     = Aeff / Area       =   1.000
           -. Lambda1    = Pi * SQRT(Es/fy) =  76.409
           -. Lambda_by = {(KLy/iy)/Lambda1} * SQRT(Beta_A) =   0.884
           -. Ncry       = Pi^2*Es*Ryy / KLy^2              =       1724.67 kN.
           -. Lambda_by > 0.2 and N_Ed/Ncry > 0.04 --> Need to check.
           -. Alphay     =   0.340
           -. Phiy       = 0.5 * [ 1 + Alphay*(Lambda_by-0.2) + Lambda_by^2 ]   =   1.007
           -. Xiy        = MIN [ 1 / [Phiy + SQRT(Phiy^2 - Lambda_by^2)], 1.0 ] =   0.671
           -. Nb_Rdy     = Xiy*Beta_A*Area*fy / Gamma_M1 =        823.13 kN.

           -. Lambda_bz = {(KLz/iz)/Lambda1} * SQRT(Beta_A) =   0.551
           -. Ncrz       = Pi^2*Es*Rzz / KLz^2              =       4448.90 kN.
           -. Lambda_bz < 0.2 or N_Ed/Ncrz < 0.04 --> No need to check.

      ( ). Check ratio of buckling resistance (N_Ed/Nb_Rd).
           -. Nb_Rd  = MIN[ Nb_Rdy, Nb_Rdz ] =        823.13 kN.
               N_Ed              136.35
           -. -----  =  ---------------  =  0.166  <  1.000  ---> O.K.
              Nb_Rd              823.13

===================================================================================
   [[[*]]]   CHECK SHEAR RESISTANCE.
===================================================================================

      ( ). Calculate shear area.
           [ Eurocode3:05  6.2.6, EN1993-1-5:04 5.1 NOTE 2 ]
           -. Avy    = 2*B*tf =        0.0020 m^2.
           -. Avz    = 2*h*tw =        0.0020 m^2.

      ( ). Calculate plastic shear resistance in local-y direction (Vpl_Rdy).
           [ Eurocode3:05  6.1, 6.2.6 ]
           -. Vpl_Rdy = [ Avy*fy/SQRT(3) ] / Gamma_M0 =        390.40 kN.

      ( ). Check ratio of shear resistance (V_Edy/Vpl_Rdy).
           ( LCB =  19+, POS =     J )
           -. Applied shear force : V_Edy    =          0.11 kN.
               V_Edy                0.11
           -. -------  =  ---------------  =2.882e-004  <  1.000  --->  O.K.
              Vpl_Rdy             390.40

      ( ). Calculate plastic shear resistance in local-z direction (Vpl_Rdz).
           [ Eurocode3:05  6.1, 6.2.6 ]
           -. Vpl_Rdz = [ Avz*fy/SQRT(3) ] / Gamma_M0 =        390.40 kN.

      ( ). Shear Buckling Check.
           [ Eurocode3:05 6.2.6 ]
           -. HTR < 72*e/Eta   --->  No need to check!
```

```
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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                        Version 8.3.5
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      ( ). Check ratio of shear resistance (V_Edz/Vpl_Rdz).
           ( LCB =  19+, POS =    J )
           -. Applied shear force : V_Edz   =          1.56 kN.
               V_Edz               1.56
           -. -------  =  ---------------  =  0.004  <  1.000  ---> O.K.
              Vpl_Rdz            390.40

=====================================================================================
   [[[*]]]   CHECK BENDING MOMENT RESISTANCE ABOUT MAJOR AXIS.
=====================================================================================

      ( ). Calculate local buckling resistance moment about major axis.
           [ Eurocode3:05  6.1, 6.2.5 ]
           -. Weffy    =   5.0481e-005 m^3.
           -. Mc_Rdy   = Weffy * fy / Gamma_M1 =         16.29 kN-m.

      ( ). Check ratio of moment resistance (M_Edy/Mc_Rdy).
               M_Edy               1.37
           -. ------  =  ---------------  =  0.084  <  1.000  ---> O.K.
              Mc_Rdy             16.29

=====================================================================================
   [[[*]]]   CHECK BENDING MOMENT RESISTANCE ABOUT MINOR AXIS.
=====================================================================================

      ( ). Calculate local buckling resistance moment about minor axis.
           [ Eurocode3:05  6.1, 6.2.5 ]
           -. Weffz    =   7.0867e-005 m^3.
           -. Mc_Rdz   = Weffz * fy / Gamma_M1 =         22.87 kN-m.

      ( ). Check ratio of moment resistance (M_Edz/Mc_Rdz).
              M_Edz                0.15
           -. ------  =  ---------------  =  0.006  <  1.000  ---> O.K.
              Mc_Rdz             22.87

=====================================================================================
   [[[*]]]   CHECK INTERACTION OF COMBINED RESISTANCE.
=====================================================================================

      ( ). Calculate Major reduced design resistance of bending and shear.
           [ Eurocode3:05  6.2.8 (6.30) ]
           -. In case of V_Edz / Vpl_Rdz < 0.5
           -. My_Rd = Mc_Rdy =         16.29 kN-m.

      ( ). Calculate Minor reduced design resistance of bending and shear.
           [ Eurocode3:05  6.2.8 (6.30) ]
           -. In case of V_Edy / Vpl_Rdy < 0.5
           -. Mz_Rd = Mc_Rdz =         22.87 kN-m.
```

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      ( ). Check interaction ratio of bending and axial force.
           [ Eurocode3:05  6.2.9.3 (6.44) ] - Class4
                             N_Ed          M_Edy + N_Ed*eNz     M_Edz + N_Ed*eNy
           -. Rmax1   = ---------------- + ------------------ + ------------------
                         Aeff*fy/Gamma_M0         My_Rd                Mz_Rd
                      =  0.196  <  1.000  ---> O.K.

      ( ). Check interaction ratio of bending and axial compression member.
           [ Eurocode3:05  6.3.1, 6.2.9.3 (6.61, 6.62), Annex A ]
           -. N_Ed      =       -136.35 kN.
           -. M_Edy     =         -1.37 kN-m.
           -. M_Edz     =         -0.15 kN-m.
           -. kyy       =   1.056
           -. kyz       =   1.003
           -. kzy       =   1.081
           -. kzz       =   1.027
           -. Xiy       =   0.671
           -. Xiz       =   0.861
           -. XiLT      =   0.863
           -. Aeff      =        0.0038 m^2.
           -. Weffy     =   5.0481e-005 m^3.
           -. Weffz     =   7.0867e-005 m^3.
           -. eNy       =    0.0000 m.
           -. eNz       =    0.0000 m.
           -. N_Rk      = Aeff*fy  =       1349.00 kN.
           -. My_Rk     = Weffy*fy =         17.92 kN-m.
           -. Mz_Rk     = Weffz*fy =         25.16 kN-m.
           -. N_Ed*eNy =          0.00 kN-m.
           -. N_Ed*eNZ =          0.00 kN-m.
                               N_Ed                M_Edy + N_Ed*eNy          M_Edz +
N_Ed*eNz
           -. Rmax_LT1 = ----------------- + kyy * ------------------- + kyz * ----------
------
                         Xiy*N_Rk/Gamma_M1         XiLT*My_Rk/Gamma_M1
Mz_Rk/Gamma_M1
                       =  0.275  <  1.000  --->  O.K.
                               N_Ed                M_Edy + N_Ed*eNy          M_Edz +
N_Ed*eNz
           -. Rmax_LT2 = ----------------- + kzy * ------------------- + kzz * ----------
------
                         Xiz*N_Rk/Gamma_M1         XiLT*My_Rk/Gamma_M1
Mz_Rk/Gamma_M1
                       =  0.241  <  1.000  --->  O.K.

           -. Rmax    = MAX[ Rmax1, MAX(Rmax_LT1, Rmax_LT2) ] =  0.275  <  1.000  --->
O.K.
```

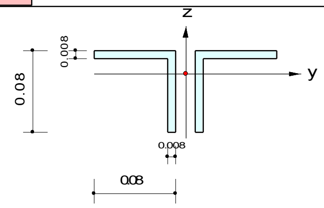
10.6 DIAFRAMMI SU PILE – DIAGONALI

MIDAS/Civil **Steel Checking Result**

	Company		Project Title	CASALPUSTERLENGO
	Author	Renato Vaira	File Name	D:\...\Asse 80 V_1.mcb

1. Design Information

Design Code : Eurocode3-2:05
Unit System : kN, m
Member No : 2034
Material : S355W (No:1)
(Fy = 355000, Es = 210000000)
Section Name : DIAG_PILE 2L80x8d20 (No:20)
(Built-up Section).
Member Length : 1.78220



2. Member Forces

Axial Force Fxx = 268.891 (LCB: 19+, POS:J)
Bending Moments My = 0.50471, Mz = 0.11916
End Moments Myi = 0.07711, Myj = 0.50471 (for Lb)
Myi = 0.07711, Myj = 0.50471 (for Ly)
Mzi = 0.19043, Mzj = 0.11916 (for Lz)
Shear Forces Fyy = -0.0639 (LCB: 19-, POS:I)
Fzz = -0.5883 (LCB: 19-, POS:J)

Depth	0.08000	Web Thick	0.00800
Flg Width	0.08000	Flg Thick	0.00800
BTB Spacing	0.02000		
Area	0.00243	Asz	0.00107
Qyb	0.00163	Qzb	0.00320
Iyy	0.00000	Izz	0.00000
Ybar	0.09000	Zbar	0.05705
Wely	0.00003	Welz	0.00005
ry	0.02462	rz	0.04113

3. Design Parameters

Unbraced Lengths Ly = 1.78220, Lz = 1.78220, Lb = 1.78220
Effective Length Factors Ky = 0.65, Kz = 1.30
Equivalent Uniform Moment Factors Cmy = 1.00, Cmz = 1.00, CmLT = 1.00

4. Checking Results

Axial Resistance
N_Ed/Nt_Rd = 268.891/822.248 = 0.327 < 1.000 .... O.K
Bending Resistance
M_Edy/M_Rdy = 0.5047/15.7439 = 0.032 < 1.000 .... O.K
M_Edz/M_Rdz = 0.1192/27.0909 = 0.004 < 1.000 .... O.K
Combined Resistance
RNRd = MAX[M_Edy/Mny_Rd, M_Edz/Mnz_Rd]
Rmax1 = (M_Edy/Mny_Rd)^Alpha + (M_Edz/Mnz_Rd)^Beta
Rcom = N_Ed/(A*fy/Gamma_M0), Rbend = M_Edy/My_Rd + M_Edz/Mz_Rd
Rmax = MAX[RNRd, Rmax1, (Rcom+Rbend)] = 0.363 < 1.000 .... O.K
Shear Resistance
V_Edy/Vy_Rd = 0.000 < 1.000 .... O.K
V_Edz/Vz_Rd = 0.002 < 1.000 .... O.K

Modeling, Integrated Design & Analysis Software
http://www.MidasUser.com
MIDAS/Civil V 8.3.5
Print Date/Time : 01/15/2018 20:17

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       +============================================================+
       |  MIDAS(Modeling, Integrated Design & Analysis Software)    |
       |  MIDAS/Civil - Design & checking system for windows        |
       +============================================================+
       |  Steel Member Applicable Code Checking                     |
       |  Based On  AASHTO-LRFD12, AASHTO-LRFD02, AASHTO-LFD96,     |
       |            AASHTO-ASD96, AISC-LRFD2K, AISC-LRFD93,         |
       |            AISC-ASD89, Eurocode3-2:05, BS5950-90,          |
       |            IS:800-2007, IS:800-1984                        |
       |                                                            |
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       |                                           (c)SINCE 1989    |
       +============================================================+
       |  MIDAS Information Technology Co.,Ltd.          (MIDAS IT) |
       |  MIDAS IT Design Development Team                          |
       +============================================================+
       |            HomePage : www.MidasUser.com                    |
       +============================================================+
       |  MIDAS/Civil  Version 8.3.5                                |
       +============================================================+


    *. DEFINITION OF LOAD COMBINATIONS WITH SCALING UP FACTORS.
------------------------------------------------------------------------------------
     LCB   C    Loadcase Name(Factor) + Loadcase Name(Factor) + Loadcase Name(Factor)
------------------------------------------------------------------------------------
     19+   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLU INV(
1.350)
     19-   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLU INV(
1.350)
     20+   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 1.500) +Vento Mobili
INV( 1.500)
                +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLE INV(
1.350)
     20-   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 1.500) +Vento Mobili
INV( 1.500)
                +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLE INV(
1.350)
     21+   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Frenamento INV( 1.350) +Termico unif. INV(
0.720)
                +Termico diff. INV( 0.720) +Mobili SLE INV( 1.350)
     21-   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Frenamento INV( 1.350) +Termico unif. INV(
0.720)
                +Termico diff. INV( 0.720) +Mobili SLE INV( 1.350)
     22+   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
```

```
                +Termico unif. INV( 1.200) +Termico diff. INV( 1.200) +Mobili SLE INV(
1.350)
     22-  1        Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                +Termico unif. INV( 1.200) +Termico diff. INV( 1.200) +Mobili SLE INV(
1.350)
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     23+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 1.000) + SLV Trasv INV( 0.300) +  SLV Vert INV( 0.300)
     23-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 1.000) + SLV Trasv INV( 0.300) +  SLV Vert INV( 0.300)
     24+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 0.300) + SLV Trasv INV( 1.000) +  SLV Vert INV( 0.300)
     24-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 0.300) + SLV Trasv INV( 1.000) +  SLV Vert INV( 0.300)
     25+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 0.300) + SLV Trasv INV( 0.300) +  SLV Vert INV( 1.000)
     25-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 0.300) + SLV Trasv INV( 0.300) +  SLV Vert INV( 1.000)
     28+   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                 +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLU INV(
1.000)
     28-   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                 +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLU INV(
1.000)
     29+   2        Summation( 1.000) +Vento Strutture INV( 1.000) +Vento Mobili INV(
1.000)
                 +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLE INV(
1.000)
     29-   2        Summation( 1.000) +Vento Strutture INV( 1.000) +Vento Mobili INV(
1.000)
                 +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLE INV(
1.000)
     30+   2        Summation( 1.000) +Frenamento INV( 1.000) +Termico unif. INV( 0.600)
                 +Termico diff. INV( 0.600) +Mobili SLE INV( 1.000)
     30-   2        Summation( 1.000) +Frenamento INV( 1.000) +Termico unif. INV( 0.600)
                 +Termico diff. INV( 0.600) +Mobili SLE INV( 1.000)
     31+   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                 +Termico unif. INV( 1.000) +Termico diff. INV( 1.000) +Mobili SLE INV(
1.000)
     31-   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                 +Termico unif. INV( 1.000) +Termico diff. INV( 1.000) +Mobili SLE INV(
1.000)
     32+   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +Mobili SLE INV( 1.000)
     32-   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +Mobili SLE INV( 1.000)
     33+   2        Summation( 1.000) +Vento Strutture INV( 0.200) +Vento Mobili INV(
0.200)
                 +Termico unif. INV( 0.500) +Termico diff. INV( 0.500)
     33-   2        Summation( 1.000) +Vento Strutture INV( 0.200) +Vento Mobili INV(
0.200)
                 +Termico unif. INV( 0.500) +Termico diff. INV( 0.500)
     34+   2        Summation( 1.000) +Termico unif. INV( 0.600) +Termico diff. INV(
0.600)
     34-   2        Summation( 1.000) +Termico unif. INV( 0.600) +Termico diff. INV(
0.600)
```

```
     35+   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
     35-   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                     Version 8.3.5
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      *. PROJECT     : CASALPUSTERLENGO
      *. MEMBER NO    =    2034,  ELEMENT TYPE = Beam
      *. LOADCOMB NO =     19+,  MATERIAL NO  =      1,  SECTION NO =    20
      *. UNIT SYSTEM : kN, m

      *. SECTION PROPERTIES : Designation = DIAG_PILE 2L80x8d20
         Shape      = 2L - Section. (Built-up)
         Depth      =       0.080,  Flg Width    =       0.080,  BTB Spacing =       0.020
         Web Thick =       0.008,  Flg Thick    =       0.008

         Area = 2.43200e-003,  Avy  = 1.28000e-003,  Avz  = 1.28000e-003
         Ybar = 9.00000e-002,  Zbar = 5.70526e-002,  Qyb  = 1.62750e-003,  Qzb  =
3.20000e-003
         Wely = 2.58462e-005,  Welz = 4.57178e-005,  Wply = 4.65664e-005,  Wplz =
8.01280e-005
         Iyy  = 1.47460e-006,  Izz  = 4.11460e-006,  Iyz  = 0.00000e+000
         iy   = 2.46238e-002,  iz   = 4.11322e-002
         J    = 5.18827e-008,  Cwp  = 2.31033e-011

      *. DESIGN PARAMETERS FOR STRENGTH EVALUATION :
         Ly   = 1.78220e+000,  Lz   = 1.78220e+000,  Lu   = 1.78220e+000
         Ky   = 6.50000e-001,  Kz   = 1.30000e+000

      *. MATERIAL PROPERTIES :
         Fy   = 3.55000e+005,  Es   = 2.10000e+008,  MATERIAL NAME  = S355W


      *. FORCES AND MOMENTS AT (J) POINT :
         Axial Force       Fxx = 2.68891e+002
         Shear Forces      Fyy = 4.00149e-002,  Fzz =-1.89426e-001
         Bending Moments   My  = 5.04707e-001,  Mz  = 1.19158e-001
         End Moments       Myi = 7.71066e-002,  Myj = 5.04707e-001  (for Lb)
                           Myi = 7.71066e-002,  Myj = 5.04707e-001  (for Ly)
                           Mzi = 1.90433e-001,  Mzj = 1.19158e-001  (for Lz)

      *. Sign conventions for stress and axial force.
         - Stress : Compression positive.
         - Axial force: Tension positive.


=====================================================================================
   [[[*]]]   CLASSIFY LEFT FLANGE OF SECTION (BTR).
=====================================================================================

      ( ). Determine classification of tension flanges(double angle).
           -. Not Checking the Section Classification.

      ( ). Determine classification of tension flanges(double angle).
           -. Not Checking the Section Classification.

=====================================================================================
   [[[*]]]   CLASSIFY WEB OF SECTION (HTR).
=====================================================================================
```

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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                     Version 8.3.5
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      ( ). Determine classification of tension elements(Double angle).
           -. Not Checking the Section Classification.

==================================================================================
   [[[*]]]   APPLIED FACTORS.
==================================================================================

      ( ). Calculate equivalent uniform moment factors (Cmy,Cmz,CmLT).
           [ Eurocode3:05 Annex A. Table A.1, A.2 ]
           -. Cmy,0     = 0.882
           -. Cmz,0     = 0.939
           -. Cmy  (Default or User Defined Value) = 1.000
           -. Cmz  (Default or User Defined Value) = 1.000
           -. CmLT (Default or User Defined Value) = 1.000

      ( ). Partial Factors (Gamma_Mi).
           [ Eurocode3:05 6.1 ]
           -. Gamma_M0 =  1.05
           -. Gamma_M1 =  1.10
           -. Gamma_M2 =  1.25

==================================================================================
   [[[*]]]   CHECK AXIAL RESISTANCE.
==================================================================================

      ( ). Check slenderness ratio of axial tension member (l/i).
           [ Eurocode3:05  6.3.1 ]
           -. l/i  =    72.4  <   300.0  ---> O.K.

      ( ). Calculate parameters for combined resistance.
           -. Lambda1    = Pi * SQRT(Es/fy)    =  76.409
           -. Lambda_bz = (KLz/iz) / Lambda1 =   0.567

      ( ). Calculate axial tensile resistance (Nt_Rd).
         [ Eurocode3:05  6.2.3 ]
           -. Nt_Rd  = fy * Area / Gamma_M0 =        822.25 kN.

      ( ). Check ratio of axial resistance (N_Ed/Nt_Rd).
               N_Ed             268.89
           -. -----  =  ---------------  =  0.327  <  1.000  --->  O.K.
              Nt_Rd             822.25

==================================================================================
   [[[*]]]   CHECK SHEAR RESISTANCE.
==================================================================================

      ( ). Calculate shear area.
           [ Eurocode3:05  6.2.6, EN1993-1-5:04 5.1 NOTE 2 ]
           -. Avy   = 2*B*tf =        0.0013 m^2.
           -. Avz   = 2*h*tw =        0.0013 m^2.
```

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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                     Version 8.3.5
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      ( ). Calculate plastic shear resistance in local-y direction (Vpl_Rdy).
           [ Eurocode3:05  6.1, 6.2.6 ]
           -. Vpl_Rdy = [ Avy*fy/SQRT(3) ] / Gamma_M0 =        249.86 kN.

      ( ). Check ratio of shear resistance (V_Edy/Vpl_Rdy).
           ( LCB =  19-, POS =    J )
           -. Applied shear force : V_Edy   =          0.06 kN.
               V_Edy               0.06
           -. -------  =  ---------------  =2.558e-004  <  1.000  --->  O.K.
              Vpl_Rdy            249.86

      ( ). Calculate plastic shear resistance in local-z direction (Vpl_Rdz).
           [ Eurocode3:05  6.1, 6.2.6 ]
           -. Vpl_Rdz = [ Avz*fy/SQRT(3) ] / Gamma_M0 =        249.86 kN.

      ( ). Shear Buckling Check.
           [ Eurocode3:05 6.2.6 ]
           -. HTR < 72*e/Eta   --->  No need to check!

      ( ). Check ratio of shear resistance (V_Edz/Vpl_Rdz).
           ( LCB =  19-, POS =    J )
           -. Applied shear force : V_Edz   =          0.59 kN.
               V_Edz               0.59
           -. -------  =  ---------------  =  0.002  <  1.000  --->  O.K.
              Vpl_Rdz            249.86

=====================================================================================
   [[[*]]]   CHECK BENDING MOMENT RESISTANCE ABOUT MAJOR AXIS.
=====================================================================================

      ( ). Calculate plastic resistance moment about major axis.
           [ Eurocode3:05  6.1, 6.2.5 ]
           -. Wply     =   4.6566e-005 m^3.
           -. Mc_Rdy   = Wply * fy / Gamma_M0 =         15.74 kN-m.

      ( ). Check ratio of moment resistance (M_Edy/Mc_Rdy).
               M_Edy               0.50
           -. ------  =  ---------------  =  0.032  <  1.000  --->  O.K.
              Mc_Rdy               15.74

=====================================================================================
   [[[*]]]   CHECK BENDING MOMENT RESISTANCE ABOUT MINOR AXIS.
=====================================================================================

      ( ). Calculate plastic resistance moment about minor axis.
           [ Eurocode3:05  6.1, 6.2.5 ]
           -. Wplz     =   8.0128e-005 m^3.
           -. Mc_Rdz   = Wplz * fy / Gamma_M0 =         27.09 kN-m.
```

```
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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                        Version 8.3.5
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      ( ). Check ratio of moment resistance (M_Edz/Mc_Rdz).
              M_Edz                0.12
           -. ------  =  ---------------  =  0.004  <  1.000  --->  O.K.
              Mc_Rdz              27.09

======================================================================================
   [[[*]]]   CHECK INTERACTION OF COMBINED RESISTANCE.
======================================================================================

      ( ). Calculate Major reduced design resistance of bending and shear.
           [ Eurocode3:05  6.2.8 (6.30) ]
           -. In case of V_Edz / Vpl_Rdz < 0.5
           -. My_Rd = Mc_Rdy =         15.74 kN-m.

      ( ). Calculate Minor reduced design resistance of bending and shear.
           [ Eurocode3:05  6.2.8 (6.30) ]
           -. In case of V_Edy / Vpl_Rdy < 0.5
           -. Mz_Rd = Mc_Rdz =         27.09 kN-m.

      ( ). Check general interaction ratio.
           [ Eurocode3:05  6.2.1 (6.2) ] - Class1 or Class2
                        N_Ed     M_Edy     M_Edz
           -. Rmax1  = ------ + ------- + -------
                        N_Rd     My_Rd     Mz_Rd
                     =  0.363  <  1.000  --->  O.K.

      ( ). Check interaction ratio of bending and axial force member.
           [ Eurocode3:05  6.2.9 (6.31 ~ 6.41) ] - Class1 or Class2
           -. n      = N_Ed / Npl_Rd    =  0.327
           -. a      = MIN[ (Area-2b*tf)/Area, 0.5 ] =  0.500
           -. Alpha  =  2.000
           -. Beta   = MAX[ 5*n, 1.0 ] =  1.635
           -. Mny_Rd = MIN[ Mply_Rd*(1-n)/(1-0.5*a), Mply_Rd ] =         14.13 kN-m.
           -. Rmaxy  = M_Edy / Mny_Rd =  0.036  <  1.000  --->  O.K.

           -. In case of n < a
           -. Mnz_Rd = Mplz_Rd =          27.09 kN-m.
           -. Rmaxz  = M_Edz / Mnz_Rd =  0.004  <  1.000  --->  O.K.

                        [ | M_Edy  |^(Alpha)   | M_Edz  |^(Beta) ]
           -. Rmax2  =  [ |--------|      +    |--------|        ]
                        [ | Mny_Rd |           | Mnz_Rd |        ]
                     =  0.001  <  1.000  --->  O.K.

           -. Rmax   = MAX[ Rmax1, Rmax2 ] =  0.363  <  1.000  --->  O.K.
```

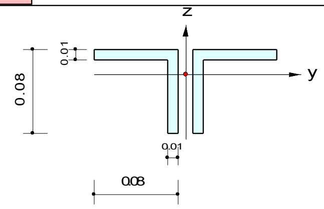
10.7 CONTROVENTI

MIDAS/Civil **Steel Checking Result**

Company		**Project Title**	CASALPUSTERLENGO
Author	Renato Vaira	**File Name**	D:\...\Asse 80 V_1.mcb

1. Design Information

Design Code : Eurocode3-2:05
Unit System : kN, m
Member No : 3148
Material : S355W (No:1)
(Fy = 355000, Es = 210000000)
Section Name : CONTROV 2L80x10d15 (No:15)
(Built-up Section).
Member Length : 3.05287



2. Member Forces

Axial Force Fxx = -255.42 (LCB: 19-, POS:J)
Bending Moments My = -0.2863, Mz = -2.5868
End Moments Myi = -0.0084, Myj = -0.2863 (for Lb)
Myi = -0.0084, Myj = -0.2863 (for Ly)
Mzi = -0.0574, Mzj = -2.5868 (for Lz)
Shear Forces Fyy = 1.57734 (LCB: 19+, POS:J)
Fzz = 0.19122 (LCB: 19+, POS:3/4)

Depth	0.08000	Web Thick	0.01000
Flg Width	0.08000	Flg Thick	0.01000
BTB Spacing	0.01500		
Area	0.00300	Asz	0.00133
Qyb	0.00159	Qzb	0.00320
Iyy	0.00000	Izz	0.00000
Ybar	0.08750	Zbar	0.05633
Wely	0.00003	Welz	0.00005
ry	0.02436	rz	0.03955

3. Design Parameters

Unbraced Lengths Ly = 3.05287, Lz = 3.05287, Lb = 3.05287
Effective Length Factors Ky = 0.65, Kz = 1.30
Equivalent Uniform Moment Factors Cmy = 1.00, Cmz = 1.00, CmLT = 1.00

4. Checking Results

Axial Resistance
N_Ed/MIN[Nc_Rd, Nb_Rd] = 255.421/407.225 = 0.627 < 1.000 .... O.K

Bending Resistance
M_Edy/M_Rdy = 0.2863/19.2503 = 0.015 < 1.000 .... O.K
M_Edz/M_Rdz = 2.5868/31.6119 = 0.082 < 1.000 .... O.K

Combined Resistance
RNRd = MAX[M_Edy/Mny_Rd, M_Edz/Mnz_Rd]
Rmax1 = (M_Edy/Mny_Rd)^Alpha + (M_Edz/Mnz_Rd)^Beta
Rcom = N_Ed/(A*fy/Gamma_M0), Rbend = M_Edy/My_Rd + M_Edz/Mz_Rd
Rc_LT1 = N_Ed/(Xiy*A*fy/Gamma_M1)
Rb_LT1 = (kyy*M_Edy)/(Xi_LT*Wply*fy/Gamma_M1) + (kyz*Msdz)/(Wplz*fy/Gamma_M1)
Rc_LT2 = N_Ed/(Xiz*A*fy/Gamma_M1)
Rb_LT2 = (Kzy*M_Edy)/(Xi_LT*Wply*fy/Gamma_M1) + (Kzz*Msdz)/(Wplz*fy/Gamma_M1)
Rmax = MAX[RNRd, Rmax1, (Rcom+Rbend), MAX(Rc_LT1+Rb_LT1, Rc_LT2+Rb_LT2)] = 0.765 < 1.000 .. O.K

Shear Resistance
V_Edy/Vy_Rd = 0.005 < 1.000 .... O.K
V_Edz/Vz_Rd = 0.001 < 1.000 .... O.K

Modeling, Integrated Design & Analysis Software
http://www.MidasUser.com
MIDAS/Civil V 8.3.5
Print Date/Time : 01/15/2018 20:17

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       +=============================================================+
       |  MIDAS(Modeling, Integrated Design & Analysis Software)     |
       |  MIDAS/Civil - Design & checking system for windows         |
       +=============================================================+
       |  Steel Member Applicable Code Checking                      |
       |  Based On  AASHTO-LRFD12, AASHTO-LRFD02, AASHTO-LFD96,      |
       |            AASHTO-ASD96, AISC-LRFD2K, AISC-LRFD93,          |
       |            AISC-ASD89, Eurocode3-2:05, BS5950-90,           |
       |            IS:800-2007, IS:800-1984                         |
       |                                                             |
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       |  MIDAS IT Design Development Team                           |
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       |            HomePage : www.MidasUser.com                     |
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       |  MIDAS/Civil  Version 8.3.5                                 |
       +=============================================================+


    *. DEFINITION OF LOAD COMBINATIONS WITH SCALING UP FACTORS.
-------------------------------------------------------------------------------------
     LCB   C    Loadcase Name(Factor) + Loadcase Name(Factor) + Loadcase Name(Factor)
-------------------------------------------------------------------------------------
     19+   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLU INV(
1.350)
     19-   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLU INV(
1.350)
     20+   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 1.500) +Vento Mobili
INV( 1.500)
                +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLE INV(
1.350)
     20-   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 1.500) +Vento Mobili
INV( 1.500)
                +Termico unif. INV( 0.720) +Termico diff. INV( 0.720) +Mobili SLE INV(
1.350)
     21+   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Frenamento INV( 1.350) +Termico unif. INV(
0.720)
                +Termico diff. INV( 0.720) +Mobili SLE INV( 1.350)
     21-   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Frenamento INV( 1.350) +Termico unif. INV(
0.720)
                +Termico diff. INV( 0.720) +Mobili SLE INV( 1.350)
     22+   1       Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
```

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                +Termico unif. INV( 1.200) +Termico diff. INV( 1.200) +Mobili SLE INV(
1.350)
     22-  1        Dead Load( 1.350) +Erection Load 1( 1.500) +Creep Secondary( 1.200)
                +Shrinkage Secondary( 1.200) +Vento Strutture INV( 0.900) +Vento Mobili
INV( 0.900)
                +Termico unif. INV( 1.200) +Termico diff. INV( 1.200) +Mobili SLE INV(
1.350)
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     23+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 1.000) + SLV Trasv INV( 0.300) +  SLV Vert INV( 0.300)
     23-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 1.000) + SLV Trasv INV( 0.300) +  SLV Vert INV( 0.300)
     24+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 0.300) + SLV Trasv INV( 1.000) +  SLV Vert INV( 0.300)
     24-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 0.300) + SLV Trasv INV( 1.000) +  SLV Vert INV( 0.300)
     25+   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 0.300) + SLV Trasv INV( 0.300) +  SLV Vert INV( 1.000)
     25-   1        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +  SLV Long INV( 0.300) + SLV Trasv INV( 0.300) +  SLV Vert INV( 1.000)
     28+   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                 +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLU INV(
1.000)
     28-   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                 +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLU INV(
1.000)
     29+   2        Summation( 1.000) +Vento Strutture INV( 1.000) +Vento Mobili INV(
1.000)
                 +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLE INV(
1.000)
     29-   2        Summation( 1.000) +Vento Strutture INV( 1.000) +Vento Mobili INV(
1.000)
                 +Termico unif. INV( 0.600) +Termico diff. INV( 0.600) +Mobili SLE INV(
1.000)
     30+   2        Summation( 1.000) +Frenamento INV( 1.000) +Termico unif. INV( 0.600)
                 +Termico diff. INV( 0.600) +Mobili SLE INV( 1.000)
     30-   2        Summation( 1.000) +Frenamento INV( 1.000) +Termico unif. INV( 0.600)
                 +Termico diff. INV( 0.600) +Mobili SLE INV( 1.000)
     31+   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                 +Termico unif. INV( 1.000) +Termico diff. INV( 1.000) +Mobili SLE INV(
1.000)
     31-   2        Summation( 1.000) +Vento Strutture INV( 0.600) +Vento Mobili INV(
0.600)
                 +Termico unif. INV( 1.000) +Termico diff. INV( 1.000) +Mobili SLE INV(
1.000)
     32+   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +Mobili SLE INV( 1.000)
     32-   2        Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
                 +Mobili SLE INV( 1.000)
     33+   2        Summation( 1.000) +Vento Strutture INV( 0.200) +Vento Mobili INV(
0.200)
                 +Termico unif. INV( 0.500) +Termico diff. INV( 0.500)
     33-   2        Summation( 1.000) +Vento Strutture INV( 0.200) +Vento Mobili INV(
0.200)
                 +Termico unif. INV( 0.500) +Termico diff. INV( 0.500)
     34+   2        Summation( 1.000) +Termico unif. INV( 0.600) +Termico diff. INV(
0.600)
     34-   2        Summation( 1.000) +Termico unif. INV( 0.600) +Termico diff. INV(
0.600)
```

```
     35+   2         Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
     35-   2         Summation( 1.000) +Termico unif. INV( 0.500) +Termico diff. INV(
0.500)
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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                     Version 8.3.5
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      *. PROJECT     : CASALPUSTERLENGO
      *. MEMBER NO    =    3148,  ELEMENT TYPE = Beam
      *. LOADCOMB NO =     19-,  MATERIAL NO  =     1,  SECTION NO =    15
      *. UNIT SYSTEM : kN, m

      *. SECTION PROPERTIES : Designation = CONTROV 2L80x10d15
         Shape      = 2L - Section. (Built-up)
         Depth      =      0.080,  Flg Width    =      0.080,  BTB Spacing =      0.015
         Web Thick =      0.010,  Flg Thick    =      0.010

         Area = 3.00000e-003,  Avy  = 1.60000e-003,  Avz  = 1.60000e-003
         Ybar = 8.75000e-002,  Zbar = 5.63333e-002,  Qyb  = 1.58672e-003,  Qzb  =
3.20000e-003
         Wely = 3.15917e-005,  Welz = 5.36429e-005,  Wply = 5.69375e-005,  Wplz =
9.35000e-005
         Iyy  = 1.77967e-006,  Izz  = 4.69375e-006,  Iyz  = 0.00000e+000
         iy   = 2.43562e-002,  iz   = 3.95548e-002
         J    = 1.00000e-007,  Cwp  = 4.24931e-011

      *. DESIGN PARAMETERS FOR STRENGTH EVALUATION :
         Ly   = 3.05287e+000,  Lz   = 3.05287e+000,  Lu   = 3.05287e+000
         Ky   = 6.50000e-001,  Kz   = 1.30000e+000

      *. MATERIAL PROPERTIES :
         Fy   = 3.55000e+005,  Es   = 2.10000e+008,  MATERIAL NAME  = S355W


      *. FORCES AND MOMENTS AT (J) POINT :
         Axial Force       Fxx =-2.55421e+002
         Shear Forces      Fyy = 1.12343e+000,  Fzz =-1.03872e-002
         Bending Moments   My  =-2.86331e-001,  Mz  =-2.58681e+000
         End Moments       Myi =-8.38935e-003,  Myj =-2.86331e-001  (for Lb)
                           Myi =-8.38935e-003,  Myj =-2.86331e-001  (for Ly)
                           Mzi =-5.73645e-002,  Mzj =-2.58681e+000  (for Lz)

      *. Sign conventions for stress and axial force.
         - Stress : Compression positive.
         - Axial force: Tension positive.


=====================================================================================
   [[[*]]]   CLASSIFY LEFT FLANGE OF SECTION (BTR).
=====================================================================================

      ( ). Determine classification of compression flanges(Double angle).
           [ Eurocode3:05 Table 5.2 (Sheet 3 of 3), EN 1993-1-5 ]
           -. e       = SQRT( 235/fy )    =    0.81
           -. b/t     = BTR =     7.00
           -. sigma1 =  129555.495 KPa.
           -. sigma2 =   85466.049 KPa.
           -. BTR < 9*e   ( Class 1 : Plastic ).
```

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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                 Version 8.3.5
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==============================================================================
   [[[*]]]   CLASSIFY RIGHT FLANGE OF SECTION (BTR).
==============================================================================

      ( ). Determine classification of compression flanges(Double angle).
           [ Eurocode3:05 Table 5.2 (Sheet 3 of 3), EN 1993-1-5 ]
           -. e       = SQRT( 235/fy )   =    0.81
           -. b/t     = BTR =     7.00
           -. sigma1 =    77199.278 KPa.
           -. sigma2 =    33109.832 KPa.
           -. BTR < 9*e   ( Class 1 : Plastic ).

==============================================================================
   [[[*]]]   CLASSIFY WEB OF SECTION (HTR).
==============================================================================

      ( ). Determine classification of compression element(Double angles).
           [ Eurocode3:05 Table 5.2 (Sheet 3 of 3), EN 1993-1-5 ]
           -. e       = SQRT( 235/fy )   =    0.81
           -. d/t     = HTR =     8.00
           -. sigma1 =   103848.448 KPa.
           -. sigma2 =    92586.132 KPa.
           -. HTR < 10*e   ( Class 2 : Compact ).

==============================================================================
   [[[*]]]   APPLIED FACTORS.
==============================================================================

      ( ). Calculate equivalent uniform moment factors (Cmy,Cmz,CmLT).
           [ Eurocode3:05 Annex A. Table A.1, A.2 ]
           -. Cmy,0     = 0.727
           -. Cmz,0     = 0.586
           -. Cmy  (Default or User Defined Value) = 1.000
           -. Cmz  (Default or User Defined Value) = 1.000
           -. CmLT (Default or User Defined Value) = 1.000

      ( ). Partial Factors (Gamma_Mi).
           [ Eurocode3:05 6.1 ]
           -. Gamma_M0 =  1.05
           -. Gamma_M1 =  1.10
           -. Gamma_M2 =  1.25

==============================================================================
   [[[*]]]   CHECK AXIAL RESISTANCE.
==============================================================================

      ( ). Check slenderness ratio of axial compression member (Kl/i).
           [ Eurocode3:05   6.3.1 ]
           -. Kl/i   =   100.3  <   200.0   ---> O.K.
```

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 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                          Version 8.3.5
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      ( ). Calculate axial compressive resistance (Nc_Rd).
           [ Eurocode3:05  6.1, 6.2.4 ]
           -. Nc_Rd     = fy * Area / Gamma_M0 =       1014.29 kN.

      ( ). Check ratio of axial resistance (N_Ed/Nc_Rd).
               N_Ed             255.42
           -. -----  =  ---------------  =  0.252  <  1.000  --->  O.K.
              Nc_Rd            1014.29

      ( ). Calculate buckling resistance of compression member (Nb_Rdy, Nb_Rdz).
           [ Eurocode3:05  6.3.1.1, 6.3.1.2 ]
           -. Beta_A     = Aeff / Area      =   1.000
           -. Lambda1    = Pi * SQRT(Es/fy) =  76.409
           -. Lambda_by = {(KLy/iy)/Lambda1} * SQRT(Beta_A) =   1.066
           -. Ncry       = Pi^2*Es*Ryy / KLy^2               =       936.73 kN.
           -. Lambda_by > 0.2 and N_Ed/Ncry > 0.04 --> Need to check.
           -. Alphay     =   0.340
           -. Phiy       = 0.5 * [ 1 + Alphay*(Lambda_by-0.2) + Lambda_by^2 ]   =   1.216
           -. Xiy        = MIN [ 1 / [Phiy + SQRT(Phiy^2 - Lambda_by^2)], 1.0 ] =   0.556
           -. Nb_Rdy     = Xiy*Beta_A*Area*fy / Gamma_M1 =        537.95 kN.

           -. Lambda_bz = {(KLz/iz)/Lambda1} * SQRT(Beta_A) =   1.313
           -. Ncrz       = Pi^2*Es*Rzz / KLz^2               =       617.64 kN.
           -. Lambda_bz > 0.2 and N_Ed/Ncrz > 0.04 --> Need to check.
           -. Alphaz     =   0.340
           -. Phiz       = 0.5 * [ 1 + Alphaz*(Lambda_bz-0.2) + Lambda_bz^2 ]   =   1.551
           -. Xiz        = MIN [ 1 / [Phiz + SQRT(Phiz^2 - Lambda_bz^2)], 1.0 ] =   0.421
           -. Nb_Rdz     = Xiz*Beta_A*Area*fy / Gamma_M1 =        407.23 kN.

      ( ). Check ratio of buckling resistance (N_Ed/Nb_Rd).
           -. Nb_Rd   = MIN[ Nb_Rdy, Nb_Rdz ] =        407.23 kN.
               N_Ed             255.42
           -. -----  =  ---------------  =  0.627  <  1.000  --->  O.K.
              Nb_Rd             407.23

=======================================================================================
   [[[*]]]   CHECK SHEAR RESISTANCE.
=======================================================================================

      ( ). Calculate shear area.
           [ Eurocode3:05  6.2.6, EN1993-1-5:04 5.1 NOTE 2 ]
           -. Avy    = 2*B*tf =         0.0016 m^2.
           -. Avz    = 2*h*tw =         0.0016 m^2.

      ( ). Calculate plastic shear resistance in local-y direction (Vpl_Rdy).
           [ Eurocode3:05  6.1, 6.2.6 ]
           -. Vpl_Rdy = [ Avy*fy/SQRT(3) ] / Gamma_M0 =        312.32 kN.
```

```
-----------------------------------------------------------------------------------------
-
 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                         Version 8.3.5
=========================================================================================
=


      ( ). Check ratio of shear resistance (V_Edy/Vpl_Rdy).
           ( LCB =  19+, POS =    J )
           -. Applied shear force : V_Edy   =          1.58 kN.
               V_Edy               1.58
           -. -------  =  ---------------  =  0.005  <  1.000  --->  O.K.
              Vpl_Rdy            312.32

      ( ). Calculate plastic shear resistance in local-z direction (Vpl_Rdz).
           [ Eurocode3:05  6.1, 6.2.6 ]
           -. Vpl_Rdz = [ Avz*fy/SQRT(3) ] / Gamma_M0 =        312.32 kN.

      ( ). Shear Buckling Check.
           [ Eurocode3:05 6.2.6 ]
           -. HTR < 72*e/Eta   --->  No need to check!

      ( ). Check ratio of shear resistance (V_Edz/Vpl_Rdz).
           ( LCB =  19+, POS =    J )
           -. Applied shear force : V_Edz   =          0.19 kN.
               V_Edz               0.19
           -. -------  =  ---------------  =6.123e-004  <  1.000  --->  O.K.
              Vpl_Rdz            312.32

======================================================================================
   [[[*]]]   CHECK BENDING MOMENT RESISTANCE ABOUT MAJOR AXIS.
======================================================================================

      ( ). Calculate plastic resistance moment about major axis.
           [ Eurocode3:05  6.1, 6.2.5 ]
           -. Wply      =   5.6938e-005 m^3.
           -. Mc_Rdy    = Wply * fy / Gamma_M0 =         19.25 kN-m.

      ( ). Check ratio of moment resistance (M_Edy/Mc_Rdy).
               M_Edy               0.29
           -. ------  =  ---------------  =  0.015  <  1.000  --->  O.K.
              Mc_Rdy              19.25

======================================================================================
   [[[*]]]   CHECK BENDING MOMENT RESISTANCE ABOUT MINOR AXIS.
======================================================================================

      ( ). Calculate plastic resistance moment about minor axis.
           [ Eurocode3:05  6.1, 6.2.5 ]
           -. Wplz      =   9.3500e-005 m^3.
           -. Mc_Rdz    = Wplz * fy / Gamma_M0 =         31.61 kN-m.

      ( ). Check ratio of moment resistance (M_Edz/Mc_Rdz).
              M_Edz                2.59
           -. ------  =  ---------------  =  0.082  <  1.000  --->  O.K.
              Mc_Rdz              31.61
```

```
--------------------------------------------------------------------------------------
-
 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                     Version 8.3.5
======================================================================================
=


===================================================================================
   [[[*]]]   CHECK INTERACTION OF COMBINED RESISTANCE.
===================================================================================

      ( ). Calculate Major reduced design resistance of bending and shear.
           [ Eurocode3:05  6.2.8 (6.30) ]
           -. In case of V_Edz / Vpl_Rdz < 0.5
           -. My_Rd = Mc_Rdy =         19.25 kN-m.

      ( ). Calculate Minor reduced design resistance of bending and shear.
           [ Eurocode3:05  6.2.8 (6.30) ]
           -. In case of V_Edy / Vpl_Rdy < 0.5
           -. Mz_Rd = Mc_Rdz =         31.61 kN-m.

      ( ). Check general interaction ratio.
           [ Eurocode3:05  6.2.1 (6.2) ] - Class1 or Class2
                        N_Ed     M_Edy     M_Edz
           -. Rmax1  = ------ + ------- + -------
                        N_Rd     My_Rd     Mz_Rd
                     =  0.349  <  1.000  --->  O.K.

      ( ). Check interaction ratio of bending and axial force member.
           [ Eurocode3:05  6.2.9 (6.31 ~ 6.41) ] - Class1 or Class2
           -. n      = N_Ed / Npl_Rd   =  0.252
           -. a      = MIN[ (Area-2b*tf)/Area, 0.5 ] =  0.500
           -. Alpha  =  2.000
           -. Beta   = MAX[ 5*n, 1.0 ] =  1.259
           -. Mny_Rd = MIN[ Mply_Rd*(1-n)/(1-0.5*a), Mply_Rd ] =        19.20 kN-m.
           -. Rmaxy  = M_Edy / Mny_Rd =  0.015  <  1.000  --->  O.K.

           -. In case of n < a
           -. Mnz_Rd = Mplz_Rd =          31.61 kN-m.
           -. Rmaxz  = M_Edz / Mnz_Rd =  0.082  <  1.000  --->  O.K.

                        [ | M_Edy  |^(Alpha)  | M_Edz  |^(Beta) ]
           -. Rmax2  =  [ |--------|      +   |--------|        ]
                        [ | Mny_Rd |          | Mnz_Rd |        ]
                     =  0.043  <  1.000  --->  O.K.
```

```
-----------------------------------------------------------------------------------------
-
 MIDAS/Civil - Steel Code Checking[ Eurocode3-2:05 ]                         Version 8.3.5
=========================================================================================
=


      ( ). Check interaction ratio of bending and axial compression member.
           [ Eurocode3:05  6.3.1, 6.2.9.3 (6.61, 6.62), Annex A ]
           -. N_Ed      =       -255.42 kN.
           -. M_Edy     =         -0.29 kN-m.
           -. M_Edz     =         -2.59 kN-m.
           -. kyy       =   1.409
           -. kyz       =   1.042
           -. kzy       =   0.694
           -. kzz       =   1.451
           -. Xiy       =   0.556
           -. Xiz       =   0.421
           -. XiLT      =   0.780
           -. N_Rk      = A*fy     =       1065.00 kN.
           -. My_Rk     = Wply*fy =          20.21 kN-m.
           -. Mz_Rk     = Wplz*fy =          33.19 kN-m.
           -. N_Ed*eNy = 0.0 (Not Slender)
           -. N_Ed*eNZ = 0.0 (Not Slender)
                              N_Ed                    M_Edy + N_Ed*eNy           M_Edz +
N_Ed*eNz
           -. Rmax_LT1 = ----------------- + kyy * ------------------- + kyz * ----------
------
                         Xiy*N_Rk/Gamma_M1         XiLT*My_Rk/Gamma_M1
Mz_Rk/Gamma_M1
                       =  0.592  <  1.000  --->  O.K.
                              N_Ed                    M_Edy + N_Ed*eNy           M_Edz +
N_Ed*eNz
           -. Rmax_LT2 = ----------------- + kzy * ------------------- + kzz * ----------
------
                         Xiz*N_Rk/Gamma_M1         XiLT*My_Rk/Gamma_M1
Mz_Rk/Gamma_M1
                       =  0.765  <  1.000  --->  O.K.

