IL CONCEDENTE

Regione Emilia-Romagna

IL CONCESSIONARIO

ARC AUTOSTRADA REGIONALE CISPADANA

AUTOSTRADA REGIONALE CISPADANA

DAL CASELLO DI REGGIOLO-ROLO SULLA A22
AL CASELLO DI FERRARA SUD SULLA A13

CODICE C.U.P. E81B08000060009

PROGETTO DEFINITIVO

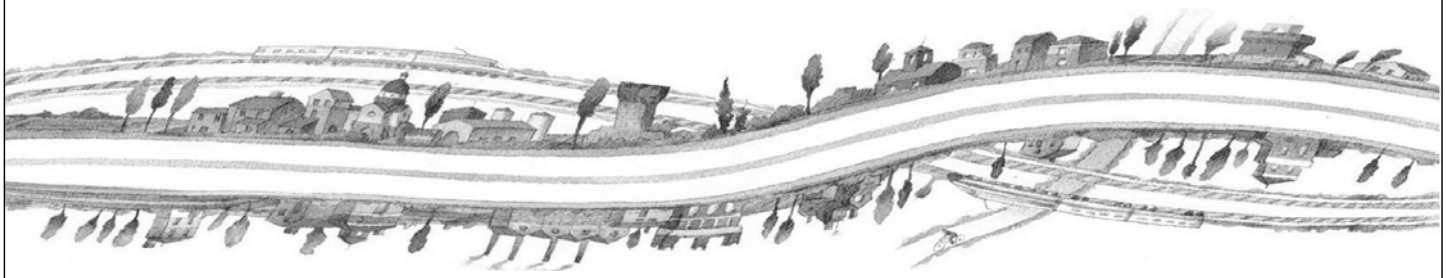
ASSE AUTOSTRADALE

OPERE STRUTTURALI

ARCHITETTONICI

EDIFICI STAZIONI DI ESAZIONE - S.Felice sul Panaro

RELAZIONE DI CALCOLO STRUTTURE EDIFICI E PENSILINA METALLICA



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IL CONCESSIONARIO

Autostrada Regionale Cispadana S.p.A.
IL PRESIDENTE
Graziano Pattuzzi

REV.	DATA	DESCRIZIONE	REDAZIONE	CONTROLLO	APPROVAZIONE
G					
F					
E					
D					
C					
B					
A	17.04.2012	EMISSIONE	Zadra	De Fazio	Salsi

IDENTIFICAZIONE ELABORATO

NUM. PROGR.	FASE	LOTTO	GRUPPO	CODICE OPERA WBS	TRATTO OPERA	AMBITO	TIPO ELABORATO	PROGRESSIVO	REV.
3457	PD	0	S03	SFB03	0	FB	RC	01	A

DATA: MAGGIO 2012

SCALA:

I N D I C E

1. INTRODUZIONE

La presente relazione di calcolo è relativa al progetto definitivo degli edifici “Stazioni di Esazione” dei caselli dell’intervento di realizzazione della nuova Autostrada Regionale Cispadana, infrastruttura stradale di categoria A, avente origine in corrispondenza del casello di Reggiolo-Rolo sulla A22 “Autostrada del Brennero” e termine al casello di Ferrara Sud sulla A13 “Autostrada Bologna-Padova”.

Figura 1-1 – L’Autostrada Regionale Cispadana (blu), inserita nella rete autostradale nazionale

I caselli della costrueda autostrada regionale sono:

- Casello: San Possidonio-Mirandola
- Casello: San Felice sul Panaro
- Casello: Cento
- Casello: Poggio Renatico
- Casello: Barriera di Ferrara Sud

Gli *Edifici di autostazione* dei caselli indicati avranno fra loro caratteristiche geometriche e costruttive del tutto similari; si propone pertanto in questa fase di progetto una relazione di calcolo tipologica che consideri le massime azioni sismiche, di neve e di vento in relazione alla localizzazione dei caselli stessi.

2. DESCRIZIONE DELL'OPERA

Gli edifici a servizio della stazione di esazione sono costituiti da un gruppo di fabbricati con corte interna.

Si distinguono dal punto di vista statico e dinamico 4 sistemi strutturali:

Edificio A) Fabbricato rettangolare di dimensioni in pianta ***8,50x9,66ml*** costituito da un interrato che consente il collegamento con il cunicolo di servizio delle piste e da un piano terra.

La parte interrata sarà costruita con platea di fondazione in c.a. di spessore 40cm e con muri controterra di spessore di 40cm.

Il solaio di piano terra e di copertura verrà realizzato sulla luce di 8,50ml con lastre di solaio alveolare ad armature precompresse di spessore 26cm.

Pilastri e travi verranno realizzati in cemento armato gettato in opera.

Edificio B) Fabbricato rettangolare di dimensioni in pianta ***8,50x37.70ml*** costituito da un unico piano terra.

Vista le semplicità dell'edificio di realizzeranno travi di fondazione a T rovescia, pilastri e travi in elevazione in cemento armato gettato in opera con solaio di copertura realizzato sulla luce di 8,50ml con lastre alveolari ad armature precompresse di spessore 26cm.

Edificio C) Fabbricato ad "L" di dimensioni massime in pianta ***17.90x37.70ml*** costituito da un unico piano terra.

Vista le semplicità dell'edificio di realizzeranno travi di fondazione a T rovescia, pilastri e travi in elevazione in cemento armato gettato in opera con solaio di copertura realizzato sulla luce di 8,50ml con lastre alveolari ad armature precompresse di spessore 26cm.

Pensilina I fabbricati sono perimetrati da una pensilina realizzata in acciaio che collega il sistema edifici alla pensilina principale a protezione delle piste, realizzando un camminamento protetto ed un parcheggio coperto.

Nella presente relazione si eseguiranno i dimensionamenti e le verifiche strutturali come richiesti nella redazione di un progetto definitivo considerando un tipologico delle strutture che viene cimentato dalle massime azioni sismiche, di neve e di vento definite dalla normativa vigente nei luoghi di costruzione dei caselli.

3. RIFERIMENTI NORMATIVI

Per quanto concerne i riferimenti normativi inerenti la progettazione dell'opera, si fa riferimento all'elaborato di riferimento PD_0_0000_0000_0_GE_KT_01_A "*Elenco delle Normative di riferimento*".

4. SOFTWARE IN USO

Le calcolazioni sono effettuate con il codice di calcolo ad elementi finiti PRO_SAP PROfessional Structural *Analysis Program versione 8.5.0* prodotto dalla *2S.I. Software e Servizi per l'Ingegneria s.r.l.*, Ferrara.

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. Nello specifico, 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 link: http://www.2si.it/Software/Affidabilità.htm.

La verifica della sicurezza degli elementi strutturali avviene con i metodi della scienza delle costruzioni. L'analisi strutturale è condotta con il metodo degli spostamenti per la valutazione dello stato tensodeformativo indotto da carichi statici. Operativamente essa è effettuata con il metodo degli elementi finiti. Tale metodo si basa sulla schematizzazione della struttura in elementi connessi solo in corrispondenza di un numero prefissato di punti denominati nodi. I nodi sono definiti dalle tre coordinate cartesiane in un sistema di riferimento globale. Le incognite del problema (nell'ambito del metodo degli spostamenti) sono le componenti di spostamento dei nodi riferite al sistema di riferimento globale (traslazioni secondo X, Y, Z, rotazioni attorno X, Y, Z). La soluzione del problema si ottiene con un sistema di equazioni algebriche lineari i cui termini noti sono costituiti dai carichi agenti sulla struttura opportunamente concentrati ai nodi:

$$\boldsymbol{K\ u = F}$$

K = matrice di rigidezza; u = vettore spostamenti nodali; F = vettore forze nodali.

Dagli spostamenti ottenuti con la risoluzione del sistema vengono quindi dedotte le sollecitazioni e/o le tensioni di ogni elemento, riferite generalmente ad una terna locale all'elemento stesso. Il sistema di riferimento utilizzato è costituito da una terna cartesiana destrorsa XYZ. Si assume l'asse Z verticale ed orientato verso l'alto.

Si precisa che il software prevede una serie di controlli automatici (check) che consentono l'individuazione di errori di modellazione. Al termine dell'analisi un controllo automatico identifica la presenza di spostamenti o rotazioni abnormi. Si può pertanto asserire che l'elaborazione sia corretta e completa.

I risultati delle elaborazioni sono stati sottoposti a controlli che ne comprovano l'attendibilità. Tale valutazione ha compreso il confronto con i risultati di semplici calcoli, eseguiti con metodi tradizionali e adottati, anche in fase di primo proporzionamento della struttura. Inoltre, sulla base di considerazioni riguardanti gli stati

tensionali e deformativi determinati, si è valutata la validità delle scelte operate in sede di schematizzazione e di modellazione della struttura e delle azioni.

5. CARATTERISTICHE DEI MATERIALI IMPIEGATI

Relativamente alle caratteristiche dei materiali impiegati per la realizzazione della struttura si fa riferimento all'elaborato di riferimento PD_0_0000_0000_0_GE_TB_01_A "*Tabella materiali e classi di esposizione calcestruzzo*".

6. SICUREZZA E PRESTAZIONI ATTESE

La sicurezza e le prestazioni dell'opera vengono valutate conformemente a quanto prescritto dal D.M. Infrastrutture e Trasporti 14 gennaio 2008 (Suppl. Ord. alla G.U. 4.2.2008, n. 29) e allegate norme tecniche in relazione agli stati limite che possono verificarsi durante la vita nominale dell'opera.

La sicurezza delle strutture deve essere valutata nei confronti degli stati limite ultimi e nei confronti degli stati limite di esercizio.

Il superamento di uno stato limite ultimo ha carattere irreversibile e si definisce collasso.

Il superamento di uno stato limite di esercizio può avere carattere irreversibile o reversibile.

In relazione alla tipologia costruttiva ed al tipo di struttura la norma prescrive le verifiche da effettuarsi sia per gli SLU sia per gli SLE.

Nel caso in esame di costruzione in calcestruzzo armato si fa riferimento al paragrafo §4.1.2 per verifiche statiche e ai paragrafi §7.3.6 e §7.3.7. per le verifiche sismiche.

6.1. COMBINAZIONI DELLE AZIONI

Le azioni che cimentano le strutture per le verifiche agli stati SLU ed SLE sono indicate ai paragrafi §2.5.3 ed §7.1.

In particolare per lo stato limite ultimo SLU statico con coefficienti parziali γ tipo A1 ed A2:

- Combinazione fondamentale, generalmente impiegata per gli stati limite ultimi (SLU):

$$\gamma_{G1} \cdot G_1 + \gamma_{G2} \cdot G_2 + \gamma_P \cdot P + \gamma_{Q1} \cdot Q_{K1} + \gamma_{Q2} \cdot \psi_{02} \cdot Q_{K2} + \gamma_{Q3} \cdot \psi_{03} \cdot Q_{K3} + \ldots$$

In particolare per lo stato limite ultimo SLE statico:

- Combinazione caratteristica (rara), generalmente impiegata per gli stati limite di esercizio (SLE) irreversibili, da utilizzarsi nelle verifiche delle tensioni ammissibili (→ § 2.7 – D.M.08):

$$G_1 + G_2 + P + Q_{K1} + \psi_{02} Q_{K2} + \psi_{03} Q_{K3} + \ldots$$

- Combinazione frequente, generalmente impiegata per gli stati limite di esercizio (SLE) reversibili:

$$G_1 + G_2 + P + \psi_{11} \cdot Q_{K1} + \psi_{22} \cdot Q_{K2} + \psi_{23} \cdot Q_{K3} + \ldots$$

- Combinazione quasi permanente (SLE), generalmente impiegata per gli effetti a lungo termine:

$$G_1 + G_2 + P + \psi_{21} \cdot Q_{K1} + \psi_{22} \cdot Q_{K2} + \psi_{23} \cdot Q_{K3} + ...$$

In particolare per lo stato limite ultimo SLU sismico con azione SLV con Pvr 10%

$$E + G_1 + G_2 + P + \psi_{21} \cdot Q_{K1} + \psi_{22} \cdot Q_{K2} + ...$$

In particolare per lo stato limite esercizio SLE sismico con azione SLD con Pvr 63%

$$E + G_1 + G_2 + P + \psi_{21} \cdot Q_{K1} + \psi_{22} \cdot Q_{K2} + ...$$

Essendo la costruzione di classe IV in fase di progetto esecutiva dovranno essere eseguite le verifiche sismica con azione SLO per gli elementi non strutturali e per gli impianti.

Relativamente alla ***progettazione strutturale e geotecnica,*** si fa riferimento all'Approccio 1 che prevede due combinazione di coefficienti da adottare:

- Per verifiche strutturali:combinazione 1 (A1+M1+R1)
- Per verifiche geotecniche:combinazione 2 (A2+M2+R2)

6.2. VALORI LIMITE DI APERTURA DELLE FESSURE

Si assumono i seguenti valori di classe di esposizione:

- Fondazioni e muri di fondazioni = XC2 condizioni ambientali ordinarie
- Pilastri e muri in elevazione =XC3 condizioni ambientali ordinarie

combinazione frequente: w3 = 0.40 mm;

combinazione quasi permanente: w2 = 0.30 mm.

- Travi e solai =XC4 condizioni ambientali aggressive

combinazione frequente: w2 = 0.30 mm;

combinazione quasi permanente: w1 = 0.20 mm.

7. PARAMETRI DI PROGETTO

Il presente paragrafo mira a definire correttamente i parametri di "Vita Nominale", "Classe d'Uso" e "Periodo di Riferimento" da adottare per lo studio delle opere strutturali inerenti il progetto definitivo dell'Autostrada Cispadana in accordo a quanto riportato nelle Nuove Norme Tecniche per le Costruzioni NTC, approvate con D.M. del 14 Gennaio 2008, alla luce di quanto già stabilito nel Progetto Preliminare dell'Autostrada stessa.

I parametri in oggetto sono indispensabili per una corretta valutazione puntuale della sollecitazione sismica da considerare in fase di progettazione delle opere strutturali; in quanto da essi dipende la definizione del Periodo di Ritorno T_R dell'opera e quindi la valutazione dei parametri a_g, F_0 e T_C^*.

In ambito di NTC08 vi è infatti la possibilità di definire in maniera "locale" le componenti fondamentali della stima di pericolosità sismica.

Si riporta nel seguito quanto riportato in Normativa, al punto §2.4, in merito ai parametri oggetto della trattazione.

7.1. ELABORATO DI RIFERIMENTO

Nello specifico, si fa riferimento all'elaborato PD_0_0000_0000_0_GE_KT_02_A "*Vita Utile e Classi d'uso delle opere*".

7.2. VITA NOMINALE

La vita nominale di un'opera strutturale V_N è intesa come il numero di anni nel quale la struttura, purché soggetta alla manutenzione ordinaria, deve potere essere usata per lo scopo al quale è destinata. La vita nominale dei diversi tipi di opere è quella riportata nella tabella seguente e deve essere precisata nei documenti di progetto.

TIPI DI COSTRUZIONE		*Vita Nominale V_N (in anni)*
1	*Opere provvisorie – Opere provvisionali – Strutture in fase costruttiva*	*≤ 10*
2	*Opere ordinarie, ponti, opere infrastrutturali e dighe di dimensioni contenute o di importanza normale*	*≥ 50*
3	*Grandi opere , ponti, opere infrastrutturali e dighe di grandi dimensioni o di importanza strategica*	*≥ 100*

7.3. CLASSI D'USO

In presenza di azioni sismiche, con riferimento alle conseguenze di una interruzione di operatività o di un eventuale collasso, le costruzioni sono suddivise in classi d'uso così definite:

Classe I: Costruzioni con presenza solo occasionale di persone, edifici agricoli.

Classe II: Costruzioni il cui uso preveda normali affollamenti, senza contenuti pericolosi per l'ambiente e senza funzioni pubbliche e sociali essenziali. Industrie con attività non pericolose per l'ambiente. Ponti, opere infrastrutturali, reti viarie non ricadenti in Classe d'uso III o in Classe d'uso IV, reti ferroviarie la cui interruzione non provochi situazioni di emergenza. Dighe il cui collasso non provochi conseguenze rilevanti.

Classe III: Costruzioni il cui uso preveda affollamenti significativi. Industrie con attività pericolose per l'ambiente. Reti viarie extraurbane non ricadenti in Classe d'uso IV. Ponti e reti ferroviarie la cui interruzione provochi situazioni di emergenza. Dighe rilevanti per le conseguenze di un loro eventuale collasso.

Classe IV: Costruzioni con funzioni pubbliche o strategiche importanti, anche con riferimento alla gestione della protezione civile in caso di calamità. Industrie con attività particolarmente pericolose per l'ambiente. Reti viarie di tipo A o B, di cui al D.M. 5 novembre 2001, n. 6792, "Norme funzionali e geometriche per la costruzione delle strade", e di tipo C quando appartenenti ad itinerari di collegamento tra capoluoghi di provincia non altresì serviti da strade di tipo A o B. Ponti e reti ferroviarie di importanza critica per il mantenimento delle vie di comunicazione, particolarmente dopo un evento sismico. Dighe connesse al funzionamento di acquedotti e a impianti di produzione di energia elettrica.

7.4. PERIODO DI RIFERIMENTO PER L'AZIONE SISMICA

Le azioni sismiche su ciascuna costruzione vengono valutate in relazione ad un periodo di riferimento V_R che si ricava, per ciascun tipo di costruzione, moltiplicandone la vita nominale V_N per il coefficiente d'uso C_U : $V_R = V_N \cdot C_U$. Il valore del coefficiente d'uso C_U è definito, al variare della classe d'uso, come mostrato nella tabella seguente:

CLASSE D'USO	*I*	*II*	*III*	*IV*
COEFFICIENTE C_U	*0,7*	*1,0*	*1,5*	*2,0*

Alla luce di quanto riportato, ed in relazione alla importanza critica delle opere di progetto, è possibile riassumere nella tabella seguente i parametri da adottare per i manufatti in progetto:

ASSE AUTOSTRADALE				
OPERA	*Vita Nominale V_N [anni]*	*Classe d'uso*	*Coefficiente d'uso*	*Periodo di riferimento V_R [anni]*

Edifici di stazione di esazione	***50***	***IV***	***2,0***	***100***
Caserma di polizia	*50*	*IV*	*2,0*	*100*
Centro assistenza utenza (C.A.U)	*50*	*IV*	*2,0*	*100*
Centro servizi assistenza (C.S.A)	*50*	*IV*	*2,0*	*100*
Sede del Concessionario	*50*	*IV*	*2,0*	*100*
Porta di esazione e pensilina	*50*	*IV*	*2,0*	*100*

8. MODELLAZIONE DELLA STRUTTURA E DELLE AZIONI SISMICHE

Il modello della struttura è tridimensionale ed è tale da rappresentare in modo adeguato le effettive distribuzioni spaziali di massa, rigidezza e resistenza.

Gli elementi non strutturali quali le pareti interne non portanti (divisori), sono rappresentati unicamente in termini di massa in quanto caratterizzati da rigidezza e resistenza tali da non modificare significativamente il comportamento globale della struttura.

Le murature perimetrali sono schematizzate come carico lineare distribuito applicato alla travi di bordo.

Gli orizzontamenti sono assunti infinitamente rigidi nel loro piano, in quanto realizzati in latero-cemento con soletta collaborante di spessore pari a 4cm.

L'intera struttura si considererà, in primo luogo, "incastrata" alla base sullo spiccato di fondazione trascurando così gli effetti indotti dall'interazione terreno-struttura al fine di determinare le massime sollecitazioni gli elementi portanti; si realizzerà poi un secondo modello in cui il suolo è assunto come un sistema di molle aventi rigidezza equivalente (in accordo con la teoria di Winkler), utile esclusivamente al dimensionamento e verifica delle fondazioni.

Il modello della struttura è lineare: la rigidezza degli elementi strutturali sono determinate trascurando le non linearità geometriche e di materiale.

Le azioni sismiche sono modellate direttamente con l'ausilio degli spettri di risposta.

Si precisa infine, che per tener conto della variabilità spaziale del moto sismico, nonché delle eventuali incertezze nella localizzazione delle masse, al centro di massa è attribuita un'eccentricità accidentale rispetto alla sua posizione effettiva (di calcolo).

Tale eccentricità, trattandosi di "edificio", è assunta costante, per entità e direzione, su tutti gli orizzontamenti e pari a 0.05 volte la dimensione dell'edificio stesso misurata perpendicolarmente alla direzione di applicazione dell'azione sismica.

8.1. ANALISI SISMICA

Il metodo di analisi assunto per le calcolazioni è la dinamica lineare. Con essa si determinano i modi di vibrare (analisi modale) della struttura e gli effetti dell'azione sismica per ciascun modo.

Si considerano tutti i modi con massa partecipante significativa e tali da garantire globalmente un massa eccitata (partecipante) uguale o superiore all'85%.

La combinazione degli effetti avviene utilizzando la combinazione quadratica proposta al §7.3.3.1 del D.M.2008. Si precisa inoltre che gli effetti sulla struttura (sollecitazioni, deformazioni, spostamenti, ecc.) sono combinati successivamente con la seguenti relazioni:

$$\begin{Bmatrix} 1.00\,E_x + 0.30\,E_y \\ 1.00\,E_y + 0.30\,E_x \end{Bmatrix}$$

8.2. CRITERI DI VERIFICA

Le verifiche degli elementi strutturali in c.a. per azione sismica sono condotte con riferimento agli Stati limite ultimi §7.3.6.e di esercizio §7.3.7.Più precisamente ci si riferirà allo SLV e allo SLD.

Relativamente al paragrafo §7.3.7.2 si verificano che gli spostamenti d'interpiano siano inferiori a 0.01h (tamponamenti progettati per non subire danni a seguito degli spostamenti d'interpiano) allo SLD.

Per costruzioni ricadenti in classe d'uso IV, in questa fase di progetto definitivo si rimanda alla successiva progettazione esecutiva la verifica (§7.3.7.1) che l'azione sismica allo SLD con η = 2/3 produca una sollecitazione Ed<Rd (verifica elementi strutturali in termini di resistenza) e la verifica (§7.3.7.2) che gli spostamenti d'interpiano siano inferiori a 2/3 di 0.01h (tamponamenti progettati per non subire danni a seguito degli spostamenti d'interpiano) allo SLO.

8.3. DIMENSIONAMENTO E VERIFICA DEGLI ELEMENTI STRUTTURALI

A seguire si riportano i criteri necessari al dimensionamento e alla verifica degli elementi strutturali dell'edificio. Si precisa che le verifiche sono condotte in automatico dal programma di calcolo in accordo con quanto previsto delle NTC2008 e relativa Circolare esplicativa 2 febbraio 2009, n. 617.

Travi in c.a. di fondazione

In merito alle travi di fondazione, le azioni considerante agenti sulle stesse sono le resistenze degli elementi strutturali soprastanti. Più precisamente, le forze assiali negli elementi strutturali verticali vengono associate ai concomitanti valori resistenti di momento flettente e taglio, verificando che essi non siano superiori a quelli trasferiti dagli elementi stessi amplificati di un fattore γ_{Rd} = 1.1 (CD"B") e comunque non maggiori di quelli derivanti da un'analisi elastica della struttura in elevazione eseguita con fattore di struttura *q* unitario.

Le fondazioni vengono progettate in modo tale da *rimanere in campo elastico*.

Non vengono quindi inserite armature specifiche per ottenere un comportamento duttile.

Si precisa che le travi di fondazione, per tutta la lunghezza, presenteranno *armature longitudinali* in *percentuale non inferiore* allo *0.2% sia inferiormente che superiormente*.

Travi in c.a. in elevazione

I momenti flettenti assunti per il dimensionamento e la verifica delle travi sono quelli da calcolo, ossia quelli massimi ottenuti dall'analisi dinamica elastica lineare.

Al fine di escludere la formazione di meccanismi inelastici dovuti al taglio, le sollecitazioni di taglio sono ottenute come prescritto al *§7.4.4.1* applicando il fattore di sovraresistenza γ_{Rd} *= 1.00 (CD"B").*

Pilastri in c.a.

Al fine di proteggere i pilastri dalla plasticizzazione prematura si adottano i momenti flettenti di calcolo in modo tale che:

$$\sum M_{c,Rd} \geq 1.10 \sum M_{b,Rd}$$

ove $M_{c,Rd}$ è il momento resistente del generico pilastro, $M_{b,Rd}$ è il momento resistente della generica trave e γ_{Rd} *= 1.1* è il fattore di sovraresistenza in CD"B".

Al fine di escludere la formazione di meccanismi inelastici dovuti al taglio, le sollecitazioni di taglio sono ottenuti come prescritto al §7.4.4.1 applicando il fattore di sovraresistenza γ_{Rd} *= 1.1 (CD"B").*

SI precisa che il suddetto criterio di gerarchia delle resistenze non è applicato alle sezioni di sommità dei pilastri dell'ultimo piano.

9. ANALISI DEI CARICHI

9.1. AZIONI STATICHE

Come evidenziato nell'introduzione, la presente relazione di calcolo costituisce un tipologico per i fabbricati in oggetto. A tale scopo si determinano, in relazione alle località di ubicazione degli edifici, le massime azioni variabili da vento e da neve.

Casello di San Possidonio e Mirandola - Casello di San Felice sul Panaro

Azione vento.

Zona vento = 2
(Vb.o = 25 m/s; Ao = 750 m; Ka = 0,015 1/s)

Classe di rugosità del terreno: D
[Aree prive di ostacoli o con al di più rari ostacoli isolati (aperta campagna, aeroporti, aree agricole, zone paludose o sabbiose, superfici innevate o ghiacciate, mare, laghi,..)]

Categoria esposizione: tipo II
(Kr = 0,19; Zo = 0,05 m; Zmin = 4 m)

Velocità di riferimento = 25,00 m/s
Pressione cinetica di riferimento (qb) = 39 daN/mq

Coefficiente di forma (Cp) = 1,00
Coefficiente dinamico (Cd) = 1,00
Coefficiente di esposizione (Ce) = 2,35
Coefficiente di esposizione topografica (Ct) = 1,00
Altezza dell'edificio = 10,00 m

Pressione del vento (p = qb Ce Cp Cd) = 92 daN/mq (con coefficiente di forma unitario)

Azione neve

Zona Neve = I Mediterranea
Ce (coeff. di esposizione al vento) = 1,00
Valore caratteristico del carico al suolo (qsk Ce) = 150 daN/mq
Copertura ad una falda:
Angolo di inclinazione della falda = 0,0°
$\mu 1$ = 0,80 => Q = 120 daN/mq

Casello di Cento - Casello di Poggio Renatico – Casello di Ferrara Sud

Azione vento.

Zona vento = 2
(Vb.o = 25 m/s; Ao = 750 m; Ka = 0,015 1/s)

Classe di rugosità del terreno: D

[Aree prive di ostacoli o con al di più rari ostacoli isolati (aperta campagna, aeroporti, aree agricole, zone paludose o sabbiose, superfici innevate o ghiacciate, mare, laghi,..)]

Categoria esposizione: tipo II
(Kr = 0,19; Zo = 0,05 m; Zmin = 4 m)

Velocità di riferimento = 25,00 m/s
Pressione cinetica di riferimento (qb) = 39 daN/mq

Coefficiente di forma (Cp) = 1,00
Coefficiente dinamico (Cd) = 1,00
Coefficiente di esposizione (Ce) = 2,35
Coefficiente di esposizione topografica (Ct) = 1,00
Altezza dell'edificio = 10,00 m

Pressione del vento (p = qb Ce Cp Cd) = 92 daN/mq (con coefficiente di forma unitario)

Azione neve

Zona Neve = II
Ce (coeff. di esposizione al vento) = 1,00
Valore caratteristico del carico al suolo (qsk Ce) = 100 daN/mq
Copertura ad una falda:
Angolo di inclinazione della falda = 0,0°
$\mu 1$ = 0,80 => Q = 80 daN/mq

Si assumono cautelativamente per il calcolo le azioni di neve e di vento della località San Felice sul Panaro.

a) Il peso proprio delle strutture

Computato automaticamente dal programma di calcolo in ragione del peso specifico del c.a. (**25 kN/m^3**) e dell'acciaio da carpenteria (**78.5 kN/m^3**).

b) Solaio per copertura fabbricato

Carichi permanenti Gk

• Intonaco intradosso	=0.01x20	0.20	kN/mq
• P.P del solaio alveolare + cappa in c.a.	(sp. 26+4cm)	4.60	kN/mq
• Sottofondo in CLS alleggerito,	=0.15x8.00	1.20	kN/mq
• Isolante+ impermeabilizzazione	=	0.10	kN/mq
• Quadrotti in c.l.s	=0.04x25	1.00	kN/mq
• Controsoffitto ed impianti		0.50	kN/mq
Totale permanenti portati G1k		***7.60***	***kN/mq***

Carichi variabili Qk

- Copertura praticabile (Cat. H2) ***0.80 kN/mq***

$\Psi 0 = 0.0$ $\Psi 1 = 0.0$ $\Psi 2 = 0.0$

Carichi variabili Qk

- Neve <1000m ***1.20 kN/mq***

$\Psi 0 = 0.5$ $\Psi 1 = 0.2$ $\Psi 2 = 0.0$

A favore di sicurezza assumo il variabile "H2" come variabile tipo "Neve".

c) Solaio per piano terra

Carichi permanenti Gk

• Intonaco intradosso	=0.01x20	0.20	kN/mq
• P.P del solaio alveolare + cappa in c.a.(sp. 26+4cm)		4.60	kN/mq
• Sottofondo in CLS alleggerito,	=0.15x8.00	1.20	kN/mq
• Massetto + pavimento	=0.05x20	1.00	kN/mq
• Controsoffitto ed impianti		0.50	kN/mq

Totale permanenti portati G1k ***7.60 kN/mq***

Carichi variabili Qk

- Uffici (Cat. B2) ***3.00 kN/mq***

$\Psi 0 = 0.7$ $\Psi 1 = 0.5$ $\Psi 2 = 0.3$

d) Murature perimetrali.

Carichi permanenti Gk

• Muratura perimetrale sp=30cm	=0.30x18x0.55x4.50	= 13.36	kN/ml
• Intonaco 1.5+1.5cm	=0.03x20x4.5	= 2.70	kN/ml
Totale permanenti portati G_{1k}		= 16.06	kN/ml
• Muratura parapetto sp=20cm	=0.20x18x0.45x0.6	= 0.97	kN/ml
• Intonaco 1.5+1.5cm	=0.03x20x0.60	= 0.36	kN/mq
Totale permanenti portati G_{1k}		= 1.33	kN/mq

9.2. AZIONI SISMICHE E FATTORE DI STRUTTURA

Le azioni sismiche di progetto, in base alle quali si verifica il rispetto dei diversi stati limite, si definiscono a partire dalla "pericolosità sismica di base" In condizioni ideali di sito di riferimento rigido con superficie topografica orizzontale. Allo stato attuale, la pericolosità sismica su reticolo di riferimento nell'intervallo di riferimento è fornita dai dati pubblicati sul sito http://esse1.mi.ingv.it/.

Per punti non coincidenti con il reticolo di riferimento e periodi di ritorno non contemplati direttamente si opera come indicato nell'allegato alle *NTC* (rispettivamente media pesata e interpolazione).

L'azione sismica viene definita in relazione ad un periodo di riferimento *Vr* che si ricava, per ciascun tipo di costruzione, moltiplicandone la vita nominale per il coefficiente d'uso. Fissato il periodo di riferimento *Vr* e la probabilità di superamento *Pver* associata a ciascuno degli stati limite considerati, si ottiene il periodo di ritorno *Tr* e i relativi parametri di pericolosità sismica:

- a_g: accelerazione orizzontale massima del terreno;
- F_o: valore massimo del fattore di amplificazione dello spettro in accelerazione orizzontale;
- T*c: periodo di inizio del tratto a velocità costante dello spettro in accelzione orizzontale.

Individuati su reticolo di riferimento i parametri di pericolosità sismica si valutano i parametri spettrali:

S è il coefficiente che tiene conto della categoria di sottosuolo e delle condizioni topografiche mediante la relazione seguente $S = S_s * S_t$ *(§3.2.5);*

- F_o è il fattore che quantifica l'amplificazione spettrale massima, su sito di riferimento rigido orizzontale;
- F_v è il fattore che quantifica l'amplificazione spettrale massima verticale, in termini di accelerazione orizzontale massima del terreno ag su sito di riferimento rigido orizzontale;
- T_b è il periodo corrispondente all'inizio del tratto dello spettro ad accelerazione costante;
- T_c è il periodo corrispondente all'inizio del tratto dello spettro a velocità costante;
- T_d è il periodo corrispondente all'inizio del tratto dello spettro a spostamento costante;

Le opere in oggetto sono ubicate in quattro diverse località.

Si fa riferimento alla località che presenta le massime accelerazioni al suolo.

Per ciascuna località si riporta la posizione geografica secondo la "latitudine N" e "longitudine E" in gradi decimali:

- San Possidonio – Mirandola → latitudine 44,90277° N longitudine 11,00833° E;
- San Felice sul Panaro → latitudine 44,84194° N longitudine 11,1825° E;
- Cento latitudine → 44,80555° N longitudine 11,3225° E;
- Poggio Renatico → latitudine 44,78944° N longitudine 11,43194° E;
- Ferrara Sud → latitudine 44,836° N longitudine 11,6180° E;

Le categorie di sottosuolo su cui sorgono le località in esame sono di seguito riportate:

- San Possidonio – Mirandola → Categoria “C”;
- San Felice sul Panaro → Categoria “C”;
- Cento latitudine → Categoria “D”;
- Poggio Renatico → Categoria “D”;
- Ferrara Sud → Categoria “D”;

in cui le categorie, come da normativa tecnica D.M.08 al § 3.2.2, sono descritte come segue:

- Categoria ”C” → *Depositi di terreni a grana grossa mediamente addensati o terreni a grana fina mediamente consistenti* con spessori superiori a 30 m, caratterizzati da un graduale miglioramento delle proprietà meccaniche con la profondità e da valori di Vs,30 compresi tra 180 m/s e 360 m/s (ovvero 15 < NSPT,30 < 50 nei terreni a grana grossa e 70 < cu,30 < 250 kPa nei terreni a grana fina);
- Categoria “D” → *Depositi di terreni a grana grossa scarsamente addensati o di terreni a grana fina scarsamente consistenti,* con spessori superiori a 30 m, caratterizzati da un graduale miglioramento delle proprietà meccaniche con la profondità e da valori di Vs,30 inferiori a 180 m/s (ovvero NSPT,30 < 15 nei terreni a grana grossa e cu,30 < 70 kPa nei terreni a grana fina).

Si riportano di seguito le schermate riassuntive relativamente ai parametri sismici delle cinque località.

Ai fini del progetto si assume nel calcolo l’azione sismica più critica individuata a Cento (Fe) in cui si rilevano i seguenti valori per i parametri “a_g/g” ed “S”:

- $a_g/g = 0.207$
- $S = 1.611$

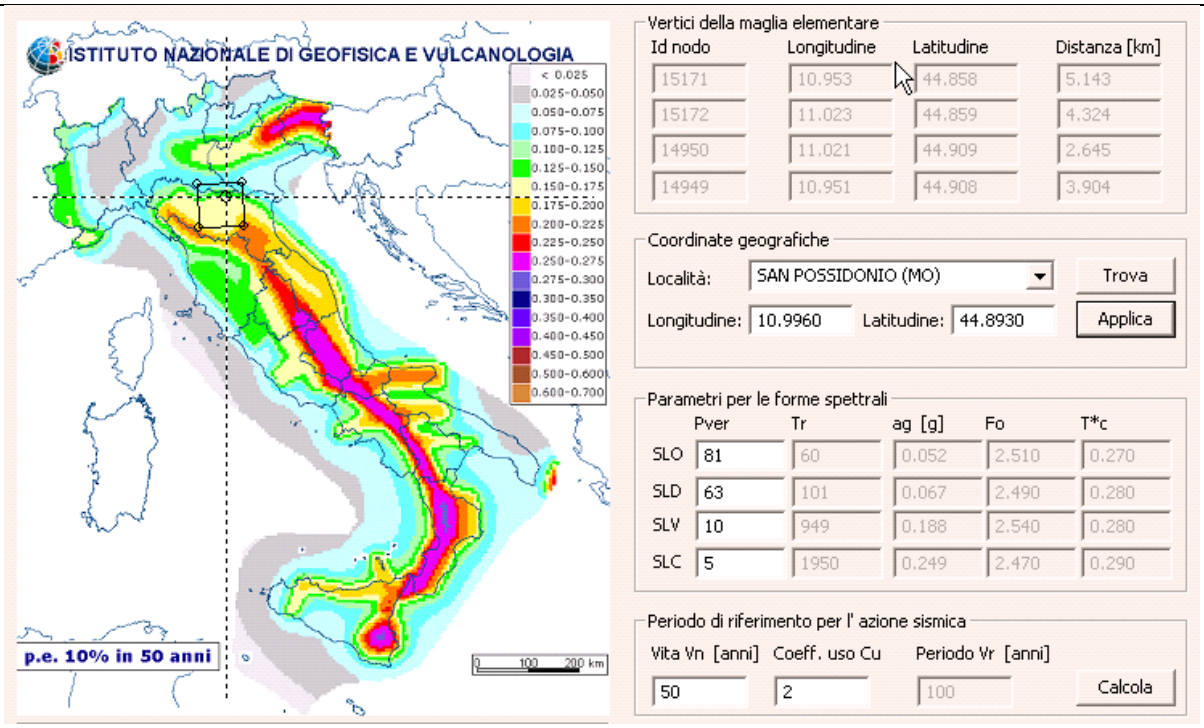


Figura 9.2 -1 – Località San Possidonio-Mirandola (Mo)

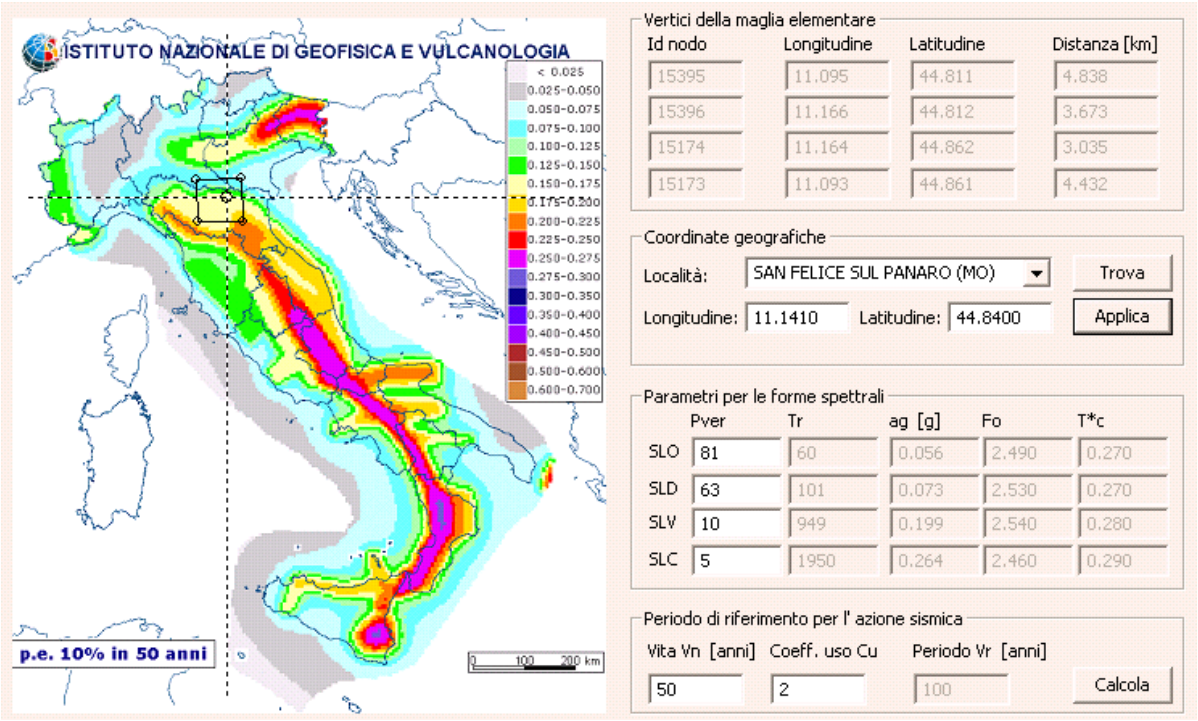


Figura 9.2 - 2 – Località San Felice sul Panaro (Mo)

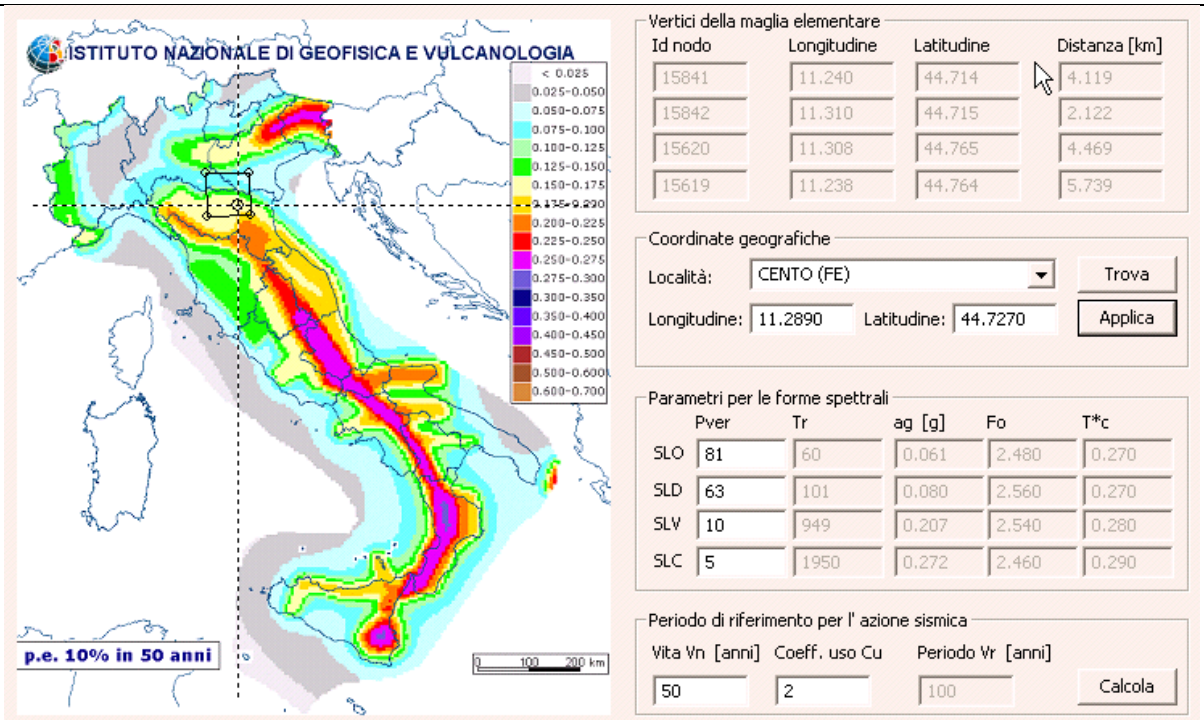


Figura 9.2 - 3 – Località Cento (Fe)

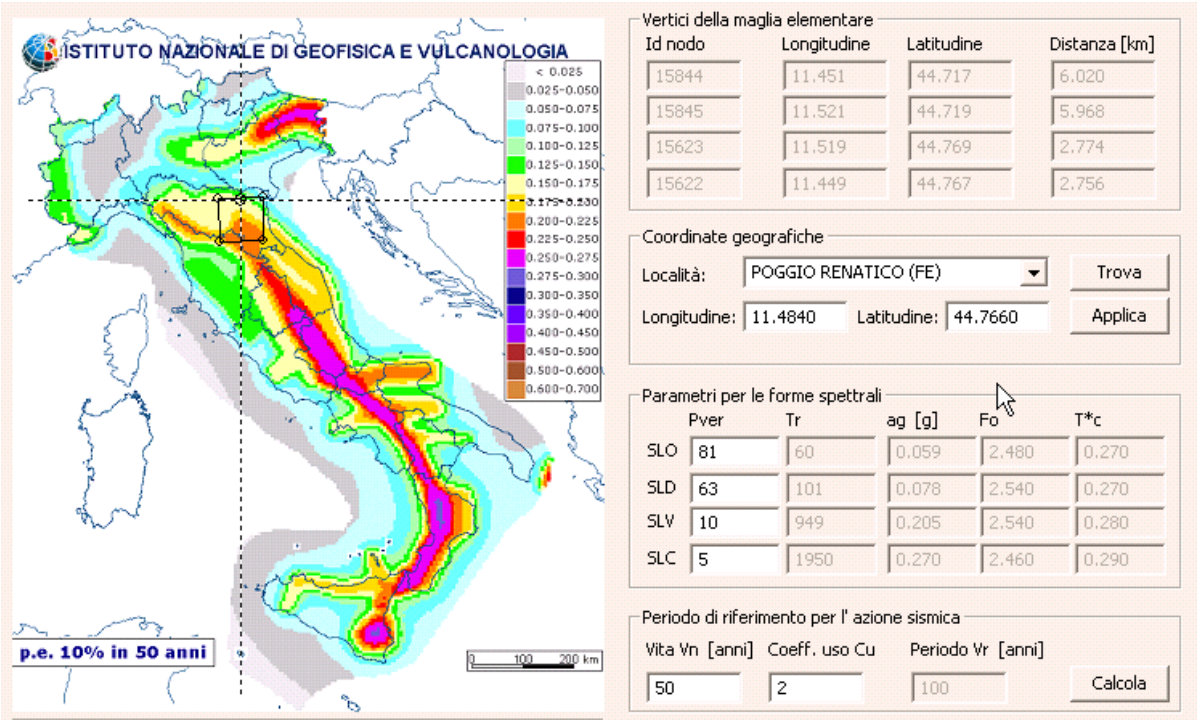


Figura 9.2 - 4 – Località Poggio Renatico (Fe)

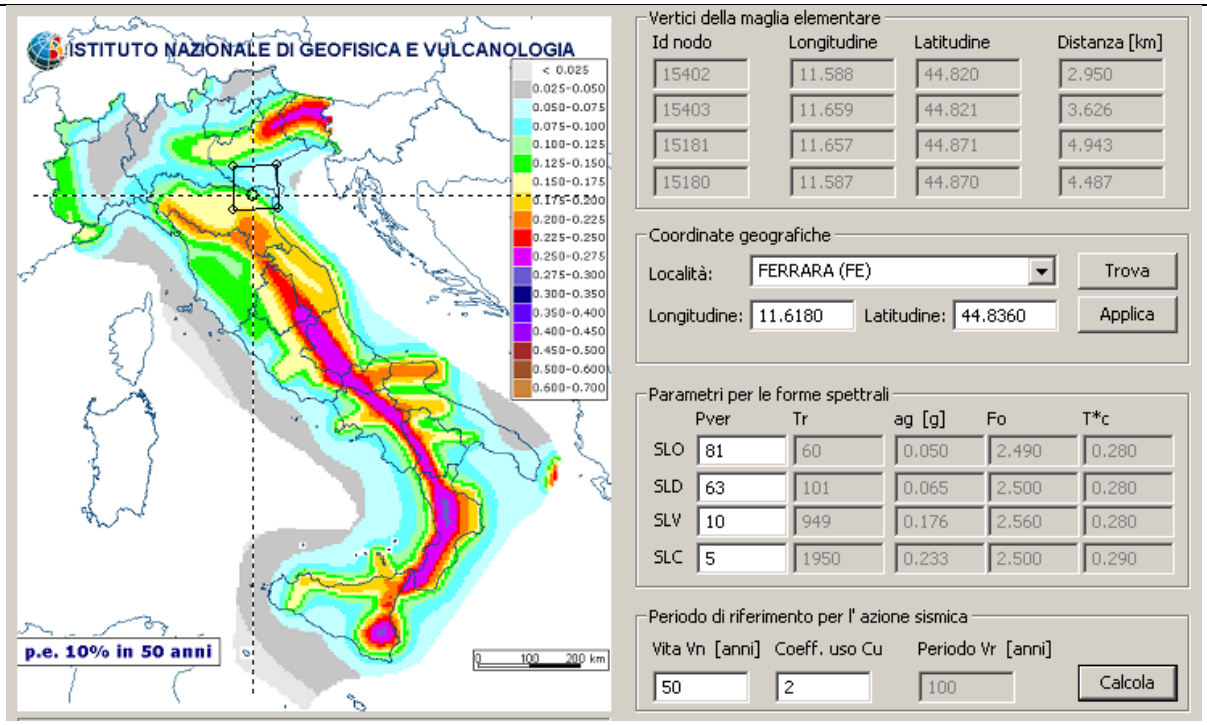


Figura 9.2 - 5 – Località Ferrara Sud

In particolare si riportano le tabelle riassuntive relativamente alla pericolosità sismica e i parametri di calcolo per l'azione sismica:

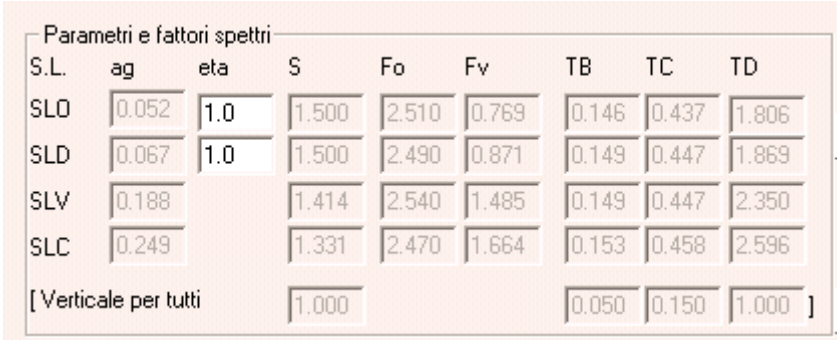
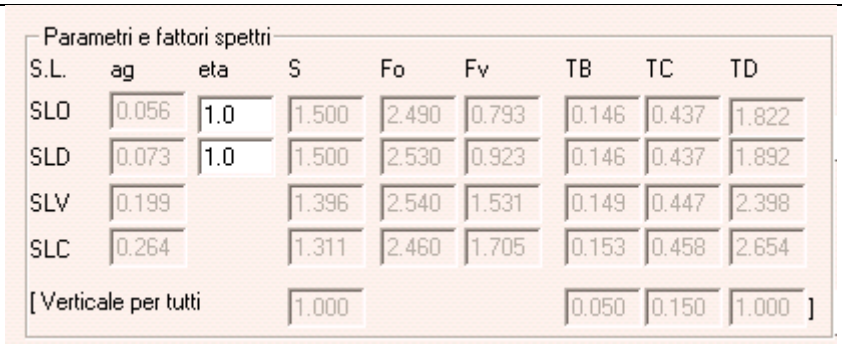
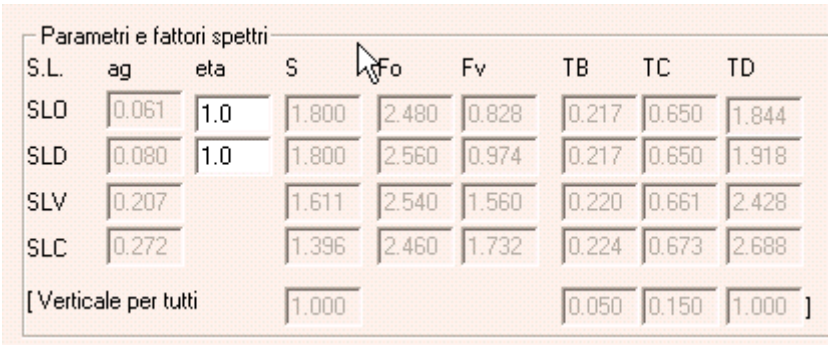


Figura 9.2 - 6 – Località San Possidonio-Mirandola (Mo)


Parametri e fattori spettri

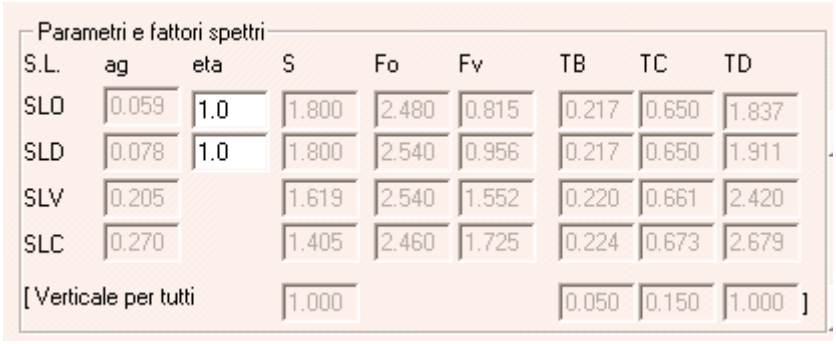
S.L.	ag	eta	S	Fo	Fv	TB	TC	TD
SLO	0.056	1.0	1.500	2.490	0.793	0.146	0.437	1.822
SLD	0.073	1.0	1.500	2.530	0.923	0.146	0.437	1.892
SLV	0.199		1.396	2.540	1.531	0.149	0.447	2.398
SLC	0.264		1.311	2.460	1.705	0.153	0.458	2.654
[Verticale per tutti			1.000			0.050	0.150	1.000]

Figura 9.2 - 7 – Località San Felice sul Panaro (Mo)


Parametri e fattori spettri

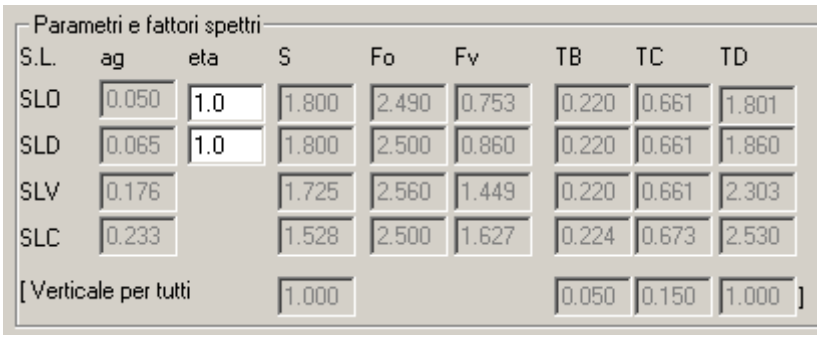
S.L.	ag	eta	S	Fo	Fv	TB	TC	TD
SLO	0.061	1.0	1.800	2.480	0.828	0.217	0.650	1.844
SLD	0.080	1.0	1.800	2.560	0.974	0.217	0.650	1.918
SLV	0.207		1.611	2.540	1.560	0.220	0.661	2.428
SLC	0.272		1.396	2.460	1.732	0.224	0.673	2.688
[Verticale per tutti			1.000			0.050	0.150	1.000]

Figura 9.2 - 8 – Cento (Fe)


Parametri e fattori spettri

S.L.	ag	eta	S	Fo	Fv	TB	TC	TD
SLO	0.059	1.0	1.800	2.480	0.815	0.217	0.650	1.837
SLD	0.078	1.0	1.800	2.540	0.956	0.217	0.650	1.911
SLV	0.205		1.619	2.540	1.552	0.220	0.661	2.420
SLC	0.270		1.405	2.460	1.725	0.224	0.673	2.679
[Verticale per tutti			1.000			0.050	0.150	1.000]

Figura 9.2 - 9 – Poggio Renatico (Fe)


Parametri e fattori spettri

S.L.	ag	eta	S	Fo	Fv	TB	TC	TD
SLO	0.050	1.0	1.800	2.490	0.753	0.220	0.661	1.801
SLD	0.065	1.0	1.800	2.500	0.860	0.220	0.661	1.860
SLV	0.176		1.725	2.560	1.449	0.220	0.661	2.303
SLC	0.233		1.528	2.500	1.627	0.224	0.673	2.530
[Verticale per tutti			1.000			0.050	0.150	1.000]

Figura 9.2 - 10 – Ferrara Sud

10. MODELLO DI CALCOLO

Gli elementi utilizzati per la modellazione dello schema statico della struttura sono i seguenti:

- *Elemento tipo BEAM* *(trave-D2)*
- *Elemento tipo BOUNDARY* *(molla)*
- *Elemento tipo PLATE* *(piastra-guscio-D3)*
- *Elemento tipo MEMBRANE* *(membrana-D3)*
- *Elemento tipo SOLAIO* *(macro elemento composto da più membrane)*

Il programma prevede una serie di controlli automatici (check) che consentono l'individuazione di errori di modellazione. Al termine dell'analisi un controllo automatico identifica la presenza di spostamenti o rotazioni abnormi. Si può pertanto asserire che l' elaborazione sia corretta e completa. I risultati delle elaborazioni sono stati sottoposti a controlli che ne comprovano l'attendibilità. Tale valutazione ha compreso il confronto con i risultati di semplici calcoli, eseguiti con metodi tradizionali e adottati, anche in fase di primo proporzionamento della struttura. Inoltre, sulla base di considerazioni riguardanti gli stati tensionali e deformativi determinati, si è valutata la validità delle scelte operate in sede di schematizzazione e di modellazione della struttura e delle azioni. Si allega al termine della presente relazione elenco sintetico dei controlli svolti (verifiche di equilibrio tra reazioni vincolari e carichi applicati, comparazioni tra i risultati delle analisi e quelli di valutazioni semplificate, etc.).

Per quanto concerne il terreno di fondazione, esso può essere schematizzato secondo il modello di Winkler che prevede una relazione lineare fra il cedimento in un punto della superficie e la pressione agente nello stesso punto.

10.1. MATERIALI

A seguire si riportano le caratteristiche meccaniche dei materiali utilizzati nella modellazione. Nella figura seguente la sigla "Id" (abbreviazione per "identificativo"), identifica il tipo di materiale impiegato per ogni elemento strutturale. Si precisa che per le fondazioni è stato impiegato un *cls C25/30*; per i pilastri un *cls C28/35* ed infine per le travi un *cls C32/40.* Per i profili si utilizza acciaio S355.

Id	Tipo / Note		Young	Poisson	G	Gamma	Alfa
		kg/cm2	kg/cm2		kg/cm2	kg/cm3	
1	Calcestruzzo Classe C25/30		3.145e+05	0.12	1.404e+05	2.50e-03	1.00e-05
	Rck	300.0					
	fctm	25.6					
3	Calcestruzzo Classe C28/35		3.260e+05	0.12	1.455e+05	2.50e-03	1.00e-05
	Rck	350.0					
	fctm	28.4					
4	Calcestruzzo Classe C32/40		3.360e+05	0.12	1.500e+05	2.50e-03	1.00e-05
	Rck	400.0					
	fctm	31.0					
12	acciaio Fe510 - S355		2.100e+06	0.30	8.077e+05	7.85e-03	1.00e-05
	ft	5100.0					
	fy	3550.0					
	fd	3550.0					
	fdt	3150.0					
	sadm	2400.0					
	sadmt	2100.0					

ove:

1	***cemento armato***		
		Rck	resistenza caratteristica cubica
		Fctm	resistenza media a trazione semplice
2	***acciaio***		
		Ft	tensione di rottura a trazione
		Fy	tensione di snervamento
		Fd	resistenza di calcolo
		Fdt	resistenza di calcolo per spess. t>40 mm
		Sadm	tensione ammissibile
		Sadmt	tensione ammissibile per spess. t>40 mm
3	***muratura***		
		Resist. Fk	resistenza caratteristica a compressione
		Resist. Fvko	resistenza caratteristica a taglio

10.2. MODELLAZIONE ELEMENTI STRUTTURALI

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:

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	pilastro 219.1x6.3	42.12	0.0	0.0	4772.28	2386.14	2386.14	217.81	217.81	285.37	285.37
2	TUBO 219.1x10.0	65.69	0.0	0.0	7196.88	3598.44	3598.44	328.47	328.47	437.56	437.56

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
3	HEA 180	45.30	0.0	0.0	14.80	925.00	2510.00	102.70	293.60	156.50	324.90
4	HEA 140	31.40	0.0	0.0	8.10	389.00	1033.00	55.60	155.40	84.80	173.50
5	Circolare: r=0.80	2.01	1.70	1.70	0.64	0.32	0.32	0.40	0.40	0.68	0.68
6	UPN 180	28.00	0.0	0.0	9.55	114.00	1354.00	22.40	150.00	42.90	179.00
7	pialastro: b=30.00 h=50.00	1500.00	1250.00	1250.00	2.799e+05	1.125e+05	3.125e+05	7500.00	1.250e+04	1.125e+04	1.875e+04
8	L regolare: bi=50.00 ht=60.00 bs=40.00 hi=30.00	2700.00	0.0	0.0	1.022e+06	4.892e+05	8.025e+05	1.797e+04	2.534e+04	2.156e+04	3.041e+04
9	L inversa: bi=50.00 ht=60.00 bs=40.00 hi=30.00	2700.00	0.0	0.0	1.022e+06	4.892e+05	8.025e+05	1.797e+04	2.534e+04	2.156e+04	3.041e+04
10	T rovescia: bi=60.00 ht=60.00 bs=40.00 hi=30.00	3000.00	0.0	0.0	1.112e+06	7.000e+05	8.730e+05	2.333e+04	2.645e+04	2.800e+04	3.175e+04
11	Rettangolare: b=50.00 h=30.00	1500.00	1250.00	1250.00	2.799e+05	3.125e+05	1.125e+05	1.250e+04	7500.00	1.875e+04	1.125e+04
12	HEB 180	65.30	0.0	0.0	42.20	1363.00	3831.00	151.40	425.70	231.00	481.40
13	Rettangolare: b=40.00 h=70.00	2800.00	2333.33	2333.33	9.557e+05	3.733e+05	1.143e+06	1.867e+04	3.267e+04	2.800e+04	4.900e+04
14	L regolare: bi=50.00 ht=60.00 bs=40.00 hi=30.00	2700.00	0.0	0.0	1.022e+06	4.892e+05	8.025e+05	1.797e+04	2.534e+04	2.156e+04	3.041e+04
15	nascosto: b=10.00 h=30.00	300.00	250.00	250.00	7900.00	2500.00	2.250e+04	500.00	1500.00	750.00	2250.00
16	T rovescia: bi=180.00 ht=100.00 bs=40.00 hi=40.00	9600.00	0.0	0.0	4.898e+06	1.976e+07	6.180e+06	2.196e+05	9.156e+04	2.635e+05	1.099e+05
17	T rovescia: bi=120.00 ht=100.00 bs=40.00 hi=40.00	7200.00	0.0	0.0	3.618e+06	6.080e+06	5.360e+06	1.013e+05	8.463e+04	1.216e+05	1.016e+05
18	TUBO 219.1x12.5	81.13	0.0	0.0	8689.16	4344.58	4344.58	396.58	396.58	534.20	534.20

Ove:

Area	*area della sezione*
Jt	*fattore torsionale di rigidezza*
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 soprariportati vengono utilizzati per la determinazione dei carichi inerziali e per la definizione delle rigidezze degli elementi strutturali. La valutazione delle caratteristiche inerziali delle sezioni è condotta nel riferimento 2-3 dell'elemento.

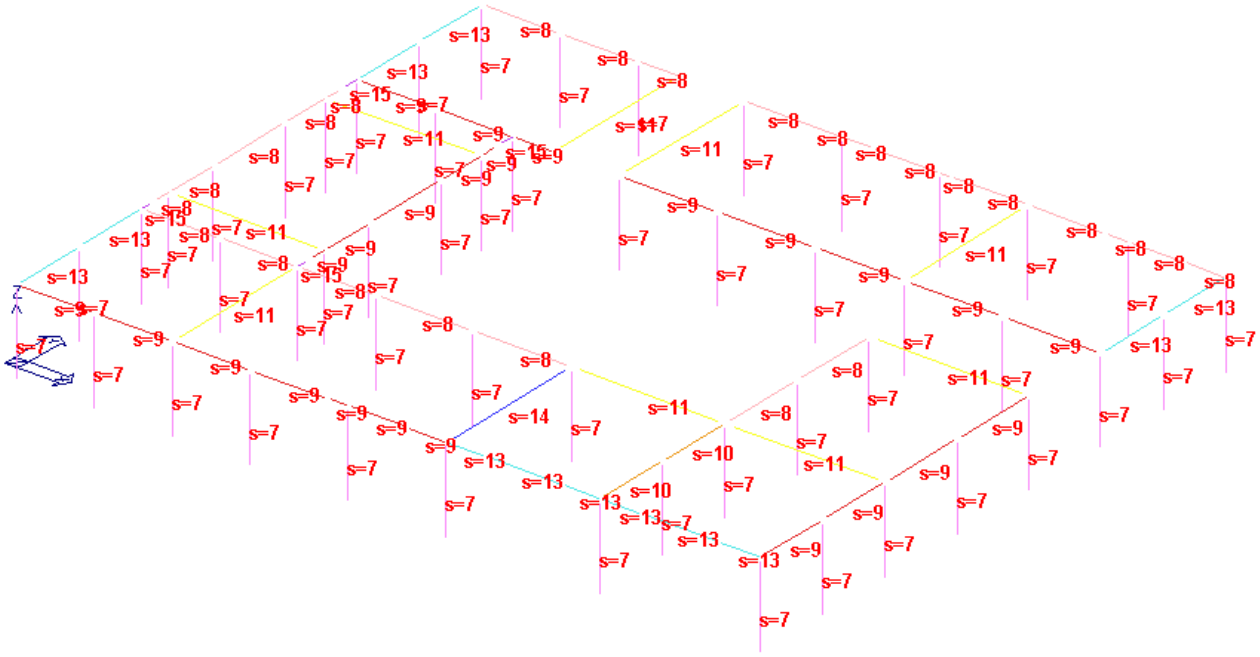


Figura 10.1 - 1 – Codice "Id" elementi strutturali in c.a. in elevazione

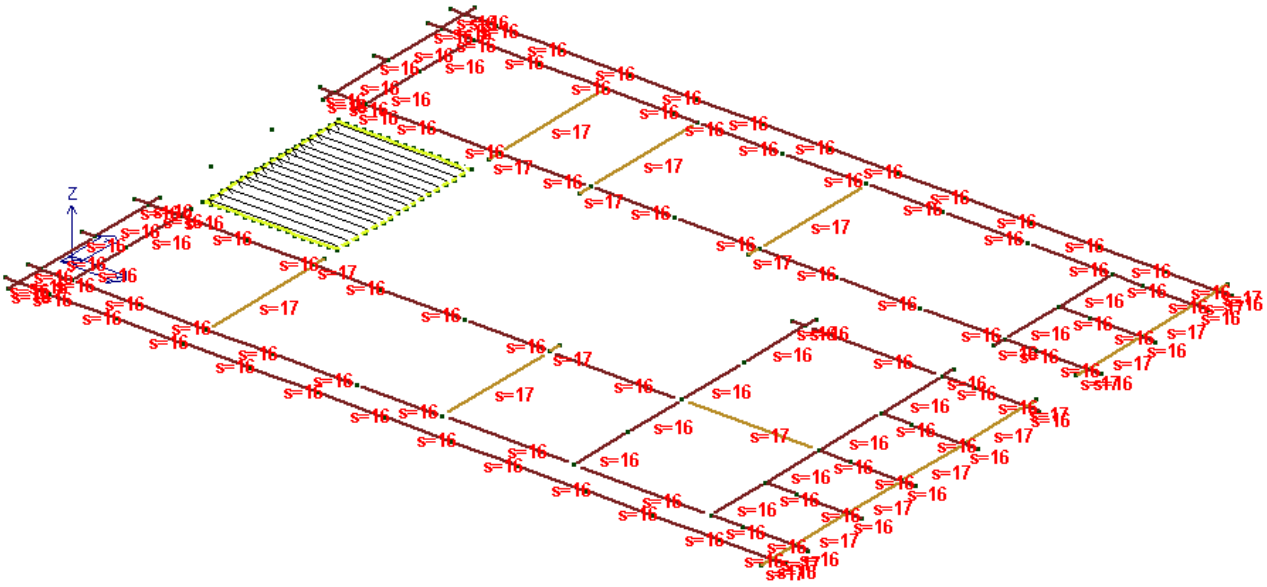


Figura 10.2 - 2 – Codice "Id" elementi strutturali in c.a. in fondazione

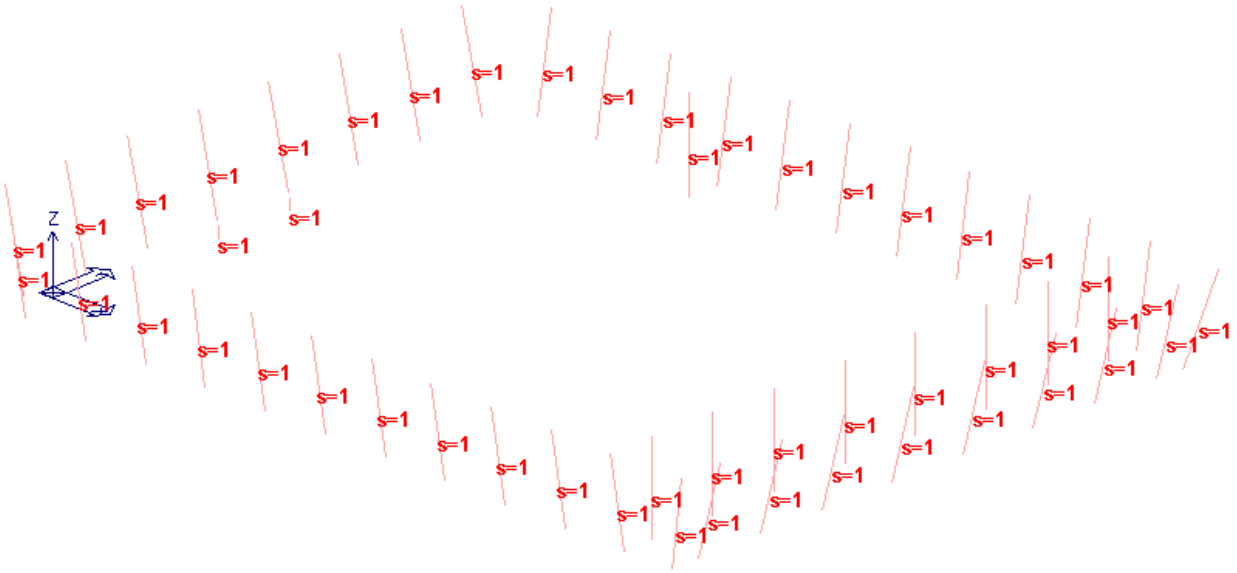


Figura 10.3 - 3 – Codice "Id" pilastri in acciaio

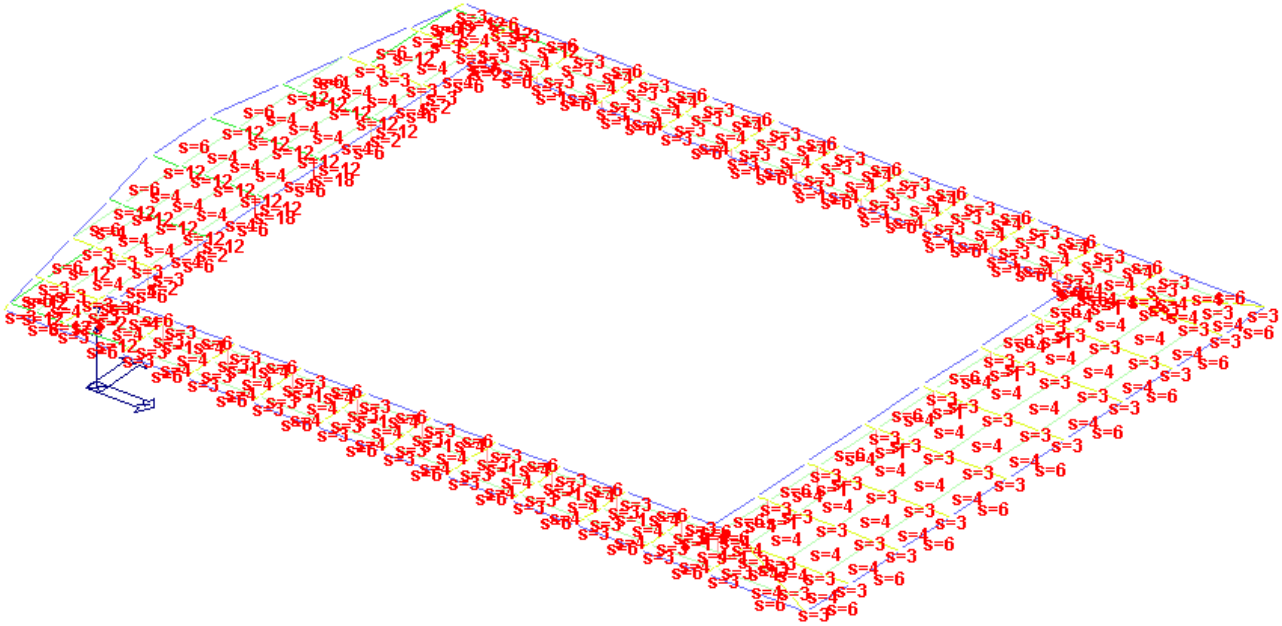


Figura 10.2 - 3 – Codice "Id" travi in acciaio

Infine si riporta una rappresentazione 3D del modello di calcolo strutturale adottato:

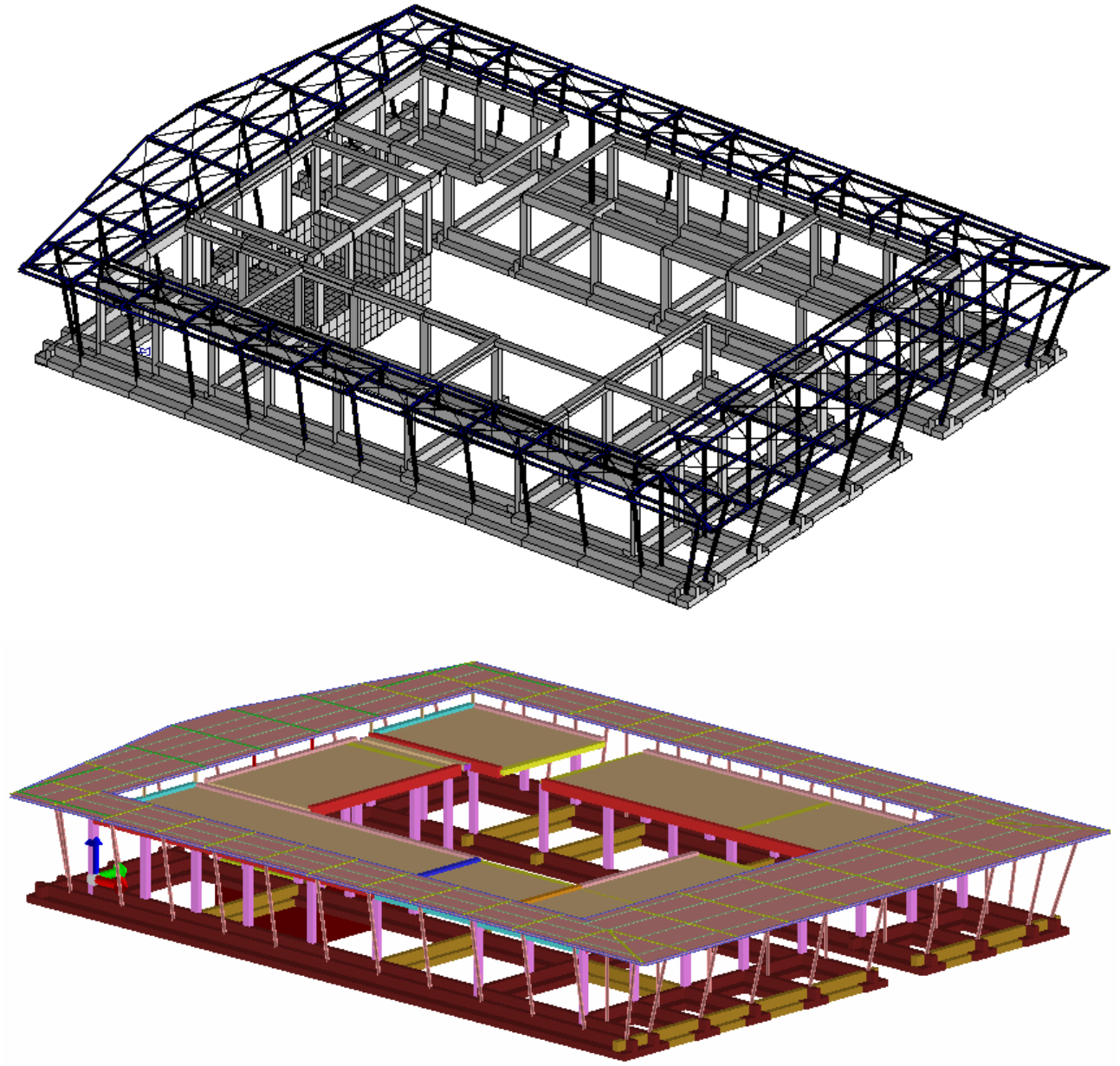


Figura 10.2 - 4 – Viste 3D solide: modello di calcolo completo

10.3. FATTORE DI STRUTTURA

Nella seguente figura si riassumono i principali parametri utilizzati dal programma di calcolo per l'analisi elastica dinamica lineare.

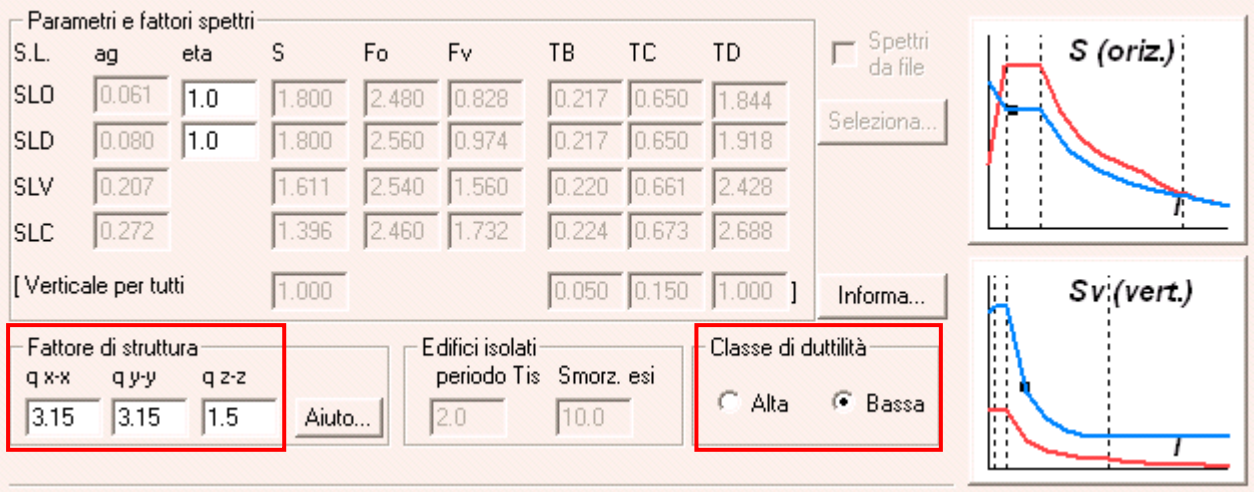


Figura 10.3 - 1 – Parametri per l'analisi modale

10.4. CASI DI CARICO

Il programma consente l'applicazione di diverse tipologie di casi di carico.

Sono di tipo automatico A (ossia non prevedono introduzione dati da parte dell'utente).

Sono di tipo semi-automatico *SA* (ossia prevedono una minima introduzione dati da parte dell'utente.

Sono di tipo non automatico NA ossia prevedono la diretta applicazione di carichi generici agli elementi strutturali (si veda il precedente punto Modellazione delle Azioni) i restanti casi di carico.

Nella tabella successiva vengono riportati i casi di carico agenti sulla struttura, con l'indicazione dei dati relativi al caso di carico stesso: *Numero*, *Tipo* e *Sigla identificativa*, *Valore di riferimento del caso di carico* (se previsto).

