

PROVINCIA DI MANTOVA
COMUNE DI DOSOLO (MN)
CONTRIBUTO LEGGE REGIONALE N. 9 DEL 4 MAGGIO
2020 - INTERVENTI PER LA RIPRESA ECONOMICA

COMMITTENTE
COMUNE DI DOSOLO (MN)

Piazza Garibaldi n. 3
46030 Dosolo (MN)

PROGETTO
**RIFACIMENTO COPERTURA
DI EDIFICIO DI PROPRIETA'
COMUNALE ADIBITO AD
ALLOGGI SITO IN VIA
CASTELLO N. 9**

DIRIGENTE DELL'AREA TECNICA
-

RESPONSABILE DEL PROCEDIMENTO
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(Comune di Dosolo)

TITOLO
RELAZIONE DI CALCOLO

DATA	SCALA	
NOVEMBRE 2020	-	

EMISSIONE: PROGETTO DEFINITIVO/ESECUTIVO

ELAB. NO.	REV.
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SE_013	-
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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

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1 DESCRIZIONE GENERALE

La presente relazione di calcolo ha per oggetto i calcoli e le verifiche svolte per l'intervento locale di sostituzione della copertura lignea dell'immobile adibito ad abitazioni popolari sito nel Comune di Dosolo (MN) in via Castello, 9.

L'intervento riguarda unicamente la sostituzione della copertura a struttura lignea della porzione di immobile di proprietà della Pubblica Amministrazione ed il ripristino puntuale delle murature degradate del sottotetto, mediante tecnica di cuci-scuci e ristilatura dei giunti di malta.

Da un punto di vista strutturale, l'immobile si presenta regolare, sia in pianta che in elevazione, e risulta inscrivibile in un rettangolo di dimensioni di m. 20,15 x 14,95.

L'altezza massima della costruzione è pari a m. 11,10.

Le strutture verticali portanti del piano sottotetto sono realizzate in mattoni pieni e malta di calce e presentano uno spessore di circa 50 cm (murature perimetrali) e 35 cm (murature interne).

Lo stato delle murature del sottotetto si presenta in alcuni punti alquanto degradato (forte degrado dei giunti di malta), pertanto si è optato per il ripristino puntuale delle murature con ristilatura dei giunti di malta.

Le strutture di copertura esistente è a doppia orditura lignea con orditura principale in legno massiccio e travetti continui su più appoggi che sorreggono il manto di copertura in coppi.

Gli elementi lignei costituenti il tetto si presentano in un pessimo stato di conservazione con evidenti segni di marciscenza e di attacchi fungini.

Si registra inoltre la totale assenza di un sistema di cordolatura perimetrale.

Alla luce dello stato di conservazione della copertura dell'immobile si ritiene necessaria la sostituzione degli elementi portanti e la realizzazione di un cordolo perimetrale in c.a., solidarizzato alla muratura sottostante, atto a garantire un comportamento scatolare della struttura.

La nuova copertura verrà realizzata in legno lamellare con elementi principali (trave di colmo e diagonali di sezione 22x44 cm) e secondari (travetti di sezione 16x24 posti ad interasse di 5 cm) opportunamente vincolati al nuovo cordolo perimetrale in c.a..

Si riporta di seguito la pianta della nuova copertura lignea.

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2 NORMATIVA DI RIFERIMENTO

Le norme ed i documenti assunti quale riferimento per la progettazione strutturale vengono indicati di seguito.

- D.Min. Infrastrutture Min. Interni e Prot. Civile 17 Gennaio 2018 e allegate "Norme tecniche per le costruzioni".
- Circolare 21/01/19, n. 7 C.S.LL.PP. "Istruzioni per l'applicazione dell'aggiornamento delle Norme Tecniche delle Costruzioni di cui al decreto ministeriale 17 gennaio 2018"
- UNI EN 1995-1-1:2005 01/02/2005 Eurocodice 5 - Progettazione delle strutture di legno - Parte 1-1: Regole generali – Regole comuni e regole per gli edifici.

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3 MATERIALI

3.1 Elementi in C.A. (Cordoli perimetrali)

3.1.1 Calcestruzzo C25/30

Parametri di verifica:

Resistenza caratteristica cubica di compressione del cls
Resistenza caratteristica cilindrica di compressione del cls
Resistenza caratteristica cilindrica media di compressione del cls
Resistenza media a trazione semplice del cls
Resistenza caratteristica di trazione del cls, frattile del 5%
Resistenza caratteristica di trazione del cls, frattile del 95%
Coefficiente parziale materiale per resistenza a compressione
Coefficiente parziale materiale per resistenza a trazione
Coefficiente riduttivo per resistenza a compressione di lunga durata
Coefficiente riduttivo per resistenza a trazione di lunga durata

$$\begin{aligned}R_{ck} &= 30 \text{ N/mm}^2 \\f_{ck} &= 25 \text{ N/mm}^2 \\f_{cm} &= f_{ck} + 8 \text{ N/mm}^2 = 33 \text{ N/mm}^2 \\f_{ct,m} &= 0,3 f_{ck}^{2/3} = 2,565 \text{ N/mm}^2 \\f_{ctk,5\%} &= 0,7 f_{ct,m} = 1,795 \text{ N/mm}^2 \\f_{ctk,95\%} &= 1,3 f_{ct,m} = 2,334 \text{ N/mm}^2 \\\gamma_c &= 1,5 \\\gamma_c &= 1,5 \\\alpha_{cc} &= 0,85 \\\alpha_{ct} &= 0,85\end{aligned}$$

Parametri di progetto:

Resistenza cilindrica di compressione del cls
Resistenza di trazione del cls

$$\begin{aligned}f_{cd} &= \alpha_{cc} \frac{f_{ck}}{\gamma_c} = 14,167 \frac{\text{N}}{\text{mm}^2} \\f_{ctd} &= \alpha_{ct} \frac{f_{ctk}}{\gamma_c} = 1,197 \frac{\text{N}}{\text{mm}^2}\end{aligned}$$

Proprietà reologiche:

Modulo di Elasticità

$$E_{cm} = 22000 \left[\frac{f_{cm}}{10} \right]^{0.3} = 31\,476 \frac{\text{N}}{\text{mm}^2}$$

Coefficiente di Poisson

$$\nu = 0,2$$

Modulo di Elasticità Tangenziale

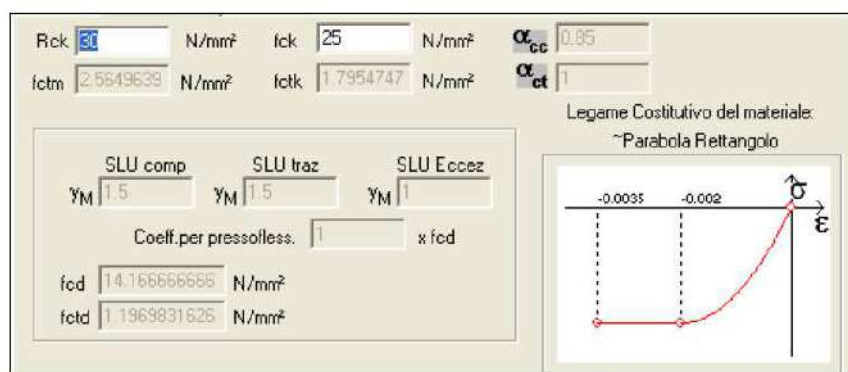
$$G = \frac{E_m}{2(1+\nu)} = 11\,115 \frac{\text{N}}{\text{mm}^2}$$

Peso specifico

$$\rho = 25 \text{ kN/m}^3$$

Coefficiente di dilatazione termica

$$\alpha = 1\text{e-}05 \text{ (1}^\circ\text{/C)}$$



Legame costitutivo calcestruzzo C25/30

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

3.1.2 Acciaio per armatura

Parametri di verifica:

Tensione caratteristica di snervamento

$$f_{yk} = 450 \text{ N/mm}^2$$

Resistenza ultima a trazione

$$f_{tk} = 540 \text{ N/mm}^2$$

Coefficiente parziale materiale per resistenza a compressione

$$\gamma_s = 1,15$$

Coefficiente parziale materiale per resistenza a trazione

$$\gamma_s = 1,15$$

Deformazione ultima

$$\epsilon_{ud} = 0,0675$$

Tipo di barre

Aderenza migliorata

Parametri di progetto:

Resistenza di progetto a trazione dell'acciaio

$$f_{yd} = \frac{f_{yk}}{\gamma_s} = 391,3 \frac{\text{N}}{\text{mm}^2}$$

Resistenza di progetto a compressione dell'acciaio

$$f_{yd} = \frac{f_{yk}}{\gamma_s} = 391,3 \frac{\text{N}}{\text{mm}^2}$$

Proprietà reologiche:

Modulo di Elasticità

$$E_s = 210\,000 \frac{\text{N}}{\text{mm}^2}$$

Coefficiente di Poisson

$$\nu = 0,3$$

Modulo di Elasticità Tangenziale

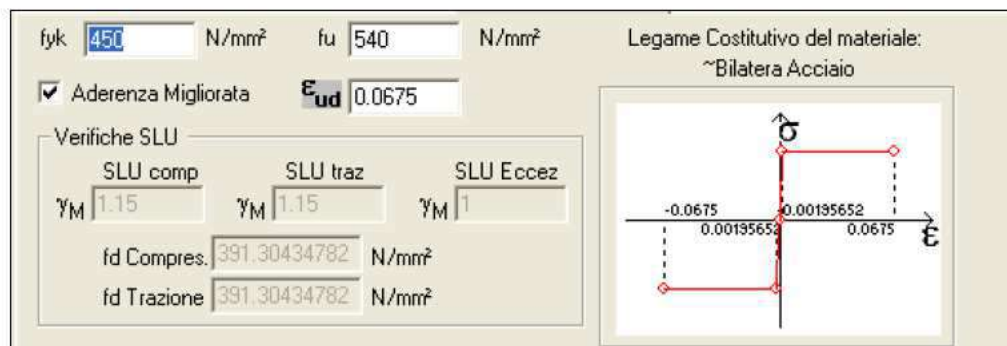
$$G = \frac{E_s}{2(1+\nu)} = 76\,923 \frac{\text{N}}{\text{mm}^2}$$

Peso specifico

$$\rho = 78,5 \text{ kN/m}^3$$

Coefficiente di dilatazione termica

$$\alpha = 1,2 \cdot 10^{-5} (1^\circ/\text{C})$$



Legame costitutivo acciaio B450C

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

3.2 Elementi in legno lamellate GL28h (Conforme a UNI EN 14080:2013)– Travi principali e travetti

Parametri di verifica:

Resistenza f_{c0k}	$f_{c0k} = 28 \text{ N/mm}^2$
Resistenza f_{t0k}	$f_{t0k} = 22.3 \text{ N/mm}^2$
Resistenza f_{mk}	$f_{mk} = 28.0 \text{ N/mm}^2$
Resistenza f_{vk}	$f_{vk} = 3.5 \text{ N/mm}^2$

Classificazione:

Classe di servizio	2 - MEDIA UMIDITA'
Kmod permanente	0.60
Kmod lunga	0.70
Kmod media	0.80
Kmod breve	0.90
Kmod istantanea	1.10
Kdef	0.80

Proprietà reologiche:

Modulo di Elasticità	$E = 12600 \frac{\text{N}}{\text{mm}^2}$
Coefficiente di Poisson	$\nu = 0,0$
Modulo di Elasticità Tangenziale	$G = 650 \frac{\text{N}}{\text{mm}^2}$
Peso specifico	$\rho = 4,6 \text{ kN/m}^3$
Coefficiente di dilatazione termica	$\alpha = 1,0\text{e-}05 \text{ (}1^\circ/\text{C)}$

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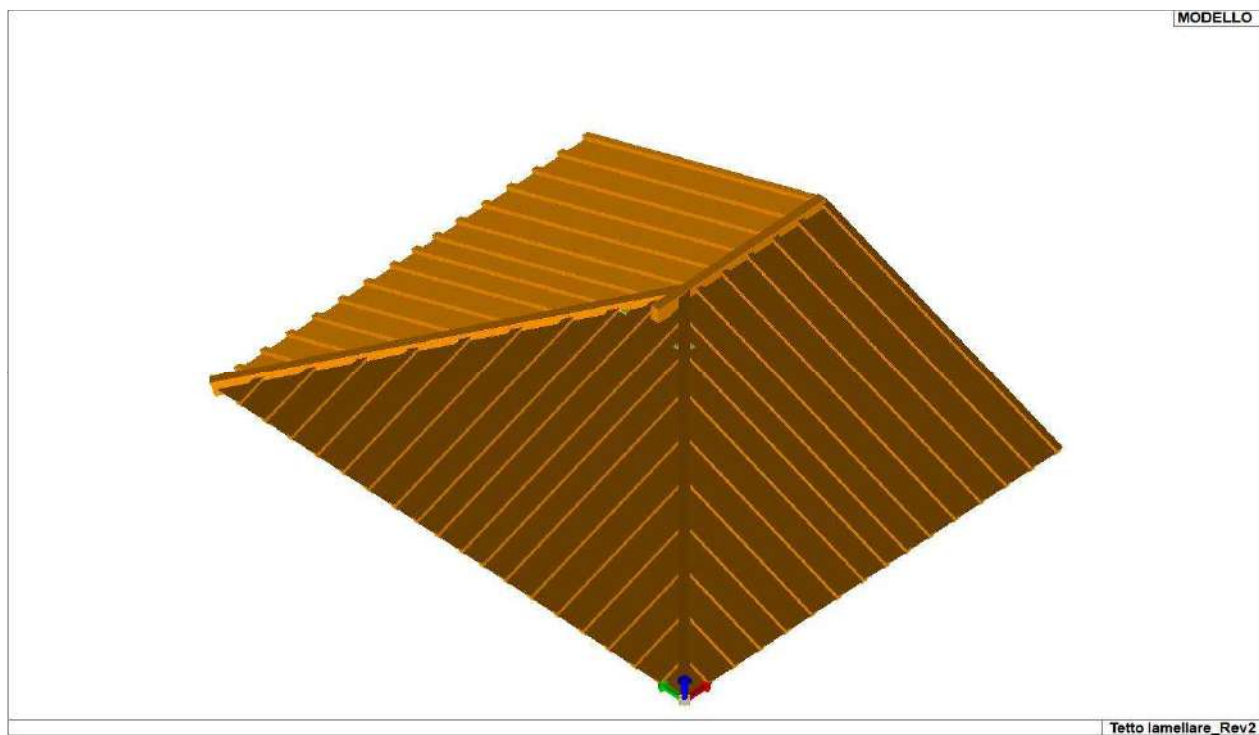
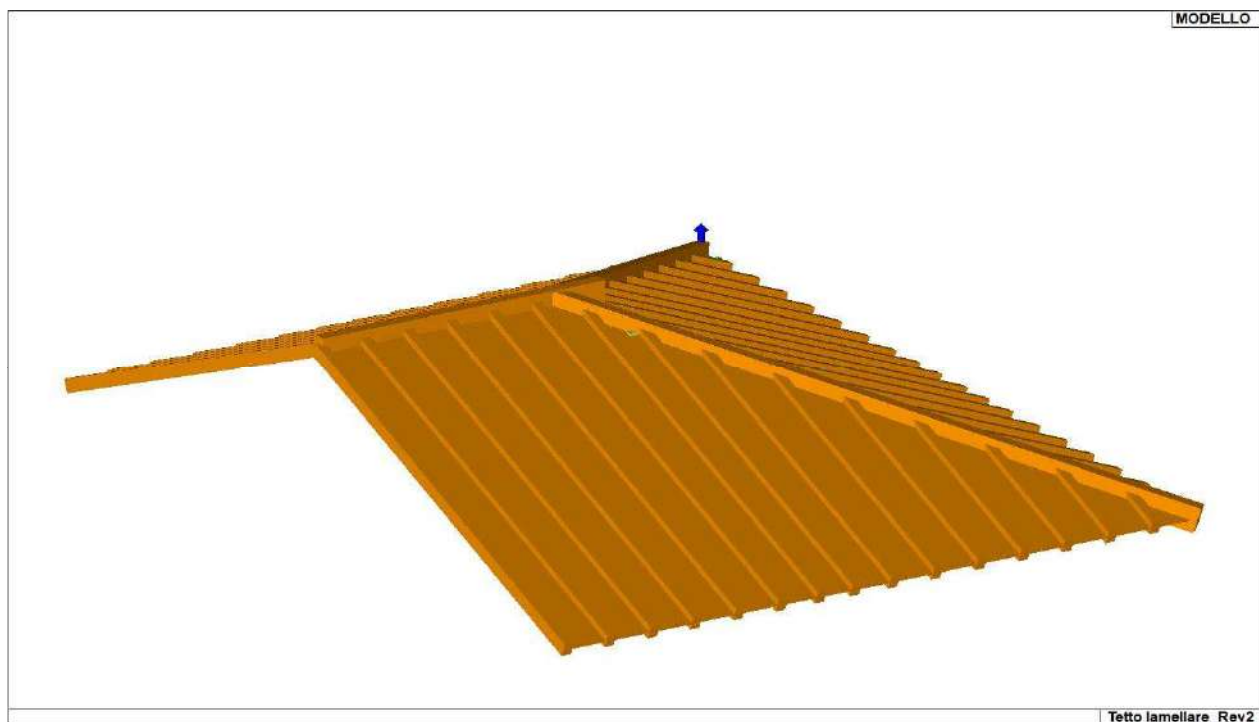
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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

5 MODELLAZIONE

Si riportano le viste solide del modello di calcolo:

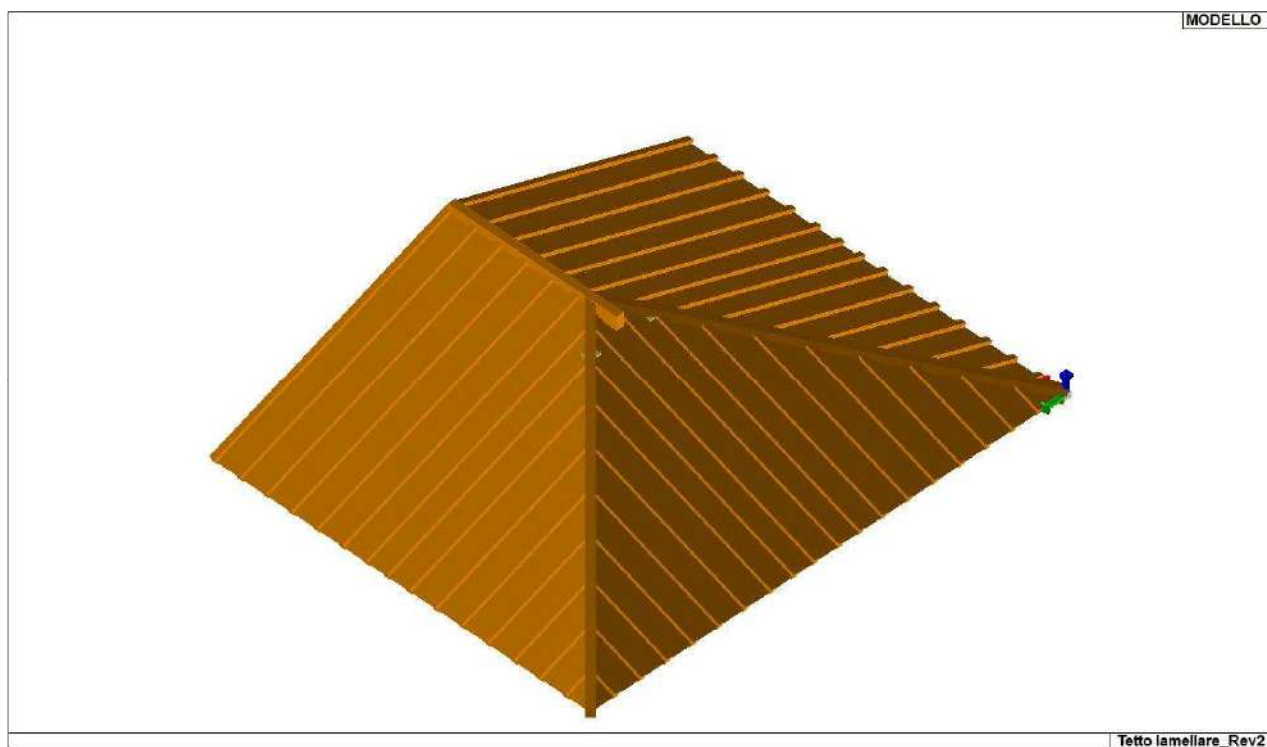


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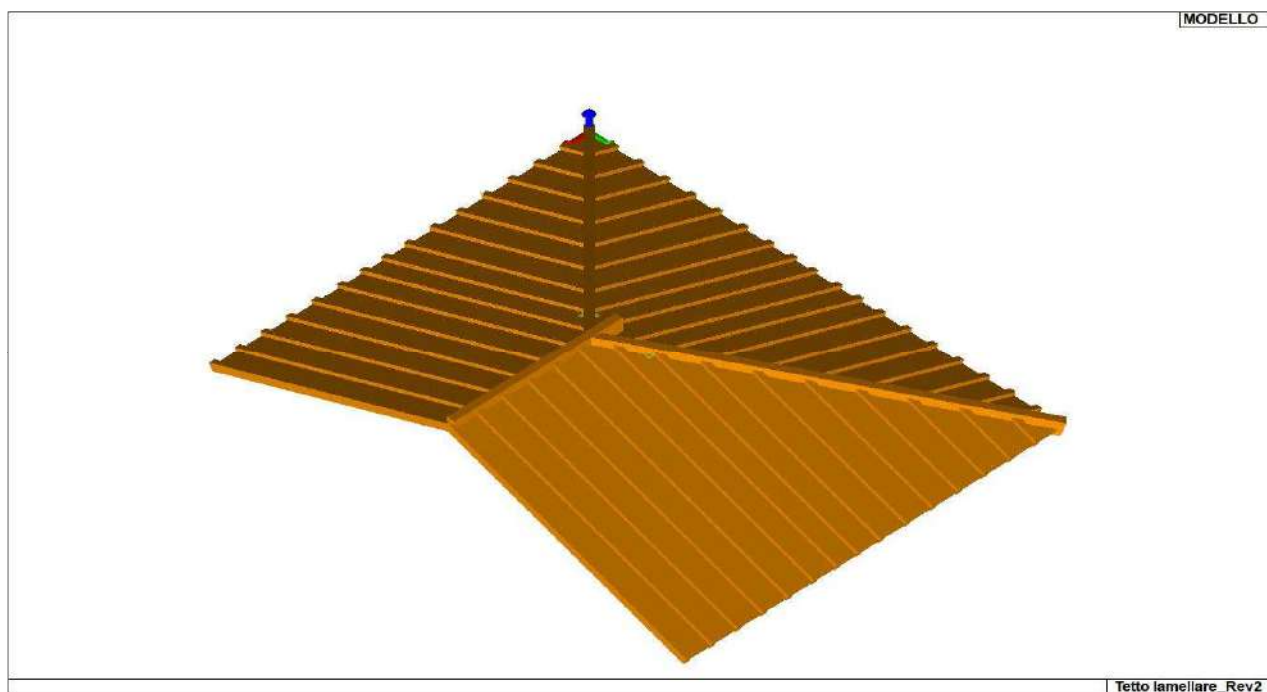
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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A



01_INT_VISTA_SOLIDA_003



01_INT_VISTA_SOLIDA_004

In questa parte viene descritto il modello numerico utilizzato per l'analisi della struttura.

La presentazione delle informazioni deve essere, coerentemente con le prescrizioni del paragrafo 10.2 e relativi sotto paragrafi delle NTC-18, tale da garantirne la leggibilità, la corretta interpretazione e la riproducibilità.

Tipo di analisi strutturale

Statica lineare	SI

Informazioni sul programma di calcolo

Di seguito si indicano l'origine e le caratteristiche dei codici di calcolo utilizzati riportando titolo, produttore e distributore, versione, estremi della licenza d'uso:

Titolo:	PRO_SAP PROfessional Structural Analysis Program
Versione:	PROFESSIONAL (build 2019-01-184)
Produttore-Distributore:	2S.I. Software e Servizi per l'Ingegneria s.r.l., Ferrara
Dati utente finale	Ing. Simone Marchi – Iscritto all'Ordine degli Ingegneri della Provincia di Mantova al n. 1628
Codice Licenza:	Licenza dsi5405

Un attento esame preliminare della documentazione a corredo del software ***ha consentito di valutarne l'affidabilità e soprattutto l'idoneità al caso specifico***. La documentazione, fornita dal produttore e distributore del software, contiene una esauriente descrizione delle basi teoriche e degli algoritmi impiegati, l'individuazione dei campi d'impiego, nonché casi prova interamente risolti e commentati, corredati dei file di input necessari a riprodurre l'elaborazione:

Affidabilità dei codici utilizzati

2S.I. ha verificato l'affidabilità e la robustezza del codice di calcolo attraverso un numero significativo di casi prova in cui i risultati dell'analisi numerica sono stati confrontati con soluzioni teoriche.

E' possibile reperire la documentazione contenente alcuni dei più significativi casi trattati al seguente link:
<http://www.2si.it/Software/Affidabilità.htm>

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

5.1 Informazioni sul modello di calcolo

Modellazione della geometria e proprietà meccaniche:	
nodi	80
elementi D2 (per aste, travi, pilastri...)	79
elementi D3 (per pareti, platee, gusci...)	0
elementi solaio	49
elementi solidi	0
Dimensione del modello strutturale [cm]:	
X min =	0.00
Xmax =	1105.00
Ymin =	0.00
Ymax =	1395.00
Zmin =	-0.00
Zmax =	290.00
Strutture verticali:	
Elementi di tipo asta	NO
Pilastri	SI
Pareti	NO
Setti (a comportamento membranale)	NO
Strutture non verticali:	
Elementi di tipo asta	NO
Travi	SI
Gusci	NO
Membrane	NO
Orizzontamenti:	
Solai con la proprietà piano rigido	NO
Solai senza la proprietà piano rigido	SI
Tipo di vincoli:	
Nodi vincolati rigidamente	SI

Combinazioni dei casi di carico	
APPROCCIO PROGETTUALE	Approccio 2
Tensioni ammissibili	NO
SLU	SI
SLV (SLU con sisma)	NO
SLC	NO
SLD	NO
SLO	NO
SLU GEO A2 (per approccio 1)	NO
SLU EQU	NO
Combinazione caratteristica (rara)	SI
Combinazione frequente	SI
Combinazione quasi permanente (SLE)	SI
SLA (accidentale quale incendio)	NO

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

5.2 Caratteristiche dei materiali utilizzati

Il programma consente l'uso di materiali diversi. Sono previsti i seguenti tipi di materiale:

1	materiale tipo cemento armato
2	materiale tipo acciaio
3	materiale tipo muratura
4	materiale tipo legno
5	materiale tipo generico

I materiali utilizzati nella modellazione sono individuati da una sigla identificativa ed un codice numerico (gli elementi strutturali richiamano quest'ultimo nella propria descrizione). Per ogni materiale vengono riportati in tabella i seguenti dati:

<i>Young</i>	modulo di elasticità normale
<i>Poisson</i>	coefficiente di contrazione trasversale
<i>G</i>	modulo di elasticità tangenziale
<i>Gamma</i>	peso specifico
<i>Alfa</i>	coefficiente di dilatazione termica

I dati soprariportati vengono utilizzati per la modellazione dello schema statico e per la determinazione dei carichi inerziali e termici. In relazione al tipo di materiale vengono riportati inoltre:

1	cemento armato	Rck Fctm	resistenza caratteristica cubica resistenza media a trazione semplice
2	acciaio	Ft Fy Fd Fdt Sadm Sadmt	tensione di rottura a trazione tensione di snervamento resistenza di calcolo resistenza di calcolo per spess. t>40 mm tensione ammissibile tensione ammissibile per spess. t>40 mm
3	muratura	Resist. Fk Resist. Fvko	resistenza caratteristica a compressione resistenza caratteristica a taglio
4	legno	Resist. fc0k Resist. ft0k Resist. fmk Resist. fvk Modulo E0,05 Lamellare	Resistenza caratteristica (tensione amm. per REGLES) per compressione Resistenza caratteristica (tensione amm. per REGLES) per trazione Resistenza caratteristica (tensione amm. per REGLES) per flessione Resistenza caratteristica (tensione amm. per REGLES) per taglio Modulo elastico parallelo caratteristico lamellare o massiccio

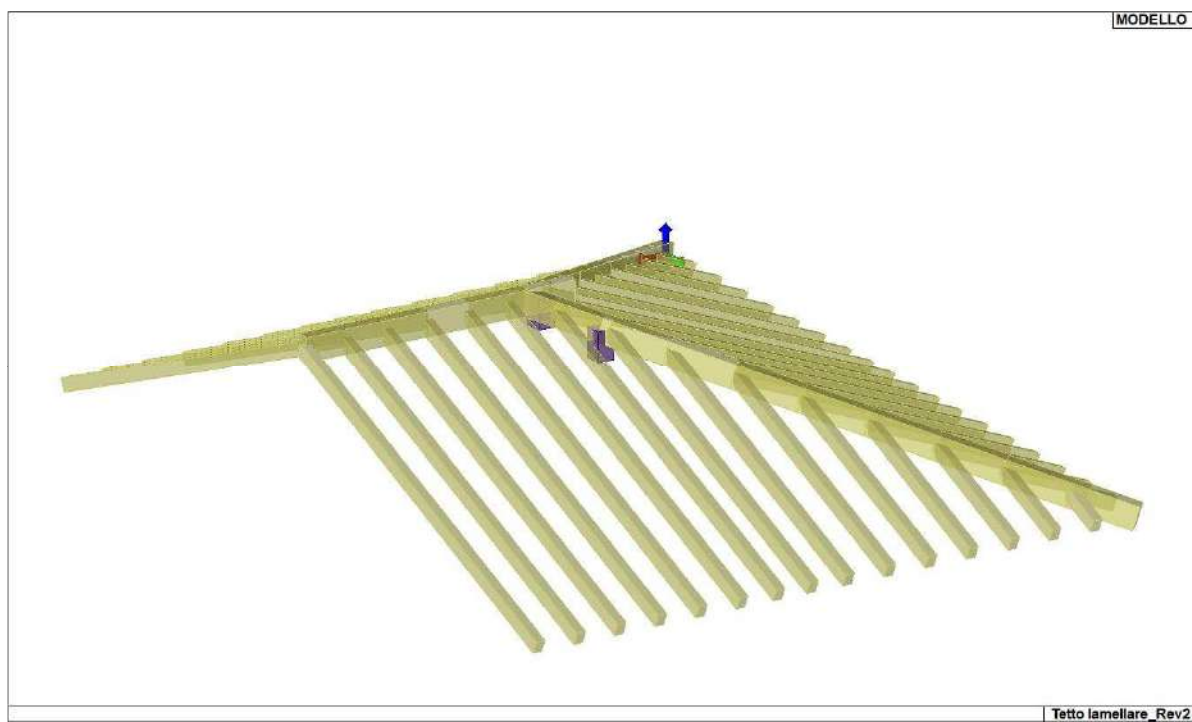
Id	Tipo / Note	V. caratt.	V. medio	Young	Poisson	G	Gamma	Alfa	Altri
131	Legno lamellare omogeneo GL28h -legno E = 1.260e+05	daN/cm2	daN/cm2	daN/cm2	0.0	daN/cm2	daN/cm3	1.00e-05	
	Modulo E0,05			1.050e+05					
	Lamellare : SI								
	Resistenza fc0	280.0							
	Resistenza ft0	223.0							
	Resistenza fm	280.0							
	Resistenza fv	35.0							
	Rapporto HRDb								1.00e-05
	Rapporto HRDv								1.00e-05
157	Materiale inf. rigido no peso E = 1.000e+09			1.000e+09	0.0	5.000e+08	0.0	1.20e-05	
	Rapporto HRDb								1.00e-05
	Rapporto HRDv								1.00e-05

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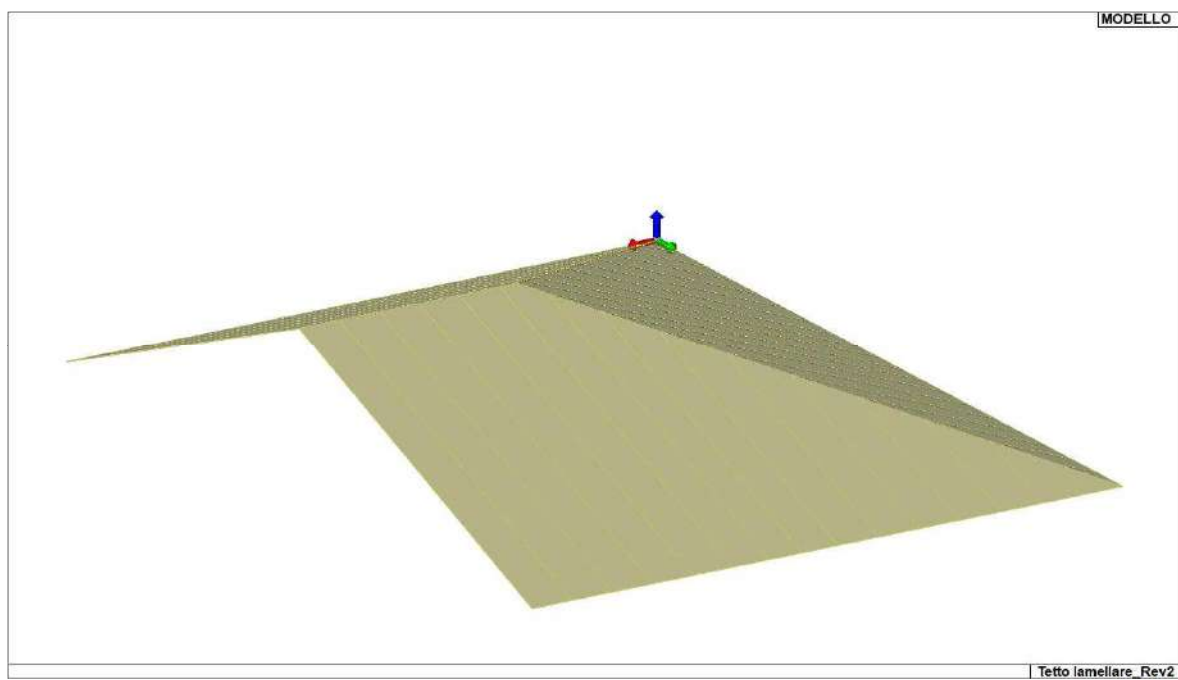
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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A



11_MOD_MATERIALI_D2



11_MOD_MATERIALI_SOLAI

Vengono inoltre riportate le tabelle contenenti il riassunto delle informazioni assegnate nei criteri di progetto in uso.

Travi in Legno	1 – Travetti	2 – Trave di colmo	3 - Diagonali
Lunghezze libere			
aste			
Beta assegnato	0.80	0.80	0.80
travi			
3-3 Beta * L automatico	NO	NO	NO
3-3 Beta assegnato	1.00	1.00	1.00
3-3 Beta * L assegnato [cm]	755.00	500.00	1030.00
2-2 Beta * L automatico	NO	NO	NO
2-2 Beta assegnato	1.00	1.00	1.00
2-2 Beta * L assegnato [cm]	755.00	500.00	1030.00
1-1 Beta * L automatico	NO	NO	NO
1-1 Beta assegnato	1.00	1.00	1.00
1-1 Beta * L assegnato [cm]	755.00	0.75	0.75
pilastrì			
Metodo di calcolo 3-3	Assegnato	Assegnato	Assegnato
3-3 Beta assegnato	2.00	2.00	2.00
3-3 Beta * L assegnato [cm]	0.0	0.0	0.0
Metodo di calcolo 2-2	Assegnato	Assegnato	Assegnato
2-2 Beta assegnato	2.00	2.00	2.00
2-2 Beta * L assegnato [cm]	0.0	0.0	0.0
1-1 Beta assegnato	1.00	1.00	1.00
1-1 Beta * L assegnato [cm]	0.0	0.0	0.0
Generalità			
Gamma non sismico	1.50	1.50	1.50
Gamma sismico	1.50	1.50	1.50
Classificazione			
Classe di servizio	2 (media umidità)	2 (media umidità)	2 (media umidità)
Per classe di servizio 1			
Kmod permanente	0.60	0.60	0.60
Kmod lunga	0.70	0.70	0.70
Kmod media	0.80	0.80	0.80
Kmod breve	0.90	0.90	0.90
Kmod istantanea	1.10	1.10	1.10
Kdef	0.60	0.60	0.60
Per classe di servizio 2			
Kmod permanente	0.60	0.60	0.60
Kmod lunga	0.70	0.70	0.70
Kmod media	0.80	0.80	0.80
Kmod breve	0.90	0.90	0.90
Kmod istantanea	1.10	1.10	1.10
Kdef	0.80	0.80	0.80
Per classe di servizio 3			
Kmod permanente	0.50	0.50	0.50
Kmod lunga	0.55	0.55	0.55
Kmod media	0.65	0.65	0.65
Kmod breve	0.70	0.70	0.70
Kmod istantanea	0.90	0.90	0.90
Kdef	2.00	2.00	2.00

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5.3 Modellazione delle sezioni

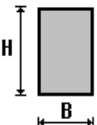
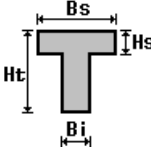
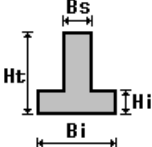
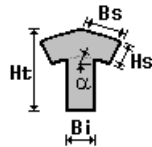
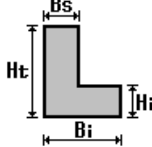
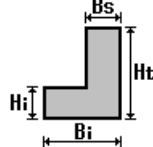
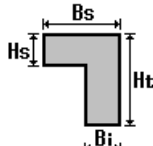
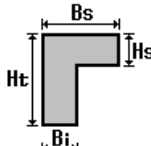
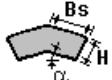
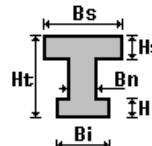
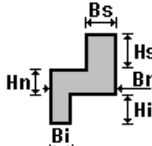
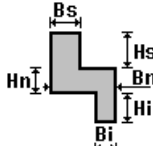
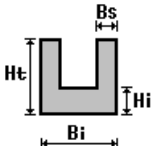
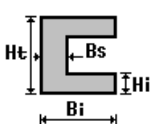
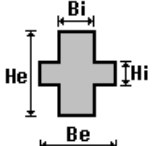
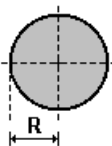
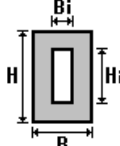
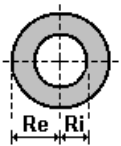
Il programma consente l'uso di sezioni diverse. Sono previsti i seguenti tipi di sezione:

- 1 sezione di tipo generico
- 2 profilati semplici
- 3 profilati accoppiati e speciali

Le sezioni utilizzate nella modellazione sono individuate da una sigla identificativa ed un codice numerico (gli elementi strutturali richiamano quest'ultimo nella propria descrizione). Per ogni sezione vengono riportati in tabella i seguenti dati:

Area	area della sezione
A V2	area della sezione/fattore di taglio (per il taglio in direzione 2)
A V3	area della sezione/fattore di taglio (per il taglio in direzione 3)
Jt	fattore torsionale di rigidità
J2-2	momento d'inerzia della sezione riferito all'asse 2
J3-3	momento d'inerzia della sezione riferito all'asse 3
W2-2	modulo di resistenza della sezione riferito all'asse 2
W3-3	modulo di resistenza della sezione riferito all'asse 3
Wp2-2	modulo di resistenza plastico della sezione riferito all'asse 2
Wp3-3	modulo di resistenza plastico della sezione riferito all'asse 3

I dati sopra riportati vengono utilizzati per la determinazione dei carichi inerziali e per la definizione delle rigidità degli elementi strutturali; qualora il valore di Area V2 (e/o Area V3) sia nullo la deformabilità per taglio V2 (e/o V3) è trascurata. La valutazione delle caratteristiche inerziali delle sezioni è condotta nel riferimento 2-3 dell'elemento.

 rettangolare	 a T	 a T rovescia	 a T di colmo	 a L	 a L specchiata
 a L specchiata rovescia	 a L rovescia	 a L di colmo	 a doppio T	 a quattro specchiata	 a quattro
 a U	 a C	 a croce	 circolare	 rettangolare cava	 circolare cava

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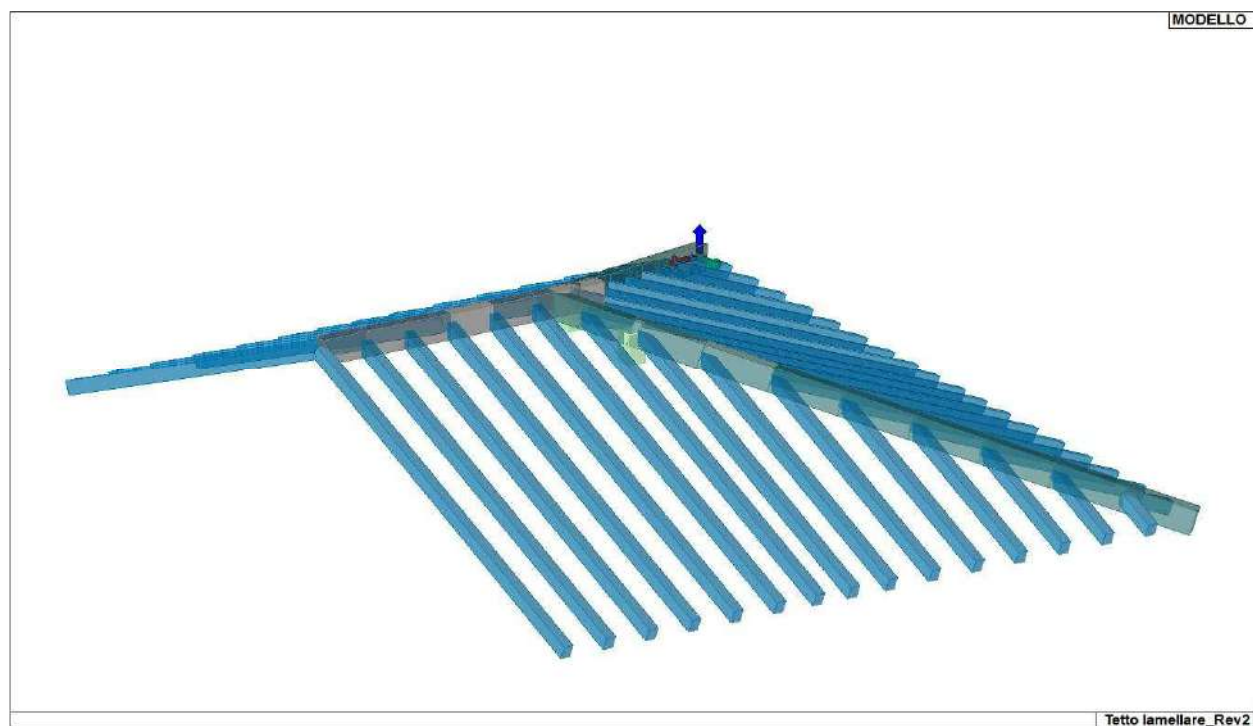
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Per quanto concerne le sezioni di tipo generico (tipo 1.):

i valori dimensionali con prefisso B sono riferiti all'asse 2

i valori dimensionali con prefisso H sono riferiti all'asse 3

Id	Tipo	Area	A V2	A V3	Jt	J 2-2	J 3-3	W 2-2	W 3-3	Wp 2-2	Wp 3-3
		cm2	cm2	cm2	cm4	cm4	cm4	cm3	cm3	cm3	cm3
1	Tr Ginocchio 22x44-Rettangolare: b=22 h=44	968.00	806.67	806.67	1.070e+05	3.904e+04	1.562e+05	3549.33	7098.67	5324.00	1.065e+04
2	Travetti 16x24-Rettangolare: b=16 h=24	384.00	320.00	320.00	1.901e+04	8192.00	1.843e+04	1024.00	1536.00	1536.00	2304.00
3	Puntoni 22x44-Rettangolare: b=22 h=44	968.00	806.67	806.67	1.070e+05	3.904e+04	1.562e+05	3549.33	7098.67	5324.00	1.065e+04
4	Appoggio-Rettangolare: b=30 h=30	900.00	750.00	750.00	1.139e+05	6.750e+04	6.750e+04	4500.00	4500.00	6750.00	6750.00



13_MOD_SEZIONI

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5.4 Modellazione struttura: NODI

Il programma utilizza per la modellazione nodi strutturali.

Ogni nodo è individuato dalle coordinate cartesiane nel sistema di riferimento globale (X Y Z).

Ad ogni nodo è eventualmente associato un codice di vincolo rigido, un codice di fondazione speciale, ed un set di sei molle (tre per le traslazioni, tre per le rotazioni). Le tabelle sotto riportate riflettono le succitate possibilità. In particolare per ogni nodo viene indicato in tabella:

Nodo	numero del nodo.
X	valore della coordinata X
Y	valore della coordinata Y
Z	valore della coordinata Z

Per i nodi ai quali sia associato un codice di vincolo rigido, un codice di fondazione speciale o un set di molle viene indicato in tabella:

Nodo	numero del nodo.
X	valore della coordinata X
Y	valore della coordinata Y
Z	valore della coordinata Z
Note	eventuale codice di vincolo (es. v=110010 sei valori relativi ai sei gradi di libertà previsti per il nodo TxTyTzRxRyRz, il valore 1 indica che lo spostamento o rotazione relativo è impedito, il valore 0 indica che lo spostamento o rotazione relativo è libero).
Note	(FS = 1, 2,...) eventuale codice del tipo di fondazione speciale (1, 2,... fanno riferimento alle tipologie: plinto, palo, plinto su pali,...) che è collegato al nodo. (ISO = "id SIGLA") indice e sigla identificativa dell' eventuale isolatore sismico assegnato al nodo
Rig. TX	valore della rigidezza dei vincoli elastici eventualmente applicati al nodo, nello specifico TX (idem per TY, TZ, RX, RY, RZ).