           -. Rmax    = MAX[ MAX(Rmax1, Rmax2), MAX(Rmax_LT1, Rmax_LT2) ] =  0.765  <
1.000  --->  O.K.
```

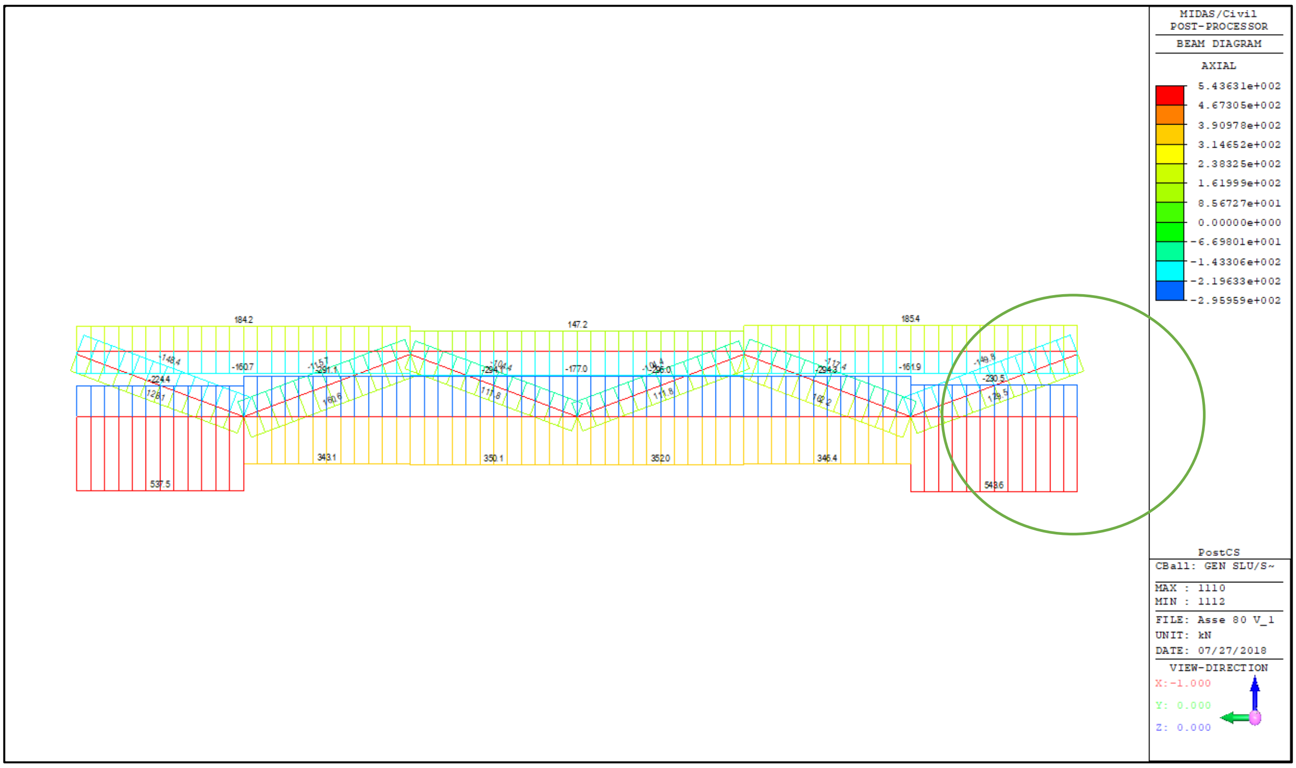
11 VERIFICA DEI COLLEGAMENTI SALDATI

11.1 TRAVI PRINCIPALI - GIUNTI TRA I CONCI

I vari conci sono uniti con saldature di testa a piena penetrazione; supponendo che il materiale di saldatura abbia caratteristiche resistenti maggiori delle travi si omettono ulteriori verifiche.

11.2 TRAVI PRINCIPALI - SALDATURE PIASTRE DIAFRAMMI - VERIFICA SLU

I piatti su cui sono imbullonati i profilati dei diaframmi sono saldati alle travi con doppi cordoni di 8 mm di lato; si verifica il piatto collegato al diaframma più sollecitato.
Le sollecitazioni massime a cui sono sottoposte le saldature sono ricercate, a favore della sicurezza, nella combinazione inviluppo di tutte le SLU statiche e SLV sismiche, componendo le azioni assiali di trazione dei traversi inferiori, superiori e diagonali.



COMBINAZIONE INVILUPPO SLU/SLV - MASSIMI SFORZI ASSIALI DIAFRAMMA INTERMEDIO (SPALLA SX)

Componendo le azioni e trascurando la componente verticale dei diagonali (di compressione), rispetto alla base della piastra si ha:

Fx = 185.4 + 129.5 x cos 22.1 + 543.6 = 849.0 kN

Mz = -185.4 x 0.86 -120.0 x 0.81 -543.6 x 0.16 = -343.62 kNm

I cordoni di saldatura hanno lato 2 x 8 = 16 mm (altezza totale di gola 11.3 mm) e lunghezza, dedotte le lunette di scarico:

- alle ali della trave: 240 - 30 =210 mm
- all' anima della trave: 930 - 2 x 30 = 870 mm

La tensione ideale di resistenza vale: $\sigma_{w,Rd} = f_{tk} / (\beta_w \gamma_{M2}) = 510 / (0.9 \times 1.25) = 453.33$ N/mm^2

Verifica: la tensione ideale risulta nei 3 cordoni:

- inferiore: $\sigma_{w,Ed}$ = 138.71 N/mm^2 ($\sigma_{w,Rd}$ < verificato)
- superiore: $\sigma_{w,Ed}$ = 62.81 N/mm^2 ($\sigma_{w,Rd}$ < verificato)
- anima: $\sigma_{w,Ed}$ = 100.82 N/mm^2 ($\sigma_{w,Rd}$ < verificato)

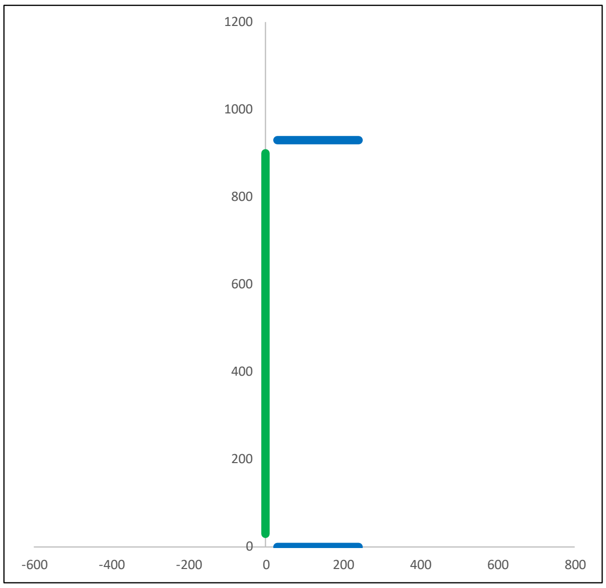
Segue tabulato foglio di calcolo.

VERIFICA DI RESISTENZA SALDATURE A CORDONE D'ANGOLO
NTC 2008, § 4.2.8.2.4, FORMULA (4.2.75)

Coefficiente di sicurezza saldature	γ_{M2}	1.25	
Spessore nominale massimo:	t	15	mm
Classe Acciaio:		S355 W	
Tensione di snervamento:	f_{yk}	355	N/mm^2
Tensione di rottura:	f_{tk}	510	N/mm^2
Coefficiente:	β_w	0.9	
Resistenza (tensione ideale):	$\sigma_{w,Rd} = f_{tk}/(\beta \cdot \gamma_{M2})$	453.33	N/mm^2
Sollecitazione (tensione ideale):	$\sigma_{w,Ed} = [\, \sigma_\perp^2 + 3 (\tau_\perp^2 + \tau_{\|}^2) \,]^{0,5}$		

Punto di applicazione	X=	0 mm
sollecitazioni (vuoto=baricentro)	Y=	0 mm

Sollecitazioni:	(terna destrorsa)	FX =	849000 N
		FY =	0 N
		FZ =	0 N
		MX =	0 N mm
		MY =	0 N mm
		MZ =	-343620000 N mm



Cordoni paralleli asse X

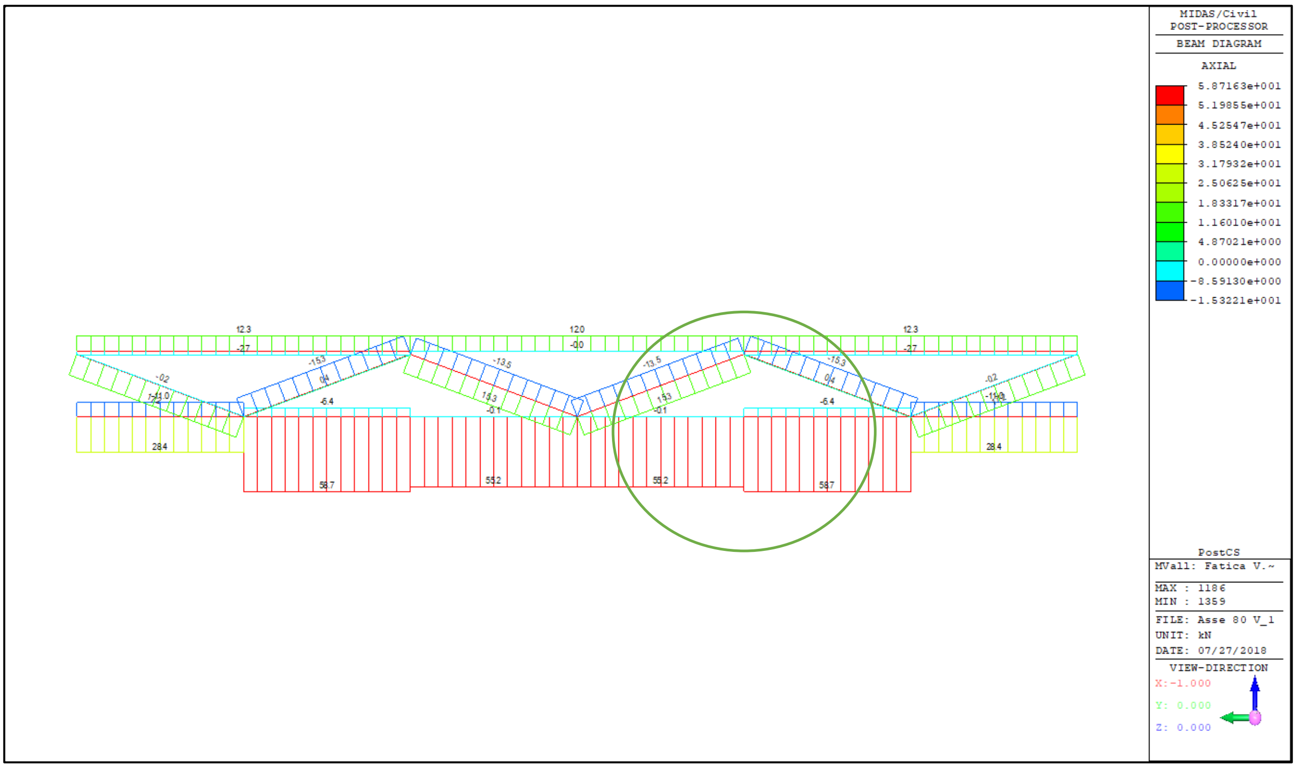
N°	Y	Xini	Xfin	bx	ax	$\sigma_{w,Ed}$	Verifica: $\sigma_{w,Ed} / \sigma_{w,Rd} \leq 1$
1	0	30	240	16	11.31	138.707	0.306
2	930	30	240	16	11.31	62.806	0.139
3					0.00		
4					0.00		
5					0.00		
6					0.00		
7					0.00		
8					0.00		
9					0.00		
10					0.00		

Cordoni paralleli asse Y

N°	X	Yini	Yfin	by	ay	$\sigma_{w,Ed}$	Verifica: $\sigma_{w,Ed} / \sigma_{w,Rd} \leq 1$
1	0	30	900	16	11.31	100.820	0.222
2					0.00		
3					0.00		
4					0.00		
5					0.00		
6					0.00		
7					0.00		
8					0.00		
9					0.00		
10					0.00		

11.3 TRAVI PRINCIPALI - SALDATURE PIASTRE DIAFRAMMI - VERIFICA A FATICA

Le sollecitazioni massime a cui sono sottoposte le saldature sono ricercate nella condizione di carico mobile “Fatica V.ILL.”, componendo le azioni assiali di trazione dei traversi inferiori, superiori e diagonali.



CONDIZIONE DI CARICO FATICA V.ILL. - MASSIMI SFORZI ASSIALI DIAFRAMMA INTERMEDIO

Componendo le azioni e trascurando la componente verticale dei diagonali (di compressione), rispetto alla base della piastra si ha:

$F_x = 12.3 + 0.4 \times \cos 22.1 + 58.7 = 71.37$ kN

$M_z = -12.3 \times 0.86 - 0.37 \times 0.81 - 58.7 \times 0.16 = -20.270$ kNm

I cordoni di saldatura hanno lato 2 x 8 = 16 mm (altezza di gola 11.3 mm) e lunghezza, dedotte le lunette di scarico:

- alle ali della trave: 240 - 30 =210 mm
- all' anima della trave: 930 - 2 x 30 = 870 mm

Caratteristiche di resistenza:

- classe del dettaglio: $\Delta\sigma_c = 80$ N/mm^2 (Tabella C.4.2.XVI, part. 7)
- limite di fatica ad ampiezza costante: $\Delta\sigma_D = 0.737 \times 80 = 58.96$ N/mm^2
- coefficiente di sicurezza a fatica: $\gamma_{Mf} = 1.35$

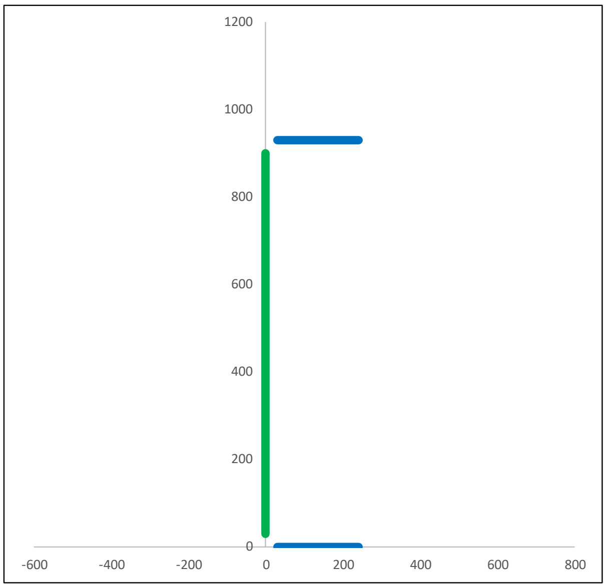
La tensione ideale di resistenza per lo stato limite di fatica vale: $\sigma_{w,Rd} = \Delta\sigma_D / \gamma_{Mf} = 43.67$ N/mm^2

Verifica: la tensione ideale risulta nei 3 cordoni:

- inferiore: $\sigma_{w,Ed} = 18.05$ N/mm^2 ($\sigma_{w,Rd}$ < verificato)
- superiore: $\sigma_{w,Ed} = 1.11$ N/mm^2 ($\sigma_{w,Rd}$ < verificato)
- anima: $\sigma_{w,Ed} = 8.52$ N/mm^2 ($\sigma_{w,Rd}$ < verificato)

Segue tabulato foglio di calcolo.

VERIFICA DI RESISTENZA SALDATURE A CORDONE D'ANGOLO
NTC 2008, § 4.2.8.2.4, FORMULA (4.2.75)



Coefficiente di sicurezza saldature	γ_{M2}	1.25	
Spessore nominale massimo:	t	15	mm
Classe Acciaio:		S355 W	
Tensione di snervamento:	f_{yk}	355	N/mm^2
Tensione di rottura:	f_{tk}	510	N/mm^2
Coefficiente:	β_w	0.9	
Resistenza (tensione ideale):	$\sigma_{w,Rd} = f_{tk}/(\beta \cdot \gamma_{M2})$	453.33	N/mm^2
Sollecitazione (tensione ideale):	$\sigma_{w,Ed} = [\,\sigma_{\perp}^2 + 3\,(\,\tau_{\perp}^2 + \tau_{\|}^2\,)\,]^{0,5}$		

Punto di applicazione sollecitazioni (vuoto=baricentro): X= 0 mm; Y= 0 mm

Sollecitazioni: (terna destrorsa)

FX =	71370	N
FY =	0	N
FZ =	0	N
MX =	0	N mm
MY =	0	N mm
MZ =	-20270000	N mm

Cordoni paralleli asse X

N°	Y	Xini	Xfin	bx	ax	$\sigma_{w,Ed}$	Verifica: $\sigma_{w,Ed} / \sigma_{w,Rd} \le 1$
1	0	30	240	16	11.31	18.051	0.040
2	930	30	240	16	11.31	1.111	0.002
3					0.00		
4					0.00		
5					0.00		
6					0.00		
7					0.00		
8					0.00		
9					0.00		
10					0.00		

Cordoni paralleli asse Y

N°	X	Yini	Yfin	by	ay	$\sigma_{w,Ed}$	Verifica: $\sigma_{w,Ed} / \sigma_{w,Rd} \le 1$
1	0	30	900	16	11.31	8.518	0.019
2					0.00		
3					0.00		
4					0.00		
5					0.00		
6					0.00		
7					0.00		
8					0.00		
9					0.00		
10					0.00		

12 VERIFICA DEI COLLEGAMENTI BULLONATI

Si verificano a taglio e rifollamento le unioni bullonate dei trasversi e dei controventi.
Si utilizzano bulloni di classe 10.9; si suppone che il piano di taglio interessi la parte filettata del bullone e si considera quindi l'area resistente efficace.
Seguono i dati generali, comuni a tutti i collegamenti.

Qualità acciaio:

Tipo	Classe	Spessore t ≤ 40 mm		Spessore 40 mm < t ≤ 80 mm	
		f_{yk} [N/mm^2]	f_{tk} [N/mm^2]	f_{yk} [N/mm^2]	f_{tk} [N/mm^2]
Profilati	S355 W	355	510	335	490
Lamiere	S355 W	355	510	335	490

Coefficienti parziali di sicurezza per la verifica delle unioni (NTC 2008; Tab. 4.2.XII):

Resistenza dei bulloni e delle sezioni tese, indebolite dai fori: γ_{M2} = 1.25
Resistenza allo scorrimento allo SLU: γ_{M3} = 1.25
Resistenza allo scorrimento allo SLE: γ_{M3} = 1.10
Precarico bulloni ad alta resistenza (classe 8.8 o 10.9): γ_{M7} = 1.10

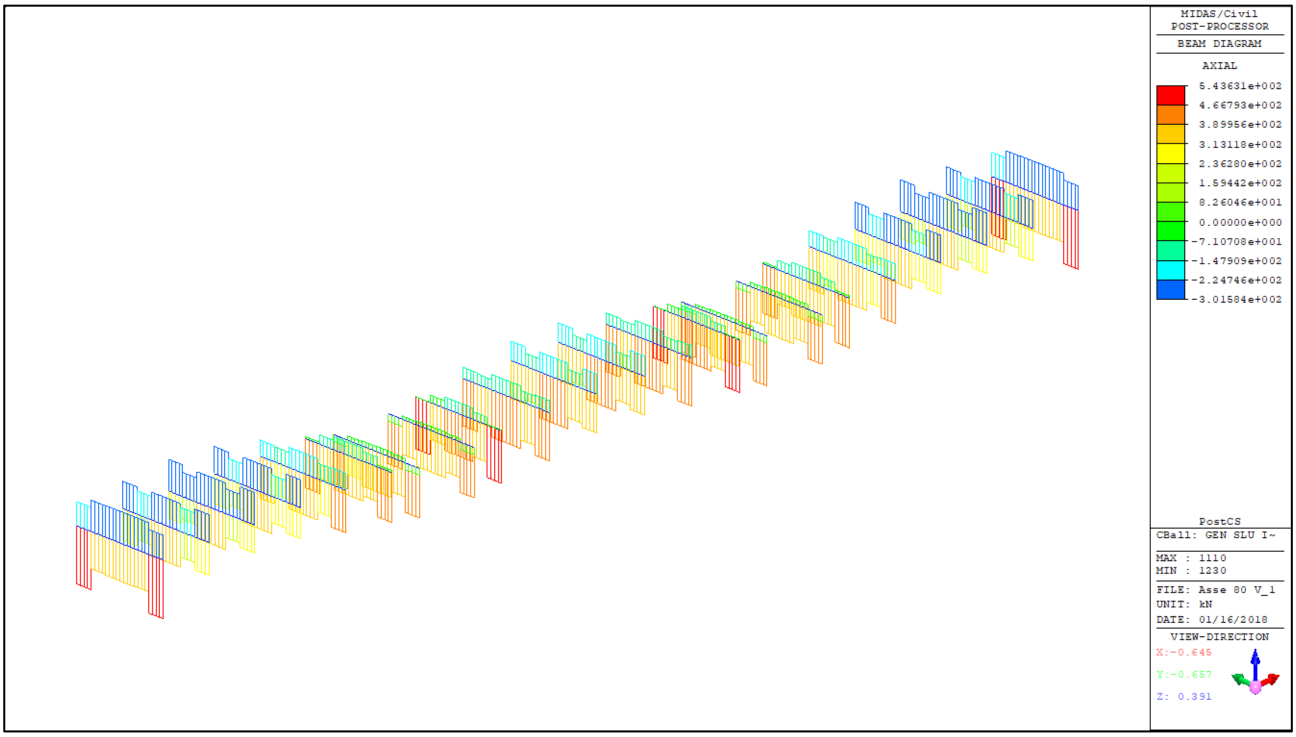
Dati meccanici e geometrici dei bulloni classe 10.9.

Resistenza di snervamento: f_{yb} = 900 N/mm^2
Resistenza di rottura: f_{tb} = 1000 N/mm^2
Coefficiente di attrito: μ = 0.30
Tipo di serraggio: Controllato

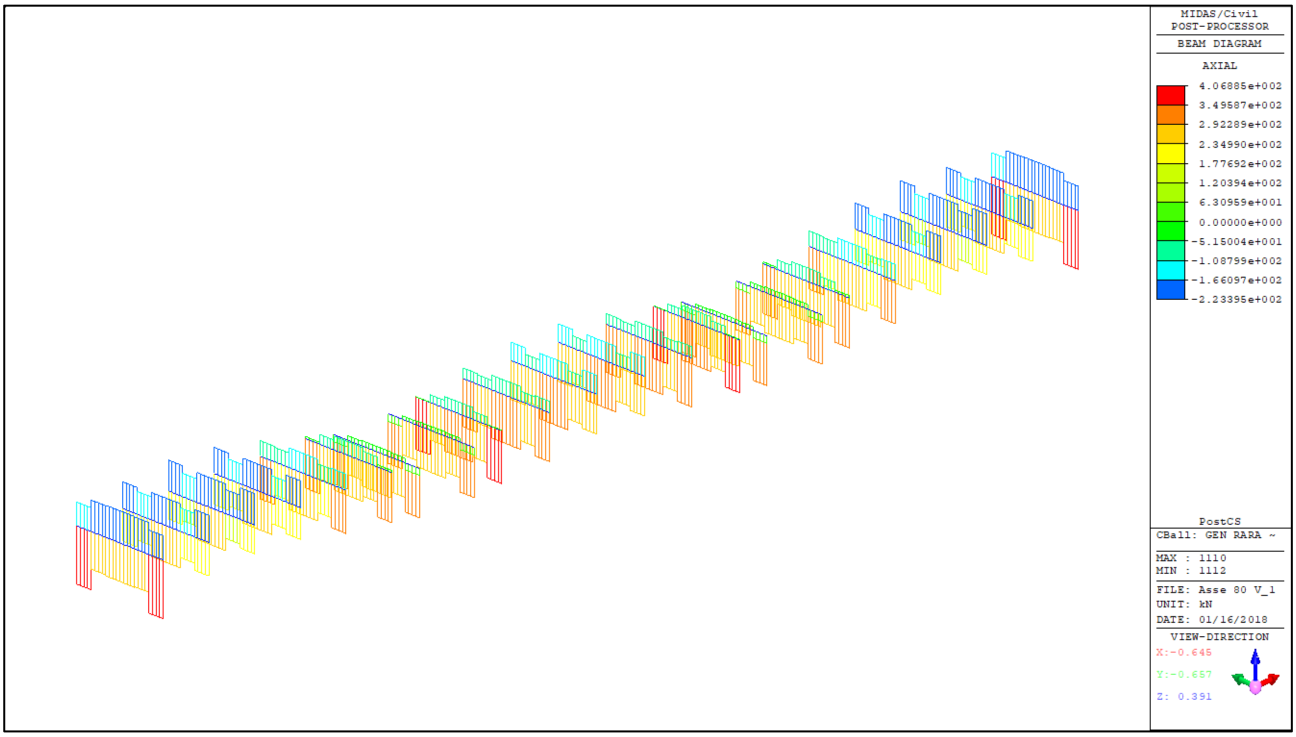
Tutti i nodi bullonati sono verificati a rifollamento e ad attrito allo SLE; si ammette (ipotesi di progetto) che possano non essere verificati ad attrito allo SLU; corrispondono quindi alla Categoria B o C (EN 1993-1-8; § 3.4).

Diametro nominale	**d [mm]**	**M16**	**M20**	**M24**	**M27**
Diametro fori (normali)	d_0 [mm]	17	21	25.5	28.5
Area nominale	A [mm^2]	201	314	452	573
Area resistente (gambo filettato)	A_{res} [mm^2]	157	245	353	459
Resistenza a taglio SLU	$F_{v,Rd}$ [kN]	62.7	97.9	141	183.8
Forza di precarico	$F_{p,Cd}$ [kN]	109.7	171.3	246.7	321.6
Resistenza a scorrimento SLU	$F_{s,Rd}$ [kN]	26.3	41.1	59.2	77.2
Resistenza a scorrimento SLE	$F_{s,Rd,es}$ [kN]	29.9	46.7	67.3	87.7

12.1 DIAFRAMMI SU SPALLE E INTERMEDI - TRASVERSI INFERIORI



TRASVERSI INFERIORI CORRENTI – SFORZO ASSIALE – INVILUPPO SLU/SLV

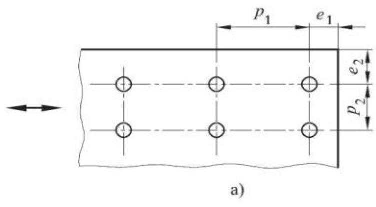


TRASVERSI INFERIORI CORRENTI – SFORZO ASSIALE – INVILUPPO SLE

VERIFICA CONNESSIONE BULLONATA A TAGLIO: TRASVERSI IN CAMPATA - CORRENTI INFERIORI (2 L 80x10)

Coefficienti di sicurezza per la verifica delle unioni (NTC 2008; Tab. 4.2.XII):

Resistenza dei bulloni e delle sezioni tese (indebolite dai fori)	γ_{M2} =	1.25
Resistenza a scorrimento allo SLU	γ_{M3} =	1.25
Resistenza a scorrimento allo SLE	γ_{M3} =	1.10
Precarico dei bulloni ad alta resistenza (classe 8.8 o 10.9)	γ_{M7} =	1.10



Dati geometrici bulloni:

Diametro nominale:		d =	27 mm
Tipo fori: accoppiamento	normale	d_0 =	28.5 mm
Area nominale gambo non filettato:		A =	573 mm²
Area resistente gambo filettato:		A_{res} =	459 mm²
Classe bulloni:	10.9	f_{yb} =	900.00 N/mm²
		f_{tb} =	1000.00 N/mm²

Resistenza a taglio:
il piano di taglio interessa la parte: filettata
resistenza allo SLU (per piano di taglio): $F_{v,Rd}$ = 183.76 kN

Resistenza a scorrimento:
(solo classi 8.8 o 10.9)
coefficiente di attrito: μ = 0.30 (tutte le superfici)
tipo di serraggio: controllato
forza di precarico: $F_{p,Cd}$ = 321.58 kN
resistenza allo SLU (per piano di scorrimento): $F_{s,Rd}$ = 77.18 kN
resistenza allo SLE (per piano di scorrimento): $F_{s,Rd,es}$ = 87.70 kN

Dati profili e lamiere: Spessore nominale dell'elemento

		t ≤ 40 mm fyk [N/mm²]	t ≤ 40 mm ftk [N/mm²]	40 mm < t ≤ 80 mm fyk [N/mm²]	40 mm < t ≤ 80 mm ftk [N/mm²]	
Qualità acciaio profilati:	S 355 W	355	510	335	490	UNI EN 10025-5: acciai per impieghi strutturali con resistenza migliorata alla corrosione atmosferica
Qualità acciaio lamiere / coprigiunti:	S 355 W	355	510	335	490	UNI EN 10025-5: acciai per impieghi strutturali con resistenza migliorata alla corrosione atmosferica

Dati geometrici bulloni:

			Limiti massimi e minimi Min.	Max.	
Numero file di bulloni:		1			
Numero bulloni:		3			
Numero superfici di taglio:		2			
Interassi:	p_1 =	70 mm	62.7	175 mm	Entro limiti: Verificato
(per fila singola porre: p_2 = 0)	p_2 =	0 mm	0	0 mm	Entro limiti: Verificato

Dati geometrici profilati:

			Limiti massimi e minimi Min.	Max.	
Numero profilati:		2			
Spessore flangia bullonata:		15 mm			
Area sezione singolo profilato:		1510 mm²			
Distanze bulloni dal bordo:	e_1 =	50 mm	34.2	125 mm	Entro limiti: Verificato
	e_2 =	40 mm	34.2	125 mm	Entro limiti: Verificato

Dati geometrici lamiere / coprigiunti:

			Limiti massimi e minimi Min.	Max.	
Numero lamiere.		1			
Spessore:		15 mm			
Distanze bulloni dal bordo:	e_1 =	50 mm	34.2	125 mm	Entro limiti: Verificato
	e_2 =	40 mm	34.2	125 mm	Entro limiti: Verificato

Sollecitazioni di progetto (trazione > 0):
S.L.U. N_{Ed} = 543.60 kN
S.L.E. $N_{Ed\ es}$ = 406.90 kN

S.L.U. Verifica di resistenza a taglio bullone, singola superficie: $F_{v,Ed}$ = 90.60 kN
Verifica: $\frac{F_{v,Ed}}{F_{v,Rd}} = \frac{90.60}{183.76} =$ 0.493 ≤1: Verificato

S.L.U. Verifica di resistenza a scorrimento bullone, singola superficie: $F_{v,Ed}$ = 90.60 kN
Verifica: $\frac{F_{v,Ed}}{F_{s,Rd}} = \frac{90.60}{77.18} =$ 1.174 >1: NON Verificato!

S.L.E. Verifica di resistenza a scorrimento bullone, singola superficie: $F_{v,Ed\ es}$ = 67.82 kN
Verifica: $\frac{F_{v,Ed\ es}}{F_{s,Rd\ es}} = \frac{67.82}{87.70} =$ 0.773 ≤1: Verificato

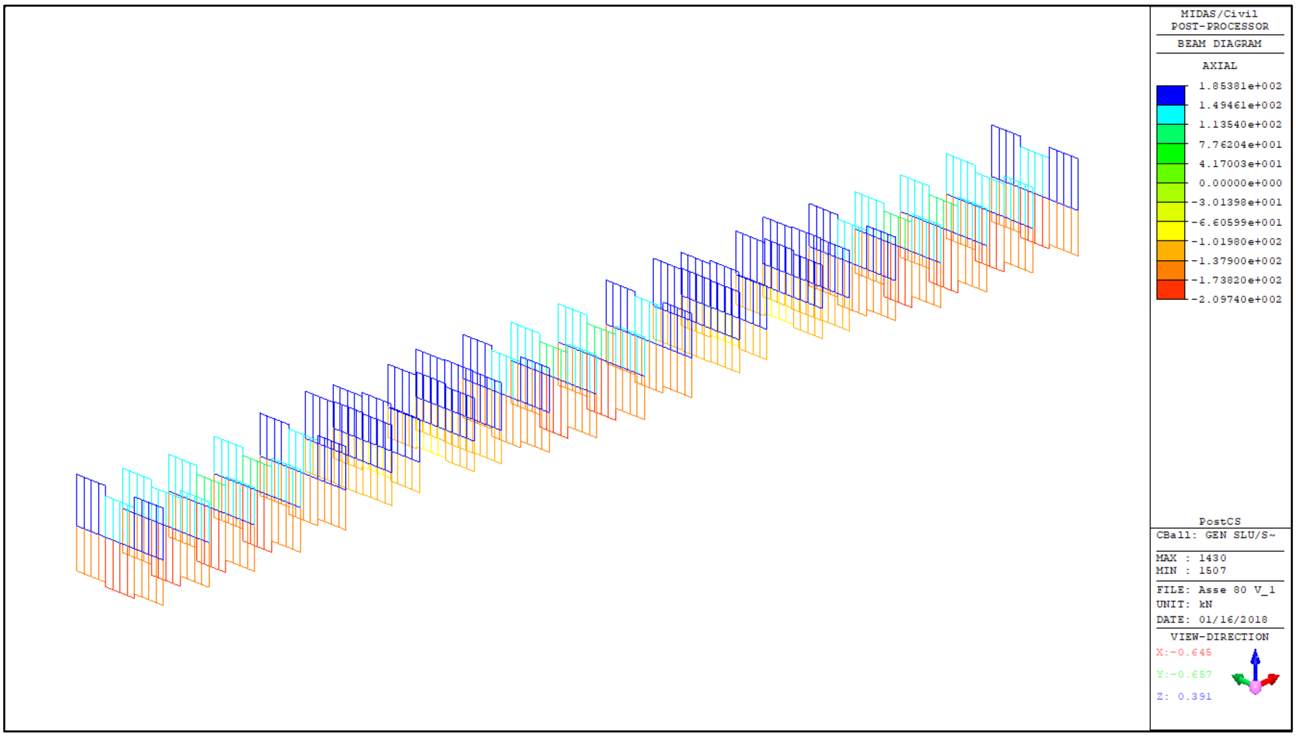
S.L.U. Verifica al rifollamento profilato: $F_{b,Ed}$ = 90.60 kN
coefficienti: k1 = 2.230
α_b = 0.569
Resistenza al rifollamento: $F_{b,Rd}$ = 209.5 kN
Verifica: $\frac{F_{b,Ed}}{F_{b,Rd}} = \frac{90.60}{209.55} =$ 0.432 ≤1: Verificato

S.L.U. Verifica al rifollamento lamiere: $F_{b,Ed}$ = 181.20 kN
coefficienti: k1 = 2.230
α_b = 0.569
Resistenza al rifollamento: $F_{b,Rd}$ = 209.5 kN
Verifica: $\frac{F_{b,Ed}}{F_{b,Rd}} = \frac{181.20}{209.55} =$ 0.865 ≤1: Verificato

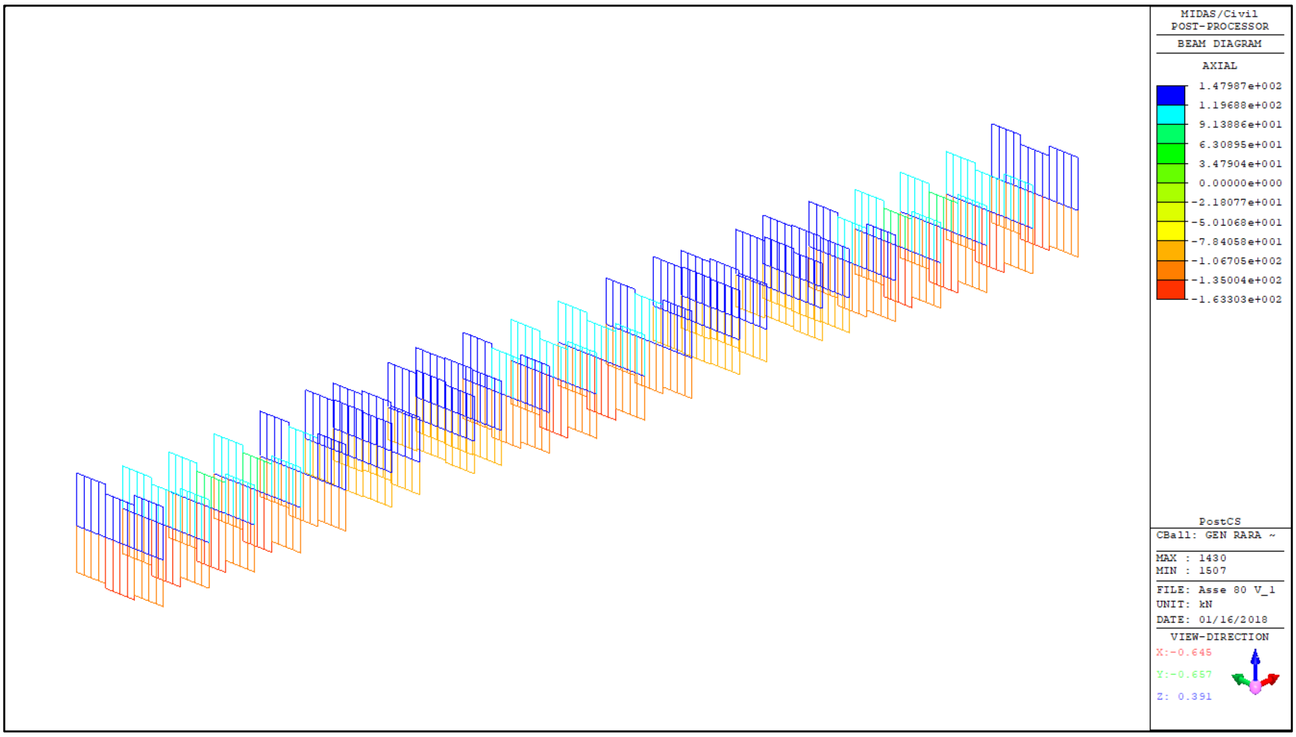
S.L.U. Verifica a trazione del profilato indebolito dai fori: Area netta: A_{net} = 2165 mm²
Resistenza della sezione netta: $N_{u,Rd}$ = 794.99 kN
Verifica: $\frac{N_{Ed}}{N_{u,Rd}} = \frac{543.60}{794.99} =$ 0.684 ≤1: Verificato

Categoria (verificata) di connessione bullonata a taglio (EN1993-1-8:2005 § 3.4): **Categoria B: connessioni ad attrito allo S.L.E.**

12.2 DIAFRAMMI SU SPALLE E INTERMEDI - TRASVERSI SUPERIORI

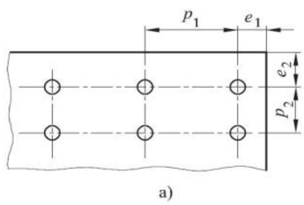


TRASVERSI SUPERIORI CORRENTI – SFORZO ASSIALE – INVILUPPO SLU



TRASVERSI SUPERIORI CORRENTI – SFORZO ASSIALE – INVILUPPO SLE

VERIFICA CONNESSIONE BULLONATA A TAGLIO: **TRASVERSI IN CAMPATA - CORRENTI SUPERIORI (2 L 80x10)**



Coefficienti di sicurezza per la verifica delle unioni (NTC 2008; Tab. 4.2.XII):

Resistenza dei bulloni e delle sezioni tese (indebolite dai fori)	γ_{M2} =	1.25
Resistenza a scorrimento allo SLU	γ_{M3} =	1.25
Resistenza a scorrimento allo SLE	γ_{M3} =	1.10
Precarico dei bulloni ad alta resistenza (classe 8.8 o 10.9)	γ_{M7} =	1.10

Dati geometrici bulloni:

Diametro nominale:		d =	20 mm
Tipo fori: accoppiamento	normale	d_0 =	21.0 mm
Area nominale gambo non filettato:		A =	314 mm^2
Area resistente gambo filettato:		A_{res} =	245 mm^2
Classe bulloni:	10.9	f_{yb} =	900.00 N/mm^2
		f_{tb} =	1000.00 N/mm^2

Resistenza a taglio:
il piano di taglio interessa la parte: filettata
resistenza allo SLU (per piano di taglio): $F_{v,Rd}$ = 97.92 kN

Resistenza a scorrimento: (solo classi 8.8 o 10.9)
coefficiente di attrito: μ = 0.30 (tutte le superfici)
tipo di serraggio: controllato
forza di precarico: $F_{p,Cd}$ = 171.36 kN
resistenza allo SLU (per piano di scorrimento): $F_{s,Rd}$ = 41.13 kN
resistenza allo SLE (per piano di scorrimento): $F_{s,Rd,es}$ = 46.73 kN

Dati profili e lamiere: Spessore nominale dell'elemento

		t ≤ 40 mm fyk [N/mm^2]	t ≤ 40 mm ftk [N/mm^2]	40 mm < t ≤ 80 mm fyk [N/mm^2]	40 mm < t ≤ 80 mm ftk [N/mm^2]	
Qualità acciaio profilati:	S 355 W	355	510	335	490	UNI EN 10025-5: acciai per impieghi strutturali con resistenza migliorata alla corrosione atmosferica
Qualità acciaio lamiere / coprigiunti:	S 355 W	355	510	335	490	UNI EN 10025-5: acciai per impieghi strutturali con resistenza migliorata alla corrosione atmosferica

Dati geometrici bulloni:

		Valore	Min.	Max.	
Numero file di bulloni:		1			
Numero bulloni:		3			
Numero superfici di taglio:		2			
Interassi:	p_1 =	60 mm	46.2	140 mm	Entro limiti: Verificato
(per fila singola porre: p_2 = 0)	p_2 =	0 mm	0	0 mm	Entro limiti: Verificato

Limiti massimi e minimi

Dati geometrici profilati:

		Valore	Min.	Max.	
Numero profilati:		2			
Spessore flangia bullonata:		10 mm			
Area sezione singolo profilato:		1510 mm^2			
Distanze bulloni dal bordo:	e_1 =	40 mm	25.2	125 mm	Entro limiti: Verificato
	e_2 =	40 mm	25.2	125 mm	Entro limiti: Verificato

Limiti massimi e minimi

Dati geometrici lamiere / coprigiunti:

		Valore	Min.	Max.	
Numero lamiere.		1			
Spessore:		15 mm			
Distanze bulloni dal bordo:	e_1 =	40 mm	25.2	125 mm	Entro limiti: Verificato
	e_2 =	40 mm	25.2	125 mm	Entro limiti: Verificato

Limiti massimi e minimi

Sollecitazioni di progetto (trazione > 0):
S.L.U. N_{Ed} = -209.70 kN
S.L.E. $N_{Ed\ es}$ = -163.30 kN

S.L.U. Verifica di resistenza a taglio bullone, singola superficie: $F_{v,Ed}$ = 34.95 kN
Verifica: $\frac{F_{v,Ed}}{F_{v,Rd}} = \frac{34.95}{97.92} =$ 0.357 ≤1: Verificato

S.L.U. Verifica di resistenza a scorrimento bullone, singola superficie: $F_{v,Ed}$ = 34.95 kN
Verifica: $\frac{F_{v,Ed}}{F_{s,Rd}} = \frac{34.95}{41.13} =$ 0.850 ≤1: Verificato

S.L.E. Verifica di resistenza a scorrimento bullone, singola superficie: $F_{v,Ed\ es}$ = 27.22 kN
Verifica: $\frac{F_{v,Ed\ es}}{F_{s,Rd\ es}} = \frac{27.22}{46.73} =$ 0.582 ≤1: Verificato

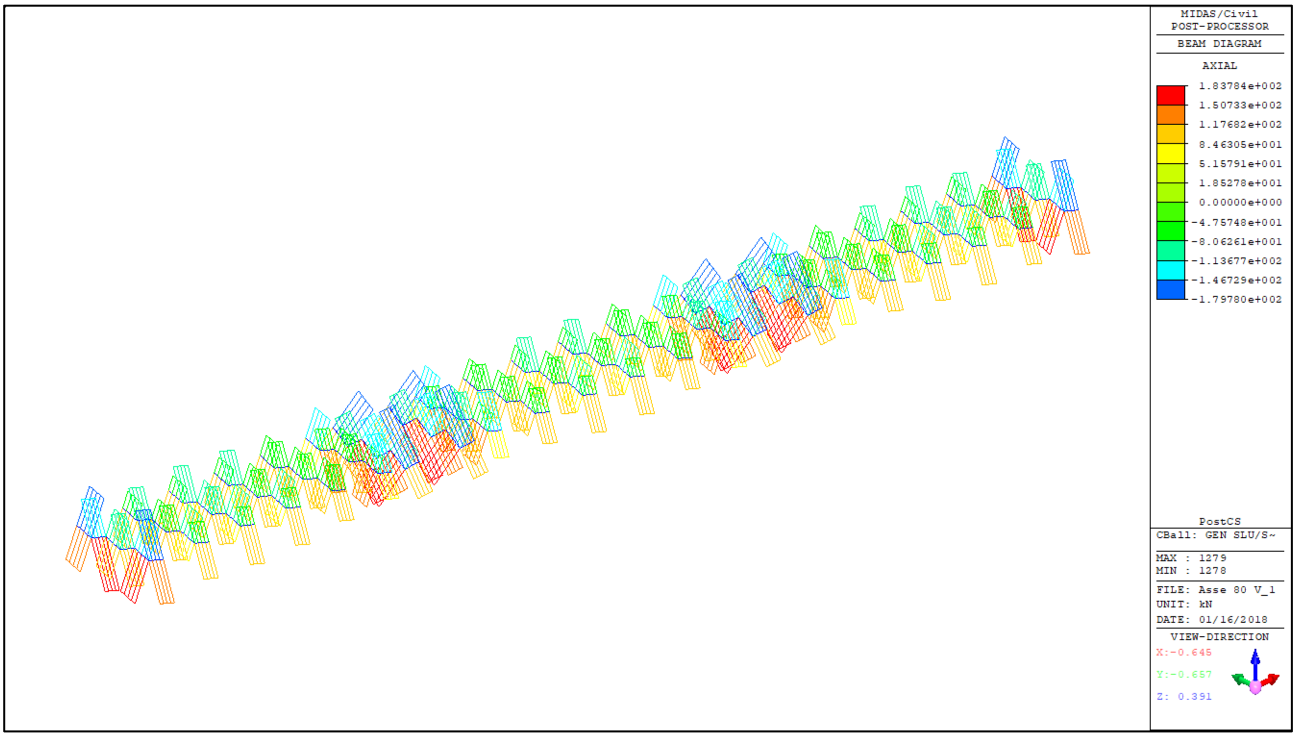
S.L.U. Verifica al rifollamento profilato: $F_{b,Ed}$ = 34.95 kN
coefficienti: k1 = 2.500; α_b = 0.635
Resistenza al rifollamento: $F_{b,Rd}$ = 129.5 kN
Verifica: $\frac{F_{b,Ed}}{F_{b,Rd}} = \frac{34.95}{129.52} =$ 0.270 ≤1: Verificato

S.L.U. Verifica al rifollamento lamiere: $F_{b,Ed}$ = 69.90 kN
coefficienti: k1 = 2.500; α_b = 0.635
Resistenza al rifollamento: $F_{b,Rd}$ = 194.3 kN
Verifica: $\frac{F_{b,Ed}}{F_{b,Rd}} = \frac{69.90}{194.29} =$ 0.360 ≤1: Verificato

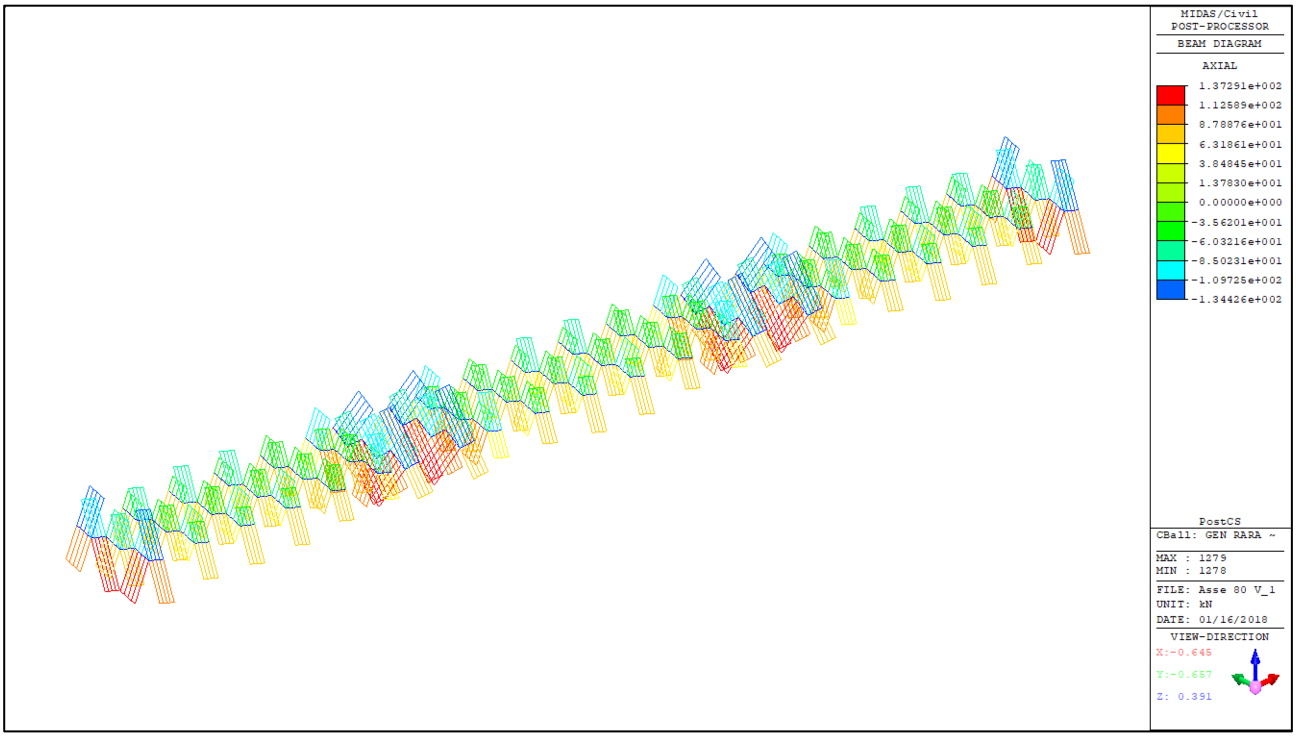
S.L.U. Verifica a trazione del profilato indebolito dai fori: Area netta: A_{net} = 2600 mm^2
Resistenza della sezione netta: $N_{u,Rd}$ = 954.72 kN
Verifica: $\frac{N_{Ed}}{N_{u,Rd}} = \frac{0.00}{954.72} =$ 0.000 N.A.

Categoria (verificata) di connessione bullonata a taglio (EN1993-1-8:2005 § 3.4): **Categoria C: connessioni ad attrito allo S.L.U.**

12.3 DIAFRAMMI SU SPALLE E INTERMEDI - DIAGONALI



DIAGONALI CORRENTI – SFORZO ASSIALE – INVILUPPO SLU

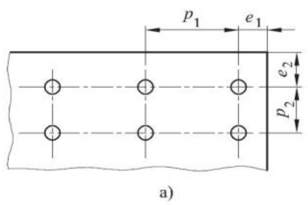


DIAGONALI CORRENTI – SFORZO ASSIALE – INVILUPPO SLE

VERIFICA CONNESSIONE BULLONATA A TAGLIO: TRASVERSI IN CAMPATA - DIAGONALI (2 L 80x8)

Coefficienti di sicurezza per la verifica delle unioni (NTC 2008; Tab. 4.2.XII):

Resistenza dei bulloni e delle sezioni tese (indebolite dai fori)	γ_{M2} =	1.25
Resistenza a scorrimento allo SLU	γ_{M3} =	1.25
Resistenza a scorrimento allo SLE	γ_{M3} =	1.10
Precarico dei bulloni ad alta resistenza (classe 8.8 o 10.9)	γ_{M7} =	1.10



Dati geometrici bulloni:

Diametro nominale:		d =	20	mm
Tipo fori: accoppiamento	normale	d_0 =	21.0	mm
Area nominale gambo non filettato:		A =	314	mm^2
Area resistente gambo filettato:		A_{res} =	245	mm^2
Classe bulloni:	10.9	f_{yb} =	900.00	N/mm^2
		f_{tb} =	1000.00	N/mm^2

Resistenza a taglio:

il piano di taglio interessa la parte:		filettata	
resistenza allo SLU (per piano di taglio):	$F_{v,Rd}$ =	97.92	kN

Resistenza a scorrimento:
(solo classi 8.8 o 10.9)

coefficiente di attrito:	μ =	0.30	(tutte le superfici)
tipo di serraggio:		controllato	
forza di precarico:	$F_{p,Cd}$ =	171.36	kN
resistenza allo SLU (per piano di scorrimento):	$F_{s,Rd}$ =	41.13	kN
resistenza allo SLE (per piano di scorrimento):	$F_{s,Rd,es}$ =	46.73	kN

Dati profili e lamiere:

		Spessore nominale dell'elemento				
		t ≤ 40 mm		40 mm < t ≤ 80 mm		
		fyk [N/mm^2]	ftk [N/mm^2]	fyk [N/mm^2]	ftk [N/mm^2]	
Qualità acciaio profilati:	S 355 W	355	510	335	490	UNI EN 10025-5: acciai per impieghi strutturali con resistenza migliorata alla corrosione atmosferica
Qualità acciaio lamiere / coprigiunti:	S 355 W	355	510	335	490	UNI EN 10025-5: acciai per impieghi strutturali con resistenza migliorata alla corrosione atmosferica

Dati geometrici bulloni:

				Limiti massimi e minimi			
Numero file di bulloni:		1					
Numero bulloni:		2					
Numero superfici di taglio:		2		Min.	Max.		
Interassi:	p_1 =	60	mm	46.2	112	mm	Entro limiti: Verificato
(per fila singola porre: p_2 = 0)	p_2 =	0	mm	0	0	mm	Entro limiti: Verificato

Dati geometrici profilati:

				Limiti massimi e minimi			
Numero profilati:		2					
Spessore flangia bullonata:		8	mm				
Area sezione singolo profilato:		1230	mm^2	Min.	Max.		
Distanze bulloni dal bordo:	e_1 =	40	mm	25.2	125	mm	Entro limiti: Verificato
	e_2 =	40	mm	25.2	125	mm	Entro limiti: Verificato

Dati geometrici lamiere / coprigiunti:

				Limiti massimi e minimi			
Numero lamiere.		1					
Spessore:		15	mm	Min.	Max.		
Distanze bulloni dal bordo:	e_1 =	40	mm	25.2	125	mm	Entro limiti: Verificato
	e_2 =	40	mm	25.2	125	mm	Entro limiti: Verificato

Sollecitazioni di progetto (trazione > 0):

S.L.U.	N_{Ed} =	183.80	kN
S.L.E.	$N_{Ed\,es}$ =	137.30	kN

S.L.U. Verifica di resistenza a taglio bullone, singola superficie: $F_{v,Ed}$ = 45.95 kN

Verifica: $\frac{F_{v,Ed}}{F_{v,Rd}} = \frac{45.95}{97.92}$ = 0.469 ≤1: Verificato

S.L.U. Verifica di resistenza a scorrimento bullone, singola superficie: $F_{v,Ed}$ = 45.95 kN

Verifica: $\frac{F_{v,Ed}}{F_{s,Rd}} = \frac{45.95}{41.13}$ = 1.117 >1: NON Verificato!

S.L.E. Verifica di resistenza a scorrimento bullone, singola superficie: $F_{v,Ed\,es}$ = 34.33 kN

Verifica: $\frac{F_{v,Ed\,es}}{F_{s,Rd\,es}} = \frac{34.33}{46.73}$ = 0.734 ≤1: Verificato

S.L.U. Verifica al rifollamento profilato:

	$F_{b,Ed}$ =	45.95	kN
coefficienti:	k1 =	2.500	
	α_b =	0.635	
Resistenza al rifollamento:	$F_{b,Rd}$ =	103.6	kN

Verifica: $\frac{F_{b,Ed}}{F_{b,Rd}} = \frac{45.95}{103.62}$ = 0.443 ≤1: Verificato

S.L.U. Verifica al rifollamento lamiere:

	$F_{b,Ed}$ =	91.90	kN
coefficienti:	k1 =	2.500	
	α_b =	0.635	
Resistenza al rifollamento:	$F_{b,Rd}$ =	194.3	kN

Verifica: $\frac{F_{b,Ed}}{F_{b,Rd}} = \frac{91.90}{194.29}$ = 0.473 ≤1: Verificato

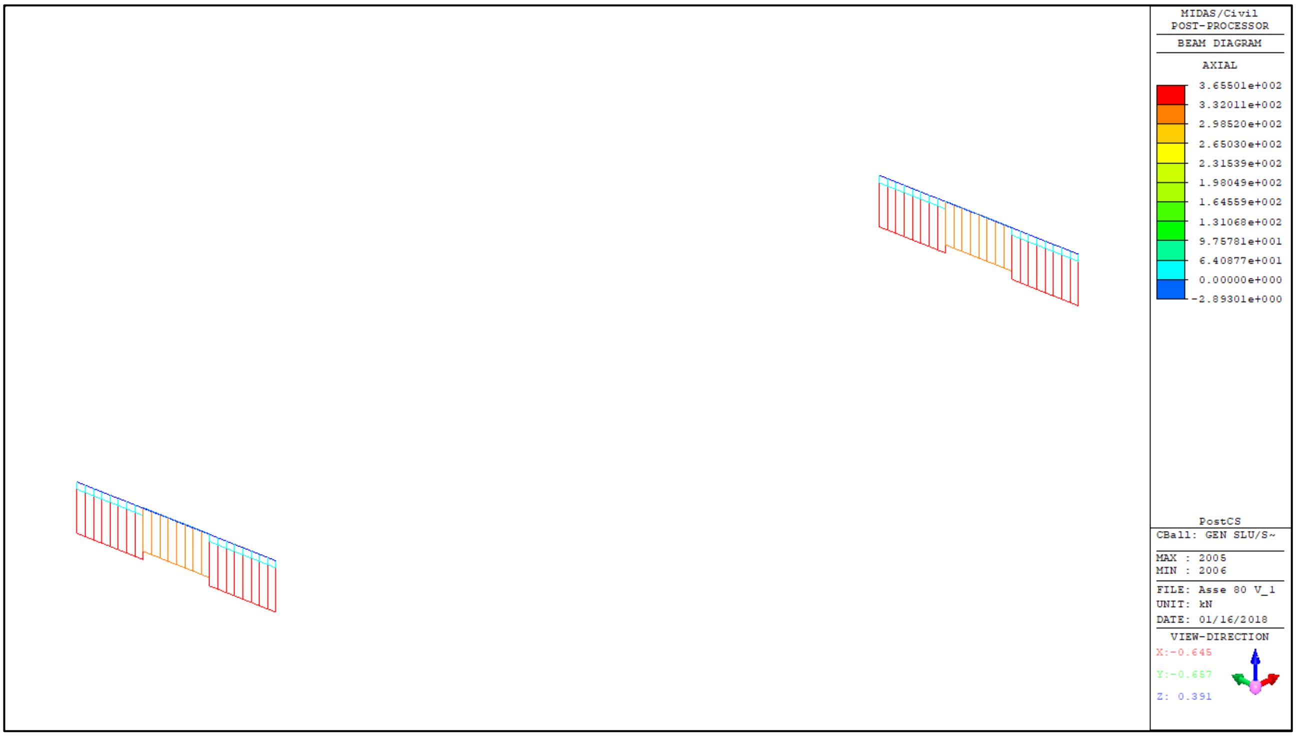
S.L.U. Verifica a trazione del profilato indebolito dai fori:

Area netta:	A_{net} =	2124	mm^2
Resistenza della sezione netta:	$N_{u,Rd}$ =	779.93	kN

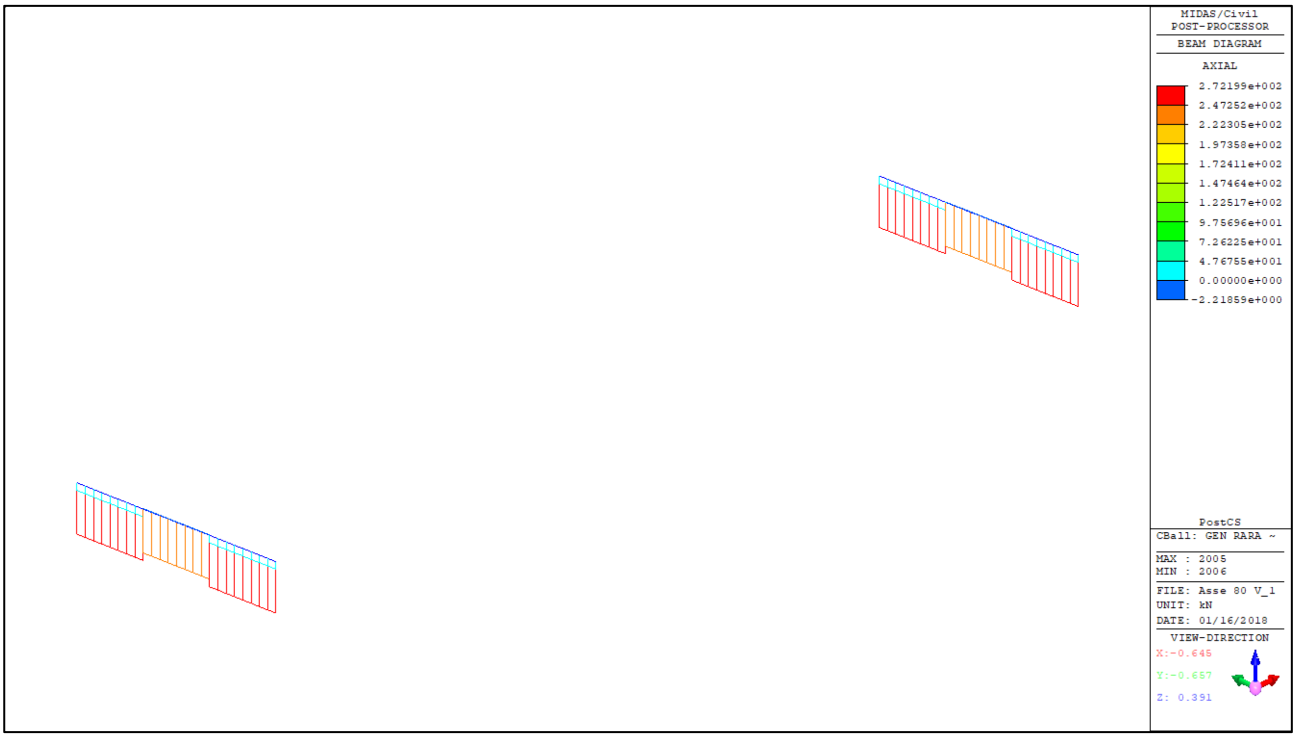
Verifica: $\frac{N_{Ed}}{N_{u,Rd}} = \frac{183.80}{779.93}$ = 0.236 ≤1: Verificato

Categoria (verificata) di connessione bullonata a taglio (EN1993-1-8:2005 § 3.4): Categoria B: connessioni ad attrito allo S.L.E.

12.4 DIAFRAMMI SU PILE – TRASVERSI INFERIORI

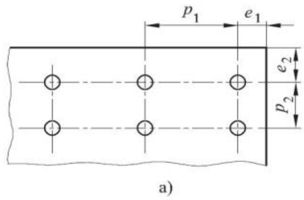


TRASVERSI INFERIORI PILE – SFORZO ASSIALE – INVILUPPO SLU



TRASVERSI INFERIORI PILE – SFORZO ASSIALE – INVILUPPO SLE

VERIFICA CONNESSIONE BULLONATA A TAGLIO: **TRASVERSI SU PILA - CORRENTI INFERIORI (2 L 100x10)**



Coefficienti di sicurezza per la verifica delle unioni (NTC 2008; Tab. 4.2.XII):

Resistenza dei bulloni e delle sezioni tese (indebolite dai fori)	γ_{M2} =	1.25
Resistenza a scorrimento allo SLU	γ_{M3} =	1.25
Resistenza a scorrimento allo SLE	γ_{M3} =	1.10
Precarico dei bulloni ad alta resistenza (classe 8.8 o 10.9)	γ_{M7} =	1.10

Dati geometrici bulloni:

Diametro nominale:		d =	24 mm
Tipo fori: accoppiamento	normale	d_0 =	25.5 mm
Area nominale gambo non filettato:		A =	452 mm²
Area resistente gambo filettato:		A_{res} =	353 mm²
Classe bulloni:	10.9	f_{yb} =	900.00 N/mm²
		f_{tb} =	1000.00 N/mm²

Resistenza a taglio: il piano di taglio interessa la parte: filettata
resistenza allo SLU (per piano di taglio): $F_{v,Rd}$ = 141.00 kN

Resistenza a scorrimento: coefficiente di attrito: μ = 0.30 (tutte le superfici)
(solo classi 8.8 o 10.9) tipo di serraggio: controllato
forza di precarico: $F_{p,Cd}$ = 246.75 kN
resistenza allo SLU (per piano di scorrimento): $F_{s,Rd}$ = 59.22 kN
resistenza allo SLE (per piano di scorrimento): $F_{s,Rd,es}$ = 67.30 kN

Dati profili e lamiere: Spessore nominale dell'elemento

		t ≤ 40 mm fyk [N/mm²]	t ≤ 40 mm ftk [N/mm²]	40 mm < t ≤ 80 mm fyk [N/mm²]	40 mm < t ≤ 80 mm ftk [N/mm²]	
Qualità acciaio profilati:	S 355 W	355	510	335	490	UNI EN 10025-5: acciai per impieghi strutturali con resistenza migliorata alla corrosione atmosferica
Qualità acciaio lamiere / coprigiunti:	S 355 W	355	510	335	490	UNI EN 10025-5: acciai per impieghi strutturali con resistenza migliorata alla corrosione atmosferica

Dati geometrici bulloni:

		Limiti massimi e minimi Min.	Max.	
Numero file di bulloni:	1			
Numero bulloni:	3			
Numero superfici di taglio:	2			
Interassi: p_1 =	60 mm	56.1	140 mm	Entro limiti: Verificato
(per fila singola porre: p_2 = 0) p_2 =	0 mm	0	0 mm	Entro limiti: Verificato

Dati geometrici profilati:

		Limiti massimi e minimi Min.	Max.	
Numero profilati:	2			
Spessore flangia bullonata:	10 mm			
Area sezione singolo profilato:	1920 mm²			
Distanze bulloni dal bordo: e_1 =	40 mm	30.6	125 mm	Entro limiti: Verificato
e_2 =	50 mm	30.6	125 mm	Entro limiti: Verificato

Dati geometrici lamiere / coprigiunti:

		Limiti massimi e minimi Min.	Max.	
Numero lamiere.	1			
Spessore:	20 mm			
Distanze bulloni dal bordo: e_1 =	40 mm	30.6	160 mm	Entro limiti: Verificato
e_2 =	50 mm	30.6	160 mm	Entro limiti: Verificato

Sollecitazioni di progetto (trazione > 0): S.L.U. N_{Ed} = 365.50 kN
S.L.E. $N_{Ed\,es}$ = 272.20 kN

S.L.U. Verifica di resistenza a taglio bullone, singola superficie: $F_{v,Ed}$ = 60.92 kN
Verifica: $\dfrac{F_{v,Ed}}{F_{v,Rd}} = \dfrac{60.92}{141.00}$ = 0.432 ≤1: Verificato

S.L.U. Verifica di resistenza a scorrimento bullone, singola superficie: $F_{v,Ed}$ = 60.92 kN
Verifica: $\dfrac{F_{v,Ed}}{F_{s,Rd}} = \dfrac{60.92}{59.22}$ = 1.029 >1: NON Verificato!

S.L.E. Verifica di resistenza a scorrimento bullone, singola superficie: $F_{v,Ed\,es}$ = 45.37 kN
Verifica: $\dfrac{F_{v,Ed\,es}}{F_{s,Rd\,es}} = \dfrac{45.37}{67.30}$ = 0.674 ≤1: Verificato

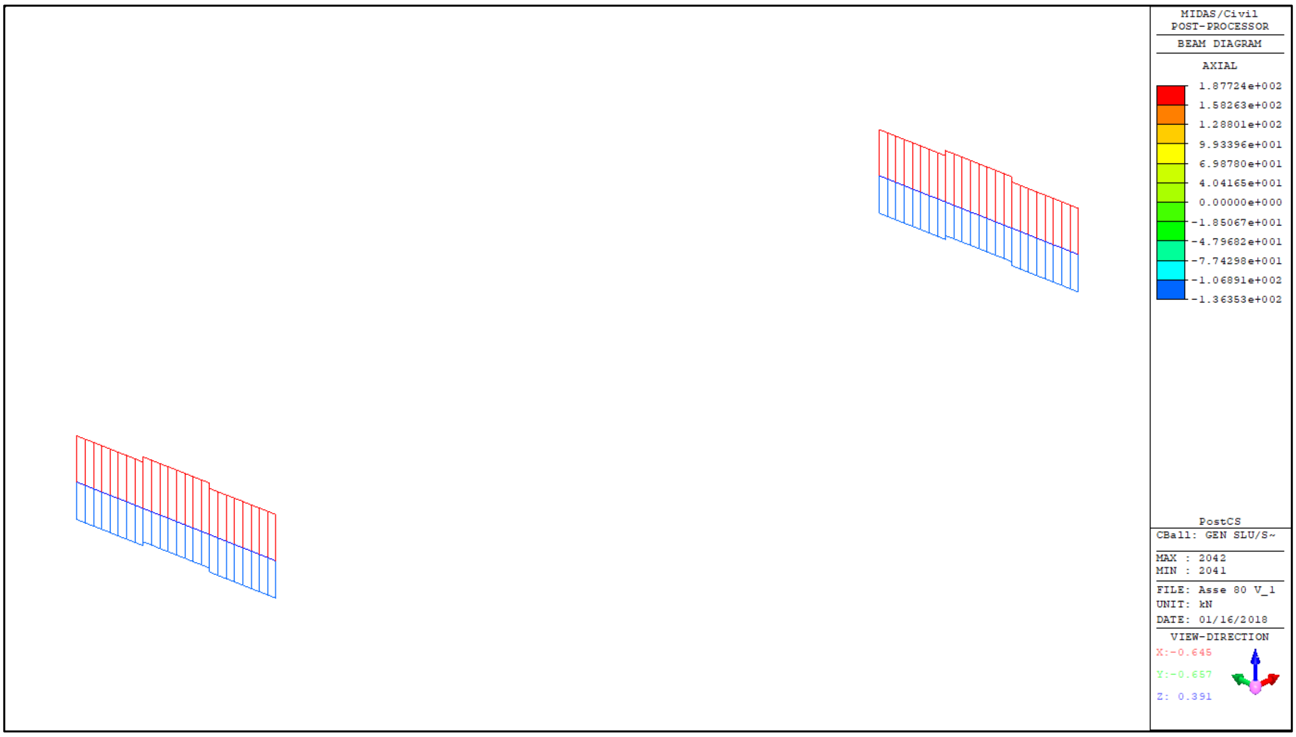
S.L.U. Verifica al rifollamento profilato: $F_{b,Ed}$ = 60.92 kN
coefficienti: k1 = 2.500
α_b = 0.523
Resistenza al rifollamento: $F_{b,Rd}$ = 128.00 kN
Verifica: $\dfrac{F_{b,Ed}}{F_{b,Rd}} = \dfrac{60.92}{128.00}$ = 0.476 ≤1: Verificato

S.L.U. Verifica al rifollamento lamiere: $F_{b,Ed}$ = 121.83 kN
coefficienti: k1 = 2.500
α_b = 0.523
Resistenza al rifollamento: $F_{b,Rd}$ = 256.00 kN
Verifica: $\dfrac{F_{b,Ed}}{F_{b,Rd}} = \dfrac{121.83}{256.00}$ = 0.476 ≤1: Verificato

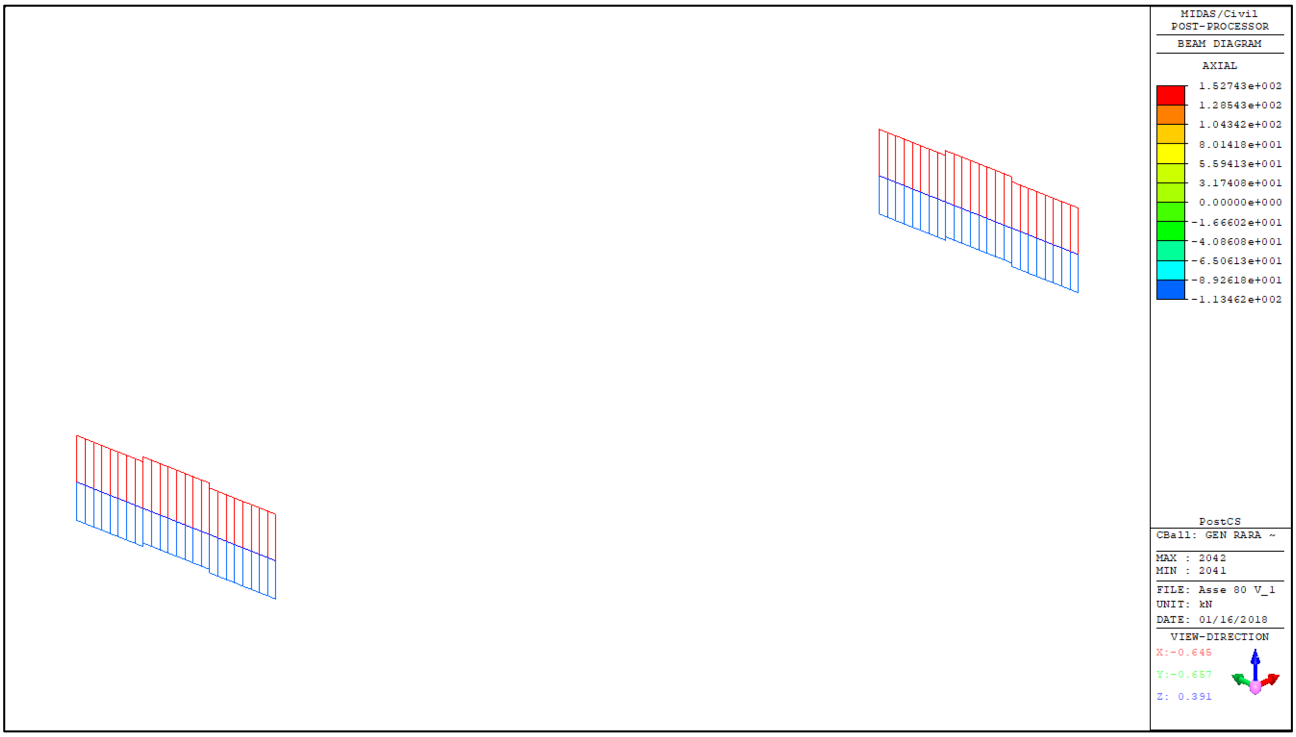
S.L.U. Verifica a trazione del profilato indebolito dai fori: Area netta: A_{net} = 3330 mm²
Resistenza della sezione netta: $N_{u,Rd}$ = 1222.78 kN
Verifica: $\dfrac{N_{Ed}}{N_{u,Rd}} = \dfrac{365.50}{1222.78}$ = 0.299 ≤1: Verificato

Categoria (verificata) di connessione bullonata a taglio (EN1993-1-8:2005 § 3.4): **Categoria B: connessioni ad attrito allo S.L.E.**

12.5 DIAFRAMMI SU PILE – TRASVERSI SUPERIORI

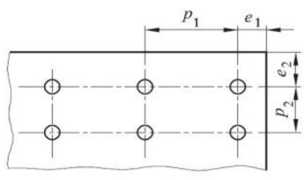


TRASVERSI SUPERIORI PILE – SFORZO ASSIALE – INVILUPPO SLU



TRASVERSI SUPERIORI PILE – SFORZO ASSIALE – INVILUPPO SLE

VERIFICA CONNESSIONE BULLONATA A TAGLIO: TRASVERSI SU PILA - CORRENTI SUPERIORI (2 L 100x10)



a)

Coefficienti di sicurezza per la verifica delle unioni (NTC 2008; Tab. 4.2.XII):

Resistenza dei bulloni e delle sezioni tese (indebolite dai fori)	γ_{M2} =	1.25
Resistenza a scorrimento allo SLU	γ_{M3} =	1.25
Resistenza a scorrimento allo SLE	γ_{M3} =	1.10
Precarico dei bulloni ad alta resistenza (classe 8.8 o 10.9)	γ_{M7} =	1.10

Dati geometrici bulloni:

Diametro nominale:		d =	20 mm
Tipo fori: accoppiamento	di precisione	d_0 =	20.3 mm
Area nominale gambo non filettato:		A =	314 mm^2
Area resistente gambo filettato:		A_{res} =	245 mm^2
Classe bulloni:	10.9	f_{yb} =	900.00 N/mm^2
		f_{tb} =	1000.00 N/mm^2

Resistenza a taglio:

il piano di taglio interessa la parte:		filettata
resistenza allo SLU (per piano di taglio):	$F_{v,Rd}$ =	97.92 kN

Resistenza a scorrimento:
(solo classi 8.8 o 10.9)

coefficiente di attrito:	μ =	0.30 (tutte le superfici)
tipo di serraggio:		controllato
forza di precarico:	$F_{p,Cd}$ =	171.36 kN
resistenza allo SLU (per piano di scorrimento):	$F_{s,Rd}$ =	41.13 kN
resistenza allo SLE (per piano di scorrimento):	$F_{s,Rd,es}$ =	46.73 kN

Dati profili e lamiere: Spessore nominale dell'elemento

		t ≤ 40 mm		40 mm < t ≤ 80 mm		
		fyk [N/mm^2]	ftk [N/mm^2]	fyk [N/mm^2]	ftk [N/mm^2]	
Qualità acciaio profilati:	S 355 W	355	510	335	490	UNI EN 10025-5: acciai per impieghi strutturali con resistenza migliorata alla corrosione atmosferica
Qualità acciaio lamiere / coprigiunti:	S 355 W	355	510	335	490	UNI EN 10025-5: acciai per impieghi strutturali con resistenza migliorata alla corrosione atmosferica

Dati geometrici bulloni:

			Limiti massimi e minimi		
			Min.	Max.	
Numero file di bulloni:		1			
Numero bulloni:		3			
Numero superfici di taglio:		2			
Interassi:	p_1 =	60 mm	44.66	140 mm	Entro limiti: Verificato
(per fila singola porre: p_2 = 0)	p_2 =	0 mm	0	0 mm	Entro limiti: Verificato

Dati geometrici profilati:

			Limiti massimi e minimi		
			Min.	Max.	
Numero profilati:		2			
Spessore flangia bullonata:		10 mm			
Area sezione singolo profilato:		1920 mm^2			
Distanze bulloni dal bordo:	e_1 =	40 mm	24.36	125 mm	Entro limiti: Verificato
	e_2 =	50 mm	24.36	125 mm	Entro limiti: Verificato

Dati geometrici lamiere / coprigiunti:

			Limiti massimi e minimi		
			Min.	Max.	
Numero lamiere.		1			
Spessore:		20 mm			
Distanze bulloni dal bordo:	e_1 =	40 mm	24.36	160 mm	Entro limiti: Verificato
	e_2 =	50 mm	24.36	160 mm	Entro limiti: Verificato

Sollecitazioni di progetto (trazione > 0):

S.L.U.	N_{Ed} =	187.70 kN
S.L.E.	$N_{Ed\,es}$ =	152.70 kN

S.L.U. Verifica di resistenza a taglio bullone, singola superficie: $F_{v,Ed}$ = 31.28 kN

Verifica: $\frac{F_{v,Ed}}{F_{v,Rd}} = \frac{31.28}{97.92} =$ 0.319 ≤1: Verificato

S.L.U. Verifica di resistenza a scorrimento bullone, singola superficie: $F_{v,Ed}$ = 31.28 kN

Verifica: $\frac{F_{v,Ed}}{F_{s,Rd}} = \frac{31.28}{41.13} =$ 0.761 ≤1: Verificato

S.L.E. Verifica di resistenza a scorrimento bullone, singola superficie: $F_{v,Ed\,es}$ = 25.45 kN

Verifica: $\frac{F_{v,Ed\,es}}{F_{s,Rd\,es}} = \frac{25.45}{46.73} =$ 0.545 ≤1: Verificato

S.L.U. Verifica al rifollamento profilato:

	$F_{b,Ed}$ =	31.28 kN
coefficienti:	k1 =	2.500
	α_b =	0.657
Resistenza al rifollamento:	$F_{b,Rd}$ =	134.0 kN

Verifica: $\frac{F_{b,Ed}}{F_{b,Rd}} = \frac{31.28}{133.99} =$ 0.233 ≤1: Verificato

S.L.U. Verifica al rifollamento lamiere:

	$F_{b,Ed}$ =	62.57 kN
coefficienti:	k1 =	2.500
	α_b =	0.657
Resistenza al rifollamento:	$F_{b,Rd}$ =	268.0 kN

Verifica: $\frac{F_{b,Ed}}{F_{b,Rd}} = \frac{62.57}{267.98} =$ 0.233 ≤1: Verificato

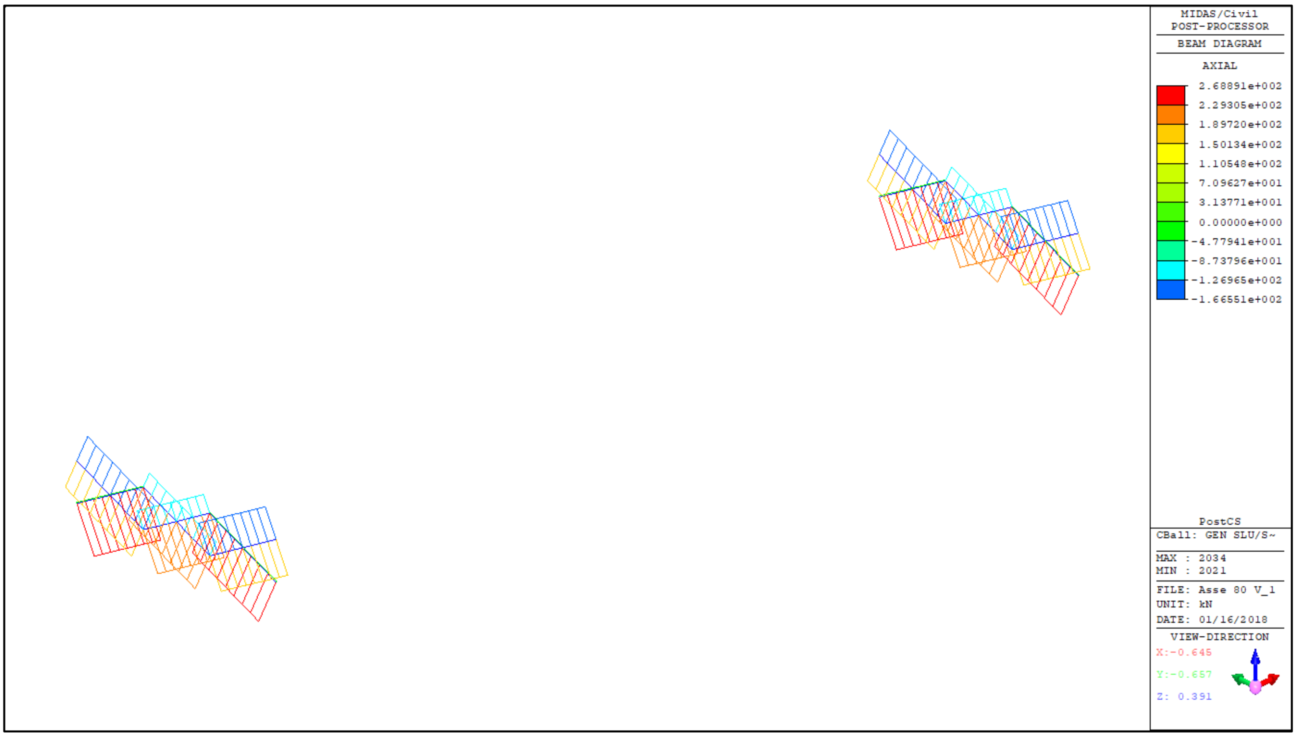
S.L.U. Verifica a trazione del profilato indebolito dai fori:

Area netta:	A_{net} =	3434 mm^2
Resistenza della sezione netta:	$N_{u,Rd}$ =	1260.96 kN

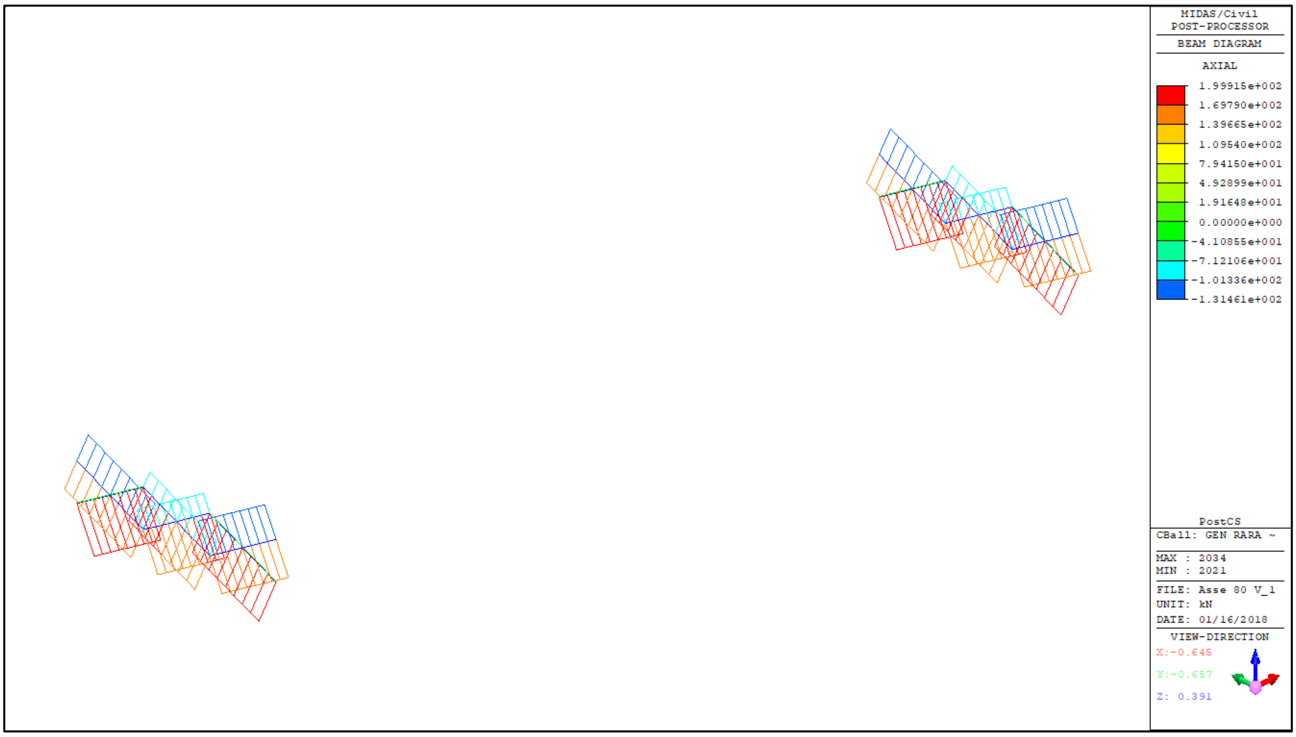
Verifica: $\frac{N_{Ed}}{N_{u,Rd}} = \frac{187.70}{1260.96} =$ 0.149 ≤1: Verificato

Categoria (verificata) di connessione bullonata a taglio (EN1993-1-8:2005 § 3.4): **Categoria C: connessioni ad attrito allo S.L.U.**

12.6 DIAFRAMMI SU PILE – DIAGONALI

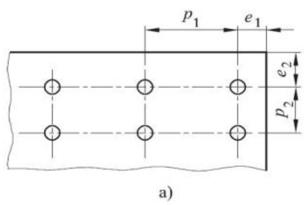


DIAGONALI TRASVERSI SU PILE – SFORZO ASSIALE – INVILUPPO SLU



DIAGONALI TRASVERSI SU PILE – SFORZO ASSIALE – INVILUPPO SLE

VERIFICA CONNESSIONE BULLONATA A TAGLIO: **TRASVERSI SU PILA - DIAGONALI (2 L 80x8)**



Coefficienti di sicurezza per la verifica delle unioni (NTC 2008; Tab. 4.2.XII):

Resistenza dei bulloni e delle sezioni tese (indebolite dai fori)	γ_{M2} =	1.25
Resistenza a scorrimento allo SLU	γ_{M3} =	1.25
Resistenza a scorrimento allo SLE	γ_{M3} =	1.10
Precarico dei bulloni ad alta resistenza (classe 8.8 o 10.9)	γ_{M7} =	1.10

Dati geometrici bulloni:

Diametro nominale:		d =	24 mm
Tipo fori: accoppiamento	normale	d_0 =	25.5 mm
Area nominale gambo non filettato:		A =	452 mm^2
Area resistente gambo filettato:		A_{res} =	353 mm^2
Classe bulloni:	10.9	f_{yb} =	900.00 N/mm^2
		f_{tb} =	1000.00 N/mm^2

Resistenza a taglio:
- il piano di taglio interessa la parte: filettata
- resistenza allo SLU (per piano di taglio): $F_{v,Rd}$ = 141.00 kN

Resistenza a scorrimento: (solo classi 8.8 o 10.9)
- coefficiente di attrito: μ = 0.30 (tutte le superfici)
- tipo di serraggio: controllato
- forza di precarico: $F_{p,Cd}$ = 246.75 kN
- resistenza allo SLU (per piano di scorrimento): $F_{s,Rd}$ = 59.22 kN
- resistenza allo SLE (per piano di scorrimento): $F_{s,Rd,es}$ = 67.30 kN

Dati profili e lamiere: Spessore nominale dell'elemento

		t ≤ 40 mm		40 mm < t ≤ 80 mm		
		fyk [N/mm^2]	ftk [N/mm^2]	fyk [N/mm^2]	ftk [N/mm^2]	
Qualità acciaio profilati:	S 355 W	355	510	335	490	UNI EN 10025-5: acciai per impieghi strutturali con resistenza migliorata alla corrosione atmosferica
Qualità acciaio lamiere / coprigiunti:	S 355 W	355	510	335	490	UNI EN 10025-5: acciai per impieghi strutturali con resistenza migliorata alla corrosione atmosferica

Dati geometrici bulloni:

		Valore	Min.	Max.	
Numero file di bulloni:		1			
Numero bulloni:		2	Limiti massimi e minimi		
Numero superfici di taglio:		2			
Interassi:	p_1 =	60 mm	56.1	112 mm	Entro limiti: Verificato
(per fila singola porre: p_2 = 0)	p_2 =	0 mm	0	0 mm	Entro limiti: Verificato

Dati geometrici profilati:

		Valore	Min.	Max.	
Numero profilati:		2			
Spessore flangia bullonata:		8 mm	Limiti massimi e minimi		
Area sezione singolo profilato:		1230 mm^2			
Distanze bulloni dal bordo:	e_1 =	40 mm	30.6	125 mm	Entro limiti: Verificato
	e_2 =	40 mm	30.6	125 mm	Entro limiti: Verificato

Dati geometrici lamiere / coprigiunti:

		Valore	Min.	Max.	
Numero lamiere.		1	Limiti massimi e minimi		
Spessore:		20 mm			
Distanze bulloni dal bordo:	e_1 =	40 mm	30.6	160 mm	Entro limiti: Verificato
	e_2 =	40 mm	30.6	160 mm	Entro limiti: Verificato

Sollecitazioni di progetto (trazione > 0):
- S.L.U. N_{Ed} = 268.90 kN
- S.L.E. $N_{Ed\,es}$ = 199.90 kN

S.L.U. Verifica di resistenza a taglio bullone, singola superficie: $F_{v,Ed}$ = 67.23 kN

Verifica: $\dfrac{F_{v,Ed}}{F_{v,Rd}} = \dfrac{67.23}{141.00}$ = 0.477 ≤1: Verificato

S.L.U. Verifica di resistenza a scorrimento bullone, singola superficie: $F_{v,Ed}$ = 67.23 kN

Verifica: $\dfrac{F_{v,Ed}}{F_{s,Rd}} = \dfrac{67.23}{59.22}$ = 1.135 >1: NON Verificato!

S.L.E. Verifica di resistenza a scorrimento bullone, singola superficie: $F_{v,Ed\,es}$ = 49.98 kN

Verifica: $\dfrac{F_{v,Ed\,es}}{F_{s,Rd\,es}} = \dfrac{49.98}{67.30}$ = 0.743 ≤1: Verificato

S.L.U. Verifica al rifollamento profilato:
- $F_{b,Ed}$ = 67.23 kN
- coefficienti: k1 = 2.500; α_b = 0.523
- Resistenza al rifollamento: $F_{b,Rd}$ = 102.4 kN

Verifica: $\dfrac{F_{b,Ed}}{F_{b,Rd}} = \dfrac{67.23}{102.40}$ = 0.656 ≤1: Verificato

S.L.U. Verifica al rifollamento lamiere:
- $F_{b,Ed}$ = 134.45 kN
- coefficienti: k1 = 2.500; α_b = 0.523
- Resistenza al rifollamento: $F_{b,Rd}$ = 256.0 kN

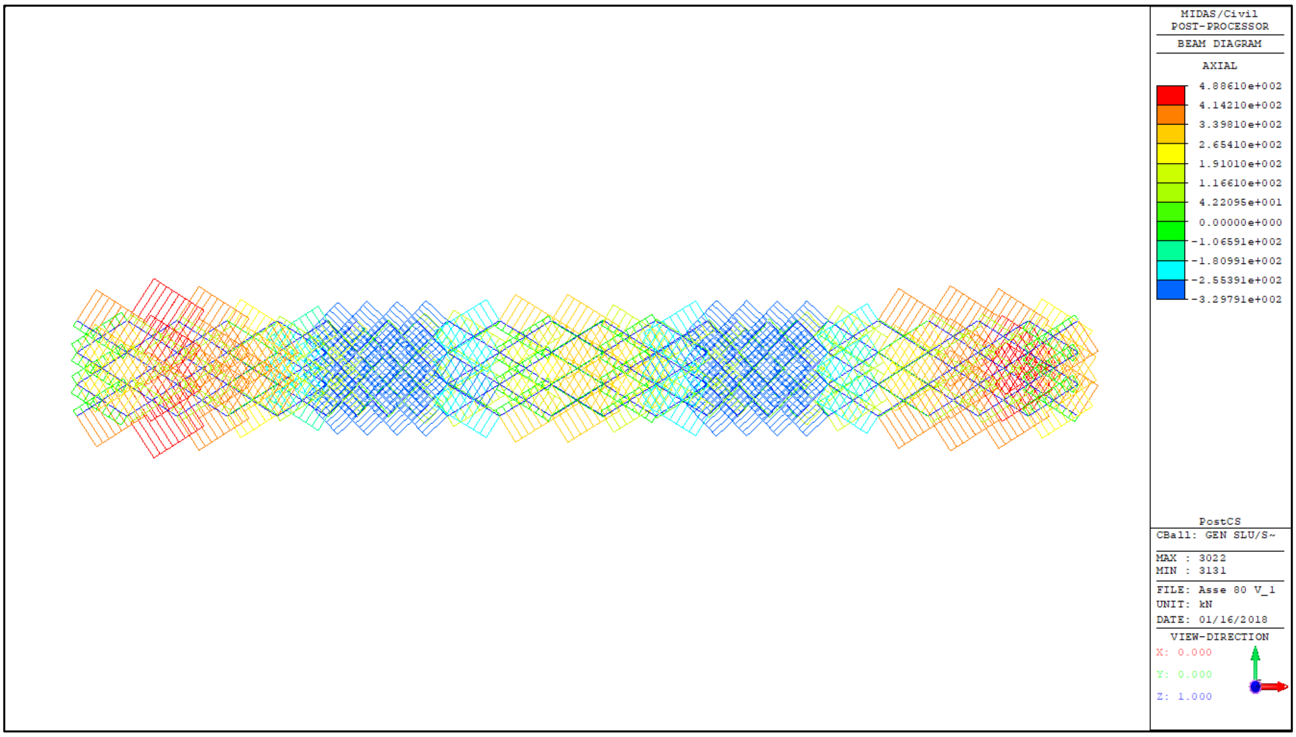
Verifica: $\dfrac{F_{b,Ed}}{F_{b,Rd}} = \dfrac{134.45}{256.00}$ = 0.525 ≤1: Verificato

S.L.U. Verifica a trazione del profilato indebolito dai fori:
- Area netta: A_{net} = 2052 mm^2
- Resistenza della sezione netta: $N_{u,Rd}$ = 753.49 kN

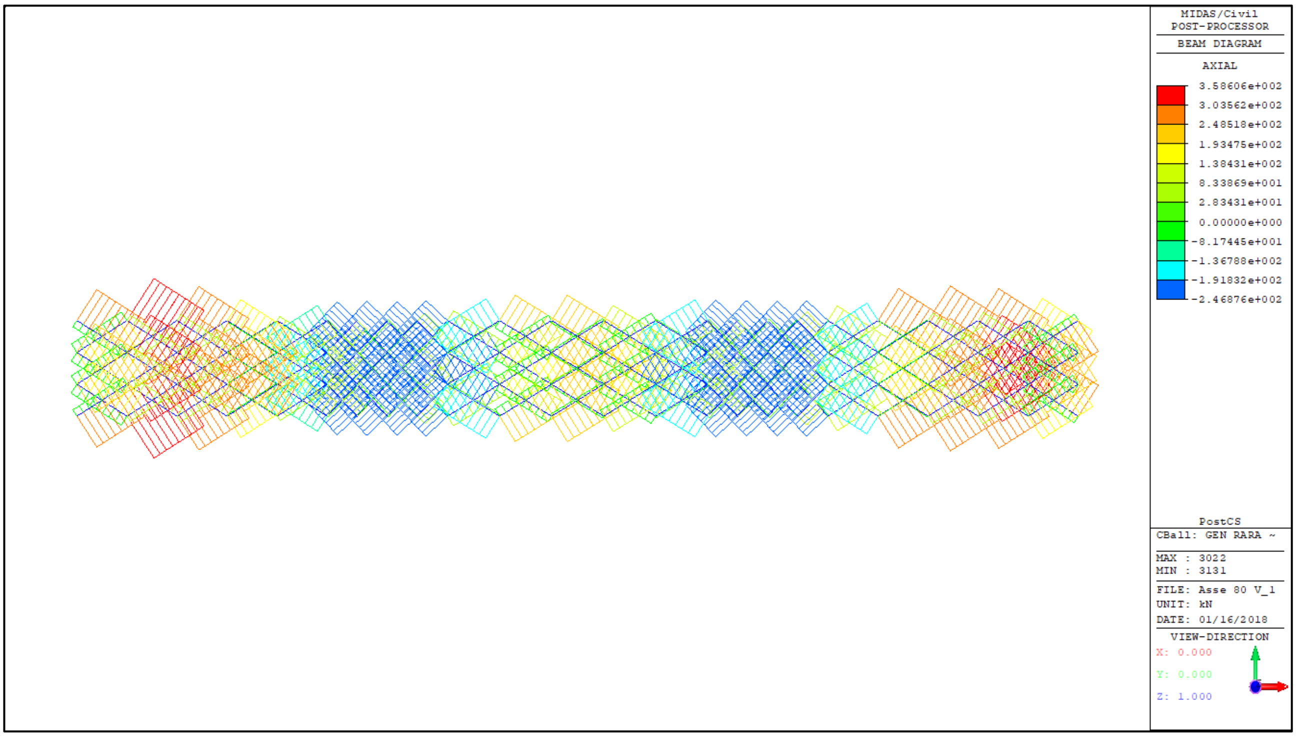
Verifica: $\dfrac{N_{Ed}}{N_{u,Rd}} = \dfrac{268.90}{753.49}$ = 0.357 ≤1: Verificato

Categoria (verificata) di connessione bullonata a taglio (EN1993-1-8:2005 § 3.4): **Categoria B: connessioni ad attrito allo S.L.E.**

12.7 CONTROVENTI



CONTROVENTI – SFORZO ASSIALE – INVILUPPO SLU

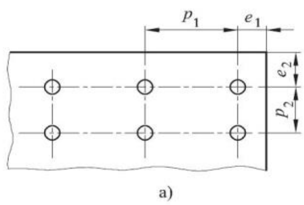


CONTROVENTI – SFORZO ASSIALE – INVILUPPO SLE

VERIFICA CONNESSIONE BULLONATA A TAGLIO: CONTROVENTI (2 L 80x10)

Coefficienti di sicurezza per la verifica delle unioni (NTC 2008; Tab. 4.2.XII):

Resistenza dei bulloni e delle sezioni tese (indebolite dai fori)	γ_{M2} =	1.25
Resistenza a scorrimento allo SLU	γ_{M3} =	1.25
Resistenza a scorrimento allo SLE	γ_{M3} =	1.10
Precarico dei bulloni ad alta resistenza (classe 8.8 o 10.9)	γ_{M7} =	1.10



Dati geometrici bulloni:	Diametro nominale:		d =	27 mm
	Tipo fori: accoppiamento	normale	d_0 =	28.5 mm
	Area nominale gambo non filettato:		A =	573 mm²
	Area resistente gambo filettato:		A_{res} =	459 mm²
	Classe bulloni:	10.9	f_{yb} =	900.00 N/mm²
			f_{tb} =	1000.00 N/mm²

Resistenza a taglio:	il piano di taglio interessa la parte:		filettata
	resistenza allo SLU (per piano di taglio):	$F_{v,Rd}$ =	183.76 kN
Resistenza a scorrimento:	coefficiente di attrito:	μ =	0.30 (tutte le superfici)
(solo classi 8.8 o 10.9)	tipo di serraggio:		controllato
	forza di precarico:	$F_{p,Cd}$ =	321.58 kN
	resistenza allo SLU (per piano di scorrimento):	$F_{s,Rd}$ =	77.18 kN
	resistenza allo SLE (per piano di scorrimento):	$F_{s,Rd,es}$ =	87.70 kN

Dati profili e lamiere: Spessore nominale dell'elemento

		t ≤ 40 mm fyk [N/mm²]	t ≤ 40 mm ftk [N/mm²]	40 mm < t ≤ 80 mm fyk [N/mm²]	40 mm < t ≤ 80 mm ftk [N/mm²]	
Qualità acciaio profilati:	S 355 W	355	510	335	490	UNI EN 10025-5: acciai per impieghi strutturali con resistenza migliorata alla corrosione atmosferica
Qualità acciaio lamiere / coprigiunti:	S 355 W	355	510	335	490	UNI EN 10025-5: acciai per impieghi strutturali con resistenza migliorata alla corrosione atmosferica

				Min.	Max.	
Dati geometrici bulloni:	Numero file di bulloni:		1			
	Numero bulloni:		3	Limiti massimi e minimi		
	Numero superfici di taglio:		2			
	Interassi:	p_1 =	70 mm	62.7	140 mm	Entro limiti: Verificato
	(per fila singola porre: p_2 = 0)	p_2 =	0 mm	0	0 mm	Entro limiti: Verificato
Dati geometrici profilati:	Numero profilati:		2			
	Spessore flangia bullonata:		10 mm	Limiti massimi e minimi		
	Area sezione singolo profilato:		1510 mm²			
	Distanze bulloni dal bordo:	e_1 =	40 mm	34.2	125 mm	Entro limiti: Verificato
		e_2 =	40 mm	34.2	125 mm	Entro limiti: Verificato
Dati geometrici lamiere / coprigiunti:	Numero lamiere.		1	Limiti massimi e minimi		
	Spessore:		15 mm			
	Distanze bulloni dal bordo:	e_1 =	40 mm	34.2	125 mm	Entro limiti: Verificato
		e_2 =	40 mm	34.2	125 mm	Entro limiti: Verificato

Sollecitazioni di progetto (trazione > 0):	S.L.U.	N_{Ed} =	488.60 kN
	S.L.E.	$N_{Ed\,es}$ =	358.60 kN

S.L.U. Verifica di resistenza a taglio bullone, singola superficie:	$F_{v,Ed}$ =	81.43 kN	Verifica:	$F_{v,Ed}/F_{v,Rd}$ =	81.43 / 183.76 =	0.443 ≤1: Verificato
S.L.U. Verifica di resistenza a scorrimento bullone, singola superficie:	$F_{v,Ed}$ =	81.43 kN	Verifica:	$F_{v,Ed}/F_{s,Rd}$ =	81.43 / 77.18 =	1.055 >1: NON Verificato!
S.L.E. Verifica di resistenza a scorrimento bullone, singola superficie:	$F_{v,Ed\,es}$ =	59.77 kN	Verifica:	$F_{v,Ed\,es}/F_{s,Rd\,es}$ =	59.77 / 87.70 =	0.681 ≤1: Verificato
S.L.U. Verifica al rifollamento profilato:	$F_{b,Ed}$ =	81.43 kN				
coefficienti:	k1 =	2.230				
	α_b =	0.468				
Resistenza al rifollamento:	$F_{b,Rd}$ =	114.9 kN	Verifica:	$F_{b,Ed}/F_{b,Rd}$ =	81.43 / 114.92 =	0.709 ≤1: Verificato
S.L.U. Verifica al rifollamento lamiere:	$F_{b,Ed}$ =	162.87 kN				
coefficienti:	k1 =	2.230				
	α_b =	0.468				
Resistenza al rifollamento:	$F_{b,Rd}$ =	172.4 kN	Verifica:	$F_{b,Ed}/F_{b,Rd}$ =	162.87 / 172.38 =	0.945 ≤1: Verificato
S.L.U. Verifica a trazione del profilato indebolito dai fori: Area netta:	A_{net} =	2450 mm²				
Resistenza della sezione netta:	$N_{u,Rd}$ =	899.64 kN	Verifica:	$N_{Ed}/N_{u,Rd}$ =	488.60 / 899.64 =	0.543 ≤1: Verificato

Categoria (verificata) di connessione bullonata a taglio (EN1993-1-8:2005 § 3.4): Categoria B: connessioni ad attrito allo S.L.E.

13 VERIFICA DEGLI ISOLATORI SISMICI

Si effettuano le verifiche allo stato limite ultimo degli isolatori elastomerici effettuate secondo EN 1337-3 per le fasi statiche e secondo OPCM 3274 (allegato 10.A) per le fasi sismiche.

CAVALCAVIA ASSE 80

VERIFICA APPOGGI ELASTOMERICI ARMATI

		SPALLE			PILE	
Dati di progetto:						
Deformazione massima sismica di progetto SLC (d/h ≤ 2)	Dsp=	152.0	mm	Dsp=	156.0	mm
Deformazione massima statica di progetto SLU/SLD (d/h ≤ 1)	Dp=	76.0	mm	Dp=	78.0	mm
Risultati da modello di calcolo						
Carico verticale massimo statico SLU	V(max)=	-1928.8	kN	V(max)=	-4626.9	kN
Carico verticale minmo statico SLU	V(min)=	-536.0	kN	V(min)=	-2028.1	kN
Carico orizzontale massimo statico SLU	H(max)=	55.1	kN	H(max)=	118.2	kN
Rotazione massima statica SLU	R (max)=	2.304E-02	rad	R (max)=	5.407E-03	rad
Carico verticale massimo sismico SLC	Vs(max)=	-614.3	kN	Vs(max)=	-2220.5	kN
Carico verticale minimo sismico SLC	Vs(min)=	-380.2	kN	Vs(min)=	-1448.4	kN
Carico orizzontale massimo sismico SLC	Hs(max)=	106.5	kN	Hs(max)=	227.5	kN
Rotazione massima sismica SLC	Rs (max)=	1.346E-02	rad	Rs (max)=	2.466E-03	rad
Carico verticale massimo statico SLE (caratt.)	Ve(max)=	-1417.7	kN	V(max)=	-3410.4	kN
Carico verticale minmo statico SLE (caratt.)	Ve(min)=	-367.1	kN	V(min)=	-1426.1	kN
Carico orizzontale massimo statico SLE (caratt.)	He(max)=	40.6	kN	H(max)=	80.6	kN
Rotazione massima statica SLE (caratt.)	Re(max)=	1.479E-02	rad	R (max)=	4.090E-03	rad
Caratteristiche di progetto isolatore		**SPALLE**			**PILE**	
Tensione caratteristica di snervamento lamiere (≥ 235 N/mmq)	fyk=	275	N/mmq	fyk=	275	N/mmq
Modulo di elasticità volumetrica elastomero	Eb=	2000	N/mmq	Eb=	2000	N/mmq
Modulo di elasticità tangenziale dinamico elastomero (γ = D/te = 1)	Gdin=	1.4	N/mmq	Gdin=	1.4	N/mmq
Spostamento massimo di progetto tra le due facce dell'isolatore allo SLC	de=	152	mm	de=	156	mm
Diametro elastomero	Dg=	300	mm	Dg=	450	mm
Numero di strati di elastomero	ng=	19		ng=	13	
Spessore singolo strato di elastomero (5 mm< tg < 25 mm)	tg=	4	mm	tg=	6	mm
Spessore singola lamiera di acciaio interna (≥ 2 mm)	ts=	2	mm	ts=	3	mm
Spessore lamiera di acciaio esterna (≥ 20 mm)	tse=	20	mm	tse=	20	mm
Lato piastra di ancoraggio	Z=	350	mm	Z=	500	mm
Spessore piastra di ancoraggio	ta=	25	mm	ta=	25	mm
Ricoprimento laterale lamiere di acciaio (> 4 mm)	rs=	10	mm	rs=	10	mm
Diametro lamiere di acciaio interne (Dg-D' > 2x4 = 8 mm)	D'=	280	mm	D'=	430	mm
Spessore totale elastomero	te=	76	mm	te=	78	mm
Spessore complessivo isolatore (escluse piastre ancoraggio)	h=	152	mm	h=	154	mm
Spessore complessivo isolatore (incluse piastre ancoraggio)	H=	202	mm	H=	204	mm
Tensione di trazione massima (min(1;2*Gdin)	Sigma_t=	-1.00	N/mmq	Sigma_t=	-1.00	N/mmq
Fattore di forma primario	S1=	17.50		S1=	17.92	
	Fi(de)=	2.0790	rad	Fi(de)=	2.4336	rad
Modulo di compressibilità assiale	Ec=	947.51	N/mmq	Ec=	963.83	N/mmq
Rigidezza orizzontale equivalente (γ = D/te = 1)	**Ke=**	**1302**	**N/mm**	**Ke=**	**2855**	**N/mm**
Rigidezza verticale	**Kv=**	**767676**	**N/mm**	**Kv=**	**1794462**	**N/mm**

Verifiche statiche secondo EN 1337-3:2005						
Carico verticale massimo statico SLU	V(max)=	1928760	N	V(max)=	4626890	N
Carico orizzontale massimo statico SLU	H(max)=	55143	N	H(max)=	118202	N
Carico orizzontale statico a γ = D/te = 1:	H(γ=1)=	98960	N	H(γ=1)=	222660	N
Spostamento statico totale	D=	37.56	mm	D=	36.28	mm
Rotazione massima statica SLU	R (max)=	2.304E-02	rad	R (max)=	5.407E-03	rad
	Fi(de)=	2.8905	rad	Fi(de)=	2.9802	rad
Area ridotta efficace dell'isolatore	Ar=	51785	mmq	Ar=	130330	mmq
1. Deformazione di taglio massima						
dovuta alla compressione:	Gamma_c=	2.2803		Gamma_c=	2.1230	
dovuta allo spostamento statico tot (< 1)	Gamma_s=	0.4942		Gamma_s=	0.4651	
dovuta alle rotazioni	Gamma_alfa=	2.5578		Gamma_alfa=	0.8774	
totale: (< 7)	Gamma_t=	5.3324		Gamma_t=	3.4655	
2. Spessore minimo lamiere di acciaio (≥ 2 mm)	ts(min)=	2.00	mm	ts(min)=	2.01	mm
3. Rotazione limite:						
spostamento verticale massimo:	Dz=	2.301	mm	Dz=	2.349	mm
spostamento dovuto alla rotazione massima	D_alfa=	2.150	mm	D_alfa=	0.775	mm
Verifica: (Dz - D_alfa) >0	Dz - D_alfa=	0.150	mm	Dz - D_alfa=	1.574	mm
4. Verifica di instabilità: Pmax < Plim						
pressione limite	Plim=	60.175	N/mmq	Plim=	92.187	N/mmq
pressione massima: (< Plim)	Pmax=	37.245	N/mmq	Pmax=	35.501	N/mmq
Pressione sulle sottostrutture						
Diametro efficace di ripartizione a 60° (< Z)	De=	350	mm	De=	500	mm
Pressione massima SLU/SLC	P'max=	20.047	N/mmq	P'max=	23.565	N/mmq
Pressione minima SLU/SLC	P'min=	3.951	N/mmq	P'min=	7.377	N/mmq
Verifiche sismiche secondo OPCM 3274 e s.m. (Allegato 10.A)						
Sforzo normale massimo sull'isolatore allo SLC	V=	614310	N	V=	2220490	N
Carico orizzontale massimo sismico SLC	Hs(max)=	106457	N	Hs(max)=	227515	N
Carico orizzontale sismico a γ = D/te = 1:	H(γ=1)=	98960	N	H(γ=1)=	222660	N
Spostamento sismico totale	Ds=	81.76	mm (< Dsp)	Ds=	79.70	mm (< Dsp