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)	
4	Edk	CDC=Ed (dinamico SLU) alfa=0.0 (ecc. +)	partecipazione:1.00 per 1 CDC=Ggk (peso proprio della struttura)
			partecipazione:1.00 per 2 CDC=G1sk (permanente solai-coperture)
			partecipazione:1.00 per 3 CDC=Qnk (carico da neve)
			partecipazione:1.00 per 20 CDC=G1k (permanente murature)
			partecipazione:1.00 per 22 CDC=Qsk (variabile solai)
5	Edk	CDC=Ed (dinamico SLU) alfa=0.0 (ecc. -)	come precedente CDC sismico
6	Edk	CDC=Ed (dinamico SLU) alfa=90.00 (ecc. +)	come precedente CDC sismico
7	Edk	CDC=Ed (dinamico SLU) alfa=90.00 (ecc. -)	come precedente CDC sismico
8	Edk	CDC=Ed (dinamico SLD) alfa=0.0 (ecc. +)	come precedente CDC sismico
9	Edk	CDC=Ed (dinamico SLD) alfa=0.0 (ecc. -)	come precedente CDC sismico
10	Edk	CDC=Ed (dinamico SLD) alfa=90.00 (ecc. +)	come precedente CDC sismico
11	Edk	CDC=Ed (dinamico SLD) alfa=90.00 (ecc. -)	come precedente CDC sismico
12	Qvk	CDC=Qvk (carico da vento X+sopravento)	Nodo: 188 Azione : vento radente X+:Fx=98.00
			Nodo: 188 Azione : vento X+ frontale:Fx=410.00
			Nodo:da 189 a 197 Azione : vento radente X+:Fx=98.00

CDC	Tipo	Sigla Id	Note
			Nodo:da 198 a 199 Azione : vento radente X+:Fx=98.00
			Nodo: 213 Azione : vento radente X+:Fx=98.00
			Nodo: 213 Azione : vento X+ frontale:Fx=410.00
			Nodo: 215 Azione : vento radente X+:Fx=98.00
			Nodo: 215 Azione : vento X+ frontale:Fx=410.00
			Nodo:da 216 a 224 Azione : vento radente X+:Fx=98.00
			Nodo: 225 Azione : vento radente X+:Fx=98.00
			Nodo: 226 Azione : vento radente X+:Fx=98.00
			Nodo: 228 Azione : vento radente X+:Fx=98.00
			Nodo: 244 Azione : vento radente X+:Fx=98.00
			Nodo: 244 Azione : vento X+ frontale:Fx=410.00
			Nodo: 246 Azione : vento radente X+:Fx=98.00
			Nodo: 246 Azione : vento X+ frontale:Fx=410.00
			Nodo:da 249 a 250 Azione : vento radente X+:Fx=98.00
			Nodo: 252 Azione : vento radente X+:Fx=98.00
			Nodo: 256 Azione : vento radente X+:Fx=98.00
			Nodo: 256 Azione : vento X+ frontale:Fx=410.00
			Nodo: 258 Azione : vento radente X+:Fx=98.00
			Nodo: 258 Azione : vento X+ frontale:Fx=410.00
			Nodo:da 261 a 262 Azione : vento radente X+:Fx=98.00
			Nodo: 264 Azione : vento radente X+:Fx=98.00
			Nodo: 268 Azione : vento radente X+:Fx=98.00
			Nodo: 268 Azione : vento X+ frontale:Fx=410.00
			Nodo: 270 Azione : vento radente X+:Fx=98.00
			Nodo: 270 Azione : vento X+ frontale:Fx=410.00
			Nodo:da 273 a 274 Azione : vento radente X+:Fx=98.00
			Nodo: 276 Azione : vento radente X+:Fx=98.00
			Nodo: 280 Azione : vento radente X+:Fx=98.00
			Nodo: 280 Azione : vento X+ frontale:Fx=410.00
			Nodo: 282 Azione : vento radente X+:Fx=98.00
			Nodo: 282 Azione : vento X+ frontale:Fx=410.00
			Nodo:da 285 a 286 Azione : vento radente X+:Fx=98.00
			-------omissis----------
13	Qvk	CDC=Qvk (carico da vento X-sopravento)	Nodo: 188 Azione : vento radente X-:Fx=-98.00
			Nodo:da 189 a 197 Azione : vento radente X-:Fx=-98.00
			Nodo:da 198 a 199 Azione : vento radente X-:Fx=-98.00
			Nodo:da 198 a 199 Azione : vento X- frontale:Fx=-410.00
			Nodo: 213 Azione : vento radente X-:Fx=-98.00
			-------omissis----------
14	Qvk	CDC=Qvk (carico da vento Y+sopravento)	Nodo: 188 Azione : vento radente Y+:Fy=98.00
			Nodo: 188 Azione : vento Y+ frontale:Fy=460.00
			Nodo:da 189 a 197 Azione : vento radente Y+:Fy=98.00
			-------omissis----------
15	Qvk	CDC=Qvk (carico da vento Y-sopravento)	Nodo: 188 Azione : vento radente Y- :Fy=-98.00
			Nodo:da 189 a 197 Azione : vento radente Y- :Fy=-98.00
			Nodo:da 198 a 199 Azione : vento radente Y- :Fy=-98.00
			Nodo: 213 Azione : vento radente Y- :Fy=-98.00
			D2 : 618 Azione : sopravento 120:Fzi=-1.44 Fzf=-1.44
			D2 : 629 Azione : sopravento 120:Fzi=-1.44 Fzf=-1.44
			D2 :da 632 a 641 Azione : sopravento 120:Fzi=-1.44 Fzf=-1.44
			D2 : 644 Azione : sopravento 120:Fzi=-1.44 Fzf=-1.44
			-------omissis----------
16	Qvk	CDC=Qvk (carico da vento X+ sottovento)	Nodo: 188 Azione : vento radente X+:Fx=98.00
			Nodo: 188 Azione : vento X+ frontale:Fx=410.00
			Nodo:da 189 a 197 Azione : vento radente X+:Fx=98.00
			Nodo:da 198 a 199 Azione : vento radente X+:Fx=98.00
			D2 : 502 Azione : sottovento 205:Fzi=2.87 Fzf=2.87
			D2 : 644 Azione : sottovento 120:Fzi=1.68 Fzf=1.68
			-------omissis----------
17	Qvk	CDC=Qvk (carico da vento X- sottovento)	Nodo: 188 Azione : vento radente X-:Fx=-98.00
			Nodo:da 189 a 197 Azione : vento radente X-:Fx=-98.00
			Nodo:da 198 a 199 Azione : vento radente X-:Fx=-98.00
			Nodo:da 198 a 199 Azione : vento X- frontale:Fx=-410.00
			Nodo: 213 Azione : vento radente X-:Fx=-98.00
			D2 :da 632 a 641 Azione : sottovento 120:Fzi=1.68 Fzf=1.68
			D2 : 644 Azione : sottovento 120:Fzi=1.68 Fzf=1.68

CDC	Tipo	Sigla Id	Note
			-------omissis----------
18	Qvk	CDC=Qvk (carico da vento Y+sottovento)	Nodo: 188 Azione : vento radente Y+:Fy=98.00
			Nodo: 188 Azione : vento Y+ frontale:Fy=460.00
			Nodo:da 189 a 197 Azione : vento radente Y+:Fy=98.00
			D2 :da 632 a 641 Azione : sottovento 120:Fzi=1.68 Fzf=1.68
			D2 : 644 Azione : sottovento 120:Fzi=1.68 Fzf=1.68
			-------omissis----------
19	Qvk	CDC=Qvk (carico da vento Y-sottovento)	Nodo: 188 Azione : vento radente Y- :Fy=-98.00
			Nodo:da 189 a 197 Azione : vento radente Y- :Fy=-98.00
			Nodo:da 198 a 199 Azione : vento radente Y- :Fy=-98.00
			Nodo: 213 Azione : vento radente Y- :Fy=-98.00
			Nodo: 215 Azione : vento radente Y- :Fy=-98.00
			Nodo:da 216 a 224 Azione : vento radente Y- :Fy=-98.00
			D2 : 618 Azione : sottovento 120:Fzi=1.68 Fzf=1.68
			D2 : 629 Azione : sottovento 120:Fzi=1.68 Fzf=1.68
			D2 :da 632 a 641 Azione : sottovento 120:Fzi=1.68 Fzf=1.68
			D2 : 644 Azione : sottovento 120:Fzi=1.68 Fzf=1.68
			-------omissis----------
20	Gk	CDC=G1k (permanente murature)	D2 :da 179 a 181 Azione : parapetto:Fzi=-1.33 Fzf=-1.33
			D2 :da 185 a 192 Azione : parapetto:Fzi=-1.33 Fzf=-1.33
			D2 : 197 Azione : parapetto:Fzi=-1.33 Fzf=-1.33
			D2 :da 202 a 205 Azione : parapetto:Fzi=-1.33 Fzf=-1.33
			D2 :da 207 a 210 Azione : parapetto:Fzi=-1.33 Fzf=-1.33
			D2 : 214 Azione : parapetto:Fzi=-1.33 Fzf=-1.33
			D2 :da 216 a 218 Azione : parapetto:Fzi=-1.33 Fzf=-1.33
			D2 :da 220 a 222 Azione : parapetto:Fzi=-1.33 Fzf=-1.33
			D2 :da 224 a 227 Azione : parapetto:Fzi=-1.33 Fzf=-1.33
			D2 :da 231 a 239 Azione : parapetto:Fzi=-1.33 Fzf=-1.33
			D2 :da 241 a 244 Azione : parapetto:Fzi=-1.33 Fzf=-1.33
			D2 :da 246 a 255 Azione : parapetto:Fzi=-1.33 Fzf=-1.33
			D2 :da 679 a 683 Azione : muratura:Fzi=-16.06 Fzf=-16.06
			D2 : 685 Azione : muratura:Fzi=-16.06 Fzf=-16.06
			D2 :da 702 a 706 Azione : muratura:Fzi=-16.06 Fzf=-16.06
			D2 :da 709 a 710 Azione : muratura:Fzi=-16.06 Fzf=-16.06
			D2 :da 712 a 715 Azione : muratura:Fzi=-16.06 Fzf=-16.06
			D2 :da 717 a 718 Azione : muratura:Fzi=-16.06 Fzf=-16.06
			D2 :da 739 a 743 Azione : muratura:Fzi=-16.06 Fzf=-16.06
			D2 :da 745 a 756 Azione : muratura:Fzi=-16.06 Fzf=-16.06
			D2 :da 758 a 761 Azione : muratura:Fzi=-16.06 Fzf=-16.06
			D2 :da 763 a 765 Azione : muratura:Fzi=-16.06 Fzf=-16.06
21	Gk	CDC=G1k (permanente terreno)	D2 : 107 Azione : terreno 120:Fzi=-8.64 Fzf=-8.64
			D2 :da 667 a 678 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 :da 679 a 683 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 : 684 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 : 685 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 :da 686 a 701 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 :da 702 a 706 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 :da 707 a 708 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 :da 709 a 710 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 : 711 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 :da 712 a 715 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 : 716 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 :da 717 a 718 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 :da 719 a 729 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 :da 730 a 732 Azione : terreno 120:Fzi=-8.64 Fzf=-8.64
			D2 : 733 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 :da 734 a 738 Azione : terreno 120:Fzi=-8.64 Fzf=-8.64
			D2 :da 739 a 743 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 : 744 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 :da 745 a 756 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 : 757 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 :da 758 a 761 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 : 762 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 :da 763 a 765 Azione : terreno 120:Fzi=-8.64 Fzf=-8.64
			D2 :da 766 a 768 Azione : terreno 120:Fzi=-8.64 Fzf=-8.64
			D2 :da 769 a 795 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96

CDC	Tipo	Sigla Id	Note
			D2 :da 796 a 799 Azione : terreno 120:Fzi=-8.64 Fzf=-8.64
			D2 : 800 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 : 801 Azione : terreno 120:Fzi=-8.64 Fzf=-8.64
			D2 :da 802 a 806 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 :da 807 a 808 Azione : terreno 120:Fzi=-8.64 Fzf=-8.64
			D2 :da 809 a 810 Azione : terreno 180:Fzi=-12.96 Fzf=-12.96
			D2 : 811 Azione : terreno 120:Fzi=-8.64 Fzf=-8.64
22	Qsk	CDC=Qsk (variabile solai)	

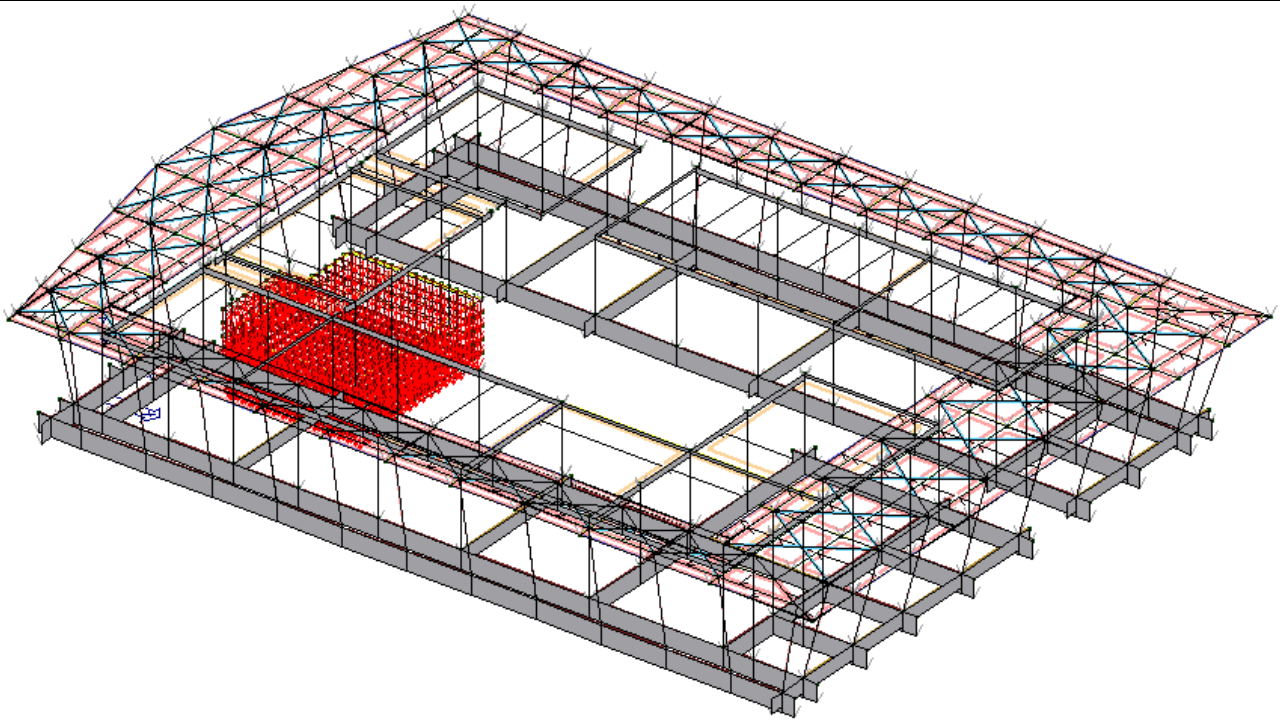


Figura 10.4 - 1 – Caso di carico 1

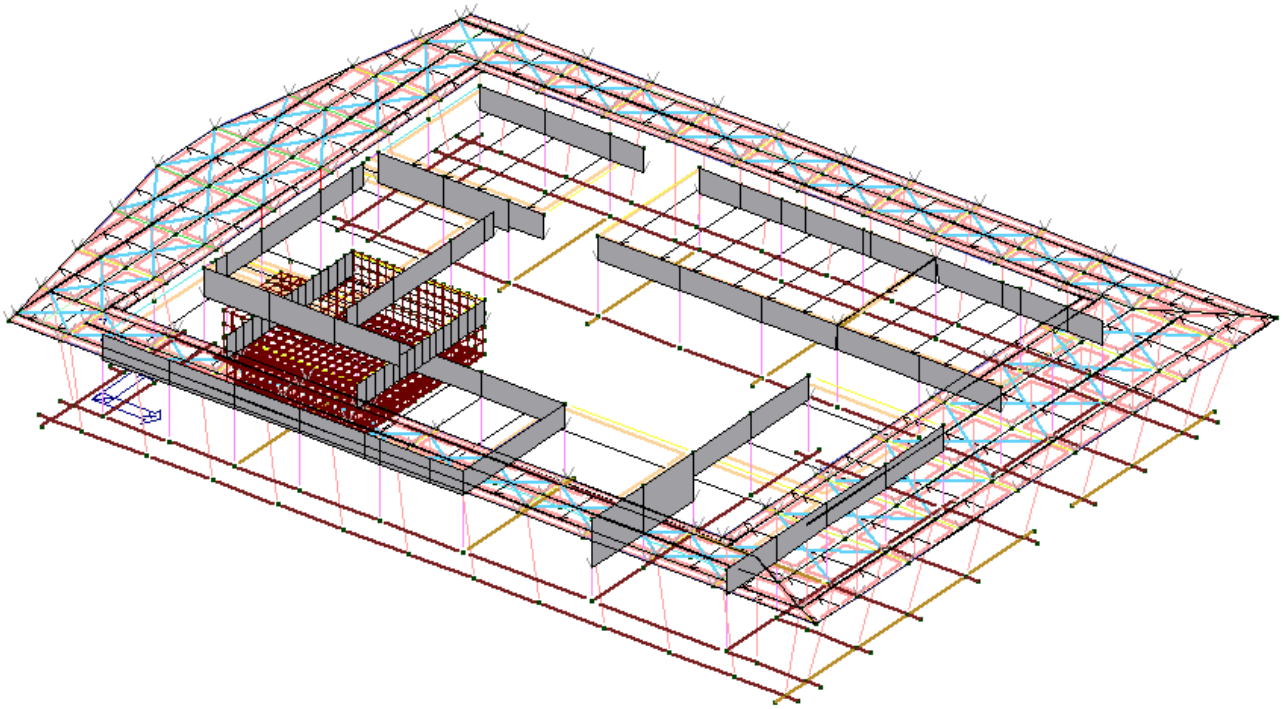


Figura 10.4 - 2 – Caso di carico 2

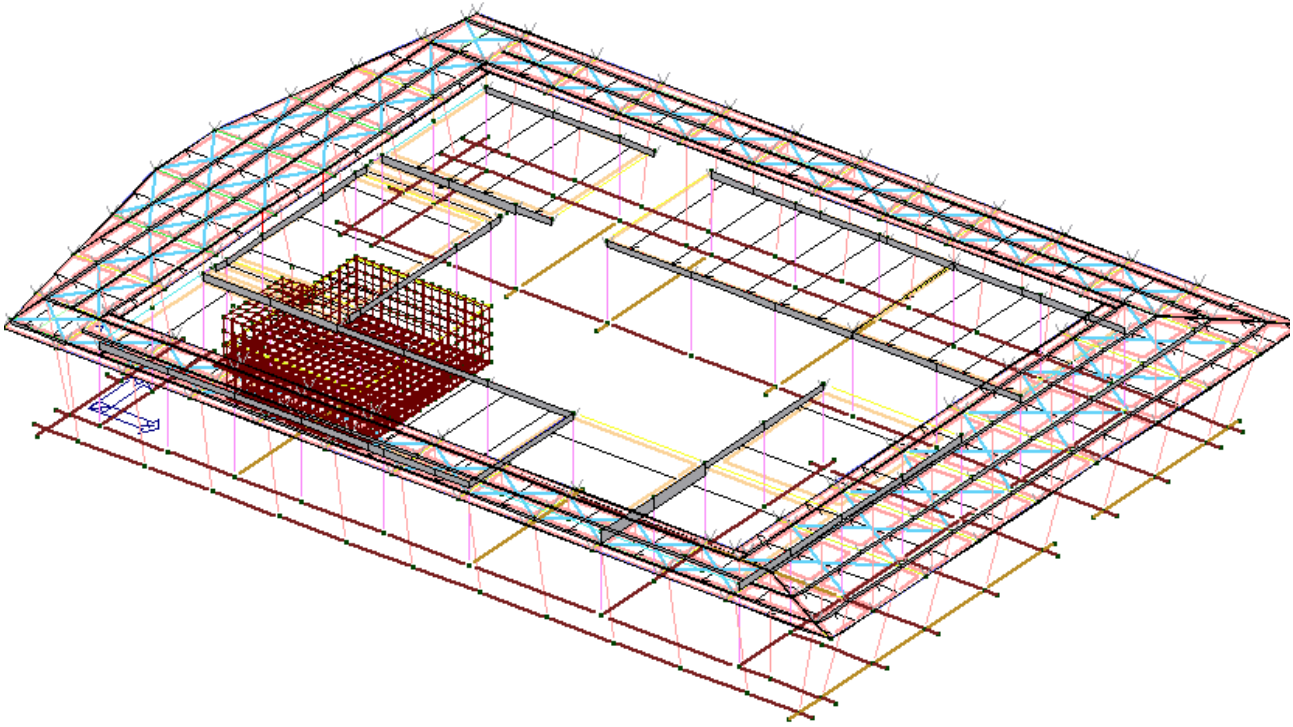


Figura 10.4 - 3 – Caso di carico 3

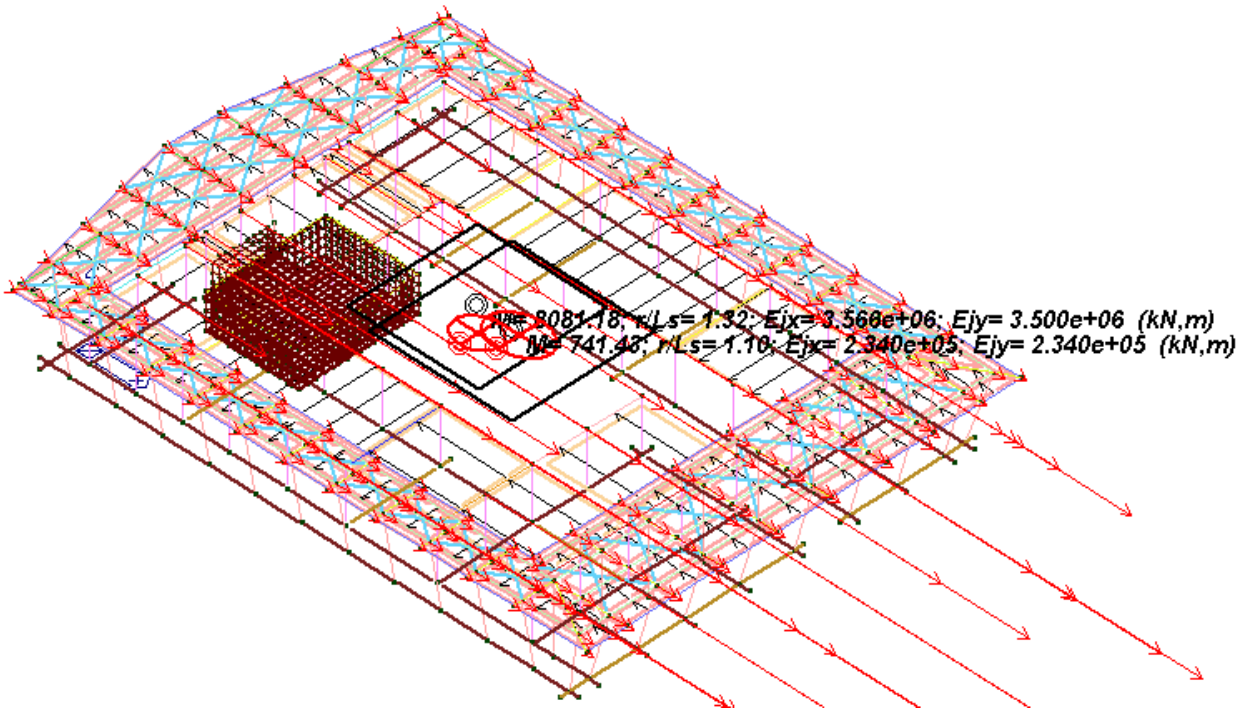


Figura 10.5 - 4 – Caso di carico 4

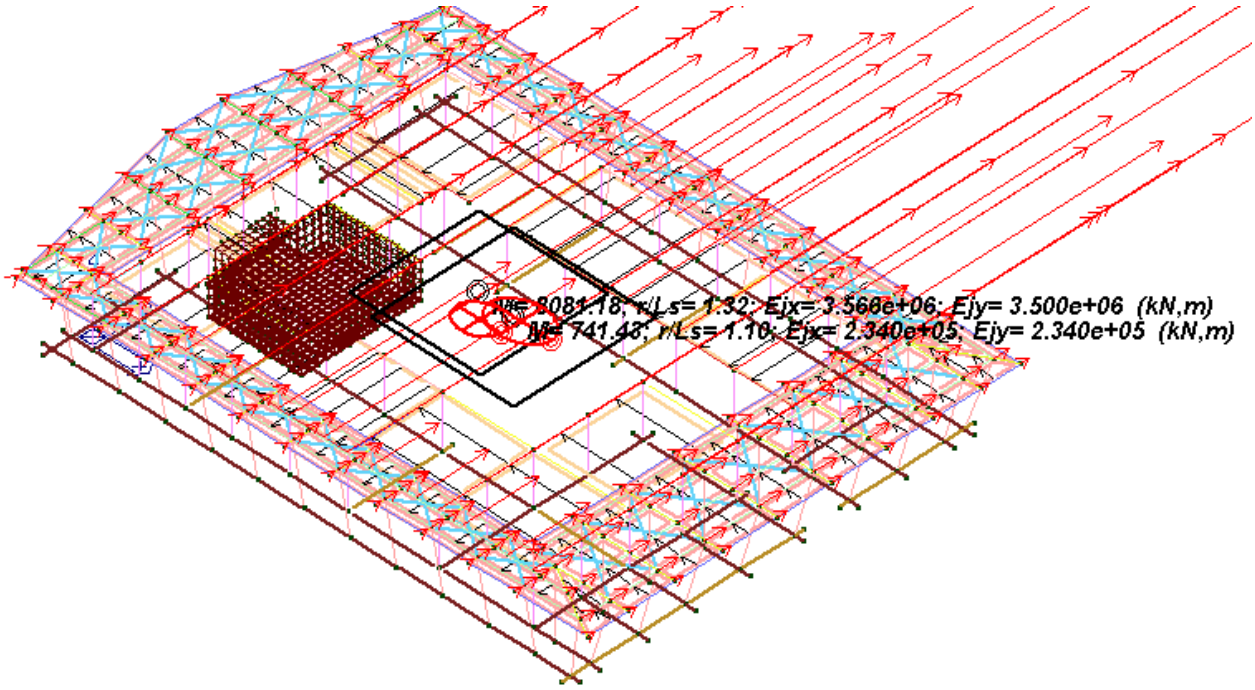


Figura 10.6 - 5 – Caso di carico 6

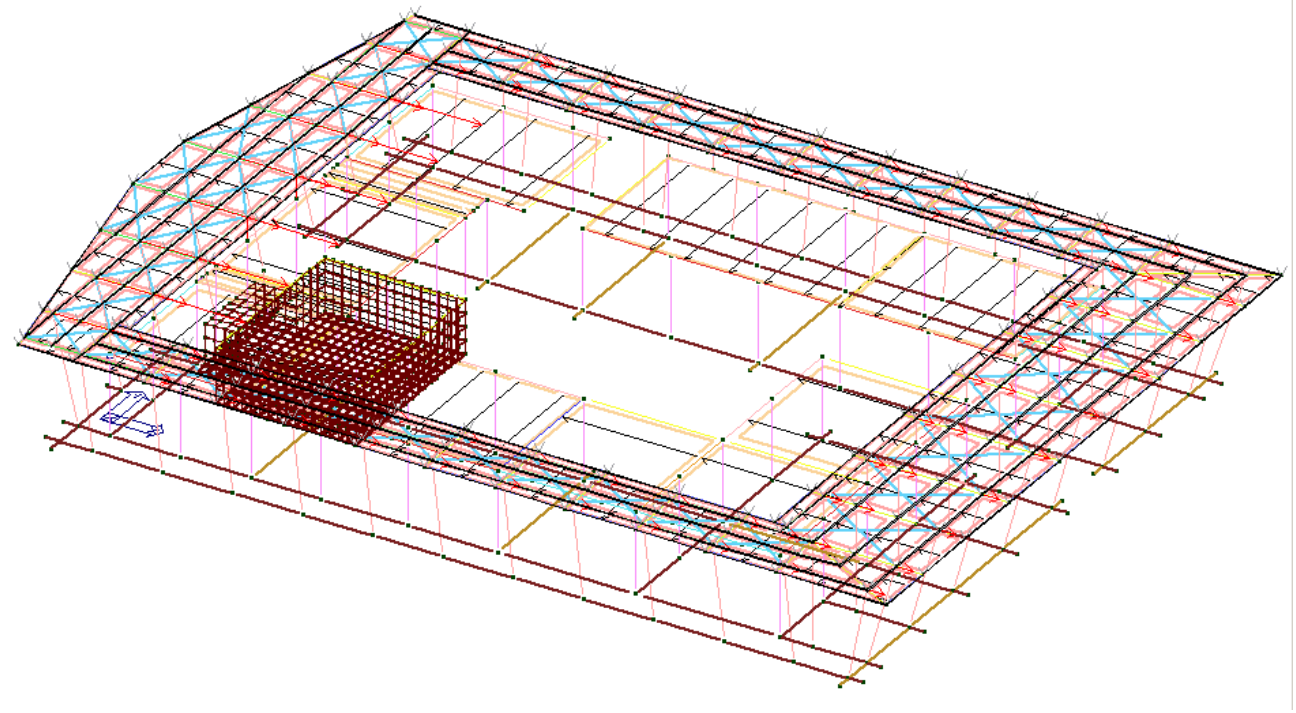


Figura 10.6 - 6 – Caso di carico 12

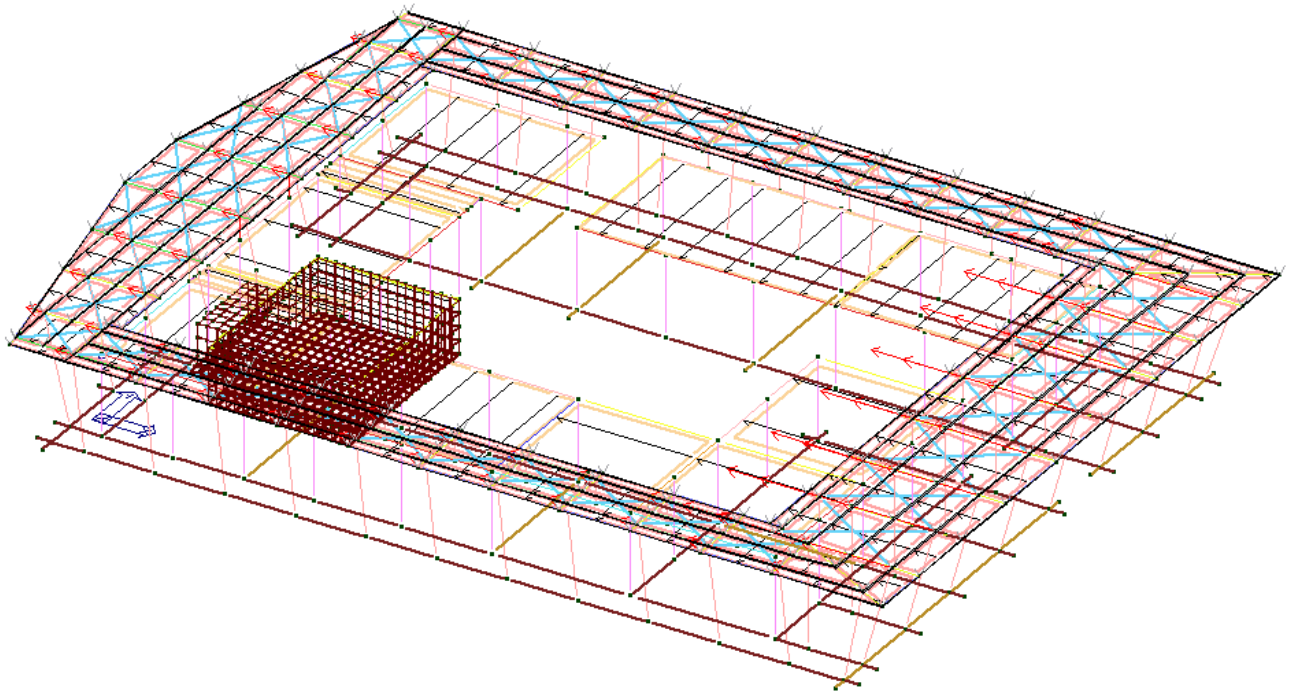


Figura 10.6 - 7 – Caso di carico 13

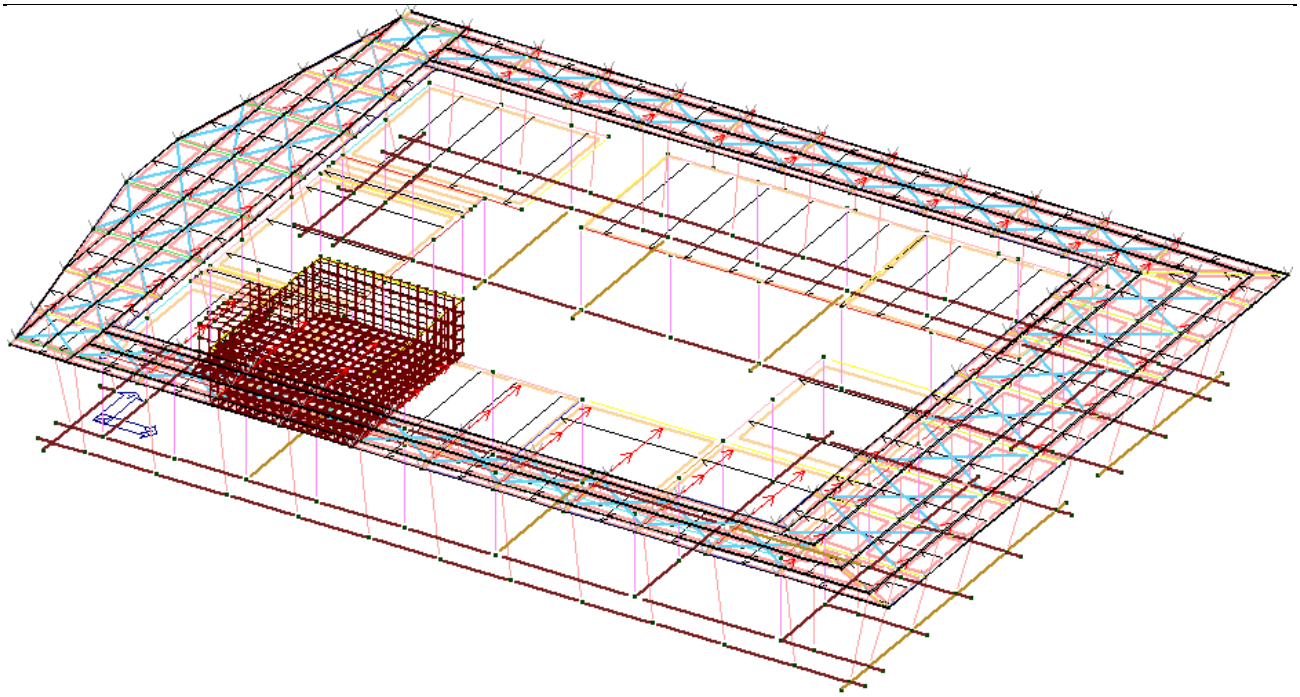


Figura 10.6 - 8 – Caso di carico 14

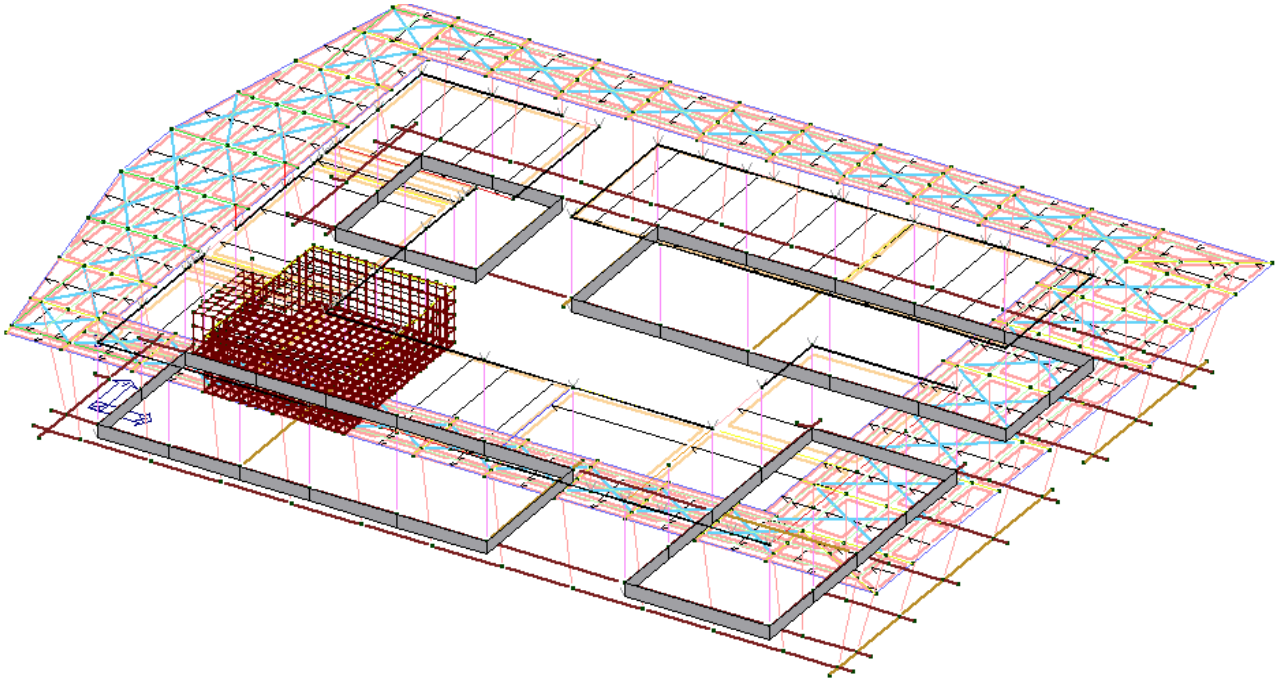


Figura 10.6 - 9 – Caso di carico 20

Si precisa come per l'azione del vento siano stati impletamentati diversi casi di carico atti a simulare la pressione del vento sugli elementi sopravento/sottovento e sulla copertura (vento radente e di schiacciamento/sollevamento).

Nello specifico si sono assunti i seguenti coefficienti di forma:

- C_p = +0.8 (elementi sopravento);
- C_p = -0.4 (elementi sottovento);
- C_p = +1.2 (copertura: azione del vento di schiacciamento);
- C_p = -1.4 (copertura: azione del vento di sollevamento, rif. *Istruzioni CNR DT207/2008, Tabella G.XII – grado di bloccaggio φ = 1).*

Per la valutazione dell'entità dell'azione radente si è fatto riferimento al *paragrafo C3.3.10.2.1 - Vento diretto normalmente alle linee di colmo* della *Circolare n°.617,* assumendo un valore unitario convenzionale pari a 0.10 $q_{ref}\, c_e$.

10.5. COMBINAZIONI DI CARICO

Il programma combina i diversi tipi di casi di carico (CDC) secondo le regole previste dalla normativa vigente.

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.

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	SLU	Comb. SLU A1 5	
6	SLU	Comb. SLU A1 6	
7	SLU	Comb. SLU A1 7	
8	SLU	Comb. SLU A1 8	
9	SLU	Comb. SLU A1 9	
10	SLU	Comb. SLU A1 10	
11	SLU	Comb. SLU A1 11	
12	SLU	Comb. SLU A1 12	
13	SLU	Comb. SLU A1 13	
14	SLU	Comb. SLU A1 14	
15	SLU	Comb. SLU A1 15	
16	SLU	Comb. SLU A1 16	
17	SLU	Comb. SLU A1 17	
18	SLU	Comb. SLU A1 18	
19	SLU	Comb. SLU A1 19	
20	SLU	Comb. SLU A1 20	
21	SLU	Comb. SLU A1 21	
22	SLU	Comb. SLU A1 22	
23	SLU	Comb. SLU A1 23	
24	SLU	Comb. SLU A1 24	
25	SLU	Comb. SLU A1 25	
26	SLU	Comb. SLU A1 26	
27	SLU	Comb. SLU A1 27	

Cmb	Tipo	Sigla Id	effetto P-delta
28	SLU	Comb. SLU A1 28	
29	SLU	Comb. SLU A1 29	
30	SLU	Comb. SLU A1 30	
31	SLU	Comb. SLU A1 31	
32	SLU	Comb. SLU A1 32	
33	SLU	Comb. SLU A1 33	
34	SLU	Comb. SLU A1 34	
35	SLU	Comb. SLU A1 35	
36	SLU	Comb. SLU A1 36	
37	SLU (Terr. A2)	Comb. SLU A2 37	
38	SLU (Terr. A2)	Comb. SLU A2 38	
39	SLU (Terr. A2)	Comb. SLU A2 39	
40	SLU (Terr. A2)	Comb. SLU A2 40	
41	SLU (Terr. A2)	Comb. SLU A2 41	
42	SLU (Terr. A2)	Comb. SLU A2 42	
43	SLU (Terr. A2)	Comb. SLU A2 43	
44	SLU (Terr. A2)	Comb. SLU A2 44	
45	SLU (Terr. A2)	Comb. SLU A2 45	
46	SLU (Terr. A2)	Comb. SLU A2 46	
47	SLU (Terr. A2)	Comb. SLU A2 47	
48	SLU (Terr. A2)	Comb. SLU A2 48	
49	SLU (Terr. A2)	Comb. SLU A2 49	
50	SLU (Terr. A2)	Comb. SLU A2 50	
51	SLU (Terr. A2)	Comb. SLU A2 51	
52	SLU (Terr. A2)	Comb. SLU A2 52	
53	SLU (Terr. A2)	Comb. SLU A2 53	
54	SLU (Terr. A2)	Comb. SLU A2 54	
55	SLU	Comb. SLU A1 (SLV sism.) 55	
56	SLU	Comb. SLU A1 (SLV sism.) 56	
57	SLU	Comb. SLU A1 (SLV sism.) 57	
58	SLU	Comb. SLU A1 (SLV sism.) 58	
59	SLU	Comb. SLU A1 (SLV sism.) 59	
60	SLU	Comb. SLU A1 (SLV sism.) 60	
61	SLU	Comb. SLU A1 (SLV sism.) 61	
62	SLU	Comb. SLU A1 (SLV sism.) 62	
63	SLU	Comb. SLU A1 (SLV sism.) 63	
64	SLU	Comb. SLU A1 (SLV sism.) 64	
65	SLU	Comb. SLU A1 (SLV sism.) 65	
66	SLU	Comb. SLU A1 (SLV sism.) 66	
67	SLU	Comb. SLU A1 (SLV sism.) 67	
68	SLU	Comb. SLU A1 (SLV sism.) 68	
69	SLU	Comb. SLU A1 (SLV sism.) 69	
70	SLU	Comb. SLU A1 (SLV sism.) 70	
71	SLU	Comb. SLU A1 (SLV sism.) 71	
72	SLU	Comb. SLU A1 (SLV sism.) 72	
73	SLU	Comb. SLU A1 (SLV sism.) 73	
74	SLU	Comb. SLU A1 (SLV sism.) 74	
75	SLU	Comb. SLU A1 (SLV sism.) 75	
76	SLU	Comb. SLU A1 (SLV sism.) 76	
77	SLU	Comb. SLU A1 (SLV sism.) 77	
78	SLU	Comb. SLU A1 (SLV sism.) 78	
79	SLU	Comb. SLU A1 (SLV sism.) 79	
80	SLU	Comb. SLU A1 (SLV sism.) 80	
81	SLU	Comb. SLU A1 (SLV sism.) 81	
82	SLU	Comb. SLU A1 (SLV sism.) 82	
83	SLU	Comb. SLU A1 (SLV sism.) 83	
84	SLU	Comb. SLU A1 (SLV sism.) 84	
85	SLU	Comb. SLU A1 (SLV sism.) 85	
86	SLU	Comb. SLU A1 (SLV sism.) 86	
87	SLD(sis)	Comb. SLE (SLD Danno sism.) 87	
88	SLD(sis)	Comb. SLE (SLD Danno sism.) 88	
89	SLD(sis)	Comb. SLE (SLD Danno sism.) 89	
90	SLD(sis)	Comb. SLE (SLD Danno sism.) 90	
91	SLD(sis)	Comb. SLE (SLD Danno sism.) 91	
92	SLD(sis)	Comb. SLE (SLD Danno sism.) 92	
93	SLD(sis)	Comb. SLE (SLD Danno sism.) 93	

Cmb	Tipo	Sigla Id	effetto P-delta
94	SLD(sis)	Comb. SLE (SLD Danno sism.) 94	
95	SLD(sis)	Comb. SLE (SLD Danno sism.) 95	
96	SLD(sis)	Comb. SLE (SLD Danno sism.) 96	
97	SLD(sis)	Comb. SLE (SLD Danno sism.) 97	
98	SLD(sis)	Comb. SLE (SLD Danno sism.) 98	
99	SLD(sis)	Comb. SLE (SLD Danno sism.) 99	
100	SLD(sis)	Comb. SLE (SLD Danno sism.) 100	
101	SLD(sis)	Comb. SLE (SLD Danno sism.) 101	
102	SLD(sis)	Comb. SLE (SLD Danno sism.) 102	
103	SLD(sis)	Comb. SLE (SLD Danno sism.) 103	
104	SLD(sis)	Comb. SLE (SLD Danno sism.) 104	
105	SLD(sis)	Comb. SLE (SLD Danno sism.) 105	
106	SLD(sis)	Comb. SLE (SLD Danno sism.) 106	
107	SLD(sis)	Comb. SLE (SLD Danno sism.) 107	
108	SLD(sis)	Comb. SLE (SLD Danno sism.) 108	
109	SLD(sis)	Comb. SLE (SLD Danno sism.) 109	
110	SLD(sis)	Comb. SLE (SLD Danno sism.) 110	
111	SLD(sis)	Comb. SLE (SLD Danno sism.) 111	
112	SLD(sis)	Comb. SLE (SLD Danno sism.) 112	
113	SLD(sis)	Comb. SLE (SLD Danno sism.) 113	
114	SLD(sis)	Comb. SLE (SLD Danno sism.) 114	
115	SLD(sis)	Comb. SLE (SLD Danno sism.) 115	
116	SLD(sis)	Comb. SLE (SLD Danno sism.) 116	
117	SLD(sis)	Comb. SLE (SLD Danno sism.) 117	
118	SLD(sis)	Comb. SLE (SLD Danno sism.) 118	
119	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 119	
120	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 120	
121	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 121	
122	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 122	
123	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 123	
124	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 124	
125	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 125	
126	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 126	
127	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 127	
128	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 128	
129	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 129	
130	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 130	
131	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 131	
132	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 132	
133	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 133	
134	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 134	
135	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 135	
136	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 136	
137	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 137	
138	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 138	
139	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 139	
140	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 140	
141	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 141	
142	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 142	
143	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 143	
144	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 144	
145	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 145	
146	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 146	
147	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 147	
148	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 148	
149	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 149	
150	SLU (Terr. A2)	Comb. SLU A2 (SLV sism.) 150	
151	SLE(r)	Comb. SLE(rara) 151	
152	SLE(r)	Comb. SLE(rara) 152	
153	SLE(r)	Comb. SLE(rara) 153	
154	SLE(r)	Comb. SLE(rara) 154	
155	SLE(r)	Comb. SLE(rara) 155	
156	SLE(r)	Comb. SLE(rara) 156	
157	SLE(r)	Comb. SLE(rara) 157	
158	SLE(r)	Comb. SLE(rara) 158	
159	SLE(r)	Comb. SLE(rara) 159	

Cmb	Tipo	Sigla Id	effetto P-delta
160	SLE(r)	Comb. SLE(rara) 160	
161	SLE(r)	Comb. SLE(rara) 161	
162	SLE(r)	Comb. SLE(rara) 162	
163	SLE(r)	Comb. SLE(rara) 163	
164	SLE(r)	Comb. SLE(rara) 164	
165	SLE(r)	Comb. SLE(rara) 165	
166	SLE(r)	Comb. SLE(rara) 166	
167	SLE(r)	Comb. SLE(rara) 167	
168	SLE(r)	Comb. SLE(rara) 168	
169	SLE(f)	Comb. SLE(freq.) 169	
170	SLE(f)	Comb. SLE(freq.) 170	
171	SLE(f)	Comb. SLE(freq.) 171	
172	SLE(f)	Comb. SLE(freq.) 172	
173	SLE(f)	Comb. SLE(freq.) 173	
174	SLE(f)	Comb. SLE(freq.) 174	
175	SLE(f)	Comb. SLE(freq.) 175	
176	SLE(f)	Comb. SLE(freq.) 176	
177	SLE(f)	Comb. SLE(freq.) 177	
178	SLE(f)	Comb. SLE(freq.) 178	
179	SLE(p)	Comb. SLE(perm.) 179	

A chiarimento si riportano i parametri implementati per la formulazione delle combinazioni di carico.

CDC	Psi 0	Psi 1	Psi 2	Psi 2 sis	Segni
CDC=Qnk (carico da neve)	0.50	0.20	0	0	positivo
CDC=Qvk (carico da vent...	0.60	0.20	0	0	positivo
CDC=Qvk (carico da vent...	0.60	0.20	0	0	positivo
CDC=Qvk (carico da vent...	0.60	0.20	0	0	positivo
CDC=Qvk (carico da vent...	0.60	0.20	0	0	positivo
CDC=Qvk (carico da vent...	0.60	0.20	0	0	positivo
CDC=Qvk (carico da vent...	0.60	0.20	0	0	positivo
CDC=Qvk (carico da vent...	0.60	0.20	0	0	positivo
CDC=Qvk (carico da vent...	0.60	0.20	0	0	positivo
CDC=Qsk (variabile solai)	0.70	0.50	0.30	0.30	positivo

CDC	CDC...	CDC...	CDC...	CDC...	CDC...	CDC...	CD...	CDC...	CDC...	CDC...
CDC=Qnk (carico da n...		Non...	Non...	Non ...	Non...	Escl...	Esc...	Escl...	Escl...	Inclu...
CDC=Qvk (carico da v...			Escl...	Escl...	Escl...	Escl...	Esc...	Escl...	Escl...	Inclu...
CDC=Qvk (carico da v...				Escl...	Escl...	Escl...	Esc...	Escl...	Escl...	Inclu...
CDC=Qvk (carico da v...					Escl...	Escl...	Esc...	Escl...	Escl...	Inclu...
CDC=Qvk (carico da v...						Escl...	Esc...	Escl...	Escl...	Inclu...
CDC=Qvk (carico da v...							Esc...	Escl...	Escl...	Inclu...
CDC=Qvk (carico da v...								Escl...	Escl...	Inclu...
CDC=Qvk (carico da v...									Escl...	Inclu...
CDC=Qvk (carico da v...										Inclu...
CDC=Qsk (variabile solai)										

CDC	Durata	Valore rif.
CDC=Ggk (peso proprio della struttura)	Permanente	1
CDC=G1sk (permanente solai-coperture)	Permanente	1
CDC=Qnk (carico da neve)	Media durata	1
CDC=Ed (dinamico SLU) alfa=0.0 (ecc. +)	Istantaneo	1
CDC=Ed (dinamico SLU) alfa=0.0 (ecc. -)	Istantaneo	1
CDC=Ed (dinamico SLU) alfa=90.00 (ecc. +)	Istantaneo	1
CDC=Ed (dinamico SLU) alfa=90.00 (ecc. -)	Istantaneo	1
CDC=Ed (dinamico SLD) alfa=0.0 (ecc. +)	Istantaneo	1
CDC=Ed (dinamico SLD) alfa=0.0 (ecc. -)	Istantaneo	1
CDC=Ed (dinamico SLD) alfa=90.00 (ecc. +)	Istantaneo	1
CDC=Ed (dinamico SLD) alfa=90.00 (ecc. -)	Istantaneo	1
CDC=Qvk (carico da vento X+sopravento)	Breve durata	1
CDC=Qvk (carico da vento X-sopravento)	Breve durata	1
CDC=Qvk (carico da vento Y+sopravento)	Breve durata	1
CDC=Qvk (carico da vento Y-sopravento)	Breve durata	1
CDC=Qvk (carico da vento X+ sottovento)	Breve durata	1
CDC=Qvk (carico da vento X- sottovento)	Breve durata	1
CDC=Qvk (carico da vento Y+sottovento)	Breve durata	1
CDC=Qvk (carico da vento Y-sottovento)	Breve durata	1
CDC=G1k (permanente murature)	Permanente	1
CDC=G1k (permanente terreno)	Permanente	1
CDC=Qsk (variabile solai)	Media durata	1

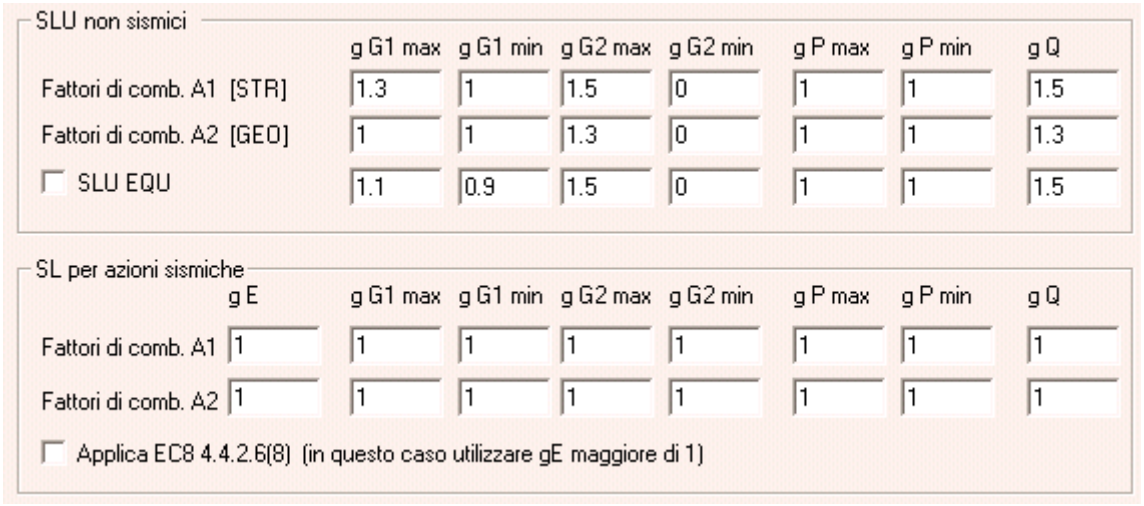


Figura 10.5 – 1 - Parametri combinazioni di carico

11. ANALISI DELLA SOLLECITAZIONE

Di seguito si riportano i risultati ottenuti relativamente all'analisi sismica, all'inviluppo delle sollecitazioni.

11.1. RISULTATI DELL'ANALISI SISMICA

Il programma consente l'analisi di diverse configurazioni sismiche. Si è deciso di procedere con un'analisi dinamica lineare prevedendo i casi di carico sismico *Edk* di cui al paragrafo precedente.

Ciascun caso di carico è caratterizzato da un angolo di ingresso e da una configurazione di masse determinante la forza sismica complessiva.

Nella colonna *Note*, sono riportati i parametri fondamentali che caratterizzano l'azione sismica: in particolare possono essere presenti i seguenti valori:

Angolo di ingresso	Angolo di ingresso dell'azione sismica orizzontale
Fattore di importanza	Fattore di importanza dell'edificio, in base alla categoria di appartenenza
Zona sismica	Zona sismica
Accelerazione ag	Accelerazione orizzontale massima sul suolo
Categoria suolo	Categoria di profilo stratigrafico del suolo di fondazione
Fattore di struttura q	Fattore dipendente dalla tipologia strutturale
Fattore di sito S	Fattore dipendente dalla stratigrafia e dal profilo topografico
Classe di duttilità CD	Classe di duttilità della struttura – "A" duttilità alta, "B" duttilità bassa
Fattore riduz. SLD	Fattore di riduzione dello spettro elastico per lo stato limite di danno
Periodo proprio T1	Periodo proprio di vibrazione della struttura
Coefficiente Lambda	Coefficiente dipendente dal periodo proprio T1 e dal numero di piani della struttura
Ordinata spettro Sd(T1)	Valore delle ordinate dello spettro di progetto per lo stato limite ultimo, componente orizzontale (verticale Svd)
Ordinata spettro Se(T1)	Valore delle ordinate dello spettro elastico ridotta del fattore SLD per lo stato limite di danno, componente orizzontale (verticale Sve)

Ordinata spettro S (Tb-Tc)	Valore dell' ordinata dello spettro in uso nel tratto costante
numero di modi considerati	Numero di modi di vibrare della struttura considerati nell'analisi dinamica

Per ciascun caso di carico sismico viene riportato l'insieme di dati sottoriportati (le masse sono espresse in unità di forza):

- quota, posizione del centro di massa e massa risultante, posizione del baricentro delle rigidezze, rapporto r/Ls (per strutture a nucleo)
- frequenza, periodo,accelerazione spettrale, massa eccitata nelle tre direzioni globali per tutti i modi
- massa complessiva ed aliquota di massa complessiva eccitata.

Per ciascuna combinazione sismica *SLD* viene riportato il livello di deformazione etaT (dr) degli elementi strutturali verticali. Per semplicità di consultazione il livello è espresso anche in unità *1000*etaT/h* da confrontare direttamente con i valori forniti dalle *NTC2008 al §7.3.7.2* (*1000 etaT/h ≤ 10.0 per edifici con tamponamenti collegati elasticamente*).

Nel caso in esame *1000 etaT/h = 8.07 ≤ 10.0* *verificato*

CDC	Tipo	Sigla Id	Note
4	Edk	CDC=Ed (dinamico SLU) alfa=0.0 (ecc. +)	
			categoria suolo: D
			fattore di sito S = 1.611
			ordinata spettro (tratto Tb-Tc) = 0.269 g
			angolo di ingresso:0.0
			eccentricità aggiuntiva: positiva
			periodo proprio T1: 0.369 sec.
			fattore di struttura q: 3.150
			fattore per spost. mu d: 4.849
			classe di duttilità CD: B
			numero di modi considerati: 20
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
m	kg	m	m	m	m	m	m			
4.80	7.414e+04	21.18	14.91	0.0	-1.83	20.57	14.90	1.105	0.030	7.4294e-04
3.50	8.081e+05	18.14	14.42	0.0	-1.49	16.35	16.20	1.317	0.098	0.099
Risulta	8.823e+05									

Modo	Frequenza	Periodo	Acc. Spettrale	M eccitata X x g	%	M eccitata Y x g	%	M eccitata Z x g	%
	Hz	sec	g	kg		kg		kg	
1	2.387	0.419	0.269	1217.27	0.1	7.489e+05	84.9	3.26	3.70e-04
2	2.708	0.369	0.269	4.536e+05	51.4	2.639e+04	3.0	154.66	1.75e-02
3	2.789	0.359	0.269	2.034e+05	23.1	2.886e+04	3.3	19.76	2.24e-03
4	3.203	0.312	0.269	7.599e+04	8.6	483.12	5.48e-02	0.85	9.65e-05
5	3.568	0.280	0.269	2.121e+04	2.4	1.673e+04	1.9	143.77	1.63e-02
6	3.785	0.264	0.269	1.477e+04	1.7	3.414e+04	3.9	471.42	5.34e-02
7	4.044	0.247	0.269	5145.54	0.6	18.27	2.07e-03	19.30	2.19e-03
8	4.352	0.230	0.269	2.760e+04	3.1	889.91	0.1	51.90	5.88e-03
9	4.621	0.216	0.270	6.430e+04	7.3	12.63	1.43e-03	62.52	7.09e-03
10	5.040	0.198	0.275	2454.90	0.3	792.06	8.98e-02	95.88	1.09e-02

Modo	Frequenza	Periodo	Acc. Spettrale	M eccitata X x g	%	M eccitata Y x g	%	M eccitata Z x g	%
11	5.474	0.183	0.280	106.26	1.20e-02	0.04	4.77e-06	3239.00	0.4
12	5.481	0.182	0.280	4.07	4.61e-04	86.62	9.82e-03	336.78	3.82e-02
13	5.628	0.178	0.281	1026.98	0.1	580.54	6.58e-02	1686.08	0.2
14	6.307	0.159	0.287	388.94	4.41e-02	1363.24	0.2	1.351e+05	15.3
15	6.387	0.157	0.288	57.13	6.48e-03	259.76	2.94e-02	1.136e+05	12.9
16	6.553	0.153	0.289	121.25	1.37e-02	450.94	5.11e-02	2.586e+05	29.3
17	6.631	0.151	0.289	1370.56	0.2	870.74	9.87e-02	1.283e+04	1.5
18	6.645	0.150	0.289	448.01	5.08e-02	2092.37	0.2	646.06	7.32e-02
19	6.742	0.148	0.290	19.85	2.25e-03	1187.97	0.1	2.110e+04	2.4
20	7.178	0.139	0.293	71.66	8.12e-03	17.88	2.03e-03	3.057e+04	3.5
Risulta				8.733e+05		8.641e+05		5.787e+05	
In percentuale				98.98		97.94		65.60	

CDC	Tipo	Sigla Id	Note
5	Edk	CDC=Ed (dinamico SLU) alfa=0.0 (ecc. -)	
			categoria suolo: D
			fattore di sito S = 1.611
			ordinata spettro (tratto Tb-Tc) = 0.269 g
			angolo di ingresso:0.0
			eccentricità aggiuntiva: negativa
			periodo proprio T1: 0.348 sec.
			fattore di struttura q: 3.150
			fattore per spost. mu d: 5.089
			classe di duttilità CD: B
			numero di modi considerati: 20
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
m	kg	m	m	m	m	m	m			
4.80	7.414e+04	21.18	14.91	0.0	1.83	20.57	14.90	1.105	0.030	7.4294e-04
3.50	8.081e+05	18.14	14.42	0.0	1.49	16.35	16.20	1.317	0.098	0.099
Risulta	8.823e+05									

Modo	Frequenza	Periodo	Acc. Spettrale	M eccitata X x g	%	M eccitata Y x g	%	M eccitata Z x g	%
	Hz	sec	g	kg		kg		kg	
1	2.387	0.419	0.269	245.28	2.78e-02	7.518e+05	85.2	5.35	6.07e-04
2	2.762	0.362	0.269	8837.93	1.0	4.698e+04	5.3	30.94	3.51e-03
3	2.877	0.348	0.269	7.018e+05	79.5	3497.54	0.4	164.04	1.86e-02
4	3.132	0.319	0.269	22.38	2.54e-03	545.36	6.18e-02	33.16	3.76e-03
5	3.634	0.275	0.269	8709.44	1.0	4.150e+04	4.7	297.87	3.38e-02
6	3.814	0.262	0.269	1.283e+05	14.5	1191.21	0.1	66.03	7.48e-03
7	3.883	0.258	0.269	3688.60	0.4	6412.74	0.7	187.29	2.12e-02
8	4.122	0.243	0.269	1.022e+04	1.2	3692.96	0.4	93.49	1.06e-02
9	4.429	0.226	0.269	7427.90	0.8	315.81	3.58e-02	54.28	6.15e-03
10	4.843	0.207	0.273	151.57	1.72e-02	227.60	2.58e-02	253.28	2.87e-02
11	5.031	0.199	0.275	880.92	9.98e-02	689.54	7.82e-02	897.06	0.1
12	5.473	0.183	0.280	493.21	5.59e-02	0.55	6.21e-05	2805.58	0.3
13	5.481	0.182	0.280	15.99	1.81e-03	76.85	8.71e-03	95.94	1.09e-02
14	5.993	0.167	0.284	36.35	4.12e-03	2682.54	0.3	1457.35	0.2
15	6.355	0.157	0.287	410.24	4.65e-02	60.50	6.86e-03	2.558e+05	29.0
16	6.547	0.153	0.289	69.00	7.82e-03	256.47	2.91e-02	2.394e+05	27.1
17	6.629	0.151	0.289	1568.08	0.2	666.61	7.56e-02	1.419e+04	1.6
18	6.640	0.151	0.289	370.38	4.20e-02	2364.07	0.3	4857.82	0.6
19	6.727	0.149	0.290	2.93	3.33e-04	1188.42	0.1	2.779e+04	3.2
20	7.179	0.139	0.293	88.91	1.01e-02	18.36	2.08e-03	2.892e+04	3.3
Risulta				8.734e+05		8.642e+05		5.773e+05	
In percentuale				98.99		97.95		65.44	

CDC	Tipo	Sigla Id	Note
6	Edk	CDC=Ed (dinamico SLU) alfa=90.00 (ecc. +)	
			categoria suolo: D
			fattore di sito S = 1.611
			ordinata spettro (tratto Tb-Tc) = 0.269 g
			angolo di ingresso:90.00
			eccentricità aggiuntiva: positiva
			periodo proprio T1: 0.413 sec.
			fattore di struttura q: 3.150
			fattore per spost. mu d: 4.440
			classe di duttilità CD: B
			numero di modi considerati: 20
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
m	kg	m	m	m	m	m	m			
4.80	7.414e+04	21.18	14.91	2.57	0.0	20.57	14.90	1.105	0.030	7.4294e-04
3.50	8.081e+05	18.14	14.42	1.86	0.0	16.35	16.20	1.317	0.098	0.099
Risulta	8.823e+05									

Modo	Frequenza	Periodo	Acc. Spettrale	M eccitata X x g	%	M eccitata Y x g	%	M eccitata Z x g	%
	Hz	sec	g	kg		kg		kg	
1	2.421	0.413	0.269	272.42	3.09e-02	8.026e+05	91.0	11.63	1.32e-03
2	2.796	0.358	0.269	3.568e+05	40.4	760.56	8.62e-02	129.29	1.47e-02
3	2.864	0.349	0.269	3.403e+05	38.6	762.90	8.65e-02	55.80	6.32e-03
4	3.225	0.310	0.269	2.096e+04	2.4	761.41	8.63e-02	1.74	1.97e-04
5	3.598	0.278	0.269	1.755e+04	2.0	4.355e+04	4.9	366.26	4.15e-02
6	3.760	0.266	0.269	5.653e+04	6.4	6253.94	0.7	180.33	2.04e-02
7	4.134	0.242	0.269	3.168e+04	3.6	1230.97	0.1	91.37	1.04e-02
8	4.341	0.230	0.269	4.315e+04	4.9	15.83	1.79e-03	3.76	4.26e-04
9	4.508	0.222	0.269	716.67	8.12e-02	1469.79	0.2	127.72	1.45e-02
10	4.930	0.203	0.274	1401.83	0.2	26.74	3.03e-03	34.02	3.86e-03
11	5.254	0.190	0.278	993.67	0.1	54.41	6.17e-03	1403.12	0.2
12	5.475	0.183	0.280	492.82	5.59e-02	1.99	2.25e-04	2660.53	0.3
13	5.482	0.182	0.280	0.67	7.61e-05	87.39	9.90e-03	8.63	9.78e-04
14	6.328	0.158	0.287	418.29	4.74e-02	801.06	9.08e-02	2.128e+05	24.1
15	6.470	0.155	0.288	7.26	8.23e-04	1086.17	0.1	2.932e+04	3.3
16	6.549	0.153	0.289	99.29	1.13e-02	574.21	6.51e-02	2.670e+05	30.3
17	6.631	0.151	0.289	1829.65	0.2	186.60	2.12e-02	1.814e+04	2.1
18	6.662	0.150	0.289	59.59	6.75e-03	2953.33	0.3	3955.25	0.4
19	6.770	0.148	0.290	18.71	2.12e-03	820.33	9.30e-02	1.221e+04	1.4
20	7.178	0.139	0.293	88.84	1.01e-02	15.05	1.71e-03	2.999e+04	3.4
Risulta				8.734e+05		8.640e+05		5.785e+05	
In percentuale				98.99		97.93		65.57	

CDC	Tipo	Sigla Id	Note
7	Edk	CDC=Ed (dinamico SLU) alfa=90.00 (ecc. -)	
			categoria suolo: D
			fattore di sito S = 1.611
			ordinata spettro (tratto Tb-Tc) = 0.269 g
			angolo di ingresso:90.00
			eccentricità aggiuntiva: negativa
			periodo proprio T1: 0.435 sec.
			fattore di struttura q: 3.150
			fattore per spost. mu d: 4.267
			classe di duttilità CD: B
			numero di modi considerati: 20
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
m	kg	m	m	m	m	m	m			
4.80	7.414e+04	21.18	14.91	-2.57	0.0	20.57	14.90	1.105	0.030	7.4294e-04
3.50	8.081e+05	18.14	14.42	-1.86	0.0	16.35	16.20	1.317	0.098	0.099
Risulta	8.823e+05									

Modo	Frequenza	Periodo	Acc. Spettrale	M eccitata X x g	%	M eccitata Y x g	%	M eccitata Z x g	%
	Hz	sec	g	kg		kg		kg	
1	2.299	0.435	0.269	274.20	3.11e-02	6.679e+05	75.7	1.06	1.20e-04
2	2.731	0.366	0.269	1.015e+04	1.2	1.139e+05	12.9	25.16	2.85e-03
3	2.821	0.354	0.269	6.558e+05	74.3	6.51	7.38e-04	187.33	2.12e-02
4	3.128	0.320	0.269	5.602e+04	6.3	1.475e+04	1.7	10.83	1.23e-03
5	3.623	0.276	0.269	2.605e+04	3.0	1.963e+04	2.2	109.44	1.24e-02
6	3.793	0.264	0.269	2992.93	0.3	2786.64	0.3	62.24	7.05e-03
7	3.840	0.260	0.269	3.907e+04	4.4	3.189e+04	3.6	395.53	4.48e-02
8	4.066	0.246	0.269	4.582e+04	5.2	1028.54	0.1	33.74	3.82e-03
9	4.484	0.223	0.269	3.357e+04	3.8	2778.24	0.3	0.91	1.03e-04
10	5.127	0.195	0.276	148.57	1.68e-02	222.42	2.52e-02	139.46	1.58e-02
11	5.405	0.185	0.279	492.23	5.58e-02	1395.18	0.2	3080.44	0.3
12	5.474	0.183	0.280	466.12	5.28e-02	8.52	9.65e-04	2764.69	0.3
13	5.479	0.183	0.280	1.65e-03	0.0	54.97	6.23e-03	0.42	4.79e-05
14	5.855	0.171	0.283	81.32	9.22e-03	3026.09	0.3	438.83	4.97e-02
15	6.351	0.157	0.287	361.42	4.10e-02	147.97	1.68e-02	2.501e+05	28.4
16	6.551	0.153	0.289	87.46	9.91e-03	248.37	2.82e-02	2.474e+05	28.0
17	6.627	0.151	0.289	589.45	6.68e-02	2176.24	0.2	4156.49	0.5
18	6.635	0.151	0.289	1323.66	0.2	860.19	9.75e-02	1.438e+04	1.6
19	6.728	0.149	0.290	2.89	3.27e-04	1253.45	0.1	2.496e+04	2.8
20	7.178	0.139	0.293	85.71	9.71e-03	26.13	2.96e-03	2.950e+04	3.3
Risulta				8.734e+05		8.641e+05		5.778e+05	
In percentuale				98.99		97.95		65.49	

CDC	Tipo	Sigla Id	Note
8	Edk	CDC=Ed (dinamico SLD) alfa=0.0 (ecc. +)	
			categoria suolo: D
			fattore di sito S = 1.800
			ordinata spettro (tratto Tb-Tc) = 0.369 g
			angolo di ingresso:0.0
			eccentricità aggiuntiva: positiva
			periodo proprio T1: 0.369 sec.
			numero di modi considerati: 20
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
m	kg	m	m	m	m	m	m			
4.80	7.414e+04	21.18	14.91	0.0	-1.83	20.57	14.90	1.105	0.030	7.4294e-04
3.50	8.081e+05	18.14	14.42	0.0	-1.49	16.35	16.20	1.317	0.098	0.099
Risulta	8.823e+05									

Modo	Frequenza	Periodo	Acc. Spettrale	M eccitata X x g	%	M eccitata Y x g	%	M eccitata Z x g	%
	Hz	sec	g	kg		kg		kg	
1	2.387	0.419	0.369	1217.27	0.1	7.489e+05	84.9	3.26	3.70e-04
2	2.708	0.369	0.369	4.536e+05	51.4	2.639e+04	3.0	154.66	1.75e-02
3	2.789	0.359	0.369	2.034e+05	23.1	2.886e+04	3.3	19.76	2.24e-03
4	3.203	0.312	0.369	7.599e+04	8.6	483.12	5.48e-02	0.85	9.65e-05
5	3.568	0.280	0.369	2.121e+04	2.4	1.673e+04	1.9	143.77	1.63e-02
6	3.785	0.264	0.369	1.477e+04	1.7	3.414e+04	3.9	471.42	5.34e-02
7	4.044	0.247	0.369	5145.54	0.6	18.27	2.07e-03	19.30	2.19e-03

Modo	Frequenza	Periodo	Acc. Spettrale	M eccitata X x g	%	M eccitata Y x g	%	M eccitata Z x g	%
8	4.352	0.230	0.369	2.760e+04	3.1	889.91	0.1	51.90	5.88e-03
9	4.621	0.216	0.368	6.430e+04	7.3	12.63	1.43e-03	62.52	7.09e-03
10	5.040	0.198	0.349	2454.90	0.3	792.06	8.98e-02	95.88	1.09e-02
11	5.474	0.183	0.333	106.26	1.20e-02	0.04	4.77e-06	3239.00	0.4
12	5.481	0.182	0.333	4.07	4.61e-04	86.62	9.82e-03	336.78	3.82e-02
13	5.628	0.178	0.328	1026.98	0.1	580.54	6.58e-02	1686.08	0.2
14	6.307	0.159	0.308	388.94	4.41e-02	1363.24	0.2	1.351e+05	15.3
15	6.387	0.157	0.306	57.13	6.48e-03	259.76	2.94e-02	1.136e+05	12.9
16	6.553	0.153	0.302	121.25	1.37e-02	450.94	5.11e-02	2.586e+05	29.3
17	6.631	0.151	0.300	1370.56	0.2	870.74	9.87e-02	1.283e+04	1.5
18	6.645	0.150	0.300	448.01	5.08e-02	2092.37	0.2	646.06	7.32e-02
19	6.742	0.148	0.298	19.85	2.25e-03	1187.97	0.1	2.110e+04	2.4
20	7.178	0.139	0.288	71.66	8.12e-03	17.88	2.03e-03	3.057e+04	3.5
Risulta				8.733e+05		8.641e+05		5.787e+05	
In percentuale				98.98		97.94		65.60	

CDC	Tipo	Sigla Id	Note
9	Edk	CDC=Ed (dinamico SLD) alfa=0.0 (ecc. -)	
			categoria suolo: D
			fattore di sito S = 1.800
			ordinata spettro (tratto Tb-Tc) = 0.369 g
			angolo di ingresso:0.0
			eccentricità aggiuntiva: negativa
			periodo proprio T1: 0.348 sec.
			numero di modi considerati: 20
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
m	kg	m	m	m	m	m	m			
4.80	7.414e+04	21.18	14.91	0.0	1.83	20.57	14.90	1.105	0.030	7.4294e-04
3.50	8.081e+05	18.14	14.42	0.0	1.49	16.35	16.20	1.317	0.098	0.099
Risulta	8.823e+05									

Modo	Frequenza	Periodo	Acc. Spettrale	M eccitata X x g	%	M eccitata Y x g	%	M eccitata Z x g	%
	Hz	sec	g	kg		kg		kg	
1	2.387	0.419	0.369	245.28	2.78e-02	7.518e+05	85.2	5.35	6.07e-04
2	2.762	0.362	0.369	8837.93	1.0	4.698e+04	5.3	30.94	3.51e-03
3	2.877	0.348	0.369	7.018e+05	79.5	3497.54	0.4	164.04	1.86e-02
4	3.132	0.319	0.369	22.38	2.54e-03	545.36	6.18e-02	33.16	3.76e-03
5	3.634	0.275	0.369	8709.44	1.0	4.150e+04	4.7	297.87	3.38e-02
6	3.814	0.262	0.369	1.283e+05	14.5	1191.21	0.1	66.03	7.48e-03
7	3.883	0.258	0.369	3688.60	0.4	6412.74	0.7	187.29	2.12e-02
8	4.122	0.243	0.369	1.022e+04	1.2	3692.96	0.4	93.49	1.06e-02
9	4.429	0.226	0.369	7427.90	0.8	315.81	3.58e-02	54.28	6.15e-03
10	4.843	0.207	0.358	151.57	1.72e-02	227.60	2.58e-02	253.28	2.87e-02
11	5.031	0.199	0.350	880.92	9.98e-02	689.54	7.82e-02	897.06	0.1
12	5.473	0.183	0.333	493.21	5.59e-02	0.55	6.21e-05	2805.58	0.3
13	5.481	0.182	0.333	15.99	1.81e-03	76.85	8.71e-03	95.94	1.09e-02
14	5.993	0.167	0.317	36.35	4.12e-03	2682.54	0.3	1457.35	0.2
15	6.355	0.157	0.307	410.24	4.65e-02	60.50	6.86e-03	2.558e+05	29.0
16	6.547	0.153	0.302	69.00	7.82e-03	256.47	2.91e-02	2.394e+05	27.1
17	6.629	0.151	0.300	1568.08	0.2	666.61	7.56e-02	1.419e+04	1.6
18	6.640	0.151	0.300	370.38	4.20e-02	2364.07	0.3	4857.82	0.6
19	6.727	0.149	0.298	2.93	3.33e-04	1188.42	0.1	2.779e+04	3.2
20	7.179	0.139	0.288	88.91	1.01e-02	18.36	2.08e-03	2.892e+04	3.3
Risulta				8.734e+05		8.642e+05		5.773e+05	
In percentuale				98.99		97.95		65.44	

CDC	Tipo	Sigla Id	Note
10	Edk	CDC=Ed (dinamico SLD) alfa=90.00 (ecc. +)	
			categoria suolo: D
			fattore di sito S = 1.800
			ordinata spettro (tratto Tb-Tc) = 0.369 g
			angolo di ingresso:90.00
			eccentricità aggiuntiva: positiva
			periodo proprio T1: 0.413 sec.
			numero di modi considerati: 20
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
m	kg	m	m	m	m	m	m			
4.80	7.414e+04	21.18	14.91	2.57	0.0	20.57	14.90	1.105	0.030	7.4294e-04
3.50	8.081e+05	18.14	14.42	1.86	0.0	16.35	16.20	1.317	0.098	0.099
Risulta	8.823e+05									

Modo	Frequenza	Periodo	Acc. Spettrale	M eccitata X x g	%	M eccitata Y x g	%	M eccitata Z x g	%
	Hz	sec	g	kg		kg		kg	
1	2.421	0.413	0.369	272.42	3.09e-02	8.026e+05	91.0	11.63	1.32e-03
2	2.796	0.358	0.369	3.568e+05	40.4	760.56	8.62e-02	129.29	1.47e-02
3	2.864	0.349	0.369	3.403e+05	38.6	762.90	8.65e-02	55.80	6.32e-03
4	3.225	0.310	0.369	2.096e+04	2.4	761.41	8.63e-02	1.74	1.97e-04
5	3.598	0.278	0.369	1.755e+04	2.0	4.355e+04	4.9	366.26	4.15e-02
6	3.760	0.266	0.369	5.653e+04	6.4	6253.94	0.7	180.33	2.04e-02
7	4.134	0.242	0.369	3.168e+04	3.6	1230.97	0.1	91.37	1.04e-02
8	4.341	0.230	0.369	4.315e+04	4.9	15.83	1.79e-03	3.76	4.26e-04
9	4.508	0.222	0.369	716.67	8.12e-02	1469.79	0.2	127.72	1.45e-02
10	4.930	0.203	0.354	1401.83	0.2	26.74	3.03e-03	34.02	3.86e-03
11	5.254	0.190	0.341	993.67	0.1	54.41	6.17e-03	1403.12	0.2
12	5.475	0.183	0.333	492.82	5.59e-02	1.99	2.25e-04	2660.53	0.3
13	5.482	0.182	0.333	0.67	7.61e-05	87.39	9.90e-03	8.63	9.78e-04
14	6.328	0.158	0.308	418.29	4.74e-02	801.06	9.08e-02	2.128e+05	24.1
15	6.470	0.155	0.304	7.26	8.23e-04	1086.17	0.1	2.932e+04	3.3
16	6.549	0.153	0.302	99.29	1.13e-02	574.21	6.51e-02	2.670e+05	30.3
17	6.631	0.151	0.300	1829.65	0.2	186.60	2.12e-02	1.814e+04	2.1
18	6.662	0.150	0.299	59.59	6.75e-03	2953.33	0.3	3955.25	0.4
19	6.770	0.148	0.297	18.71	2.12e-03	820.33	9.30e-02	1.221e+04	1.4
20	7.178	0.139	0.288	88.84	1.01e-02	15.05	1.71e-03	2.999e+04	3.4
Risulta				8.734e+05		8.640e+05		5.785e+05	
In percentuale				98.99		97.93		65.57	

CDC	Tipo	Sigla Id	Note
11	Edk	CDC=Ed (dinamico SLD) alfa=90.00 (ecc. -)	
			categoria suolo: D
			fattore di sito S = 1.800
			ordinata spettro (tratto Tb-Tc) = 0.369 g
			angolo di ingresso:90.00
			eccentricità aggiuntiva: negativa
			periodo proprio T1: 0.435 sec.
			numero di modi considerati: 20
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
m	kg	m	m	m	m	m	m			
4.80	7.414e+04	21.18	14.91	-2.57	0.0	20.57	14.90	1.105	0.030	7.4294e-04
3.50	8.081e+05	18.14	14.42	-1.86	0.0	16.35	16.20	1.317	0.098	0.099

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
Risulta	8.823e+05									

Modo	Frequenza	Periodo	Acc. Spettrale	M eccitata X x g	%	M eccitata Y x g	%	M eccitata Z x g	%
	Hz	sec	g	kg		kg		kg	
1	2.299	0.435	0.369	274.20	3.11e-02	6.679e+05	75.7	1.06	1.20e-04
2	2.731	0.366	0.369	1.015e+04	1.2	1.139e+05	12.9	25.16	2.85e-03
3	2.821	0.354	0.369	6.558e+05	74.3	6.51	7.38e-04	187.33	2.12e-02
4	3.128	0.320	0.369	5.602e+04	6.3	1.475e+04	1.7	10.83	1.23e-03
5	3.623	0.276	0.369	2.605e+04	3.0	1.963e+04	2.2	109.44	1.24e-02
6	3.793	0.264	0.369	2992.93	0.3	2786.64	0.3	62.24	7.05e-03
7	3.840	0.260	0.369	3.907e+04	4.4	3.189e+04	3.6	395.53	4.48e-02
8	4.066	0.246	0.369	4.582e+04	5.2	1028.54	0.1	33.74	3.82e-03
9	4.484	0.223	0.369	3.357e+04	3.8	2778.24	0.3	0.91	1.03e-04
10	5.127	0.195	0.346	148.57	1.68e-02	222.42	2.52e-02	139.46	1.58e-02
11	5.405	0.185	0.336	492.23	5.58e-02	1395.18	0.2	3080.44	0.3
12	5.474	0.183	0.333	466.12	5.28e-02	8.52	9.65e-04	2764.69	0.3
13	5.479	0.183	0.333	1.65e-03	0.0	54.97	6.23e-03	0.42	4.79e-05
14	5.855	0.171	0.321	81.32	9.22e-03	3026.09	0.3	438.83	4.97e-02
15	6.351	0.157	0.307	361.42	4.10e-02	147.97	1.68e-02	2.501e+05	28.4
16	6.551	0.153	0.302	87.46	9.91e-03	248.37	2.82e-02	2.474e+05	28.0
17	6.627	0.151	0.300	589.45	6.68e-02	2176.24	0.2	4156.49	0.5
18	6.635	0.151	0.300	1323.66	0.2	860.19	9.75e-02	1.438e+04	1.6
19	6.728	0.149	0.298	2.89	3.27e-04	1253.45	0.1	2.496e+04	2.8
20	7.178	0.139	0.288	85.71	9.71e-03	26.13	2.96e-03	2.950e+04	3.3
Risulta				8.734e+05		8.641e+05		5.778e+05	
In percentuale				98.99		97.95		65.49	

A seguire si riportano le deformate relative ai modi globali più significativi.

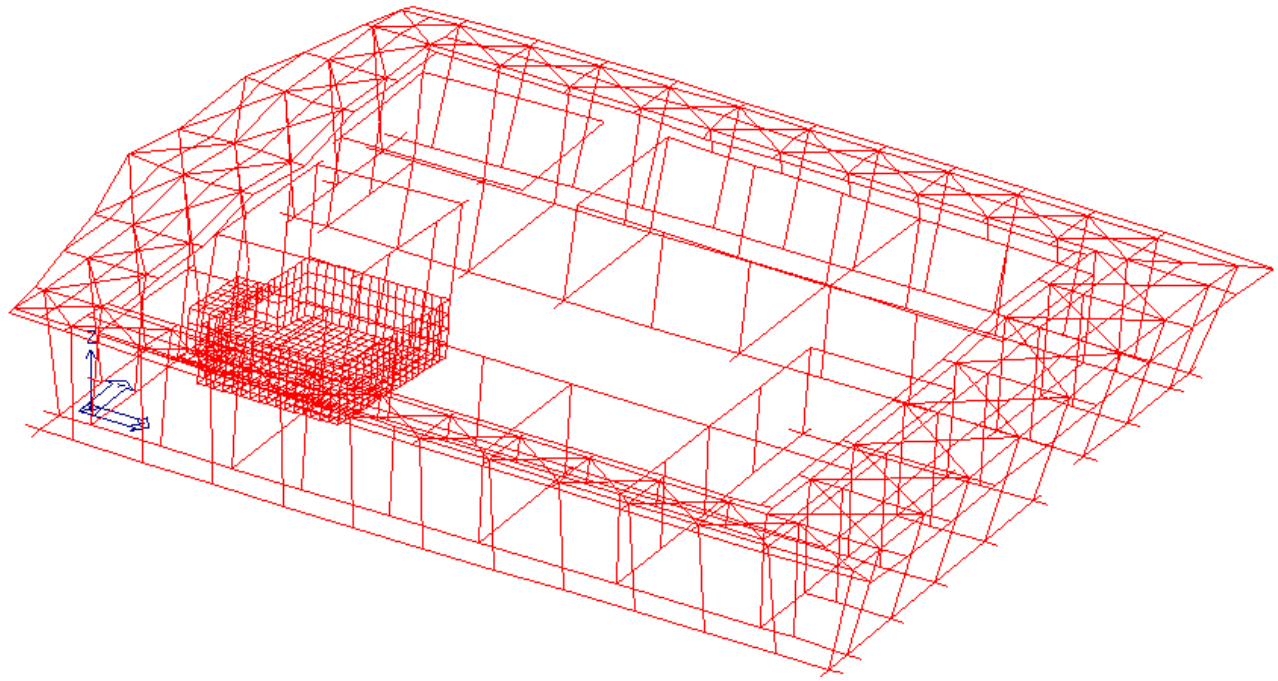


Figura 11.1 – 1 – Deformata tipo 1° Modo

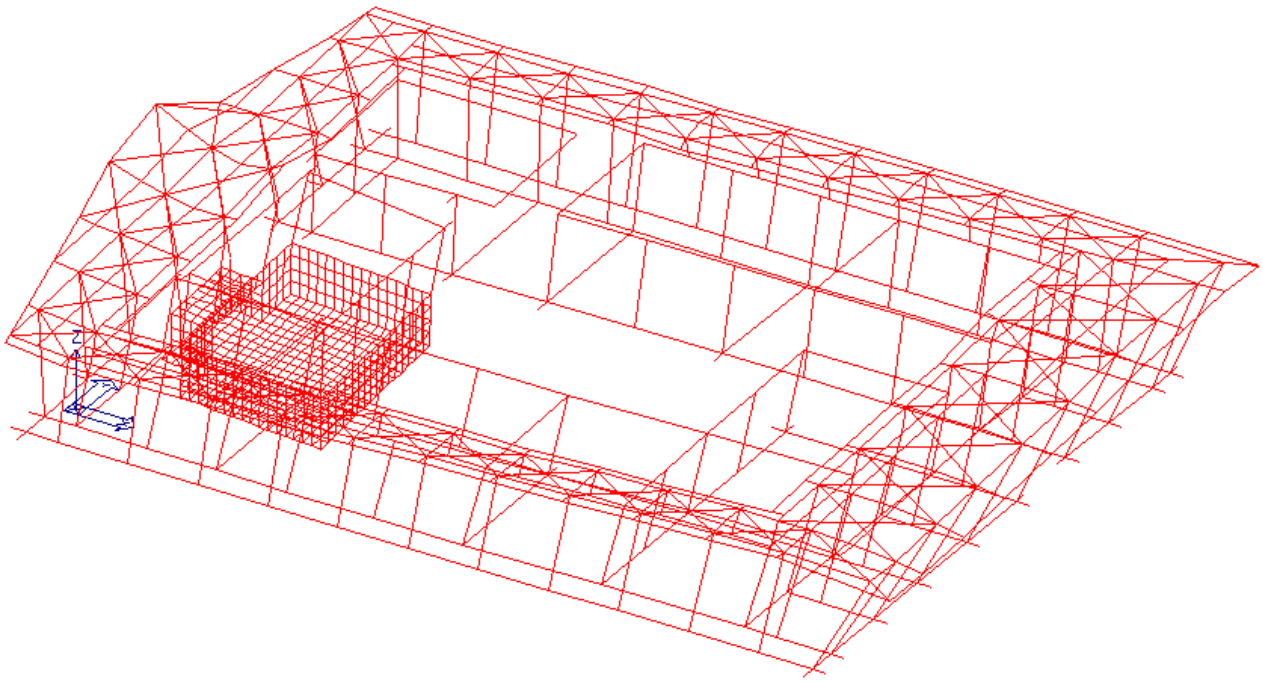


Figura 11.1 – 2 – Deformata tipo 2° Modo

11.2. CALCOLO GIUNTI SISMICI

I fabbricati sono tra loro separati in fondazione ed elevazione con giunto sismico di larghezza pari a δ=15cm.