Per strutture sismicamente isolate viene inoltre inserita la tabella delle caratteristiche per gli isolatori utilizzati; le caratteristiche sono indicate in conformità al cap. 7.10 del D.M. 17/01/18 .

Tabella nodi

Nodo	X	Y	Z	Nodo	X	Y	Z	Nodo	X	Y	Z
	cm	cm	cm		cm	cm	cm		cm	cm	cm
2	697.5	697.5	290.0	3	533.8	533.8	221.9	7	1030.0	697.5	290.0
11	880.0	697.5	290.0	12	730.0	697.5	290.0	15	805.0	697.5	290.0
21	955.0	697.5	290.0	25	76.3	1318.8	31.7	34	228.8	228.8	95.1
41	661.9	733.1	275.2	45	661.9	661.9	275.2	47	381.3	381.3	158.5
49	457.5	457.5	190.2	50	610.0	785.0	253.6	51	76.3	76.3	31.7
54	610.0	610.0	253.6	55	152.5	152.5	63.4	59	305.0	305.0	126.8
63	600.5	600.5	249.7	67	600.5	794.5	249.7	69	533.8	861.3	221.9
71	457.5	937.5	190.2	73	381.3	1013.8	158.5	75	305.0	1090.0	126.8
77	228.8	1166.3	95.1	79	152.5	1242.5	63.4				

Tabella vincoli

Nodo	X	Y	Z	Note	Rig. TX	Rig. TY	Rig. TZ	Rig. RX	Rig. RY	Rig. RZ
	cm	cm	cm		daN/cm	daN/cm	daN/cm	daN cm/rad	daN cm/rad	daN cm/rad
1	1105.0	697.5	290.0	v=011000						
4	0.0	1395.0	0.0	v=001000						
5	0.0	0.0	0.0	v=001000						
6	610.0	610.0	200.0	v=111111						
8	533.8	1395.0	0.0	v=101000						
9	1030.0	0.0	0.0	v=101000						
10	805.0	0.0	0.0	v=101000						
13	880.0	0.0	0.0	v=101000						
14	730.0	0.0	0.0	v=101000						
16	457.5	1395.0	0.0	v=101000						
17	955.0	1395.0	0.0	v=101000						

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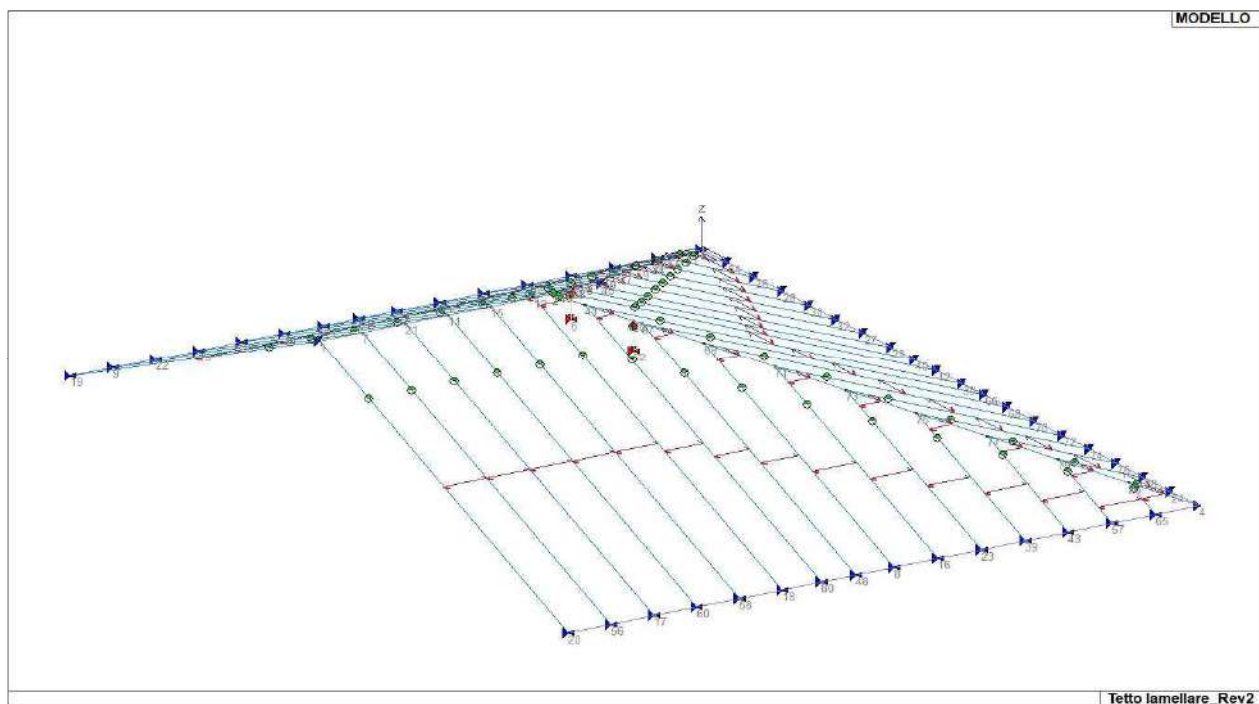
Nodo	X	Y	Z	Note	Rig. TX	Rig. TY	Rig. TZ	Rig. RX	Rig. RY	Rig. RZ
18	730.0	1395.0	0.0	v=101000						
19	1105.0	0.0	0.0	v=101000						
20	1105.0	1395.0	0.0	v=101000						
22	955.0	0.0	0.0	v=101000						
23	381.3	1395.0	0.0	v=101000						
24	0.0	1318.8	0.0	v=011000						
26	0.0	152.5	0.0	v=011000						
27	0.0	457.5	0.0	v=011000						
28	0.0	228.8	0.0	v=011000						
29	0.0	533.8	0.0	v=011000						
30	0.0	305.0	0.0	v=011000						
31	533.8	0.0	0.0	v=101000						
32	0.0	381.3	0.0	v=011000						
33	457.5	0.0	0.0	v=101000						
35	228.8	0.0	0.0	v=101000						
36	305.0	0.0	0.0	v=101000						
37	381.3	0.0	0.0	v=101000						
38	0.0	733.1	0.0	v=011000						
39	305.0	1395.0	0.0	v=101000						
40	0.0	600.5	0.0	v=011000						
42	0.0	661.9	0.0	v=011000						
43	228.8	1395.0	0.0	v=101000						
44	661.9	0.0	0.0	v=101000						
46	610.0	697.5	290.0	v=111110						
48	600.5	1395.0	0.0	v=101000						
52	610.0	785.0	200.0	v=111111						
53	152.5	0.0	0.0	v=101000						
56	1030.0	1395.0	0.0	v=101000						
57	152.5	1395.0	0.0	v=101000						
58	805.0	1395.0	0.0	v=101000						
60	880.0	1395.0	0.0	v=101000						
61	600.5	0.0	0.0	v=101000						
62	76.3	0.0	0.0	v=101000						
64	0.0	76.3	0.0	v=011000						
65	76.3	1395.0	0.0	v=101000						
66	0.0	794.5	0.0	v=011000						
68	0.0	861.3	0.0	v=011000						
70	0.0	937.5	0.0	v=011000						
72	0.0	1013.8	0.0	v=011000						
74	0.0	1090.0	0.0	v=011000						
76	0.0	1166.3	0.0	v=011000						
78	0.0	1242.5	0.0	v=011000						
80	661.9	1395.0	0.0	v=101000						

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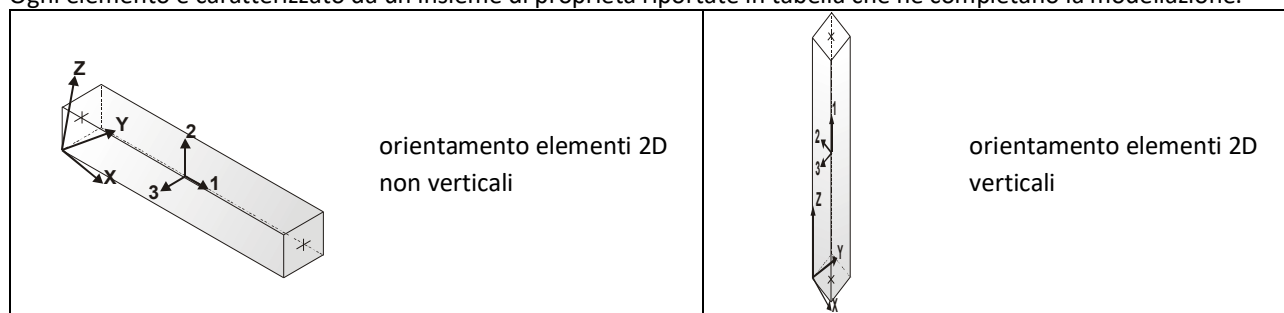
14_MOD_NUMERAZIONE_NODI

5.5 Modellazione struttura: ELEMENTI D2 (TIPO TRAVE)

Il programma utilizza per la modellazione elementi a due nodi denominati in generale travi.

Ogni elemento trave è individuato dal nodo iniziale e dal nodo finale.

Ogni elemento è caratterizzato da un insieme di proprietà riportate in tabella che ne completano la modellazione.



In particolare per ogni elemento viene indicato in tabella:

Elem.	numero dell'elemento
Note	codice di comportamento: trave, trave di fondazione, pilastro, asta, asta tesa, asta compressa,
Nodo I (J)	numero del nodo iniziale (finale)
Mat.	codice del materiale assegnato all'elemento
Sez.	codice della sezione assegnata all'elemento
Rotaz.	valore della rotazione dell'elemento, attorno al proprio asse, nel caso in cui l'orientamento di default non sia adottabile; l'orientamento di default prevede per gli elementi non verticali l'asse 2 contenuto nel piano verticale e l'asse 3 orizzontale, per gli elementi verticali l'asse 2 diretto secondo X negativo e l'asse 3 diretto secondo Y negativo
Svincolo I (J)	codici di svincolo per le azioni interne; i primi sei codici si riferiscono al nodo iniziale, i restanti sei al nodo finale (il valore 1 indica che la relativa azione interna non è attiva)
Wink V	costante di sottofondo (coefficiente di Winkler) per la modellazione della trave su suolo elastico
Wink O	costante di sottofondo (coefficiente di Winkler) per la modellazione del suolo elastico orizzontale

Elem.	Note	Nodo I	Nodo J	Mat.	Sez.	Rotaz. gradi	Svincolo I	Svincolo J
1	Trave	15	11	131	1			
2	Trave	63	54	131	3			
3	Trave	40	63	131	2			000001
4	Trave	5	51	131	3			
5	Trave	1	20	131	2		000001	
6	Pilas.	6	54	157	4			011111
7	Trave	46	2	131	1			
8	Trave	13	11	131	2			000001
9	Trave	10	15	131	2			000001
10	Trave	14	12	131	2			000001
11	Trave	21	7	131	1			
12	Trave	19	1	131	2			000001
13	Trave	61	63	131	2			000001
14	Trave	71	69	131	3			
15	Trave	9	7	131	2			000001
16	Trave	22	21	131	2			000001
17	Trave	67	50	131	3			
18	Trave	30	59	131	2			000001
19	Trave	27	49	131	2			000001
20	Trave	42	45	131	2			000001
21	Trave	54	45	131	3			
22	Trave	31	3	131	2			000001
23	Trave	36	59	131	2			000001
24	Trave	53	55	131	2			000001
25	Trave	35	34	131	2			000001
26	Trave	51	55	131	3			
27	Trave	7	1	131	1			
28	Trave	69	67	131	3			
29	Trave	37	47	131	2			000001

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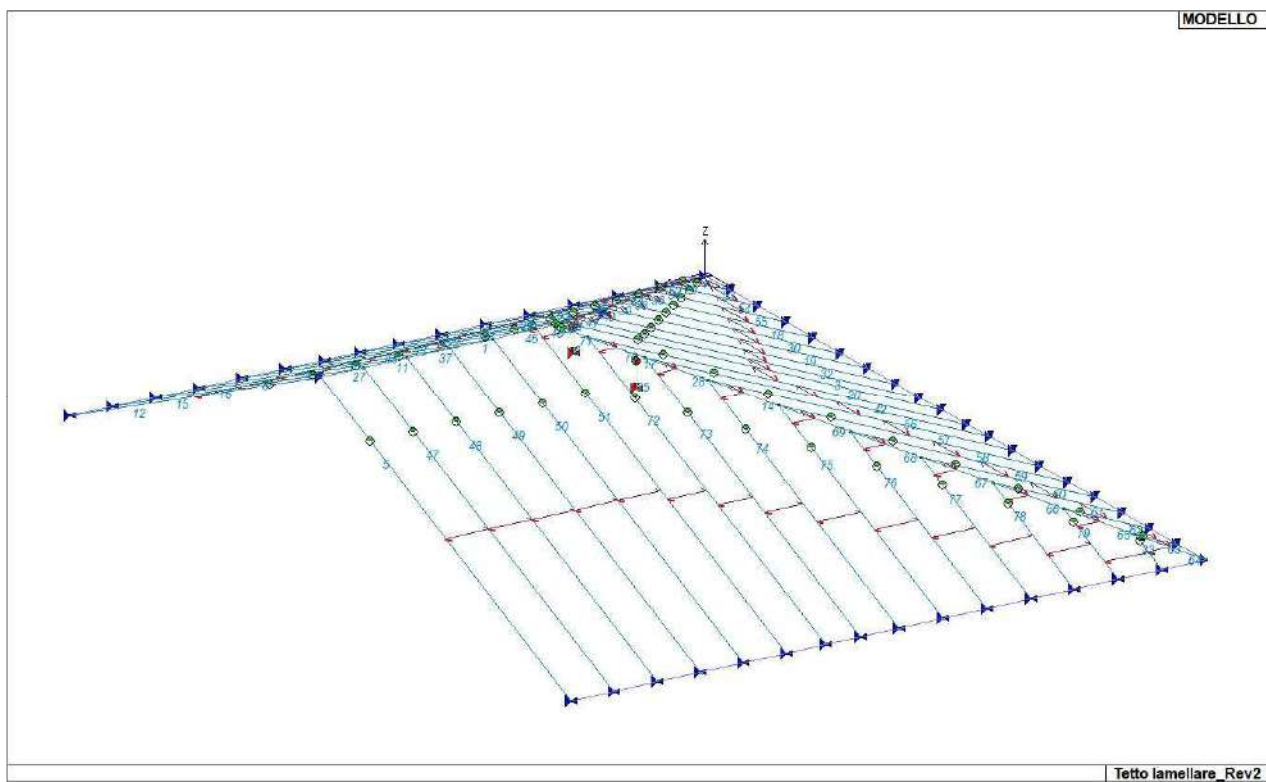
Elem.	Note	Nodo I	Nodo J	Mat.	Sez.	Rotaz.	Svincolo I	Svincolo J
30	Trave	32	47	131	2			000001
31	Trave	33	49	131	2			000001
32	Trave	29	3	131	2			000001
33	Trave	25	65	131	2		000001	
34	Trave	55	34	131	3			
35	Pilas.	52	50	157	4			011111
36	Trave	34	59	131	3			
37	Trave	11	21	131	1			
38	Trave	59	47	131	3			
39	Trave	47	49	131	3			
40	Trave	49	3	131	3			
41	Trave	3	63	131	3			
42	Trave	38	41	131	2			000001
43	Trave	44	45	131	2			000001
44	Trave	45	2	131	3			000011
45	Trave	2	12	131	1			
46	Trave	12	15	131	1			
47	Trave	7	56	131	2		000001	
48	Trave	21	17	131	2		000001	
49	Trave	11	60	131	2		000001	
50	Trave	15	58	131	2		000001	
51	Trave	12	18	131	2		000001	
52	Trave	62	51	131	2			000001
53	Trave	64	51	131	2			000001
54	Trave	26	55	131	2			000001
55	Trave	28	34	131	2			000001
56	Trave	66	67	131	2			000001
57	Trave	68	69	131	2			000001
58	Trave	70	71	131	2			000001
59	Trave	72	73	131	2			000001
60	Trave	74	75	131	2			000001
61	Trave	76	77	131	2			000001
62	Trave	78	79	131	2			000001
63	Trave	24	25	131	2			000001
64	Trave	4	25	131	3			
65	Trave	25	79	131	3			
66	Trave	79	77	131	3			
67	Trave	77	75	131	3			
68	Trave	75	73	131	3			
69	Trave	73	71	131	3			
70	Trave	50	41	131	3			
71	Trave	41	2	131	3			000011
72	Trave	41	80	131	2		000001	
73	Trave	67	48	131	2		000001	
74	Trave	69	8	131	2		000001	
75	Trave	71	16	131	2		000001	
76	Trave	73	23	131	2		000001	
77	Trave	75	39	131	2		000001	
78	Trave	77	43	131	2		000001	
79	Trave	79	57	131	2		000001	

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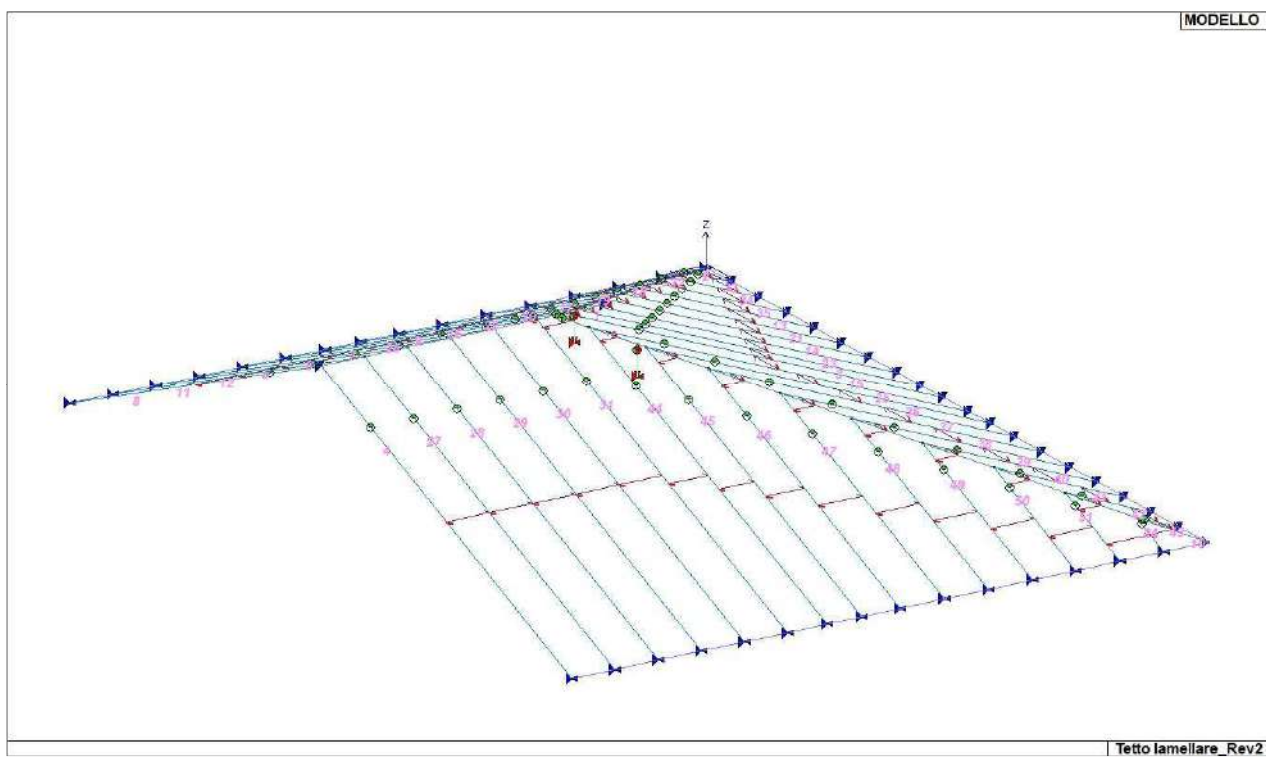
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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A



15_MOD_NUMERAZIONE_D2



15_MOD_NUMERAZIONE_D2_TRAVATE

5.6 Modellazione struttura: ELEMENTI TIPO SOLAIO O PANNELLO

Il programma utilizza per la modellazione elementi a tre o più nodi denominati in generale solaio o pannello.

Ogni elemento solaio-pannello è individuato da una poligonale di nodi 1,2, ..., N.

L'elemento solaio è utilizzato in primo luogo per la modellazione dei carichi agenti sugli elementi strutturali. In secondo luogo può essere utilizzato per la corretta ripartizione delle forze orizzontali agenti nel proprio piano. L'elemento balcone è derivato dall'elemento solaio.

I carichi agenti sugli elementi solaio, raccolti in un archivio, sono direttamente assegnati agli elementi utilizzando le informazioni raccolte nell'archivio (es. i coefficienti combinatori). La tabella seguente riporta i dati utilizzati per la definizione dei carichi e delle masse.

L'elemento pannello è utilizzato solo per l'applicazione dei carichi, quali pesi delle tamponature o spinte dovute al vento o terre. In questo caso i carichi sono applicati in analogia agli altri elementi strutturali (si veda il cap. SCHEMATIZZAZIONE DEI CASI DI CARICO).

Id.Arch.	Identificativo dell'archivio
Tipo	Tipo di carico Var. variab. Carico variabile generico Var. rid. Carico variabile generico con riduzione in funzione dell'area (c.5.5. ...) Neve Carico di neve
G1k	carico permanente (comprensivo del peso proprio)
G2k	carico permanente non strutturale e non compiutamente definito
Qk	carico variabile
Fatt. A	fattore di riduzione del carico variabile (0.5 o 0.75) per tipo "Var.rid."
S sis.	fattore di riduzione del carico variabile per la definizione delle masse sismiche per D.M. 96 (vedi NOTA sul capitolo "normativa di riferimento")
Psi 0	Coefficiente combinatorio dei valori caratteristici delle azioni variabili: per valore raro
Psi 1	Coefficiente combinatorio dei valori caratteristici delle azioni variabili: per valore frequente
Psi 2	Coefficiente combinatorio dei valori caratteristici delle azioni variabili: per valore quasi permanente
Psi S 2	Coefficiente di combinazione che fornisce il valore quasi-permanente dell'azione variabile: per la definizione delle masse sismiche
Fatt. Fi	Coefficiente di correlazione dei carichi per edifici

Ogni elemento è caratterizzato da un insieme di proprietà riportate in tabella che ne completano la modellazione. In particolare per ogni elemento viene indicato in tabella:

Elem	numero dell'elemento
Tipo	codice di comportamento S elemento utilizzato solo per scarico C elemento utilizzato per scarico e per modellazione piano rigido P elemento utilizzato come pannello M scarico monodirezionale B scarico bidirezionale
Id.Arch.	Identificativo dell'archivio
Mat	codice del materiale assegnato all'elemento
Spessore	spessore dell'elemento (costante)
Orditura	angolo (rispetto all'asse X) della direzione dei travetti principali
Gk	carico permanente solaio (comprensivo del peso proprio)
Qk	carico variabile solaio
Nodi	numero dei nodi che definiscono l'elemento (5 per riga)

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ID Arch.	Tipo	G1k	G2k	Qk	Fatt. A	s sis.	Psi 0	Psi 1	Psi 2	Psi S 2	Fatt. Fi
		daN/ m2	daN/ m2	daN/ m2							
6	Neve	115.00		80.00		1.00	0.50	0.20	0.0	0.0	1.00

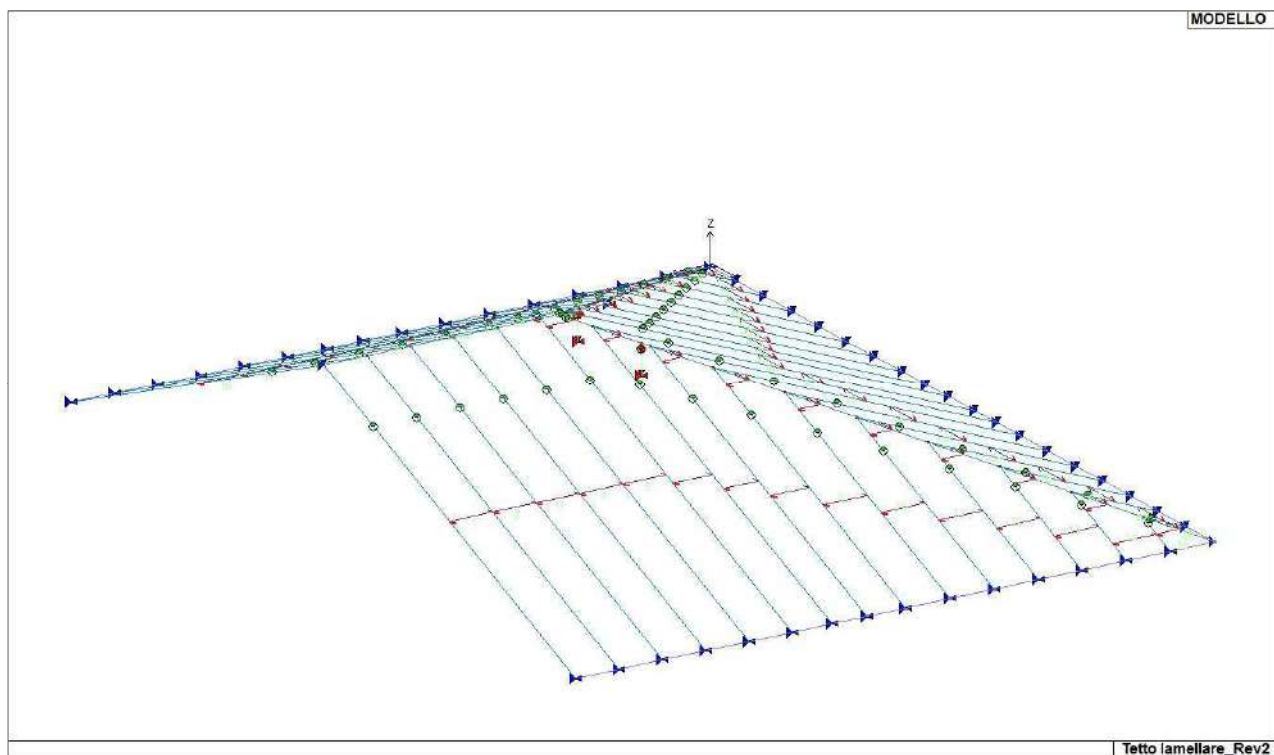
Elem.	Tipo	ID Arch.	Mat.	Spessore	Orditura	G1k	G2k	Qk	Nodo 1/6..	Nodo 2/7..	Nodo 3/8..	Nodo..	Nodo..
						daN/ m2	daN/ m2	daN/ m2					
1	SM	6	m=131	1.0	0.0	115.00		80.00	56	7	1	20	
2	SM	6	m=131	1.0	0.0	115.00		80.00	17	21	7	56	
3	SM	6	m=131	1.0	0.0	115.00		80.00	60	11	21	17	
4	SM	6	m=131	1.0	0.0	115.00		80.00	58	15	11	60	
5	SM	6	m=131	1.0	0.0	115.00		80.00	18	12	15	58	
6	SM	6	m=131	1.0	0.0	115.00		80.00	80	41	2	12	18
7	SM	6	m=131	1.0	0.0	115.00		80.00	48	67	41	80	
8	SM	6	m=131	1.0	0.0	115.00		80.00	8	69	67	48	
9	SM	6	m=131	1.0	0.0	115.00		80.00	16	71	69	8	
10	SM	6	m=131	1.0	0.0	115.00		80.00	23	73	71	16	
11	SM	6	m=131	1.0	0.0	115.00		80.00	39	75	73	23	
12	SM	6	m=131	1.0	0.0	115.00		80.00	43	77	75	39	
13	SM	6	m=131	1.0	0.0	115.00		80.00	57	79	77	43	
14	SM	6	m=131	1.0	0.0	115.00		80.00	65	25	79	57	
15	SM	6	m=131	1.0	0.0	115.00		80.00	4	25	65		
16	SM	6	m=131	1.0	0.0	115.00		80.00	19	1	7	9	
17	SM	6	m=131	1.0	0.0	115.00		80.00	9	7	21	22	
18	SM	6	m=131	1.0	0.0	115.00		80.00	22	21	11	13	
19	SM	6	m=131	1.0	0.0	115.00		80.00	13	11	15	10	
20	SM	6	m=131	1.0	0.0	115.00		80.00	10	15	12	14	
21	SM	6	m=131	1.0	0.0	115.00		80.00	14	12	2	45	44
22	SM	6	m=131	1.0	0.0	115.00		80.00	44	45	63	61	
23	SM	6	m=131	1.0	0.0	115.00		80.00	61	63	3	31	
24	SM	6	m=131	1.0	0.0	115.00		80.00	31	3	49	33	
25	SM	6	m=131	1.0	0.0	115.00		80.00	33	49	47	37	
26	SM	6	m=131	1.0	0.0	115.00		80.00	37	47	59	36	
27	SM	6	m=131	1.0	0.0	115.00		80.00	36	59	34	35	
28	SM	6	m=131	1.0	0.0	115.00		80.00	35	34	55	53	
29	SM	6	m=131	1.0	0.0	115.00		80.00	53	55	51	62	
30	SM	6	m=131	1.0	0.0	115.00		80.00	62	51	5		
31	SM	6	m=131	1.0	90.0	115.00		80.00	5	51	64		
32	SM	6	m=131	1.0	90.0	115.00		80.00	64	51	55	26	
33	SM	6	m=131	1.0	90.0	115.00		80.00	26	55	34	28	
34	SM	6	m=131	1.0	90.0	115.00		80.00	28	34	59	30	
35	SM	6	m=131	1.0	90.0	115.00		80.00	30	59	47	32	
36	SM	6	m=131	1.0	90.0	115.00		80.00	32	47	49	27	
37	SM	6	m=131	1.0	90.0	115.00		80.00	27	49	3	29	
38	SM	6	m=131	1.0	90.0	115.00		80.00	29	3	63	40	
39	SM	6	m=131	1.0	90.0	115.00		80.00	40	63	45	42	
40	SM	6	m=131	1.0	90.0	115.00		80.00	42	45	2	41	38
41	SM	6	m=131	1.0	90.0	115.00		80.00	38	41	67	66	
42	SM	6	m=131	1.0	90.0	115.00		80.00	66	67	69	68	
43	SM	6	m=131	1.0	90.0	115.00		80.00	68	69	71	70	
44	SM	6	m=131	1.0	90.0	115.00		80.00	70	71	73	72	
45	SM	6	m=131	1.0	90.0	115.00		80.00	72	73	75	74	
46	SM	6	m=131	1.0	90.0	115.00		80.00	74	75	77	76	
47	SM	6	m=131	1.0	90.0	115.00		80.00	76	77	79	78	
48	SM	6	m=131	1.0	90.0	115.00		80.00	78	79	25	24	
49	SM	6	m=131	1.0	90.0	115.00		80.00	24	25	4		

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17_MOD_NUMERAZIONE_SOLAI

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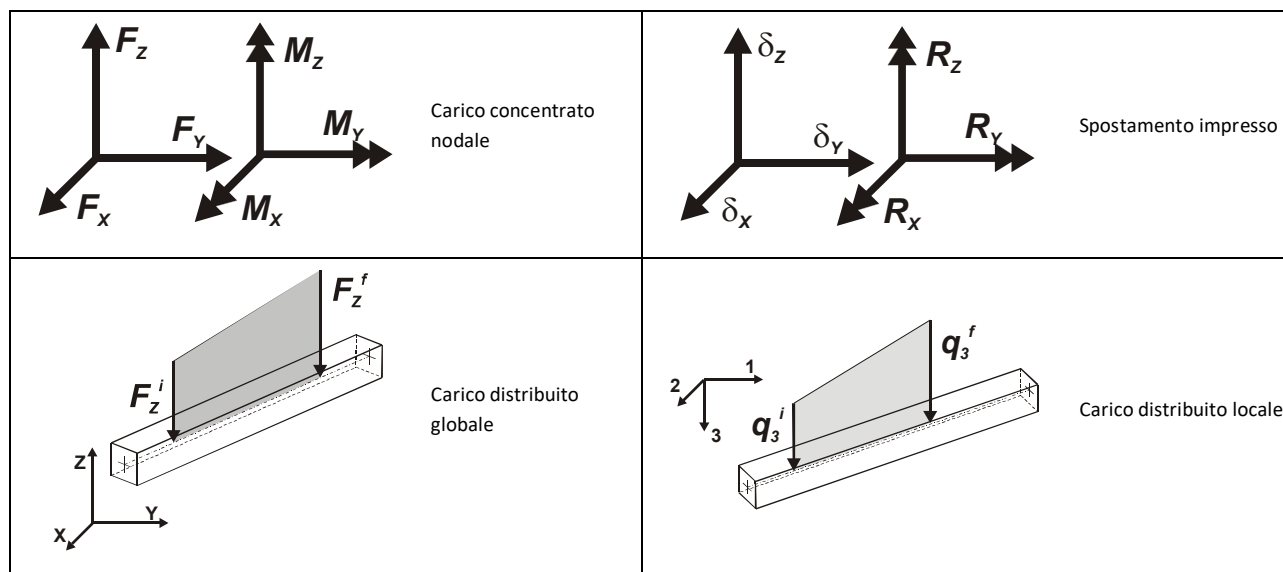
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5.7 Schematizzazione delle AZIONI

Il programma consente l'uso di diverse tipologie di carico (azioni). Le azioni utilizzate nella modellazione sono individuate da una sigla identificativa ed un codice numerico (gli elementi strutturali richiamano quest'ultimo nella propria descrizione). Per ogni azione applicata alla struttura viene di riportato il codice, il tipo e la sigla identificativa. Le tabelle successive dettagliano i valori caratteristici di ogni azione in relazione al tipo. Le tabelle riportano infatti i seguenti dati in relazione al tipo:

1	carico concentrato nodale 6 dati (forza F_x, F_y, F_z , momento M_x, M_y, M_z)
2	spostamento nodale impresso 6 dati (spostamento T_x, T_y, T_z , rotazione R_x, R_y, R_z)
3	carico distribuito globale su elemento tipo trave 7 dati ($f_x, f_y, f_z, m_x, m_y, m_z$, ascissa di inizio carico) 7 dati ($f_x, f_y, f_z, m_x, m_y, m_z$, ascissa di fine carico)
4	carico distribuito locale su elemento tipo trave 7 dati ($f_1, f_2, f_3, m_1, m_2, m_3$, ascissa di inizio carico) 7 dati ($f_1, f_2, f_3, m_1, m_2, m_3$, ascissa di fine carico)
5	carico concentrato globale su elemento tipo trave 7 dati ($F_x, F_y, F_z, M_x, M_y, M_z$, ascissa di carico)
6	carico concentrato locale su elemento tipo trave 7 dati ($F_1, F_2, F_3, M_1, M_2, M_3$, ascissa di carico)
7	variazione termica applicata ad elemento tipo trave 7 dati (variazioni termiche: uniforme, media e differenza in altezza e larghezza al nodo iniziale e finale)
8	carico di pressione uniforme su elemento tipo piastra 1 dato (pressione)
9	carico di pressione variabile su elemento tipo piastra 4 dati (pressione, quota, pressione, quota)
10	variazione termica applicata ad elemento tipo piastra 2 dati (variazioni termiche: media e differenza nello spessore)
11	carico variabile generale su elementi tipo trave e piastra 1 dato descrizione della tipologia 4 dati per segmento (posizione, valore, posizione, valore) la tipologia precisa l'ascissa di definizione, la direzione del carico, la modalità di carico e la larghezza d'influenza per gli elementi tipo trave
12	gruppo di carichi con impronta su piastra 9 dati (numero di ripetizioni in direzione X e Y, valore di ciascun carico, posizione centrale del primo, dimensioni dell'impronta, interasse tra i carichi)

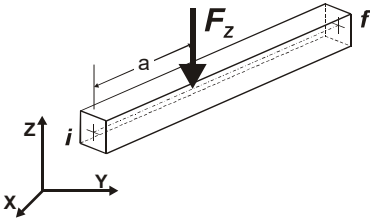
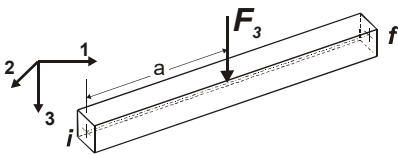
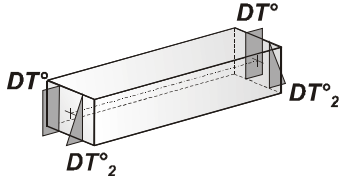
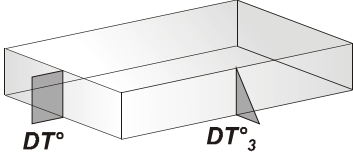
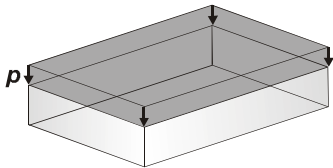
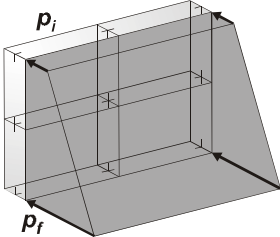


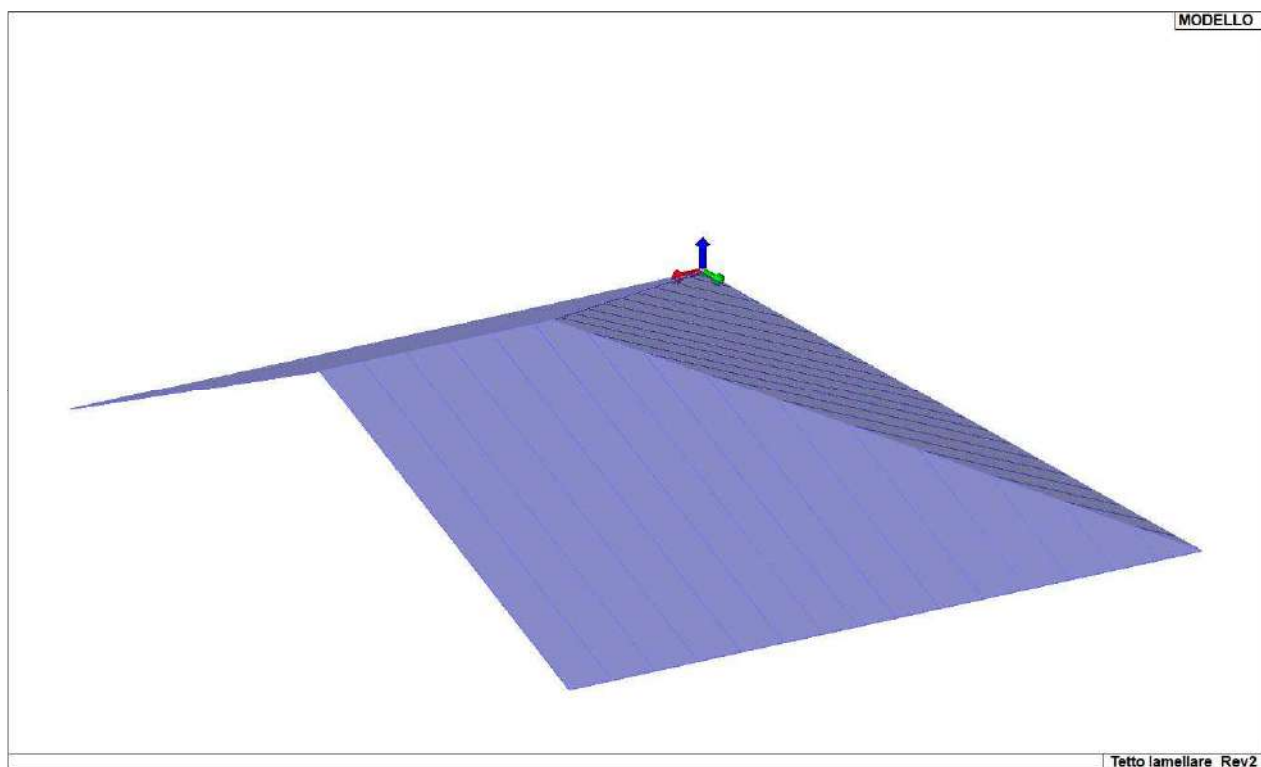
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 Carico concentrato globale	 Carico concentrato locale
 Carico termico 2D	 Carico termico 3D
 Carico pressione uniforme	 Carico pressione variabile



21_CAR_CARICHI_SOLAI

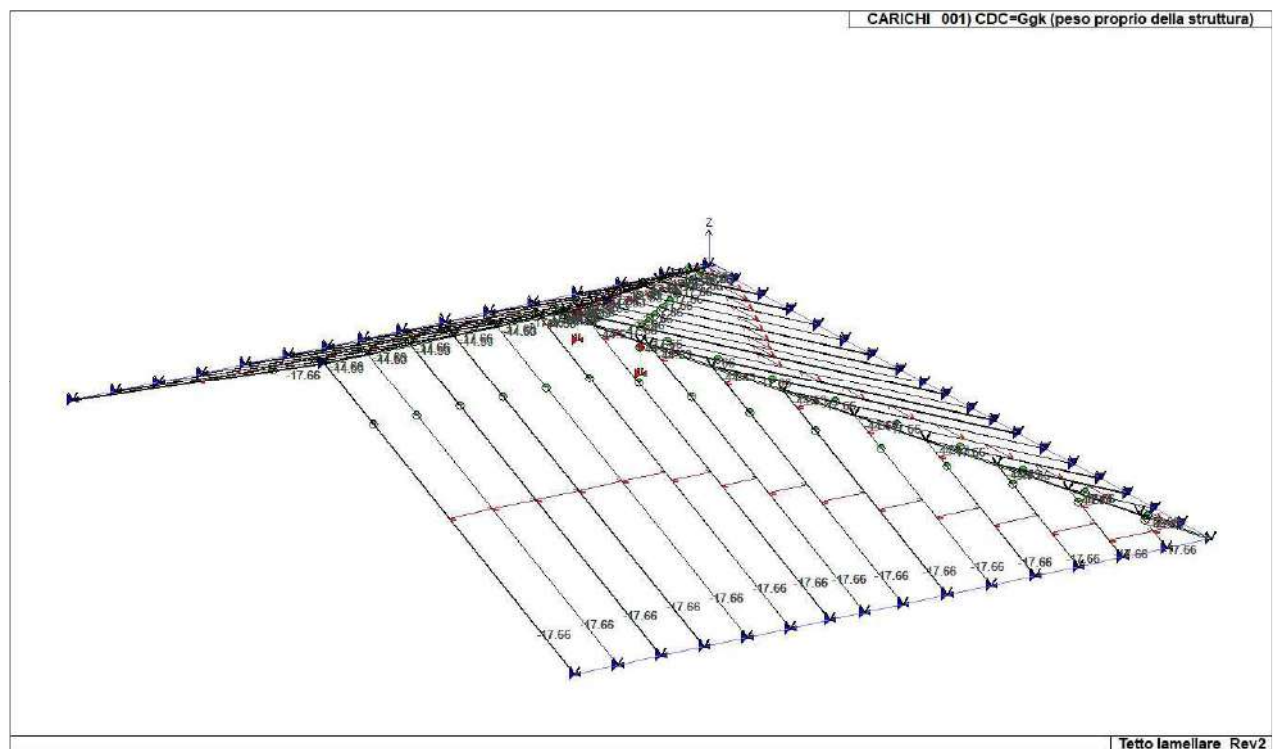
5.8 Schematizzazione dei CASI DI CARICO

Legenda dei casi di carico:

	Sigla	Tipo	Descrizione
1	Ggk	A	caso di carico comprensivo del peso proprio struttura
2	Gk	NA	caso di carico con azioni permanenti
3	Qk	NA	caso di carico con azioni variabili
4	Gsk	A	caso di carico comprensivo dei carichi permanenti sui solai e sulle coperture
5	Qsk	A	caso di carico comprensivo dei carichi variabili sui solai
6	Qnk	A	caso di carico comprensivo dei carichi di neve sulle coperture
7	Qtk	SA	caso di carico comprensivo di una variazione termica agente sulla struttura
8	Qvk	NA	caso di carico comprensivo di azioni da vento sulla struttura
9	Esk	SA	caso di carico sismico con analisi statica equivalente
10	Edk	SA	caso di carico sismico con analisi dinamica
11	Etk	NA	caso di carico comprensivo di azioni derivanti dall' incremento di spinta delle terre in condizione sismica
12	Pk	NA	caso di carico comprensivo di azioni derivanti da coazioni, cedimenti e precompressioni

Nel caso in esame si sono considerati i seguenti casi di carico:

CDC	Tipo	Sigla Id	Note
1	Ggk	CDC=Ggk (peso proprio della struttura)	
2	Gsk	CDC=G1sk (permanente solai-coperture)	
3	Qnk	CDC=Qnk (carico da neve)	



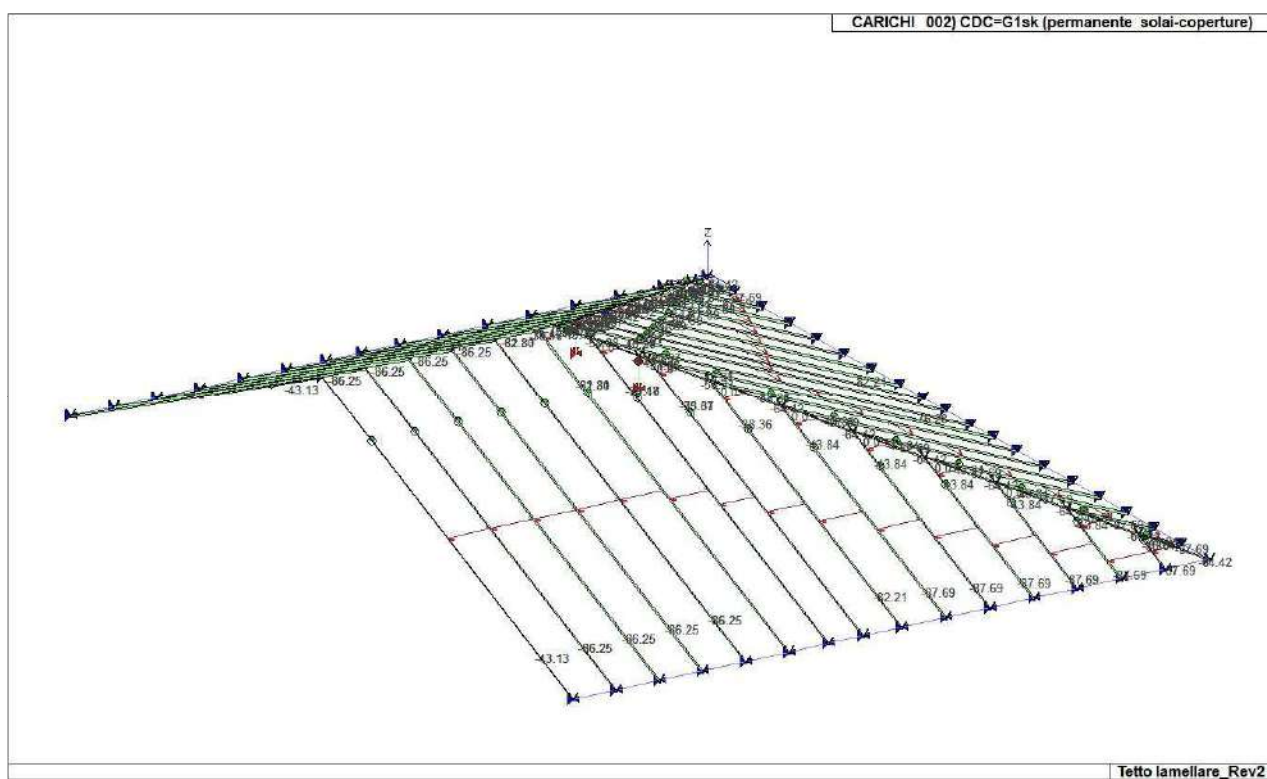
22_CDC_001_CDC=Ggk (peso proprio della struttura)

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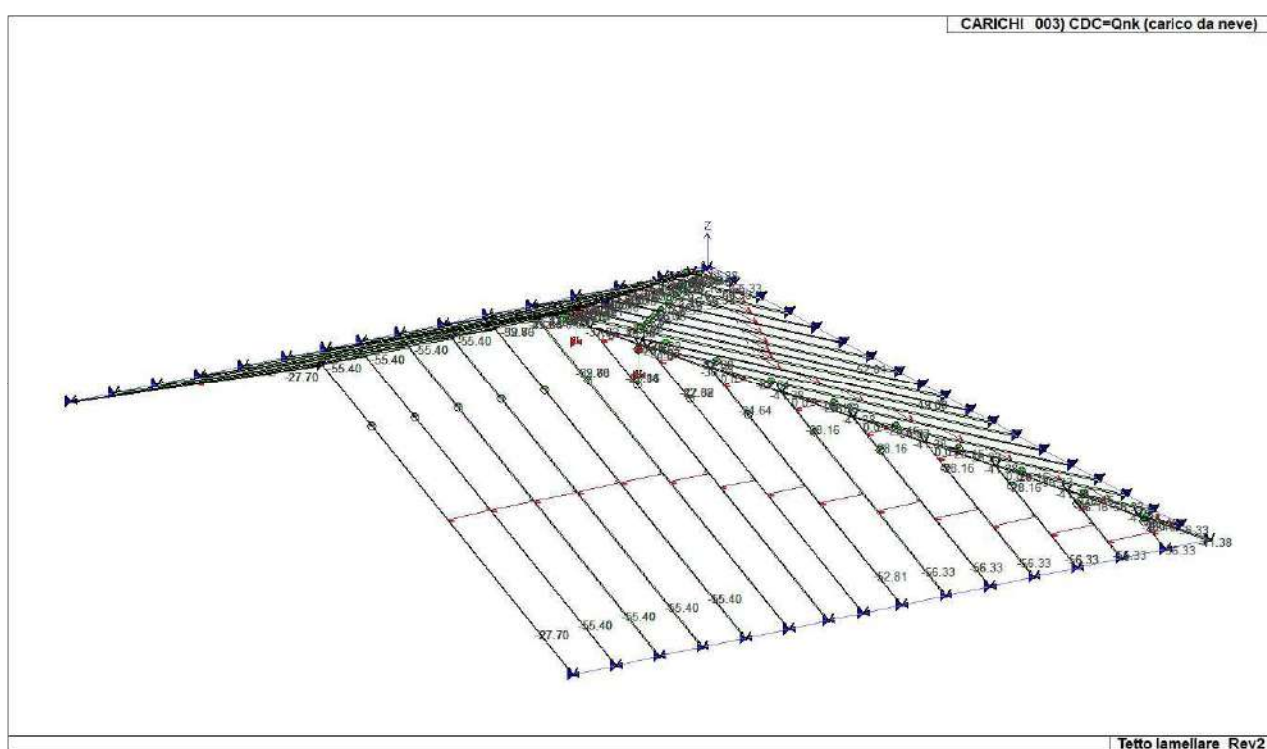
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22_CDC_002_CDC=G1sk (permanente solai-coperture)



22_CDC_003_CDC=Qnk (carico da neve)

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5.9 Definizione delle COMBINAZIONI

Le combinazioni previste sono destinate al controllo di sicurezza della struttura ed alla verifica degli spostamenti e delle sollecitazioni.