Rotazione massima sismica SLC	Rs (max)=	1.346E-02	rad	Rs (max)=	2.466E-03	rad
	Fi(de)=	2.58956	rad	Fi(de)=	2.78549	rad
Area ridotta efficace dell'isolatore	Ar=	40477	mmq	Ar=	112644	mmq
Deformazioni di taglio dell'elastomero:						
dovuta alla compressione:	Gamma_c=	0.9292		Gamma_c=	1.1788	
dovuta allo spostamento sismico totale	Gamma_s=	1.0758		Gamma_s=	1.0218	
dovuta alle rotazioni	Gamma_alfa=	1.4944		Gamma_alfa=	0.4001	
Deformazione di taglio totale di progetto dell'elastomero:	Gamma_t=	3.4994		Gamma_t=	2.6007	
Carico assiale critico	Vcr=	3914536	N	Vcr=	16300899	N
1. Tensione degli inserti in acciaio						
Tensione massimal amiere (<235 N/mmq)	Sigma_s=	78.920	N/mmq	Sigma_s=	102.505	N/mmq
2. Deformazioni di taglio massime	Gamma_s=	1.0758		Gamma_s=	1.0218	
(< 7)	Gamma_t=	3.4994		Gamma_t=	2.6007	
3. Instabilità dell'isolatore (Vcr/2.5)	Vmax=	1565815	N	Vmax=	6520360	N

Seguono i tabulati contenenti le reazioni massime e minime per ogni appoggio.

REAZIONI APPOGGI (ISOLATORI SISMICI ELASTOMERICI)

STATI LIMITE ULTIMI - STATICI

Tipo isolatore	Struttura Appoggio	No.	Load	Node	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Shear-tot (kN)	Kh eq. (kN/mm)	Deform. (mm)	Rotazione (rad)
1	Spalla 1	185	GEN SLU Mobili(max)	77	-554.03	33.22	4.54	33.53	1.302	25.75	2.29E-02
1	Spalla 1	185	GEN SLU Vento(max)	77	-553.72	50.50	4.54	50.70	1.302	38.94	2.09E-02
1	Spalla 1	185	GEN SLU Frenamento(max)	77	-590.15	2.84	37.89	38.00	1.302	29.18	2.09E-02
1	Spalla 1	185	GEN SLU Termico(max)	77	-536.02	31.74	10.21	33.34	1.302	25.61	2.11E-02
1	Spalla 1	185	GEN SLU Mobili(min)	77	-1685.19	-33.47	-24.85	41.69	1.302	32.01	1.66E-02

1	Spalla 1	185	GEN SLU Vento(min)	77	-1367.63	-50.81	-21.29	55.09	1.302	42.31	1.63E-02
1	Spalla 1	185	GEN SLU Frenamento(min)	77	-1331.20	-3.15	-54.64	54.73	1.302	42.03	1.64E-02
1	Spalla 1	185	GEN SLU Termico(min)	77	-1385.33	-32.05	-26.96	41.88	1.302	32.16	1.62E-02
1	Spalla 1	186	GEN SLU Mobili(max)	79	-576.69	32.97	3.96	33.21	1.302	25.50	2.21E-02
1	Spalla 1	186	GEN SLU Vento(max)	79	-570.67	50.13	4.44	50.33	1.302	38.65	2.03E-02
1	Spalla 1	186	GEN SLU Frenamento(max)	79	-574.87	2.31	38.05	38.12	1.302	29.28	2.03E-02
1	Spalla 1	186	GEN SLU Termico(max)	79	-536.84	31.06	10.33	32.73	1.302	25.14	2.06E-02
1	Spalla 1	186	GEN SLU Mobili(min)	79	-1928.76	-33.12	-23.16	40.41	1.302	31.04	1.66E-02
1	Spalla 1	186	GEN SLU Vento(min)	79	-1526.00	-50.29	-20.09	54.15	1.302	41.59	1.63E-02
1	Spalla 1	186	GEN SLU Frenamento(min)	79	-1521.80	-2.47	-53.70	53.76	1.302	41.28	1.63E-02
1	Spalla 1	186	GEN SLU Termico(min)	79	-1559.83	-31.21	-25.98	40.61	1.302	31.19	1.61E-02
1	Spalla 1	187	GEN SLU Mobili(max)	81	-577.55	33.12	3.96	33.36	1.302	25.62	2.21E-02
1	Spalla 1	187	GEN SLU Vento(max)	81	-572.10	50.30	4.44	50.50	1.302	38.78	2.03E-02
1	Spalla 1	187	GEN SLU Frenamento(max)	81	-574.87	2.47	38.05	38.13	1.302	29.28	2.03E-02
1	Spalla 1	187	GEN SLU Termico(max)	81	-537.70	31.22	10.33	32.88	1.302	25.25	2.06E-02
1	Spalla 1	187	GEN SLU Mobili(min)	81	-1927.91	-32.98	-23.16	40.30	1.302	30.95	1.66E-02
1	Spalla 1	187	GEN SLU Vento(min)	81	-1524.57	-50.15	-20.09	54.02	1.302	41.49	1.63E-02
1	Spalla 1	187	GEN SLU Frenamento(min)	81	-1521.80	-2.31	-53.70	53.75	1.302	41.28	1.63E-02
1	Spalla 1	187	GEN SLU Termico(min)	81	-1558.97	-31.06	-25.98	40.49	1.302	31.10	1.61E-02
1	Spalla 1	188	GEN SLU Mobili(max)	83	-559.90	33.52	4.52	33.82	1.302	25.98	2.30E-02
1	Spalla 1	188	GEN SLU Vento(max)	83	-563.51	50.89	4.51	51.09	1.302	39.24	2.10E-02
1	Spalla 1	188	GEN SLU Frenamento(max)	83	-590.15	3.15	37.89	38.02	1.302	29.20	2.09E-02
1	Spalla 1	188	GEN SLU Termico(max)	83	-541.90	32.10	10.19	33.68	1.302	25.86	2.12E-02
1	Spalla 1	188	GEN SLU Mobili(min)	83	-1679.32	-33.26	-24.83	41.51	1.302	31.88	1.64E-02
1	Spalla 1	188	GEN SLU Vento(min)	83	-1357.85	-50.58	-21.26	54.87	1.302	42.14	1.63E-02
1	Spalla 1	188	GEN SLU Frenamento(min)	83	-1331.20	-2.84	-54.64	54.71	1.302	42.02	1.63E-02
1	Spalla 1	188	GEN SLU Termico(min)	83	-1379.46	-31.79	-26.94	41.67	1.302	32.00	1.61E-02
1	Spalla 2	190	GEN SLU Mobili(max)	78	-554.10	33.21	24.86	41.48	1.302	31.86	1.64E-02
1	Spalla 2	190	GEN SLU Vento(max)	78	-553.75	50.50	21.30	54.81	1.302	42.09	1.62E-02
1	Spalla 2	190	GEN SLU Frenamento(max)	78	-590.19	2.84	54.65	54.72	1.302	42.03	1.63E-02
1	Spalla 2	190	GEN SLU Termico(max)	78	-536.06	31.74	26.97	41.65	1.302	31.99	1.61E-02
1	Spalla 2	190	GEN SLU Mobili(min)	78	-1685.05	-33.47	-4.54	33.78	1.302	25.94	2.30E-02
1	Spalla 2	190	GEN SLU Vento(min)	78	-1367.58	-50.80	-4.53	51.00	1.302	39.17	2.10E-02
1	Spalla 2	190	GEN SLU Frenamento(min)	78	-1331.13	-3.15	-37.89	38.02	1.302	29.20	2.09E-02
1	Spalla 2	190	GEN SLU Termico(min)	78	-1385.26	-32.05	-10.20	33.63	1.302	25.83	2.12E-02
1	Spalla 2	191	GEN SLU Mobili(max)	80	-576.69	32.97	23.16	40.29	1.302	30.94	1.66E-02
1	Spalla 2	191	GEN SLU Vento(max)	80	-570.72	50.13	20.09	54.01	1.302	41.48	1.63E-02
1	Spalla 2	191	GEN SLU Frenamento(max)	80	-574.90	2.32	53.71	53.76	1.302	41.29	1.63E-02
1	Spalla 2	191	GEN SLU Termico(max)	80	-536.89	31.05	25.98	40.49	1.302	31.09	1.61E-02
1	Spalla 2	191	GEN SLU Mobili(min)	80	-1928.44	-33.12	-3.95	33.35	1.302	25.62	2.21E-02
1	Spalla 2	191	GEN SLU Vento(min)	80	-1525.80	-50.29	-4.43	50.48	1.302	38.77	2.03E-02
1	Spalla 2	191	GEN SLU Frenamento(min)	80	-1521.62	-2.47	-38.04	38.12	1.302	29.28	2.03E-02
1	Spalla 2	191	GEN SLU Termico(min)	80	-1559.63	-31.21	-10.32	32.87	1.302	25.25	2.06E-02

1	Spalla 2	192	GEN SLU Mobili(max)	82	-577.54	33.13	23.17	40.43	1.302	31.05	1.66E-02
1	Spalla 2	192	GEN SLU Vento(max)	82	-572.13	50.30	20.10	54.17	1.302	41.60	1.63E-02
1	Spalla 2	192	GEN SLU Frenamento(max)	82	-574.90	2.47	53.71	53.77	1.302	41.29	1.63E-02
1	Spalla 2	192	GEN SLU Termico(max)	82	-537.74	31.22	25.98	40.62	1.302	31.19	1.61E-02
1	Spalla 2	192	GEN SLU Mobili(min)	82	-1927.59	-32.98	-3.96	33.22	1.302	25.51	2.21E-02
1	Spalla 2	192	GEN SLU Vento(min)	82	-1524.38	-50.14	-4.43	50.34	1.302	38.66	2.03E-02
1	Spalla 2	192	GEN SLU Frenamento(min)	82	-1521.62	-2.32	-38.04	38.11	1.302	29.27	2.03E-02
1	Spalla 2	192	GEN SLU Termico(min)	82	-1558.78	-31.06	-10.32	32.73	1.302	25.14	2.06E-02
1	Spalla 2	193	GEN SLU Mobili(max)	84	-559.97	33.52	24.84	41.72	1.302	32.04	1.66E-02
1	Spalla 2	193	GEN SLU Vento(max)	84	-563.53	50.88	21.26	55.14	1.302	42.35	1.63E-02
1	Spalla 2	193	GEN SLU Frenamento(max)	84	-590.19	3.15	54.65	54.74	1.302	42.04	1.64E-02
1	Spalla 2	193	GEN SLU Termico(max)	84	-541.93	32.10	26.95	41.91	1.302	32.19	1.62E-02
1	Spalla 2	193	GEN SLU Mobili(min)	84	-1679.18	-33.26	-4.51	33.56	1.302	25.78	2.29E-02
1	Spalla 2	193	GEN SLU Vento(min)	84	-1357.79	-50.58	-4.50	50.78	1.302	39.00	2.09E-02
1	Spalla 2	193	GEN SLU Frenamento(min)	84	-1331.13	-2.84	-37.89	38.00	1.302	29.18	2.09E-02
1	Spalla 2	193	GEN SLU Termico(min)	84	-1379.39	-31.79	-10.18	33.38	1.302	25.64	2.11E-02
2	Pila 1	195	GEN SLU Mobili(max)	21	-2073.20	74.12	32.07	80.76	2.855	28.29	7.26E-04
2	Pila 1	195	GEN SLU Vento(max)	21	-2103.32	114.19	30.30	118.14	2.855	41.39	1.22E-03
2	Pila 1	195	GEN SLU Frenamento(max)	21	-2225.33	7.23	103.25	103.50	2.855	36.26	1.21E-03
2	Pila 1	195	GEN SLU Termico(max)	21	-2028.15	72.63	35.17	80.70	2.855	28.27	1.17E-03
2	Pila 1	195	GEN SLU Mobili(min)	21	-4345.68	-67.56	-5.91	67.82	2.855	23.76	5.41E-03
2	Pila 1	195	GEN SLU Vento(min)	21	-3656.09	-108.71	-2.16	108.73	2.855	38.09	4.81E-03
2	Pila 1	195	GEN SLU Frenamento(min)	21	-3534.08	-1.75	-75.10	75.12	2.855	26.32	4.77E-03
2	Pila 1	195	GEN SLU Termico(min)	21	-3731.26	-67.15	-7.02	67.52	2.855	23.65	4.92E-03
2	Pila 1	196	GEN SLU Mobili(max)	23	-2508.21	70.21	30.83	76.68	2.855	26.86	9.88E-04
2	Pila 1	196	GEN SLU Vento(max)	23	-2501.91	110.96	29.17	114.73	2.855	40.19	1.37E-03
2	Pila 1	196	GEN SLU Frenamento(max)	23	-2516.61	3.82	102.33	102.40	2.855	35.87	1.34E-03
2	Pila 1	196	GEN SLU Termico(max)	23	-2383.81	68.45	34.11	76.48	2.855	26.79	1.30E-03
2	Pila 1	196	GEN SLU Mobili(min)	23	-4623.72	-68.07	-3.99	68.19	2.855	23.89	5.02E-03
2	Pila 1	196	GEN SLU Vento(min)	23	-3891.56	-109.37	-0.76	109.37	2.855	38.31	4.49E-03
2	Pila 1	196	GEN SLU Frenamento(min)	23	-3876.87	-2.22	-73.91	73.94	2.855	25.90	4.48E-03
2	Pila 1	196	GEN SLU Termico(min)	23	-4009.67	-66.85	-5.70	67.09	2.855	23.50	4.57E-03
2	Pila 1	197	GEN SLU Mobili(max)	885	-2505.10	68.09	30.83	74.74	2.855	26.18	1.15E-03
2	Pila 1	197	GEN SLU Vento(max)	885	-2496.73	109.39	29.17	113.21	2.855	39.66	1.45E-03
2	Pila 1	197	GEN SLU Frenamento(max)	885	-2516.61	2.22	102.33	102.35	2.855	35.86	1.42E-03
2	Pila 1	197	GEN SLU Termico(max)	885	-2380.70	66.87	34.11	75.07	2.855	26.30	1.39E-03
2	Pila 1	197	GEN SLU Mobili(min)	885	-4626.83	-70.22	-4.00	70.33	2.855	24.64	4.99E-03
2	Pila 1	197	GEN SLU Vento(min)	885	-3896.75	-110.99	-0.76	110.99	2.855	38.88	4.46E-03
2	Pila 1	197	GEN SLU Frenamento(min)	885	-3876.87	-3.82	-73.91	74.01	2.855	25.93	4.45E-03
2	Pila 1	197	GEN SLU Termico(min)	885	-4012.78	-68.46	-5.70	68.70	2.855	24.07	4.54E-03
2	Pila 1	198	GEN SLU Mobili(max)	27	-2081.03	67.59	32.07	74.81	2.855	26.21	1.69E-03
2	Pila 1	198	GEN SLU Vento(max)	27	-2116.37	108.76	30.30	112.90	2.855	39.55	1.78E-03
2	Pila 1	198	GEN SLU Frenamento(max)	27	-2225.33	1.75	103.25	103.26	2.855	36.17	1.69E-03

2	Pila 1	198	GEN SLU Termico(max)	27	-2035.98	67.18	35.17	75.83	2.855	26.56	1.84E-03
2	Pila 1	198	GEN SLU Mobili(min)	27	-4337.85	-74.15	-5.91	74.39	2.855	26.06	5.19E-03
2	Pila 1	198	GEN SLU Vento(min)	27	-3643.05	-114.24	-2.16	114.26	2.855	40.03	4.63E-03
2	Pila 1	198	GEN SLU Frenamento(min)	27	-3534.08	-7.23	-75.10	75.45	2.855	26.43	4.62E-03
2	Pila 1	198	GEN SLU Termico(min)	27	-3723.43	-72.66	-7.02	73.00	2.855	25.57	4.71E-03
2	Pila 2	200	GEN SLU Mobili(max)	22	-2073.15	74.13	5.91	74.37	2.855	26.05	5.18E-03
2	Pila 2	200	GEN SLU Vento(max)	22	-2103.27	114.20	2.16	114.22	2.855	40.01	4.62E-03
2	Pila 2	200	GEN SLU Frenamento(max)	22	-2225.39	7.23	75.22	75.57	2.855	26.47	4.62E-03
2	Pila 2	200	GEN SLU Termico(max)	22	-2028.12	72.64	7.03	72.98	2.855	25.57	4.71E-03
2	Pila 2	200	GEN SLU Mobili(min)	22	-4345.79	-67.57	-32.08	74.80	2.855	26.20	1.69E-03
2	Pila 2	200	GEN SLU Vento(min)	22	-3656.20	-108.72	-30.31	112.87	2.855	39.54	1.79E-03
2	Pila 2	200	GEN SLU Frenamento(min)	22	-3534.08	-1.75	-103.38	103.39	2.855	36.22	1.69E-03
2	Pila 2	200	GEN SLU Termico(min)	22	-3731.34	-67.16	-35.18	75.82	2.855	26.56	1.84E-03
2	Pila 2	201	GEN SLU Mobili(max)	24	-2508.24	70.22	4.00	70.33	2.855	24.64	4.99E-03
2	Pila 2	201	GEN SLU Vento(max)	24	-2501.95	110.98	0.76	110.98	2.855	38.88	4.46E-03
2	Pila 2	201	GEN SLU Frenamento(max)	24	-2516.62	3.82	74.03	74.13	2.855	25.97	4.46E-03
2	Pila 2	201	GEN SLU Termico(max)	24	-2383.84	68.46	5.70	68.70	2.855	24.07	4.54E-03
2	Pila 2	201	GEN SLU Mobili(min)	24	-4623.76	-68.08	-30.85	74.74	2.855	26.18	1.15E-03
2	Pila 2	201	GEN SLU Vento(min)	24	-3891.58	-109.38	-29.19	113.21	2.855	39.66	1.46E-03
2	Pila 2	201	GEN SLU Frenamento(min)	24	-3876.91	-2.22	-102.46	102.48	2.855	35.90	1.41E-03
2	Pila 2	201	GEN SLU Termico(min)	24	-4009.69	-66.86	-34.13	75.07	2.855	26.30	1.39E-03
2	Pila 2	202	GEN SLU Mobili(max)	886	-2505.11	68.10	4.00	68.22	2.855	23.90	5.02E-03
2	Pila 2	202	GEN SLU Vento(max)	886	-2496.73	109.40	0.76	109.40	2.855	38.32	4.49E-03
2	Pila 2	202	GEN SLU Frenamento(max)	886	-2516.62	2.22	74.03	74.06	2.855	25.95	4.48E-03
2	Pila 2	202	GEN SLU Termico(max)	886	-2380.71	66.88	5.70	67.12	2.855	23.51	4.57E-03
2	Pila 2	202	GEN SLU Mobili(min)	886	-4626.89	-70.24	-30.85	76.72	2.855	26.87	9.85E-04
2	Pila 2	202	GEN SLU Vento(min)	886	-3896.80	-111.00	-29.19	114.77	2.855	40.21	1.37E-03
2	Pila 2	202	GEN SLU Frenamento(min)	886	-3876.91	-3.82	-102.46	102.53	2.855	35.92	1.34E-03
2	Pila 2	202	GEN SLU Termico(min)	886	-4012.82	-68.47	-34.13	76.50	2.855	26.80	1.29E-03
2	Pila 2	203	GEN SLU Mobili(max)	28	-2080.97	67.60	5.91	67.86	2.855	23.77	5.40E-03
2	Pila 2	203	GEN SLU Vento(max)	28	-2116.31	108.77	2.16	108.79	2.855	38.11	4.80E-03
2	Pila 2	203	GEN SLU Frenamento(max)	28	-2225.39	1.75	75.22	75.24	2.855	26.36	4.77E-03
2	Pila 2	203	GEN SLU Termico(max)	28	-2035.95	67.19	7.03	67.56	2.855	23.67	4.92E-03
2	Pila 2	203	GEN SLU Mobili(min)	28	-4337.96	-74.16	-32.08	80.80	2.855	28.31	7.22E-04
2	Pila 2	203	GEN SLU Vento(min)	28	-3643.15	-114.25	-30.31	118.20	2.855	41.41	1.21E-03
2	Pila 2	203	GEN SLU Frenamento(min)	28	-3534.08	-7.23	-103.38	103.63	2.855	36.30	1.20E-03
2	Pila 2	203	GEN SLU Termico(min)	28	-3723.51	-72.67	-35.18	80.74	2.855	28.28	1.17E-03

		Axial (kN)	Shear-y (kN)	Shear-z (kN)	Shear-tot (kN)	Kh eq. (kN/mm)	Deform. (mm)	Rotazione (rad)
SFORZI MASSIMI:	**Spalle**	**-536.02**	**50.89**	**54.65**	**55.14**	**1.302**	**42.35**	**2.30E-02**
	Pile	**-2028.12**	**114.20**	**103.25**	**118.20**	**2.855**	**41.41**	**5.41E-03**
SFORZI MINIMI:	**Spalle**	**-1928.76**	**-50.81**	**-54.64**				
	Pile	**-4626.89**	**-114.25**	**-103.38**				

STATI LIMITE ULTIMI - SISMICI (SLC)

Tipo isolatore	Struttura Appoggio	No.	Load	Node	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Shear-tot (kN)	Kh eq. (kN/mm)	Deform. (mm)	Rotazione (rad)
1	Spalla 1	185	GEN SLC Long(max)	77	-444.82	26.95	94.55	98.32	1.302	75.51	1.33E-02
1	Spalla 1	185	GEN SLC Trasv(max)	77	-417.77	90.05	30.36	95.03	1.302	72.98	1.33E-02
1	Spalla 1	185	GEN SLC Vert(max)	77	-424.73	26.95	30.41	40.63	1.302	31.21	1.35E-02
1	Spalla 1	185	GEN SLC Long(min)	77	-587.25	-27.81	-102.76	106.46	1.302	81.76	1.25E-02
1	Spalla 1	185	GEN SLC Trasv(min)	77	-614.31	-90.91	-38.57	98.75	1.302	75.84	1.25E-02
1	Spalla 1	185	GEN SLC Vert(min)	77	-607.34	-27.82	-38.62	47.60	1.302	36.55	1.23E-02
1	Spalla 1	186	GEN SLC Long(max)	79	-395.35	27.02	94.75	98.53	1.302	75.67	1.32E-02
1	Spalla 1	186	GEN SLC Trasv(max)	79	-401.71	90.23	30.29	95.18	1.302	73.10	1.32E-02
1	Spalla 1	186	GEN SLC Vert(max)	79	-380.16	27.03	30.59	40.82	1.302	31.35	1.33E-02
1	Spalla 1	186	GEN SLC Long(min)	79	-517.97	-27.27	-102.58	106.14	1.302	81.52	1.24E-02
1	Spalla 1	186	GEN SLC Trasv(min)	79	-511.61	-90.48	-38.13	98.19	1.302	75.41	1.24E-02
1	Spalla 1	186	GEN SLC Vert(min)	79	-533.15	-27.27	-38.43	47.12	1.302	36.19	1.23E-02
1	Spalla 1	187	GEN SLC Long(max)	81	-395.36	27.27	94.75	98.60	1.302	75.72	1.32E-02
1	Spalla 1	187	GEN SLC Trasv(max)	81	-401.72	90.48	30.29	95.42	1.302	73.28	1.32E-02
1	Spalla 1	187	GEN SLC Vert(max)	81	-380.19	27.27	30.59	40.98	1.302	31.47	1.33E-02
1	Spalla 1	187	GEN SLC Long(min)	81	-517.96	-27.02	-102.58	106.08	1.302	81.47	1.24E-02
1	Spalla 1	187	GEN SLC Trasv(min)	81	-511.60	-90.23	-38.13	97.96	1.302	75.23	1.24E-02
1	Spalla 1	187	GEN SLC Vert(min)	81	-533.13	-27.03	-38.43	46.98	1.302	36.08	1.23E-02
1	Spalla 1	188	GEN SLC Long(max)	83	-444.87	27.81	94.55	98.56	1.302	75.69	1.33E-02
1	Spalla 1	188	GEN SLC Trasv(max)	83	-417.81	90.91	30.36	95.85	1.302	73.61	1.33E-02
1	Spalla 1	188	GEN SLC Vert(max)	83	-424.88	27.82	30.41	41.22	1.302	31.65	1.35E-02
1	Spalla 1	188	GEN SLC Long(min)	83	-587.21	-26.95	-102.76	106.24	1.302	81.59	1.25E-02
1	Spalla 1	188	GEN SLC Trasv(min)	83	-614.26	-90.05	-38.57	97.96	1.302	75.23	1.25E-02
1	Spalla 1	188	GEN SLC Vert(min)	83	-607.19	-26.95	-38.62	47.09	1.302	36.17	1.23E-02
1	Spalla 2	190	GEN SLC Long(max)	78	-444.82	26.95	102.76	106.24	1.302	81.59	1.25E-02
1	Spalla 2	190	GEN SLC Trasv(max)	78	-417.79	90.03	38.57	97.94	1.302	75.22	1.25E-02
1	Spalla 2	190	GEN SLC Vert(max)	78	-424.77	26.95	38.62	47.09	1.302	36.17	1.23E-02
1	Spalla 2	190	GEN SLC Long(min)	78	-587.24	-27.81	-94.54	98.55	1.302	75.68	1.33E-02
1	Spalla 2	190	GEN SLC Trasv(min)	78	-614.27	-90.90	-30.36	95.84	1.302	73.60	1.33E-02
1	Spalla 2	190	GEN SLC Vert(min)	78	-607.29	-27.81	-30.40	41.20	1.302	31.64	1.35E-02
1	Spalla 2	191	GEN SLC Long(max)	80	-395.34	27.02	102.59	106.09	1.302	81.47	1.24E-02
1	Spalla 2	191	GEN SLC Trasv(max)	80	-401.70	90.22	38.13	97.95	1.302	75.22	1.24E-02
1	Spalla 2	191	GEN SLC Vert(max)	80	-380.16	27.02	38.43	46.98	1.302	36.08	1.23E-02
1	Spalla 2	191	GEN SLC Long(min)	80	-517.97	-27.26	-94.74	98.58	1.302	75.71	1.32E-02
1	Spalla 2	191	GEN SLC Trasv(min)	80	-511.60	-90.46	-30.29	95.40	1.302	73.26	1.32E-02
1	Spalla 2	191	GEN SLC Vert(min)	80	-533.14	-27.27	-30.58	40.97	1.302	31.47	1.33E-02
1	Spalla 2	192	GEN SLC Long(max)	82	-395.34	27.26	102.59	106.15	1.302	81.52	1.24E-02
1	Spalla 2	192	GEN SLC Trasv(max)	82	-401.71	90.46	38.13	98.17	1.302	75.39	1.24E-02
1	Spalla 2	192	GEN SLC Vert(max)	82	-380.19	27.27	38.43	47.12	1.302	36.19	1.23E-02
1	Spalla 2	19	GEN SLC Long(min)	82	-517.97	-27.02	-94.74	98.52	1.302	75.66	1.32E-02

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1	Spalla 2	192	GEN SLC Trasv(min)	82	-511.60	-90.22	-30.29	95.17	1.302	73.09	1.32E-02
1	Spalla 2	192	GEN SLC Vert(min)	82	-533.12	-27.02	-30.58	40.81	1.302	31.34	1.33E-02
1	Spalla 2	193	GEN SLC Long(max)	84	-444.86	27.81	102.76	106.46	1.302	81.76	1.25E-02
1	Spalla 2	193	GEN SLC Trasv(max)	84	-417.83	90.90	38.57	98.74	1.302	75.83	1.25E-02
1	Spalla 2	193	GEN SLC Vert(max)	84	-424.90	27.81	38.62	47.59	1.302	36.55	1.23E-02
1	Spalla 2	193	GEN SLC Long(min)	84	-587.21	-26.95	-94.54	98.31	1.302	75.50	1.33E-02
1	Spalla 2	193	GEN SLC Trasv(min)	84	-614.24	-90.03	-30.36	95.01	1.302	72.97	1.33E-02
1	Spalla 2	193	GEN SLC Vert(min)	84	-607.17	-26.95	-30.40	40.63	1.302	31.20	1.35E-02
2	Pila 1	195	GEN SLC Long(max)	21	-1575.91	63.34	218.20	227.21	2.855	79.59	2.08E-03
2	Pila 1	195	GEN SLC Trasv(max)	21	-1448.39	204.54	78.41	219.05	2.855	76.74	2.11E-03
2	Pila 1	195	GEN SLC Vert(max)	21	-1506.63	63.38	78.21	100.67	2.855	35.26	2.11E-03
2	Pila 1	195	GEN SLC Long(min)	21	-2024.00	-60.31	-193.28	202.47	2.855	70.93	2.45E-03
2	Pila 1	195	GEN SLC Trasv(min)	21	-2151.51	-201.52	-53.49	208.50	2.855	73.04	2.47E-03
2	Pila 1	195	GEN SLC Vert(min)	21	-2093.28	-60.36	-53.29	80.52	2.855	28.21	2.42E-03
2	Pila 1	196	GEN SLC Long(max)	23	-1793.63	61.43	218.04	226.53	2.855	79.35	2.06E-03
2	Pila 1	196	GEN SLC Trasv(max)	23	-1783.12	202.87	77.96	217.33	2.855	76.13	2.10E-03
2	Pila 1	196	GEN SLC Vert(max)	23	-1719.25	61.44	78.04	99.32	2.855	34.79	2.09E-03
2	Pila 1	196	GEN SLC Long(min)	23	-2146.11	-60.54	-193.23	202.49	2.855	70.93	2.36E-03
2	Pila 1	196	GEN SLC Trasv(min)	23	-2156.62	-201.99	-53.16	208.87	2.855	73.17	2.34E-03
2	Pila 1	196	GEN SLC Vert(min)	23	-2220.49	-60.55	-53.23	80.62	2.855	28.24	2.33E-03
2	Pila 1	197	GEN SLC Long(max)	885	-1794.30	60.54	218.04	226.29	2.855	79.27	2.07E-03
2	Pila 1	197	GEN SLC Trasv(max)	885	-1783.40	201.99	77.96	216.51	2.855	75.85	2.12E-03
2	Pila 1	197	GEN SLC Vert(max)	885	-1719.63	60.56	78.04	98.78	2.855	34.60	2.10E-03
2	Pila 1	197	GEN SLC Long(min)	885	-2145.44	-61.43	-193.23	202.76	2.855	71.03	2.36E-03
2	Pila 1	197	GEN SLC Trasv(min)	885	-2156.34	-202.87	-53.16	209.72	2.855	73.47	2.33E-03
2	Pila 1	197	GEN SLC Vert(min)	885	-2220.11	-61.44	-53.23	81.29	2.855	28.48	2.33E-03
2	Pila 1	198	GEN SLC Long(max)	27	-1577.59	60.32	218.20	226.38	2.855	79.30	2.14E-03
2	Pila 1	198	GEN SLC Trasv(max)	27	-1448.98	201.52	78.41	216.24	2.855	75.75	2.22E-03
2	Pila 1	198	GEN SLC Vert(max)	27	-1507.45	60.36	78.21	98.79	2.855	34.61	2.17E-03
2	Pila 1	198	GEN SLC Long(min)	27	-2022.31	-63.34	-193.28	203.39	2.855	71.25	2.39E-03
2	Pila 1	198	GEN SLC Trasv(min)	27	-2150.93	-204.54	-53.49	211.42	2.855	74.06	2.37E-03
2	Pila 1	198	GEN SLC Vert(min)	27	-2092.46	-63.38	-53.29	82.81	2.855	29.01	2.36E-03
2	Pila 2	200	GEN SLC Long(max)	22	-1577.29	63.34	193.59	203.69	2.855	71.35	2.39E-03
2	Pila 2	200	GEN SLC Trasv(max)	22	-1448.80	204.55	53.58	211.45	2.855	74.07	2.37E-03
2	Pila 2	200	GEN SLC Vert(max)	22	-1506.93	63.38	53.39	82.87	2.855	29.03	2.36E-03
2	Pila 2	200	GEN SLC Long(min)	22	-2022.63	-60.31	-218.52	226.69	2.855	79.41	2.14E-03
2	Pila 2	200	GEN SLC Trasv(min)	22	-2151.13	-201.52	-78.52	216.28	2.855	75.76	2.22E-03
2	Pila 2	200	GEN SLC Vert(min)	22	-2093.00	-60.36	-78.32	98.88	2.855	34.64	2.17E-03
2	Pila 2	201	GEN SLC Long(max)	24	-1794.17	61.43	193.54	203.06	2.855	71.13	2.35E-03
2	Pila 2	201	GEN SLC Trasv(max)	24	-1783.34	202.87	53.25	209.74	2.855	73.47	2.32E-03
2	Pila 2	201	GEN SLC Vert(max)	24	-1719.40	61.44	53.32	81.35	2.855	28.50	2.32E-03
2	Pila 2	201	GEN SLC Long(min)	24	-2145.60	-60.54	-218.36	226.60	2.855	79.38	2.07E-03
2	Pila 2	20	GEN SLC Trasv(min)	24	-2156.43	-201.99	-78.07	216.55	2.855	75.86	2.12E-03

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2	Pila 2	201	GEN SLC Vert(min)	24	-2220.37	-60.55	-78.14	98.85	2.855	34.63	2.10E-03
2	Pila 2	202	GEN SLC Long(max)	886	-1794.34	60.54	193.54	202.79	2.855	71.04	2.36E-03
2	Pila 2	202	GEN SLC Trasv(max)	886	-1783.38	201.99	53.25	208.89	2.855	73.18	2.34E-03
2	Pila 2	202	GEN SLC Vert(max)	886	-1719.49	60.56	53.32	80.69	2.855	28.27	2.33E-03
2	Pila 2	202	GEN SLC Long(min)	886	-2145.44	-61.43	-218.36	226.84	2.855	79.46	2.06E-03
2	Pila 2	202	GEN SLC Trasv(min)	886	-2156.39	-202.88	-78.07	217.38	2.855	76.15	2.10E-03
2	Pila 2	202	GEN SLC Vert(min)	886	-2220.28	-61.44	-78.14	99.40	2.855	34.82	2.09E-03
2	Pila 2	203	GEN SLC Long(max)	28	-1577.29	60.32	193.59	202.77	2.855	71.03	2.44E-03
2	Pila 2	203	GEN SLC Trasv(max)	28	-1448.79	201.52	53.58	208.52	2.855	73.05	2.46E-03
2	Pila 2	203	GEN SLC Vert(max)	28	-1506.96	60.36	53.39	80.58	2.855	28.23	2.42E-03
2	Pila 2	203	GEN SLC Long(min)	28	-2022.64	-63.34	-218.52	227.51	2.855	79.70	2.08E-03
2	Pila 2	203	GEN SLC Trasv(min)	28	-2151.14	-204.55	-78.52	219.10	2.855	76.75	2.11E-03
2	Pila 2	203	GEN SLC Vert(min)	28	-2092.97	-63.38	-78.32	100.75	2.855	35.29	2.11E-03

		Axial (kN)	Shear-y (kN)	Shear-z (kN)	Shear-tot (kN)	Kh eq. (kN/mm)	Deform. (mm)	Rotazione (rad)
SFORZI MASSIMI:	**Spalle**	**-380.16**	**90.91**	**102.76**	**106.46**	**1.302**	**81.76**	**1.35E-02**
	Pile	**-1448.39**	**204.55**	**218.20**	**227.51**	**2.855**	**79.70**	**2.47E-03**
SFORZI MINIMI:	**Spalle**	**-614.31**	**-90.91**	**-102.76**				
	Pile	**-2220.49**	**-204.55**	**-218.52**				

STATI LIMITE ULTIMI - SISMICI (SLV)

Tipo isolatore	Struttura Appoggio	No.	Load	Node	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Shear-tot (kN)	Kh eq. (kN/mm)	Deform. (mm)	Rotazione (rad)
1	Spalla 1	185	GEN SLV Long(max)	77	-453.71	20.96	74.05	76.96	1.302	59.10	1.32E-02
1	Spalla 1	185	GEN SLV Trasv(max)	77	-432.64	70.10	24.06	74.11	1.302	56.92	1.33E-02
1	Spalla 1	185	GEN SLV Vert(max)	77	-440.12	20.97	24.07	31.92	1.302	24.52	1.34E-02
1	Spalla 1	185	GEN SLV Long(min)	77	-578.37	-21.82	-82.26	85.10	1.302	65.36	1.25E-02
1	Spalla 1	185	GEN SLV Trasv(min)	77	-599.43	-70.96	-32.27	77.95	1.302	59.87	1.25E-02
1	Spalla 1	185	GEN SLV Vert(min)	77	-591.96	-21.83	-32.27	38.96	1.302	29.92	1.24E-02
1	Spalla 1	186	GEN SLV Long(max)	79	-401.11	21.03	74.27	77.19	1.302	59.28	1.31E-02
1	Spalla 1	186	GEN SLV Trasv(max)	79	-406.06	70.25	24.08	74.26	1.302	57.03	1.31E-02
1	Spalla 1	186	GEN SLV Vert(max)	79	-391.06	21.03	24.28	32.12	1.302	24.67	1.33E-02
1	Spalla 1	186	GEN SLV Long(min)	79	-512.21	-21.27	-82.11	84.82	1.302	65.14	1.25E-02
1	Spalla 1	186	GEN SLV Trasv(min)	79	-507.25	-70.49	-31.91	77.38	1.302	59.42	1.25E-02
1	Spalla 1	186	GEN SLV Vert(min)	79	-522.26	-21.27	-32.11	38.52	1.302	29.58	1.23E-02
1	Spalla 1	187	GEN SLV Long(max)	81	-401.12	21.27	74.27	77.26	1.302	59.33	1.31E-02
1	Spalla 1	187	GEN SLV Trasv(max)	81	-406.07	70.49	24.08	74.49	1.302	57.21	1.31E-02
1	Spalla 1	187	GEN SLV Vert(max)	81	-391.08	21.27	24.28	32.28	1.302	24.79	1.33E-02
1	Spalla 1	187	GEN SLV Long(min)	81	-512.20	-21.03	-82.11	84.76	1.302	65.09	1.25E-02
1	Spalla 1	187	GEN SLV Trasv(min)	81	-507.25	-70.25	-31.91	77.16	1.302	59.26	1.25E-02
1	Spalla 1	187	GEN SLV Vert(min)	81	-522.24	-21.03	-32.11	38.38	1.302	29.48	1.23E-02
1	Spalla 1	188	GEN SLV Long(max)	83	-453.74	21.82	74.05	77.20	1.302	59.29	1.32E-02
1	Spalla 1	188	GEN SLV Trasv(max)	83	-432.67	70.96	24.06	74.93	1.302	57.54	1.33E-02
1	Spalla 1	188	GEN SLV Vert(max)	83	-440.22	21.83	24.07	32.49	1.302	24.96	1.34E-02

1	Spalla 1	188	GEN SLV Long(min)	83	-578.34	-20.96	-82.26	84.89	1.302	65.19	1.25E-02
1	Spalla 1	188	GEN SLV Trasv(min)	83	-599.40	-70.10	-32.27	77.17	1.302	59.27	1.25E-02
1	Spalla 1	188	GEN SLV Vert(min)	83	-591.85	-20.97	-32.27	38.48	1.302	29.56	1.24E-02
1	Spalla 2	190	GEN SLV Long(max)	78	-453.70	20.96	82.26	84.89	1.302	65.19	1.25E-02
1	Spalla 2	190	GEN SLV Trasv(max)	78	-432.66	70.09	32.27	77.16	1.302	59.26	1.25E-02
1	Spalla 2	190	GEN SLV Vert(max)	78	-440.14	20.96	32.28	38.49	1.302	29.56	1.24E-02
1	Spalla 2	190	GEN SLV Long(min)	78	-578.36	-21.82	-74.04	77.19	1.302	59.28	1.32E-02
1	Spalla 2	190	GEN SLV Trasv(min)	78	-599.41	-70.95	-24.06	74.92	1.302	57.54	1.33E-02
1	Spalla 2	190	GEN SLV Vert(min)	78	-591.92	-21.82	-24.06	32.48	1.302	24.94	1.34E-02
1	Spalla 2	191	GEN SLV Long(max)	80	-401.10	21.03	82.11	84.76	1.302	65.09	1.25E-02
1	Spalla 2	191	GEN SLV Trasv(max)	80	-406.06	70.24	31.92	77.15	1.302	59.25	1.25E-02
1	Spalla 2	191	GEN SLV Vert(max)	80	-391.06	21.03	32.12	38.39	1.302	29.48	1.23E-02
1	Spalla 2	191	GEN SLV Long(min)	80	-512.21	-21.27	-74.26	77.25	1.302	59.32	1.31E-02
1	Spalla 2	191	GEN SLV Trasv(min)	80	-507.25	-70.48	-24.07	74.48	1.302	57.20	1.31E-02
1	Spalla 2	191	GEN SLV Vert(min)	80	-522.25	-21.27	-24.27	32.27	1.302	24.78	1.32E-02
1	Spalla 2	192	GEN SLV Long(max)	82	-401.10	21.27	82.11	84.82	1.302	65.14	1.25E-02
1	Spalla 2	192	GEN SLV Trasv(max)	82	-406.06	70.48	31.92	77.37	1.302	59.42	1.25E-02
1	Spalla 2	192	GEN SLV Vert(max)	82	-391.08	21.27	32.12	38.52	1.302	29.59	1.23E-02
1	Spalla 2	192	GEN SLV Long(min)	82	-512.21	-21.03	-74.26	77.18	1.302	59.27	1.31E-02
1	Spalla 2	192	GEN SLV Trasv(min)	82	-507.24	-70.24	-24.07	74.25	1.302	57.02	1.31E-02
1	Spalla 2	192	GEN SLV Vert(min)	82	-522.23	-21.03	-24.27	32.11	1.302	24.66	1.32E-02
1	Spalla 2	193	GEN SLV Long(max)	84	-453.73	21.82	82.26	85.10	1.302	65.36	1.25E-02
1	Spalla 2	193	GEN SLV Trasv(max)	84	-432.68	70.95	32.27	77.94	1.302	59.86	1.25E-02
1	Spalla 2	193	GEN SLV Vert(max)	84	-440.23	21.82	32.28	38.96	1.302	29.92	1.24E-02
1	Spalla 2	193	GEN SLV Long(min)	84	-578.34	-20.96	-74.04	76.95	1.302	59.10	1.32E-02
1	Spalla 2	193	GEN SLV Trasv(min)	84	-599.38	-70.09	-24.06	74.10	1.302	56.91	1.33E-02
1	Spalla 2	193	GEN SLV Vert(min)	84	-591.83	-20.96	-24.06	31.91	1.302	24.51	1.34E-02
2	Pila 1	195	GEN SLV Long(max)	21	-1599.17	49.94	173.82	180.85	2.855	63.35	2.09E-03
2	Pila 1	195	GEN SLV Trasv(max)	21	-1499.91	159.90	64.96	172.59	2.855	60.46	2.12E-03
2	Pila 1	195	GEN SLV Vert(max)	21	-1550.84	49.97	64.79	81.82	2.855	28.66	2.12E-03
2	Pila 1	195	GEN SLV Long(min)	21	-2000.74	-46.92	-148.90	156.12	2.855	54.69	2.43E-03
2	Pila 1	195	GEN SLV Trasv(min)	21	-2099.99	-156.88	-40.04	161.91	2.855	56.72	2.44E-03
2	Pila 1	195	GEN SLV Vert(min)	21	-2049.06	-46.95	-39.87	61.59	2.855	21.58	2.40E-03
2	Pila 1	196	GEN SLV Long(max)	23	-1806.46	48.01	173.68	180.19	2.855	63.12	2.07E-03
2	Pila 1	196	GEN SLV Trasv(max)	23	-1798.31	158.16	64.60	170.84	2.855	59.85	2.11E-03
2	Pila 1	196	GEN SLV Vert(max)	23	-1754.54	48.02	64.64	80.52	2.855	28.21	2.10E-03
2	Pila 1	196	GEN SLV Long(min)	23	-2133.28	-47.13	-148.87	156.15	2.855	54.70	2.35E-03
2	Pila 1	196	GEN SLV Trasv(min)	23	-2141.43	-157.28	-39.79	162.24	2.855	56.83	2.33E-03
2	Pila 1	196	GEN SLV Vert(min)	23	-2185.20	-47.14	-39.83	61.71	2.855	21.62	2.32E-03
2	Pila 1	197	GEN SLV Long(max)	885	-1806.99	47.13	173.68	179.96	2.855	63.04	2.08E-03
2	Pila 1	197	GEN SLV Trasv(max)	885	-1798.52	157.28	64.60	170.03	2.855	59.56	2.12E-03
2	Pila 1	197	GEN SLV Vert(max)	885	-1754.83	47.14	64.64	80.00	2.855	28.03	2.10E-03
2	Pila 1	197	GEN SLV Long(min)	885	-2132.74	-48.01	-148.87	156.42	2.855	54.80	2.34E-03

2	Pila 1	197	GEN SLV Trasv(min)	885	-2141.21	-158.16	-39.79	163.09	2.855	57.13	2.32E-03
2	Pila 1	197	GEN SLV Vert(min)	885	-2184.91	-48.02	-39.83	62.39	2.855	21.86	2.32E-03
2	Pila 1	198	GEN SLV Long(max)	27	-1600.50	46.92	173.82	180.04	2.855	63.07	2.16E-03
2	Pila 1	198	GEN SLV Trasv(max)	27	-1500.37	156.88	64.96	169.80	2.855	59.48	2.21E-03
2	Pila 1	198	GEN SLV Vert(max)	27	-1551.46	46.95	64.79	80.01	2.855	28.03	2.18E-03
2	Pila 1	198	GEN SLV Long(min)	27	-1999.41	-49.94	-148.90	157.05	2.855	55.02	2.37E-03
2	Pila 1	198	GEN SLV Trasv(min)	27	-2099.54	-159.90	-40.04	164.84	2.855	57.74	2.36E-03
2	Pila 1	198	GEN SLV Vert(min)	27	-2048.44	-49.97	-39.87	63.93	2.855	22.39	2.35E-03
2	Pila 2	200	GEN SLV Long(max)	22	-1600.28	49.94	149.14	157.28	2.855	55.10	2.37E-03
2	Pila 2	200	GEN SLV Trasv(max)	22	-1500.24	159.90	40.11	164.85	2.855	57.75	2.35E-03
2	Pila 2	200	GEN SLV Vert(max)	22	-1551.10	49.97	39.94	63.97	2.855	22.41	2.35E-03
2	Pila 2	200	GEN SLV Long(min)	22	-1999.65	-46.92	-174.07	180.28	2.855	63.15	2.16E-03
2	Pila 2	200	GEN SLV Trasv(min)	22	-2099.69	-156.88	-65.05	169.83	2.855	59.49	2.21E-03
2	Pila 2	200	GEN SLV Vert(min)	22	-2048.83	-46.95	-64.88	80.09	2.855	28.05	2.18E-03
2	Pila 2	201	GEN SLV Long(max)	24	-1806.90	48.01	149.12	156.66	2.855	54.88	2.34E-03
2	Pila 2	201	GEN SLV Trasv(max)	24	-1798.49	158.16	39.86	163.11	2.855	57.14	2.31E-03
2	Pila 2	201	GEN SLV Vert(max)	24	-1754.67	48.02	39.91	62.44	2.855	21.87	2.31E-03
2	Pila 2	201	GEN SLV Long(min)	24	-2132.87	-47.13	-173.93	180.20	2.855	63.13	2.08E-03
2	Pila 2	201	GEN SLV Trasv(min)	24	-2141.28	-157.28	-64.68	170.06	2.855	59.57	2.12E-03
2	Pila 2	201	GEN SLV Vert(min)	24	-2185.10	-47.14	-64.72	80.07	2.855	28.05	2.10E-03
2	Pila 2	202	GEN SLV Long(max)	886	-1807.03	47.13	149.12	156.39	2.855	54.79	2.34E-03
2	Pila 2	202	GEN SLV Trasv(max)	886	-1798.52	157.28	39.86	162.25	2.855	56.84	2.33E-03
2	Pila 2	202	GEN SLV Vert(max)	886	-1754.73	47.14	39.91	61.77	2.855	21.64	2.32E-03
2	Pila 2	202	GEN SLV Long(min)	886	-2132.74	-48.01	-173.93	180.43	2.855	63.21	2.08E-03
2	Pila 2	202	GEN SLV Trasv(min)	886	-2141.25	-158.16	-64.68	170.87	2.855	59.86	2.11E-03
2	Pila 2	202	GEN SLV Vert(min)	886	-2185.04	-48.02	-64.72	80.59	2.855	28.23	2.10E-03
2	Pila 2	203	GEN SLV Long(max)	28	-1600.27	46.92	149.14	156.35	2.855	54.77	2.42E-03
2	Pila 2	203	GEN SLV Trasv(max)	28	-1500.23	156.88	40.11	161.93	2.855	56.72	2.44E-03
2	Pila 2	203	GEN SLV Vert(max)	28	-1551.12	46.95	39.94	61.64	2.855	21.59	2.40E-03
2	Pila 2	203	GEN SLV Long(min)	28	-1999.66	-49.94	-174.07	181.09	2.855	63.44	2.09E-03
2	Pila 2	203	GEN SLV Trasv(min)	28	-2099.70	-159.90	-65.05	172.63	2.855	60.47	2.12E-03
2	Pila 2	203	GEN SLV Vert(min)	28	-2048.81	-49.97	-64.88	81.89	2.855	28.69	2.12E-03

		Axial (kN)	Shear-y (kN)	Shear-z (kN)	Shear-tot (kN)	Kh eq. (kN/mm)	Deform. (mm)	Rotazione (rad)
SFORZI MASSIMI:	**Spalle**	**-391.06**	**70.96**	**82.26**	**85.10**	**1.302**	**65.36**	**1.34E-02**
	Pile	**-1499.91**	**159.90**	**173.82**	**181.09**	**2.855**	**63.44**	**2.44E-03**
SFORZI MINIMI:	**Spalle**	**-599.43**	**-70.96**	**-82.26**				
	Pile	**-2185.20**	**-159.90**	**-174.07**				

STATI LIMITE DI ESERCIZIO - COMBINAZIONI CARATTERISTICHE (RARE)

Tipo isolatore	Struttura Appoggio	No.	Load	Node	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Shear-tot (kN)	Kh eq. (kN/mm)	Deform. (mm)	Rotazione (rad)
1	Spalla 1	185	GEN RARA Mobili(max)	77	-383.51	22.55	4.89	23.07	1.302	17.72	1.72E-02
1	Spalla 1	185	GEN RARA Vento(max)	77	-384.46	33.94	4.87	34.29	1.302	26.33	1.57E-02

1	Spalla 1	185	GEN RARA Frenam(max)	77	-408.50	2.17	29.60	29.68	1.302	22.79	1.57E-02
1	Spalla 1	185	GEN RARA Termico(max)	77	-367.06	21.49	9.62	23.54	1.302	18.08	1.59E-02
1	Spalla 1	185	GEN RARA Mobili(min)	77	-1227.21	-22.70	-18.47	29.26	1.302	22.47	1.24E-02
1	Spalla 1	185	GEN RARA Vento(min)	77	-990.81	-34.12	-15.82	37.61	1.302	28.88	1.23E-02
1	Spalla 1	185	GEN RARA Frenam(min)	77	-966.76	-2.35	-40.56	40.63	1.302	31.20	1.23E-02
1	Spalla 1	185	GEN RARA Termico(min)	77	-1008.20	-21.67	-20.58	29.89	1.302	22.95	1.21E-02
1	Spalla 1	186	GEN RARA Mobili(max)	79	-406.53	22.31	4.46	22.75	1.302	17.47	1.66E-02
1	Spalla 1	186	GEN RARA Vento(max)	79	-402.32	33.61	4.81	33.95	1.302	26.07	1.53E-02
1	Spalla 1	186	GEN RARA Frenam(max)	79	-404.82	1.73	29.72	29.77	1.302	22.86	1.53E-02
1	Spalla 1	186	GEN RARA Termico(max)	79	-373.58	20.90	9.73	23.05	1.302	17.71	1.55E-02
1	Spalla 1	186	GEN RARA Mobili(min)	79	-1417.65	-22.41	-17.26	28.29	1.302	21.72	1.25E-02
1	Spalla 1	186	GEN RARA Vento(min)	79	-1119.06	-33.71	-14.99	36.89	1.302	28.33	1.23E-02
1	Spalla 1	186	GEN RARA Frenam(min)	79	-1116.56	-1.83	-39.89	39.93	1.302	30.67	1.23E-02
1	Spalla 1	186	GEN RARA Termico(min)	79	-1147.80	-21.00	-19.90	28.93	1.302	22.22	1.21E-02
1	Spalla 1	187	GEN RARA Mobili(max)	81	-407.10	22.41	4.46	22.85	1.302	17.55	1.66E-02
1	Spalla 1	187	GEN RARA Vento(max)	81	-403.27	33.72	4.81	34.06	1.302	26.16	1.53E-02
1	Spalla 1	187	GEN RARA Frenam(max)	81	-404.82	1.83	29.72	29.78	1.302	22.87	1.53E-02
1	Spalla 1	187	GEN RARA Termico(max)	81	-374.15	21.00	9.73	23.14	1.302	17.77	1.55E-02
1	Spalla 1	187	GEN RARA Mobili(min)	81	-1417.08	-22.31	-17.27	28.21	1.302	21.67	1.25E-02
1	Spalla 1	187	GEN RARA Vento(min)	81	-1118.11	-33.61	-14.99	36.80	1.302	28.26	1.23E-02
1	Spalla 1	187	GEN RARA Frenam(min)	81	-1116.56	-1.73	-39.89	39.93	1.302	30.66	1.23E-02
1	Spalla 1	187	GEN RARA Termico(min)	81	-1147.23	-20.90	-19.91	28.87	1.302	22.17	1.21E-02
1	Spalla 1	188	GEN RARA Mobili(max)	83	-387.43	22.73	4.87	23.25	1.302	17.85	1.73E-02
1	Spalla 1	188	GEN RARA Vento(max)	83	-390.99	34.18	4.85	34.52	1.302	26.51	1.58E-02
1	Spalla 1	188	GEN RARA Frenam(max)	83	-408.50	2.35	29.60	29.69	1.302	22.80	1.57E-02
1	Spalla 1	188	GEN RARA Termico(max)	83	-370.98	21.70	9.61	23.73	1.302	18.23	1.60E-02
1	Spalla 1	188	GEN RARA Mobili(min)	83	-1223.29	-22.58	-18.46	29.17	1.302	22.40	1.23E-02
1	Spalla 1	188	GEN RARA Vento(min)	83	-984.28	-34.00	-15.80	37.49	1.302	28.79	1.22E-02
1	Spalla 1	188	GEN RARA Frenam(min)	83	-966.76	-2.17	-40.56	40.62	1.302	31.19	1.22E-02
1	Spalla 1	188	GEN RARA Termico(min)	83	-1004.29	-21.52	-20.56	29.76	1.302	22.86	1.20E-02
1	Spalla 2	190	GEN RARA Mobili(max)	78	-383.57	22.55	18.48	29.15	1.302	22.39	1.23E-02
1	Spalla 2	190	GEN RARA Vento(max)	78	-384.49	33.94	15.83	37.45	1.302	28.76	1.22E-02
1	Spalla 2	190	GEN RARA Frenam(max)	78	-408.53	2.17	40.56	40.62	1.302	31.19	1.22E-02
1	Spalla 2	190	GEN RARA Termico(max)	78	-367.09	21.49	20.58	29.75	1.302	22.85	1.20E-02
1	Spalla 2	190	GEN RARA Mobili(min)	78	-1227.10	-22.70	-4.88	23.22	1.302	17.83	1.73E-02
1	Spalla 2	190	GEN RARA Vento(min)	78	-990.76	-34.12	-4.87	34.47	1.302	26.47	1.58E-02
1	Spalla 2	190	GEN RARA Frenam(min)	78	-966.71	-2.35	-29.60	29.69	1.302	22.80	1.57E-02
1	Spalla 2	190	GEN RARA Termico(min)	78	-1008.15	-21.67	-9.62	23.71	1.302	18.21	1.60E-02
1	Spalla 2	191	GEN RARA Mobili(max)	80	-406.53	22.31	17.27	28.21	1.302	21.67	1.25E-02
1	Spalla 2	191	GEN RARA Vento(max)	80	-402.35	33.60	14.99	36.79	1.302	28.26	1.23E-02
1	Spalla 2	191	GEN RARA Frenam(max)	80	-404.84	1.73	39.90	39.94	1.302	30.67	1.23E-02
1	Spalla 2	191	GEN RARA Termico(max)	80	-373.61	20.90	19.91	28.87	1.302	22.17	1.21E-02
1	Spalla 2	191	GEN RARA Mobili(min)	80	-1417.41	-22.41	-4.45	22.85	1.302	17.55	1.66E-02

1	Spalla 2	191	GEN RARA Vento(min)	80	-1118.91	-33.71	-4.80	34.05	1.302	26.15	1.53E-02
1	Spalla 2	191	GEN RARA Frenam(min)	80	-1116.43	-1.83	-29.71	29.77	1.302	22.86	1.53E-02
1	Spalla 2	191	GEN RARA Termico(min)	80	-1147.66	-21.00	-9.72	23.14	1.302	17.77	1.55E-02
1	Spalla 2	192	GEN RARA Mobili(max)	82	-407.10	22.41	17.27	28.29	1.302	21.73	1.24E-02
1	Spalla 2	192	GEN RARA Vento(max)	82	-403.30	33.72	15.00	36.91	1.302	28.34	1.23E-02
1	Spalla 2	192	GEN RARA Frenam(max)	82	-404.84	1.83	39.90	39.94	1.302	30.67	1.23E-02
1	Spalla 2	192	GEN RARA Termico(max)	82	-374.18	21.00	19.91	28.94	1.302	22.22	1.21E-02
1	Spalla 2	192	GEN RARA Mobili(min)	82	-1416.84	-22.32	-4.46	22.76	1.302	17.48	1.66E-02
1	Spalla 2	192	GEN RARA Vento(min)	82	-1117.97	-33.61	-4.81	33.95	1.302	26.07	1.53E-02
1	Spalla 2	192	GEN RARA Frenam(min)	82	-1116.43	-1.73	-29.71	29.76	1.302	22.86	1.53E-02
1	Spalla 2	192	GEN RARA Termico(min)	82	-1147.09	-20.90	-9.72	23.05	1.302	17.70	1.55E-02
1	Spalla 2	193	GEN RARA Mobili(max)	84	-387.48	22.73	18.46	29.28	1.302	22.49	1.24E-02
1	Spalla 2	193	GEN RARA Vento(max)	84	-391.01	34.17	15.81	37.65	1.302	28.91	1.23E-02
1	Spalla 2	193	GEN RARA Frenam(max)	84	-408.53	2.35	40.56	40.63	1.302	31.20	1.23E-02
1	Spalla 2	193	GEN RARA Termico(max)	84	-371.01	21.70	20.56	29.89	1.302	22.96	1.21E-02
1	Spalla 2	193	GEN RARA Mobili(min)	84	-1223.19	-22.58	-4.86	23.10	1.302	17.74	1.72E-02
1	Spalla 2	193	GEN RARA Vento(min)	84	-984.24	-33.99	-4.84	34.33	1.302	26.37	1.57E-02
1	Spalla 2	193	GEN RARA Frenam(min)	84	-966.71	-2.17	-29.60	29.68	1.302	22.79	1.57E-02
1	Spalla 2	193	GEN RARA Termico(min)	84	-1004.24	-21.52	-9.60	23.56	1.302	18.10	1.59E-02
2	Pila 1	195	GEN RARA Mobili(max)	21	-1471.04	50.36	25.44	56.42	2.855	19.76	5.98E-04
2	Pila 1	195	GEN RARA Vento(max)	21	-1496.98	76.88	24.12	80.57	2.855	28.23	9.60E-04
2	Pila 1	195	GEN RARA Frenam(max)	21	-1578.27	5.57	78.17	78.37	2.855	27.45	9.52E-04
2	Pila 1	195	GEN RARA Termico(max)	21	-1426.16	49.38	28.19	56.86	2.855	19.92	9.29E-04
2	Pila 1	195	GEN RARA Mobili(min)	21	-3177.96	-45.42	-4.05	45.60	2.855	15.97	4.09E-03
2	Pila 1	195	GEN RARA Vento(min)	21	-2663.52	-72.73	-1.26	72.74	2.855	25.48	3.64E-03
2	Pila 1	195	GEN RARA Frenam(min)	21	-2582.23	-1.42	-55.32	55.34	2.855	19.39	3.62E-03
2	Pila 1	195	GEN RARA Termico(min)	21	-2734.34	-45.23	-5.34	45.54	2.855	15.95	3.74E-03
2	Pila 1	196	GEN RARA Mobili(max)	23	-1808.07	47.31	24.53	53.29	2.855	18.67	7.83E-04
2	Pila 1	196	GEN RARA Vento(max)	23	-1803.88	74.32	23.29	77.88	2.855	27.28	1.07E-03
2	Pila 1	196	GEN RARA Frenam(max)	23	-1813.60	2.89	77.49	77.54	2.855	27.16	1.05E-03
2	Pila 1	196	GEN RARA Termico(max)	23	-1704.41	46.04	27.42	53.59	2.855	18.77	1.01E-03
2	Pila 1	196	GEN RARA Mobili(min)	23	-3408.28	-45.69	-2.65	45.77	2.855	16.03	3.80E-03
2	Pila 1	196	GEN RARA Vento(min)	23	-2865.47	-73.11	-0.25	73.11	2.855	25.61	3.40E-03
2	Pila 1	196	GEN RARA Frenam(min)	23	-2855.75	-1.68	-54.44	54.47	2.855	19.08	3.39E-03
2	Pila 1	196	GEN RARA Termico(min)	23	-2964.94	-44.82	-4.37	45.03	2.855	15.78	3.47E-03
2	Pila 1	197	GEN RARA Mobili(max)	885	-1806.00	45.70	24.53	51.87	2.855	18.17	9.02E-04
2	Pila 1	197	GEN RARA Vento(max)	885	-1800.42	73.12	23.29	76.74	2.855	26.88	1.13E-03
2	Pila 1	197	GEN RARA Frenam(max)	885	-1813.60	1.68	77.49	77.51	2.855	27.15	1.11E-03
2	Pila 1	197	GEN RARA Termico(max)	885	-1702.33	44.83	27.42	52.55	2.855	18.41	1.08E-03
2	Pila 1	197	GEN RARA Mobili(min)	885	-3410.35	-47.32	-2.65	47.39	2.855	16.60	3.77E-03
2	Pila 1	197	GEN RARA Vento(min)	885	-2868.93	-74.34	-0.25	74.34	2.855	26.04	3.38E-03
2	Pila 1	197	GEN RARA Frenam(min)	885	-2855.75	-2.89	-54.44	54.52	2.855	19.10	3.38E-03
2	Pila 1	197	GEN RARA Termico(min)	885	-2967.01	-46.05	-4.37	46.26	2.855	16.20	3.45E-03

2	Pila 1	198	GEN RARA Mobili(max)	27	-1476.25	45.44	25.44	52.08	2.855	18.24	1.30E-03
2	Pila 1	198	GEN RARA Vento(max)	27	-1505.68	72.76	24.12	76.65	2.855	26.85	1.38E-03
2	Pila 1	198	GEN RARA Frenam(max)	27	-1578.27	1.42	78.17	78.18	2.855	27.39	1.32E-03
2	Pila 1	198	GEN RARA Termico(max)	27	-1431.38	45.25	28.19	53.31	2.855	18.68	1.43E-03
2	Pila 1	198	GEN RARA Mobili(min)	27	-3172.74	-50.38	-4.05	50.54	2.855	17.71	3.92E-03
2	Pila 1	198	GEN RARA Vento(min)	27	-2654.82	-76.91	-1.26	76.92	2.855	26.95	3.51E-03
2	Pila 1	198	GEN RARA Frenam(min)	27	-2582.23	-5.57	-55.32	55.60	2.855	19.48	3.50E-03
2	Pila 1	198	GEN RARA Termico(min)	27	-2729.12	-49.40	-5.34	49.69	2.855	17.41	3.58E-03
2	Pila 2	200	GEN RARA Mobili(max)	22	-1471.00	50.37	4.06	50.53	2.855	17.70	3.92E-03
2	Pila 2	200	GEN RARA Vento(max)	22	-1496.95	76.88	1.26	76.89	2.855	26.94	3.50E-03
2	Pila 2	200	GEN RARA Frenam(max)	22	-1578.31	5.57	55.41	55.69	2.855	19.51	3.50E-03
2	Pila 2	200	GEN RARA Termico(max)	22	-1426.14	49.38	5.34	49.67	2.855	17.40	3.58E-03
2	Pila 2	200	GEN RARA Mobili(min)	22	-3178.04	-45.43	-25.45	52.07	2.855	18.24	1.30E-03
2	Pila 2	200	GEN RARA Vento(min)	22	-2663.59	-72.74	-24.13	76.64	2.855	26.85	1.38E-03
2	Pila 2	200	GEN RARA Frenam(min)	22	-2582.23	-1.42	-78.27	78.28	2.855	27.42	1.31E-03
2	Pila 2	200	GEN RARA Termico(min)	22	-2734.40	-45.23	-28.21	53.31	2.855	18.67	1.43E-03
2	Pila 2	201	GEN RARA Mobili(max)	24	-1808.10	47.32	2.65	47.39	2.855	16.60	3.77E-03
2	Pila 2	201	GEN RARA Vento(max)	24	-1803.90	74.33	0.25	74.33	2.855	26.04	3.38E-03
2	Pila 2	201	GEN RARA Frenam(max)	24	-1813.61	2.89	54.53	54.61	2.855	19.13	3.38E-03
2	Pila 2	201	GEN RARA Termico(max)	24	-1704.43	46.04	4.37	46.25	2.855	16.20	3.45E-03
2	Pila 2	201	GEN RARA Mobili(min)	24	-3408.31	-45.70	-24.54	51.87	2.855	18.17	9.03E-04
2	Pila 2	201	GEN RARA Vento(min)	24	-2865.49	-73.12	-23.31	76.75	2.855	26.88	1.13E-03
2	Pila 2	201	GEN RARA Frenam(min)	24	-2855.78	-1.68	-77.59	77.61	2.855	27.19	1.10E-03
2	Pila 2	201	GEN RARA Termico(min)	24	-2964.96	-44.83	-27.43	52.56	2.855	18.41	1.08E-03
2	Pila 2	202	GEN RARA Mobili(max)	886	-1806.01	45.71	2.65	45.79	2.855	16.04	3.80E-03
2	Pila 2	202	GEN RARA Vento(max)	886	-1800.42	73.13	0.25	73.13	2.855	25.62	3.40E-03
2	Pila 2	202	GEN RARA Frenam(max)	886	-1813.61	1.68	54.53	54.56	2.855	19.11	3.40E-03
2	Pila 2	202	GEN RARA Termico(max)	886	-1702.34	44.84	4.37	45.05	2.855	15.78	3.47E-03
2	Pila 2	202	GEN RARA Mobili(min)	886	-3410.39	-47.33	-24.54	53.31	2.855	18.68	7.80E-04
2	Pila 2	202	GEN RARA Vento(min)	886	-2868.97	-74.35	-23.31	77.92	2.855	27.30	1.07E-03
2	Pila 2	202	GEN RARA Frenam(min)	886	-2855.78	-2.89	-77.59	77.64	2.855	27.20	1.05E-03
2	Pila 2	202	GEN RARA Termico(min)	886	-2967.05	-46.05	-27.43	53.60	2.855	18.78	1.01E-03
2	Pila 2	203	GEN RARA Mobili(max)	28	-1476.22	45.45	4.06	45.63	2.855	15.98	4.09E-03
2	Pila 2	203	GEN RARA Vento(max)	28	-1505.64	72.77	1.26	72.78	2.855	25.50	3.64E-03
2	Pila 2	203	GEN RARA Frenam(max)	28	-1578.31	1.42	55.41	55.43	2.855	19.42	3.62E-03
2	Pila 2	203	GEN RARA Termico(max)	28	-1431.36	45.25	5.34	45.56	2.855	15.96	3.74E-03
2	Pila 2	203	GEN RARA Mobili(min)	28	-3172.82	-50.39	-25.45	56.45	2.855	19.78	5.95E-04
2	Pila 2	203	GEN RARA Vento(min)	28	-2654.90	-76.92	-24.13	80.62	2.855	28.24	9.57E-04
2	Pila 2	203	GEN RARA Frenam(min)	28	-2582.23	-5.57	-78.27	78.47	2.855	27.49	9.45E-04
2	Pila 2	203	GEN RARA Termico(min)	28	-2729.18	-49.40	-28.21	56.89	2.855	19.93	9.26E-04
					Axial (kN)	**Shear-y (kN)**	**Shear-z (kN)**	**Shear-tot (kN)**	**Kh eq. (kN/mm)**	**Deform. (mm)**	**Rotazione (rad)**
SFORZI MASSIMI:				**Spalle**	**-367.06**	**34.18**	**40.56**	**40.63**	**1.302**	**31.20**	**1.48E-02**

				Pile	-1426.14	76.88	78.17	80.62	2.855	28.24	4.09E-03
SFORZI MINIMI:				Spalle	-1417.65	-34.12	-40.56				
				Pile	-3410.39	-76.92	-78.27				

STATI LIMITE DI ESERCIZIO - COMBINAZIONI FREQUENTI

Tipo isolatore	Struttura Appoggio	No.	Load	Node	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Shear-tot (kN)	Kh eq. (kN/mm)	Deform. (mm)	Rotazione (rad)
1	Spalla 1	185	GEN FREQ Mobili(max)	77	-417.98	2.10	3.42	4.01	1.302	3.08	1.56E-02
1	Spalla 1	185	GEN FREQ Vento(max)	77	-475.73	6.25	2.01	6.57	1.302	5.04	1.31E-02
1	Spalla 1	185	GEN FREQ Termico(max)	77	-474.03	-0.05	3.17	3.17	1.302	2.43	1.32E-02
1	Spalla 1	185	GEN FREQ Mobili(min)	77	-957.29	-2.28	-14.37	14.55	1.302	11.17	1.24E-02
1	Spalla 1	185	GEN FREQ Vento(min)	77	-556.35	-7.11	-10.21	12.44	1.302	9.56	1.26E-02
1	Spalla 1	185	GEN FREQ Termico(min)	77	-558.05	-0.82	-11.37	11.40	1.302	8.75	1.26E-02
1	Spalla 1	186	GEN FREQ Mobili(max)	79	-415.58	1.72	3.50	3.90	1.302	2.99	1.52E-02
1	Spalla 1	186	GEN FREQ Vento(max)	79	-416.87	6.31	2.28	6.71	1.302	5.15	1.30E-02