Come previsto al punto 7.2.2 del DM 14 gennaio 2008 la distanza minima tra fabbricati contigui è:

$$\delta > \frac{1}{100} \cdot H \cdot \frac{2 \cdot a \cdot g}{g} \cdot S \rightarrow \delta > \frac{1}{100} \cdot 450 \cdot \frac{2 \cdot 0.207 \cdot g}{g} \cdot 1.611 = 3.00cm$$

Verificato

11.3. INVILUPPO SOLLECITAZIONI – PILASTRATE IN C.A.

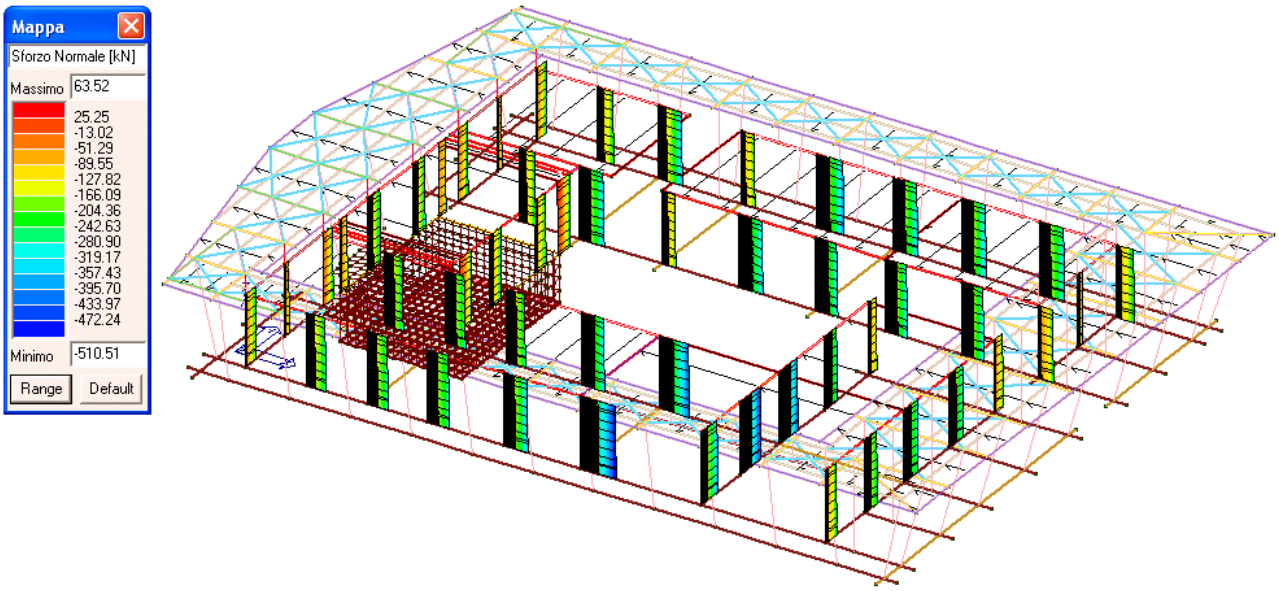


Figura 11.2 – 1 – Pilastri: inviluppo Sforzo normale N

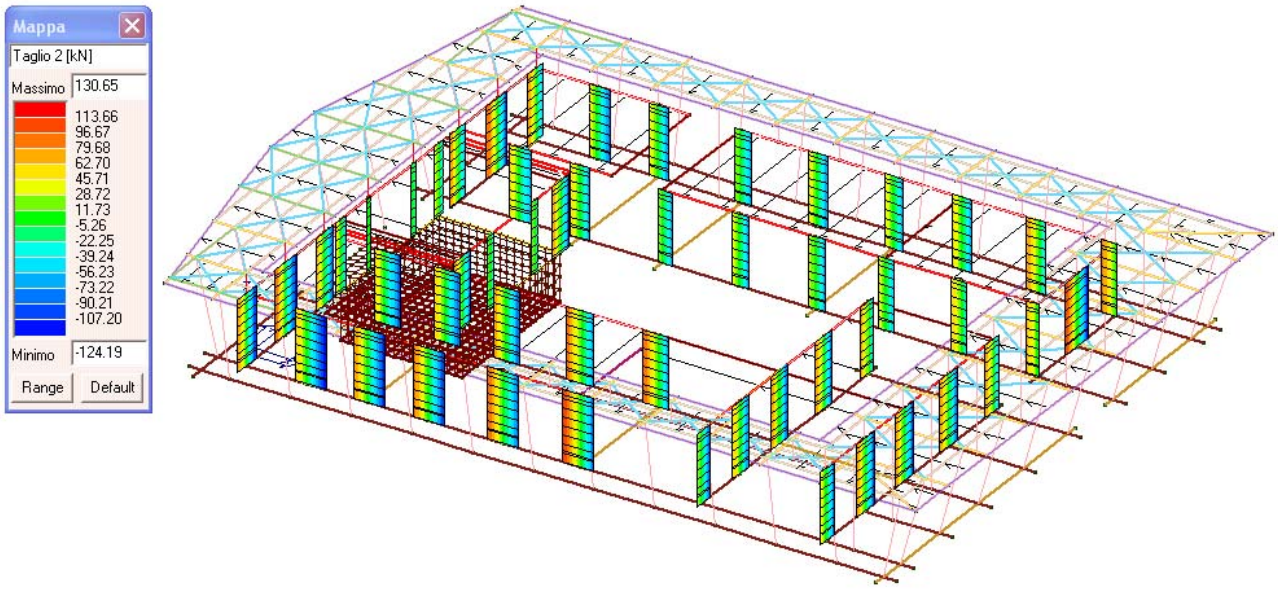


Figura 11.2 – 2 – Pilastri: inviluppo Taglio T 2-2

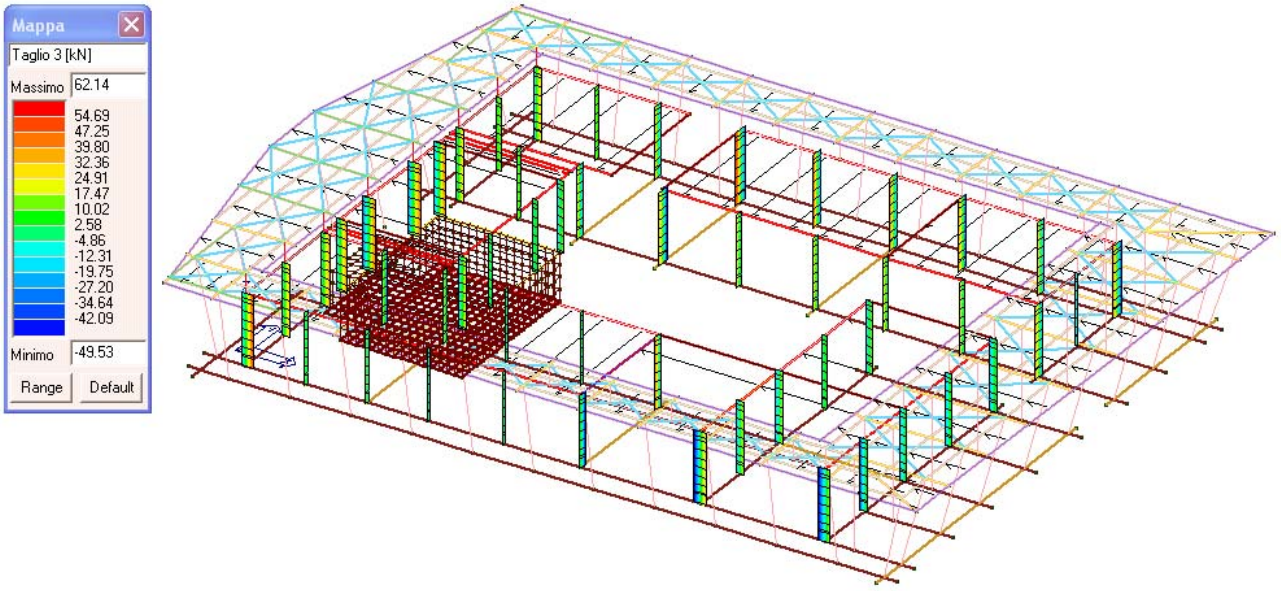


Figura 11.2 – 3 – Pilastri: inviluppo Taglio T 3-3

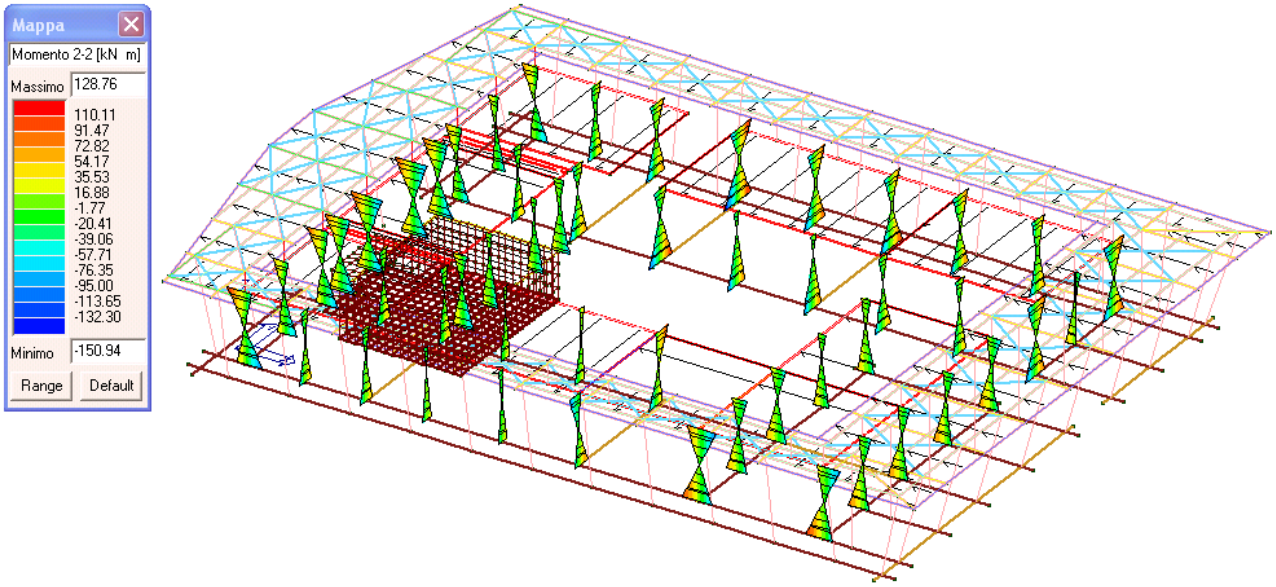


Figura 11.2 – 4 – Pilastri: inviluppo Momento flettente M 2-2

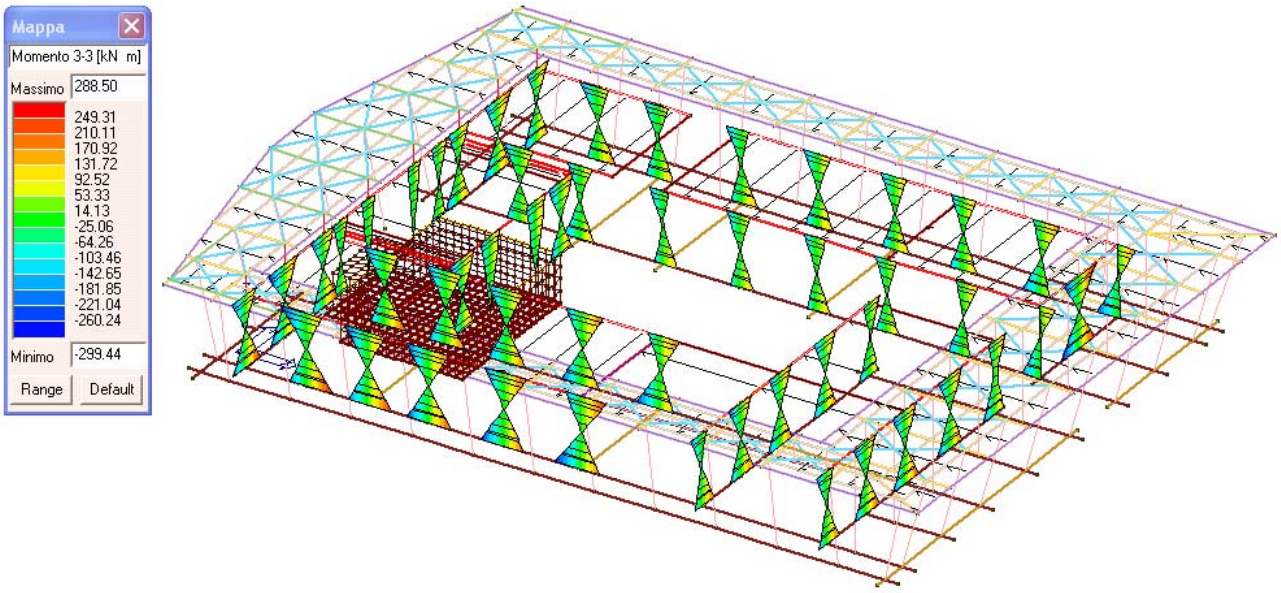


Figura 11.2 – 5 – Pilastri: inviluppo Momento flettente M 3-3

11.4. INVILUPPO SOLLECITAZIONI – TRAVATE IN C.A. DI COPERTURA

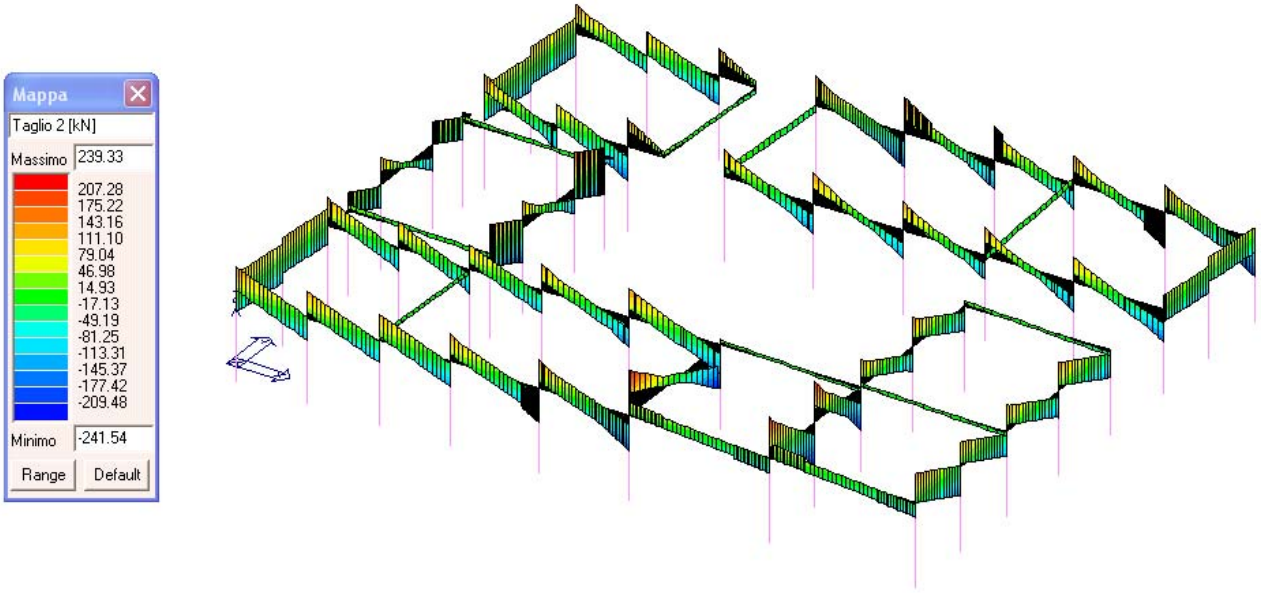


Figura 11.3 – 1 – Travi: inviluppo Taglio T 2-2

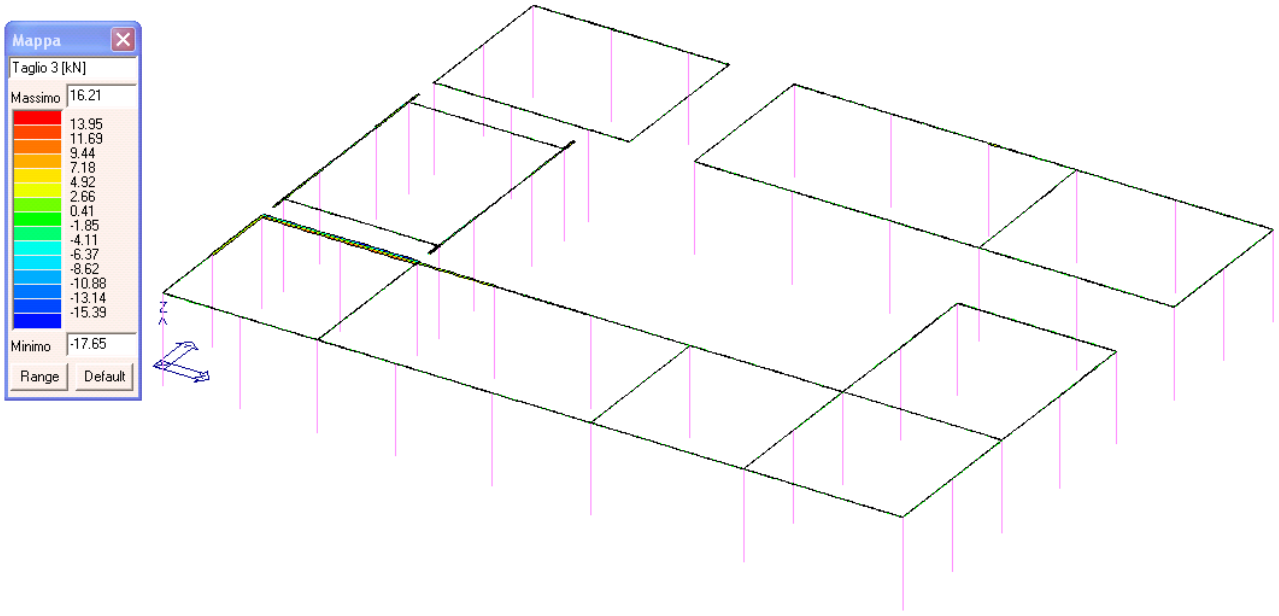


Figura 11.3 – 2 – Travi: inviluppo Taglio T 3-3

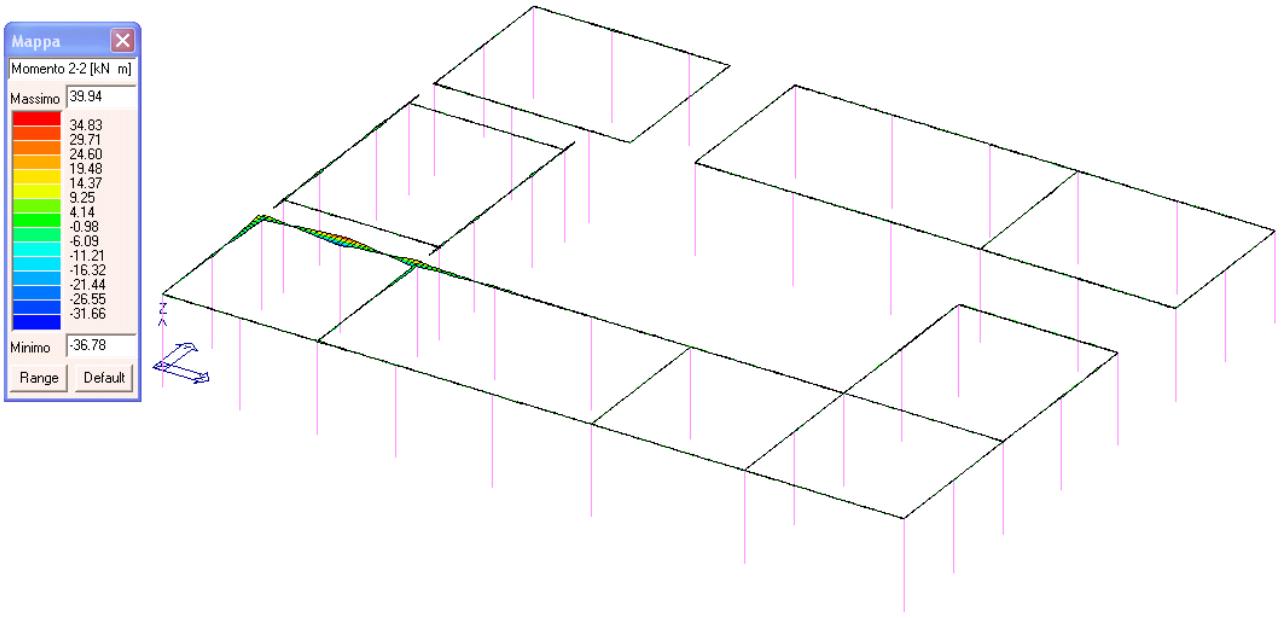


Figura 11.3 – 3 – Travi: inviluppo Momento flettente M 2-2

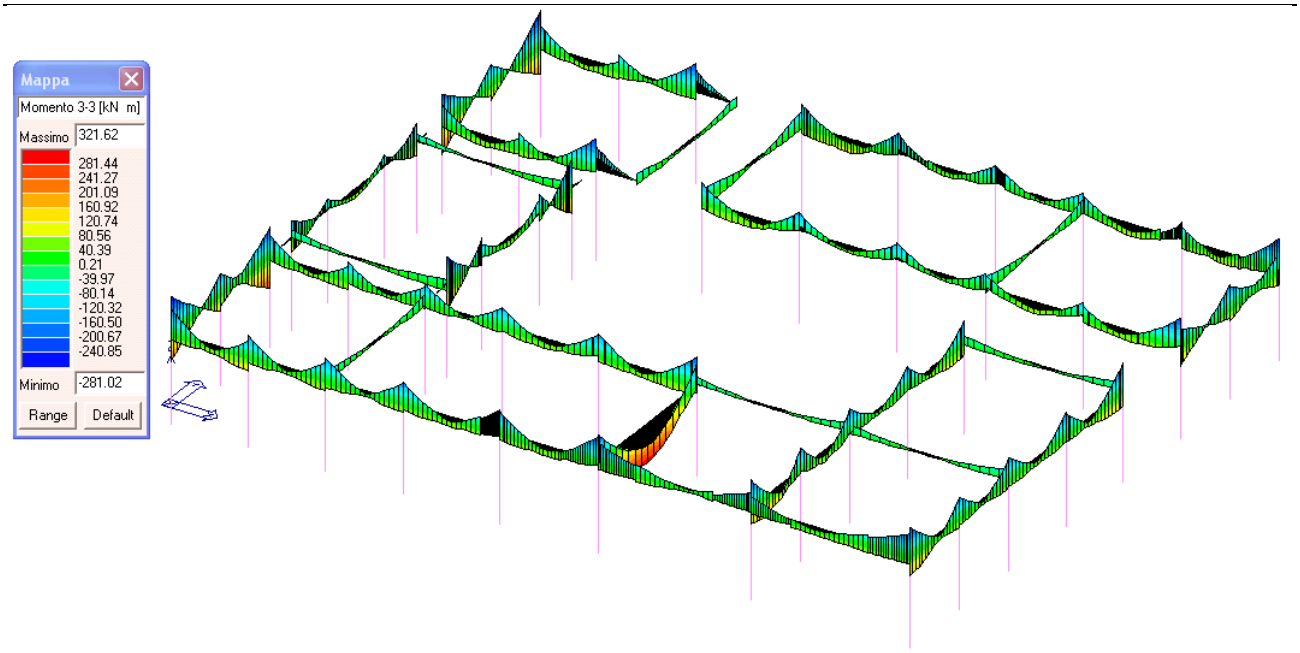


Figura 11.3 – 4 – Travi: inviluppo Momento flettente M 3-3

11.5. INVILUPPO SOLLECITAZIONI – TRAVI IN C.A. DI FONDAZIONE

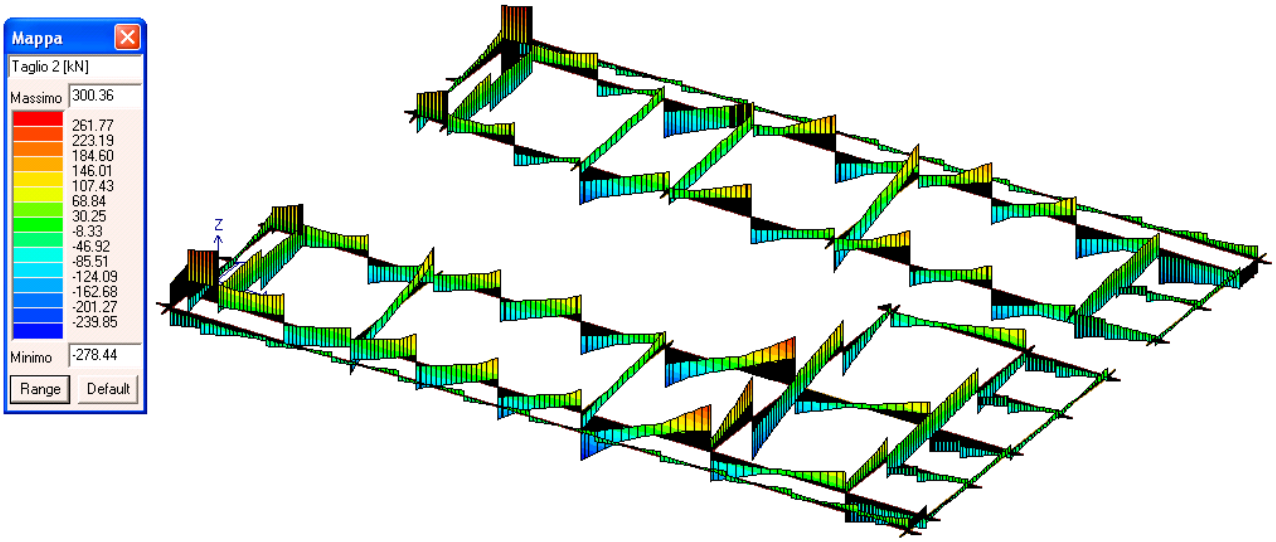


Figura 11.4 – 1 – Travi: inviluppo Taglio T 2-2

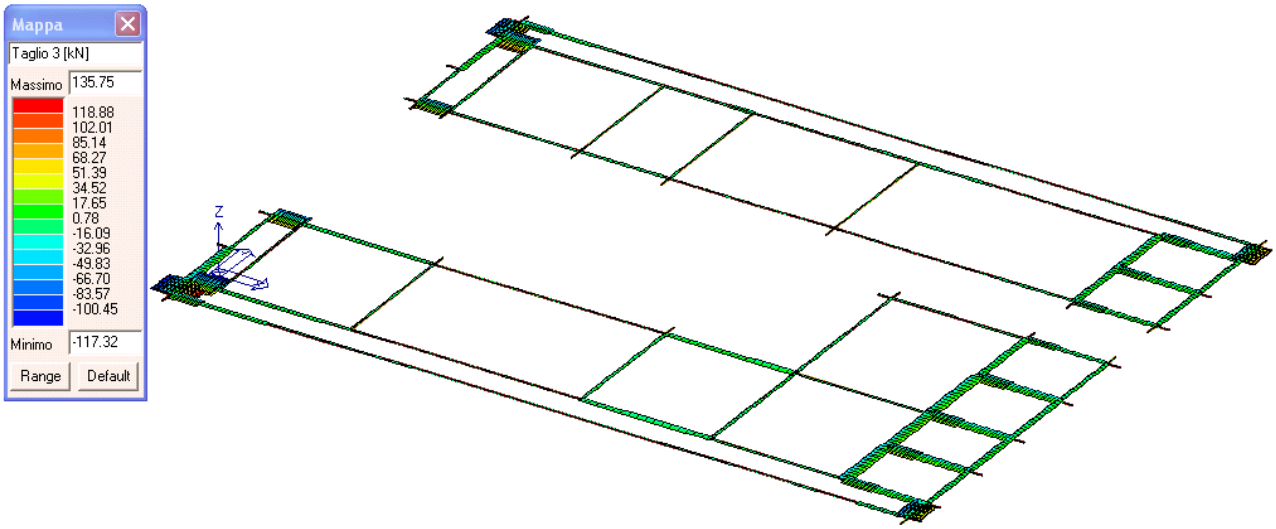


Figura 11.4 – 2 – Travi: inviluppo Taglio T 3-3

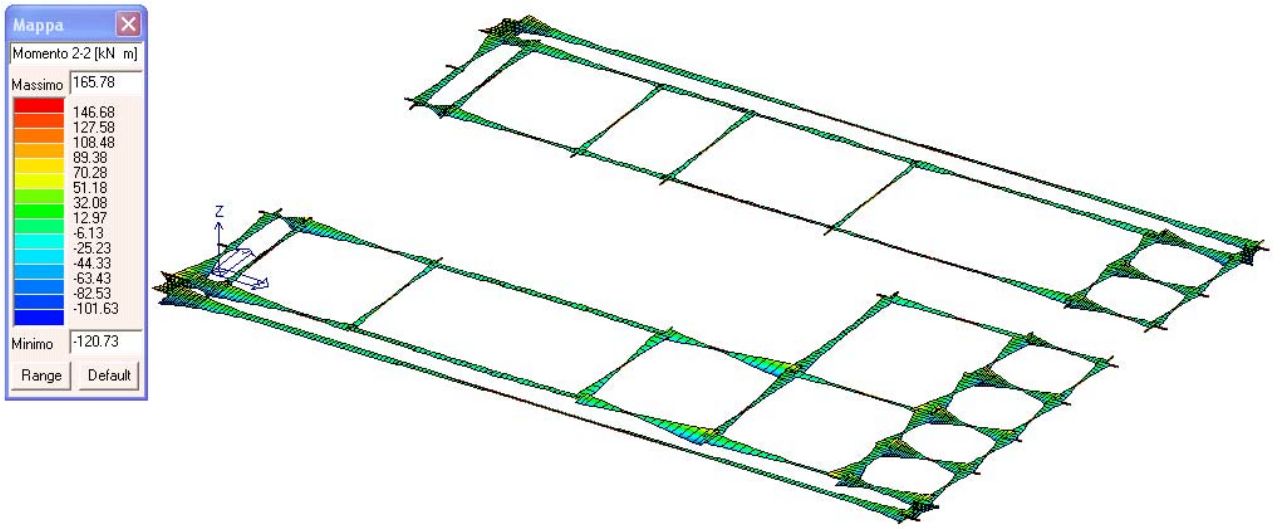


Figura 11.4 – 3 – Travi: inviluppo Momento flettente M 2-2

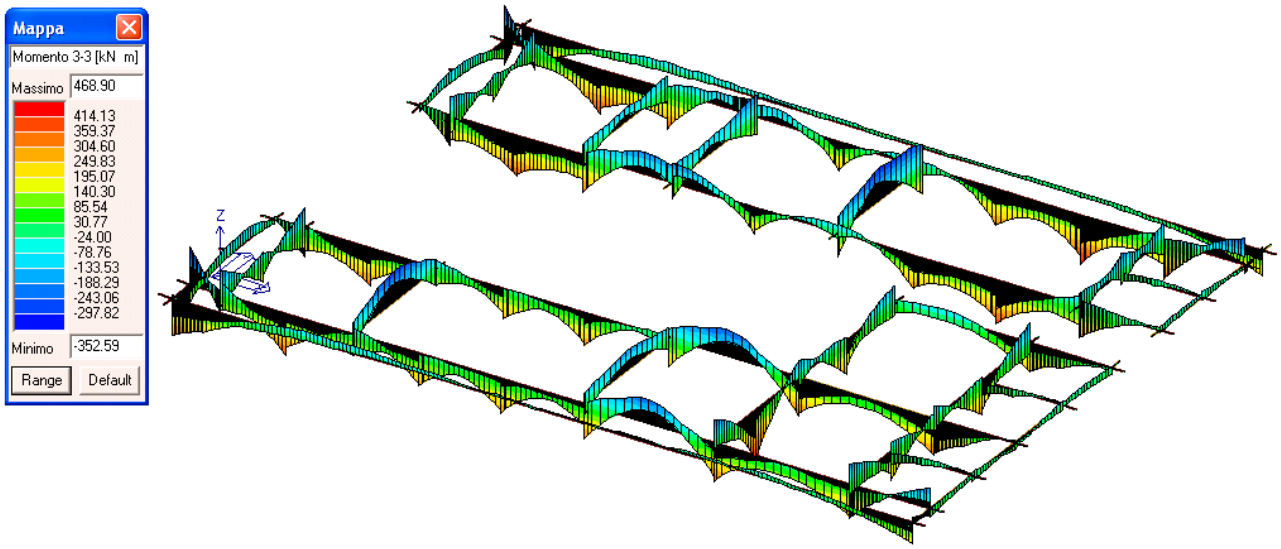


Figura 11.4 – 4 – Travi: inviluppo Momento flettente M 3-3

11.6. INVILUPPO SOLLECITAZIONI – ELEMENTI STRUTTURALI IN ACCIAIO

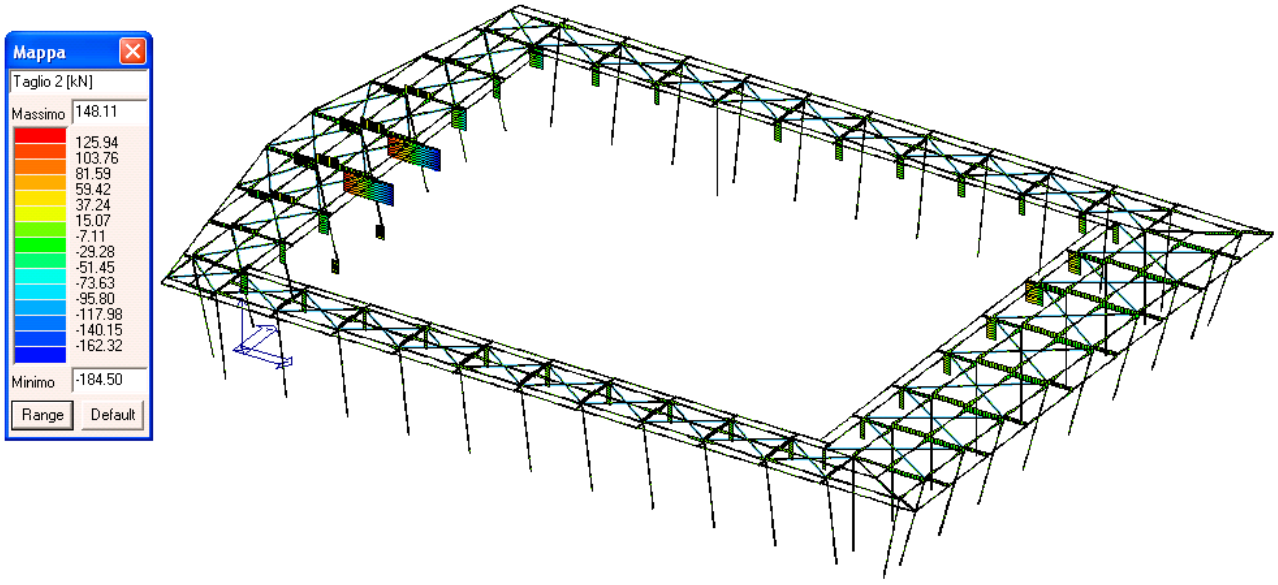


Figura 11.5 – 1 –inviluppo Taglio T 2-2

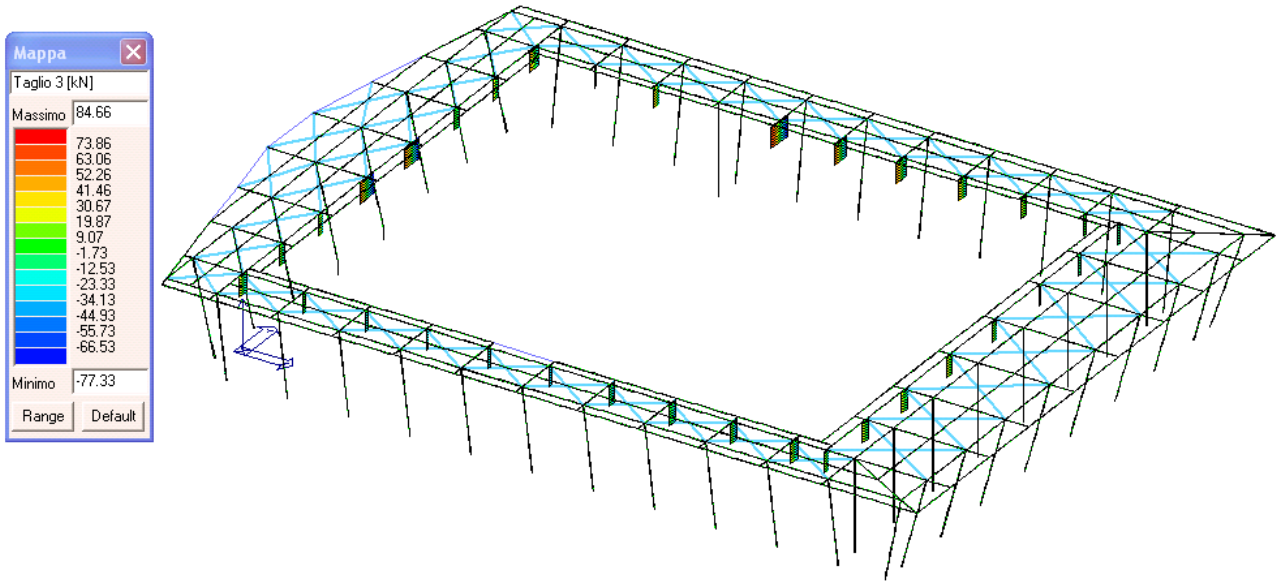


Figura 11.5 – 2 –inviluppo Taglio T 3-3

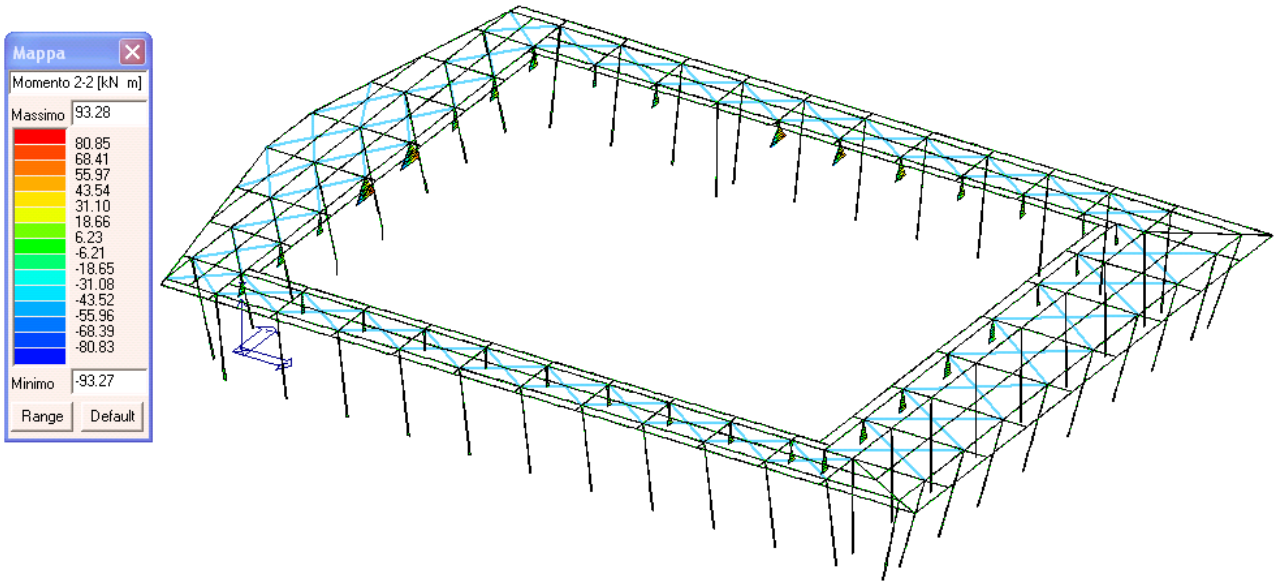


Figura 11.5 – 3 –inviluppo Momento flettente M 2-2

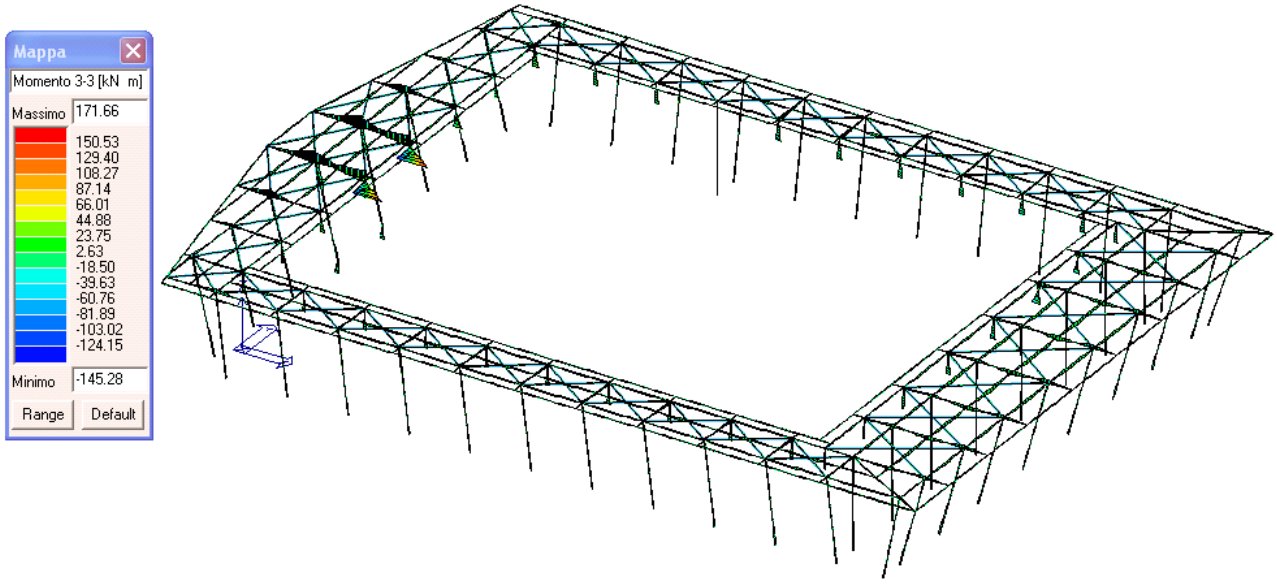


Figura 11.5 – 4 –inviluppo Momento flettente M 3-3

11.7. INVILUPPO SOLLECITAZIONI – PARETI IN C.A. CONTROTERRA

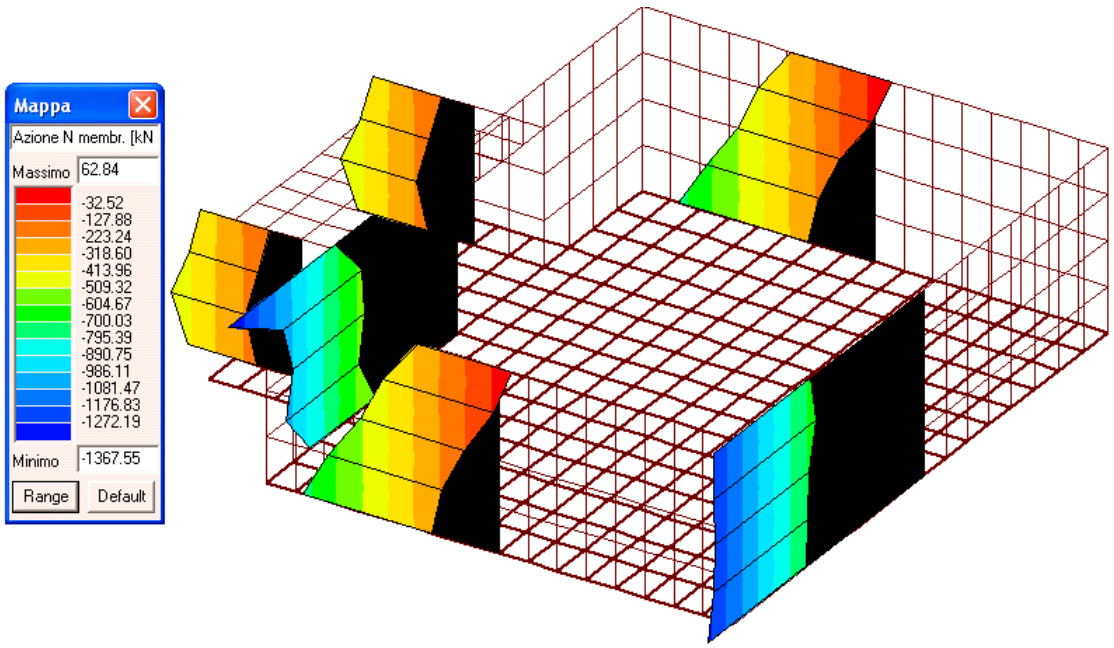


Figura 11.6 – 1 – Pareti controterra: N membranale

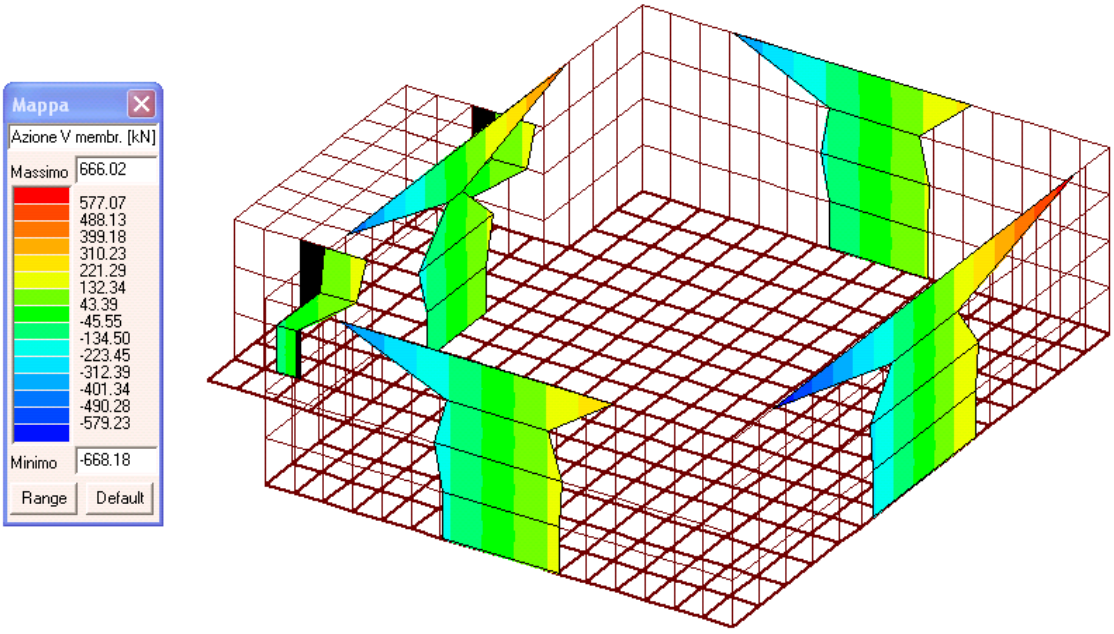


Figura 11.6 – 2 – Pareti controterra: taglio V membranale

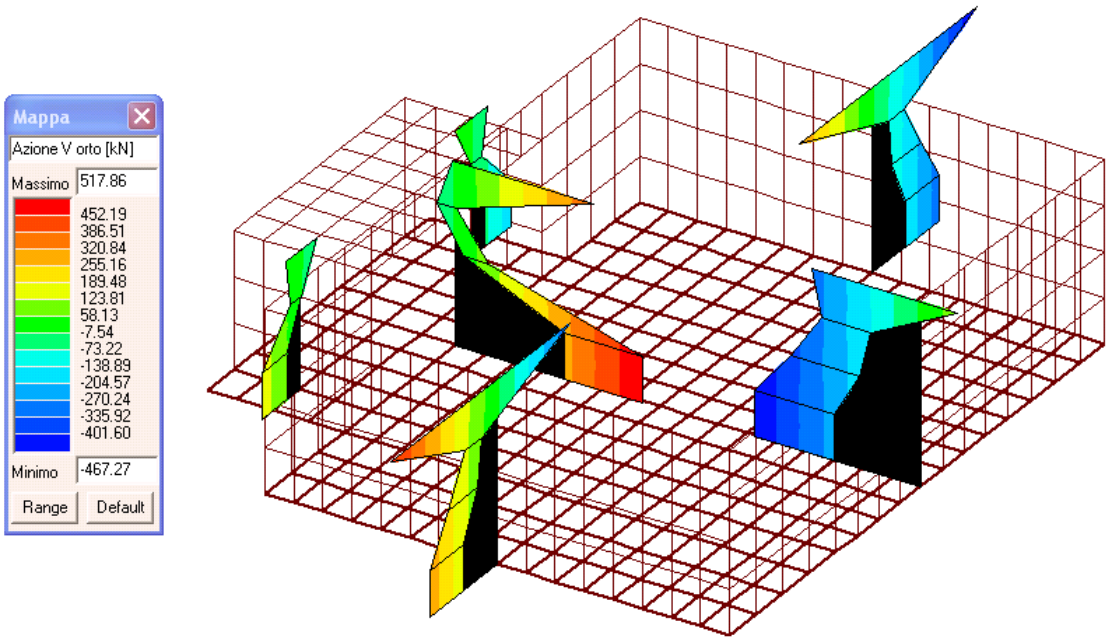


Figura 11.6 – 3 – Pareti controterra: taglio V ortogonale

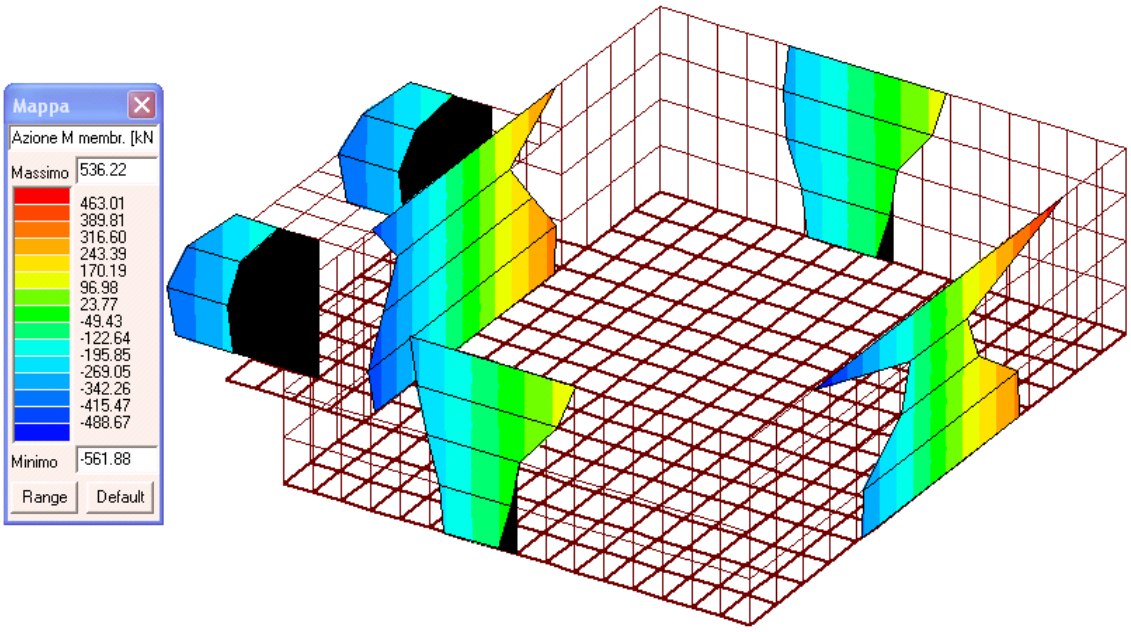


Figura 11.6 – 4 – Pareti controterra: Momento membranale

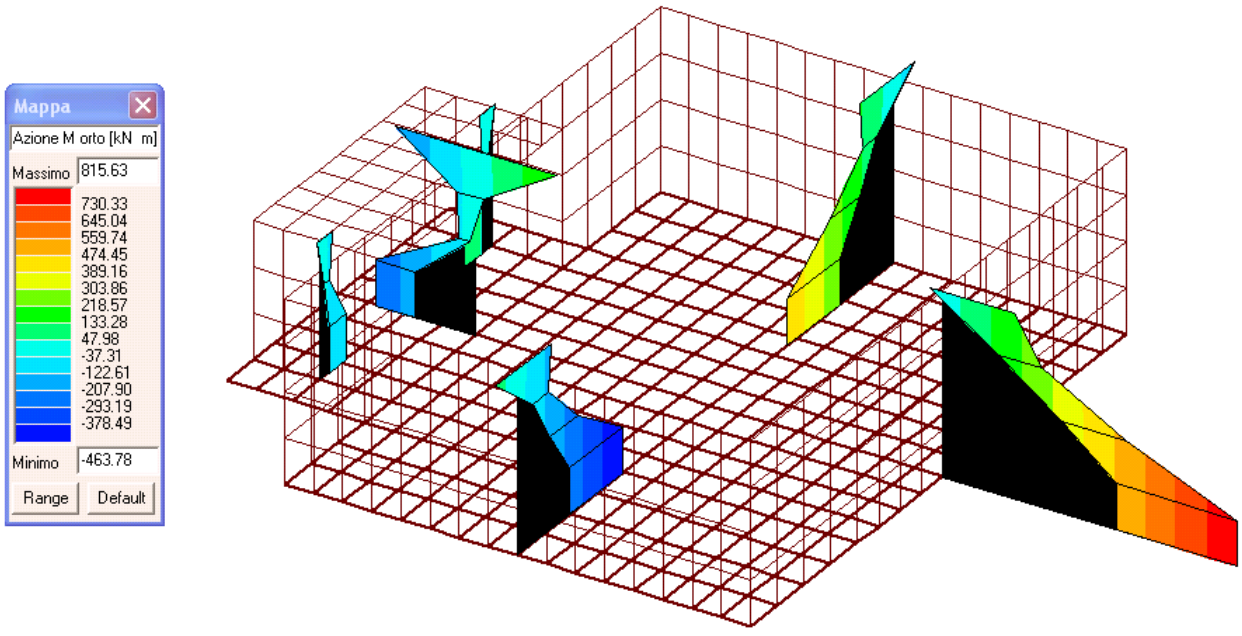


Figura 11.7 – 4 – Pareti controterra: Momento ortogonale

12. VERIFICHE AGLI STATI LIMITE ULTIMI DI ESERCIZIO

Di seguito si riportano le verifiche agli stati limite ultimi (SLU) ed di esercizio (SLE) delle travi di copertura dei pilastri e delle travi di fondazione.

12.1. VERIFICHE SLU ED SLE TRAVATE IN C.A. IN ELEVAZIONE

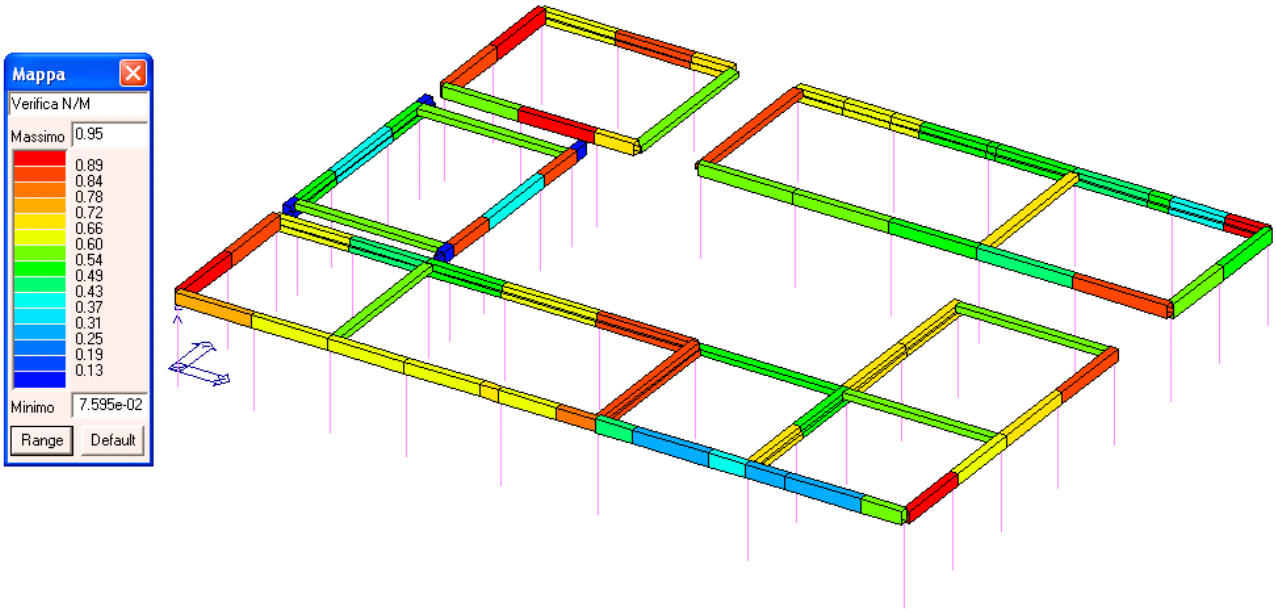


Figura 12.1 – 1 – Verifica N-M Travi copertura

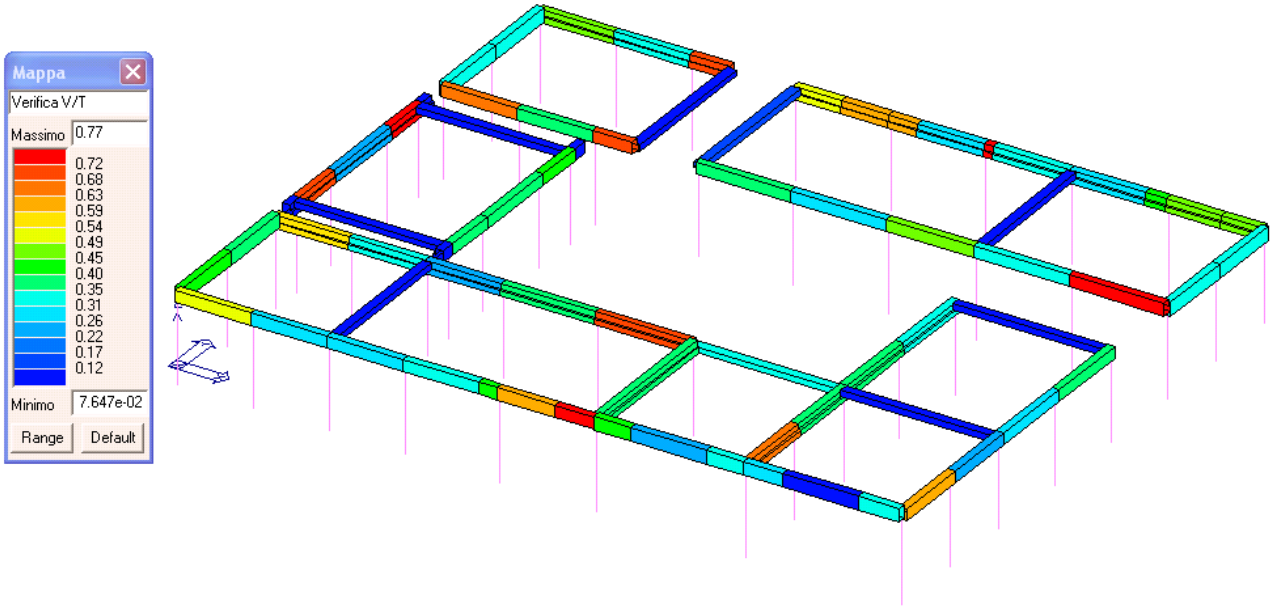


Figura 12.1 – 2 – Verifica V-T Travi copertura

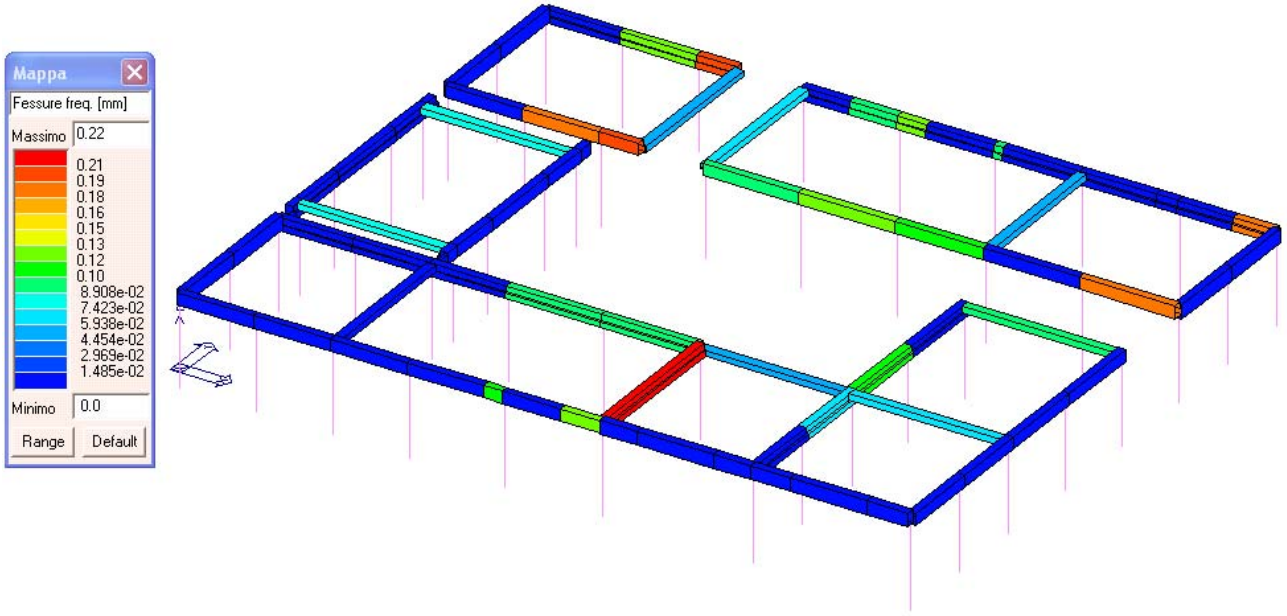


Figura 12.1 – 3 – S.L.E. Travi copertura: fessure comb. frequenti

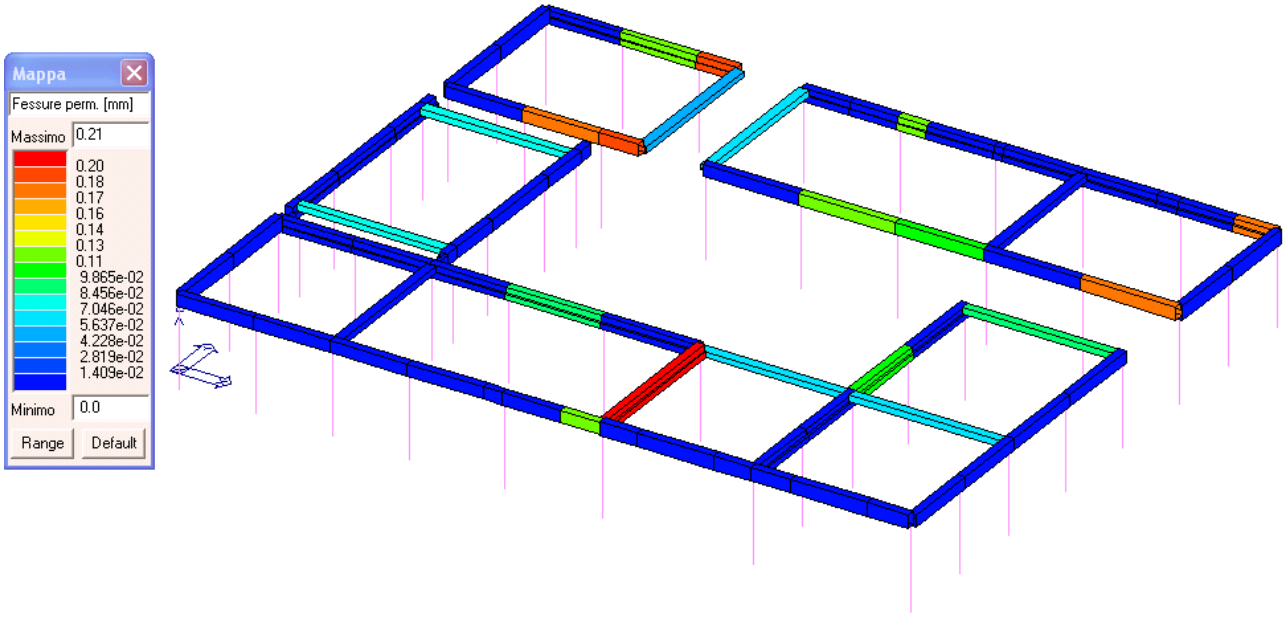


Figura 12.1 –3 – S.L.E. Travi copertura: fessure comb. quasi perm.

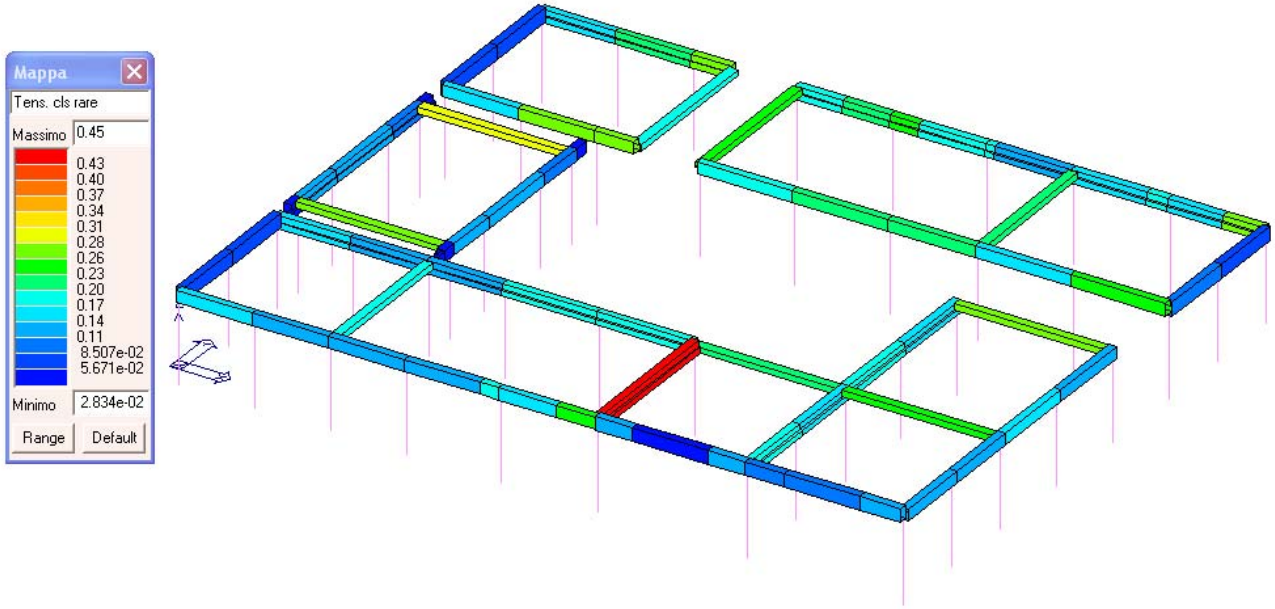


Figura 12.1 – 4 – S.L.E. Travi copertura: tensioni cls comb. rare

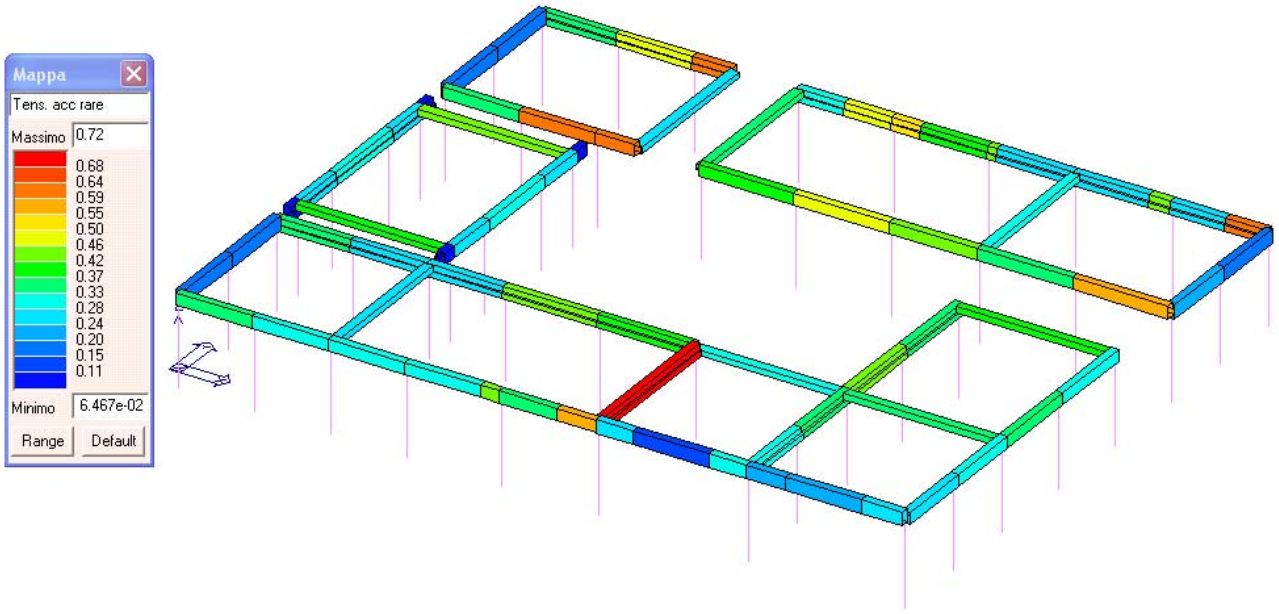


Figura 12.1 – 5 – S.L.E. Travi copertura: tensioni acciaio comb. rare

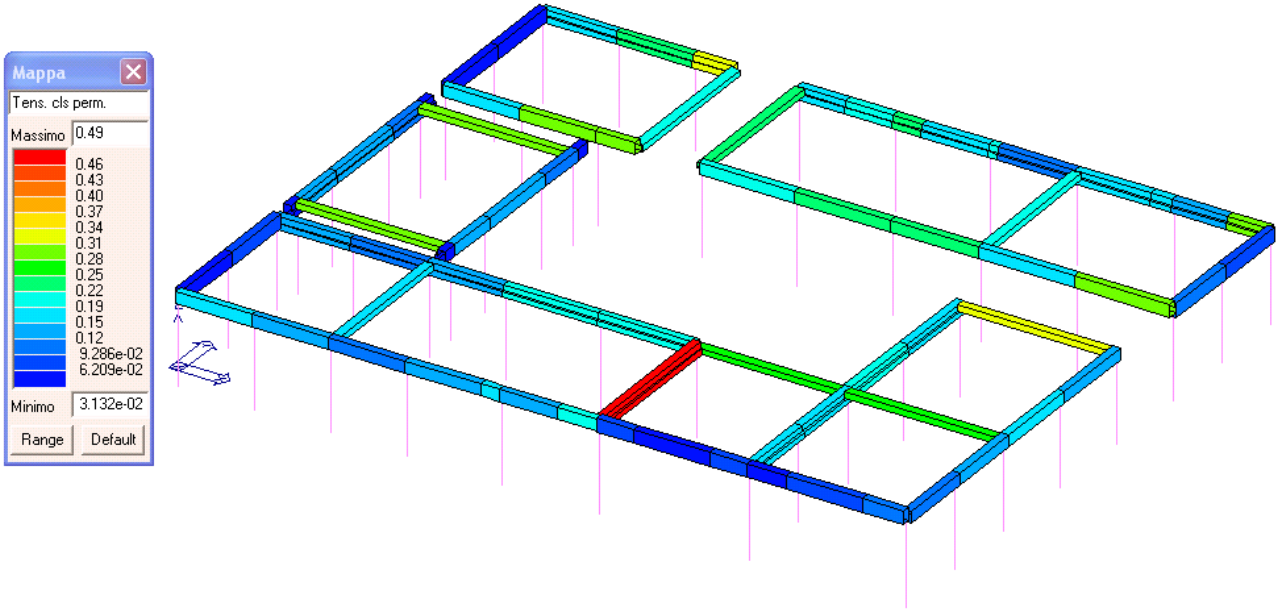


Figura 12.1 – 6 – S.L.E. Travi copertura: tensioni cls comb. permanenti

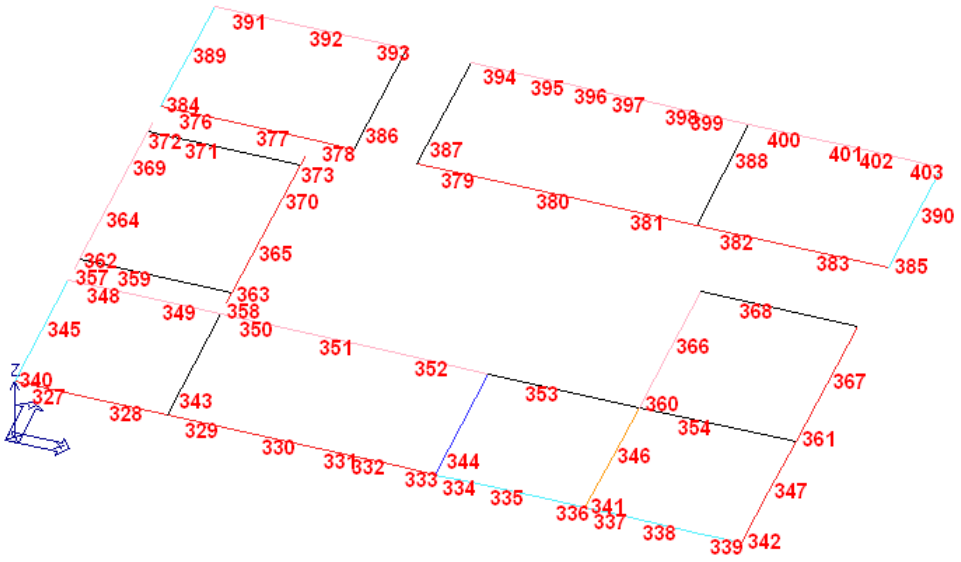


Figura 12.1 – 7 – Numerazione delle sezioni

Verifiche SLU

Trave	Note	Pos.	%Af	Af inf.	Af. sup	x/d	verif.	ver. V/T	Af V	Af T	Staffe	Scorr. P	Af long.	Rif. cmb
		cm									L=cm			
327	ok,ok	0.0	0.58	15.7	12.6	0.12	0.74	0.50	3.2	0.0	2d12/12 L=62	0.0	0.0	61,81
	s=9,m=4	195.0	0.58	15.7	12.6	0.12	0.24	0.38	1.7	0.0	2d12/30 L=265	0.0	0.0	27,81
		390.0	0.58	15.7	12.6	0.12	0.43	0.44	2.5	0.0	2d12/12 L=62	0.0	0.0	60,80
328	ok,ok	0.0	0.58	15.7	12.6	0.12	0.62	0.29	2.9	0.0	2d12/12 L=62	0.0	0.0	61,15
	s=9,m=4	195.0	0.58	15.7	12.6	0.12	0.19	0.16	1.3	0.0	2d12/30 L=265	0.0	0.0	21,60
		390.0	0.58	15.7	12.6	0.12	0.51	0.28	2.5	0.0	2d12/12 L=62	0.0	0.0	60,60
329	ok,ok	0.0	0.58	15.7	12.6	0.12	0.62	0.27	2.9	0.0	2d12/12 L=62	0.0	0.0	61,58
	s=9,m=4	195.0	0.58	15.7	12.6	0.12	0.16	0.15	1.3	0.0	2d12/30 L=265	0.0	0.0	33,58
		390.0	0.58	15.7	12.6	0.12	0.65	0.25	2.8	0.0	2d12/12 L=62	0.0	0.0	60,76
330	ok,ok	0.0	0.58	15.7	12.6	0.12	0.61	0.32	3.0	0.0	2d12/12 L=62	0.0	0.0	61,21
	s=9,m=4	195.0	0.58	15.7	12.6	0.12	0.25	0.18	1.3	0.0	2d12/30 L=265	0.0	0.0	27,60
		390.0	0.58	15.7	12.6	0.12	0.31	0.29	2.2	0.0	2d12/12 L=62	0.0	0.0	60,60
331	ok,ok	0.0	0.58	15.7	12.6	0.12	0.25	0.34	2.6	0.0	2d12/30 L=95	0.0	0.0	60,9
	s=9,m=4	95.0	0.58	15.7	12.6	0.12	0.71	0.43	3.8	0.0	2d12/30 L=95	0.0	0.0	60,9
332	ok,ok	0.0	0.58	15.7	12.6	0.12	0.61	0.59	3.2	0.0	2d12/12 L=62	0.0	0.0	58,78
	s=9,m=4	147.5	0.58	15.7	12.6	0.12	0.27	0.51	1.6	0.0	2d12/30 L=170	0.0	0.0	60,78
		295.0	0.58	15.7	12.6	0.12	0.27	0.55	1.5	0.0	2d12/12 L=62	0.0	0.0	21,80
333	ok,ok	0.0	0.58	15.7	12.6	0.12	0.29	0.65	1.5	0.0	2d12/12 L=62	0.0	0.0	27,80
	s=9,m=4	100.0	0.58	15.7	12.6	0.12	0.31	0.71	2.6	0.0	2d12/30 L=75	0.0	0.0	60,80
		200.0	0.58	15.7	12.6	0.12	0.82	0.77	3.9	0.0	2d12/12 L=62	0.0	0.0	60,9
334	ok,ok	0.0	0.45	12.6	12.6	0.09	0.46	0.43	1.2	0.0	2d12/15 L=75	0.0	0.0	61,9
	s=13,m=4	95.0	0.45	12.6	12.6	0.09	0.29	0.42	1.1	0.0	2d12/30 L=40	0.0	0.0	58,9
		190.0	0.45	12.6	12.6	0.09	0.23	0.41	0.9	0.0	2d12/15 L=75	0.0	0.0	60,9
335	ok,ok	0.0	0.45	12.6	12.6	0.09	0.29	0.22	0.7	0.0	2d12/15 L=75	0.0	0.0	60,21
	s=13,m=4	195.0	0.45	12.6	12.6	0.09	0.17	0.21	0.5	0.0	2d12/30 L=240	0.0	0.0	60,15
		390.0	0.45	12.6	12.6	0.09	0.14	0.23	0.8	0.0	2d12/15 L=75	0.0	0.0	55,15
336	ok,ok	0.0	0.45	12.6	12.6	0.09	0.09	0.30	1.0	0.0	2d12/15 L=75	0.0	0.0	58,17
	s=13,m=4	95.0	0.45	12.6	12.6	0.09	0.22	0.32	1.2	0.0	2d12/30 L=40	0.0	0.0	55,17
		190.0	0.45	12.6	12.6	0.09	0.41	0.33	1.4	0.0	2d12/15 L=75	0.0	0.0	55,17
337	ok,ok	0.0	0.45	12.6	12.6	0.09	0.30	0.29	1.4	0.0	2d12/15 L=75	0.0	0.0	21,74
	s=13,m=4	100.0	0.45	12.6	12.6	0.09	0.19	0.28	1.2	0.0	2d12/30 L=50	0.0	0.0	60,74
		200.0	0.45	12.6	12.6	0.09	0.18	0.26	1.0	0.0	2d12/15 L=75	0.0	0.0	21,74
338	ok,ok	0.0	0.45	12.6	12.6	0.09	0.21	0.09	0.7	0.0	2d12/15 L=75	0.0	0.0	60,61
	s=13,m=4	195.0	0.45	12.6	12.6	0.09	0.24	0.07	0.6	0.0	2d12/30 L=240	0.0	0.0	21,61
		390.0	0.45	12.6	12.6	0.09	0.27	0.08	0.9	0.0	2d12/15 L=75	0.0	0.0	61,64

Trave	Note	Pos.	%Af	Af inf.	Af. sup	x/d	verif.	ver. V/T	Af V	Af T	Staffe	Scorr. P	Af long.	Rif. cmb
339	ok,ok	0.0	0.45	12.6	12.6	0.09	0.25	0.30	1.0	0.0	2d12/15 L=75	0.0	0.0	61,71
	s=13,m=4	105.0	0.45	12.6	12.6	0.09	0.34	0.31	1.2	0.0	2d12/30 L=60	0.0	0.0	60,71
		210.0	0.45	12.6	12.6	0.09	0.57	0.32	1.4	0.0	2d12/15 L=75	0.0	0.0	60,71
340	ok,ok	0.0	0.45	12.6	12.6	0.09	0.93	0.36	2.2	0.0	2d12/15 L=75	0.0	0.0	80,61
	s=13,m=4	200.0	0.45	12.6	12.6	0.09	0.19	0.38	1.9	0.0	2d12/30 L=250	0.0	0.0	81,61
		400.0	0.45	12.6	12.6	0.09	0.51	0.40	2.0	0.0	2d12/15 L=75	0.0	0.0	81,61
341	ok,ok	0.0	0.73	22.0	15.7	0.12	0.69	0.61	4.4	0.0	2d12/12 L=62	0.0	0.0	74,60
	s=10,m=4	200.0	0.73	22.0	15.7	0.12	0.29	0.45	1.5	0.0	2d12/30 L=275	0.0	0.0	15,55
		400.0	0.73	22.0	15.7	0.12	0.49	0.65	4.9	0.0	2d12/12 L=62	0.0	0.0	71,55
342	ok,ok	0.0	0.58	15.7	12.6	0.12	0.90	0.54	3.2	0.0	2d12/12 L=62	0.0	0.0	74,56
	s=9,m=4	200.0	0.58	15.7	12.6	0.12	0.25	0.49	1.6	0.0	2d12/30 L=275	0.0	0.0	77,55
		400.0	0.58	15.7	12.6	0.12	0.60	0.60	3.2	0.0	2d12/12 L=62	0.0	0.0	71,55
343	ok,ok	0.0	0.84	12.6	12.6	0.19	0.58	0.08	1.2	0.0	2d12/5 L=50	0.0	0.0	80,80
	s=11,m=4	400.0	0.84	12.6	12.6	0.19	0.16	0.05	0.5	0.0	2d12/20 L=700	0.0	0.0	17,81
		800.0	0.84	12.6	12.6	0.19	0.53	0.09	1.1	0.0	2d12/5 L=50	0.0	0.0	81,81
344	ok,ok	0.0	0.70	18.8	15.7	0.13	0.68	0.39	5.0	0.0	2d12/12 L=62	0.0	0.0	76,9
	s=14,m=4	400.0	0.70	18.8	15.7	0.13	0.85	0.08	0.6	0.0	2d12/30 L=675	0.0	0.0	15,74
		800.0	0.70	18.8	15.7	0.13	0.55	0.38	4.8	0.0	2d12/12 L=62	0.0	0.0	77,15
345	ok,ok	0.0	0.45	12.6	12.6	0.09	0.53	0.38	2.2	0.0	2d12/15 L=75	0.0	0.0	82,62
	s=13,m=4	200.0	0.45	12.6	12.6	0.09	0.26	0.36	1.9	0.0	2d12/30 L=250	0.0	0.0	80,62
		400.0	0.45	12.6	12.6	0.09	0.89	0.33	1.7	0.0	2d12/15 L=75	0.0	0.0	80,62
346	ok,ok	0.0	0.73	22.0	15.7	0.12	0.52	0.35	4.5	0.0	2d12/12 L=62	0.0	0.0	74,9
	s=10,m=4	200.0	0.73	22.0	15.7	0.12	0.20	0.09	1.0	0.0	2d12/30 L=275	0.0	0.0	9,79
		400.0	0.73	22.0	15.7	0.12	0.53	0.36	4.6	0.0	2d12/12 L=62	0.0	0.0	73,15
347	ok,ok	0.0	0.58	15.7	12.6	0.12	0.63	0.22	2.7	0.0	2d12/12 L=62	0.0	0.0	74,72
	s=9,m=4	200.0	0.58	15.7	12.6	0.12	0.14	0.12	1.2	0.0	2d12/30 L=275	0.0	0.0	21,71
		400.0	0.58	15.7	12.6	0.12	0.64	0.24	2.7	0.0	2d12/12 L=62	0.0	0.0	71,71
348	ok,ok	0.0	0.58	15.7	12.6	0.12	0.63	0.59	3.1	0.0	2d12/12 L=62	0.0	0.0	58,82
	s=8,m=4	195.0	0.58	15.7	12.6	0.12	0.25	0.46	1.3	0.0	2d12/30 L=265	0.0	0.0	27,82
		390.0	0.58	15.7	12.6	0.12	0.36	0.50	2.6	0.0	2d12/12 L=62	0.0	0.0	55,84
349	ok,ok	0.0	0.58	15.7	12.6	0.12	0.48	0.33	2.8	0.0	2d12/12 L=62	0.0	0.0	62,21
	s=8,m=4	195.0	0.58	15.7	12.6	0.12	0.17	0.20	1.0	0.0	2d12/30 L=265	0.0	0.0	33,58
		390.0	0.58	15.7	12.6	0.12	0.47	0.32	2.7	0.0	2d12/12 L=62	0.0	0.0	59,27
350	ok,ok	0.0	0.58	15.7	12.6	0.12	0.53	0.26	2.6	0.0	2d12/12 L=62	0.0	0.0	61,74
	s=8,m=4	195.0	0.58	15.7	12.6	0.12	0.12	0.14	1.0	0.0	2d12/30 L=265	0.0	0.0	79,74
		390.0	0.58	15.7	12.6	0.12	0.54	0.23	2.5	0.0	2d12/12 L=62	0.0	0.0	55,71
351	ok,ok	0.0	0.58	15.7	12.6	0.12	0.52	0.36	3.0	0.0	2d12/12 L=62	0.0	0.0	61,15
	s=8,m=4	242.5	0.58	15.7	12.6	0.12	0.23	0.21	0.9	0.0	2d12/30 L=360	0.0	0.0	15,83
		485.0	0.58	15.7	12.6	0.12	0.64	0.39	3.4	0.0	2d12/12 L=62	0.0	0.0	55,15
352	ok,ok	0.0	0.58	15.7	12.6	0.12	0.61	0.68	3.2	0.0	2d12/12 L=62	0.0	0.0	61,81
	s=8,m=4	247.5	0.58	15.7	12.6	0.12	0.25	0.54	1.1	0.0	2d12/30 L=370	0.0	0.0	15,81
		495.0	0.58	15.7	12.6	0.12	0.84	0.67	3.3	0.0	2d12/12 L=62	0.0	0.0	60,83
353	ok,ok	0.0	0.84	12.6	12.6	0.19	0.43	0.32	1.2	0.0	2d12/5 L=50	0.0	0.0	62,21
	s=11,m=4	385.0	0.84	12.6	12.6	0.19	0.12	0.26	0.3	0.0	2d12/20 L=670	0.0	0.0	13,21
		770.0	0.84	12.6	12.6	0.19	0.50	0.32	1.2	0.0	2d12/5 L=50	0.0	0.0	55,27
354	ok,ok	0.0	0.84	12.6	12.6	0.19	0.39	0.09	1.0	0.0	2d12/5 L=50	0.0	0.0	62,21
	s=11,m=4	400.0	0.84	12.6	12.6	0.19	0.12	0.06	0.5	0.0	2d12/20 L=700	0.0	0.0	23,60
		800.0	0.84	12.6	12.6	0.19	0.57	0.10	1.1	0.0	2d12/5 L=50	0.0	0.0	60,27
357	ok,ok	0.0	0.58	15.7	12.6	0.12	1.37e-03	0.01	6.55e-02	0.0	2d12/30 L=80	0.0	0.0	82,81
	s=8,m=4	80.0	0.58	15.7	12.6	0.10	0.08	0.08	1.0	0.0	2d12/30 L=80	0.0	0.0	15,15
358	ok,ok	0.0	0.58	15.7	12.6	0.12	1.95e-03	0.02	7.15e-02	0.0	2d12/30 L=80	0.0	0.0	82,82
	s=9,m=4	80.0	0.58	15.7	12.6	0.10	0.08	0.08	1.0	0.0	2d12/30 L=80	0.0	0.0	9,15
359	ok,ok	0.0	0.84	12.6	12.6	0.19	0.59	0.11	1.3	0.0	2d12/5 L=50	0.0	0.0	62,61
	s=11,m=4	390.0	0.84	12.6	12.6	0.19	0.16	0.07	0.6	0.0	2d12/20 L=680	0.0	0.0	70,61
		780.0	0.84	12.6	12.6	0.19	0.39	0.09	0.9	0.0	2d12/5 L=50	0.0	0.0	62,60
360	ok,ok	0.0	0.58	15.7	12.6	0.12	0.69	0.35	3.0	0.0	2d12/12 L=62	0.0	0.0	74,64
	s=8,m=4	230.0	0.58	15.7	12.6	0.12	0.14	0.23	0.9	0.0	2d12/30 L=335	0.0	0.0	9,59
		460.0	0.58	15.7	12.6	0.12	0.59	0.37	2.8	0.0	2d12/12 L=62	0.0	0.0	71,59
361	ok,ok	0.0	0.58	15.7	12.6	0.12	0.67	0.28	2.9	0.0	2d12/12 L=62	0.0	0.0	74,9
	s=9,m=4	230.0	0.58	15.7	12.6	0.12	0.20	0.14	1.1	0.0	2d12/30 L=335	0.0	0.0	21,76
		460.0	0.58	15.7	12.6	0.12	0.69	0.28	3.0	0.0	2d12/12 L=62	0.0	0.0	71,27
362	ok,ok	0.0	0.58	15.7	12.6	0.12	0.54	0.65	2.0	0.0	2d12/12 L=62	0.0	0.0	80,67
	s=8,m=4	143.0	0.58	15.7	12.6	0.12	0.16	0.63	1.4	0.0	2d12/30 L=161	0.0	0.0	81,67
		286.0	0.58	15.7	12.6	0.10	0.35	0.72	2.4	0.0	2d12/12 L=62	0.0	0.0	81,67
363	ok,ok	0.0	0.58	15.7	12.6	0.12	0.87	0.37	3.2	0.0	2d12/12 L=62	0.0	0.0	82,84
	s=9,m=4	143.0	0.58	15.7	12.6	0.12	0.19	0.32	2.6	0.0	2d12/30 L=161	0.0	0.0	79,85