La prima tabella delle combinazioni riportata di seguito comprende le seguenti informazioni: Numero, Tipo, Sigla identificativa. Una seconda tabella riporta il peso nella combinazione assunto per ogni caso di carico.

Ai fini delle verifiche degli stati limite si definiscono le seguenti combinazioni delle azioni:

Combinazione fondamentale SLU

$$\gamma G1 \cdot G1 + \gamma G2 \cdot G2 + \gamma P \cdot P + \gamma Q1 \cdot Qk1 + \gamma Q2 \cdot \psi 02 \cdot Qk2 + \gamma Q3 \cdot \psi 03 \cdot Qk3 + \dots$$

Combinazione caratteristica (rara) SLE

$$G1 + G2 + P + Qk1 + \psi 02 \cdot Qk2 + \psi 03 \cdot Qk3 + \dots$$

Combinazione frequente SLE

$$G1 + G2 + P + \psi 11 \cdot Qk1 + \psi 22 \cdot Qk2 + \psi 23 \cdot Qk3 + \dots$$

Combinazione quasi permanente SLE

$$G1 + G2 + P + \psi 21 \cdot Qk1 + \psi 22 \cdot Qk2 + \psi 23 \cdot Qk3 + \dots$$

Combinazione sismica, impiegata per gli stati limite ultimi e di esercizio connessi all'azione sismica E

$$E + G1 + G2 + P + \psi 21 \cdot Qk1 + \psi 22 \cdot Qk2 + \dots$$

Combinazione eccezionale, impiegata per gli stati limite connessi alle azioni eccezionali

$$G1 + G2 + A_d + P + \psi 21 \cdot Qk1 + \psi 22 \cdot Qk2 + \dots$$

Dove:

NTC 2018 Tabella 2.5.I

Destinazione d'uso/azione	$\psi 0$	$\psi 1$	$\psi 2$
Categoria A residenziali	0,70	0,50	0,30
Categoria B uffici	0,70	0,50	0,30
Categoria C ambienti suscettibili di affollamento	0,70	0,70	0,60
Categoria D ambienti ad uso commerciale	0,70	0,70	0,60
Categoria E biblioteche, archivi, magazzini,...	1,00	0,90	0,80
Categoria F Rimesse e parcheggi (autoveicoli ≤ 30 kN)	0,70	0,70	0,60
Categoria G Rimesse e parcheggi (autoveicoli > 30 kN)	0,70	0,50	0,30
Categoria H Coperture	0,00	0,00	0,00
Vento	0,60	0,20	0,00
Neve a quota ≤ 1000 m	0,50	0,20	0,00
Neve a quota > 1000 m	0,70	0,50	0,20
Variazioni Termiche	0,60	0,50	0,00

Nelle verifiche possono essere adottati in alternativa due diversi approcci progettuali:

- per l'approccio 1 si considerano due diverse combinazioni di gruppi di coefficienti di sicurezza parziali per le azioni, per i materiali e per la resistenza globale (combinazione 1 con coefficienti A1 e combinazione 2 con coefficienti A2),
- per l'approccio 2 si definisce un'unica combinazione per le azioni, per la resistenza dei materiali e per la resistenza globale (con coefficienti A1).

NTC 2018 Tabella 2.6.I

		Coefficiente γ_f	EQU	A1	A2
Carichi permanenti	Favorevoli	$\gamma G1$	0,9	1,0	1,0
	Sfavorevoli		1,1	1,3	1,0
Carichi permanenti non strutturali (Non compiutamente definiti)	Favorevoli	$\gamma G2$	0,8	0,8	0,8
	Sfavorevoli		1,5	1,5	1,3
Carichi variabili	Favorevoli	γQi	0,0	0,0	0,0
	Sfavorevoli		1,5	1,5	1,3

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Cmb	Tipo	Sigla Id	effetto P-delta
1	SLU	Comb. SLU A1 1	
2	SLU	Comb. SLU A1 2	
3	SLU	Comb. SLU A1 3	
4	SLU	Comb. SLU A1 4	
5	SLE(r)	Comb. SLE(rara) 5	
6	SLE(r)	Comb. SLE(rara) 6	
7	SLE(f)	Comb. SLE(freq.) 7	
8	SLE(f)	Comb. SLE(freq.) 8	
9	SLE(p)	Comb. SLE(perm.) 9	

5.9.1 Tabella delle combinazioni

Cmb	CDC 1	CDC 2	CDC 3
1	1.30	1.30	0.0
2	1.30	1.30	1.50
3	1.00	1.00	0.0
4	1.00	1.00	1.50
5	1.00	1.00	0.0
6	1.00	1.00	1.00
7	1.00	1.00	0.0
8	1.00	1.00	0.20
9	1.00	1.00	0.0

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6 RISULTATI ANALISI SLU

6.1 Risultati nodali

La prima tabella riporta per ogni nodo a cui sia associato un vincolo rigido e/o elastico o una fondazione speciale e per ogni combinazione (o caso di carico) i valori delle azioni esercitate dalla struttura sui vincoli (reazioni vincolari cambiate di segno).

La seconda tabella, infine riassume per ogni nodo le sei combinazioni in cui si attingono i valori minimi e massimi della reazione Fz, della reazione Mx e della reazione My.

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		daN	daN	daN	daN cm	daN cm	daN cm
1	1	0.0	7.98e-05	-2628.96	0.0	0.0	0.0
1	2	0.0	1.26e-04	-4156.02	0.0	0.0	0.0
1	3	0.0	6.14e-05	-2022.28	0.0	0.0	0.0
1	5	0.0	6.14e-05	-2022.28	0.0	0.0	0.0
1	6	0.0	9.20e-05	-3040.31	0.0	0.0	0.0
1	7	0.0	6.14e-05	-2022.28	0.0	0.0	0.0
1	8	0.0	6.75e-05	-2225.88	0.0	0.0	0.0
1	9	0.0	6.14e-05	-2022.28	0.0	0.0	0.0
4	1	0.0	0.0	-1020.21	0.0	0.0	0.0
4	2	0.0	0.0	-1532.24	0.0	0.0	0.0
4	3	0.0	0.0	-784.78	0.0	0.0	0.0
4	5	0.0	0.0	-784.78	0.0	0.0	0.0
4	6	0.0	0.0	-1126.13	0.0	0.0	0.0
4	7	0.0	0.0	-784.78	0.0	0.0	0.0
4	8	0.0	0.0	-853.05	0.0	0.0	0.0
4	9	0.0	0.0	-784.78	0.0	0.0	0.0
5	1	0.0	0.0	-1020.21	0.0	0.0	0.0
5	2	0.0	0.0	-1532.24	0.0	0.0	0.0
5	3	0.0	0.0	-784.78	0.0	0.0	0.0
5	5	0.0	0.0	-784.78	0.0	0.0	0.0
5	6	0.0	0.0	-1126.13	0.0	0.0	0.0
5	7	0.0	0.0	-784.78	0.0	0.0	0.0
5	8	0.0	0.0	-853.05	0.0	0.0	0.0
5	9	0.0	0.0	-784.78	0.0	0.0	0.0
6	1	0.0	0.0	-6912.97	0.0	0.0	0.0
6	2	0.0	0.0	-1.075e+04	0.0	0.0	0.0
6	3	0.0	0.0	-5317.67	0.0	0.0	0.0
6	5	0.0	0.0	-5317.67	0.0	0.0	0.0
6	6	0.0	0.0	-7875.04	0.0	0.0	0.0
6	7	0.0	0.0	-5317.67	0.0	0.0	0.0
6	8	0.0	0.0	-5829.15	0.0	0.0	0.0
6	9	0.0	0.0	-5317.67	0.0	0.0	0.0
8	1	7.10	0.0	-374.12	0.0	0.0	0.0
8	2	10.79	0.0	-602.22	0.0	0.0	0.0
8	3	5.46	0.0	-287.79	0.0	0.0	0.0
8	5	5.46	0.0	-287.79	0.0	0.0	0.0
8	6	7.92	0.0	-439.85	0.0	0.0	0.0
8	7	5.46	0.0	-287.79	0.0	0.0	0.0
8	8	5.95	0.0	-318.20	0.0	0.0	0.0
8	9	5.46	0.0	-287.79	0.0	0.0	0.0
9	1	2.69	0.0	-510.22	0.0	0.0	0.0
9	2	4.37	0.0	-824.09	0.0	0.0	0.0
9	3	2.07	0.0	-392.48	0.0	0.0	0.0
9	5	2.07	0.0	-392.48	0.0	0.0	0.0
9	6	3.19	0.0	-601.73	0.0	0.0	0.0
9	7	2.07	0.0	-392.48	0.0	0.0	0.0
9	8	2.29	0.0	-434.33	0.0	0.0	0.0
9	9	2.07	0.0	-392.48	0.0	0.0	0.0
10	1	-1.76	0.0	-510.22	0.0	0.0	0.0
10	2	-2.81	0.0	-824.09	0.0	0.0	0.0
10	3	-1.35	0.0	-392.48	0.0	0.0	0.0
10	5	-1.35	0.0	-392.48	0.0	0.0	0.0

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
10	6	-2.06	0.0	-601.73	0.0	0.0	0.0
10	7	-1.35	0.0	-392.48	0.0	0.0	0.0
10	8	-1.50	0.0	-434.33	0.0	0.0	0.0
10	9	-1.35	0.0	-392.48	0.0	0.0	0.0
13	1	-0.45	0.0	-510.22	0.0	0.0	0.0
13	2	-0.68	0.0	-824.09	0.0	0.0	0.0
13	3	-0.35	0.0	-392.48	0.0	0.0	0.0
13	5	-0.35	0.0	-392.48	0.0	0.0	0.0
13	6	-0.50	0.0	-601.73	0.0	0.0	0.0
13	7	-0.35	0.0	-392.48	0.0	0.0	0.0
13	8	-0.38	0.0	-434.33	0.0	0.0	0.0
13	9	-0.35	0.0	-392.48	0.0	0.0	0.0
14	1	-2.06	0.0	-490.72	0.0	0.0	0.0
14	2	-3.36	0.0	-790.14	0.0	0.0	0.0
14	3	-1.58	0.0	-377.48	0.0	0.0	0.0
14	5	-1.58	0.0	-377.48	0.0	0.0	0.0
14	6	-2.45	0.0	-577.09	0.0	0.0	0.0
14	7	-1.58	0.0	-377.48	0.0	0.0	0.0
14	8	-1.76	0.0	-417.40	0.0	0.0	0.0
14	9	-1.58	0.0	-377.48	0.0	0.0	0.0
16	1	11.43	0.0	-337.98	0.0	0.0	0.0
16	2	17.42	0.0	-546.32	0.0	0.0	0.0
16	3	8.79	0.0	-259.99	0.0	0.0	0.0
16	5	8.79	0.0	-259.99	0.0	0.0	0.0
16	6	12.78	0.0	-398.88	0.0	0.0	0.0
16	7	8.79	0.0	-259.99	0.0	0.0	0.0
16	8	9.59	0.0	-287.76	0.0	0.0	0.0
16	9	8.79	0.0	-259.99	0.0	0.0	0.0
17	1	1.24	0.0	-510.22	0.0	0.0	0.0
17	2	2.04	0.0	-824.09	0.0	0.0	0.0
17	3	0.95	0.0	-392.48	0.0	0.0	0.0
17	5	0.95	0.0	-392.48	0.0	0.0	0.0
17	6	1.49	0.0	-601.73	0.0	0.0	0.0
17	7	0.95	0.0	-392.48	0.0	0.0	0.0
17	8	1.06	0.0	-434.33	0.0	0.0	0.0
17	9	0.95	0.0	-392.48	0.0	0.0	0.0
18	1	-2.06	0.0	-490.72	0.0	0.0	0.0
18	2	-3.36	0.0	-790.14	0.0	0.0	0.0
18	3	-1.58	0.0	-377.48	0.0	0.0	0.0
18	5	-1.58	0.0	-377.48	0.0	0.0	0.0
18	6	-2.45	0.0	-577.09	0.0	0.0	0.0
18	7	-1.58	0.0	-377.48	0.0	0.0	0.0
18	8	-1.76	0.0	-417.40	0.0	0.0	0.0
18	9	-1.58	0.0	-377.48	0.0	0.0	0.0
19	1	3.27	0.0	-298.47	0.0	0.0	0.0
19	2	5.30	0.0	-455.41	0.0	0.0	0.0
19	3	2.51	0.0	-229.60	0.0	0.0	0.0
19	5	2.51	0.0	-229.60	0.0	0.0	0.0
19	6	3.87	0.0	-334.22	0.0	0.0	0.0
19	7	2.51	0.0	-229.60	0.0	0.0	0.0
19	8	2.79	0.0	-250.52	0.0	0.0	0.0
19	9	2.51	0.0	-229.60	0.0	0.0	0.0
20	1	3.27	0.0	-298.47	0.0	0.0	0.0
20	2	5.30	0.0	-455.41	0.0	0.0	0.0
20	3	2.51	0.0	-229.60	0.0	0.0	0.0
20	5	2.51	0.0	-229.60	0.0	0.0	0.0
20	6	3.87	0.0	-334.22	0.0	0.0	0.0
20	7	2.51	0.0	-229.60	0.0	0.0	0.0
20	8	2.79	0.0	-250.52	0.0	0.0	0.0
20	9	2.51	0.0	-229.60	0.0	0.0	0.0
22	1	1.24	0.0	-510.22	0.0	0.0	0.0
22	2	2.04	0.0	-824.09	0.0	0.0	0.0
22	3	0.95	0.0	-392.48	0.0	0.0	0.0
22	5	0.95	0.0	-392.48	0.0	0.0	0.0
22	6	1.49	0.0	-601.73	0.0	0.0	0.0
22	7	0.95	0.0	-392.48	0.0	0.0	0.0
22	8	1.06	0.0	-434.33	0.0	0.0	0.0
22	9	0.95	0.0	-392.48	0.0	0.0	0.0
23	1	15.20	0.0	-281.17	0.0	0.0	0.0
23	2	23.11	0.0	-454.43	0.0	0.0	0.0

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Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
23	3	11.69	0.0	-216.29	0.0	0.0	0.0
23	5	11.69	0.0	-216.29	0.0	0.0	0.0
23	6	16.97	0.0	-331.79	0.0	0.0	0.0
23	7	11.69	0.0	-216.29	0.0	0.0	0.0
23	8	12.75	0.0	-239.39	0.0	0.0	0.0
23	9	11.69	0.0	-216.29	0.0	0.0	0.0
24	1	0.0	-11.32	-48.70	0.0	0.0	0.0
24	2	0.0	-7.76	-77.77	0.0	0.0	0.0
24	3	0.0	-8.71	-37.46	0.0	0.0	0.0
24	5	0.0	-8.71	-37.46	0.0	0.0	0.0
24	6	0.0	-6.34	-56.84	0.0	0.0	0.0
24	7	0.0	-8.71	-37.46	0.0	0.0	0.0
24	8	0.0	-8.23	-41.34	0.0	0.0	0.0
24	9	0.0	-8.71	-37.46	0.0	0.0	0.0
26	1	0.0	22.45	-109.17	0.0	0.0	0.0
26	2	0.0	32.63	-176.04	0.0	0.0	0.0
26	3	0.0	17.27	-83.98	0.0	0.0	0.0
26	5	0.0	17.27	-83.98	0.0	0.0	0.0
26	6	0.0	24.05	-128.55	0.0	0.0	0.0
26	7	0.0	17.27	-83.98	0.0	0.0	0.0
26	8	0.0	18.63	-92.89	0.0	0.0	0.0
26	9	0.0	17.27	-83.98	0.0	0.0	0.0
27	1	0.0	11.43	-337.98	0.0	0.0	0.0
27	2	0.0	17.42	-546.32	0.0	0.0	0.0
27	3	0.0	8.79	-259.99	0.0	0.0	0.0
27	5	0.0	8.79	-259.99	0.0	0.0	0.0
27	6	0.0	12.78	-398.88	0.0	0.0	0.0
27	7	0.0	8.79	-259.99	0.0	0.0	0.0
27	8	0.0	9.59	-287.76	0.0	0.0	0.0
27	9	0.0	8.79	-259.99	0.0	0.0	0.0
28	1	0.0	21.02	-167.03	0.0	0.0	0.0
28	2	0.0	31.51	-269.74	0.0	0.0	0.0
28	3	0.0	16.17	-128.48	0.0	0.0	0.0
28	5	0.0	16.17	-128.48	0.0	0.0	0.0
28	6	0.0	23.17	-196.96	0.0	0.0	0.0
28	7	0.0	16.17	-128.48	0.0	0.0	0.0
28	8	0.0	17.57	-142.18	0.0	0.0	0.0
28	9	0.0	16.17	-128.48	0.0	0.0	0.0
29	1	0.0	7.10	-374.12	0.0	0.0	0.0
29	2	0.0	10.79	-602.22	0.0	0.0	0.0
29	3	0.0	5.46	-287.79	0.0	0.0	0.0
29	5	0.0	5.46	-287.79	0.0	0.0	0.0
29	6	0.0	7.92	-439.85	0.0	0.0	0.0
29	7	0.0	5.46	-287.79	0.0	0.0	0.0
29	8	0.0	5.95	-318.20	0.0	0.0	0.0
29	9	0.0	5.46	-287.79	0.0	0.0	0.0
30	1	0.0	18.41	-224.23	0.0	0.0	0.0
30	2	0.0	27.87	-362.32	0.0	0.0	0.0
30	3	0.0	14.16	-172.49	0.0	0.0	0.0
30	5	0.0	14.16	-172.49	0.0	0.0	0.0
30	6	0.0	20.47	-264.54	0.0	0.0	0.0
30	7	0.0	14.16	-172.49	0.0	0.0	0.0
30	8	0.0	15.42	-190.90	0.0	0.0	0.0
30	9	0.0	14.16	-172.49	0.0	0.0	0.0
31	1	7.10	0.0	-374.12	0.0	0.0	0.0
31	2	10.79	0.0	-602.22	0.0	0.0	0.0
31	3	5.46	0.0	-287.79	0.0	0.0	0.0
31	5	5.46	0.0	-287.79	0.0	0.0	0.0
31	6	7.92	0.0	-439.85	0.0	0.0	0.0
31	7	5.46	0.0	-287.79	0.0	0.0	0.0
31	8	5.95	0.0	-318.20	0.0	0.0	0.0
31	9	5.46	0.0	-287.79	0.0	0.0	0.0
32	1	0.0	15.20	-281.17	0.0	0.0	0.0
32	2	0.0	23.11	-454.43	0.0	0.0	0.0
32	3	0.0	11.69	-216.29	0.0	0.0	0.0
32	5	0.0	11.69	-216.29	0.0	0.0	0.0
32	6	0.0	16.97	-331.79	0.0	0.0	0.0
32	7	0.0	11.69	-216.29	0.0	0.0	0.0
32	8	0.0	12.75	-239.39	0.0	0.0	0.0
32	9	0.0	11.69	-216.29	0.0	0.0	0.0

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Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
33	1	11.43	0.0	-337.98	0.0	0.0	0.0
33	2	17.42	0.0	-546.32	0.0	0.0	0.0
33	3	8.79	0.0	-259.99	0.0	0.0	0.0
33	5	8.79	0.0	-259.99	0.0	0.0	0.0
33	6	12.78	0.0	-398.88	0.0	0.0	0.0
33	7	8.79	0.0	-259.99	0.0	0.0	0.0
33	8	9.59	0.0	-287.76	0.0	0.0	0.0
33	9	8.79	0.0	-259.99	0.0	0.0	0.0
35	1	21.02	0.0	-167.03	0.0	0.0	0.0
35	2	31.51	0.0	-269.74	0.0	0.0	0.0
35	3	16.17	0.0	-128.48	0.0	0.0	0.0
35	5	16.17	0.0	-128.48	0.0	0.0	0.0
35	6	23.17	0.0	-196.96	0.0	0.0	0.0
35	7	16.17	0.0	-128.48	0.0	0.0	0.0
35	8	17.57	0.0	-142.18	0.0	0.0	0.0
35	9	16.17	0.0	-128.48	0.0	0.0	0.0
36	1	18.41	0.0	-224.23	0.0	0.0	0.0
36	2	27.87	0.0	-362.32	0.0	0.0	0.0
36	3	14.16	0.0	-172.49	0.0	0.0	0.0
36	5	14.16	0.0	-172.49	0.0	0.0	0.0
36	6	20.47	0.0	-264.54	0.0	0.0	0.0
36	7	14.16	0.0	-172.49	0.0	0.0	0.0
36	8	15.42	0.0	-190.90	0.0	0.0	0.0
36	9	14.16	0.0	-172.49	0.0	0.0	0.0
37	1	15.20	0.0	-281.17	0.0	0.0	0.0
37	2	23.11	0.0	-454.43	0.0	0.0	0.0
37	3	11.69	0.0	-216.29	0.0	0.0	0.0
37	5	11.69	0.0	-216.29	0.0	0.0	0.0
37	6	16.97	0.0	-331.79	0.0	0.0	0.0
37	7	11.69	0.0	-216.29	0.0	0.0	0.0
37	8	12.75	0.0	-239.39	0.0	0.0	0.0
37	9	11.69	0.0	-216.29	0.0	0.0	0.0
38	1	0.0	-0.25	-437.22	0.0	0.0	0.0
38	2	0.0	-0.26	-700.28	0.0	0.0	0.0
38	3	0.0	-0.19	-336.32	0.0	0.0	0.0
38	5	0.0	-0.19	-336.32	0.0	0.0	0.0
38	6	0.0	-0.20	-511.69	0.0	0.0	0.0
38	7	0.0	-0.19	-336.32	0.0	0.0	0.0
38	8	0.0	-0.20	-371.40	0.0	0.0	0.0
38	9	0.0	-0.19	-336.32	0.0	0.0	0.0
39	1	18.41	0.0	-224.23	0.0	0.0	0.0
39	2	27.87	0.0	-362.32	0.0	0.0	0.0
39	3	14.16	0.0	-172.49	0.0	0.0	0.0
39	5	14.16	0.0	-172.49	0.0	0.0	0.0
39	6	20.47	0.0	-264.54	0.0	0.0	0.0
39	7	14.16	0.0	-172.49	0.0	0.0	0.0
39	8	15.42	0.0	-190.90	0.0	0.0	0.0
39	9	14.16	0.0	-172.49	0.0	0.0	0.0
40	1	0.0	2.85	-385.41	0.0	0.0	0.0
40	2	0.0	4.25	-615.72	0.0	0.0	0.0
40	3	0.0	2.19	-296.47	0.0	0.0	0.0
40	5	0.0	2.19	-296.47	0.0	0.0	0.0
40	6	0.0	3.13	-450.01	0.0	0.0	0.0
40	7	0.0	2.19	-296.47	0.0	0.0	0.0
40	8	0.0	2.38	-327.17	0.0	0.0	0.0
40	9	0.0	2.19	-296.47	0.0	0.0	0.0
42	1	0.0	0.25	-437.22	0.0	0.0	0.0
42	2	0.0	0.26	-700.28	0.0	0.0	0.0
42	3	0.0	0.19	-336.32	0.0	0.0	0.0
42	5	0.0	0.19	-336.32	0.0	0.0	0.0
42	6	0.0	0.20	-511.69	0.0	0.0	0.0
42	7	0.0	0.19	-336.32	0.0	0.0	0.0
42	8	0.0	0.20	-371.40	0.0	0.0	0.0
42	9	0.0	0.19	-336.32	0.0	0.0	0.0
43	1	21.02	0.0	-167.03	0.0	0.0	0.0
43	2	31.51	0.0	-269.74	0.0	0.0	0.0
43	3	16.17	0.0	-128.48	0.0	0.0	0.0
43	5	16.17	0.0	-128.48	0.0	0.0	0.0
43	6	23.17	0.0	-196.96	0.0	0.0	0.0
43	7	16.17	0.0	-128.48	0.0	0.0	0.0

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
43	8	17.57	0.0	-142.18	0.0	0.0	0.0
43	9	16.17	0.0	-128.48	0.0	0.0	0.0
44	1	0.25	0.0	-428.85	0.0	0.0	0.0
44	2	0.26	0.0	-685.70	0.0	0.0	0.0
44	3	0.19	0.0	-329.88	0.0	0.0	0.0
44	5	0.19	0.0	-329.88	0.0	0.0	0.0
44	6	0.20	0.0	-501.12	0.0	0.0	0.0
44	7	0.19	0.0	-329.88	0.0	0.0	0.0
44	8	0.20	0.0	-364.13	0.0	0.0	0.0
44	9	0.19	0.0	-329.88	0.0	0.0	0.0
46	1	-225.88	-5.19e-04	1703.43	0.18	0.0	0.0
46	2	-320.92	-8.12e-04	2599.43	0.28	0.0	0.0
46	3	-173.76	-3.99e-04	1310.33	0.14	0.0	0.0
46	5	-173.76	-3.99e-04	1310.33	0.14	0.0	0.0
46	6	-237.12	-5.95e-04	1907.66	0.21	0.0	0.0
46	7	-173.76	-3.99e-04	1310.33	0.14	0.0	0.0
46	8	-186.43	-4.38e-04	1429.80	0.15	0.0	0.0
46	9	-173.76	-3.99e-04	1310.33	0.14	0.0	0.0
48	1	2.85	0.0	-385.41	0.0	0.0	0.0
48	2	4.25	0.0	-615.72	0.0	0.0	0.0
48	3	2.19	0.0	-296.47	0.0	0.0	0.0
48	5	2.19	0.0	-296.47	0.0	0.0	0.0
48	6	3.13	0.0	-450.01	0.0	0.0	0.0
48	7	2.19	0.0	-296.47	0.0	0.0	0.0
48	8	2.38	0.0	-327.17	0.0	0.0	0.0
48	9	2.19	0.0	-296.47	0.0	0.0	0.0
52	1	0.0	0.0	-6912.97	0.0	0.0	0.0
52	2	0.0	0.0	-1.075e+04	0.0	0.0	0.0
52	3	0.0	0.0	-5317.67	0.0	0.0	0.0
52	5	0.0	0.0	-5317.67	0.0	0.0	0.0
52	6	0.0	0.0	-7875.04	0.0	0.0	0.0
52	7	0.0	0.0	-5317.67	0.0	0.0	0.0
52	8	0.0	0.0	-5829.15	0.0	0.0	0.0
52	9	0.0	0.0	-5317.67	0.0	0.0	0.0
53	1	22.45	0.0	-109.17	0.0	0.0	0.0
53	2	32.63	0.0	-176.04	0.0	0.0	0.0
53	3	17.27	0.0	-83.98	0.0	0.0	0.0
53	5	17.27	0.0	-83.98	0.0	0.0	0.0
53	6	24.05	0.0	-128.55	0.0	0.0	0.0
53	7	17.27	0.0	-83.98	0.0	0.0	0.0
53	8	18.63	0.0	-92.89	0.0	0.0	0.0
53	9	17.27	0.0	-83.98	0.0	0.0	0.0
56	1	2.69	0.0	-510.22	0.0	0.0	0.0
56	2	4.37	0.0	-824.09	0.0	0.0	0.0
56	3	2.07	0.0	-392.48	0.0	0.0	0.0
56	5	2.07	0.0	-392.48	0.0	0.0	0.0
56	6	3.19	0.0	-601.73	0.0	0.0	0.0
56	7	2.07	0.0	-392.48	0.0	0.0	0.0
56	8	2.29	0.0	-434.33	0.0	0.0	0.0
56	9	2.07	0.0	-392.48	0.0	0.0	0.0
57	1	22.45	0.0	-109.17	0.0	0.0	0.0
57	2	32.63	0.0	-176.04	0.0	0.0	0.0
57	3	17.27	0.0	-83.98	0.0	0.0	0.0
57	5	17.27	0.0	-83.98	0.0	0.0	0.0
57	6	24.05	0.0	-128.55	0.0	0.0	0.0
57	7	17.27	0.0	-83.98	0.0	0.0	0.0
57	8	18.63	0.0	-92.89	0.0	0.0	0.0
57	9	17.27	0.0	-83.98	0.0	0.0	0.0
58	1	-1.76	0.0	-510.22	0.0	0.0	0.0
58	2	-2.81	0.0	-824.09	0.0	0.0	0.0
58	3	-1.35	0.0	-392.48	0.0	0.0	0.0
58	5	-1.35	0.0	-392.48	0.0	0.0	0.0
58	6	-2.06	0.0	-601.73	0.0	0.0	0.0
58	7	-1.35	0.0	-392.48	0.0	0.0	0.0
58	8	-1.50	0.0	-434.33	0.0	0.0	0.0
58	9	-1.35	0.0	-392.48	0.0	0.0	0.0
60	1	-0.45	0.0	-510.22	0.0	0.0	0.0
60	2	-0.68	0.0	-824.09	0.0	0.0	0.0
60	3	-0.35	0.0	-392.48	0.0	0.0	0.0
60	5	-0.35	0.0	-392.48	0.0	0.0	0.0

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
60	6	-0.50	0.0	-601.73	0.0	0.0	0.0
60	7	-0.35	0.0	-392.48	0.0	0.0	0.0
60	8	-0.38	0.0	-434.33	0.0	0.0	0.0
60	9	-0.35	0.0	-392.48	0.0	0.0	0.0
61	1	2.85	0.0	-385.41	0.0	0.0	0.0
61	2	4.25	0.0	-615.72	0.0	0.0	0.0
61	3	2.19	0.0	-296.47	0.0	0.0	0.0
61	5	2.19	0.0	-296.47	0.0	0.0	0.0
61	6	3.13	0.0	-450.01	0.0	0.0	0.0
61	7	2.19	0.0	-296.47	0.0	0.0	0.0
61	8	2.38	0.0	-327.17	0.0	0.0	0.0
61	9	2.19	0.0	-296.47	0.0	0.0	0.0
62	1	11.32	0.0	-48.70	0.0	0.0	0.0
62	2	7.76	0.0	-77.77	0.0	0.0	0.0
62	3	8.71	0.0	-37.46	0.0	0.0	0.0
62	5	8.71	0.0	-37.46	0.0	0.0	0.0
62	6	6.34	0.0	-56.84	0.0	0.0	0.0
62	7	8.71	0.0	-37.46	0.0	0.0	0.0
62	8	8.23	0.0	-41.34	0.0	0.0	0.0
62	9	8.71	0.0	-37.46	0.0	0.0	0.0
64	1	0.0	11.32	-48.70	0.0	0.0	0.0
64	2	0.0	7.76	-77.77	0.0	0.0	0.0
64	3	0.0	8.71	-37.46	0.0	0.0	0.0
64	5	0.0	8.71	-37.46	0.0	0.0	0.0
64	6	0.0	6.34	-56.84	0.0	0.0	0.0
64	7	0.0	8.71	-37.46	0.0	0.0	0.0
64	8	0.0	8.23	-41.34	0.0	0.0	0.0
64	9	0.0	8.71	-37.46	0.0	0.0	0.0
65	1	11.32	0.0	-48.70	0.0	0.0	0.0
65	2	7.76	0.0	-77.77	0.0	0.0	0.0
65	3	8.71	0.0	-37.46	0.0	0.0	0.0
65	5	8.71	0.0	-37.46	0.0	0.0	0.0
65	6	6.34	0.0	-56.84	0.0	0.0	0.0
65	7	8.71	0.0	-37.46	0.0	0.0	0.0
65	8	8.23	0.0	-41.34	0.0	0.0	0.0
65	9	8.71	0.0	-37.46	0.0	0.0	0.0
66	1	0.0	-2.85	-385.41	0.0	0.0	0.0
66	2	0.0	-4.25	-615.72	0.0	0.0	0.0
66	3	0.0	-2.19	-296.47	0.0	0.0	0.0
66	5	0.0	-2.19	-296.47	0.0	0.0	0.0
66	6	0.0	-3.13	-450.01	0.0	0.0	0.0
66	7	0.0	-2.19	-296.47	0.0	0.0	0.0
66	8	0.0	-2.38	-327.17	0.0	0.0	0.0
66	9	0.0	-2.19	-296.47	0.0	0.0	0.0
68	1	0.0	-7.10	-374.12	0.0	0.0	0.0
68	2	0.0	-10.79	-602.22	0.0	0.0	0.0
68	3	0.0	-5.46	-287.79	0.0	0.0	0.0
68	5	0.0	-5.46	-287.79	0.0	0.0	0.0
68	6	0.0	-7.92	-439.85	0.0	0.0	0.0
68	7	0.0	-5.46	-287.79	0.0	0.0	0.0
68	8	0.0	-5.95	-318.20	0.0	0.0	0.0
68	9	0.0	-5.46	-287.79	0.0	0.0	0.0
70	1	0.0	-11.43	-337.98	0.0	0.0	0.0
70	2	0.0	-17.42	-546.32	0.0	0.0	0.0
70	3	0.0	-8.79	-259.99	0.0	0.0	0.0
70	5	0.0	-8.79	-259.99	0.0	0.0	0.0
70	6	0.0	-12.78	-398.88	0.0	0.0	0.0
70	7	0.0	-8.79	-259.99	0.0	0.0	0.0
70	8	0.0	-9.59	-287.76	0.0	0.0	0.0
70	9	0.0	-8.79	-259.99	0.0	0.0	0.0
72	1	0.0	-15.20	-281.17	0.0	0.0	0.0
72	2	0.0	-23.11	-454.43	0.0	0.0	0.0
72	3	0.0	-11.69	-216.29	0.0	0.0	0.0
72	5	0.0	-11.69	-216.29	0.0	0.0	0.0
72	6	0.0	-16.97	-331.79	0.0	0.0	0.0
72	7	0.0	-11.69	-216.29	0.0	0.0	0.0
72	8	0.0	-12.75	-239.39	0.0	0.0	0.0
72	9	0.0	-11.69	-216.29	0.0	0.0	0.0
74	1	0.0	-18.41	-224.23	0.0	0.0	0.0
74	2	0.0	-27.87	-362.32	0.0	0.0	0.0

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
74	3	0.0	-14.16	-172.49	0.0	0.0	0.0
74	5	0.0	-14.16	-172.49	0.0	0.0	0.0
74	6	0.0	-20.47	-264.54	0.0	0.0	0.0
74	7	0.0	-14.16	-172.49	0.0	0.0	0.0
74	8	0.0	-15.42	-190.90	0.0	0.0	0.0
74	9	0.0	-14.16	-172.49	0.0	0.0	0.0
76	1	0.0	-21.02	-167.03	0.0	0.0	0.0
76	2	0.0	-31.51	-269.74	0.0	0.0	0.0
76	3	0.0	-16.17	-128.48	0.0	0.0	0.0
76	5	0.0	-16.17	-128.48	0.0	0.0	0.0
76	6	0.0	-23.17	-196.96	0.0	0.0	0.0
76	7	0.0	-16.17	-128.48	0.0	0.0	0.0
76	8	0.0	-17.57	-142.18	0.0	0.0	0.0
76	9	0.0	-16.17	-128.48	0.0	0.0	0.0
78	1	0.0	-22.45	-109.17	0.0	0.0	0.0
78	2	0.0	-32.63	-176.04	0.0	0.0	0.0
78	3	0.0	-17.27	-83.98	0.0	0.0	0.0
78	5	0.0	-17.27	-83.98	0.0	0.0	0.0
78	6	0.0	-24.05	-128.55	0.0	0.0	0.0
78	7	0.0	-17.27	-83.98	0.0	0.0	0.0
78	8	0.0	-18.63	-92.89	0.0	0.0	0.0
78	9	0.0	-17.27	-83.98	0.0	0.0	0.0
80	1	0.25	0.0	-428.85	0.0	0.0	0.0
80	2	0.26	0.0	-685.70	0.0	0.0	0.0
80	3	0.19	0.0	-329.88	0.0	0.0	0.0
80	5	0.19	0.0	-329.88	0.0	0.0	0.0
80	6	0.20	0.0	-501.12	0.0	0.0	0.0
80	7	0.19	0.0	-329.88	0.0	0.0	0.0
80	8	0.20	0.0	-364.13	0.0	0.0	0.0
80	9	0.19	0.0	-329.88	0.0	0.0	0.0
Nodo		Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		-320.92	-32.63	-1.075e+04	0.0	0.0	0.0
		32.63	32.63	2599.43	0.28	0.0	0.0

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		daN	daN	daN	daN cm	daN cm	daN cm
1	2	0.0	1.26e-04	-4156.02	0.0	0.0	0.0
	3	0.0	6.14e-05	-2022.28	0.0	0.0	0.0
	1	0.0	7.98e-05	-2628.96	0.0	0.0	0.0
	1	0.0	7.98e-05	-2628.96	0.0	0.0	0.0
	1	0.0	7.98e-05	-2628.96	0.0	0.0	0.0
	1	0.0	7.98e-05	-2628.96	0.0	0.0	0.0
4	2	0.0	0.0	-1532.24	0.0	0.0	0.0
	3	0.0	0.0	-784.78	0.0	0.0	0.0
	1	0.0	0.0	-1020.21	0.0	0.0	0.0
	1	0.0	0.0	-1020.21	0.0	0.0	0.0
	1	0.0	0.0	-1020.21	0.0	0.0	0.0
	1	0.0	0.0	-1020.21	0.0	0.0	0.0
5	2	0.0	0.0	-1532.24	0.0	0.0	0.0
	3	0.0	0.0	-784.78	0.0	0.0	0.0
	1	0.0	0.0	-1020.21	0.0	0.0	0.0
	1	0.0	0.0	-1020.21	0.0	0.0	0.0
	1	0.0	0.0	-1020.21	0.0	0.0	0.0
	1	0.0	0.0	-1020.21	0.0	0.0	0.0
6	2	0.0	0.0	-1.075e+04	0.0	0.0	0.0
	3	0.0	0.0	-5317.67	0.0	0.0	0.0
	1	0.0	0.0	-6912.97	0.0	0.0	0.0
	1	0.0	0.0	-6912.97	0.0	0.0	0.0
	1	0.0	0.0	-6912.97	0.0	0.0	0.0
	1	0.0	0.0	-6912.97	0.0	0.0	0.0
8	2	10.79	0.0	-602.22	0.0	0.0	0.0
	3	5.46	0.0	-287.79	0.0	0.0	0.0
	1	7.10	0.0	-374.12	0.0	0.0	0.0
	1	7.10	0.0	-374.12	0.0	0.0	0.0
	1	7.10	0.0	-374.12	0.0	0.0	0.0
	1	7.10	0.0	-374.12	0.0	0.0	0.0
9	2	4.37	0.0	-824.09	0.0	0.0	0.0