1	Spalla 1	186	GEN FREQ Termico(max)	79	-410.23	-0.06	3.50	3.50	1.302	2.69	1.31E-02
1	Spalla 1	186	GEN FREQ Mobili(min)	79	-1105.80	-1.82	-13.68	13.80	1.302	10.60	1.23E-02
1	Spalla 1	186	GEN FREQ Vento(min)	79	-496.45	-6.55	-10.11	12.05	1.302	9.25	1.26E-02
1	Spalla 1	186	GEN FREQ Termico(min)	79	-503.09	-0.19	-11.33	11.33	1.302	8.70	1.25E-02
1	Spalla 1	187	GEN FREQ Mobili(max)	81	-415.58	1.82	3.50	3.94	1.302	3.03	1.52E-02
1	Spalla 1	187	GEN FREQ Vento(max)	81	-417.06	6.55	2.28	6.94	1.302	5.33	1.30E-02
1	Spalla 1	187	GEN FREQ Termico(max)	81	-410.23	0.19	3.50	3.51	1.302	2.69	1.31E-02
1	Spalla 1	187	GEN FREQ Mobili(min)	81	-1105.80	-1.72	-13.68	13.79	1.302	10.59	1.23E-02
1	Spalla 1	187	GEN FREQ Vento(min)	81	-496.26	-6.31	-10.11	11.92	1.302	9.15	1.26E-02
1	Spalla 1	187	GEN FREQ Termico(min)	81	-503.09	0.06	-11.33	11.33	1.302	8.70	1.25E-02
1	Spalla 1	188	GEN FREQ Mobili(max)	83	-417.98	2.28	3.42	4.11	1.302	3.16	1.57E-02
1	Spalla 1	188	GEN FREQ Vento(max)	83	-477.03	7.12	2.00	7.40	1.302	5.68	1.31E-02
1	Spalla 1	188	GEN FREQ Termico(max)	83	-474.03	0.82	3.17	3.27	1.302	2.51	1.32E-02
1	Spalla 1	188	GEN FREQ Mobili(min)	83	-957.29	-2.10	-14.37	14.52	1.302	11.15	1.23E-02
1	Spalla 1	188	GEN FREQ Vento(min)	83	-555.04	-6.26	-10.21	11.98	1.302	9.20	1.26E-02
1	Spalla 1	188	GEN FREQ Termico(min)	83	-558.05	0.05	-11.37	11.37	1.302	8.73	1.26E-02
1	Spalla 2	190	GEN FREQ Mobili(max)	78	-418.02	2.10	14.37	14.52	1.302	11.15	1.23E-02
1	Spalla 2	190	GEN FREQ Vento(max)	78	-475.72	6.24	10.22	11.97	1.302	9.20	1.26E-02
1	Spalla 2	190	GEN FREQ Termico(max)	78	-474.02	-0.05	11.38	11.38	1.302	8.74	1.26E-02
1	Spalla 2	190	GEN FREQ Mobili(min)	78	-957.23	-2.28	-3.41	4.10	1.302	3.15	1.57E-02
1	Spalla 2	190	GEN FREQ Vento(min)	78	-556.35	-7.11	-2.00	7.39	1.302	5.67	1.31E-02
1	Spalla 2	190	GEN FREQ Termico(min)	78	-558.04	-0.82	-3.16	3.26	1.302	2.51	1.32E-02
1	Spalla 2	191	GEN FREQ Mobili(max)	80	-415.61	1.72	13.69	13.80	1.302	10.60	1.23E-02
1	Spalla 2	191	GEN FREQ Vento(max)	80	-416.86	6.31	10.12	11.93	1.302	9.16	1.26E-02
1	Spalla 2	191	GEN FREQ Termico(max)	80	-410.23	-0.06	11.34	11.34	1.302	8.71	1.25E-02
1	Spalla 2	191	GEN FREQ Mobili(min)	80	-1105.66	-1.82	-3.50	3.94	1.302	3.03	1.52E-02
1	Spalla 2	191	GEN FREQ Vento(min)	80	-496.45	-6.55	-2.27	6.93	1.302	5.32	1.30E-02
1	Spalla 2	191	GEN FREQ Termico(min)	80	-503.08	-0.19	-3.49	3.50	1.302	2.68	1.31E-02

1	Spalla 2	192	GEN FREQ Mobili(max)	82	-415.61	1.82	13.69	13.81	1.302	10.61	1.23E-02
1	Spalla 2	192	GEN FREQ Vento(max)	82	-417.05	6.55	10.12	12.05	1.302	9.26	1.26E-02
1	Spalla 2	192	GEN FREQ Termico(max)	82	-410.23	0.19	11.34	11.34	1.302	8.71	1.25E-02
1	Spalla 2	192	GEN FREQ Mobili(min)	82	-1105.66	-1.72	-3.50	3.90	1.302	2.99	1.52E-02
1	Spalla 2	192	GEN FREQ Vento(min)	82	-496.26	-6.31	-2.27	6.71	1.302	5.15	1.30E-02
1	Spalla 2	192	GEN FREQ Termico(min)	82	-503.08	0.06	-3.49	3.49	1.302	2.68	1.31E-02
1	Spalla 2	193	GEN FREQ Mobili(max)	84	-418.02	2.28	14.37	14.55	1.302	11.17	1.24E-02
1	Spalla 2	193	GEN FREQ Vento(max)	84	-477.02	7.12	10.21	12.45	1.302	9.56	1.26E-02
1	Spalla 2	193	GEN FREQ Termico(max)	84	-474.02	0.82	11.38	11.41	1.302	8.76	1.26E-02
1	Spalla 2	193	GEN FREQ Mobili(min)	84	-957.23	-2.10	-3.41	4.00	1.302	3.08	1.56E-02
1	Spalla 2	193	GEN FREQ Vento(min)	84	-555.04	-6.26	-1.99	6.57	1.302	5.04	1.31E-02
1	Spalla 2	193	GEN FREQ Termico(min)	84	-558.04	0.05	-3.16	3.16	1.302	2.43	1.32E-02
2	Pila 1	195	GEN FREQ Mobili(max)	21	-1604.68	5.31	22.88	23.49	2.855	8.23	9.66E-04
2	Pila 1	195	GEN FREQ Vento(max)	21	-1654.16	17.05	17.69	24.57	2.855	8.61	2.15E-03
2	Pila 1	195	GEN FREQ Termico(max)	21	-1644.63	3.04	18.69	18.94	2.855	6.63	2.14E-03
2	Pila 1	195	GEN FREQ Mobili(min)	21	-2555.82	-1.16	-0.03	1.16	2.855	0.41	3.59E-03
2	Pila 1	195	GEN FREQ Vento(min)	21	-1945.75	-14.03	7.23	15.78	2.855	5.53	2.36E-03
2	Pila 1	195	GEN FREQ Termico(min)	21	-1955.27	-0.02	6.23	6.23	2.855	2.18	2.38E-03
2	Pila 1	196	GEN FREQ Mobili(max)	23	-1840.29	2.82	22.19	22.37	2.855	7.84	1.07E-03
2	Pila 1	196	GEN FREQ Vento(max)	23	-1838.19	15.09	17.60	23.18	2.855	8.12	2.13E-03
2	Pila 1	196	GEN FREQ Termico(max)	23	-1814.37	0.87	18.63	18.65	2.855	6.53	2.11E-03
2	Pila 1	196	GEN FREQ Mobili(min)	23	-2829.06	-1.60	0.86	1.82	2.855	0.64	3.38E-03
2	Pila 1	196	GEN FREQ Vento(min)	23	-2101.55	-14.20	7.20	15.92	2.855	5.58	2.29E-03
2	Pila 1	196	GEN FREQ Termico(min)	23	-2125.37	0.01	6.18	6.18	2.855	2.16	2.31E-03
2	Pila 1	197	GEN FREQ Mobili(max)	885	-1840.29	1.60	22.19	22.25	2.855	7.79	1.12E-03
2	Pila 1	197	GEN FREQ Vento(max)	885	-1837.50	14.20	17.60	22.61	2.855	7.92	2.13E-03
2	Pila 1	197	GEN FREQ Termico(max)	885	-1814.37	-0.01	18.63	18.63	2.855	6.53	2.11E-03
2	Pila 1	197	GEN FREQ Mobili(min)	885	-2829.06	-2.82	0.86	2.95	2.855	1.03	3.36E-03
2	Pila 1	197	GEN FREQ Vento(min)	885	-2102.24	-15.09	7.20	16.72	2.855	5.86	2.29E-03
2	Pila 1	197	GEN FREQ Termico(min)	885	-2125.37	-0.87	6.18	6.24	2.855	2.19	2.30E-03
2	Pila 1	198	GEN FREQ Mobili(max)	27	-1604.68	1.16	22.88	22.91	2.855	8.03	1.30E-03
2	Pila 1	198	GEN FREQ Vento(max)	27	-1655.90	14.04	17.69	22.58	2.855	7.91	2.20E-03
2	Pila 1	198	GEN FREQ Termico(max)	27	-1644.63	0.02	18.69	18.69	2.855	6.55	2.19E-03
2	Pila 1	198	GEN FREQ Mobili(min)	27	-2555.82	-5.31	-0.03	5.31	2.855	1.86	3.48E-03
2	Pila 1	198	GEN FREQ Vento(min)	27	-1944.01	-17.06	7.23	18.53	2.855	6.49	2.32E-03
2	Pila 1	198	GEN FREQ Termico(min)	27	-1955.27	-3.04	6.23	6.93	2.855	2.43	2.33E-03
2	Pila 2	200	GEN FREQ Mobili(max)	22	-1604.69	5.31	0.03	5.31	2.855	1.86	3.48E-03
2	Pila 2	200	GEN FREQ Vento(max)	22	-1654.16	17.05	-7.23	18.52	2.855	6.49	2.31E-03
2	Pila 2	200	GEN FREQ Termico(max)	22	-1644.64	3.04	-6.23	6.93	2.855	2.43	2.33E-03
2	Pila 2	200	GEN FREQ Mobili(min)	22	-2555.85	-1.17	-22.89	22.92	2.855	8.03	1.30E-03
2	Pila 2	200	GEN FREQ Vento(min)	22	-1945.77	-14.03	-17.70	22.59	2.855	7.91	2.20E-03
2	Pila 2	200	GEN FREQ Termico(min)	22	-1955.28	-0.02	-18.70	18.70	2.855	6.55	2.19E-03
2	Pila 2	201	GEN FREQ Mobili(max)	24	-1840.30	2.82	-0.86	2.95	2.855	1.03	3.36E-03

2	Pila 2	201	GEN FREQ Vento(max)	24	-1838.21	15.09	-7.21	16.72	2.855	5.86	2.29E-03
2	Pila 2	201	GEN FREQ Termico(max)	24	-1814.39	0.87	-6.18	6.24	2.855	2.19	2.30E-03
2	Pila 2	201	GEN FREQ Mobili(min)	24	-2829.09	-1.61	-22.20	22.26	2.855	7.80	1.12E-03
2	Pila 2	201	GEN FREQ Vento(min)	24	-2101.57	-14.20	-17.61	22.62	2.855	7.92	2.13E-03
2	Pila 2	201	GEN FREQ Termico(min)	24	-2125.39	0.01	-18.64	18.64	2.855	6.53	2.11E-03
2	Pila 2	202	GEN FREQ Mobili(max)	886	-1840.30	1.61	-0.86	1.83	2.855	0.64	3.38E-03
2	Pila 2	202	GEN FREQ Vento(max)	886	-1837.51	14.21	-7.21	15.93	2.855	5.58	2.29E-03
2	Pila 2	202	GEN FREQ Termico(max)	886	-1814.39	-0.01	-6.18	6.18	2.855	2.16	2.31E-03
2	Pila 2	202	GEN FREQ Mobili(min)	886	-2829.09	-2.82	-22.20	22.38	2.855	7.84	1.07E-03
2	Pila 2	202	GEN FREQ Vento(min)	886	-2102.26	-15.09	-17.61	23.19	2.855	8.12	2.12E-03
2	Pila 2	202	GEN FREQ Termico(min)	886	-2125.39	-0.87	-18.64	18.66	2.855	6.54	2.11E-03
2	Pila 2	203	GEN FREQ Mobili(max)	28	-1604.69	1.17	0.03	1.17	2.855	0.41	3.59E-03
2	Pila 2	203	GEN FREQ Vento(max)	28	-1655.90	14.04	-7.23	15.79	2.855	5.53	2.36E-03
2	Pila 2	203	GEN FREQ Termico(max)	28	-1644.64	0.02	-6.23	6.23	2.855	2.18	2.38E-03
2	Pila 2	203	GEN FREQ Mobili(min)	28	-2555.85	-5.31	-22.89	23.50	2.855	8.23	9.65E-04
2	Pila 2	203	GEN FREQ Vento(min)	28	-1944.03	-17.06	-17.70	24.58	2.855	8.61	2.15E-03
2	Pila 2	203	GEN FREQ Termico(min)	28	-1955.28	-3.04	-18.70	18.95	2.855	6.64	2.13E-03

		Axial (kN)	Shear-y (kN)	Shear-z (kN)	Shear-tot (kN)	Kh eq. (kN/mm)	Deform. (mm)	Rotazione (rad)
SFORZI MASSIMI:	**Spalle**	**-410.23**	**7.12**	**14.37**	**14.55**	**1.302**	**11.17**	**1.57E-02**
	Pile	**-1604.68**	**17.05**	**22.88**	**24.58**	**2.855**	**8.61**	**3.59E-03**
SFORZI MINIMI:	**Spalle**	**-1105.80**	**-7.11**	**-14.37**				
	Pile	**-2829.09**	**-17.06**	**-22.89**				

STATI LIMITE DI ESERCIZIO - COMBINAZIONI QUASI PERMANENTI

Tipo isolatore	Struttura Appoggio	No.	Load	Node	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Shear-tot (kN)	Kh eq. (kN/mm)	Deform. (mm)	Rotazione (rad)
1	Spalla 1	185	GEN Q.P.(max)	77	-481.03	-0.11	1.96	1.96	1.302	1.51	1.31E-02
1	Spalla 1	185	GEN Q.P.(min)	77	-551.04	-0.75	-10.16	10.19	1.302	7.82	1.26E-02
1	Spalla 1	186	GEN Q.P.(max)	79	-417.97	-0.07	2.26	2.26	1.302	1.74	1.30E-02
1	Spalla 1	186	GEN Q.P.(min)	79	-495.35	-0.17	-10.10	10.10	1.302	7.76	1.26E-02
1	Spalla 1	187	GEN Q.P.(max)	81	-417.97	0.17	2.26	2.27	1.302	1.74	1.30E-02
1	Spalla 1	187	GEN Q.P.(min)	81	-495.35	0.07	-10.10	10.10	1.302	7.76	1.26E-02
1	Spalla 1	188	GEN Q.P.(max)	83	-481.03	0.75	1.96	2.10	1.302	1.61	1.31E-02
1	Spalla 1	188	GEN Q.P.(min)	83	-551.04	0.11	-10.16	10.16	1.302	7.80	1.26E-02
1	Spalla 2	190	GEN Q.P.(max)	78	-481.02	-0.11	10.17	10.17	1.302	7.81	1.26E-02
1	Spalla 2	190	GEN Q.P.(min)	78	-551.04	-0.75	-1.95	2.09	1.302	1.60	1.31E-02
1	Spalla 2	191	GEN Q.P.(max)	80	-417.97	-0.07	10.10	10.10	1.302	7.76	1.26E-02
1	Spalla 2	191	GEN Q.P.(min)	80	-495.34	-0.17	-2.26	2.27	1.302	1.74	1.30E-02
1	Spalla 2	192	GEN Q.P.(max)	82	-417.97	0.17	10.10	10.10	1.302	7.76	1.26E-02
1	Spalla 2	192	GEN Q.P.(min)	82	-495.34	0.07	-2.26	2.26	1.302	1.74	1.30E-02
1	Spalla 2	193	GEN Q.P.(max)	84	-481.02	0.75	10.17	10.20	1.302	7.83	1.26E-02
1	Spalla 2	19	GEN Q.P.(min)	84	-551.04	0.11	-1.95	1.95	1.302	1.50	1.31E-02

3

2	Pila 1	195	GEN Q.P.(max)	21	-1670.52	2.79	17.65	17.87	2.855	6.26	2.15E-03
2	Pila 1	195	GEN Q.P.(min)	21	-1929.39	0.23	7.27	7.27	2.855	2.55	2.36E-03
2	Pila 1	196	GEN Q.P.(max)	23	-1840.29	0.80	17.59	17.61	2.855	6.17	2.13E-03
2	Pila 1	196	GEN Q.P.(min)	23	-2099.45	0.09	7.22	7.22	2.855	2.53	2.29E-03
2	Pila 1	197	GEN Q.P.(max)	885	-1840.29	-0.09	17.59	17.59	2.855	6.16	2.13E-03
2	Pila 1	197	GEN Q.P.(min)	885	-2099.45	-0.80	7.22	7.26	2.855	2.54	2.29E-03
2	Pila 1	198	GEN Q.P.(max)	27	-1670.52	-0.23	17.65	17.65	2.855	6.18	2.20E-03
2	Pila 1	198	GEN Q.P.(min)	27	-1929.39	-2.79	7.27	7.79	2.855	2.73	2.31E-03
2	Pila 2	200	GEN Q.P.(max)	22	-1670.53	2.79	-7.27	7.79	2.855	2.73	2.31E-03
2	Pila 2	200	GEN Q.P.(min)	22	-1929.40	0.23	-17.66	17.66	2.855	6.19	2.20E-03
2	Pila 2	201	GEN Q.P.(max)	24	-1840.30	0.80	-7.22	7.26	2.855	2.54	2.29E-03
2	Pila 2	201	GEN Q.P.(min)	24	-2099.47	0.09	-17.60	17.60	2.855	6.17	2.13E-03
2	Pila 2	202	GEN Q.P.(max)	886	-1840.30	-0.09	-7.22	7.22	2.855	2.53	2.29E-03
2	Pila 2	202	GEN Q.P.(min)	886	-2099.47	-0.80	-17.60	17.62	2.855	6.17	2.13E-03
2	Pila 2	203	GEN Q.P.(max)	28	-1670.53	-0.23	-7.27	7.27	2.855	2.55	2.36E-03
2	Pila 2	203	GEN Q.P.(min)	28	-1929.40	-2.79	-17.66	17.88	2.855	6.26	2.15E-03

		Axial (kN)	Shear-y (kN)	Shear-z (kN)	Shear-tot (kN)	Kh eq. (kN/mm)	Deform. (mm)	Rotazione (rad)
SFORZI MASSIMI:	**Spalle**	**-417.97**	**0.75**	**10.17**	**10.20**	**1.302**	**7.83**	**1.31E-02**
	Pile	**-1670.52**	**2.79**	**17.65**	**17.88**	**2.855**	**6.26**	**2.36E-03**
SFORZI MINIMI:	**Spalle**	**-551.04**	**-0.75**	**-10.16**				
	Pile	**-2099.47**	**-2.79**	**-17.66**				

STATI LIMITE DI ESERCIZIO - SISMICI (SLD)

Tipo isolatore	Struttura Appoggio	No.	Load	Node	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Shear-tot (kN)	Kh eq. (kN/mm)	Deform. (mm)	Rotazione (rad)
1	Spalla 1	185	GEN SLD Long(max)	77	-470.54	8.63	31.84	32.99	1.302	25.33	1.32E-02
1	Spalla 1	185	GEN SLD Trasv(max)	77	-461.81	29.01	11.11	31.06	1.302	23.86	1.32E-02
1	Spalla 1	185	GEN SLD Vert(max)	77	-466.91	8.63	11.08	14.04	1.302	10.79	1.32E-02
1	Spalla 1	185	GEN SLD Long(min)	77	-561.54	-9.49	-40.05	41.16	1.302	31.61	1.26E-02
1	Spalla 1	185	GEN SLD Trasv(min)	77	-570.27	-29.87	-19.32	35.57	1.302	27.32	1.26E-02
1	Spalla 1	185	GEN SLD Vert(min)	77	-565.16	-9.49	-19.29	21.50	1.302	16.51	1.26E-02
1	Spalla 1	186	GEN SLD Long(max)	79	-411.71	8.68	32.11	33.26	1.302	25.55	1.31E-02
1	Spalla 1	186	GEN SLD Trasv(max)	79	-413.77	29.09	11.30	31.21	1.302	23.97	1.31E-02
1	Spalla 1	186	GEN SLD Vert(max)	79	-409.28	8.68	11.35	14.29	1.302	10.97	1.31E-02
1	Spalla 1	186	GEN SLD Long(min)	79	-501.61	-8.92	-39.95	40.93	1.302	31.44	1.25E-02
1	Spalla 1	186	GEN SLD Trasv(min)	79	-499.55	-29.34	-19.13	35.03	1.302	26.90	1.25E-02
1	Spalla 1	186	GEN SLD Vert(min)	79	-504.04	-8.92	-19.18	21.15	1.302	16.25	1.25E-02
1	Spalla 1	187	GEN SLD Long(max)	81	-411.71	8.92	32.11	33.33	1.302	25.59	1.31E-02
1	Spalla 1	187	GEN SLD Trasv(max)	81	-413.77	29.34	11.30	31.44	1.302	24.15	1.31E-02
1	Spalla 1	187	GEN SLD Vert(max)	81	-409.28	8.92	11.35	14.44	1.302	11.09	1.31E-02
1	Spalla 1	187	GEN SLD Long(min)	81	-501.61	-8.68	-39.95	40.88	1.302	31.40	1.25E-02

1	Spalla 1	187	GEN SLD Trasv(min)	81	-499.55	-29.09	-19.13	34.82	1.302	26.74	1.25E-02
1	Spalla 1	187	GEN SLD Vert(min)	81	-504.04	-8.68	-19.18	21.05	1.302	16.17	1.25E-02
1	Spalla 1	188	GEN SLD Long(max)	83	-470.55	9.49	31.84	33.22	1.302	25.52	1.32E-02
1	Spalla 1	188	GEN SLD Trasv(max)	83	-461.82	29.87	11.11	31.87	1.302	24.48	1.32E-02
1	Spalla 1	188	GEN SLD Vert(max)	83	-466.95	9.49	11.08	14.59	1.302	11.20	1.32E-02
1	Spalla 1	188	GEN SLD Long(min)	83	-561.53	-8.63	-40.05	40.97	1.302	31.46	1.26E-02
1	Spalla 1	188	GEN SLD Trasv(min)	83	-570.26	-29.01	-19.32	34.85	1.302	26.77	1.26E-02
1	Spalla 1	188	GEN SLD Vert(min)	83	-565.13	-8.63	-19.29	21.13	1.302	16.23	1.26E-02
1	Spalla 2	190	GEN SLD Long(max)	78	-470.53	8.63	40.05	40.97	1.302	31.46	1.26E-02
1	Spalla 2	190	GEN SLD Trasv(max)	78	-461.81	29.00	19.32	34.85	1.302	26.76	1.26E-02
1	Spalla 2	190	GEN SLD Vert(max)	78	-466.92	8.63	19.29	21.13	1.302	16.23	1.26E-02
1	Spalla 2	190	GEN SLD Long(min)	78	-561.53	-9.49	-31.83	33.21	1.302	25.51	1.32E-02
1	Spalla 2	190	GEN SLD Trasv(min)	78	-570.25	-29.86	-11.10	31.86	1.302	24.47	1.32E-02
1	Spalla 2	190	GEN SLD Vert(min)	78	-565.15	-9.49	-11.07	14.58	1.302	11.20	1.32E-02
1	Spalla 2	191	GEN SLD Long(max)	80	-411.70	8.68	39.95	40.88	1.302	31.40	1.25E-02
1	Spalla 2	191	GEN SLD Trasv(max)	80	-413.76	29.09	19.14	34.82	1.302	26.74	1.25E-02
1	Spalla 2	191	GEN SLD Vert(max)	80	-409.27	8.68	19.19	21.06	1.302	16.18	1.25E-02
1	Spalla 2	191	GEN SLD Long(min)	80	-501.61	-8.92	-32.10	33.32	1.302	25.59	1.31E-02
1	Spalla 2	191	GEN SLD Trasv(min)	80	-499.55	-29.33	-11.29	31.43	1.302	24.14	1.31E-02
1	Spalla 2	191	GEN SLD Vert(min)	80	-504.03	-8.92	-11.34	14.43	1.302	11.08	1.31E-02
1	Spalla 2	192	GEN SLD Long(max)	82	-411.70	8.92	39.95	40.93	1.302	31.44	1.25E-02
1	Spalla 2	192	GEN SLD Trasv(max)	82	-413.76	29.33	19.14	35.02	1.302	26.90	1.25E-02
1	Spalla 2	192	GEN SLD Vert(max)	82	-409.28	8.92	19.19	21.16	1.302	16.25	1.25E-02
1	Spalla 2	192	GEN SLD Long(min)	82	-501.61	-8.68	-32.10	33.25	1.302	25.54	1.31E-02
1	Spalla 2	192	GEN SLD Trasv(min)	82	-499.55	-29.09	-11.29	31.20	1.302	23.96	1.31E-02
1	Spalla 2	192	GEN SLD Vert(min)	82	-504.03	-8.68	-11.34	14.28	1.302	10.97	1.31E-02
1	Spalla 2	193	GEN SLD Long(max)	84	-470.54	9.49	40.05	41.16	1.302	31.61	1.26E-02
1	Spalla 2	193	GEN SLD Trasv(max)	84	-461.82	29.86	19.32	35.57	1.302	27.31	1.26E-02
1	Spalla 2	193	GEN SLD Vert(max)	84	-466.94	9.49	19.29	21.50	1.302	16.51	1.26E-02
1	Spalla 2	193	GEN SLD Long(min)	84	-561.52	-8.63	-31.83	32.98	1.302	25.33	1.32E-02
1	Spalla 2	193	GEN SLD Trasv(min)	84	-570.25	-29.00	-11.10	31.05	1.302	23.85	1.32E-02
1	Spalla 2	193	GEN SLD Vert(min)	84	-565.12	-8.63	-11.07	14.04	1.302	10.78	1.32E-02
2	Pila 1	195	GEN SLD Long(max)	21	-1643.08	22.34	82.41	85.38	2.855	29.91	2.13E-03
2	Pila 1	195	GEN SLD Trasv(max)	21	-1602.04	67.94	37.27	77.49	2.855	27.15	2.14E-03
2	Pila 1	195	GEN SLD Vert(max)	21	-1628.61	22.35	37.18	43.38	2.855	15.20	2.14E-03
2	Pila 1	195	GEN SLD Long(min)	21	-1956.83	-19.32	-57.49	60.65	2.855	21.25	2.39E-03
2	Pila 1	195	GEN SLD Trasv(min)	21	-1997.87	-64.92	-12.35	66.08	2.855	23.15	2.39E-03
2	Pila 1	195	GEN SLD Vert(min)	21	-1971.29	-19.33	-12.26	22.89	2.855	8.02	2.38E-03
2	Pila 1	196	GEN SLD Long(max)	23	-1828.63	20.38	82.32	84.81	2.855	29.71	2.10E-03
2	Pila 1	196	GEN SLD Trasv(max)	23	-1825.33	66.06	37.08	75.76	2.855	26.54	2.12E-03
2	Pila 1	196	GEN SLD Vert(max)	23	-1813.01	20.38	37.08	42.31	2.855	14.82	2.12E-03
2	Pila 1	196	GEN SLD Long(min)	23	-2111.11	-19.49	-57.51	60.72	2.855	21.27	2.31E-03
2	Pila 1	196	GEN SLD Trasv(min)	23	-2114.41	-65.17	-12.27	66.32	2.855	23.23	2.30E-03

2	Pila 1	196	GEN SLD Vert(min)	23	-2126.73	-19.50	-12.27	23.04	2.855	8.07	2.30E-03
2	Pila 1	197	GEN SLD Long(max)	885	-1828.88	19.50	82.32	84.60	2.855	29.64	2.11E-03
2	Pila 1	197	GEN SLD Trasv(max)	885	-1825.42	65.17	37.08	74.98	2.855	26.27	2.12E-03
2	Pila 1	197	GEN SLD Vert(max)	885	-1813.12	19.50	37.08	41.89	2.855	14.68	2.12E-03
2	Pila 1	197	GEN SLD Long(min)	885	-2110.86	-20.38	-57.51	61.01	2.855	21.37	2.31E-03
2	Pila 1	197	GEN SLD Trasv(min)	885	-2114.31	-66.06	-12.27	67.19	2.855	23.54	2.30E-03
2	Pila 1	197	GEN SLD Vert(min)	885	-2126.61	-20.38	-12.27	23.79	2.855	8.33	2.30E-03
2	Pila 1	198	GEN SLD Long(max)	27	-1643.70	19.32	82.41	84.64	2.855	29.65	2.18E-03
2	Pila 1	198	GEN SLD Trasv(max)	27	-1602.24	64.92	37.27	74.86	2.855	26.22	2.20E-03
2	Pila 1	198	GEN SLD Vert(max)	27	-1628.87	19.33	37.18	41.90	2.855	14.68	2.19E-03
2	Pila 1	198	GEN SLD Long(min)	27	-1956.21	-22.34	-57.49	61.68	2.855	21.61	2.34E-03
2	Pila 1	198	GEN SLD Trasv(min)	27	-1997.66	-67.94	-12.35	69.05	2.855	24.19	2.33E-03
2	Pila 1	198	GEN SLD Vert(min)	27	-1971.04	-22.35	-12.26	25.49	2.855	8.93	2.33E-03
2	Pila 2	200	GEN SLD Long(max)	22	-1643.62	22.34	57.59	61.77	2.855	21.64	2.34E-03
2	Pila 2	200	GEN SLD Trasv(max)	22	-1602.21	67.95	12.38	69.07	2.855	24.20	2.33E-03
2	Pila 2	200	GEN SLD Vert(max)	22	-1628.76	22.35	12.29	25.51	2.855	8.94	2.33E-03
2	Pila 2	200	GEN SLD Long(min)	22	-1956.31	-19.32	-82.52	84.75	2.855	29.69	2.18E-03
2	Pila 2	200	GEN SLD Trasv(min)	22	-1997.72	-64.92	-37.31	74.88	2.855	26.23	2.20E-03
2	Pila 2	200	GEN SLD Vert(min)	22	-1971.17	-19.33	-37.22	41.94	2.855	14.69	2.19E-03
2	Pila 2	201	GEN SLD Long(max)	24	-1828.85	20.38	57.61	61.11	2.855	21.41	2.31E-03
2	Pila 2	201	GEN SLD Trasv(max)	24	-1825.43	66.06	12.30	67.20	2.855	23.54	2.30E-03
2	Pila 2	201	GEN SLD Vert(max)	24	-1813.08	20.38	12.30	23.80	2.855	8.34	2.30E-03
2	Pila 2	201	GEN SLD Long(min)	24	-2110.92	-19.49	-82.43	84.70	2.855	29.67	2.11E-03
2	Pila 2	201	GEN SLD Trasv(min)	24	-2114.34	-65.18	-37.12	75.01	2.855	26.28	2.12E-03
2	Pila 2	201	GEN SLD Vert(min)	24	-2126.69	-19.50	-37.12	41.93	2.855	14.69	2.12E-03
2	Pila 2	202	GEN SLD Long(max)	886	-1828.91	19.49	57.61	60.82	2.855	21.30	2.31E-03
2	Pila 2	202	GEN SLD Trasv(max)	886	-1825.44	65.18	12.30	66.33	2.855	23.24	2.30E-03
2	Pila 2	202	GEN SLD Vert(max)	886	-1813.11	19.50	12.30	23.06	2.855	8.08	2.30E-03
2	Pila 2	202	GEN SLD Long(min)	886	-2110.86	-20.38	-82.43	84.91	2.855	29.75	2.10E-03
2	Pila 2	202	GEN SLD Trasv(min)	886	-2114.33	-66.06	-37.12	75.77	2.855	26.54	2.12E-03
2	Pila 2	202	GEN SLD Vert(min)	886	-2126.66	-20.38	-37.12	42.35	2.855	14.83	2.11E-03
2	Pila 2	203	GEN SLD Long(max)	28	-1643.61	19.32	57.59	60.74	2.855	21.28	2.38E-03
2	Pila 2	203	GEN SLD Trasv(max)	28	-1602.20	64.92	12.38	66.09	2.855	23.15	2.39E-03
2	Pila 2	203	GEN SLD Vert(max)	28	-1628.76	19.33	12.29	22.91	2.855	8.02	2.37E-03
2	Pila 2	203	GEN SLD Long(min)	28	-1956.32	-22.34	-82.52	85.49	2.855	29.95	2.13E-03
2	Pila 2	203	GEN SLD Trasv(min)	28	-1997.73	-67.95	-37.31	77.52	2.855	27.16	2.13E-03
2	Pila 2	203	GEN SLD Vert(min)	28	-1971.17	-22.35	-37.22	43.41	2.855	15.21	2.14E-03

		Axial (kN)	Shear-y (kN)	Shear-z (kN)	Shear-tot (kN)	Kh eq. (kN/mm)	Deform. (mm)	Rotazione (rad)
SFORZI MASSIMI:	**Spalle**	**-409.27**	**29.87**	**40.05**	**41.16**	**1.302**	**31.61**	**1.32E-02**
	Pile	**-1602.04**	**67.95**	**82.41**	**85.49**	**2.855**	**29.95**	**2.39E-03**
SFORZI MINIMI:	**Spalle**	**-570.27**	**-29.87**	**-40.05**				
	Pile	**-2126.73**	**-67.95**	**-82.52**				

14 GIUNTI DI DILATAZIONE

I giunti di dilatazione si assumono soggetti alle condizioni di carico di progetto con l'eccezione delle dilatazioni termiche che si considerano raddoppiate (± 30°) per tener conto dell'incertezza sulla posizione del punto fisso.
Segue tabulato degli spostamenti dei nodi di estremità dell'impalcato per le condizioni di carico pertinenti.

Node	Load	DX (mm)	DY (mm)	DZ (mm)	RX ([rad])	RY ([rad])	RZ ([rad])
719	Vento strutture (Y+)	0.073954	17.555907	0.002208	-0.000048	-0.000015	0.000017
760	Vento strutture (Y+)	0.023434	17.552788	-0.004664	-0.000025	-0.000006	0.000016
801	Vento strutture (Y+)	-0.025099	17.553102	0.005454	-0.000027	0.000004	0.000016
842	Vento strutture (Y+)	-0.074278	17.558601	-0.001555	-0.000060	0.000019	0.000017
719	Vento mobili (Y+)	0.038533	6.987374	-0.013644	-0.000086	-0.000042	0.000009
760	Vento mobili (Y+)	0.016743	6.972525	-0.011129	-0.000022	-0.000005	0.000009
801	Vento mobili (Y+)	-0.009328	6.970268	0.006919	-0.000014	0.000013	0.000009
842	Vento mobili (Y+)	-0.038166	6.970738	0.010130	-0.000022	0.000025	0.000010
719	Frenamento (X+)	19.193654	-0.000196	0.010495	0.000002	0.000009	0.000000
760	Frenamento (X+)	19.193494	0.000000	0.010351	0.000000	0.000008	0.000000
801	Frenamento (X+)	19.193494	0.000000	0.010351	0.000000	0.000008	0.000000
842	Frenamento (X+)	19.193654	0.000196	0.010495	-0.000002	0.000009	0.000000
719	Termico Unif. +15°	-9.153158	0.028458	0.010992	-0.000383	-0.000086	0.000000
760	Termico Unif. +15°	-9.120941	-0.000720	-0.006033	-0.000058	0.000093	-0.000001
801	Termico Unif. +15°	-9.120941	0.000720	-0.006033	0.000058	0.000093	0.000001
842	Termico Unif. +15°	-9.153158	-0.028458	0.010992	0.000383	-0.000086	0.000000
719	Termico diff. +5°/H	-0.129353	0.003519	-0.351476	-0.000021	-0.000444	0.000000
760	Termico diff. +5°/H	-0.124709	0.000776	-0.348386	-0.000004	-0.000429	0.000000
801	Termico diff. +5°/H	-0.124709	-0.000776	-0.348386	0.000004	-0.000429	0.000000
842	Termico diff. +5°/H	-0.129353	-0.003519	-0.351476	0.000021	-0.000444	0.000000
719	SLC Long (X+)(RS)	70.875180	-0.000810	0.032673	0.000007	0.000031	0.000000
760	SLC Long (X+)(RS)	70.874486	-0.000154	0.031984	0.000000	0.000028	0.000000
801	SLC Long (X+)(RS)	70.874486	0.000134	0.031984	0.000000	0.000028	0.000000
842	SLC Long (X+)(RS)	70.875180	0.000802	0.032674	-0.000007	0.000031	0.000000
719	SLC Trasv (Y+)(RS)	0.320722	69.452819	0.011780	-0.000213	-0.000079	0.000073
760	SLC Trasv (Y+)(RS)	0.105084	69.441155	-0.022311	-0.000113	-0.000024	0.000070
801	SLC Trasv (Y+)(RS)	-0.105084	69.441155	0.022311	-0.000113	0.000024	0.000070
842	SLC Trasv (Y+)(RS)	-0.320722	69.452819	-0.011781	-0.000213	0.000079	0.000073
719	SLC Vert (Z+)(RS)	0.096951	0.003339	-0.194587	-0.000012	-0.000293	0.000000
760	SLC Vert (Z+)(RS)	0.100365	0.002087	-0.188966	-0.000004	-0.000280	0.000000
801	SLC Vert (Z+)(RS)	0.100313	-0.002062	-0.188968	0.000004	-0.000280	0.000000
842	SLC Vert (Z+)(RS)	0.096786	-0.003299	-0.194577	0.000012	-0.000293	0.000000

Ai valori determinati in direzione longitudinale si sommano 50 mm assunti come massima deformazione ammissibile delle sottostrutture, già calcolata allo SLU.

Si prevedono giunti con le seguenti caratteristiche di deformazione massime:
- escursione longitudinale: $\Delta X = \pm 165$ mm
- escursione trasversale: $\Delta Y = \pm 165$ mm

1) Verifica deformazioni longitudinali statiche: considerando il frenamento come carico variabile dominante si ottiene la deformazione massima allo SLU dalla seguente somma:

	ΔX	γ_q	ψ_0	
- Frenamento:	19.3	x 1.35	x 1	= 26.1 mm
- Termico unif.±30°:	2 x 9.2	x 1.2	x 0.6	= 13.2 mm
- Deform. max sottostrutture:				= 50 mm

- Deformazione totale: = 89.3 mm (< 165 mm: verificato)

2) Verifica deformazioni trasversali statiche: considerando il vento come carico variabile dominante si ottiene la deformazione massima allo SLU dalla seguente somma:

	ΔY	γ_q	ψ_0	
- Vento strutture:	17.6	x 1.5	x 1	= 26.4 mm
- Vento carichi mobili:	7.00	x 1.5	x 1	= 10.5 mm
- Deformazione totale:				= 36.9 mm (< 165 mm: verificato)

3) Verifica deformazioni longitudinali sismiche: si ottiene la deformazione massima allo SLC dalla seguente somma:

	ΔX	γ_q	ψ_0	
- SLC longitudinale:	70.9	x 1	x 1	= 70.9 mm
- Termico unif.±30°:	2 x 9.2	x 1	x 0.5	= 9.2 mm
- Deform. max sottostrutture:				= 50 mm
- Deformazione totale:				= 130.1 mm (<165 mm: verificato)

3) Verifica deformazioni trasversali sismiche: si ottiene la deformazione massima allo SLC dalla seguente somma:

	ΔY	γ_q	ψ_0	
- SLC trasversale:	69.4	x 1	x 1	= 69.4 mm
- Deformazione totale:				= 69.4 mm (< 165 mm: verificato)

15 VERIFICHE TRASVERSALI DELLA SOLETTA STRADALE DI SCORRIMENTO

15.1 VERIFICA IN FASE COSTRUTTIVA

In fase costruttiva la sezione resistente è rappresentata dai tralicci inseriti nelle lastre prefabbricate, sollecitati dal peso della soletta e dal carico accidentale previsto da EN 1991-1-6, § 4.11.2.

15.1.1 FASE COSTRUTTIVA - SBALZO LATERALE – PRIMA FASE DI GETTO

Si considera una prima fase di getto in cui la soletta viene gettata per 1 m oltre l'asse trave.

VERIFICA LASTRE IN C.A. TRALICCIATE PREFABBRICATE

LASTRE PREFABBRICATE CAVALCAVIA ASSE 80 - CAMPATA A SBALZO: L= 185 cm - 1° FASE DI GETTO

DATI GENERALI LASTRA PREFABBRICATA.

Schema vincolare in fase costruttiva:		A) Incastro - B) Estremo libero (a sbalzo)	
Luce di calcolo della lastra:	L=	185	cm
Larghezza di calcolo della lastra:	B_C=	240	cm
Altezza calcestruzzo lastra:	H_C=	6	cm
Altezza della soletta (getto in opera):	H_S=	24	cm
Peso specifico calcestruzzo:	g_C=	25	kN/m^3
Vincolo laterale armature offerto dalla lastra presente nella sezione di verifica:		NO	

DATI TRALICCI E ARMATURA AGGIUNTIVA LASTRA PREFABBRICATA.

Numero tralicci per lastra:	N_{tr}=	4	
Altezza nominale del traliccio:	H_T=	20.5	cm
Altezza utile del traliccio:	H_U=	18.8	cm
Larghezza traliccio:	B_T=	12.0	cm
Passo staffe:	P_{ST}=	20.0	cm
Ricoprimento tralicci e armature aggiuntive (dal bordo inferiore lastra):	R_{IT}=	4.0	cm
Modulo elastico acciaio	E_S=	210 000	N/mm^2
Coefficiente parziale di sicurezza dell'acciaio armature:	γ_S=	1.15	

DATI ARMATURA LASTRA PREFABBRICATA.

		Singolo traliccio Corr. Superiore	Singolo traliccio Corr.Inferiori	Singolo traliccio Staffe	Arm. agg. lastra	
Tipo di acciaio		B450C	B450C	B450C	B450C	
Resistenza caratteristica acciaio	f_{Yk}=	450.00	450.00	450.00	450.00	N/mm^2
Resistenza di calcolo acciaio	f_{Yd}=	391.30	391.30	391.30	391.30	N/mm^2
Diametro:	Φ=	16	12	10	0	mm
Numero di ferri per traliccio (Arm. agg. per lastra):	N_F=	1	2	2	0	
Area di armatura per lastra:	A_F=	8.042	9.048	6.283	0.000	cm^2
Inclinazione ferri in direzione longitudinale:	α=	0.00	0.00	70.97	0.00	°
Inclinazione ferri in direzione trasversale:	γ=	0.00	0.00	80.93	0.00	°
Coefficiente di vincolo:	β=	1	1	1	1	
Lunghezza di calcolo per instabilità aste compresse	L=	20.00	20.00	20.14	40.00	cm
Lunghezza libera d'inflessione ($L_0 = \beta * L$):	L_0=	20.00	20.00	20.14	40.00	cm

DATI DI CARICO NOTA: Per le azioni in fase di costruzione durante il getto di calcestruzzo ci si riferisce a: UNI EN 1991-1-6, § 4.11.2.

Coefficiente parziale dei carichi permanenti strutturali (peso lastra):	γ_{g1}=	1.35
Coefficiente parziale dei carichi permanenti portati (getto in opera):	γ_{g2}=	1.5
Coefficiente parziale dei carichi variabili (sovraccarichi):	γ_q=	1.5

Estensione del carico permanente (X1=X2 per carico concentrato):

					Da X1 (cm)	A X2 (cm)
Peso strutturale lastra:		G_1=	1.50	kN/mq	0	185
Permanente portato 1:	getto in opera soletta:	$G_{2,1}$=	6.00	kN/mq	0	100
Permanente portato 2:	.	$G_{2,2}$=	0.00	kN/m	0	0
Permanente portato 3:	.	$G_{2,3}$=	0.00	kN/m	0	0
Sovraccarico all'interno dell'area di lavoro di 3 m x 3 m (L se minore):		Q_1=	0.75	kN/mq		
Sovraccarico all'esterno dell'area di lavoro di 3 m x 3 m (L se minore):		Q_2=	0.75	kN/mq		

SOLLECITAZIONI ALLO S.L.U. NOTA: Le sollecitazioni si intendono riferite alla larghezza della lastra.

Momento flettente di progetto:	M_{Sd}=	-23.74	KN.m
Sforzo di taglio di progetto:	V_{Sd}=	35.59	KN

VERIFICA ALLO S.L.U..

Sforzi assiali nei correnti ($N_{Sd}=M_{Sd}/H_U$)

Sforzi assiali nelle staffe ($N_{Sd}=V_{Sd}/(Sen(\alpha)*Sen(\gamma))$)

		Corr. Superiore (Teso)	Corr.Inferiori (Compresso)	Staffe (Compresso)	Arm. Agg. (Compresso)	
Carico elastico critico ($N_{CR}=p^2*E_S*J/L_0$^2)	N_{CR}=	166.690	52.742	25.088	0.000	kN
Snellezza adimensionale ($\lambda = (A_f\ f_{Yk}/N_{CR})^{0.5}$)	λ=	0.737	0.982	1.187	0.000	
Fattore di imperfezione (NTC 2008; tab. 4.2.VI)	α=	0.490	0.490	0.490	0.490	
Coefficiente di stabilità delle aste compresse:	Φ=	0.903	1.174	1.446	0.451	
Fattore di riduzione	χ=	0.702	0.550	0.440	1.000	
Resistenza di calcolo a compressione (instabilità)	$N_{b,Rd}$=	-55.217	-24.352	-13.524	0.000	kN
Resistenza di calcolo a trazione e compressione	$N_{c,Rd}$=	±78.676	±44.255	±30.733	±0.000	kN
Considerare instabilità delle aste compresse (non incluse nel cls.)	SI/NO	NO	SI	SI	SI	
Resistenza di calcolo considerata (ferro singolo)	N_{Rd}=	78.676	-24.352	-13.524	0.000	kN
Sforzo assiale di calcolo (ferro singolo)	N_{Sd}=	31.565	-15.783	4.765	0.000	kN
Coefficiente di sfruttamento (N_{Sd}/N_{Rd} < 1: verificato)	N_{Sd}/N_{Rd}=	0.401	0.648	0.352	0.000	

15.1.2 SBALZO LATERALE - SECONDA FASE DI GETTO

Si considera una seconda fase di getto in cui la soletta viene gettata per i rimanenti 0.85 m e si dispone la veletta di chiusura, del peso di 2 kN/ml.

VERIFICA LASTRE IN C.A. TRALICCIATE PREFABBRICATE

LASTRE PREFABBRICATE CAVALCAVIA ASSE 80 - CAMPATA A SBALZO: L= 185 cm - 2° FASE DI GETTO

DATI GENERALI LASTRA PREFABBRICATA.

Schema vincolare in fase costruttiva:	A) Incastro - B) Estremo libero (a sbalzo)		
Luce di calcolo della lastra:	L=	85	cm
Larghezza di calcolo della lastra:	B_C=	240	cm
Altezza calcestruzzo lastra:	H_C=	6	cm
Altezza della soletta (getto in opera):	H_S=	24	cm
Peso specifico calcestruzzo:	g_C=	25	kN/m^3
Vincolo laterale armature offerto dalla lastra presente nella sezione di verifica:		NO	

DATI TRALICCI E ARMATURA AGGIUNTIVA LASTRA PREFABBRICATA.

Numero tralicci per lastra:	N_{tr}=	4	
Altezza nominale del traliccio:	H_T=	20.5	cm
Altezza utile del traliccio:	H_U=	18.8	cm
Larghezza traliccio:	B_T=	12.0	cm
Passo staffe:	P_{ST}=	20.0	cm
Ricoprimento tralicci e armature aggiuntive (dal bordo inferiore lastra):	R_{IT}=	4.0	cm
Modulo elastico acciaio	E_S=	210 000	N/mm^2
Coefficiente parziale di sicurezza dell'acciaio armature:	γ_S=	1.15	

DATI ARMATURA LASTRA PREFABBRICATA.

		Singolo traliccio			Arm. agg.	
		Corr. Superiore	Corr.Inferiori	Staffe	lastra	
Tipo di acciaio		B450C	B450C	B450C	B450C	
Resistenza caratteristica acciaio	f_{yk}=	450.00	450.00	450.00	450.00	N/mm^2
Resistenza di calcolo acciaio	f_{yd}=	391.30	391.30	391.30	391.30	N/mm^2
Diametro:	Φ=	16	12	10	0	mm
Numero di ferri per traliccio (Arm. agg. per lastra):	N_F=	1	2	2	0	
Area di armatura per lastra:	A_F=	8.042	9.048	6.283	0.000	cm^2
Inclinazione ferri in direzione longitudinale:	α=	0.00	0.00	70.97	0.00	°
Inclinazione ferri in direzione trasversale:	γ=	0.00	0.00	80.93	0.00	°
Coefficiente di vincolo:	β=	1	1	1	1	
Lunghezza di calcolo per instabilità aste compresse	L=	20.00	20.00	20.14	40.00	cm
Lunghezza libera d'inflessione ($L_0 = \beta * L$):	L_0=	20.00	20.00	20.14	40.00	cm

DATI DI CARICO NOTA: Per le azioni in fase di costruzione durante il getto di calcestruzzo ci si riferisce a: UNI EN 1991-1-6, § 4.11.2.

Coefficiente parziale dei carichi permanenti strutturali (peso lastra):	γ_{g1}=	1.35
Coefficiente parziale dei carichi permanenti portati (getto in opera):	γ_{g2}=	1.5
Coefficiente parziale dei carichi variabili (sovraccarichi):	γ_q=	1.5

			Estensione del carico permanente (X1=X2 per carico concentrato):	Da X1 (cm)	A X2 (cm)
Peso strutturale lastra:		G_1=	1.50 kN/mq	0	85
Permanente portato 1:	getto in opera soletta:	$G_{2,1}$=	6.00 kN/mq	0	85
Permanente portato 2:	.	$G_{2,2}$=	2.00 kN/m	85	85
Permanente portato 3:	.	$G_{2,3}$=	0.00 kN/m	0	0
Sovraccarico all'interno dell'area di lavoro di 3 m x 3 m (L se minore):		Q_1=	0.75 kN/mq		
Sovraccarico all'esterno dell'area di lavoro di 3 m x 3 m (L se minore):		Q_2=	0.75 kN/mq		

SOLLECITAZIONI ALLO S.L.U. NOTA: Le sollecitazioni si intendono riferite alla larghezza della lastra.

Momento flettente di progetto:	M_{Sd}=	-16.65 KN.m
Sforzo di taglio di progetto:	V_{Sd}=	31.99 KN

VERIFICA ALLO S.L.U..

Sforzi assiali nei correnti ($N_{Sd}=M_{Sd}/H_U$)

Sforzi assiali nelle staffe ($N_{Sd}=V_{Sd}/(Sen(\alpha)*Sen(\gamma))$)

		Corr. Superiore (Teso)	Corr.Inferiori (Compresso)	Staffe (Compresso)	Arm. Agg. (Compresso)	
Carico elastico critico ($N_{CR}=p^2*E_S*J/L_0$^2)	N_{CR}=	166.690	52.742	25.088	0.000	kN
Snellezza adimensionale ($\lambda = (A_f\ f_{YK}/N_{CR})^{0.5}$)	λ=	0.737	0.982	1.187	0.000	
Fattore di imperfezione (NTC 2008; tab. 4.2.VI)	α=	0.490	0.490	0.490	0.490	
Coefficiente di stabilità delle aste compresse:	Φ=	0.903	1.174	1.446	0.451	
Fattore di riduzione	χ=	0.702	0.550	0.440	1.000	
Resistenza di calcolo a compressione (instabilità)	$N_{b,Rd}$=	-55.217	-24.352	-13.524	0.000	kN
Resistenza di calcolo a trazione e compressione	$N_{c,Rd}$=	±78.676	±44.255	±30.733	±0.000	kN
Considerare instabilità delle aste compresse (non incluse nel cls.)	SI/NO	NO	SI	SI	SI	
Resistenza di calcolo considerata (ferro singolo)	N_{Rd}=	78.676	-24.352	-13.524	0.000	kN
Sforzo assiale di calcolo (ferro singolo)	N_{Sd}=	22.146	-11.073	4.283	0.000	kN
Coefficiente di sfruttamento (N_{Sd}/N_{Rd} < 1: verificato)	N_{Sd}/N_{Rd}=	0.281	0.455	0.317	0.000	

15.1.3 FASE COSTRUTTIVA - CAMPATA TRA LE TRAVI

La lastra è semplicemente appoggiata agli estremi sulla luce di 280 cm.

VERIFICA LASTRE IN C.A. TRALICCIATE PREFABBRICATE

LASTRE PREFABBRICATE CAVALCAVIA ASSE 80 - TRA TRAVI: L= 280 cm

DATI GENERALI LASTRA PREFABBRICATA.

Schema vincolare in fase costruttiva:		A) Appoggio - B) Appoggio
Luce di calcolo della lastra:	L=	280 cm
Larghezza di calcolo della lastra:	B_C=	240 cm
Altezza calcestruzzo lastra:	H_C=	6 cm
Altezza della soletta (getto in opera):	H_S=	36 cm
Peso specifico calcestruzzo:	g_C=	25 kN/m^3
Vincolo laterale armature offerto dalla lastra presente nella sezione di verifica:		SI

DATI TRALICCI E ARMATURA AGGIUNTIVA LASTRA PREFABBRICATA.

Numero tralicci per lastra:	N_{tr}=	4
Altezza nominale del traliccio:	H_T=	20.5 cm
Altezza utile del traliccio:	H_U=	18.8 cm
Larghezza traliccio:	B_T=	12.0 cm
Passo staffe:	P_{ST}=	20.0 cm
Ricoprimento tralicci e armature aggiuntive (dal bordo inferiore lastra):	R_{IT}=	4.0 cm
Modulo elastico acciaio	E_S=	210 000 N/mm^2
Coefficiente parziale di sicurezza dell'acciaio armature:	γ_S=	1.15

DATI ARMATURA LASTRA PREFABBRICATA.

		Singolo traliccio			Arm. agg.	
		Corr. Superiore	Corr.Inferiori	Staffe	lastra	
Tipo di acciaio		B450C	B450C	B450C	B450C	
Resistenza caratteristica acciaio	f_{yk}=	450.00	450.00	450.00	450.00	N/mm^2
Resistenza di calcolo acciaio	f_{yd}=	391.30	391.30	391.30	391.30	N/mm^2
Diametro:	Φ=	16	12	10	0	mm
Numero di ferri per traliccio (Arm. agg. per lastra):	N_F=	1	2	2	0	
Area di armatura per lastra:	A_F=	8.042	9.048	6.283	0.000	cm^2
Inclinazione ferri in direzione longitudinale:	α=	0.00	0.00	70.97	0.00	°
Inclinazione ferri in direzione trasversale:	γ=	0.00	0.00	80.93	0.00	°
Coefficiente di vincolo:	β=	1	1	1	1	
Lunghezza di calcolo per instabilità aste compresse	L=	20.00	20.00	20.14	40.00	cm
Lunghezza libera d'inflessione ($L_0 = \beta * L$):	L_0=	20.00	20.00	20.14	40.00	cm

DATI DI CARICO NOTA: Per le azioni in fase di costruzione durante il getto di calcestruzzo ci si riferisce a: UNI EN 1991-1-6, § 4.11.2.

Coefficiente parziale dei carichi permanenti strutturali (peso lastra):	γ_{g1}=	1.35
Coefficiente parziale dei carichi permanenti portati (getto in opera):	γ_{g2}=	1.5
Coefficiente parziale dei carichi variabili (sovraccarichi):	γ_q=	1.5

			Estensione del carico permanente (X1=X2 per carico concentrato):	Da X1 (cm)	A X2 (cm)
Peso strutturale lastra:		G_1=	1.50 kN/mq	0	280
Permanente portato 1:	getto in opera soletta:	$G_{2,1}$=	9.00 kN/mq	0	280
Permanente portato 2:	.	$G_{2,2}$=	0.00 kN/m	0	0
Permanente portato 3:	.	$G_{2,3}$=	0.00 kN/m	0	0
Sovraccarico all'interno dell'area di lavoro di 3 m x 3 m (L se minore):		Q_1=	0.9 kN/mq		
Sovraccarico all'esterno dell'area di lavoro di 3 m x 3 m (L se minore):		Q_2=	0.75 kN/mq		

SOLLECITAZIONI ALLO S.L.U. NOTA: Le sollecitazioni si intendono riferite alla larghezza della lastra.

Momento flettente di progetto:	M_{Sd}=	39.69 KN.m
Sforzo di taglio di progetto:	V_{Sd}=	56.70 KN

VERIFICA ALLO S.L.U..

Sforzi assiali nei correnti ($N_{Sd}=M_{Sd}/H_U$)

Sforzi assiali nelle staffe ($N_{Sd}=V_{Sd}/(\mathrm{Sen}(\alpha)*\mathrm{Sen}(\gamma))$)

		Corr. Superiore (Compresso)	Corr.Inferiori (Teso)	Staffe (Compresso)	Arm. Agg. (Teso)	
Carico elastico critico ($N_{CR}=p^2*E_S*J/L_0$^2)	N_{CR}=	166.690	52.742	25.088	0.000	kN
Snellezza adimensionale ($\lambda = (A_f\ f_{Yk}/N_{CR})^{0.5}$)	λ=	0.737	0.982	1.187	0.000	
Fattore di imperfezione (NTC 2008; tab. 4.2.VI)	α=	0.490	0.490	0.490	0.490	
Coefficiente di stabilità delle aste compresse:	Φ=	0.903	1.174	1.446	0.451	
Fattore di riduzione	χ=	0.702	0.550	0.440	1.000	
Resistenza di calcolo a compressione (instabilità)	$N_{b,Rd}$=	-55.217	-24.352	-13.524	0.000	kN
Resistenza di calcolo a trazione e compressione	$N_{c,Rd}$=	±78.676	±44.255	±30.733	±0.000	kN
Considerare instabilità delle aste compresse (non incluse nel cls.)	SI/NO	SI	NO	SI	NO	
Resistenza di calcolo considerata (ferro singolo)	N_{Rd}=	-55.217	44.255	-13.524	0.000	kN
Sforzo assiale di calcolo (ferro singolo)	N_{Sd}=	-52.779	26.390	7.592	0.000	kN
Coefficiente di sfruttamento (N_{Sd}/N_{Rd} < 1: verificato)	N_{Sd}/N_{Rd}=	0.956	0.596	0.561	0.000	

15.2 VERIFICA IN ESERCIZIO - SBALZO LATERALE

La verifica viene svolta per lo sbalzo avente una luce L= 1.85 m dall'asse trave.

La determinazione delle sollecitazioni massime viene svolta con apposito foglio di calcolo considerando i carichi permanenti e tutte le possibili colonne di carico mobile, compatibilmente con lo sbalzo considerato.

Si considerano in alternativa:

- colonne di schemi di carico 1

- schema di carico 2

Inoltre si considera una combinazione eccezionale con i carichi di cui sopra (con coefficienti SLU unitari) e l'effetto di urto sul sicurvia

Le singole ruote dei carichi mobili vengono disposte in modo da ottenere o il momento flettente massimo o lo sforzo di taglio massimo alla sezione di incastro.

Verifica allo stato limite ultimo: si determina l'area di armatura minima necessaria (verifica a flessione) e l'area minima di armatura trasversale (verifica a taglio).

Verifica allo stato limite di esercizio: si effettua la verifica allo stato limite di fessurazione per via indiretta dimensionando l'armatura minima lavorante ad una definita tensione, funzione del diametro massimo delle barre e dell'apertura ammissibile delle fessure; nel presente caso si ha:

- condizioni ambientali: Molto aggressive
- apertura max fessure, combinazioni frequenti: w_1 = 0.2 mm
- apertura max fessure, combinazioni quasi permanenti: w_1 = 0.2 mm
- diametro massimo delle barre: Ø = 25 mm

Dalla tabella C4.1.II della Circ. 02/02/2009 n°617 si ottiene:

- Tensione di progetto nell'acciaio: σ_s = 160 N/mm^2

Verifica dello sbalzo trasversale: sezione corrente L= **1.850 m**

Altezza della lastra prefabbricata				0.060 m
Altezza totale soletta all'incastro				0.300 m
Altezza totale soletta all'estremita' libera				0.300 m
Lunghezza di calcolo dello sbalzo				1.850 m
Larghezza del marciapiede				1.900 m
Altezza del marciapiede				0.150 m
Peso specifico calcestruzzo armato				25.000 kN/m^3
Altezza della massicciata				0.100 m
Peso della massicciata				2.500 kN/m^2
Peso del sicurvia				0.800 kN/m
Distanza asse sicurvia da incastro				0.450 m
Peso del parapetto				0.500 kN/m
Distanza asse parapetto da incastro				1.750 m
Peso della veletta				2.000 kN/m
Distanza asse veletta da incastro				1.900 m
Carico della folla (di combinazione)				6.000 kN/m
Distanza asse folla da incastro				1.050 m
Coefficiente dinamico				1.000
Schema di carico 1:	Larghezza delle colonne di carico			3.000 m
	Interasse ruote in senso trasversale			2.000 m
	Interasse ruote in senso longitudinale			1.200 m
	Lati dell'impronta ruota: L=	0.400 m	T=	0.400 m
		1° colonna	2° colonna	3° colonna
	Peso singola ruota	150.000	100.000	50.000 kN
	Carico distribuito	9.000	2.500	2.500 kN/m^2
Schema di carico 2:	Interasse ruote in senso trasversale			2.000 m
	Interasse ruote in senso longitudinale			0.000 m
	Lati dell'impronta ruota: L=	0.350 m	T=	0.600 m
	Peso singola ruota			200.000 kN
Angolo di ripartizione verticale dei carichi nello spessore				45.000 °
Angolo di ripartizione orizzontale dei carichi (effetto piastra)				45.000 °

Tabella dei carichi mobili

n° ruote = numero ruote carico considerato
b= braccio del carico in esame (risultante)
lrip = larghezza di ripartizione del carico ruote
q= carico distribuito sulla larghezza di ripartizione

			Massimo momento flettente			Massimo sforzo di taglio		
	n° carico	n° ruote	bm (m)	lrip (m)	qm (kN/m)	bt (m)	lrip (m)	qt (kN/m)
1° colonna	Schema 1 - distribuito		0.000	1.000	0.000	0.000	1.000	0.000
1° colonna	Schema 1 - 1° fila	1	0.000	0.840	0.000	0.000	0.840	0.000
1° colonna	Schema 1 - 1° fila	2	0.000	2.040	0.000	0.000	2.040	0.000
1° colonna	Schema 1 - 2° fila	2	0.000	2.040	0.000	0.000	2.040	0.000
2° colonna	Schema 1 - distribuito		0.000	1.000	0.000	0.000	1.000	0.000
2° colonna	Schema 1 - 1° fila	1	0.000	0.840	0.000	0.000	0.840	0.000
2° colonna	Schema 1 - 1° fila	2	0.000	2.040	0.000	0.000	2.040	0.000
2° colonna	Schema 1 - 2° fila	2	0.000	2.040	0.000	0.000	2.040	0.000
3° colonna	Schema 1 - distribuito		0.000	1.000	0.000	0.000	1.000	0.000
3° colonna	Schema 1 - 1° fila	1	0.000	0.840	0.000	0.000	0.840	0.000
3° colonna	Schema 1 - 1° fila	2	0.000	2.040	0.000	0.000	2.040	0.000
3° colonna	Schema 1 - 2° fila	2	0.000	2.040	0.000	0.000	2.040	0.000
	Schema 2 - 1° fila	1	0.000	0.000	0.000	0.000	0.790	0.000
	Schema 2 - 2° fila	1	0.000	0.000	0.000	0.000	0.790	0.000

Effetto d'urto sul sicurvia (azione eccezionale)	100.000 kN
Altezza della forza d'urto da estradosso soletta	1.150 m
Larghezza di ripartizione urto	1.940 m

Sollecitazioni all'incastro; sezione corrente

Tipo di carico	Tagli (kN/m)	Momenti (kNm/m)	Sf.norm (kN/m)
Peso proprio (rettangolo)	13.875	-12.834	0.000
Peso proprio (triangolo)	0.000	0.000	0.000
Marciapiede	7.125	-6.413	0.000
Massicciata	-0.125	-0.003	0.000
Sicurvia	0.800	-0.360	0.000
Parapetto	0.500	-0.875	0.000
Veletta	2.000	-3.800	0.000
Folla	6.000	-6.300	0.000
Schema 1 - distribuito	0.000	0.000	0.000
Schema 1 (tandem max)	0.000	0.000	0.000
Schema 2 (max)	0.000	0.000	0.000
Urto	0.000	-67.010	51.546

Coefficienti parziali (γ x ψ)	**SLU**	**SLU ECC:**	**SLE (rare)**	**SLE (frequenti)**	**SLE (quasi perm.)**
Carichi permanenti	1.350	1.000	1.000	1.000	1.000
Carichi mobili - Tandem	1.350	1.000	1.000	0.750	0.000
Carichi mobili - Distribuiti	1.350	1.000	1.000	0.400	0.000

Sollecitazioni complessive all'incastro; sezione corrente

Tipo di carico	Tagli (kN/m)	Momenti (kNm/m)	Sf.norm (kN/m)
SLU Totali perm.+ mobili	40.736	-41.290	0.000
SLU ECC. Totali perm.+ mobili + urto	24.175	-91.295	51.546
SLE (rare) Totali perm.+ mobili	30.175	-30.585	0.000
SLE (frequenti) Totali perm.+ mobili	26.575	-26.805	0.000
SLE (quasi perm.) Totali perm.+ mobili	24.175	-24.285	0.000

Dimensionamento armature minime allo SLU