Trave	Note	Pos.	%Af	Af inf.	Af. sup	x/d	verif.	ver. V/T	Af V	Af T	Staffe	Scorr. P	Af long.	Rif. cmb
		286.0	0.58	15.7	12.6	0.12	0.63	0.40	3.7	0.0	2d12/12 L=62	0.0	0.0	79,85
364	ok,ok	0.0	0.58	15.7	12.6	0.10	0.38	0.23	3.0	0.0	2d12/12 L=62	0.0	0.0	9,9
	s=8,m=4	230.0	0.58	15.7	12.6	0.12	0.23	0.07	0.3	0.0	2d12/30 L=335	0.0	0.0	27,80
		460.0	0.58	15.7	12.6	0.10	0.35	0.22	2.9	0.0	2d12/12 L=62	0.0	0.0	15,15
365	ok,ok	0.0	0.58	15.7	12.6	0.10	0.41	0.39	2.9	0.0	2d12/12 L=62	0.0	0.0	80,82
	s=9,m=4	230.0	0.58	15.7	12.6	0.12	0.23	0.25	0.5	0.0	2d12/30 L=335	0.0	0.0	9,79
		460.0	0.58	15.7	12.6	0.10	0.40	0.39	2.9	0.0	2d12/12 L=62	0.0	0.0	79,79
366	ok,ok	0.0	0.58	15.7	12.6	0.12	0.58	0.33	3.2	0.0	2d12/12 L=62	0.0	0.0	74,21
	s=8,m=4	230.0	0.58	15.7	12.6	0.12	0.28	0.17	1.1	0.0	2d12/30 L=335	0.0	0.0	9,74
		460.0	0.58	15.7	12.6	0.12	0.67	0.31	2.9	0.0	2d12/12 L=62	0.0	0.0	71,15
367	ok,ok	0.0	0.58	15.7	12.6	0.12	0.65	0.34	3.1	0.0	2d12/12 L=62	0.0	0.0	74,9
	s=9,m=4	230.0	0.58	15.7	12.6	0.12	0.27	0.24	1.3	0.0	2d12/30 L=335	0.0	0.0	9,55
		460.0	0.58	15.7	12.6	0.12	0.85	0.37	3.0	0.0	2d12/12 L=62	0.0	0.0	71,55
368	ok,ok	0.0	0.84	12.6	12.6	0.19	0.43	0.08	1.1	0.0	2d12/5 L=50	0.0	0.0	62,61
	s=11,m=4	400.0	0.84	12.6	12.6	0.19	0.20	0.05	0.5	0.0	2d12/20 L=700	0.0	0.0	23,60
		800.0	0.84	12.6	12.6	0.19	0.60	0.11	1.4	0.0	2d12/5 L=50	0.0	0.0	63,60
369	ok,ok	0.0	0.58	15.7	12.6	0.10	0.34	0.75	2.5	0.0	2d12/12 L=62	0.0	0.0	80,68
	s=8,m=4	130.0	0.58	15.7	12.6	0.12	0.15	0.67	1.5	0.0	2d12/30 L=135	0.0	0.0	80,68
		260.0	0.58	15.7	12.6	0.12	0.54	0.67	2.0	0.0	2d12/12 L=62	0.0	0.0	81,68
370	ok,ok	0.0	0.58	15.7	12.6	0.12	0.61	0.43	3.8	0.0	2d12/12 L=62	0.0	0.0	82,82
	s=9,m=4	130.0	0.58	15.7	12.6	0.12	0.19	0.35	2.8	0.0	2d12/30 L=135	0.0	0.0	79,82
		260.0	0.58	15.7	12.6	0.12	0.88	0.40	3.3	0.0	2d12/12 L=62	0.0	0.0	79,79
371	ok,ok	0.0	0.84	12.6	12.6	0.19	0.55	0.11	1.2	0.0	2d12/5 L=50	0.0	0.0	69,61
	s=11,m=4	390.0	0.84	12.6	12.6	0.19	0.16	0.07	0.6	0.0	2d12/20 L=680	0.0	0.0	69,61
		780.0	0.84	12.6	12.6	0.19	0.38	0.09	0.9	0.0	2d12/5 L=50	0.0	0.0	69,60
372	ok,ok	0.0	0.58	15.7	12.6	0.10	0.08	0.08	1.0	0.0	2d12/30 L=80	0.0	0.0	9,9
	s=8,m=4	80.0	0.58	15.7	12.6	0.12	1.39e-03	0.01	6.32e-02	0.0	2d12/30 L=80	0.0	0.0	81,80
373	ok,ok	0.0	0.58	15.7	12.6	0.10	0.08	0.08	1.0	0.0	2d12/30 L=80	0.0	0.0	15,9
	s=9,m=4	80.0	0.58	15.7	12.6	0.12	1.87e-03	0.02	7.30e-02	0.0	2d12/30 L=80	0.0	0.0	85,79
376	ok,ok	0.0	0.58	15.7	12.6	0.12	0.57	0.64	3.3	0.0	2d12/12 L=62	0.0	0.0	65,81
	s=9,m=4	196.0	0.58	15.7	12.6	0.12	0.30	0.51	1.1	0.0	2d12/30 L=267	0.0	0.0	27,81
		392.0	0.58	15.7	12.6	0.12	0.22	0.55	2.7	0.0	2d12/12 L=62	0.0	0.0	67,81
377	ok,ok	0.0	0.58	15.7	12.6	0.12	0.38	0.28	2.3	0.0	2d12/12 L=62	0.0	0.0	70,65
	s=9,m=4	194.0	0.58	15.7	12.6	0.12	0.13	0.25	1.7	0.0	2d12/30 L=263	0.0	0.0	65,79
		388.0	0.58	15.7	12.6	0.12	0.95	0.40	3.7	0.0	2d12/12 L=62	0.0	0.0	67,27
378	ok,ok	0.0	0.58	15.7	12.6	0.10	0.71	0.70	3.1	0.0	2d12/12 L=62	0.0	0.0	9,80
	s=9,m=4	102.0	0.58	15.7	12.6	0.10	0.24	0.64	1.8	0.0	2d12/30 L=79	0.0	0.0	9,80
		204.0	0.58	15.7	12.6	0.12	6.65e-03	0.58	0.7	0.0	2d12/12 L=62	0.0	0.0	83,80
379	ok,ok	0.0	0.58	15.7	12.6	0.12	0.56	0.35	3.0	0.0	2d12/12 L=62	0.0	0.0	65,74
	s=9,m=4	245.0	0.58	15.7	12.6	0.12	0.29	0.25	0.8	0.0	2d12/30 L=365	0.0	0.0	27,76
		490.0	0.58	15.7	12.6	0.12	0.56	0.40	3.4	0.0	2d12/12 L=62	0.0	0.0	64,76
380	ok,ok	0.0	0.58	15.7	12.6	0.10	0.56	0.29	3.3	0.0	2d12/12 L=62	0.0	0.0	21,81
	s=9,m=4	245.0	0.58	15.7	12.6	0.12	0.19	0.14	0.5	0.0	2d12/30 L=365	0.0	0.0	9,81
		490.0	0.58	15.7	12.6	0.10	0.48	0.26	3.0	0.0	2d12/12 L=62	0.0	0.0	64,83
381	ok,ok	0.0	0.58	15.7	12.6	0.10	0.54	0.45	3.2	0.0	2d12/12 L=62	0.0	0.0	65,77
	s=9,m=4	224.5	0.58	15.7	12.6	0.12	0.17	0.32	0.8	0.0	2d12/30 L=324	0.0	0.0	9,77
		449.0	0.58	15.7	12.6	0.12	0.41	0.43	2.6	0.0	2d12/12 L=62	0.0	0.0	64,76
382	ok,ok	0.0	0.58	15.7	12.6	0.12	0.37	0.34	3.1	0.0	2d12/12 L=62	0.0	0.0	69,77
	s=9,m=4	245.0	0.58	15.7	12.6	0.12	0.28	0.19	0.5	0.0	2d12/30 L=365	0.0	0.0	33,75
		490.0	0.58	15.7	12.6	0.10	0.43	0.35	3.3	0.0	2d12/12 L=62	0.0	0.0	64,27
383	ok,ok	0.0	0.58	15.7	12.6	0.12	0.32	0.66	2.8	0.0	2d12/12 L=62	0.0	0.0	69,71
	s=9,m=4	245.0	0.58	15.7	12.6	0.12	0.27	0.58	1.2	0.0	2d12/30 L=365	0.0	0.0	21,71
		490.0	0.58	15.7	12.6	0.12	0.88	0.73	3.6	0.0	2d12/12 L=62	0.0	0.0	67,71
384	ok,ok	0.0	0.45	12.6	12.6	0.09	0.87	0.27	1.7	0.0	2d12/15 L=75	0.0	0.0	81,85
	s=13,m=4	200.0	0.45	12.6	12.6	0.09	0.24	0.29	1.8	0.0	2d12/30 L=250	0.0	0.0	81,85
		400.0	0.45	12.6	12.6	0.09	0.50	0.31	2.1	0.0	2d12/15 L=75	0.0	0.0	81,85
385	ok,ok	0.0	0.45	12.6	12.6	0.09	0.54	0.27	1.3	0.0	2d12/15 L=75	0.0	0.0	71,63
	s=13,m=4	200.0	0.45	12.6	12.6	0.09	0.03	0.30	1.5	0.0	2d12/30 L=250	0.0	0.0	81,63
		400.0	0.45	12.6	12.6	0.09	0.58	0.32	1.8	0.0	2d12/15 L=75	0.0	0.0	71,63
386	ok,ok	0.0	0.84	12.6	12.6	0.19	0.56	0.09	1.3	0.0	2d12/5 L=50	0.0	0.0	80,9
	s=11,m=4	400.0	0.84	12.6	12.6	0.19	0.23	0.05	0.5	0.0	2d12/20 L=700	0.0	0.0	1,81
		800.0	0.84	12.6	12.6	0.19	0.55	0.10	1.4	0.0	2d12/5 L=50	0.0	0.0	81,81
387	ok,ok	0.0	0.84	12.6	12.6	0.19	0.88	0.12	1.7	0.0	2d12/5 L=50	0.0	0.0	74,78
	s=11,m=4	400.0	0.84	12.6	12.6	0.19	0.22	0.08	0.9	0.0	2d12/20 L=700	0.0	0.0	11,75
		800.0	0.84	12.6	12.6	0.19	0.85	0.13	1.8	0.0	2d12/5 L=50	0.0	0.0	71,75
388	ok,ok	0.0	0.84	12.6	12.6	0.19	0.66	0.09	1.4	0.0	2d12/5 L=50	0.0	0.0	71,71

Trave	Note	Pos.	%Af	Af inf.	Af. sup	x/d	verif.	ver. V/T	Af V	Af T	Staffe	Scorr. P	Af long.	Rif. cmb
	s=11,m=4	400.0	0.84	12.6	12.6	0.19	0.18	0.05	0.7	0.0	2d12/20 L=700	0.0	0.0	75,71
		800.1	0.84	12.6	12.6	0.19	0.69	0.09	1.3	0.0	2d12/5 L=50	0.0	0.0	74,74
389	ok,ok	0.0	0.45	12.6	12.6	0.09	0.48	0.33	1.9	0.0	2d12/15 L=75	0.0	0.0	80,86
	s=13,m=4	200.0	0.45	12.6	12.6	0.09	0.19	0.31	1.8	0.0	2d12/30 L=250	0.0	0.0	80,86
		400.0	0.45	12.6	12.6	0.09	0.91	0.31	2.1	0.0	2d12/15 L=75	0.0	0.0	81,69
390	ok,ok	0.0	0.45	12.6	12.6	0.09	0.53	0.32	1.6	0.0	2d12/15 L=75	0.0	0.0	72,64
	s=13,m=4	200.0	0.45	12.6	12.6	0.09	0.12	0.30	1.3	0.0	2d12/30 L=250	0.0	0.0	57,64
		400.0	0.45	12.6	12.6	0.09	0.44	0.28	1.3	0.0	2d12/15 L=75	0.0	0.0	71,64
391	ok,ok	0.0	0.58	15.7	12.6	0.12	0.61	0.49	3.2	0.0	2d12/12 L=62	0.0	0.0	70,86
	s=8,m=4	195.0	0.58	15.7	12.6	0.12	0.27	0.37	1.3	0.0	2d12/30 L=265	0.0	0.0	27,86
		390.0	0.58	15.7	12.6	0.12	0.29	0.44	2.0	0.0	2d12/12 L=62	0.0	0.0	70,83
392	ok,ok	0.0	0.58	15.7	12.6	0.12	0.44	0.25	2.4	0.0	2d12/12 L=62	0.0	0.0	70,70
	s=8,m=4	195.0	0.58	15.7	12.6	0.12	0.14	0.18	1.6	0.0	2d12/30 L=265	0.0	0.0	70,64
		390.0	0.58	15.7	12.6	0.12	0.89	0.31	3.2	0.0	2d12/12 L=62	0.0	0.0	67,27
393	ok,ok	0.0	0.58	15.7	12.6	0.10	0.70	0.70	3.1	0.0	2d12/12 L=62	0.0	0.0	15,81
	s=8,m=4	102.0	0.58	15.7	12.6	0.10	0.23	0.64	1.8	0.0	2d12/30 L=79	0.0	0.0	15,81
		204.0	0.58	15.7	12.6	0.12	5.26e-03	0.58	0.7	0.0	2d12/12 L=62	0.0	0.0	64,81
394	ok,ok	0.0	0.58	15.7	12.6	0.12	0.61	0.52	3.3	0.0	2d12/12 L=62	0.0	0.0	70,74
	s=8,m=4	124.5	0.58	15.7	12.6	0.12	0.33	0.45	1.8	0.0	2d12/30 L=124	0.0	0.0	67,74
		249.0	0.58	15.7	12.6	0.12	0.38	0.37	1.1	0.0	2d12/12 L=62	0.0	0.0	21,74
395	ok,ok	0.0	0.58	15.7	12.6	0.12	0.38	0.46	1.2	0.0	2d12/12 L=62	0.0	0.0	27,71
	s=8,m=4	120.5	0.58	15.7	12.6	0.12	0.16	0.53	2.3	0.0	2d12/30 L=116	0.0	0.0	70,71
		241.0	0.58	15.7	12.6	0.12	0.63	0.60	3.9	0.0	2d12/12 L=62	0.0	0.0	67,71
396	ok,ok	0.0	0.58	15.7	12.6	0.10	0.63	0.59	3.9	0.0	2d12/12 L=62	0.0	0.0	21,73
	s=8,m=4	74.5	0.58	15.7	12.6	0.12	0.21	0.54	2.9	0.0	2d12/30 L=24	0.0	0.0	70,73
		149.0	0.58	15.7	12.6	0.12	0.14	0.50	2.0	0.0	2d12/12 L=62	0.0	0.0	21,73
397	ok,ok	0.0	0.58	15.7	12.6	0.12	0.16	0.22	1.5	0.0	2d12/12 L=62	0.0	0.0	67,71
	s=8,m=4	170.5	0.58	15.7	12.6	0.12	0.17	0.20	1.1	0.0	2d12/30 L=216	0.0	0.0	21,71
		341.0	0.58	15.7	12.6	0.12	0.53	0.30	3.2	0.0	2d12/12 L=62	0.0	0.0	67,71
398	ok,ok	0.0	0.58	15.7	12.6	0.10	0.52	0.75	3.7	0.0	2d12/30 L=49	0.0	0.0	70,73
	s=8,m=4	49.0	0.58	15.7	12.6	0.12	0.30	0.72	3.1	0.0	2d12/30 L=49	0.0	0.0	70,73
399	ok,ok	0.0	0.58	15.7	12.6	0.12	0.38	0.28	2.4	0.0	2d12/12 L=62	0.0	0.0	70,81
	s=8,m=4	195.0	0.58	15.7	12.6	0.12	0.17	0.22	0.8	0.0	2d12/30 L=265	0.0	0.0	21,83
		390.0	0.58	15.7	12.6	0.12	0.50	0.33	2.7	0.0	2d12/12 L=62	0.0	0.0	67,83
400	ok,ok	0.0	0.58	15.7	12.6	0.12	0.44	0.30	3.1	0.0	2d12/12 L=62	0.0	0.0	70,15
	s=8,m=4	195.0	0.58	15.7	12.6	0.12	0.30	0.16	0.9	0.0	2d12/30 L=265	0.0	0.0	27,86
		390.0	0.58	15.7	12.6	0.12	0.17	0.22	2.0	0.0	2d12/12 L=62	0.0	0.0	70,27
401	ok,ok	0.0	0.58	15.7	12.6	0.12	0.14	0.34	2.6	0.0	2d12/30 L=110	0.0	0.0	70,71
	s=8,m=4	110.0	0.58	15.7	12.6	0.10	0.52	0.41	4.0	0.0	2d12/30 L=110	0.0	0.0	27,71
402	ok,ok	0.0	0.58	15.7	12.6	0.12	0.37	0.47	2.9	0.0	2d12/12 L=62	0.0	0.0	70,73
	s=8,m=4	140.0	0.58	15.7	12.6	0.12	0.24	0.39	1.4	0.0	2d12/30 L=155	0.0	0.0	27,73
		280.0	0.58	15.7	12.6	0.12	0.28	0.43	1.8	0.0	2d12/12 L=62	0.0	0.0	21,72
403	ok,ok	0.0	0.58	15.7	12.6	0.12	0.31	0.36	1.8	0.0	2d12/12 L=62	0.0	0.0	21,76
	s=8,m=4	105.0	0.58	15.7	12.6	0.12	0.34	0.42	2.8	0.0	2d12/30 L=85	0.0	0.0	67,76
		210.0	0.58	15.7	12.6	0.12	0.94	0.48	4.2	0.0	2d12/12 L=62	0.0	0.0	67,76
Trave			**%Af**	**Af inf.**	**Af. sup**	**x/d**	**verif.**	**ver. V/T**	**Af V**	**Af T**		**Scorr. P**	**Af long.**	
			0.84	21.99	15.71	0.19	0.95	0.77	4.96	0.0		0.0	0.0	

Verifiche SLE

Trave	Pos.	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb	dR	dF	dP	Rif. cmb
	cm					mm	mm	mm		cm	cm	cm	
327	0.0	0.16	0.37	0.16	162,162,179	0.11	0.0	0.0	162,0,0	0.60	0.55	0.53	158,173,179
	195.0	0.12	0.20	0.13	164,164,179	0.0	0.0	0.0	0,0,0				
	390.0	0.04	0.08	0.02	153,153,179	0.0	0.0	0.0	0,0,0				
328	0.0	0.13	0.31	0.13	161,161,179	0.0	0.0	0.0	0,0,0	0.36	0.33	0.32	158,173,179
	195.0	0.09	0.16	0.11	167,161,179	0.0	0.0	0.0	0,0,0				
	390.0	0.06	0.13	0.05	165,165,179	0.0	0.0	0.0	0,0,0				
329	0.0	0.13	0.30	0.12	161,161,179	0.0	0.0	0.0	0,0,0	0.23	0.20	0.19	158,173,179
	195.0	0.07	0.14	0.08	158,167,179	0.0	0.0	0.0	0,0,0				
	390.0	0.10	0.24	0.09	164,164,179	0.0	0.0	0.0	0,0,0				
330	0.0	0.14	0.31	0.13	161,161,179	0.0	0.0	0.0	0,0,0	0.12	0.10	0.09	158,173,179
	195.0	0.12	0.21	0.13	164,164,179	0.0	0.0	0.0	0,0,0				

Trave	Pos.	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb	dR	dF	dP	Rif. cmb
	390.0	0.03	0.06	2.35e-03	162,162,179	0.0	0.0	0.0	0,0,0				
331	0.0	0.02	0.07	0.0	159,162,0	0.0	0.0	0.0	0,0,0	0.03	0.02	0.02	161,173,179
	95.0	0.18	0.46	0.17	164,164,179	0.13	0.10	0.0	164,173,0				
332	0.0	0.15	0.35	0.13	161,161,179	0.10	0.0	0.0	161,0,0	0.04	0.04	0.03	158,173,179
	147.5	0.09	0.16	0.10	164,164,179	0.0	0.0	0.0	0,0,0				
	295.0	0.13	0.22	0.11	161,161,179	0.0	0.0	0.0	0,0,0				
333	0.0	0.13	0.24	0.11	158,164,179	0.0	0.0	0.0	0,0,0	0.19	0.14	0.11	158,173,179
	100.0	8.20e-03	0.05	0.0	165,165,0	0.0	0.0	0.0	0,0,0				
	200.0	0.23	0.55	0.21	164,164,179	0.17	0.13	0.12	164,173,179				
334	0.0	0.12	0.27	0.09	161,161,179	0.0	0.0	0.0	0,0,0	0.06	0.05	0.05	153,171,179
	95.0	0.04	0.10	0.03	161,161,179	0.0	0.0	0.0	0,0,0				
	190.0	0.03	0.07	5.63e-03	158,164,179	0.0	0.0	0.0	0,0,0				
335	0.0	0.04	0.10	0.01	165,165,179	0.0	0.0	0.0	0,0,0	0.19	0.16	0.15	158,173,179
	195.0	0.05	0.12	0.04	164,164,179	0.0	0.0	0.0	0,0,0				
	390.0	0.02	0.05	6.73e-04	162,162,179	0.0	0.0	0.0	0,0,0				
336	0.0	0.02	0.06	0.01	164,164,179	0.0	0.0	0.0	0,0,0	0.12	0.10	0.10	158,173,179
	95.0	0.05	0.13	0.03	158,158,179	0.0	0.0	0.0	0,0,0				
	190.0	0.14	0.32	0.09	158,158,179	0.0	0.0	0.0	0,0,0				
337	0.0	0.10	0.23	0.04	161,161,179	0.0	0.0	0.0	0,0,0	0.10	0.08	0.08	154,172,179
	100.0	0.03	0.08	0.01	154,154,179	0.0	0.0	0.0	0,0,0				
	200.0	0.06	0.15	0.05	161,161,179	0.0	0.0	0.0	0,0,0				
338	0.0	0.07	0.16	0.06	164,164,179	0.0	0.0	0.0	0,0,0	0.33	0.30	0.29	154,172,179
	195.0	0.09	0.20	0.08	161,161,179	0.0	0.0	0.0	0,0,0				
	390.0	0.07	0.15	0.02	162,162,179	0.0	0.0	0.0	0,0,0				
339	0.0	0.07	0.16	0.04	161,161,179	0.0	0.0	0.0	0,0,0	0.27	0.21	0.21	161,173,179
	105.0	0.05	0.11	0.03	154,154,179	0.0	0.0	0.0	0,0,0				
	210.0	0.12	0.27	0.12	165,165,179	0.0	0.0	0.0	0,0,0				
340	0.0	0.08	0.17	0.05	151,156,179	0.0	0.0	0.0	0,0,0	0.13	0.10	0.09	152,170,179
	200.0	0.02	0.03	7.78e-03	152,152,179	0.0	0.0	0.0	0,0,0				
	400.0	0.04	0.08	0.01	159,159,179	0.0	0.0	0.0	0,0,0				
341	0.0	0.11	0.26	0.10	151,151,179	0.0	0.0	0.0	0,0,0	0.20	0.16	0.15	152,170,179
	200.0	0.17	0.25	0.18	158,158,179	0.05	0.0	0.0	158,0,0				
	400.0	0.14	0.32	0.13	158,158,179	0.07	0.0	0.0	158,0,0				
342	0.0	0.12	0.26	0.09	156,156,179	0.0	0.0	0.0	0,0,0	0.16	0.13	0.13	152,170,179
	200.0	0.11	0.18	0.11	158,158,179	0.0	0.0	0.0	0,0,0				
	400.0	0.10	0.23	0.09	159,159,179	0.0	0.0	0.0	0,0,0				
343	0.0	0.17	0.26	0.17	151,151,179	0.05	0.0	0.0	151,0,0	0.38	0.33	0.31	152,170,179
	400.0	0.09	0.14	0.12	159,159,179	0.0	0.0	0.0	0,0,0				
	800.0	0.14	0.20	0.12	159,159,179	0.0	0.0	0.0	0,0,0				
344	0.0	0.23	0.46	0.24	155,155,179	0.13	0.12	0.11	155,169,179	1.83	1.55	1.46	158,173,179
	400.0	0.45	0.72	0.49	158,158,179	0.25	0.22	0.21	158,173,179				
	800.0	0.19	0.38	0.18	158,158,179	0.10	0.08	0.07	158,173,179				
345	0.0	0.07	0.17	0.07	156,156,179	0.0	0.0	0.0	0,0,0	0.13	0.10	0.09	159,170,179
	200.0	0.03	0.07	0.03	151,151,179	0.0	0.0	0.0	0,0,0				
	400.0	0.08	0.18	0.05	156,156,179	0.0	0.0	0.0	0,0,0				
346	0.0	0.14	0.34	0.15	155,155,179	0.07	0.0	0.0	155,0,0	0.11	0.07	0.07	155,173,179
	200.0	0.12	0.17	0.13	167,155,179	0.0	0.0	0.0	0,0,0				
	400.0	0.16	0.36	0.16	158,158,179	0.08	0.07	0.0	158,173,0				
347	0.0	0.13	0.29	0.13	155,155,179	0.0	0.0	0.0	0,0,0	0.05	0.04	0.04	152,173,179
	200.0	0.07	0.11	0.07	155,161,179	0.0	0.0	0.0	0,0,0				
	400.0	0.13	0.28	0.12	158,158,179	0.0	0.0	0.0	0,0,0				
348	0.0	0.15	0.35	0.15	153,153,179	0.10	0.0	0.0	153,0,0	0.52	0.47	0.46	154,172,179
	195.0	0.12	0.21	0.13	164,164,179	0.0	0.0	0.0	0,0,0				
	390.0	0.05	0.11	7.53e-03	164,164,179	0.0	0.0	0.0	0,0,0				
349	0.0	0.12	0.25	0.12	161,161,179	0.0	0.0	0.0	0,0,0	0.28	0.25	0.24	151,169,179
	195.0	0.10	0.15	0.11	167,167,179	0.0	0.0	0.0	0,0,0				
	390.0	0.10	0.22	0.09	164,164,179	0.0	0.0	0.0	0,0,0				
350	0.0	0.13	0.27	0.13	161,161,179	0.0	0.0	0.0	0,0,0	0.17	0.16	0.15	151,169,179
	195.0	0.07	0.10	0.08	167,158,179	0.0	0.0	0.0	0,0,0				
	390.0	0.12	0.24	0.11	164,164,179	0.0	0.0	0.0	0,0,0				
351	0.0	0.13	0.27	0.13	161,161,179	0.0	0.0	0.0	0,0,0	0.09	0.08	0.08	167,173,179
	242.5	0.13	0.20	0.14	167,164,179	0.0	0.0	0.0	0,0,0				
	485.0	0.20	0.42	0.20	164,164,179	0.12	0.10	0.09	164,173,179				
352	0.0	0.15	0.32	0.15	161,161,179	0.0	0.0	0.0	0,0,0	0.19	0.17	0.16	161,173,179
	247.5	0.14	0.21	0.15	161,158,179	0.0	0.0	0.0	0,0,0				
	495.0	0.18	0.39	0.20	164,164,179	0.11	0.10	0.0	164,173,0				

Trave	Pos.	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb	dR	dF	dP	Rif. cmb
353	0.0	0.21	0.29	0.25	162,162,179	0.06	0.06	0.06	162,176,179	0.24	0.23	0.23	152,170,179
	385.0	0.08	0.11	0.10	153,157,179	0.0	0.0	0.0	0,0,0				
	770.0	0.18	0.26	0.23	154,166,179	0.05	0.05	0.05	166,177,179				
354	0.0	0.11	0.16	0.10	162,162,179	0.0	0.0	0.0	0,0,0	0.54	0.50	0.48	154,170,179
	400.0	0.07	0.11	0.09	162,162,179	0.0	0.0	0.0	0,0,0				
	800.0	0.23	0.33	0.25	154,154,179	0.07	0.07	0.06	154,172,179				
357	0.0	0.0	7.32e-05	0.0	0,159,0	0.0	0.0	0.0	0,0,0	0.02	5.55e-03	3.33e-03	159,175,179
	80.0	0.03	0.06	0.03	155,158,179	0.0	0.0	0.0	0,0,0				
358	0.0	0.0	6.39e-05	0.0	0,165,0	0.0	0.0	0.0	0,0,0	0.01	4.93e-03	3.15e-03	159,175,179
	80.0	0.03	0.06	0.03	161,164,179	0.0	0.0	0.0	0,0,0				
359	0.0	0.28	0.42	0.30	153,153,179	0.09	0.09	0.08	153,171,179	0.96	0.76	0.73	154,172,179
	390.0	0.08	0.12	0.11	165,165,179	0.0	0.0	0.0	0,0,0				
	780.0	0.05	0.08	3.13e-03	153,153,179	0.0	0.0	0.0	0,0,0				
360	0.0	0.19	0.44	0.21	155,155,179	0.13	0.11	0.10	155,173,179	0.13	0.08	0.07	155,173,179
	230.0	0.07	0.12	0.08	167,155,179	0.0	0.0	0.0	0,0,0				
	460.0	0.16	0.36	0.16	158,158,179	0.10	0.0	0.0	158,0,0				
361	0.0	0.15	0.33	0.14	155,155,179	0.10	0.0	0.0	155,0,0	0.06	0.06	0.05	167,173,179
	230.0	0.10	0.17	0.11	167,167,179	0.0	0.0	0.0	0,0,0				
	460.0	0.16	0.36	0.16	158,158,179	0.11	0.0	0.0	158,0,0				
362	0.0	0.05	0.11	0.04	156,156,179	0.0	0.0	0.0	0,0,0	0.06	0.03	0.02	159,175,179
	143.0	0.02	0.03	0.02	158,158,179	0.0	0.0	0.0	0,0,0				
	286.0	0.12	0.27	0.12	158,158,179	0.0	0.0	0.0	0,0,0				
363	0.0	0.04	0.08	0.04	155,155,179	0.0	0.0	0.0	0,0,0	0.05	0.02	0.02	159,175,179
	143.0	0.02	0.03	0.02	158,158,179	0.0	0.0	0.0	0,0,0				
	286.0	0.12	0.27	0.13	158,158,179	0.0	0.0	0.0	0,0,0				
364	0.0	0.14	0.32	0.15	155,155,179	0.0	0.0	0.0	0,0,0	0.08	0.06	0.05	159,175,179
	230.0	0.11	0.20	0.12	164,164,179	0.0	0.0	0.0	0,0,0				
	460.0	0.13	0.30	0.14	158,158,179	0.0	0.0	0.0	0,0,0				
365	0.0	0.13	0.30	0.15	155,155,179	0.0	0.0	0.0	0,0,0	0.08	0.05	0.05	159,175,179
	230.0	0.11	0.19	0.12	161,155,179	0.0	0.0	0.0	0,0,0				
	460.0	0.13	0.29	0.14	158,158,179	0.0	0.0	0.0	0,0,0				
366	0.0	0.15	0.33	0.16	155,155,179	0.10	0.0	0.0	155,0,0	0.26	0.19	0.17	155,173,179
	230.0	0.14	0.24	0.15	155,155,179	0.0	0.0	0.0	0,0,0				
	460.0	0.10	0.23	0.09	158,158,179	0.0	0.0	0.0	0,0,0				
367	0.0	0.14	0.31	0.13	155,155,179	0.0	0.0	0.0	0,0,0	0.23	0.19	0.19	155,173,179
	230.0	0.13	0.23	0.14	155,155,179	0.0	0.0	0.0	0,0,0				
	460.0	0.12	0.28	0.12	159,159,179	0.0	0.0	0.0	0,0,0				
368	0.0	0.12	0.18	0.11	162,162,179	0.0	0.0	0.0	0,0,0	0.69	0.61	0.60	152,171,179
	400.0	0.12	0.17	0.15	162,162,179	0.0	0.0	0.0	0,0,0				
	800.0	0.28	0.41	0.32	154,154,179	0.09	0.09	0.09	154,172,179				
369	0.0	0.11	0.25	0.12	155,155,179	0.0	0.0	0.0	0,0,0	0.05	0.02	0.02	156,174,179
	130.0	7.68e-03	0.01	7.07e-03	155,156,179	0.0	0.0	0.0	0,0,0				
	260.0	0.05	0.10	0.04	159,159,179	0.0	0.0	0.0	0,0,0				
370	0.0	0.11	0.25	0.12	155,155,179	0.0	0.0	0.0	0,0,0	0.04	0.02	0.01	151,169,179
	130.0	5.20e-03	8.02e-03	4.35e-03	156,156,179	0.0	0.0	0.0	0,0,0				
	260.0	0.04	0.08	0.04	158,158,179	0.0	0.0	0.0	0,0,0				
371	0.0	0.28	0.42	0.31	153,153,179	0.10	0.09	0.08	153,171,179	0.95	0.76	0.73	154,172,179
	390.0	0.08	0.12	0.10	165,165,179	0.0	0.0	0.0	0,0,0				
	780.0	0.05	0.08	5.24e-03	153,153,179	0.0	0.0	0.0	0,0,0				
372	0.0	0.03	0.06	0.03	158,155,179	0.0	0.0	0.0	0,0,0	0.01	3.50e-03	1.35e-03	156,174,179
	80.0	0.0	7.00e-05	0.0	0,156,0	0.0	0.0	0.0	0,0,0				
373	0.0	0.03	0.06	0.03	167,164,179	0.0	0.0	0.0	0,0,0	9.00e-03	1.96e-03	1.81e-04	159,175,179
	80.0	0.0	5.56e-05	0.0	0,165,0	0.0	0.0	0.0	0,0,0				
376	0.0	0.15	0.34	0.14	153,153,179	0.10	0.0	0.0	153,0,0	0.44	0.39	0.37	154,172,179
	196.0	0.15	0.25	0.16	164,164,179	0.0	0.0	0.0	0,0,0				
	392.0	0.03	0.07	9.40e-03	153,164,179	0.0	0.0	0.0	0,0,0				
377	0.0	0.04	0.09	0.02	161,161,179	0.0	0.0	0.0	0,0,0	0.15	0.12	0.11	154,172,179
	194.0	0.05	0.09	0.06	161,161,179	0.0	0.0	0.0	0,0,0				
	388.0	0.27	0.62	0.30	164,164,179	0.20	0.19	0.18	164,173,179				
378	0.0	0.27	0.61	0.31	155,155,179	0.20	0.20	0.19	155,173,179	0.29	0.28	0.30	154,172,179
	102.0	0.09	0.20	0.10	155,155,179	0.0	0.0	0.0	0,0,0				
	204.0	1.43e-03	3.17e-03	1.11e-03	158,164,179	0.0	0.0	0.0	0,0,0				
379	0.0	0.11	0.24	0.12	161,161,179	0.0	0.0	0.0	0,0,0	0.21	0.18	0.17	158,173,179
	245.0	0.15	0.25	0.16	164,164,179	0.0	0.0	0.0	0,0,0				
	490.0	0.18	0.41	0.19	164,164,179	0.12	0.10	0.0	164,173,0				
380	0.0	0.21	0.48	0.23	161,161,179	0.14	0.13	0.12	161,173,179	0.11	0.09	0.09	161,173,179

Trave	Pos.	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb	dR	dF	dP	Rif. cmb
	245.0	0.10	0.16	0.11	161,167,179	0.0	0.0	0.0	0,0,0				
	490.0	0.16	0.37	0.17	164,164,179	0.11	0.0	0.0	164,0,0				
381	0.0	0.20	0.45	0.22	161,161,179	0.13	0.12	0.11	161,173,179	0.12	0.09	0.09	155,173,179
	224.5	0.09	0.14	0.10	167,155,179	0.0	0.0	0.0	0,0,0				
	449.0	0.11	0.24	0.11	164,164,179	0.0	0.0	0.0	0,0,0				
382	0.0	0.13	0.28	0.13	161,161,179	0.0	0.0	0.0	0,0,0	0.21	0.19	0.18	152,170,179
	245.0	0.14	0.24	0.17	167,167,179	0.0	0.0	0.0	0,0,0				
	490.0	0.16	0.36	0.16	164,164,179	0.10	0.0	0.0	164,0,0				
383	0.0	0.09	0.19	0.05	161,161,179	0.0	0.0	0.0	0,0,0	0.62	0.54	0.53	153,171,179
	245.0	0.14	0.23	0.14	161,161,179	0.0	0.0	0.0	0,0,0				
	490.0	0.25	0.57	0.29	154,154,179	0.18	0.18	0.17	154,172,179				
384	0.0	0.08	0.16	0.05	159,159,179	0.0	0.0	0.0	0,0,0	0.15	0.11	0.10	156,169,179
	200.0	0.03	0.07	0.03	152,152,179	0.0	0.0	0.0	0,0,0				
	400.0	0.07	0.16	0.06	159,159,179	0.0	0.0	0.0	0,0,0				
385	0.0	0.05	0.12	0.03	152,152,179	0.0	0.0	0.0	0,0,0	0.08	0.05	0.04	151,169,179
	200.0	7.71e-03	0.02	5.64e-03	152,152,179	0.0	0.0	0.0	0,0,0				
	400.0	0.10	0.22	0.10	159,159,179	0.0	0.0	0.0	0,0,0				
386	0.0	0.17	0.25	0.17	156,156,179	0.05	0.0	0.0	156,0,0	0.52	0.47	0.46	158,169,179
	400.0	0.13	0.20	0.17	151,151,179	0.0	0.0	0.0	0,0,0				
	800.0	0.19	0.28	0.20	152,152,179	0.06	0.05	0.05	152,170,179				
387	0.0	0.17	0.25	0.15	156,156,179	0.05	0.0	0.0	156,0,0	0.54	0.48	0.46	158,173,179
	400.0	0.13	0.19	0.17	156,156,179	0.0	0.0	0.0	0,0,0				
	800.0	0.23	0.34	0.24	152,152,179	0.07	0.06	0.06	152,170,179				
388	0.0	0.20	0.30	0.20	152,152,179	0.06	0.05	0.0	152,170,0	0.45	0.36	0.35	155,173,179
	400.0	0.10	0.15	0.13	155,155,179	0.0	0.0	0.0	0,0,0				
	800.1	0.16	0.23	0.13	156,156,179	0.05	0.0	0.0	156,0,0				
389	0.0	0.03	0.08	0.01	156,156,179	0.0	0.0	0.0	0,0,0	0.14	0.11	0.11	151,169,179
	200.0	0.02	0.03	6.94e-03	151,151,179	0.0	0.0	0.0	0,0,0				
	400.0	0.08	0.18	0.05	159,159,179	0.0	0.0	0.0	0,0,0				
390	0.0	0.08	0.18	0.06	156,156,179	0.0	0.0	0.0	0,0,0	0.09	0.05	0.04	159,175,179
	200.0	8.54e-03	0.02	4.63e-03	151,151,179	0.0	0.0	0.0	0,0,0				
	400.0	0.04	0.09	0.0	156,156,0	0.0	0.0	0.0	0,0,0				
391	0.0	0.15	0.35	0.16	162,162,179	0.10	0.0	0.0	162,0,0	0.50	0.46	0.45	164,173,179
	195.0	0.13	0.23	0.15	164,164,179	0.0	0.0	0.0	0,0,0				
	390.0	0.06	0.11	0.06	153,153,179	0.0	0.0	0.0	0,0,0				
392	0.0	0.07	0.15	0.05	162,162,179	0.0	0.0	0.0	0,0,0	0.24	0.20	0.20	154,172,179
	195.0	0.05	0.09	0.05	161,161,179	0.0	0.0	0.0	0,0,0				
	390.0	0.21	0.49	0.23	164,164,179	0.14	0.13	0.12	164,173,179				
393	0.0	0.26	0.60	0.31	158,158,179	0.19	0.20	0.19	158,173,179	0.37	0.36	0.35	164,172,179
	102.0	0.09	0.19	0.10	158,158,179	0.0	0.0	0.0	0,0,0				
	204.0	1.54e-03	2.57e-03	1.19e-03	164,164,179	0.0	0.0	0.0	0,0,0				
394	0.0	0.12	0.27	0.11	161,161,179	0.0	0.0	0.0	0,0,0	0.24	0.18	0.17	155,173,179
	124.5	0.11	0.19	0.10	164,164,179	0.0	0.0	0.0	0,0,0				
	249.0	0.18	0.31	0.16	161,161,179	0.09	0.0	0.0	161,0,0				
395	0.0	0.18	0.31	0.16	164,164,179	0.09	0.0	0.0	164,0,0	0.02	0.01	0.01	153,171,179
	120.5	0.05	0.09	0.06	161,161,179	0.0	0.0	0.0	0,0,0				
	241.0	0.21	0.48	0.19	164,164,179	0.14	0.10	0.0	164,173,0				
396	0.0	0.24	0.53	0.22	161,161,179	0.16	0.13	0.12	161,173,179	0.09	0.06	0.06	164,173,179
	74.5	0.06	0.13	0.06	161,161,179	0.0	0.0	0.0	0,0,0				
	149.0	0.07	0.11	0.05	161,161,179	0.0	0.0	0.0	0,0,0				
397	0.0	0.07	0.12	0.05	164,164,179	0.0	0.0	0.0	0,0,0	0.05	0.04	0.04	161,173,179
	170.5	0.08	0.14	0.09	161,161,179	0.0	0.0	0.0	0,0,0				
	341.0	0.18	0.40	0.17	164,164,179	0.12	0.0	0.0	164,0,0				
398	0.0	0.19	0.42	0.19	161,161,179	0.12	0.10	0.0	161,173,0	0.02	0.01	9.63e-03	164,173,179
	49.0	0.08	0.16	0.09	161,167,179	0.0	0.0	0.0	0,0,0				
399	0.0	0.08	0.19	0.09	162,153,179	0.0	0.0	0.0	0,0,0	0.07	0.06	0.06	161,173,179
	195.0	0.08	0.14	0.09	161,161,179	0.0	0.0	0.0	0,0,0				
	390.0	0.13	0.28	0.12	164,164,179	0.0	0.0	0.0	0,0,0				
400	0.0	0.12	0.27	0.12	161,161,179	0.0	0.0	0.0	0,0,0	0.13	0.12	0.12	155,173,179
	195.0	0.15	0.25	0.16	164,164,179	0.0	0.0	0.0	0,0,0				
	390.0	0.05	0.09	0.04	162,162,179	0.0	0.0	0.0	0,0,0				
401	0.0	0.06	0.10	0.06	164,164,179	0.0	0.0	0.0	0,0,0	0.12	0.10	0.09	155,173,179
	110.0	0.20	0.44	0.17	164,164,179	0.13	0.0	0.0	164,0,0				
402	0.0	0.08	0.18	0.03	161,161,179	0.0	0.0	0.0	0,0,0	0.30	0.28	0.28	151,169,179
	140.0	0.12	0.20	0.14	167,164,179	0.0	0.0	0.0	0,0,0				
	280.0	0.14	0.23	0.10	161,161,179	0.0	0.0	0.0	0,0,0				

Trave	Pos.	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb	dR	dF	dP	Rif. cmb
403	0.0	0.16	0.26	0.14	161,161,179	0.0	0.0	0.0	0,0,0	0.50	0.43	0.41	161,173,179
	105.0	0.05	0.09	0.03	154,154,179	0.0	0.0	0.0	0,0,0				
	210.0	0.28	0.62	0.30	164,164,179	0.20	0.19	0.18	164,173,179				
Trave		**rRfck**	**rRfyk**	**rPfck**		**wR**	**wF**	**wP**		**dR**	**dF**	**dP**	
		0.45	0.72	0.49		0.25	0.22	0.21		1.83	1.55	1.46	

12.2. VERIFICHE SLU ED SLE PILASTRATE IN C.A.

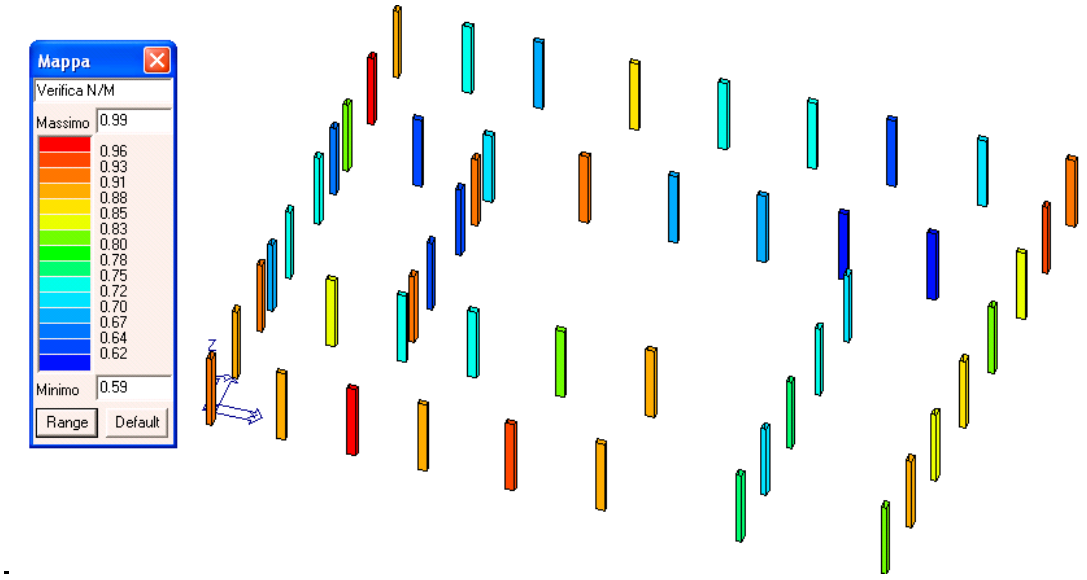


Figura 12.2 – 1 – Verifica N-M Pilastri

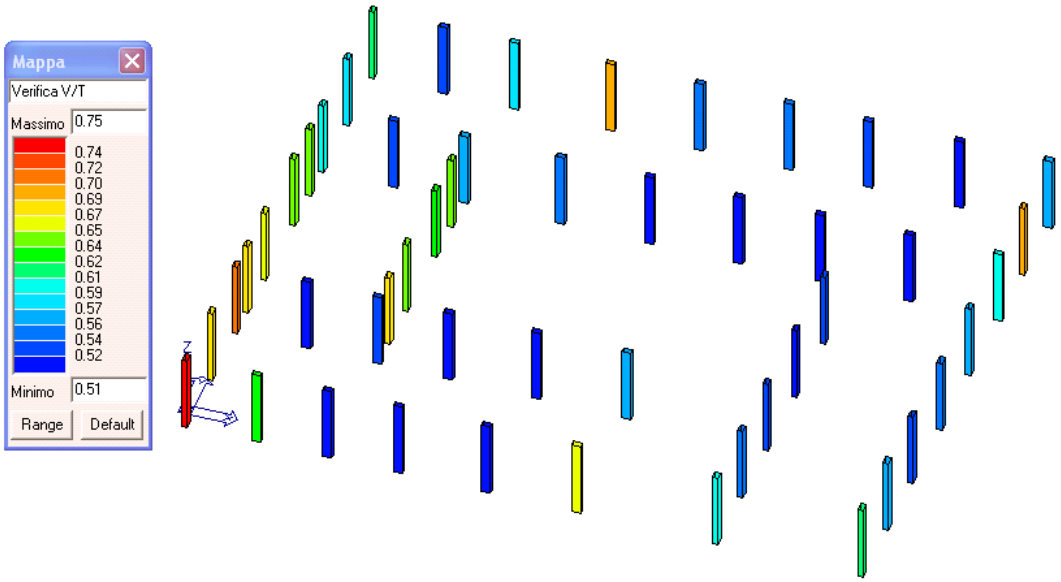


Figura 12.2 – 2 – Verifica V-T Pilastri

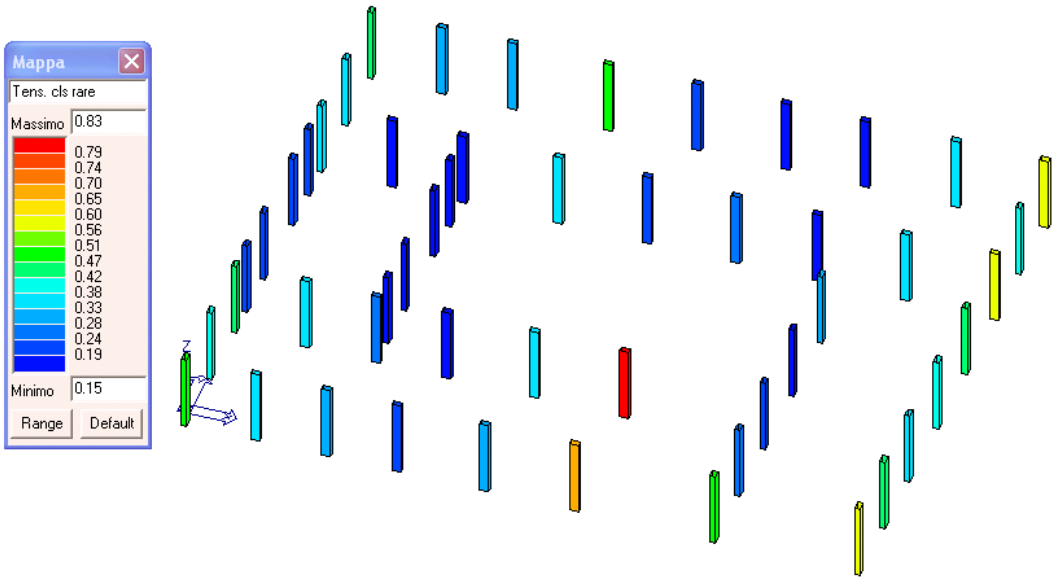


Figura 12.2 – 3 – S.L.E. Pilastri: tensioni cls comb. rare

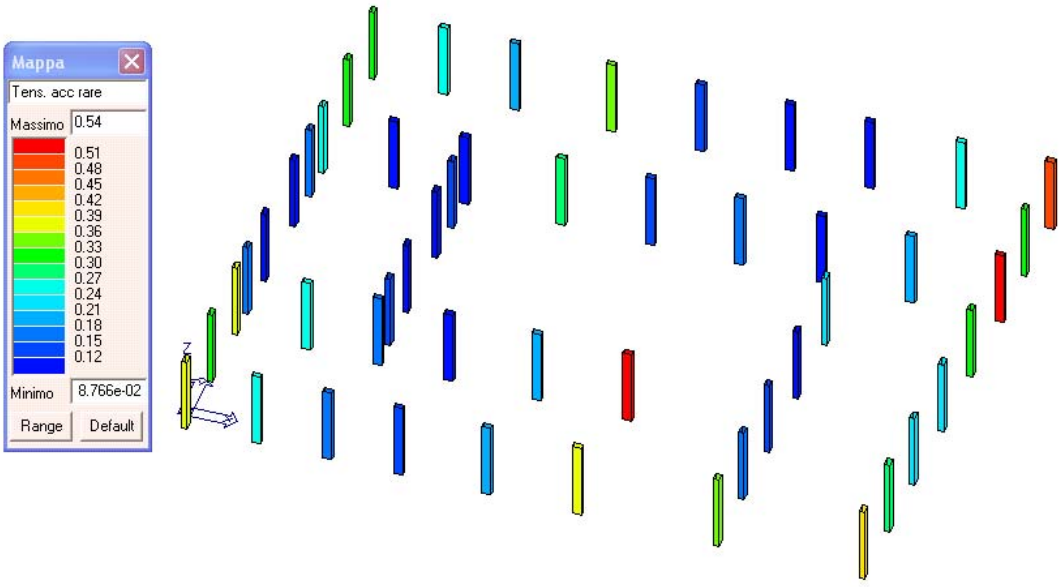


Figura 12.2 – 4 – S.L.E. Pilastri: tensioni acciaio comb. rare

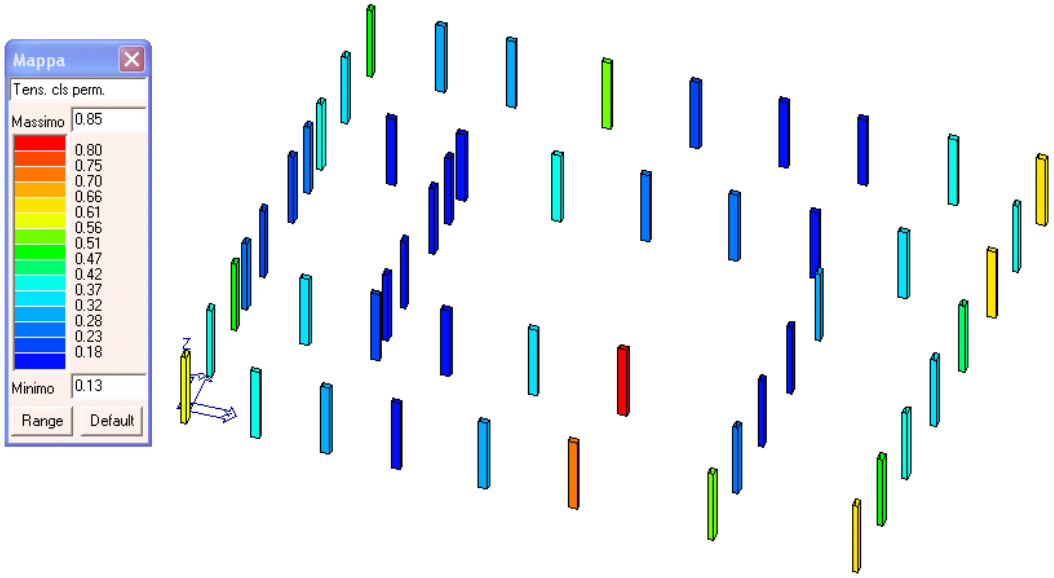


Figura 12.2 – 5 – S.L.E. Pilastri: tensioni cls comb. permanenti

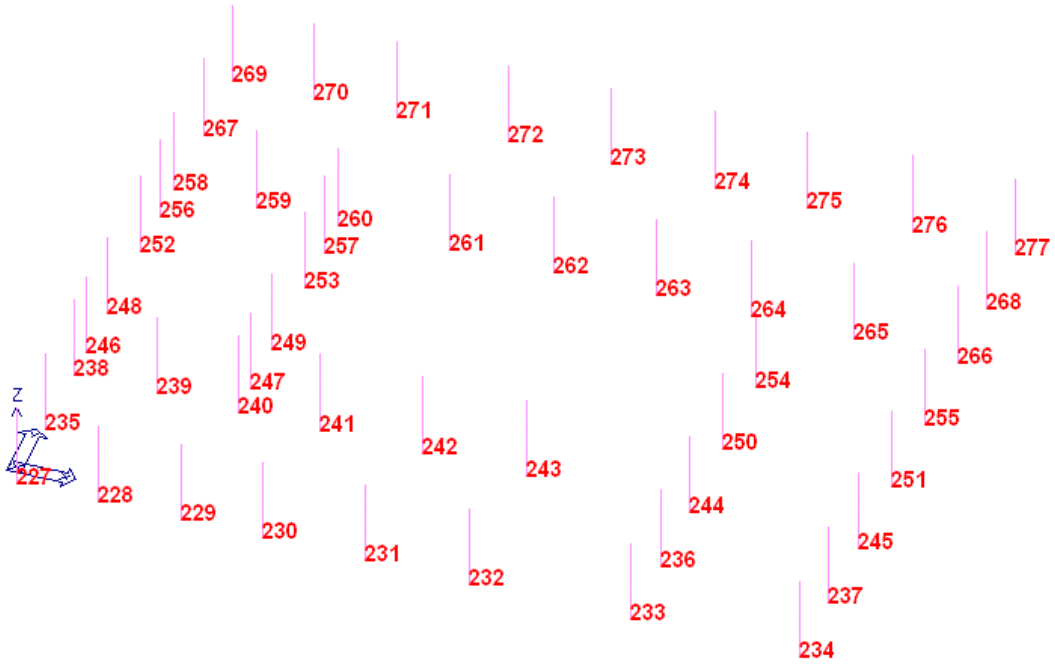


Figura 12.1 – 6 – Numerazione delle sezioni

Verifiche SLU

Pilas.	Note	Stato	Quota	%Af	r. snell.	Armat. long.	verif.	ver. rid	Staffe	ver. V/T	Rif. cmb
			cm						L=cm		
227	s=7,m=3	ok,ok	-100.0	2.71	0.41	4d18 6+6 d18	0.82	0.14	2+2d10/10 L=80	0.75	81,82,81
			125.0	2.04	0.41	4d18 4+4 d18	0.09	0.14	2+2d10/20 L=290	0.75	86,82,81

Pilas.	Note	Stato	Quota	%Af	r. snell.	Armat. long.	verif.	ver. rid	Staffe	ver. V/T	Rif. cmb
	[b=1.0;1.0]		350.0	2.04	0.41	4d18 4+4 d18	0.93	0.13	2+2d10/10 L=80	0.75	81,82,81
228	s=7,m=3	ok,ok	-100.0	2.71	0.95	4d18 6+6 d18	0.87	0.10	2+2d10/10 L=80	0.63	61,63,60
			125.0	2.04	0.95	4d18 4+4 d18	0.09	0.10	2+2d10/20 L=290	0.63	27,63,60
	[b=1.0;1.0]		350.0	2.71	0.95	4d18 6+6 d18	0.81	0.09	2+2d10/10 L=80	0.63	61,63,60
229	s=7,m=3	ok,ok	-100.0	2.04	1.32	4d18 4+4 d18	0.97	0.12	2+2d10/10 L=80	0.52	61,74,60
			125.0	2.04	1.32	4d18 4+4 d18	0.14	0.11	2+2d10/20 L=290	0.52	15,74,60
	[b=1.0;1.0]		350.0	2.04	1.32	4d18 4+4 d18	0.89	0.11	2+2d10/10 L=80	0.52	61,74,60
230	s=7,m=3	ok,ok	-100.0	2.04	0.91	4d18 4+4 d18	0.90	0.12	2+2d10/10 L=80	0.51	61,60,60
			125.0	2.04	0.91	4d18 4+4 d18	0.11	0.11	2+2d10/20 L=290	0.51	15,60,60
	[b=1.0;1.0]		350.0	2.04	0.91	4d18 4+4 d18	0.84	0.11	2+2d10/10 L=80	0.51	61,60,60
231	s=7,m=3	ok,ok	-100.0	2.04	0.97	4d18 4+4 d18	0.94	0.13	2+2d10/10 L=80	0.52	60,73,60
			125.0	2.04	0.97	4d18 4+4 d18	0.13	0.12	2+2d10/20 L=290	0.52	15,73,60
	[b=1.0;1.0]		350.0	2.04	0.97	4d18 4+4 d18	0.90	0.12	2+2d10/10 L=80	0.52	60,73,60
232	s=7,m=3	ok,ok	-100.0	2.71	0.75	4d18 6+6 d18	0.84	0.21	2+2d10/10 L=80	0.66	60,60,60
			125.0	2.04	0.75	4d18 4+4 d18	0.20	0.20	2+2d10/20 L=290	0.67	15,60,60
	[b=1.0;1.0]		350.0	2.71	0.75	4d18 6+6 d18	0.86	0.20	2+2d10/10 L=80	0.67	60,60,60
233	s=7,m=3	ok,ok	-100.0	2.04	0.52	4d18 4+4 d18	0.75	0.16	2+2d10/10 L=80	0.59	60,74,80
			125.0	2.04	0.52	4d18 4+4 d18	0.13	0.16	2+2d10/20 L=290	0.59	15,74,80
	[b=1.0;1.0]		350.0	2.04	0.52	4d18 4+4 d18	0.77	0.15	2+2d10/10 L=80	0.59	60,74,80
234	s=7,m=3	ok,ok	-100.0	2.04	0.40	4d18 4+4 d18	0.82	0.13	2+2d10/10 L=80	0.60	76,76,80
			125.0	2.04	0.40	4d18 4+4 d18	0.08	0.13	2+2d10/20 L=290	0.60	9,76,80
	[b=1.0;1.0]		350.0	2.04	0.40	4d18 4+4 d18	0.73	0.12	2+2d10/10 L=80	0.61	76,76,80
235	s=7,m=3	ok,ok	-100.0	2.71	0.30	4d18 6+6 d18	0.86	0.05	2+2d10/10 L=80	0.68	80,81,81
			125.0	2.04	0.30	4d18 4+4 d18	0.05	0.04	2+2d10/20 L=290	0.68	58,81,81
	[b=1.0;1.0]		350.0	2.71	0.30	4d18 6+6 d18	0.86	0.04	2+2d10/10 L=80	0.68	80,81,81
236	s=7,m=3	ok,ok	-100.0	2.04	0.75	4d18 4+4 d18	0.72	0.19	2+2d10/10 L=80	0.54	74,71,80
			125.0	2.04	0.75	4d18 4+4 d18	0.16	0.19	2+2d10/20 L=290	0.54	15,71,80
	[b=1.0;1.0]		350.0	2.04	0.75	4d18 4+4 d18	0.69	0.18	2+2d10/10 L=80	0.54	74,71,80
237	s=7,m=3	ok,ok	-100.0	2.04	0.50	4d18 4+4 d18	0.89	0.11	2+2d10/10 L=80	0.56	76,71,80
			125.0	2.04	0.50	4d18 4+4 d18	0.10	0.11	2+2d10/20 L=290	0.56	60,71,80
	[b=1.0;1.0]		350.0	2.04	0.50	4d18 4+4 d18	0.80	0.10	2+2d10/10 L=80	0.56	76,71,80
238	s=7,m=3	ok,ok	-100.0	2.71	0.39	4d18 6+6 d18	0.82	0.14	2+2d10/10 L=80	0.71	86,81,82
			125.0	2.04	0.39	4d18 4+4 d18	0.08	0.14	2+2d10/20 L=290	0.71	81,81,82
	[b=1.0;1.0]		350.0	2.04	0.39	4d18 4+4 d18	0.93	0.13	2+2d10/10 L=80	0.71	86,81,82
239	s=7,m=3	ok,ok	-100.0	2.04	1.25	4d18 4+4 d18	0.84	0.11	2+2d10/10 L=80	0.52	62,75,60
			125.0	2.04	1.25	4d18 4+4 d18	0.10	0.11	2+2d10/20 L=290	0.52	16,75,60
	[b=1.0;1.0]		350.0	2.04	1.25	4d18 4+4 d18	0.81	0.10	2+2d10/10 L=80	0.52	58,75,60
240	s=7,m=3	ok,ok	-100.0	2.04	1.46	4d18 4+4 d18	0.75	0.13	2+2d10/10 L=80	0.53	62,81,60
			125.0	2.04	1.46	4d18 4+4 d18	0.14	0.12	2+2d10/20 L=290	0.53	9,81,60
	[b=1.0;1.0]		350.0	2.04	1.46	4d18 4+4 d18	0.70	0.12	2+2d10/10 L=80	0.53	58,81,60
241	s=7,m=3	ok,ok	-100.0	2.04	1.53	4d18 4+4 d18	0.73	0.12	2+2d10/10 L=80	0.50	62,55,61
			125.0	2.04	1.53	4d18 4+4 d18	0.13	0.12	2+2d10/20 L=290	0.51	9,55,61
	[b=1.0;1.0]		350.0	2.04	1.53	4d18 4+4 d18	0.69	0.11	2+2d10/10 L=80	0.51	62,55,61
242	s=7,m=3	ok,ok	-100.0	2.04	0.96	4d18 4+4 d18	0.82	0.14	2+2d10/10 L=80	0.51	60,61,61
			125.0	2.04	0.96	4d18 4+4 d18	0.12	0.13	2+2d10/20 L=290	0.51	9,61,61
	[b=1.0;1.0]		350.0	2.04	0.96	4d18 4+4 d18	0.77	0.13	2+2d10/10 L=80	0.52	60,61,61
243	s=7,m=3	ok,ok	-100.0	2.04	0.91	4d18 4+4 d18	0.87	0.21	2+2d10/10 L=80	0.56	55,55,61
			125.0	2.04	0.91	4d18 4+4 d18	0.19	0.20	2+2d10/20 L=290	0.57	27,55,61
	[b=1.0;1.0]		350.0	2.04	0.91	4d18 4+4 d18	0.88	0.20	2+2d10/10 L=80	0.57	55,55,61
244	s=7,m=3	ok,ok	-100.0	2.04	1.35	4d18 4+4 d18	0.76	0.18	2+2d10/10 L=80	0.52	71,77,80
			125.0	2.04	1.35	4d18 4+4 d18	0.17	0.17	2+2d10/20 L=290	0.52	23,77,80
	[b=1.0;1.0]		350.0	2.04	1.35	4d18 4+4 d18	0.71	0.17	2+2d10/10 L=80	0.53	71,77,80
245	s=7,m=3	ok,ok	-100.0	2.04	0.69	4d18 4+4 d18	0.84	0.13	2+2d10/10 L=80	0.54	76,71,80
			125.0	2.04	0.69	4d18 4+4 d18	0.11	0.12	2+2d10/20 L=290	0.54	21,71,80
	[b=1.0;1.0]		350.0	2.04	0.69	4d18 4+4 d18	0.76	0.12	2+2d10/10 L=80	0.54	76,71,80
246	s=7,m=3	ok,ok	-100.0	2.04	0.37	4d18 4+4 d18	0.68	0.11	2+2d10/10 L=80	0.68	62,82,82
			125.0	2.04	0.37	4d18 4+4 d18	0.06	0.10	2+2d10/20 L=290	0.68	86,82,82
	[b=1.0;1.0]		350.0	2.04	0.37	4d18 4+4 d18	0.64	0.10	2+2d10/10 L=80	0.68	70,82,82
247	s=7,m=3	ok,ok	-100.0	2.04	1.01	4d18 4+4 d18	0.83	0.14	2+2d10/10 L=80	0.68	82,80,79
			125.0	2.04	1.01	4d18 4+4 d18	0.11	0.13	2+2d10/20 L=290	0.68	69,80,79
	[b=1.0;1.0]		350.0	2.04	1.01	4d18 4+4 d18	0.92	0.13	2+2d10/10 L=80	0.68	79,80,79
248	s=7,m=3	ok,ok	-100.0	2.04	0.76	4d18 4+4 d18	0.65	0.14	2+2d10/10 L=80	0.66	70,61,82
			125.0	2.04	0.76	4d18 4+4 d18	0.18	0.13	2+2d10/20 L=290	0.66	80,61,82
	[b=1.0;1.0]		350.0	2.04	0.76	4d18 4+4 d18	0.73	0.12	2+2d10/10 L=80	0.67	70,61,82
249	s=7,m=3	ok,ok	-100.0	2.04	1.34	4d18 4+4 d18	0.37	0.16	2+2d10/10 L=80	0.64	62,79,82
			125.0	2.04	1.34	4d18 4+4 d18	0.31	0.15	2+2d10/20 L=290	0.64	82,79,82

Pilas.	Note	Stato	Quota	%Af	r. snell.	Armat. long.	verif.	ver. rid	Staffe	ver. V/T	Rif. cmb
	[b=1.0;1.0]		350.0	2.04	1.34	4d18 4+4 d18	0.64	0.15	2+2d10/10 L=80	0.64	82,79,82
250	s=7,m=3	ok,ok	-100.0	2.04	1.56	4d18 4+4 d18	0.74	0.12	2+2d10/10 L=80	0.52	71,78,79
			125.0	2.04	1.56	4d18 4+4 d18	0.13	0.12	2+2d10/20 L=290	0.52	21,78,79
	[b=1.0;1.0]		350.0	2.04	1.56	4d18 4+4 d18	0.67	0.11	2+2d10/10 L=80	0.52	71,78,79
251	s=7,m=3	ok,ok	-100.0	2.04	0.95	4d18 4+4 d18	0.88	0.12	2+2d10/10 L=80	0.54	71,72,83
			125.0	2.04	0.95	4d18 4+4 d18	0.11	0.12	2+2d10/20 L=290	0.54	27,72,83
	[b=1.0;1.0]		350.0	2.04	0.95	4d18 4+4 d18	0.77	0.11	2+2d10/10 L=80	0.54	71,72,83
252	s=7,m=3	ok,ok	-100.0	2.04	0.85	4d18 4+4 d18	0.66	0.13	2+2d10/10 L=80	0.64	69,86,85
			125.0	2.04	0.85	4d18 4+4 d18	0.18	0.13	2+2d10/20 L=290	0.64	81,86,85
	[b=1.0;1.0]		350.0	2.04	0.85	4d18 4+4 d18	0.73	0.12	2+2d10/10 L=80	0.64	69,86,85
253	s=7,m=3	ok,ok	-100.0	2.04	1.30	4d18 4+4 d18	0.38	0.16	2+2d10/10 L=80	0.63	69,82,79
			125.0	2.04	1.30	4d18 4+4 d18	0.30	0.15	2+2d10/20 L=290	0.63	79,82,79
	[b=1.0;1.0]		350.0	2.04	1.30	4d18 4+4 d18	0.63	0.15	2+2d10/10 L=80	0.63	79,82,79
254	s=7,m=3	ok,ok	-100.0	2.04	1.23	4d18 4+4 d18	0.71	0.11	2+2d10/10 L=80	0.54	71,77,86
			125.0	2.04	1.23	4d18 4+4 d18	0.10	0.10	2+2d10/20 L=290	0.54	15,77,86
	[b=1.0;1.0]		350.0	2.04	1.23	4d18 4+4 d18	0.63	0.10	2+2d10/10 L=80	0.54	71,77,86
255	s=7,m=3	ok,ok	-100.0	2.04	0.44	4d18 4+4 d18	0.82	0.12	2+2d10/10 L=80	0.56	71,71,83
			125.0	2.04	0.44	4d18 4+4 d18	0.16	0.12	2+2d10/20 L=290	0.56	58,71,83
	[b=1.0;1.0]		350.0	2.04	0.44	4d18 4+4 d18	0.66	0.11	2+2d10/10 L=80	0.56	75,71,83
256	s=7,m=3	ok,ok	-100.0	2.04	0.45	4d18 4+4 d18	0.66	0.11	2+2d10/10 L=80	0.65	69,81,85
			125.0	2.04	0.45	4d18 4+4 d18	0.06	0.11	2+2d10/20 L=290	0.65	81,81,85
	[b=1.0;1.0]		350.0	2.04	0.45	4d18 4+4 d18	0.65	0.10	2+2d10/10 L=80	0.65	81,81,85
257	s=7,m=3	ok,ok	-100.0	2.04	0.78	4d18 4+4 d18	0.78	0.15	2+2d10/10 L=80	0.65	85,79,82
			125.0	2.04	0.78	4d18 4+4 d18	0.12	0.14	2+2d10/20 L=290	0.65	70,79,82
	[b=1.0;1.0]		350.0	2.04	0.78	4d18 4+4 d18	0.92	0.13	2+2d10/10 L=80	0.65	82,79,82
258	s=7,m=3	ok,ok	-100.0	2.04	0.41	4d18 4+4 d18	0.82	0.15	2+2d10/10 L=80	0.60	81,86,79
			125.0	2.04	0.41	4d18 4+4 d18	0.08	0.14	2+2d10/20 L=290	0.60	86,86,79
	[b=1.0;1.0]		350.0	2.04	0.41	4d18 4+4 d18	0.71	0.14	2+2d10/10 L=80	0.61	81,86,79
259	s=7,m=3	ok,ok	-100.0	2.04	1.26	4d18 4+4 d18	0.62	0.11	2+2d10/10 L=80	0.53	70,86,59
			125.0	2.04	1.26	4d18 4+4 d18	0.09	0.10	2+2d10/20 L=290	0.53	29,86,59
	[b=1.0;1.0]		350.0	2.04	1.26	4d18 4+4 d18	0.59	0.10	2+2d10/10 L=80	0.53	70,86,59
260	s=7,m=3	ok,ok	-100.0	2.04	1.26	4d18 4+4 d18	0.72	0.18	2+2d10/10 L=80	0.56	83,68,62
			125.0	2.04	1.26	4d18 4+4 d18	0.15	0.17	2+2d10/20 L=290	0.56	79,68,62
	[b=1.0;1.0]		350.0	2.04	1.26	4d18 4+4 d18	0.53	0.17	2+2d10/10 L=80	0.56	70,68,62
261	s=7,m=3	ok,ok	-100.0	2.04	1.16	4d18 4+4 d18	0.91	0.10	2+2d10/10 L=80	0.54	77,66,67
			125.0	2.04	1.16	4d18 4+4 d18	0.21	0.09	2+2d10/20 L=290	0.54	71,66,67
	[b=1.0;1.0]		350.0	2.04	1.16	4d18 4+4 d18	0.54	0.09	2+2d10/10 L=80	0.54	77,66,67
262	s=7,m=3	ok,ok	-100.0	2.04	1.76	4d18 4+4 d18	0.69	0.14	2+2d10/10 L=80	0.52	77,64,67
			125.0	2.04	1.76	4d18 4+4 d18	0.19	0.14	2+2d10/20 L=290	0.52	71,64,67
	[b=1.0;1.0]		350.0	2.04	1.76	4d18 4+4 d18	0.46	0.13	2+2d10/10 L=80	0.52	65,64,67
263	s=7,m=3	ok,ok	-100.0	2.04	1.31	4d18 4+4 d18	0.69	0.13	2+2d10/10 L=80	0.52	77,77,67
			125.0	2.04	1.31	4d18 4+4 d18	0.19	0.13	2+2d10/20 L=290	0.52	71,77,67
	[b=1.0;1.0]		350.0	2.04	1.31	4d18 4+4 d18	0.44	0.12	2+2d10/10 L=80	0.52	65,77,67
264	s=7,m=3	ok,ok	-100.0	2.04	1.38	4d18 4+4 d18	0.59	0.14	2+2d10/10 L=80	0.52	77,76,63
			125.0	2.04	1.38	4d18 4+4 d18	0.14	0.14	2+2d10/20 L=290	0.52	15,76,63
	[b=1.0;1.0]		350.0	2.04	1.38	4d18 4+4 d18	0.42	0.13	2+2d10/10 L=80	0.52	65,76,63
265	s=7,m=3	ok,ok	-100.0	2.04	1.28	4d18 4+4 d18	0.59	0.13	2+2d10/10 L=80	0.51	64,66,63
			125.0	2.04	1.28	4d18 4+4 d18	0.13	0.12	2+2d10/20 L=290	0.52	9,66,63
	[b=1.0;1.0]		350.0	2.04	1.28	4d18 4+4 d18	0.57	0.12	2+2d10/10 L=80	0.52	64,66,63
266	s=7,m=3	ok,ok	-100.0	2.04	0.54	4d18 4+4 d18	0.85	0.13	2+2d10/10 L=80	0.59	71,76,55
			125.0	2.04	0.54	4d18 4+4 d18	0.07	0.13	2+2d10/20 L=290	0.59	76,76,55
	[b=1.0;1.0]		350.0	2.04	0.54	4d18 4+4 d18	0.82	0.12	2+2d10/10 L=80	0.59	71,76,55
267	s=7,m=3	ok,ok	-100.0	2.04	0.30	4d18 4+4 d18	0.99	0.04	2+2d10/10 L=80	0.58	81,86,77
			125.0	2.04	0.30	4d18 4+4 d18	0.05	0.04	2+2d10/20 L=290	0.58	70,86,77
	[b=1.0;1.0]		350.0	2.04	0.30	4d18 4+4 d18	0.97	0.03	2+2d10/10 L=80	0.58	81,86,77
268	s=7,m=3	ok,ok	-100.0	2.71	0.51	4d18 6+6 d18	0.96	0.05	2+2d10/10 L=80	0.69	71,57,83
			125.0	2.04	0.51	4d18 4+4 d18	0.07	0.05	2+2d10/20 L=290	0.69	68,57,83
	[b=1.0;1.0]		350.0	2.71	0.51	4d18 6+6 d18	0.91	0.04	2+2d10/10 L=80	0.69	71,57,83
269	s=7,m=3	ok,ok	-100.0	2.04	0.48	4d18 4+4 d18	0.89	0.14	2+2d10/10 L=80	0.62	81,81,77
			125.0	2.04	0.48	4d18 4+4 d18	0.09	0.14	2+2d10/20 L=290	0.62	81,81,77
	[b=1.0;1.0]		350.0	2.04	0.48	4d18 4+4 d18	0.79	0.13	2+2d10/10 L=80	0.62	81,81,77
270	s=7,m=3	ok,ok	-100.0	2.04	1.09	4d18 4+4 d18	0.72	0.09	2+2d10/10 L=80	0.52	69,66,59
			125.0	2.04	1.09	4d18 4+4 d18	0.10	0.09	2+2d10/20 L=290	0.53	60,66,59
	[b=1.0;1.0]		350.0	2.04	1.09	4d18 4+4 d18	0.68	0.08	2+2d10/10 L=80	0.53	69,66,59
271	s=7,m=3	ok,ok	-100.0	2.04	1.39	4d18 4+4 d18	0.68	0.17	2+2d10/10 L=80	0.58	85,67,59
			125.0	2.04	1.39	4d18 4+4 d18	0.15	0.17	2+2d10/20 L=290	0.58	9,67,59

Pilas.	Note	Stato	Quota	%Af	r. snell.	Armat. long.	verif.	ver. rid	Staffe	ver. V/T	Rif. cmb
	[b=1.0;1.0]		350.0	2.04	1.39	4d18 4+4 d18	0.58	0.16	2+2d10/10 L=80	0.58	65,67,59
272	s=7,m=3	ok,ok	-100.0	2.71	0.60	4d18 6+6 d18	0.81	0.11	2+2d10/10 L=80	0.70	71,65,63
			125.0	2.04	0.60	4d18 4+4 d18	0.11	0.10	2+2d10/20 L=290	0.70	76,65,63
	[b=1.0;1.0]		350.0	2.04	0.60	4d18 4+4 d18	0.88	0.10	2+2d10/10 L=80	0.70	71,65,63
273	s=7,m=3	ok,ok	-100.0	2.04	1.32	4d18 4+4 d18	0.74	0.15	2+2d10/10 L=80	0.54	78,75,63
			125.0	2.04	1.32	4d18 4+4 d18	0.13	0.15	2+2d10/20 L=290	0.54	9,75,63
	[b=1.0;1.0]		350.0	2.04	1.32	4d18 4+4 d18	0.63	0.14	2+2d10/10 L=80	0.55	75,75,63
274	s=7,m=3	ok,ok	-100.0	2.04	1.65	4d18 4+4 d18	0.74	0.13	2+2d10/10 L=80	0.54	78,78,63
			125.0	2.04	1.65	4d18 4+4 d18	0.16	0.13	2+2d10/20 L=290	0.54	9,78,63
	[b=1.0;1.0]		350.0	2.04	1.65	4d18 4+4 d18	0.60	0.12	2+2d10/10 L=80	0.54	75,78,63
275	s=7,m=3	ok,ok	-100.0	2.04	1.14	4d18 4+4 d18	0.63	0.14	2+2d10/10 L=80	0.52	71,71,63
			125.0	2.04	1.14	4d18 4+4 d18	0.12	0.14	2+2d10/20 L=290	0.53	12,71,63
	[b=1.0;1.0]		350.0	2.04	1.14	4d18 4+4 d18	0.60	0.13	2+2d10/10 L=80	0.53	71,71,63
276	s=7,m=3	ok,ok	-100.0	2.04	1.49	4d18 4+4 d18	0.71	0.13	2+2d10/10 L=80	0.52	67,66,63
			125.0	2.04	1.49	4d18 4+4 d18	0.15	0.13	2+2d10/20 L=290	0.52	9,66,63
	[b=1.0;1.0]		350.0	2.04	1.49	4d18 4+4 d18	0.69	0.12	2+2d10/10 L=80	0.52	67,66,63
277	s=7,m=3	ok,ok	-100.0	2.04	0.44	4d18 4+4 d18	0.93	0.14	2+2d10/10 L=80	0.55	71,75,58
			125.0	2.04	0.44	4d18 4+4 d18	0.08	0.13	2+2d10/20 L=290	0.56	15,75,58
	[b=1.0;1.0]		350.0	2.04	0.44	4d18 4+4 d18	0.88	0.13	2+2d10/10 L=80	0.56	71,75,58
Pilas.				**%Af**	**r. snell.**		**verif.**	**ver. rid**		**ver. V/T**	
				2.71	1.76		0.99	0.21		0.75	

Verifiche SLE

Pilas.	Pos.	rRfck	rRfyk	rPfck	Rif. cmb	Pos.	rRfck	rRfyk	rPfck	Rif. cmb
	cm					cm				
227	0.0	0.45	0.30	0.50	156,151,179	225.0	0.06	0.04	0.05	155,155,179
	450.0	0.50	0.38	0.57	155,153,179					
228	0.0	0.34	0.25	0.36	162,153,179	225.0	0.08	0.06	0.08	158,158,179
	450.0	0.35	0.26	0.37	162,153,179					
229	0.0	0.24	0.15	0.20	162,162,179	225.0	0.10	0.07	0.10	158,158,179
	450.0	0.29	0.17	0.28	153,162,179					
230	0.0	0.16	0.11	0.11	162,162,179	225.0	0.10	0.07	0.10	158,158,179
	450.0	0.21	0.13	0.17	162,162,179					
231	0.0	0.22	0.14	0.20	154,165,179	225.0	0.12	0.08	0.12	158,158,179
	450.0	0.31	0.18	0.30	165,165,179					
232	0.0	0.44	0.27	0.49	164,164,179	225.0	0.21	0.13	0.21	158,158,179
	450.0	0.67	0.38	0.73	164,164,179					
233	0.0	0.43	0.27	0.46	151,151,179	225.0	0.11	0.08	0.11	158,158,179
	450.0	0.49	0.34	0.54	154,151,179					
234	0.0	0.54	0.39	0.61	155,151,179	225.0	0.06	0.04	0.07	158,158,179
	450.0	0.56	0.39	0.62	155,155,179					
235	0.0	0.39	0.31	0.40	151,151,179	225.0	0.04	0.03	0.04	162,162,179
	450.0	0.34	0.28	0.35	151,151,179					
236	0.0	0.26	0.16	0.24	151,151,179	225.0	0.11	0.08	0.12	164,164,179
	450.0	0.24	0.15	0.21	151,151,179					
237	0.0	0.45	0.29	0.47	151,151,179	225.0	0.10	0.06	0.11	164,164,179
	450.0	0.31	0.18	0.31	156,156,179					
238	0.0	0.43	0.31	0.45	151,151,179	225.0	0.05	0.04	0.05	155,161,179
	450.0	0.46	0.37	0.48	151,151,179					
239	0.0	0.37	0.26	0.35	153,153,179	225.0	0.08	0.05	0.09	155,155,179
	450.0	0.30	0.23	0.27	153,153,179					
240	0.0	0.24	0.15	0.20	153,153,179	225.0	0.10	0.07	0.12	155,155,179
	450.0	0.21	0.13	0.18	153,153,179					
241	0.0	0.16	0.10	0.12	153,153,179	225.0	0.10	0.07	0.11	155,155,179
	450.0	0.19	0.11	0.15	162,162,179					
242	0.0	0.23	0.15	0.20	165,165,179	225.0	0.13	0.08	0.14	155,155,179
	450.0	0.35	0.20	0.34	165,165,179					
243	0.0	0.51	0.30	0.50	158,164,179	225.0	0.20	0.12	0.21	161,161,179
	450.0	0.83	0.54	0.85	158,158,179					
244	0.0	0.21	0.14	0.18	159,159,179	225.0	0.10	0.07	0.11	164,164,179
	450.0	0.21	0.14	0.18	159,159,179					
245	0.0	0.37	0.21	0.37	151,151,179	225.0	0.10	0.07	0.11	164,164,179

Pilas.	Pos.	rRfck	rRfyk	rPfck	Rif. cmb	Pos.	rRfck	rRfyk	rPfck	Rif. cmb
	450.0	0.27	0.16	0.27	151,156,179					
246	0.0	0.24	0.16	0.24	152,152,179	225.0	0.05	0.04	0.06	153,153,179
	450.0	0.18	0.11	0.20	156,152,179					
247	0.0	0.19	0.13	0.17	153,153,179	225.0	0.08	0.05	0.09	153,153,179
	450.0	0.06	0.04	0.05	153,153,179					
248	0.0	0.20	0.11	0.22	153,153,179	225.0	0.11	0.07	0.12	151,151,179
	450.0	0.15	0.09	0.13	155,155,179					
249	0.0	0.15	0.09	0.13	153,153,179	225.0	0.10	0.06	0.11	153,161,179
	450.0	0.10	0.06	0.09	155,155,179					
250	0.0	0.18	0.11	0.14	159,159,179	225.0	0.09	0.06	0.10	164,164,179
	450.0	0.12	0.08	0.08	159,159,179					
251	0.0	0.39	0.22	0.35	152,152,179	225.0	0.11	0.07	0.13	164,164,179
	450.0	0.23	0.14	0.19	152,152,179					
252	0.0	0.20	0.11	0.22	153,153,179	225.0	0.11	0.07	0.12	153,152,179
	450.0	0.14	0.09	0.13	158,158,179					
253	0.0	0.15	0.09	0.13	153,153,179	225.0	0.10	0.06	0.11	153,161,179
	450.0	0.09	0.06	0.09	158,158,179					
254	0.0	0.27	0.17	0.24	152,152,179	225.0	0.09	0.06	0.11	164,164,179
	450.0	0.31	0.23	0.29	158,159,179					
255	0.0	0.45	0.32	0.44	152,152,179	225.0	0.07	0.05	0.08	164,164,179
	450.0	0.42	0.31	0.45	152,152,179					
256	0.0	0.24	0.16	0.23	151,151,179	225.0	0.05	0.03	0.05	153,153,179
	450.0	0.18	0.11	0.19	151,151,179					
257	0.0	0.19	0.13	0.17	153,153,179	225.0	0.07	0.04	0.08	153,153,179
	450.0	0.06	0.04	0.05	153,153,179					
258	0.0	0.36	0.25	0.37	152,152,179	225.0	0.05	0.04	0.05	158,158,179
	450.0	0.34	0.24	0.35	159,152,179					
259	0.0	0.19	0.12	0.14	153,153,179	225.0	0.07	0.05	0.08	158,158,179
	450.0	0.15	0.09	0.11	153,153,179					
260	0.0	0.17	0.11	0.14	165,165,179	225.0	0.13	0.08	0.15	158,158,179
	450.0	0.17	0.11	0.16	162,162,179					
261	0.0	0.27	0.16	0.25	152,153,179	225.0	0.11	0.07	0.13	158,158,179
	450.0	0.37	0.28	0.41	161,162,179					
262	0.0	0.23	0.15	0.23	153,153,179	225.0	0.12	0.08	0.13	158,158,179
	450.0	0.18	0.12	0.18	162,162,179					
263	0.0	0.25	0.15	0.24	153,153,179	225.0	0.11	0.07	0.13	158,158,179
	450.0	0.17	0.11	0.16	162,162,179					
264	0.0	0.16	0.10	0.15	153,153,179	225.0	0.10	0.07	0.12	158,158,179
	450.0	0.16	0.10	0.15	162,162,179					
265	0.0	0.35	0.21	0.36	152,152,179	225.0	0.09	0.06	0.09	158,158,179
	450.0	0.27	0.17	0.29	154,154,179					
266	0.0	0.58	0.51	0.62	152,152,179	225.0	0.05	0.04	0.06	154,164,179
	450.0	0.54	0.47	0.58	152,152,179					
267	0.0	0.36	0.30	0.36	159,152,179	225.0	0.04	0.03	0.04	162,162,179
	450.0	0.32	0.27	0.30	159,152,179					
268	0.0	0.40	0.32	0.39	152,152,179	225.0	0.06	0.03	0.06	154,154,179
	450.0	0.31	0.25	0.29	152,152,179					
269	0.0	0.45	0.31	0.49	159,152,179	225.0	0.06	0.04	0.05	158,158,179
	450.0	0.43	0.31	0.48	159,152,179					
270	0.0	0.32	0.25	0.31	153,153,179	225.0	0.07	0.05	0.06	155,155,179
	450.0	0.30	0.23	0.29	153,153,179					
271	0.0	0.22	0.13	0.17	153,153,179	225.0	0.13	0.08	0.13	155,155,179
	450.0	0.31	0.18	0.30	153,153,179					
272	0.0	0.30	0.18	0.32	153,153,179	225.0	0.11	0.07	0.10	155,155,179
	450.0	0.47	0.34	0.54	161,162,179					
273	0.0	0.20	0.13	0.19	153,153,179	225.0	0.12	0.08	0.11	155,155,179
	450.0	0.22	0.13	0.22	153,153,179					
274	0.0	0.15	0.10	0.13	162,162,179	225.0	0.11	0.08	0.10	155,155,179
	450.0	0.17	0.11	0.17	153,153,179					
275	0.0	0.12	0.08	0.12	154,165,179	225.0	0.11	0.07	0.11	155,155,179
	450.0	0.17	0.10	0.16	153,153,179					
276	0.0	0.35	0.23	0.38	164,154,179	225.0	0.09	0.06	0.08	155,155,179
	450.0	0.36	0.25	0.40	164,154,179					
277	0.0	0.57	0.49	0.65	152,152,179	225.0	0.06	0.04	0.07	164,164,179
	450.0	0.55	0.47	0.60	158,158,179					