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
	3	2.07	0.0	-392.48	0.0	0.0	0.0
	1	2.69	0.0	-510.22	0.0	0.0	0.0
	1	2.69	0.0	-510.22	0.0	0.0	0.0
	1	2.69	0.0	-510.22	0.0	0.0	0.0
	1	2.69	0.0	-510.22	0.0	0.0	0.0
10	2	-2.81	0.0	-824.09	0.0	0.0	0.0
	3	-1.35	0.0	-392.48	0.0	0.0	0.0
	1	-1.76	0.0	-510.22	0.0	0.0	0.0
	1	-1.76	0.0	-510.22	0.0	0.0	0.0
	1	-1.76	0.0	-510.22	0.0	0.0	0.0
	1	-1.76	0.0	-510.22	0.0	0.0	0.0
13	2	-0.68	0.0	-824.09	0.0	0.0	0.0
	3	-0.35	0.0	-392.48	0.0	0.0	0.0
	1	-0.45	0.0	-510.22	0.0	0.0	0.0
	1	-0.45	0.0	-510.22	0.0	0.0	0.0
	1	-0.45	0.0	-510.22	0.0	0.0	0.0
	1	-0.45	0.0	-510.22	0.0	0.0	0.0
14	2	-3.36	0.0	-790.14	0.0	0.0	0.0
	3	-1.58	0.0	-377.48	0.0	0.0	0.0
	1	-2.06	0.0	-490.72	0.0	0.0	0.0
	1	-2.06	0.0	-490.72	0.0	0.0	0.0
	1	-2.06	0.0	-490.72	0.0	0.0	0.0
	1	-2.06	0.0	-490.72	0.0	0.0	0.0
16	2	17.42	0.0	-546.32	0.0	0.0	0.0
	3	8.79	0.0	-259.99	0.0	0.0	0.0
	1	11.43	0.0	-337.98	0.0	0.0	0.0
	1	11.43	0.0	-337.98	0.0	0.0	0.0
	1	11.43	0.0	-337.98	0.0	0.0	0.0
	1	11.43	0.0	-337.98	0.0	0.0	0.0
17	2	2.04	0.0	-824.09	0.0	0.0	0.0
	3	0.95	0.0	-392.48	0.0	0.0	0.0
	1	1.24	0.0	-510.22	0.0	0.0	0.0
	1	1.24	0.0	-510.22	0.0	0.0	0.0
	1	1.24	0.0	-510.22	0.0	0.0	0.0
	1	1.24	0.0	-510.22	0.0	0.0	0.0
18	2	-3.36	0.0	-790.14	0.0	0.0	0.0
	3	-1.58	0.0	-377.48	0.0	0.0	0.0
	1	-2.06	0.0	-490.72	0.0	0.0	0.0
	1	-2.06	0.0	-490.72	0.0	0.0	0.0
	1	-2.06	0.0	-490.72	0.0	0.0	0.0
	1	-2.06	0.0	-490.72	0.0	0.0	0.0
19	2	5.30	0.0	-455.41	0.0	0.0	0.0
	3	2.51	0.0	-229.60	0.0	0.0	0.0
	1	3.27	0.0	-298.47	0.0	0.0	0.0
	1	3.27	0.0	-298.47	0.0	0.0	0.0
	1	3.27	0.0	-298.47	0.0	0.0	0.0
	1	3.27	0.0	-298.47	0.0	0.0	0.0
20	2	5.30	0.0	-455.41	0.0	0.0	0.0
	3	2.51	0.0	-229.60	0.0	0.0	0.0
	1	3.27	0.0	-298.47	0.0	0.0	0.0
	1	3.27	0.0	-298.47	0.0	0.0	0.0
	1	3.27	0.0	-298.47	0.0	0.0	0.0
	1	3.27	0.0	-298.47	0.0	0.0	0.0
22	2	2.04	0.0	-824.09	0.0	0.0	0.0
	3	0.95	0.0	-392.48	0.0	0.0	0.0
	1	1.24	0.0	-510.22	0.0	0.0	0.0
	1	1.24	0.0	-510.22	0.0	0.0	0.0
	1	1.24	0.0	-510.22	0.0	0.0	0.0
	1	1.24	0.0	-510.22	0.0	0.0	0.0
23	2	23.11	0.0	-454.43	0.0	0.0	0.0
	3	11.69	0.0	-216.29	0.0	0.0	0.0
	1	15.20	0.0	-281.17	0.0	0.0	0.0
	1	15.20	0.0	-281.17	0.0	0.0	0.0
	1	15.20	0.0	-281.17	0.0	0.0	0.0
	1	15.20	0.0	-281.17	0.0	0.0	0.0
24	2	0.0	-7.76	-77.77	0.0	0.0	0.0
	3	0.0	-8.71	-37.46	0.0	0.0	0.0
	1	0.0	-11.32	-48.70	0.0	0.0	0.0
	1	0.0	-11.32	-48.70	0.0	0.0	0.0
	1	0.0	-11.32	-48.70	0.0	0.0	0.0

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
26	1	0.0	-11.32	-48.70	0.0	0.0	0.0
	2	0.0	32.63	-176.04	0.0	0.0	0.0
	3	0.0	17.27	-83.98	0.0	0.0	0.0
	1	0.0	22.45	-109.17	0.0	0.0	0.0
	1	0.0	22.45	-109.17	0.0	0.0	0.0
	1	0.0	22.45	-109.17	0.0	0.0	0.0
	1	0.0	22.45	-109.17	0.0	0.0	0.0
	1	0.0	22.45	-109.17	0.0	0.0	0.0
	1	0.0	22.45	-109.17	0.0	0.0	0.0
	1	0.0	22.45	-109.17	0.0	0.0	0.0
27	2	0.0	17.42	-546.32	0.0	0.0	0.0
	3	0.0	8.79	-259.99	0.0	0.0	0.0
	1	0.0	11.43	-337.98	0.0	0.0	0.0
	1	0.0	11.43	-337.98	0.0	0.0	0.0
	1	0.0	11.43	-337.98	0.0	0.0	0.0
	1	0.0	11.43	-337.98	0.0	0.0	0.0
	1	0.0	11.43	-337.98	0.0	0.0	0.0
	1	0.0	11.43	-337.98	0.0	0.0	0.0
	1	0.0	11.43	-337.98	0.0	0.0	0.0
	1	0.0	11.43	-337.98	0.0	0.0	0.0
28	2	0.0	31.51	-269.74	0.0	0.0	0.0
	3	0.0	16.17	-128.48	0.0	0.0	0.0
	1	0.0	21.02	-167.03	0.0	0.0	0.0
	1	0.0	21.02	-167.03	0.0	0.0	0.0
	1	0.0	21.02	-167.03	0.0	0.0	0.0
	1	0.0	21.02	-167.03	0.0	0.0	0.0
	1	0.0	21.02	-167.03	0.0	0.0	0.0
	1	0.0	21.02	-167.03	0.0	0.0	0.0
	1	0.0	21.02	-167.03	0.0	0.0	0.0
	1	0.0	21.02	-167.03	0.0	0.0	0.0
29	2	0.0	10.79	-602.22	0.0	0.0	0.0
	3	0.0	5.46	-287.79	0.0	0.0	0.0
	1	0.0	7.10	-374.12	0.0	0.0	0.0
	1	0.0	7.10	-374.12	0.0	0.0	0.0
	1	0.0	7.10	-374.12	0.0	0.0	0.0
	1	0.0	7.10	-374.12	0.0	0.0	0.0
	1	0.0	7.10	-374.12	0.0	0.0	0.0
	1	0.0	7.10	-374.12	0.0	0.0	0.0
	1	0.0	7.10	-374.12	0.0	0.0	0.0
	1	0.0	7.10	-374.12	0.0	0.0	0.0
30	2	0.0	27.87	-362.32	0.0	0.0	0.0
	3	0.0	14.16	-172.49	0.0	0.0	0.0
	1	0.0	18.41	-224.23	0.0	0.0	0.0
	1	0.0	18.41	-224.23	0.0	0.0	0.0
	1	0.0	18.41	-224.23	0.0	0.0	0.0
	1	0.0	18.41	-224.23	0.0	0.0	0.0
	1	0.0	18.41	-224.23	0.0	0.0	0.0
	1	0.0	18.41	-224.23	0.0	0.0	0.0
	1	0.0	18.41	-224.23	0.0	0.0	0.0
	1	0.0	18.41	-224.23	0.0	0.0	0.0
31	2	10.79	0.0	-602.22	0.0	0.0	0.0
	3	5.46	0.0	-287.79	0.0	0.0	0.0
	1	7.10	0.0	-374.12	0.0	0.0	0.0
	1	7.10	0.0	-374.12	0.0	0.0	0.0
	1	7.10	0.0	-374.12	0.0	0.0	0.0
	1	7.10	0.0	-374.12	0.0	0.0	0.0
	1	7.10	0.0	-374.12	0.0	0.0	0.0
	1	7.10	0.0	-374.12	0.0	0.0	0.0
	1	7.10	0.0	-374.12	0.0	0.0	0.0
	1	7.10	0.0	-374.12	0.0	0.0	0.0
32	2	0.0	23.11	-454.43	0.0	0.0	0.0
	3	0.0	11.69	-216.29	0.0	0.0	0.0
	1	0.0	15.20	-281.17	0.0	0.0	0.0
	1	0.0	15.20	-281.17	0.0	0.0	0.0
	1	0.0	15.20	-281.17	0.0	0.0	0.0
	1	0.0	15.20	-281.17	0.0	0.0	0.0
	1	0.0	15.20	-281.17	0.0	0.0	0.0
	1	0.0	15.20	-281.17	0.0	0.0	0.0
	1	0.0	15.20	-281.17	0.0	0.0	0.0
	1	0.0	15.20	-281.17	0.0	0.0	0.0
33	2	17.42	0.0	-546.32	0.0	0.0	0.0
	3	8.79	0.0	-259.99	0.0	0.0	0.0
	1	11.43	0.0	-337.98	0.0	0.0	0.0
	1	11.43	0.0	-337.98	0.0	0.0	0.0
	1	11.43	0.0	-337.98	0.0	0.0	0.0
	1	11.43	0.0	-337.98	0.0	0.0	0.0
	1	11.43	0.0	-337.98	0.0	0.0	0.0
	1	11.43	0.0	-337.98	0.0	0.0	0.0
	1	11.43	0.0	-337.98	0.0	0.0	0.0
	1	11.43	0.0	-337.98	0.0	0.0	0.0
35	2	31.51	0.0	-269.74	0.0	0.0	0.0
	3	16.17	0.0	-128.48	0.0	0.0	0.0
	1	21.02	0.0	-167.03	0.0	0.0	0.0
	1	21.02	0.0	-167.03	0.0	0.0	0.0
	1	21.02	0.0	-167.03	0.0	0.0	0.0
	1	21.02	0.0	-167.03	0.0	0.0	0.0
	1	21.02	0.0	-167.03	0.0	0.0	0.0
	1	21.02	0.0	-167.03	0.0	0.0	0.0
	1	21.02	0.0	-167.03	0.0	0.0	0.0
	1	21.02	0.0	-167.03	0.0	0.0	0.0
36	2	27.87	0.0	-362.32	0.0	0.0	0.0
	3	14.16	0.0	-172.49	0.0	0.0	0.0
	1	18.41	0.0	-224.23	0.0	0.0	0.0
	1	18.41	0.0	-224.23	0.0	0.0	0.0
	1	18.41	0.0	-224.23	0.0	0.0	0.0
	1	18.41	0.0	-224.23	0.0	0.0	0.0
	1	18.41	0.0	-224.23	0.0	0.0	0.0
	1	18.41	0.0	-224.23	0.0	0.0	0.0
	1	18.41	0.0	-224.23	0.0	0.0	0.0
	1	18.41	0.0	-224.23	0.0	0.0	0.0
37	2	23.11	0.0	-454.43	0.0	0.0	0.0
	3	11.69	0.0	-216.29	0.0	0.0	0.0
	1	15.20	0.0	-281.17	0.0	0.0	0.0
	1	15.20	0.0	-281.17	0.0	0.0	0.0
	1	15.20	0.0	-281.17	0.0	0.0	0.0
	1	15.20	0.0	-281.17	0.0	0.0	0.0
	1	15.20	0.0	-281.17	0.0	0.0	0.0
	1	15.20	0.0	-281.17	0.0	0.0	0.0
	1	15.20	0.0	-281.17	0.0	0.0	0.0
	1	15.20	0.0	-281.17	0.0	0.0	0.0
38	2	0.0	-0.26	-700.28	0.0	0.0	0.0
	3	0.0	-0.19	-336.32	0.0	0.0	0.0
	1	0.0	-0.25	-437.22	0.0	0.0	0.0

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
	1	0.0	-0.25	-437.22	0.0	0.0	0.0
	1	0.0	-0.25	-437.22	0.0	0.0	0.0
	1	0.0	-0.25	-437.22	0.0	0.0	0.0
39	2	27.87	0.0	-362.32	0.0	0.0	0.0
	3	14.16	0.0	-172.49	0.0	0.0	0.0
	1	18.41	0.0	-224.23	0.0	0.0	0.0
	1	18.41	0.0	-224.23	0.0	0.0	0.0
	1	18.41	0.0	-224.23	0.0	0.0	0.0
	1	18.41	0.0	-224.23	0.0	0.0	0.0
40	2	0.0	4.25	-615.72	0.0	0.0	0.0
	3	0.0	2.19	-296.47	0.0	0.0	0.0
	1	0.0	2.85	-385.41	0.0	0.0	0.0
	1	0.0	2.85	-385.41	0.0	0.0	0.0
	1	0.0	2.85	-385.41	0.0	0.0	0.0
	1	0.0	2.85	-385.41	0.0	0.0	0.0
42	2	0.0	0.26	-700.28	0.0	0.0	0.0
	3	0.0	0.19	-336.32	0.0	0.0	0.0
	1	0.0	0.25	-437.22	0.0	0.0	0.0
	1	0.0	0.25	-437.22	0.0	0.0	0.0
	1	0.0	0.25	-437.22	0.0	0.0	0.0
	1	0.0	0.25	-437.22	0.0	0.0	0.0
43	2	31.51	0.0	-269.74	0.0	0.0	0.0
	3	16.17	0.0	-128.48	0.0	0.0	0.0
	1	21.02	0.0	-167.03	0.0	0.0	0.0
	1	21.02	0.0	-167.03	0.0	0.0	0.0
	1	21.02	0.0	-167.03	0.0	0.0	0.0
	1	21.02	0.0	-167.03	0.0	0.0	0.0
44	2	0.26	0.0	-685.70	0.0	0.0	0.0
	3	0.19	0.0	-329.88	0.0	0.0	0.0
	1	0.25	0.0	-428.85	0.0	0.0	0.0
	1	0.25	0.0	-428.85	0.0	0.0	0.0
	1	0.25	0.0	-428.85	0.0	0.0	0.0
	1	0.25	0.0	-428.85	0.0	0.0	0.0
46	3	-173.76	-3.99e-04	1310.33	0.14	0.0	0.0
	2	-320.92	-8.12e-04	2599.43	0.28	0.0	0.0
	3	-173.76	-3.99e-04	1310.33	0.14	0.0	0.0
	2	-320.92	-8.12e-04	2599.43	0.28	0.0	0.0
	1	-225.88	-5.19e-04	1703.43	0.18	0.0	0.0
	1	-225.88	-5.19e-04	1703.43	0.18	0.0	0.0
48	2	4.25	0.0	-615.72	0.0	0.0	0.0
	3	2.19	0.0	-296.47	0.0	0.0	0.0
	1	2.85	0.0	-385.41	0.0	0.0	0.0
	1	2.85	0.0	-385.41	0.0	0.0	0.0
	1	2.85	0.0	-385.41	0.0	0.0	0.0
	1	2.85	0.0	-385.41	0.0	0.0	0.0
52	2	0.0	0.0	-1.075e+04	0.0	0.0	0.0
	3	0.0	0.0	-5317.67	0.0	0.0	0.0
	1	0.0	0.0	-6912.97	0.0	0.0	0.0
	1	0.0	0.0	-6912.97	0.0	0.0	0.0
	1	0.0	0.0	-6912.97	0.0	0.0	0.0
	1	0.0	0.0	-6912.97	0.0	0.0	0.0
53	2	32.63	0.0	-176.04	0.0	0.0	0.0
	3	17.27	0.0	-83.98	0.0	0.0	0.0
	1	22.45	0.0	-109.17	0.0	0.0	0.0
	1	22.45	0.0	-109.17	0.0	0.0	0.0
	1	22.45	0.0	-109.17	0.0	0.0	0.0
	1	22.45	0.0	-109.17	0.0	0.0	0.0
56	2	4.37	0.0	-824.09	0.0	0.0	0.0
	3	2.07	0.0	-392.48	0.0	0.0	0.0
	1	2.69	0.0	-510.22	0.0	0.0	0.0
	1	2.69	0.0	-510.22	0.0	0.0	0.0
	1	2.69	0.0	-510.22	0.0	0.0	0.0
	1	2.69	0.0	-510.22	0.0	0.0	0.0
57	2	32.63	0.0	-176.04	0.0	0.0	0.0
	3	17.27	0.0	-83.98	0.0	0.0	0.0
	1	22.45	0.0	-109.17	0.0	0.0	0.0
	1	22.45	0.0	-109.17	0.0	0.0	0.0
	1	22.45	0.0	-109.17	0.0	0.0	0.0
	1	22.45	0.0	-109.17	0.0	0.0	0.0
58	2	-2.81	0.0	-824.09	0.0	0.0	0.0

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
	3	-1.35	0.0	-392.48	0.0	0.0	0.0
	1	-1.76	0.0	-510.22	0.0	0.0	0.0
	1	-1.76	0.0	-510.22	0.0	0.0	0.0
	1	-1.76	0.0	-510.22	0.0	0.0	0.0
	1	-1.76	0.0	-510.22	0.0	0.0	0.0
60	2	-0.68	0.0	-824.09	0.0	0.0	0.0
	3	-0.35	0.0	-392.48	0.0	0.0	0.0
	1	-0.45	0.0	-510.22	0.0	0.0	0.0
	1	-0.45	0.0	-510.22	0.0	0.0	0.0
	1	-0.45	0.0	-510.22	0.0	0.0	0.0
	1	-0.45	0.0	-510.22	0.0	0.0	0.0
61	2	4.25	0.0	-615.72	0.0	0.0	0.0
	3	2.19	0.0	-296.47	0.0	0.0	0.0
	1	2.85	0.0	-385.41	0.0	0.0	0.0
	1	2.85	0.0	-385.41	0.0	0.0	0.0
	1	2.85	0.0	-385.41	0.0	0.0	0.0
	1	2.85	0.0	-385.41	0.0	0.0	0.0
62	2	7.76	0.0	-77.77	0.0	0.0	0.0
	3	8.71	0.0	-37.46	0.0	0.0	0.0
	1	11.32	0.0	-48.70	0.0	0.0	0.0
	1	11.32	0.0	-48.70	0.0	0.0	0.0
	1	11.32	0.0	-48.70	0.0	0.0	0.0
	1	11.32	0.0	-48.70	0.0	0.0	0.0
64	2	0.0	7.76	-77.77	0.0	0.0	0.0
	3	0.0	8.71	-37.46	0.0	0.0	0.0
	1	0.0	11.32	-48.70	0.0	0.0	0.0
	1	0.0	11.32	-48.70	0.0	0.0	0.0
	1	0.0	11.32	-48.70	0.0	0.0	0.0
	1	0.0	11.32	-48.70	0.0	0.0	0.0
65	2	7.76	0.0	-77.77	0.0	0.0	0.0
	3	8.71	0.0	-37.46	0.0	0.0	0.0
	1	11.32	0.0	-48.70	0.0	0.0	0.0
	1	11.32	0.0	-48.70	0.0	0.0	0.0
	1	11.32	0.0	-48.70	0.0	0.0	0.0
	1	11.32	0.0	-48.70	0.0	0.0	0.0
66	2	0.0	-4.25	-615.72	0.0	0.0	0.0
	3	0.0	-2.19	-296.47	0.0	0.0	0.0
	1	0.0	-2.85	-385.41	0.0	0.0	0.0
	1	0.0	-2.85	-385.41	0.0	0.0	0.0
	1	0.0	-2.85	-385.41	0.0	0.0	0.0
	1	0.0	-2.85	-385.41	0.0	0.0	0.0
68	2	0.0	-10.79	-602.22	0.0	0.0	0.0
	3	0.0	-5.46	-287.79	0.0	0.0	0.0
	1	0.0	-7.10	-374.12	0.0	0.0	0.0
	1	0.0	-7.10	-374.12	0.0	0.0	0.0
	1	0.0	-7.10	-374.12	0.0	0.0	0.0
	1	0.0	-7.10	-374.12	0.0	0.0	0.0
70	2	0.0	-17.42	-546.32	0.0	0.0	0.0
	3	0.0	-8.79	-259.99	0.0	0.0	0.0
	1	0.0	-11.43	-337.98	0.0	0.0	0.0
	1	0.0	-11.43	-337.98	0.0	0.0	0.0
	1	0.0	-11.43	-337.98	0.0	0.0	0.0
	1	0.0	-11.43	-337.98	0.0	0.0	0.0
72	2	0.0	-23.11	-454.43	0.0	0.0	0.0
	3	0.0	-11.69	-216.29	0.0	0.0	0.0
	1	0.0	-15.20	-281.17	0.0	0.0	0.0
	1	0.0	-15.20	-281.17	0.0	0.0	0.0
	1	0.0	-15.20	-281.17	0.0	0.0	0.0
	1	0.0	-15.20	-281.17	0.0	0.0	0.0
74	2	0.0	-27.87	-362.32	0.0	0.0	0.0
	3	0.0	-14.16	-172.49	0.0	0.0	0.0
	1	0.0	-18.41	-224.23	0.0	0.0	0.0
	1	0.0	-18.41	-224.23	0.0	0.0	0.0
	1	0.0	-18.41	-224.23	0.0	0.0	0.0
	1	0.0	-18.41	-224.23	0.0	0.0	0.0
76	2	0.0	-31.51	-269.74	0.0	0.0	0.0
	3	0.0	-16.17	-128.48	0.0	0.0	0.0
	1	0.0	-21.02	-167.03	0.0	0.0	0.0
	1	0.0	-21.02	-167.03	0.0	0.0	0.0
	1	0.0	-21.02	-167.03	0.0	0.0	0.0

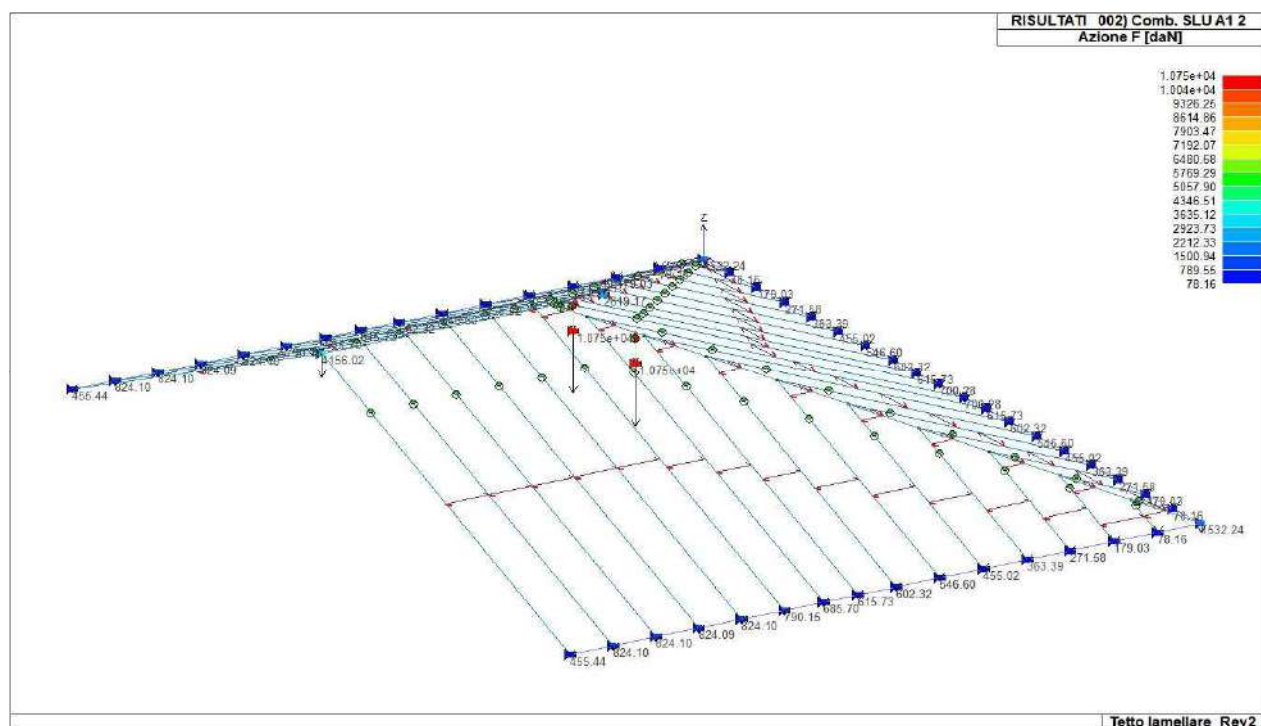
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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
78	1	0.0	-21.02	-167.03	0.0	0.0	0.0
	2	0.0	-32.63	-176.04	0.0	0.0	0.0
	3	0.0	-17.27	-83.98	0.0	0.0	0.0
	1	0.0	-22.45	-109.17	0.0	0.0	0.0
	1	0.0	-22.45	-109.17	0.0	0.0	0.0
80	1	0.0	-22.45	-109.17	0.0	0.0	0.0
	1	0.0	-22.45	-109.17	0.0	0.0	0.0
	2	0.26	0.0	-685.70	0.0	0.0	0.0
	3	0.19	0.0	-329.88	0.0	0.0	0.0
	1	0.25	0.0	-428.85	0.0	0.0	0.0
	1	0.25	0.0	-428.85	0.0	0.0	0.0
	1	0.25	0.0	-428.85	0.0	0.0	0.0
	1	0.25	0.0	-428.85	0.0	0.0	0.0



42_RIS_REAZIONI_002_Comb. SLU A1 2

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

6.2 Sollecitazioni negli elementi D2

Il controllo dei risultati delle analisi condotte, per quanto concerne gli elementi tipo trave, è possibile in relazione alle tabelle sotto riportate.

Gli elementi vengono suddivisi in relazione alle proprietà in elementi:

- tipo **pilastro**
- tipo **trave in elevazione**
- tipo **trave in fondazione**

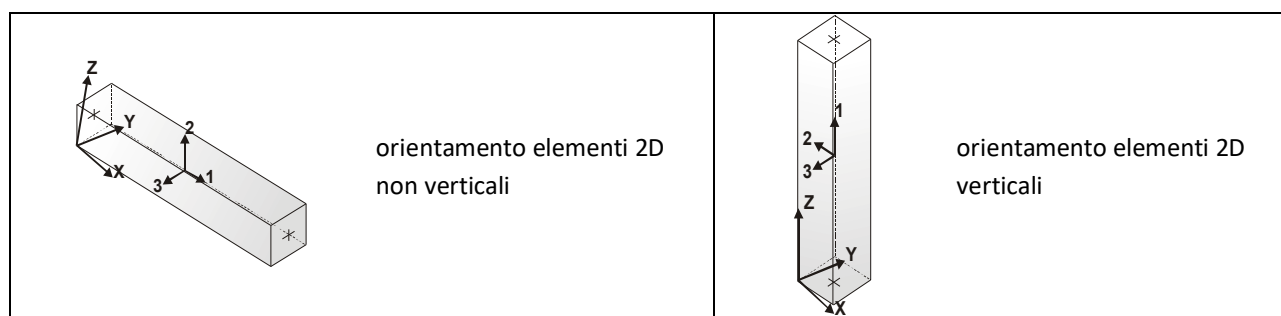
Per ogni elemento e per ogni combinazione (o caso di carico) vengono riportati i risultati più significativi.

Per gli elementi tipo *pilastro* sono riportati in tabella i seguenti valori:

Pilas.	numero dell'elemento pilastro
Cmb	combinazione in cui si verificano i valori riportati
M3 mx/mn	momento flettente in campata M3 max (prima riga) / min (seconda riga)
M2 mx/mn	momento flettente in campata M2 max (prima riga) / min (seconda riga)
D2/D3	freccia massima in direzione 2 (prima riga) / direzione 3 (seconda riga)
Q2/Q3	carico totale in direzione 2 (prima riga) / direzione 3 (seconda riga)
Pos.	ascissa del punto iniziale e finale dell'elemento
N, V2, ecc..	sei componenti di sollecitazione al piede ed in sommità dell'elemento

Per gli elementi tipo *trave in elevazione* sono riportati, oltre al numero dell'elemento, i medesimi risultati visti per i pilastri.

Per gli elementi tipo *trave in fondazione* (trave f.) sono riportati, oltre al numero dell'elemento, i medesimi risultati visti per i pilastri e la massima pressione sul terreno.



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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

6.2.1 Travi

Trave	Cmb	M3 mx/mn	M2 mx/mn	D 2 / D 3	Q 2 / Q 3	Pos.	N	V 2	V 3	T	M 2	M 3
		daN cm	daN cm	cm	daN	cm	daN	daN	daN	daN cm	daN cm	daN cm
1	2	3.383e+05	0.03	-0.09	-43.41	0.0	-22.06	1873.02	-1.26e-04	0.0	0.03	1.994e+05
		1.994e+05	0.02	0.0	0.0	75.0	-22.06	1829.61	-1.26e-04	0.0	0.02	3.383e+05
1	3	1.608e+05	0.01	-0.05	-33.40	0.0	-10.36	925.35	-6.14e-05	0.0	0.01	9.265e+04
		9.265e+04	8.76e-03	0.0	0.0	75.0	-10.36	891.96	-6.14e-05	0.0	8.76e-03	1.608e+05
1	5	1.608e+05	0.01	-0.05	-33.40	0.0	-10.36	925.35	-6.14e-05	0.0	0.01	9.265e+04
		9.265e+04	8.76e-03	0.0	0.0	75.0	-10.36	891.96	-6.14e-05	0.0	8.76e-03	1.608e+05
1	6	2.470e+05	0.02	-0.07	-33.40	0.0	-16.09	1372.06	-9.20e-05	0.0	0.02	1.453e+05
		1.453e+05	0.01	0.0	0.0	75.0	-16.09	1338.67	-9.20e-05	0.0	0.01	2.470e+05
1	7	1.608e+05	0.01	-0.05	-33.40	0.0	-10.36	925.35	-6.14e-05	0.0	0.01	9.265e+04
		9.265e+04	8.76e-03	0.0	0.0	75.0	-10.36	891.96	-6.14e-05	0.0	8.76e-03	1.608e+05
1	8	1.780e+05	0.01	-0.05	-33.40	0.0	-11.51	1014.69	-6.75e-05	0.0	0.01	1.032e+05
		1.032e+05	9.64e-03	0.0	0.0	75.0	-11.51	981.30	-6.75e-05	0.0	9.64e-03	1.780e+05
1	9	1.608e+05	0.01	-0.05	-33.40	0.0	-10.36	925.35	-6.14e-05	0.0	0.01	9.265e+04
		9.265e+04	8.76e-03	0.0	0.0	75.0	-10.36	891.96	-6.14e-05	0.0	8.76e-03	1.608e+05
2	2	-5.269e+05	-1.07e-04	0.04	-22.40	0.0	1715.70	-5056.95	0.0	0.0	-1.07e-04	-5.269e+05
		-5.981e+05	-1.09e-04	-2.22e-06	0.0	14.0	1722.28	-5079.36	0.0	0.0	-1.09e-04	-5.981e+05
2	3	-2.607e+05	-4.98e-05	0.02	-12.45	0.0	859.16	-2499.00	0.0	0.0	-4.98e-05	-2.607e+05
		-2.959e+05	-5.06e-05	-1.20e-06	0.0	14.0	862.83	-2511.45	0.0	0.0	-5.06e-05	-2.959e+05
2	5	-2.607e+05	-4.98e-05	0.02	-12.45	0.0	859.16	-2499.00	0.0	0.0	-4.98e-05	-2.607e+05
		-2.959e+05	-5.06e-05	-1.20e-06	0.0	14.0	862.83	-2511.45	0.0	0.0	-5.06e-05	-2.959e+05
2	6	-3.860e+05	-7.82e-05	0.03	-16.60	0.0	1258.35	-3704.50	0.0	0.0	-7.82e-05	-3.860e+05
		-4.382e+05	-7.94e-05	-1.64e-06	0.0	14.0	1263.23	-3721.10	0.0	0.0	-7.94e-05	-4.382e+05
2	7	-2.607e+05	-4.98e-05	0.02	-12.45	0.0	859.16	-2499.00	0.0	0.0	-4.98e-05	-2.607e+05
		-2.959e+05	-5.06e-05	-1.20e-06	0.0	14.0	862.83	-2511.45	0.0	0.0	-5.06e-05	-2.959e+05
2	8	-2.858e+05	-5.55e-05	0.02	-13.28	0.0	939.00	-2740.10	0.0	0.0	-5.55e-05	-2.858e+05
		-3.244e+05	-5.63e-05	-1.29e-06	0.0	14.0	942.91	-2753.38	0.0	0.0	-5.63e-05	-3.244e+05
2	9	-2.607e+05	-4.98e-05	0.02	-12.45	0.0	859.16	-2499.00	0.0	0.0	-4.98e-05	-2.607e+05
		-2.959e+05	-5.06e-05	-1.20e-06	0.0	14.0	862.83	-2511.45	0.0	0.0	-5.06e-05	-2.959e+05
3	1	5.776e+04	1850.97	-1.13	-696.34	0.0	-147.96	355.87	2.85	-4.41e-03	-1.83e-03	0.0
		0.0	-1.83e-03	-0.05	0.0	650.3	141.56	-340.47	2.85	-4.41e-03	1850.97	0.0
3	2	9.226e+04	2765.03	-1.80	-1110.25	0.0	-236.38	568.53	4.25	-7.04e-03	-2.93e-03	0.0
		0.0	-2.93e-03	-0.07	0.0	650.3	225.23	-541.71	4.25	-7.04e-03	2765.03	0.0
3	5	4.443e+04	1423.83	-0.87	-535.65	0.0	-113.82	273.75	2.19	-3.39e-03	-1.41e-03	0.0
		0.0	-1.41e-03	-0.04	0.0	650.3	108.89	-261.90	2.19	-3.39e-03	1423.83	0.0
3	6	6.743e+04	2033.20	-1.32	-811.58	0.0	-172.76	415.52	3.13	-5.14e-03	-2.14e-03	0.0
		0.0	-2.14e-03	-0.05	0.0	650.3	164.67	-396.06	3.13	-5.14e-03	2033.20	0.0
3	7	4.443e+04	1423.83	-0.87	-535.65	0.0	-113.82	273.75	2.19	-3.39e-03	-1.41e-03	0.0
		0.0	-1.41e-03	-0.04	0.0	650.3	108.89	-261.90	2.19	-3.39e-03	1423.83	0.0
3	8	4.903e+04	1545.70	-0.96	-590.83	0.0	-125.61	302.10	2.38	-3.74e-03	-1.56e-03	0.0
		0.0	-1.56e-03	-0.04	0.0	650.3	120.05	-288.73	2.38	-3.74e-03	1545.70	0.0
3	9	4.443e+04	1423.83	-0.87	-535.65	0.0	-113.82	273.75	2.19	-3.39e-03	-1.41e-03	0.0
		0.0	-1.41e-03	-0.04	0.0	650.3	108.89	-261.90	2.19	-3.39e-03	1423.83	0.0
4	2	1.558e+05	0.0	-0.61	-141.04	0.0	-432.18	1470.02	0.0	0.0	0.0	3.97e-05
		3.97e-05	0.0	-1.78e-05	0.0	112.4	-390.71	1328.98	0.0	0.0	0.0	1.558e+05
4	3	7.932e+04	0.0	-0.31	-82.75	0.0	-221.35	752.92	0.0	0.0	0.0	3.05e-05
		3.05e-05	0.0	-9.64e-06	0.0	112.4	-197.02	670.17	0.0	0.0	0.0	7.932e+04
4	5	7.932e+04	0.0	-0.31	-82.75	0.0	-221.35	752.92	0.0	0.0	0.0	3.05e-05
		3.05e-05	0.0	-9.64e-06	0.0	112.4	-197.02	670.17	0.0	0.0	0.0	7.932e+04
4	6	1.145e+05	0.0	-0.45	-105.06	0.0	-317.63	1080.41	0.0	0.0	0.0	3.05e-05
		3.05e-05	0.0	-1.32e-05	0.0	112.4	-286.74	975.34	0.0	0.0	0.0	1.145e+05
4	7	7.932e+04	0.0	-0.31	-82.75	0.0	-221.35	752.92	0.0	0.0	0.0	3.05e-05
		3.05e-05	0.0	-9.64e-06	0.0	112.4	-197.02	670.17	0.0	0.0	0.0	7.932e+04
4	8	8.635e+04	0.0	-0.34	-87.21	0.0	-240.61	818.41	0.0	0.0	0.0	3.05e-05
		3.05e-05	0.0	-1.03e-05	0.0	112.4	-214.97	731.20	0.0	0.0	0.0	8.635e+04
4	9	7.932e+04	0.0	-0.31	-82.75	0.0	-221.35	752.92	0.0	0.0	0.0	3.05e-05
		3.05e-05	0.0	-9.64e-06	0.0	112.4	-197.02	670.17	0.0	0.0	0.0	7.932e+04
5	2	7.941e+04	0.0	-2.06	-841.03	0.0	174.84	420.51	5.30	0.0	-4006.33	0.0
		0.0	-4006.33	0.14	0.0	755.4	-174.84	-420.51	5.30	0.0	0.0	4.20e-03
5	3	4.004e+04	0.0	-1.04	-424.00	0.0	88.14	212.00	2.51	0.0	-1899.68	0.0
		0.0	-1899.68	0.07	0.0	755.4	-88.14	-212.00	2.51	0.0	0.0	9.77e-04
5	5	4.004e+04	0.0	-1.04	-424.00	0.0	88.14	212.00	2.51	0.0	-1899.68	0.0
		0.0	-1899.68	0.07	0.0	755.4	-88.14	-212.00	2.51	0.0	0.0	9.77e-04
5	6	5.828e+04	0.0	-1.51	-617.22	0.0	128.31	308.61	3.87	0.0	-2924.18	0.0
		0.0	-2924.18	0.10	0.0	755.4	-128.31	-308.61	3.87	0.0	0.0	2.93e-03
5	7	4.004e+04	0.0	-1.04	-424.00	0.0	88.14	212.00	2.51	0.0	-1899.68	0.0

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Trave	Cmb	M3 mx/mn	M2 mx/mn	D 2 / D 3	Q 2 / Q 3	Pos.	N	V 2	V 3	T	M 2	M 3
		0.0	-1899.68	0.07	0.0	755.4	-88.14	-212.00	2.51	0.0	0.0	9.77e-04
5	8	4.368e+04	0.0	-1.13	-462.65	0.0	96.18	231.32	2.79	0.0	-2104.58	0.0
		0.0	-2104.58	0.07	0.0	755.4	-96.18	-231.32	2.79	0.0	0.0	1.37e-03
5	9	4.004e+04	0.0	-1.04	-424.00	0.0	88.14	212.00	2.51	0.0	-1899.68	0.0
		0.0	-1899.68	0.07	0.0	755.4	-88.14	-212.00	2.51	0.0	0.0	9.77e-04
7	1	0.0	0.0	-0.02	-50.65	0.0	-225.88	-1703.43	-5.19e-04	0.18	0.0	0.0
		-1.513e+05	-0.05	0.0	0.0	87.5	-225.88	-1754.08	-5.19e-04	0.18	-0.05	-1.513e+05
7	2	0.0	0.0	-0.05	-50.65	0.0	-320.92	-2599.43	-8.12e-04	0.28	0.0	0.0
		-2.297e+05	-0.07	0.0	0.0	87.5	-320.92	-2650.08	-8.12e-04	0.28	-0.07	-2.297e+05
7	3	0.0	0.0	-0.02	-38.96	0.0	-173.76	-1310.33	-3.99e-04	0.14	0.0	0.0
		-1.164e+05	-0.03	0.0	0.0	87.5	-173.76	-1349.30	-3.99e-04	0.14	-0.03	-1.164e+05
7	5	0.0	0.0	-0.02	-38.96	0.0	-173.76	-1310.33	-3.99e-04	0.14	0.0	0.0
		-1.164e+05	-0.03	0.0	0.0	87.5	-173.76	-1349.30	-3.99e-04	0.14	-0.03	-1.164e+05
7	6	0.0	0.0	-0.03	-38.96	0.0	-237.12	-1907.66	-5.95e-04	0.21	0.0	0.0
		-1.686e+05	-0.05	0.0	0.0	87.5	-237.12	-1946.63	-5.95e-04	0.21	-0.05	-1.686e+05
7	7	0.0	0.0	-0.02	-38.96	0.0	-173.76	-1310.33	-3.99e-04	0.14	0.0	0.0
		-1.164e+05	-0.03	0.0	0.0	87.5	-173.76	-1349.30	-3.99e-04	0.14	-0.03	-1.164e+05
7	8	0.0	0.0	-0.02	-38.96	0.0	-186.43	-1429.80	-4.38e-04	0.15	0.0	0.0
		-1.268e+05	-0.04	0.0	0.0	87.5	-186.43	-1468.76	-4.38e-04	0.15	-0.04	-1.268e+05
7	9	0.0	0.0	-0.02	-38.96	0.0	-173.76	-1310.33	-3.99e-04	0.14	0.0	0.0
		-1.164e+05	-0.03	0.0	0.0	87.5	-173.76	-1349.30	-3.99e-04	0.14	-0.03	-1.164e+05
8	2	1.437e+05	516.13	-3.93	-1521.89	0.0	-316.38	760.94	0.68	0.0	0.0	3.81e-03
		0.0	0.0	-0.02	0.0	755.4	316.38	-760.94	0.68	0.0	516.13	0.0
8	3	6.844e+04	264.21	-1.87	-724.80	0.0	-150.68	362.40	0.35	0.0	0.0	2.93e-03
		0.0	0.0	-9.44e-03	0.0	755.4	150.68	-362.40	0.35	0.0	264.21	0.0
8	5	6.844e+04	264.21	-1.87	-724.80	0.0	-150.68	362.40	0.35	0.0	0.0	2.93e-03
		0.0	0.0	-9.44e-03	0.0	755.4	150.68	-362.40	0.35	0.0	264.21	0.0
8	6	1.049e+05	379.31	-2.87	-1111.23	0.0	-231.01	555.62	0.50	0.0	0.0	2.93e-03
		0.0	0.0	-0.01	0.0	755.4	231.01	-555.62	0.50	0.0	379.31	0.0
8	7	6.844e+04	264.21	-1.87	-724.80	0.0	-150.68	362.40	0.35	0.0	0.0	2.93e-03
		0.0	0.0	-9.44e-03	0.0	755.4	150.68	-362.40	0.35	0.0	264.21	0.0
8	8	7.574e+04	287.23	-2.07	-802.09	0.0	-166.74	401.04	0.38	0.0	0.0	2.93e-03
		0.0	0.0	-0.01	0.0	755.4	166.74	-401.04	0.38	0.0	287.23	0.0
8	9	6.844e+04	264.21	-1.87	-724.80	0.0	-150.68	362.40	0.35	0.0	0.0	2.93e-03
		0.0	0.0	-9.44e-03	0.0	755.4	150.68	-362.40	0.35	0.0	264.21	0.0
9	2	1.437e+05	2125.85	-3.88	-1521.89	0.0	-316.38	760.94	2.81	0.0	0.0	3.81e-03
		0.0	0.0	-0.08	0.0	755.4	316.38	-760.94	2.81	0.0	2125.85	0.0
9	3	6.844e+04	1023.48	-1.85	-724.80	0.0	-150.68	362.40	1.35	0.0	0.0	2.93e-03
		0.0	0.0	-0.04	0.0	755.4	150.68	-362.40	1.35	0.0	1023.48	0.0
9	5	6.844e+04	1023.48	-1.85	-724.80	0.0	-150.68	362.40	1.35	0.0	0.0	2.93e-03
		0.0	0.0	-0.04	0.0	755.4	150.68	-362.40	1.35	0.0	1023.48	0.0
9	6	1.049e+05	1553.70	-2.84	-1111.23	0.0	-231.01	555.62	2.06	0.0	0.0	2.93e-03
		0.0	0.0	-0.06	0.0	755.4	231.01	-555.62	2.06	0.0	1553.70	0.0
9	7	6.844e+04	1023.48	-1.85	-724.80	0.0	-150.68	362.40	1.35	0.0	0.0	2.93e-03
		0.0	0.0	-0.04	0.0	755.4	150.68	-362.40	1.35	0.0	1023.48	0.0
9	8	7.574e+04	1129.52	-2.05	-802.09	0.0	-166.74	401.04	1.50	0.0	0.0	2.93e-03
		0.0	0.0	-0.04	0.0	755.4	166.74	-401.04	1.50	0.0	1129.52	0.0
9	9	6.844e+04	1023.48	-1.85	-724.80	0.0	-150.68	362.40	1.35	0.0	0.0	2.93e-03
		0.0	0.0	-0.04	0.0	755.4	150.68	-362.40	1.35	0.0	1023.48	0.0
10	1	8.555e+04	1555.11	-2.26	-901.65	0.0	-188.39	453.12	2.06	0.0	0.0	-1.27e-03
		-1.27e-03	0.0	-0.06	0.0	755.4	188.39	-453.12	2.06	0.0	1555.11	0.0
10	2	1.378e+05	2535.37	-3.64	-1451.21	0.0	-303.34	729.60	3.36	0.0	0.0	-1.27e-03
		-1.27e-03	0.0	-0.09	0.0	755.4	300.03	-721.62	3.36	0.0	2535.37	0.0
10	5	6.581e+04	1196.24	-1.74	-693.58	0.0	-144.92	348.55	1.58	0.0	0.0	-9.77e-04
		-9.77e-04	0.0	-0.04	0.0	755.4	143.45	-345.03	1.58	0.0	1196.24	0.0
10	6	1.006e+05	1849.74	-2.66	-1059.95	0.0	-221.55	532.87	2.45	0.0	0.0	-9.77e-04
		-9.77e-04	0.0	-0.07	0.0	755.4	219.15	-527.08	2.45	0.0	1849.74	0.0
10	7	6.581e+04	1196.24	-1.74	-693.58	0.0	-144.92	348.55	1.58	0.0	0.0	-9.77e-04
		-9.77e-04	0.0	-0.04	0.0	755.4	143.45	-345.03	1.58	0.0	1196.24	0.0
10	8	7.277e+04	1326.94	-1.92	-766.85	0.0	-160.24	385.42	1.76	0.0	0.0	-9.77e-04
		-9.77e-04	0.0	-0.05	0.0	755.4	158.59	-381.44	1.76	0.0	1326.94	0.0
10	9	6.581e+04	1196.24	-1.74	-693.58	0.0	-144.92	348.55	1.58	0.0	0.0	-9.77e-04
		-9.77e-04	0.0	-0.04	0.0	755.4	143.45	-345.03	1.58	0.0	1196.24	0.0
11	2	3.510e+05	0.01	0.14	-43.41	0.0	-19.34	-1510.18	-1.26e-04	0.0	0.01	3.510e+05
		2.362e+05	2.65e-03	0.0	0.0	75.0	-19.34	-1553.59	-1.26e-04	0.0	2.65e-03	2.362e+05
11	3	1.679e+05	5.90e-03	0.07	-33.40	0.0	-9.16	-711.34	-6.14e-05	0.0	5.90e-03	1.679e+05
		1.133e+05	1.30e-03	0.0	0.0	75.0	-9.16	-744.74	-6.14e-05	0.0	1.30e-03	1.133e+05
11	5	1.679e+05	5.90e-03	0.07	-33.40	0.0	-9.16	-711.34	-6.14e-05	0.0	5.90e-03	1.679e+05
		1.133e+05	1.30e-03	0.0	0.0	75.0	-9.16	-744.74	-6.14e-05	0.0	1.30e-03	1.133e+05
11	6	2.564e+05	8.84e-03	0.10	-33.40	0.0	-14.12	-1101.63	-9.20e-05	0.0	8.84e-03	2.564e+05