Resistenza di calcolo calcestruzzo:	fcd=	18.13	N/mmq
Resistenza di calcolo armatura:	fsd=	391.30	N/mmq
Modulo di elasticità armatura:	Es=	210000	N/mmq
Ricoprimento armature:	Ry=	50	mm
Inclinazione delle staffe (45°<=α<=90°)	α=	90.00	°
Inclinazione di calcolo dei puntoni di calcestruzzo	θ =	21.80	°
Altezza utile della sezione di incastro	d=	25.00	cm
Altezza minima sezione reagente:	X=	2.47	cm
Area di armatura tesa minima:	As(sup)=	10.49	cmq/m
Area di armatura compressa minima:	As(inf)=	0.00	cmq/m
Verifica resistenza al taglio, solo cls.	Vrd,c=	129.06	kN
Coefficiente di sicurezza, solo cls.	Vrd,c/Vsd=	3.168	>1: Verificato
Area di armatura trasversale necessaria per taglio:	Ast=	N.D.	cmq/mq

Dimensionamento armature minime allo SLE

		SLE (frequenti)	SLE (quasi perm.)	
Valore limite di apertura fessure:	wd=	0.2	0.2	mm
Tensione di calcolo armatura:	Sa=	160	160	N/mmq
Tensione nel calcestruzzo	Sc=	3.67	3.46	N/mmq
Area di armatura tesa minima:	As(sup)=	7.33	6.61	cmq/m

15.3 VERIFICA IN ESERCIZIO - SOLETTA INTERNA TRA LE TRAVI

La soletta tra le travi si schematizza come trave semi-incastrata di luce 3.20 m per una larghezza di calcolo unitaria.

Verifica soletta tra le travi(o su travi a canaletta) **L =** 3.200 **m**

Altezza della lastra prefabbricata					0.060	m
Altezza della soletta					0.360	m
Luce di calcolo					3.200	m
Peso specifico calcestruzzo armato					25.000	kN/m^3
Altezza della massicciata					0.100	m
Peso della massicciata					2.500	kN/m^2
Coefficiente dinamico					1.000	
Schema di carico 1:	Larghezza delle colonne di carico				3.000	m
	Interasse ruote in senso trasversale				2.000	m
	Interasse ruote in senso longitudinale				1.200	m
	Lati dell'impronta ruota:	L=	0.400 m	T=	0.400	m
			1° colonna	2° colonna	3° colonna	
	Peso singola ruota		150.000	100.000	50.000	kN
	Carico distribuito		9.000	2.500	2.500	kN/m^2
Schema di carico 2:	Interasse ruote in senso trasversale				2.000	m
	Interasse ruote in senso longitudinale				0.000	m
	Lati dell'impronta ruota:	L=	0.350 m	T=	0.600	m
	Peso singola ruota				200.000	kN

Angolo di ripartizione verticale dei carichi nello spessore	45.000	°
Angolo di ripartizione orizzontale dei carichi (effetto piastra)	45.000	°
Efficienza minima dei vncoli di incastro (0=appoggio; 1=incastro perfetto)	0.750	

Tabella dei carichi mobili

n° ruote = numero ruote carico considerato
xm = distanza dall'incastro del carico in esame (disposizione di momento massimo)
xt = distanza dall'incastro del carico in esame (disposizione di taglio massimo)
lrip = larghezza di ripartizione del carico ruote
q= carico distribuito sulla larghezza di ripartizione

			Massimo momento flettente			Massimo sforzo di taglio		
	n° carico	**n° ruote**	**xm (m)**	**lrip (m)**	**qm (kN/m)**	**xt (m)**	**lrip (m)**	**qt (kN/m)**
1° colonna	Schema 1 - distribuito		2.150	1.000	18.900	1.620	1.000	27.000
1° colonna	Schema 1 - 1° fila	1	1.600	2.500	60.000	0.620	2.500	60.000
1° colonna	Schema 1 - 1° fila	2	1.600	3.700	81.081	0.620	3.700	81.081
1° colonna	Schema 1 - 2° fila	2	0.000	0.000	0.000	2.620	3.700	81.081
2° colonna	Schema 1 - distribuito		1.500	1.000	7.500	2.950	1.000	1.250
2° colonna	Schema 1 - 1° fila	1	0.600	2.500	40.000	3.200	2.500	40.000
2° colonna	Schema 1 - 1° fila	2	0.600	3.700	54.054	3.200	3.700	54.054
2° colonna	Schema 1 - 2° fila	2	0.000	0.000	0.000	0.000	0.000	0.000
3° colonna	Schema 1 - distribuito		0.000	1.000	0.000	0.000	1.000	0.000
3° colonna	Schema 1 - 1° fila	1	0.000	0.000	0.000	0.000	0.000	0.000
3° colonna	Schema 1 - 1° fila	2	0.000	0.000	0.000	0.000	0.000	0.000
3° colonna	Schema 1 - 2° fila	2	0.000	0.000	0.000	0.000	0.000	0.000
	Schema 2 - 1° fila	1	1.600	2.450	81.633	0.620	2.450	81.633
	Schema 2 - 2° fila	1	0.000	0.000	0.000	2.620	2.450	81.633

Sollecitazioni massime/minime

Tipo di carico	**Taglio max (kN/m)**	**Momento max (kNm/m)**	**Momento min (kNm/m)**
Peso soletta	14.400	5.760	-7.680
Massicciata	4.000	1.600	-2.133
Schema 1 - distribuito	14.901	6.204	-8.885
Schema 1 (max/min)	134.952	38.822	-51.349
Schema 2 (max/min)	82.505	30.556	-37.450

Coefficienti parziali	**(γ x ψ)**	**SLU**	**SLE (rare)**	**SLE (frequenti)**	**SLE (quasi perm.)**
Carichi permanenti		1.350	1.000	1.000	1.000
Carichi mobili - Tandem		1.350	1.000	0.750	0.000
Carichi mobili - Distribuiti		1.350	1.000	0.400	0.000

Sollecitazioni complessive massime/minime

Tipo di carico	Taglio max (kN/m)	Momento max (kNm/m)	Momento min (kNm/m)
SLU Totali perm.+ mobili	227.142	70.722	-94.564
SLE (rare) Totali perm.+ mobili	168.253	52.387	-70.047
SLE (frequenti) Totali perm.+ mobili	125.575	38.959	-51.879
SLE (quasi perm.) Totali perm.+ mobili	18.400	7.360	-9.813

Dimensionamento armature minime allo SLU

Resistenza di calcolo calcestruzzo:	fcd=	19.83	N/mmq
Resistenza di calcolo armatura:	fsd=	391.30	N/mmq
Modulo di elasticità armatura:	Es=	210000.00	N/mmq
Ricoprimento armature:	Ry(sup)=	50	mm
	Ry(inf)=	70	mm
Inclinazione delle staffe (45°<=α<=90°)	α=	90.00	°
Inclinazione di calcolo dei puntoni di calcestruzzo	θ =	21.80	°

		Momento max	Momento min	
Altezza utile della sezione	d=	29.00	31.00	cm
Altezza sezione reagente:	X=	1.57	1.97	cm
Area di armatura superiore minima:	As(sup)=	0.00	8.00	cmq/m
Area di armatura inferiore minima:	As(inf)=	6.37	0.00	cmq/m
Verifica resistenza al taglio, solo cls.	Vrd,c=		155.43	kN
Coefficiente di sicurezza, solo cls.	Vrd,c/Vsd=		0.684	<1: NON Verificato
Area di armatura trasversale necessaria per ta	Ast=		8.32	cmq/mq

Dimensionamento armature minime allo SLE (frequenti)

		Momento max	Momento min	
Valore limite di apertura fessure:	wd=	0.2	0.2	mm
Tensione di calcolo armatura:	Sa=	160	160	N/mmq
Tensione nel calcestruzzo	Sc=	3.84	4.21	N/mmq
Area di armatura superiore minima:	As(sup)=	0.00	11.55	cmq/m
Area di armatura inferiore minima:	As(inf)=	9.21	0.00	cmq/m

15.4 VERIFICA CORDOLI

Si effettua la verifica della resistenza a taglio delle armature di collegamento tra la soletta e il cordolo sotto l'effetto dell'urto sul sicurvia; si ha:

- effetto di urto sul sicurvia: $H = 100$ kN
- larghezza di applicazione: $b = 0.50$ m
- area armature: 1 + 1 Ø 16 / 20: $A_1 = 2 \times 201 \times 50 / 20 = 1005\ mm^2$
  1 Ø 12 / 20 / 40: $A_2 = 4 \times 113 \times 50 / 20 = 1130\ mm^2$
  $A = 1005 + 283 = 2135\ mm^2$
- resistenza tangenziale di calcolo: $t_d = \dfrac{450}{1.15\sqrt{3}} = 226\ N/mm^2$
- resistenza di calcolo: $R = 226 \times 2.135 = 482.5$ kN (Verificato: R > H)

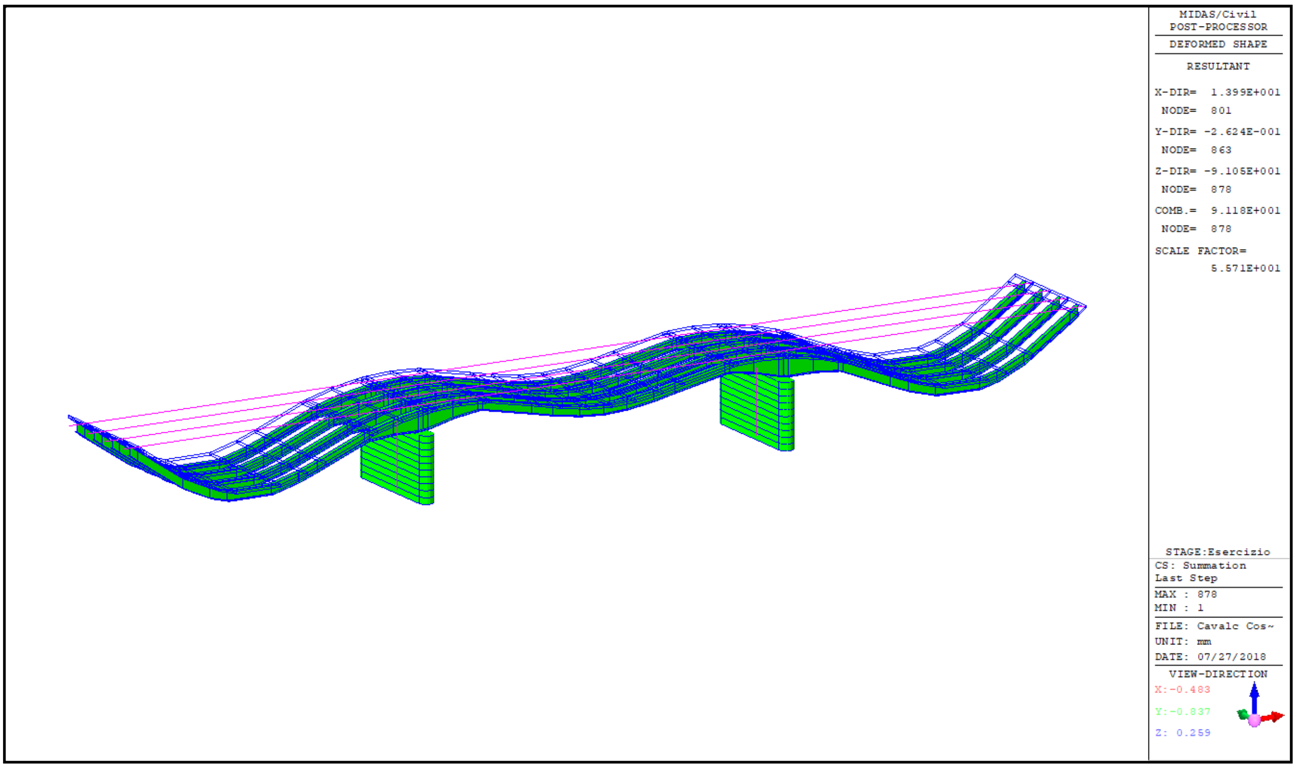
16 VERIFICHE DI DEFORMAZIONE TRAVI

16.1 DEFORMAZIONE CARICHI PERMANENTI

Si verifica che la deformata minima dovuta ai carichi permanenti sia minore di:

- campate laterali: $\Delta Z_{lim,L}$ = L / 300 = 31000/ 300 = 103.3 mm.
- campata centrale: $\Delta Z_{lim,C}$ = L / 300 = 38000/ 300 = 126.7 mm.

Segue diagramma delle deformazioni minime per la combinazione considerata.



DEFORMATA MINIMA CARICHI PERMANENTI

Il valore massimo (in modulo) della deformazione vale:

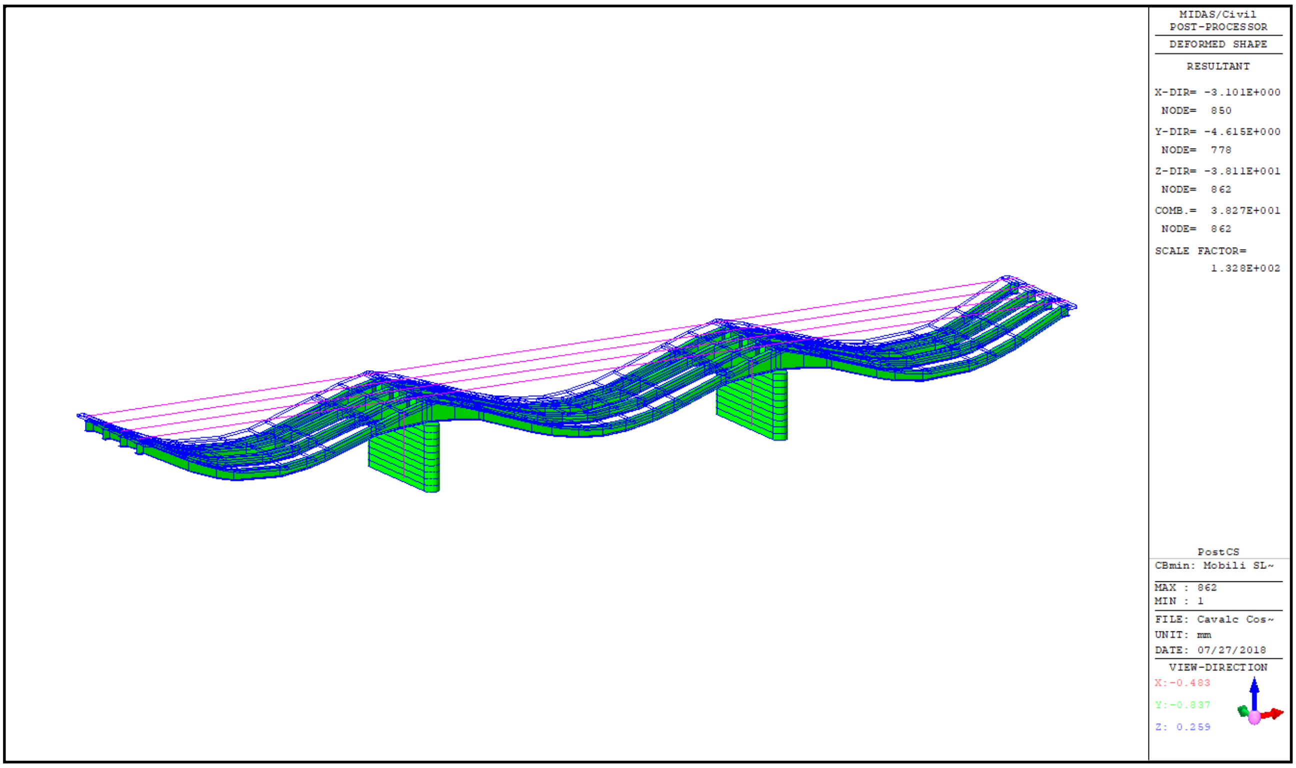
- campate laterali: ΔZ = 91.1 mm, minore del valore limite $\Delta Z_{lim,L}$ = 103.3 mm.
- campata centrale: ΔZ = 38.8 mm, minore del valore limite $\Delta Z_{lim,L}$ = 126.7 mm.

16.2 DEFORMAZIONE CARICHI VARIABILI

Si verifica che la deformata minima dei carichi variabili di progetto, nella combinazione caratteristica (rara) sia minore di:

- campate laterali: $\Delta Z_{lim,L}$ = L / 700 = 31000/ 700 = 44.3 mm.
- campata centrale: $\Delta Z_{lim,C}$ = L / 700 = 38000/ 700 = 54.3 mm.

Segue diagramma delle deformazioni minime per la combinazione considerata; si nota che il diagramma risulta dall'inviluppo di diverse condizioni di carico mobile, quindi i valori sono corretti ma la "forma" della deformata non è significativa.



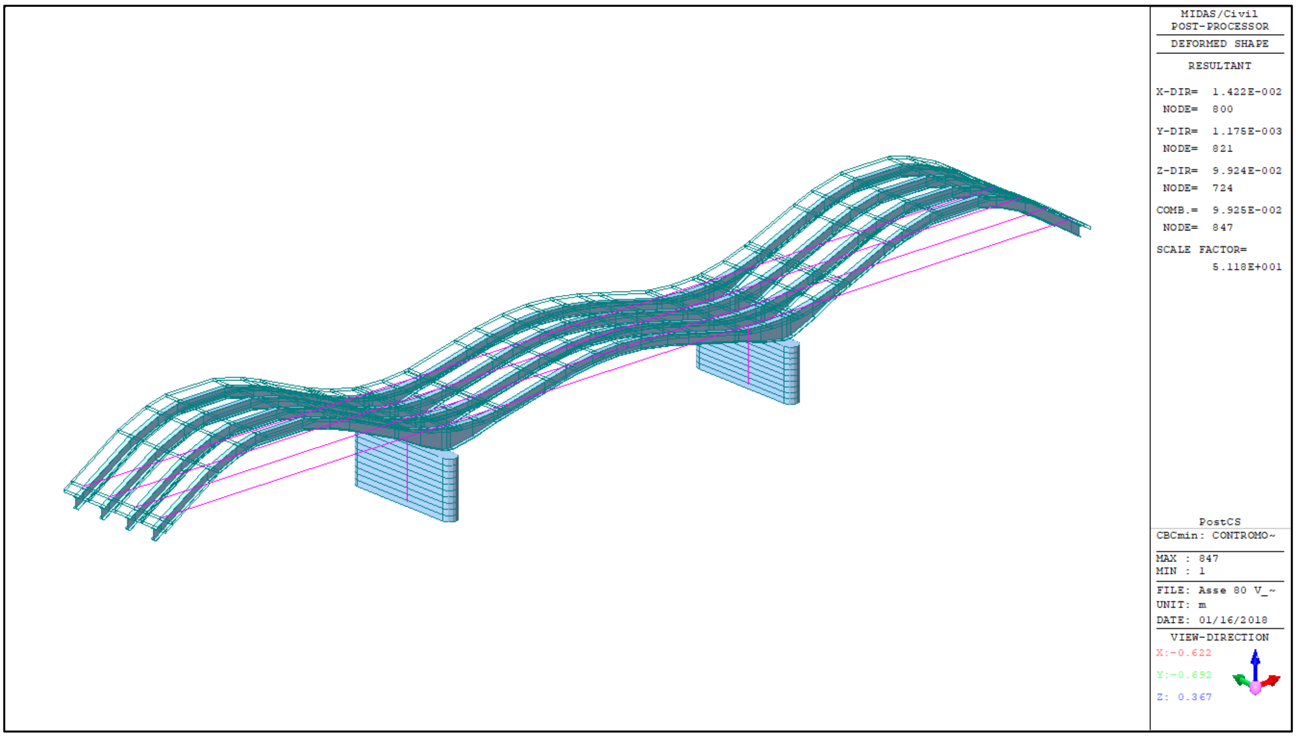
DEFORMATA MINIMA CARICHI MOBILI (INVILUPPO MINIMI)

Il valore massimo (in modulo) della deformazione vale:

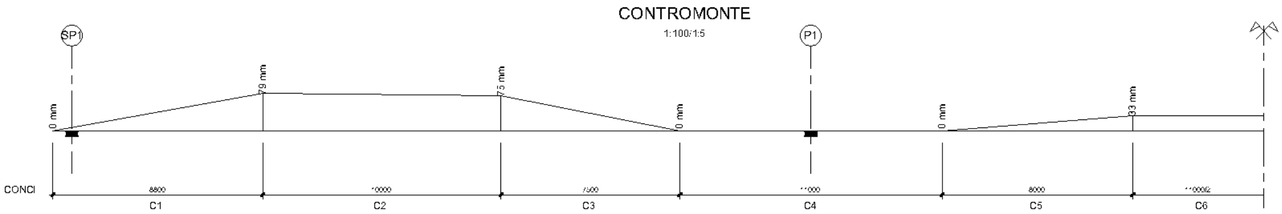
- campate laterali: ΔZ = 33.1 mm, minore del valore limite $\Delta Z_{lim,L}$ = 44.3 mm.
- campata centrale: ΔZ = 38.1 mm, minore del valore limite $\Delta Z_{lim,L}$ = 54.3 mm.

17 CONTROMONTE TRAVI

Le travature vengono realizzate con una controfreccia pari all'inverso delle deformazioni permanenti più il 25% dei carichi mobili, nella combinazione caratteristica; l'andamento dei singoli conci è rettilineo.
Nel diagramma a pagina seguente sono evidenziate le deformazioni da ottenere.



DEFORMATA - CONTROMONTE DI PROGETTO



CONTROMONTE EFFETTIVE (1/2 IMPALCATO)

18 VERIFICA DEI CONTENUTI DI CUI AL PAR. 10.2 DELLE N.T.C. 2008

- Tipo di analisi svolta

- Analisi strutturale condotta di tipo statico e dinamico lineare
- Metodo adottato per la risoluzione del problema strutturale: Metodo agli elementi finiti con software Midas/Civil 2015 v.1.2.
- Metodologie seguite per la verifica o per il progetto-verifica delle sezioni. Metodo semiprobabilistico agli Stati Limite
- Combinazioni di carico adottate: Le combinazioni di carico adottate sono riportate nel paragrafo 5 "Combinazioni di carico" e sono state scelte in modo da massimizzare tutte le sollecitazioni sulla struttura. L'impiego delle combinazioni adottate è esaustivo delle configurazioni studiate per la struttura in esame.

- Origine e Caratteristiche dei Codici di Calcolo

- Vedi paragrafo 2 "Modellazione strutturale".

- Affidabilità dei codici utilizzati

- Vedi paragrafo 2 "Modellazione strutturale".

- Validazione dei codici.

- Nel caso in cui si rendesse necessaria una validazione indipendente del calcolo strutturale, i calcoli potranno essere eseguiti nuovamente da soggetto diverso da quello originario mediante programmi di calcolo diversi da quelli usati originariamente e ciò al fine di eseguire un effettivo controllo incrociato sui risultati delle elaborazioni. Al fondo della presente relazione si riporta il tabulato di input del modello strutturale con tutte le informazioni sufficienti a rendere ripercorribili tutti i calcoli effettuati.

- Modalità di presentazione dei risultati.

- Il percorso che ha condotto ai risultati è stato: modellazione della struttura, analisi dei carichi e disposizione degli stessi sul modello; calcolo delle sollecitazioni; verifica degli elementi ritenuti significativi. La quantità di informazioni che ha accompagnato l'utilizzo del software in input e in output è cospicua. Per non appesantire eccessivamente la relazione di calcolo, si è operata la scelta di fornire soltanto una sintesi completa ed efficace dei risultati privilegiando schemi grafici ai tabulati. E' comunque disponibile su supporto informatico l'intero sviluppo dei tabulati di output con tutte le informazioni necessarie alla eventuale riproduzione del calcolo automatico.

- Informazioni generali sull'elaborazione.

- Al termine della elaborazione sono stati svolti estesi controlli per l'esame dei risultati e per una valutazione complessiva dell'elaborazione dal punto di vista del corretto comportamento del modello.

- Giudizio motivato di accettabilità dei risultati.

- I risultati della elaborazione sono stati analizzati criticamente mediante confronto con calcoli di massima eseguiti manualmente; tali controlli sommari hanno portato a confermare la validità dei risultati. I risultati delle elaborazioni sono quindi stati sottoposti a controlli che ne hanno comprovato l'attendibilità. In particolare si è svolto il controllo di equilibrio tra reazioni vincolari e carichi applicati.

19 ALLEGATO – DATI PROGRAMMA DI CALCOLO

A seguire l'allegato con i dati del programma di calcolo.

20 SOTTOSCRIZIONE DELL'ELABORATO DA PARTE DEL R.T.P.

STUDIO CORONA S.r.l.	**ECOPLAN S.r.l.**
______________________	______________________
I.T. S.r.l.	**E&G S.r.l.**
______________________	______________________
CONSORZIO UNING	**ARKE' INGEGNERIA S.r.l.**
______________________	______________________
SETAC S.r.l.	**ING. RENATO DEL PRETE**
______________________	______________________
DOTT. DANILO GALLO	
______________________	

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;---------------------------------------------------------------------------
;  MIDAS/Civil Text(MCT) File.
;  Date : 2017/12/16
;---------------------------------------------------------------------------

*VERSION
   8.3.5

*UNIT    ; Unit System
   KN   , M, J, C

*PROJINFO    ; Project Information
   PROJECT=CASALPUSTERLENGO
   REVISION=2
   USER=Renato Vaira
   ADDRESS=Studio Corona
   TITLE=CAVALCAVIA STRADA VIC. DELLE COSTE

*STRUCTYPE    ; Structure Type
     0, 1, 1, NO, YES, 9.806, 0, NO, NO, NO

*REBAR-MATL-CODE    ; Rebar Material Code
 UNI(RC), B450C, UNI(RC), B450C

*NODE    ; Nodes
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   111, BEAM  ,    5,     9,   729,   730,     0
   112, BEAM  ,    5,    21,   730,   731,     0
   113, BEAM  ,    5,    21,   731,   732,     0
   114, BEAM  ,    5,    10,   732,   733,     0
   115, BEAM  ,    5,    10,   733,   734,     0
   116, BEAM  ,    5,    12,   734,   735,     0
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 3150, BEAM  ,    1,    15,   266,   282,     90
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 3153, BEAM  ,    1,    15,   184,   200,     90
 3154, BEAM  ,    1,    15,   200,   217,     90
 3155, BEAM  ,    1,    15,   217,   233,     90
 3156, BEAM  ,    1,    15,   233,   250,     90
 3157, BEAM  ,    1,    15,   250,   266,     90
 3158, BEAM  ,    1,    15,   266,   283,     90
 3161, BEAM  ,    1,    15,   184,   201,     90
 3162, BEAM  ,    1,    15,   201,   217,     90
 3163, BEAM  ,    1,    15,   217,   234,     90
 3164, BEAM  ,    1,    15,   234,   250,     90
 3165, BEAM  ,    1,    15,   250,   267,     90
 3166, BEAM  ,    1,    15,   267,   283,     90
 3169, BEAM  ,    1,    15,   185,   201,     90
 3170, BEAM  ,    1,    15,   201,   218,     90
 3171, BEAM  ,    1,    15,   218,   234,     90
 3172, BEAM  ,    1,    15,   234,   251,     90
 3173, BEAM  ,    1,    15,   251,   267,     90
 3174, BEAM  ,    1,    15,   267,   284,     90
 3177, BEAM  ,    1,    15,   185,   202,     90
 3178, BEAM  ,    1,    15,   202,   218,     90
 3179, BEAM  ,    1,    15,   218,   235,     90
 3180, BEAM  ,    1,    15,   235,   251,     90
 3181, BEAM  ,    1,    15,   251,   268,     90
 3182, BEAM  ,    1,    15,   268,   284,     90
 3185, BEAM  ,    1,    15,   186,   202,     90
 3186, BEAM  ,    1,    15,   202,   219,     90
 3187, BEAM  ,    1,    15,   219,   235,     90
 3188, BEAM  ,    1,    15,   235,   252,     90
 3189, BEAM  ,    1,    15,   252,   268,     90
 3190, BEAM  ,    1,    15,   268,   285,     90
 3193, BEAM  ,    1,    15,   186,   203,     90
 3194, BEAM  ,    1,    15,   203,   219,     90
 3195, BEAM  ,    1,    15,   219,   236,     90
 3196, BEAM  ,    1,    15,   236,   252,     90
 3197, BEAM  ,    1,    15,   252,   269,     90
 3198, BEAM  ,    1,    15,   269,   285,     90
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 3202, BEAM  ,    1,    15,   203,   220,     90
 3203, BEAM  ,    1,    15,   220,   236,     90
 3204, BEAM  ,    1,    15,   236,   253,     90
 3205, BEAM  ,    1,    15,   253,   269,     90
 3206, BEAM  ,    1,    15,   269,   286,     90
 3209, BEAM  ,    1,    15,   187,   204,     90
 3210, BEAM  ,    1,    15,   204,   220,     90
 3211, BEAM  ,    1,    15,   220,   237,     90
 3212, BEAM  ,    1,    15,   237,   253,     90
 3213, BEAM  ,    1,    15,   253,   270,     90
 3214, BEAM  ,    1,    15,   270,   286,     90
 3217, BEAM  ,    1,    15,   188,   204,     90
 3218, BEAM  ,    1,    15,   204,   221,     90
 3219, BEAM  ,    1,    15,   221,   237,     90
 3220, BEAM  ,    1,    15,   237,   254,     90
 3221, BEAM  ,    1,    15,   254,   270,     90
 3222, BEAM  ,    1,    15,   270,   287,     90
 3225, BEAM  ,    1,    15,   188,   145,     90
 3226, BEAM  ,    1,    15,   145,   221,     90
 3227, BEAM  ,    1,    15,   221,   149,     90
 3228, BEAM  ,    1,    15,   149,   254,     90
 3229, BEAM  ,    1,    15,   254,   153,     90
 3230, BEAM  ,    1,    15,   153,   287,     90
 3233, BEAM  ,    1,    15,    89,   145,     90
 3234, BEAM  ,    1,    15,   145,    93,     90
 3235, BEAM  ,    1,    15,    93,   149,     90
 3236, BEAM  ,    1,    15,   149,    97,     90
 3237, BEAM  ,    1,    15,    97,   153,     90
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 3243, BEAM  ,    1,    15,    93,    67,     90
 3244, BEAM  ,    1,    15,    67,    97,     90
 3245, BEAM  ,    1,    15,    97,    71,     90
 3246, BEAM  ,    1,    15,    71,   101,     90
 3249, BEAM  ,    1,    15,    42,    63,     90
 3250, BEAM  ,    1,    15,    63,    44,     90
 3251, BEAM  ,    1,    15,    44,    67,     90
 3252, BEAM  ,    1,    15,    67,    46,     90
 3253, BEAM  ,    1,    15,    46,    71,     90
 3254, BEAM  ,    1,    15,    71,    48,     90
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 3257, BEAM  ,    1,    15,    42,    64,    90
 3258, BEAM  ,    1,    15,    64,    44,    90
 3259, BEAM  ,    1,    15,    44,    68,    90
 3260, BEAM  ,    1,    15,    68,    46,    90
 3261, BEAM  ,    1,    15,    46,    72,    90
 3262, BEAM  ,    1,    15,    72,    48,    90
 3265, BEAM  ,    1,    15,    90,    64,    90
 3266, BEAM  ,    1,    15,    64,    94,    90
 3267, BEAM  ,    1,    15,    94,    68,    90
 3268, BEAM  ,    1,    15,    68,    98,    90
 3269, BEAM  ,    1,    15,    98,    72,    90
 3270, BEAM  ,    1,    15,    72,   102,    90
 3273, BEAM  ,    1,    15,    90,   146,    90
 3274, BEAM  ,    1,    15,   146,    94,    90
 3275, BEAM  ,    1,    15,    94,   150,    90
 3276, BEAM  ,    1,    15,   150,    98,    90
 3277, BEAM  ,    1,    15,    98,   154,    90
 3278, BEAM  ,    1,    15,   154,   102,    90
 3281, BEAM  ,    1,    15,   189,   146,    90
 3282, BEAM  ,    1,    15,   146,   222,    90
 3283, BEAM  ,    1,    15,   222,   150,    90
 3284, BEAM  ,    1,    15,   150,   255,    90
 3285, BEAM  ,    1,    15,   255,   154,    90
 3286, BEAM  ,    1,    15,   154,   288,    90
 3289, BEAM  ,    1,    15,   189,   205,    90
 3290, BEAM  ,    1,    15,   205,   222,    90
 3291, BEAM  ,    1,    15,   222,   238,    90
 3292, BEAM  ,    1,    15,   238,   255,    90
 3293, BEAM  ,    1,    15,   255,   271,    90
 3294, BEAM  ,    1,    15,   271,   288,    90
 3297, BEAM  ,    1,    15,   190,   205,    90
 3298, BEAM  ,    1,    15,   205,   223,    90
 3299, BEAM  ,    1,    15,   223,   238,    90
 3300, BEAM  ,    1,    15,   238,   256,    90
 3301, BEAM  ,    1,    15,   256,   271,    90
 3302, BEAM  ,    1,    15,   271,   289,    90
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 3306, BEAM  ,    1,    15,   206,   223,    90
 3307, BEAM  ,    1,    15,   223,   239,    90
 3308, BEAM  ,    1,    15,   239,   256,    90
 3309, BEAM  ,    1,    15,   256,   272,    90
 3310, BEAM  ,    1,    15,   272,   289,    90
 3313, BEAM  ,    1,    15,   191,   206,    90
 3314, BEAM  ,    1,    15,   206,   224,    90
 3315, BEAM  ,    1,    15,   224,   239,    90
 3316, BEAM  ,    1,    15,   239,   257,    90
 3317, BEAM  ,    1,    15,   257,   272,    90
 3318, BEAM  ,    1,    15,   272,   290,    90
 3321, BEAM  ,    1,    15,   191,   207,    90
 3322, BEAM  ,    1,    15,   207,   224,    90
 3323, BEAM  ,    1,    15,   224,   240,    90
 3324, BEAM  ,    1,    15,   240,   257,    90
 3325, BEAM  ,    1,    15,   257,   273,    90
 3326, BEAM  ,    1,    15,   273,   290,    90
 3329, BEAM  ,    1,    15,   192,   207,    90
 3330, BEAM  ,    1,    15,   207,   225,    90
 3331, BEAM  ,    1,    15,   225,   240,    90
 3332, BEAM  ,    1,    15,   240,   258,    90
 3333, BEAM  ,    1,    15,   258,   273,    90
 3334, BEAM  ,    1,    15,   273,   291,    90
 3337, BEAM  ,    1,    15,   192,   208,    90
 3338, BEAM  ,    1,    15,   208,   225,    90
 3339, BEAM  ,    1,    15,   225,   241,    90
 3340, BEAM  ,    1,    15,   241,   258,    90
 3341, BEAM  ,    1,    15,   258,   274,    90
 3342, BEAM  ,    1,    15,   274,   291,    90
 3345, BEAM  ,    1,    15,   193,   208,    90
 3346, BEAM  ,    1,    15,   208,   226,    90
 3347, BEAM  ,    1,    15,   226,   241,    90
 3348, BEAM  ,    1,    15,   241,   259,    90
 3349, BEAM  ,    1,    15,   259,   274,    90
 3350, BEAM  ,    1,    15,   274,   292,    90
 3353, BEAM  ,    1,    15,   193,   209,    90
 3354, BEAM  ,    1,    15,   209,   226,    90
 3355, BEAM  ,    1,    15,   226,   242,    90
 3356, BEAM  ,    1,    15,   242,   259,    90
 3357, BEAM  ,    1,    15,   259,   275,    90
 3358, BEAM  ,    1,    15,   275,   292,    90
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 3361, BEAM  ,    1,    15,   194,   209,     90
 3362, BEAM  ,    1,    15,   209,   227,     90
 3363, BEAM  ,    1,    15,   227,   242,     90
 3364, BEAM  ,    1,    15,   242,   260,     90
 3365, BEAM  ,    1,    15,   260,   275,     90
 3366, BEAM  ,    1,    15,   275,   293,     90
 4001, BEAM  ,    3,    46,     1,   905,      0
 4002, BEAM  ,    3,    46,   905,   906,      0
 4003, BEAM  ,    3,    46,   906,   907,      0
 4004, BEAM  ,    3,    46,   907,   908,      0
 4005, BEAM  ,    3,    46,   908,   909,      0
 4006, BEAM  ,    3,    46,   909,   910,      0
 4007, BEAM  ,    3,    46,   910,   911,      0
 4008, BEAM  ,    3,    46,   911,   912,      0
 4009, BEAM  ,    3,    46,   912,   913,      0
 4010, BEAM  ,    3,    46,   913,    25,      0
 4011, BEAM  ,    3,    46,     2,   914,      0
 4012, BEAM  ,    3,    46,   914,   915,      0
 4013, BEAM  ,    3,    46,   915,   916,      0
 4014, BEAM  ,    3,    46,   916,   917,      0
 4015, BEAM  ,    3,    46,   917,   918,      0
 4016, BEAM  ,    3,    46,   918,   919,      0
 4017, BEAM  ,    3,    46,   919,   920,      0
 4018, BEAM  ,    3,    46,   920,   921,      0
 4019, BEAM  ,    3,    46,   921,   922,      0
 4020, BEAM  ,    3,    46,   922,    26,      0
 5009, BEAM  ,    2,    22,   720,   761,      0
 5010, BEAM  ,    2,    22,   761,   802,      0
 5011, BEAM  ,    2,    22,   802,   843,      0
 5013, BEAM  ,    2,    23,   721,   762,      0
 5014, BEAM  ,    2,    23,   762,   803,      0
 5015, BEAM  ,    2,    23,   803,   844,      0
 5017, BEAM  ,    2,    23,   723,   764,      0
 5018, BEAM  ,    2,    23,   764,   805,      0
 5019, BEAM  ,    2,    23,   805,   846,      0
 5021, BEAM  ,    2,    23,   724,   765,      0
 5022, BEAM  ,    2,    23,   765,   806,      0
 5023, BEAM  ,    2,    23,   806,   847,      0
 5025, BEAM  ,    2,    23,   726,   767,      0
 5026, BEAM  ,    2,    23,   767,   808,      0
 5027, BEAM  ,    2,    23,   808,   849,      0
 5029, BEAM  ,    2,    24,   727,   768,      0
 5030, BEAM  ,    2,    24,   768,   809,      0
 5031, BEAM  ,    2,    24,   809,   850,      0
 5033, BEAM  ,    2,    25,   729,   770,      0
 5034, BEAM  ,    2,    25,   770,   811,      0
 5035, BEAM  ,    2,    25,   811,   852,      0
 5037, BEAM  ,    2,    25,   731,   772,      0
 5038, BEAM  ,    2,    25,   772,   813,      0
 5039, BEAM  ,    2,    25,   813,   854,      0
 5041, BEAM  ,    2,    25,   733,   774,      0
 5042, BEAM  ,    2,    25,   774,   815,      0
 5043, BEAM  ,    2,    25,   815,   856,      0
 5045, BEAM  ,    2,    26,   735,   776,      0
 5046, BEAM  ,    2,    26,   776,   817,      0
 5047, BEAM  ,    2,    26,   817,   858,      0
 5049, BEAM  ,    2,    27,   736,   777,      0
 5050, BEAM  ,    2,    27,   777,   818,      0
 5051, BEAM  ,    2,    27,   818,   859,      0
 5053, BEAM  ,    2,    27,   738,   779,      0
 5054, BEAM  ,    2,    27,   779,   820,      0
 5055, BEAM  ,    2,    27,   820,   861,      0
 5070, BEAM  ,    2,    27,   863,   822,      0
 5071, BEAM  ,    2,    27,   822,   781,      0
 5072, BEAM  ,    2,    27,   781,   740,      0
 5074, BEAM  ,    2,    27,   865,   824,      0
 5075, BEAM  ,    2,    27,   824,   783,      0
 5076, BEAM  ,    2,    27,   783,   742,      0
 5078, BEAM  ,    2,    26,   866,   825,      0
 5079, BEAM  ,    2,    26,   825,   784,      0
 5080, BEAM  ,    2,    26,   784,   743,      0
 5082, BEAM  ,    2,    25,   868,   827,      0
 5083, BEAM  ,    2,    25,   827,   786,      0
 5084, BEAM  ,    2,    25,   786,   745,      0
 5086, BEAM  ,    2,    25,   870,   829,      0
 5087, BEAM  ,    2,    25,   829,   788,      0
 5088, BEAM  ,    2,    25,   788,   747,      0
 5090, BEAM  ,    2,    25,   872,   831,      0
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  5091, BEAM  ,    2,    25,   831,   790,      0
  5092, BEAM  ,    2,    25,   790,   749,      0
  5094, BEAM  ,    2,    24,   874,   833,      0
  5095, BEAM  ,    2,    24,   833,   792,      0
  5096, BEAM  ,    2,    24,   792,   751,      0
  5098, BEAM  ,    2,    23,   875,   834,      0
  5099, BEAM  ,    2,    23,   834,   793,      0
  5100, BEAM  ,    2,    23,   793,   752,      0
  5102, BEAM  ,    2,    23,   877,   836,      0
  5103, BEAM  ,    2,    23,   836,   795,      0
  5104, BEAM  ,    2,    23,   795,   754,      0
  5110, BEAM  ,    2,    23,   878,   837,      0
  5111, BEAM  ,    2,    23,   837,   796,      0
  5112, BEAM  ,    2,    23,   796,   755,      0
  5114, BEAM  ,    2,    23,   880,   839,      0
  5115, BEAM  ,    2,    23,   839,   798,      0
  5116, BEAM  ,    2,    23,   798,   757,      0
  5118, BEAM  ,    2,    22,   881,   840,      0
  5119, BEAM  ,    2,    22,   840,   799,      0
  5120, BEAM  ,    2,    22,   799,   758,      0

*GROUP    ; Group
   TRAVI PRINCIPALI, 719to882, 101to140 201to240 301to340 401to440, 0
   TRASVERSI INTERMEDI, 107to134 327to452 489to495 497to504 506to519 521to528 \
        530to543 545to552 554to567 569to576 578to584 609to696, 1014to1019 \
        1022to1027 1030to1035 1038to1043 1110to1422by8 1111to1423by8 \
        1112to1424by8 1113to1425by8 1114to1426by8 1115to1427by8 1430to1514by4 \
        1431to1515by4 1432to1516by4, 0
   TRASVERSI PILE, 51to58 169to174 496to568by24 505to577by24, 2001to2003 \
        2005to2007 2009to2014 2017to2022 2025to2030 2033to2038 2041to2043 \
        2045to2047, 0
   PILE       , 1 2 25 26, 4001to4020, 0
   NODI       , 1 2 21to28 31to38 41to48 51to58 61to72 77to84 87to102 107to134 \
        143to154 159to166 169to174 177to293 327to452 489to584 609to696 719to886, \
        , 0
   CONTROVENTI, 41to48 61to72 87to102 143to154 177to293, 3001to3361by8 \
        3002to3362by8 3003to3363by8 3004to3364by8 3005to3365by8 3006to3366by8, 0
   SOLETTA FITTIZIA, , 5009to5053by4 5010to5054by4 5011to5055by4 5070to5102by4 \
        5071to5103by4 5072to5104by4 5110to5112 5114to5116 5118to5120, 0

*BNDR-GROUP    ; Boundary Group
 RIGID LINK, 0
 APPOGGI SPALLE, 0
 SUPPORTI, 0
 CONTR.FITTIZI SOLETTA, 0
 APPOGGI PILE, 6492008

*LOAD-GROUP    ; Load Group
 PESO SOLETTA
 PESO FINITURE
 PESO ACCIAIO E PILE

*MATERIAL    ; Material
    1, STEEL, S355 (g x1.15)    , 0, 0, , C, YES, 0.05, 2, 2.1000e+008,   0.3, 1.2000e-005, 88.53, 9.025
    2, CONC , C32/40 SOL.TRASV  , 0, 0, , C, YES, 0.05, 2, 3.3345e+007,   0.2, 1.0000e-005,     0,     0
    3, CONC , C28/35 PILE       , 0, 0, , C, NO, 0.05, 1, NTC08(RC)  ,            , C28/35
    4, CONC , C32/40 SOLETTA    , 0, 0, , C, YES, 0.05, 2, 3.3345e+007,   0.2, 1.0000e-005,     0,     0
    5, SRC  , COMPOSITO         , 0, 0, , C, YES, 0.05, 2, 2.1000e+008,   0.3, 1.2000e-005, 88.53,  9.02,\
                                  2, 3.3345e+007,   0.2, 1.0000e-005,     0,     0

*MATL-COLOR
    1, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
    2, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
    3, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
    4, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
    5, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5

*TDM-TYPE    ; Time Dependent Material
   NAME=SOLETTA, European, 32000, 70, 0.3, Class N, 1, 1, NO

*TDM-ELAST    ; Time Dependent Material(Comp. Strength)
   NAME=SOLETTA, CODE, EUROPEAN, 40000, 2

*TDM-LINK    ; Time Dependent Material Link
    4, SOLETTA, SOLETTA


*SECTION    ; Section
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 1, COMPOSITE , C1 Interno       , CT, 0, 0, 0, 0, 0, 0, YES, I
    0.94, 0.015, 0.5, 0.03, 0.6, 0.03
    0, 0, 0, 0, 0, 0
    0
    0
    0
    3.2, 1, 0,   3.2, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
 2, COMPOSITE , C2 Interno       , CT, 0, 0, 0, 0, 0, 0, YES, I
    0.93, 0.015, 0.5, 0.03, 0.6, 0.04
    0, 0, 0, 0, 0, 0
    0
    0
    0
    3.2, 1, 0,   3.2, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
 3, COMPOSITE , C1 Esterno       , CT, 0, 0, 0, 0, 0, 0, YES, I
    0.94, 0.015, 0.5, 0.03, 0.6, 0.03
    0, 0, 0, 0, 0, 0
    0
    0
    0
    2.95, 1, 0,   2.95, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
 4, COMPOSITE , C2 esterno       , CT, 0, 0, 0, 0, 0, 0, YES, I
    0.93, 0.015, 0.5, 0.03, 0.6, 0.04
    0, 0, 0, 0, 0, 0
    0
    0
    0
    2.95, 1, 0,   2.95, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
 5, TAPERED   , C4 Interno Sx    , CT, 0, 0, 0, 0, 0, 0, 0, 0, YES, CP_I, 1, 1, CMP-I
    1, 0,   3.2, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
    3.2, 0.92, 0.02, 0.6, , 0.04, 0.7, , 0.04
    3.2, 1.92, 0.02, 0.6, , 0.04, 0.7, , 0.04
    0, 0, 0, 0, 0, 0
    0
    0
    0
    0, 0, 0, 0, 0, 0
    0
    0
    0

 6, TAPERED   , C4 Interno Dx    , CT, 0, 0, 0, 0, 0, 0, 0, 0, YES, CP_I, 1, 1, CMP-I
    1, 0,   3.2, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
    3.2, 1.92, 0.02, 0.6, , 0.04, 0.7, , 0.04
    3.2, 0.92, 0.02, 0.6, , 0.04, 0.7, , 0.04
    0, 0, 0, 0, 0, 0
    0
    0
    0
    0, 0, 0, 0, 0, 0
    0
    0
    0

 7, COMPOSITE , C5 Interno       , CT, 0, 0, 0, 0, 0, 0, YES, I
    0.93, 0.02, 0.5, 0.03, 0.6, 0.04
    0, 0, 0, 0, 0, 0
    0
    0
    0
    3.2, 1, 0,   3.2, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
 8, COMPOSITE , C6 Interno       , CT, 0, 0, 0, 0, 0, 0, YES, I
    0.93, 0.012, 0.5, 0.03, 0.6, 0.04
    0, 0, 0, 0, 0, 0
    0
    0
    0
    3.2, 1, 0,   3.2, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
 9, TAPERED   , C4 Esterno Sx    , CT, 0, 0, 0, 0, 0, 0, 0, 0, YES, CP_I, 1, 1, CMP-I
    1, 0,   2.95, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
    2.95, 0.92, 0.02, 0.6, , 0.04, 0.7, , 0.04
    2.95, 1.92, 0.02, 0.6, , 0.04, 0.7, , 0.04
    0, 0, 0, 0, 0, 0
    0
    0
    0
    0, 0, 0, 0, 0, 0
    0
```

```
        0
        0

    10, TAPERED   , C4 Esterno Dx      , CT, 0, 0, 0, 0, 0, 0, 0, 0, YES, CP_I, 1, 1, CMP-I
        1, 0,    2.95, 0.24, 0.06,    6.2978, 0, 0.3, 0.2, NO, ,
        2.95, 1.92, 0.02, 0.6, , 0.04, 0.7, , 0.04
        2.95, 0.92, 0.02, 0.6, , 0.04, 0.7, , 0.04
        0, 0, 0, 0, 0, 0
        0
        0
        0
        0, 0, 0, 0, 0, 0
        0
        0
        0

    11, COMPOSITE , C3 Interno         , CT, 0, 0, 0, 0, 0, 0, YES, I
        0.93, 0.02, 0.5, 0.03, 0.6, 0.04
        0, 0, 0, 0, 0, 0
        0
        0
        0
        3.2, 1, 0,    3.2, 0.24, 0.06,    6.2978, 0, 0.3, 0.2, NO, ,
    12, COMPOSITE , C5 Esterno         , CT, 0, 0, 0, 0, 0, 0, YES, I
        0.93, 0.02, 0.5, 0.03, 0.6, 0.04
        0, 0, 0, 0, 0, 0
        0
        0
        0
        2.95, 1, 0,    2.95, 0.24, 0.06,    6.2978, 0, 0.3, 0.2, NO, ,
    13, COMPOSITE , C6 Esterno         , CT, 0, 0, 0, 0, 0, 0, YES, I
        0.93, 0.012, 0.5, 0.03, 0.6, 0.04
        0, 0, 0, 0, 0, 0
        0
        0
        0
        2.95, 1, 0,    2.95, 0.24, 0.06,    6.2978, 0, 0.3, 0.2, NO, ,
    14, COMPOSITE , C3 Esterno         , CT, 0, 0, 0, 0, 0, 0, YES, I
        0.93, 0.02, 0.5, 0.03, 0.6, 0.04
        0, 0, 0, 0, 0, 0
        0
        0
        0
        2.95, 1, 0,    2.95, 0.24, 0.06,    6.2978, 0, 0.3, 0.2, NO, ,
    15, DBUSER    , CONTROV 2L80x10d15, CC, 0, 0, 0, 0, 0, 0, YES, 2L , 2, 0.08, 0.08, 0.01, 0.01, 0.015, 0,
0, 0, 0, 0
    16, COMPOSITE , C4 Interno Centr  , CT, 0, 0, 0, 0, 0, 0, YES, I
        1.92, 0.02, 0.6, 0.04, 0.7, 0.04
        0, 0, 0, 0, 0, 0
        0
        0
        0
        3.2, 1, 0,    3.2, 0.24, 0.06,    6.2978, 0, 0.3, 0.2, NO, ,
    17, DBUSER    , HSUP_CORR 2L80x10d15, CC, 0, 0, 0, 0, 0, 0, YES, 2L , 2, 0.08, 0.08, 0.01, 0.01, 0.015, 0
, 0, 0, 0, 0
    18, DBUSER    , HINF_CORR 2L80x10d15, CC, 0, 0, 0, 0, 0, 0, YES, 2L , 2, 0.08, 0.08, 0.01, 0.01, 0.015, 0
, 0, 0, 0, 0
    19, DBUSER    , HSUP_PILE 2L100x10d20, CC, 0, 0, 0, 0, 0, 0, YES, 2L , 2, 0.1, 0.1, 0.01, 0.01, 0.02, 0,
0, 0, 0, 0
    20, DBUSER    , DIAG_PILE 2L80x8d20, CC, 0, 1, 0, 0, 0, 0, YES, 2L , 2, 0.08, 0.08, 0.008, 0.008, 0.02, 0
, 0, 0, 0, 0
    21, COMPOSITE , C4 Esterno Centr  , CT, 0, 0, 0, 0, 0, 0, YES, I
        1.92, 0.02, 0.6, 0.04, 0.7, 0.04
        0, 0, 0, 0, 0, 0
        0
        0
        0
        2.95, 1, 0,    2.95, 0.24, 0.06,    6.2978, 0, 0.3, 0.2, NO, ,
    22, DBUSER    , 330x30             , RT, 0, 0, 1, 0.8, 0, 0, NO, SB , 2, 0.3, 3.3, 0, 0, 0, 0, 0, 0, 0, 0
    23, DBUSER    , 500x30             , CT, 0, 0, 0, 0, 0, 0, NO, SB , 2, 0.3, 5, 0, 0, 0, 0, 0, 0, 0, 0
    24, DBUSER    , 400x30             , LT, 0, 1, 1, 1.5, 0, 0, NO, SB , 2, 0.3, 4, 0, 0, 0, 0, 0, 0, 0, 0
    25, DBUSER    , 300x30             , CT, 0, 0, 0, 0, 0, 0, NO, SB , 2, 0.3, 3, 0, 0, 0, 0, 0, 0, 0, 0
    26, DBUSER    , 400x30 dx          , RT, 0, 1, 1, 1.5, 0, 0, NO, SB , 2, 0.3, 4, 0, 0, 0, 0, 0, 0, 0, 0
    27, DBUSER    , 520x30             , CT, 0, 0, 0, 0, 0, 0, NO, SB , 2, 0.3, 5.2, 0, 0, 0, 0, 0, 0, 0, 0
    46, DBUSER    , PILA               , CC, 0, 0, 0, 0, 0, 0, YES, STRK, 2, 1.5, 12, 0, 0, 0, 0, 0, 0, 0, 0
    64, DBUSER    , DIAG_CORR 2L80x8d15, CC, 0, 0, 0, 0, 0, 0, YES, 2L , 2, 0.08, 0.08, 0.008, 0.008, 0.015,
0, 0, 0, 0, 0
    65, DBUSER    , HINF_PILE 2L100x10d20, CC, 0, 0, 0, 0, 0, 0, YES, 2L , 2, 0.1, 0.1, 0.01, 0.01, 0.02, 0,
```

```
0, 0, 0, 0

*SECT-COLOR
    1, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
    2, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
    3,   3, 111,   0,   93, 255,  87,    3, 111,   0,  NO, 0.5
    4,  70,  70,   0,  192, 255,   0,   70,  70,   0,  NO, 0.5
    5, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
    6,   0,  13,  13,    0, 128, 128,    0,  13,  13,  NO, 0.5
    7, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
    8, 123,  40,   0,  255, 192, 160,  123,  40,   0,  NO, 0.5
    9,   3,   0, 108,  163, 160, 255,    3,   0, 108,  NO, 0.5
   10,   3, 111,  66,  163, 255, 160,    3, 111,  66,  NO, 0.5
   11, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
   12,  87,  87,   0,  192, 192,   0,   87,  87,   0,  NO, 0.5
   13,   0,  72,  72,    0, 192, 192,    0,  72,  72,  NO, 0.5
   14, 102,  69,   0,  192, 128,   0,  102,  69,   0,  NO, 0.5
   15,  65, 165,  65,  192, 192, 192,   65, 165,  65,  NO, 0.5
   16,  87,  87,   0,  192, 192,   0,   87,  87,   0,  NO, 0.5
   17,  87,  87,   0,  192, 192,   0,   87,  87,   0,  NO, 0.5
   18,  87,  87,   0,  192, 192,   0,   87,  87,   0,  NO, 0.5
   19,  87,  87,   0,  192, 192,   0,   87,  87,   0,  NO, 0.5
   20,  87,  87,   0,  192, 192,   0,   87,  87,   0,  NO, 0.5
   21,  87,  87,   0,  192, 192,   0,   87,  87,   0,  NO, 0.5
   22,  70,  70,   0,  192, 255,   0,   70,  70,   0,  NO, 0.5
   23, 121,   0,  91,  255,   0, 192,  121,   0,  91,  NO, 0.5
   24,  89,   0, 162,  212, 160, 255,   89,   0, 162,  NO, 0.5
   25,   0,  43,  19,    0, 128,  57,    0,  43,  19,  NO, 0.5
   26, 115,   0,   0,  255,  87,  87,  115,   0,   0,  NO, 0.5
   27,  34,  77,   0,   85, 192,   0,   34,  77,   0,  NO, 0.5
   46,  85,  32,   0,  192,  72,   0,   85,  32,   0,  NO, 0.5
   64,  85,  32,   0,  192,  72,   0,   85,  32,   0,  NO, 0.5
   65,  85,  32,   0,  192,  72,   0,   85,  32,   0,  NO, 0.5

*COMP-GEN-SECT-PSC-DESIGN    ; Composite Section for PSC Design
     1, NO,  0, 0, 0, 0, 0, 0, 0,  0, 0, 0, 0, 0, 0, 0
     2, NO,  0, 0, 0, 0, 0, 0, 0,  0, 0, 0, 0, 0, 0, 0
     3, NO,  0, 0, 0, 0, 0, 0, 0,  0, 0, 0, 0, 0, 0, 0
     4, NO,  0, 0, 0, 0, 0, 0, 0,  0, 0, 0, 0, 0, 0, 0
     5, NO,  0, 0, 0, 0, 0, 0, 0,  0, 0, 0, 0, 0, 0, 0
     6, NO,  0, 0, 0, 0, 0, 0, 0,  0, 0, 0, 0, 0, 0, 0
     7, NO,  0, 0, 0, 0, 0, 0, 0,  0, 0, 0, 0, 0, 0, 0
     8, NO,  0, 0, 0, 0, 0, 0, 0,  0, 0, 0, 0, 0, 0, 0
     9, NO,  0, 0, 0, 0, 0, 0, 0,  0, 0, 0, 0, 0, 0, 0
    10, NO,  0, 0, 0, 0, 0, 0, 0,  0, 0, 0, 0, 0, 0, 0
    11, NO,  0, 0, 0, 0, 0, 0, 0,  0, 0, 0, 0, 0, 0, 0
    12, NO,  0, 0, 0, 0, 0, 0, 0,  0, 0, 0, 0, 0, 0, 0
    13, NO,  0, 0, 0, 0, 0, 0, 0,  0, 0, 0, 0, 0, 0, 0
    14, NO,  0, 0, 0, 0, 0, 0, 0,  0, 0, 0, 0, 0, 0, 0
    16, NO,  0, 0, 0, 0, 0, 0, 0,  0, 0, 0, 0, 0, 0, 0
    21, NO,  0, 0, 0, 0, 0, 0, 0,  0, 0, 0, 0, 0, 0, 0

*DGN-SECT
    1, COMPOSITE , C1 Interno        , CT, 0, 0, 0, 0, 0, 0, YES, I
       0.94, 0.015, 0.5, 0.03, 0.6, 0.03
       0, 0, 0, 0, 0, 0
       0
       0
       0
       3.2, 1, 0,   3.2, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
    2, COMPOSITE , C2 Interno        , CT, 0, 0, 0, 0, 0, 0, YES, I
       0.93, 0.015, 0.5, 0.03, 0.6, 0.04
       0, 0, 0, 0, 0, 0
       0
       0
       0
       3.2, 1, 0,   3.2, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
    3, COMPOSITE , C1 Esterno        , CT, 0, 0, 0, 0, 0, 0, YES, I
       0.94, 0.015, 0.5, 0.03, 0.6, 0.03
       0, 0, 0, 0, 0, 0
       0
       0
       0
       2.95, 1, 0,   2.95, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
    4, COMPOSITE , C2 esterno        , CT, 0, 0, 0, 0, 0, 0, YES, I
       0.93, 0.015, 0.5, 0.03, 0.6, 0.04
       0, 0, 0, 0, 0, 0
       0
```

```
      0
      0
      2.95, 1, 0,   2.95, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
   5, TAPERED   , C4 Interno Sx     , CT, 0, 0, 0, 0, 0, 0, 0, 0, YES, CP_I, 1, 1, CMP-I
      1, 0,   3.2, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
      3.2, 0.92, 0.02, 0.6, , 0.04, 0.7, , 0.04
      3.2, 1.92, 0.02, 0.6, , 0.04, 0.7, , 0.04
      0, 0, 0, 0, 0, 0
      0
      0
      0
      0, 0, 0, 0, 0, 0
      0
      0
      0

   6, TAPERED   , C4 Interno Dx     , CT, 0, 0, 0, 0, 0, 0, 0, 0, YES, CP_I, 1, 1, CMP-I
      1, 0,   3.2, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
      3.2, 1.92, 0.02, 0.6, , 0.04, 0.7, , 0.04
      3.2, 0.92, 0.02, 0.6, , 0.04, 0.7, , 0.04
      0, 0, 0, 0, 0, 0
      0
      0
      0
      0, 0, 0, 0, 0, 0
      0
      0
      0

   7, COMPOSITE , C5 Interno        , CT, 0, 0, 0, 0, 0, 0, YES, I
      0.93, 0.02, 0.5, 0.03, 0.6, 0.04
      0, 0, 0, 0, 0, 0
      0
      0
      0
      3.2, 1, 0,   3.2, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
   8, COMPOSITE , C6 Interno        , CT, 0, 0, 0, 0, 0, 0, YES, I
      0.93, 0.012, 0.5, 0.03, 0.6, 0.04
      0, 0, 0, 0, 0, 0
      0
      0
      0
      3.2, 1, 0,   3.2, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
   9, TAPERED   , C4 Esterno Sx     , CT, 0, 0, 0, 0, 0, 0, 0, 0, YES, CP_I, 1, 1, CMP-I
      1, 0,   2.95, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
      2.95, 0.92, 0.02, 0.6, , 0.04, 0.7, , 0.04
      2.95, 1.92, 0.02, 0.6, , 0.04, 0.7, , 0.04
      0, 0, 0, 0, 0, 0
      0
      0
      0
      0, 0, 0, 0, 0, 0
      0
      0
      0

  10, TAPERED   , C4 Esterno Dx     , CT, 0, 0, 0, 0, 0, 0, 0, 0, YES, CP_I, 1, 1, CMP-I
      1, 0,   2.95, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
      2.95, 1.92, 0.02, 0.6, , 0.04, 0.7, , 0.04
      2.95, 0.92, 0.02, 0.6, , 0.04, 0.7, , 0.04
      0, 0, 0, 0, 0, 0
      0
      0
      0
      0, 0, 0, 0, 0, 0
      0
      0
      0

  11, COMPOSITE , C3 Interno        , CT, 0, 0, 0, 0, 0, 0, YES, I
      0.93, 0.02, 0.5, 0.03, 0.6, 0.04
      0, 0, 0, 0, 0, 0
      0
      0
      0
      3.2, 1, 0,   3.2, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
  12, COMPOSITE , C5 Esterno        , CT, 0, 0, 0, 0, 0, 0, YES, I
      0.93, 0.02, 0.5, 0.03, 0.6, 0.04
```

```
        0, 0, 0, 0, 0, 0
        0
        0
        0
        2.95, 1, 0,   2.95, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
   13, COMPOSITE , C6 Esterno        , CT, 0, 0, 0, 0, 0, 0, YES, I
        0.93, 0.012, 0.5, 0.03, 0.6, 0.04
        0, 0, 0, 0, 0, 0
        0
        0
        0
        2.95, 1, 0,   2.95, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
   14, COMPOSITE , C3 Esterno        , CT, 0, 0, 0, 0, 0, 0, YES, I
        0.93, 0.02, 0.5, 0.03, 0.6, 0.04
        0, 0, 0, 0, 0, 0
        0
        0
        0
        2.95, 1, 0,   2.95, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
   15, DBUSER    , CONTROV 2L80x10d15, CC, 0, 0, 0, 0, 0, 0, YES, 2L , 2, 0.08, 0.08, 0.01, 0.01, 0.015, 0,
0, 0, 0, 0
   16, COMPOSITE , C4 Interno Centr  , CT, 0, 0, 0, 0, 0, 0, YES, I
        1.92, 0.02, 0.6, 0.04, 0.7, 0.04
        0, 0, 0, 0, 0, 0
        0
        0
        0
        3.2, 1, 0,   3.2, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
   17, DBUSER    , HSUP_CORR 2L80x10d15, CC, 0, 0, 0, 0, 0, 0, YES, 2L , 2, 0.08, 0.08, 0.01, 0.01, 0.015, 0
, 0, 0, 0, 0
   18, DBUSER    , HINF_CORR 2L80x10d15, CC, 0, 0, 0, 0, 0, 0, YES, 2L , 2, 0.08, 0.08, 0.01, 0.01, 0.015, 0
, 0, 0, 0, 0
   19, DBUSER    , HSUP_PILE 2L100x10d20, CC, 0, 0, 0, 0, 0, 0, YES, 2L , 2, 0.1, 0.1, 0.01, 0.01, 0.02, 0,
0, 0, 0, 0
   20, DBUSER    , DIAG_PILE 2L80x8d20, CC, 0, 1, 0, 0, 0, 0, YES, 2L , 2, 0.08, 0.08, 0.008, 0.008, 0.02, 0
, 0, 0, 0, 0
   21, COMPOSITE , C4 Esterno Centr  , CT, 0, 0, 0, 0, 0, 0, YES, I
        1.92, 0.02, 0.6, 0.04, 0.7, 0.04
        0, 0, 0, 0, 0, 0
        0
        0
        0
        2.95, 1, 0,   2.95, 0.24, 0.06,   6.2978, 0, 0.3, 0.2, NO, ,
   22, DBUSER    , 330x30            , RT, 0, 0, 1, 0.8, 0, 0, NO, SB , 2, 0.3, 3.3, 0, 0, 0, 0, 0, 0, 0, 0
   23, DBUSER    , 500x30            , CT, 0, 0, 0, 0, 0, 0, NO, SB , 2, 0.3, 5, 0, 0, 0, 0, 0, 0, 0, 0
   24, DBUSER    , 400x30            , LT, 0, 1, 1, 1.5, 0, 0, NO, SB , 2, 0.3, 4, 0, 0, 0, 0, 0, 0, 0, 0
   25, DBUSER    , 300x30            , CT, 0, 0, 0, 0, 0, 0, NO, SB , 2, 0.3, 3, 0, 0, 0, 0, 0, 0, 0, 0
   26, DBUSER    , 400x30 dx         , RT, 0, 1, 1, 1.5, 0, 0, NO, SB , 2, 0.3, 4, 0, 0, 0, 0, 0, 0, 0, 0
   27, DBUSER    , 520x30            , CT, 0, 0, 0, 0, 0, 0, NO, SB , 2, 0.3, 5.2, 0, 0, 0, 0, 0, 0, 0, 0
   46, DBUSER    , PILA              , CC, 0, 0, 0, 0, 0, 0, YES, STRK, 2, 1.5, 12, 0, 0, 0, 0, 0, 0, 0, 0
   64, DBUSER    , DIAG_CORR 2L80x8d15, CC, 0, 0, 0, 0, 0, 0, YES, 2L , 2, 0.08, 0.08, 0.008, 0.008, 0.015,
0, 0, 0, 0, 0
   65, DBUSER    , HINF_PILE 2L100x10d20, CC, 0, 0, 0, 0, 0, 0, YES, 2L , 2, 0.1, 0.1, 0.01, 0.01, 0.02, 0,
0, 0, 0, 0


*REBAR-PSC    ; Reinforcement of Section
   SECT=1, YES, NO, NO
         NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
         I, P16, 16, 0, 0, 0, 0.05, 0.2, 2
         I, P16, 16, 0, 0, 0, 0.22, 0.2, 2