Pilas.	Pos.	rRfck	rRfyk	rPfck	Rif. cmb	Pos.	rRfck	rRfyk	rPfck	Rif. cmb
Pilas.		rRfck	rRfyk	rPfck			rRfck	rRfyk	rPfck	
		0.83	0.54	0.85						

12.3. VERIFICHE SLU ED SLE TRAVATE IN C.A. DI FONDAZIONE

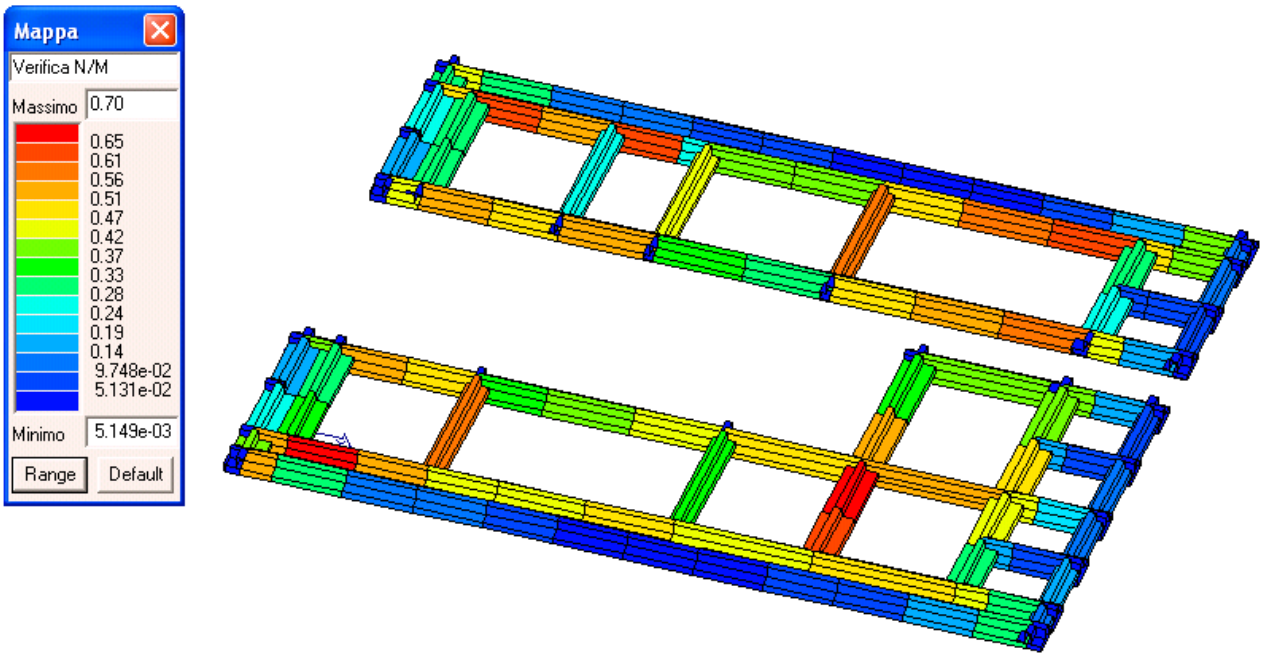


Figura 12.1 – 7 – Verifica N-M Travi fondazione

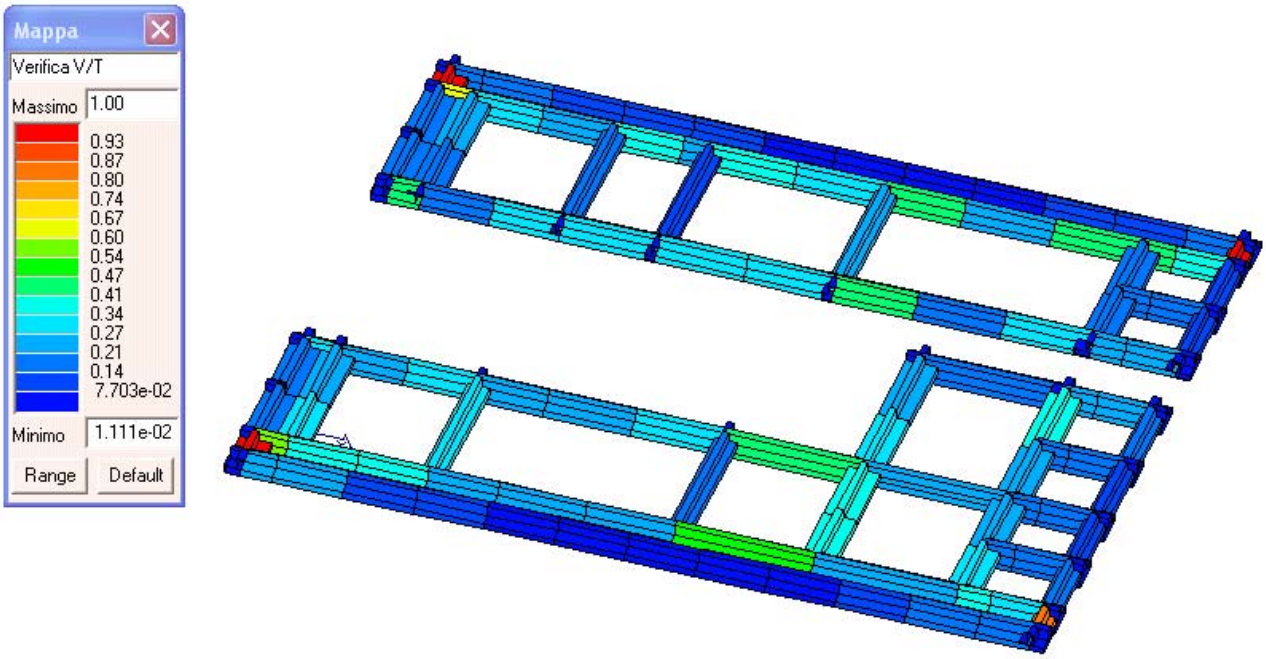


Figura 12.1 – 8 – Verifica V-T Travi fondazione

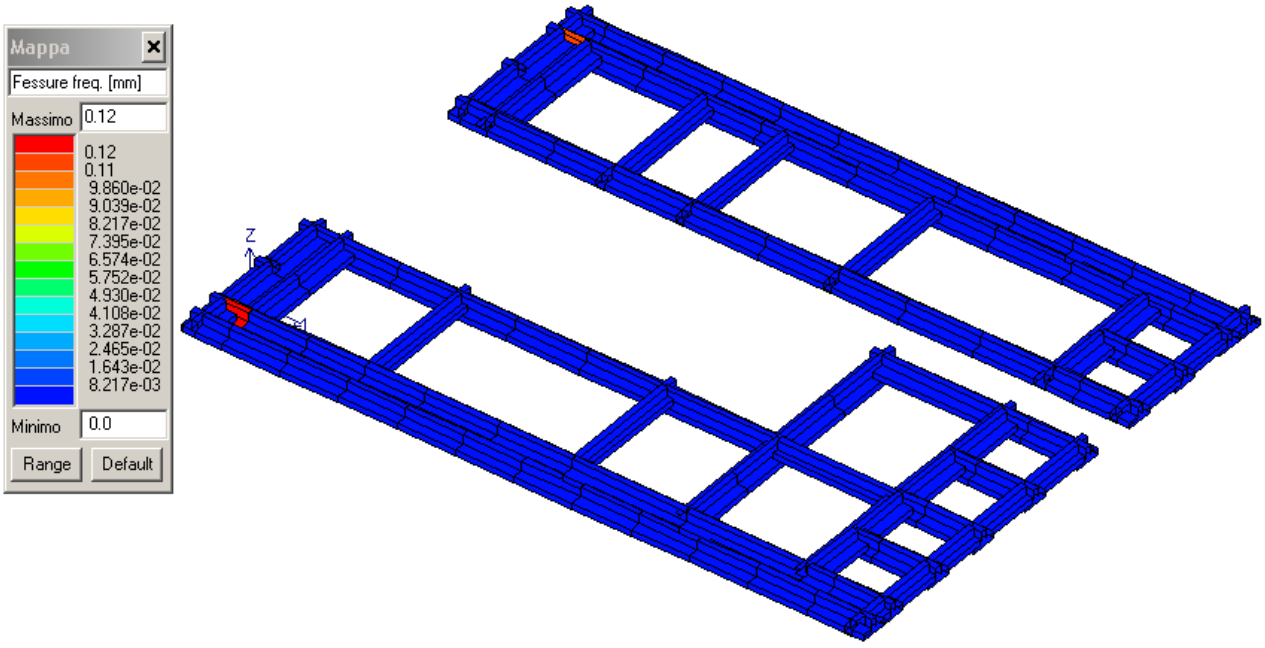


Figura 12.2 – 9 – S.L.E. Travi fondazione: fessure comb. Frequenti

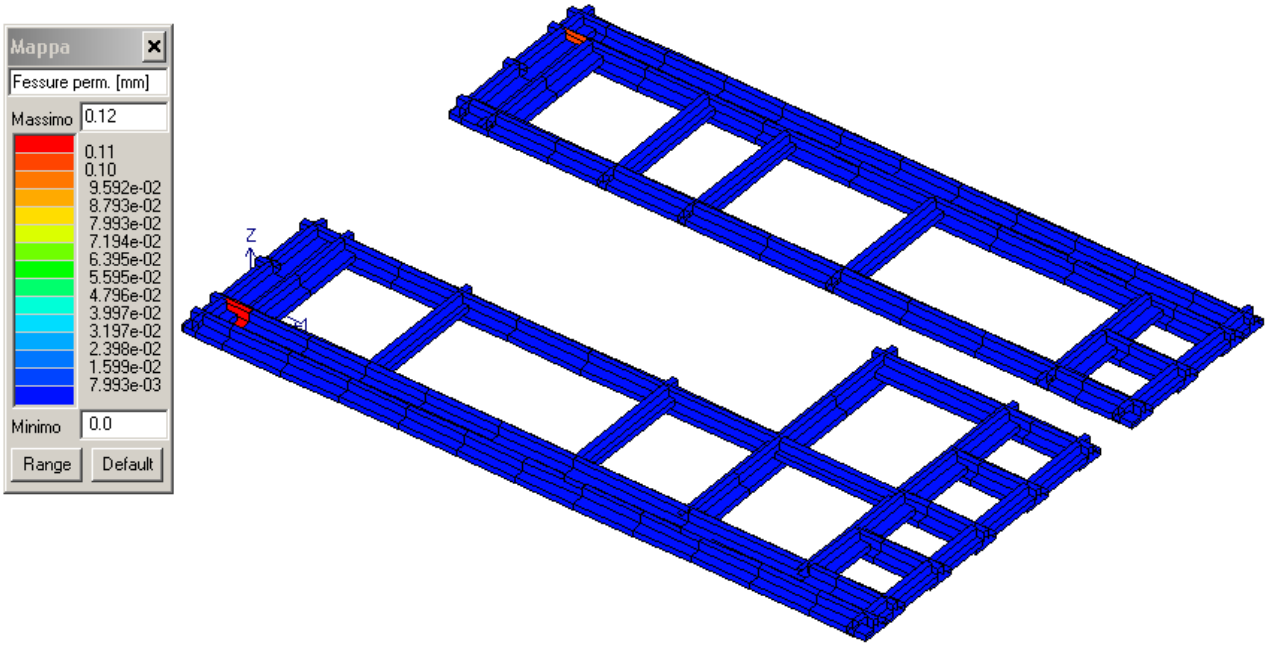


Figura 12.2 – 10 – S.L.E. Travi fondazione: fessure comb. quasi perm.

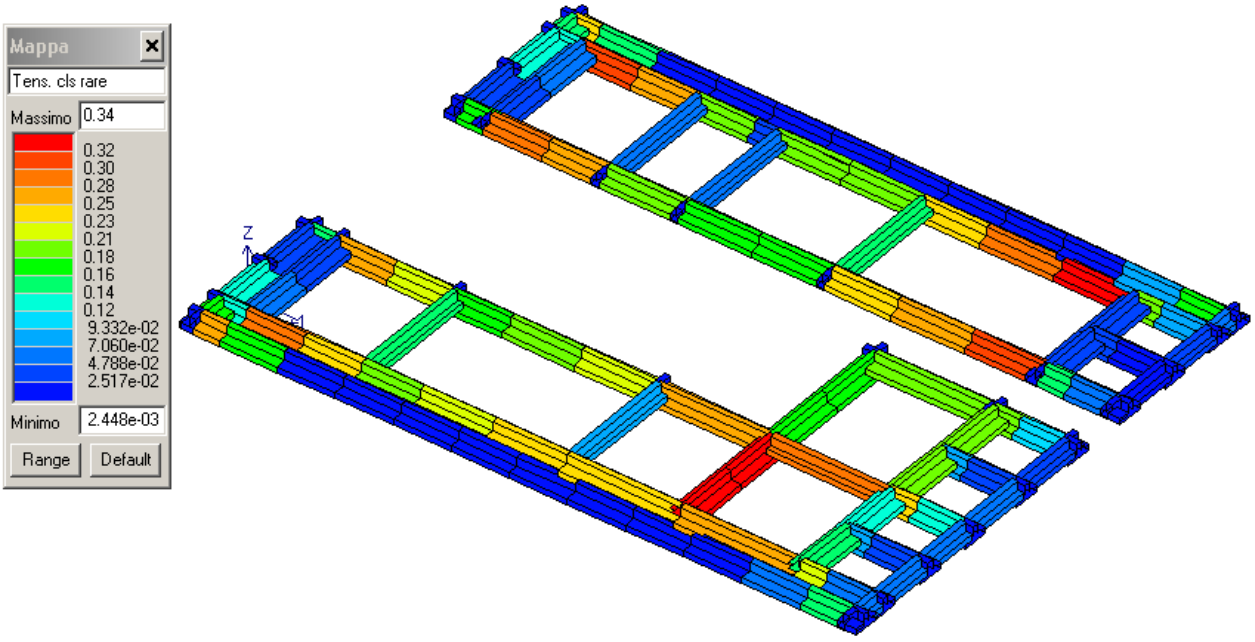


Figura 12.2 – 11 – S.L.E. Travi fondazione: tensioni cls comb. rare

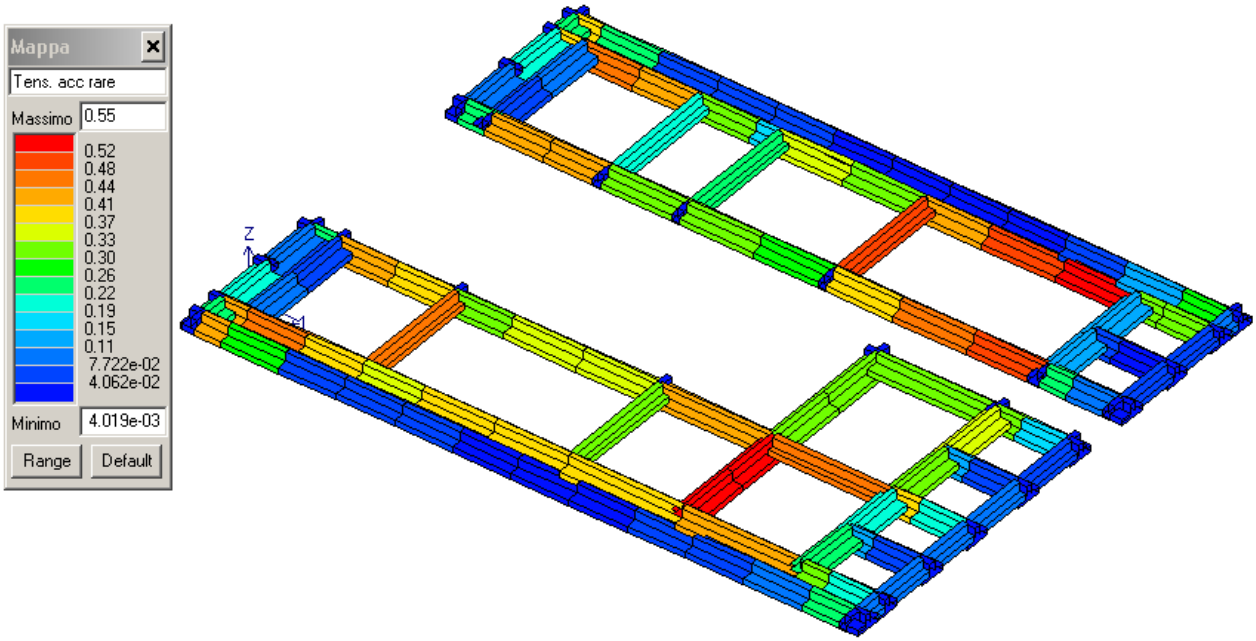


Figura 12.2 – 12 – S.L.E. Travi fondazione: tensioni acciaio comb. rare

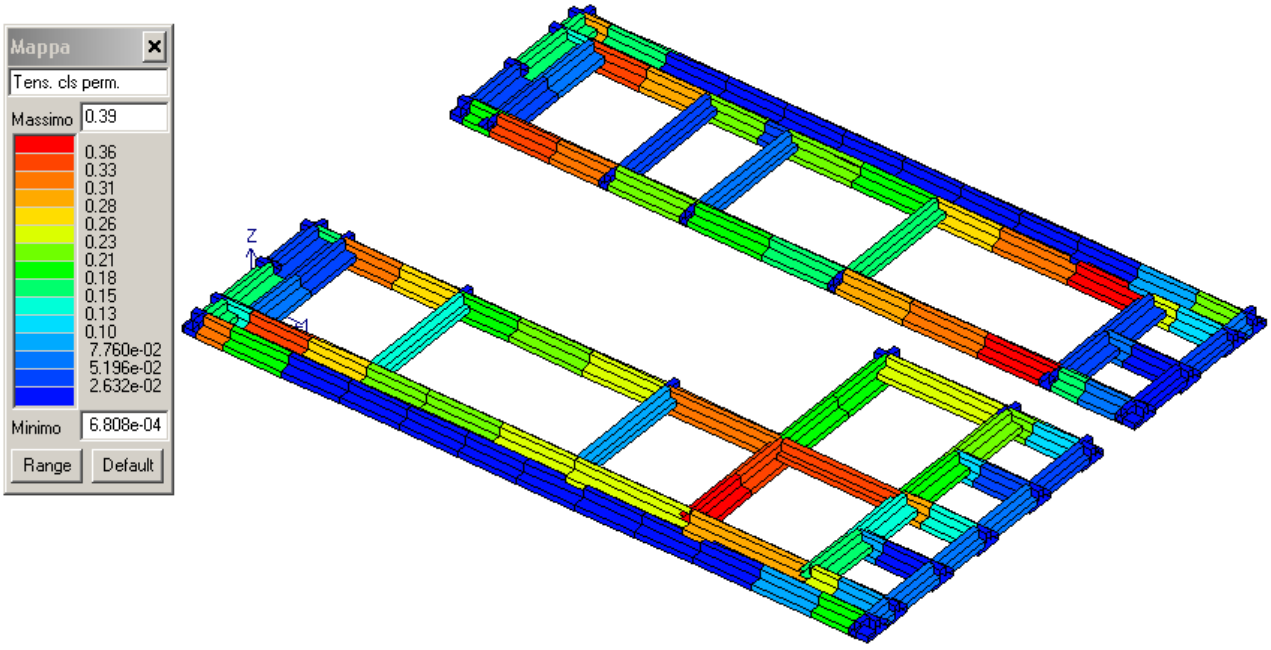


Figura 12.2 – 13 – S.L.E. Travi fondazione: tensioni cls comb. perm.

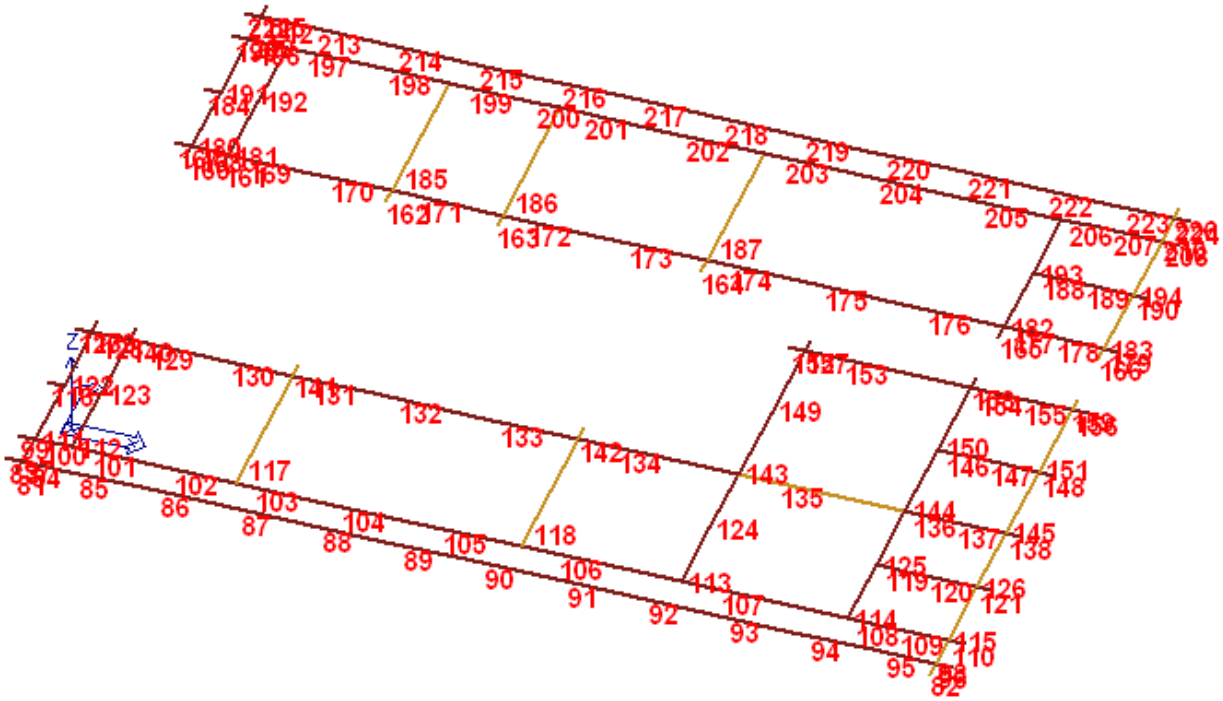


Figura 12.1 – 9 – Numerazione delle sezioni

Verifiche SLU

Trave	Note	Pos.	%Af	Af inf.	Af. sup	x/d	verif.	ver. V/T	Af V	Af T	Staffe	Scorr. P	Af long.	Rif. cmb
		cm									L=cm			
81	ok,ok	0.0	0.23	22.0	19.2	0.08	2.48e-03	1.44e-03	1.93e-04	0.0	2d12/30 L=80	0.0	0.0	79,61
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	0.01	0.03	0.2	0.0	2d12/30 L=80	0.0	0.0	79,83
82	ok,ok	0.0	0.26	18.8	14.4	0.07	1.15e-03	1.27e-03	7.28e-05	0.0	2d12/30 L=80	0.0	0.0	71,61
	s=17,m=1	80.0	0.26	18.8	14.4	0.07	5.15e-03	0.01	0.1	0.0	2d12/30 L=80	0.0	0.0	9,9
83	ok,ok	0.0	0.23	22.0	19.2	0.05	1.80e-03	2.62e-03	2.63e-04	0.0	2d12/30 L=80	0.0	0.0	60,82
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	0.01	0.03	0.2	0.0	2d12/30 L=80	0.0	0.0	71,79
84	ok,ok	0.0	0.23	22.0	19.2	0.08	0.52	0.27	1.4	0.0	2d12/30 L=180	0.0	0.0	81,86
	s=16,m=1	180.0	0.23	22.0	19.2	0.08	0.33	0.22	0.9	0.0	2d12/30 L=180	0.0	0.0	61,86
85	ok,ok	0.0	0.23	22.0	19.2	0.08	0.32	0.21	1.3	0.0	2d12/15 L=95	0.0	0.0	21,74
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.17	0.16	0.7	0.0	2d12/30 L=200	0.0	0.0	61,74
		390.0	0.23	22.0	19.2	0.08	0.12	0.12	0.3	0.0	2d12/15 L=95	0.0	0.0	81,74
86	ok,ok	0.0	0.23	22.0	19.2	0.08	0.10	0.13	0.7	0.0	2d12/15 L=95	0.0	0.0	81,9
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.12	0.09	0.2	0.0	2d12/30 L=200	0.0	0.0	58,74
		390.0	0.23	22.0	19.2	0.08	0.11	0.09	0.3	0.0	2d12/15 L=95	0.0	0.0	58,9
87	ok,ok	0.0	0.23	22.0	19.2	0.08	0.11	0.09	0.4	0.0	2d12/15 L=95	0.0	0.0	58,9
	s=16,m=1	195.0	0.23	22.0	19.2	0.05	0.11	0.06	7.42e-02	0.0	2d12/30 L=200	0.0	0.0	74,74
		390.0	0.23	22.0	19.2	0.08	0.08	0.09	0.4	0.0	2d12/15 L=95	0.0	0.0	58,9
88	ok,ok	0.0	0.23	22.0	19.2	0.08	0.08	0.06	0.3	0.0	2d12/15 L=95	0.0	0.0	58,9
	s=16,m=1	195.0	0.23	22.0	19.2	0.05	0.07	0.04	9.69e-02	0.0	2d12/30 L=200	0.0	0.0	58,9
		390.0	0.23	22.0	19.2	0.08	0.04	0.07	0.4	0.0	2d12/15 L=95	0.0	0.0	61,9
89	ok,ok	0.0	0.23	22.0	19.2	0.08	0.04	0.04	0.3	0.0	2d12/15 L=95	0.0	0.0	58,9
	s=16,m=1	195.0	0.23	22.0	19.2	0.05	0.04	0.03	6.01e-02	0.0	2d12/30 L=200	0.0	0.0	58,82
		390.0	0.23	22.0	19.2	0.08	0.04	0.05	0.4	0.0	2d12/15 L=95	0.0	0.0	61,9
90	ok,ok	0.0	0.23	22.0	19.2	0.08	0.02	0.04	0.4	0.0	2d12/15 L=95	0.0	0.0	61,9
	s=16,m=1	195.0	0.23	22.0	19.2	0.05	0.02	0.03	2.14e-02	0.0	2d12/30 L=200	0.0	0.0	58,79
		390.0	0.23	22.0	19.2	0.08	0.02	0.04	0.3	0.0	2d12/15 L=95	0.0	0.0	61,9

Trave	Note	Pos.	%Af	Af inf.	Af. sup	x/d	verif.	ver. V/T	Af V	Af T	Staffe	Scorr. P	Af long.	Rif. cmb
91	ok,ok	0.0	0.23	22.0	19.2	0.08	0.02	0.06	0.4	0.0	2d12/15 L=95	0.0	0.0	9,9
	s=16,m=1	195.0	0.23	22.0	19.2	0.05	0.03	0.04	5.08e-02	0.0	2d12/30 L=200	0.0	0.0	15,79
		390.0	0.23	22.0	19.2	0.08	0.02	0.05	0.3	0.0	2d12/15 L=95	0.0	0.0	3,79
92	ok,ok	0.0	0.23	22.0	19.2	0.08	0.02	0.08	0.4	0.0	2d12/15 L=95	0.0	0.0	3,9
	s=16,m=1	195.0	0.23	22.0	19.2	0.05	0.05	0.05	4.73e-02	0.0	2d12/30 L=200	0.0	0.0	27,79
		390.0	0.23	22.0	19.2	0.08	0.03	0.07	0.3	0.0	2d12/15 L=95	0.0	0.0	62,9
93	ok,ok	0.0	0.23	22.0	19.2	0.05	0.03	0.08	0.3	0.0	2d12/15 L=95	0.0	0.0	60,9
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.05	0.08	8.84e-02	0.0	2d12/30 L=200	0.0	0.0	27,75
		390.0	0.23	22.0	19.2	0.08	0.06	0.10	0.5	0.0	2d12/15 L=95	0.0	0.0	56,71
94	ok,ok	0.0	0.23	22.0	19.2	0.08	0.07	0.11	0.2	0.0	2d12/15 L=95	0.0	0.0	60,75
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.09	0.12	0.3	0.0	2d12/30 L=200	0.0	0.0	60,75
		390.0	0.23	22.0	19.2	0.08	0.16	0.15	0.7	0.0	2d12/15 L=95	0.0	0.0	55,75
95	ok,ok	0.0	0.23	22.0	19.2	0.08	0.16	0.16	0.4	0.0	2d12/15 L=95	0.0	0.0	55,75
	s=16,m=1	150.0	0.23	22.0	19.2	0.08	0.22	0.18	0.5	0.0	2d12/30 L=110	0.0	0.0	55,75
		300.0	0.23	22.0	19.2	0.08	0.29	0.20	0.9	0.0	2d12/15 L=95	0.0	0.0	55,75
96	ok,ok	0.0	0.23	22.0	19.2	0.08	8.68e-03	0.02	0.2	0.0	2d12/30 L=80	0.0	0.0	9,9
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	1.61e-03	1.52e-03	7.41e-05	0.0	2d12/30 L=80	0.0	0.0	61,72
97	ok,ok	0.0	0.23	22.0	19.2	0.05	0.04	1.00	1.9	0.0	2d12/30 L=170	0.0	0.0	81,27
	s=16,m=1	170.0	0.23	22.0	19.2	0.08	0.39	1.00	2.4	0.0	2d12/30 L=170	0.0	0.0	83,27
98	ok,ok	0.0	0.26	18.8	14.4	0.07	0.08	0.81	0.7	0.0	2d12/30 L=170	0.0	0.0	78,75
	s=17,m=1	170.0	0.26	18.8	14.4	0.07	0.11	0.82	0.8	0.0	2d12/30 L=170	0.0	0.0	71,75
99	ok,ok	0.0	0.23	22.0	19.2	0.05	2.11e-03	2.55e-03	2.95e-04	0.0	2d12/30 L=80	0.0	0.0	60,82
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	0.01	0.03	0.2	0.0	2d12/30 L=80	0.0	0.0	9,9
100	ok,ok	0.0	0.23	22.0	19.2	0.05	0.52	0.51	3.5	0.0	2d12/30 L=180	0.0	0.0	80,79
	s=16,m=1	180.0	0.23	22.0	19.2	0.08	0.39	0.58	4.1	0.0	2d12/30 L=180	0.0	0.0	55,79
101	ok,ok	0.0	0.23	22.0	19.2	0.08	0.29	0.22	1.4	0.0	2d12/15 L=95	0.0	0.0	59,79
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.37	0.27	1.5	0.0	2d12/30 L=200	0.0	0.0	55,15
		390.0	0.23	22.0	19.2	0.08	0.69	0.36	2.0	0.0	2d12/15 L=95	0.0	0.0	55,21
102	ok,ok	0.0	0.23	22.0	19.2	0.08	0.56	0.36	1.7	0.0	2d12/15 L=95	0.0	0.0	59,82
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.28	0.28	1.1	0.0	2d12/30 L=200	0.0	0.0	60,82
		390.0	0.23	22.0	19.2	0.08	0.42	0.24	1.1	0.0	2d12/15 L=95	0.0	0.0	55,80
103	ok,ok	0.0	0.23	22.0	19.2	0.08	0.38	0.21	1.4	0.0	2d12/15 L=95	0.0	0.0	59,82
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.19	0.18	1.1	0.0	2d12/30 L=200	0.0	0.0	55,71
		390.0	0.23	22.0	19.2	0.08	0.44	0.27	2.1	0.0	2d12/15 L=95	0.0	0.0	59,71
104	ok,ok	0.0	0.23	22.0	19.2	0.08	0.46	0.22	2.1	0.0	2d12/15 L=95	0.0	0.0	55,62
	s=16,m=1	242.5	0.23	22.0	19.2	0.08	0.17	0.10	0.8	0.0	2d12/30 L=295	0.0	0.0	73,59
		485.0	0.23	22.0	19.2	0.08	0.45	0.22	2.1	0.0	2d12/15 L=95	0.0	0.0	59,21
105	ok,ok	0.0	0.23	22.0	19.2	0.08	0.48	0.27	2.3	0.0	2d12/15 L=95	0.0	0.0	15,82
	s=16,m=1	247.5	0.23	22.0	19.2	0.08	0.17	0.14	0.7	0.0	2d12/30 L=305	0.0	0.0	61,74
		495.0	0.23	22.0	19.2	0.08	0.31	0.26	1.6	0.0	2d12/15 L=95	0.0	0.0	21,71
106	ok,ok	0.0	0.23	22.0	19.2	0.08	0.39	0.51	3.5	0.0	2d12/15 L=95	0.0	0.0	59,27
	s=16,m=1	385.0	0.23	22.0	19.2	0.05	0.34	0.17	0.5	0.0	2d12/30 L=580	0.0	0.0	21,55
		770.0	0.23	22.0	19.2	0.08	0.45	0.50	3.4	0.0	2d12/15 L=95	0.0	0.0	21,21
107	ok,ok	0.0	0.23	22.0	19.2	0.08	0.49	0.22	2.1	0.0	2d12/15 L=95	0.0	0.0	9,9
	s=16,m=1	400.0	0.23	22.0	19.2	0.08	0.17	0.05	0.2	0.0	2d12/30 L=610	0.0	0.0	62,82
		800.0	0.23	22.0	19.2	0.08	0.41	0.16	1.5	0.0	2d12/15 L=95	0.0	0.0	77,9
108	ok,ok	0.0	0.23	22.0	19.2	0.08	0.46	0.38	2.3	0.0	2d12/30 L=180	0.0	0.0	73,78
	s=16,m=1	180.0	0.23	22.0	19.2	0.08	0.14	0.30	1.6	0.0	2d12/30 L=180	0.0	0.0	61,78
109	ok,ok	0.0	0.23	22.0	19.2	0.08	0.13	0.31	1.7	0.0	2d12/15 L=95	0.0	0.0	61,78
	s=16,m=1	150.0	0.23	22.0	19.2	0.05	0.14	0.27	1.2	0.0	2d12/30 L=110	0.0	0.0	58,78
		300.0	0.23	22.0	19.2	0.05	0.32	0.24	0.9	0.0	2d12/15 L=95	0.0	0.0	78,78
110	ok,ok	0.0	0.23	22.0	19.2	0.08	8.58e-03	0.02	0.2	0.0	2d12/30 L=80	0.0	0.0	9,9
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	1.85e-03	1.37e-03	4.04e-05	0.0	2d12/30 L=80	0.0	0.0	61,72
111	ok,ok	0.0	0.23	22.0	19.2	0.08	0.24	0.18	1.4	0.0	2d12/15 L=95	0.0	0.0	79,21
	s=16,m=1	200.0	0.23	22.0	19.2	0.08	0.08	0.13	0.8	0.0	2d12/30 L=210	0.0	0.0	79,58
		400.0	0.23	22.0	19.2	0.08	0.17	0.08	0.3	0.0	2d12/15 L=95	0.0	0.0	82,58
112	ok,ok	0.0	0.23	22.0	19.2	0.08	0.33	0.25	1.2	0.0	2d12/15 L=95	0.0	0.0	82,59
	s=16,m=1	200.0	0.23	22.0	19.2	0.08	0.06	0.27	1.5	0.0	2d12/30 L=210	0.0	0.0	79,79
		400.0	0.23	22.0	19.2	0.08	0.33	0.28	1.6	0.0	2d12/15 L=95	0.0	0.0	79,79
113	ok,ok	0.0	0.23	22.0	19.2	0.08	0.34	0.18	0.9	0.0	2d12/15 L=95	0.0	0.0	78,62
	s=16,m=1	200.0	0.23	22.0	19.2	0.08	0.24	0.25	1.8	0.0	2d12/30 L=210	0.0	0.0	75,57
		400.0	0.23	22.0	19.2	0.08	0.65	0.38	3.1	0.0	2d12/15 L=95	0.0	0.0	33,27
114	ok,ok	0.0	0.23	22.0	19.2	0.08	0.30	0.19	0.7	0.0	2d12/15 L=95	0.0	0.0	74,71
	s=16,m=1	200.0	0.23	22.0	19.2	0.08	0.16	0.24	1.1	0.0	2d12/30 L=210	0.0	0.0	75,71
		400.0	0.23	22.0	19.2	0.08	0.30	0.29	1.6	0.0	2d12/15 L=95	0.0	0.0	21,71
115	ok,ok	0.0	0.26	18.8	14.4	0.07	0.16	0.16	0.5	0.0	2d12/15 L=96	0.0	0.0	71,75

Trave	Note	Pos.	%Af	Af inf.	Af. sup	x/d	verif.	ver. V/T	Af V	Af T	Staffe	Scorr. P	Af long.	Rif. cmb
	s=17,m=1	200.0	0.26	18.8	14.4	0.07	0.11	0.14	0.2	0.0	2d12/30 L=208	0.0	0.0	71,71
		400.0	0.26	18.8	14.4	0.07	0.07	0.14	0.2	0.0	2d12/15 L=96	0.0	0.0	55,75
116	ok,ok	0.0	0.23	22.0	19.2	0.08	2.30e-03	2.61e-03	4.15e-04	0.0	2d12/30 L=80	0.0	0.0	60,82
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	0.01	0.03	0.3	0.0	2d12/30 L=80	0.0	0.0	21,21
117	ok,ok	0.0	0.26	18.8	14.4	0.07	0.27	0.28	2.2	0.0	2d12/15 L=96	0.0	0.0	79,15
	s=17,m=1	400.0	0.26	18.8	14.4	0.04	0.57	0.12	0.5	0.0	2d12/30 L=608	0.0	0.0	15,79
		800.0	0.26	18.8	14.4	0.07	0.29	0.26	2.1	0.0	2d12/15 L=96	0.0	0.0	79,15
118	ok,ok	0.0	0.26	18.8	14.4	0.07	0.22	0.16	1.4	0.0	2d12/15 L=96	0.0	0.0	78,15
	s=17,m=1	400.0	0.26	18.8	14.4	0.04	0.37	0.08	0.4	0.0	2d12/30 L=608	0.0	0.0	15,78
		800.0	0.26	18.8	14.4	0.07	0.22	0.13	1.1	0.0	2d12/15 L=96	0.0	0.0	78,9
119	ok,ok	0.0	0.23	22.0	19.2	0.08	0.16	0.20	1.1	0.0	2d12/30 L=180	0.0	0.0	59,78
	s=16,m=1	180.0	0.23	22.0	19.2	0.08	0.05	0.13	0.5	0.0	2d12/30 L=180	0.0	0.0	27,78
120	ok,ok	0.0	0.23	22.0	19.2	0.08	0.06	0.16	0.9	0.0	2d12/15 L=95	0.0	0.0	59,78
	s=16,m=1	150.0	0.23	22.0	19.2	0.05	0.05	0.13	0.3	0.0	2d12/30 L=110	0.0	0.0	62,78
		300.0	0.23	22.0	19.2	0.05	0.03	0.11	0.3	0.0	2d12/15 L=95	0.0	0.0	58,72
121	ok,ok	0.0	0.23	22.0	19.2	0.08	9.79e-03	0.02	0.2	0.0	2d12/30 L=80	0.0	0.0	9,27
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	1.75e-03	1.38e-03	3.72e-05	0.0	2d12/30 L=80	0.0	0.0	61,74
122	ok,ok	0.0	0.23	22.0	19.2	0.08	0.15	0.08	0.5	0.0	2d12/15 L=95	0.0	0.0	62,21
	s=16,m=1	200.0	0.23	22.0	19.2	0.08	0.14	0.08	0.4	0.0	2d12/30 L=210	0.0	0.0	82,7
		400.0	0.23	22.0	19.2	0.08	0.09	0.15	1.2	0.0	2d12/15 L=95	0.0	0.0	81,79
123	ok,ok	0.0	0.23	22.0	19.2	0.08	0.18	0.21	1.6	0.0	2d12/15 L=95	0.0	0.0	79,82
	s=16,m=1	200.0	0.23	22.0	19.2	0.08	0.12	0.17	1.2	0.0	2d12/30 L=210	0.0	0.0	82,82
		400.0	0.23	22.0	19.2	0.08	0.32	0.12	0.9	0.0	2d12/15 L=95	0.0	0.0	82,82
124	ok,ok	0.0	0.23	22.0	19.2	0.08	0.70	0.34	3.0	0.0	2d12/15 L=95	0.0	0.0	71,74
	s=16,m=1	200.0	0.23	22.0	19.2	0.08	0.17	0.27	2.1	0.0	2d12/30 L=210	0.0	0.0	71,74
		400.0	0.23	22.0	19.2	0.08	0.25	0.19	1.3	0.0	2d12/15 L=95	0.0	0.0	78,74
125	ok,ok	0.0	0.23	22.0	19.2	0.08	0.42	0.26	1.4	0.0	2d12/15 L=95	0.0	0.0	75,74
	s=16,m=1	200.0	0.23	22.0	19.2	0.08	0.14	0.22	1.1	0.0	2d12/30 L=210	0.0	0.0	75,74
		400.0	0.23	22.0	19.2	0.08	0.17	0.18	1.0	0.0	2d12/15 L=95	0.0	0.0	75,74
126	ok,ok	0.0	0.26	18.8	14.4	0.07	0.11	0.10	0.3	0.0	2d12/15 L=96	0.0	0.0	71,71
	s=17,m=1	200.0	0.26	18.8	14.4	0.07	0.08	0.11	0.3	0.0	2d12/30 L=208	0.0	0.0	71,71
		400.0	0.26	18.8	14.4	0.07	0.11	0.12	0.5	0.0	2d12/15 L=96	0.0	0.0	27,75
127	ok,ok	0.0	0.23	22.0	19.2	0.05	2.54e-03	2.54e-03	1.98e-04	0.0	2d12/30 L=80	0.0	0.0	59,82
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	0.02	0.04	0.4	0.0	2d12/30 L=80	0.0	0.0	59,79
128	ok,ok	0.0	0.23	22.0	19.2	0.08	0.04	0.23	1.7	0.0	2d12/30 L=180	0.0	0.0	1,79
	s=16,m=1	180.0	0.23	22.0	19.2	0.08	0.42	0.32	2.6	0.0	2d12/30 L=180	0.0	0.0	79,79
129	ok,ok	0.0	0.23	22.0	19.2	0.08	0.35	0.16	1.0	0.0	2d12/15 L=95	0.0	0.0	79,79
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.31	0.17	1.1	0.0	2d12/30 L=200	0.0	0.0	59,79
		390.0	0.23	22.0	19.2	0.08	0.56	0.22	1.6	0.0	2d12/15 L=95	0.0	0.0	59,55
130	ok,ok	0.0	0.23	22.0	19.2	0.08	0.47	0.29	1.9	0.0	2d12/15 L=95	0.0	0.0	59,85
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.22	0.23	1.1	0.0	2d12/30 L=200	0.0	0.0	7,85
		390.0	0.23	22.0	19.2	0.08	0.22	0.25	1.0	0.0	2d12/15 L=95	0.0	0.0	59,79
131	ok,ok	0.0	0.23	22.0	19.2	0.08	0.23	0.23	1.1	0.0	2d12/15 L=95	0.0	0.0	55,74
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.15	0.17	1.0	0.0	2d12/30 L=200	0.0	0.0	1,72
		390.0	0.23	22.0	19.2	0.08	0.36	0.27	2.0	0.0	2d12/15 L=95	0.0	0.0	5,72
132	ok,ok	0.0	0.23	22.0	19.2	0.08	0.39	0.24	1.9	0.0	2d12/15 L=95	0.0	0.0	59,62
	s=16,m=1	242.5	0.23	22.0	19.2	0.08	0.20	0.10	0.8	0.0	2d12/30 L=295	0.0	0.0	61,62
		485.0	0.23	22.0	19.2	0.08	0.40	0.22	1.9	0.0	2d12/15 L=95	0.0	0.0	21,21
133	ok,ok	0.0	0.23	22.0	19.2	0.08	0.43	0.33	2.3	0.0	2d12/15 L=95	0.0	0.0	33,82
	s=16,m=1	247.5	0.23	22.0	19.2	0.08	0.16	0.21	0.8	0.0	2d12/30 L=305	0.0	0.0	62,82
		495.0	0.23	22.0	19.2	0.08	0.22	0.21	1.1	0.0	2d12/15 L=95	0.0	0.0	57,71
134	ok,ok	0.0	0.23	22.0	19.2	0.08	0.29	0.37	2.9	0.0	2d12/15 L=95	0.0	0.0	71,74
	s=16,m=1	385.0	0.23	22.0	19.2	0.05	0.36	0.12	0.8	0.0	2d12/30 L=580	0.0	0.0	21,60
		770.0	0.23	22.0	19.2	0.08	0.51	0.43	3.5	0.0	2d12/15 L=95	0.0	0.0	5,33
135	ok,ok	0.0	0.26	18.8	14.4	0.07	0.53	0.25	1.9	0.0	2d12/15 L=96	0.0	0.0	5,27
	s=17,m=1	400.0	0.26	18.8	14.4	0.07	0.19	0.06	0.2	0.0	2d12/30 L=608	0.0	0.0	5,55
		800.0	0.26	18.8	14.4	0.07	0.56	0.24	1.8	0.0	2d12/15 L=96	0.0	0.0	5,21
136	ok,ok	0.0	0.23	22.0	19.2	0.08	0.45	0.21	1.8	0.0	2d12/30 L=180	0.0	0.0	5,74
	s=16,m=1	180.0	0.23	22.0	19.2	0.08	0.22	0.14	1.1	0.0	2d12/30 L=180	0.0	0.0	21,74
137	ok,ok	0.0	0.23	22.0	19.2	0.08	0.22	0.18	1.6	0.0	2d12/15 L=95	0.0	0.0	21,9
	s=16,m=1	150.0	0.23	22.0	19.2	0.08	0.07	0.13	0.8	0.0	2d12/30 L=110	0.0	0.0	61,74
		300.0	0.23	22.0	19.2	0.05	0.05	0.10	0.5	0.0	2d12/15 L=95	0.0	0.0	58,74
138	ok,ok	0.0	0.23	22.0	19.2	0.08	0.01	0.03	0.3	0.0	2d12/30 L=80	0.0	0.0	21,27
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	1.72e-03	1.40e-03	1.08e-04	0.0	2d12/30 L=80	0.0	0.0	62,74
139	ok,ok	0.0	0.23	22.0	19.2	0.08	0.02	0.04	0.4	0.0	2d12/30 L=80	0.0	0.0	15,82
	s=16,m=1	80.0	0.23	22.0	19.2	0.05	3.08e-03	2.31e-03	2.77e-04	0.0	2d12/30 L=80	0.0	0.0	82,62

Trave	Note	Pos.	%Af	Af inf.	Af. sup	x/d	verif.	ver. V/T	Af V	Af T	Staffe	Scorr. P	Af long.	Rif. cmb
140	ok,ok	0.0	0.23	22.0	19.2	0.08	0.02	0.05	0.5	0.0	2d12/30 L=80	0.0	0.0	15,82
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	3.12e-03	2.28e-03	2.15e-04	0.0	2d12/30 L=80	0.0	0.0	80,62
141	ok,ok	0.0	0.26	18.8	14.4	0.07	0.02	0.05	0.5	0.0	2d12/30 L=80	0.0	0.0	15,15
	s=17,m=1	80.0	0.26	18.8	14.4	0.07	1.33e-03	2.27e-03	1.91e-04	0.0	2d12/30 L=80	0.0	0.0	80,62
142	ok,ok	0.0	0.26	18.8	14.4	0.07	0.02	0.05	0.4	0.0	2d12/30 L=80	0.0	0.0	33,15
	s=17,m=1	80.0	0.26	18.8	14.4	0.07	1.33e-03	2.05e-03	1.95e-04	0.0	2d12/30 L=80	0.0	0.0	72,60
143	ok,ok	0.0	0.23	22.0	19.2	0.08	0.26	0.17	1.3	0.0	2d12/15 L=95	0.0	0.0	74,72
	s=16,m=1	230.0	0.23	22.0	19.2	0.08	0.09	0.24	1.5	0.0	2d12/30 L=270	0.0	0.0	75,55
		460.0	0.23	22.0	19.2	0.08	0.53	0.32	2.1	0.0	2d12/15 L=95	0.0	0.0	75,55
144	ok,ok	0.0	0.23	22.0	19.2	0.08	0.22	0.18	0.9	0.0	2d12/15 L=95	0.0	0.0	71,71
	s=16,m=1	230.0	0.23	22.0	19.2	0.08	0.13	0.22	1.3	0.0	2d12/30 L=270	0.0	0.0	77,71
		460.0	0.23	22.0	19.2	0.08	0.49	0.26	1.6	0.0	2d12/15 L=95	0.0	0.0	71,71
145	ok,ok	0.0	0.26	18.8	14.4	0.07	0.11	0.11	0.6	0.0	2d12/15 L=96	0.0	0.0	15,15
	s=17,m=1	230.0	0.26	18.8	14.4	0.07	0.06	0.10	0.3	0.0	2d12/30 L=268	0.0	0.0	55,74
		460.0	0.26	18.8	14.4	0.07	0.09	0.08	0.3	0.0	2d12/15 L=96	0.0	0.0	78,9
146	ok,ok	0.0	0.23	22.0	19.2	0.08	0.17	0.18	1.1	0.0	2d12/30 L=180	0.0	0.0	59,71
	s=16,m=1	180.0	0.23	22.0	19.2	0.08	0.07	0.12	0.5	0.0	2d12/30 L=180	0.0	0.0	27,71
147	ok,ok	0.0	0.23	22.0	19.2	0.08	0.07	0.18	1.0	0.0	2d12/15 L=95	0.0	0.0	27,27
	s=16,m=1	150.0	0.23	22.0	19.2	0.05	0.04	0.11	0.3	0.0	2d12/30 L=110	0.0	0.0	58,71
		300.0	0.23	22.0	19.2	0.05	0.03	0.13	0.3	0.0	2d12/15 L=95	0.0	0.0	78,71
148	ok,ok	0.0	0.23	22.0	19.2	0.08	0.01	0.03	0.3	0.0	2d12/30 L=80	0.0	0.0	27,27
	s=16,m=1	80.0	0.23	22.0	19.2	0.05	1.26e-03	1.40e-03	2.32e-04	0.0	2d12/30 L=80	0.0	0.0	58,74
149	ok,ok	0.0	0.23	22.0	19.2	0.08	0.36	0.25	2.0	0.0	2d12/15 L=95	0.0	0.0	33,15
	s=16,m=1	230.0	0.23	22.0	19.2	0.08	0.15	0.15	1.0	0.0	2d12/30 L=270	0.0	0.0	75,3
		460.0	0.23	22.0	19.2	0.08	0.27	0.14	0.4	0.0	2d12/15 L=95	0.0	0.0	74,55
150	ok,ok	0.0	0.23	22.0	19.2	0.08	0.40	0.35	1.8	0.0	2d12/15 L=95	0.0	0.0	21,15
	s=16,m=1	230.0	0.23	22.0	19.2	0.08	0.17	0.27	1.2	0.0	2d12/30 L=270	0.0	0.0	71,74
		460.0	0.23	22.0	19.2	0.08	0.33	0.22	0.7	0.0	2d12/15 L=95	0.0	0.0	78,74
151	ok,ok	0.0	0.26	18.8	14.4	0.07	0.08	0.13	0.3	0.0	2d12/15 L=96	0.0	0.0	78,9
	s=17,m=1	230.0	0.26	18.8	14.4	0.07	0.08	0.12	0.2	0.0	2d12/30 L=268	0.0	0.0	74,74
		460.0	0.26	18.8	14.4	0.07	0.10	0.16	0.6	0.0	2d12/15 L=96	0.0	0.0	71,9
152	ok,ok	0.0	0.23	22.0	19.2	0.05	1.27e-03	2.89e-03	1.93e-04	0.0	2d12/30 L=80	0.0	0.0	55,72
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	0.03	0.06	0.6	0.0	2d12/30 L=80	0.0	0.0	75,75
153	ok,ok	0.0	0.23	22.0	19.2	0.08	0.16	0.16	1.2	0.0	2d12/15 L=95	0.0	0.0	55,74
	s=16,m=1	400.0	0.23	22.0	19.2	0.08	0.08	0.08	0.5	0.0	2d12/30 L=610	0.0	0.0	16,63
		800.0	0.23	22.0	19.2	0.08	0.40	0.18	1.6	0.0	2d12/15 L=95	0.0	0.0	75,75
154	ok,ok	0.0	0.23	22.0	19.2	0.08	0.39	0.23	1.5	0.0	2d12/30 L=180	0.0	0.0	71,33
	s=16,m=1	180.0	0.23	22.0	19.2	0.08	0.19	0.17	0.8	0.0	2d12/30 L=180	0.0	0.0	15,75
155	ok,ok	0.0	0.23	22.0	19.2	0.08	0.19	0.25	1.2	0.0	2d12/15 L=95	0.0	0.0	15,9
	s=16,m=1	150.0	0.23	22.0	19.2	0.08	0.07	0.18	0.6	0.0	2d12/30 L=110	0.0	0.0	3,9
		300.0	0.23	22.0	19.2	0.08	0.04	0.16	0.3	0.0	2d12/15 L=95	0.0	0.0	77,71
156	ok,ok	0.0	0.23	22.0	19.2	0.08	0.01	0.03	0.3	0.0	2d12/30 L=80	0.0	0.0	15,15
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	1.05e-03	1.38e-03	2.71e-04	0.0	2d12/30 L=80	0.0	0.0	58,74
157	ok,ok	0.0	0.23	22.0	19.2	0.08	0.02	0.06	0.6	0.0	2d12/30 L=80	0.0	0.0	15,78
	s=16,m=1	80.0	0.23	22.0	19.2	0.05	3.41e-03	1.04e-03	2.64e-04	0.0	2d12/30 L=80	0.0	0.0	74,55
158	ok,ok	0.0	0.23	22.0	19.2	0.08	0.02	0.04	0.4	0.0	2d12/30 L=80	0.0	0.0	15,15
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	2.52e-03	1.08e-03	1.90e-04	0.0	2d12/30 L=80	0.0	0.0	74,55
159	ok,ok	0.0	0.26	18.8	14.4	0.07	8.13e-03	0.02	0.2	0.0	2d12/30 L=80	0.0	0.0	27,15
	s=17,m=1	80.0	0.26	18.8	14.4	0.07	1.28e-03	1.08e-03	2.59e-04	0.0	2d12/30 L=80	0.0	0.0	74,55
160	ok,ok	0.0	0.23	22.0	19.2	0.05	2.78e-03	1.94e-03	3.08e-04	0.0	2d12/30 L=80	0.0	0.0	81,70
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	0.02	0.04	0.4	0.0	2d12/30 L=80	0.0	0.0	83,83
161	ok,ok	0.0	0.23	22.0	19.2	0.05	2.86e-03	1.93e-03	2.32e-04	0.0	2d12/30 L=80	0.0	0.0	81,70
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	0.02	0.05	0.5	0.0	2d12/30 L=80	0.0	0.0	83,9
162	ok,ok	0.0	0.26	18.8	14.4	0.04	1.59e-03	1.91e-03	1.03e-04	0.0	2d12/30 L=80	0.0	0.0	79,69
	s=17,m=1	80.0	0.26	18.8	14.4	0.07	0.02	0.04	0.4	0.0	2d12/30 L=80	0.0	0.0	9,9
163	ok,ok	0.0	0.26	18.8	14.4	0.07	1.53e-03	1.91e-03	2.20e-04	0.0	2d12/30 L=80	0.0	0.0	71,65
	s=17,m=1	80.0	0.26	18.8	14.4	0.07	0.02	0.04	0.4	0.0	2d12/30 L=80	0.0	0.0	33,9
164	ok,ok	0.0	0.26	18.8	14.4	0.07	1.60e-03	1.93e-03	4.28e-04	0.0	2d12/30 L=80	0.0	0.0	71,64
	s=17,m=1	80.0	0.26	18.8	14.4	0.07	0.02	0.05	0.4	0.0	2d12/30 L=80	0.0	0.0	33,9
165	ok,ok	0.0	0.23	22.0	19.2	0.08	2.33e-03	1.99e-03	8.50e-05	0.0	2d12/30 L=80	0.0	0.0	71,64
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	0.02	0.05	0.5	0.0	2d12/30 L=80	0.0	0.0	9,9
166	ok,ok	0.0	0.26	18.8	14.4	0.07	1.11e-03	2.00e-03	1.66e-04	0.0	2d12/30 L=80	0.0	0.0	71,64
	s=17,m=1	80.0	0.26	18.8	14.4	0.07	7.44e-03	0.02	0.2	0.0	2d12/30 L=80	0.0	0.0	9,9
167	ok,ok	0.0	0.23	22.0	19.2	0.05	2.12e-03	2.31e-03	4.62e-04	0.0	2d12/30 L=80	0.0	0.0	67,81
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	0.02	0.04	0.4	0.0	2d12/30 L=80	0.0	0.0	83,83
168	ok,ok	0.0	0.23	22.0	19.2	0.08	0.04	0.33	1.8	0.0	2d12/30 L=180	0.0	0.0	3,83

Trave	Note	Pos.	%Af	Af inf.	Af. sup	x/d	verif.	ver. V/T	Af V	Af T	Staffe	Scorr. P	Af long.	Rif. cmb
	s=16,m=1	180.0	0.23	22.0	19.2	0.08	0.43	0.43	2.7	0.0	2d12/30 L=180	0.0	0.0	83,83
169	ok,ok	0.0	0.23	22.0	19.2	0.08	0.34	0.13	0.8	0.0	2d12/15 L=95	0.0	0.0	79,83
	s=16,m=1	196.0	0.23	22.0	19.2	0.08	0.33	0.13	0.9	0.0	2d12/30 L=202	0.0	0.0	1,83
		392.0	0.23	22.0	19.2	0.08	0.53	0.20	1.6	0.0	2d12/15 L=95	0.0	0.0	67,15
170	ok,ok	0.0	0.23	22.0	19.2	0.08	0.51	0.28	1.5	0.0	2d12/15 L=95	0.0	0.0	7,82
	s=16,m=1	194.0	0.23	22.0	19.2	0.08	0.34	0.19	0.6	0.0	2d12/30 L=198	0.0	0.0	7,82
		388.0	0.23	22.0	19.2	0.08	0.33	0.20	0.5	0.0	2d12/15 L=95	0.0	0.0	7,79
171	ok,ok	0.0	0.23	22.0	19.2	0.08	0.54	0.32	2.9	0.0	2d12/15 L=95	0.0	0.0	67,27
	s=16,m=1	265.5	0.23	22.0	19.2	0.05	0.27	0.15	1.3	0.0	2d12/30 L=341	0.0	0.0	86,62
		531.0	0.23	22.0	19.2	0.08	0.26	0.19	1.5	0.0	2d12/15 L=95	0.0	0.0	70,59
172	ok,ok	0.0	0.23	22.0	19.2	0.05	0.26	0.19	0.5	0.0	2d12/15 L=95	0.0	0.0	15,74
	s=16,m=1	245.0	0.23	22.0	19.2	0.05	0.14	0.20	1.1	0.0	2d12/30 L=300	0.0	0.0	86,71
		490.0	0.23	22.0	19.2	0.08	0.35	0.31	2.4	0.0	2d12/15 L=95	0.0	0.0	68,74
173	ok,ok	0.0	0.23	22.0	19.2	0.08	0.32	0.31	2.0	0.0	2d12/15 L=95	0.0	0.0	33,78
	s=16,m=1	245.0	0.23	22.0	19.2	0.05	0.09	0.19	0.7	0.0	2d12/30 L=300	0.0	0.0	78,78
		490.0	0.23	22.0	19.2	0.08	0.13	0.18	1.0	0.0	2d12/15 L=95	0.0	0.0	66,76
174	ok,ok	0.0	0.23	22.0	19.2	0.08	0.16	0.26	0.7	0.0	2d12/15 L=95	0.0	0.0	78,75
	s=16,m=1	224.5	0.23	22.0	19.2	0.08	0.11	0.34	1.1	0.0	2d12/30 L=259	0.0	0.0	5,75
		449.0	0.23	22.0	19.2	0.08	0.47	0.44	2.4	0.0	2d12/15 L=95	0.0	0.0	5,71
175	ok,ok	0.0	0.23	22.0	19.2	0.08	0.46	0.17	1.5	0.0	2d12/15 L=95	0.0	0.0	7,33
	s=16,m=1	245.0	0.23	22.0	19.2	0.08	0.33	0.09	0.5	0.0	2d12/30 L=300	0.0	0.0	5,63
		490.0	0.23	22.0	19.2	0.08	0.55	0.20	1.7	0.0	2d12/15 L=95	0.0	0.0	5,63
176	ok,ok	0.0	0.23	22.0	19.2	0.08	0.59	0.34	2.2	0.0	2d12/15 L=95	0.0	0.0	5,74
	s=16,m=1	245.0	0.23	22.0	19.2	0.08	0.28	0.27	1.0	0.0	2d12/30 L=300	0.0	0.0	5,74
		490.0	0.23	22.0	19.2	0.08	0.27	0.25	0.8	0.0	2d12/15 L=95	0.0	0.0	71,74
177	ok,ok	0.0	0.23	22.0	19.2	0.08	0.43	0.27	1.9	0.0	2d12/30 L=180	0.0	0.0	75,74
	s=16,m=1	180.0	0.23	22.0	19.2	0.08	0.16	0.18	1.0	0.0	2d12/30 L=180	0.0	0.0	75,74
178	ok,ok	0.0	0.23	22.0	19.2	0.08	0.17	0.21	1.3	0.0	2d12/15 L=95	0.0	0.0	75,78
	s=16,m=1	150.0	0.23	22.0	19.2	0.08	0.04	0.15	0.7	0.0	2d12/30 L=110	0.0	0.0	66,78
		300.0	0.23	22.0	19.2	0.08	0.05	0.11	0.3	0.0	2d12/15 L=95	0.0	0.0	78,71
179	ok,ok	0.0	0.23	22.0	19.2	0.08	0.01	0.03	0.2	0.0	2d12/30 L=80	0.0	0.0	9,9
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	2.01e-03	1.20e-03	3.26e-04	0.0	2d12/30 L=80	0.0	0.0	65,71
180	ok,ok	0.0	0.23	22.0	19.2	0.08	0.08	0.16	1.3	0.0	2d12/15 L=95	0.0	0.0	21,21
	s=16,m=1	200.0	0.23	22.0	19.2	0.08	0.16	0.08	0.4	0.0	2d12/30 L=210	0.0	0.0	86,7
		400.0	0.23	22.0	19.2	0.08	0.17	0.09	0.5	0.0	2d12/15 L=95	0.0	0.0	86,21
181	ok,ok	0.0	0.23	22.0	19.2	0.08	0.28	0.10	0.8	0.0	2d12/15 L=95	0.0	0.0	79,84
	s=16,m=1	200.0	0.23	22.0	19.2	0.08	0.11	0.14	1.1	0.0	2d12/30 L=210	0.0	0.0	83,79
		400.0	0.23	22.0	19.2	0.08	0.22	0.17	1.5	0.0	2d12/15 L=95	0.0	0.0	79,79
182	ok,ok	0.0	0.23	22.0	19.2	0.08	0.25	0.16	1.2	0.0	2d12/15 L=95	0.0	0.0	71,15
	s=16,m=1	200.0	0.23	22.0	19.2	0.05	0.12	0.15	1.1	0.0	2d12/30 L=210	0.0	0.0	27,74
		400.0	0.23	22.0	19.2	0.08	0.25	0.17	1.0	0.0	2d12/15 L=95	0.0	0.0	74,71
183	ok,ok	0.0	0.26	18.8	14.4	0.07	0.06	0.13	0.5	0.0	2d12/15 L=96	0.0	0.0	74,74
	s=17,m=1	200.0	0.26	18.8	14.4	0.07	0.09	0.12	0.1	0.0	2d12/30 L=208	0.0	0.0	78,74
		400.0	0.26	18.8	14.4	0.04	0.06	0.12	0.2	0.0	2d12/15 L=96	0.0	0.0	78,74
184	ok,ok	0.0	0.23	22.0	19.2	0.05	1.81e-03	2.33e-03	2.42e-04	0.0	2d12/30 L=80	0.0	0.0	67,81
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	0.01	0.03	0.3	0.0	2d12/30 L=80	0.0	0.0	9,21
185	ok,ok	0.0	0.26	18.8	14.4	0.07	0.22	0.18	0.8	0.0	2d12/15 L=96	0.0	0.0	79,82
	s=17,m=1	400.0	0.26	18.8	14.4	0.04	0.24	0.14	0.5	0.0	2d12/30 L=608	0.0	0.0	9,82
		800.0	0.26	18.8	14.4	0.07	0.26	0.15	0.9	0.0	2d12/15 L=96	0.0	0.0	82,9
186	ok,ok	0.0	0.26	18.8	14.4	0.07	0.33	0.14	1.0	0.0	2d12/15 L=96	0.0	0.0	74,74
	s=17,m=1	400.0	0.26	18.8	14.4	0.04	0.28	0.10	0.7	0.0	2d12/30 L=608	0.0	0.0	9,74
		800.0	0.26	18.8	14.4	0.07	0.44	0.12	0.9	0.0	2d12/15 L=96	0.0	0.0	74,9
187	ok,ok	0.0	0.26	18.8	14.4	0.07	0.43	0.24	2.2	0.0	2d12/15 L=96	0.0	0.0	71,74
	s=17,m=1	400.0	0.26	18.8	14.4	0.04	0.60	0.09	0.8	0.0	2d12/30 L=608	0.0	0.0	9,74
		800.0	0.26	18.8	14.4	0.07	0.46	0.24	2.3	0.0	2d12/15 L=96	0.0	0.0	71,9
188	ok,ok	0.0	0.23	22.0	19.2	0.08	0.09	0.18	0.9	0.0	2d12/30 L=180	0.0	0.0	63,74
	s=16,m=1	180.0	0.23	22.0	19.2	0.08	0.05	0.12	0.3	0.0	2d12/30 L=180	0.0	0.0	70,74
189	ok,ok	0.0	0.23	22.0	19.2	0.08	0.05	0.15	0.7	0.0	2d12/15 L=95	0.0	0.0	70,74
	s=16,m=1	150.0	0.23	22.0	19.2	0.05	0.05	0.11	0.1	0.0	2d12/30 L=110	0.0	0.0	70,74
		300.0	0.23	22.0	19.2	0.08	8.60e-03	0.12	0.4	0.0	2d12/15 L=95	0.0	0.0	3,74
190	ok,ok	0.0	0.23	22.0	19.2	0.08	8.57e-03	0.02	0.2	0.0	2d12/30 L=80	0.0	0.0	9,27
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	1.62e-03	1.18e-03	1.07e-04	0.0	2d12/30 L=80	0.0	0.0	70,71
191	ok,ok	0.0	0.23	22.0	19.2	0.08	0.16	0.07	0.3	0.0	2d12/15 L=95	0.0	0.0	86,7
	s=16,m=1	200.0	0.23	22.0	19.2	0.08	0.09	0.11	0.7	0.0	2d12/30 L=210	0.0	0.0	79,67
		400.0	0.23	22.0	19.2	0.08	0.26	0.19	1.5	0.0	2d12/15 L=95	0.0	0.0	79,21
192	ok,ok	0.0	0.23	22.0	19.2	0.08	0.23	0.24	1.5	0.0	2d12/15 L=95	0.0	0.0	79,86

Trave	Note	Pos.	%Af	Af inf.	Af. sup	x/d	verif.	ver. V/T	Af V	Af T	Staffe	Scorr. P	Af long.	Rif. cmb
	s=16,m=1	200.0	0.23	22.0	19.2	0.08	0.05	0.23	1.3	0.0	2d12/30 L=210	0.0	0.0	86,86
		400.0	0.23	22.0	19.2	0.08	0.32	0.21	1.0	0.0	2d12/15 L=95	0.0	0.0	82,86
193	ok,ok	0.0	0.23	22.0	19.2	0.08	0.31	0.17	1.3	0.0	2d12/15 L=95	0.0	0.0	78,74
	s=16,m=1	200.0	0.23	22.0	19.2	0.05	0.13	0.16	1.1	0.0	2d12/30 L=210	0.0	0.0	27,71
		400.0	0.23	22.0	19.2	0.08	0.25	0.18	1.3	0.0	2d12/15 L=95	0.0	0.0	78,75
194	ok,ok	0.0	0.26	18.8	14.4	0.07	0.13	0.11	0.3	0.0	2d12/15 L=96	0.0	0.0	74,74
	s=17,m=1	200.0	0.26	18.8	14.4	0.07	0.04	0.10	0.3	0.0	2d12/30 L=208	0.0	0.0	74,74
		400.0	0.26	18.8	14.4	0.07	0.08	0.11	0.4	0.0	2d12/15 L=96	0.0	0.0	1,76
195	ok,ok	0.0	0.23	22.0	19.2	0.05	1.56e-03	2.31e-03	1.81e-04	0.0	2d12/30 L=80	0.0	0.0	67,81
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	0.01	0.03	0.3	0.0	2d12/30 L=80	0.0	0.0	15,15
196	ok,ok	0.0	0.23	22.0	19.2	0.05	0.47	0.60	3.5	0.0	2d12/30 L=180	0.0	0.0	84,79
	s=16,m=1	180.0	0.23	22.0	19.2	0.08	0.36	0.66	4.1	0.0	2d12/30 L=180	0.0	0.0	67,79
197	ok,ok	0.0	0.23	22.0	19.2	0.08	0.28	0.23	1.2	0.0	2d12/15 L=95	0.0	0.0	83,83
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.36	0.24	1.2	0.0	2d12/30 L=200	0.0	0.0	67,83
		390.0	0.23	22.0	19.2	0.08	0.63	0.30	1.9	0.0	2d12/15 L=95	0.0	0.0	67,21
198	ok,ok	0.0	0.23	22.0	19.2	0.08	0.53	0.24	1.2	0.0	2d12/15 L=95	0.0	0.0	67,79
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.42	0.19	0.3	0.0	2d12/30 L=200	0.0	0.0	67,79
		390.0	0.23	22.0	19.2	0.08	0.45	0.26	0.8	0.0	2d12/15 L=95	0.0	0.0	67,79
199	ok,ok	0.0	0.23	22.0	19.2	0.08	0.62	0.34	2.9	0.0	2d12/15 L=95	0.0	0.0	67,27
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.15	0.20	1.7	0.0	2d12/30 L=200	0.0	0.0	66,65
		390.0	0.23	22.0	19.2	0.05	0.19	0.17	1.0	0.0	2d12/15 L=95	0.0	0.0	27,63
200	ok,ok	0.0	0.23	22.0	19.2	0.05	0.19	0.16	1.0	0.0	2d12/30 L=141	0.0	0.0	27,67
	s=16,m=1	141.0	0.23	22.0	19.2	0.08	0.24	0.24	1.8	0.0	2d12/30 L=141	0.0	0.0	67,63
201	ok,ok	0.0	0.23	22.0	19.2	0.05	0.18	0.21	0.8	0.0	2d12/15 L=95	0.0	0.0	9,71
	s=16,m=1	245.0	0.23	22.0	19.2	0.05	0.12	0.28	1.0	0.0	2d12/30 L=300	0.0	0.0	27,71
		490.0	0.23	22.0	19.2	0.08	0.42	0.39	2.6	0.0	2d12/15 L=95	0.0	0.0	21,71
202	ok,ok	0.0	0.23	22.0	19.2	0.08	0.39	0.30	2.3	0.0	2d12/15 L=95	0.0	0.0	27,77
	s=16,m=1	245.0	0.23	22.0	19.2	0.05	0.06	0.20	0.8	0.0	2d12/30 L=300	0.0	0.0	77,77
		490.0	0.23	22.0	19.2	0.08	0.20	0.28	1.3	0.0	2d12/15 L=95	0.0	0.0	63,75
203	ok,ok	0.0	0.23	22.0	19.2	0.08	0.17	0.35	0.9	0.0	2d12/15 L=95	0.0	0.0	75,74
	s=16,m=1	219.5	0.23	22.0	19.2	0.08	0.12	0.30	1.0	0.0	2d12/30 L=249	0.0	0.0	77,74
		439.0	0.23	22.0	19.2	0.08	0.51	0.43	2.6	0.0	2d12/15 L=95	0.0	0.0	21,74
204	ok,ok	0.0	0.23	22.0	19.2	0.08	0.51	0.26	1.8	0.0	2d12/15 L=95	0.0	0.0	27,27
	s=16,m=1	250.0	0.23	22.0	19.2	0.08	0.30	0.09	0.6	0.0	2d12/30 L=310	0.0	0.0	77,64
		500.0	0.23	22.0	19.2	0.08	0.58	0.26	2.0	0.0	2d12/15 L=95	0.0	0.0	21,21
205	ok,ok	0.0	0.23	22.0	19.2	0.08	0.65	0.42	2.5	0.0	2d12/15 L=95	0.0	0.0	21,74
	s=16,m=1	245.0	0.23	22.0	19.2	0.08	0.31	0.35	1.0	0.0	2d12/30 L=300	0.0	0.0	77,74
		490.0	0.23	22.0	19.2	0.08	0.37	0.32	0.8	0.0	2d12/15 L=95	0.0	0.0	77,74
206	ok,ok	0.0	0.23	22.0	19.2	0.08	0.51	0.44	2.7	0.0	2d12/30 L=180	0.0	0.0	71,74
	s=16,m=1	180.0	0.23	22.0	19.2	0.08	0.09	0.35	1.9	0.0	2d12/30 L=180	0.0	0.0	78,74
207	ok,ok	0.0	0.23	22.0	19.2	0.08	0.09	0.37	2.0	0.0	2d12/15 L=95	0.0	0.0	66,74
	s=16,m=1	150.0	0.23	22.0	19.2	0.05	0.20	0.32	1.5	0.0	2d12/30 L=110	0.0	0.0	66,74
		300.0	0.23	22.0	19.2	0.05	0.41	0.29	1.2	0.0	2d12/15 L=95	0.0	0.0	74,74
208	ok,ok	0.0	0.23	22.0	19.2	0.08	7.77e-03	0.02	0.2	0.0	2d12/30 L=80	0.0	0.0	15,15
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	1.53e-03	1.23e-03	1.15e-04	0.0	2d12/30 L=80	0.0	0.0	70,71
209	ok,ok	0.0	0.23	22.0	19.2	0.08	0.31	1.00	2.4	0.0	2d12/30 L=170	0.0	0.0	79,15
	s=16,m=1	170.0	0.23	22.0	19.2	0.05	0.07	0.95	1.9	0.0	2d12/30 L=170	0.0	0.0	78,15
210	ok,ok	0.0	0.26	18.8	14.4	0.07	0.13	1.00	1.2	0.0	2d12/30 L=170	0.0	0.0	71,78
	s=17,m=1	170.0	0.26	18.8	14.4	0.07	0.10	1.00	1.0	0.0	2d12/30 L=170	0.0	0.0	74,74
211	ok,ok	0.0	0.23	22.0	19.2	0.08	1.32e-03	2.38e-03	7.16e-05	0.0	2d12/30 L=80	0.0	0.0	67,81
	s=16,m=1	80.0	0.23	22.0	19.2	0.08	0.01	0.03	0.2	0.0	2d12/30 L=80	0.0	0.0	83,79
212	ok,ok	0.0	0.23	22.0	19.2	0.08	0.46	0.20	1.4	0.0	2d12/30 L=180	0.0	0.0	85,15
	s=16,m=1	180.0	0.23	22.0	19.2	0.08	0.30	0.16	0.9	0.0	2d12/30 L=180	0.0	0.0	21,75
213	ok,ok	0.0	0.23	22.0	19.2	0.08	0.30	0.21	1.2	0.0	2d12/15 L=95	0.0	0.0	21,15
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.12	0.14	0.7	0.0	2d12/30 L=200	0.0	0.0	65,15
		390.0	0.23	22.0	19.2	0.08	0.07	0.12	0.3	0.0	2d12/15 L=95	0.0	0.0	77,75
214	ok,ok	0.0	0.23	22.0	19.2	0.08	0.07	0.13	0.7	0.0	2d12/15 L=95	0.0	0.0	77,15
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.12	0.08	0.2	0.0	2d12/30 L=200	0.0	0.0	86,71
		390.0	0.23	22.0	19.2	0.08	0.13	0.09	0.3	0.0	2d12/15 L=95	0.0	0.0	82,15
215	ok,ok	0.0	0.23	22.0	19.2	0.08	0.11	0.09	0.4	0.0	2d12/15 L=95	0.0	0.0	86,15
	s=16,m=1	195.0	0.23	22.0	19.2	0.05	0.11	0.06	8.33e-02	0.0	2d12/30 L=200	0.0	0.0	86,75
		390.0	0.23	22.0	19.2	0.05	0.08	0.09	0.4	0.0	2d12/15 L=95	0.0	0.0	86,15
216	ok,ok	0.0	0.23	22.0	19.2	0.05	0.08	0.06	0.3	0.0	2d12/15 L=95	0.0	0.0	86,15
	s=16,m=1	195.0	0.23	22.0	19.2	0.05	0.07	0.05	0.1	0.0	2d12/30 L=200	0.0	0.0	86,79
		390.0	0.23	22.0	19.2	0.08	0.06	0.08	0.4	0.0	2d12/15 L=95	0.0	0.0	78,15
217	ok,ok	0.0	0.23	22.0	19.2	0.08	0.06	0.05	0.3	0.0	2d12/15 L=95	0.0	0.0	78,15

Trave	Note	Pos.	%Af	Af inf.	Af. sup	x/d	verif.	ver. V/T	Af V	Af T	Staffe	Scorr. P	Af long.	Rif. cmb
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.05	0.04	5.68e-02	0.0	2d12/30 L=200	0.0	0.0	74,79
		390.0	0.23	22.0	19.2	0.08	0.04	0.06	0.4	0.0	2d12/15 L=95	0.0	0.0	77,15
218	ok,ok	0.0	0.23	22.0	19.2	0.08	0.04	0.04	0.3	0.0	2d12/15 L=95	0.0	0.0	71,9
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.03	0.03	2.83e-02	0.0	2d12/30 L=200	0.0	0.0	74,79
		390.0	0.23	22.0	19.2	0.08	0.03	0.04	0.3	0.0	2d12/15 L=95	0.0	0.0	71,15
219	ok,ok	0.0	0.23	22.0	19.2	0.08	0.04	0.05	0.4	0.0	2d12/15 L=95	0.0	0.0	71,82
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.03	0.03	2.89e-02	0.0	2d12/30 L=200	0.0	0.0	27,82
		390.0	0.23	22.0	19.2	0.08	0.04	0.04	0.3	0.0	2d12/15 L=95	0.0	0.0	71,15
220	ok,ok	0.0	0.23	22.0	19.2	0.08	0.04	0.07	0.4	0.0	2d12/15 L=95	0.0	0.0	75,15
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.05	0.05	3.07e-02	0.0	2d12/30 L=200	0.0	0.0	27,82
		390.0	0.23	22.0	19.2	0.08	0.05	0.06	0.4	0.0	2d12/15 L=95	0.0	0.0	75,15
221	ok,ok	0.0	0.23	22.0	19.2	0.08	0.05	0.08	0.4	0.0	2d12/15 L=95	0.0	0.0	75,15
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.05	0.07	8.83e-02	0.0	2d12/30 L=200	0.0	0.0	75,74
		390.0	0.23	22.0	19.2	0.08	0.08	0.09	0.5	0.0	2d12/15 L=95	0.0	0.0	63,15
222	ok,ok	0.0	0.23	22.0	19.2	0.08	0.09	0.09	0.2	0.0	2d12/15 L=95	0.0	0.0	63,76
	s=16,m=1	195.0	0.23	22.0	19.2	0.08	0.12	0.10	0.3	0.0	2d12/30 L=200	0.0	0.0	67,76
		390.0	0.23	22.0	19.2	0.08	0.18	0.14	0.8	0.0	2d12/15 L=95	0.0	0.0	63,15
223	ok,ok	0.0	0.23	22.0	19.2	0.08	0.19	0.12	0.4	0.0	2d12/15 L=95	0.0	0.0	63,74
	s=16,m=1	150.0	0.23	22.0	19.2	0.08	0.26	0.13	0.7	0.0	2d12/30 L=110	0.0	0.0	75,15
		300.0	0.23	22.0	19.2	0.08	0.38	0.17	1.0	0.0	2d12/15 L=95	0.0	0.0	71,15
224	ok,ok	0.0	0.23	22.0	19.2	0.08	8.50e-03	0.02	0.2	0.0	2d12/30 L=80	0.0	0.0	15,15
	s=16,m=1	80.0	0.23	22.0	19.2	0.05	1.25e-03	1.38e-03	1.03e-04	0.0	2d12/30 L=80	0.0	0.0	70,71
225	ok,ok	0.0	0.23	22.0	19.2	0.08	9.88e-03	0.03	0.3	0.0	2d12/30 L=80	0.0	0.0	15,82
	s=16,m=1	80.0	0.23	22.0	19.2	0.05	2.35e-03	1.08e-03	3.89e-04	0.0	2d12/30 L=80	0.0	0.0	80,70
226	ok,ok	0.0	0.26	18.8	14.4	0.07	5.23e-03	0.01	0.1	0.0	2d12/30 L=80	0.0	0.0	15,15
	s=17,m=1	80.0	0.26	18.8	14.4	0.07	9.44e-04	9.82e-04	9.35e-05	0.0	2d12/30 L=80	0.0	0.0	74,67
Trave			**%Af**	**Af inf.**	**Af. sup**	**x/d**	**verif.**	**ver. V/T**	**Af V**	**Af T**		**Scorr. P**	**Af long.**	
			0.26	21.99	19.20	0.08	0.70	1.00	4.14	0.0		0.0	0.0	

Verifiche SLE

Trave	Pos.	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb	dR	dF	dP	Rif. cmb
	cm					mm	mm	mm		cm	cm	cm	
81	0.0	3.59e-05	2.34e-05	2.66e-05	151,151,179	0.0	0.0	0.0	0,0,0	0.04	0.03	0.03	158,175,179
	80.0	5.30e-03	7.98e-03	4.32e-03	155,155,179	0.0	0.0	0.0	0,0,0				
82	0.0	1.55e-05	8.98e-05	6.21e-06	151,159,179	0.0	0.0	0.0	0,0,0	0.03	0.02	9.69e-03	158,173,179
	80.0	2.45e-03	4.02e-03	6.81e-04	155,155,179	0.0	0.0	0.0	0,0,0				
83	0.0	1.55e-05	5.00e-05	7.13e-06	162,154,179	0.0	0.0	0.0	0,0,0	0.03	0.03	0.02	158,173,179
	80.0	5.35e-03	8.32e-03	4.38e-03	155,155,179	0.0	0.0	0.0	0,0,0				
84	0.0	0.26	0.41	0.31	155,161,179	0.0	0.0	0.0	0,0,0	0.03	0.02	0.02	158,173,179
	180.0	0.17	0.27	0.19	155,161,179	0.0	0.0	0.0	0,0,0				
85	0.0	0.17	0.27	0.19	155,161,179	0.0	0.0	0.0	0,0,0	0.08	0.07	0.07	151,169,179
	195.0	0.07	0.11	0.08	158,158,179	0.0	0.0	0.0	0,0,0				
	390.0	0.02	0.04	0.02	158,158,179	0.0	0.0	0.0	0,0,0				
86	0.0	0.02	0.04	0.02	158,158,179	0.0	0.0	0.0	0,0,0	0.11	0.10	0.10	155,169,179
	195.0	0.01	0.05	0.01	156,162,179	0.0	0.0	0.0	0,0,0				
	390.0	0.01	0.06	0.01	151,153,179	0.0	0.0	0.0	0,0,0				
87	0.0	0.01	0.06	0.01	151,153,179	0.0	0.0	0.0	0,0,0	0.07	0.06	0.06	155,173,179
	195.0	0.02	0.07	0.02	155,155,179	0.0	0.0	0.0	0,0,0				
	390.0	0.01	0.05	0.01	151,153,179	0.0	0.0	0.0	0,0,0				
88	0.0	0.01	0.05	0.01	151,153,179	0.0	0.0	0.0	0,0,0	0.03	0.03	0.03	158,173,179
	195.0	0.01	0.05	0.01	155,155,179	0.0	0.0	0.0	0,0,0				
	390.0	4.58e-03	0.03	3.10e-03	154,153,179	0.0	0.0	0.0	0,0,0				
89	0.0	4.28e-03	0.03	2.94e-03	151,153,179	0.0	0.0	0.0	0,0,0	9.58e-03	7.10e-03	6.68e-03	159,175,179
	195.0	6.68e-03	0.02	5.48e-03	155,155,179	0.0	0.0	0.0	0,0,0				
	390.0	9.42e-03	0.02	0.0	161,161,0	0.0	0.0	0.0	0,0,0				
90	0.0	9.75e-03	0.02	7.44e-04	164,161,179	0.0	0.0	0.0	0,0,0	3.49e-03	1.22e-03	9.74e-04	151,169,179
	195.0	4.83e-03	0.02	2.77e-03	155,155,179	0.0	0.0	0.0	0,0,0				
	390.0	7.69e-03	0.01	0.0	155,161,0	0.0	0.0	0.0	0,0,0				
91	0.0	7.96e-03	0.01	0.0	155,155,0	0.0	0.0	0.0	0,0,0	9.94e-03	8.14e-03	7.68e-03	151,169,179
	195.0	7.62e-03	0.03	5.02e-03	158,158,179	0.0	0.0	0.0	0,0,0				
	390.0	1.98e-03	0.02	1.59e-03	152,152,179	0.0	0.0	0.0	0,0,0				
92	0.0	1.81e-03	0.02	1.44e-03	152,152,179	0.0	0.0	0.0	0,0,0	0.03	0.02	0.02	155,173,179