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Trave	Cmb	M3 mx/mn	M2 mx/mn	D 2 / D 3	Q 2 / Q 3	Pos.	N	V 2	V 3	T	M 2	M 3
11	7	1.725e+05	1.94e-03	0.0	0.0	75.0	-14.12	-1135.03	-9.20e-05	0.0	1.94e-03	1.725e+05
		1.679e+05	5.90e-03	0.07	-33.40	0.0	-9.16	-711.34	-6.14e-05	0.0	5.90e-03	1.679e+05
		1.133e+05	1.30e-03	0.0	0.0	75.0	-9.16	-744.74	-6.14e-05	0.0	1.30e-03	1.133e+05
11	8	1.856e+05	6.49e-03	0.07	-33.40	0.0	-10.15	-789.40	-6.75e-05	0.0	6.49e-03	1.856e+05
		1.252e+05	1.42e-03	0.0	0.0	75.0	-10.15	-822.80	-6.75e-05	0.0	1.42e-03	1.252e+05
11	9	1.679e+05	5.90e-03	0.07	-33.40	0.0	-9.16	-711.34	-6.14e-05	0.0	5.90e-03	1.679e+05
		1.133e+05	1.30e-03	0.0	0.0	75.0	-9.16	-744.74	-6.14e-05	0.0	1.30e-03	1.133e+05
12	2	7.941e+04	0.0	-2.06	-841.03	0.0	-174.84	420.51	-5.30	0.0	0.0	4.20e-03
		0.0	-4006.33	0.14	0.0	755.4	174.84	-420.51	-5.30	0.0	-4006.33	0.0
12	3	4.004e+04	0.0	-1.04	-424.00	0.0	-88.14	212.00	-2.51	0.0	0.0	9.77e-04
		0.0	-1899.68	0.07	0.0	755.4	88.14	-212.00	-2.51	0.0	-1899.68	0.0
12	5	4.004e+04	0.0	-1.04	-424.00	0.0	-88.14	212.00	-2.51	0.0	0.0	9.77e-04
		0.0	-1899.68	0.07	0.0	755.4	88.14	-212.00	-2.51	0.0	-1899.68	0.0
12	6	5.828e+04	0.0	-1.51	-617.22	0.0	-128.31	308.61	-3.87	0.0	0.0	2.93e-03
		0.0	-2924.18	0.10	0.0	755.4	128.31	-308.61	-3.87	0.0	-2924.18	0.0
12	7	4.004e+04	0.0	-1.04	-424.00	0.0	-88.14	212.00	-2.51	0.0	0.0	9.77e-04
		0.0	-1899.68	0.07	0.0	755.4	88.14	-212.00	-2.51	0.0	-1899.68	0.0
12	8	4.368e+04	0.0	-1.13	-462.65	0.0	-96.18	231.32	-2.79	0.0	0.0	1.37e-03
		0.0	-2104.58	0.07	0.0	755.4	96.18	-231.32	-2.79	0.0	-2104.58	0.0
12	9	4.004e+04	0.0	-1.04	-424.00	0.0	-88.14	212.00	-2.51	0.0	0.0	9.77e-04
		0.0	-1899.68	0.07	0.0	755.4	88.14	-212.00	-2.51	0.0	-1899.68	0.0
13	2	9.226e+04	2.93e-03	-1.80	-1110.25	0.0	-236.38	568.53	-4.25	7.04e-03	2.93e-03	0.0
		0.0	-2765.03	0.07	0.0	650.3	225.23	-541.71	-4.25	7.04e-03	-2765.03	0.0
13	6	6.743e+04	2.14e-03	-1.32	-811.58	0.0	-172.76	415.52	-3.13	5.14e-03	2.14e-03	0.0
		0.0	-2033.20	0.05	0.0	650.3	164.67	-396.06	-3.13	5.14e-03	-2033.20	0.0
13	8	4.903e+04	1.56e-03	-0.96	-590.83	0.0	-125.61	302.10	-2.38	3.74e-03	1.56e-03	0.0
		0.0	-1545.70	0.04	0.0	650.3	120.05	-288.73	-2.38	3.74e-03	-1545.70	0.0
13	9	4.443e+04	1.41e-03	-0.87	-535.65	0.0	-113.82	273.75	-2.19	3.39e-03	1.41e-03	0.0
		0.0	-1423.83	0.04	0.0	650.3	108.89	-261.90	-2.19	3.39e-03	-1423.83	0.0
14	2	1.517e+05	0.02	0.50	-141.04	0.0	970.30	-2596.99	3.12e-05	0.0	0.02	1.517e+05
		-1.496e+05	0.02	1.77e-05	0.0	112.4	1011.77	-2738.04	3.12e-05	0.0	0.02	-1.496e+05
14	3	7.599e+04	0.01	0.25	-82.75	0.0	491.18	-1285.68	1.49e-05	0.0	0.01	7.599e+04
		-7.382e+04	0.01	9.59e-06	0.0	112.4	515.51	-1368.43	1.49e-05	0.0	0.01	-7.382e+04
14	5	7.599e+04	0.01	0.25	-82.75	0.0	491.18	-1285.68	1.49e-05	0.0	0.01	7.599e+04
		-7.382e+04	0.01	9.59e-06	0.0	112.4	515.51	-1368.43	1.49e-05	0.0	0.01	-7.382e+04
14	6	1.112e+05	0.02	0.37	-105.06	0.0	712.36	-1902.75	2.28e-05	0.0	0.02	1.112e+05
		-1.096e+05	0.02	1.31e-05	0.0	112.4	743.25	-2007.82	2.28e-05	0.0	0.02	-1.096e+05
14	7	7.599e+04	0.01	0.25	-82.75	0.0	491.18	-1285.68	1.49e-05	0.0	0.01	7.599e+04
		-7.382e+04	0.01	9.59e-06	0.0	112.4	515.51	-1368.43	1.49e-05	0.0	0.01	-7.382e+04
14	8	8.304e+04	0.01	0.28	-87.21	0.0	535.42	-1409.09	1.65e-05	0.0	0.01	8.304e+04
		-8.097e+04	0.01	1.03e-05	0.0	112.4	561.06	-1496.31	1.65e-05	0.0	0.01	-8.097e+04
14	9	7.599e+04	0.01	0.25	-82.75	0.0	491.18	-1285.68	1.49e-05	0.0	0.01	7.599e+04
		-7.382e+04	0.01	9.59e-06	0.0	112.4	515.51	-1368.43	1.49e-05	0.0	0.01	-7.382e+04
15	1	8.897e+04	0.0	-2.38	-942.24	0.0	-195.88	471.12	-2.69	0.0	0.0	3.81e-03
		0.0	-2028.39	0.07	0.0	755.4	195.88	-471.12	-2.69	0.0	-2028.39	0.0
15	2	1.437e+05	0.0	-3.85	-1521.89	0.0	-316.38	760.94	-4.37	0.0	0.0	3.81e-03
		0.0	-3300.08	0.12	0.0	755.4	316.38	-760.94	-4.37	0.0	-3300.08	0.0
15	5	6.844e+04	0.0	-1.83	-724.80	0.0	-150.68	362.40	-2.07	0.0	0.0	2.93e-03
		0.0	-1560.30	0.06	0.0	755.4	150.68	-362.40	-2.07	0.0	-1560.30	0.0
15	6	1.049e+05	0.0	-2.81	-1111.23	0.0	-231.01	555.62	-3.19	0.0	0.0	2.93e-03
		0.0	-2408.09	0.09	0.0	755.4	231.01	-555.62	-3.19	0.0	-2408.09	0.0
15	7	6.844e+04	0.0	-1.83	-724.80	0.0	-150.68	362.40	-2.07	0.0	0.0	2.93e-03
		0.0	-1560.30	0.06	0.0	755.4	150.68	-362.40	-2.07	0.0	-1560.30	0.0
15	8	7.574e+04	0.0	-2.03	-802.09	0.0	-166.74	401.04	-2.29	0.0	0.0	2.93e-03
		0.0	-1729.86	0.06	0.0	755.4	166.74	-401.04	-2.29	0.0	-1729.86	0.0
15	9	6.844e+04	0.0	-1.83	-724.80	0.0	-150.68	362.40	-2.07	0.0	0.0	2.93e-03
		0.0	-1560.30	0.06	0.0	755.4	150.68	-362.40	-2.07	0.0	-1560.30	0.0
16	2	1.437e+05	0.0	-3.92	-1521.89	0.0	-316.38	760.94	-2.04	0.0	0.0	3.81e-03
		0.0	-1542.32	0.05	0.0	755.4	316.38	-760.94	-2.04	0.0	-1542.32	0.0
16	3	6.844e+04	0.0	-1.87	-724.80	0.0	-150.68	362.40	-0.95	0.0	0.0	2.93e-03
		0.0	-717.92	0.03	0.0	755.4	150.68	-362.40	-0.95	0.0	-717.92	0.0
16	5	6.844e+04	0.0	-1.87	-724.80	0.0	-150.68	362.40	-0.95	0.0	0.0	2.93e-03
		0.0	-717.92	0.03	0.0	755.4	150.68	-362.40	-0.95	0.0	-717.92	0.0
16	6	1.049e+05	0.0	-2.86	-1111.23	0.0	-231.01	555.62	-1.49	0.0	0.0	2.93e-03
		0.0	-1123.94	0.04	0.0	755.4	231.01	-555.62	-1.49	0.0	-1123.94	0.0
16	7	6.844e+04	0.0	-1.87	-724.80	0.0	-150.68	362.40	-0.95	0.0	0.0	2.93e-03
		0.0	-717.92	0.03	0.0	755.4	150.68	-362.40	-0.95	0.0	-717.92	0.0
16	8	7.574e+04	0.0	-2.07	-802.09	0.0	-166.74	401.04	-1.06	0.0	0.0	2.93e-03
		0.0	-799.12	0.03	0.0	755.4	166.74	-401.04	-1.06	0.0	-799.12	0.0
16	9	6.844e+04	0.0	-1.87	-724.80	0.0	-150.68	362.40	-0.95	0.0	0.0	2.93e-03

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Trave	Cmb	M3 mx/mn	M2 mx/mn	D 2 / D 3	Q 2 / Q 3	Pos.	N	V 2	V 3	T	M 2	M 3
		0.0	-717.92	0.03	0.0	755.4	150.68	-362.40	-0.95	0.0	-717.92	0.0
17	2	-5.269e+05	4.43	0.04	-22.40	0.0	1715.73	-5056.94	-5.71e-03	14.63	4.43	-5.269e+05
		-5.981e+05	4.35	2.00e-06	0.0	14.0	1722.32	-5079.35	-5.71e-03	14.63	4.35	-5.981e+05
17	3	-2.607e+05	2.19	0.02	-12.45	0.0	859.18	-2498.99	-3.11e-03	7.24	2.19	-2.607e+05
		-2.959e+05	2.15	1.09e-06	0.0	14.0	862.84	-2511.44	-3.11e-03	7.24	2.15	-2.959e+05
17	5	-2.607e+05	2.19	0.02	-12.45	0.0	859.18	-2498.99	-3.11e-03	7.24	2.19	-2.607e+05
		-2.959e+05	2.15	1.09e-06	0.0	14.0	862.84	-2511.44	-3.11e-03	7.24	2.15	-2.959e+05
17	6	-3.860e+05	3.24	0.03	-16.60	0.0	1258.38	-3704.49	-4.22e-03	10.72	3.24	-3.860e+05
		-4.382e+05	3.18	1.48e-06	0.0	14.0	1263.26	-3721.09	-4.22e-03	10.72	3.18	-4.382e+05
17	7	-2.607e+05	2.19	0.02	-12.45	0.0	859.18	-2498.99	-3.11e-03	7.24	2.19	-2.607e+05
		-2.959e+05	2.15	1.09e-06	0.0	14.0	862.84	-2511.44	-3.11e-03	7.24	2.15	-2.959e+05
17	8	-2.858e+05	2.40	0.02	-13.28	0.0	939.02	-2740.09	-3.33e-03	7.94	2.40	-2.858e+05
		-3.244e+05	2.36	1.17e-06	0.0	14.0	942.93	-2753.37	-3.33e-03	7.94	2.36	-3.244e+05
17	9	-2.607e+05	2.19	0.02	-12.45	0.0	859.18	-2498.99	-3.11e-03	7.24	2.19	-2.607e+05
		-2.959e+05	2.15	1.09e-06	0.0	14.0	862.84	-2511.44	-3.11e-03	7.24	2.15	-2.959e+05
18	2	2.737e+04	9204.17	-1.56	-637.57	0.0	-139.10	334.55	27.87	0.0	0.0	1.27e-03
		0.0	0.0	-0.29	0.0	330.3	125.99	-303.02	27.87	0.0	9204.17	0.0
18	3	1.304e+04	4678.13	-0.79	-304.61	0.0	-66.22	159.27	14.16	0.0	0.0	9.77e-04
		0.0	0.0	-0.15	0.0	330.3	60.43	-145.34	14.16	0.0	4678.13	0.0
18	5	1.304e+04	4678.13	-0.79	-304.61	0.0	-66.22	159.27	14.16	0.0	0.0	9.77e-04
		0.0	0.0	-0.15	0.0	330.3	60.43	-145.34	14.16	0.0	4678.13	0.0
18	6	1.998e+04	6759.86	-1.15	-465.66	0.0	-101.56	244.27	20.47	0.0	0.0	9.77e-04
		0.0	0.0	-0.21	0.0	330.3	92.05	-221.39	20.47	0.0	6759.86	0.0
18	7	1.304e+04	4678.13	-0.79	-304.61	0.0	-66.22	159.27	14.16	0.0	0.0	9.77e-04
		0.0	0.0	-0.15	0.0	330.3	60.43	-145.34	14.16	0.0	4678.13	0.0
18	8	1.443e+04	5094.47	-0.86	-336.82	0.0	-73.29	176.27	15.42	0.0	0.0	9.77e-04
		0.0	0.0	-0.16	0.0	330.3	66.75	-160.55	15.42	0.0	5094.47	0.0
18	9	1.304e+04	4678.13	-0.79	-304.61	0.0	-66.22	159.27	14.16	0.0	0.0	9.77e-04
		0.0	0.0	-0.15	0.0	330.3	60.43	-145.34	14.16	0.0	4678.13	0.0
19	2	6.222e+04	8628.77	-1.26	-975.28	0.0	-209.74	504.45	17.42	0.0	0.0	6.35e-04
		0.0	0.0	-0.24	0.0	495.5	195.75	-470.82	17.42	0.0	8628.77	0.0
19	6	4.543e+04	6333.36	-0.92	-712.22	0.0	-153.13	368.31	12.78	0.0	0.0	4.88e-04
		0.0	0.0	-0.18	0.0	495.5	142.99	-343.91	12.78	0.0	6333.36	0.0
19	8	3.278e+04	4751.77	-0.68	-514.66	0.0	-110.48	265.71	9.59	0.0	0.0	4.88e-04
		0.0	0.0	-0.13	0.0	495.5	103.50	-248.95	9.59	0.0	4751.77	0.0
19	9	2.962e+04	4356.37	-0.62	-465.27	0.0	-99.81	240.06	8.79	0.0	0.0	4.88e-04
		0.0	0.0	-0.12	0.0	495.5	93.63	-225.20	8.79	0.0	4356.37	0.0
20	1	7.227e+04	180.54	-1.69	-794.21	0.0	-167.85	403.72	0.25	0.0	0.0	0.0
		0.0	0.0	4.14e-03	0.0	716.8	162.36	-390.50	0.25	0.0	180.54	0.0
20	2	1.157e+05	188.71	-2.71	-1270.21	0.0	-268.84	646.61	0.26	0.0	0.0	0.0
		0.0	0.0	7.19e-03	0.0	716.8	259.27	-623.59	0.26	0.0	188.71	0.0
20	5	5.559e+04	138.87	-1.30	-610.93	0.0	-129.12	310.55	0.19	0.0	0.0	0.0
		0.0	0.0	3.18e-03	0.0	716.8	124.89	-300.38	0.19	0.0	138.87	0.0
20	6	8.457e+04	144.32	-1.98	-928.26	0.0	-196.44	472.48	0.20	0.0	0.0	0.0
		0.0	0.0	5.21e-03	0.0	716.8	189.50	-455.78	0.20	0.0	144.32	0.0
20	7	5.559e+04	138.87	-1.30	-610.93	0.0	-129.12	310.55	0.19	0.0	0.0	0.0
		0.0	0.0	3.18e-03	0.0	716.8	124.89	-300.38	0.19	0.0	138.87	0.0
20	8	6.139e+04	139.96	-1.44	-674.40	0.0	-142.58	342.94	0.20	0.0	0.0	0.0
		0.0	0.0	3.59e-03	0.0	716.8	137.81	-331.46	0.20	0.0	139.96	0.0
20	9	5.559e+04	138.87	-1.30	-610.93	0.0	-129.12	310.55	0.19	0.0	0.0	0.0
		0.0	0.0	3.18e-03	0.0	716.8	124.89	-300.38	0.19	0.0	138.87	0.0
21	2	-2.014e+05	-1.09e-04	-0.01	-78.86	0.0	-1309.59	5233.23	0.0	0.0	-1.09e-04	-5.981e+05
		-5.981e+05	-1.18e-04	-1.18e-05	0.0	76.5	-1286.40	5154.37	0.0	0.0	-1.18e-04	-2.014e+05
21	3	-9.992e+04	-5.06e-05	6.18e-03	-48.74	0.0	-637.08	2590.31	0.0	0.0	-5.06e-05	-2.959e+05
		-2.959e+05	-5.49e-05	-6.39e-06	0.0	76.5	-622.75	2541.56	0.0	0.0	-5.49e-05	-9.992e+04
21	5	-9.992e+04	-5.06e-05	6.18e-03	-48.74	0.0	-637.08	2590.31	0.0	0.0	-5.06e-05	-2.959e+05
		-2.959e+05	-5.49e-05	-6.39e-06	0.0	76.5	-622.75	2541.56	0.0	0.0	-5.49e-05	-9.992e+04
21	6	-1.476e+05	-7.94e-05	7.64e-03	-59.07	0.0	-958.00	3834.19	0.0	0.0	-7.94e-05	-4.382e+05
		-4.382e+05	-8.62e-05	-8.69e-06	0.0	76.5	-940.64	3775.12	0.0	0.0	-8.62e-05	-1.476e+05
21	7	-9.992e+04	-5.06e-05	6.18e-03	-48.74	0.0	-637.08	2590.31	0.0	0.0	-5.06e-05	-2.959e+05
		-2.959e+05	-5.49e-05	-6.39e-06	0.0	76.5	-622.75	2541.56	0.0	0.0	-5.49e-05	-9.992e+04
21	8	-1.095e+05	-5.63e-05	6.44e-03	-50.81	0.0	-701.26	2839.09	0.0	0.0	-5.63e-05	-3.244e+05
		-3.244e+05	-6.11e-05	-6.85e-06	0.0	76.5	-686.32	2788.28	0.0	0.0	-6.11e-05	-1.095e+05
21	9	-9.992e+04	-5.06e-05	6.18e-03	-48.74	0.0	-637.08	2590.31	0.0	0.0	-5.06e-05	-2.959e+05
		-2.959e+05	-5.49e-05	-6.39e-06	0.0	76.5	-622.75	2541.56	0.0	0.0	-5.49e-05	-9.992e+04
22	2	8.010e+04	0.0	-1.45	-1077.92	0.0	-231.20	556.07	-10.79	0.0	0.0	0.0
		0.0	-6237.89	0.17	0.0	578.0	216.97	-521.84	-10.79	0.0	-6237.89	0.0
22	4	6.861e+04	0.0	-1.24	-923.01	0.0	-198.05	476.35	-9.15	0.0	0.0	0.0
		0.0	-5291.23	0.15	0.0	578.0	185.71	-446.66	-9.15	0.0	-5291.23	0.0
22	6	5.850e+04	0.0	-1.06	-787.46	0.0	-168.86	406.15	-7.92	0.0	0.0	0.0

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Trave	Cmb	M3 mx/mn	M2 mx/mn	D 2 / D 3	Q 2 / Q 3	Pos.	N	V 2	V 3	T	M 2	M 3
		0.0	-4579.33	0.13	0.0	578.0	158.54	-381.31	-7.92	0.0	-4579.33	0.0
22	8	4.233e+04	0.0	-0.77	-570.57	0.0	-122.16	293.82	-5.95	0.0	0.0	0.0
		0.0	-3440.29	0.10	0.0	578.0	115.06	-276.75	-5.95	0.0	-3440.29	0.0
22	9	3.829e+04	0.0	-0.70	-516.35	0.0	-110.48	265.74	-5.46	0.0	0.0	0.0
		0.0	-3155.53	0.09	0.0	578.0	104.20	-250.61	-5.46	0.0	-3155.53	0.0
23	2	2.737e+04	0.0	-1.56	-637.57	0.0	-139.10	334.55	-27.87	0.0	0.0	1.27e-03
		0.0	-9204.17	0.29	0.0	330.3	125.99	-303.02	-27.87	0.0	-9204.17	0.0
23	3	1.304e+04	0.0	-0.79	-304.61	0.0	-66.22	159.27	-14.16	0.0	0.0	9.77e-04
		0.0	-4678.13	0.15	0.0	330.3	60.43	-145.34	-14.16	0.0	-4678.13	0.0
23	5	1.304e+04	0.0	-0.79	-304.61	0.0	-66.22	159.27	-14.16	0.0	0.0	9.77e-04
		0.0	-4678.13	0.15	0.0	330.3	60.43	-145.34	-14.16	0.0	-4678.13	0.0
23	6	1.998e+04	0.0	-1.15	-465.66	0.0	-101.56	244.27	-20.47	0.0	0.0	9.77e-04
		0.0	-6759.86	0.21	0.0	330.3	92.05	-221.39	-20.47	0.0	-6759.86	0.0
23	7	1.304e+04	0.0	-0.79	-304.61	0.0	-66.22	159.27	-14.16	0.0	0.0	9.77e-04
		0.0	-4678.13	0.15	0.0	330.3	60.43	-145.34	-14.16	0.0	-4678.13	0.0
23	8	1.443e+04	0.0	-0.86	-336.82	0.0	-73.29	176.27	-15.42	0.0	0.0	9.77e-04
		0.0	-5094.47	0.16	0.0	330.3	66.75	-160.55	-15.42	0.0	-5094.47	0.0
23	9	1.304e+04	0.0	-0.79	-304.61	0.0	-66.22	159.27	-14.16	0.0	0.0	9.77e-04
		0.0	-4678.13	0.15	0.0	330.3	60.43	-145.34	-14.16	0.0	-4678.13	0.0
24	1	4012.72	0.0	-0.76	-187.13	0.0	-41.91	100.81	-22.45	0.0	0.0	0.0
		0.0	-3707.48	0.14	0.0	165.2	35.89	-86.32	-22.45	0.0	-3707.48	0.0
24	2	6450.99	0.0	-1.16	-299.87	0.0	-67.58	162.55	-32.63	0.0	0.0	0.0
		0.0	-5388.60	0.21	0.0	165.2	57.09	-137.32	-32.63	0.0	-5388.60	0.0
24	5	3086.71	0.0	-0.58	-143.95	0.0	-32.24	77.54	-17.27	0.0	0.0	0.0
		0.0	-2851.91	0.11	0.0	165.2	27.61	-66.40	-17.27	0.0	-2851.91	0.0
24	6	4712.22	0.0	-0.85	-219.11	0.0	-49.35	118.70	-24.05	0.0	0.0	0.0
		0.0	-3972.65	0.15	0.0	165.2	41.74	-100.40	-24.05	0.0	-3972.65	0.0
24	7	3086.71	0.0	-0.58	-143.95	0.0	-32.24	77.54	-17.27	0.0	0.0	0.0
		0.0	-2851.91	0.11	0.0	165.2	27.61	-66.40	-17.27	0.0	-2851.91	0.0
24	8	3411.81	0.0	-0.64	-158.98	0.0	-35.66	85.78	-18.63	0.0	0.0	0.0
		0.0	-3076.06	0.12	0.0	165.2	30.43	-73.20	-18.63	0.0	-3076.06	0.0
24	9	3086.71	0.0	-0.58	-143.95	0.0	-32.24	77.54	-17.27	0.0	0.0	0.0
		0.0	-2851.91	0.11	0.0	165.2	27.61	-66.40	-17.27	0.0	-2851.91	0.0
25	1	9402.46	0.0	-0.97	-291.56	0.0	-64.12	154.23	-21.02	0.0	0.0	0.0
		0.0	-5208.59	0.18	0.0	247.7	57.10	-137.33	-21.02	0.0	-5208.59	0.0
25	2	1.517e+04	0.0	-1.49	-468.72	0.0	-103.56	249.07	-31.51	0.0	0.0	0.0
		0.0	-7806.99	0.27	0.0	247.7	91.32	-219.65	-31.51	0.0	-7806.99	0.0
25	5	7232.66	0.0	-0.75	-224.28	0.0	-49.33	118.64	-16.17	0.0	0.0	0.0
		0.0	-4006.61	0.14	0.0	247.7	43.92	-105.64	-16.17	0.0	-4006.61	0.0
25	6	1.107e+04	0.0	-1.09	-342.38	0.0	-75.62	181.87	-23.17	0.0	0.0	0.0
		0.0	-5738.87	0.20	0.0	247.7	66.74	-160.52	-23.17	0.0	-5738.87	0.0
25	7	7232.66	0.0	-0.75	-224.28	0.0	-49.33	118.64	-16.17	0.0	0.0	0.0
		0.0	-4006.61	0.14	0.0	247.7	43.92	-105.64	-16.17	0.0	-4006.61	0.0
25	8	8001.09	0.0	-0.82	-247.90	0.0	-54.58	131.28	-17.57	0.0	0.0	0.0
		0.0	-4353.06	0.15	0.0	247.7	48.48	-116.61	-17.57	0.0	-4353.06	0.0
25	9	7232.66	0.0	-0.75	-224.28	0.0	-49.33	118.64	-16.17	0.0	0.0	0.0
		0.0	-4006.61	0.14	0.0	247.7	43.92	-105.64	-16.17	0.0	-4006.61	0.0
26	2	2.827e+05	1.29e-05	-0.50	-141.04	0.0	-344.01	1209.05	0.0	0.0	6.43e-06	1.562e+05
		1.562e+05	6.43e-06	-1.78e-05	0.0	112.4	-302.55	1068.01	0.0	0.0	1.29e-05	2.827e+05
26	3	1.434e+05	5.96e-06	-0.25	-82.75	0.0	-167.48	613.33	0.0	0.0	2.98e-06	7.971e+04
		7.971e+04	2.98e-06	-9.64e-06	0.0	112.4	-143.15	530.58	0.0	0.0	5.96e-06	1.434e+05
26	5	1.434e+05	5.96e-06	-0.25	-82.75	0.0	-167.48	613.33	0.0	0.0	2.98e-06	7.971e+04
		7.971e+04	2.98e-06	-9.64e-06	0.0	112.4	-143.15	530.58	0.0	0.0	5.96e-06	1.434e+05
26	6	2.076e+05	9.37e-06	-0.37	-105.06	0.0	-251.67	887.81	0.0	0.0	4.68e-06	1.147e+05
		1.147e+05	4.68e-06	-1.32e-05	0.0	112.4	-220.78	782.75	0.0	0.0	9.37e-06	2.076e+05
26	7	1.434e+05	5.96e-06	-0.25	-82.75	0.0	-167.48	613.33	0.0	0.0	2.98e-06	7.971e+04
		7.971e+04	2.98e-06	-9.64e-06	0.0	112.4	-143.15	530.58	0.0	0.0	5.96e-06	1.434e+05
26	8	1.562e+05	6.64e-06	-0.28	-87.21	0.0	-184.32	668.23	0.0	0.0	3.32e-06	8.672e+04
		8.672e+04	3.32e-06	-1.03e-05	0.0	112.4	-158.68	581.01	0.0	0.0	6.64e-06	1.562e+05
26	9	1.434e+05	5.96e-06	-0.25	-82.75	0.0	-167.48	613.33	0.0	0.0	2.98e-06	7.971e+04
		7.971e+04	2.98e-06	-9.64e-06	0.0	112.4	-143.15	530.58	0.0	0.0	5.96e-06	1.434e+05
27	2	2.387e+05	5.97e-03	0.23	-43.41	0.0	-10.61	-3201.78	-1.26e-04	0.0	5.97e-03	2.387e+05
		-3076.14	-3.46e-03	0.0	0.0	75.0	-10.61	-3245.19	-1.26e-04	0.0	-3.46e-03	-3076.14
27	3	1.145e+05	2.92e-03	0.11	-33.40	0.0	-5.03	-1529.69	-6.14e-05	0.0	2.92e-03	1.145e+05
		-1458.61	-1.69e-03	0.0	0.0	75.0	-5.03	-1563.08	-6.14e-05	0.0	-1.69e-03	-1458.61
27	5	1.145e+05	2.92e-03	0.11	-33.40	0.0	-5.03	-1529.69	-6.14e-05	0.0	2.92e-03	1.145e+05
		-1458.61	-1.69e-03	0.0	0.0	75.0	-5.03	-1563.08	-6.14e-05	0.0	-1.69e-03	-1458.61
27	6	1.744e+05	4.37e-03	0.17	-33.40	0.0	-7.74	-2338.48	-9.20e-05	0.0	4.37e-03	1.744e+05
		-2245.24	-2.53e-03	0.0	0.0	75.0	-7.74	-2371.87	-9.20e-05	0.0	-2.53e-03	-2245.24
27	7	1.145e+05	2.92e-03	0.11	-33.40	0.0	-5.03	-1529.69	-6.14e-05	0.0	2.92e-03	1.145e+05

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Trave	Cmb	M3 mx/mn	M2 mx/mn	D 2 / D 3	Q 2 / Q 3	Pos.	N	V 2	V 3	T	M 2	M 3
		-1458.61	-1.69e-03	0.0	0.0	75.0	-5.03	-1563.08	-6.14e-05	0.0	-1.69e-03	-1458.61
27	8	1.265e+05	3.21e-03	0.12	-33.40	0.0	-5.57	-1691.45	-6.75e-05	0.0	3.21e-03	1.265e+05
		-1615.94	-1.85e-03	0.0	0.0	75.0	-5.57	-1724.84	-6.75e-05	0.0	-1.85e-03	-1615.94
27	9	1.145e+05	2.92e-03	0.11	-33.40	0.0	-5.03	-1529.69	-6.14e-05	0.0	2.92e-03	1.145e+05
		-1458.61	-1.69e-03	0.0	0.0	75.0	-5.03	-1563.08	-6.14e-05	0.0	-1.69e-03	-1458.61
28	2	-1.462e+05	-0.04	0.38	-114.82	0.0	1345.22	-3818.14	8.42e-04	-0.53	-0.12	-1.462e+05
		-5.284e+05	-0.12	1.59e-05	0.0	98.3	1378.97	-3932.96	8.42e-04	-0.53	-0.04	-5.284e+05
28	3	-7.211e+04	-0.02	0.19	-68.61	0.0	676.02	-1887.03	4.56e-04	-0.26	-0.06	-7.211e+04
		-2.615e+05	-0.06	8.60e-06	0.0	98.3	696.19	-1955.64	4.56e-04	-0.26	-0.02	-2.615e+05
28	5	-7.211e+04	-0.02	0.19	-68.61	0.0	676.02	-1887.03	4.56e-04	-0.26	-0.06	-7.211e+04
		-2.615e+05	-0.06	8.60e-06	0.0	98.3	696.19	-1955.64	4.56e-04	-0.26	-0.02	-2.615e+05
28	6	-1.071e+05	-0.03	0.28	-85.69	0.0	986.95	-2797.03	6.22e-04	-0.39	-0.09	-1.071e+05
		-3.871e+05	-0.09	1.18e-05	0.0	98.3	1012.14	-2882.72	6.22e-04	-0.39	-0.03	-3.871e+05
28	7	-7.211e+04	-0.02	0.19	-68.61	0.0	676.02	-1887.03	4.56e-04	-0.26	-0.06	-7.211e+04
		-2.615e+05	-0.06	8.60e-06	0.0	98.3	696.19	-1955.64	4.56e-04	-0.26	-0.02	-2.615e+05
28	8	-7.911e+04	-0.02	0.21	-72.03	0.0	738.20	-2069.03	4.89e-04	-0.28	-0.07	-7.911e+04
		-2.866e+05	-0.07	9.23e-06	0.0	98.3	759.38	-2141.06	4.89e-04	-0.28	-0.02	-2.866e+05
28	9	-7.211e+04	-0.02	0.19	-68.61	0.0	676.02	-1887.03	4.56e-04	-0.26	-0.06	-7.211e+04
		-2.615e+05	-0.06	8.60e-06	0.0	98.3	696.19	-1955.64	4.56e-04	-0.26	-0.02	-2.615e+05
29	1	2.665e+04	0.0	-0.90	-500.42	0.0	-107.94	259.63	-15.20	0.0	0.0	0.0
		0.0	-6275.55	0.18	0.0	412.9	100.11	-240.79	-15.20	0.0	-6275.55	0.0
29	2	4.305e+04	0.0	-1.38	-806.42	0.0	-174.46	419.61	-23.11	0.0	0.0	0.0
		0.0	-9542.41	0.28	0.0	412.9	160.83	-386.82	-23.11	0.0	-9542.41	0.0
29	5	2.050e+04	0.0	-0.69	-384.94	0.0	-83.03	199.71	-11.69	0.0	0.0	0.0
		0.0	-4827.34	0.14	0.0	412.9	77.01	-185.23	-11.69	0.0	-4827.34	0.0
29	6	3.143e+04	0.0	-1.01	-588.94	0.0	-127.38	306.37	-16.97	0.0	0.0	0.0
		0.0	-7005.25	0.20	0.0	412.9	117.49	-282.57	-16.97	0.0	-7005.25	0.0
29	7	2.050e+04	0.0	-0.69	-384.94	0.0	-83.03	199.71	-11.69	0.0	0.0	0.0
		0.0	-4827.34	0.14	0.0	412.9	77.01	-185.23	-11.69	0.0	-4827.34	0.0
29	8	2.269e+04	0.0	-0.76	-425.74	0.0	-91.90	221.04	-12.75	0.0	0.0	0.0
		0.0	-5262.92	0.15	0.0	412.9	85.11	-204.70	-12.75	0.0	-5262.92	0.0
29	9	2.050e+04	0.0	-0.69	-384.94	0.0	-83.03	199.71	-11.69	0.0	0.0	0.0
		0.0	-4827.34	0.14	0.0	412.9	77.01	-185.23	-11.69	0.0	-4827.34	0.0
30	2	4.305e+04	9542.41	-1.38	-806.42	0.0	-174.46	419.61	23.11	0.0	0.0	0.0
		0.0	0.0	-0.28	0.0	412.9	160.83	-386.82	23.11	0.0	9542.41	0.0
30	6	3.143e+04	7005.25	-1.01	-588.94	0.0	-127.38	306.37	16.97	0.0	0.0	0.0
		0.0	0.0	-0.20	0.0	412.9	117.49	-282.57	16.97	0.0	7005.25	0.0
30	8	2.269e+04	5262.92	-0.76	-425.74	0.0	-91.90	221.04	12.75	0.0	0.0	0.0
		0.0	0.0	-0.15	0.0	412.9	85.11	-204.70	12.75	0.0	5262.92	0.0
30	9	2.050e+04	4827.34	-0.69	-384.94	0.0	-83.03	199.71	11.69	0.0	0.0	0.0
		0.0	0.0	-0.14	0.0	412.9	77.01	-185.23	11.69	0.0	4827.34	0.0
31	2	6.222e+04	0.0	-1.26	-975.28	0.0	-209.74	504.45	-17.42	0.0	0.0	6.35e-04
		0.0	-8628.77	0.24	0.0	495.5	195.75	-470.82	-17.42	0.0	-8628.77	0.0
31	6	4.543e+04	0.0	-0.92	-712.22	0.0	-153.13	368.31	-12.78	0.0	0.0	4.88e-04
		0.0	-6333.36	0.18	0.0	495.5	142.99	-343.91	-12.78	0.0	-6333.36	0.0
31	8	3.278e+04	0.0	-0.68	-514.66	0.0	-110.48	265.71	-9.59	0.0	0.0	4.88e-04
		0.0	-4751.77	0.13	0.0	495.5	103.50	-248.95	-9.59	0.0	-4751.77	0.0
31	9	2.962e+04	0.0	-0.62	-465.27	0.0	-99.81	240.06	-8.79	0.0	0.0	4.88e-04
		0.0	-4356.37	0.12	0.0	495.5	93.63	-225.20	-8.79	0.0	-4356.37	0.0
32	2	8.010e+04	6237.89	-1.45	-1077.92	0.0	-231.20	556.07	10.79	0.0	0.0	0.0
		0.0	0.0	-0.17	0.0	578.0	216.97	-521.84	10.79	0.0	6237.89	0.0
32	6	5.850e+04	4579.33	-1.06	-787.46	0.0	-168.86	406.15	7.92	0.0	0.0	0.0
		0.0	0.0	-0.13	0.0	578.0	158.54	-381.31	7.92	0.0	4579.33	0.0
32	8	4.233e+04	3440.29	-0.77	-570.57	0.0	-122.16	293.82	5.95	0.0	0.0	0.0
		0.0	0.0	-0.10	0.0	578.0	115.06	-276.75	5.95	0.0	3440.29	0.0
32	9	3.829e+04	3155.53	-0.70	-516.35	0.0	-110.48	265.74	5.46	0.0	0.0	0.0
		0.0	0.0	-0.09	0.0	578.0	104.20	-250.61	5.46	0.0	3155.53	0.0
33	2	1352.38	0.0	0.63	-131.02	0.0	24.61	59.20	7.76	0.0	-640.95	0.0
		-2.29e-05	-640.95	-0.11	0.0	82.6	-29.86	-71.81	7.76	0.0	0.0	-2.29e-05
33	6	989.14	0.0	0.46	-95.83	0.0	18.02	43.34	6.34	0.0	-523.15	0.0
		-1.53e-05	-523.15	-0.08	0.0	82.6	-21.82	-52.49	6.34	0.0	0.0	-1.53e-05
33	8	723.15	0.0	0.35	-70.06	0.0	13.26	31.88	8.23	0.0	-679.72	0.0
		-3.05e-06	-679.72	-0.06	0.0	82.6	-15.87	-38.17	8.23	0.0	0.0	-3.05e-06
33	9	656.65	0.0	0.32	-63.62	0.0	12.07	29.02	8.71	0.0	-718.86	0.0
		0.0	-718.86	-0.06	0.0	82.6	-14.38	-34.59	8.71	0.0	0.0	0.0
34	2	3.656e+05	3.08e-05	-0.32	-141.04	0.0	-174.38	795.66	0.0	0.0	2.05e-05	2.856e+05
		2.856e+05	2.05e-05	-1.78e-05	0.0	112.4	-132.92	654.62	0.0	0.0	3.08e-05	3.656e+05
34	3	1.845e+05	1.43e-05	-0.16	-82.75	0.0	-79.16	399.48	0.0	0.0	9.52e-06	1.449e+05
		1.449e+05	9.52e-06	-9.64e-06	0.0	112.4	-54.83	316.73	0.0	0.0	1.43e-05	1.845e+05
34	5	1.845e+05	1.43e-05	-0.16	-82.75	0.0	-79.16	399.48	0.0	0.0	9.52e-06	1.449e+05