         J, P16, 16, 0, 0, 0, 0.05, 0.2, 2
         J, P16, 16, 0, 0, 0, 0.22, 0.2, 2
   SECT=2, YES, NO, NO
         NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
         I, P16, 16, 0, 0, 0, 0.05, 0.2, 2
         I, P16, 16, 0, 0, 0, 0.22, 0.2, 2
         J, P16, 16, 0, 0, 0, 0.05, 0.2, 2
         J, P16, 16, 0, 0, 0, 0.22, 0.2, 2
   SECT=3, YES, NO, NO
         NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
         I, P16, 15, 0, 0, 0, 0.22, 0.2, 2
         I, P16, 15, 0, 0, 0, 0.05, 0.2, 2
         J, P16, 15, 0, 0, 0, 0.22, 0.2, 2
         J, P16, 15, 0, 0, 0, 0.05, 0.2, 2
   SECT=4, YES, NO, NO
         NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
         I, P16, 15, 0, 0, 0, 0.05, 0.2, 2
```

```
        I, P16, 15, 0, 0, 0, 0.22, 0.2, 2
        J, P16, 15, 0, 0, 0, 0.05, 0.2, 2
        J, P16, 15, 0, 0, 0, 0.22, 0.2, 2
   SECT=5, YES, NO, YES
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P20, 32, 0, 0, 0, 0.05, 0.1, 2
        I, P20, 32, 0, 0, 0, 0.22, 0.1, 2
        J, P20, 32, 0, 0, 0, 0.05, 0.1, 2
        J, P20, 32, 0, 0, 0, 0.22, 0.1, 2
   SECT=6, YES, NO, YES
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P20, 32, 0, 0, 0, 0.22, 0.1, 2
        I, P20, 32, 0, 0, 0, 0.05, 0.1, 2
        J, P20, 32, 0, 0, 0, 0.22, 0.1, 2
        J, P20, 32, 0, 0, 0, 0.05, 0.1, 2
   SECT=7, YES, NO, NO
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P20, 16, 0, 0, 0, 0.22, 0.2, 2
        I, P20, 16, 0, 0, 0, 0.05, 0.2, 2
        J, P20, 16, 0, 0, 0, 0.22, 0.2, 2
        J, P20, 16, 0, 0, 0, 0.05, 0.2, 2
   SECT=8, YES, NO, NO
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P16, 16, 0, 0, 0, 0.05, 0.2, 2
        I, P16, 16, 0, 0, 0, 0.22, 0.2, 2
        J, P16, 16, 0, 0, 0, 0.05, 0.2, 2
        J, P16, 16, 0, 0, 0, 0.22, 0.2, 2
   SECT=9, YES, NO, YES
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P20, 29, 0, 0, 0, 0.22, 0.1, 2
        I, P20, 29, 0, 0, 0, 0.05, 0.1, 2
        J, P20, 29, 0, 0, 0, 0.22, 0.1, 2
        J, P20, 29, 0, 0, 0, 0.05, 0.1, 2
   SECT=10, YES, NO, YES
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P20, 29, 0, 0, 0, 0.05, 0.1, 2
        I, P20, 29, 0, 0, 0, 0.22, 0.1, 2
        J, P20, 29, 0, 0, 0, 0.05, 0.1, 2
        J, P20, 29, 0, 0, 0, 0.22, 0.1, 2
   SECT=11, YES, NO, NO
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P20, 16, 0, 0, 0, 0.05, 0.2, 2
        I, P20, 16, 0, 0, 0, 0.22, 0.2, 2
        J, P20, 16, 0, 0, 0, 0.05, 0.2, 2
        J, P20, 16, 0, 0, 0, 0.22, 0.2, 2
   SECT=12, YES, NO, NO
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P20, 15, 0, 0, 0, 0.22, 0.2, 2
        I, P20, 15, 0, 0, 0, 0.05, 0.2, 2
        J, P20, 15, 0, 0, 0, 0.22, 0.2, 2
        J, P20, 15, 0, 0, 0, 0.05, 0.2, 2
   SECT=13, YES, NO, NO
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P16, 15, 0, 0, 0, 0.05, 0.2, 2
        I, P16, 15, 0, 0, 0, 0.22, 0.2, 2
        J, P16, 15, 0, 0, 0, 0.05, 0.2, 2
        J, P16, 15, 0, 0, 0, 0.22, 0.2, 2
   SECT=14, YES, NO, NO
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P20, 15, 0, 0, 0, 0.22, 0.2, 2
        I, P20, 15, 0, 0, 0, 0.05, 0.2, 2
        J, P20, 15, 0, 0, 0, 0.22, 0.2, 2
        J, P20, 15, 0, 0, 0, 0.05, 0.2, 2
   SECT=16, YES, NO, YES
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P20, 32, 0, 0, 0, 0.05, 0.1, 2
        I, P20, 32, 0, 0, 0, 0.22, 0.1, 2
        J, P20, 32, 0, 0, 0, 0.05, 0.1, 2
        J, P20, 32, 0, 0, 0, 0.22, 0.1, 2
   SECT=21, YES, NO, YES
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P20, 29, 0, 0, 0, 0.22, 0.1, 2
        I, P20, 29, 0, 0, 0, 0.05, 0.1, 2
        J, P20, 29, 0, 0, 0, 0.22, 0.1, 2
        J, P20, 29, 0, 0, 0, 0.05, 0.1, 2

*TS-GROUP    ; Tapered Section Group
T3 SX, 310 311,  LINEAR, , , ,  LINEAR, , , , 0
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T3 DX, 314 315,  LINEAR, , , ,  LINEAR, , , , 0
T1 SX, 110 111,  LINEAR, , , ,  LINEAR, , , , 0
T1 DX, 114 115,  LINEAR, , , ,  LINEAR, , , , 0
T2 SX, 210 211,  LINEAR, , , ,  LINEAR, , , , 0
T2 DX, 214 215,  LINEAR, , , ,  LINEAR, , , , 0
T4 SX, 410 411,  LINEAR, , , ,  LINEAR, , , , 0
T4 DX, 414 415,  LINEAR, , , ,  LINEAR, , , , 0
T1 SX 2, 126 127,  LINEAR, , , ,  LINEAR, , , , 0
T1 DX 2, 130 131,  LINEAR, , , ,  LINEAR, , , , 0
T2 SX 2, 226 227,  LINEAR, , , ,  LINEAR, , , , 0
T2 DX 2, 230 231,  LINEAR, , , ,  LINEAR, , , , 0
T3 SX 2, 326 327,  LINEAR, , , ,  LINEAR, , , , 0
T3 DX 2, 330 331,  LINEAR, , , ,  LINEAR, , , , 0
T4 SX 2, 426 427,  LINEAR, , , ,  LINEAR, , , , 0
T4 DX 2, 430 431,  LINEAR, , , ,  LINEAR, , , , 0

*STLDCASE    ; Static Load Cases
   Peso acciaio e pile, D ,
   Peso soletta, D ,
   Finiture, DW,
   Vento strutture (Y+), W ,
   Vento mobili (Y+), WL,
   Frenamento (X+), BRK,
   Termico Unif. +15°, T ,
   Termico diff. +5°/H, TPG,


*DGN-CTRL    ; General Design Data
   NO, NO, YES, , , , , , 0, 3D, YES, NO, NO, 0, 1, NO, 2

*DGN-STEEL    ; Steel Design Code
   CODE=Eurocode3-2:05, NO, 0
   1.05, 1.1, 1.25, 0, 0

*CONSTRAINT    ; Supports
   1 2 883 884, 111111, SUPPORTI

*ELASTICLINK
   185,    77,    159, GEN  ,     0, 767676, 1302, 1302, 1, 1, 1, NO, 0.5, 0.5, APPOGGI SPALLE
   186,    79,    161, GEN  ,     0, 767676, 1302, 1302, 1, 1, 1, NO, 0.5, 0.5, APPOGGI SPALLE
   187,    81,    163, GEN  ,     0, 767676, 1302, 1302, 1, 1, 1, NO, 0.5, 0.5, APPOGGI SPALLE
   188,    83,    165, GEN  ,     0, 767676, 1302, 1302, 1, 1, 1, NO, 0.5, 0.5, APPOGGI SPALLE
   190,    78,    160, GEN  ,     0, 767676, 1302, 1302, 1, 1, 1, NO, 0.5, 0.5, APPOGGI SPALLE
   191,    80,    162, GEN  ,     0, 767676, 1302, 1302, 1, 1, 1, NO, 0.5, 0.5, APPOGGI SPALLE
   192,    82,    164, GEN  ,     0, 767676, 1302, 1302, 1, 1, 1, NO, 0.5, 0.5, APPOGGI SPALLE
   193,    84,    166, GEN  ,     0, 767676, 1302, 1302, 1, 1, 1, NO, 0.5, 0.5, APPOGGI SPALLE
   195,    21,     31, GEN  ,     0, 1.79446e+006, 2855, 2855, 1, 1, 1, NO, 0.5, 0.5, APPOGGI PILE
   196,    23,     33, GEN  ,     0, 1.79446e+006, 2855, 2855, 1, 1, 1, NO, 0.5, 0.5, APPOGGI PILE
   197,   885,     35, GEN  ,     0, 1.79446e+006, 2855, 2855, 1, 1, 1, NO, 0.5, 0.5, APPOGGI PILE
   198,    27,     37, GEN  ,     0, 1.79446e+006, 2855, 2855, 1, 1, 1, NO, 0.5, 0.5, APPOGGI PILE
   200,    22,     32, GEN  ,     0, 1.79446e+006, 2855, 2855, 1, 1, 1, NO, 0.5, 0.5, APPOGGI PILE
   201,    24,     34, GEN  ,     0, 1.79446e+006, 2855, 2855, 1, 1, 1, NO, 0.5, 0.5, APPOGGI PILE
   202,   886,     36, GEN  ,     0, 1.79446e+006, 2855, 2855, 1, 1, 1, NO, 0.5, 0.5, APPOGGI PILE
   203,    28,     38, GEN  ,     0, 1.79446e+006, 2855, 2855, 1, 1, 1, NO, 0.5, 0.5, APPOGGI PILE

*MEMBERTYPE    ; Modify Member Type
   1014to1019 1022to1027 1030to1035 1038to1043 1110to1422by8 , BRACE, 0
   1111to1423by8 1112to1424by8 1113to1425by8 1114to1426by8 , BRACE, 0
   1115to1427by8 1430to1514by4 1431to1515by4 1432to1516by4 2001to2003 , BRACE, 0
   2005to2007 2009to2014 2017to2022 2025to2030 2033to2038 2041to2043 , BRACE, 0
   2045to2047 3001to3361by8 3002to3362by8 3003to3363by8 3004to3364by8 , BRACE, 0
   3005to3365by8 3006to3366by8, BRACE, 0

*RIGIDLINK    ; Rigid Link
    25, 111111, 21 23 27 885, RIGID LINK
    26, 111111, 22 24 28 886, RIGID LINK
   720, 111111, 159 177 327 489 609, RIGID LINK
   721, 111111, 178 328 490 610, RIGID LINK
   723, 111111, 179 329 491 611, RIGID LINK
   724, 111111, 180 330 492 612, RIGID LINK
   726, 111111, 181 331 493 613, RIGID LINK
   727, 111111, 182 332 494 614, RIGID LINK
   729, 111111, 87 107 495 615, RIGID LINK
   731, 111111, 31 41 51 496, RIGID LINK
   733, 111111, 88 108 497 616, RIGID LINK
   735, 111111, 183 333 498 617, RIGID LINK
   736, 111111, 184 334 499 618, RIGID LINK
   738, 111111, 185 335 500 619, RIGID LINK
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740, 111111, 186 336 501 620, RIGID LINK
742, 111111, 187 337 502 621, RIGID LINK
743, 111111, 188 338 503 622, RIGID LINK
745, 111111, 89 109 504 623, RIGID LINK
747, 111111, 32 42 52 505, RIGID LINK
749, 111111, 90 110 506 624, RIGID LINK
751, 111111, 189 339 507 625, RIGID LINK
752, 111111, 190 340 508 626, RIGID LINK
754, 111111, 191 341 509 627, RIGID LINK
755, 111111, 192 342 510 628, RIGID LINK
757, 111111, 193 343 511 629, RIGID LINK
758, 111111, 160 194 344 512 630, RIGID LINK
761, 111111, 161 210 363 513 631, RIGID LINK
762, 111111, 211 364 514 632, RIGID LINK
764, 111111, 212 365 515 633, RIGID LINK
765, 111111, 213 366 516 634, RIGID LINK
767, 111111, 214 367 517 635, RIGID LINK
768, 111111, 215 368 518 636, RIGID LINK
770, 111111, 91 115 519 637, RIGID LINK
772, 111111, 33 43 53 520, RIGID LINK
774, 111111, 92 116 521 638, RIGID LINK
776, 111111, 216 369 522 639, RIGID LINK
777, 111111, 217 370 523 640, RIGID LINK
779, 111111, 218 371 524 641, RIGID LINK
781, 111111, 219 372 525 642, RIGID LINK
783, 111111, 220 373 526 643, RIGID LINK
784, 111111, 221 374 527 644, RIGID LINK
786, 111111, 93 117 528 645, RIGID LINK
788, 111111, 34 44 54 529, RIGID LINK
790, 111111, 94 118 530 646, RIGID LINK
792, 111111, 222 375 531 647, RIGID LINK
793, 111111, 223 376 532 648, RIGID LINK
795, 111111, 224 377 533 649, RIGID LINK
796, 111111, 225 378 534 650, RIGID LINK
798, 111111, 226 379 535 651, RIGID LINK
799, 111111, 162 227 380 536 652, RIGID LINK
802, 111111, 163 243 399 537 653, RIGID LINK
803, 111111, 244 400 538 654, RIGID LINK
805, 111111, 245 401 539 655, RIGID LINK
806, 111111, 246 402 540 656, RIGID LINK
808, 111111, 247 403 541 657, RIGID LINK
809, 111111, 248 404 542 658, RIGID LINK
811, 111111, 95 123 543 659, RIGID LINK
813, 111111, 35 45 55 544, RIGID LINK
815, 111111, 96 124 545 660, RIGID LINK
817, 111111, 249 405 546 661, RIGID LINK
818, 111111, 250 406 547 662, RIGID LINK
820, 111111, 251 407 548 663, RIGID LINK
822, 111111, 252 408 549 664, RIGID LINK
824, 111111, 253 409 550 665, RIGID LINK
825, 111111, 254 410 551 666, RIGID LINK
827, 111111, 97 125 552 667, RIGID LINK
829, 111111, 36 46 56 553, RIGID LINK
831, 111111, 98 126 554 668, RIGID LINK
833, 111111, 255 411 555 669, RIGID LINK
834, 111111, 256 412 556 670, RIGID LINK
836, 111111, 257 413 557 671, RIGID LINK
837, 111111, 258 414 558 672, RIGID LINK
839, 111111, 259 415 559 673, RIGID LINK
840, 111111, 164 260 416 560 674, RIGID LINK
843, 111111, 165 276 435 561 675, RIGID LINK
844, 111111, 277 436 562 676, RIGID LINK
846, 111111, 278 437 563 677, RIGID LINK
847, 111111, 279 438 564 678, RIGID LINK
849, 111111, 280 439 565 679, RIGID LINK
850, 111111, 281 440 566 680, RIGID LINK
852, 111111, 99 131 567 681, RIGID LINK
854, 111111, 37 47 57 568, RIGID LINK
856, 111111, 100 132 569 682, RIGID LINK
858, 111111, 282 441 570 683, RIGID LINK
859, 111111, 283 442 571 684, RIGID LINK
861, 111111, 284 443 572 685, RIGID LINK
863, 111111, 285 444 573 686, RIGID LINK
865, 111111, 286 445 574 687, RIGID LINK
866, 111111, 287 446 575 688, RIGID LINK
868, 111111, 101 133 576 689, RIGID LINK
870, 111111, 38 48 58 577, RIGID LINK
872, 111111, 102 134 578 690, RIGID LINK
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   874, 111111, 288 447 579 691, RIGID LINK
   875, 111111, 289 448 580 692, RIGID LINK
   877, 111111, 290 449 581 693, RIGID LINK
   878, 111111, 291 450 582 694, RIGID LINK
   880, 111111, 292 451 583 695, RIGID LINK
   881, 111111, 166 293 452 584 696, RIGID LINK
   883, 111111, 77to83by2, RIGID LINK
   884, 111111, 78to84by2, RIGID LINK

*LOADTOMASS, XYZ, YES, YES, YES, YES, 9.806
   Peso soletta, 1, Finiture, 1

*USE-STLD, Peso acciaio e pile

*SELFWEIGHT, 0, 0, -1, PESO ACCIAIO E PILE

; End of data for load case [Peso acciaio e pile] -------------------------

*USE-STLD, Peso soletta

*BEAMLOAD    ; Element Beam Loads
   101, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   102, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   103, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   104, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   105, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   106, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   107, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   108, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   109, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   110, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   111, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   112, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   113, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   114, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   115, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   116, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   117, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   118, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   119, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   120, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   121, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   122, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   123, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   124, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   125, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   126, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   127, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   128, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   129, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
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, NO
   130, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   131, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   132, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   133, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   134, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   135, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   136, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   137, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   138, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   139, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   140, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   201, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   202, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   203, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   204, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   205, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   206, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   207, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   208, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   209, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   210, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   211, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   212, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   213, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   214, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   215, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   216, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   217, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   218, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   219, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
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, NO
   221, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   222, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   223, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   224, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
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, NO
   226, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   227, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   228, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
```

```
, NO
  229, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  230, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  231, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  232, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  233, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  234, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  235, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  236, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  237, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  238, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  239, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  240, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  301, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  302, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  303, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  304, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  305, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  306, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  307, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  308, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  309, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  310, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  311, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  312, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  313, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  314, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  315, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  316, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  317, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  318, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  319, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  320, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  321, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  322, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  323, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  324, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  325, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  326, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
  327, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
```

```
, NO
   328, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   329, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   330, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   331, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   332, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   333, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   334, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   335, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   336, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   337, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   338, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   339, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   340, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -30.4, 1, -30.4, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   401, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   402, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   403, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   404, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   405, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   406, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   407, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   408, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   409, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   410, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   411, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   412, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   413, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   414, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   415, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   416, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   417, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   418, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   419, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   420, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   421, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
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   422, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   423, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   424, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   425, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   426, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
```

```
, NO
   427, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   428, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   429, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   430, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   431, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   432, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   433, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   434, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   435, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   436, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   437, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   438, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   439, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO
   440, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -27.6, 1, -27.6, 0, 0, 0, 0, PESO SOLETTA, NO, 0, 0
, NO

; End of data for load case [Peso soletta] -------------------------

*USE-STLD, Finiture

*BEAMLOAD    ; Element Beam Loads
   101, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, -0.57, -0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINI
TURE, NO, 0, 0, NO
   102, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, -0.57, -0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINI
TURE, NO, 0, 0, NO
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TURE, NO, 0, 0, NO
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RE, NO, 0, 0, NO
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RE, NO, 0, 0, NO
   405, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   406, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   407, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   408, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   409, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   410, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   411, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   412, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   413, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   414, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   415, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   416, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   417, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   418, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   419, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   420, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
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RE, NO, 0, 0, NO
   421, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   422, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   423, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   424, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   425, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   426, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   427, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   428, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   429, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   430, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   431, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   432, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   433, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   434, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   435, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   436, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   437, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   438, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   439, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO
   440, BEAM   , UNILOAD, GZ, NO , YES, 1, LY, 0.57, 0.57, NO, 0, -14.31, 1, -14.31, 0, 0, 0, 0, PESO FINITU
RE, NO, 0, 0, NO

; End of data for load case [Finiture] -------------------------

*USE-STLD, Vento strutture (Y+)

*BEAMLOAD    ; Element Beam Loads
   101, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   102, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   103, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   104, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   105, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   106, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   107, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   108, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   109, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   110, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.51, YES, 0, 3.03, 1, 3.71, 0, 0, 0, 0, , NO, 0, 0,
NO
   111, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.51, -0.76, YES, 0, 3.71, 1, 4.38, 0, 0, 0, 0, , NO, 0, 0,
NO
   112, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.76, -0.76, NO, 0, 4.38, 1, 4.38, 0, 0, 0, 0, , NO, 0, 0, N
O
   113, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.76, -0.76, NO, 0, 4.38, 1, 4.38, 0, 0, 0, 0, , NO, 0, 0, N
O
   114, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.76, -0.51, YES, 0, 4.38, 1, 3.71, 0, 0, 0, 0, , NO, 0, 0,
NO
   115, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.51, -0.25, YES, 0, 3.71, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0,
NO
   116, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
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O
   117, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   118, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   119, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   120, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   121, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   122, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   123, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   124, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   125, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   126, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.51, YES, 0, 3.03, 1, 3.71, 0, 0, 0, 0, , NO, 0, 0,
NO
   127, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.51, -0.76, YES, 0, 3.71, 1, 4.38, 0, 0, 0, 0, , NO, 0, 0,
NO
   128, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.76, -0.76, NO, 0, 4.38, 1, 4.38, 0, 0, 0, 0, , NO, 0, 0, N
O
   129, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.76, -0.76, NO, 0, 4.38, 1, 4.38, 0, 0, 0, 0, , NO, 0, 0, N
O
   130, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.76, -0.51, YES, 0, 4.38, 1, 3.71, 0, 0, 0, 0, , NO, 0, 0,
NO
   131, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.51, -0.25, YES, 0, 3.71, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0,
NO
   132, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   133, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   134, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   135, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   136, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   137, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   138, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   139, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   140, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, -0.25, -0.25, NO, 0, 3.03, 1, 3.03, 0, 0, 0, 0, , NO, 0, 0, N
O
   401, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   402, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   403, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   404, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   405, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   406, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   407, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   408, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   409, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   410, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.2, YES, 0, 2.69, 1, 2.35, 0, 0, 0, 0, , NO, 0, 0, NO
   411, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.2, 0.29, YES, 0, 2.35, 1, 2.01, 0, 0, 0, 0, , NO, 0, 0, NO
   412, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.29, 0.29, NO, 0, 2.01, 1, 2.01, 0, 0, 0, 0, , NO, 0, 0, NO
   413, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.29, 0.29, NO, 0, 2.01, 1, 2.01, 0, 0, 0, 0, , NO, 0, 0, NO
   414, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.29, 0.2, YES, 0, 2.01, 1, 2.35, 0, 0, 0, 0, , NO, 0, 0, NO
   415, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.2, 0.11, YES, 0, 2.35, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   416, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   417, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   418, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   419, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   420, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   421, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   422, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   423, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   424, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   425, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   426, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.2, YES, 0, 2.69, 1, 2.35, 0, 0, 0, 0, , NO, 0, 0, NO
   427, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.2, 0.29, YES, 0, 2.35, 1, 2.01, 0, 0, 0, 0, , NO, 0, 0, NO
   428, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.29, 0.29, NO, 0, 2.01, 1, 2.01, 0, 0, 0, 0, , NO, 0, 0, NO
   429, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.29, 0.29, NO, 0, 2.01, 1, 2.01, 0, 0, 0, 0, , NO, 0, 0, NO
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   430, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.29, 0.2, YES, 0, 2.01, 1, 2.35, 0, 0, 0, 0, , NO, 0, 0, NO
   431, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.2, 0.11, YES, 0, 2.35, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   432, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   433, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   434, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   435, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   436, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   437, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   438, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   439, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
   440, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 0.11, 0.11, NO, 0, 2.69, 1, 2.69, 0, 0, 0, 0, , NO, 0, 0, NO
  4001, BEAM   , UNILOAD, GY, NO , NO, aDir[1], , , , 0, 1.74, 1, 1.74, 0, 0, 0, 0, , NO, 0, 0, NO
  4002, BEAM   , UNILOAD, GY, NO , NO, aDir[1], , , , 0, 1.74, 1, 1.74, 0, 0, 0, 0, , NO, 0, 0, NO
  4003, BEAM   , UNILOAD, GY, NO , NO, aDir[1], , , , 7.93016e-016, 1.74, 1, 1.74, 0, 0, 0, 0, , NO, 0, 0, N
O
  4004, BEAM   , UNILOAD, GY, NO , NO, aDir[1], , , , 1.98254e-015, 1.74, 1, 1.74, 0, 0, 0, 0, , NO, 0, 0, N
O
  4005, BEAM   , UNILOAD, GY, NO , NO, aDir[1], , , , 0, 1.74, 1, 1.74, 0, 0, 0, 0, , NO, 0, 0, NO
  4006, BEAM   , UNILOAD, GY, NO , NO, aDir[1], , , , 0, 1.74, 1, 1.74, 0, 0, 0, 0, , NO, 0, 0, NO
  4007, BEAM   , UNILOAD, GY, NO , NO, aDir[1], , , , 7.93016e-016, 1.74, 1, 1.74, 0, 0, 0, 0, , NO, 0, 0, N
O
  4008, BEAM   , UNILOAD, GY, NO , NO, aDir[1], , , , 0, 1.74, 1, 1.74, 0, 0, 0, 0, , NO, 0, 0, NO
  4009, BEAM   , UNILOAD, GY, NO , NO, aDir[1], , , , 3.96508e-016, 1.74, 1, 1.74, 0, 0, 0, 0, , NO, 0, 0, N
O
  4010, BEAM   , UNILOAD, GY, NO , NO, aDir[1], , , , 0, 1.74, 1, 1.74, 0, 0, 0, 0, , NO, 0, 0, NO
  4011, BEAM   , UNILOAD, GY, NO , NO, aDir[1], , , , 0, 1.74, 1, 1.74, 0, 0, 0, 0, , NO, 0, 0, NO
  4012, BEAM   , UNILOAD, GY, NO , NO, aDir[1], , , , 1.08845e-015, 1.74, 1, 1.74, 0, 0, 0, 0, , NO, 0, 0, N
O
  4013, BEAM   , UNILOAD, GY, NO , NO, aDir[1], , , , 0, 1.74, 1, 1.74, 0, 0, 0, 0, , NO, 0, 0, NO
  4014, BEAM   , UNILOAD, GY, NO , NO, aDir[1], , , , 8.70763e-016, 1.74, 1, 1.74, 0, 0, 0, 0, , NO, 0, 0, N
O
  4015, BEAM   , UNILOAD, GY, NO , NO, aDir[1], , , , 0, 1.74, 1, 1.74, 0, 0, 0, 0, , NO, 0, 0, NO
  4016, BEAM   , UNILOAD, GY, NO , NO, aDir[1], , , , 0, 1.74, 1, 1.74, 0, 0, 0, 0, , NO, 0, 0, NO
  4017, BEAM   , UNILOAD, GY, NO , NO, aDir[1], , , , 8.70763e-016, 1.74, 1, 1.74, 0, 0, 0, 0, , NO, 0, 0, N
O
  4018, BEAM   , UNILOAD, GY, NO , NO, aDir[1], , , , 0, 1.74, 1, 1.74, 0, 0, 0, 0, , NO, 0, 0, NO
  4019, BEAM   , UNILOAD, GY, NO , NO, aDir[1], , , , 0, 1.74, 1, 1.74, 0, 0, 0, 0, , NO, 0, 0, NO
  4020, BEAM   , UNILOAD, GY, NO , NO, aDir[1], , , , 0, 1.74, 1, 1.74, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [Vento strutture (Y+)] -------------------------

*USE-STLD, Vento mobili (Y+)

*BEAMLOAD    ; Element Beam Loads
   101, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   102, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   103, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   104, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   105, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   106, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   107, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   108, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   109, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   110, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   111, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   112, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   113, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   114, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   115, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   116, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   117, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   118, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   119, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   120, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   121, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   122, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   123, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   124, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   125, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   126, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   127, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   128, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   129, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   130, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   131, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   132, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   133, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   134, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
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   135, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   136, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   137, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   138, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   139, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO
   140, BEAM   , UNILOAD, GY, NO , YES, 1, LZ, 2, 2, NO, 0, 2.32, 1, 2.32, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [Vento mobili (Y+)] -------------------------

*USE-STLD, Frenamento (X+)

*BEAMLOAD    ; Element Beam Loads
   101, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   102, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   103, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   104, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   105, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   106, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   107, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   108, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   109, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   110, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   111, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   112, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   113, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   114, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   115, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   116, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   117, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   118, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   119, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   120, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   121, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   122, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   123, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   124, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   125, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   126, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   127, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   128, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   129, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   130, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   131, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   132, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   133, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   134, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   135, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   136, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   137, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   138, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   139, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   140, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   201, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   202, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   203, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   204, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   205, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   206, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   207, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   208, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   209, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   210, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   211, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   212, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   213, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   214, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   215, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   216, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   217, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   218, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   219, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   220, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   221, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   222, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   223, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   224, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   225, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
   226, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
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 227, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
 228, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
 229, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
 230, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
 231, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
 232, BEAM   , UNILOAD, GX, NO , YES, 1, LZ, 0, 0, NO, 0, 1.56, 1, 1.56, 0, 0, 0, 0, , NO, 0, 0, NO
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; End of data for load case [Frenamento (X+)] -------------------------

*USE-STLD, Termico Unif. +15°

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; End of data for load case [Termico Unif. +15°] -------------------------

*USE-STLD, Termico diff. +5°/H

*THERGRAD    ; Temperature Gradient
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   127, 1, 5, YES, 0, 0, YES, 0,
   128, 1, 5, YES, 0, 0, YES, 0,
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   439, 1, 5, YES, 0, 0, YES, 0,
   440, 1, 5, YES, 0, 0, YES, 0,

; End of data for load case [Termico diff. +5°/H] -------------------------

*STAGE    ; Define Construction Stage
  NAME=Costruzione, 30, YES, NO
  STEP=3, 10
  AELEM=TRAVI PRINCIPALI, 1, TRASVERSI INTERMEDI, 1, TRASVERSI PILE, 1, PILE, 1, NODI, 1
        CONTROVENTI, 1
  ABNDR=RIGID LINK, DEFORMED, APPOGGI SPALLE, DEFORMED, SUPPORTI, DEFORMED
        APPOGGI PILE, DEFORMED
  ALOAD=PESO SOLETTA, LAST, PESO ACCIAIO E PILE, FIRST
  NAME=Esercizio, 10000, YES, NO
  STEP=3, 10, 32, 100, 316, 1000, 3162
  AELEM=SOLETTA FITTIZIA, 1
  ALOAD=PESO FINITURE, FIRST

*SFUNCTION    ; Spectrum Function
   FUNC=SLD Orizz, 1, 0, 1, 9.806, 0.05, , 1.000000
   USER
          0.000000,        0.0694,   0.140770,       0.17635
          0.422320,       0.17635,   0.487220,       0.15287
          0.552110,        0.1349,   0.617000,       0.12071
          0.681890,       0.10922,   0.746790,       0.09973
          0.811680,       0.09176,   0.876570,       0.08497
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        0.941460,       0.07911,   1.006350,       0.07401
        1.071250,       0.06953,   1.136140,       0.06555
        1.201030,       0.06201,   1.213600,       0.06137
        1.214600,       0.05007,   1.265920,       0.04804
        1.330820,        0.0457,   1.395710,       0.04357
        1.460600,       0.04163,   1.525490,       0.03986
        1.590380,       0.03824,   1.655280,       0.03674
        1.720170,       0.03535,   1.785060,       0.03407
        1.890530,       0.03037,   1.996010,       0.02725
        2.101480,       0.02458,   2.206950,       0.02229
        2.312430,        0.0203,   2.417900,       0.01857
        2.523370,       0.01705,   2.628850,       0.01571
        2.734320,       0.01452,   2.839790,       0.01346
        2.945270,       0.01251,   3.050740,       0.01166