Trave	Pos.	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb	dR	dF	dP	Rif. cmb
	195.0	0.01	0.04	8.14e-03	158,164,179	0.0	0.0	0.0	0,0,0				
	390.0	4.75e-03	0.02	3.29e-03	158,154,179	0.0	0.0	0.0	0,0,0				
93	0.0	4.75e-03	0.02	3.18e-03	158,152,179	0.0	0.0	0.0	0,0,0	0.06	0.04	0.04	164,173,179
	195.0	0.01	0.04	5.02e-03	164,164,179	0.0	0.0	0.0	0,0,0				
	390.0	0.01	0.03	0.01	153,151,179	0.0	0.0	0.0	0,0,0				
94	0.0	0.01	0.03	0.01	153,151,179	0.0	0.0	0.0	0,0,0	0.06	0.03	0.03	164,173,179
	195.0	0.03	0.06	0.03	153,154,179	0.0	0.0	0.0	0,0,0				
	390.0	0.07	0.11	0.08	167,151,179	0.0	0.0	0.0	0,0,0				
95	0.0	0.07	0.11	0.08	167,154,179	0.0	0.0	0.0	0,0,0	0.06	0.04	0.04	153,171,179
	150.0	0.10	0.17	0.12	151,151,179	0.0	0.0	0.0	0,0,0				
	300.0	0.15	0.24	0.18	155,155,179	0.0	0.0	0.0	0,0,0				
96	0.0	4.38e-03	6.89e-03	2.15e-03	155,155,179	0.0	0.0	0.0	0,0,0	0.02	0.02	0.02	153,171,179
	80.0	1.11e-05	1.59e-04	1.41e-06	154,162,179	0.0	0.0	0.0	0,0,0				
97	0.0	0.01	0.03	0.01	155,155,179	0.0	0.0	0.0	0,0,0	0.08	0.06	0.06	159,175,179
	170.0	0.16	0.24	0.18	155,155,179	0.0	0.0	0.0	0,0,0				
98	0.0	0.01	0.04	0.01	156,151,179	0.0	0.0	0.0	0,0,0	0.05	0.04	0.04	158,173,179
	170.0	0.05	0.08	0.05	158,158,179	0.0	0.0	0.0	0,0,0				
99	0.0	2.11e-05	3.32e-05	1.17e-05	153,166,179	0.0	0.0	0.0	0,0,0	0.12	0.11	0.11	164,173,179
	80.0	5.40e-03	8.36e-03	4.42e-03	155,155,179	0.0	0.0	0.0	0,0,0				
100	0.0	0.13	0.44	0.15	161,155,179	0.12	0.12	0.12	155,173,179	0.37	0.31	0.30	164,173,179
	180.0	0.09	0.13	0.10	156,156,179	0.0	0.0	0.0	0,0,0				
101	0.0	0.03	0.05	0.03	157,151,179	0.0	0.0	0.0	0,0,0	0.60	0.55	0.54	164,173,179
	195.0	0.12	0.19	0.15	151,154,179	0.0	0.0	0.0	0,0,0				
	390.0	0.30	0.46	0.34	161,164,179	0.0	0.0	0.0	0,0,0				
102	0.0	0.23	0.39	0.26	164,164,179	0.0	0.0	0.0	0,0,0	0.37	0.33	0.32	158,173,179
	195.0	0.11	0.20	0.14	167,154,179	0.0	0.0	0.0	0,0,0				
	390.0	0.12	0.21	0.14	161,167,179	0.0	0.0	0.0	0,0,0				
103	0.0	0.09	0.17	0.10	154,154,179	0.0	0.0	0.0	0,0,0	0.23	0.20	0.19	158,173,179
	195.0	0.06	0.14	0.08	152,154,179	0.0	0.0	0.0	0,0,0				
	390.0	0.20	0.35	0.21	161,158,179	0.0	0.0	0.0	0,0,0				
104	0.0	0.19	0.34	0.20	164,164,179	0.0	0.0	0.0	0,0,0	0.07	0.06	0.06	164,173,179
	242.5	0.06	0.14	0.07	158,158,179	0.0	0.0	0.0	0,0,0				
	485.0	0.22	0.37	0.22	161,161,179	0.0	0.0	0.0	0,0,0				
105	0.0	0.24	0.40	0.25	164,158,179	0.0	0.0	0.0	0,0,0	0.20	0.16	0.16	158,173,179
	247.5	0.05	0.11	0.06	158,153,179	0.0	0.0	0.0	0,0,0				
	495.0	0.15	0.26	0.16	161,161,179	0.0	0.0	0.0	0,0,0				
106	0.0	0.21	0.33	0.22	164,164,179	0.0	0.0	0.0	0,0,0	0.34	0.29	0.28	158,173,179
	385.0	0.08	0.29	0.08	164,161,179	0.0	0.0	0.0	0,0,0				
	770.0	0.23	0.38	0.26	161,161,179	0.0	0.0	0.0	0,0,0				
107	0.0	0.27	0.41	0.29	155,155,179	0.0	0.0	0.0	0,0,0	0.60	0.57	0.56	153,171,179
	400.0	0.08	0.14	0.08	151,153,179	0.0	0.0	0.0	0,0,0				
	800.0	0.20	0.31	0.24	155,151,179	0.0	0.0	0.0	0,0,0				
108	0.0	0.21	0.32	0.25	155,155,179	0.0	0.0	0.0	0,0,0	0.24	0.22	0.22	151,169,179
	180.0	0.06	0.07	0.05	155,161,179	0.0	0.0	0.0	0,0,0				
109	0.0	0.06	0.07	0.05	155,155,179	0.0	0.0	0.0	0,0,0	0.41	0.38	0.38	151,169,179
	150.0	0.03	0.10	0.04	164,161,179	0.0	0.0	0.0	0,0,0				
	300.0	0.07	0.22	0.08	155,155,179	0.0	0.0	0.0	0,0,0				
110	0.0	4.35e-03	6.79e-03	2.05e-03	155,155,179	0.0	0.0	0.0	0,0,0	0.05	0.09	0.09	151,169,179
	80.0	1.50e-05	1.28e-04	5.80e-06	154,162,179	0.0	0.0	0.0	0,0,0				
111	0.0	0.13	0.21	0.16	161,161,179	0.0	0.0	0.0	0,0,0	0.13	0.09	0.08	159,175,179
	200.0	0.02	0.03	0.02	151,151,179	0.0	0.0	0.0	0,0,0				
	400.0	0.02	0.09	0.03	152,152,179	0.0	0.0	0.0	0,0,0				
112	0.0	0.03	0.10	0.03	151,151,179	0.0	0.0	0.0	0,0,0	0.14	0.11	0.10	152,170,179
	200.0	0.01	0.03	4.15e-03	155,161,179	0.0	0.0	0.0	0,0,0				
	400.0	0.07	0.09	0.08	157,157,179	0.0	0.0	0.0	0,0,0				
113	0.0	0.05	0.18	0.05	151,155,179	0.0	0.0	0.0	0,0,0	0.20	0.15	0.14	152,170,179
	200.0	0.06	0.11	0.06	152,152,179	0.0	0.0	0.0	0,0,0				
	400.0	0.34	0.55	0.38	167,167,179	0.0	0.0	0.0	0,0,0				
114	0.0	0.03	0.10	0.03	156,155,179	0.0	0.0	0.0	0,0,0	0.15	0.13	0.13	152,170,179
	200.0	0.03	0.06	0.03	152,152,179	0.0	0.0	0.0	0,0,0				
	400.0	0.15	0.25	0.17	161,161,179	0.0	0.0	0.0	0,0,0				
115	0.0	0.06	0.09	0.07	158,152,179	0.0	0.0	0.0	0,0,0	0.09	0.06	0.06	158,173,179
	200.0	0.03	0.05	0.03	152,152,179	0.0	0.0	0.0	0,0,0				
	400.0	0.02	0.03	8.81e-03	158,158,179	0.0	0.0	0.0	0,0,0				
116	0.0	2.59e-05	1.33e-04	1.47e-05	153,165,179	0.0	0.0	0.0	0,0,0	0.12	0.12	0.11	154,172,179
	80.0	6.37e-03	9.84e-03	5.35e-03	161,161,179	0.0	0.0	0.0	0,0,0				

Trave	Pos.	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb	dR	dF	dP	Rif. cmb
117	0.0	0.06	0.10	0.04	159,159,179	0.0	0.0	0.0	0,0,0	0.35	0.13	0.13	155,173,179
	400.0	0.14	0.48	0.15	158,158,179	0.12	0.0	0.0	158,0,0				
	800.0	0.07	0.11	0.06	151,151,179	0.0	0.0	0.0	0,0,0				
118	0.0	0.03	0.07	0.01	158,158,179	0.0	0.0	0.0	0,0,0	0.22	0.09	0.08	155,173,179
	400.0	0.08	0.31	0.08	164,158,179	0.0	0.0	0.0	0,0,0				
	800.0	0.02	0.05	0.0	151,151,0	0.0	0.0	0.0	0,0,0				
119	0.0	0.08	0.12	0.10	154,154,179	0.0	0.0	0.0	0,0,0	0.28	0.25	0.25	153,171,179
	180.0	0.03	0.04	0.01	164,164,179	0.0	0.0	0.0	0,0,0				
120	0.0	0.03	0.04	0.02	164,164,179	0.0	0.0	0.0	0,0,0	0.46	0.43	0.42	153,171,179
	150.0	8.61e-03	0.03	9.79e-03	161,153,179	0.0	0.0	0.0	0,0,0				
	300.0	6.13e-03	0.02	7.00e-03	152,152,179	0.0	0.0	0.0	0,0,0				
121	0.0	5.00e-03	7.78e-03	2.56e-03	164,155,179	0.0	0.0	0.0	0,0,0	0.07	0.11	0.11	153,171,179
	80.0	1.86e-05	1.37e-04	8.21e-06	154,162,179	0.0	0.0	0.0	0,0,0				
122	0.0	0.02	0.08	0.03	152,152,179	0.0	0.0	0.0	0,0,0	0.17	0.12	0.11	159,175,179
	200.0	0.02	0.08	0.03	158,158,179	0.0	0.0	0.0	0,0,0				
	400.0	0.04	0.06	0.04	155,161,179	0.0	0.0	0.0	0,0,0				
123	0.0	0.04	0.06	0.04	160,160,179	0.0	0.0	0.0	0,0,0	0.12	0.09	0.08	159,170,179
	200.0	9.25e-03	0.03	1.19e-03	158,158,179	0.0	0.0	0.0	0,0,0				
	400.0	0.02	0.03	3.98e-04	156,156,179	0.0	0.0	0.0	0,0,0				
124	0.0	0.34	0.55	0.36	158,158,179	0.0	0.0	0.0	0,0,0	0.11	0.06	0.05	155,173,179
	200.0	0.06	0.12	0.07	152,152,179	0.0	0.0	0.0	0,0,0				
	400.0	0.04	0.15	0.04	159,159,179	0.0	0.0	0.0	0,0,0				
125	0.0	0.13	0.22	0.13	158,158,179	0.0	0.0	0.0	0,0,0	0.05	0.04	0.04	152,170,179
	200.0	0.05	0.09	0.05	152,152,179	0.0	0.0	0.0	0,0,0				
	400.0	0.04	0.08	0.04	155,155,179	0.0	0.0	0.0	0,0,0				
126	0.0	0.03	0.05	0.02	158,158,179	0.0	0.0	0.0	0,0,0	0.05	0.03	0.03	158,173,179
	200.0	0.02	0.04	0.02	152,152,179	0.0	0.0	0.0	0,0,0				
	400.0	0.06	0.09	0.05	155,164,179	0.0	0.0	0.0	0,0,0				
127	0.0	2.66e-05	1.55e-04	9.38e-06	153,165,179	0.0	0.0	0.0	0,0,0	0.13	0.12	0.12	154,172,179
	80.0	7.86e-03	0.01	6.71e-03	158,158,179	0.0	0.0	0.0	0,0,0				
128	0.0	9.00e-03	0.03	5.23e-03	153,151,179	0.0	0.0	0.0	0,0,0	0.30	0.27	0.26	154,172,179
	180.0	0.15	0.24	0.17	152,152,179	0.0	0.0	0.0	0,0,0				
129	0.0	0.10	0.18	0.12	152,152,179	0.0	0.0	0.0	0,0,0	0.52	0.47	0.46	154,172,179
	195.0	0.15	0.25	0.18	152,152,179	0.0	0.0	0.0	0,0,0				
	390.0	0.26	0.43	0.32	153,151,179	0.0	0.0	0.0	0,0,0				
130	0.0	0.22	0.38	0.27	154,154,179	0.0	0.0	0.0	0,0,0	0.28	0.25	0.24	151,169,179
	195.0	0.10	0.19	0.10	154,154,179	0.0	0.0	0.0	0,0,0				
	390.0	0.08	0.16	0.08	153,153,179	0.0	0.0	0.0	0,0,0				
131	0.0	0.06	0.14	0.06	154,154,179	0.0	0.0	0.0	0,0,0	0.18	0.16	0.16	151,169,179
	195.0	0.05	0.12	0.05	151,151,179	0.0	0.0	0.0	0,0,0				
	390.0	0.17	0.31	0.21	167,153,179	0.0	0.0	0.0	0,0,0				
132	0.0	0.17	0.30	0.20	164,154,179	0.0	0.0	0.0	0,0,0	0.04	0.03	0.03	151,169,179
	242.5	0.06	0.15	0.07	151,153,179	0.0	0.0	0.0	0,0,0				
	485.0	0.20	0.34	0.23	161,161,179	0.0	0.0	0.0	0,0,0				
133	0.0	0.23	0.37	0.26	164,167,179	0.0	0.0	0.0	0,0,0	0.20	0.18	0.18	161,173,179
	247.5	0.02	0.08	0.03	154,153,179	0.0	0.0	0.0	0,0,0				
	495.0	0.06	0.13	0.07	159,153,179	0.0	0.0	0.0	0,0,0				
134	0.0	0.11	0.18	0.13	154,152,179	0.0	0.0	0.0	0,0,0	0.16	0.14	0.14	154,172,179
	385.0	0.09	0.30	0.10	164,161,179	0.0	0.0	0.0	0,0,0				
	770.0	0.27	0.43	0.32	161,153,179	0.0	0.0	0.0	0,0,0				
135	0.0	0.28	0.45	0.33	167,153,179	0.0	0.0	0.0	0,0,0	0.58	0.51	0.49	152,170,179
	400.0	0.07	0.15	0.08	153,153,179	0.0	0.0	0.0	0,0,0				
	800.0	0.28	0.48	0.34	161,153,179	0.0	0.0	0.0	0,0,0				
136	0.0	0.25	0.39	0.31	167,153,179	0.0	0.0	0.0	0,0,0	0.26	0.24	0.23	153,171,179
	180.0	0.13	0.19	0.14	164,161,179	0.0	0.0	0.0	0,0,0				
137	0.0	0.13	0.19	0.14	164,158,179	0.0	0.0	0.0	0,0,0	0.50	0.45	0.44	153,171,179
	150.0	0.03	0.05	0.04	167,153,179	0.0	0.0	0.0	0,0,0				
	300.0	0.01	0.04	0.01	167,153,179	0.0	0.0	0.0	0,0,0				
138	0.0	5.41e-03	8.42e-03	2.81e-03	164,158,179	0.0	0.0	0.0	0,0,0	0.07	0.12	0.12	153,171,179
	80.0	1.87e-05	1.51e-04	8.39e-06	154,162,179	0.0	0.0	0.0	0,0,0				
139	0.0	8.78e-03	0.01	7.89e-03	158,158,179	0.0	0.0	0.0	0,0,0	0.04	0.03	0.03	159,175,179
	80.0	0.0	4.91e-04	0.0	0,151,0	0.0	0.0	0.0	0,0,0				
140	0.0	0.01	0.02	0.01	158,158,179	0.0	0.0	0.0	0,0,0	0.03	0.02	0.02	159,175,179
	80.0	0.0	5.06e-04	0.0	0,151,0	0.0	0.0	0.0	0,0,0				
141	0.0	0.01	0.02	0.01	158,158,179	0.0	0.0	0.0	0,0,0	0.05	0.04	0.04	152,170,179
	80.0	4.08e-06	1.88e-04	0.0	160,151,0	0.0	0.0	0.0	0,0,0				

Trave	Pos.	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb	dR	dF	dP	Rif. cmb
142	0.0	0.01	0.02	0.01	158,167,179	0.0	0.0	0.0	0,0,0	0.03	0.02	0.02	152,170,179
	80.0	1.41e-05	1.48e-04	2.48e-06	159,151,179	0.0	0.0	0.0	0,0,0				
143	0.0	0.02	0.09	0.02	157,157,179	0.0	0.0	0.0	0,0,0	0.12	0.07	0.06	155,173,179
	230.0	4.63e-03	0.04	0.0	159,159,0	0.0	0.0	0.0	0,0,0				
	460.0	0.18	0.30	0.20	155,155,179	0.0	0.0	0.0	0,0,0				
144	0.0	0.02	0.06	0.01	158,158,179	0.0	0.0	0.0	0,0,0	0.03	0.02	0.02	151,169,179
	230.0	0.05	0.10	0.06	151,151,179	0.0	0.0	0.0	0,0,0				
	460.0	0.19	0.31	0.19	155,155,179	0.0	0.0	0.0	0,0,0				
145	0.0	0.05	0.09	0.05	158,158,179	0.0	0.0	0.0	0,0,0	0.03	0.02	0.02	151,169,179
	230.0	0.02	0.03	0.01	151,151,179	0.0	0.0	0.0	0,0,0				
	460.0	0.02	0.03	1.90e-03	155,155,179	0.0	0.0	0.0	0,0,0				
146	0.0	0.09	0.14	0.11	167,154,179	0.0	0.0	0.0	0,0,0	0.28	0.25	0.25	153,171,179
	180.0	0.04	0.06	0.02	164,164,179	0.0	0.0	0.0	0,0,0				
147	0.0	0.05	0.06	0.03	164,164,179	0.0	0.0	0.0	0,0,0	0.48	0.43	0.42	153,171,179
	150.0	6.70e-03	0.02	7.62e-03	162,153,179	0.0	0.0	0.0	0,0,0				
	300.0	6.00e-03	0.02	6.86e-03	155,151,179	0.0	0.0	0.0	0,0,0				
148	0.0	5.56e-03	8.75e-03	2.70e-03	164,164,179	0.0	0.0	0.0	0,0,0	0.07	0.11	0.11	153,171,179
	80.0	2.37e-05	1.65e-04	1.19e-05	154,162,179	0.0	0.0	0.0	0,0,0				
149	0.0	0.18	0.30	0.21	167,167,179	0.0	0.0	0.0	0,0,0	0.25	0.18	0.17	155,173,179
	230.0	0.02	0.05	0.01	151,151,179	0.0	0.0	0.0	0,0,0				
	460.0	0.01	0.06	5.45e-03	159,158,179	0.0	0.0	0.0	0,0,0				
150	0.0	0.20	0.34	0.21	161,161,179	0.0	0.0	0.0	0,0,0	0.22	0.18	0.18	155,173,179
	230.0	0.04	0.08	0.04	151,151,179	0.0	0.0	0.0	0,0,0				
	460.0	0.03	0.11	0.03	152,158,179	0.0	0.0	0.0	0,0,0				
151	0.0	9.69e-03	0.04	9.29e-03	152,152,179	0.0	0.0	0.0	0,0,0	0.05	0.02	0.02	151,169,179
	230.0	1.00e-02	0.03	1.13e-03	158,158,179	0.0	0.0	0.0	0,0,0				
	460.0	0.04	0.07	0.04	155,155,179	0.0	0.0	0.0	0,0,0				
152	0.0	1.34e-05	2.97e-04	0.0	161,154,0	0.0	0.0	0.0	0,0,0	0.05	0.04	0.04	153,171,179
	80.0	0.01	0.02	0.02	158,158,179	0.0	0.0	0.0	0,0,0				
153	0.0	0.05	0.08	0.05	154,154,179	0.0	0.0	0.0	0,0,0	0.60	0.49	0.46	152,170,179
	400.0	0.02	0.06	3.12e-03	151,158,179	0.0	0.0	0.0	0,0,0				
	800.0	0.20	0.32	0.25	167,152,179	0.0	0.0	0.0	0,0,0				
154	0.0	0.19	0.30	0.23	152,152,179	0.0	0.0	0.0	0,0,0	0.21	0.18	0.17	152,170,179
	180.0	0.11	0.16	0.11	158,158,179	0.0	0.0	0.0	0,0,0				
155	0.0	0.11	0.16	0.12	158,158,179	0.0	0.0	0.0	0,0,0	0.41	0.35	0.34	152,170,179
	150.0	0.04	0.06	0.05	167,152,179	0.0	0.0	0.0	0,0,0				
	300.0	0.02	0.02	0.02	155,161,179	0.0	0.0	0.0	0,0,0				
156	0.0	5.87e-03	9.28e-03	2.61e-03	158,158,179	0.0	0.0	0.0	0,0,0	0.06	0.10	0.09	152,170,179
	80.0	2.33e-05	1.93e-04	1.37e-05	154,161,179	0.0	0.0	0.0	0,0,0				
157	0.0	0.01	0.02	0.01	158,158,179	0.0	0.0	0.0	0,0,0	0.04	0.03	0.03	155,173,179
	80.0	2.27e-05	3.48e-04	0.0	159,151,0	0.0	0.0	0.0	0,0,0				
158	0.0	9.60e-03	0.01	9.28e-03	158,158,179	0.0	0.0	0.0	0,0,0	0.04	0.03	0.03	155,169,179
	80.0	1.35e-05	2.44e-04	0.0	159,151,0	0.0	0.0	0.0	0,0,0				
159	0.0	3.89e-03	6.42e-03	1.49e-03	158,164,179	0.0	0.0	0.0	0,0,0	5.90e-03	6.05e-03	4.78e-03	151,169,179
	80.0	1.11e-05	1.67e-04	0.0	159,151,0	0.0	0.0	0.0	0,0,0				
160	0.0	5.36e-06	3.92e-04	0.0	156,152,0	0.0	0.0	0.0	0,0,0	0.04	0.03	0.03	156,174,179
	80.0	9.25e-03	0.01	8.34e-03	155,155,179	0.0	0.0	0.0	0,0,0				
161	0.0	4.07e-06	4.01e-04	0.0	156,152,0	0.0	0.0	0.0	0,0,0	0.03	0.02	0.02	156,174,179
	80.0	0.01	0.02	0.01	155,155,179	0.0	0.0	0.0	0,0,0				
162	0.0	3.70e-06	2.02e-04	0.0	156,152,0	0.0	0.0	0.0	0,0,0	0.02	0.02	0.01	151,169,179
	80.0	9.69e-03	0.02	0.01	155,155,179	0.0	0.0	0.0	0,0,0				
163	0.0	5.45e-06	2.00e-04	0.0	157,152,0	0.0	0.0	0.0	0,0,0	0.02	0.01	9.45e-03	151,169,179
	80.0	9.26e-03	0.02	0.01	155,167,179	0.0	0.0	0.0	0,0,0				
164	0.0	9.43e-06	1.83e-04	0.0	156,152,0	0.0	0.0	0.0	0,0,0	0.04	0.03	0.03	151,169,179
	80.0	0.01	0.02	0.01	155,155,179	0.0	0.0	0.0	0,0,0				
165	0.0	6.99e-06	3.26e-04	0.0	156,152,0	0.0	0.0	0.0	0,0,0	0.02	0.01	9.47e-03	156,169,179
	80.0	0.01	0.02	0.01	155,155,179	0.0	0.0	0.0	0,0,0				
166	0.0	7.30e-06	1.99e-04	0.0	156,152,0	0.0	0.0	0.0	0,0,0	0.02	9.30e-03	7.81e-03	155,174,179
	80.0	3.57e-03	5.89e-03	1.41e-03	155,155,179	0.0	0.0	0.0	0,0,0				
167	0.0	2.50e-05	1.38e-04	1.07e-05	153,165,179	0.0	0.0	0.0	0,0,0	0.12	0.11	0.11	154,172,179
	80.0	8.40e-03	0.01	7.25e-03	155,155,179	0.0	0.0	0.0	0,0,0				
168	0.0	0.01	0.03	3.61e-03	155,152,179	0.0	0.0	0.0	0,0,0	0.27	0.24	0.23	154,172,179
	180.0	0.16	0.26	0.19	151,151,179	0.0	0.0	0.0	0,0,0				
169	0.0	0.13	0.21	0.15	151,151,179	0.0	0.0	0.0	0,0,0	0.44	0.39	0.38	154,172,179
	196.0	0.17	0.28	0.21	151,151,179	0.0	0.0	0.0	0,0,0				
	392.0	0.28	0.44	0.34	167,167,179	0.0	0.0	0.0	0,0,0				

Trave	Pos.	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb	dR	dF	dP	Rif. cmb
170	0.0	0.27	0.43	0.32	164,154,179	0.0	0.0	0.0	0,0,0	0.14	0.11	0.10	152,170,179
	194.0	0.17	0.29	0.20	154,154,179	0.0	0.0	0.0	0,0,0				
	388.0	0.17	0.28	0.20	154,154,179	0.0	0.0	0.0	0,0,0				
171	0.0	0.20	0.32	0.22	154,154,179	0.0	0.0	0.0	0,0,0	0.06	0.03	0.03	155,173,179
	265.5	0.06	0.20	0.05	161,155,179	0.0	0.0	0.0	0,0,0				
	531.0	0.05	0.17	0.04	164,164,179	0.0	0.0	0.0	0,0,0				
172	0.0	0.06	0.22	0.06	161,158,179	0.0	0.0	0.0	0,0,0	0.19	0.16	0.15	158,173,179
	245.0	0.03	0.11	0.02	164,155,179	0.0	0.0	0.0	0,0,0				
	490.0	0.18	0.30	0.21	161,167,179	0.0	0.0	0.0	0,0,0				
173	0.0	0.16	0.27	0.18	164,167,179	0.0	0.0	0.0	0,0,0	0.12	0.10	0.09	155,173,179
	245.0	7.99e-03	0.05	7.30e-04	155,151,179	0.0	0.0	0.0	0,0,0				
	490.0	2.62e-03	0.06	0.0	161,153,0	0.0	0.0	0.0	0,0,0				
174	0.0	7.54e-03	0.06	0.0	162,153,0	0.0	0.0	0.0	0,0,0	0.12	0.10	0.09	155,173,179
	224.5	0.02	0.09	0.02	152,153,179	0.0	0.0	0.0	0,0,0				
	449.0	0.24	0.40	0.28	167,153,179	0.0	0.0	0.0	0,0,0				
175	0.0	0.23	0.39	0.27	167,154,179	0.0	0.0	0.0	0,0,0	0.21	0.18	0.17	152,170,179
	245.0	0.14	0.28	0.17	152,153,179	0.0	0.0	0.0	0,0,0				
	490.0	0.26	0.46	0.32	161,153,179	0.0	0.0	0.0	0,0,0				
176	0.0	0.31	0.51	0.38	167,153,179	0.0	0.0	0.0	0,0,0	0.63	0.57	0.55	153,171,179
	245.0	0.12	0.23	0.14	151,153,179	0.0	0.0	0.0	0,0,0				
	490.0	0.07	0.15	0.07	151,151,179	0.0	0.0	0.0	0,0,0				
177	0.0	0.16	0.25	0.17	151,151,179	0.0	0.0	0.0	0,0,0	0.29	0.26	0.26	153,171,179
	180.0	0.06	0.08	0.06	156,156,179	0.0	0.0	0.0	0,0,0				
178	0.0	0.06	0.09	0.07	156,151,179	0.0	0.0	0.0	0,0,0	0.51	0.46	0.45	151,169,179
	150.0	9.74e-03	0.02	8.60e-03	154,151,179	0.0	0.0	0.0	0,0,0				
	300.0	6.36e-03	0.02	5.32e-03	151,151,179	0.0	0.0	0.0	0,0,0				
179	0.0	5.09e-03	7.89e-03	2.16e-03	155,155,179	0.0	0.0	0.0	0,0,0	0.07	0.12	0.12	151,169,179
	80.0	2.73e-05	1.32e-04	1.73e-05	154,162,179	0.0	0.0	0.0	0,0,0				
180	0.0	0.04	0.07	0.04	158,161,179	0.0	0.0	0.0	0,0,0	0.19	0.14	0.13	156,174,179
	200.0	0.03	0.09	0.03	155,155,179	0.0	0.0	0.0	0,0,0				
	400.0	0.02	0.09	0.03	151,151,179	0.0	0.0	0.0	0,0,0				
181	0.0	0.02	0.03	2.16e-03	159,159,179	0.0	0.0	0.0	0,0,0	0.14	0.10	0.09	156,174,179
	200.0	0.01	0.03	2.77e-03	152,155,179	0.0	0.0	0.0	0,0,0				
	400.0	0.05	0.07	0.05	157,157,179	0.0	0.0	0.0	0,0,0				
182	0.0	0.03	0.05	0.03	152,152,179	0.0	0.0	0.0	0,0,0	0.07	0.04	0.03	151,169,179
	200.0	0.03	0.10	0.02	164,164,179	0.0	0.0	0.0	0,0,0				
	400.0	0.03	0.11	0.03	158,158,179	0.0	0.0	0.0	0,0,0				
183	0.0	9.68e-03	0.02	0.0	158,151,0	0.0	0.0	0.0	0,0,0	0.08	0.04	0.03	155,174,179
	200.0	0.02	0.05	0.01	155,155,179	0.0	0.0	0.0	0,0,0				
	400.0	0.01	0.04	0.01	155,151,179	0.0	0.0	0.0	0,0,0				
184	0.0	2.26e-05	1.14e-04	9.35e-06	153,165,179	0.0	0.0	0.0	0,0,0	0.11	0.10	0.10	154,172,179
	80.0	6.71e-03	0.01	5.71e-03	161,161,179	0.0	0.0	0.0	0,0,0				
185	0.0	0.03	0.05	0.02	152,152,179	0.0	0.0	0.0	0,0,0	0.13	0.05	0.04	151,169,179
	400.0	0.06	0.20	0.05	155,155,179	0.0	0.0	0.0	0,0,0				
	800.0	0.02	0.04	0.0	156,152,0	0.0	0.0	0.0	0,0,0				
186	0.0	0.02	0.04	1.79e-03	152,156,179	0.0	0.0	0.0	0,0,0	0.24	0.10	0.08	158,173,179
	400.0	0.07	0.23	0.06	155,155,179	0.0	0.0	0.0	0,0,0				
	800.0	0.02	0.07	0.01	152,152,179	0.0	0.0	0.0	0,0,0				
187	0.0	0.07	0.12	0.07	152,152,179	0.0	0.0	0.0	0,0,0	0.64	0.16	0.15	158,173,179
	400.0	0.15	0.50	0.16	155,155,179	0.13	0.0	0.0	155,0,0				
	800.0	0.05	0.09	0.03	156,156,179	0.0	0.0	0.0	0,0,0				
188	0.0	0.05	0.07	0.05	154,154,179	0.0	0.0	0.0	0,0,0	0.29	0.27	0.26	153,171,179
	180.0	0.01	0.03	2.32e-03	164,153,179	0.0	0.0	0.0	0,0,0				
189	0.0	0.02	0.02	1.20e-03	164,153,179	0.0	0.0	0.0	0,0,0	0.48	0.45	0.44	153,171,179
	150.0	0.01	0.03	0.01	161,153,179	0.0	0.0	0.0	0,0,0				
	300.0	2.19e-03	6.96e-03	2.51e-03	154,152,179	0.0	0.0	0.0	0,0,0				
190	0.0	4.39e-03	6.75e-03	1.84e-03	164,155,179	0.0	0.0	0.0	0,0,0	0.07	0.12	0.12	153,171,179
	80.0	2.55e-05	8.14e-05	1.53e-05	154,162,179	0.0	0.0	0.0	0,0,0				
191	0.0	0.02	0.09	0.03	151,151,179	0.0	0.0	0.0	0,0,0	0.14	0.10	0.09	156,174,179
	200.0	0.02	0.03	0.01	152,152,179	0.0	0.0	0.0	0,0,0				
	400.0	0.13	0.21	0.16	161,161,179	0.0	0.0	0.0	0,0,0				
192	0.0	0.07	0.10	0.08	160,160,179	0.0	0.0	0.0	0,0,0	0.15	0.12	0.12	151,169,179
	200.0	7.59e-03	0.02	1.05e-03	158,161,179	0.0	0.0	0.0	0,0,0				
	400.0	0.02	0.08	0.02	152,152,179	0.0	0.0	0.0	0,0,0				
193	0.0	0.03	0.09	0.02	155,155,179	0.0	0.0	0.0	0,0,0	0.07	0.03	0.02	159,175,179
	200.0	0.03	0.10	0.03	164,164,179	0.0	0.0	0.0	0,0,0				

Trave	Pos.	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb	dR	dF	dP	Rif. cmb
	400.0	0.01	0.03	3.73e-03	156,152,179	0.0	0.0	0.0	0,0,0				
194	0.0	0.01	0.05	0.01	151,151,179	0.0	0.0	0.0	0,0,0	0.06	0.02	0.02	156,174,179
	200.0	0.01	0.02	6.07e-03	152,154,179	0.0	0.0	0.0	0,0,0				
	400.0	0.04	0.07	0.04	151,151,179	0.0	0.0	0.0	0,0,0				
195	0.0	1.84e-05	4.56e-05	9.37e-06	153,166,179	0.0	0.0	0.0	0,0,0	0.11	0.10	0.10	164,173,179
	80.0	5.59e-03	8.67e-03	4.62e-03	158,158,179	0.0	0.0	0.0	0,0,0				
196	0.0	0.12	0.40	0.14	158,158,179	0.11	0.11	0.11	158,173,179	0.30	0.26	0.25	164,173,179
	180.0	0.11	0.16	0.12	158,159,179	0.0	0.0	0.0	0,0,0				
197	0.0	0.05	0.08	0.06	159,160,179	0.0	0.0	0.0	0,0,0	0.51	0.47	0.46	164,173,179
	195.0	0.14	0.21	0.17	158,164,179	0.0	0.0	0.0	0,0,0				
	390.0	0.31	0.47	0.34	161,155,179	0.0	0.0	0.0	0,0,0				
198	0.0	0.27	0.43	0.29	164,164,179	0.0	0.0	0.0	0,0,0	0.22	0.20	0.20	154,172,179
	195.0	0.18	0.29	0.22	164,164,179	0.0	0.0	0.0	0,0,0				
	390.0	0.21	0.33	0.25	164,164,179	0.0	0.0	0.0	0,0,0				
199	0.0	0.19	0.32	0.22	164,164,179	0.0	0.0	0.0	0,0,0	0.05	0.05	0.04	153,171,179
	195.0	0.02	0.08	0.01	161,161,179	0.0	0.0	0.0	0,0,0				
	390.0	0.04	0.16	0.04	164,164,179	0.0	0.0	0.0	0,0,0				
200	0.0	0.04	0.16	0.04	164,164,179	0.0	0.0	0.0	0,0,0	0.04	0.03	0.03	161,173,179
	141.0	0.02	0.08	5.93e-03	164,164,179	0.0	0.0	0.0	0,0,0				
201	0.0	0.03	0.15	0.03	155,155,179	0.0	0.0	0.0	0,0,0	0.22	0.18	0.17	155,173,179
	245.0	0.02	0.10	0.01	164,164,179	0.0	0.0	0.0	0,0,0				
	490.0	0.20	0.35	0.21	161,161,179	0.0	0.0	0.0	0,0,0				
202	0.0	0.19	0.33	0.19	164,164,179	0.0	0.0	0.0	0,0,0	0.12	0.10	0.09	158,173,179
	245.0	0.0	0.05	0.0	0,159,0	0.0	0.0	0.0	0,0,0				
	490.0	0.03	0.09	0.02	161,161,179	0.0	0.0	0.0	0,0,0				
203	0.0	0.02	0.08	6.18e-03	164,164,179	0.0	0.0	0.0	0,0,0	0.08	0.06	0.06	158,173,179
	219.5	0.03	0.10	0.03	151,153,179	0.0	0.0	0.0	0,0,0				
	439.0	0.25	0.43	0.27	161,161,179	0.0	0.0	0.0	0,0,0				
204	0.0	0.25	0.43	0.27	164,164,179	0.0	0.0	0.0	0,0,0	0.23	0.21	0.20	155,173,179
	250.0	0.13	0.25	0.16	155,153,179	0.0	0.0	0.0	0,0,0				
	500.0	0.29	0.49	0.31	161,161,179	0.0	0.0	0.0	0,0,0				
205	0.0	0.34	0.55	0.39	155,161,179	0.0	0.0	0.0	0,0,0	0.65	0.60	0.59	167,173,179
	245.0	0.14	0.24	0.16	152,153,179	0.0	0.0	0.0	0,0,0				
	490.0	0.11	0.19	0.11	152,152,179	0.0	0.0	0.0	0,0,0				
206	0.0	0.20	0.30	0.24	152,152,179	0.0	0.0	0.0	0,0,0	0.30	0.29	0.28	167,173,179
	180.0	0.02	0.01	0.01	160,152,179	0.0	0.0	0.0	0,0,0				
207	0.0	0.02	0.02	0.02	152,152,179	0.0	0.0	0.0	0,0,0	0.49	0.47	0.46	152,170,179
	150.0	0.05	0.17	0.06	164,161,179	0.0	0.0	0.0	0,0,0				
	300.0	0.09	0.30	0.11	158,158,179	0.0	0.0	0.0	0,0,0				
208	0.0	3.97e-03	6.12e-03	1.68e-03	158,158,179	0.0	0.0	0.0	0,0,0	0.06	0.11	0.11	152,170,179
	80.0	2.08e-05	5.17e-05	1.35e-05	154,162,179	0.0	0.0	0.0	0,0,0				
209	0.0	0.16	0.23	0.17	158,158,179	0.0	0.0	0.0	0,0,0	0.09	0.07	0.06	155,174,179
	170.0	0.01	0.03	0.01	158,152,179	0.0	0.0	0.0	0,0,0				
210	0.0	0.06	0.09	0.07	158,164,179	0.0	0.0	0.0	0,0,0	0.03	0.02	0.02	156,174,179
	170.0	0.01	0.04	0.01	159,152,179	0.0	0.0	0.0	0,0,0				
211	0.0	1.20e-05	6.76e-05	3.66e-06	153,165,179	0.0	0.0	0.0	0,0,0	0.02	0.02	0.02	155,173,179
	80.0	5.45e-03	8.49e-03	4.49e-03	158,158,179	0.0	0.0	0.0	0,0,0				
212	0.0	0.24	0.38	0.29	158,167,179	0.0	0.0	0.0	0,0,0	0.02	0.02	0.01	156,174,179
	180.0	0.16	0.25	0.18	158,161,179	0.0	0.0	0.0	0,0,0				
213	0.0	0.16	0.25	0.18	158,158,179	0.0	0.0	0.0	0,0,0	0.09	0.08	0.08	152,170,179
	195.0	0.06	0.10	0.07	164,151,179	0.0	0.0	0.0	0,0,0				
	390.0	0.02	0.04	0.01	164,155,179	0.0	0.0	0.0	0,0,0				
214	0.0	0.02	0.04	0.02	164,155,179	0.0	0.0	0.0	0,0,0	0.11	0.10	0.10	158,170,179
	195.0	0.01	0.05	0.01	158,162,179	0.0	0.0	0.0	0,0,0				
	390.0	0.01	0.06	0.01	152,153,179	0.0	0.0	0.0	0,0,0				
215	0.0	0.01	0.06	0.01	152,153,179	0.0	0.0	0.0	0,0,0	0.07	0.07	0.06	158,170,179
	195.0	0.02	0.07	0.02	158,158,179	0.0	0.0	0.0	0,0,0				
	390.0	0.01	0.06	0.01	152,152,179	0.0	0.0	0.0	0,0,0				
216	0.0	0.01	0.06	0.01	152,152,179	0.0	0.0	0.0	0,0,0	0.03	0.02	0.02	164,173,179
	195.0	0.01	0.05	0.01	158,158,179	0.0	0.0	0.0	0,0,0				
	390.0	6.20e-03	0.03	5.29e-03	154,152,179	0.0	0.0	0.0	0,0,0				
217	0.0	5.78e-03	0.03	5.18e-03	152,153,179	0.0	0.0	0.0	0,0,0	2.75e-03	2.28e-03	2.22e-03	155,173,179
	195.0	8.01e-03	0.03	6.80e-03	164,158,179	0.0	0.0	0.0	0,0,0				
	390.0	5.24e-03	0.02	0.0	161,151,0	0.0	0.0	0.0	0,0,0				
218	0.0	5.12e-03	0.02	0.0	158,151,0	0.0	0.0	0.0	0,0,0	0.01	0.01	0.01	152,170,179
	195.0	5.58e-03	0.02	3.17e-03	164,158,179	0.0	0.0	0.0	0,0,0				

Trave	Pos.	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb	dR	dF	dP	Rif. cmb
	390.0	6.29e-03	0.01	0.0	161,151,0	0.0	0.0	0.0	0,0,0				
219	0.0	6.16e-03	0.01	0.0	158,151,0	0.0	0.0	0.0	0,0,0	0.02	0.02	0.02	152,170,179
	195.0	6.98e-03	0.03	3.91e-03	158,164,179	0.0	0.0	0.0	0,0,0				
	390.0	1.11e-03	0.02	0.0	161,154,0	0.0	0.0	0.0	0,0,0				
220	0.0	9.28e-04	0.02	0.0	161,154,0	0.0	0.0	0.0	0,0,0	0.04	0.03	0.03	158,173,179
	195.0	0.01	0.04	5.74e-03	158,164,179	0.0	0.0	0.0	0,0,0				
	390.0	1.14e-03	0.01	0.0	158,154,0	0.0	0.0	0.0	0,0,0				
221	0.0	1.26e-03	0.01	0.0	161,154,0	0.0	0.0	0.0	0,0,0	0.06	0.04	0.04	158,173,179
	195.0	8.96e-03	0.03	0.0	158,164,0	0.0	0.0	0.0	0,0,0				
	390.0	0.02	0.04	0.02	153,151,179	0.0	0.0	0.0	0,0,0				
222	0.0	0.02	0.04	0.02	153,154,179	0.0	0.0	0.0	0,0,0	0.05	0.03	0.02	158,173,179
	195.0	0.04	0.08	0.04	153,151,179	0.0	0.0	0.0	0,0,0				
	390.0	0.08	0.13	0.10	161,154,179	0.0	0.0	0.0	0,0,0				
223	0.0	0.08	0.14	0.10	167,154,179	0.0	0.0	0.0	0,0,0	0.08	0.06	0.05	153,171,179
	150.0	0.12	0.20	0.15	152,154,179	0.0	0.0	0.0	0,0,0				
	300.0	0.18	0.29	0.21	158,158,179	0.0	0.0	0.0	0,0,0				
224	0.0	4.32e-03	6.75e-03	2.15e-03	158,158,179	0.0	0.0	0.0	0,0,0	0.02	0.03	0.03	153,171,179
	80.0	1.47e-05	1.00e-04	6.58e-06	154,162,179	0.0	0.0	0.0	0,0,0				
225	0.0	5.37e-03	8.15e-03	4.40e-03	158,158,179	0.0	0.0	0.0	0,0,0	0.04	0.03	0.03	155,174,179
	80.0	3.30e-05	3.29e-05	2.26e-05	152,156,179	0.0	0.0	0.0	0,0,0				
226	0.0	2.49e-03	4.09e-03	7.78e-04	158,158,179	0.0	0.0	0.0	0,0,0	0.02	9.23e-03	4.34e-03	156,174,179
	80.0	1.82e-05	6.80e-05	9.52e-06	152,156,179	0.0	0.0	0.0	0,0,0				
Trave		**rRfck**	**rRfyk**	**rPfck**		**wR**	**wF**	**wP**		**dR**	**dF**	**dP**	
		0.34	0.55	0.39		0.13	0.12	0.12		0.65	0.60	0.59	

12.4. VERIFICHE SLU ELEMENTI STRUTTURALI IN ACCIAIO

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

Ok: verifica con esito positivo

NV: verifica con esito negativo

Nr: verifica non richiesta.

Per comodità gli elementi vengono raggruppati in tabelle in relazione al tipo.

Ai fini delle verifiche (come da D.M. 14 Gennaio 2008 e circ. 2 Febbraio 2009 n.617) i tipi elementi differiscono per i seguenti aspetti:

Verifica		Aste	Travi	Pilastri
4.2.3.1	Classificazione	X	X	X
4.2.4.1.2	Trazione, Compressione	X	X	X
	Taglio, Torsione		X	X
	Flessione,taglio e forza assiale		X	X
4.2.4.1.3.1	Aste compresse	X	X	X
4.2.4.1.3.2	Instabilità flesso-torsionale		X	X
4.2.4.1.3.3	Membrature inflesse e compresse		X	X

Ai fini delle verifiche per strutture dissipative (come da D.M. 14 Gennaio 2008 e circ. 2 Febbraio 2009 n.617 per strutture intelaiate e a controventi concentrici) si considerano le verifiche del capitolo 4 con azioni amplificate e le verifiche del capitolo 7:

Verifica		Travi	Pilastri
4.2.4.1.2	Trazione, Compressione	X	X
	Taglio, Torsione		X
	Flessione,taglio e forza assiale	X	X
4.2.4.1.3.1	Aste compresse	X	X
4.2.4.1.3.2	Instabilità flesso-torsionale		X
7.5.3	Sfruttamento per momento	X	
7.5.4	Sfruttamento per sforzo normale	X	
7.5.5	Sfruttamento per taglio da capacità flessionale	X	
7.5.9	Sfruttamento per taglio amplificato		X

Viene inoltre riportata la verifica del par. 7.5.4.3 Gerarchia delle resistenze trave-colonna per ogni colonna, considerando piede e testa in entrambe le direzioni globali X e Y.

L' insieme delle verifiche soprariportate è condotto sugli elementi purchè dotati di sezione idonea come da tabella seguente:

	Azione	SEZIONI GENERICHE	PROFILI SEMPLICI	PROFILI ACCOPPIATI
4.2.3.1	Classificazione automatica	L, doppio T, C, rettangolare cava, circolare cava	Tutti	Da profilo semplice
4.2.3.1	Classificazione di default 2	Circolare		
4.2.3.1	Classificazione di default 3	restanti		
4.2.4.1.2	Trazione	si	si	si
4.2.4.1.2	Compressione	si	si	si
4.2.4.1.2	Taglio, Torsione	si	si	si
4.2.4.1.2	Flessione,taglio e forza assiale	si	si	si
4.2.4.1.3.1	Aste compresse	si	si	per elementi ravvicinati e a croce o coppie calstrellate
4.2.4.1.3.2	Travi inflesse	doppio T simmetrica	doppio T	no

Le verifiche sono riportate in tabelle con il significato sottoindicato; le verifiche sono espresse dal rapporto tra l' azione di progetto e la capacità ultima, pertanto la verifica ha esito positivo per rapporti non superiori all' unità.

Asta | Trave | Pilastro	numero dell'elemento
Stato	codice di verifica per resistenza, stabilità, svergolamento
Note	sezione e materiali adottati per l'elemento
V N	(ASTE) verifica come da par. 4.2.4.1.2 per punto (4.2.6) e (4.2.10)
V V/T	(TRAVI E PILASTRI) verifica come da par. 4.2.4.1.2 per azioni taglio-torsione
V N/M	(TRAVI E PILASTRI) verifica come da par. 4.2.4.1.2 per azioni composte con riduzione per taglio (4.2.41) ove richiesto
N | M3 | M2 | V2 | V3 | T	sollecitazioni di interesse per la verifica
V stab	(ASTE) verifica come da par. 4.2.4.1.3 per punto (4.2.42)
V stab	(TRAVI E PILASTRI) verifica come da par. 4.2.4.1.3 per punti (C4.2.32) o (C4.2.36) (membrature inflesse e compresse senza/con presenza di instabilità flesso-torsionale
BetaxL | B22xL | B33xL	lunghezze libere di inflessione (se indicato riferiti al piano di normale 22 o 33 rispettivamente)

Snellezza | Snel22 | Snel33	valori di snellezza (se indicato riferiti al piano di normale 22 o 33 rispettivamente)
Chi mn	coefficiente di riduzione (della capacità) per la modalità di instabilità pertinente
Rif. cmb	combinazioni in cui si sono rispettivamente attinti i valori di verifica più elevati
V flst	(TRAVI E PILASTRI) verifica come da par. 4.2.4.1.3 per punto (4.2.29)
B1-1 x L	Beta1-1 x L: interasse tra i ritegni torsionali
Chi LT	coefficiente di riduzione (della capacità) per la modalità di instabilità flesso-torsionale
Snell adim	Valore della snellezza adimensionale, utilizzato per il controllo previsto al par. 7.5.5
v.Omeg	Valore del rapporto capacità/domanda per l' azione di interesse (momento per travi e azione assiale per aste) utilizzato per l' amplificazione delle azioni
f.Om. N	Fattore di amplificazione delle azioni assiali per travi e colonne (prodotto di 1.1 x Omega x gamma rd materiale); utilizzato come specificato al par. 7.5.5
f.Om. T	Fattore di amplificazione delle azioni (assiali, flettenti e taglianti) per colonne (prodotto di 1.1 x Omega x gamma rd materiale); utilizzato come specificato al par. 7.5.4
V.7.5.3 M Ed	Verifica come prevista al punto 7.5.3 e valore dell' azione flettente
V.7.5.4 N Ed	Verifica come prevista al punto 7.5.4 e valore dell' azione assiale
V.7.5.5 V Ed,G V Ed,M	Verifica come prevista al punto 7.5.5 e valore dei tagli dovuti ai carichi e alla capacità
V.7.5.9 V Ed	Verifica come prevista al punto 7.5.9 e valore dell' azione di taglio
sovr. Xi (Xf, Yi, Yf)	Valore della sovraresistenza come prevista al par. 7.5.4.3 (i valori non sono normalizzati pertanto saranno maggiori uguali a gamma rd classe di duttilità)

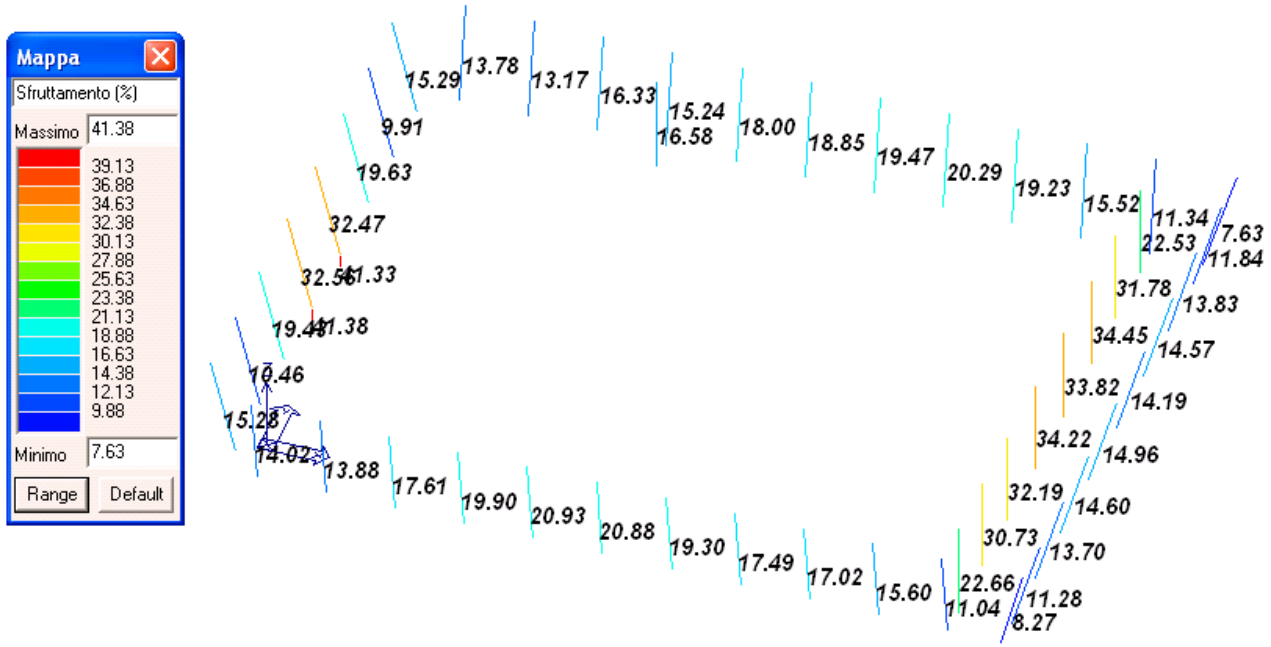


Figura 12.4 – 1 – Pilastri: sfruttamento percentuale

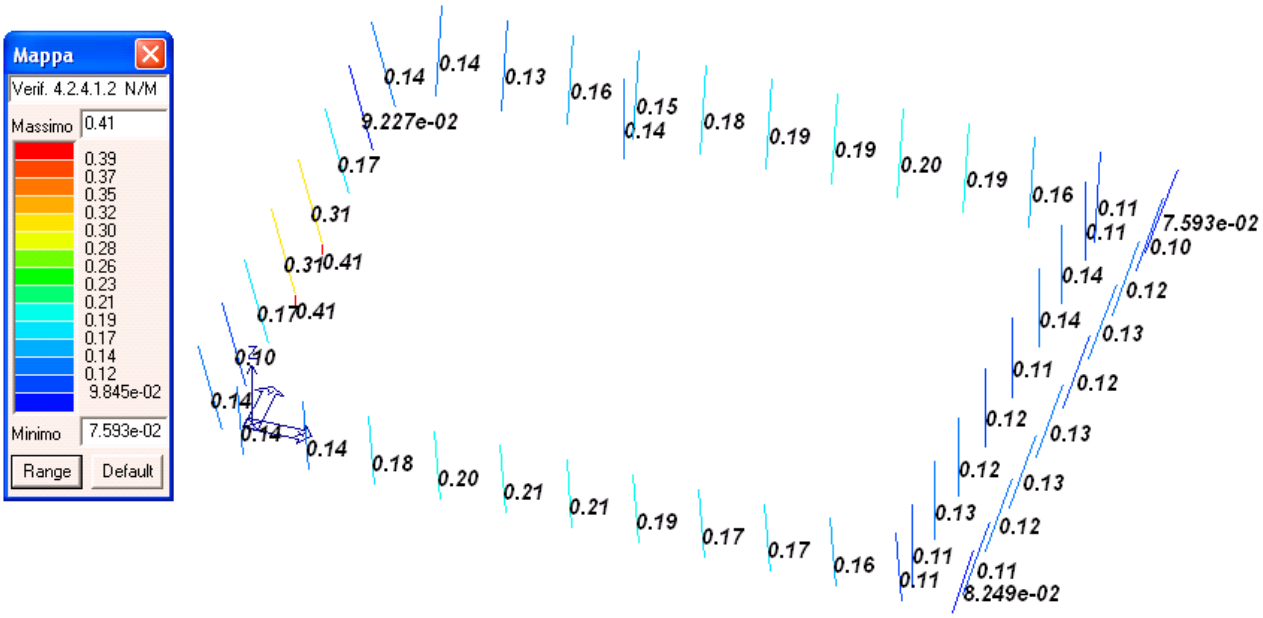


Figura 12.4 – 2 – Pilastri: Verifica N/M

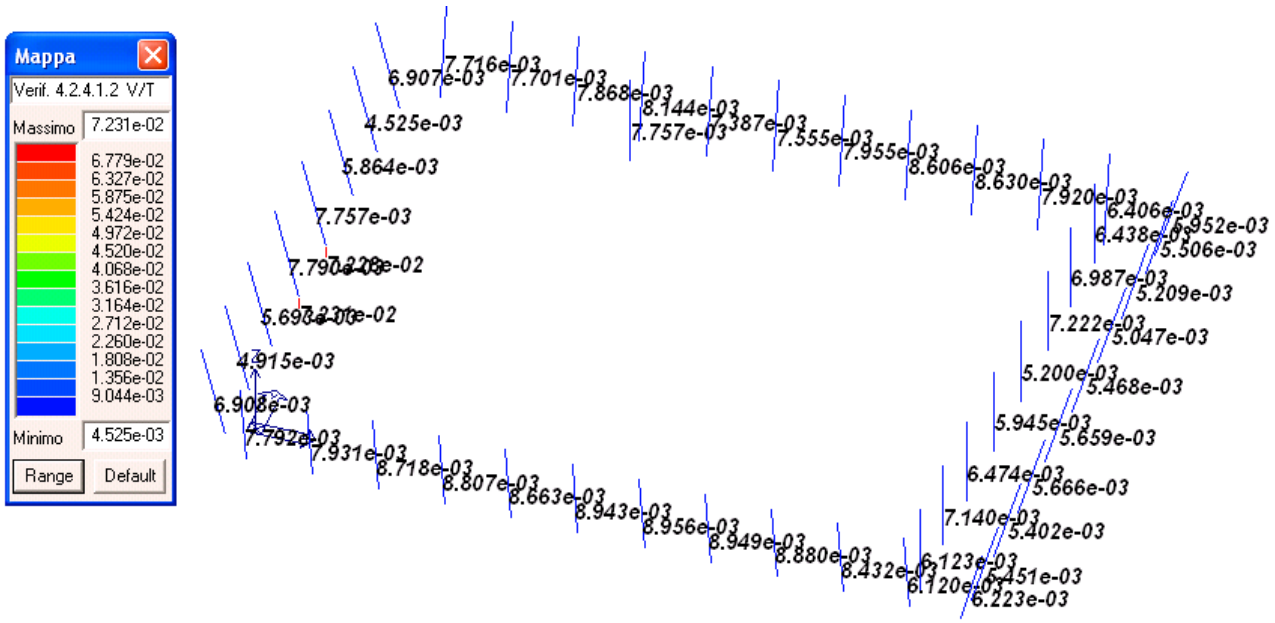


Figura 12.4 – 3 – Pilastri: Verifica V/T

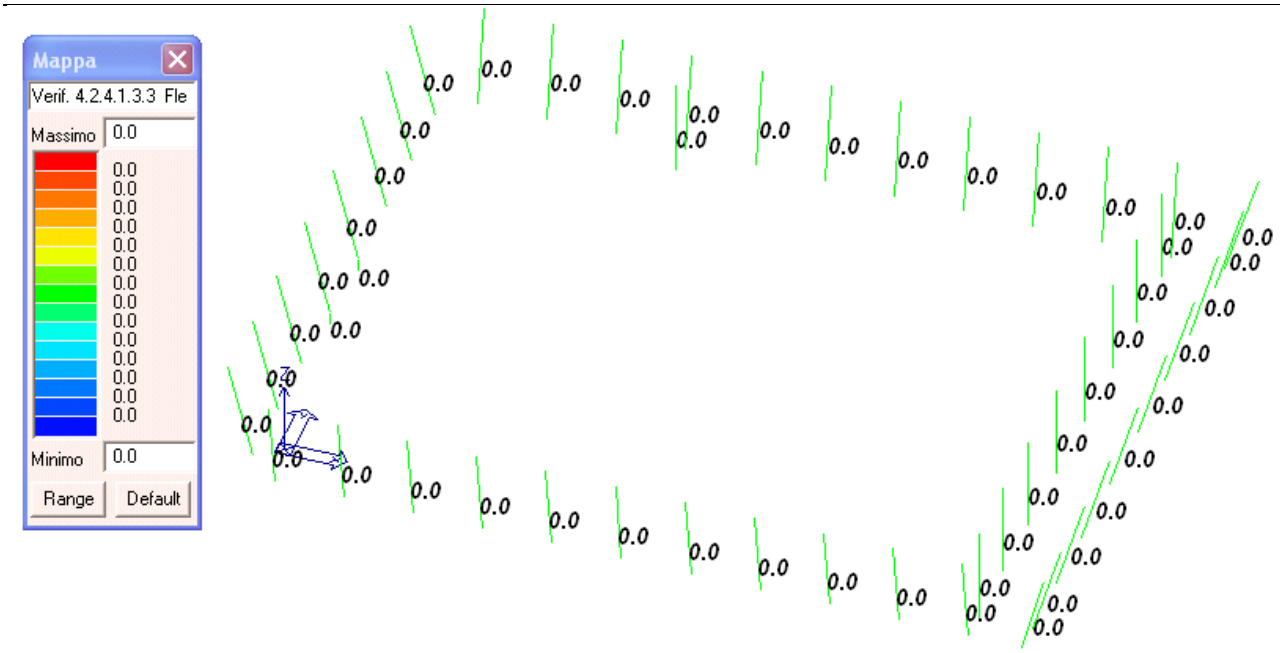


Figura 12.4 – 4 – Pilastri: Verifica a flessione

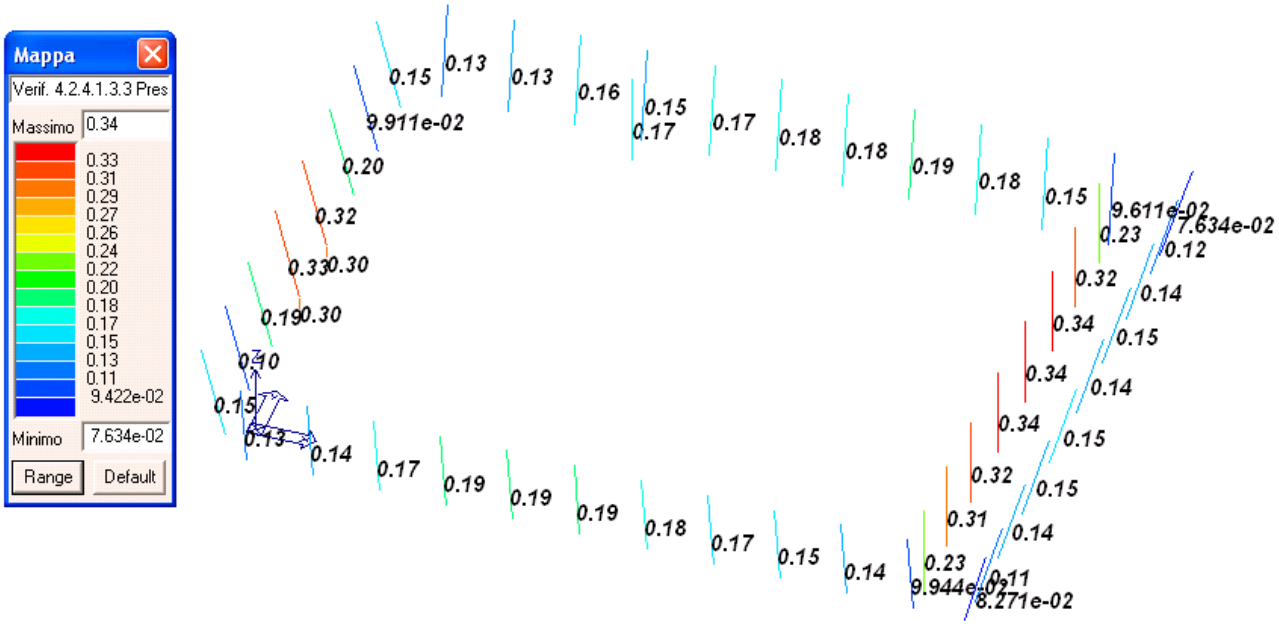


Figura 12.4 – 5 – Pilastri: Verifica a presso-flessione

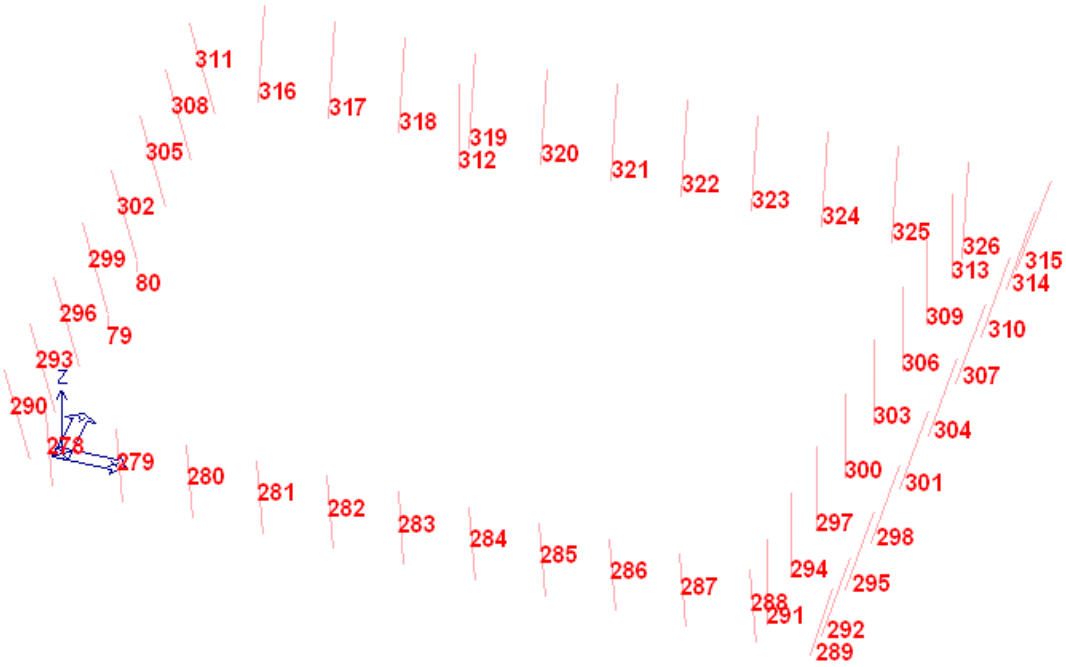


Figura 12.4 – 7 – Numerazione elementi pilastri

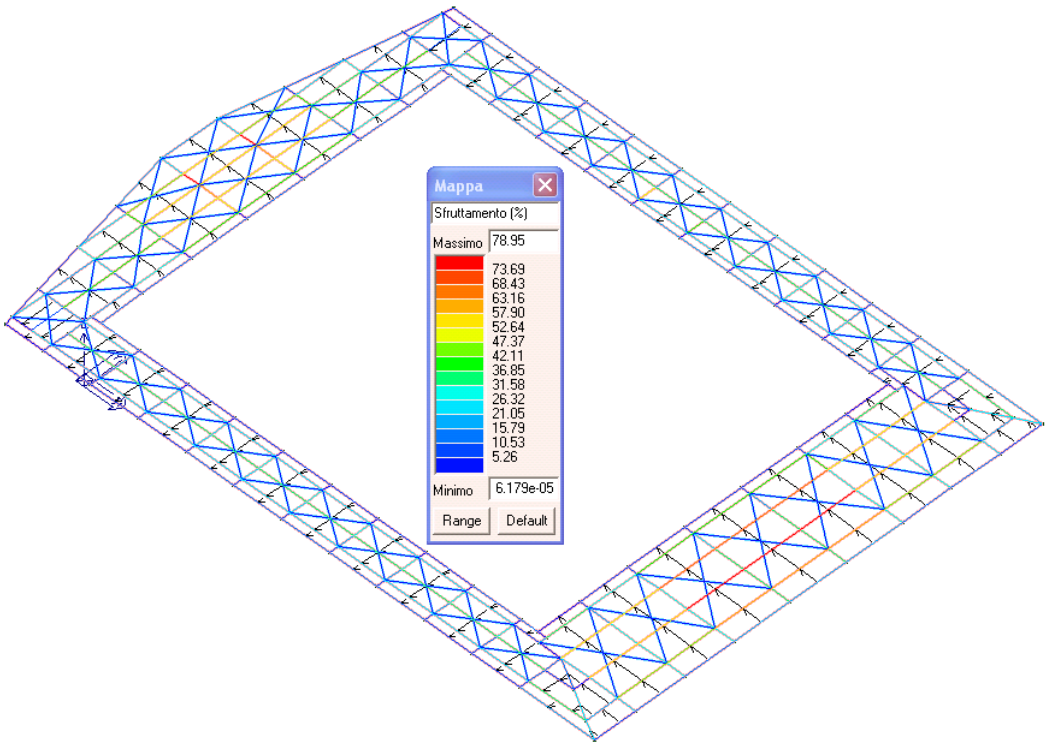


Figura 12.4 – 8 – Impalcato: sfruttamento percentuale

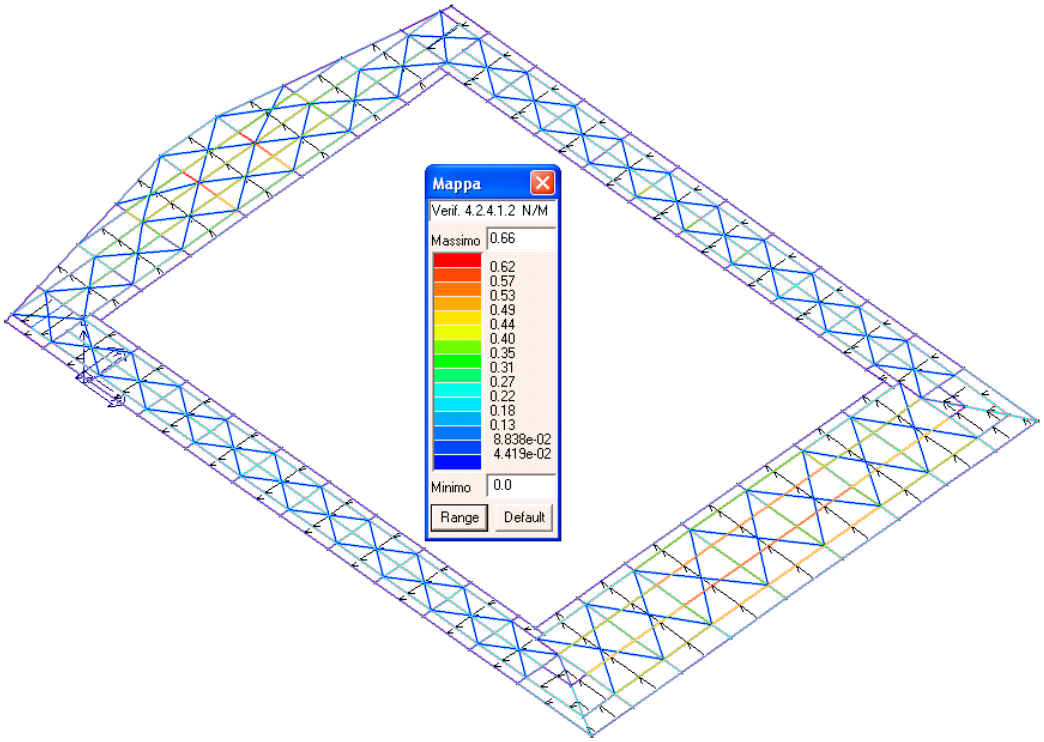


Figura 12.4 – 9 – Travi: Verifica N/M

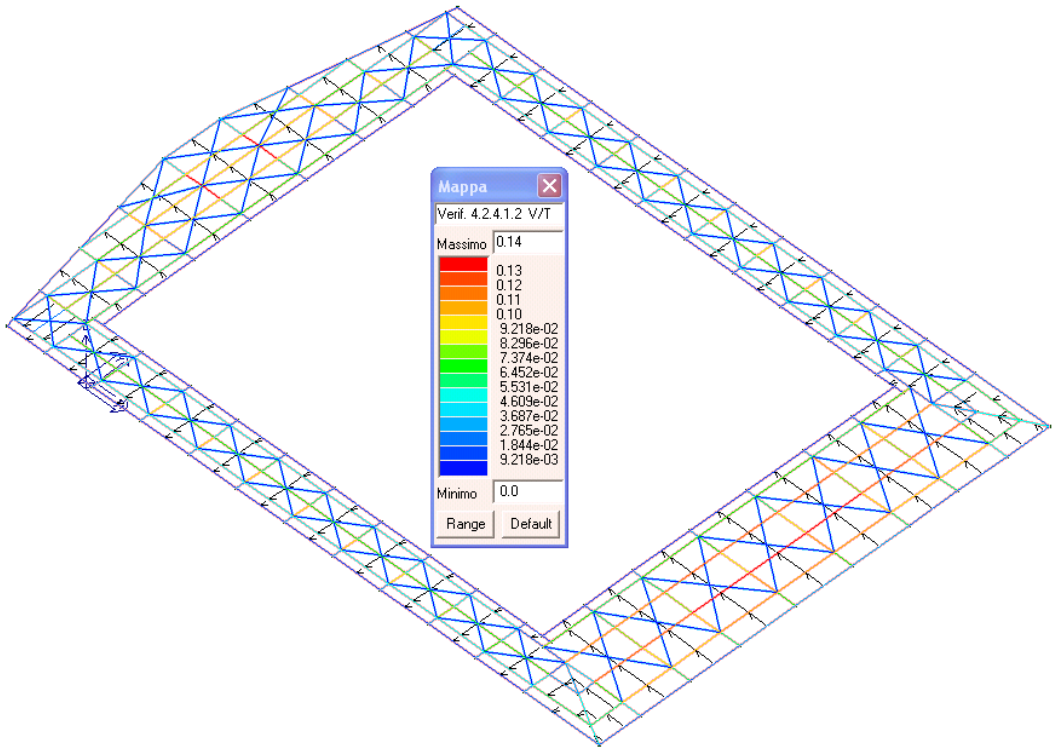


Figura 12.4 – 10 – Travi: Verifica V/T

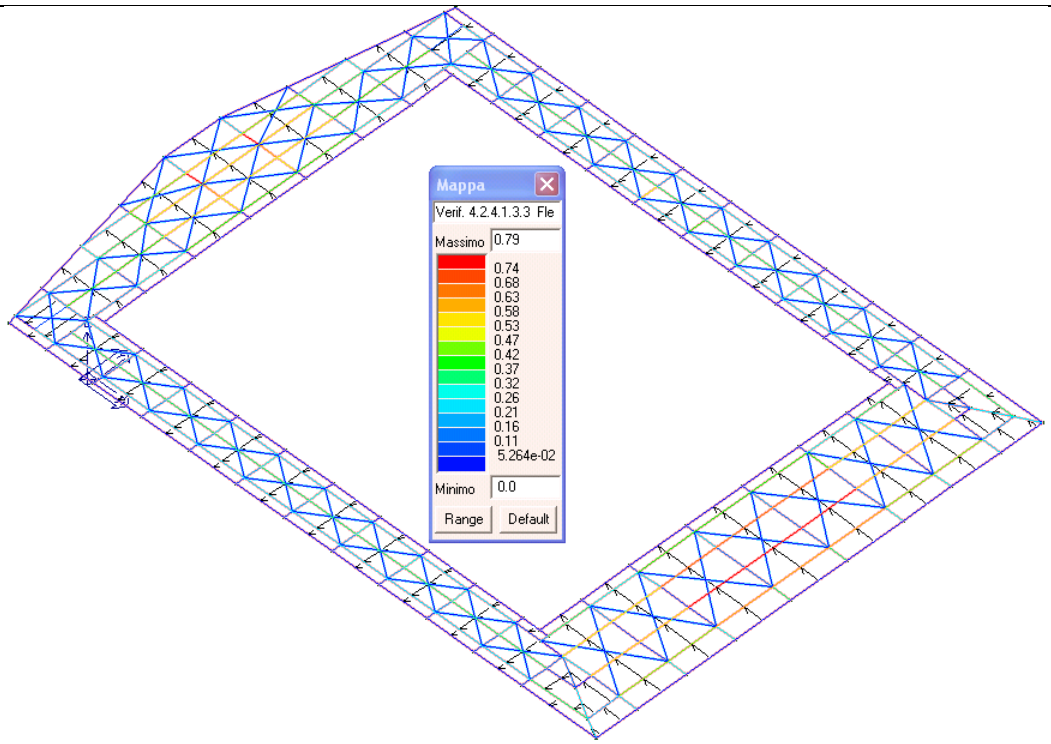


Figura 12.4 – 11 – Travi: Verifica a flessione

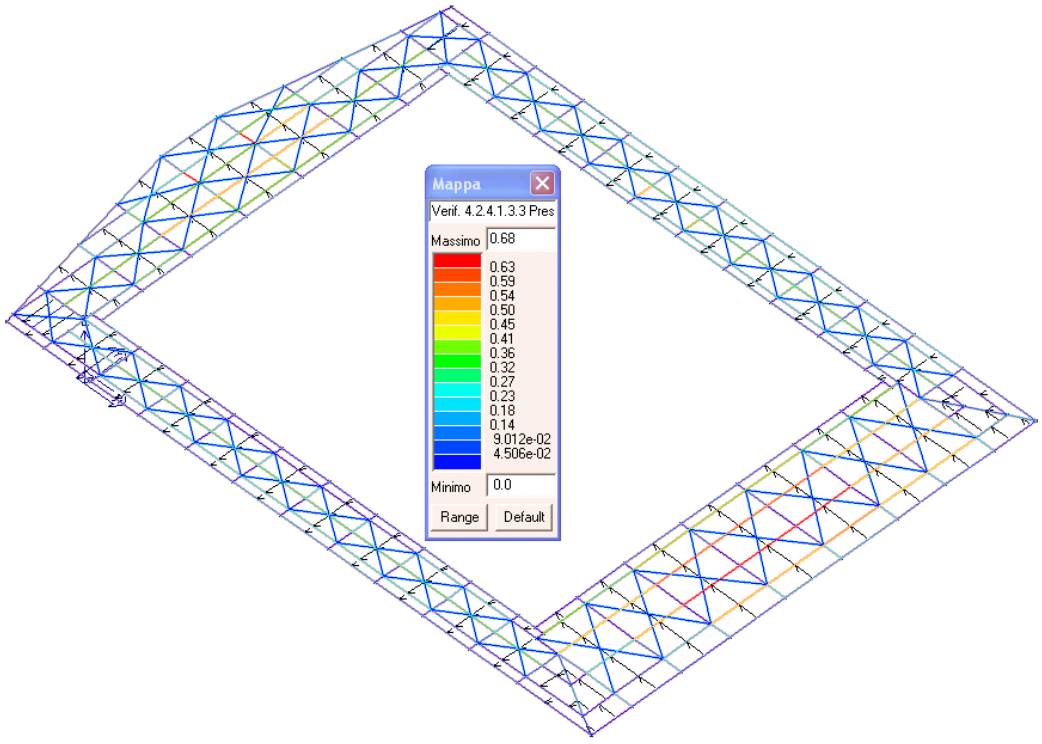


Figura 12.4 – 12 – Travi: Verifica a presso-flessione

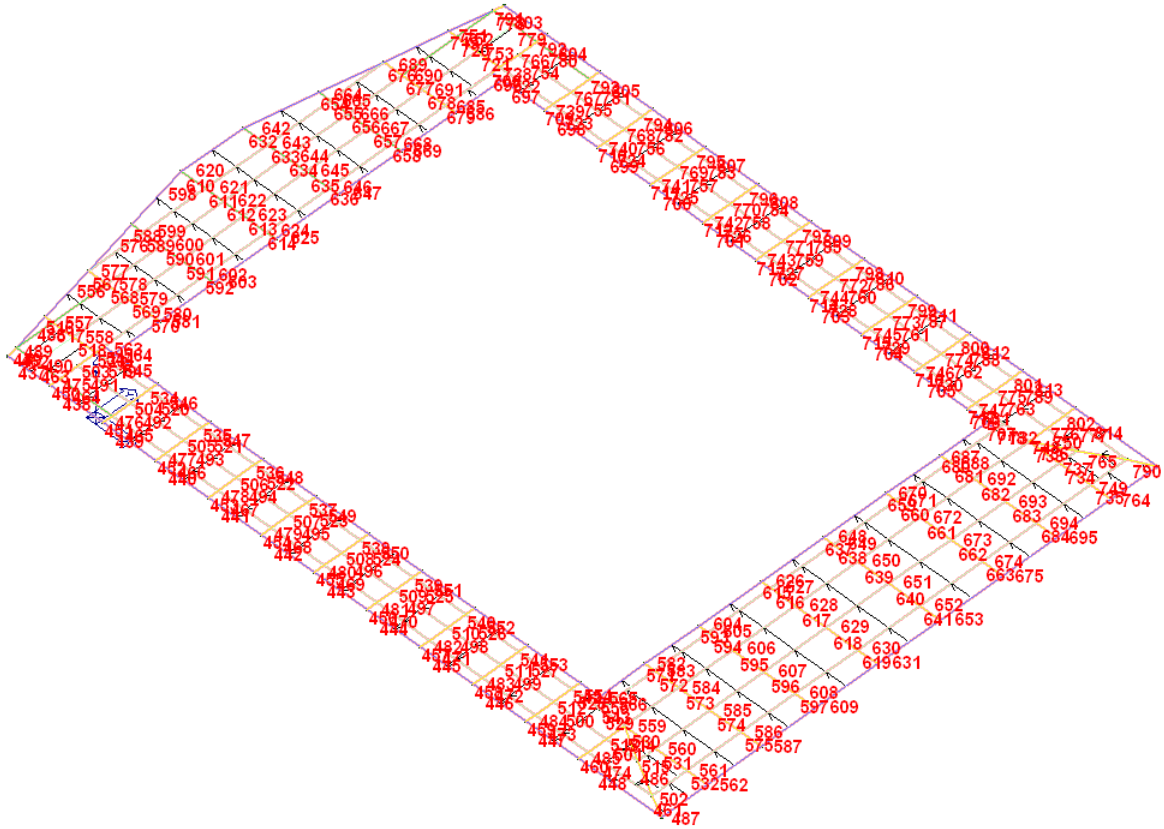


Figura 12.4 – 13 – Numerazione elementi impalcato (senza tiranti)

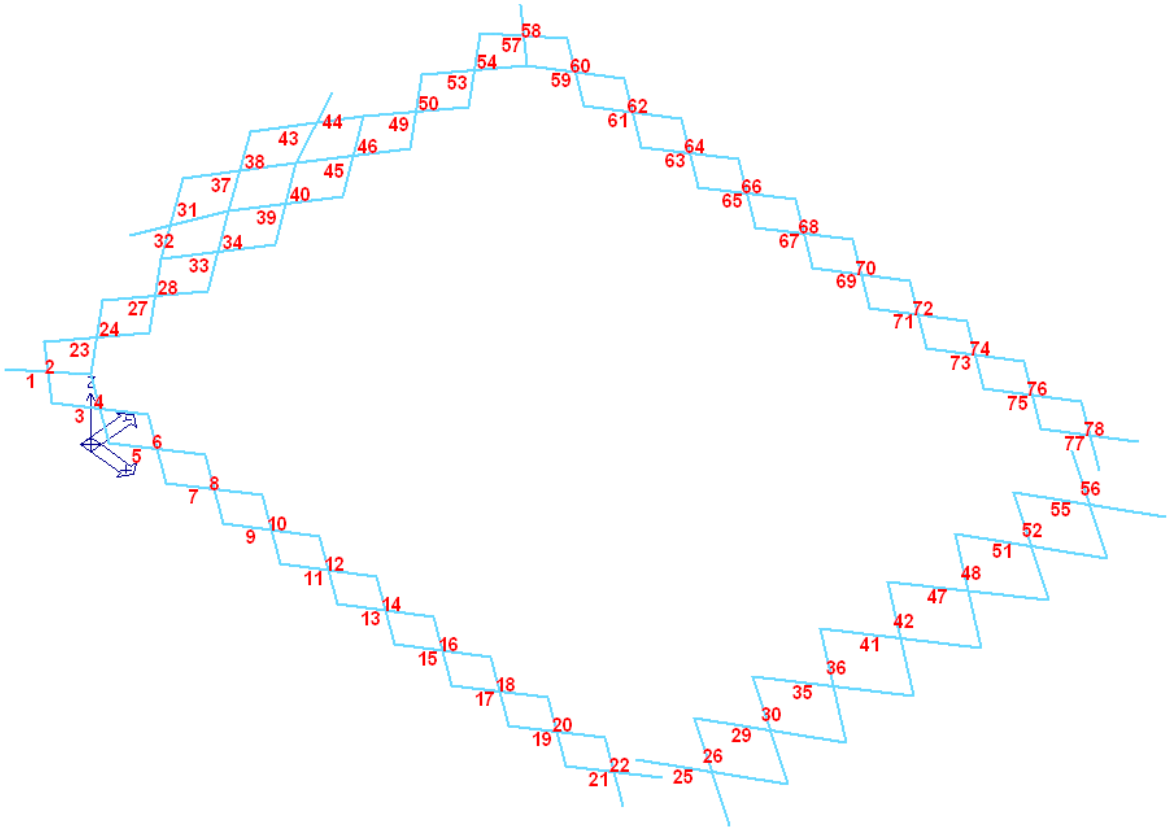


Figura 12.4 – 14 – Numerazione tiranti impalcato

Trave	Stato	Note	V V/T	V N/M	V stab	B22xL	B33xL	Snel22	Snel33	Chi mn	V flst	B11xL	Chi LT	Rif. cmb
						cm	cm					cm		
437	ok	s=6,m=12	0.01	0.04	0.05	500.0	500.0	247.8	71.9	0.08				9,15,79,0
438	ok	s=6,m=12	0.01	0.06	0.08	500.0	500.0	247.8	71.9	0.08				27,15,59,0
439	ok	s=6,m=12	0.01	0.06	0.08	500.0	500.0	247.8	71.9	0.08				27,9,59,0
440	ok	s=6,m=12	0.01	0.07	0.09	500.0	500.0	247.8	71.9	0.08				27,15,17,0
441	ok	s=6,m=12	0.01	0.07	0.12	500.0	500.0	247.8	71.9	0.08				9,15,72,0
442	ok	s=6,m=12	0.01	0.07	0.14	500.0	500.0	247.8	71.9	0.08				15,15,72,0
443	ok	s=6,m=12	0.01	0.07	0.14	500.0	500.0	247.8	71.9	0.08				15,15,74,0
444	ok	s=6,m=12	0.01	0.07	0.14	500.0	500.0	247.8	71.9	0.08				15,9,82,0
445	ok	s=6,m=12	0.01	0.06	0.12	500.0	500.0	247.8	71.9	0.08				27,9,82,0
446	ok	s=6,m=12	0.01	0.06	0.10	500.0	500.0	247.8	71.9	0.08				27,15,62,0
447	ok	s=6,m=12	0.01	0.07	0.09	500.0	500.0	247.8	71.9	0.08				9,9,57,0
448	ok	s=6,m=12	0.02	0.16	0.06	500.0	500.0	247.8	71.9	0.08				9,9,73,0
449	ok	s=3,m=12	0.01	0.03	0.02	500.0	500.0	110.6	67.2	0.33	0.03	500.0	0.88	9,15,15,15
450	ok	s=3,m=12	0.03	0.07	0.05	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	27,27,15,9
451	ok	s=3,m=12	0.03	0.06	0.05	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	27,21,21,15
452	ok	s=3,m=12	0.03	0.06	0.01	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	27,27,62,9
453	ok	s=3,m=12	0.03	0.06	0.01	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	27,27,57,15
454	ok	s=3,m=12	0.03	0.06	0.01	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	27,27,73,15
455	ok	s=3,m=12	0.03	0.06	0.01	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	27,27,79,21
456	ok	s=3,m=12	0.03	0.06	0.01	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	27,27,79,27
457	ok	s=3,m=12	0.03	0.06	0.01	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	27,27,59,9
458	ok	s=3,m=12	0.03	0.06	0.05	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	21,27,27,27
459	ok	s=3,m=12	0.03	0.06	0.05	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	21,27,9,9
460	ok	s=3,m=12	0.04	0.07	0.07	500.0	500.0	110.6	67.2	0.33	0.08	500.0	0.88	9,21,9,15
461	ok	s=3,m=12	0.05	0.21	0.05	500.0	500.0	110.6	67.2	0.33	0.24	500.0	0.88	9,9,62,21
462	ok	s=12,m=12	0.02	0.02	0.01	500.0	500.0	109.4	65.3	0.34	0.02	500.0	0.86	9,29,59,11