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Trave	Cmb	M3 mx/mn	M2 mx/mn	D 2 / D 3	Q 2 / Q 3	Pos.	N	V 2	V 3	T	M 2	M 3
		1.449e+05	9.52e-06	-9.64e-06	0.0	112.4	-54.83	316.73	0.0	0.0	1.43e-05	1.845e+05
34	6	2.684e+05	2.25e-05	-0.23	-105.06	0.0	-126.81	583.71	0.0	0.0	1.50e-05	2.097e+05
		2.097e+05	1.50e-05	-1.32e-05	0.0	112.4	-95.92	478.64	0.0	0.0	2.25e-05	2.684e+05
34	7	1.845e+05	1.43e-05	-0.16	-82.75	0.0	-79.16	399.48	0.0	0.0	9.52e-06	1.449e+05
		1.449e+05	9.52e-06	-9.64e-06	0.0	112.4	-54.83	316.73	0.0	0.0	1.43e-05	1.845e+05
34	8	2.013e+05	1.59e-05	-0.17	-87.21	0.0	-88.69	436.33	0.0	0.0	1.06e-05	1.579e+05
		1.579e+05	1.06e-05	-1.03e-05	0.0	112.4	-63.05	349.11	0.0	0.0	1.59e-05	2.013e+05
34	9	1.845e+05	1.43e-05	-0.16	-82.75	0.0	-79.16	399.48	0.0	0.0	9.52e-06	1.449e+05
		1.449e+05	9.52e-06	-9.64e-06	0.0	112.4	-54.83	316.73	0.0	0.0	1.43e-05	1.845e+05
36	2	3.842e+05	6.09e-05	-0.08	-141.04	0.0	44.03	210.75	0.0	0.0	4.57e-05	3.699e+05
		3.699e+05	4.57e-05	-1.78e-05	0.0	112.4	85.50	69.71	0.0	0.0	6.09e-05	3.842e+05
36	3	1.930e+05	2.82e-05	-0.04	-82.75	0.0	31.65	103.66	0.0	0.0	2.12e-05	1.867e+05
		1.867e+05	2.12e-05	-9.64e-06	0.0	112.4	55.98	20.91	0.0	0.0	2.82e-05	1.930e+05
36	5	1.930e+05	2.82e-05	-0.04	-82.75	0.0	31.65	103.66	0.0	0.0	2.12e-05	1.867e+05
		1.867e+05	2.12e-05	-9.64e-06	0.0	112.4	55.98	20.91	0.0	0.0	2.82e-05	1.930e+05
36	6	2.818e+05	4.44e-05	-0.06	-105.06	0.0	33.57	154.32	0.0	0.0	3.33e-05	2.715e+05
		2.715e+05	3.33e-05	-1.32e-05	0.0	112.4	64.46	49.26	0.0	0.0	4.44e-05	2.818e+05
36	7	1.930e+05	2.82e-05	-0.04	-82.75	0.0	31.65	103.66	0.0	0.0	2.12e-05	1.867e+05
		1.867e+05	2.12e-05	-9.64e-06	0.0	112.4	55.98	20.91	0.0	0.0	2.82e-05	1.930e+05
36	8	2.108e+05	3.15e-05	-0.04	-87.21	0.0	32.03	113.80	0.0	0.0	2.36e-05	2.036e+05
		2.036e+05	2.36e-05	-1.03e-05	0.0	112.4	57.68	26.58	0.0	0.0	3.15e-05	2.108e+05
36	9	1.930e+05	2.82e-05	-0.04	-82.75	0.0	31.65	103.66	0.0	0.0	2.12e-05	1.867e+05
		1.867e+05	2.12e-05	-9.64e-06	0.0	112.4	55.98	20.91	0.0	0.0	2.82e-05	1.930e+05
37	2	3.499e+05	0.02	0.02	-43.41	0.0	-23.43	181.42	-1.26e-04	0.0	0.02	3.379e+05
		3.379e+05	9.54e-03	0.0	0.0	75.0	-23.43	138.01	-1.26e-04	0.0	9.54e-03	3.499e+05
37	3	1.674e+05	9.26e-03	9.42e-03	-33.40	0.0	-11.06	107.00	-6.14e-05	0.0	9.26e-03	1.606e+05
		1.606e+05	4.66e-03	0.0	0.0	75.0	-11.06	73.61	-6.14e-05	0.0	4.66e-03	1.674e+05
37	5	1.674e+05	9.26e-03	9.42e-03	-33.40	0.0	-11.06	107.00	-6.14e-05	0.0	9.26e-03	1.606e+05
		1.606e+05	4.66e-03	0.0	0.0	75.0	-11.06	73.61	-6.14e-05	0.0	4.66e-03	1.674e+05
37	6	2.556e+05	0.01	0.02	-33.40	0.0	-17.09	135.22	-9.20e-05	0.0	0.01	2.467e+05
		2.467e+05	6.98e-03	0.0	0.0	75.0	-17.09	101.82	-9.20e-05	0.0	6.98e-03	2.556e+05
37	7	1.674e+05	9.26e-03	9.42e-03	-33.40	0.0	-11.06	107.00	-6.14e-05	0.0	9.26e-03	1.606e+05
		1.606e+05	4.66e-03	0.0	0.0	75.0	-11.06	73.61	-6.14e-05	0.0	4.66e-03	1.674e+05
37	8	1.850e+05	0.01	0.01	-33.40	0.0	-12.27	112.65	-6.75e-05	0.0	0.01	1.778e+05
		1.778e+05	5.12e-03	0.0	0.0	75.0	-12.27	79.25	-6.75e-05	0.0	5.12e-03	1.850e+05
37	9	1.674e+05	9.26e-03	9.42e-03	-33.40	0.0	-11.06	107.00	-6.14e-05	0.0	9.26e-03	1.606e+05
		1.606e+05	4.66e-03	0.0	0.0	75.0	-11.06	73.61	-6.14e-05	0.0	4.66e-03	1.674e+05
38	2	3.892e+05	1.10e-04	0.18	-141.04	0.0	308.43	-548.86	0.0	0.0	8.78e-05	3.892e+05
		3.181e+05	8.78e-05	-1.78e-05	0.0	112.4	349.89	-689.91	0.0	0.0	1.10e-04	3.181e+05
38	3	1.956e+05	5.09e-05	0.09	-82.75	0.0	163.99	-275.46	0.0	0.0	4.07e-05	1.956e+05
		1.593e+05	4.07e-05	-9.64e-06	0.0	112.4	188.31	-358.21	0.0	0.0	5.09e-05	1.593e+05
38	5	1.956e+05	5.09e-05	0.09	-82.75	0.0	163.99	-275.46	0.0	0.0	4.07e-05	1.956e+05
		1.593e+05	4.07e-05	-9.64e-06	0.0	112.4	188.31	-358.21	0.0	0.0	5.09e-05	1.593e+05
38	6	2.855e+05	8.00e-05	0.13	-105.06	0.0	227.48	-402.64	0.0	0.0	6.40e-05	2.855e+05
		2.333e+05	6.40e-05	-1.32e-05	0.0	112.4	258.37	-507.70	0.0	0.0	8.00e-05	2.333e+05
38	7	1.956e+05	5.09e-05	0.09	-82.75	0.0	163.99	-275.46	0.0	0.0	4.07e-05	1.956e+05
		1.593e+05	4.07e-05	-9.64e-06	0.0	112.4	188.31	-358.21	0.0	0.0	5.09e-05	1.593e+05
38	8	2.136e+05	5.67e-05	0.10	-87.21	0.0	176.69	-300.89	0.0	0.0	4.54e-05	2.136e+05
		1.741e+05	4.54e-05	-1.03e-05	0.0	112.4	202.33	-388.11	0.0	0.0	5.67e-05	1.741e+05
38	9	1.956e+05	5.09e-05	0.09	-82.75	0.0	163.99	-275.46	0.0	0.0	4.07e-05	1.956e+05
		1.593e+05	4.07e-05	-9.64e-06	0.0	112.4	188.31	-358.21	0.0	0.0	5.09e-05	1.593e+05
39	2	3.232e+05	1.86e-04	0.40	-141.04	0.0	617.57	-1484.51	0.0	0.0	1.55e-04	3.232e+05
		1.470e+05	1.55e-04	-1.78e-05	0.0	112.4	659.04	-1625.55	0.0	0.0	1.86e-04	1.470e+05
39	3	1.619e+05	8.64e-05	0.20	-82.75	0.0	317.34	-738.45	0.0	0.0	7.20e-05	1.619e+05
		7.362e+04	7.20e-05	-9.64e-06	0.0	112.4	341.67	-821.20	0.0	0.0	8.64e-05	7.362e+04
39	5	1.619e+05	8.64e-05	0.20	-82.75	0.0	317.34	-738.45	0.0	0.0	7.20e-05	1.619e+05
		7.362e+04	7.20e-05	-9.64e-06	0.0	112.4	341.67	-821.20	0.0	0.0	8.64e-05	7.362e+04
39	6	2.371e+05	1.36e-04	0.29	-105.06	0.0	454.02	-1088.13	0.0	0.0	1.13e-04	2.371e+05
		1.078e+05	1.13e-04	-1.32e-05	0.0	112.4	484.91	-1193.20	0.0	0.0	1.36e-04	1.078e+05
39	7	1.619e+05	8.64e-05	0.20	-82.75	0.0	317.34	-738.45	0.0	0.0	7.20e-05	1.619e+05
		7.362e+04	7.20e-05	-9.64e-06	0.0	112.4	341.67	-821.20	0.0	0.0	8.64e-05	7.362e+04
39	8	1.770e+05	9.63e-05	0.22	-87.21	0.0	344.67	-808.39	0.0	0.0	8.03e-05	1.770e+05
		8.046e+04	8.03e-05	-1.03e-05	0.0	112.4	370.32	-895.60	0.0	0.0	9.63e-05	8.046e+04
39	9	1.619e+05	8.64e-05	0.20	-82.75	0.0	317.34	-738.45	0.0	0.0	7.20e-05	1.619e+05
		7.362e+04	7.20e-05	-9.64e-06	0.0	112.4	341.67	-821.20	0.0	0.0	8.64e-05	7.362e+04
40	2	1.517e+05	3.03e-04	0.50	-141.04	0.0	970.30	-2596.99	0.0	0.0	2.60e-04	1.517e+05
		-1.496e+05	2.60e-04	-1.78e-05	0.0	112.4	1011.77	-2738.04	0.0	0.0	3.03e-04	-1.496e+05
40	3	7.599e+04	1.40e-04	0.25	-82.75	0.0	491.18	-1285.68	0.0	0.0	1.20e-04	7.599e+04
		-7.382e+04	1.20e-04	-9.64e-06	0.0	112.4	515.51	-1368.43	0.0	0.0	1.40e-04	-7.382e+04
40	5	7.599e+04	1.40e-04	0.25	-82.75	0.0	491.18	-1285.68	0.0	0.0	1.20e-04	7.599e+04

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Trave	Cmb	M3 mx/mn	M2 mx/mn	D 2 / D 3	Q 2 / Q 3	Pos.	N	V 2	V 3	T	M 2	M 3
		-7.382e+04	1.20e-04	-9.64e-06	0.0	112.4	515.51	-1368.43	0.0	0.0	1.40e-04	-7.382e+04
40	6	1.112e+05	2.21e-04	0.37	-105.06	0.0	712.36	-1902.75	0.0	0.0	1.89e-04	1.112e+05
		-1.096e+05	1.89e-04	-1.32e-05	0.0	112.4	743.25	-2007.82	0.0	0.0	2.21e-04	-1.096e+05
40	7	7.599e+04	1.40e-04	0.25	-82.75	0.0	491.18	-1285.68	0.0	0.0	1.20e-04	7.599e+04
		-7.382e+04	1.20e-04	-9.64e-06	0.0	112.4	515.51	-1368.43	0.0	0.0	1.40e-04	-7.382e+04
40	8	8.304e+04	1.56e-04	0.28	-87.21	0.0	535.42	-1409.09	0.0	0.0	1.34e-04	8.304e+04
		-8.097e+04	1.34e-04	-1.03e-05	0.0	112.4	561.06	-1496.31	0.0	0.0	1.56e-04	-8.097e+04
40	9	7.599e+04	1.40e-04	0.25	-82.75	0.0	491.18	-1285.68	0.0	0.0	1.20e-04	7.599e+04
		-7.382e+04	1.20e-04	-9.64e-06	0.0	112.4	515.51	-1368.43	0.0	0.0	1.40e-04	-7.382e+04
41	2	-1.462e+05	4.68e-04	0.38	-114.81	0.0	1345.22	-3818.14	0.0	0.0	4.16e-04	-1.462e+05
		-5.284e+05	4.16e-04	-1.56e-05	0.0	98.3	1378.98	-3932.95	0.0	0.0	4.68e-04	-5.284e+05
41	3	-7.211e+04	2.17e-04	0.19	-68.61	0.0	676.02	-1887.03	0.0	0.0	1.93e-04	-7.211e+04
		-2.615e+05	1.93e-04	-8.44e-06	0.0	98.3	696.19	-1955.64	0.0	0.0	2.17e-04	-2.615e+05
41	5	-7.211e+04	2.17e-04	0.19	-68.61	0.0	676.02	-1887.03	0.0	0.0	1.93e-04	-7.211e+04
		-2.615e+05	1.93e-04	-8.44e-06	0.0	98.3	696.19	-1955.64	0.0	0.0	2.17e-04	-2.615e+05
41	6	-1.071e+05	3.41e-04	0.28	-85.69	0.0	986.95	-2797.03	0.0	0.0	3.03e-04	-1.071e+05
		-3.871e+05	3.03e-04	-1.15e-05	0.0	98.3	1012.14	-2882.72	0.0	0.0	3.41e-04	-3.871e+05
41	7	-7.211e+04	2.17e-04	0.19	-68.61	0.0	676.02	-1887.03	0.0	0.0	1.93e-04	-7.211e+04
		-2.615e+05	1.93e-04	-8.44e-06	0.0	98.3	696.19	-1955.64	0.0	0.0	2.17e-04	-2.615e+05
41	8	-7.911e+04	2.42e-04	0.21	-72.02	0.0	738.21	-2069.03	0.0	0.0	2.15e-04	-7.911e+04
		-2.866e+05	2.15e-04	-9.05e-06	0.0	98.3	759.38	-2141.05	0.0	0.0	2.42e-04	-2.866e+05
41	9	-7.211e+04	2.17e-04	0.19	-68.61	0.0	676.02	-1887.03	0.0	0.0	1.93e-04	-7.211e+04
		-2.615e+05	1.93e-04	-8.44e-06	0.0	98.3	696.19	-1955.64	0.0	0.0	2.17e-04	-2.615e+05
42	1	7.227e+04	0.0	-1.69	-794.21	0.0	-167.85	403.72	-0.25	0.0	0.0	0.0
		0.0	-180.51	-4.14e-03	0.0	716.8	162.36	-390.50	-0.25	0.0	-180.51	0.0
42	2	1.157e+05	0.0	-2.71	-1270.21	0.0	-268.84	646.61	-0.26	0.0	0.0	0.0
		0.0	-188.67	-7.19e-03	0.0	716.8	259.27	-623.59	-0.26	0.0	-188.67	0.0
42	5	5.559e+04	0.0	-1.30	-610.93	0.0	-129.12	310.55	-0.19	0.0	0.0	0.0
		0.0	-138.86	-3.18e-03	0.0	716.8	124.89	-300.38	-0.19	0.0	-138.86	0.0
42	6	8.457e+04	0.0	-1.98	-928.26	0.0	-196.44	472.48	-0.20	0.0	0.0	0.0
		0.0	-144.30	-5.22e-03	0.0	716.8	189.50	-455.78	-0.20	0.0	-144.30	0.0
42	7	5.559e+04	0.0	-1.30	-610.93	0.0	-129.12	310.55	-0.19	0.0	0.0	0.0
		0.0	-138.86	-3.18e-03	0.0	716.8	124.89	-300.38	-0.19	0.0	-138.86	0.0
42	8	6.139e+04	0.0	-1.44	-674.40	0.0	-142.58	342.94	-0.20	0.0	0.0	0.0
		0.0	-139.94	-3.59e-03	0.0	716.8	137.81	-331.46	-0.20	0.0	-139.94	0.0
42	9	5.559e+04	0.0	-1.30	-610.93	0.0	-129.12	310.55	-0.19	0.0	0.0	0.0
		0.0	-138.86	-3.18e-03	0.0	716.8	124.89	-300.38	-0.19	0.0	-138.86	0.0
43	1	7.088e+04	0.0	-1.66	-778.75	0.0	-164.64	395.99	-0.25	0.0	0.0	0.0
		0.0	-180.54	-4.29e-03	0.0	716.8	159.14	-382.77	-0.25	0.0	-180.54	0.0
43	2	1.133e+05	0.0	-2.66	-1243.29	0.0	-263.25	633.15	-0.26	0.0	0.0	0.0
		0.0	-188.71	-7.40e-03	0.0	716.8	253.68	-610.13	-0.26	0.0	-188.71	0.0
43	5	5.453e+04	0.0	-1.28	-599.04	0.0	-126.65	304.61	-0.19	0.0	0.0	0.0
		0.0	-138.87	-3.30e-03	0.0	716.8	122.42	-294.43	-0.19	0.0	-138.87	0.0
43	6	8.282e+04	0.0	-1.94	-908.73	0.0	-192.38	462.72	-0.20	0.0	0.0	0.0
		0.0	-144.32	-5.38e-03	0.0	716.8	185.44	-446.01	-0.20	0.0	-144.32	0.0
43	7	5.453e+04	0.0	-1.28	-599.04	0.0	-126.65	304.61	-0.19	0.0	0.0	0.0
		0.0	-138.87	-3.30e-03	0.0	716.8	122.42	-294.43	-0.19	0.0	-138.87	0.0
43	8	6.018e+04	0.0	-1.41	-660.98	0.0	-139.79	336.23	-0.20	0.0	0.0	0.0
		0.0	-139.96	-3.72e-03	0.0	716.8	135.02	-324.75	-0.20	0.0	-139.96	0.0
43	9	5.453e+04	0.0	-1.28	-599.04	0.0	-126.65	304.61	-0.19	0.0	0.0	0.0
		0.0	-138.87	-3.30e-03	0.0	716.8	122.42	-294.43	-0.19	0.0	-138.87	0.0
44	2	0.0	0.0	-0.04	-70.57	0.0	-909.14	3872.62	0.0	0.0	0.0	-2.013e+05
		-2.013e+05	0.0	-8.61e-06	0.0	52.5	-888.39	3802.06	0.0	0.0	0.0	0.0
44	3	0.0	0.0	-0.02	-40.72	0.0	-440.76	1923.62	0.0	0.0	0.0	-9.985e+04
		-9.985e+04	0.0	-4.64e-06	0.0	52.5	-428.79	1882.90	0.0	0.0	0.0	0.0
44	4	0.0	0.0	-0.03	-58.35	0.0	-776.91	3295.54	0.0	0.0	0.0	-1.713e+05
		-1.713e+05	0.0	-7.22e-06	0.0	52.5	-759.76	3237.19	0.0	0.0	0.0	0.0
44	5	0.0	0.0	-0.02	-40.72	0.0	-440.76	1923.62	0.0	0.0	0.0	-9.985e+04
		-9.985e+04	0.0	-4.64e-06	0.0	52.5	-428.79	1882.90	0.0	0.0	0.0	0.0
44	6	0.0	0.0	-0.03	-52.47	0.0	-664.86	2838.23	0.0	0.0	0.0	-1.475e+05
		-1.475e+05	0.0	-6.36e-06	0.0	52.5	-649.43	2785.76	0.0	0.0	0.0	0.0
44	7	0.0	0.0	-0.02	-40.72	0.0	-440.76	1923.62	0.0	0.0	0.0	-9.985e+04
		-9.985e+04	0.0	-4.64e-06	0.0	52.5	-428.79	1882.90	0.0	0.0	0.0	0.0
44	8	0.0	0.0	-0.02	-43.07	0.0	-485.58	2106.55	0.0	0.0	0.0	-1.094e+05
		-1.094e+05	0.0	-4.98e-06	0.0	52.5	-472.92	2063.47	0.0	0.0	0.0	0.0
44	9	0.0	0.0	-0.02	-40.72	0.0	-440.76	1923.62	0.0	0.0	0.0	-9.985e+04
		-9.985e+04	0.0	-4.64e-06	0.0	52.5	-428.79	1882.90	0.0	0.0	0.0	0.0
45	2	-6.271e+04	0.05	-0.08	-18.81	0.0	-9.72	5146.45	-1.26e-04	0.0	0.05	-2.297e+05
		-2.297e+05	0.04	0.0	0.0	32.5	-9.72	5127.63	-1.26e-04	0.0	0.04	-6.271e+04
45	3	-3.517e+04	0.02	-0.04	-14.47	0.0	-4.49	2505.49	-6.14e-05	0.0	0.02	-1.164e+05

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Trave	Cmb	M3 mx/mn	M2 mx/mn	D 2 / D 3	Q 2 / Q 3	Pos.	N	V 2	V 3	T	M 2	M 3
		-1.164e+05	0.02	0.0	0.0	32.5	-4.49	2491.02	-6.14e-05	0.0	0.02	-3.517e+04
45	5	-3.517e+04	0.02	-0.04	-14.47	0.0	-4.49	2505.49	-6.14e-05	0.0	0.02	-1.164e+05
		-1.164e+05	0.02	0.0	0.0	32.5	-4.49	2491.02	-6.14e-05	0.0	0.02	-3.517e+04
45	6	-4.650e+04	0.03	-0.06	-14.47	0.0	-7.08	3765.03	-9.20e-05	0.0	0.03	-1.686e+05
		-1.686e+05	0.03	0.0	0.0	32.5	-7.08	3750.56	-9.20e-05	0.0	0.03	-4.650e+04
45	7	-3.517e+04	0.02	-0.04	-14.47	0.0	-4.49	2505.49	-6.14e-05	0.0	0.02	-1.164e+05
		-1.164e+05	0.02	0.0	0.0	32.5	-4.49	2491.02	-6.14e-05	0.0	0.02	-3.517e+04
45	8	-3.743e+04	0.03	-0.04	-14.47	0.0	-5.00	2757.40	-6.75e-05	0.0	0.03	-1.268e+05
		-1.268e+05	0.02	0.0	0.0	32.5	-5.00	2742.93	-6.75e-05	0.0	0.02	-3.743e+04
45	9	-3.517e+04	0.02	-0.04	-14.47	0.0	-4.49	2505.49	-6.14e-05	0.0	0.02	-1.164e+05
		-1.164e+05	0.02	0.0	0.0	32.5	-4.49	2491.02	-6.14e-05	0.0	0.02	-3.517e+04
46	2	2.011e+05	0.04	-0.17	-43.41	0.0	-16.43	3564.62	-1.26e-04	0.0	0.04	-6.466e+04
		-6.466e+04	0.03	0.0	0.0	75.0	-16.43	3521.21	-1.26e-04	0.0	0.03	2.011e+05
46	3	9.344e+04	0.02	-0.08	-33.40	0.0	-7.65	1743.70	-6.14e-05	0.0	0.02	-3.608e+04
		-3.608e+04	0.01	0.0	0.0	75.0	-7.65	1710.30	-6.14e-05	0.0	0.01	9.344e+04
46	5	9.344e+04	0.02	-0.08	-33.40	0.0	-7.65	1743.70	-6.14e-05	0.0	0.02	-3.608e+04
		-3.608e+04	0.01	0.0	0.0	75.0	-7.65	1710.30	-6.14e-05	0.0	0.01	9.344e+04
46	6	1.465e+05	0.03	-0.12	-33.40	0.0	-11.98	2608.91	-9.20e-05	0.0	0.03	-4.792e+04
		-4.792e+04	0.02	0.0	0.0	75.0	-11.98	2575.51	-9.20e-05	0.0	0.02	1.465e+05
46	7	9.344e+04	0.02	-0.08	-33.40	0.0	-7.65	1743.70	-6.14e-05	0.0	0.02	-3.608e+04
		-3.608e+04	0.01	0.0	0.0	75.0	-7.65	1710.30	-6.14e-05	0.0	0.01	9.344e+04
46	8	1.041e+05	0.02	-0.09	-33.40	0.0	-8.52	1916.74	-6.75e-05	0.0	0.02	-3.845e+04
		-3.845e+04	0.02	0.0	0.0	75.0	-8.52	1883.34	-6.75e-05	0.0	0.02	1.041e+05
46	9	9.344e+04	0.02	-0.08	-33.40	0.0	-7.65	1743.70	-6.14e-05	0.0	0.02	-3.608e+04
		-3.608e+04	0.01	0.0	0.0	75.0	-7.65	1710.30	-6.14e-05	0.0	0.01	9.344e+04
47	1	8.897e+04	0.0	-2.23	-942.24	0.0	195.88	471.12	2.69	0.0	-2028.39	0.0
		0.0	-2028.39	0.07	0.0	755.4	-195.88	-471.12	2.69	0.0	0.0	3.81e-03
47	2	1.437e+05	0.0	-3.60	-1521.89	0.0	316.38	760.94	4.37	0.0	-3300.08	0.0
		0.0	-3300.08	0.12	0.0	755.4	-316.38	-760.94	4.37	0.0	0.0	3.81e-03
47	5	6.844e+04	0.0	-1.72	-724.80	0.0	150.68	362.40	2.07	0.0	-1560.30	0.0
		0.0	-1560.30	0.06	0.0	755.4	-150.68	-362.40	2.07	0.0	0.0	2.93e-03
47	6	1.049e+05	0.0	-2.63	-1111.23	0.0	231.01	555.62	3.19	0.0	-2408.09	0.0
		0.0	-2408.09	0.09	0.0	755.4	-231.01	-555.62	3.19	0.0	0.0	2.93e-03
47	7	6.844e+04	0.0	-1.72	-724.80	0.0	150.68	362.40	2.07	0.0	-1560.30	0.0
		0.0	-1560.30	0.06	0.0	755.4	-150.68	-362.40	2.07	0.0	0.0	2.93e-03
47	8	7.574e+04	0.0	-1.90	-802.09	0.0	166.74	401.04	2.29	0.0	-1729.86	0.0
		0.0	-1729.86	0.06	0.0	755.4	-166.74	-401.04	2.29	0.0	0.0	2.93e-03
47	9	6.844e+04	0.0	-1.72	-724.80	0.0	150.68	362.40	2.07	0.0	-1560.30	0.0
		0.0	-1560.30	0.06	0.0	755.4	-150.68	-362.40	2.07	0.0	0.0	2.93e-03
48	2	1.437e+05	0.0	-3.53	-1521.89	0.0	316.38	760.94	2.04	0.0	-1542.33	0.0
		0.0	-1542.33	0.05	0.0	755.4	-316.38	-760.94	2.04	0.0	0.0	3.81e-03
48	3	6.844e+04	0.0	-1.68	-724.80	0.0	150.68	362.40	0.95	0.0	-717.92	0.0
		0.0	-717.92	0.03	0.0	755.4	-150.68	-362.40	0.95	0.0	0.0	2.93e-03
48	5	6.844e+04	0.0	-1.68	-724.80	0.0	150.68	362.40	0.95	0.0	-717.92	0.0
		0.0	-717.92	0.03	0.0	755.4	-150.68	-362.40	0.95	0.0	0.0	2.93e-03
48	6	1.049e+05	0.0	-2.57	-1111.23	0.0	231.01	555.62	1.49	0.0	-1123.94	0.0
		0.0	-1123.94	0.04	0.0	755.4	-231.01	-555.62	1.49	0.0	0.0	2.93e-03
48	7	6.844e+04	0.0	-1.68	-724.80	0.0	150.68	362.40	0.95	0.0	-717.92	0.0
		0.0	-717.92	0.03	0.0	755.4	-150.68	-362.40	0.95	0.0	0.0	2.93e-03
48	8	7.574e+04	0.0	-1.86	-802.09	0.0	166.74	401.04	1.06	0.0	-799.12	0.0
		0.0	-799.12	0.03	0.0	755.4	-166.74	-401.04	1.06	0.0	0.0	2.93e-03
48	9	6.844e+04	0.0	-1.68	-724.80	0.0	150.68	362.40	0.95	0.0	-717.92	0.0
		0.0	-717.92	0.03	0.0	755.4	-150.68	-362.40	0.95	0.0	0.0	2.93e-03
49	1	8.897e+04	343.47	-2.18	-942.24	0.0	195.88	471.12	-0.45	0.0	343.47	0.0
		0.0	0.0	-0.01	0.0	755.4	-195.88	-471.12	-0.45	0.0	0.0	3.81e-03
49	2	1.437e+05	516.13	-3.51	-1521.89	0.0	316.38	760.94	-0.68	0.0	516.13	0.0
		0.0	0.0	-0.02	0.0	755.4	-316.38	-760.94	-0.68	0.0	0.0	3.81e-03
49	5	6.844e+04	264.21	-1.67	-724.80	0.0	150.68	362.40	-0.35	0.0	264.21	0.0
		0.0	0.0	-9.30e-03	0.0	755.4	-150.68	-362.40	-0.35	0.0	0.0	2.93e-03
49	6	1.049e+05	379.31	-2.57	-1111.23	0.0	231.01	555.62	-0.50	0.0	379.31	0.0
		0.0	0.0	-0.01	0.0	755.4	-231.01	-555.62	-0.50	0.0	0.0	2.93e-03
49	7	6.844e+04	264.21	-1.67	-724.80	0.0	150.68	362.40	-0.35	0.0	264.21	0.0
		0.0	0.0	-9.30e-03	0.0	755.4	-150.68	-362.40	-0.35	0.0	0.0	2.93e-03
49	8	7.574e+04	287.23	-1.85	-802.09	0.0	166.74	401.04	-0.38	0.0	287.23	0.0
		0.0	0.0	-0.01	0.0	755.4	-166.74	-401.04	-0.38	0.0	0.0	2.93e-03
49	9	6.844e+04	264.21	-1.67	-724.80	0.0	150.68	362.40	-0.35	0.0	264.21	0.0
		0.0	0.0	-9.30e-03	0.0	755.4	-150.68	-362.40	-0.35	0.0	0.0	2.93e-03
50	2	1.437e+05	2125.85	-3.56	-1521.89	0.0	316.38	760.94	-2.81	0.0	2125.85	0.0
		0.0	0.0	-0.08	0.0	755.4	-316.38	-760.94	-2.81	0.0	0.0	3.81e-03
50	3	6.844e+04	1023.48	-1.70	-724.80	0.0	150.68	362.40	-1.35	0.0	1023.48	0.0

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Trave	Cmb	M3 mx/mn	M2 mx/mn	D 2 / D 3	Q 2 / Q 3	Pos.	N	V 2	V 3	T	M 2	M 3
		0.0	0.0	-0.04	0.0	755.4	-150.68	-362.40	-1.35	0.0	0.0	2.93e-03
50	5	6.844e+04	1023.48	-1.70	-724.80	0.0	150.68	362.40	-1.35	0.0	1023.48	0.0
		0.0	0.0	-0.04	0.0	755.4	-150.68	-362.40	-1.35	0.0	0.0	2.93e-03
50	6	1.049e+05	1553.70	-2.60	-1111.23	0.0	231.01	555.62	-2.06	0.0	1553.70	0.0
		0.0	0.0	-0.05	0.0	755.4	-231.01	-555.62	-2.06	0.0	0.0	2.93e-03
50	7	6.844e+04	1023.48	-1.70	-724.80	0.0	150.68	362.40	-1.35	0.0	1023.48	0.0
		0.0	0.0	-0.04	0.0	755.4	-150.68	-362.40	-1.35	0.0	0.0	2.93e-03
50	8	7.574e+04	1129.52	-1.88	-802.09	0.0	166.74	401.04	-1.50	0.0	1129.52	0.0
		0.0	0.0	-0.04	0.0	755.4	-166.74	-401.04	-1.50	0.0	0.0	2.93e-03
50	9	6.844e+04	1023.48	-1.70	-724.80	0.0	150.68	362.40	-1.35	0.0	1023.48	0.0
		0.0	0.0	-0.04	0.0	755.4	-150.68	-362.40	-1.35	0.0	0.0	2.93e-03
51	1	8.555e+04	1555.12	-2.18	-901.65	0.0	186.49	448.53	-2.06	0.0	1555.12	0.0
		-1.27e-03	0.0	-0.06	0.0	755.4	-188.39	-453.12	-2.06	0.0	0.0	-1.27e-03
51	2	1.378e+05	2535.37	-3.50	-1451.21	0.0	300.03	721.62	-3.36	0.0	2535.37	0.0
		-1.27e-03	0.0	-0.09	0.0	755.4	-303.34	-729.60	-3.36	0.0	0.0	-1.27e-03
51	5	6.581e+04	1196.24	-1.67	-693.58	0.0	143.45	345.03	-1.58	0.0	1196.24	0.0
		-9.77e-04	0.0	-0.04	0.0	755.4	-144.92	-348.55	-1.58	0.0	0.0	-9.77e-04
51	6	1.006e+05	1849.75	-2.56	-1059.95	0.0	219.15	527.08	-2.45	0.0	1849.75	0.0
		-9.77e-04	0.0	-0.07	0.0	755.4	-221.55	-532.87	-2.45	0.0	0.0	-9.77e-04
51	7	6.581e+04	1196.24	-1.67	-693.58	0.0	143.45	345.03	-1.58	0.0	1196.24	0.0
		-9.77e-04	0.0	-0.04	0.0	755.4	-144.92	-348.55	-1.58	0.0	0.0	-9.77e-04
51	8	7.277e+04	1326.94	-1.85	-766.85	0.0	158.59	381.44	-1.76	0.0	1326.94	0.0
		-9.77e-04	0.0	-0.05	0.0	755.4	-160.24	-385.42	-1.76	0.0	0.0	-9.77e-04
51	9	6.581e+04	1196.24	-1.67	-693.58	0.0	143.45	345.03	-1.58	0.0	1196.24	0.0
		-9.77e-04	0.0	-0.04	0.0	755.4	-144.92	-348.55	-1.58	0.0	0.0	-9.77e-04
52	2	1352.38	0.0	-0.63	-131.02	0.0	-29.86	71.81	-7.76	0.0	0.0	-2.29e-05
		-2.29e-05	-640.98	0.11	0.0	82.6	24.61	-59.20	-7.76	0.0	-640.98	0.0
52	6	989.14	0.0	-0.46	-95.83	0.0	-21.82	52.49	-6.34	0.0	0.0	-1.53e-05
		-1.53e-05	-523.17	0.08	0.0	82.6	18.02	-43.34	-6.34	0.0	-523.17	0.0
52	8	723.15	0.0	-0.35	-70.06	0.0	-15.87	38.17	-8.23	0.0	0.0	-3.05e-06
		-3.05e-06	-679.74	0.06	0.0	82.6	13.26	-31.88	-8.23	0.0	-679.74	0.0
52	9	656.65	0.0	-0.32	-63.62	0.0	-14.38	34.59	-8.71	0.0	0.0	0.0
		0.0	-718.88	0.06	0.0	82.6	12.07	-29.02	-8.71	0.0	-718.88	0.0
53	2	1352.38	640.98	-0.63	-131.02	0.0	-29.86	71.81	7.76	0.0	0.0	-2.29e-05
		-2.29e-05	0.0	-0.11	0.0	82.6	24.61	-59.20	7.76	0.0	640.98	0.0
53	6	989.14	523.17	-0.46	-95.83	0.0	-21.82	52.49	6.34	0.0	0.0	-1.53e-05
		-1.53e-05	0.0	-0.08	0.0	82.6	18.02	-43.34	6.34	0.0	523.17	0.0
53	8	723.15	679.74	-0.35	-70.06	0.0	-15.87	38.17	8.23	0.0	0.0	-3.05e-06
		-3.05e-06	0.0	-0.06	0.0	82.6	13.26	-31.88	8.23	0.0	679.74	0.0
53	9	656.65	718.88	-0.32	-63.62	0.0	-14.38	34.59	8.71	0.0	0.0	0.0
		0.0	0.0	-0.06	0.0	82.6	12.07	-29.02	8.71	0.0	718.88	0.0
54	1	4012.72	3707.48	-0.76	-187.13	0.0	-41.91	100.81	22.45	0.0	0.0	0.0
		0.0	0.0	-0.14	0.0	165.2	35.89	-86.32	22.45	0.0	3707.48	0.0
54	2	6450.99	5388.60	-1.16	-299.87	0.0	-67.58	162.55	32.63	0.0	0.0	0.0
		0.0	0.0	-0.21	0.0	165.2	57.09	-137.32	32.63	0.0	5388.60	0.0
54	5	3086.71	2851.91	-0.58	-143.95	0.0	-32.24	77.54	17.27	0.0	0.0	0.0
		0.0	0.0	-0.11	0.0	165.2	27.61	-66.40	17.27	0.0	2851.91	0.0
54	6	4712.22	3972.65	-0.85	-219.11	0.0	-49.35	118.70	24.05	0.0	0.0	0.0
		0.0	0.0	-0.15	0.0	165.2	41.74	-100.40	24.05	0.0	3972.65	0.0
54	7	3086.71	2851.91	-0.58	-143.95	0.0	-32.24	77.54	17.27	0.0	0.0	0.0
		0.0	0.0	-0.11	0.0	165.2	27.61	-66.40	17.27	0.0	2851.91	0.0
54	8	3411.81	3076.06	-0.64	-158.98	0.0	-35.66	85.78	18.63	0.0	0.0	0.0
		0.0	0.0	-0.12	0.0	165.2	30.43	-73.20	18.63	0.0	3076.06	0.0
54	9	3086.71	2851.91	-0.58	-143.95	0.0	-32.24	77.54	17.27	0.0	0.0	0.0
		0.0	0.0	-0.11	0.0	165.2	27.61	-66.40	17.27	0.0	2851.91	0.0
55	1	9402.46	5208.59	-0.97	-291.56	0.0	-64.12	154.23	21.02	0.0	0.0	0.0
		0.0	0.0	-0.18	0.0	247.7	57.10	-137.33	21.02	0.0	5208.59	0.0
55	2	1.517e+04	7806.99	-1.49	-468.72	0.0	-103.56	249.07	31.51	0.0	0.0	0.0
		0.0	0.0	-0.27	0.0	247.7	91.32	-219.65	31.51	0.0	7806.99	0.0
55	5	7232.66	4006.61	-0.75	-224.28	0.0	-49.33	118.64	16.17	0.0	0.0	0.0
		0.0	0.0	-0.14	0.0	247.7	43.92	-105.64	16.17	0.0	4006.61	0.0
55	6	1.107e+04	5738.87	-1.09	-342.38	0.0	-75.62	181.87	23.17	0.0	0.0	0.0
		0.0	0.0	-0.20	0.0	247.7	66.74	-160.52	23.17	0.0	5738.87	0.0
55	7	7232.66	4006.61	-0.75	-224.28	0.0	-49.33	118.64	16.17	0.0	0.0	0.0
		0.0	0.0	-0.14	0.0	247.7	43.92	-105.64	16.17	0.0	4006.61	0.0
55	8	8001.09	4353.06	-0.82	-247.90	0.0	-54.58	131.28	17.57	0.0	0.0	0.0
		0.0	0.0	-0.15	0.0	247.7	48.48	-116.61	17.57	0.0	4353.06	0.0
55	9	7232.66	4006.61	-0.75	-224.28	0.0	-49.33	118.64	16.17	0.0	0.0	0.0
		0.0	0.0	-0.14	0.0	247.7	43.92	-105.64	16.17	0.0	4006.61	0.0
56	1	5.776e+04	1.83e-03	-1.13	-696.34	0.0	-147.96	355.87	-2.85	4.41e-03	1.83e-03	0.0

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Trave	Cmb	M3 mx/mn	M2 mx/mn	D 2 / D 3	Q 2 / Q 3	Pos.	N	V 2	V 3	T	M 2	M 3
		0.0	-1850.96	0.05	0.0	650.3	141.56	-340.47	-2.85	4.41e-03	-1850.96	0.0
56	2	9.226e+04	2.93e-03	-1.80	-1110.25	0.0	-236.38	568.53	-4.25	7.04e-03	2.93e-03	0.0
		0.0	-2765.01	0.07	0.0	650.3	225.23	-541.71	-4.25	7.04e-03	-2765.01	0.0
56	5	4.443e+04	1.41e-03	-0.87	-535.65	0.0	-113.82	273.75	-2.19	3.39e-03	1.41e-03	0.0
		0.0	-1423.82	0.04	0.0	650.3	108.89	-261.90	-2.19	3.39e-03	-1423.82	0.0
56	6	6.743e+04	2.14e-03	-1.32	-811.58	0.0	-172.76	415.52	-3.13	5.14e-03	2.14e-03	0.0
		0.0	-2033.18	0.05	0.0	650.3	164.67	-396.06	-3.13	5.14e-03	-2033.18	0.0
56	7	4.443e+04	1.41e-03	-0.87	-535.65	0.0	-113.82	273.75	-2.19	3.39e-03	1.41e-03	0.0
		0.0	-1423.82	0.04	0.0	650.3	108.89	-261.90	-2.19	3.39e-03	-1423.82	0.0
56	8	4.903e+04	1.56e-03	-0.96	-590.83	0.0	-125.61	302.10	-2.38	3.74e-03	1.56e-03	0.0
		0.0	-1545.69	0.04	0.0	650.3	120.05	-288.73	-2.38	3.74e-03	-1545.69	0.0
56	9	4.443e+04	1.41e-03	-0.87	-535.65	0.0	-113.82	273.75	-2.19	3.39e-03	1.41e-03	0.0
		0.0	-1423.82	0.04	0.0	650.3	108.89	-261.90	-2.19	3.39e-03	-1423.82	0.0
57	1	4.977e+04	0.0	-0.91	-671.25	0.0	-143.63	345.46	-7.10	0.0	0.0	0.0
		0.0	-4102.18	0.12	0.0	578.0	135.46	-325.80	-7.10	0.0	-4102.18	0.0
57	2	8.010e+04	0.0	-1.45	-1077.92	0.0	-231.20	556.08	-10.79	0.0	0.0	0.0
		0.0	-6237.88	0.17	0.0	578.0	216.97	-521.84	-10.79	0.0	-6237.88	0.0
57	5	3.829e+04	0.0	-0.70	-516.35	0.0	-110.48	265.74	-5.46	0.0	0.0	0.0
		0.0	-3155.53	0.09	0.0	578.0	104.20	-250.61	-5.46	0.0	-3155.53	0.0
57	6	5.850e+04	0.0	-1.06	-787.46	0.0	-168.86	406.15	-7.92	0.0	0.0	0.0
		0.0	-4579.33	0.13	0.0	578.0	158.54	-381.31	-7.92	0.0	-4579.33	0.0
57	7	3.829e+04	0.0	-0.70	-516.35	0.0	-110.48	265.74	-5.46	0.0	0.0	0.0
		0.0	-3155.53	0.09	0.0	578.0	104.20	-250.61	-5.46	0.0	-3155.53	0.0
57	8	4.233e+04	0.0	-0.77	-570.57	0.0	-122.16	293.82	-5.95	0.0	0.0	0.0
		0.0	-3440.29	0.10	0.0	578.0	115.07	-276.75	-5.95	0.0	-3440.29	0.0
57	9	3.829e+04	0.0	-0.70	-516.35	0.0	-110.48	265.74	-5.46	0.0	0.0	0.0
		0.0	-3155.53	0.09	0.0	578.0	104.20	-250.61	-5.46	0.0	-3155.53	0.0
58	2	6.222e+04	0.0	-1.26	-975.28	0.0	-209.74	504.45	-17.42	0.0	0.0	6.35e-04
		0.0	-8628.77	0.24	0.0	495.5	195.75	-470.82	-17.42	0.0	-8628.77	0.0
58	6	4.543e+04	0.0	-0.92	-712.22	0.0	-153.13	368.31	-12.78	0.0	0.0	4.88e-04
		0.0	-6333.36	0.18	0.0	495.5	142.99	-343.91	-12.78	0.0	-6333.36	0.0
58	8	3.278e+04	0.0	-0.68	-514.66	0.0	-110.48	265.71	-9.59	0.0	0.0	4.88e-04
		0.0	-4751.77	0.13	0.0	495.5	103.50	-248.95	-9.59	0.0	-4751.77	0.0
58	9	2.962e+04	0.0	-0.62	-465.27	0.0	-99.81	240.06	-8.79	0.0	0.0	4.88e-04
		0.0	-4356.37	0.12	0.0	495.5	93.63	-225.20	-8.79	0.0	-4356.37	0.0
59	1	2.665e+04	0.0	-0.90	-500.42	0.0	-107.94	259.63	-15.20	0.0	0.0	0.0
		0.0	-6275.54	0.18	0.0	412.9	100.11	-240.79	-15.20	0.0	-6275.54	0.0
59	2	4.305e+04	0.0	-1.38	-806.42	0.0	-174.46	419.61	-23.11	0.0	0.0	0.0
		0.0	-9542.40	0.28	0.0	412.9	160.83	-386.82	-23.11	0.0	-9542.40	0.0
59	5	2.050e+04	0.0	-0.69	-384.94	0.0	-83.03	199.71	-11.69	0.0	0.0	0.0
		0.0	-4827.34	0.14	0.0	412.9	77.01	-185.23	-11.69	0.0	-4827.34	0.0
59	6	3.143e+04	0.0	-1.01	-588.94	0.0	-127.38	306.37	-16.97	0.0	0.0	0.0
		0.0	-7005.25	0.20	0.0	412.9	117.49	-282.57	-16.97	0.0	-7005.25	0.0
59	7	2.050e+04	0.0	-0.69	-384.94	0.0	-83.03	199.71	-11.69	0.0	0.0	0.0
		0.0	-4827.34	0.14	0.0	412.9	77.01	-185.23	-11.69	0.0	-4827.34	0.0
59	8	2.269e+04	0.0	-0.76	-425.74	0.0	-91.90	221.04	-12.75	0.0	0.0	0.0
		0.0	-5262.92	0.15	0.0	412.9	85.11	-204.70	-12.75	0.0	-5262.92	0.0
59	9	2.050e+04	0.0	-0.69	-384.94	0.0	-83.03	199.71	-11.69	0.0	0.0	0.0
		0.0	-4827.34	0.14	0.0	412.9	77.01	-185.23	-11.69	0.0	-4827.34	0.0
60	2	2.737e+04	0.0	-1.56	-637.57	0.0	-139.10	334.55	-27.87	0.0	0.0	1.27e-03
		0.0	-9204.17	0.29	0.0	330.3	125.99	-303.02	-27.87	0.0	-9204.17	0.0
60	6	1.998e+04	0.0	-1.15	-465.66	0.0	-101.56	244.27	-20.47	0.0	0.0	9.77e-04
		0.0	-6759.86	0.21	0.0	330.3	92.05	-221.39	-20.47	0.0	-6759.86	0.0
60	8	1.443e+04	0.0	-0.86	-336.82	0.0	-73.29	176.27	-15.42	0.0	0.0	9.77e-04
		0.0	-5094.47	0.16	0.0	330.3	66.75	-160.55	-15.42	0.0	-5094.47	0.0
60	9	1.304e+04	0.0	-0.79	-304.61	0.0	-66.22	159.27	-14.16	0.0	0.0	9.77e-04
		0.0	-4678.12	0.15	0.0	330.3	60.43	-145.34	-14.16	0.0	-4678.12	0.0
61	2	1.517e+04	0.0	-1.49	-468.72	0.0	-103.56	249.07	-31.51	0.0	0.0	0.0
		0.0	-7806.98	0.27	0.0	247.7	91.32	-219.65	-31.51	0.0	-7806.98	0.0
61	6	1.107e+04	0.0	-1.09	-342.38	0.0	-75.62	181.87	-23.17	0.0	0.0	0.0
		0.0	-5738.87	0.20	0.0	247.7	66.74	-160.52	-23.17	0.0	-5738.87	0.0
61	8	8001.09	0.0	-0.82	-247.90	0.0	-54.58	131.28	-17.57	0.0	0.0	0.0
		0.0	-4353.06	0.15	0.0	247.7	48.48	-116.61	-17.57	0.0	-4353.06	0.0
61	9	7232.66	0.0	-0.75	-224.28	0.0	-49.33	118.64	-16.17	0.0	0.0	0.0
		0.0	-4006.60	0.14	0.0	247.7	43.92	-105.64	-16.17	0.0	-4006.60	0.0
62	1	4012.72	0.0	-0.76	-187.13	0.0	-41.91	100.81	-22.45	0.0	0.0	0.0
		0.0	-3707.47	0.14	0.0	165.2	35.89	-86.32	-22.45	0.0	-3707.47	0.0
62	2	6450.99	0.0	-1.16	-299.87	0.0	-67.58	162.55	-32.63	0.0	0.0	0.0
		0.0	-5388.58	0.21	0.0	165.2	57.09	-137.32	-32.63	0.0	-5388.58	0.0
62	5	3086.71	0.0	-0.58	-143.95	0.0	-32.24	77.54	-17.27	0.0	0.0	0.0