        3.156210,        0.0109,   3.261690,        0.0102
        3.367160,       0.00957,   3.472630,         0.009
        3.578110,       0.00848,   3.683580,         0.008
        3.789050,       0.00756,   3.894530,       0.00716
        4.000000,       0.00678
   FUNC=SLD Vert, 1, 0, 1, 9.806, 0.05, , 1.000000
   USER
        0.000000,       0.01343,   0.050000,       0.03414
        0.150000,       0.03414,   0.235000,       0.02179
        0.320000,         0.016,   0.405000,       0.01264
        0.490000,       0.01045,   0.575000,       0.00891
        0.660000,       0.00776,   0.745000,       0.00687
        0.830000,       0.00617,   0.915000,        0.0056
        1.000000,       0.00512,   1.094000,       0.00428
        1.188000,       0.00363,   1.281000,       0.00312
        1.375000,       0.00271,   1.469000,       0.00237
        1.563000,        0.0021,   1.656000,       0.00187
        1.750000,       0.00167,   1.844000,       0.00151
        1.938000,       0.00136,   2.031000,       0.00124
        2.125000,       0.00113,   2.219000,       0.00104
        2.313000,       0.00096,   2.406000,       0.00088
        2.500000,       0.00082,   2.594000,       0.00076
        2.688000,       0.00071,   2.781000,       0.00066
        2.875000,       0.00062,   2.969000,       0.00058
        3.063000,       0.00055,   3.156000,       0.00051
        3.250000,       0.00048,   3.344000,       0.00046
        3.438000,       0.00043,   3.531000,       0.00041
        3.625000,       0.00039,   3.719000,       0.00037
        3.813000,       0.00035,   3.906000,       0.00034
        4.000000,       0.00032
   FUNC=SLV Orizz, 1, 0, 1, 9.806, 0.05, , 1.000000
   USER
        0.000000,        0.1516,   0.155370,       0.38525
        0.466100,       0.38525,   0.539350,       0.33293
        0.612600,       0.29312,   0.685840,       0.26182
        0.759090,       0.23655,   0.832330,       0.21574
        0.905580,       0.19829,   0.978820,       0.18345
        1.052070,       0.17068,   1.125320,       0.15957
        1.198560,       0.14982,   1.213600,       0.14796
        1.214600,       0.12071,   1.271810,       0.11528
        1.345050,         0.109,   1.418300,       0.10337
        1.491540,        0.0983,   1.564790,        0.0937
        1.638040,       0.08951,   1.711280,       0.08567
        1.784530,       0.08216,   1.857770,       0.07892
        1.931020,       0.07593,   2.004260,       0.07315
        2.099300,       0.06668,   2.194330,       0.06103
        2.289370,       0.05607,   2.384400,       0.05169
        2.479440,        0.0478,   2.574470,       0.04434
        2.669510,       0.04124,   2.764540,       0.03845
        2.859580,       0.03594,   2.954610,       0.03366
        3.049650,        0.0316,   3.144680,       0.02972
        3.239720,         0.028,   3.334750,       0.02642
        3.429790,       0.02498,   3.524820,       0.02365
        3.619860,       0.02243,   3.714890,       0.02129
        3.809930,       0.02024,   3.904960,       0.01927
        4.000000,       0.01837
   FUNC=SLV Vert, 1, 0, 1, 9.806, 0.05, , 1.000000
   USER
        0.000000,       0.04338,   0.050000,       0.11023
        0.150000,       0.11023,   0.235000,       0.07036
        0.320000,       0.05167,   0.405000,       0.04082
        0.490000,       0.03374,   0.575000,       0.02875
        0.660000,       0.02505,   0.745000,       0.02219
        0.830000,       0.01992,   0.915000,       0.01807
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        1.000000,       0.01653,   1.094000,       0.01382
        1.188000,       0.01172,   1.281000,       0.01007
        1.375000,       0.00875,   1.469000,       0.00766
        1.563000,       0.00677,   1.656000,       0.00603
        1.750000,        0.0054,   1.844000,       0.00486
        1.938000,        0.0044,   2.031000,       0.00401
        2.125000,       0.00366,   2.219000,       0.00336
        2.313000,       0.00309,   2.406000,       0.00286
        2.500000,       0.00265,   2.594000,       0.00246
        2.688000,       0.00229,   2.781000,       0.00214
        2.875000,         0.002,   2.969000,       0.00188
        3.063000,       0.00176,   3.156000,       0.00166
        3.250000,       0.00157,   3.344000,       0.00148
        3.438000,        0.0014,   3.531000,       0.00133
        3.625000,       0.00126,   3.719000,        0.0012
        3.813000,       0.00114,   3.906000,       0.00108
        4.000000,       0.00103
   FUNC=SLC Orizz, 1, 0, 1, 9.806, 0.05, , 1.000000
   USER
        0.000000,       0.19241,   0.158030,       0.48639
        0.474100,       0.48639,   0.552150,       0.41764
        0.630200,       0.36592,   0.708240,       0.32559
        0.786290,       0.29327,   0.864340,       0.26679
        0.942390,        0.2447,   1.020440,       0.22598
        1.098480,       0.20992,   1.176530,         0.196
        1.213600,       0.19001,   1.214600,       0.15502
        1.254580,       0.15008,   1.332630,       0.14129
        1.410670,       0.13347,   1.488720,       0.12647
        1.566770,       0.12017,   1.644820,       0.11447
        1.722870,       0.10928,   1.800910,       0.10455
        1.878960,       0.10021,   1.957010,       0.09621
        2.035060,       0.09252,   2.113100,        0.0891
        2.202960,       0.08198,   2.292810,       0.07568
        2.382660,       0.07008,   2.472510,       0.06508
        2.562360,        0.0606,   2.652220,       0.05656
        2.742070,       0.05291,   2.831920,       0.04961
        2.921770,       0.04661,   3.011630,       0.04387
        3.101480,       0.04136,   3.191330,       0.03907
        3.281180,       0.03695,   3.371030,       0.03501
        3.460890,       0.03322,   3.550740,       0.03156
        3.640590,       0.03002,   3.730440,       0.02859
        3.820300,       0.02726,   3.910150,       0.02602
        4.000000,       0.02487
   FUNC=SLC Vert, 1, 0, 1, 9.806, 0.05, , 1.000000
   USER
        0.000000,       0.06202,   0.050000,       0.15678
        0.150000,       0.15678,   0.235000,       0.10007
        0.320000,       0.07349,   0.405000,       0.05807
        0.490000,       0.04799,   0.575000,        0.0409
        0.660000,       0.03563,   0.745000,       0.03157
        0.830000,       0.02833,   0.915000,        0.0257
        1.000000,       0.02352,   1.094000,       0.01966
        1.188000,       0.01668,   1.281000,       0.01433
        1.375000,       0.01244,   1.469000,        0.0109
        1.563000,       0.00963,   1.656000,       0.00857
        1.750000,       0.00768,   1.844000,       0.00692
        1.938000,       0.00626,   2.031000,        0.0057
        2.125000,       0.00521,   2.219000,       0.00478
        2.313000,        0.0044,   2.406000,       0.00406
        2.500000,       0.00376,   2.594000,        0.0035
        2.688000,       0.00326,   2.781000,       0.00304
        2.875000,       0.00285,   2.969000,       0.00267
        3.063000,       0.00251,   3.156000,       0.00236
        3.250000,       0.00223,   3.344000,        0.0021
        3.438000,       0.00199,   3.531000,       0.00189
        3.625000,       0.00179,   3.719000,        0.0017
        3.813000,       0.00162,   3.906000,       0.00154
        4.000000,       0.00147

*SPLDCASE    ; Spectrum Load Cases
   NAME=SLD Long (X+), XY, 0, 1, 1, NO, NO, LOG,
        CQC, YES, 0, NO
        SLD Orizz
   NAME=SLD Trasv (Y+), XY, 90, 1, 1, NO, NO, LOG,
        CQC, YES, 0, NO
        SLD Orizz
   NAME=SLD Vert (Z+), Z, 0, 1, 1, NO, NO, LOG,
        CQC, YES, 0, NO
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      SLD Vert
   NAME=SLV Long (X+), XY, 0, 1, 1, NO, NO, LOG,
      CQC, YES, 0, NO
      SLV Orizz
   NAME=SLV Trasv (Y+), XY, 90, 1, 1, NO, NO, LOG,
      CQC, YES, 0, NO
      SLV Orizz
   NAME=SLV Vert (Z+), Z, 0, 1, 1, NO, NO, LOG,
      CQC, YES, 0, NO
      SLV Vert
   NAME=SLC Long (X+), XY, 0, 1, 1, NO, NO, LOG,
      CQC, YES, 0, NO
      SLC Orizz
   NAME=SLC Trasv (Y+), XY, 90, 1, 1, NO, NO, LOG,
      CQC, YES, 0, NO
      SLC Orizz
   NAME=SLC Vert (Z+), Z, 0, 1, 1, NO, NO, LOG,
      CQC, YES, 0, NO
      SLC Vert

*MVLDCODE    ; Moving Load Code
   CODE=EUROCODE

*LINELANE    ; Traffic Line Lanes
   NAME=C. LENTA DX, LANE, , 0, 0, BOTH, 3, 2
        201, 0.15, 0, NO, 0,   202, 0.15, 0, NO, 0,   203, 0.15, 0, NO, 0
        204, 0.15, 0, NO, 0,   205, 0.15, 0, NO, 0,   206, 0.15, 0, NO, 0
        207, 0.15, 0, NO, 0,   208, 0.15, 0, NO, 0,   209, 0.15, 0, NO, 0
        210, 0.15, 0, NO, 0,   211, 0.15, 0, NO, 0,   212, 0.15, 0, NO, 0
        213, 0.15, 0, NO, 0,   214, 0.15, 0, NO, 0,   215, 0.15, 0, NO, 0
        216, 0.15, 0, NO, 0,   217, 0.15, 0, NO, 0,   218, 0.15, 0, NO, 0
        219, 0.15, 0, NO, 0,   220, 0.15, 0, NO, 0,   221, 0.15, 0, NO, 0
        222, 0.15, 0, NO, 0,   223, 0.15, 0, NO, 0,   224, 0.15, 0, NO, 0
        225, 0.15, 0, NO, 0,   226, 0.15, 0, NO, 0,   227, 0.15, 0, NO, 0
        228, 0.15, 0, NO, 0,   229, 0.15, 0, NO, 0,   230, 0.15, 0, NO, 0
        231, 0.15, 0, NO, 0,   232, 0.15, 0, NO, 0,   233, 0.15, 0, NO, 0
        234, 0.15, 0, NO, 0,   235, 0.15, 0, NO, 0,   236, 0.15, 0, NO, 0
        237, 0.15, 0, NO, 0,   238, 0.15, 0, NO, 0,   239, 0.15, 0, NO, 0
        240, 0.15, 0, NO, 0
   NAME=C.LENTA SX, LANE, , 0, 0, BOTH, 3, 2
        301, -0.15, 0, NO, 0,   302, -0.15, 0, NO, 0,   303, -0.15, 0, NO, 0
        304, -0.15, 0, NO, 0,   305, -0.15, 0, NO, 0,   306, -0.15, 0, NO, 0
        307, -0.15, 0, NO, 0,   308, -0.15, 0, NO, 0,   309, -0.15, 0, NO, 0
        310, -0.15, 0, NO, 0,   311, -0.15, 0, NO, 0,   312, -0.15, 0, NO, 0
        313, -0.15, 0, NO, 0,   314, -0.15, 0, NO, 0,   315, -0.15, 0, NO, 0
        316, -0.15, 0, NO, 0,   317, -0.15, 0, NO, 0,   318, -0.15, 0, NO, 0
        319, -0.15, 0, NO, 0,   320, -0.15, 0, NO, 0,   321, -0.15, 0, NO, 0
        322, -0.15, 0, NO, 0,   323, -0.15, 0, NO, 0,   324, -0.15, 0, NO, 0
        325, -0.15, 0, NO, 0,   326, -0.15, 0, NO, 0,   327, -0.15, 0, NO, 0
        328, -0.15, 0, NO, 0,   329, -0.15, 0, NO, 0,   330, -0.15, 0, NO, 0
        331, -0.15, 0, NO, 0,   332, -0.15, 0, NO, 0,   333, -0.15, 0, NO, 0
        334, -0.15, 0, NO, 0,   335, -0.15, 0, NO, 0,   336, -0.15, 0, NO, 0
        337, -0.15, 0, NO, 0,   338, -0.15, 0, NO, 0,   339, -0.15, 0, NO, 0
        340, -0.15, 0, NO, 0
   NAME=DX 1, LANE, , 0, 0, BOTH, 3, 2
        101, -1.55, 0, NO, 0,   102, -1.55, 0, NO, 0,   103, -1.55, 0, NO, 0
        104, -1.55, 0, NO, 0,   105, -1.55, 0, NO, 0,   106, -1.55, 0, NO, 0
        107, -1.55, 0, NO, 0,   108, -1.55, 0, NO, 0,   109, -1.55, 0, NO, 0
        110, -1.55, 0, NO, 0,   111, -1.55, 0, NO, 0,   112, -1.55, 0, NO, 0
        113, -1.55, 0, NO, 0,   114, -1.55, 0, NO, 0,   115, -1.55, 0, NO, 0
        116, -1.55, 0, NO, 0,   117, -1.55, 0, NO, 0,   118, -1.55, 0, NO, 0
        119, -1.55, 0, NO, 0,   120, -1.55, 0, NO, 0,   121, -1.55, 0, NO, 0
        122, -1.55, 0, NO, 0,   123, -1.55, 0, NO, 0,   124, -1.55, 0, NO, 0
        125, -1.55, 0, NO, 0,   126, -1.55, 0, NO, 0,   127, -1.55, 0, NO, 0
        128, -1.55, 0, NO, 0,   129, -1.55, 0, NO, 0,   130, -1.55, 0, NO, 0
        131, -1.55, 0, NO, 0,   132, -1.55, 0, NO, 0,   133, -1.55, 0, NO, 0
        134, -1.55, 0, NO, 0,   135, -1.55, 0, NO, 0,   136, -1.55, 0, NO, 0
        137, -1.55, 0, NO, 0,   138, -1.55, 0, NO, 0,   139, -1.55, 0, NO, 0
        140, -1.55, 0, NO, 0
   NAME=DX 2, LANE, , 0, 0, BOTH, 3, 2
        201, -1.35, 0, NO, 0,   202, -1.35, 0, NO, 0,   203, -1.35, 0, NO, 0
        204, -1.35, 0, NO, 0,   205, -1.35, 0, NO, 0,   206, -1.35, 0, NO, 0
        207, -1.35, 0, NO, 0,   208, -1.35, 0, NO, 0,   209, -1.35, 0, NO, 0
        210, -1.35, 0, NO, 0,   211, -1.35, 0, NO, 0,   212, -1.35, 0, NO, 0
        213, -1.35, 0, NO, 0,   214, -1.35, 0, NO, 0,   215, -1.35, 0, NO, 0
        216, -1.35, 0, NO, 0,   217, -1.35, 0, NO, 0,   218, -1.35, 0, NO, 0
        219, -1.35, 0, NO, 0,   220, -1.35, 0, NO, 0,   221, -1.35, 0, NO, 0
        222, -1.35, 0, NO, 0,   223, -1.35, 0, NO, 0,   224, -1.35, 0, NO, 0
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        225, -1.35, 0, NO, 0,   226, -1.35, 0, NO, 0,   227, -1.35, 0, NO, 0
        228, -1.35, 0, NO, 0,   229, -1.35, 0, NO, 0,   230, -1.35, 0, NO, 0
        231, -1.35, 0, NO, 0,   232, -1.35, 0, NO, 0,   233, -1.35, 0, NO, 0
        234, -1.35, 0, NO, 0,   235, -1.35, 0, NO, 0,   236, -1.35, 0, NO, 0
        237, -1.35, 0, NO, 0,   238, -1.35, 0, NO, 0,   239, -1.35, 0, NO, 0
        240, -1.35, 0, NO, 0
   NAME=DX 3, LANE, , 0, 0, BOTH, 3, 2
        301, -1.15, 0, NO, 0,   302, -1.15, 0, NO, 0,   303, -1.15, 0, NO, 0
        304, -1.15, 0, NO, 0,   305, -1.15, 0, NO, 0,   306, -1.15, 0, NO, 0
        307, -1.15, 0, NO, 0,   308, -1.15, 0, NO, 0,   309, -1.15, 0, NO, 0
        310, -1.15, 0, NO, 0,   311, -1.15, 0, NO, 0,   312, -1.15, 0, NO, 0
        313, -1.15, 0, NO, 0,   314, -1.15, 0, NO, 0,   315, -1.15, 0, NO, 0
        316, -1.15, 0, NO, 0,   317, -1.15, 0, NO, 0,   318, -1.15, 0, NO, 0
        319, -1.15, 0, NO, 0,   320, -1.15, 0, NO, 0,   321, -1.15, 0, NO, 0
        322, -1.15, 0, NO, 0,   323, -1.15, 0, NO, 0,   324, -1.15, 0, NO, 0
        325, -1.15, 0, NO, 0,   326, -1.15, 0, NO, 0,   327, -1.15, 0, NO, 0
        328, -1.15, 0, NO, 0,   329, -1.15, 0, NO, 0,   330, -1.15, 0, NO, 0
        331, -1.15, 0, NO, 0,   332, -1.15, 0, NO, 0,   333, -1.15, 0, NO, 0
        334, -1.15, 0, NO, 0,   335, -1.15, 0, NO, 0,   336, -1.15, 0, NO, 0
        337, -1.15, 0, NO, 0,   338, -1.15, 0, NO, 0,   339, -1.15, 0, NO, 0
        340, -1.15, 0, NO, 0
   NAME=DX RIM, LANE, , 0, 0, BOTH, 0.5, 0
        401, 0.3, 0, NO, 0,   402, 0.3, 0, NO, 0,   403, 0.3, 0, NO, 0
        404, 0.3, 0, NO, 0,   405, 0.3, 0, NO, 0,   406, 0.3, 0, NO, 0
        407, 0.3, 0, NO, 0,   408, 0.3, 0, NO, 0,   409, 0.3, 0, NO, 0
        410, 0.3, 0, NO, 0,   411, 0.3, 0, NO, 0,   412, 0.3, 0, NO, 0
        413, 0.3, 0, NO, 0,   414, 0.3, 0, NO, 0,   415, 0.3, 0, NO, 0
        416, 0.3, 0, NO, 0,   417, 0.3, 0, NO, 0,   418, 0.3, 0, NO, 0
        419, 0.3, 0, NO, 0,   420, 0.3, 0, NO, 0,   421, 0.3, 0, NO, 0
        422, 0.3, 0, NO, 0,   423, 0.3, 0, NO, 0,   424, 0.3, 0, NO, 0
        425, 0.3, 0, NO, 0,   426, 0.3, 0, NO, 0,   427, 0.3, 0, NO, 0
        428, 0.3, 0, NO, 0,   429, 0.3, 0, NO, 0,   430, 0.3, 0, NO, 0
        431, 0.3, 0, NO, 0,   432, 0.3, 0, NO, 0,   433, 0.3, 0, NO, 0
        434, 0.3, 0, NO, 0,   435, 0.3, 0, NO, 0,   436, 0.3, 0, NO, 0
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        440, 0.3, 0, NO, 0
   NAME=MARC DX, LANE, , 0, 0, BOTH, 1.2, 0
        101, 1.05, 0, NO, 0,   102, 1.05, 0, NO, 0,   103, 1.05, 0, NO, 0
        104, 1.05, 0, NO, 0,   105, 1.05, 0, NO, 0,   106, 1.05, 0, NO, 0
        107, 1.05, 0, NO, 0,   108, 1.05, 0, NO, 0,   109, 1.05, 0, NO, 0
        110, 1.05, 0, NO, 0,   111, 1.05, 0, NO, 0,   112, 1.05, 0, NO, 0
        113, 1.05, 0, NO, 0,   114, 1.05, 0, NO, 0,   115, 1.05, 0, NO, 0
        116, 1.05, 0, NO, 0,   117, 1.05, 0, NO, 0,   118, 1.05, 0, NO, 0
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        125, 1.05, 0, NO, 0,   126, 1.05, 0, NO, 0,   127, 1.05, 0, NO, 0
        128, 1.05, 0, NO, 0,   129, 1.05, 0, NO, 0,   130, 1.05, 0, NO, 0
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        137, 1.05, 0, NO, 0,   138, 1.05, 0, NO, 0,   139, 1.05, 0, NO, 0
        140, 1.05, 0, NO, 0
   NAME=MARC SX, LANE, , 0, 0, BOTH, 1.2, 0
        401, -1.05, 0, NO, 0,   402, -1.05, 0, NO, 0,   403, -1.05, 0, NO, 0
        404, -1.05, 0, NO, 0,   405, -1.05, 0, NO, 0,   406, -1.05, 0, NO, 0
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        410, -1.05, 0, NO, 0,   411, -1.05, 0, NO, 0,   412, -1.05, 0, NO, 0
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        416, -1.05, 0, NO, 0,   417, -1.05, 0, NO, 0,   418, -1.05, 0, NO, 0
        419, -1.05, 0, NO, 0,   420, -1.05, 0, NO, 0,   421, -1.05, 0, NO, 0
        422, -1.05, 0, NO, 0,   423, -1.05, 0, NO, 0,   424, -1.05, 0, NO, 0
        425, -1.05, 0, NO, 0,   426, -1.05, 0, NO, 0,   427, -1.05, 0, NO, 0
        428, -1.05, 0, NO, 0,   429, -1.05, 0, NO, 0,   430, -1.05, 0, NO, 0
        431, -1.05, 0, NO, 0,   432, -1.05, 0, NO, 0,   433, -1.05, 0, NO, 0
        434, -1.05, 0, NO, 0,   435, -1.05, 0, NO, 0,   436, -1.05, 0, NO, 0
        437, -1.05, 0, NO, 0,   438, -1.05, 0, NO, 0,   439, -1.05, 0, NO, 0
        440, -1.05, 0, NO, 0
   NAME=SX 1, LANE, , 0, 0, BOTH, 3, 2
        401, 1.55, 0, NO, 0,   402, 1.55, 0, NO, 0,   403, 1.55, 0, NO, 0
        404, 1.55, 0, NO, 0,   405, 1.55, 0, NO, 0,   406, 1.55, 0, NO, 0
        407, 1.55, 0, NO, 0,   408, 1.55, 0, NO, 0,   409, 1.55, 0, NO, 0
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        413, 1.55, 0, NO, 0,   414, 1.55, 0, NO, 0,   415, 1.55, 0, NO, 0
        416, 1.55, 0, NO, 0,   417, 1.55, 0, NO, 0,   418, 1.55, 0, NO, 0
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        431, 1.55, 0, NO, 0,   432, 1.55, 0, NO, 0,   433, 1.55, 0, NO, 0
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        437, 1.55, 0, NO, 0,   438, 1.55, 0, NO, 0,   439, 1.55, 0, NO, 0
        440, 1.55, 0, NO, 0
   NAME=SX 2, LANE, , 0, 0, BOTH, 3, 2
        301, 1.35, 0, NO, 0,   302, 1.35, 0, NO, 0,   303, 1.35, 0, NO, 0
        304, 1.35, 0, NO, 0,   305, 1.35, 0, NO, 0,   306, 1.35, 0, NO, 0
        307, 1.35, 0, NO, 0,   308, 1.35, 0, NO, 0,   309, 1.35, 0, NO, 0
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        313, 1.35, 0, NO, 0,   314, 1.35, 0, NO, 0,   315, 1.35, 0, NO, 0
        316, 1.35, 0, NO, 0,   317, 1.35, 0, NO, 0,   318, 1.35, 0, NO, 0
        319, 1.35, 0, NO, 0,   320, 1.35, 0, NO, 0,   321, 1.35, 0, NO, 0
        322, 1.35, 0, NO, 0,   323, 1.35, 0, NO, 0,   324, 1.35, 0, NO, 0
        325, 1.35, 0, NO, 0,   326, 1.35, 0, NO, 0,   327, 1.35, 0, NO, 0
        328, 1.35, 0, NO, 0,   329, 1.35, 0, NO, 0,   330, 1.35, 0, NO, 0
        331, 1.35, 0, NO, 0,   332, 1.35, 0, NO, 0,   333, 1.35, 0, NO, 0
        334, 1.35, 0, NO, 0,   335, 1.35, 0, NO, 0,   336, 1.35, 0, NO, 0
        337, 1.35, 0, NO, 0,   338, 1.35, 0, NO, 0,   339, 1.35, 0, NO, 0
        340, 1.35, 0, NO, 0
   NAME=SX 3, LANE, , 0, 0, BOTH, 3, 2
        201, 1.15, 0, NO, 0,   202, 1.15, 0, NO, 0,   203, 1.15, 0, NO, 0
        204, 1.15, 0, NO, 0,   205, 1.15, 0, NO, 0,   206, 1.15, 0, NO, 0
        207, 1.15, 0, NO, 0,   208, 1.15, 0, NO, 0,   209, 1.15, 0, NO, 0
        210, 1.15, 0, NO, 0,   211, 1.15, 0, NO, 0,   212, 1.15, 0, NO, 0
        213, 1.15, 0, NO, 0,   214, 1.15, 0, NO, 0,   215, 1.15, 0, NO, 0
        216, 1.15, 0, NO, 0,   217, 1.15, 0, NO, 0,   218, 1.15, 0, NO, 0
        219, 1.15, 0, NO, 0,   220, 1.15, 0, NO, 0,   221, 1.15, 0, NO, 0
        222, 1.15, 0, NO, 0,   223, 1.15, 0, NO, 0,   224, 1.15, 0, NO, 0
        225, 1.15, 0, NO, 0,   226, 1.15, 0, NO, 0,   227, 1.15, 0, NO, 0
        228, 1.15, 0, NO, 0,   229, 1.15, 0, NO, 0,   230, 1.15, 0, NO, 0
        231, 1.15, 0, NO, 0,   232, 1.15, 0, NO, 0,   233, 1.15, 0, NO, 0
        234, 1.15, 0, NO, 0,   235, 1.15, 0, NO, 0,   236, 1.15, 0, NO, 0
        237, 1.15, 0, NO, 0,   238, 1.15, 0, NO, 0,   239, 1.15, 0, NO, 0
        240, 1.15, 0, NO, 0
   NAME=SX RIM, LANE, , 0, 0, BOTH, 0.5, 0
        101, -0.3, 0, NO, 0,   102, -0.3, 0, NO, 0,   103, -0.3, 0, NO, 0
        104, -0.3, 0, NO, 0,   105, -0.3, 0, NO, 0,   106, -0.3, 0, NO, 0
        107, -0.3, 0, NO, 0,   108, -0.3, 0, NO, 0,   109, -0.3, 0, NO, 0
        110, -0.3, 0, NO, 0,   111, -0.3, 0, NO, 0,   112, -0.3, 0, NO, 0
        113, -0.3, 0, NO, 0,   114, -0.3, 0, NO, 0,   115, -0.3, 0, NO, 0
        116, -0.3, 0, NO, 0,   117, -0.3, 0, NO, 0,   118, -0.3, 0, NO, 0
        119, -0.3, 0, NO, 0,   120, -0.3, 0, NO, 0,   121, -0.3, 0, NO, 0
        122, -0.3, 0, NO, 0,   123, -0.3, 0, NO, 0,   124, -0.3, 0, NO, 0
        125, -0.3, 0, NO, 0,   126, -0.3, 0, NO, 0,   127, -0.3, 0, NO, 0
        128, -0.3, 0, NO, 0,   129, -0.3, 0, NO, 0,   130, -0.3, 0, NO, 0
        131, -0.3, 0, NO, 0,   132, -0.3, 0, NO, 0,   133, -0.3, 0, NO, 0
        134, -0.3, 0, NO, 0,   135, -0.3, 0, NO, 0,   136, -0.3, 0, NO, 0
        137, -0.3, 0, NO, 0,   138, -0.3, 0, NO, 0,   139, -0.3, 0, NO, 0
        140, -0.3, 0, NO, 0

*VEHICLE    ; Vehicles
  NAME=Fatica 2-A, 1, 3, Fatigue Load Model 2 (280), , , 1, , ,
  NAME=Fatica 2-B, 1, 3, Fatigue Load Model 2 (360), , , 1, , ,
  NAME=Fatica 2-C, 1, 3, Fatigue Load Model 2 (630), , , 1, , ,
  NAME=Fatica 2-D, 1, 3, Fatigue Load Model 2 (560), , , 1, , ,
  NAME=Fatica 2-E, 1, 3, Fatigue Load Model 2 (610), , , 1, , ,
  NAME=Fatica 3 (1 veicolo), 1, 3, Fatigue Load Model 3 (One Vehicle), , , 1, , ,
  NAME=Schema 1, 1, 1, Load Model 1, 0.75, 0.4, , 1, 1, 1, 1, 1, 1, 1
  NAME=Schema 5, 1, 2, Uniform load (Road bridge footway), , , , 0.4, 2.5,

*MVLDCASE(EURO)   ; Moving Load Cases
   NAME=Mobili SLU DX, 1, , Schema 1, Schema 5, YES
      1, DX 1, DX 2, DX 3
      2, DX RIM
      3, MARC DX, MARC SX
   NAME=Mobili SLU SX, 1, , Schema 1, Schema 5, YES
      1, SX 1, SX 2, SX 3
      2, SX RIM
      3, MARC DX, MARC SX
   NAME=Mobili SLE DX, 1, , Schema 1, Schema 5, NO
      1, DX 1, DX 2, DX 3
      2, DX RIM
      3, MARC DX, MARC SX
   NAME=Mobili SLE SX, 1, , Schema 1, Schema 5, NO
      1, SX 1, SX 2, SX 3
      2, SX RIM
      3, MARC DX, MARC SX
   NAME=Fatica V.ILL., 2, , 1, YES
      Fatica 2-A, 1, 0, 1, C. LENTA DX, C.LENTA SX
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       Fatica 2-B, 1, 0, 1, C. LENTA DX, C.LENTA SX
       Fatica 2-C, 1, 0, 1, C. LENTA DX, C.LENTA SX
       Fatica 2-D, 1, 0, 1, C. LENTA DX, C.LENTA SX
       Fatica 2-E, 1, 0, 1, C. LENTA DX, C.LENTA SX
   NAME=Fatica DANN.ACC., 2, , 1, YES
       Fatica 3 (1 veicolo), 1, 0, 1, C. LENTA DX, C.LENTA SX

*CPOSECT4CS    ; Composite Section for Construction Stage
   SEC=5, Costruzione, NORMAL, YES
      1, MATL, 1, , 0, 1, 1, 1, 1, 1, 1, 1, 0
      2, MATL, 4, Esercizio, 1, 1, 1, 1, 1, 1, 1, 1, 0.3
   SEC=11, Costruzione, NORMAL, NO
      1, MATL, 1, , 1, 1, 1, 1, 1, 1, 1, 1, 0
      2, MATL, 4, Esercizio, 1, 1, 1, 1, 1, 1, 1, 1, 0.3
   SEC=1, Costruzione, NORMAL, NO
      1, MATL, 1, , 1, 1, 1, 1, 1, 1, 1, 1, 0
      2, MATL, 4, Esercizio, 1, 1, 1, 1, 1, 1, 1, 1, 0.3
   SEC=2, Costruzione, NORMAL, NO
      1, MATL, 1, , 1, 1, 1, 1, 1, 1, 1, 1, 0
      2, MATL, 4, Esercizio, 1, 1, 1, 1, 1, 1, 1, 1, 0.3
   SEC=7, Costruzione, NORMAL, NO
      1, MATL, 1, , 0, 1, 1, 1, 1, 1, 1, 1, 0
      2, MATL, 4, Esercizio, 1, 1, 1, 1, 1, 1, 1, 1, 0.3
   SEC=16, Costruzione, NORMAL, NO
      1, MATL, 1, , 1, 1, 1, 1, 1, 1, 1, 1, 0
      2, MATL, 4, Esercizio, 1, 1, 1, 1, 1, 1, 1, 1, 0.3
   SEC=3, Costruzione, NORMAL, NO
      1, MATL, 1, , 1, 1, 1, 1, 1, 1, 1, 1, 0
      2, MATL, 4, Esercizio, 1, 1, 1, 1, 1, 1, 1, 1, 0.3
   SEC=4, Costruzione, NORMAL, NO
      1, MATL, 1, , 1, 1, 1, 1, 1, 1, 1, 1, 0
      2, MATL, 4, Esercizio, 1, 1, 1, 1, 1, 1, 1, 1, 0.3
   SEC=6, Costruzione, NORMAL, YES
      1, MATL, 1, , 1, 1, 1, 1, 1, 1, 1, 1, 0
      2, MATL, 4, Esercizio, 1, 1, 1, 1, 1, 1, 1, 1, 0.3
   SEC=8, Costruzione, NORMAL, NO
      1, MATL, 1, , 1, 1, 1, 1, 1, 1, 1, 1, 0
      2, MATL, 4, Esercizio, 1, 1, 1, 1, 1, 1, 1, 1, 0.3
   SEC=9, Costruzione, NORMAL, YES
      1, MATL, 1, , 1, 1, 1, 1, 1, 1, 1, 1, 0
      2, MATL, 4, Esercizio, 1, 1, 1, 1, 1, 1, 1, 1, 0.3
   SEC=10, Costruzione, NORMAL, YES
      1, MATL, 1, , 1, 1, 1, 1, 1, 1, 1, 1, 0
      2, MATL, 4, Esercizio, 1, 1, 1, 1, 1, 1, 1, 1, 0.3
   SEC=12, Costruzione, NORMAL, NO
      1, MATL, 1, , 1, 1, 1, 1, 1, 1, 1, 1, 0
      2, MATL, 4, Esercizio, 1, 1, 1, 1, 1, 1, 1, 1, 0.3
   SEC=13, Costruzione, NORMAL, NO
      1, MATL, 1, , 1, 1, 1, 1, 1, 1, 1, 1, 0
      2, MATL, 4, Esercizio, 1, 1, 1, 1, 1, 1, 1, 1, 0.3
   SEC=14, Costruzione, NORMAL, NO
      1, MATL, 1, , 1, 1, 1, 1, 1, 1, 1, 1, 0
      2, MATL, 4, Esercizio, 1, 1, 1, 1, 1, 1, 1, 1, 0.3
   SEC=21, Costruzione, NORMAL, NO
      1, MATL, 1, , 1, 1, 1, 1, 1, 1, 1, 1, 0
      2, MATL, 4, Esercizio, 1, 1, 1, 1, 1, 1, 1, 1, 0.3

*STAGE-COLOR    ; Diagram Color for Construction Stage
 Costruzione, 0, 157, 192
 Esercizio, 255, 255, 255

*STAGE-CTRL    ; Construction Stage Analysis Control Data
  YES, , INTERNAL, NO, YES, YES, NO, NO, NO, NO, NO, , , DW, W, DW, Erection Load 1, Erection Load 2, Erecti
on Load 3, YES, NO, , NO, NO
  NO
  NO
  YES, YES, BOTH, 5, 0.01, YES, NO, YES, YES, 0, YES
  NO, NO, 2, YES, 2, 5, 7, 10, 20
  NO, , , 1, NO
  Finiture

*LOADCOMB    ; Combinations
   NAME=Vento Strutture (Y-), GEN, INACTIVE, 0, 0, , 0, 0
       ST, Vento strutture (Y+), -1
   NAME=Vento Mobili (Y-), GEN, INACTIVE, 0, 0, , 0, 0
       ST, Vento mobili (Y+), -1
   NAME=Frenamento (X-), GEN, INACTIVE, 0, 0, , 0, 0
       ST, Frenamento (X+), -1
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NAME=Termico unif. -15°, GEN, INACTIVE, 0, 0, , 0, 0
     ST, Termico Unif. +15°, -1
NAME=Termico diff. -5°/H, GEN, INACTIVE, 0, 0, , 0, 0
     ST, Termico diff. +5°/H, -1
NAME=SLD Long (X-), GEN, INACTIVE, 0, 0, , 0, 0
     RS, SLD Long (X+), -1
NAME=SLD Trasv (Y-), GEN, INACTIVE, 0, 0, , 0, 0
     RS, SLD Trasv (Y+), -1
NAME=SLD Vert (Z-), GEN, INACTIVE, 0, 0, , 0, 0
     RS, SLD Vert (Z+), -1
NAME=SLV Long (X-), GEN, INACTIVE, 0, 0, , 0, 0
     RS, SLV Long (X+), -1
NAME=SLV Trasv (Y-), GEN, INACTIVE, 0, 0, , 0, 0
     RS, SLV Trasv (Y+), -1
NAME=SLV Vert (Z-), GEN, INACTIVE, 0, 0, , 0, 0
     RS, SLV Vert (Z+), -1
NAME=SLC Long (X-), GEN, INACTIVE, 0, 0, , 0, 0
     RS, SLC Long (X+), -1
NAME=SLC Trasv (Y-), GEN, INACTIVE, 0, 0, , 0, 0
     RS, SLC Trasv (Y+), -1
NAME=SLC Vert (Z-), GEN, INACTIVE, 0, 0, , 0, 0
     RS, SLC Vert (Z+), -1
NAME=Vento Strutture INV, GEN, INACTIVE, 0, 1, , 0, 0
     ST, Vento strutture (Y+), 1, CB, Vento Strutture (Y-), 1
NAME=Vento Mobili INV, GEN, INACTIVE, 0, 1, , 0, 0
     ST, Vento mobili (Y+), 1, CB, Vento Mobili (Y-), 1
NAME=Frenamento INV, GEN, ACTIVE, 0, 1, , 0, 0
     ST, Frenamento (X+), 1, CB, Frenamento (X-), 1
NAME=Termico unif. INV, GEN, ACTIVE, 0, 1, , 0, 0
     ST, Termico Unif. +15°, 1, CB, Termico unif. -15°, 1
NAME=Termico diff. INV, GEN, ACTIVE, 0, 1, , 0, 0
     ST, Termico diff. +5°/H, 1, CB, Termico diff. -5°/H, 1
NAME=SLD Long INV, GEN, INACTIVE, 0, 1, , 0, 0
     RS, SLD Long (X+), 1, CB, SLD Long (X-), 1
NAME=SLD Trasv INV, GEN, INACTIVE, 0, 1, , 0, 0
     RS, SLD Trasv (Y+), 1, CB, SLD Trasv (Y-), 1
NAME=SLD Vert INV, GEN, INACTIVE, 0, 1, , 0, 0
     RS, SLD Vert (Z+), 1, CB, SLD Vert (Z-), 1
NAME=SLV Long INV, GEN, INACTIVE, 0, 1, , 0, 0
     RS, SLV Long (X+), 1, CB, SLV Long (X-), 1
NAME=SLV Trasv INV, GEN, INACTIVE, 0, 1, , 0, 0
     RS, SLV Trasv (Y+), 1, CB, SLV Trasv (Y-), 1
NAME=SLV Vert INV, GEN, INACTIVE, 0, 1, , 0, 0
     RS, SLV Vert (Z+), 1, CB, SLV Vert (Z-), 1
NAME=SLC Long INV, GEN, INACTIVE, 0, 1, , 0, 0
     RS, SLC Long (X+), 1, CB, SLC Long (X-), 1
NAME=SLC Trasv INV, GEN, INACTIVE, 0, 1, , 0, 0
     RS, SLC Trasv (Y+), 1, CB, SLC Trasv (Y-), 1
NAME=SLC Vert INV, GEN, INACTIVE, 0, 1, , 0, 0
     RS, SLC Vert (Z+), 1, CB, SLC Vert (Z-), 1
NAME=Mobili SLU INV, GEN, ACTIVE, 0, 1, , 0, 0
     MV, Mobili SLU DX, 1, MV, Mobili SLU SX, 1
NAME=Mobili SLE INV, GEN, ACTIVE, 0, 1, , 0, 0
     MV, Mobili SLE DX, 1, MV, Mobili SLE SX, 1
NAME=GEN SLU Mobili, GEN, ACTIVE, 0, 0, , 0, 0
     CS, Dead Load, 1.35, CS, Erection Load 1, 1.5, CS, Creep Secondary, 1.2
     CS, Shrinkage Secondary, 1.2, CB, Vento Strutture INV, 0.9
     CB, Vento Mobili INV, 0.9, CB, Termico unif. INV, 0.72
     CB, Termico diff. INV, 0.72, CB, Mobili SLU INV, 1.35
NAME=GEN SLU Vento, GEN, ACTIVE, 0, 0, , 0, 0
     CS, Dead Load, 1.35, CS, Erection Load 1, 1.5, CS, Creep Secondary, 1.2
     CS, Shrinkage Secondary, 1.2, CB, Vento Strutture INV, 1.5
     CB, Vento Mobili INV, 1.5, CB, Termico unif. INV, 0.72
     CB, Termico diff. INV, 0.72, CB, Mobili SLE INV, 1.35
NAME=GEN SLU Frenamento, GEN, ACTIVE, 0, 0, , 0, 0
     CS, Dead Load, 1.35, CS, Erection Load 1, 1.5, CS, Creep Secondary, 1.2
     CS, Shrinkage Secondary, 1.2, CB, Frenamento INV, 1.35
     CB, Termico unif. INV, 0.72, CB, Termico diff. INV, 0.72
     CB, Mobili SLE INV, 1.35
NAME=GEN SLU Termico, GEN, ACTIVE, 0, 0, , 0, 0
     CS, Dead Load, 1.35, CS, Erection Load 1, 1.5, CS, Creep Secondary, 1.2
     CS, Shrinkage Secondary, 1.2, CB, Vento Strutture INV, 0.9
     CB, Vento Mobili INV, 0.9, CB, Termico unif. INV, 1.2
     CB, Termico diff. INV, 1.2, CB, Mobili SLE INV, 1.35
NAME=GEN SLD Long, GEN, ACTIVE, 0, 0, , 0, 0
     CS, Summation, 1, CB, Termico unif. INV, 0.5
     CB, Termico diff. INV, 0.5, CB, SLD Long INV, 1, CB, SLD Trasv INV, 0.3
     CB, SLD Vert INV, 0.3
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NAME=GEN SLD Trasv, GEN, ACTIVE, 0, 0, , 0, 0
     CS, Summation, 1, CB, Termico unif. INV, 0.5
     CB, Termico diff. INV, 0.5, CB, SLD Long INV, 0.3, CB, SLD Trasv INV, 1
     CB, SLD Vert INV, 0.3
NAME=GEN SLD Vert, GEN, ACTIVE, 0, 0, , 0, 0
     CS, Summation, 1, CB, Termico unif. INV, 0.5
     CB, Termico diff. INV, 0.5, CB, SLD Long INV, 0.3
     CB, SLD Trasv INV, 0.3, CB, SLD Vert INV, 1
NAME=GEN SLV Long, GEN, ACTIVE, 0, 0, , 0, 0
     CS, Summation, 1, CB, Termico unif. INV, 0.5
     CB, Termico diff. INV, 0.5, CB, SLV Long INV, 1, CB, SLV Trasv INV, 0.3
     CB, SLV Vert INV, 0.3
NAME=GEN SLV Trasv, GEN, ACTIVE, 0, 0, , 0, 0
     CS, Summation, 1, CB, Termico unif. INV, 0.5
     CB, Termico diff. INV, 0.5, CB, SLV Long INV, 0.3, CB, SLV Trasv INV, 1
     CB, SLV Vert INV, 0.3
NAME=GEN SLV Vert, GEN, ACTIVE, 0, 0, , 0, 0
     CS, Summation, 1, CB, Termico unif. INV, 0.5
     CB, Termico diff. INV, 0.5, CB, SLV Long INV, 0.3
     CB, SLV Trasv INV, 0.3, CB, SLV Vert INV, 1
NAME=GEN SLC Long, GEN, ACTIVE, 0, 0, , 0, 0
     CS, Summation, 1, CB, Termico unif. INV, 0.5
     CB, Termico diff. INV, 0.5, CB, SLC Long INV, 1, CB, SLC Trasv INV, 0.3
     CB, SLC Vert INV, 0.3
NAME=GEN SLC Trasv, GEN, ACTIVE, 0, 0, , 0, 0
     CS, Summation, 1, CB, Termico unif. INV, 0.5
     CB, Termico diff. INV, 0.5, CB, SLC Long INV, 0.3, CB, SLC Trasv INV, 1
     CB, SLC Vert INV, 0.3
NAME=GEN SLC Vert, GEN, ACTIVE, 0, 0, , 0, 0
     CS, Summation, 1, CB, Termico unif. INV, 0.5
     CB, Termico diff. INV, 0.5, CB, SLC Long INV, 0.3
     CB, SLC Trasv INV, 0.3, CB, SLC Vert INV, 1
NAME=GEN RARA Mobili, GEN, ACTIVE, 0, 0, , 0, 0
     CS, Summation, 1, CB, Vento Strutture INV, 0.6
     CB, Vento Mobili INV, 0.6, CB, Termico unif. INV, 0.6
     CB, Termico diff. INV, 0.6, CB, Mobili SLU INV, 1
NAME=GEN RARA Vento, GEN, ACTIVE, 0, 0, , 0, 0
     CS, Summation, 1, CB, Vento Strutture INV, 1, CB, Vento Mobili INV, 1
     CB, Termico unif. INV, 0.6, CB, Termico diff. INV, 0.6
     CB, Mobili SLE INV, 1
NAME=GEN RARA Frenam, GEN, ACTIVE, 0, 0, , 0, 0
     CS, Summation, 1, CB, Frenamento INV, 1, CB, Termico unif. INV, 0.6
     CB, Termico diff. INV, 0.6, CB, Mobili SLE INV, 1
NAME=GEN RARA Termico, GEN, ACTIVE, 0, 0, , 0, 0
     CS, Summation, 1, CB, Vento Strutture INV, 0.6
     CB, Vento Mobili INV, 0.6, CB, Termico unif. INV, 1
     CB, Termico diff. INV, 1, CB, Mobili SLE INV, 1
NAME=GEN FREQ Mobili, GEN, ACTIVE, 0, 0, , 0, 0
     CS, Summation, 1, CB, Termico unif. INV, 0.5
     CB, Termico diff. INV, 0.5, CB, Mobili SLE INV, 1
NAME=GEN FREQ Vento, GEN, ACTIVE, 0, 0, , 0, 0
     CS, Summation, 1, CB, Vento Strutture INV, 0.2
     CB, Vento Mobili INV, 0.2, CB, Termico unif. INV, 0.5
     CB, Termico diff. INV, 0.5
NAME=GEN FREQ Termico, GEN, ACTIVE, 0, 0, , 0, 0
     CS, Summation, 1, CB, Termico unif. INV, 0.6
     CB, Termico diff. INV, 0.6
NAME=GEN Q.P., GEN, ACTIVE, 0, 0, , 0, 0
     CS, Summation, 1, CB, Termico unif. INV, 0.5
     CB, Termico diff. INV, 0.5
NAME=GEN SLU INV, GEN, ACTIVE, 0, 1, , 0, 0
     CB, GEN SLU Mobili, 1, CB, GEN SLU Vento, 1, CB, GEN SLU Frenamento, 1
     CB, GEN SLU Termico, 1
NAME=GEN SLD INV, GEN, ACTIVE, 0, 1, , 0, 0
     CB, GEN SLD Long, 1, CB, GEN SLD Trasv, 1, CB, GEN SLD Vert, 1
NAME=GEN SLV INV, GEN, ACTIVE, 0, 1, , 0, 0
     CB, GEN SLV Long, 1, CB, GEN SLV Trasv, 1, CB, GEN SLV Vert, 1
NAME=GEN SLC INV, GEN, ACTIVE, 0, 1, , 0, 0
     CB, GEN SLC Long, 1, CB, GEN SLC Trasv, 1, CB, GEN SLC Vert, 1
NAME=GEN RARA INV, GEN, ACTIVE, 0, 1, , 0, 0
     CB, GEN RARA Mobili, 1, CB, GEN RARA Vento, 1, CB, GEN RARA Frenam, 1
     CB, GEN RARA Termico, 1
NAME=GEN FREQ INV, GEN, ACTIVE, 0, 1, , 0, 0
     CB, GEN FREQ Mobili, 1, CB, GEN FREQ Vento, 1, CB, GEN FREQ Termico, 1
NAME=VENTO TOT INV, GEN, ACTIVE, 0, 1, , 0, 0
     CB, Vento Strutture INV, 1, CB, Vento Mobili INV, 1
NAME=GEN SLU/SLV INV, GEN, ACTIVE, 0, 1, , 0, 0
     CB, GEN SLU Mobili, 1, CB, GEN SLU Vento, 1, CB, GEN SLU Frenamento, 1
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      CB, GEN SLU Termico, 1, CB, GEN SLV Long, 1, CB, GEN SLV Trasv, 1
      CB, GEN SLV Vert, 1
   NAME=Vento Strutture (Y-), STEEL, INACTIVE, 0, 0, , 0, 0
      ST, Vento strutture (Y+), -1
   NAME=Vento Mobili (Y-), STEEL, INACTIVE, 0, 0, , 0, 0
      ST, Vento mobili (Y+), -1
   NAME=Frenamento (X-), STEEL, INACTIVE, 0, 0, , 0, 0
      ST, Frenamento (X+), -1
   NAME=Termico unif. -15°, STEEL, INACTIVE, 0, 0, , 0, 0
      ST, Termico Unif. +15°, -1
   NAME=Termico diff. -5°/H, STEEL, INACTIVE, 0, 0, , 0, 0
      ST, Termico diff. +5°/H, -1
   NAME=SLV Long (X-), STEEL, INACTIVE, 0, 0, , 0, 0
      RS, SLV Long (X+), -1
   NAME=SLV Trasv (Y-), STEEL, INACTIVE, 0, 0, , 0, 0
      RS, SLV Trasv (Y+), -1
   NAME=SLV Vert (Z-), STEEL, INACTIVE, 0, 0, , 0, 0
      RS, SLV Vert (Z+), -1
   NAME=Vento Strutture INV, STEEL, INACTIVE, 0, 1, , 0, 0
      ST, Vento strutture (Y+), 1, CBS, Vento Strutture (Y-), 1
   NAME=Vento Mobili INV, STEEL, INACTIVE, 0, 1, , 0, 0
      ST, Vento mobili (Y+), 1, CBS, Vento Mobili (Y-), 1
   NAME=Frenamento INV, STEEL, INACTIVE, 0, 1, , 0, 0
      ST, Frenamento (X+), 1, CBS, Frenamento (X-), 1
   NAME=Termico unif. INV, STEEL, INACTIVE, 0, 1, , 0, 0
      ST, Termico Unif. +15°, 1, CBS, Termico unif. -15°, 1
   NAME=Termico diff. INV, STEEL, INACTIVE, 0, 1, , 0, 0
      ST, Termico diff. +5°/H, 1, CBS, Termico diff. -5°/H, 1
   NAME=SLV Long INV, STEEL, INACTIVE, 0, 1, , 0, 0
      RS, SLV Long (X+), 1, CBS, SLV Long (X-), 1
   NAME=SLV Trasv INV, STEEL, INACTIVE, 0, 1, , 0, 0
      RS, SLV Trasv (Y+), 1, CBS, SLV Trasv (Y-), 1
   NAME=SLV Vert INV, STEEL, INACTIVE, 0, 1, , 0, 0
      RS, SLV Vert (Z+), 1, CBS, SLV Vert (Z-), 1
   NAME=Mobili SLU INV, STEEL, INACTIVE, 0, 1, , 0, 0
      MV, Mobili SLU DX, 1, MV, Mobili SLU SX, 1
   NAME=Mobili SLE INV, STEEL, INACTIVE, 0, 1, , 0, 0
      MV, Mobili SLE DX, 1, MV, Mobili SLE SX, 1
   NAME=ST SLU Mobili, STEEL, STRENGTH, 0, 0, , 0, 0
      CS, Dead Load, 1.35, CS, Erection Load 1, 1.5, CS, Creep Secondary, 1.2
      CS, Shrinkage Secondary, 1.2, CBS, Vento Strutture INV, 0.9
      CBS, Vento Mobili INV, 0.9, CBS, Termico unif. INV, 0.72
      CBS, Termico diff. INV, 0.72, CBS, Mobili SLU INV, 1.35
   NAME=ST SLU Vento, STEEL, STRENGTH, 0, 0, , 0, 0
      CS, Dead Load, 1.35, CS, Erection Load 1, 1.5, CS, Creep Secondary, 1.2
      CS, Shrinkage Secondary, 1.2, CBS, Vento Strutture INV, 1.5
      CBS, Vento Mobili INV, 1.5, CBS, Termico unif. INV, 0.72
      CBS, Termico diff. INV, 0.72, CBS, Mobili SLE INV, 1.35
   NAME=ST SLU Frenamento, STEEL, STRENGTH, 0, 0, , 0, 0
      CS, Dead Load, 1.35, CS, Erection Load 1, 1.5, CS, Creep Secondary, 1.2
      CS, Shrinkage Secondary, 1.2, CBS, Frenamento INV, 1.35
      CBS, Termico unif. INV, 0.72, CBS, Termico diff. INV, 0.72
      CBS, Mobili SLE INV, 1.35
   NAME=ST SLU Termico, STEEL, STRENGTH, 0, 0, , 0, 0
      CS, Dead Load, 1.35, CS, Erection Load 1, 1.5, CS, Creep Secondary, 1.2
      CS, Shrinkage Secondary, 1.2, CBS, Vento Strutture INV, 0.9
      CBS, Vento Mobili INV, 0.9, CBS, Termico unif. INV, 1.2
      CBS, Termico diff. INV, 1.2, CBS, Mobili SLE INV, 1.35
   NAME=ST SLV Long, STEEL, STRENGTH, 0, 0, , 0, 0
      CS, Summation, 1, CBS, Termico unif. INV, 0.5
      CBS, Termico diff. INV, 0.5, CBS, SLV Long INV, 1
      CBS, SLV Trasv INV, 0.3, CBS, SLV Vert INV, 0.3
   NAME=ST SLV Trasv, STEEL, STRENGTH, 0, 0, , 0, 0
      CS, Summation, 1, CBS, Termico unif. INV, 0.5
      CBS, Termico diff. INV, 0.5, CBS, SLV Long INV, 0.3
      CBS, SLV Trasv INV, 1, CBS, SLV Vert INV, 0.3
   NAME=ST SLV Vert, STEEL, STRENGTH, 0, 0, , 0, 0
      CS, Summation, 1, CBS, Termico unif. INV, 0.5
      CBS, Termico diff. INV, 0.5, CBS, SLV Long INV, 0.3
      CBS, SLV Trasv INV, 0.3, CBS, SLV Vert INV, 1
   NAME=ST FATICA VITA ILL., STEEL, INACTIVE, 0, 0, , 0, 0
      MV, Fatica V.ILL., 1, CS, Summation, 1
   NAME=ST FATICA DANN.ACC., STEEL, INACTIVE, 0, 0, , 0, 0
      MV, Fatica DANN.ACC., 1, CS, Summation, 1
   NAME=ST RARA Mobili, STEEL, SERVICE, 0, 0, , 3, 0
      CS, Summation, 1, CBS, Vento Strutture INV, 0.6
      CBS, Vento Mobili INV, 0.6, CBS, Termico unif. INV, 0.6
      CBS, Termico diff. INV, 0.6, CBS, Mobili SLU INV, 1
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   NAME=ST RARA Vento, STEEL, SERVICE, 0, 0, , 3, 0
        CS, Summation, 1, CBS, Vento Strutture INV, 1, CBS, Vento Mobili INV, 1
        CBS, Termico unif. INV, 0.6, CBS, Termico diff. INV, 0.6
        CBS, Mobili SLE INV, 1
   NAME=ST RARA Frenamento, STEEL, SERVICE, 0, 0, , 3, 0
        CS, Summation, 1, CBS, Frenamento INV, 1, CBS, Termico unif. INV, 0.6
        CBS, Termico diff. INV, 0.6, CBS, Mobili SLE INV, 1
   NAME=ST RARA Termico, STEEL, SERVICE, 0, 0, , 3, 0
        CS, Summation, 1, CBS, Vento Strutture INV, 0.6
        CBS, Vento Mobili INV, 0.6, CBS, Termico unif. INV, 1
        CBS, Termico diff. INV, 1, CBS, Mobili SLE INV, 1
   NAME=ST FREQ Mobili, STEEL, SERVICE, 0, 0, , 2, 0
        CS, Summation, 1, CBS, Termico unif. INV, 0.5
        CBS, Termico diff. INV, 0.5, CBS, Mobili SLE INV, 1
   NAME=ST FREQ Vento, STEEL, SERVICE, 0, 0, , 2, 0
        CS, Summation, 1, CBS, Vento Strutture INV, 0.2
        CBS, Vento Mobili INV, 0.2, CBS, Termico unif. INV, 0.5
        CBS, Termico diff. INV, 0.5
   NAME=ST FREQ Termico, STEEL, SERVICE, 0, 0, , 2, 0
        CS, Summation, 1, CBS, Termico unif. INV, 0.6
        CBS, Termico diff. INV, 0.6
   NAME=ST Q.P., STEEL, SERVICE, 0, 0, , 1, 0
        CS, Summation, 1, CBS, Termico unif. INV, 0.5
        CBS, Termico diff. INV, 0.5
   NAME=Mobili SLU INV, CONC, INACTIVE, 0, 1, , 0, 0
        MV, Mobili SLU DX, 1, MV, Mobili SLU SX, 1
   NAME=CONTROMONTE, CONC, STRENGTH, 0, 0, , 0, 0
        CS, Summation, -1, CBC, Mobili SLU INV, -0.25

*LC-COLOR    ; Diagram Color for Load Case
 ST, Peso acciaio e pile, 0, 192, 128, 255, 0, 192, 192, 192, 0
 ST, Peso soletta, 0, 128, 255, 255, 255, 87, 192, 0, 128
 ST, Finiture, 255, 128, 0, 192, 192, 192, 192, 192, 192
 ST, Vento strutture (Y+), 255, 0, 128, 0, 128, 57, 192, 0, 192
 ST, Vento mobili (Y+), 0, 192, 128, 255, 0, 192, 212, 160, 255
 ST, Frenamento (X+), 255, 128, 0, 85, 0, 192, 160, 255, 255
 ST, Termico Unif. +15°, 192, 0, 192, 0, 128, 57, 255, 87, 128
 MV, Mobili SLU DX, 85, 192, 0, 163, 255, 160, 192, 192, 0
 CS, Dead Load, 192, 128, 0, 255, 255, 255, 255, 160, 255
 CS, Tendon Secondary, 163, 160, 255, 148, 87, 255, 255, 0, 192
 CS, Creep Primary, 192, 0, 192, 163, 160, 255, 255, 0, 192
 CS, Creep Secondary, 78, 0, 255, 255, 0, 192, 160, 192, 255
 CS, Shrinkage Primary, 0, 192, 192, 192, 0, 192, 160, 192, 255
 CS, Shrinkage Secondary, 0, 192, 192, 255, 255, 255, 210, 210, 210
 CS, Summation, 0, 192, 128, 160, 255, 255, 192, 192, 0
 RS, SLD Long (X+), 0, 128, 57, 255, 0, 192, 255, 87, 128
 RS, SLD Trasv (Y+), 255, 0, 192, 192, 192, 192, 255, 255, 255
 RS, SLD Vert (Z+), 192, 0, 128, 255, 192, 87, 0, 128, 57
 RS, SLV Long (X+), 85, 0, 192, 192, 192, 0, 255, 192, 87
 RS, SLV Trasv (Y+), 192, 72, 0, 192, 192, 0, 255, 0, 192
 RS, SLV Vert (Z+), 192, 192, 192, 255, 192, 87, 210, 210, 210
 RS, SLC Long (X+), 0, 128, 128, 85, 0, 192, 192, 192, 0
 RS, SLC Trasv (Y+), 192, 0, 128, 255, 0, 192, 255, 0, 128
 RS, SLC Vert (Z+), 255, 0, 128, 0, 157, 192, 192, 72, 0
 ST, Termico diff. +5°/H, 0, 128, 192, 78, 0, 255, 0, 192, 128
 MV, Mobili SLU SX, 160, 255, 255, 192, 72, 0, 192, 72, 0
 MV, Mobili SLE DX, 78, 0, 255, 160, 255, 255, 255, 87, 87
 CB, Vento Strutture (Y-), 255, 87, 87, 0, 192, 128, 0, 157, 192
 CB, Vento Mobili (Y-), 192, 0, 192, 146, 0, 255, 192, 0, 128
 MV, Mobili SLE SX, 85, 192, 0, 163, 160, 255, 0, 192, 192
 CB, Frenamento (X-), 78, 0, 255, 85, 0, 192, 85, 192, 0
 CB, Termico unif. -15°, 255, 255, 255, 128, 192, 0, 128, 192, 0
 CB, Termico diff. -5°/H, 163, 160, 255, 255, 0, 192, 255, 0, 192
 CB, SLD Long (X-), 210, 210, 210, 0, 128, 255, 0, 128, 128
 CB, SLD Trasv (Y-), 255, 255, 87, 78, 0, 255, 85, 0, 192
 CB, SLD Vert (Z-), 192, 0, 128, 128, 192, 0, 255, 0, 128
 CB, SLV Long (X-), 0, 128, 192, 192, 0, 128, 0, 128, 192
 CB, SLV Trasv (Y-), 148, 87, 255, 255, 0, 128, 192, 72, 0
 CB, SLV Vert (Z-), 192, 72, 0, 0, 128, 192, 192, 0, 128
 CB, SLC Long (X-), 212, 160, 255, 212, 160, 255, 85, 0, 192
 CB, SLC Trasv (Y-), 255, 87, 87, 192, 128, 0, 0, 192, 128
 CB, SLC Vert (Z-), 0, 157, 192, 146, 0, 255, 255, 128, 0
 CB, Vento Strutture INV, 0, 192, 128, 255, 0, 128, 255, 255, 87
 CB, Vento Mobili INV, 255, 87, 128, 192, 0, 128, 128, 192, 0
 CB, Frenamento INV, 0, 128, 192, 192, 0, 192, 212, 160, 255
 CB, Termico unif. INV, 255, 87, 128, 78, 0, 255, 192, 72, 0
 CB, Termico diff. INV, 85, 0, 192, 255, 255, 255, 0, 128, 128
 CB, SLD Long INV, 210, 210, 210, 255, 87, 87, 192, 192, 192
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CB, SLD Trasv INV, 93, 255, 87, 0, 192, 128, 0, 128, 192
CB, SLD Vert INV, 192, 72, 0, 163, 160, 255, 192, 0, 192
CB, SLV Long INV, 192, 192, 0, 255, 128, 0, 255, 0, 192
CB, SLV Trasv INV, 0, 128, 192, 210, 210, 210, 93, 255, 87
CB, SLV Vert INV, 128, 192, 0, 255, 255, 255, 255, 192, 87
CB, SLC Long INV, 0, 128, 128, 255, 192, 160, 212, 160, 255
CB, SLC Trasv INV, 255, 192, 160, 255, 87, 87, 0, 192, 192
MV, Fatica V.ILL., 255, 87, 87, 255, 87, 87, 255, 255, 87
MV, Fatica DANN.ACC., 0, 157, 192, 148, 87, 255, 85, 0, 192
CB, SLC Vert INV, 163, 255, 160, 255, 87, 128, 255, 87, 87
CB, Mobili SLU INV, 160, 192, 255, 146, 0, 255, 255, 160, 255
CB, Mobili SLE INV, 255, 87, 128, 192, 0, 192, 93, 255, 87
CB, GEN SLU Mobili, 210, 210, 210, 255, 128, 0, 163, 255, 160
CB, GEN SLU Vento, 160, 255, 255, 128, 192, 0, 192, 0, 192
CB, GEN SLU Frenamento, 255, 128, 0, 0, 192, 128, 255, 192, 87
CB, GEN SLU Termico, 192, 192, 0, 0, 128, 128, 85, 0, 192
CB, GEN SLD Long, 0, 128, 192, 148, 87, 255, 85, 0, 192
CB, GEN SLD Trasv, 192, 0, 192, 93, 255, 87, 255, 160, 255