Trave	Stato	Note	V V/T	V N/M	V stab	B22xL	B33xL	Snel22	Snel33	Chi mn	V flst	B11xL	Chi LT	Rif. cmb
463	ok	s=12,m=12	0.05	0.18	0.05	500.0	500.0	109.4	65.3	0.34	0.22	500.0	0.83	9,27,56,9
464	ok	s=12,m=12	0.04	0.14	0.04	500.0	500.0	109.4	65.3	0.34	0.17	500.0	0.84	21,21,85,21
465	ok	s=4,m=12	0.05	0.19	0.23	500.0	500.0	142.1	87.2	0.22	0.26	500.0	0.75	27,9,9,9
466	ok	s=4,m=12	0.05	0.20	0.23	500.0	500.0	142.1	87.2	0.22	0.26	500.0	0.75	27,15,15,9
467	ok	s=4,m=12	0.05	0.20	0.24	500.0	500.0	142.1	87.2	0.22	0.26	500.0	0.75	9,15,15,9
468	ok	s=4,m=12	0.05	0.20	0.24	500.0	500.0	142.1	87.2	0.22	0.26	500.0	0.75	15,15,15,9
469	ok	s=4,m=12	0.05	0.20	0.24	500.0	500.0	142.1	87.2	0.22	0.26	500.0	0.75	15,15,15,9
470	ok	s=4,m=12	0.05	0.20	0.23	500.0	500.0	142.1	87.2	0.22	0.26	500.0	0.75	15,9,9,9
471	ok	s=4,m=12	0.05	0.19	0.23	500.0	500.0	142.1	87.2	0.22	0.26	500.0	0.75	27,9,9,9
472	ok	s=4,m=12	0.05	0.20	0.13	500.0	500.0	142.1	87.2	0.22	0.26	500.0	0.75	27,15,25,9
473	ok	s=4,m=12	0.05	0.20	0.05	500.0	500.0	142.1	87.2	0.22	0.26	500.0	0.75	9,9,57,9
474	ok	s=4,m=12	0.06	0.26	0.05	500.0	500.0	142.1	87.2	0.22	0.34	500.0	0.75	9,9,73,9
475	ok	s=3,m=12	0.04	0.11	0.09	500.0	500.0	110.6	67.2	0.33	0.11	500.0	0.95	11,80,80,80
476	ok	s=3,m=12	0.07	0.16	0.11	500.0	500.0	110.6	67.2	0.33	0.15	500.0	0.89	9,9,86,80
477	ok	s=3,m=12	0.09	0.19	0.13	500.0	500.0	110.6	67.2	0.33	0.17	500.0	0.90	9,9,82,80
478	ok	s=3,m=12	0.09	0.21							0.20	500.0	1.00	9,9,0,11
479	ok	s=3,m=12	0.10	0.22							0.21	500.0	1.00	9,9,0,11
480	ok	s=3,m=12	0.10	0.22							0.20	500.0	1.00	9,9,0,33
481	ok	s=3,m=12	0.09	0.21	0.04	500.0	500.0	110.6	67.2	0.33	0.18	500.0	0.96	9,9,79,76
482	ok	s=3,m=12	0.09	0.19	0.07	500.0	500.0	110.6	67.2	0.33	0.18	500.0	0.96	9,9,59,72
483	ok	s=3,m=12	0.08	0.17	0.10	500.0	500.0	110.6	67.2	0.33	0.17	500.0	0.97	9,9,16,74
484	ok	s=3,m=12	0.07	0.15	0.11	500.0	500.0	110.6	67.2	0.33	0.15	500.0	0.98	9,74,9,74
485	ok	s=3,m=12	0.05	0.12	0.09	500.0	500.0	110.6	67.2	0.33	0.11	500.0	0.91	9,9,9,74
486	ok	s=3,m=12	0.05	0.22	0.16	500.0	500.0	110.6	67.2	0.33	0.25	500.0	0.87	27,9,11,27
487	ok	s=6,m=12	0.02	0.09	0.03	500.0	500.0	247.8	71.9	0.08				15,9,73,0
488	ok	s=6,m=12	0.01	0.02	0.05	500.0	500.0	247.8	71.9	0.08				21,17,79,0
489	ok	s=12,m=12	0.03	0.19	0.05	500.0	500.0	109.4	65.3	0.34	0.23	500.0	0.83	15,15,85,15
490	ok	s=4,m=12	0.02	0.05	0.01	500.0	500.0	142.1	87.2	0.22	0.07	500.0	0.75	23,29,81,11
491	ok	s=4,m=12	0.07	0.24	0.24	500.0	500.0	142.1	87.2	0.22	0.32	500.0	0.75	27,15,29,9
492	ok	s=4,m=12	0.07	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.32	500.0	0.75	27,21,21,9
493	ok	s=4,m=12	0.07	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.32	500.0	0.75	15,21,21,9
494	ok	s=4,m=12	0.07	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.32	500.0	0.75	21,21,21,9
495	ok	s=4,m=12	0.07	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.32	500.0	0.75	15,21,21,9
496	ok	s=4,m=12	0.07	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.32	500.0	0.75	21,15,21,9
497	ok	s=4,m=12	0.07	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.32	500.0	0.75	15,15,21,9
498	ok	s=4,m=12	0.07	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.32	500.0	0.75	27,15,21,9
499	ok	s=4,m=12	0.07	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.32	500.0	0.75	27,21,21,9
500	ok	s=4,m=12	0.07	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.32	500.0	0.75	9,15,21,9
501	ok	s=4,m=12	0.03	0.07	0.07	500.0	500.0	142.1	87.2	0.22	0.09	500.0	0.75	9,9,23,9
502	ok	s=4,m=12	0.06	0.14	0.03	500.0	500.0	142.1	87.2	0.22	0.19	500.0	0.75	15,9,73,9
503	ok	s=3,m=12	0.04	0.13	0.14	500.0	500.0	110.6	67.2	0.33	0.16	500.0	0.81	17,80,80,80
504	ok	s=3,m=12	0.04	0.16	0.11	500.0	500.0	110.6	67.2	0.33	0.18	500.0	0.87	1,80,56,80
505	ok	s=3,m=12	0.05	0.20	0.20	500.0	500.0	110.6	67.2	0.33	0.23	500.0	0.87	1,1,9,1
506	ok	s=3,m=12	0.06	0.22	0.22	500.0	500.0	110.6	67.2	0.33	0.25	500.0	0.87	1,1,9,1
507	ok	s=3,m=12	0.06	0.23	0.24	500.0	500.0	110.6	67.2	0.33	0.27	500.0	0.86	1,1,9,1
508	ok	s=3,m=12	0.06	0.25	0.26	500.0	500.0	110.6	67.2	0.33	0.29	500.0	0.86	1,1,11,1
509	ok	s=3,m=12	0.06	0.24	0.25	500.0	500.0	110.6	67.2	0.33	0.30	500.0	0.81	1,76,76,76
510	ok	s=3,m=12	0.05	0.25	0.25	500.0	500.0	110.6	67.2	0.33	0.30	500.0	0.81	1,74,74,74
511	ok	s=3,m=12	0.05	0.25	0.21	500.0	500.0	110.6	67.2	0.33	0.31	500.0	0.81	1,74,82,74
512	ok	s=3,m=12	0.04	0.24	0.18	500.0	500.0	110.6	67.2	0.33	0.30	500.0	0.80	74,74,58,74
513	ok	s=3,m=12	0.02	0.09	0.09	500.0	500.0	110.6	67.2	0.33	0.11	500.0	0.83	15,15,9,9
514	ok	s=3,m=12	0.04	0.13	0.12	500.0	500.0	110.6	67.2	0.33	0.15	500.0	0.83	21,15,15,15
515	ok	s=4,m=12	0.03	0.04	0.04	500.0	500.0	142.1	87.2	0.22	0.05	500.0	0.75	15,21,12,21
516	ok	s=3,m=12	0.03	0.06	0.05	500.0	500.0	110.6	67.2	0.33	0.05	500.0	0.88	23,17,17,23
517	ok	s=3,m=12	0.07	0.14	0.12	500.0	500.0	110.6	67.2	0.33	0.16	500.0	0.89	21,21,21,21
518	ok	s=3,m=12	0.06	0.14	0.13	500.0	500.0	110.6	67.2	0.33	0.17	500.0	0.83	27,21,21,21
519	ok	s=4,m=12	0.05	0.19	0.22	500.0	500.0	142.1	87.2	0.22	0.25	500.0	0.75	9,21,21,9
520	ok	s=4,m=12	0.05	0.19	0.22	500.0	500.0	142.1	87.2	0.22	0.25	500.0	0.75	15,9,21,9
521	ok	s=4,m=12	0.05	0.19	0.12	500.0	500.0	142.1	87.2	0.22	0.25	500.0	0.75	15,15,26,9
522	ok	s=4,m=12	0.05	0.19	0.04	500.0	500.0	142.1	87.2	0.22	0.25	500.0	0.75	15,15,75,9
523	ok	s=4,m=12	0.05	0.19	0.04	500.0	500.0	142.1	87.2	0.22	0.25	500.0	0.75	9,15,75,9
524	ok	s=4,m=12	0.05	0.19	0.04	500.0	500.0	142.1	87.2	0.22	0.25	500.0	0.75	9,15,71,9
525	ok	s=4,m=12	0.05	0.19	0.05	500.0	500.0	142.1	87.2	0.22	0.25	500.0	0.75	9,9,79,9
526	ok	s=4,m=12	0.05	0.19	0.18	500.0	500.0	142.1	87.2	0.22	0.25	500.0	0.75	9,9,24,9
527	ok	s=4,m=12	0.05	0.19	0.22	500.0	500.0	142.1	87.2	0.22	0.25	500.0	0.75	9,21,21,9
528	ok	s=4,m=12	0.03	0.06	0.08	500.0	500.0	142.1	87.2	0.22	0.07	500.0	0.75	9,9,9,9

Trave	Stato	Note	V V/T	V N/M	V stab	B22xL	B33xL	Snel22	Snel33	Chi mn	V flst	B11xL	Chi LT	Rif. cmb
529	ok	s=4,m=12	0.02	0.03	0.04	500.0	500.0	142.1	87.2	0.22	0.04	500.0	0.75	15,15,9,9
530	ok	s=3,m=12	0.04	0.20	0.17	500.0	500.0	110.6	67.2	0.33	0.22	500.0	0.92	21,15,15,15
531	ok	s=3,m=12	0.07	0.26	0.19	500.0	500.0	110.6	67.2	0.33	0.11	500.0	0.93	27,27,27,60
532	ok	s=3,m=12	0.05	0.23	0.19	500.0	500.0	110.6	67.2	0.33	0.26	500.0	0.88	9,9,9,15
533	ok	s=3,m=12	0.07	0.17	0.17	500.0	500.0	110.6	67.2	0.33	0.20	500.0	0.81	9,9,9,9
534	ok	s=3,m=12	0.03	0.05	0.02	500.0	500.0	110.6	67.2	0.33	0.05	500.0	0.88	27,15,59,27
535	ok	s=3,m=12	0.03	0.05	0.04	500.0	500.0	110.6	67.2	0.33	0.05	500.0	0.88	9,15,15,21
536	ok	s=3,m=12	0.03	0.05	0.04	500.0	500.0	110.6	67.2	0.33	0.05	500.0	0.88	15,15,15,21
537	ok	s=3,m=12	0.03	0.05	0.04	500.0	500.0	110.6	67.2	0.33	0.05	500.0	0.88	9,15,15,15
538	ok	s=3,m=12	0.03	0.05	0.04	500.0	500.0	110.6	67.2	0.33	0.05	500.0	0.88	15,15,15,27
539	ok	s=3,m=12	0.03	0.05	0.04	500.0	500.0	110.6	67.2	0.33	0.05	500.0	0.88	9,9,9,21
540	ok	s=3,m=12	0.03	0.05	0.04	500.0	500.0	110.6	67.2	0.33	0.05	500.0	0.88	9,9,9,27
541	ok	s=3,m=12	0.03	0.05	0.04	500.0	500.0	110.6	67.2	0.33	0.05	500.0	0.88	9,9,9,27
542	ok	s=3,m=12	0.02	0.04	0.01	500.0	500.0	110.6	67.2	0.33	0.05	500.0	0.88	21,9,62,9
543	ok	s=4,m=12	0.08	0.17	0.03	500.0	500.0	142.1	87.2	0.22	0.19	500.0	0.83	27,9,82,9
544	ok	s=6,m=12	0.02	0.07	0.03	500.0	500.0	247.8	71.9	0.08				21,15,79,0
545	ok	s=6,m=12	0.01	0.08	0.13	500.0	500.0	247.8	71.9	0.08				27,21,82,0
546	ok	s=6,m=12	0.01	0.06	0.09	500.0	500.0	247.8	71.9	0.08				15,9,62,0
547	ok	s=6,m=12	0.01	0.06	0.06	500.0	500.0	247.8	71.9	0.08				15,15,75,0
548	ok	s=6,m=12	0.01	0.06	0.05	500.0	500.0	247.8	71.9	0.08				15,15,75,0
549	ok	s=6,m=12	0.01	0.06	0.05	500.0	500.0	247.8	71.9	0.08				9,15,75,0
550	ok	s=6,m=12	0.01	0.06	0.05	500.0	500.0	247.8	71.9	0.08				9,15,71,0
551	ok	s=6,m=12	0.01	0.06	0.07	500.0	500.0	247.8	71.9	0.08				9,9,79,0
552	ok	s=6,m=12	0.01	0.06	0.09	500.0	500.0	247.8	71.9	0.08				9,9,79,0
553	ok	s=6,m=12	0.01	0.06	0.11	500.0	500.0	247.8	71.9	0.08				9,21,59,0
554	ok	s=6,m=12	0.01	0.05	0.11	500.0	500.0	247.8	71.9	0.08				9,9,59,0
555	ok	s=6,m=12	0.01	0.05	0.01	500.0	500.0	247.8	71.9	0.08				9,9,73,0
556	ok	s=6,m=12	0.02	0.10	0.10	500.0	500.0	247.8	71.9	0.08				9,15,59,0
557	ok	s=12,m=12	0.05	0.16	0.05	500.0	500.0	109.4	65.3	0.34	0.19	500.0	0.84	9,9,60,9
558	ok	s=4,m=12	0.08	0.30	0.34	500.0	500.0	142.1	87.2	0.22	0.39	500.0	0.75	27,15,15,9
559	ok	s=4,m=12	0.10	0.38	0.45	500.0	500.0	142.1	87.2	0.22	0.51	500.0	0.75	27,9,9,9
560	ok	s=4,m=12	0.11	0.43	0.26	500.0	500.0	142.1	87.2	0.22	0.57	500.0	0.75	27,9,13,9
561	ok	s=4,m=12	0.09	0.36	0.06	500.0	500.0	142.1	87.2	0.22	0.47	500.0	0.75	21,9,73,9
562	ok	s=6,m=12	0.03	0.13	0.05	500.0	500.0	247.8	71.9	0.08				21,9,73,0
563	ok	s=4,m=12	0.06	0.14	0.15	500.0	500.0	142.1	87.2	0.22	0.17	500.0	0.76	9,15,15,15
564	ok	s=6,m=12	0.01	0.05	0.11	500.0	500.0	247.8	71.9	0.08				21,15,82,0
565	ok	s=6,m=12	0.01	0.05	0.04	500.0	500.0	247.8	71.9	0.08				21,21,9,0
566	ok	s=4,m=12	0.07	0.26	0.33	500.0	500.0	142.1	87.2	0.22	0.34	500.0	0.76	27,9,9,15
567	ok	s=3,m=12	0.06	0.24	0.21	500.0	500.0	110.6	67.2	0.33	0.27	500.0	0.88	15,9,9,27
568	ok	s=3,m=12	0.09	0.24	0.11	500.0	500.0	110.6	67.2	0.33	0.25	500.0	0.98	21,21,31,21
569	ok	s=3,m=12	0.03	0.12	0.07	500.0	500.0	110.6	67.2	0.33	0.14	500.0	0.89	27,21,85,21
570	ok	s=3,m=12	0.03	0.06	0.02	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	15,15,59,21
571	ok	s=3,m=12	0.03	0.05	0.05	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	9,15,21,27
572	ok	s=3,m=12	0.06	0.21	0.07	500.0	500.0	110.6	67.2	0.33	0.21	500.0	0.99	27,27,75,27
573	ok	s=3,m=12	0.08	0.29	0.03	500.0	500.0	110.6	67.2	0.33	0.10	500.0	0.99	21,21,61,8
574	ok	s=3,m=12	0.09	0.29	0.13	500.0	500.0	110.6	67.2	0.33	0.10	500.0	0.92	27,27,13,60
575	ok	s=3,m=12	0.06	0.24	0.21	500.0	500.0	110.6	67.2	0.33	0.28	500.0	0.88	9,9,9,21
576	ok	s=6,m=12	0.01	0.05	0.11	500.0	500.0	247.8	71.9	0.08				27,15,59,0
577	ok	s=4,m=12	0.05	0.17	0.10	500.0	500.0	142.1	87.2	0.22	0.23	500.0	0.75	27,15,32,9
578	ok	s=4,m=12	0.07	0.27	0.17	500.0	500.0	142.1	87.2	0.22	0.36	500.0	0.75	27,15,25,9
579	ok	s=4,m=12	0.08	0.30	0.35	500.0	500.0	142.1	87.2	0.22	0.39	500.0	0.75	27,15,15,9
580	ok	s=4,m=12	0.06	0.23	0.28	500.0	500.0	142.1	87.2	0.22	0.30	500.0	0.75	21,15,15,9
581	ok	s=6,m=12	0.01	0.07	0.13	500.0	500.0	247.8	71.9	0.08				21,15,62,0
582	ok	s=6,m=12	0.01	0.07	0.07	500.0	500.0	247.8	71.9	0.08				15,9,9,0
583	ok	s=4,m=12	0.06	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.31	500.0	0.75	15,9,9,9
584	ok	s=4,m=12	0.10	0.38	0.44	500.0	500.0	142.1	87.2	0.22	0.51	500.0	0.75	27,9,9,9
585	ok	s=4,m=12	0.11	0.43	0.49	500.0	500.0	142.1	87.2	0.22	0.57	500.0	0.75	15,9,9,9
586	ok	s=4,m=12	0.09	0.36	0.22	500.0	500.0	142.1	87.2	0.22	0.47	500.0	0.75	15,9,25,9
587	ok	s=6,m=12	0.03	0.13	0.06	500.0	500.0	247.8	71.9	0.08				9,9,26,0
588	ok	s=12,m=12	0.03	0.06	0.05	500.0	500.0	109.4	65.3	0.34	0.06	500.0	0.91	21,9,15,21
589	ok	s=12,m=12	0.09	0.36	0.31	500.0	500.0	109.4	65.3	0.34	0.41	500.0	0.88	21,9,9,21
590	ok	s=12,m=12	0.10	0.31	0.05	500.0	500.0	109.4	65.3	0.34	0.33	500.0	0.93	21,21,83,21
591	ok	s=12,m=12	0.02	0.10	0.07	500.0	500.0	109.4	65.3	0.34	0.11	500.0	0.85	69,69,85,69
592	ok	s=12,m=12	0.02	0.04	0.01	500.0	500.0	109.4	65.3	0.34	0.04	500.0	0.91	15,15,59,21
593	ok	s=3,m=12	0.03	0.06	0.03	500.0	500.0	110.6	67.2	0.33	0.07	500.0	0.88	15,9,26,9
594	ok	s=3,m=12	0.06	0.21	0.06	500.0	500.0	110.6	67.2	0.33	0.22	500.0	0.98	27,27,75,27

Trave	Stato	Note	V V/T	V N/M	V stab	B22xL	B33xL	Snel22	Snel33	Chi mn	V flst	B11xL	Chi LT	Rif. cmb
595	ok	s=3,m=12	0.08	0.31	0.03	500.0	500.0	110.6	67.2	0.33	0.10	500.0	0.99	21,21,61,8
596	ok	s=3,m=12	0.10	0.31							0.10	500.0	0.99	27,27,0,8
597	ok	s=3,m=12	0.06	0.26	0.22	500.0	500.0	110.6	67.2	0.33	0.30	500.0	0.88	15,15,9,21
598	ok	s=6,m=12	0.03	0.16	0.15	500.0	500.0	247.8	71.9	0.08				15,9,67,0
599	ok	s=4,m=12	0.08	0.34	0.23	500.0	500.0	142.1	87.2	0.22	0.45	500.0	0.75	21,9,31,9
600	ok	s=4,m=12	0.08	0.36	0.35	500.0	500.0	142.1	87.2	0.22	0.48	500.0	0.75	21,9,23,9
601	ok	s=4,m=12	0.09	0.39	0.46	500.0	500.0	142.1	87.2	0.22	0.52	500.0	0.75	21,9,9,9
602	ok	s=4,m=12	0.07	0.30	0.36	500.0	500.0	142.1	87.2	0.22	0.40	500.0	0.75	21,15,15,9
603	ok	s=6,m=12	0.01	0.09	0.15	500.0	500.0	247.8	71.9	0.08				21,9,70,0
604	ok	s=6,m=12	0.01	0.09	0.10	500.0	500.0	247.8	71.9	0.08				15,9,9,0
605	ok	s=4,m=12	0.07	0.31	0.37	500.0	500.0	142.1	87.2	0.22	0.41	500.0	0.75	15,9,9,9
606	ok	s=4,m=12	0.12	0.51	0.58	500.0	500.0	142.1	87.2	0.22	0.67	500.0	0.75	27,9,9,9
607	ok	s=4,m=12	0.13	0.56	0.65	500.0	500.0	142.1	87.2	0.22	0.75	500.0	0.75	9,9,9,9
608	ok	s=4,m=12	0.11	0.47	0.45	500.0	500.0	142.1	87.2	0.22	0.62	500.0	0.75	15,9,23,9
609	ok	s=6,m=12	0.03	0.17	0.13	500.0	500.0	247.8	71.9	0.08				9,9,23,0
610	ok	s=12,m=12	0.05	0.21	0.17	500.0	500.0	109.4	65.3	0.34	0.23	500.0	0.91	15,15,9,9
611	ok	s=12,m=12	0.14	0.66	0.68	500.0	500.0	109.4	65.3	0.34	0.79	500.0	0.84	15,9,9,9
612	ok	s=12,m=12	0.13	0.54	0.21	500.0	500.0	109.4	65.3	0.34	0.61	500.0	0.89	21,21,70,21
613	ok	s=12,m=12	0.06	0.40	0.35	500.0	500.0	109.4	65.3	0.34	0.49	500.0	0.82	67,67,66,67
614	ok	s=12,m=12	0.02	0.05	0.03	500.0	500.0	109.4	65.3	0.34	0.04	500.0	0.91	9,81,83,9
615	ok	s=3,m=12	0.03	0.07	0.05	500.0	500.0	110.6	67.2	0.33	0.07	500.0	0.88	15,15,23,21
616	ok	s=3,m=12	0.06	0.22	0.09	500.0	500.0	110.6	67.2	0.33	0.23	500.0	0.97	27,27,25,27
617	ok	s=3,m=12	0.09	0.33	0.03	500.0	500.0	110.6	67.2	0.33	0.11	500.0	0.99	21,21,85,8
618	ok	s=3,m=12	0.10	0.33	0.08	500.0	500.0	110.6	67.2	0.33	0.11	500.0	0.99	27,27,55,8
619	ok	s=3,m=12	0.07	0.28	0.24	500.0	500.0	110.6	67.2	0.33	0.32	500.0	0.88	15,15,9,27
620	ok	s=6,m=12	0.03	0.19	0.16	500.0	500.0	247.8	71.9	0.08				9,9,63,0
621	ok	s=4,m=12	0.09	0.38	0.24	500.0	500.0	142.1	87.2	0.22	0.51	500.0	0.75	9,9,31,9
622	ok	s=4,m=12	0.08	0.36	0.35	500.0	500.0	142.1	87.2	0.22	0.48	500.0	0.75	9,9,23,9
623	ok	s=4,m=12	0.09	0.39	0.46	500.0	500.0	142.1	87.2	0.22	0.52	500.0	0.75	9,9,9,9
624	ok	s=4,m=12	0.07	0.30	0.36	500.0	500.0	142.1	87.2	0.22	0.40	500.0	0.75	15,9,9,9
625	ok	s=6,m=12	0.01	0.09	0.16	500.0	500.0	247.8	71.9	0.08				15,9,66,0
626	ok	s=6,m=12	0.01	0.09	0.10	500.0	500.0	247.8	71.9	0.08				9,9,9,0
627	ok	s=4,m=12	0.07	0.31	0.37	500.0	500.0	142.1	87.2	0.22	0.41	500.0	0.75	9,9,9,9
628	ok	s=4,m=12	0.12	0.51	0.58	500.0	500.0	142.1	87.2	0.22	0.67	500.0	0.75	9,9,9,9
629	ok	s=4,m=12	0.13	0.56	0.65	500.0	500.0	142.1	87.2	0.22	0.75	500.0	0.75	9,15,9,9
630	ok	s=4,m=12	0.11	0.47	0.45	500.0	500.0	142.1	87.2	0.22	0.62	500.0	0.75	9,9,23,9
631	ok	s=6,m=12	0.03	0.17	0.14	500.0	500.0	247.8	71.9	0.08				9,9,23,0
632	ok	s=12,m=12	0.05	0.21	0.17	500.0	500.0	109.4	65.3	0.34	0.23	500.0	0.91	21,15,9,15
633	ok	s=12,m=12	0.14	0.66	0.68	500.0	500.0	109.4	65.3	0.34	0.79	500.0	0.84	21,15,9,15
634	ok	s=12,m=12	0.13	0.54	0.21	500.0	500.0	109.4	65.3	0.34	0.61	500.0	0.89	21,21,69,21
635	ok	s=12,m=12	0.06	0.42	0.39	500.0	500.0	109.4	65.3	0.34	0.51	500.0	0.82	68,68,69,68
636	ok	s=12,m=12	0.02	0.05	0.03	500.0	500.0	109.4	65.3	0.34	0.04	500.0	0.91	9,80,60,15
637	ok	s=3,m=12	0.03	0.07	0.06	500.0	500.0	110.6	67.2	0.33	0.07	500.0	0.88	15,15,21,21
638	ok	s=3,m=12	0.06	0.20	0.12	500.0	500.0	110.6	67.2	0.33	0.21	500.0	0.96	27,27,59,27
639	ok	s=3,m=12	0.09	0.33	0.04	500.0	500.0	110.6	67.2	0.33	0.11	500.0	0.99	21,21,85,8
640	ok	s=3,m=12	0.10	0.33	0.07	500.0	500.0	110.6	67.2	0.33	0.11	500.0	1.00	27,21,56,8
641	ok	s=3,m=12	0.07	0.28	0.24	500.0	500.0	110.6	67.2	0.33	0.32	500.0	0.88	15,15,9,15
642	ok	s=6,m=12	0.03	0.16	0.15	500.0	500.0	247.8	71.9	0.08				21,9,63,0
643	ok	s=4,m=12	0.08	0.34	0.34	500.0	500.0	142.1	87.2	0.22	0.45	500.0	0.75	21,9,29,9
644	ok	s=4,m=12	0.08	0.36	0.41	500.0	500.0	142.1	87.2	0.22	0.48	500.0	0.75	21,9,21,9
645	ok	s=4,m=12	0.09	0.39	0.46	500.0	500.0	142.1	87.2	0.22	0.52	500.0	0.75	27,9,9,9
646	ok	s=4,m=12	0.07	0.30	0.36	500.0	500.0	142.1	87.2	0.22	0.40	500.0	0.75	21,9,9,9
647	ok	s=6,m=12	0.01	0.09	0.13	500.0	500.0	247.8	71.9	0.08				21,9,66,0
648	ok	s=6,m=12	0.01	0.09	0.10	500.0	500.0	247.8	71.9	0.08				27,9,74,0
649	ok	s=4,m=12	0.07	0.31	0.36	500.0	500.0	142.1	87.2	0.22	0.41	500.0	0.75	27,9,9,9
650	ok	s=4,m=12	0.12	0.51	0.58	500.0	500.0	142.1	87.2	0.22	0.67	500.0	0.75	27,9,9,9
651	ok	s=4,m=12	0.13	0.56	0.65	500.0	500.0	142.1	87.2	0.22	0.75	500.0	0.75	9,9,9,9
652	ok	s=4,m=12	0.11	0.47	0.54	500.0	500.0	142.1	87.2	0.22	0.62	500.0	0.75	27,9,21,9
653	ok	s=6,m=12	0.03	0.17	0.15	500.0	500.0	247.8	71.9	0.08				9,9,21,0
654	ok	s=12,m=12	0.03	0.06	0.05	500.0	500.0	109.4	65.3	0.34	0.06	500.0	0.91	21,15,9,21
655	ok	s=12,m=12	0.09	0.36	0.31	500.0	500.0	109.4	65.3	0.34	0.41	500.0	0.88	21,15,9,21
656	ok	s=12,m=12	0.10	0.31	0.06	500.0	500.0	109.4	65.3	0.34	0.33	500.0	0.93	21,21,80,21
657	ok	s=12,m=12	0.03	0.16	0.11	500.0	500.0	109.4	65.3	0.34	0.19	500.0	0.84	61,61,75,61
658	ok	s=12,m=12	0.02	0.04	0.02	500.0	500.0	109.4	65.3	0.34	0.04	500.0	0.91	27,9,25,21
659	ok	s=3,m=12	0.03	0.06	0.05	500.0	500.0	110.6	67.2	0.33	0.07	500.0	0.88	27,27,27,27
660	ok	s=3,m=12	0.10	0.38	0.24	500.0	500.0	110.6	67.2	0.33	0.39	500.0	0.96	59,59,79,59

Trave	Stato	Note	V V/T	V N/M	V stab	B22xL	B33xL	Snel22	Snel33	Chi mn	V flst	B11xL	Chi LT	Rif. cmb
661	ok	s=3,m=12	0.08	0.31	0.04	500.0	500.0	110.6	67.2	0.33	0.11	500.0	0.97	27,21,79,8
662	ok	s=3,m=12	0.10	0.31	0.03	500.0	500.0	110.6	67.2	0.33	0.11	500.0	0.99	21,27,69,8
663	ok	s=3,m=12	0.06	0.26	0.22	500.0	500.0	110.6	67.2	0.33	0.30	500.0	0.88	15,15,15,21
664	ok	s=6,m=12	0.01	0.05	0.11	500.0	500.0	247.8	71.9	0.08				27,9,75,0
665	ok	s=4,m=12	0.05	0.17	0.16	500.0	500.0	142.1	87.2	0.22	0.23	500.0	0.75	27,9,23,9
666	ok	s=4,m=12	0.07	0.27	0.27	500.0	500.0	142.1	87.2	0.22	0.36	500.0	0.75	27,9,23,9
667	ok	s=4,m=12	0.08	0.30	0.35	500.0	500.0	142.1	87.2	0.22	0.39	500.0	0.75	15,9,9,9
668	ok	s=4,m=12	0.06	0.23	0.27	500.0	500.0	142.1	87.2	0.22	0.30	500.0	0.75	9,9,9,9
669	ok	s=6,m=12	0.01	0.07	0.12	500.0	500.0	247.8	71.9	0.08				9,9,78,0
670	ok	s=6,m=12	0.01	0.07	0.07	500.0	500.0	247.8	71.9	0.08				27,9,9,0
671	ok	s=4,m=12	0.06	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.31	500.0	0.75	27,9,9,9
672	ok	s=4,m=12	0.10	0.38	0.44	500.0	500.0	142.1	87.2	0.22	0.51	500.0	0.75	21,9,9,9
673	ok	s=4,m=12	0.11	0.43	0.49	500.0	500.0	142.1	87.2	0.22	0.57	500.0	0.75	15,9,9,9
674	ok	s=4,m=12	0.09	0.35	0.41	500.0	500.0	142.1	87.2	0.22	0.47	500.0	0.75	21,9,21,9
675	ok	s=6,m=12	0.03	0.13	0.11	500.0	500.0	247.8	71.9	0.08				15,9,21,0
676	ok	s=3,m=12	0.06	0.24	0.21	500.0	500.0	110.6	67.2	0.33	0.27	500.0	0.88	9,15,9,27
677	ok	s=3,m=12	0.09	0.24	0.05	500.0	500.0	110.6	67.2	0.33	0.25	500.0	0.98	21,21,80,21
678	ok	s=3,m=12	0.03	0.13	0.13	500.0	500.0	110.6	67.2	0.33	0.15	500.0	0.88	28,21,57,21
679	ok	s=3,m=12	0.03	0.05	0.03	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	9,9,81,21
680	ok	s=3,m=12	0.03	0.06	0.05	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	9,27,27,27
681	ok	s=3,m=12	0.09	0.29	0.23	500.0	500.0	110.6	67.2	0.33	0.30	500.0	0.98	67,67,67,67
682	ok	s=3,m=12	0.08	0.29	0.04	500.0	500.0	110.6	67.2	0.33	0.10	500.0	0.98	21,21,59,8
683	ok	s=3,m=12	0.09	0.29	0.05	500.0	500.0	110.6	67.2	0.33	0.10	500.0	0.99	27,27,76,8
684	ok	s=3,m=12	0.06	0.24	0.21	500.0	500.0	110.6	67.2	0.33	0.28	500.0	0.88	15,15,15,21
685	ok	s=4,m=12	0.06	0.13	0.14	500.0	500.0	142.1	87.2	0.22	0.17	500.0	0.76	15,9,72,9
686	ok	s=6,m=12	0.01	0.05	0.12	500.0	500.0	247.8	71.9	0.08				21,9,72,0
687	ok	s=6,m=12	0.01	0.05	0.04	500.0	500.0	247.8	71.9	0.08				21,21,9,0
688	ok	s=4,m=12	0.07	0.26	0.33	500.0	500.0	142.1	87.2	0.22	0.34	500.0	0.76	27,9,9,9
689	ok	s=6,m=12	0.02	0.10	0.14	500.0	500.0	247.8	71.9	0.08				15,9,73,0
690	ok	s=12,m=12	0.05	0.16	0.13	500.0	500.0	109.4	65.3	0.34	0.19	500.0	0.84	15,15,22,15
691	ok	s=4,m=12	0.08	0.30	0.34	500.0	500.0	142.1	87.2	0.22	0.39	500.0	0.75	27,9,9,9
692	ok	s=4,m=12	0.10	0.38	0.44	500.0	500.0	142.1	87.2	0.22	0.51	500.0	0.75	27,9,9,9
693	ok	s=4,m=12	0.11	0.43	0.49	500.0	500.0	142.1	87.2	0.22	0.57	500.0	0.75	27,9,9,9
694	ok	s=4,m=12	0.09	0.35	0.41	500.0	500.0	142.1	87.2	0.22	0.47	500.0	0.75	21,9,27,9
695	ok	s=6,m=12	0.03	0.13	0.11	500.0	500.0	247.8	71.9	0.08				21,9,27,0
696	ok	s=6,m=12	0.02	0.07	0.04	500.0	500.0	247.8	71.9	0.08				21,9,73,0
697	ok	s=6,m=12	0.01	0.08	0.20	500.0	500.0	247.8	71.9	0.08				27,15,56,0
698	ok	s=6,m=12	0.01	0.06	0.16	500.0	500.0	247.8	71.9	0.08				15,15,59,0
699	ok	s=6,m=12	0.01	0.06	0.13	500.0	500.0	247.8	71.9	0.08				15,9,59,0
700	ok	s=6,m=12	0.01	0.06	0.16	500.0	500.0	247.8	71.9	0.08				9,9,71,0
701	ok	s=6,m=12	0.01	0.06	0.20	500.0	500.0	247.8	71.9	0.08				27,9,71,0
702	ok	s=6,m=12	0.01	0.06	0.20	500.0	500.0	247.8	71.9	0.08				27,9,71,0
703	ok	s=6,m=12	0.01	0.06	0.17	500.0	500.0	247.8	71.9	0.08				15,9,73,0
704	ok	s=6,m=12	0.01	0.06	0.11	500.0	500.0	247.8	71.9	0.08				9,9,73,0
705	ok	s=6,m=12	0.01	0.06	0.11	500.0	500.0	247.8	71.9	0.08				15,9,62,0
706	ok	s=6,m=12	0.01	0.04	0.12	500.0	500.0	247.8	71.9	0.08				16,9,62,0
707	ok	s=6,m=12	0.01	0.04	0.03	500.0	500.0	247.8	71.9	0.08				15,9,21,0
708	ok	s=3,m=12	0.07	0.18	0.19	500.0	500.0	110.6	67.2	0.33	0.22	500.0	0.80	15,15,15,15
709	ok	s=3,m=12	0.03	0.05	0.04	500.0	500.0	110.6	67.2	0.33	0.05	500.0	0.88	27,9,15,27
710	ok	s=3,m=12	0.03	0.04	0.04	500.0	500.0	110.6	67.2	0.33	0.05	500.0	0.88	21,9,9,15
711	ok	s=3,m=12	0.03	0.04	0.04	500.0	500.0	110.6	67.2	0.33	0.05	500.0	0.88	27,9,9,9
712	ok	s=3,m=12	0.03	0.05	0.04	500.0	500.0	110.6	67.2	0.33	0.05	500.0	0.88	27,27,9,15
713	ok	s=3,m=12	0.03	0.05	0.04	500.0	500.0	110.6	67.2	0.33	0.05	500.0	0.88	27,9,9,27
714	ok	s=3,m=12	0.03	0.05	0.04	500.0	500.0	110.6	67.2	0.33	0.05	500.0	0.88	27,9,9,21
715	ok	s=3,m=12	0.03	0.05	0.04	500.0	500.0	110.6	67.2	0.33	0.05	500.0	0.88	27,9,9,15
716	ok	s=3,m=12	0.03	0.05	0.04	500.0	500.0	110.6	67.2	0.33	0.05	500.0	0.88	9,9,9,9
717	ok	s=3,m=12	0.02	0.04	0.04	500.0	500.0	110.6	67.2	0.33	0.05	500.0	0.88	21,9,9,15
718	ok	s=4,m=12	0.08	0.16	0.14	500.0	500.0	142.1	87.2	0.22	0.19	500.0	0.83	27,9,15,27
719	ok	s=3,m=12	0.03	0.06	0.05	500.0	500.0	110.6	67.2	0.33	0.05	500.0	0.88	23,11,11,23
720	ok	s=3,m=12	0.08	0.15	0.12	500.0	500.0	110.6	67.2	0.33	0.16	500.0	0.89	21,21,9,21
721	ok	s=3,m=12	0.06	0.16	0.16	500.0	500.0	110.6	67.2	0.33	0.20	500.0	0.77	27,86,84,82
722	ok	s=4,m=12	0.05	0.19	0.22	500.0	500.0	142.1	87.2	0.22	0.25	500.0	0.75	15,15,9,9
723	ok	s=4,m=12	0.05	0.19	0.19	500.0	500.0	142.1	87.2	0.22	0.25	500.0	0.75	15,15,29,9
724	ok	s=4,m=12	0.05	0.19	0.22	500.0	500.0	142.1	87.2	0.22	0.25	500.0	0.75	15,9,27,9
725	ok	s=4,m=12	0.05	0.19	0.22	500.0	500.0	142.1	87.2	0.22	0.25	500.0	0.75	9,9,27,9
726	ok	s=4,m=12	0.05	0.19	0.22	500.0	500.0	142.1	87.2	0.22	0.25	500.0	0.75	27,9,27,9

Trave	Stato	Note	V V/T	V N/M	V stab	B22xL	B33xL	Snel22	Snel33	Chi mn	V flst	B11xL	Chi LT	Rif. cmb
727	ok	s=4,m=12	0.05	0.19	0.21	500.0	500.0	142.1	87.2	0.22	0.25	500.0	0.75	27,9,28,9
728	ok	s=4,m=12	0.05	0.19	0.21	500.0	500.0	142.1	87.2	0.22	0.25	500.0	0.75	15,9,22,9
729	ok	s=4,m=12	0.05	0.19	0.22	500.0	500.0	142.1	87.2	0.22	0.25	500.0	0.75	9,9,21,9
730	ok	s=4,m=12	0.05	0.19	0.22	500.0	500.0	142.1	87.2	0.22	0.25	500.0	0.75	15,21,21,9
731	ok	s=4,m=12	0.03	0.06	0.10	500.0	500.0	142.1	87.2	0.22	0.07	500.0	0.75	15,9,82,9
732	ok	s=4,m=12	0.02	0.03	0.04	500.0	500.0	142.1	87.2	0.22	0.04	500.0	0.75	9,27,82,9
733	ok	s=3,m=12	0.04	0.20	0.17	500.0	500.0	110.6	67.2	0.33	0.22	500.0	0.91	21,9,9,9
734	ok	s=3,m=12	0.07	0.26	0.19	500.0	500.0	110.6	67.2	0.33	0.10	500.0	0.94	27,27,9,67
735	ok	s=3,m=12	0.05	0.23	0.19	500.0	500.0	110.6	67.2	0.33	0.26	500.0	0.88	15,15,9,9
736	ok	s=3,m=12	0.03	0.13	0.11	500.0	500.0	110.6	67.2	0.33	0.15	500.0	0.83	21,9,9,9
737	ok	s=4,m=12	0.03	0.04	0.04	500.0	500.0	142.1	87.2	0.22	0.05	500.0	0.75	9,21,9,15
738	ok	s=3,m=12	0.04	0.21	0.15	500.0	500.0	110.6	67.2	0.33	0.23	500.0	0.81	81,81,80,81
739	ok	s=3,m=12	0.04	0.16	0.16	500.0	500.0	110.6	67.2	0.33	0.18	500.0	0.81	3,3,73,73
740	ok	s=3,m=12	0.05	0.20	0.24	500.0	500.0	110.6	67.2	0.33	0.25	500.0	0.77	3,62,82,62
741	ok	s=3,m=12	0.04	0.12	0.11	500.0	500.0	110.6	67.2	0.33	0.14	500.0	0.85	3,81,15,73
742	ok	s=3,m=12	0.05	0.38	0.46	500.0	500.0	110.6	67.2	0.33	0.48	500.0	0.76	74,74,74,74
743	ok	s=3,m=12	0.05	0.32	0.39	500.0	500.0	110.6	67.2	0.33	0.41	500.0	0.76	3,74,74,74
744	ok	s=3,m=12	0.05	0.27	0.32	500.0	500.0	110.6	67.2	0.33	0.34	500.0	0.78	3,72,78,72
745	ok	s=3,m=12	0.06	0.23	0.29	500.0	500.0	110.6	67.2	0.33	0.30	500.0	0.76	3,72,72,72
746	ok	s=3,m=12	0.05	0.21	0.19	500.0	500.0	110.6	67.2	0.33	0.24	500.0	0.87	3,3,56,3
747	ok	s=3,m=12	0.04	0.17	0.15	500.0	500.0	110.6	67.2	0.33	0.20	500.0	0.87	3,3,56,3
748	ok	s=3,m=12	0.02	0.09	0.09	500.0	500.0	110.6	67.2	0.33	0.11	500.0	0.81	10,71,15,15
749	ok	s=4,m=12	0.06	0.14	0.15	500.0	500.0	142.1	87.2	0.22	0.19	500.0	0.75	9,9,28,9
750	ok	s=4,m=12	0.03	0.07	0.07	500.0	500.0	142.1	87.2	0.22	0.09	500.0	0.75	15,9,23,9
751	ok	s=6,m=12	0.01	0.02	0.08	500.0	500.0	247.8	71.9	0.08				21,11,73,0
752	ok	s=12,m=12	0.03	0.19	0.17	500.0	500.0	109.4	65.3	0.34	0.23	500.0	0.83	9,9,21,9
753	ok	s=4,m=12	0.02	0.05	0.06	500.0	500.0	142.1	87.2	0.22	0.07	500.0	0.75	23,29,6,19
754	ok	s=4,m=12	0.07	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.32	500.0	0.75	27,9,27,9
755	ok	s=4,m=12	0.07	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.32	500.0	0.75	27,27,27,9
756	ok	s=4,m=12	0.07	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.32	500.0	0.75	9,27,27,9
757	ok	s=4,m=12	0.07	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.32	500.0	0.75	15,27,27,9
758	ok	s=4,m=12	0.07	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.32	500.0	0.75	9,27,27,9
759	ok	s=4,m=12	0.07	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.32	500.0	0.75	27,21,21,9
760	ok	s=4,m=12	0.07	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.32	500.0	0.75	15,21,21,9
761	ok	s=4,m=12	0.07	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.32	500.0	0.75	9,21,21,9
762	ok	s=4,m=12	0.07	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.32	500.0	0.75	9,21,21,9
763	ok	s=4,m=12	0.07	0.24	0.28	500.0	500.0	142.1	87.2	0.22	0.32	500.0	0.75	15,9,21,9
764	ok	s=6,m=12	0.02	0.09	0.08	500.0	500.0	247.8	71.9	0.08				9,9,28,0
765	ok	s=3,m=12	0.05	0.22	0.10	500.0	500.0	110.6	67.2	0.33	0.25	500.0	0.87	27,27,13,27
766	ok	s=3,m=12	0.04	0.12	0.07	500.0	500.0	110.6	67.2	0.33	0.12	500.0	0.97	81,81,17,81
767	ok	s=3,m=12	0.07	0.15	0.11	500.0	500.0	110.6	67.2	0.33	0.14	500.0	0.91	15,15,81,81
768	ok	s=3,m=12	0.08	0.18	0.12	500.0	500.0	110.6	67.2	0.33	0.15	500.0	0.86	15,15,79,83
769	ok	s=3,m=12	0.07	0.17	0.12	500.0	500.0	110.6	67.2	0.33	0.16	500.0	0.90	15,15,75,73
770	ok	s=3,m=12	0.08	0.20	0.20	500.0	500.0	110.6	67.2	0.33	0.20	500.0	1.00	15,15,71,15
771	ok	s=3,m=12	0.09	0.20	0.19	500.0	500.0	110.6	67.2	0.33	0.20	500.0	1.00	15,15,71,15
772	ok	s=3,m=12	0.09	0.21	0.18	500.0	500.0	110.6	67.2	0.33	0.21	500.0	1.00	15,15,71,15
773	ok	s=3,m=12	0.09	0.22	0.15	500.0	500.0	110.6	67.2	0.33	0.20	500.0	1.00	15,15,73,17
774	ok	s=3,m=12	0.09	0.21	0.13	500.0	500.0	110.6	67.2	0.33	0.19	500.0	1.00	15,15,71,17
775	ok	s=3,m=12	0.08	0.17	0.11	500.0	500.0	110.6	67.2	0.33	0.16	500.0	0.88	15,15,9,71
776	ok	s=3,m=12	0.06	0.12	0.09	500.0	500.0	110.6	67.2	0.33	0.12	500.0	0.90	15,15,15,71
777	ok	s=4,m=12	0.06	0.25	0.06	500.0	500.0	142.1	87.2	0.22	0.34	500.0	0.75	15,9,79,9
778	ok	s=12,m=12	0.02	0.02	0.02	500.0	500.0	109.4	65.3	0.34	0.02	500.0	0.86	15,29,73,17
779	ok	s=12,m=12	0.05	0.18	0.17	500.0	500.0	109.4	65.3	0.34	0.22	500.0	0.83	15,27,15,15
780	ok	s=12,m=12	0.04	0.14	0.13	500.0	500.0	109.4	65.3	0.34	0.17	500.0	0.84	21,21,21,21
781	ok	s=4,m=12	0.05	0.19	0.23	500.0	500.0	142.1	87.2	0.22	0.26	500.0	0.75	27,9,9,9
782	ok	s=4,m=12	0.05	0.20	0.23	500.0	500.0	142.1	87.2	0.22	0.26	500.0	0.75	15,9,9,9
783	ok	s=4,m=12	0.05	0.20	0.23	500.0	500.0	142.1	87.2	0.22	0.26	500.0	0.75	15,9,9,9
784	ok	s=4,m=12	0.05	0.20	0.23	500.0	500.0	142.1	87.2	0.22	0.26	500.0	0.75	27,9,9,9
785	ok	s=4,m=12	0.05	0.20	0.23	500.0	500.0	142.1	87.2	0.22	0.26	500.0	0.75	27,9,9,9
786	ok	s=4,m=12	0.05	0.20	0.23	500.0	500.0	142.1	87.2	0.22	0.26	500.0	0.75	15,9,9,9
787	ok	s=4,m=12	0.05	0.20	0.23	500.0	500.0	142.1	87.2	0.22	0.26	500.0	0.75	9,9,9,9
788	ok	s=4,m=12	0.05	0.19	0.22	500.0	500.0	142.1	87.2	0.22	0.26	500.0	0.75	9,27,27,9
789	ok	s=4,m=12	0.05	0.20	0.21	500.0	500.0	142.1	87.2	0.22	0.26	500.0	0.75	15,9,28,9
790	ok	s=3,m=12	0.05	0.21	0.17	500.0	500.0	110.6	67.2	0.33	0.24	500.0	0.88	15,15,28,21
791	ok	s=3,m=12	0.01	0.03	0.02	500.0	500.0	110.6	67.2	0.33	0.03	500.0	0.88	15,9,9,9
792	ok	s=3,m=12	0.03	0.07	0.05	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	27,27,9,15

Trave	Stato	Note	V V/T	V N/M	V stab	B22xL	B33xL	Snel22	Snel33	Chi mn	V flst	B11xL	Chi LT	Rif. cmb
793	ok	s=3,m=12	0.03	0.06	0.05	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	27,21,9,9
794	ok	s=3,m=12	0.03	0.06	0.02	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	27,27,59,15
795	ok	s=3,m=12	0.03	0.06	0.05	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	27,27,28,9
796	ok	s=3,m=12	0.03	0.06	0.05	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	27,9,28,15
797	ok	s=3,m=12	0.03	0.06	0.05	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	27,9,28,9
798	ok	s=3,m=12	0.03	0.06	0.02	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	27,9,73,9
799	ok	s=3,m=12	0.03	0.06	0.02	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	27,9,73,15
800	ok	s=3,m=12	0.03	0.06	0.02	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	27,27,57,9
801	ok	s=3,m=12	0.03	0.06	0.05	500.0	500.0	110.6	67.2	0.33	0.06	500.0	0.88	21,9,9,15
802	ok	s=3,m=12	0.04	0.07	0.06	500.0	500.0	110.6	67.2	0.33	0.08	500.0	0.88	21,9,9,21
803	ok	s=6,m=12	0.01	0.04	0.09	500.0	500.0	247.8	71.9	0.08				15,9,73,0
804	ok	s=6,m=12	0.01	0.06	0.14	500.0	500.0	247.8	71.9	0.08				9,9,57,0
805	ok	s=6,m=12	0.01	0.06	0.12	500.0	500.0	247.8	71.9	0.08				27,9,62,0
806	ok	s=6,m=12	0.01	0.06	0.14	500.0	500.0	247.8	71.9	0.08				15,9,82,0
807	ok	s=6,m=12	0.01	0.07	0.19	500.0	500.0	247.8	71.9	0.08				15,9,74,0
808	ok	s=6,m=12	0.01	0.07	0.24	500.0	500.0	247.8	71.9	0.08				27,9,74,0
809	ok	s=6,m=12	0.01	0.07	0.25	500.0	500.0	247.8	71.9	0.08				27,9,72,0
810	ok	s=6,m=12	0.01	0.07	0.21	500.0	500.0	247.8	71.9	0.08				15,9,72,0
811	ok	s=6,m=12	0.01	0.06	0.14	500.0	500.0	247.8	71.9	0.08				9,9,72,0
812	ok	s=6,m=12	0.01	0.06	0.14	500.0	500.0	247.8	71.9	0.08				9,27,59,0
813	ok	s=6,m=12	0.01	0.06	0.20	500.0	500.0	247.8	71.9	0.08				15,9,79,0
814	ok	s=6,m=12	0.02	0.16	0.11	500.0	500.0	247.8	71.9	0.08				15,9,30,0
Trave			**V V/T**	**V N/M**	**V stab**	**B22xL**	**B33xL**	**Snel22**	**Snel33**	**Chi mn**	**V flst**	**B11xL**	**Chi LT**	
										0.08			0.75	
			0.14	0.66	0.68	500.00	500.00	247.80	87.17		0.79	500.00		

Pilas.	Stato	Note	V V/T	V N/M	V stab	B22xL	B33xL	Snel22	Snel33	Chi mn	V flst	B11xL	Chi LT	Rif. cmb
						cm	cm					cm		
79	ok	s=1,m=12	0.07	0.41	0.30	150.0	150.0	19.9	19.9	0.98				9,27,27,0
80	ok	s=1,m=12	0.07	0.41	0.30	150.0	150.0	19.9	19.9	0.98				15,27,27,0
291	ok	s=1,m=12	6.12e-03	0.11	0.23	1160.0	1160.0	154.1	154.1	0.21				76,60,15,0
294	ok	s=1,m=12	7.14e-03	0.13	0.31	1160.0	1160.0	154.1	154.1	0.21				60,60,27,0
297	ok	s=1,m=12	6.47e-03	0.12	0.32	1160.0	1160.0	154.1	154.1	0.21				60,60,27,0
300	ok	s=1,m=12	5.95e-03	0.12	0.34	1160.0	1160.0	154.1	154.1	0.21				68,68,27,0
303	ok	s=1,m=12	5.20e-03	0.11	0.34	1160.0	1160.0	154.1	154.1	0.21				63,22,27,0
306	ok	s=1,m=12	7.22e-03	0.14	0.34	1160.0	1160.0	154.1	154.1	0.21				67,67,27,0
309	ok	s=1,m=12	6.99e-03	0.14	0.32	1160.0	1160.0	154.1	154.1	0.21				67,67,27,0
312	ok	s=1,m=12	7.76e-03	0.14	0.17	1160.0	1160.0	154.1	154.1	0.21				73,73,21,0
313	ok	s=1,m=12	6.44e-03	0.11	0.23	1160.0	1160.0	154.1	154.1	0.21				71,71,9,0
436	ok	s=1,m=12	0.04	0.31	0.20	260.0	260.0	34.5	34.5	0.90				64,64,56,0
Pilas.			**V V/T**	**V N/M**	**V stab**	**B22xL**	**B33xL**	**Snel22**	**Snel33**	**Chi mn**	**V flst**	**B11xL**	**Chi LT**	
										0.21				
			0.07	0.41	0.34	1160.00	1160.00	154.12	154.12					

Pilas.	Stato	Note	V V/T	V N/M	V stab	B22xL	B33xL	Snel22	Snel33	Chi mn	V flst	B11xL	Chi LT	Rif. cmb
						cm	cm					cm		
278	ok	s=1,m=12	7.79e-03	0.14	0.13	500.0	500.0	66.4	66.4	0.68				80,80,80,0
279	ok	s=1,m=12	7.93e-03	0.14	0.14	500.0	500.0	66.4	66.4	0.68				80,80,80,0
280	ok	s=1,m=12	8.72e-03	0.18	0.17	500.0	500.0	66.4	66.4	0.68				80,9,9,0
281	ok	s=1,m=12	8.81e-03	0.20	0.19	500.0	500.0	66.4	66.4	0.68				80,9,9,0
282	ok	s=1,m=12	8.66e-03	0.21	0.19	500.0	500.0	66.4	66.4	0.68				72,9,9,0
283	ok	s=1,m=12	8.94e-03	0.21	0.19	500.0	500.0	66.4	66.4	0.68				76,9,9,0
284	ok	s=1,m=12	8.96e-03	0.19	0.18	500.0	500.0	66.4	66.4	0.68				76,9,9,0
285	ok	s=1,m=12	8.95e-03	0.17	0.17	500.0	500.0	66.4	66.4	0.68				72,72,9,0
286	ok	s=1,m=12	8.88e-03	0.17	0.15	500.0	500.0	66.4	66.4	0.68				74,74,74,0
287	ok	s=1,m=12	8.43e-03	0.16	0.14	500.0	500.0	66.4	66.4	0.68				74,74,74,0
288	ok	s=1,m=12	6.12e-03	0.11	0.10	500.0	500.0	66.4	66.4	0.68				74,74,74,0
289	ok	s=1,m=12	6.22e-03	0.08	0.08	500.0	500.0	66.4	66.4	0.68				71,60,60,0
290	ok	s=1,m=12	6.91e-03	0.14	0.15	500.0	500.0	66.4	66.4	0.68				61,21,21,0
292	ok	s=1,m=12	5.45e-03	0.11	0.11	500.0	500.0	66.4	66.4	0.68				60,60,27,0
293	ok	s=1,m=12	4.91e-03	0.10	0.10	500.0	500.0	66.4	66.4	0.68				61,61,21,0
295	ok	s=1,m=12	5.40e-03	0.12	0.14	500.0	500.0	66.4	66.4	0.68				72,27,27,0

Pilas.	Stato	Note	V V/T	V N/M	V stab	B22xL	B33xL	Snel22	Snel33	Chi mn	V flst	B11xL	Chi LT	Rif. cmb
296	ok	s=1,m=12	5.69e-03	0.17	0.19	500.0	500.0	66.4	66.4	0.68				5,27,27,0
298	ok	s=1,m=12	5.67e-03	0.13	0.15	500.0	500.0	66.4	66.4	0.68				73,27,27,0
299	ok	s=1,m=12	7.79e-03	0.31	0.33	500.0	500.0	66.4	66.4	0.68				27,27,27,0
301	ok	s=1,m=12	5.66e-03	0.13	0.15	500.0	500.0	66.4	66.4	0.68				73,27,27,0
302	ok	s=1,m=12	7.76e-03	0.31	0.32	500.0	500.0	66.4	66.4	0.68				27,27,27,0
304	ok	s=1,m=12	5.47e-03	0.12	0.14	500.0	500.0	66.4	66.4	0.68				73,27,27,0
305	ok	s=1,m=12	5.86e-03	0.17	0.20	500.0	500.0	66.4	66.4	0.68				5,27,27,0
307	ok	s=1,m=12	5.05e-03	0.13	0.15	500.0	500.0	66.4	66.4	0.68				71,27,27,0
308	ok	s=1,m=12	4.52e-03	0.09	0.10	500.0	500.0	66.4	66.4	0.68				70,70,21,0
310	ok	s=1,m=12	5.21e-03	0.12	0.14	500.0	500.0	66.4	66.4	0.68				71,27,27,0
311	ok	s=1,m=12	6.91e-03	0.14	0.15	500.0	500.0	66.4	66.4	0.68				86,21,21,0
314	ok	s=1,m=12	5.51e-03	0.10	0.12	500.0	500.0	66.4	66.4	0.68				71,27,27,0
315	ok	s=1,m=12	5.95e-03	0.08	0.08	500.0	500.0	66.4	66.4	0.68				76,75,75,0
316	ok	s=1,m=12	7.72e-03	0.14	0.13	500.0	500.0	66.4	66.4	0.68				83,83,83,0
317	ok	s=1,m=12	7.70e-03	0.13	0.13	500.0	500.0	66.4	66.4	0.68				81,81,15,0
318	ok	s=1,m=12	7.87e-03	0.16	0.16	500.0	500.0	66.4	66.4	0.68				73,15,15,0
319	ok	s=1,m=12	8.14e-03	0.15	0.15	500.0	500.0	66.4	66.4	0.68				73,15,15,0
320	ok	s=1,m=12	7.39e-03	0.18	0.17	500.0	500.0	66.4	66.4	0.68				81,15,15,0
321	ok	s=1,m=12	7.55e-03	0.19	0.18	500.0	500.0	66.4	66.4	0.68				15,15,15,0
322	ok	s=1,m=12	7.95e-03	0.19	0.18	500.0	500.0	66.4	66.4	0.68				71,15,15,0
323	ok	s=1,m=12	8.61e-03	0.20	0.19	500.0	500.0	66.4	66.4	0.68				71,15,15,0
324	ok	s=1,m=12	8.63e-03	0.19	0.18	500.0	500.0	66.4	66.4	0.68				71,15,15,0
325	ok	s=1,m=12	7.92e-03	0.16	0.15	500.0	500.0	66.4	66.4	0.68				71,15,15,0
326	ok	s=1,m=12	6.41e-03	0.11	0.10	500.0	500.0	66.4	66.4	0.68				71,71,71,0
Pilas			**V V/T**	**V N/M**	**V stab**	**B22xL**	**B33xL**	**Snel22**	**Snel33**	**Chi mn**	**V flst**	**B11xL**	**Chi LT**	
										0.68				
			8.96e-03	0.31	0.33	500.00	500.00	66.43	66.43					

12.5. VERIFICHE SLU ED SLE PARETI CONTROTERRA E PLATEA IN C.A.

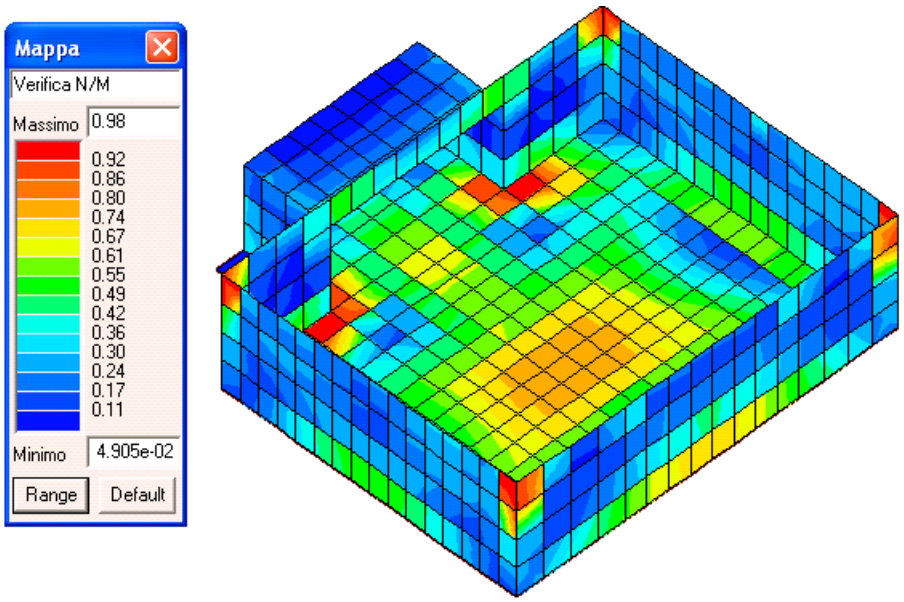


Figura 12.5 – 1 – Platea e pareti: Verifica N/M

Verifiche SLU

M_S	Nodo	x/d	verif.	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N z	N o	N zo	M z	M o	M zo
									kN/ m	kN/ m	kN/ m	kN	kN	kN
2	ok 1	0.08	0.2	8.86e-03	10.1	10.1	10.1	10.1	102.3	-35.2	36.8	-3.8	4.1	828.6
2	ok 2	0.08	0.1	1.97e-02	10.1	10.1	10.1	10.1	18.8	-78.2	49.6	-11.9	2.3	2004.7
2	ok 3	0.08	0.2	2.83e-02	10.1	10.1	10.1	10.1	-41.7	-104.6	61.1	-28.3	-2.0	2292.3
2	ok 4	0.08	0.3	3.43e-02	10.1	10.1	10.1	10.1	-79.8	-128.1	64.0	-45.8	-5.2	2277.5
2	ok 5	0.08	0.3	3.84e-02	10.1	10.1	10.1	10.1	-107.3	-131.4	64.0	-62.6	-7.2	2224.0
2	ok 6	0.08	0.4	4.06e-02	10.1	10.1	10.1	10.1	-132.8	-154.3	58.5	-77.2	-9.6	1912.1
2	ok 7	0.08	0.5	4.20e-02	10.1	10.1	10.1	10.1	-151.6	-173.9	46.7	-88.4	-11.4	1446.2
2	ok 8	0.08	0.5	4.17e-02	10.1	10.1	10.1	10.1	-163.5	-187.6	31.3	-95.5	-12.4	887.9
2	ok 9	0.08	0.5	4.00e-02	10.1	10.1	10.1	10.1	-168.8	-194.6	14.2	-98.2	-12.9	285.2
2	ok 10	0.08	0.5	4.01e-02	10.1	10.1	10.1	10.1	-167.1	-188.2	-21.4	-96.6	-12.7	-744.1
2	ok 11	0.08	0.5	4.11e-02	10.1	10.1	10.1	10.1	-159.6	-175.0	-38.1	-90.9	-12.0	-1318.9
2	ok 12	0.08	0.4	4.06e-02	10.1	10.1	10.1	10.1	-146.4	-156.0	-52.6	-81.2	-10.6	-1832.7
2	ok 13	0.08	0.4	3.90e-02	10.1	10.1	10.1	10.1	-127.5	-132.5	-62.5	-68.1	-8.6	-2239.7
2	ok 14	0.08	0.3	3.61e-02	10.1	10.1	10.1	10.1	-102.0	-107.4	-65.3	-52.0	-5.7	-2459.3
2	ok 15	0.08	0.2	3.05e-02	10.1	10.1	10.1	10.1	-67.0	-103.2	-65.3	-34.3	-3.5	-2454.8
2	ok 16	0.08	0.1	2.15e-02	10.1	10.1	10.1	10.1	-2.9	-53.8	-36.8	-15.5	3.8	-1444.1
2	ok 17	0.08	0.2	1.04e-02	10.1	10.1	10.1	10.1	89.3	-42.7	-36.8	-5.3	5.0	-854.8
2	ok 334	0.08	0.3	0.0	10.1	10.1	10.1	10.1	120.3	57.9	77.3	-3.5	19.8	296.7
2	ok 335	0.08	0.2	1.91e-02	10.1	10.1	10.1	10.1	34.0	48.7	36.8	-9.9	19.2	746.5
2	ok 336	0.08	0.2	2.55e-02	10.1	10.1	10.1	10.1	-25.4	21.1	49.4	-27.2	4.9	1053.8
2	ok 337	0.08	0.3	2.85e-02	10.1	10.1	10.1	10.1	-68.8	-36.5	64.0	-46.0	-7.1	1139.2
2	ok 338	0.08	0.3	3.09e-02	10.1	10.1	10.1	10.1	-98.1	-55.1	58.5	-63.1	-11.7	1036.2
2	ok 339	0.08	0.4	3.16e-02	10.1	10.1	10.1	10.1	-122.3	-67.3	46.7	-77.9	-15.3	842.9
2	ok 340	0.08	0.5	3.24e-02	10.1	10.1	10.1	10.1	-139.9	-75.6	31.3	-89.2	-17.7	587.8
2	ok 341	0.08	0.5	3.22e-02	10.1	10.1	10.1	10.1	-150.3	-76.9	31.3	-96.2	-18.5	412.9
2	ok 342	0.08	0.5	3.14e-02	10.1	10.1	10.1	10.1	-155.0	-79.6	14.2	-99.0	-19.4	102.1
2	ok 343	0.08	0.5	3.17e-02	10.1	10.1	10.1	10.1	-128.4	-80.5	-41.2	-73.8	-14.6	-352.6
2	ok 344	0.08	0.5	3.23e-02	10.1	10.1	10.1	10.1	-124.1	-72.5	-55.0	-69.8	-13.8	-615.0
2	ok 345	0.08	0.4	3.32e-02	10.1	10.1	10.1	10.1	-117.9	-71.8	-55.0	-63.1	-13.0	-755.0

M_S	Nodo	x/d	verif.	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N z	N o	N zo	M z	M o	M zo
2	ok 346	0.08	0.4	3.44e-02	10.1	10.1	10.1	10.1	-106.9	-57.7	-66.5	-53.9	-10.6	-970.7
2	ok 347	0.08	0.3	3.41e-02	10.1	10.1	10.1	10.1	-90.7	-37.5	-73.0	-42.4	-6.6	-1043.5
2	ok 348	0.08	0.2	3.24e-02	10.1	10.1	10.1	10.1	-68.5	-10.3	-64.8	-30.4	-2.9	-1011.8
2	ok 349	0.08	0.3	2.60e-02	10.1	10.1	10.1	10.1	11.9	68.9	-36.8	-13.0	24.4	-755.1
2	ok 350	0.08	0.4	7.17e-03	10.1	10.1	10.1	10.1	104.1	79.9	-36.8	-2.8	25.6	-165.7
2	ok 399	0.08	0.5	3.27e-02	10.1	10.1	10.1	10.1	122.2	74.1	77.3	-3.3	21.5	8.1
2	ok 400	0.08	0.3	2.74e-02	10.1	10.1	10.1	10.1	7.8	60.4	77.3	-7.6	21.0	57.7
2	ok 401	0.08	0.2	2.48e-02	10.1	10.1	10.1	10.1	-32.3	37.6	101.3	-17.1	7.4	48.6
2	ok 402	0.08	0.2	2.56e-02	10.1	10.1	10.1	10.1	-55.6	12.3	93.9	-27.9	-5.4	15.9
2	ok 403	0.08	0.2	2.69e-02	10.1	10.1	10.1	10.1	-74.6	8.2	79.6	-37.5	-9.7	26.5
2	ok 404	0.08	0.3	2.69e-02	10.1	10.1	10.1	10.1	-90.5	5.1	61.0	-46.0	-12.9	41.5
2	ok 405	0.08	0.3	2.61e-02	10.1	10.1	10.1	10.1	-102.5	7.0	39.7	-52.3	-15.1	43.5
2	ok 406	0.08	0.3	2.46e-02	10.1	10.1	10.1	10.1	-110.9	5.0	16.7	-56.6	-16.4	35.1
2	ok 407	0.08	0.3	2.34e-02	10.1	10.1	10.1	10.1	-114.7	4.5	16.7	-58.3	-16.6	-24.1
2	ok 408	0.08	0.3	2.42e-02	10.1	10.1	10.1	10.1	-94.4	-12.4	-29.6	-43.2	-12.9	-87.2
2	ok 409	0.08	0.3	2.65e-02	10.1	10.1	10.1	10.1	-107.2	13.1	-55.5	-53.2	-15.1	-6.4
2	ok 410	0.08	0.3	2.92e-02	10.1	10.1	10.1	10.1	-98.8	14.1	-55.5	-46.9	-14.4	-61.9
2	ok 411	0.08	0.2	3.10e-02	10.1	10.1	10.1	10.1	-86.7	17.8	-76.6	-38.3	-11.7	-64.4
2	ok 412	0.08	0.2	3.19e-02	10.1	10.1	10.1	10.1	-72.2	25.0	-95.0	-27.9	-7.5	-49.4
2	ok 413	0.08	0.2	3.41e-02	10.1	10.1	10.1	10.1	-52.1	49.7	-108.1	-15.7	9.5	-40.8
2	ok 414	0.08	0.3	4.22e-02	10.1	10.1	10.1	10.1	-59.4	58.8	-71.7	-12.0	22.9	1236.1
2	ok 415	0.08	0.8	4.30e-02	10.1	10.1	10.1	10.1	62.4	57.9	-92.5	-0.6	29.7	92.5
2	ok 464	0.09	1.0	7.75e-02	15.3	13.9	11.2	12.1	-367.4	-231.0	91.1	189.8	30.4	3062.6
2	ok 465	0.08	0.5	6.67e-02	10.1	10.1	10.1	10.1	-13.4	-71.0	152.1	-8.2	9.4	3023.0
2	ok 466	0.08	0.2	3.53e-02	10.1	10.1	10.1	10.1	-22.5	-89.9	116.1	-1.6	13.2	-809.2
2	ok 467	0.08	0.3	2.51e-02	10.1	10.1	10.1	10.1	-27.6	44.1	101.0	-14.4	-2.5	-907.6
2	ok 468	0.08	0.3	2.17e-02	10.1	10.1	10.1	10.1	-38.4	56.0	82.0	-19.3	-5.1	-801.8
2	ok 469	0.08	0.3	1.94e-02	10.1	10.1	10.1	10.1	-50.4	71.4	62.1	-23.5	-7.1	-640.9
2	ok 470	0.08	0.2	1.71e-02	10.1	10.1	10.1	10.1	-60.4	70.2	62.1	-26.8	-7.5	-553.8
2	ok 471	0.08	0.2	1.55e-02	10.1	10.1	10.1	10.1	-66.5	68.2	40.0	-29.0	-8.9	-325.8
2	ok 472	0.08	0.2	1.37e-02	10.1	10.1	10.1	10.1	-66.6	80.0	15.9	-29.7	-9.6	-81.9
2	ok 473	0.08	0.2	1.48e-02	10.1	10.1	10.1	10.1	-65.6	86.7	-37.5	-29.1	-9.3	307.3
2	ok 474	0.08	0.2	1.87e-02	10.1	10.1	10.1	10.1	-63.6	75.7	-60.6	-26.9	-8.5	562.7
2	ok 475	0.08	0.3	2.21e-02	10.1	10.1	10.1	10.1	-54.7	74.9	-84.7	-23.2	-7.1	788.9
2	ok 476	0.08	0.3	2.70e-02	10.1	10.1	10.1	10.1	-46.0	76.0	-84.7	-18.3	-6.6	868.5
2	ok 477	0.08	0.3	3.24e-02	10.1	10.1	10.1	10.1	-38.0	66.6	-106.1	-12.5	-4.1	992.2
2	ok 478	0.08	0.3	3.58e-02	10.1	10.1	10.1	10.1	-21.6	80.1	-146.9	8.1	17.7	639.5
2	NV 479	0.08	0.9	4.35e-02	10.1	10.1	10.1	10.1	-41.2	190.1	-266.7	-12.1	16.3	-5431.9
2	NV 480	0.11	0.9	8.41e-02	29.7	27.0	12.8	20.7	-379.0	41.8	-266.7	350.7	59.7	-6229.4
2	ok 619	0.11	1.0	6.94e-02	19.6	16.1	18.9	13.9	-299.1	-129.7	152.1	207.6	11.0	-1.118e+04
2	ok 620	0.08	1.0	6.69e-02	10.4	10.1	10.4	10.1	-31.5	-119.6	152.1	-10.7	-12.6	-1.175e+04
2	ok 621	0.08	0.3	3.78e-02	10.1	10.1	10.1	10.1	-22.8	-22.1	99.9	3.4	4.0	-1191.9
2	ok 622	0.08	0.3	2.39e-02	10.1	10.1	10.1	10.1	-0.6	116.8	77.9	-4.4	1.0	-1060.8
2	ok 623	0.08	0.3	1.65e-02	10.1	10.1	10.1	10.1	-5.0	139.7	69.9	-6.0	-1.6	-909.4
2	ok 624	0.08	0.3	1.16e-02	10.1	10.1	10.1	10.1	-12.1	138.9	69.9	-7.1	-1.7	-852.8
2	ok 625	0.08	0.2	9.54e-03	10.1	10.1	10.1	10.1	-20.0	111.2	54.1	-8.3	-2.1	-674.3
2	ok 626	0.08	0.2	5.27e-03	10.1	10.1	10.1	10.1	-21.0	125.6	9.9	-9.1	-3.5	-184.3
2	ok 627	0.08	0.3	5.59e-03	10.1	10.1	10.1	10.1	-21.9	125.5	9.9	-9.0	-3.5	-79.7
2	ok 628	0.08	0.3	8.07e-03	10.1	10.1	10.1	10.1	-22.8	121.5	-38.2	-8.9	-2.0	359.2
2	ok 629	0.08	0.3	7.94e-03	10.1	10.1	10.1	10.1	-15.6	170.0	-61.4	-8.2	-2.0	691.8
2	ok 630	0.08	0.3	1.16e-02	10.1	10.1	10.1	10.1	-12.9	160.1	-76.7	-7.0	-2.1	974.7
2	ok 631	0.08	0.3	1.55e-02	10.1	10.1	10.1	10.1	-10.0	146.7	-88.3	-5.2	-1.7	1150.7
2	ok 632	0.08	0.3	2.24e-02	10.1	10.1	10.1	10.1	-4.2	147.4	-88.3	-3.4	-1.4	1195.5
2	ok 633	0.08	0.3	4.35e-02	10.1	10.1	10.1	10.1	-4.4	117.6	-95.6	-1.4	-0.1	1190.6
2	NV 634	0.10	1.0	7.93e-02	16.6	14.7	16.6	14.7	-89.3	-267.8	-238.2	-8.9	-6.6	1.107e+04
2	NV 635	0.13	0.9	9.05e-02	38.6	31.4	27.4	26.9	-411.3	-255.3	-266.7	347.3	25.5	1.833e+04
M_S		**x/d**	**verif.**	**ver. rid**	**Af pr-**	**Af pr+**	**Af sec-**	**Af sec+**	**N z**	**N o**	**N zo**	**M z**	**M o**	**M zo**
									-411.29	-267.78	-266.67	-98.96	-19.45	-1.175e+04
		0.13	0.98	0.09	38.57	31.43	27.43	26.86	122.22	190.13	152.12	350.68	59.75	1.833e+04

Gli altri tabulati vengono omessi.

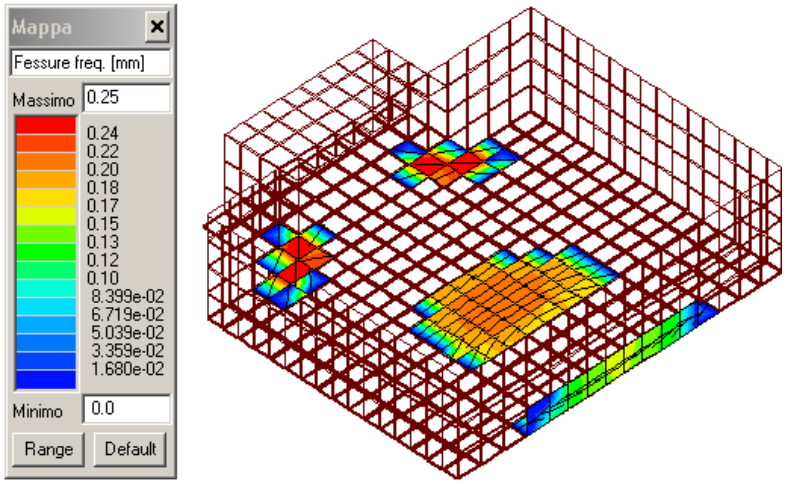


Figura 12.5 – 2 – S.L.E. fessure comb. Frequenti

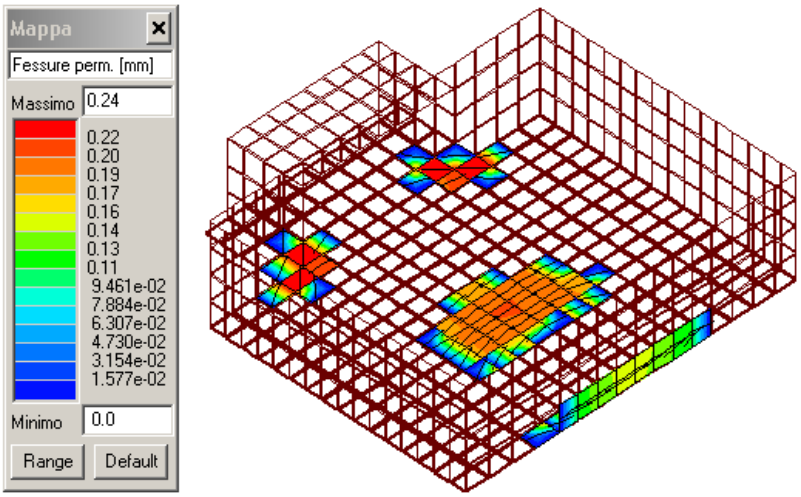


Figura 12.5 – 3 – S.L.E. fessure comb. quasi perm.

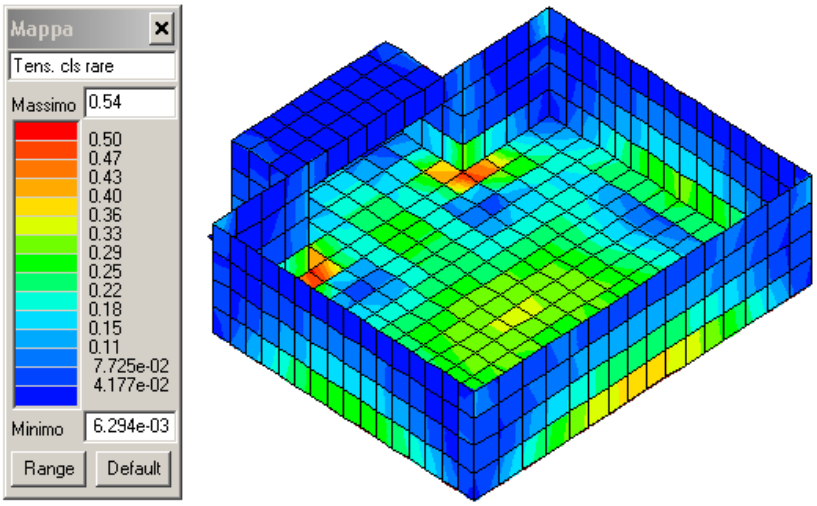


Figura 12.5 – 4 – S.L.E. tensioni cls comb. rare

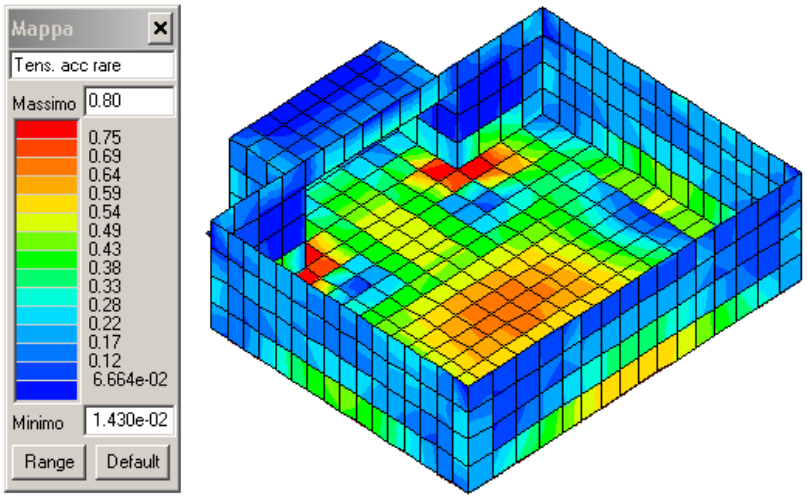


Figura 12.5 – 5 – S.L.E. tensioni acciaio comb. rare

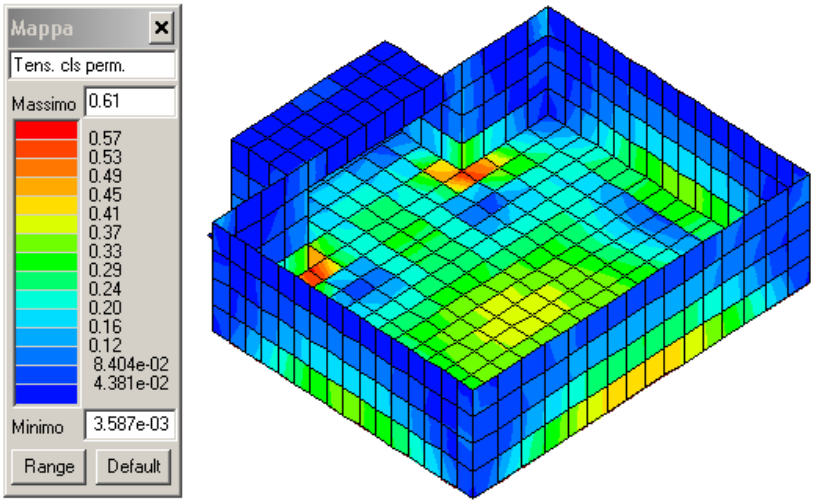


Figura 12.5 – 6 – S.L.E. tensioni cls comb. perm.