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Trave	Cmb	M3 mx/mn	M2 mx/mn	D 2 / D 3	Q 2 / Q 3	Pos.	N	V 2	V 3	T	M 2	M 3
		0.0	-2851.90	0.11	0.0	165.2	27.61	-66.40	-17.27	0.0	-2851.90	0.0
62	6	4712.22	0.0	-0.85	-219.11	0.0	-49.35	118.70	-24.05	0.0	0.0	0.0
		0.0	-3972.64	0.15	0.0	165.2	41.74	-100.40	-24.05	0.0	-3972.64	0.0
62	7	3086.71	0.0	-0.58	-143.95	0.0	-32.24	77.54	-17.27	0.0	0.0	0.0
		0.0	-2851.90	0.11	0.0	165.2	27.61	-66.40	-17.27	0.0	-2851.90	0.0
62	8	3411.81	0.0	-0.64	-158.98	0.0	-35.66	85.78	-18.63	0.0	0.0	0.0
		0.0	-3076.05	0.12	0.0	165.2	30.43	-73.20	-18.63	0.0	-3076.05	0.0
62	9	3086.71	0.0	-0.58	-143.95	0.0	-32.24	77.54	-17.27	0.0	0.0	0.0
		0.0	-2851.90	0.11	0.0	165.2	27.61	-66.40	-17.27	0.0	-2851.90	0.0
63	2	1352.38	0.0	-0.63	-131.02	0.0	-29.86	71.81	-7.76	0.0	0.0	-2.29e-05
		-2.29e-05	-640.94	0.11	0.0	82.6	24.61	-59.20	-7.76	0.0	-640.94	0.0
63	6	989.14	0.0	-0.46	-95.83	0.0	-21.82	52.49	-6.34	0.0	0.0	-1.53e-05
		-1.53e-05	-523.14	0.08	0.0	82.6	18.02	-43.34	-6.34	0.0	-523.14	0.0
63	8	723.15	0.0	-0.35	-70.06	0.0	-15.87	38.17	-8.23	0.0	0.0	-3.05e-06
		-3.05e-06	-679.72	0.06	0.0	82.6	13.26	-31.88	-8.23	0.0	-679.72	0.0
63	9	656.65	0.0	-0.32	-63.62	0.0	-14.38	34.59	-8.71	0.0	0.0	0.0
		0.0	-718.86	0.06	0.0	82.6	12.07	-29.02	-8.71	0.0	-718.86	0.0
64	2	1.558e+05	0.0	-0.61	-141.04	0.0	-432.18	1470.02	0.0	0.0	0.0	3.97e-05
		3.97e-05	0.0	1.76e-05	0.0	112.4	-390.71	1328.98	0.0	0.0	0.0	1.558e+05
64	3	7.932e+04	0.0	-0.31	-82.75	0.0	-221.35	752.92	0.0	0.0	0.0	3.05e-05
		3.05e-05	0.0	9.55e-06	0.0	112.4	-197.02	670.17	0.0	0.0	0.0	7.932e+04
64	5	7.932e+04	0.0	-0.31	-82.75	0.0	-221.35	752.92	0.0	0.0	0.0	3.05e-05
		3.05e-05	0.0	9.55e-06	0.0	112.4	-197.02	670.17	0.0	0.0	0.0	7.932e+04
64	6	1.145e+05	0.0	-0.45	-105.06	0.0	-317.63	1080.41	0.0	0.0	0.0	3.05e-05
		3.05e-05	0.0	1.30e-05	0.0	112.4	-286.74	975.34	0.0	0.0	0.0	1.145e+05
64	7	7.932e+04	0.0	-0.31	-82.75	0.0	-221.35	752.92	0.0	0.0	0.0	3.05e-05
		3.05e-05	0.0	9.55e-06	0.0	112.4	-197.02	670.17	0.0	0.0	0.0	7.932e+04
64	8	8.635e+04	0.0	-0.34	-87.21	0.0	-240.61	818.41	0.0	0.0	0.0	3.05e-05
		3.05e-05	0.0	1.02e-05	0.0	112.4	-214.97	731.20	0.0	0.0	0.0	8.635e+04
64	9	7.932e+04	0.0	-0.31	-82.75	0.0	-221.35	752.92	0.0	0.0	0.0	3.05e-05
		3.05e-05	0.0	9.55e-06	0.0	112.4	-197.02	670.17	0.0	0.0	0.0	7.932e+04
65	2	2.827e+05	1.04e-03	-0.50	-141.04	0.0	-344.01	1209.05	4.65e-06	0.0	5.22e-04	1.562e+05
		1.562e+05	5.22e-04	1.76e-05	0.0	112.4	-302.55	1068.01	4.65e-06	0.0	1.04e-03	2.827e+05
65	3	1.434e+05	4.97e-04	-0.25	-82.75	0.0	-167.48	613.33	2.21e-06	0.0	2.49e-04	7.971e+04
		7.971e+04	2.49e-04	9.55e-06	0.0	112.4	-143.15	530.58	2.21e-06	0.0	4.97e-04	1.434e+05
65	5	1.434e+05	4.97e-04	-0.25	-82.75	0.0	-167.48	613.33	2.21e-06	0.0	2.49e-04	7.971e+04
		7.971e+04	2.49e-04	9.55e-06	0.0	112.4	-143.15	530.58	2.21e-06	0.0	4.97e-04	1.434e+05
65	6	2.076e+05	7.63e-04	-0.37	-105.06	0.0	-251.67	887.81	3.39e-06	0.0	3.81e-04	1.147e+05
		1.147e+05	3.81e-04	1.30e-05	0.0	112.4	-220.78	782.75	3.39e-06	0.0	7.63e-04	2.076e+05
65	7	1.434e+05	4.97e-04	-0.25	-82.75	0.0	-167.48	613.33	2.21e-06	0.0	2.49e-04	7.971e+04
		7.971e+04	2.49e-04	9.55e-06	0.0	112.4	-143.15	530.58	2.21e-06	0.0	4.97e-04	1.434e+05
65	8	1.562e+05	5.50e-04	-0.28	-87.21	0.0	-184.32	668.23	2.45e-06	0.0	2.75e-04	8.672e+04
		8.672e+04	2.75e-04	1.02e-05	0.0	112.4	-158.68	581.01	2.45e-06	0.0	5.50e-04	1.562e+05
65	9	1.434e+05	4.97e-04	-0.25	-82.75	0.0	-167.48	613.33	2.21e-06	0.0	2.49e-04	7.971e+04
		7.971e+04	2.49e-04	9.55e-06	0.0	112.4	-143.15	530.58	2.21e-06	0.0	4.97e-04	1.434e+05
66	2	3.656e+05	2.50e-03	-0.32	-141.04	0.0	-174.38	795.66	7.42e-06	0.0	1.67e-03	2.856e+05
		2.856e+05	1.67e-03	1.76e-05	0.0	112.4	-132.92	654.62	7.42e-06	0.0	2.50e-03	3.656e+05
66	3	1.845e+05	1.19e-03	-0.16	-82.75	0.0	-79.16	399.48	3.53e-06	0.0	7.94e-04	1.449e+05
		1.449e+05	7.94e-04	9.55e-06	0.0	112.4	-54.83	316.73	3.53e-06	0.0	1.19e-03	1.845e+05
66	5	1.845e+05	1.19e-03	-0.16	-82.75	0.0	-79.16	399.48	3.53e-06	0.0	7.94e-04	1.449e+05
		1.449e+05	7.94e-04	9.55e-06	0.0	112.4	-54.83	316.73	3.53e-06	0.0	1.19e-03	1.845e+05
66	6	2.684e+05	1.83e-03	-0.23	-105.06	0.0	-126.81	583.71	5.42e-06	0.0	1.22e-03	2.097e+05
		2.097e+05	1.22e-03	1.30e-05	0.0	112.4	-95.92	478.64	5.42e-06	0.0	1.83e-03	2.684e+05
66	7	1.845e+05	1.19e-03	-0.16	-82.75	0.0	-79.16	399.48	3.53e-06	0.0	7.94e-04	1.449e+05
		1.449e+05	7.94e-04	9.55e-06	0.0	112.4	-54.83	316.73	3.53e-06	0.0	1.19e-03	1.845e+05
66	8	2.013e+05	1.32e-03	-0.17	-87.21	0.0	-88.69	436.33	3.91e-06	0.0	8.79e-04	1.579e+05
		1.579e+05	8.79e-04	1.02e-05	0.0	112.4	-63.05	349.11	3.91e-06	0.0	1.32e-03	2.013e+05
66	9	1.845e+05	1.19e-03	-0.16	-82.75	0.0	-79.16	399.48	3.53e-06	0.0	7.94e-04	1.449e+05
		1.449e+05	7.94e-04	9.55e-06	0.0	112.4	-54.83	316.73	3.53e-06	0.0	1.19e-03	1.845e+05
67	2	3.842e+05	4.94e-03	-0.08	-141.04	0.0	44.03	210.75	1.10e-05	0.0	3.71e-03	3.699e+05
		3.699e+05	3.71e-03	1.76e-05	0.0	112.4	85.49	69.71	1.10e-05	0.0	4.94e-03	3.842e+05
67	3	1.930e+05	2.35e-03	-0.04	-82.75	0.0	31.65	103.66	5.24e-06	0.0	1.77e-03	1.867e+05
		1.867e+05	1.77e-03	9.55e-06	0.0	112.4	55.98	20.91	5.24e-06	0.0	2.35e-03	1.930e+05
67	5	1.930e+05	2.35e-03	-0.04	-82.75	0.0	31.65	103.66	5.24e-06	0.0	1.77e-03	1.867e+05
		1.867e+05	1.77e-03	9.55e-06	0.0	112.4	55.98	20.91	5.24e-06	0.0	2.35e-03	1.930e+05
67	6	2.818e+05	3.61e-03	-0.06	-105.06	0.0	33.57	154.32	8.03e-06	0.0	2.71e-03	2.715e+05
		2.715e+05	2.71e-03	1.30e-05	0.0	112.4	64.46	49.26	8.03e-06	0.0	3.61e-03	2.818e+05
67	7	1.930e+05	2.35e-03	-0.04	-82.75	0.0	31.65	103.66	5.24e-06	0.0	1.77e-03	1.867e+05
		1.867e+05	1.77e-03	9.55e-06	0.0	112.4	55.98	20.91	5.24e-06	0.0	2.35e-03	1.930e+05
67	8	2.108e+05	2.61e-03	-0.04	-87.21	0.0	32.03	113.80	5.79e-06	0.0	1.95e-03	2.036e+05

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Trave	Cmb	M3 mx/mn	M2 mx/mn	D 2 / D 3	Q 2 / Q 3	Pos.	N	V 2	V 3	T	M 2	M 3
		2.036e+05	1.95e-03	1.02e-05	0.0	112.4	57.67	26.58	5.79e-06	0.0	2.61e-03	2.108e+05
67	9	1.930e+05	2.35e-03	-0.04	-82.75	0.0	31.65	103.66	5.24e-06	0.0	1.77e-03	1.867e+05
		1.867e+05	1.77e-03	9.55e-06	0.0	112.4	55.98	20.91	5.24e-06	0.0	2.35e-03	1.930e+05
68	2	3.892e+05	8.91e-03	0.18	-141.04	0.0	308.43	-548.86	1.59e-05	0.0	7.13e-03	3.892e+05
		3.181e+05	7.13e-03	1.76e-05	0.0	112.4	349.89	-689.91	1.59e-05	0.0	8.91e-03	3.181e+05
68	3	1.956e+05	4.24e-03	0.09	-82.75	0.0	163.99	-275.46	7.55e-06	0.0	3.39e-03	1.956e+05
		1.593e+05	3.39e-03	9.56e-06	0.0	112.4	188.31	-358.21	7.55e-06	0.0	4.24e-03	1.593e+05
68	5	1.956e+05	4.24e-03	0.09	-82.75	0.0	163.99	-275.46	7.55e-06	0.0	3.39e-03	1.956e+05
		1.593e+05	3.39e-03	9.56e-06	0.0	112.4	188.31	-358.21	7.55e-06	0.0	4.24e-03	1.593e+05
68	6	2.855e+05	6.51e-03	0.13	-105.06	0.0	227.48	-402.64	1.16e-05	0.0	5.21e-03	2.855e+05
		2.333e+05	5.21e-03	1.30e-05	0.0	112.4	258.37	-507.70	1.16e-05	0.0	6.51e-03	2.333e+05
68	7	1.956e+05	4.24e-03	0.09	-82.75	0.0	163.99	-275.46	7.55e-06	0.0	3.39e-03	1.956e+05
		1.593e+05	3.39e-03	9.56e-06	0.0	112.4	188.31	-358.21	7.55e-06	0.0	4.24e-03	1.593e+05
68	8	2.136e+05	4.70e-03	0.10	-87.21	0.0	176.69	-300.89	8.36e-06	0.0	3.76e-03	2.136e+05
		1.741e+05	3.76e-03	1.03e-05	0.0	112.4	202.33	-388.11	8.36e-06	0.0	4.70e-03	1.741e+05
68	9	1.956e+05	4.24e-03	0.09	-82.75	0.0	163.99	-275.46	7.55e-06	0.0	3.39e-03	1.956e+05
		1.593e+05	3.39e-03	9.56e-06	0.0	112.4	188.31	-358.21	7.55e-06	0.0	4.24e-03	1.593e+05
69	2	3.232e+05	0.02	0.40	-141.04	0.0	617.57	-1484.51	2.24e-05	0.0	0.01	3.232e+05
		1.470e+05	0.01	1.77e-05	0.0	112.4	659.03	-1625.55	2.24e-05	0.0	0.02	1.470e+05
69	3	1.619e+05	7.20e-03	0.20	-82.75	0.0	317.34	-738.45	1.07e-05	0.0	6.00e-03	1.619e+05
		7.362e+04	6.00e-03	9.57e-06	0.0	112.4	341.67	-821.20	1.07e-05	0.0	7.20e-03	7.362e+04
69	5	1.619e+05	7.20e-03	0.20	-82.75	0.0	317.34	-738.45	1.07e-05	0.0	6.00e-03	1.619e+05
		7.362e+04	6.00e-03	9.57e-06	0.0	112.4	341.67	-821.20	1.07e-05	0.0	7.20e-03	7.362e+04
69	6	2.371e+05	0.01	0.29	-105.06	0.0	454.02	-1088.13	1.64e-05	0.0	9.21e-03	2.371e+05
		1.078e+05	9.21e-03	1.31e-05	0.0	112.4	484.91	-1193.20	1.64e-05	0.0	0.01	1.078e+05
69	7	1.619e+05	7.20e-03	0.20	-82.75	0.0	317.34	-738.45	1.07e-05	0.0	6.00e-03	1.619e+05
		7.362e+04	6.00e-03	9.57e-06	0.0	112.4	341.67	-821.20	1.07e-05	0.0	7.20e-03	7.362e+04
69	8	1.770e+05	7.97e-03	0.22	-87.21	0.0	344.67	-808.39	1.18e-05	0.0	6.64e-03	1.770e+05
		8.046e+04	6.64e-03	1.03e-05	0.0	112.4	370.31	-895.60	1.18e-05	0.0	7.97e-03	8.046e+04
69	9	1.619e+05	7.20e-03	0.20	-82.75	0.0	317.34	-738.45	1.07e-05	0.0	6.00e-03	1.619e+05
		7.362e+04	6.00e-03	9.57e-06	0.0	112.4	341.67	-821.20	1.07e-05	0.0	7.20e-03	7.362e+04
70	2	-2.014e+05	-0.07	-0.01	-78.86	0.0	-1309.59	5233.23	5.12e-05	-0.42	-0.08	-5.981e+05
		-5.981e+05	-0.08	1.24e-05	0.0	76.5	-1286.41	5154.37	5.12e-05	-0.42	-0.07	-2.014e+05
70	3	-9.992e+04	-0.04	6.18e-03	-48.74	0.0	-637.08	2590.31	2.46e-05	-0.21	-0.04	-2.959e+05
		-2.959e+05	-0.04	6.72e-06	0.0	76.5	-622.75	2541.56	2.46e-05	-0.21	-0.04	-9.992e+04
70	5	-9.992e+04	-0.04	6.18e-03	-48.74	0.0	-637.08	2590.31	2.46e-05	-0.21	-0.04	-2.959e+05
		-2.959e+05	-0.04	6.72e-06	0.0	76.5	-622.75	2541.56	2.46e-05	-0.21	-0.04	-9.992e+04
70	6	-1.476e+05	-0.05	7.64e-03	-59.07	0.0	-958.00	3834.19	3.74e-05	-0.31	-0.06	-4.382e+05
		-4.382e+05	-0.06	9.17e-06	0.0	76.5	-940.64	3775.12	3.74e-05	-0.31	-0.05	-1.476e+05
70	7	-9.992e+04	-0.04	6.18e-03	-48.74	0.0	-637.08	2590.31	2.46e-05	-0.21	-0.04	-2.959e+05
		-2.959e+05	-0.04	6.72e-06	0.0	76.5	-622.75	2541.56	2.46e-05	-0.21	-0.04	-9.992e+04
70	8	-1.095e+05	-0.04	6.44e-03	-50.81	0.0	-701.26	2839.08	2.71e-05	-0.23	-0.04	-3.244e+05
		-3.244e+05	-0.04	7.21e-06	0.0	76.5	-686.32	2788.28	2.71e-05	-0.23	-0.04	-1.095e+05
70	9	-9.992e+04	-0.04	6.18e-03	-48.74	0.0	-637.08	2590.31	2.46e-05	-0.21	-0.04	-2.959e+05
		-2.959e+05	-0.04	6.72e-06	0.0	76.5	-622.75	2541.56	2.46e-05	-0.21	-0.04	-9.992e+04
71	2	0.0	0.0	-0.04	-70.57	0.0	-909.14	3872.62	1.21e-04	-0.42	-6.35e-03	-2.013e+05
		-2.013e+05	-6.35e-03	9.03e-06	0.0	52.5	-888.39	3802.06	1.21e-04	-0.42	0.0	0.0
71	3	0.0	0.0	-0.02	-40.72	0.0	-440.76	1923.62	5.92e-05	-0.21	-3.11e-03	-9.985e+04
		-9.985e+04	-3.11e-03	4.85e-06	0.0	52.5	-428.79	1882.90	5.92e-05	-0.21	0.0	0.0
71	5	0.0	0.0	-0.02	-40.72	0.0	-440.76	1923.62	5.92e-05	-0.21	-3.11e-03	-9.985e+04
		-9.985e+04	-3.11e-03	4.85e-06	0.0	52.5	-428.79	1882.90	5.92e-05	-0.21	0.0	0.0
71	6	0.0	0.0	-0.03	-52.47	0.0	-664.86	2838.23	8.85e-05	-0.31	-4.65e-03	-1.475e+05
		-1.475e+05	-4.65e-03	6.67e-06	0.0	52.5	-649.43	2785.76	8.85e-05	-0.31	0.0	0.0
71	7	0.0	0.0	-0.02	-40.72	0.0	-440.76	1923.62	5.92e-05	-0.21	-3.11e-03	-9.985e+04
		-9.985e+04	-3.11e-03	4.85e-06	0.0	52.5	-428.79	1882.90	5.92e-05	-0.21	0.0	0.0
71	8	0.0	0.0	-0.02	-43.07	0.0	-485.58	2106.54	6.50e-05	-0.23	-3.42e-03	-1.094e+05
		-1.094e+05	-3.42e-03	5.21e-06	0.0	52.5	-472.92	2063.47	6.50e-05	-0.23	0.0	0.0
71	9	0.0	0.0	-0.02	-40.72	0.0	-440.76	1923.62	5.92e-05	-0.21	-3.11e-03	-9.985e+04
		-9.985e+04	-3.11e-03	4.85e-06	0.0	52.5	-428.79	1882.90	5.92e-05	-0.21	0.0	0.0
72	1	7.088e+04	0.0	-1.66	-778.75	0.0	159.14	382.77	0.25	0.0	-180.56	0.0
		0.0	-180.56	7.76e-03	0.0	716.8	-164.64	-395.99	0.25	0.0	0.0	0.0
72	2	1.133e+05	0.0	-2.64	-1243.29	0.0	253.68	610.13	0.26	0.0	-188.74	0.0
		0.0	-188.74	9.70e-03	0.0	716.8	-263.25	-633.15	0.26	0.0	0.0	0.0
72	5	5.453e+04	0.0	-1.27	-599.04	0.0	122.42	294.43	0.19	0.0	-138.89	0.0
		0.0	-138.89	5.97e-03	0.0	716.8	-126.65	-304.61	0.19	0.0	0.0	0.0
72	6	8.282e+04	0.0	-1.93	-908.73	0.0	185.44	446.01	0.20	0.0	-144.35	0.0
		0.0	-144.35	7.26e-03	0.0	716.8	-192.38	-462.72	0.20	0.0	0.0	0.0
72	7	5.453e+04	0.0	-1.27	-599.04	0.0	122.42	294.43	0.19	0.0	-138.89	0.0
		0.0	-138.89	5.97e-03	0.0	716.8	-126.65	-304.61	0.19	0.0	0.0	0.0
72	8	6.018e+04	0.0	-1.41	-660.98	0.0	135.02	324.75	0.20	0.0	-139.98	0.0

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Trave	Cmb	M3 mx/mn	M2 mx/mn	D 2 / D 3	Q 2 / Q 3	Pos.	N	V 2	V 3	T	M 2	M 3
		0.0	-139.98	6.21e-03	0.0	716.8	-139.79	-336.23	0.20	0.0	0.0	0.0
72	9	5.453e+04	0.0	-1.27	-599.04	0.0	122.42	294.43	0.19	0.0	-138.89	0.0
		0.0	-138.89	5.97e-03	0.0	716.8	-126.65	-304.61	0.19	0.0	0.0	0.0
73	2	9.226e+04	2.93e-03	-1.76	-1110.25	0.0	225.23	541.71	4.25	-7.04e-03	-2765.02	0.0
		0.0	-2765.02	0.07	0.0	650.3	-236.38	-568.53	4.25	-7.04e-03	2.93e-03	0.0
73	6	6.743e+04	2.14e-03	-1.29	-811.58	0.0	164.67	396.06	3.13	-5.14e-03	-2033.19	0.0
		0.0	-2033.19	0.05	0.0	650.3	-172.76	-415.52	3.13	-5.14e-03	2.14e-03	0.0
73	8	4.903e+04	1.56e-03	-0.94	-590.83	0.0	120.05	288.73	2.38	-3.74e-03	-1545.69	0.0
		0.0	-1545.69	0.04	0.0	650.3	-125.61	-302.10	2.38	-3.74e-03	1.56e-03	0.0
73	9	4.443e+04	1.41e-03	-0.85	-535.65	0.0	108.89	261.90	2.19	-3.39e-03	-1423.82	0.0
		0.0	-1423.82	0.04	0.0	650.3	-113.82	-273.75	2.19	-3.39e-03	1.41e-03	0.0
74	1	4.977e+04	0.0	-0.62	-671.25	0.0	135.46	325.79	7.10	0.0	-4102.19	0.0
		0.0	-4102.19	0.07	0.0	578.0	-143.63	-345.46	7.10	0.0	0.0	0.0
74	2	8.010e+04	0.0	-1.01	-1077.92	0.0	216.97	521.84	10.79	0.0	-6237.89	0.0
		0.0	-6237.89	0.10	0.0	578.0	-231.20	-556.07	10.79	0.0	0.0	0.0
74	5	3.829e+04	0.0	-0.48	-516.35	0.0	104.20	250.61	5.46	0.0	-3155.53	0.0
		0.0	-3155.53	0.05	0.0	578.0	-110.48	-265.74	5.46	0.0	0.0	0.0
74	6	5.850e+04	0.0	-0.74	-787.46	0.0	158.54	381.31	7.92	0.0	-4579.33	0.0
		0.0	-4579.33	0.07	0.0	578.0	-168.86	-406.15	7.92	0.0	0.0	0.0
74	7	3.829e+04	0.0	-0.48	-516.35	0.0	104.20	250.61	5.46	0.0	-3155.53	0.0
		0.0	-3155.53	0.05	0.0	578.0	-110.48	-265.74	5.46	0.0	0.0	0.0
74	8	4.233e+04	0.0	-0.53	-570.57	0.0	115.06	276.75	5.95	0.0	-3440.29	0.0
		0.0	-3440.29	0.05	0.0	578.0	-122.16	-293.82	5.95	0.0	0.0	0.0
74	9	3.829e+04	0.0	-0.48	-516.35	0.0	104.20	250.61	5.46	0.0	-3155.53	0.0
		0.0	-3155.53	0.05	0.0	578.0	-110.48	-265.74	5.46	0.0	0.0	0.0
75	1	3.851e+04	0.0	0.63	-604.85	0.0	121.72	292.77	11.43	0.0	-5663.28	0.0
		0.0	-5663.28	-0.12	0.0	495.5	-129.75	-312.08	11.43	0.0	0.0	6.35e-04
75	2	6.222e+04	0.0	0.96	-975.28	0.0	195.75	470.82	17.42	0.0	-8628.77	0.0
		0.0	-8628.77	-0.17	0.0	495.5	-209.74	-504.45	17.42	0.0	0.0	6.35e-04
75	5	2.962e+04	0.0	0.49	-465.27	0.0	93.63	225.20	8.79	0.0	-4356.37	0.0
		0.0	-4356.37	-0.09	0.0	495.5	-99.81	-240.06	8.79	0.0	0.0	4.88e-04
75	6	4.543e+04	0.0	0.71	-712.22	0.0	142.99	343.91	12.78	0.0	-6333.36	0.0
		0.0	-6333.36	-0.13	0.0	495.5	-153.13	-368.31	12.78	0.0	0.0	4.88e-04
75	7	2.962e+04	0.0	0.49	-465.27	0.0	93.63	225.20	8.79	0.0	-4356.37	0.0
		0.0	-4356.37	-0.09	0.0	495.5	-99.81	-240.06	8.79	0.0	0.0	4.88e-04
75	8	3.278e+04	0.0	0.53	-514.66	0.0	103.50	248.95	9.59	0.0	-4751.77	0.0
		0.0	-4751.77	-0.10	0.0	495.5	-110.48	-265.71	9.59	0.0	0.0	4.88e-04
75	9	2.962e+04	0.0	0.49	-465.27	0.0	93.63	225.20	8.79	0.0	-4356.37	0.0
		0.0	-4356.37	-0.09	0.0	495.5	-99.81	-240.06	8.79	0.0	0.0	4.88e-04
76	1	2.665e+04	0.0	0.90	-500.42	0.0	100.11	240.79	15.20	0.0	-6275.55	0.0
		0.0	-6275.55	-0.17	0.0	412.9	-107.94	-259.63	15.20	0.0	0.0	0.0
76	2	4.305e+04	0.0	1.38	-806.42	0.0	160.83	386.82	23.11	0.0	-9542.41	0.0
		0.0	-9542.41	-0.25	0.0	412.9	-174.46	-419.61	23.11	0.0	0.0	0.0
76	5	2.050e+04	0.0	0.69	-384.94	0.0	77.01	185.23	11.69	0.0	-4827.34	0.0
		0.0	-4827.34	-0.13	0.0	412.9	-83.03	-199.71	11.69	0.0	0.0	0.0
76	6	3.143e+04	0.0	1.01	-588.94	0.0	117.49	282.57	16.97	0.0	-7005.25	0.0
		0.0	-7005.25	-0.19	0.0	412.9	-127.38	-306.37	16.97	0.0	0.0	0.0
76	7	2.050e+04	0.0	0.69	-384.94	0.0	77.01	185.23	11.69	0.0	-4827.34	0.0
		0.0	-4827.34	-0.13	0.0	412.9	-83.03	-199.71	11.69	0.0	0.0	0.0
76	8	2.269e+04	0.0	0.76	-425.74	0.0	85.11	204.70	12.75	0.0	-5262.92	0.0
		0.0	-5262.92	-0.14	0.0	412.9	-91.90	-221.04	12.75	0.0	0.0	0.0
76	9	2.050e+04	0.0	0.69	-384.94	0.0	77.01	185.23	11.69	0.0	-4827.34	0.0
		0.0	-4827.34	-0.13	0.0	412.9	-83.03	-199.71	11.69	0.0	0.0	0.0
77	2	2.737e+04	0.0	1.56	-637.57	0.0	125.99	303.02	27.87	0.0	-9204.17	0.0
		0.0	-9204.17	-0.29	0.0	330.3	-139.10	-334.55	27.87	0.0	0.0	1.27e-03
77	4	2.346e+04	0.0	1.33	-546.19	0.0	107.86	259.42	23.62	0.0	-7800.73	0.0
		0.0	-7800.73	-0.25	0.0	330.3	-119.23	-286.77	23.62	0.0	0.0	9.77e-04
77	6	1.998e+04	0.0	1.15	-465.66	0.0	92.05	221.39	20.47	0.0	-6759.86	0.0
		0.0	-6759.86	-0.21	0.0	330.3	-101.56	-244.27	20.47	0.0	0.0	9.77e-04
77	8	1.443e+04	0.0	0.86	-336.82	0.0	66.75	160.55	15.42	0.0	-5094.47	0.0
		0.0	-5094.47	-0.16	0.0	330.3	-73.29	-176.27	15.42	0.0	0.0	9.77e-04
77	9	1.304e+04	0.0	0.79	-304.61	0.0	60.43	145.34	14.16	0.0	-4678.13	0.0
		0.0	-4678.13	-0.15	0.0	330.3	-66.22	-159.27	14.16	0.0	0.0	9.77e-04
78	1	9402.46	0.0	0.97	-291.56	0.0	57.10	137.33	21.02	0.0	-5208.58	0.0
		0.0	-5208.58	-0.18	0.0	247.7	-64.12	-154.23	21.02	0.0	0.0	0.0
78	2	1.517e+04	0.0	1.49	-468.72	0.0	91.32	219.65	31.51	0.0	-7806.98	0.0
		0.0	-7806.98	-0.27	0.0	247.7	-103.56	-249.07	31.51	0.0	0.0	0.0
78	5	7232.66	0.0	0.75	-224.28	0.0	43.92	105.64	16.17	0.0	-4006.60	0.0
		0.0	-4006.60	-0.14	0.0	247.7	-49.33	-118.64	16.17	0.0	0.0	0.0
78	6	1.107e+04	0.0	1.09	-342.38	0.0	66.74	160.52	23.17	0.0	-5738.87	0.0

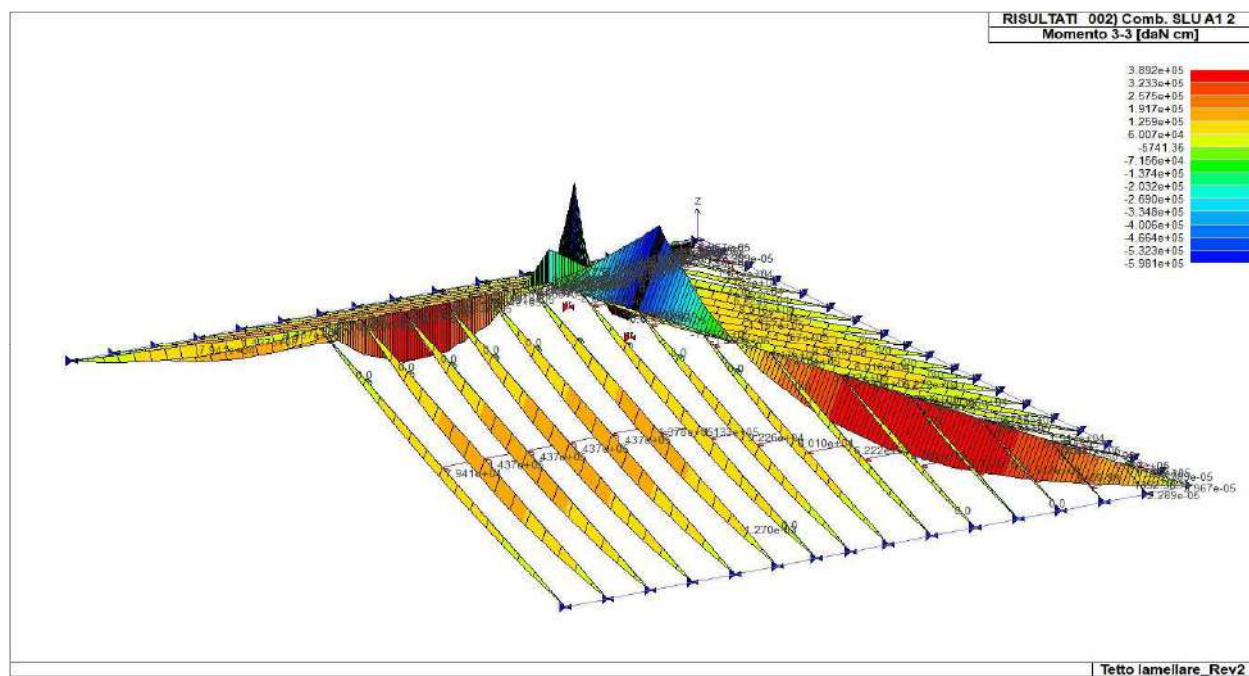
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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Trave	Cmb	M3 mx/mn	M2 mx/mn	D 2 / D 3	Q 2 / Q 3	Pos.	N	V 2	V 3	T	M 2	M 3
		0.0	-5738.87	-0.20	0.0	247.7	-75.62	-181.87	23.17	0.0	0.0	0.0
78	7	7232.66	0.0	0.75	-224.28	0.0	43.92	105.64	16.17	0.0	-4006.60	0.0
		0.0	-4006.60	-0.14	0.0	247.7	-49.33	-118.64	16.17	0.0	0.0	0.0
78	8	8001.09	0.0	0.82	-247.90	0.0	48.48	116.61	17.57	0.0	-4353.06	0.0
		0.0	-4353.06	-0.15	0.0	247.7	-54.58	-131.28	17.57	0.0	0.0	0.0
78	9	7232.66	0.0	0.75	-224.28	0.0	43.92	105.64	16.17	0.0	-4006.60	0.0
		0.0	-4006.60	-0.14	0.0	247.7	-49.33	-118.64	16.17	0.0	0.0	0.0
79	2	6450.99	0.0	1.16	-299.87	0.0	57.09	137.32	32.63	0.0	-5388.58	0.0
		0.0	-5388.58	-0.21	0.0	165.2	-67.58	-162.55	32.63	0.0	0.0	0.0
79	6	4712.22	0.0	0.85	-219.11	0.0	41.74	100.40	24.05	0.0	-3972.64	0.0
		0.0	-3972.64	-0.15	0.0	165.2	-49.35	-118.70	24.05	0.0	0.0	0.0
79	8	3411.81	0.0	0.64	-158.98	0.0	30.43	73.20	18.63	0.0	-3076.05	0.0
		0.0	-3076.05	-0.12	0.0	165.2	-35.66	-85.78	18.63	0.0	0.0	0.0
79	9	3086.71	0.0	0.58	-143.95	0.0	27.61	66.40	17.27	0.0	-2851.90	0.0
		0.0	-2851.90	-0.11	0.0	165.2	-32.24	-77.54	17.27	0.0	0.0	0.0
Trave		M3 mx/mn	M2 mx/mn	D 2 / D 3	Q 2 / Q 3		N	V 2	V 3	T		
		-5.981e+05	-9542.41	-3.93	-1521.89		-1309.59	-5079.36	-32.63	-0.53		
		3.892e+05	9542.41	1.56	0.0		1722.32	5233.23	32.63	14.63		



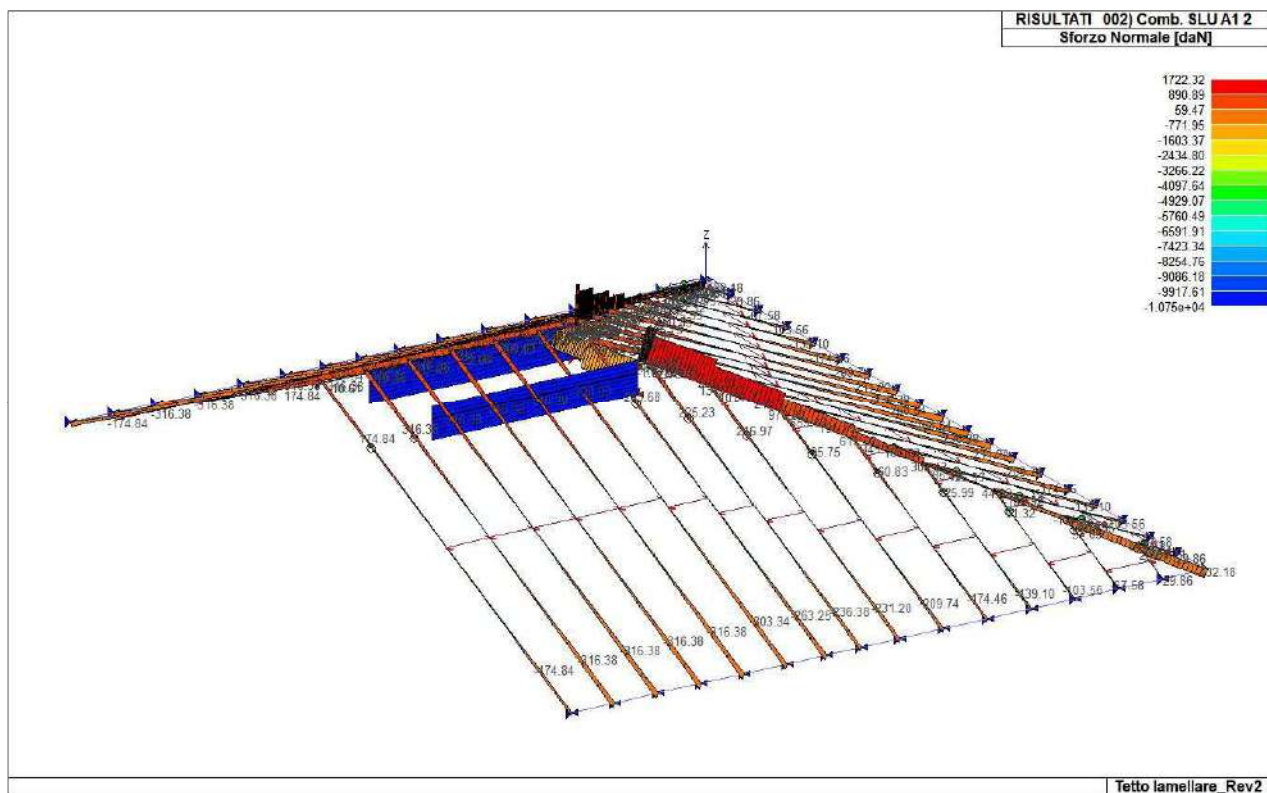
43_RIS_M3_002_Comb. SLU A1 2

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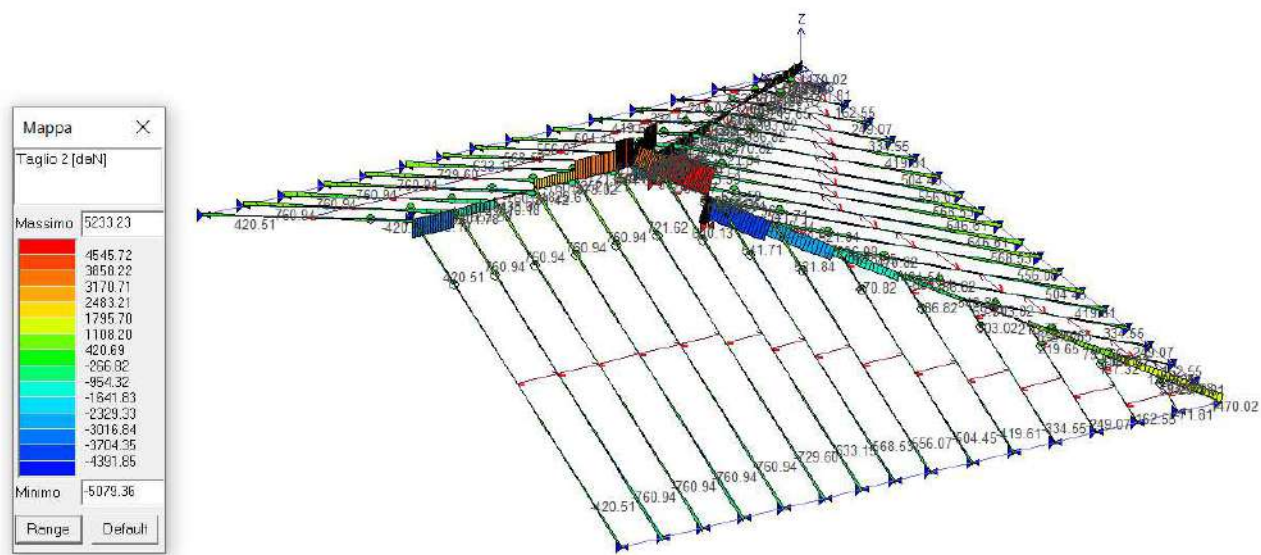
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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A



43_RIS_N_002_Comb. SLU A1 2

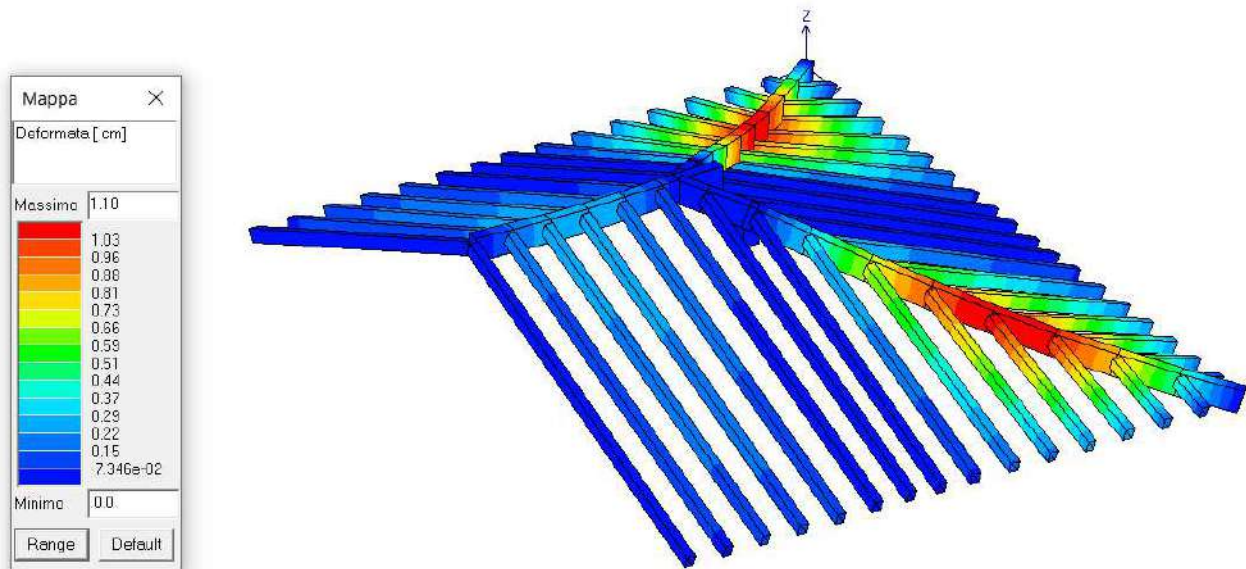


43_RIS_V2_002_Comb. SLU A1 2

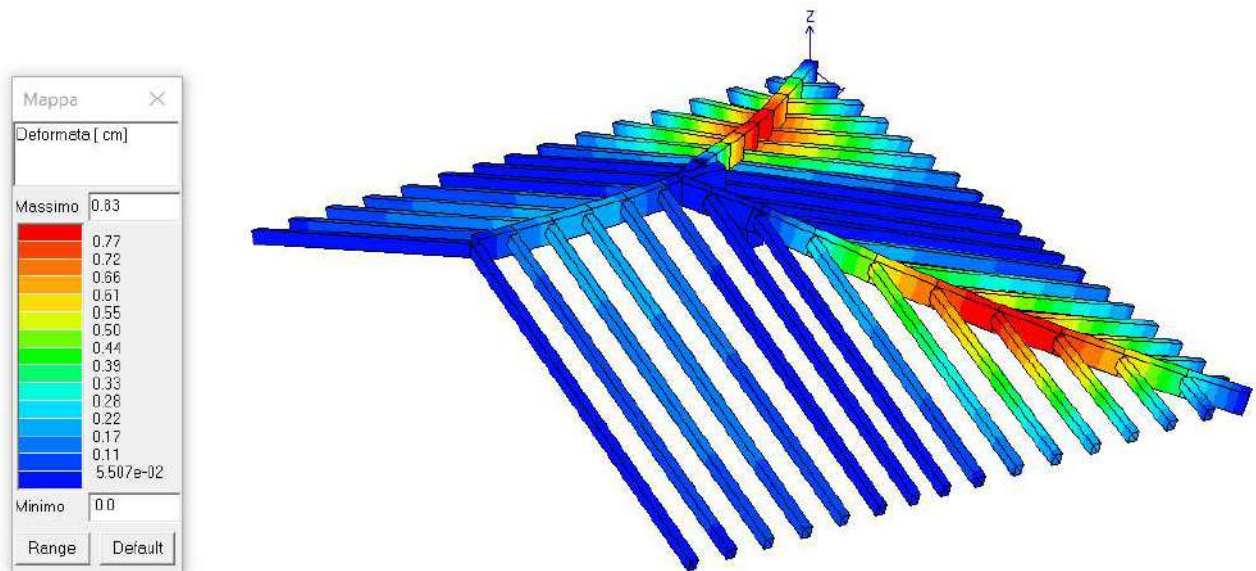
7 RISULTATI ANALISI SLE

7.1 Deformate

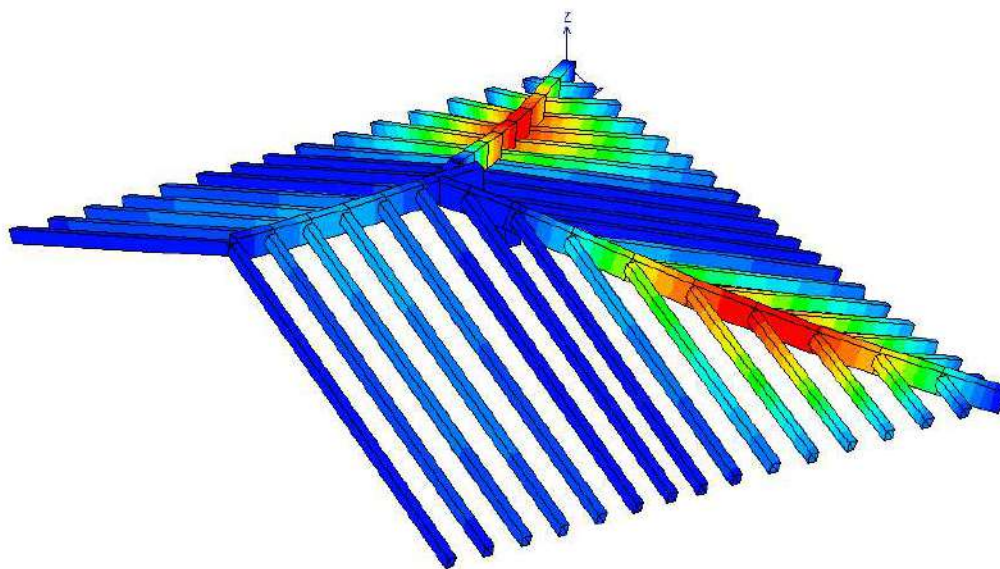
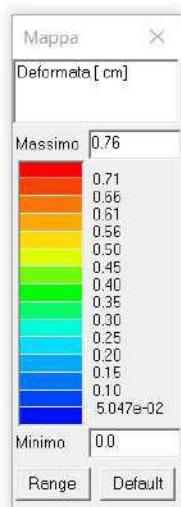
Si riportano le immagini relative ai massimi valori delle deformate della sovrastruttura nelle combinazioni statiche e sismiche:



DEFORMAZIONE_6_Comb. SLE(SLE Rara)



DEFORMAZIONE_8_Comb. SLE frequente



DEFORMAZIONE_9_Comb. SLE quasi permanente

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

8 VERIFICHE ELEMENTI IN LEGNO

8.1 Legenda Verifiche

L'esito delle verifiche è espresso con un codice come di seguito indicato:

ok: verifica con esito positivo

NV: verifica con esito negativo

Le verifiche sono condotte in ottemperanza alle NTC 17 Gennaio 2018.