CB, GEN SLD Vert, 163, 255, 160, 78, 0, 255, 85, 192, 0
CB, GEN SLV Long, 255, 255, 87, 192, 192, 192, 192, 72, 0
CB, GEN SLV Trasv, 255, 0, 192, 212, 160, 255, 85, 0, 192
CB, GEN SLV Vert, 210, 210, 210, 160, 255, 255, 85, 192, 0
CB, GEN SLC Long, 0, 128, 128, 160, 255, 255, 78, 0, 255
CB, GEN SLC Trasv, 0, 192, 128, 255, 0, 128, 163, 255, 160
CB, GEN SLC Vert, 93, 255, 87, 85, 0, 192, 78, 0, 255
CB, GEN RARA Mobili, 255, 87, 128, 0, 192, 192, 255, 255, 255
CB, GEN RARA Vento, 212, 160, 255, 255, 192, 160, 255, 87, 87
CB, GEN RARA Frenam, 255, 87, 87, 255, 0, 128, 163, 160, 255
CB, GEN RARA Termico, 146, 0, 255, 255, 192, 160, 192, 128, 0
CB, GEN FREQ Mobili, 210, 210, 210, 93, 255, 87, 212, 160, 255
CB, GEN FREQ Vento, 85, 192, 0, 78, 0, 255, 93, 255, 87
CB, GEN FREQ Termico, 160, 255, 255, 85, 192, 0, 146, 0, 255
CB, GEN Q.P., 192, 0, 128, 255, 255, 255, 163, 255, 160
CBS, Vento Strutture (Y-), 255, 255, 255, 192, 192, 192, 192, 192, 192
CBS, Vento Mobili (Y-), 163, 255, 160, 255, 87, 128, 255, 0, 128
CBS, Frenamento (X-), 255, 0, 128, 0, 192, 192, 85, 192, 0
CBS, Termico unif. -15°, 192, 192, 0, 163, 255, 160, 0, 128, 128
CBS, Termico diff. -5°/H, 192, 128, 0, 255, 0, 192, 255, 87, 87
CBS, SLV Long (X-), 85, 192, 0, 255, 87, 87, 192, 192, 0
CBS, SLV Trasv (Y-), 85, 192, 0, 146, 0, 255, 0, 128, 128
CBS, SLV Vert (Z-), 255, 192, 87, 255, 87, 128, 0, 192, 128
CBS, Vento Strutture INV, 146, 0, 255, 78, 0, 255, 255, 160, 255
CBS, Vento Mobili INV, 192, 128, 0, 192, 72, 0, 255, 255, 87
CBS, Frenamento INV, 255, 87, 87, 0, 192, 128, 163, 160, 255
CBS, Termico unif. INV, 192, 72, 0, 212, 160, 255, 0, 128, 192
CBS, Termico diff. INV, 255, 87, 128, 210, 210, 210, 160, 192, 255
CBS, SLV Long INV, 192, 0, 128, 255, 255, 87, 85, 0, 192
CBS, SLV Trasv INV, 0, 192, 128, 255, 0, 192, 163, 255, 160
CBS, SLV Vert INV, 0, 192, 128, 255, 255, 87, 128, 192, 0
CBS, Mobili SLU INV, 255, 255, 255, 0, 128, 255, 163, 160, 255
CBS, Mobili SLE INV, 255, 255, 87, 0, 128, 255, 163, 160, 255
CBS, ST SLU Mobili, 78, 0, 255, 255, 255, 255, 255, 192, 87
CBS, ST SLU Vento, 192, 0, 192, 212, 160, 255, 255, 255, 255
CBS, ST SLU Frenamento, 192, 192, 192, 0, 128, 57, 255, 160, 255
CBS, ST SLU Termico, 160, 192, 255, 192, 128, 0, 146, 0, 255
CBS, ST SLV Long, 255, 128, 0, 210, 210, 210, 192, 128, 0
CBS, ST SLV Trasv, 255, 0, 128, 255, 192, 87, 160, 192, 255
CBS, ST SLV Vert, 0, 192, 128, 0, 128, 192, 0, 128, 128
CBS, ST FATICA VITA ILL., 0, 192, 128, 192, 192, 192, 0, 128, 57
CBS, ST FATICA DANN.ACC., 210, 210, 210, 192, 192, 192, 192, 192, 0
CBS, ST RARA Mobili, 255, 0, 128, 146, 0, 255, 255, 0, 192
CBS, ST RARA Vento, 78, 0, 255, 160, 192, 255, 255, 192, 160
CBC, Mobili SLU INV, 128, 192, 0, 192, 72, 0, 0, 128, 128
CB, GEN SLU INV, 255, 255, 255, 163, 160, 255, 255, 255, 255
CB, GEN SLD INV, 255, 255, 255, 255, 255, 87, 0, 192, 192
CB, GEN SLV INV, 0, 192, 192, 192, 0, 192, 0, 128, 255
CB, GEN SLC INV, 160, 192, 255, 210, 210, 210, 210, 210, 210
CB, GEN RARA INV, 0, 128, 57, 0, 157, 192, 210, 210, 210
CB, GEN FREQ INV, 0, 192, 128, 128, 192, 0, 255, 87, 87
CBS, ST RARA Frenamento, 78, 0, 255, 0, 157, 192, 192, 0, 128
CBS, ST RARA Termico, 160, 192, 255, 93, 255, 87, 85, 0, 192
CBS, ST FREQ Mobili, 163, 255, 160, 192, 192, 0, 0, 128, 128
CBS, ST FREQ Vento, 192, 192, 192, 85, 192, 0, 0, 128, 128
CBS, ST FREQ Termico, 192, 0, 128, 255, 87, 128, 146, 0, 255
CBS, ST Q.P., 255, 255, 87, 146, 0, 255, 160, 192, 255
CB, VENTO TOT INV, 128, 192, 0, 0, 128, 128, 85, 0, 192
CB, GEN SLU/SLV INV, 163, 160, 255, 255, 255, 255, 0, 192, 128
CBC, CONTROMONTE, 160, 192, 255, 93, 255, 87, 255, 160, 255
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 CS, Erection Load 1, 160, 255, 255, 160, 192, 255, 255, 192, 87
 CS, Erection Load 2, 0, 128, 255, 192, 72, 0, 192, 72, 0
 CS, Erection Load 3, 255, 255, 87, 255, 255, 255, 192, 192, 192
 CS, Tendon Primary, 0, 128, 255, 255, 160, 255, 93, 255, 87

*ANAL-CTRL
   YES, YES, 10, 0.001, NO, YES, YES, NO, NO, NO, NO

*EIGEN-CTRL    ; Eigenvalue Analysis Control
   RITZ, NO, 0
   GROUND, ACCX, 10, GROUND, ACCY, 10, GROUND, ACCZ, 20

*MOVE-CTRL    ; Moving Load Analysis Control
   EXACT, ALL, 0, 10, 1, 0, 1, 0, 0.8, NODAL, NO, AXIAL, YES,   YES, NO, ,   YES, NO, ,   YES, NO, , 10, 1,
8.5

*DGN-MATL    ; Modify Steel(Concrete) Material
    1, STEEL, S355W             , 1, EN05(S)    ,             ,S355W
    2, CONC , C32/40 SOL.TRASV  , 2, 0, NO, 1, , , , 0, 0, 0, NO, 0, 0
    3, CONC , C28/35 PILE       , 1, NTC08(RC)  ,             ,C28/35        , NO, 1, , , , 0, 0, 19600, NO,
0, 0
    4, CONC , C32/40 SOLETTA    , 2, 0, NO, 1, , , , 0, 0, 0, NO, 0, 0
    5, SRC  , COMPOSITO         , 1, EN05(S)    ,             ,S355W         ,\
                                  1, NTC08(RC)  ,             , C32/40        , NTC08(RC), B450C, B450C, , 0,
 \
0.0000e+000,     0,\
, 0, 0,\
0, 0, 0,\
0, 0, 0,\
0, 0, 0,\
0, 0, 0,\
0.0000e+000,     0,\
, 0, 0,\
0, 0, 0,\
0, 0, 0,\
0, 0, 0,\
0, 0, 0,\
0.0000e+000,     0,\
, 0, 0,\
0, 0, 0,\
0, 0, 0,\
0, 0, 0,\
0, 0, 0,\


*DGN-REBAR-PSC
   SECT=1, YES, NO, NO
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P16, 16, 0, 0, 0, 0.05, 0.2, 2
        I, P16, 16, 0, 0, 0, 0.22, 0.2, 2
        J, P16, 16, 0, 0, 0, 0.05, 0.2, 2
        J, P16, 16, 0, 0, 0, 0.22, 0.2, 2
   SECT=2, YES, NO, NO
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P16, 16, 0, 0, 0, 0.05, 0.2, 2
        I, P16, 16, 0, 0, 0, 0.22, 0.2, 2
        J, P16, 16, 0, 0, 0, 0.05, 0.2, 2
        J, P16, 16, 0, 0, 0, 0.22, 0.2, 2
   SECT=3, YES, NO, NO
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P16, 15, 0, 0, 0, 0.22, 0.2, 2
        I, P16, 15, 0, 0, 0, 0.05, 0.2, 2
        J, P16, 15, 0, 0, 0, 0.22, 0.2, 2
        J, P16, 15, 0, 0, 0, 0.05, 0.2, 2
   SECT=4, YES, NO, NO
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P16, 15, 0, 0, 0, 0.05, 0.2, 2
        I, P16, 15, 0, 0, 0, 0.22, 0.2, 2
        J, P16, 15, 0, 0, 0, 0.05, 0.2, 2
        J, P16, 15, 0, 0, 0, 0.22, 0.2, 2
   SECT=5, YES, NO, YES
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P20, 32, 0, 0, 0, 0.05, 0.1, 2
        I, P20, 32, 0, 0, 0, 0.22, 0.1, 2
        J, P20, 32, 0, 0, 0, 0.05, 0.1, 2
        J, P20, 32, 0, 0, 0, 0.22, 0.1, 2
   SECT=6, YES, NO, YES
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
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        I, P20, 32, 0, 0, 0, 0.22, 0.1, 2
        I, P20, 32, 0, 0, 0, 0.05, 0.1, 2
        J, P20, 32, 0, 0, 0, 0.22, 0.1, 2
        J, P20, 32, 0, 0, 0, 0.05, 0.1, 2
   SECT=7, YES, NO, NO
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P20, 16, 0, 0, 0, 0.22, 0.2, 2
        I, P20, 16, 0, 0, 0, 0.05, 0.2, 2
        J, P20, 16, 0, 0, 0, 0.22, 0.2, 2
        J, P20, 16, 0, 0, 0, 0.05, 0.2, 2
   SECT=8, YES, NO, NO
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P16, 16, 0, 0, 0, 0.05, 0.2, 2
        I, P16, 16, 0, 0, 0, 0.22, 0.2, 2
        J, P16, 16, 0, 0, 0, 0.05, 0.2, 2
        J, P16, 16, 0, 0, 0, 0.22, 0.2, 2
   SECT=9, YES, NO, YES
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P20, 29, 0, 0, 0, 0.22, 0.1, 2
        I, P20, 29, 0, 0, 0, 0.05, 0.1, 2
        J, P20, 29, 0, 0, 0, 0.22, 0.1, 2
        J, P20, 29, 0, 0, 0, 0.05, 0.1, 2
   SECT=10, YES, NO, YES
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P20, 29, 0, 0, 0, 0.05, 0.1, 2
        I, P20, 29, 0, 0, 0, 0.22, 0.1, 2
        J, P20, 29, 0, 0, 0, 0.05, 0.1, 2
        J, P20, 29, 0, 0, 0, 0.22, 0.1, 2
   SECT=11, YES, NO, NO
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P20, 16, 0, 0, 0, 0.05, 0.2, 2
        I, P20, 16, 0, 0, 0, 0.22, 0.2, 2
        J, P20, 16, 0, 0, 0, 0.05, 0.2, 2
        J, P20, 16, 0, 0, 0, 0.22, 0.2, 2
   SECT=12, YES, NO, NO
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P20, 15, 0, 0, 0, 0.22, 0.2, 2
        I, P20, 15, 0, 0, 0, 0.05, 0.2, 2
        J, P20, 15, 0, 0, 0, 0.22, 0.2, 2
        J, P20, 15, 0, 0, 0, 0.05, 0.2, 2
   SECT=13, YES, NO, NO
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P16, 15, 0, 0, 0, 0.05, 0.2, 2
        I, P16, 15, 0, 0, 0, 0.22, 0.2, 2
        J, P16, 15, 0, 0, 0, 0.05, 0.2, 2
        J, P16, 15, 0, 0, 0, 0.22, 0.2, 2
   SECT=14, YES, NO, NO
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P20, 15, 0, 0, 0, 0.22, 0.2, 2
        I, P20, 15, 0, 0, 0, 0.05, 0.2, 2
        J, P20, 15, 0, 0, 0, 0.22, 0.2, 2
        J, P20, 15, 0, 0, 0, 0.05, 0.2, 2
   SECT=16, YES, NO, YES
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P20, 32, 0, 0, 0, 0.05, 0.1, 2
        I, P20, 32, 0, 0, 0, 0.22, 0.1, 2
        J, P20, 32, 0, 0, 0, 0.05, 0.1, 2
        J, P20, 32, 0, 0, 0, 0.22, 0.1, 2
   SECT=21, YES, NO, YES
        NO, , , , NO, , , , , , NO, , , , NO, , , NO, ,
        I, P20, 29, 0, 0, 0, 0.22, 0.1, 2
        I, P20, 29, 0, 0, 0, 0.05, 0.1, 2
        J, P20, 29, 0, 0, 0, 0.22, 0.1, 2
        J, P20, 29, 0, 0, 0, 0.05, 0.1, 2

*DGN-TRANS_STIFFENER    ; Transverse Stiffener of Element
   ELEM=101, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5, 0, 0
   ELEM=102, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5, 0, 0
   ELEM=103, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5, 0, 0
   ELEM=104, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5, 0, 0
   ELEM=105, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5, 0, 0
   ELEM=106, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5, 0, 0
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   ELEM=107, YES
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   ELEM=108, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5, 0, 0
   ELEM=109, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5, 0, 0
   ELEM=110, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 3, 0, 0
   ELEM=111, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 3, 0, 0
   ELEM=112, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 3, 0, 0
   ELEM=113, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 3, 0, 0
   ELEM=114, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 3, 0, 0
   ELEM=115, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 3, 0, 0
   ELEM=116, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5.2, 0, 0
   ELEM=117, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5.2, 0, 0
   ELEM=118, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5.2, 0, 0
   ELEM=119, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5.2, 0, 0
   ELEM=120, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5.2, 0, 0
   ELEM=121, YES
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   ELEM=124, YES
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   ELEM=127, YES
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   ELEM=128, YES
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   ELEM=129, YES
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   ELEM=134, YES
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   ELEM=135, YES
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   ELEM=137, YES
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   ELEM=138, YES
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   ELEM=139, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5, 0, 0
   ELEM=140, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5, 0, 0
   ELEM=201, YES
        I, YES, NO, NO, 1, 0.2, 0.015, 5, 0, 0
   ELEM=202, YES
        I, YES, NO, NO, 1, 0.2, 0.015, 5, 0, 0
   ELEM=203, YES
        I, YES, NO, NO, 1, 0.2, 0.015, 5, 0, 0
   ELEM=204, YES
        I, YES, NO, NO, 1, 0.2, 0.015, 5, 0, 0
   ELEM=205, YES
        I, YES, NO, NO, 1, 0.2, 0.015, 5, 0, 0
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ELEM=206, YES
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ELEM=208, YES
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ELEM=225, YES
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     I, YES, NO, NO, 1, 0.2, 0.015, 3, 0, 0
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ELEM=239, YES
     I, YES, NO, NO, 1, 0.2, 0.015, 5, 0, 0
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ELEM=301, YES
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ELEM=302, YES
     I, YES, NO, NO, 1, 0.2, 0.015, 5, 0, 0
ELEM=303, YES
     I, YES, NO, NO, 1, 0.2, 0.015, 5, 0, 0
ELEM=304, YES
     I, YES, NO, NO, 1, 0.2, 0.015, 5, 0, 0
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ELEM=305, YES
     I, YES, NO, NO, 1, 0.2, 0.015, 5, 0, 0
ELEM=306, YES
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ELEM=307, YES
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ELEM=309, YES
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ELEM=311, YES
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ELEM=312, YES
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ELEM=313, YES
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ELEM=314, YES
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ELEM=315, YES
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ELEM=316, YES
     I, YES, NO, NO, 1, 0.2, 0.015, 5.2, 0, 0
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ELEM=322, YES
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ELEM=323, YES
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ELEM=324, YES
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ELEM=325, YES
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ELEM=326, YES
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ELEM=327, YES
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ELEM=328, YES
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ELEM=329, YES
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ELEM=330, YES
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ELEM=331, YES
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ELEM=332, YES
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ELEM=333, YES
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ELEM=334, YES
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ELEM=335, YES
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ELEM=336, YES
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ELEM=337, YES
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ELEM=338, YES
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ELEM=339, YES
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ELEM=340, YES
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ELEM=401, YES
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ELEM=402, YES
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ELEM=403, YES
     I, YES, NO, NO, 0, 0.2, 0.015, 5, 0, 0
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   ELEM=404, YES
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   ELEM=405, YES
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   ELEM=406, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5, 0, 0
   ELEM=407, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5, 0, 0
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        I, YES, NO, NO, 0, 0.2, 0.015, 5, 0, 0
   ELEM=409, YES
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   ELEM=410, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 3, 0, 0
   ELEM=411, YES
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   ELEM=412, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 3, 0, 0
   ELEM=413, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 3, 0, 0
   ELEM=414, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 3, 0, 0
   ELEM=415, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 3, 0, 0
   ELEM=416, YES
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   ELEM=417, YES
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   ELEM=418, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5.2, 0, 0
   ELEM=419, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5.2, 0, 0
   ELEM=420, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5.2, 0, 0
   ELEM=421, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5.2, 0, 0
   ELEM=422, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5.2, 0, 0
   ELEM=423, YES
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   ELEM=424, YES
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   ELEM=425, YES
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   ELEM=426, YES
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   ELEM=427, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 3, 0, 0
   ELEM=428, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 3, 0, 0
   ELEM=429, YES
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   ELEM=430, YES
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   ELEM=431, YES
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   ELEM=432, YES
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   ELEM=433, YES
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   ELEM=434, YES
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   ELEM=435, YES
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   ELEM=436, YES
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   ELEM=437, YES
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   ELEM=438, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5, 0, 0
   ELEM=439, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5, 0, 0
   ELEM=440, YES
        I, YES, NO, NO, 0, 0.2, 0.015, 5, 0, 0

*DGN-SHEAR_CONNECTOR    ; Shear Connector of Element
   ELEM=101, YES
        I, YES, 4, 450000, 0.0222, 0.175, 0.1, 0.2
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ELEM=102, YES
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ELEM=103, YES
     I, YES, 4, 450000, 0.0222, 0.175, 0.1, 0.2
ELEM=104, YES
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ELEM=105, YES
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ELEM=106, YES
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ELEM=107, YES
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ELEM=108, YES
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ELEM=109, YES
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ELEM=110, YES
     I, YES, 4, 450000, 0.0222, 0.175, 0.1, 0.2
ELEM=111, YES
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ELEM=112, YES
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ELEM=113, YES
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ELEM=114, YES
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ELEM=115, YES
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ELEM=116, YES
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ELEM=117, YES
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ELEM=118, YES
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ELEM=119, YES
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ELEM=120, YES
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ELEM=121, YES
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ELEM=124, YES
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ELEM=125, YES
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ELEM=126, YES
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ELEM=127, YES
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ELEM=128, YES
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ELEM=129, YES
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ELEM=130, YES
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ELEM=131, YES
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ELEM=132, YES
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ELEM=133, YES
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ELEM=135, YES
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ELEM=139, YES
     I, YES, 4, 450000, 0.0222, 0.175, 0.1, 0.2
ELEM=140, YES
     I, YES, 4, 450000, 0.0222, 0.175, 0.1, 0.2
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ELEM=201, YES
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ELEM=202, YES
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ELEM=203, YES
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ELEM=210, YES
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ELEM=211, YES
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ELEM=212, YES
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ELEM=213, YES
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ELEM=214, YES
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ELEM=215, YES
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ELEM=218, YES
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ELEM=219, YES
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ELEM=225, YES
     I, YES, 4, 450000, 0.0222, 0.175, 0.1, 0.2
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ELEM=227, YES
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ELEM=228, YES
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*DGN-POSITION    ; Design Position of Element
   101to140 201to240 301to340 401to440, 2

*DGN-DESIGN OUTPUT    ; Composite Position for Design Output
   104, 1

*DGN-PLATEGIRDER    ; Composite Plate Girder Design
  1901, YES, YES, YES, YES, YES, NO, YES, YES, \
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 1.25, 1.25, 1.25, 1.25, 1, 0, YES, YES, YES, YES, YES, YES, YES, 0, NO, YES, NO, NO

*DGN-PLATE-LT-BUCKLING   ; Composite Girder Lateral-Torsional Buckling
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   ELEM=438, YES
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   ELEM=439, YES
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   ELEM=440, YES
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*DGN-PLATE-FTG   ; Composite Girder Fatigue Resistance
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   ELEM=123, YES
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   ELEM=124, YES
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   ELEM=125, YES
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   ELEM=439, YES
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   ELEM=440, YES
        I, YES, 1.1, 1

*K-FACTOR    ; Effective Length Factor
   1014to1019 1022to1027 1030to1035 1038to1043 1110to1422by8 , 0.65, 1.3
   1111to1423by8 1112to1424by8 1113to1425by8 1114to1426by8 , 0.65, 1.3
   1115to1427by8 2009to2014 2017to2022 2025to2030 2033to2038 , 0.65, 1.3
   3001to3361by8 3002to3362by8 3003to3363by8 3004to3364by8 , 0.65, 1.3
   3005to3365by8 3006to3366by8, 0.65, 1.3
   1430to1514by4 1431to1515by4 1432to1516by4 2001to2003 2005to2007 , 0.65, 0.65
   2041to2043 2045to2047, 0.65, 0.65

*DYNAGEN-TABLE    ; DynaGen Table
NAME=ResStressLT, 37425, 350, , , YES, , 0, 1, NO, 1, 1, 1, 1
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0, 0, 0, 0, 0, 0
Elem, part, Lcom, Type, Sigma_Ed$ser, ALW, Tau_Ed$ser, ALW, SQRT(sigma^2+3tau^2), ALW, Lcom, Type, Sigma_c,
k*fck, Lcom, Type, Sigma_s, k*fsk, , , , , , , , , , , , , , , , , , , , , , , , , , , , , , , , , , , ,
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, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, NO, NO, NO, NO, NO, NO, NO, 0, 0, 0, YES, YES, 0, 0, 0, 0, 0, 0, 0, 0,
 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, YES, YES, NO

*SECTION MANAGER-REBAR    ; Section Manager - Reinforcement
   SECT=1, YES, YES, NO
 2, 2
 1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
 -1.5, 0.268069, 0, 0, 1.5, 0.268069, 0
 1, 0, 0
 1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
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-1.5, 0.0980688, 0, 0, 1.5, 0.0980688, 0
1, 0, 0
1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.5, 0.268069, 0, 0, 1.5, 0.268069, 0
1, 0, 0
1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.5, 0.0980688, 0, 0, 1.5, 0.0980688, 0
1, 0, 0
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=2, YES, YES, NO
2, 2
1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.5, 0.299742, 0, 6.16954e-007, 1.5, 0.299742, 0
1, 1.61, 0.990523
1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.5, 0.129742, 0, 6.16954e-007, 1.5, 0.129742, 0
1, 1.61, 0.990523
1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.5, 0.299742, 0, 6.16954e-007, 1.5, 0.299742, 0
1, 1.61, 0.990523
1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.5, 0.129742, 0, 6.16954e-007, 1.5, 0.129742, 0
1, 1.61, 0.990523
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=3, YES, YES, NO
2, 2
1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.4, 0.109898, 0, 6.16954e-007, 1.4, 0.109898, 0
1, 1.61, 0.990523
1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.4, 0.279898, 0, 6.16954e-007, 1.4, 0.279898, 0
1, 1.61, 0.990523
1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.4, 0.109898, 0, 6.16954e-007, 1.4, 0.109898, 0
1, 1.61, 0.990523
1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.4, 0.279898, 0, 6.16954e-007, 1.4, 0.279898, 0
1, 1.61, 0.990523
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=4, YES, YES, NO
2, 2
1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.4, 0.312978, 0, 6.16954e-007, 1.4, 0.312978, 0
1, 1.61, 0.990523
1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.4, 0.142978, 0, 6.16954e-007, 1.4, 0.142978, 0
1, 1.61, 0.990523
1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.4, 0.312978, 0, 6.16954e-007, 1.4, 0.312978, 0
1, 1.61, 0.990523
1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.4, 0.142978, 0, 6.16954e-007, 1.4, 0.142978, 0
1, 1.61, 0.990523
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=5, YES, YES, YES
2, 2
1, 1, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
-1.55, 0.328865, 0, 0, 1.55, 0.328865, 0
1, 0, 0
1, 1, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
-1.55, 0.158865, 0, 0, 1.55, 0.158865, 0
1, 0, 0
1, 1, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
-1.55, 0.590807, 0, 0.261942, 1.55, 0.590807, 0
1, 0, 0.261942
1, 1, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
-1.55, 0.420807, 0, 0.261942, 1.55, 0.420807, 0
1, 0, 0.261942
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=6, YES, YES, YES
2, 2
1, 0, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
-1.55, 0.420807, 0, 0, 1.55, 0.420807, 0
```

```
1, 0, 0
1, 0, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
-1.55, 0.590807, 0, 0, 1.55, 0.590807, 0
1, 0, 0
1, 0, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
-1.55, 0.158865, 0, -0.261942, 1.55, 0.158865, 0
1, 0, -0.261942
1, 0, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
-1.55, 0.328865, 0, -0.261942, 1.55, 0.328865, 0
1, 0, -0.261942
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=7, YES, YES, NO
2, 2
1, 0, 0, 0, 16, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.5, 0.141273, 0, 0, 1.5, 0.141273, 0
1, 0, 0
1, 0, 0, 0, 16, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.5, 0.311273, 0, 0, 1.5, 0.311273, 0
1, 0, 0
1, 0, 0, 0, 16, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.5, 0.141273, 0, 0, 1.5, 0.141273, 0
1, 0, 0
1, 0, 0, 0, 16, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.5, 0.311273, 0, 0, 1.5, 0.311273, 0
1, 0, 0
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=8, YES, YES, NO
2, 2
1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.5, 0.292524, 0, 0, 1.5, 0.292524, 0
1, 0, 0
1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.5, 0.122524, 0, 0, 1.5, 0.122524, 0
1, 0, 0
1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.5, 0.292524, 0, 0, 1.5, 0.292524, 0
1, 0, 0
1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.5, 0.122524, 0, 0, 1.5, 0.122524, 0
1, 0, 0
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=9, YES, YES, YES
2, 2
1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
-1.4, 0.172355, 0, 0, 1.4, 0.172355, 0
1, 0, 0
1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
-1.4, 0.342355, 0, 0, 1.4, 0.342355, 0
1, 0, 0
1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
-1.4, 0.445271, 0, 0.272916, 1.4, 0.445271, 0
1, 0, 0.272916
1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
-1.4, 0.615271, 0, 0.272916, 1.4, 0.615271, 0
1, 0, 0.272916
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=10, YES, YES, YES
2, 2
1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
-1.4, 0.615271, 0, 0, 1.4, 0.615271, 0
1, 0, 0
1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
-1.4, 0.445271, 0, 0, 1.4, 0.445271, 0
1, 0, 0
1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
-1.4, 0.342355, 0, -0.272916, 1.4, 0.342355, 0
1, 0, -0.272916
1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
-1.4, 0.172355, 0, -0.272916, 1.4, 0.172355, 0
1, 0, -0.272916
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=11, YES, YES, NO
2, 2
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1, 0, 0, 0, 16, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.5, 0.311273, 0, -6.65975e-007, 1.5, 0.311273, 0
1, 1.61, 2.02956
1, 0, 0, 0, 16, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.5, 0.141273, 0, -6.65975e-007, 1.5, 0.141273, 0
1, 1.61, 2.02956
1, 0, 0, 0, 16, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.5, 0.311273, 0, -6.65975e-007, 1.5, 0.311273, 0
1, 1.61, 2.02956
1, 0, 0, 0, 16, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.5, 0.141273, 0, -6.65975e-007, 1.5, 0.141273, 0
1, 1.61, 2.02956
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=12, YES, YES, NO
2, 2
1, 0, 0, 0, 15, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.4, 0.154793, 0, -6.65975e-007, 1.4, 0.154793, 0
1, 1.61, 2.02956
1, 0, 0, 0, 15, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.4, 0.324793, 0, -6.65975e-007, 1.4, 0.324793, 0
1, 1.61, 2.02956
1, 0, 0, 0, 15, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.4, 0.154793, 0, -6.65975e-007, 1.4, 0.154793, 0
1, 1.61, 2.02956
1, 0, 0, 0, 15, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.4, 0.324793, 0, -6.65975e-007, 1.4, 0.324793, 0
1, 1.61, 2.02956
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=13, YES, YES, NO
2, 2
1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.4, 0.305564, 0, -6.65975e-007, 1.4, 0.305564, 0
1, 1.61, 2.02956
1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.4, 0.135564, 0, -6.65975e-007, 1.4, 0.135564, 0
1, 1.61, 2.02956
1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.4, 0.305564, 0, -6.65975e-007, 1.4, 0.305564, 0
1, 1.61, 2.02956
1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.4, 0.135564, 0, -6.65975e-007, 1.4, 0.135564, 0
1, 1.61, 2.02956
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=14, YES, YES, NO
2, 2
1, 0, 0, 0, 15, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.4, 0.154793, 0, -6.65975e-007, 1.4, 0.154793, 0
1, 1.61, 2.02956
1, 0, 0, 0, 15, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.4, 0.324793, 0, -6.65975e-007, 1.4, 0.324793, 0
1, 1.61, 2.02956
1, 0, 0, 0, 15, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.4, 0.154793, 0, -6.65975e-007, 1.4, 0.154793, 0
1, 1.61, 2.02956
1, 0, 0, 0, 15, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.4, 0.324793, 0, -6.65975e-007, 1.4, 0.324793, 0
1, 1.61, 2.02956
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=16, YES, YES, YES
2, 2
1, 0, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
-1.55, 0.590807, 0, 0, 1.55, 0.590807, 0
1, 0, 0
1, 0, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
-1.55, 0.420807, 0, 0, 1.55, 0.420807, 0
1, 0, 0
1, 0, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
-1.55, 0.590807, 0, 0, 1.55, 0.590807, 0
1, 0, 0
1, 0, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
-1.55, 0.420807, 0, 0, 1.55, 0.420807, 0
1, 0, 0
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
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   SECT=21, YES, YES, YES
 2, 2
 1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
 -1.4, 0.445271, 0, 0, 1.4, 0.445271, 0
 1, 0, 0
 1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
 -1.4, 0.615271, 0, 0, 1.4, 0.615271, 0
 1, 0, 0
 1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
 -1.4, 0.445271, 0, 0, 1.4, 0.445271, 0
 1, 0, 0
 1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
 -1.4, 0.615271, 0, 0, 1.4, 0.615271, 0
 1, 0, 0
 NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
 NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO

*SECTION MANAGER-REBAR DESIGN    ; Section Manager - Reinforcement Design
   SECT=1, YES, YES, NO
 2, 2
 1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
 -1.5, 0.268069, 0, 0, 1.5, 0.268069, 0
 1, 0, 0
 1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
 -1.5, 0.0980688, 0, 0, 1.5, 0.0980688, 0
 1, 0, 0
 1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
 -1.5, 0.268069, 0, 0, 1.5, 0.268069, 0
 1, 0, 0
 1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
 -1.5, 0.0980688, 0, 0, 1.5, 0.0980688, 0
 1, 0, 0
 NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
 NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
   SECT=2, YES, YES, NO
 2, 2
 1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
 -1.5, 0.299742, 0, 6.16954e-007, 1.5, 0.299742, 0
 1, 1.61, 0.990523
 1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
 -1.5, 0.129742, 0, 6.16954e-007, 1.5, 0.129742, 0
 1, 1.61, 0.990523
 1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
 -1.5, 0.299742, 0, 6.16954e-007, 1.5, 0.299742, 0
 1, 1.61, 0.990523
 1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
 -1.5, 0.129742, 0, 6.16954e-007, 1.5, 0.129742, 0
 1, 1.61, 0.990523
 NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
 NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
   SECT=3, YES, YES, NO
 2, 2
 1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
 -1.4, 0.109898, 0, 6.16954e-007, 1.4, 0.109898, 0
 1, 1.61, 0.990523
 1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
 -1.4, 0.279898, 0, 6.16954e-007, 1.4, 0.279898, 0
 1, 1.61, 0.990523
 1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
 -1.4, 0.109898, 0, 6.16954e-007, 1.4, 0.109898, 0
 1, 1.61, 0.990523
 1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
 -1.4, 0.279898, 0, 6.16954e-007, 1.4, 0.279898, 0
 1, 1.61, 0.990523
 NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
 NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
   SECT=4, YES, YES, NO
 2, 2
 1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
 -1.4, 0.312978, 0, 6.16954e-007, 1.4, 0.312978, 0
 1, 1.61, 0.990523
 1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
 -1.4, 0.142978, 0, 6.16954e-007, 1.4, 0.142978, 0
 1, 1.61, 0.990523
 1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
 -1.4, 0.312978, 0, 6.16954e-007, 1.4, 0.312978, 0
 1, 1.61, 0.990523
 1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
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-1.4, 0.142978, 0, 6.16954e-007, 1.4, 0.142978, 0
1, 1.61, 0.990523
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=5, YES, YES, YES
2, 2
1, 1, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
-1.55, 0.328865, 0, 0, 1.55, 0.328865, 0
1, 0, 0
1, 1, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
-1.55, 0.158865, 0, 0, 1.55, 0.158865, 0
1, 0, 0
1, 1, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
-1.55, 0.590807, 0, 0.261942, 1.55, 0.590807, 0
1, 0, 0.261942
1, 1, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
-1.55, 0.420807, 0, 0.261942, 1.55, 0.420807, 0
1, 0, 0.261942
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=6, YES, YES, YES
2, 2
1, 0, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
-1.55, 0.420807, 0, 0, 1.55, 0.420807, 0
1, 0, 0
1, 0, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
-1.55, 0.590807, 0, 0, 1.55, 0.590807, 0
1, 0, 0
1, 0, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
-1.55, 0.158865, 0, -0.261942, 1.55, 0.158865, 0
1, 0, -0.261942
1, 0, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
-1.55, 0.328865, 0, -0.261942, 1.55, 0.328865, 0
1, 0, -0.261942
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=7, YES, YES, NO
2, 2
1, 0, 0, 0, 16, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.5, 0.141273, 0, 0, 1.5, 0.141273, 0
1, 0, 0
1, 0, 0, 0, 16, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.5, 0.311273, 0, 0, 1.5, 0.311273, 0
1, 0, 0
1, 0, 0, 0, 16, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.5, 0.141273, 0, 0, 1.5, 0.141273, 0
1, 0, 0
1, 0, 0, 0, 16, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.5, 0.311273, 0, 0, 1.5, 0.311273, 0
1, 0, 0
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=8, YES, YES, NO
2, 2
1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.5, 0.292524, 0, 0, 1.5, 0.292524, 0
1, 0, 0
1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.5, 0.122524, 0, 0, 1.5, 0.122524, 0
1, 0, 0
1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.5, 0.292524, 0, 0, 1.5, 0.292524, 0
1, 0, 0
1, 0, 0, 0, 16, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.5, 0.122524, 0, 0, 1.5, 0.122524, 0
1, 0, 0
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=9, YES, YES, YES
2, 2
1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
-1.4, 0.172355, 0, 0, 1.4, 0.172355, 0
1, 0, 0
1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
-1.4, 0.342355, 0, 0, 1.4, 0.342355, 0
1, 0, 0
1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
-1.4, 0.445271, 0, 0.272916, 1.4, 0.445271, 0
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1, 0, 0.272916
1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
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1, 0, 0.272916
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=10, YES, YES, YES
2, 2
1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
-1.4, 0.615271, 0, 0, 1.4, 0.615271, 0
1, 0, 0
1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
-1.4, 0.445271, 0, 0, 1.4, 0.445271, 0
1, 0, 0
1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
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1, 0, -0.272916
1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
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NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=11, YES, YES, NO
2, 2
1, 0, 0, 0, 16, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.5, 0.311273, 0, -6.65975e-007, 1.5, 0.311273, 0
1, 1.61, 2.02956
1, 0, 0, 0, 16, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.5, 0.141273, 0, -6.65975e-007, 1.5, 0.141273, 0
1, 1.61, 2.02956
1, 0, 0, 0, 16, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.5, 0.311273, 0, -6.65975e-007, 1.5, 0.311273, 0
1, 1.61, 2.02956
1, 0, 0, 0, 16, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.5, 0.141273, 0, -6.65975e-007, 1.5, 0.141273, 0
1, 1.61, 2.02956
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=12, YES, YES, NO
2, 2
1, 0, 0, 0, 15, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.2
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1, 1.61, 2.02956
1, 0, 0, 0, 15, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.4, 0.324793, 0, -6.65975e-007, 1.4, 0.324793, 0
1, 1.61, 2.02956
1, 0, 0, 0, 15, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.4, 0.154793, 0, -6.65975e-007, 1.4, 0.154793, 0
1, 1.61, 2.02956
1, 0, 0, 0, 15, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.4, 0.324793, 0, -6.65975e-007, 1.4, 0.324793, 0
1, 1.61, 2.02956
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=13, YES, YES, NO
2, 2
1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.4, 0.305564, 0, -6.65975e-007, 1.4, 0.305564, 0
1, 1.61, 2.02956
1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.4, 0.135564, 0, -6.65975e-007, 1.4, 0.135564, 0
1, 1.61, 2.02956
1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.4, 0.305564, 0, -6.65975e-007, 1.4, 0.305564, 0
1, 1.61, 2.02956
1, 0, 0, 0, 15, 0, YES, P16, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.4, 0.135564, 0, -6.65975e-007, 1.4, 0.135564, 0
1, 1.61, 2.02956
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
  SECT=14, YES, YES, NO
2, 2
1, 0, 0, 0, 15, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.2
-1.4, 0.154793, 0, -6.65975e-007, 1.4, 0.154793, 0
1, 1.61, 2.02956
1, 0, 0, 0, 15, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.2
-1.4, 0.324793, 0, -6.65975e-007, 1.4, 0.324793, 0
1, 1.61, 2.02956
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 1, 0, 0, 0, 15, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.2
 -1.4, 0.154793, 0, -6.65975e-007, 1.4, 0.154793, 0
 1, 1.61, 2.02956
 1, 0, 0, 0, 15, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.2
 -1.4, 0.324793, 0, -6.65975e-007, 1.4, 0.324793, 0
 1, 1.61, 2.02956
 NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
 NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
   SECT=16, YES, YES, YES
 2, 2
 1, 0, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
 -1.55, 0.590807, 0, 0, 1.55, 0.590807, 0
 1, 0, 0
 1, 0, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
 -1.55, 0.420807, 0, 0, 1.55, 0.420807, 0
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 1, 0, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
 -1.55, 0.590807, 0, 0, 1.55, 0.590807, 0
 1, 0, 0
 1, 0, 0, 0, 32, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
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 NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
   SECT=21, YES, YES, YES
 2, 2
 1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
 -1.4, 0.445271, 0, 0, 1.4, 0.445271, 0
 1, 0, 0
 1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
 -1.4, 0.615271, 0, 0, 1.4, 0.615271, 0
 1, 0, 0
 1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.22, 0.1
 -1.4, 0.445271, 0, 0, 1.4, 0.445271, 0
 1, 0, 0
 1, 0, 0, 0, 29, 0, YES, P20, 0, 2, 0, 0, 0, 0, 0.05, 0.1
 -1.4, 0.615271, 0, 0, 1.4, 0.615271, 0
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 NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO
 NO, 0, 0, 0, NO, 0, 90, 0, 0, 1, NO, 0, 0, 0, NO, 0, 0, NO, 0, NO

*SECTION MANAGER-GROUP & PART    ; Section Manager - Group & Part
   SECT=1, YES
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   SECT=2, YES
 0, 0, 0, 0
   SECT=3, YES
 0, 0, 0, 0
   SECT=4, YES
 0, 0, 0, 0
   SECT=5, YES
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   SECT=6, YES
 0, 0, 0, 0
   SECT=7, YES
 0, 0, 0, 0
   SECT=8, YES
 0, 0, 0, 0
   SECT=9, YES
 0, 0, 0, 0
   SECT=10, YES
 0, 0, 0, 0
   SECT=11, YES
 0, 0, 0, 0
   SECT=12, YES
 0, 0, 0, 0
   SECT=13, YES
 0, 0, 0, 0
   SECT=14, YES
 0, 0, 0, 0
   SECT=16, YES
 0, 0, 0, 0
   SECT=21, YES
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*SECTION MANAGER-STIFFENER    ; Section Manager - Stiffener
   SECT=1, YES
 0, 0
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   SECT=2, YES
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   SECT=3, YES
 0, 0
   SECT=4, YES
 0, 0
   SECT=5, YES
 0, 0
   SECT=6, YES
 0, 0
   SECT=7, YES
 0, 0
   SECT=8, YES
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   SECT=10, YES
 0, 0
   SECT=11, YES
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   SECT=12, YES
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   SECT=13, YES
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   SECT=16, YES
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   SECT=21, YES
 0, 0

*ENDDATA
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