Verifiche SLE

Setto	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
					mm	mm	mm	
297	0.06	0.21	0.06	155,155,179	0.0	0.0	0.0	0,0,0
298	0.12	0.16	0.13	155,155,179	0.0	0.0	0.0	0,0,0
299	0.16	0.23	0.19	155,155,179	0.0	0.0	0.0	0,0,0
300	0.21	0.29	0.24	155,155,179	0.0	0.0	0.0	0,0,0
301	0.24	0.35	0.28	155,155,179	0.0	0.0	0.0	0,0,0
302	0.27	0.41	0.31	155,155,179	0.0	0.0	0.0	0,0,0
303	0.28	0.44	0.33	155,155,179	0.12	0.0	0.0	155,0,0
304	0.29	0.45	0.33	155,155,179	0.12	0.0	0.0	155,0,0
305	0.29	0.45	0.33	155,155,179	0.12	0.0	0.0	155,0,0
306	0.29	0.44	0.33	155,155,179	0.12	0.0	0.0	155,0,0
307	0.27	0.41	0.32	155,155,179	0.11	0.0	0.0	155,0,0
308	0.25	0.37	0.29	155,155,179	0.0	0.0	0.0	0,0,0
309	0.22	0.31	0.26	155,155,179	0.0	0.0	0.0	0,0,0
310	0.19	0.24	0.22	155,155,179	0.0	0.0	0.0	0,0,0
311	0.14	0.18	0.16	155,155,179	0.0	0.0	0.0	0,0,0
312	0.07	0.25	0.08	155,161,179	0.0	0.0	0.0	0,0,0
313	0.08	0.23	0.09	155,155,179	0.0	0.0	0.0	0,0,0
314	0.10	0.21	0.12	155,161,179	0.0	0.0	0.0	0,0,0
315	0.16	0.41	0.18	155,155,179	0.0	0.0	0.0	0,0,0
316	0.19	0.33	0.22	155,155,179	0.0	0.0	0.0	0,0,0
317	0.22	0.50	0.24	155,164,179	0.0	0.0	0.0	0,0,0
318	0.26	0.41	0.30	155,155,179	0.0	0.0	0.0	0,0,0
319	0.31	0.44	0.35	161,158,179	0.0	0.0	0.0	0,0,0
320	0.31	0.47	0.36	155,155,179	0.12	0.11	0.0	155,173,0
321	0.11	0.27	0.11	158,158,179	0.0	0.0	0.0	0,0,0
322	0.13	0.31	0.14	158,158,179	0.0	0.0	0.0	0,0,0
323	0.17	0.32	0.18	158,158,179	0.0	0.0	0.0	0,0,0
324	0.29	0.31	0.32	158,158,179	0.0	0.0	0.0	0,0,0
325	0.34	0.51	0.39	164,155,179	0.14	0.12	0.12	155,173,179
326	0.36	0.56	0.41	164,164,179	0.15	0.14	0.13	164,173,179
327	0.37	0.58	0.43	164,164,179	0.15	0.15	0.15	164,173,179
328	0.37	0.59	0.43	164,164,179	0.16	0.16	0.15	164,173,179
329	0.37	0.59	0.43	164,164,179	0.16	0.16	0.15	164,173,179
330	0.36	0.58	0.42	164,164,179	0.15	0.15	0.14	164,173,179
331	0.35	0.54	0.41	164,158,179	0.14	0.14	0.13	158,173,179
332	0.32	0.49	0.38	158,158,179	0.13	0.12	0.11	158,173,179
333	0.11	0.27	0.11	155,155,179	0.0	0.0	0.0	0,0,0
334	0.14	0.31	0.14	155,155,179	0.0	0.0	0.0	0,0,0

Setto	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
335	0.17	0.31	0.18	155,155,179	0.0	0.0	0.0	0,0,0
336	0.29	0.31	0.32	155,155,179	0.0	0.0	0.0	0,0,0
337	0.31	0.41	0.35	161,155,179	0.0	0.0	0.0	0,0,0
338	0.29	0.45	0.34	158,158,179	0.12	0.0	0.0	158,0,0
339	0.21	0.49	0.24	158,164,179	0.0	0.0	0.0	0,0,0
340	0.24	0.39	0.28	158,158,179	0.0	0.0	0.0	0,0,0
341	0.15	0.42	0.17	158,164,179	0.0	0.0	0.0	0,0,0
342	0.18	0.32	0.21	158,158,179	0.0	0.0	0.0	0,0,0
343	0.07	0.24	0.08	158,158,179	0.0	0.0	0.0	0,0,0
344	0.09	0.23	0.11	158,161,179	0.0	0.0	0.0	0,0,0
345	0.06	0.22	0.06	158,164,179	0.0	0.0	0.0	0,0,0
346	0.12	0.16	0.13	158,158,179	0.0	0.0	0.0	0,0,0
347	0.17	0.23	0.19	158,158,179	0.0	0.0	0.0	0,0,0
348	0.21	0.30	0.24	158,158,179	0.0	0.0	0.0	0,0,0
349	0.25	0.36	0.28	158,158,179	0.0	0.0	0.0	0,0,0
350	0.27	0.41	0.31	158,158,179	0.0	0.0	0.0	0,0,0
351	0.29	0.45	0.33	158,158,179	0.12	0.0	0.0	158,0,0
352	0.29	0.46	0.34	158,158,179	0.12	0.0	0.0	158,0,0
353	0.29	0.46	0.34	158,158,179	0.12	0.0	0.0	158,0,0
354	0.29	0.45	0.33	158,158,179	0.12	0.0	0.0	158,0,0
355	0.28	0.42	0.32	158,158,179	0.11	0.0	0.0	158,0,0
356	0.26	0.37	0.30	158,158,179	0.0	0.0	0.0	0,0,0
357	0.23	0.31	0.26	158,158,179	0.0	0.0	0.0	0,0,0
358	0.19	0.25	0.22	158,158,179	0.0	0.0	0.0	0,0,0
359	0.14	0.18	0.16	158,158,179	0.0	0.0	0.0	0,0,0
360	0.07	0.25	0.08	158,161,179	0.0	0.0	0.0	0,0,0
361	0.05	0.25	0.06	155,158,179	0.0	0.0	0.0	0,0,0
362	0.05	0.16	0.06	155,164,179	0.0	0.0	0.0	0,0,0
363	0.08	0.18	0.10	155,164,179	0.0	0.0	0.0	0,0,0
364	0.11	0.21	0.13	155,155,179	0.0	0.0	0.0	0,0,0
365	0.14	0.23	0.16	155,155,179	0.0	0.0	0.0	0,0,0
366	0.16	0.24	0.18	155,155,179	0.0	0.0	0.0	0,0,0
367	0.17	0.25	0.19	155,155,179	0.0	0.0	0.0	0,0,0
368	0.17	0.24	0.20	155,155,179	0.0	0.0	0.0	0,0,0
369	0.17	0.25	0.20	155,155,179	0.0	0.0	0.0	0,0,0
370	0.17	0.24	0.20	155,155,179	0.0	0.0	0.0	0,0,0
371	0.16	0.24	0.18	155,155,179	0.0	0.0	0.0	0,0,0
372	0.14	0.23	0.16	155,155,179	0.0	0.0	0.0	0,0,0
373	0.12	0.21	0.14	155,155,179	0.0	0.0	0.0	0,0,0
374	0.09	0.18	0.10	155,161,179	0.0	0.0	0.0	0,0,0
375	0.05	0.17	0.06	155,161,179	0.0	0.0	0.0	0,0,0
376	0.08	0.28	0.09	155,155,179	0.0	0.0	0.0	0,0,0
377	0.04	0.18	0.05	158,155,179	0.0	0.0	0.0	0,0,0
378	0.06	0.22	0.07	161,155,179	0.0	0.0	0.0	0,0,0
379	0.05	0.08	0.06	164,164,179	0.0	0.0	0.0	0,0,0
380	0.10	0.12	0.11	161,161,179	0.0	0.0	0.0	0,0,0
381	0.07	0.09	0.08	161,164,179	0.0	0.0	0.0	0,0,0
382	0.15	0.18	0.17	155,161,179	0.0	0.0	0.0	0,0,0
383	0.12	0.08	0.14	161,161,179	0.0	0.0	0.0	0,0,0
384	0.19	0.22	0.22	155,161,179	0.0	0.0	0.0	0,0,0
385	0.07	0.27	0.07	161,167,179	0.0	0.0	0.0	0,0,0
386	0.08	0.19	0.08	161,154,179	0.0	0.0	0.0	0,0,0
387	0.07	0.14	0.08	161,154,179	0.0	0.0	0.0	0,0,0
388	0.13	0.08	0.14	155,155,179	0.0	0.0	0.0	0,0,0
389	0.21	0.28	0.25	155,161,179	0.0	0.0	0.0	0,0,0
390	0.23	0.33	0.27	155,161,179	0.0	0.0	0.0	0,0,0
391	0.24	0.35	0.28	161,161,179	0.0	0.0	0.0	0,0,0
392	0.24	0.36	0.29	161,161,179	0.0	0.0	0.0	0,0,0
393	0.24	0.36	0.29	161,161,179	0.0	0.0	0.0	0,0,0
394	0.24	0.35	0.28	158,155,179	0.0	0.0	0.0	0,0,0
395	0.23	0.32	0.26	158,161,179	0.0	0.0	0.0	0,0,0
396	0.20	0.26	0.24	158,161,179	0.0	0.0	0.0	0,0,0
397	0.07	0.27	0.08	161,167,179	0.0	0.0	0.0	0,0,0
398	0.08	0.18	0.08	161,154,179	0.0	0.0	0.0	0,0,0
399	0.07	0.14	0.08	161,151,179	0.0	0.0	0.0	0,0,0
400	0.12	0.08	0.14	158,158,179	0.0	0.0	0.0	0,0,0

Setto	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
401	0.12	0.07	0.14	161,161,179	0.0	0.0	0.0	0,0,0
402	0.18	0.20	0.21	158,161,179	0.0	0.0	0.0	0,0,0
403	0.07	0.07	0.08	161,155,179	0.0	0.0	0.0	0,0,0
404	0.14	0.16	0.16	158,161,179	0.0	0.0	0.0	0,0,0
405	0.04	0.07	0.05	164,164,179	0.0	0.0	0.0	0,0,0
406	0.09	0.11	0.10	161,161,179	0.0	0.0	0.0	0,0,0
407	0.04	0.20	0.05	155,158,179	0.0	0.0	0.0	0,0,0
408	0.06	0.23	0.08	161,158,179	0.0	0.0	0.0	0,0,0
409	0.05	0.26	0.05	158,158,179	0.0	0.0	0.0	0,0,0
410	0.06	0.16	0.06	158,164,179	0.0	0.0	0.0	0,0,0
411	0.09	0.18	0.10	158,164,179	0.0	0.0	0.0	0,0,0
412	0.12	0.21	0.13	158,158,179	0.0	0.0	0.0	0,0,0
413	0.14	0.23	0.16	158,158,179	0.0	0.0	0.0	0,0,0
414	0.16	0.24	0.18	158,158,179	0.0	0.0	0.0	0,0,0
415	0.17	0.25	0.19	158,158,179	0.0	0.0	0.0	0,0,0
416	0.17	0.25	0.20	158,158,179	0.0	0.0	0.0	0,0,0
417	0.17	0.25	0.20	158,158,179	0.0	0.0	0.0	0,0,0
418	0.17	0.25	0.20	158,158,179	0.0	0.0	0.0	0,0,0
419	0.16	0.25	0.19	158,158,179	0.0	0.0	0.0	0,0,0
420	0.14	0.23	0.17	158,158,179	0.0	0.0	0.0	0,0,0
421	0.12	0.21	0.14	158,158,179	0.0	0.0	0.0	0,0,0
422	0.09	0.18	0.10	158,161,179	0.0	0.0	0.0	0,0,0
423	0.05	0.17	0.06	158,161,179	0.0	0.0	0.0	0,0,0
424	0.08	0.29	0.09	161,158,179	0.0	0.0	0.0	0,0,0
425	0.06	0.24	0.07	155,158,179	0.0	0.0	0.0	0,0,0
426	0.03	0.18	0.03	155,158,179	0.0	0.0	0.0	0,0,0
427	0.05	0.21	0.05	158,155,179	0.0	0.0	0.0	0,0,0
428	0.06	0.22	0.07	161,155,179	0.0	0.0	0.0	0,0,0
429	0.07	0.22	0.08	155,155,179	0.0	0.0	0.0	0,0,0
430	0.08	0.20	0.09	155,155,179	0.0	0.0	0.0	0,0,0
431	0.09	0.18	0.10	155,164,179	0.0	0.0	0.0	0,0,0
432	0.09	0.15	0.10	155,164,179	0.0	0.0	0.0	0,0,0
433	0.09	0.14	0.10	155,161,179	0.0	0.0	0.0	0,0,0
434	0.09	0.19	0.10	155,161,179	0.0	0.0	0.0	0,0,0
435	0.08	0.21	0.10	155,161,179	0.0	0.0	0.0	0,0,0
436	0.07	0.24	0.09	155,161,179	0.0	0.0	0.0	0,0,0
437	0.06	0.24	0.07	164,155,179	0.0	0.0	0.0	0,0,0
438	0.04	0.23	0.05	164,155,179	0.0	0.0	0.0	0,0,0
439	0.04	0.19	0.04	155,161,179	0.0	0.0	0.0	0,0,0
440	0.09	0.26	0.10	155,164,179	0.0	0.0	0.0	0,0,0
441	0.06	0.10	0.07	161,155,179	0.0	0.0	0.0	0,0,0
442	0.07	0.22	0.08	164,161,179	0.0	0.0	0.0	0,0,0
443	0.03	0.10	0.04	161,155,179	0.0	0.0	0.0	0,0,0
444	0.07	0.09	0.08	161,167,179	0.0	0.0	0.0	0,0,0
445	0.06	0.04	0.06	164,152,179	0.0	0.0	0.0	0,0,0
446	0.09	0.10	0.11	161,158,179	0.0	0.0	0.0	0,0,0
447	0.13	0.08	0.14	155,155,179	0.0	0.0	0.0	0,0,0
448	0.11	0.13	0.12	164,158,179	0.0	0.0	0.0	0,0,0
449	0.03	0.14	0.03	151,155,179	0.0	0.0	0.0	0,0,0
450	0.04	0.18	0.05	155,151,179	0.0	0.0	0.0	0,0,0
451	0.07	0.23	0.07	155,161,179	0.0	0.0	0.0	0,0,0
452	0.12	0.30	0.14	155,155,179	0.0	0.0	0.0	0,0,0
453	0.13	0.21	0.16	161,153,179	0.0	0.0	0.0	0,0,0
454	0.13	0.22	0.16	161,161,179	0.0	0.0	0.0	0,0,0
455	0.14	0.20	0.16	161,158,179	0.0	0.0	0.0	0,0,0
456	0.14	0.19	0.16	161,161,179	0.0	0.0	0.0	0,0,0
457	0.14	0.19	0.16	161,155,179	0.0	0.0	0.0	0,0,0
458	0.14	0.20	0.16	161,155,179	0.0	0.0	0.0	0,0,0
459	0.13	0.22	0.15	161,155,179	0.0	0.0	0.0	0,0,0
460	0.13	0.21	0.15	161,153,179	0.0	0.0	0.0	0,0,0
461	0.03	0.14	0.03	152,158,179	0.0	0.0	0.0	0,0,0
462	0.04	0.18	0.04	158,152,179	0.0	0.0	0.0	0,0,0
463	0.06	0.22	0.07	158,161,179	0.0	0.0	0.0	0,0,0
464	0.12	0.28	0.13	158,158,179	0.0	0.0	0.0	0,0,0
465	0.12	0.07	0.14	158,158,179	0.0	0.0	0.0	0,0,0
466	0.10	0.13	0.12	164,167,179	0.0	0.0	0.0	0,0,0

Setto	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
467	0.05	0.03	0.06	164,164,179	0.0	0.0	0.0	0,0,0
468	0.09	0.10	0.11	161,167,179	0.0	0.0	0.0	0,0,0
469	0.03	0.09	0.04	161,164,179	0.0	0.0	0.0	0,0,0
470	0.06	0.08	0.07	161,161,179	0.0	0.0	0.0	0,0,0
471	0.06	0.10	0.07	161,158,179	0.0	0.0	0.0	0,0,0
472	0.07	0.23	0.08	161,161,179	0.0	0.0	0.0	0,0,0
473	0.06	0.24	0.07	158,155,179	0.0	0.0	0.0	0,0,0
474	0.03	0.18	0.03	158,155,179	0.0	0.0	0.0	0,0,0
475	0.05	0.21	0.05	155,158,179	0.0	0.0	0.0	0,0,0
476	0.06	0.22	0.07	161,158,179	0.0	0.0	0.0	0,0,0
477	0.08	0.23	0.09	158,158,179	0.0	0.0	0.0	0,0,0
478	0.08	0.20	0.10	158,164,179	0.0	0.0	0.0	0,0,0
479	0.09	0.19	0.10	158,164,179	0.0	0.0	0.0	0,0,0
480	0.09	0.18	0.10	158,164,179	0.0	0.0	0.0	0,0,0
481	0.09	0.15	0.10	158,161,179	0.0	0.0	0.0	0,0,0
482	0.09	0.20	0.10	158,161,179	0.0	0.0	0.0	0,0,0
483	0.08	0.22	0.10	158,161,179	0.0	0.0	0.0	0,0,0
484	0.08	0.24	0.09	158,161,179	0.0	0.0	0.0	0,0,0
485	0.06	0.25	0.07	164,158,179	0.0	0.0	0.0	0,0,0
486	0.04	0.23	0.05	164,158,179	0.0	0.0	0.0	0,0,0
487	0.04	0.19	0.05	158,161,179	0.0	0.0	0.0	0,0,0
488	0.09	0.26	0.10	158,164,179	0.0	0.0	0.0	0,0,0
521	0.08	0.23	0.05	156,156,179	0.0	0.0	0.0	0,0,0
522	0.03	0.17	0.04	156,158,179	0.0	0.0	0.0	0,0,0
523	0.03	0.18	0.04	155,155,179	0.0	0.0	0.0	0,0,0
524	0.03	0.22	0.03	155,164,179	0.0	0.0	0.0	0,0,0
525	0.03	0.23	0.03	161,155,179	0.0	0.0	0.0	0,0,0
526	0.03	0.19	0.04	155,155,179	0.0	0.0	0.0	0,0,0
527	0.03	0.19	0.04	155,164,179	0.0	0.0	0.0	0,0,0
528	0.03	0.15	0.03	155,155,179	0.0	0.0	0.0	0,0,0
529	0.03	0.21	0.03	155,155,179	0.0	0.0	0.0	0,0,0
530	0.03	0.17	0.04	155,155,179	0.0	0.0	0.0	0,0,0
531	0.03	0.24	0.04	164,161,179	0.0	0.0	0.0	0,0,0
532	0.03	0.26	0.03	164,155,179	0.0	0.0	0.0	0,0,0
533	0.03	0.27	0.03	155,155,179	0.0	0.0	0.0	0,0,0
534	0.03	0.24	0.04	155,155,179	0.0	0.0	0.0	0,0,0
535	0.04	0.18	0.05	155,164,179	0.0	0.0	0.0	0,0,0
536	0.05	0.26	0.06	158,153,179	0.0	0.0	0.0	0,0,0
537	0.17	0.26	0.17	153,153,179	0.0	0.0	0.0	0,0,0
538	0.13	0.13	0.10	153,153,179	0.0	0.0	0.0	0,0,0
539	0.03	0.18	0.04	161,155,179	0.0	0.0	0.0	0,0,0
540	0.06	0.10	0.07	153,153,179	0.0	0.0	0.0	0,0,0
541	0.04	0.26	0.04	161,155,179	0.0	0.0	0.0	0,0,0
542	0.06	0.09	0.07	155,164,179	0.0	0.0	0.0	0,0,0
543	0.10	0.20	0.11	161,161,179	0.0	0.0	0.0	0,0,0
544	0.11	0.13	0.12	153,164,179	0.0	0.0	0.0	0,0,0
545	0.10	0.24	0.12	153,158,179	0.0	0.0	0.0	0,0,0
546	0.10	0.26	0.10	153,161,179	0.0	0.0	0.0	0,0,0
547	0.04	0.31	0.04	164,164,179	0.0	0.0	0.0	0,0,0
548	0.05	0.11	0.06	161,164,179	0.0	0.0	0.0	0,0,0
549	0.03	0.31	0.03	164,155,179	0.0	0.0	0.0	0,0,0
550	0.05	0.12	0.06	161,164,179	0.0	0.0	0.0	0,0,0
551	0.03	0.35	0.03	164,158,179	0.0	0.0	0.0	0,0,0
552	0.04	0.12	0.05	161,164,179	0.0	0.0	0.0	0,0,0
553	0.03	0.35	0.03	164,155,179	0.0	0.0	0.0	0,0,0
554	0.05	0.13	0.05	161,164,179	0.0	0.0	0.0	0,0,0
555	0.03	0.32	0.03	164,155,179	0.0	0.0	0.0	0,0,0
556	0.05	0.13	0.06	161,164,179	0.0	0.0	0.0	0,0,0
557	0.03	0.31	0.03	164,155,179	0.0	0.0	0.0	0,0,0
558	0.05	0.11	0.06	161,155,179	0.0	0.0	0.0	0,0,0
559	0.10	0.25	0.12	153,155,179	0.0	0.0	0.0	0,0,0
560	0.11	0.26	0.10	153,167,179	0.0	0.0	0.0	0,0,0
561	0.10	0.18	0.12	161,161,179	0.0	0.0	0.0	0,0,0
562	0.12	0.13	0.12	153,164,179	0.0	0.0	0.0	0,0,0
563	0.04	0.23	0.04	158,158,179	0.0	0.0	0.0	0,0,0
564	0.06	0.08	0.07	161,151,179	0.0	0.0	0.0	0,0,0

Setto	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
565	0.04	0.18	0.04	161,158,179	0.0	0.0	0.0	0,0,0
566	0.06	0.10	0.07	153,153,179	0.0	0.0	0.0	0,0,0
567	0.19	0.28	0.19	153,153,179	0.0	0.0	0.0	0,0,0
568	0.14	0.14	0.11	153,153,179	0.0	0.0	0.0	0,0,0
569	0.07	0.22	0.05	159,159,179	0.0	0.0	0.0	0,0,0
570	0.03	0.17	0.03	159,155,179	0.0	0.0	0.0	0,0,0
571	0.03	0.20	0.03	158,158,179	0.0	0.0	0.0	0,0,0
572	0.03	0.20	0.03	161,158,179	0.0	0.0	0.0	0,0,0
573	0.03	0.19	0.04	158,164,179	0.0	0.0	0.0	0,0,0
574	0.03	0.22	0.04	158,164,179	0.0	0.0	0.0	0,0,0
575	0.03	0.18	0.04	158,164,179	0.0	0.0	0.0	0,0,0
576	0.03	0.15	0.04	158,158,179	0.0	0.0	0.0	0,0,0
577	0.03	0.32	0.03	158,158,179	0.0	0.0	0.0	0,0,0
578	0.03	0.20	0.04	158,158,179	0.0	0.0	0.0	0,0,0
579	0.03	0.23	0.04	158,161,179	0.0	0.0	0.0	0,0,0
580	0.03	0.26	0.04	164,158,179	0.0	0.0	0.0	0,0,0
581	0.03	0.22	0.03	158,158,179	0.0	0.0	0.0	0,0,0
582	0.03	0.24	0.04	158,158,179	0.0	0.0	0.0	0,0,0
583	0.04	0.20	0.05	158,164,179	0.0	0.0	0.0	0,0,0
584	0.05	0.27	0.06	155,153,179	0.0	0.0	0.0	0,0,0
Setto	**rRfck**	**rRfyk**	**rPfck**		**wR**	**wF**	**wP**	
	0.37	0.59	0.43		0.16	0.16	0.15	

Guscio	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
					mm	mm	mm	
1	0.14	0.29	0.16	155,155,179	0.0	0.0	0.0	0,0,0
2	0.19	0.35	0.21	155,155,179	0.0	0.0	0.0	0,0,0
3	0.21	0.38	0.24	155,155,179	0.0	0.0	0.0	0,0,0
4	0.23	0.42	0.26	155,155,179	0.0	0.0	0.0	0,0,0
5	0.24	0.44	0.27	155,155,179	0.0	0.0	0.0	0,0,0
6	0.24	0.45	0.28	155,155,179	0.0	0.0	0.0	0,0,0
7	0.25	0.46	0.28	155,155,179	0.0	0.0	0.0	0,0,0
8	0.25	0.47	0.28	155,155,179	0.0	0.0	0.0	0,0,0
9	0.25	0.47	0.28	155,155,179	0.0	0.0	0.0	0,0,0
10	0.24	0.46	0.28	155,155,179	0.0	0.0	0.0	0,0,0
11	0.24	0.45	0.28	155,155,179	0.0	0.0	0.0	0,0,0
12	0.23	0.43	0.27	155,155,179	0.0	0.0	0.0	0,0,0
13	0.23	0.41	0.26	155,155,179	0.0	0.0	0.0	0,0,0
14	0.21	0.38	0.25	155,155,179	0.0	0.0	0.0	0,0,0
15	0.20	0.36	0.23	155,155,179	0.0	0.0	0.0	0,0,0
16	0.16	0.29	0.19	155,155,179	0.0	0.0	0.0	0,0,0
17	0.22	0.50	0.25	155,155,179	0.0	0.0	0.0	0,0,0
18	0.24	0.50	0.27	164,164,179	0.0	0.0	0.0	0,0,0
19	0.21	0.41	0.24	158,158,179	0.0	0.0	0.0	0,0,0
20	0.19	0.37	0.21	155,155,179	0.0	0.0	0.0	0,0,0
21	0.19	0.35	0.21	155,155,179	0.0	0.0	0.0	0,0,0
22	0.17	0.31	0.20	155,155,179	0.0	0.0	0.0	0,0,0
23	0.15	0.26	0.18	155,164,179	0.0	0.0	0.0	0,0,0
24	0.14	0.21	0.16	155,164,179	0.0	0.0	0.0	0,0,0
25	0.14	0.21	0.16	155,161,179	0.0	0.0	0.0	0,0,0
26	0.16	0.25	0.18	155,155,179	0.0	0.0	0.0	0,0,0
27	0.18	0.31	0.20	155,155,179	0.0	0.0	0.0	0,0,0
28	0.19	0.36	0.22	155,155,179	0.0	0.0	0.0	0,0,0
29	0.20	0.37	0.23	155,155,179	0.0	0.0	0.0	0,0,0
30	0.18	0.35	0.21	155,155,179	0.0	0.0	0.0	0,0,0
31	0.20	0.38	0.23	155,155,179	0.0	0.0	0.0	0,0,0
32	0.22	0.45	0.26	155,155,179	0.0	0.0	0.0	0,0,0
33	0.39	0.76	0.44	155,164,179	0.27	0.24	0.22	164,173,179
34	0.29	0.60	0.33	158,158,179	0.21	0.19	0.0	158,173,0
35	0.22	0.47	0.25	158,158,179	0.0	0.0	0.0	0,0,0
36	0.20	0.37	0.22	155,155,179	0.0	0.0	0.0	0,0,0
37	0.22	0.42	0.25	155,155,179	0.0	0.0	0.0	0,0,0
38	0.22	0.43	0.25	155,155,179	0.0	0.0	0.0	0,0,0

Guscio	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
39	0.22	0.41	0.25	155,155,179	0.0	0.0	0.0	0,0,0
40	0.21	0.39	0.24	155,155,179	0.0	0.0	0.0	0,0,0
41	0.22	0.40	0.25	155,155,179	0.0	0.0	0.0	0,0,0
42	0.23	0.44	0.27	155,155,179	0.0	0.0	0.0	0,0,0
43	0.25	0.47	0.29	155,155,179	0.0	0.0	0.0	0,0,0
44	0.25	0.47	0.29	155,155,179	0.0	0.0	0.0	0,0,0
45	0.23	0.44	0.27	155,155,179	0.0	0.0	0.0	0,0,0
46	0.20	0.37	0.23	155,155,179	0.0	0.0	0.0	0,0,0
47	0.18	0.37	0.21	164,155,179	0.0	0.0	0.0	0,0,0
48	0.26	0.53	0.30	155,155,179	0.19	0.0	0.0	155,0,0
49	0.02	0.08	0.02	154,154,179	0.0	0.0	0.0	0,0,0
50	0.02	0.08	0.02	155,154,179	0.0	0.0	0.0	0,0,0
51	0.13	0.31	0.13	158,158,179	0.0	0.0	0.0	0,0,0
52	0.30	0.77	0.33	158,158,179	0.26	0.25	0.23	158,173,179
53	0.51	0.80	0.57	158,164,179	0.27	0.25	0.24	164,173,179
54	0.34	0.75	0.39	158,158,179	0.26	0.23	0.21	158,173,179
55	0.19	0.41	0.21	158,158,179	0.0	0.0	0.0	0,0,0
56	0.19	0.34	0.21	155,155,179	0.0	0.0	0.0	0,0,0
57	0.22	0.41	0.24	155,155,179	0.0	0.0	0.0	0,0,0
58	0.24	0.47	0.27	155,155,179	0.0	0.0	0.0	0,0,0
59	0.26	0.50	0.29	155,155,179	0.18	0.0	0.0	155,0,0
60	0.27	0.52	0.30	155,155,179	0.18	0.0	0.0	155,0,0
61	0.28	0.54	0.32	155,155,179	0.19	0.0	0.0	155,0,0
62	0.29	0.56	0.33	155,155,179	0.20	0.0	0.0	155,0,0
63	0.28	0.55	0.33	155,155,179	0.20	0.0	0.0	155,0,0
64	0.27	0.52	0.31	155,155,179	0.18	0.0	0.0	155,0,0
65	0.24	0.45	0.28	155,155,179	0.0	0.0	0.0	0,0,0
66	0.20	0.37	0.23	155,155,179	0.0	0.0	0.0	0,0,0
67	0.17	0.34	0.19	164,161,179	0.0	0.0	0.0	0,0,0
68	0.29	0.59	0.34	164,155,179	0.21	0.19	0.18	155,173,179
69	0.09	0.20	0.09	158,158,179	0.0	0.0	0.0	0,0,0
70	0.15	0.31	0.16	158,158,179	0.0	0.0	0.0	0,0,0
71	0.31	0.62	0.35	158,158,179	0.22	0.19	0.18	158,173,179
72	0.44	0.78	0.50	158,158,179	0.25	0.25	0.24	158,173,179
73	0.54	0.75	0.61	158,158,179	0.26	0.23	0.22	158,173,179
74	0.19	0.43	0.21	158,158,179	0.0	0.0	0.0	0,0,0
75	0.08	0.14	0.09	155,155,179	0.0	0.0	0.0	0,0,0
76	0.16	0.30	0.18	155,155,179	0.0	0.0	0.0	0,0,0
77	0.21	0.41	0.24	155,155,179	0.0	0.0	0.0	0,0,0
78	0.25	0.49	0.28	155,155,179	0.0	0.0	0.0	0,0,0
79	0.28	0.56	0.32	155,155,179	0.20	0.0	0.0	155,0,0
80	0.30	0.60	0.34	155,155,179	0.21	0.19	0.18	155,173,179
81	0.31	0.62	0.35	155,155,179	0.22	0.19	0.19	155,173,179
82	0.31	0.61	0.36	164,164,179	0.22	0.19	0.19	164,173,179
83	0.29	0.58	0.34	164,164,179	0.21	0.19	0.18	164,173,179
84	0.27	0.52	0.31	164,164,179	0.18	0.0	0.0	164,0,0
85	0.23	0.44	0.27	164,164,179	0.0	0.0	0.0	0,0,0
86	0.17	0.32	0.21	164,158,179	0.0	0.0	0.0	0,0,0
87	0.16	0.31	0.18	158,161,179	0.0	0.0	0.0	0,0,0
88	0.31	0.63	0.36	164,155,179	0.22	0.20	0.19	155,173,179
89	0.04	0.08	0.05	155,158,179	0.0	0.0	0.0	0,0,0
90	0.11	0.23	0.12	158,158,179	0.0	0.0	0.0	0,0,0
91	0.19	0.39	0.21	158,158,179	0.0	0.0	0.0	0,0,0
92	0.32	0.67	0.37	158,158,179	0.23	0.21	0.20	158,173,179
93	0.27	0.59	0.31	158,158,179	0.21	0.0	0.0	158,0,0
94	0.14	0.25	0.16	164,167,179	0.0	0.0	0.0	0,0,0
95	0.11	0.21	0.13	155,155,179	0.0	0.0	0.0	0,0,0
96	0.15	0.29	0.17	155,155,179	0.0	0.0	0.0	0,0,0
97	0.21	0.40	0.23	155,155,179	0.0	0.0	0.0	0,0,0
98	0.25	0.51	0.29	155,155,179	0.0	0.0	0.0	0,0,0
99	0.29	0.59	0.33	155,155,179	0.21	0.18	0.0	155,173,0
100	0.31	0.64	0.36	155,155,179	0.23	0.20	0.19	155,173,179
101	0.32	0.65	0.37	164,164,179	0.23	0.21	0.20	164,173,179
102	0.32	0.64	0.37	164,164,179	0.23	0.20	0.20	164,173,179
103	0.30	0.59	0.35	164,164,179	0.21	0.19	0.18	164,173,179
104	0.26	0.50	0.31	164,164,179	0.18	0.0	0.0	164,0,0

Guscio	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
105	0.21	0.40	0.25	164,158,179	0.0	0.0	0.0	0,0,0
106	0.15	0.27	0.17	164,158,179	0.0	0.0	0.0	0,0,0
107	0.15	0.27	0.16	158,161,179	0.0	0.0	0.0	0,0,0
108	0.33	0.65	0.38	164,164,179	0.23	0.21	0.20	164,173,179
109	0.11	0.23	0.12	155,155,179	0.0	0.0	0.0	0,0,0
110	0.15	0.30	0.16	155,155,179	0.0	0.0	0.0	0,0,0
111	0.19	0.38	0.20	155,155,179	0.0	0.0	0.0	0,0,0
112	0.20	0.42	0.22	155,158,179	0.0	0.0	0.0	0,0,0
113	0.21	0.42	0.23	155,155,179	0.0	0.0	0.0	0,0,0
114	0.22	0.43	0.24	155,155,179	0.0	0.0	0.0	0,0,0
115	0.22	0.42	0.24	155,155,179	0.0	0.0	0.0	0,0,0
116	0.22	0.42	0.24	155,155,179	0.0	0.0	0.0	0,0,0
117	0.22	0.44	0.25	155,155,179	0.0	0.0	0.0	0,0,0
118	0.26	0.52	0.29	155,155,179	0.18	0.0	0.0	155,0,0
119	0.30	0.60	0.34	155,155,179	0.21	0.19	0.18	155,173,179
120	0.32	0.66	0.37	164,164,179	0.23	0.21	0.20	164,173,179
121	0.33	0.67	0.38	164,164,179	0.24	0.21	0.21	164,173,179
122	0.32	0.65	0.37	164,164,179	0.23	0.21	0.20	164,173,179
123	0.29	0.58	0.34	164,164,179	0.21	0.19	0.18	164,173,179
124	0.25	0.48	0.29	164,164,179	0.0	0.0	0.0	0,0,0
125	0.19	0.35	0.22	164,158,179	0.0	0.0	0.0	0,0,0
126	0.12	0.21	0.14	158,158,179	0.0	0.0	0.0	0,0,0
127	0.14	0.24	0.15	158,161,179	0.0	0.0	0.0	0,0,0
128	0.34	0.67	0.39	164,164,179	0.24	0.21	0.21	164,173,179
129	0.16	0.33	0.16	161,161,179	0.0	0.0	0.0	0,0,0
130	0.20	0.40	0.21	161,161,179	0.0	0.0	0.0	0,0,0
131	0.23	0.47	0.25	161,155,179	0.0	0.0	0.0	0,0,0
132	0.26	0.51	0.28	161,155,179	0.18	0.0	0.0	155,0,0
133	0.26	0.52	0.29	161,155,179	0.18	0.0	0.0	155,0,0
134	0.27	0.53	0.29	161,155,179	0.19	0.0	0.0	155,0,0
135	0.27	0.53	0.30	161,155,179	0.19	0.0	0.0	155,0,0
136	0.26	0.51	0.29	161,155,179	0.18	0.0	0.0	155,0,0
137	0.25	0.50	0.28	161,155,179	0.0	0.0	0.0	0,0,0
138	0.26	0.52	0.29	161,155,179	0.18	0.0	0.0	155,0,0
139	0.30	0.61	0.34	164,155,179	0.21	0.19	0.18	155,173,179
140	0.32	0.66	0.37	164,164,179	0.23	0.21	0.20	164,173,179
141	0.33	0.67	0.38	164,164,179	0.24	0.21	0.21	164,173,179
142	0.32	0.65	0.37	164,164,179	0.23	0.21	0.20	164,173,179
143	0.29	0.58	0.34	164,164,179	0.20	0.19	0.18	164,173,179
144	0.24	0.46	0.28	164,164,179	0.0	0.0	0.0	0,0,0
145	0.16	0.30	0.19	164,158,179	0.0	0.0	0.0	0,0,0
146	0.10	0.17	0.11	158,158,179	0.0	0.0	0.0	0,0,0
147	0.13	0.23	0.15	158,161,179	0.0	0.0	0.0	0,0,0
148	0.34	0.67	0.39	164,164,179	0.24	0.21	0.21	164,173,179
149	0.16	0.33	0.16	161,161,179	0.0	0.0	0.0	0,0,0
150	0.20	0.40	0.21	161,161,179	0.0	0.0	0.0	0,0,0
151	0.23	0.47	0.25	161,158,179	0.0	0.0	0.0	0,0,0
152	0.25	0.51	0.28	161,158,179	0.18	0.0	0.0	158,0,0
153	0.26	0.52	0.28	161,158,179	0.18	0.0	0.0	158,0,0
154	0.26	0.53	0.29	161,158,179	0.19	0.0	0.0	158,0,0
155	0.26	0.53	0.29	161,158,179	0.19	0.0	0.0	158,0,0
156	0.26	0.51	0.29	161,158,179	0.18	0.0	0.0	158,0,0
157	0.25	0.49	0.28	158,158,179	0.0	0.0	0.0	0,0,0
158	0.25	0.51	0.29	158,161,179	0.18	0.0	0.0	161,0,0
159	0.30	0.60	0.34	164,164,179	0.21	0.19	0.18	164,173,179
160	0.32	0.66	0.37	164,164,179	0.23	0.21	0.20	164,173,179
161	0.33	0.67	0.38	164,164,179	0.24	0.21	0.21	164,173,179
162	0.32	0.65	0.37	164,164,179	0.23	0.21	0.20	164,173,179
163	0.29	0.58	0.34	164,164,179	0.20	0.19	0.18	164,173,179
164	0.24	0.47	0.28	164,164,179	0.0	0.0	0.0	0,0,0
165	0.17	0.32	0.21	164,155,179	0.0	0.0	0.0	0,0,0
166	0.11	0.18	0.12	155,155,179	0.0	0.0	0.0	0,0,0
167	0.13	0.23	0.15	155,161,179	0.0	0.0	0.0	0,0,0
168	0.34	0.67	0.39	164,164,179	0.24	0.21	0.21	164,173,179
169	0.11	0.23	0.12	158,158,179	0.0	0.0	0.0	0,0,0
170	0.15	0.30	0.16	158,158,179	0.0	0.0	0.0	0,0,0

Guscio	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
171	0.19	0.38	0.20	158,158,179	0.0	0.0	0.0	0,0,0
172	0.20	0.40	0.22	158,155,179	0.0	0.0	0.0	0,0,0
173	0.21	0.41	0.23	158,158,179	0.0	0.0	0.0	0,0,0
174	0.22	0.43	0.24	158,158,179	0.0	0.0	0.0	0,0,0
175	0.21	0.41	0.23	158,158,179	0.0	0.0	0.0	0,0,0
176	0.21	0.41	0.23	158,158,179	0.0	0.0	0.0	0,0,0
177	0.22	0.42	0.24	158,158,179	0.0	0.0	0.0	0,0,0
178	0.25	0.50	0.28	158,158,179	0.0	0.0	0.0	0,0,0
179	0.29	0.59	0.33	158,158,179	0.21	0.18	0.0	158,173,0
180	0.32	0.64	0.36	164,164,179	0.23	0.20	0.20	164,173,179
181	0.32	0.66	0.38	164,164,179	0.23	0.21	0.20	164,173,179
182	0.32	0.64	0.37	164,164,179	0.23	0.20	0.20	164,173,179
183	0.29	0.58	0.34	164,164,179	0.21	0.19	0.18	164,173,179
184	0.25	0.49	0.30	164,164,179	0.0	0.0	0.0	0,0,0
185	0.20	0.37	0.24	164,155,179	0.0	0.0	0.0	0,0,0
186	0.13	0.23	0.16	164,155,179	0.0	0.0	0.0	0,0,0
187	0.14	0.26	0.16	155,161,179	0.0	0.0	0.0	0,0,0
188	0.34	0.66	0.39	164,164,179	0.23	0.21	0.20	164,173,179
189	0.04	0.08	0.05	158,155,179	0.0	0.0	0.0	0,0,0
190	0.11	0.23	0.12	155,155,179	0.0	0.0	0.0	0,0,0
191	0.19	0.39	0.21	155,155,179	0.0	0.0	0.0	0,0,0
192	0.32	0.67	0.36	155,155,179	0.23	0.21	0.20	155,173,179
193	0.26	0.56	0.30	155,155,179	0.20	0.0	0.0	155,0,0
194	0.12	0.22	0.14	164,155,179	0.0	0.0	0.0	0,0,0
195	0.11	0.20	0.12	158,158,179	0.0	0.0	0.0	0,0,0
196	0.15	0.29	0.17	158,158,179	0.0	0.0	0.0	0,0,0
197	0.21	0.40	0.23	158,158,179	0.0	0.0	0.0	0,0,0
198	0.25	0.49	0.28	158,158,179	0.0	0.0	0.0	0,0,0
199	0.28	0.57	0.32	158,158,179	0.20	0.0	0.0	158,0,0
200	0.30	0.61	0.35	158,158,179	0.22	0.19	0.19	158,173,179
201	0.31	0.63	0.36	164,158,179	0.22	0.20	0.19	158,173,179
202	0.31	0.62	0.36	164,164,179	0.22	0.20	0.19	164,173,179
203	0.29	0.58	0.34	164,164,179	0.21	0.19	0.18	164,173,179
204	0.26	0.51	0.31	164,164,179	0.18	0.0	0.0	164,0,0
205	0.22	0.42	0.26	164,155,179	0.0	0.0	0.0	0,0,0
206	0.16	0.29	0.19	164,155,179	0.0	0.0	0.0	0,0,0
207	0.15	0.29	0.17	155,161,179	0.0	0.0	0.0	0,0,0
208	0.32	0.64	0.37	164,158,179	0.23	0.20	0.20	158,173,179
209	0.09	0.20	0.09	155,155,179	0.0	0.0	0.0	0,0,0
210	0.15	0.31	0.16	155,155,179	0.0	0.0	0.0	0,0,0
211	0.31	0.62	0.34	155,155,179	0.22	0.19	0.18	155,173,179
212	0.44	0.78	0.50	155,155,179	0.26	0.25	0.24	155,173,179
213	0.53	0.75	0.60	155,155,179	0.25	0.23	0.22	155,173,179
214	0.17	0.41	0.19	155,155,179	0.0	0.0	0.0	0,0,0
215	0.10	0.16	0.11	158,158,179	0.0	0.0	0.0	0,0,0
216	0.17	0.31	0.19	158,158,179	0.0	0.0	0.0	0,0,0
217	0.21	0.40	0.24	158,158,179	0.0	0.0	0.0	0,0,0
218	0.24	0.47	0.27	158,158,179	0.0	0.0	0.0	0,0,0
219	0.27	0.53	0.30	158,158,179	0.19	0.0	0.0	158,0,0
220	0.28	0.56	0.32	158,158,179	0.20	0.0	0.0	158,0,0
221	0.29	0.58	0.34	158,158,179	0.21	0.18	0.0	158,173,0
222	0.30	0.59	0.35	158,158,179	0.21	0.19	0.18	158,173,179
223	0.29	0.57	0.34	158,164,179	0.20	0.18	0.0	164,173,0
224	0.27	0.52	0.31	158,164,179	0.18	0.0	0.0	164,0,0
225	0.24	0.44	0.28	158,158,179	0.0	0.0	0.0	0,0,0
226	0.18	0.34	0.22	158,155,179	0.0	0.0	0.0	0,0,0
227	0.16	0.33	0.18	155,161,179	0.0	0.0	0.0	0,0,0
228	0.31	0.61	0.35	164,158,179	0.22	0.19	0.19	158,173,179
229	0.02	0.08	0.02	154,154,179	0.0	0.0	0.0	0,0,0
230	0.02	0.09	0.03	164,154,179	0.0	0.0	0.0	0,0,0
231	0.12	0.30	0.13	155,155,179	0.0	0.0	0.0	0,0,0
232	0.30	0.77	0.33	155,155,179	0.27	0.25	0.24	155,173,179
233	0.50	0.80	0.56	155,164,179	0.27	0.25	0.24	164,173,179
234	0.34	0.74	0.39	155,155,179	0.25	0.23	0.21	155,173,179
235	0.19	0.42	0.22	155,155,179	0.0	0.0	0.0	0,0,0
236	0.19	0.34	0.21	158,158,179	0.0	0.0	0.0	0,0,0

Guscio	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
237	0.21	0.40	0.24	158,158,179	0.0	0.0	0.0	0,0,0
238	0.23	0.45	0.26	158,158,179	0.0	0.0	0.0	0,0,0
239	0.24	0.47	0.28	158,158,179	0.0	0.0	0.0	0,0,0
240	0.25	0.47	0.28	158,158,179	0.0	0.0	0.0	0,0,0
241	0.26	0.50	0.30	158,158,179	0.18	0.0	0.0	158,0,0
242	0.27	0.52	0.31	158,158,179	0.18	0.0	0.0	158,0,0
243	0.28	0.53	0.32	158,158,179	0.19	0.0	0.0	158,0,0
244	0.26	0.51	0.31	158,158,179	0.18	0.0	0.0	158,0,0
245	0.24	0.45	0.28	158,158,179	0.0	0.0	0.0	0,0,0
246	0.20	0.38	0.24	158,158,179	0.0	0.0	0.0	0,0,0
247	0.17	0.36	0.20	164,161,179	0.0	0.0	0.0	0,0,0
248	0.28	0.57	0.33	164,158,179	0.20	0.18	0.0	158,173,0
249	0.39	0.77	0.44	158,164,179	0.27	0.24	0.23	164,173,179
250	0.29	0.62	0.33	155,164,179	0.22	0.19	0.0	164,173,0
251	0.23	0.48	0.26	155,155,179	0.0	0.0	0.0	0,0,0
252	0.19	0.36	0.21	158,158,179	0.0	0.0	0.0	0,0,0
253	0.21	0.40	0.24	158,158,179	0.0	0.0	0.0	0,0,0
254	0.21	0.39	0.24	158,158,179	0.0	0.0	0.0	0,0,0
255	0.20	0.37	0.23	158,158,179	0.0	0.0	0.0	0,0,0
256	0.19	0.34	0.22	158,158,179	0.0	0.0	0.0	0,0,0
257	0.20	0.36	0.23	158,158,179	0.0	0.0	0.0	0,0,0
258	0.22	0.40	0.25	158,158,179	0.0	0.0	0.0	0,0,0
259	0.23	0.44	0.27	158,158,179	0.0	0.0	0.0	0,0,0
260	0.24	0.45	0.28	158,158,179	0.0	0.0	0.0	0,0,0
261	0.22	0.43	0.26	158,158,179	0.0	0.0	0.0	0,0,0
262	0.20	0.37	0.23	158,158,179	0.0	0.0	0.0	0,0,0
263	0.19	0.38	0.21	164,158,179	0.0	0.0	0.0	0,0,0
264	0.25	0.51	0.29	158,158,179	0.0	0.0	0.0	0,0,0
265	0.23	0.51	0.26	158,158,179	0.0	0.0	0.0	0,0,0
266	0.25	0.52	0.29	158,164,179	0.18	0.0	0.0	164,0,0
267	0.22	0.42	0.25	164,155,179	0.0	0.0	0.0	0,0,0
268	0.19	0.35	0.22	164,158,179	0.0	0.0	0.0	0,0,0
269	0.18	0.33	0.20	158,158,179	0.0	0.0	0.0	0,0,0
270	0.16	0.28	0.18	158,164,179	0.0	0.0	0.0	0,0,0
271	0.14	0.22	0.16	158,164,179	0.0	0.0	0.0	0,0,0
272	0.12	0.17	0.14	158,164,179	0.0	0.0	0.0	0,0,0
273	0.12	0.17	0.14	158,161,179	0.0	0.0	0.0	0,0,0
274	0.14	0.22	0.16	158,161,179	0.0	0.0	0.0	0,0,0
275	0.16	0.28	0.19	158,158,179	0.0	0.0	0.0	0,0,0
276	0.18	0.33	0.21	158,158,179	0.0	0.0	0.0	0,0,0
277	0.19	0.36	0.22	158,158,179	0.0	0.0	0.0	0,0,0
278	0.17	0.34	0.20	158,158,179	0.0	0.0	0.0	0,0,0
279	0.20	0.38	0.23	158,158,179	0.0	0.0	0.0	0,0,0
280	0.22	0.43	0.25	158,158,179	0.0	0.0	0.0	0,0,0
281	0.14	0.29	0.16	158,158,179	0.0	0.0	0.0	0,0,0
282	0.19	0.35	0.21	158,158,179	0.0	0.0	0.0	0,0,0
283	0.22	0.40	0.25	158,158,179	0.0	0.0	0.0	0,0,0
284	0.24	0.43	0.27	158,158,179	0.0	0.0	0.0	0,0,0
285	0.25	0.46	0.28	158,158,179	0.0	0.0	0.0	0,0,0
286	0.25	0.48	0.29	158,158,179	0.0	0.0	0.0	0,0,0
287	0.26	0.49	0.30	158,158,179	0.0	0.0	0.0	0,0,0
288	0.26	0.49	0.30	158,158,179	0.0	0.0	0.0	0,0,0
289	0.26	0.49	0.30	158,158,179	0.0	0.0	0.0	0,0,0
290	0.26	0.49	0.29	158,158,179	0.0	0.0	0.0	0,0,0
291	0.25	0.47	0.29	158,158,179	0.0	0.0	0.0	0,0,0
292	0.24	0.45	0.28	158,158,179	0.0	0.0	0.0	0,0,0
293	0.23	0.42	0.27	158,158,179	0.0	0.0	0.0	0,0,0
294	0.22	0.38	0.25	158,158,179	0.0	0.0	0.0	0,0,0
295	0.20	0.35	0.23	158,158,179	0.0	0.0	0.0	0,0,0
296	0.16	0.28	0.18	158,158,179	0.0	0.0	0.0	0,0,0
489	0.08	0.14	0.02	164,164,179	0.0	0.0	0.0	0,0,0
490	0.09	0.22	0.01	164,164,179	0.0	0.0	0.0	0,0,0
491	0.03	0.24	0.04	155,155,179	0.0	0.0	0.0	0,0,0
492	0.05	0.33	0.05	164,155,179	0.0	0.0	0.0	0,0,0
493	0.03	0.05	0.02	158,158,179	0.0	0.0	0.0	0,0,0
494	0.02	0.08	0.02	152,158,179	0.0	0.0	0.0	0,0,0

Guscio	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
495	0.02	0.14	0.03	155,158,179	0.0	0.0	0.0	0,0,0
496	0.04	0.18	0.04	164,158,179	0.0	0.0	0.0	0,0,0
497	0.03	0.03	0.04	158,152,179	0.0	0.0	0.0	0,0,0
498	0.03	0.10	0.03	152,152,179	0.0	0.0	0.0	0,0,0
499	0.02	0.17	0.02	155,158,179	0.0	0.0	0.0	0,0,0
500	0.04	0.25	0.04	164,158,179	0.0	0.0	0.0	0,0,0
501	0.04	0.04	0.05	153,153,179	0.0	0.0	0.0	0,0,0
502	0.04	0.11	0.04	153,161,179	0.0	0.0	0.0	0,0,0
503	0.02	0.19	0.02	153,158,179	0.0	0.0	0.0	0,0,0
504	0.03	0.32	0.03	164,158,179	0.0	0.0	0.0	0,0,0
505	0.04	0.04	0.05	153,153,179	0.0	0.0	0.0	0,0,0
506	0.04	0.11	0.04	153,161,179	0.0	0.0	0.0	0,0,0
507	0.02	0.19	0.02	153,155,179	0.0	0.0	0.0	0,0,0
508	0.03	0.33	0.03	164,155,179	0.0	0.0	0.0	0,0,0
509	0.03	0.04	0.04	155,151,179	0.0	0.0	0.0	0,0,0
510	0.03	0.10	0.04	151,155,179	0.0	0.0	0.0	0,0,0
511	0.02	0.18	0.02	151,155,179	0.0	0.0	0.0	0,0,0
512	0.03	0.27	0.03	164,155,179	0.0	0.0	0.0	0,0,0
513	0.03	0.05	0.03	155,155,179	0.0	0.0	0.0	0,0,0
514	0.02	0.09	0.02	151,155,179	0.0	0.0	0.0	0,0,0
515	0.02	0.15	0.02	152,155,179	0.0	0.0	0.0	0,0,0
516	0.04	0.20	0.03	164,155,179	0.0	0.0	0.0	0,0,0
517	0.08	0.14	0.02	164,164,179	0.0	0.0	0.0	0,0,0
518	0.09	0.22	0.01	164,164,179	0.0	0.0	0.0	0,0,0
519	0.03	0.23	0.03	158,158,179	0.0	0.0	0.0	0,0,0
520	0.05	0.31	0.04	164,161,179	0.0	0.0	0.0	0,0,0
Guscio	**rRfck**	**rRfyk**	**rPfck**		**wR**	**wF**	**wP**	
	0.54	0.80	0.61		0.27	0.25	0.24	

12.6. VERIFICA SOLAI

Si riporta di seguito la verifica dei solai in calcestruzzo precompresso tipo “Spiroll” impiegati per gli edifici in esame. Per la verifica è stato considerato il solaio maggiormente sollecitato dai carichi permanenti e variabili ovvero il solaio del piano terra (si veda § 9.1 azioni statiche).
Complessivamente la somma dei carichi permanenti con i variabili risulta essere pari a:

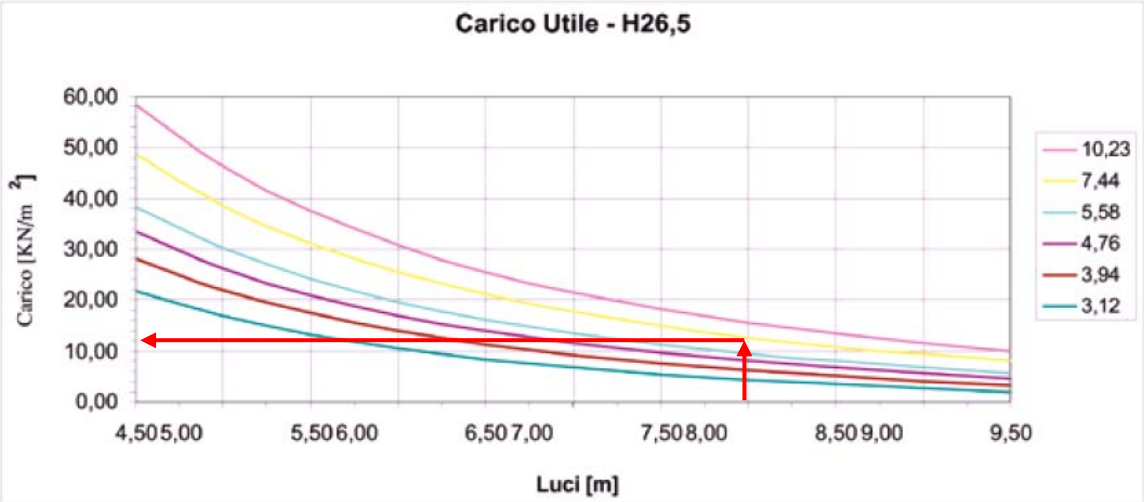
Q_{max} = 7.60kN/mq + 3.00kN/mq = ***10.60kN/mq***

Osservando la tabella seguente inerente il solaio in esame e considerando che la luce massima coperta è pari ad 8.00m ed un’armatura, per la striscia di 120cm, pari a 7.44cmq si ottiene:

Q_{utile} = ***12.67kN/mq*** > 10.60kN/mq

Verificato.

		LUCE [m]										
A_s [cm^2]	Cod.	4.50	5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50
3.12	VB01	21.83	16.84	13.20	10.46	8.35	6.68	5.35	4.26	3.37	2.62	1.98
3.94	VB02	28.17	21.93	17.38	13.95	11.30	9.22	7.55	6.18	5.07	4.13	3.34
4.76	VB03	33.55	26.29	20.98	16.98	13.90	11.48	9.53	7.94	6.62	5.51	4.58
5.58	VB04	38.38	30.17	24.17	19.65	16.17	13.43	11.22	9.43	7.95	6.72	5.68
7.44	VB05	48.88	38.61	31.10	25.45	21.09	17.66	14.91	12.67	10.82	9.28	7.98
10.23	VB06	58.52	46.34	37.44	30.74	25.58	21.51	18.25	15.59	13.40	11.58	10.03



12.7. VERIFICA MURI CONTRO TERRA

Le verifiche sui muri contro terra sono state effettuate attraverso lo schema semplificato di una trave incastrata alla base e incernierata in sommità. Tale trave ha uno spessore di 40cm e larghezza unitaria ed è armata con ferri ϕ16 passo 20cm.

Cautelativamente si assume che la falda acquifera si trovi alla quota z_1= 1.00m, la profondità della struttura contro terra è 2.85m (z_2).

Ai fini progettuali, ipotizzando di impiegare del materiale di riporto, si assume un'angolo di attrito del terreno pari a 38° e quindi la spinta del terreno a riposo (K_0 = 1-senΦ') equivale a 0.384.

e) Azioni statiche

I carichi lineari applicati alla trave sono i seguenti:

- Peso della sovrastruttura q_s = 40.00 kN/mq
- Carico triangolare dovuto al terreno asciutto fino alla quota z_1
  (γ = 20kN/mq; z_1= 1.00m) q_{t1max} = 7.68 kN/m
- Carico triangolare dovuto al terreno immerso fino alla quota z_2
  (γ_i = 10kN/mq; z_1= 2.85m) q_{t2max} = 14.79 kN/m

- Carico triangolare dovuto alla falda acquifera:

  (γ_i = 10kN/mq) q_{water} = 18.50 kN/m

f) Azioni sismiche

Relativamente allo stato limite di salvaguardia della vita (SLV), la risultante delle forze inerziali orizzontali indotte dal sisma viene valutata con la seguente espressione:

- $F_h = P \times k_h$

Dove

- P = peso proprio;
- $k_h=\beta_m \times a_{max} / g$
- $a_{max} = S_s \times S_t \times a_g = S \times a_g$

Località	*cat. Suolo*	*S*	a_g[g]	$a_{max}[g] = S \times a_g$
S. Possidonio – Concordia - Mirandola	C	1.414	0.188	0.266
S. Felice SP – Finale Emilia	C	1.396	0.199	0.278
Cento	D	1.611	0.207	0.333
Poggio Renatico	D	1.619	0.205	0.332
Ferrara Sud	D	1.725	0.176	0.304

Allo stato SLV

- $k_h=\beta_m \times a_{max} / g$ = 1 x 0.333 = 0.333

Nel caso di sisma orizzontale si considera la spinta derivante dall'oscillazione del cuneo di terreno spingente con l'applicazione del diagramma triangolare di pressioni, tipico dei muri di sostegno, avente la risultante a 1/3 dell'altezza.

Per tener conto dell'incremento di spinta del terreno dovuta al sisma si fa riferimento all'EC8, in cui l'incremento di spinta dei terreni ΔP per azione sismica per la condizione a riposo viene valutato:

g) $\Delta P_d = \beta_m \cdot S \cdot a_g / g \cdot \gamma \cdot h_{tot}^2$

Spinta inerziale orizzontale del piedritto

Piedritti

- Sh = peso piedritti x Kh = 25 x 0.4 x 0.333 = 3.33 kN/m2

Sovraspinta sismica del terreno

h) $\Delta P_d = 1 \cdot 0.333 \times 20 \times 2.85^2$ = 54.10 kN/m

i) $\Delta p_d = 54 / 2.85$ = 18.98 kN/m2

dove si indica con h_{tot} l'altezza totale del muro controterra.

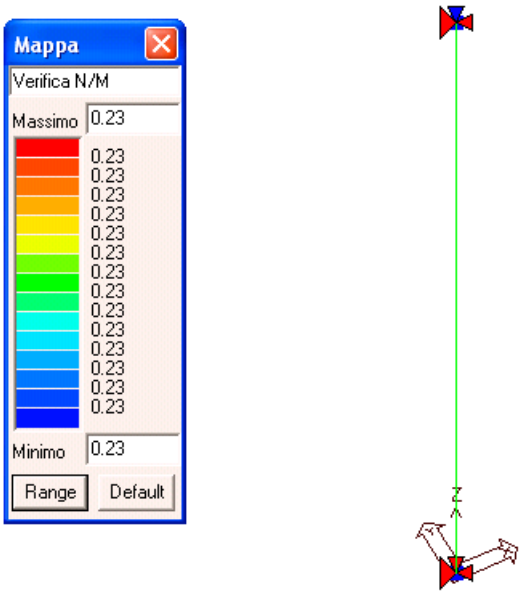


Figura 12.7 – 1 – Muro controterra: Verifica N/M

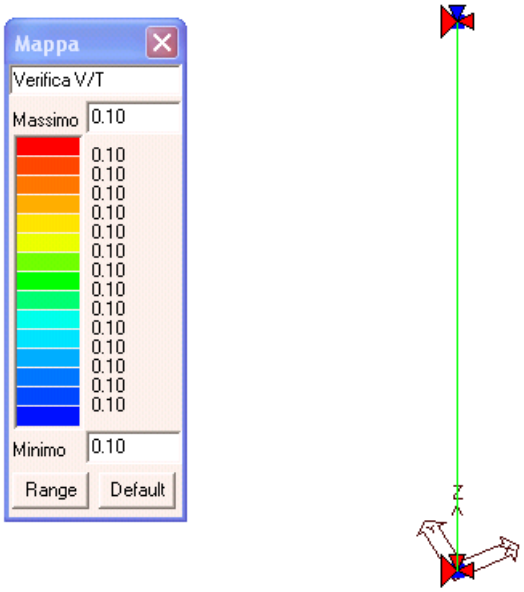


Figura 12.7 – 2 – Muro controterra: Verifica V/T

Verifiche SLU

Pilas.	Note	Stato	Quota	%Af	r. snell.	Armat. long.	verif.	ver. rid	Staffe	ver. V/T	Rif. cmb
			cm						L=cm		
1	s=1,m=1	ok,ok	0.0	0.60	0.05	4d16 0+8 d16	0.23	0.0	2+2d16/19 L=285	0.10	1,0,1
	[b=1.0;1.0]		285.0	0.60	0.05	4d16 0+8 d16	0.10	0.0	2+2d16/19 L=285	0.04	1,0,1
Pilas.				**%Af**	**r. snell.**		**verif.**	**ver. rid**		**ver. V/T**	
				0.60	0.05		0.23	0.0		0.10	

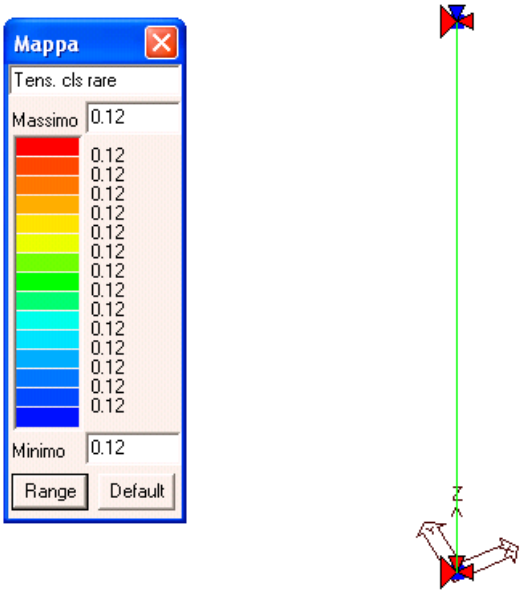


Figura 12.7 – 3 – S.L.E. Tensioni cls comb. rara

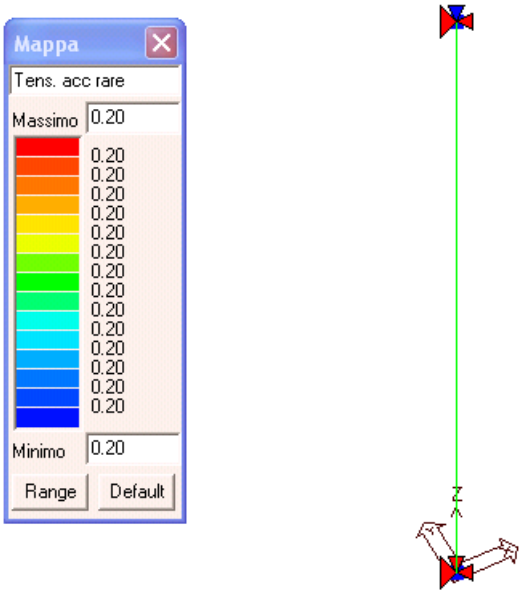


Figura 12.7 – 4 – S.L.E. Tensioni acciaio comb. rara

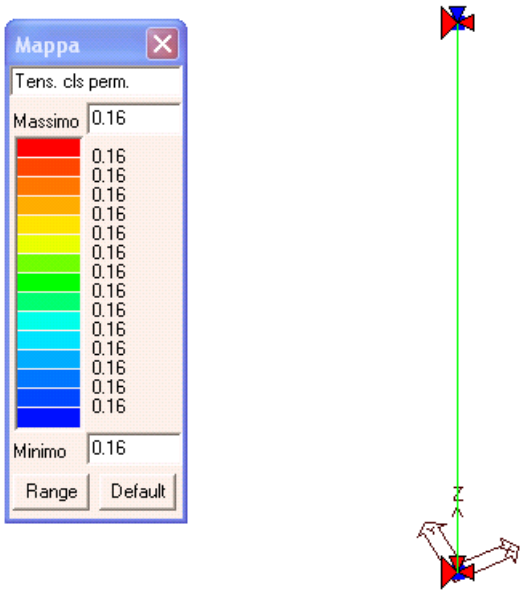


Figura 12.7 – 5 – S.L.E. Tensioni cls comb. permanente

Verifiche SLE

Pilas.	Pos.	rRfck	rRfyk	rPfck	Rif. cmb	Pos.	rRfck	rRfyk	rPfck	Rif. cmb
	cm					cm				
1	0.0	0.12	0.20	0.16	7,7,9	285.0	0.0	0.02	0.0	0,7,0
Pilas.		**rRfck**	**rRfyk**	**rPfck**			**rRfck**	**rRfyk**	**rPfck**	
		0.12	0.20	0.16						

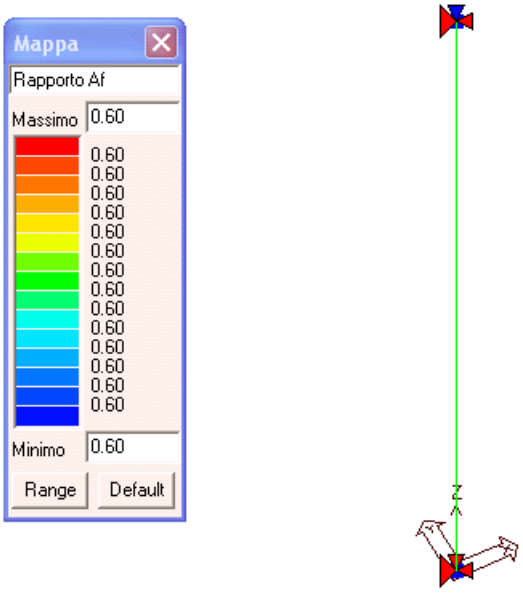


Figura 12.7 – 6 – Rapporto Af

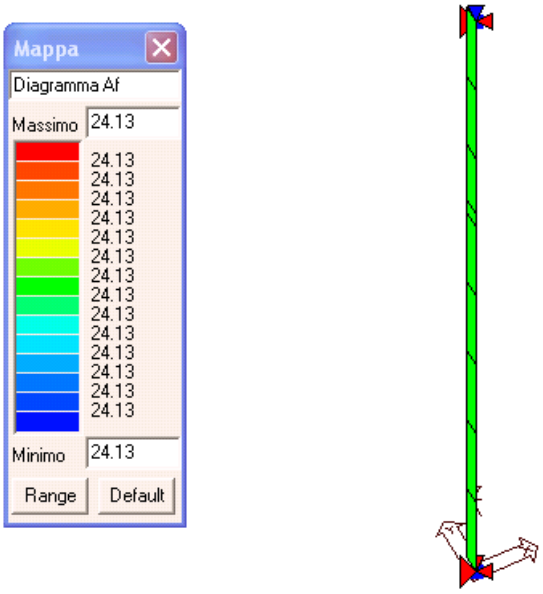


Figura 12.7 – 7 – Diagramma area armatura

13. VERIFICA DELLE PRESSIONI SUL TERRENO

Verifiche agli SLU

Gli stati limite ultimi delle fondazioni superficiali si riferiscono allo sviluppo di meccanismi di collasso determinati dalla mobilitazione della resistenza del terreno (GEO) e/o al raggiungimento della resistenza degli elementi strutturali (STR) che compongono la fondazione stessa.

Le verifiche geotecniche sono condotte con riferimento allo *SLU di tipo geotecnico (GEO)* accertando che la condizione $E_d \leq R_d$ sia soddisfatta per ogni stato limite. La verifica di tale condizione è essere effettuata seguendo l' *Approccio 1 - Combinazione (GEO) 2: (A2+M2+R2).*

Il valore di progetto dell'azione E_d è calcolata dal programma di calcolo tenendo conto dei coefficienti parziali sia in riferimento allo SLU di tipo geotecnico (A2) sia in riferimento allo SLU di tipo strutturale (A1). Si riportano nelle immagini a seguire le pressioni massime indotte dalle suddette combinazioni.

Si ricorda che le pressioni *tipo A1* sono le pressioni indotte nel terreno nella verifica al *SLU di tipo strutturale* e quindi utili solo alla valutazione delle caratteristiche della sollecitazione interna per le verifiche strutturali degli elementi di fondazione. Si riportano solo per completezza.

Per la verifica della portanza del terreno sotto le travi di fondazione dell'edificio in esame, si fa riferimento agli aspetti geotecnici forniti nella *RELAZIONE GEOTECNICA SVINCOLO AUTOSTAZIONE FERRARA SUD.*

Per considerare l'inclinazione dei carichi rispetto alla verticale, si stimano i seguenti rapporti tra l'azione orizzontale H in relazione alla massima azione verticale V sia in condizioni statiche che in condizioni sismiche:

- Condizione statica H/V inferiore al 10%
- Condizione sismica H/V inferiore al 30%

Si rende utile effettuare una precisazione relativamente alla realizzazione del piano di posa delle fondazioni superficiali.

Nella realizzazione dei piazzali delle autostazioni è prevista la costruzione di un rilevato messo in opera con le stesse modalità adottate per la costruzione della massicciata stradale.

Lo sviluppo in altezza del suddetto si attesta tra 1÷2.5m dal piano campagna.

I valori di portanza del terreno sono stati ricavati ad una profondità pari a -1.00m od anche superiori dal piano di di campagna.

In opera sono però previste fondazioni il cui piano di posa giace sullo strato compattato del rilevato dei caselli, quindi la portanza del del terreno risulta essere sicuramente più elevata di quella in sito pertanto possono essere ancora ritenuti validi i valori di portanza rilevati alle quote di -1.00m od anche superiori.

E' infatti prevista, per la realizzazione dei rilevati una prima fase in cui si esegue uno scotico per uno strato di 20cm per la rimozione dello strato vegetale ed una seconda fase in cui si prevede la realizzazione di una bonifica per una profondità variabile a seconda dei siti.

In generale quindi si prevede che il piano di posa delle opere di fondazione venga impostato al più in strati di terreno compattati e mai direttamente sul terreno vergine sottostante.

Per le verifiche sia in *Condizione Statica Drenata* che per *Sismica non Drenata* relativamente alle travi rovesce di fondazione dei fabbricati di servizio, si è proceduto come segue:

- si sono confrontati i valori delle tabelle delle pressioni di contatto limite di progetto relativi alla fondazione di larghezza B=1.20m e approfondimento D=1.00m con quelli della fondazione di larghezza B=1.80m ed approfondimento D=1.00m;
- si sono assunti i valori di tabella più cautelativi emersi dal confronto tra le due tipologie di fondazione: nello specifico, tali valori sono stati garantiti dalla fondazione di larghezza B=1.80m ed approfondimento D=1.00m;

Per quanto concerne le verifiche sia in *Condizione Statica Drenata* che per *Sismica non Drenata* relativamente alla platea di fondazione del fabbricato principale dell'autostazione, si è proceduto andando a considerare i valori delle tabelle riportate nella sola RELAZIONE GEOTECNICA *SVINCOLO AUTOSTAZIONE DI SAN FELICE SUL PANARO E FINALE EMILIA.*

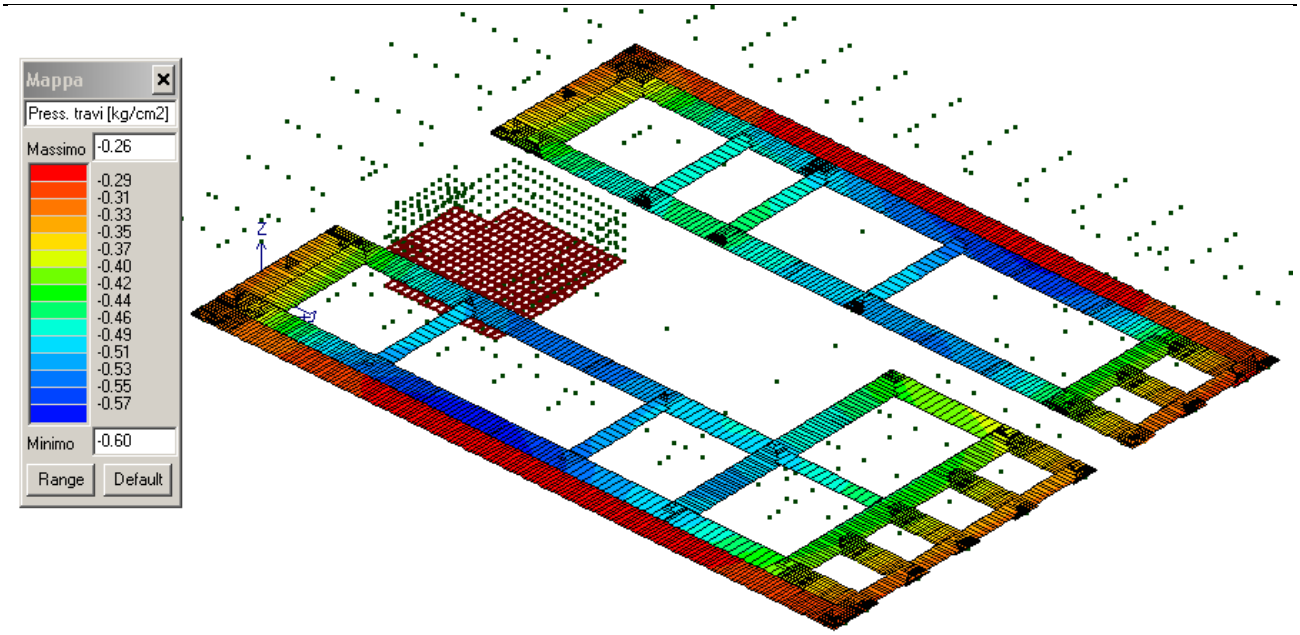


Figura 13.1 - Combinazione SLU A2: pressioni massime indotte dalle travi di fondazione nel terreno

Statica drenata		
T/N [%]	$q_{Rd\text{-}A1\text{-}C1\text{-}drenata}$ [kPa]	$q_{Rd\text{-}A1\text{-}C2\text{-}drenata}$ [kPa]
0	314	105
10	249	83
20	194	64

TABELLA 13. 1: PRESSIONE DI CONTATTO LIMITE DI PROGETTO – B = 1.80 M – D = 1.00 M – CONDIZIONE STATICA DRENATA

Per il rapporto H/V = 10% si ha il valore di $q_{Rd\text{-}A1\text{-}C2\text{-}drenata}$ = 83 kPa = 0.83Kg/cmq.

La verifica risulterà essere perciò:

Ed = 0.60 kg/cmq ≤ 0.83 kg/cmq = Rd **Verificato!**

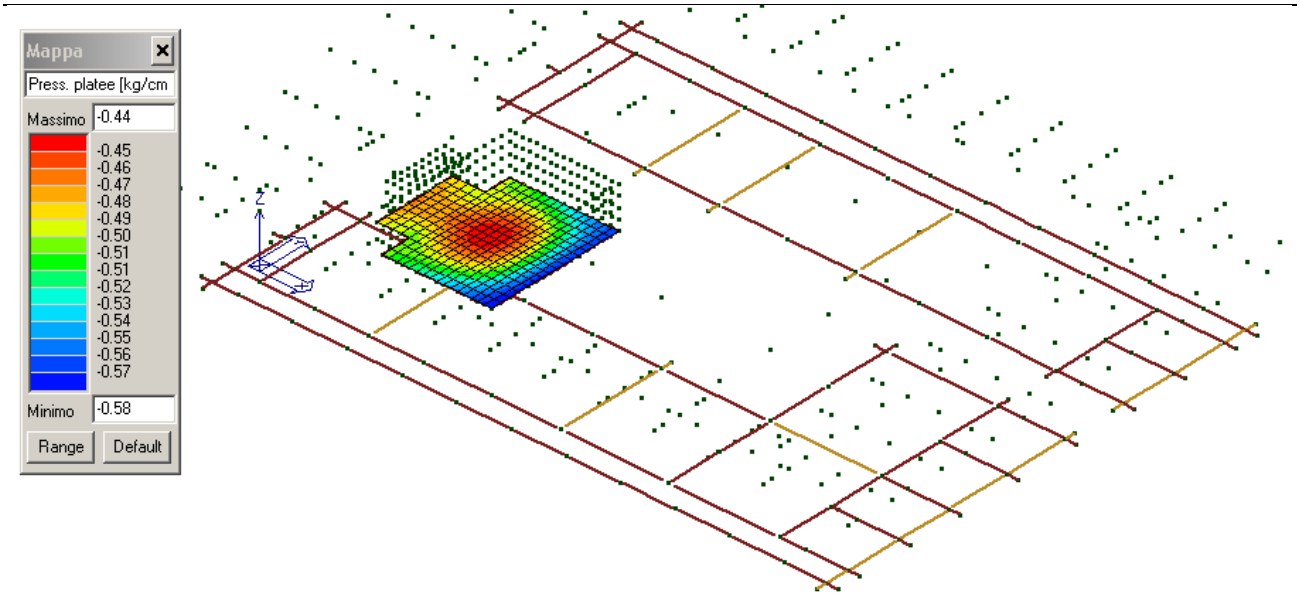


Figura 13.2 - Combinazione SLU A2: pressioni massime indotte dalla platea sul terreno

Statica drenata		
H/V [%]	$q_{Rd\text{-}A1\text{-}C1\text{-}drenata}$ [kPa]	$q_{Rd\text{-}A1\text{-}C2\text{-}drenata}$ [kPa]
0	769	243
10	767	242
20	766	242

TABELLA 13. 2: PRESSIONE DI CONTATTO LIMITE DI PROGETTO – B=23.5 M – L=50.0 M – D=3.0 M – CONDIZIONE STATICA DRENATA

Per il rapporto H/V = 10% si ha il valore di $q_{Rd\text{-}A1\text{-}C2\text{-}drenata}$ = 242 kPa = 2.42Kg/cmq.

La verifica risulterà essere:

Ed = 0.58 kg/cmq < 2.42 kg/cmq = Rd **Verificato!**

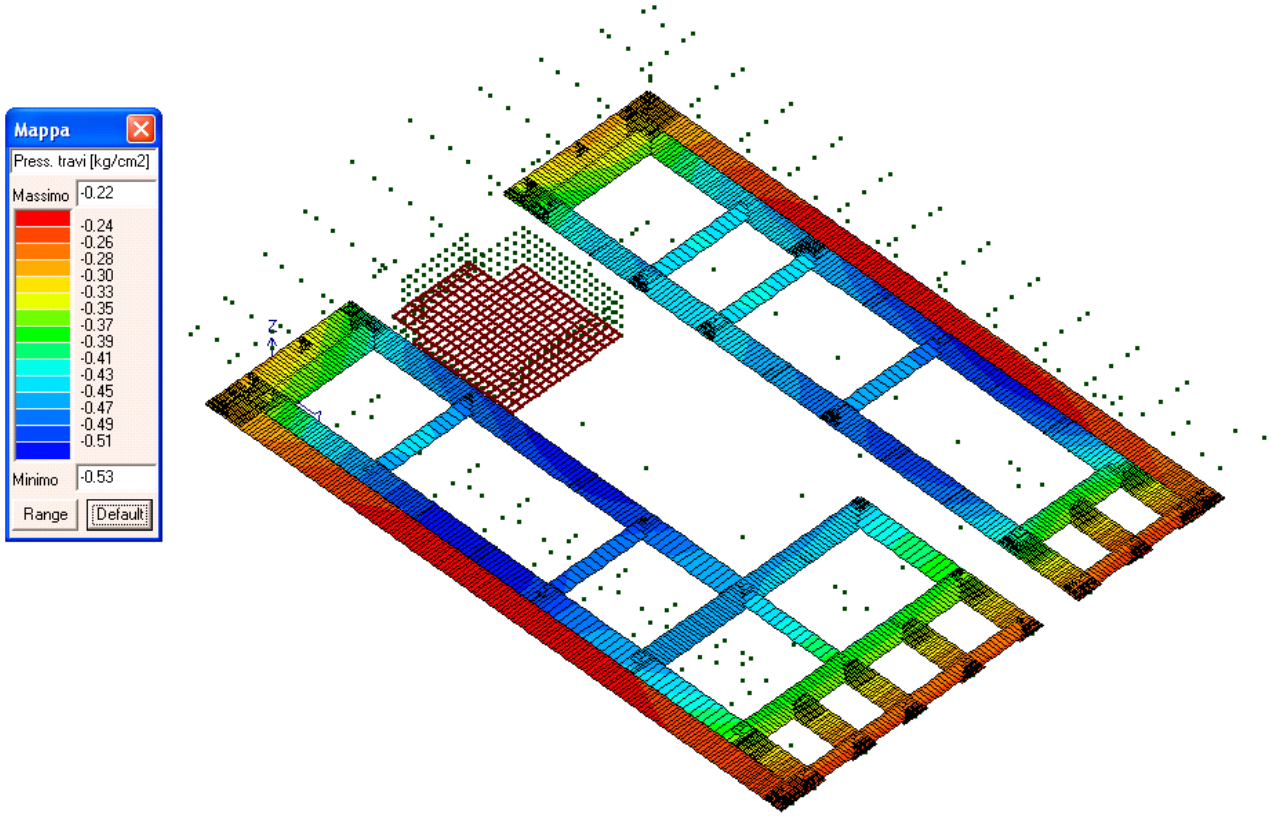


Figura 13.3 - Combinazione SLU A2 sismica: pressioni massime indotte dalle travi nel terreno

Sismica non drenata		
H/V [%]	$q_{Rd\text{-}A1\text{-}C1\text{-}non\ drenata}$ [kPa]	$q_{Rd\text{-}A1\text{-}C2\text{-}non\ drenata}$ [kPa]
10	357	143
20	349	139
30	341	134

TABELLA 13.3: PRESSIONE DI CONTATTO LIMITE DI PROGETTO – B = 1.80 M – D = 1.00 M – CONDIZIONE SISMICA

Per il rapporto H/V = 30% si ha il valore di $q_{Rd\text{-}A1\text{-}C2\text{-}non\ drenata}$ = 134 kPa =1 .34Kg/cmq.

La verifica risulterà essere:

Ed = 0.53 kg/cmq < 1.34kg/cmq = Rd **Verificato!**

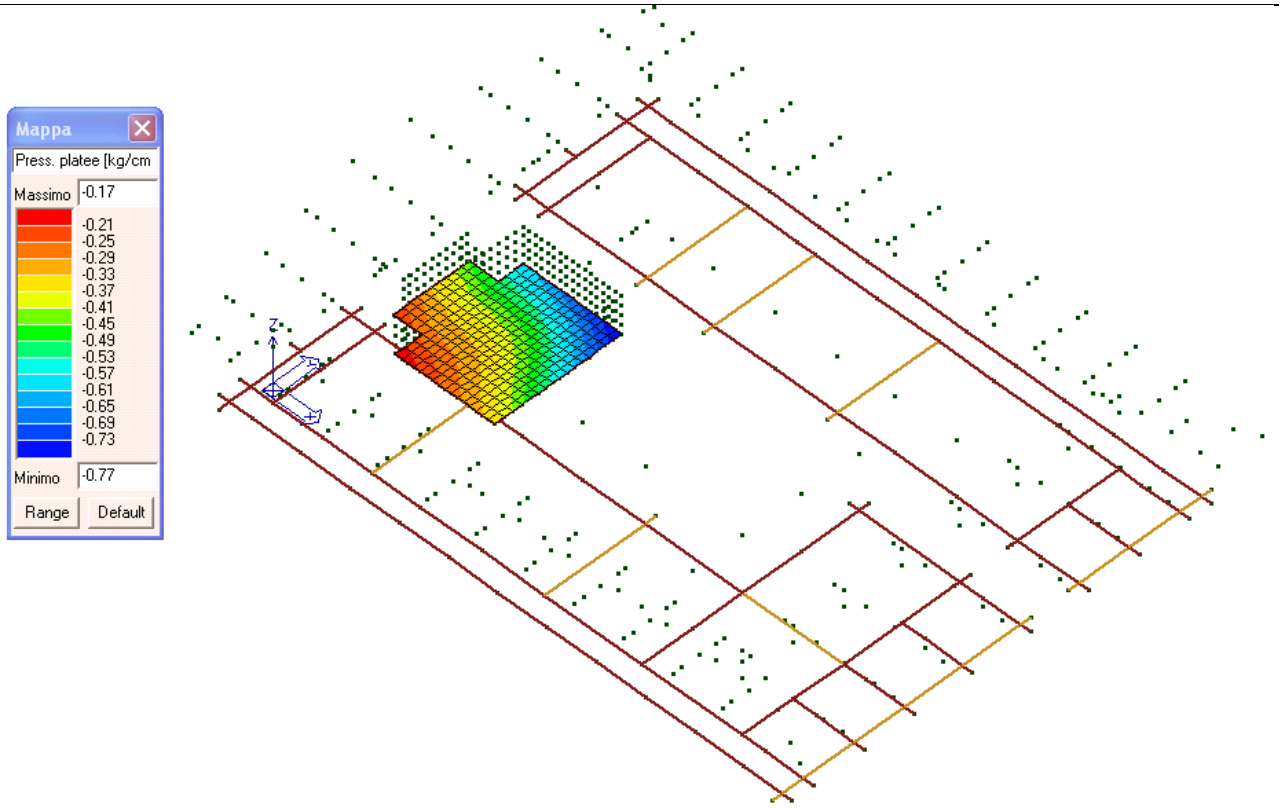


Figura 13.4 - Combinazione SLU A2 sismica: pressioni massime indotte dalla platea sul terreno

Sismica non drenata		
H/V [%]	$q_{Rd\text{-}A1\text{-}C1\text{-}non\ drenata}$ [kPa]	$q_{Rd\text{-}A1\text{-}C2\text{-}non\ drenata}$ [kPa]
10	351	148
20	351	148
30	351	148

TABELLA 13.4: PRESSIONE DI CONTATTO LIMITE DI PROGETTO – B=23.5 M – L=50.0 M – D=3.0 M – CONDIZIONE SISMICA

Per il rapporto H/V = 30% si ha il valore di $q_{Rd\text{-}A1\text{-}C2\text{-}non\ drenata}$ = 148 kPa = 1.48Kg/cmq.

La verifica risulterà essere:

Ed = 0.77 kg/cmq < 1.48 kg/cmq = Rd **Verificato!**