In particolare le verifiche effettuate sono riconducibili ai punti:

NTC 2018

- 4.4.8 Stati limite ultimi
- 4.4.8.1.7 Tensoflessione
- 4.4.8.1.8 Pressoflessione
- 4.4.8.1.11 Taglio e torsione
- 4.4.8.2.1 Elementi inflessi

Simbologia adottata nelle tabelle di verifica

Le verifiche effettuate ai sensi delle NTC 2018 sono dettagliatamente riportate come da tabella seguente:

Elem.	Numero dell'elemento
Tipo	Codice di individuazione del tipo di elemento: Trave (T), Pilastro (P), Asta (A)
Stato	Codice della verifica: ok verificato, NV non verificato
Note	Numero della sezione (s) e del materiale (m) dell'archivio
Ver N+/M	Verifica come da formule 4.4.6a e 4.4.6b per tensoflessione, con i valori di km definiti nel par. 4.4.8.1.6
Ver N-/M	Verifica come da formule 4.4.7a e 4.4.7b per pressoflessione, con i valori di km definiti nel par. 4.4.8.1.6
Ver V/T	Verifica come da formula 4.4.10 (taglio torsione) con interazione ottenuta per quadratura del termine di taglio
Ver N(s)	Verifica instabilità a compressione come da par. 4.4.8.2.2
Kcy(z)	Fattore di instabilità Kcrit,c utilizzato nella formula 4.4.13, in funzione della snellezza relativa
Ver M(s)	Verifica instabilità laterale come da par. 4.4.8.2.1, effettuata in entrambi i piani principali y e z
Kcrit (y)/(z)	Fattore di instabilità laterale utilizzato nella formula 4.4.11 rispettivamente per la flessione y e z
w _{net} R	Massima deformazione in combinazione rara (F frequente, P quasi permanente)
w _{net} Ri	Massima deformazione in combinazione rara (F frequente, P quasi permanente) valutata a tempo infinito
kdef	Fattore di deformazione dell'elemento
Rif. cmb	Numero della combinazione in cui si è attinto il valore riportato per le verifiche

Si sottolinea che le cinque verifiche sono espresse dal rapporto tra domanda e capacità, affinché la verifica sia positiva il rapporto deve essere inferiore o uguale a 1. La capacità è affetta dal termine **kmod**, espressione della classe di servizio e della durata dei carichi (si considera a livello di combinazione il caso di carico di minor durata).

Le deformazioni dell'elemento espresse in rapporto ad un millesimo di lunghezza sono rappresentate dal valore istantaneo e dal valore a tempo infinito. Il valore della deformazione a tempo infinito per una combinazione di carichi è ottenuta sommando per ogni caso di carico sia il valore istantaneo che il valore ottenuto dall'aliquota quasi-permanente amplificata del fattore kdef (formula 2.2 e 2.3).

In termini analitici il contributo del caso di carico con coefficiente di combinazione **Psi** (diverso da 0) è:

$$Psi + kdef \times Psi2$$

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8.2 Verifiche S.L.U.

Elem.	Note	Pos.	Ver N+/M	Ver N-/M	Ver V/T	Rif. cmb	Ver N(s)	Kcy	Kcz	Ver M(s)	Kcrit(y)	Kcrit(z)	Rif. cmb
		cm											
1 ok	T,s=1,m=131	0.0		0.2	4.26e-02	0,2,2	0.2	0.9	0.5	2.82e-02	1.0	1.0	2,2
		75.0		0.3	4.06e-02	0,2,2	0.3	0.9	0.5	8.07e-02	1.0	1.0	2,2
2 ok	T,s=3,m=131	0.0	0.5		0.3	2,0,2				0.2	1.0	1.0	0,2
		14.0	0.5		0.3	2,0,2				0.3	1.0	1.0	0,2
3 ok	T,s=2,m=131	0.0	0.0	1.34e-05	2.49e-02	0,2,2	2.75e-02	0.3	0.1	2.75e-02	1.0	1.0	2,2
		650.3	2.05e-02	0.0	2.26e-02	2,0,2	0.0	0.3	0.1	2.60e-04	1.0	1.0	0,1
4 ok	T,s=3,m=131	0.0		7.06e-06	2.62e-02	0,2,2	1.96e-02	0.5	0.1	1.96e-02	1.0	1.0	2,2
		112.4		0.1	2.14e-02	0,2,2	0.1	0.5	0.1	3.48e-02	1.0	1.0	2,2
5 ok	T,s=2,m=131	0.0	2.67e-02	0.0	1.36e-02	2,0,2	0.0	0.3	0.1	5.42e-04	1.0	1.0	0,2
		755.4	0.0	7.36e-06	1.36e-02	0,2,2	2.03e-02	0.3	0.1	2.03e-02	1.0	1.0	2,2
7 ok	T,s=1,m=131	0.0		4.34e-06	8.20e-02	0,1,2	3.93e-03	0.9	0.5	3.93e-03	1.0	1.0	1,1
		87.5		0.2	8.52e-02	0,2,2	0.2	0.9	0.5	4.08e-02	1.0	1.0	2,2
8 ok	T,s=2,m=131	0.0	0.0	2.41e-05	4.46e-02	0,2,2	3.68e-02	0.3	0.1	3.68e-02	1.0	1.0	2,2
		755.4	9.16e-03	0.0	4.46e-02	2,0,2	0.0	0.3	0.1	9.00e-06	1.0	1.0	0,2
9 ok	T,s=2,m=131	0.0	0.0	2.41e-05	4.46e-02	0,2,2	3.68e-02	0.3	0.1	3.68e-02	1.0	1.0	2,2
		755.4	1.85e-02	0.0	4.46e-02	2,0,2	0.0	0.3	0.1	1.53e-04	1.0	1.0	0,2
10 ok	T,s=2,m=131	0.0	0.0	2.21e-05	4.10e-02	0,2,2	3.52e-02	0.3	0.1	3.52e-02	1.0	1.0	2,2
		755.4	2.06e-02	0.0	4.01e-02	2,0,2	0.0	0.3	0.1	2.17e-04	1.0	1.0	0,2
11 ok	T,s=1,m=131	0.0		0.3	2.77e-02	0,2,2	0.3	0.9	0.5	8.69e-02	1.0	1.0	2,2
		75.0		0.2	2.93e-02	0,2,2	0.2	0.9	0.5	3.94e-02	1.0	1.0	2,2
12 ok	T,s=2,m=131	0.0	0.0	7.36e-06	1.36e-02	0,2,2	2.03e-02	0.3	0.1	2.03e-02	1.0	1.0	2,2
		755.4	2.67e-02	0.0	1.36e-02	2,0,2	0.0	0.3	0.1	5.42e-04	1.0	1.0	0,2
13 ok	T,s=2,m=131	0.0	0.0	1.34e-05	2.49e-02	0,2,2	2.75e-02	0.3	0.1	2.75e-02	1.0	1.0	2,2
		650.3	2.05e-02	0.0	2.26e-02	2,0,2	0.0	0.3	0.1	2.60e-04	1.0	1.0	0,1
14 ok	T,s=3,m=131	0.0	0.1		8.18e-02	2,0,2				1.62e-02	1.0	1.0	0,2
		112.4	0.1		9.09e-02	2,0,2				1.57e-02	1.0	1.0	0,2
15 ok	T,s=2,m=131	0.0	0.0	2.41e-05	4.46e-02	0,2,2	3.68e-02	0.3	0.1	3.68e-02	1.0	1.0	2,2
		755.4	2.53e-02	0.0	4.46e-02	2,0,2	0.0	0.3	0.1	3.68e-04	1.0	1.0	0,2
16 ok	T,s=2,m=131	0.0	0.0	2.41e-05	4.46e-02	0,2,2	3.68e-02	0.3	0.1	3.68e-02	1.0	1.0	2,2
		755.4	1.51e-02	0.0	4.46e-02	2,0,2	0.0	0.3	0.1	8.04e-05	1.0	1.0	0,2
17 ok	T,s=3,m=131	0.0	0.5		0.3	2,0,2				0.2	1.0	1.0	0,2
		14.0	0.5		0.3	2,0,2				0.3	1.0	1.0	0,2
18 ok	T,s=2,m=131	0.0	0.0	4.65e-06	8.63e-03	0,2,2	1.62e-02	0.3	0.1	1.62e-02	1.0	1.0	2,2
		330.3	5.60e-02	0.0	7.08e-03	2,0,2	0.0	0.3	0.1	2.86e-03	1.0	1.0	0,2
19 ok	T,s=2,m=131	0.0	0.0	1.06e-05	1.96e-02	0,2,2	2.44e-02	0.3	0.1	2.44e-02	1.0	1.0	2,2
		495.5	5.40e-02	0.0	1.71e-02	2,0,2	0.0	0.3	0.1	2.52e-03	1.0	1.0	0,2
20 ok	T,s=2,m=131	0.0	0.0	1.74e-05	3.22e-02	0,2,2	3.12e-02	0.3	0.1	3.12e-02	1.0	1.0	2,2
		716.8	6.31e-03	0.0	3.00e-02	1,0,2	0.0	0.3	0.1	2.48e-06	1.0	1.0	0,1
21 ok	T,s=3,m=131	0.0		0.5	0.3	0,2,2	0.5	0.5	0.1	0.3	1.0	1.0	2,2
		76.5		0.2	0.3	0,2,2	0.2	0.5	0.1	8.69e-02	1.0	1.0	2,2
22 ok	T,s=2,m=131	0.0	0.0	1.28e-05	2.38e-02	0,2,2	2.69e-02	0.3	0.1	2.69e-02	1.0	1.0	2,2
		578.0	4.05e-02	0.0	2.10e-02	2,0,2	0.0	0.3	0.1	1.31e-03	1.0	1.0	0,2
23 ok	T,s=2,m=131	0.0	0.0	4.65e-06	8.63e-03	0,2,2	1.62e-02	0.3	0.1	1.62e-02	1.0	1.0	2,2
		330.3	5.60e-02	0.0	7.08e-03	2,0,2	0.0	0.3	0.1	2.86e-03	1.0	1.0	0,2
24 ok	T,s=2,m=131	0.0	0.0	1.10e-06	2.04e-03	0,2,2	7.85e-03	0.3	0.1	7.85e-03	1.0	1.0	2,2
		165.2	3.34e-02	0.0	1.45e-03	1,0,2	0.0	0.3	0.1	1.05e-03	1.0	1.0	0,1
25 ok	T,s=2,m=131	0.0	0.0	2.58e-06	4.78e-03	0,2,2	1.20e-02	0.3	0.1	1.20e-02	1.0	1.0	2,2
		247.7	4.72e-02	0.0	3.72e-03	2,0,2	0.0	0.3	0.1	2.06e-03	1.0	1.0	0,1
26 ok	T,s=3,m=131	0.0		0.1	1.77e-02	0,2,2	0.1	0.5	0.1	3.28e-02	1.0	1.0	2,2
		112.4		0.2	1.38e-02	0,2,2	0.2	0.5	0.1	6.99e-02	1.0	1.0	2,2
27 ok	T,s=1,m=131	0.0		0.2	0.1	0,2,2	0.2	0.9	0.5	4.02e-02	1.0	1.0	2,2
		75.0		2.58e-03	0.1	0,2,2	2.65e-03	0.9	0.5	1.30e-04	1.0	1.0	2,2
28 ok	T,s=3,m=131	0.0	0.1		0.2	2,0,2				1.50e-02	1.0	1.0	0,2
		98.3	0.5		0.2	2,0,2				0.2	1.0	1.0	0,2
29 ok	T,s=2,m=131	0.0	0.0	7.31e-06	1.36e-02	0,2,2	2.03e-02	0.3	0.1	2.03e-02	1.0	1.0	2,2
		412.9	5.86e-02	0.0	1.15e-02	2,0,2	0.0	0.3	0.1	3.08e-03	1.0	1.0	0,2
30 ok	T,s=2,m=131	0.0	0.0	7.31e-06	1.36e-02	0,2,2	2.03e-02	0.3	0.1	2.03e-02	1.0	1.0	2,2
		412.9	5.86e-02	0.0	1.15e-02	2,0,2	0.0	0.3	0.1	3.08e-03	1.0	1.0	0,2
31 ok	T,s=2,m=131	0.0	0.0	1.06e-05	1.96e-02	0,2,2	2.44e-02	0.3	0.1	2.44e-02	1.0	1.0	2,2
		495.5	5.40e-02	0.0	1.71e-02	2,0,2	0.0	0.3	0.1	2.52e-03	1.0	1.0	0,2
32 ok	T,s=2,m=131	0.0	0.0	1.28e-05	2.38e-02	0,2,2	2.69e-02	0.3	0.1	2.69e-02	1.0	1.0	2,2
		578.0	4.05e-02	0.0	2.10e-02	2,0,2	0.0	0.3	0.1	1.31e-03	1.0	1.0	0,2
33 ok	T,s=2,m=131	0.0	8.61e-03	0.0	2.70e-04	1,0,2	0.0	0.3	0.1	6.64e-05	1.0	1.0	0,1
		82.6	0.0	0.0	3.98e-04	0,2,2	3.47e-03	0.3	0.1	3.47e-03	1.0	1.0	2,2
34 ok	T,s=3,m=131	0.0		0.2	7.68e-03	0,2,2	0.2	0.5	0.1	6.53e-02	1.0	1.0	2,2

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Elem.	Note	Pos.	Ver N+/M	Ver N-/M	Ver V/T	Rif. cmb	Ver N(s)	Kcy	Kcz	Ver M(s)	Kcrit(y)	Kcrit(z)	Rif. cmb
36 ok	T,s=3,m=131	112.4 0.0 112.4	0.3 0.3	0.3	5.20e-03 5.39e-04 5.89e-05	0,2,2 2,0,2 2,0,2	0.3	0.5	0.1	0.1 9.62e-02 0.1	1.0 1.0 1.0	1.0 1.0 1.0	2,2 0,2 0,2
37 ok	T,s=1,m=131	0.0 75.0		0.3	5.28e-04 2.50e-04	0,2,1 0,2,1	0.3	0.9	0.5	8.05e-02 8.63e-02	1.0 1.0	1.0 1.0	2,2 2,2
38 ok	T,s=3,m=131	0.0 112.4	0.3 0.3		3.65e-03 5.92e-03	2,0,2 2,0,1				0.1 7.11e-02	1.0 1.0	1.0 1.0	0,2 0,2
39 ok	T,s=3,m=131	0.0 112.4	0.3 0.1		2.67e-02 3.21e-02	2,0,2 2,0,2				7.35e-02 1.52e-02	1.0 1.0	1.0 1.0	0,2 0,2
40 ok	T,s=3,m=131	0.0 112.4	0.1 0.1		8.18e-02 9.09e-02	2,0,2 2,0,2				1.62e-02 1.57e-02	1.0 1.0	1.0 1.0	0,2 0,2
41 ok	T,s=3,m=131	0.0 98.3	0.1 0.5		0.2 0.2	2,0,2 2,0,2				1.50e-02 0.2	1.0 1.0	1.0 1.0	0,2 0,2
42 ok	T,s=2,m=131	0.0 716.8	0.0 6.31e-03	1.74e-05	3.22e-02 3.00e-02	0,2,2 1,0,2	3.12e-02	0.3	0.1	3.12e-02 2.48e-06	1.0 1.0	1.0 1.0	2,2 0,1
43 ok	T,s=2,m=131	0.0 716.8	0.0 6.22e-03	1.67e-05	3.09e-02 2.87e-02	0,2,2 1,0,2	3.06e-02	0.3	0.1	3.06e-02 2.48e-06	1.0 1.0	1.0 1.0	2,2 0,1
44 ok	T,s=3,m=131	0.0 52.5		0.2	0.2 2.98e-05	0,2,2 0,2	0.2	0.5	0.1	6.97e-02 4.03e-02	1.0 1.0	1.0 1.0	2,2 2,2
45 ok	T,s=1,m=131	0.0 32.5		0.2	0.3 5.75e-02	0,2,2 0,3	0.2	0.9	0.5	3.72e-02 3.41e-03	1.0 1.0	1.0 1.0	2,2 1,1
46 ok	T,s=1,m=131	0.0 75.0		0.2	0.2 5.90e-02	0,1,2 0,2	5.91e-02	0.9	0.5	3.65e-03 2.86e-02	1.0 1.0	1.0 1.0	1,1 2,2
47 ok	T,s=2,m=131	0.0 755.4	2.53e-02 0.0	0.0	4.46e-02 2.41e-05	2,0,2 0,2,2	0.0	0.3	0.1	3.68e-04 3.68e-02	1.0 1.0	1.0 1.0	0,2 2,2
48 ok	T,s=2,m=131	0.0 755.4	1.51e-02 0.0	0.0	4.46e-02 2.41e-05	2,0,2 0,2,2	0.0	0.3	0.1	8.04e-05 3.68e-02	1.0 1.0	1.0 1.0	0,2 2,2
49 ok	T,s=2,m=131	0.0 755.4	9.16e-03 0.0	0.0	4.46e-02 2.41e-05	2,0,2 0,2,2	0.0	0.3	0.1	9.00e-06 3.68e-02	1.0 1.0	1.0 1.0	0,2 2,2
50 ok	T,s=2,m=131	0.0 755.4	1.85e-02 0.0	0.0	4.46e-02 2.41e-05	2,0,2 0,2,2	0.0	0.3	0.1	1.53e-04 3.68e-02	1.0 1.0	1.0 1.0	0,2 2,2
51 ok	T,s=2,m=131	0.0 755.4	2.06e-02 0.0	0.0	4.01e-02 2.21e-05	2,0,2 0,2,2	0.0	0.3	0.1	2.17e-04 3.52e-02	1.0 1.0	1.0 1.0	0,2 2,2
52 ok	T,s=2,m=131	0.0 82.6	0.0 8.61e-03	0.0	3.98e-04 2.70e-04	0,2,2 1,0,2	3.47e-03	0.3	0.1	3.47e-03 6.64e-05	1.0 1.0	1.0 1.0	2,2 0,1
53 ok	T,s=2,m=131	0.0 82.6	0.0 8.61e-03	0.0	3.98e-04 2.70e-04	0,2,2 1,0,2	3.47e-03	0.3	0.1	3.47e-03 6.64e-05	1.0 1.0	1.0 1.0	2,2 0,1
54 ok	T,s=2,m=131	0.0 165.2	0.0 3.34e-02	1.10e-06	2.04e-03 1.45e-03	0,2,2 1,0,2	7.85e-03	0.3	0.1	7.85e-03 1.05e-03	1.0 1.0	1.0 1.0	2,2 0,1
55 ok	T,s=2,m=131	0.0 247.7	0.0 4.72e-02	2.58e-06	4.78e-03 3.72e-03	0,2,2 2,0,2	1.20e-02	0.3	0.1	1.20e-02 2.06e-03	1.0 1.0	1.0 1.0	2,2 0,1
56 ok	T,s=2,m=131	0.0 650.3	0.0 2.05e-02	1.34e-05	2.49e-02 2.26e-02	0,2,2 2,0,2	2.75e-02	0.3	0.1	2.75e-02 2.60e-04	1.0 1.0	1.0 1.0	2,2 0,1
57 ok	T,s=2,m=131	0.0 578.0	0.0 4.05e-02	1.28e-05	2.38e-02 2.10e-02	0,2,2 2,0,2	2.69e-02	0.3	0.1	2.69e-02 1.31e-03	1.0 1.0	1.0 1.0	2,2 0,2
58 ok	T,s=2,m=131	0.0 495.5	0.0 5.40e-02	1.06e-05	1.96e-02 1.71e-02	0,2,2 2,0,2	2.44e-02	0.3	0.1	2.44e-02 2.52e-03	1.0 1.0	1.0 1.0	2,2 0,2
59 ok	T,s=2,m=131	0.0 412.9	0.0 5.86e-02	7.31e-06	1.36e-02 1.15e-02	0,2,2 2,0,2	2.03e-02	0.3	0.1	2.03e-02 3.08e-03	1.0 1.0	1.0 1.0	2,2 0,2
60 ok	T,s=2,m=131	0.0 330.3	0.0 5.60e-02	4.65e-06	8.63e-03 7.08e-03	0,2,2 2,0,2	1.62e-02	0.3	0.1	1.62e-02 2.86e-03	1.0 1.0	1.0 1.0	2,2 0,2
61 ok	T,s=2,m=131	0.0 247.7	0.0 4.72e-02	2.58e-06	4.78e-03 3.72e-03	0,2,2 2,0,2	1.20e-02	0.3	0.1	1.20e-02 2.06e-03	1.0 1.0	1.0 1.0	2,2 0,1
62 ok	T,s=2,m=131	0.0 165.2	0.0 3.34e-02	1.10e-06	2.04e-03 1.45e-03	0,2,2 1,0,2	7.85e-03	0.3	0.1	7.85e-03 1.05e-03	1.0 1.0	1.0 1.0	2,2 0,1
63 ok	T,s=2,m=131	0.0 82.6	0.0 8.61e-03	0.0	3.98e-04 2.70e-04	0,2,2 1,0,2	3.47e-03	0.3	0.1	3.47e-03 6.64e-05	1.0 1.0	1.0 1.0	2,2 0,1
64 ok	T,s=3,m=131	0.0 112.4		7.06e-06	2.62e-02 2.14e-02	0,2,2 0,2,2	1.96e-02	0.5	0.1	1.96e-02 3.48e-02	1.0 1.0	1.0 1.0	2,2 2,2
65 ok	T,s=3,m=131	0.0 112.4		0.1	1.77e-02 1.38e-02	0,2,2 0,2,2	0.1	0.5	0.1	3.28e-02 6.99e-02	1.0 1.0	1.0 1.0	2,2 2,2
66 ok	T,s=3,m=131	0.0 112.4		0.2	7.68e-03 5.20e-03	0,2,2 0,2,2	0.2	0.5	0.1	6.53e-02 0.1	1.0 1.0	1.0 1.0	2,2 2,2
67 ok	T,s=3,m=131	0.0 112.4	0.3 0.3		5.39e-04 5.89e-05	2,0,2 2,0,2				9.62e-02 0.1	1.0 1.0	1.0 1.0	0,2 0,2
68 ok	T,s=3,m=131	0.0 112.4	0.3 0.3		3.65e-03 5.92e-03	2,0,2 2,0,1				0.1 7.11e-02	1.0 1.0	1.0 1.0	0,2 0,2
69 ok	T,s=3,m=131	0.0 112.4	0.3 0.1		2.67e-02 3.21e-02	2,0,2 2,0,2				7.35e-02 1.52e-02	1.0 1.0	1.0 1.0	0,2 0,2
70 ok	T,s=3,m=131	0.0		0.5	0.3	0,2,2	0.5	0.5	0.1	0.3	1.0	1.0	2,2

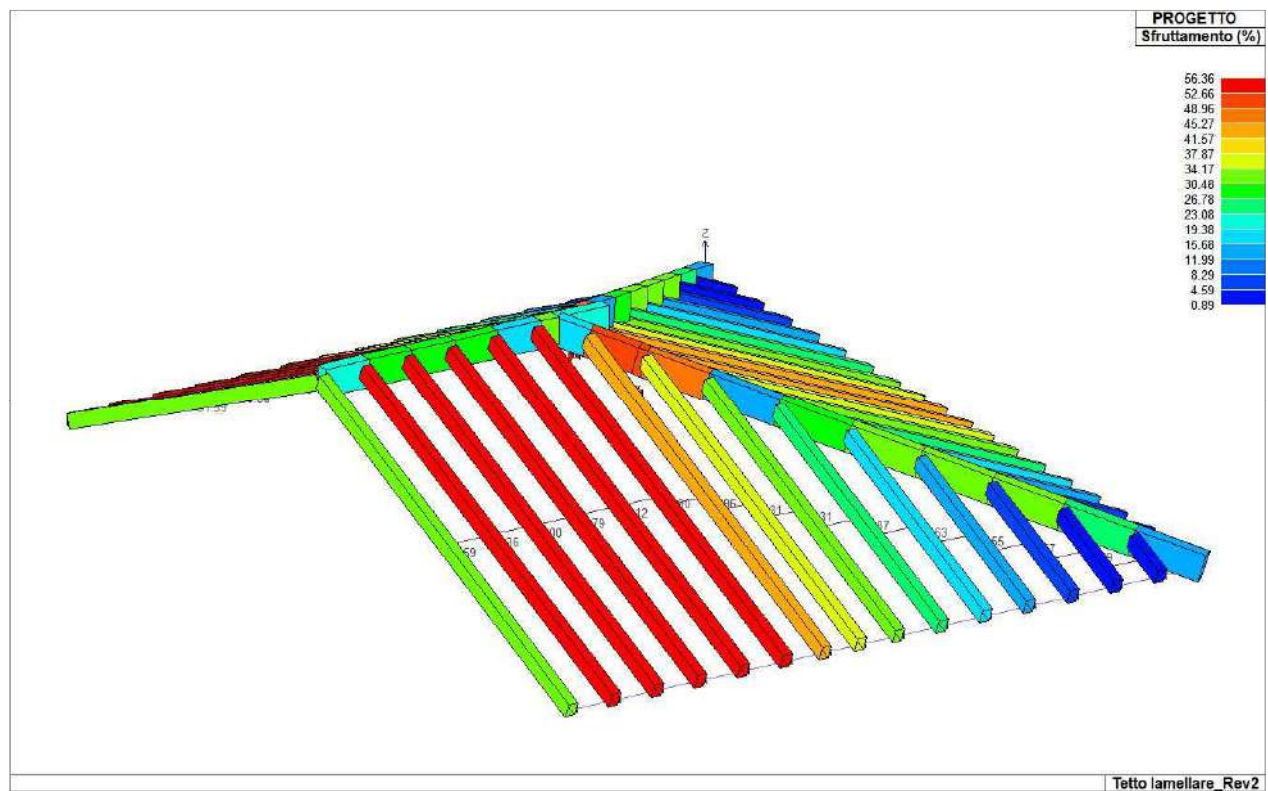
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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Elem.	Note	Pos.	Ver N+/M	Ver N-/M	Ver V/T	Rif. cmb	Ver N(s)	Kcy	Kcz	Ver M(s)	Kcrit(y)	Kcrit(z)	Rif. cmb
71 ok	T,s=3,m=131	76.5		0.2	0.3	0,2,2	0.2	0.5	0.1	8.69e-02	1.0	1.0	2,2
		0.0		0.2	0.2	0,2,2	0.2	0.5	0.1	6.97e-02	1.0	1.0	2,2
		52.5		2.98e-05	0.2	0,2,2	4.03e-02	0.5	0.1	4.03e-02	1.0	1.0	2,2
72 ok	T,s=2,m=131	0.0	6.22e-03	0.0	2.87e-02	1,0,2	0.0	0.3	0.1	2.48e-06	1.0	1.0	0,1
		716.8	0.0	1.67e-05	3.09e-02	0,2,2	3.06e-02	0.3	0.1	3.06e-02	1.0	1.0	2,2
73 ok	T,s=2,m=131	0.0	2.05e-02	0.0	2.26e-02	2,0,2	0.0	0.3	0.1	2.60e-04	1.0	1.0	0,1
		650.3	0.0	1.34e-05	2.49e-02	0,2,2	2.75e-02	0.3	0.1	2.75e-02	1.0	1.0	2,2
74 ok	T,s=2,m=131	0.0	4.05e-02	0.0	2.10e-02	2,0,2	0.0	0.3	0.1	1.31e-03	1.0	1.0	0,2
		578.0	0.0	1.28e-05	2.38e-02	0,2,2	2.69e-02	0.3	0.1	2.69e-02	1.0	1.0	2,2
75 ok	T,s=2,m=131	0.0	5.40e-02	0.0	1.71e-02	2,0,2	0.0	0.3	0.1	2.52e-03	1.0	1.0	0,2
		495.5	0.0	1.06e-05	1.96e-02	0,2,2	2.44e-02	0.3	0.1	2.44e-02	1.0	1.0	2,2
76 ok	T,s=2,m=131	0.0	5.86e-02	0.0	1.15e-02	2,0,2	0.0	0.3	0.1	3.08e-03	1.0	1.0	0,2
		412.9	0.0	7.31e-06	1.36e-02	0,2,2	2.03e-02	0.3	0.1	2.03e-02	1.0	1.0	2,2
77 ok	T,s=2,m=131	0.0	5.60e-02	0.0	7.08e-03	2,0,2	0.0	0.3	0.1	2.86e-03	1.0	1.0	0,2
		330.3	0.0	4.65e-06	8.63e-03	0,2,2	1.62e-02	0.3	0.1	1.62e-02	1.0	1.0	2,2
78 ok	T,s=2,m=131	0.0	4.72e-02	0.0	3.72e-03	2,0,2	0.0	0.3	0.1	2.06e-03	1.0	1.0	0,1
		247.7	0.0	2.58e-06	4.78e-03	0,2,2	1.20e-02	0.3	0.1	1.20e-02	1.0	1.0	2,2
79 ok	T,s=2,m=131	0.0	3.34e-02	0.0	1.45e-03	1,0,2	0.0	0.3	0.1	1.05e-03	1.0	1.0	0,1
		165.2	0.0	1.10e-06	2.04e-03	0,2,2	7.85e-03	0.3	0.1	7.85e-03	1.0	1.0	2,2
Elem.			Ver N+/M	Ver N-/M	Ver V/T		Ver N(s)	Kcy	Kcz	Ver M(s)	Kcrit(y)	Kcrit(z)	
								0.29	0.13		1.00	1.00	
			0.51	0.50	0.33		0.52			0.31			



74_PRO_LEG2_SFRUTTAMENTO

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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

8.3 Verifiche S.L.E.

Elem.	w _{net} R	w _{net} F	w _{net} P	Rif. cmb	Kdef	w _{net} Ri	w _{net} Fi	w _{net} Pi	Rif. cmb
1	0.9	0.7	0.6	6,8,9	0.8	1.6	1.4	1.1	6,8,9
2	2.1	1.6	1.5	6,8,9	0.8	3.9	3.3	2.7	6,8,9
3	2.0	1.5	1.3	6,8,9	0.8	3.6	3.1	2.4	6,8,9
4	4.0	3.0	2.7	6,8,9	0.8	7.1	6.2	4.9	6,8,9
5	2.0	1.5	1.4	6,8,9	0.8	3.6	3.1	2.5	6,8,9
7	0.4	0.2	0.2	6,8,9	0.8	0.7	0.6	0.4	6,8,9
8	3.6	2.6	2.3	6,8,9	0.8	6.5	5.5	4.2	6,8,9
9	3.6	2.6	2.3	6,8,9	0.8	6.5	5.5	4.2	6,8,9
10	3.5	2.5	2.3	6,8,9	0.8	6.2	5.3	4.1	6,8,9
11	1.4	1.0	0.9	6,8,9	0.8	2.5	2.1	1.6	6,8,9
12	2.0	1.5	1.4	6,8,9	0.8	3.6	3.1	2.5	6,8,9
13	2.0	1.5	1.3	6,8,9	0.8	3.6	3.1	2.4	6,8,9
14	3.3	2.5	2.3	6,8,9	0.8	5.9	5.1	4.1	6,8,9
15	3.6	2.6	2.3	6,8,9	0.8	6.5	5.5	4.2	6,8,9
16	3.6	2.6	2.3	6,8,9	0.8	6.5	5.5	4.2	6,8,9
17	2.1	1.6	1.5	6,8,9	0.8	3.9	3.3	2.7	6,8,9
18	3.5	2.6	2.4	6,8,9	0.8	6.3	5.4	4.3	6,8,9
19	1.4	1.1	1.0	6,8,9	0.8	2.6	2.2	1.8	6,8,9
20	2.8	2.0	1.8	6,8,9	0.8	5.0	4.2	3.3	6,8,9
21	0.1	0.1	9.52e-02	6,8,9	0.8	0.3	0.2	0.2	6,8,9
22	1.6	1.1	1.0	6,8,9	0.8	2.8	2.4	1.8	6,8,9
23	3.5	2.6	2.4	6,8,9	0.8	6.3	5.4	4.3	6,8,9
24	5.1	3.9	3.5	6,8,9	0.8	9.3	8.0	6.4	6,8,9
25	4.4	3.3	3.0	6,8,9	0.8	7.9	6.8	5.4	6,8,9
26	3.3	2.5	2.3	6,8,9	0.8	5.9	5.1	4.1	6,8,9
27	2.2	1.6	1.4	6,8,9	0.8	4.0	3.4	2.6	6,8,9
28	2.9	2.1	2.0	6,8,9	0.8	5.1	4.4	3.5	6,8,9
29	2.4	1.8	1.7	6,8,9	0.8	4.4	3.8	3.0	6,8,9
30	2.4	1.8	1.7	6,8,9	0.8	4.4	3.8	3.0	6,8,9
31	1.4	1.1	1.0	6,8,9	0.8	2.6	2.2	1.8	6,8,9
32	1.6	1.1	1.0	6,8,9	0.8	2.8	2.4	1.8	6,8,9
33	5.6	4.2	3.9	6,8,9	0.8	10.1	8.7	7.0	6,8,9
34	2.1	1.6	1.4	6,8,9	0.8	3.7	3.2	2.6	6,8,9
36	0.5	0.4	0.3	6,8,9	0.8	0.9	0.8	0.6	6,8,9
37	0.2	0.1	0.1	6,8,9	0.8	0.4	0.3	0.2	6,8,9
38	1.2	0.9	0.8	6,8,9	0.8	2.1	1.8	1.5	6,8,9
39	2.6	1.9	1.8	6,8,9	0.8	4.7	4.0	3.2	6,8,9
40	3.3	2.5	2.3	6,8,9	0.8	5.9	5.1	4.1	6,8,9
41	2.9	2.1	2.0	6,8,9	0.8	5.1	4.4	3.5	6,8,9
42	2.8	2.0	1.8	6,8,9	0.8	5.0	4.2	3.3	6,8,9
43	2.7	2.0	1.8	6,8,9	0.8	4.9	4.1	3.2	6,8,9
44	0.5	0.4	0.3	6,8,9	0.8	0.9	0.8	0.6	6,8,9
45	1.8	1.3	1.2	6,8,9	0.8	3.3	2.8	2.1	6,8,9
46	1.6	1.2	1.1	6,8,9	0.8	3.0	2.5	1.9	6,8,9
47	3.6	2.6	2.3	6,8,9	0.8	6.5	5.5	4.2	6,8,9
48	3.6	2.6	2.3	6,8,9	0.8	6.5	5.5	4.2	6,8,9
49	3.6	2.6	2.3	6,8,9	0.8	6.5	5.5	4.2	6,8,9
50	3.6	2.6	2.3	6,8,9	0.8	6.5	5.5	4.2	6,8,9
51	3.5	2.5	2.3	6,8,9	0.8	6.2	5.3	4.1	6,8,9
52	5.6	4.2	3.9	6,8,9	0.8	10.1	8.7	7.0	6,8,9
53	5.6	4.2	3.9	6,8,9	0.8	10.1	8.7	7.0	6,8,9
54	5.1	3.9	3.5	6,8,9	0.8	9.3	8.0	6.4	6,8,9
55	4.4	3.3	3.0	6,8,9	0.8	7.9	6.8	5.4	6,8,9
56	2.0	1.5	1.3	6,8,9	0.8	3.6	3.1	2.4	6,8,9
57	1.6	1.1	1.0	6,8,9	0.8	2.8	2.4	1.8	6,8,9
58	1.4	1.1	1.0	6,8,9	0.8	2.6	2.2	1.8	6,8,9
59	2.4	1.8	1.7	6,8,9	0.8	4.4	3.8	3.0	6,8,9
60	3.5	2.6	2.4	6,8,9	0.8	6.3	5.4	4.3	6,8,9
61	4.4	3.3	3.0	6,8,9	0.8	7.9	6.8	5.4	6,8,9
62	5.1	3.9	3.5	6,8,9	0.8	9.3	8.0	6.4	6,8,9
63	5.6	4.2	3.9	6,8,9	0.8	10.1	8.7	7.0	6,8,9
64	4.0	3.0	2.7	6,8,9	0.8	7.1	6.2	4.9	6,8,9
65	3.3	2.5	2.3	6,8,9	0.8	5.9	5.1	4.1	6,8,9
66	2.1	1.6	1.4	6,8,9	0.8	3.7	3.2	2.6	6,8,9
67	0.5	0.4	0.3	6,8,9	0.8	0.9	0.8	0.6	6,8,9
68	1.2	0.9	0.8	6,8,9	0.8	2.1	1.8	1.5	6,8,9

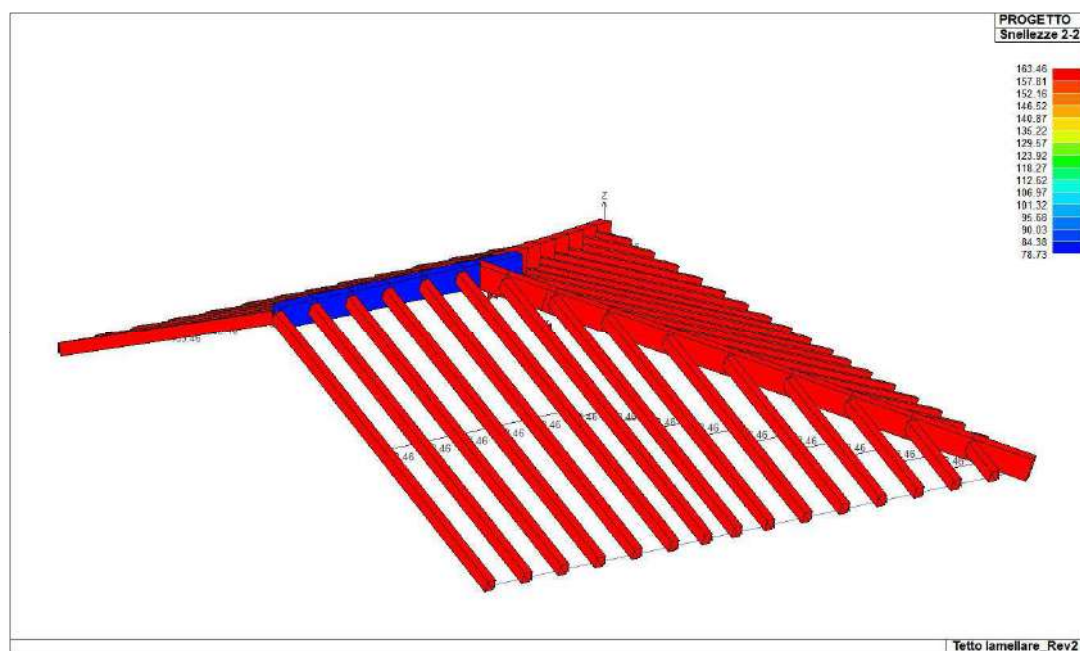
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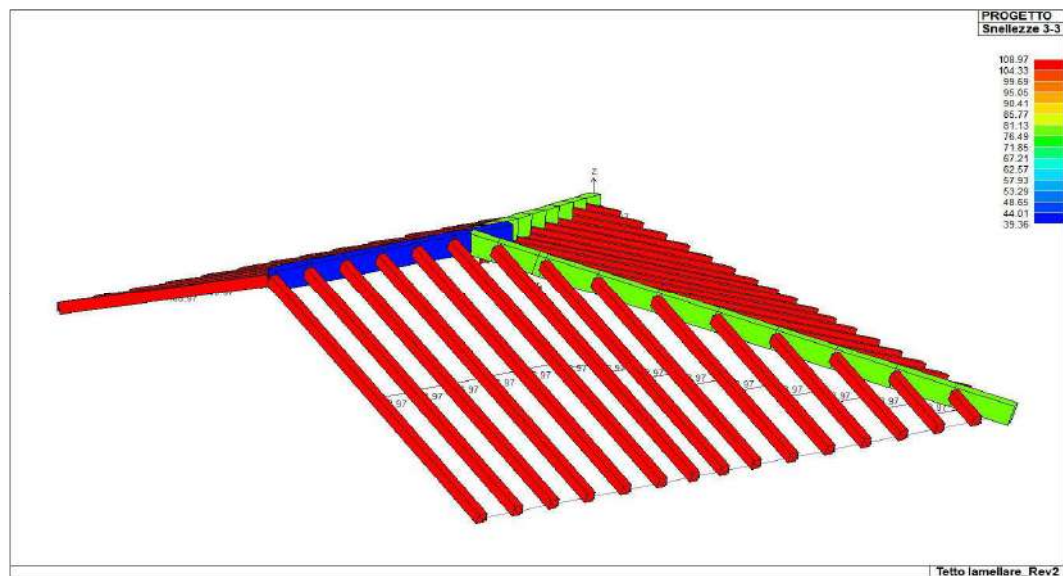
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ORDINE INGEGNERI PROVINCIA DI MANTOVA N. 1628 SEZ.A

Elem.	w _{net} R	w _{net} F	w _{net} P	Rif. cmb	Kdef	w _{net} Ri	w _{net} Fi	w _{net} Pi	Rif. cmb
69	2.6	1.9	1.8	6,8,9	0.8	4.7	4.0	3.2	6,8,9
70	0.1	0.1	9.52e-02	6,8,9	0.8	0.3	0.2	0.2	6,8,9
71	0.5	0.4	0.3	6,8,9	0.8	0.9	0.8	0.6	6,8,9
72	2.7	2.0	1.8	6,8,9	0.8	4.9	4.1	3.2	6,8,9
73	2.0	1.5	1.3	6,8,9	0.8	3.6	3.1	2.4	6,8,9
74	1.6	1.1	1.0	6,8,9	0.8	2.8	2.4	1.8	6,8,9
75	1.4	1.1	1.0	6,8,9	0.8	2.6	2.2	1.8	6,8,9
76	2.4	1.8	1.7	6,8,9	0.8	4.4	3.8	3.0	6,8,9
77	3.5	2.6	2.4	6,8,9	0.8	6.3	5.4	4.3	6,8,9
78	4.4	3.3	3.0	6,8,9	0.8	7.9	6.8	5.4	6,8,9
79	5.1	3.9	3.5	6,8,9	0.8	9.3	8.0	6.4	6,8,9
Elem.	w _{net} R	w _{net} F	w _{net} P			w _{net} Ri	w _{net} Fi	w _{net} Pi	
	5.62	4.22	3.87			10.11	8.71	6.96	



74_PRO_LEG22_SNELLEZZA22



74_PRO_LEG22_SNELLEZZA33

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