COMUNE DI SOAVE PROVINCIA DI VERONA

PROGETTO

CONSOLIDAMENTO STRUTTURALE E AMPLIAMENTO DELLA SCUOLA SECONDARIA “B. DAL BENE” E DELLA SEDE STACCATA DELL’ISTITUTO ALBERGHIERO “A. BERTI”, STRUTTURA SITA IN VIALE DELLA VITTORIA NEL CAPOLUOGO DI SOAVE

PROGETTO ESECUTIVO

RELAZIONE DI CALCOLO AMPLIAMENTO

Il Progettista

_____

(ing. Paolo Bettagno)

Soave, lì giugno 2018

INTESTAZIONE E CONTENUTI DELLA RELAZIONE

RELAZIONE DI CALCOLO STRUTTURALE

Premessa

La presente relazione di calcolo strutturale, in conformità al §10.1 del DM 17/01/18, è comprensiva di una descrizione generale dell'opera e dei criteri generali di analisi e verifica. Segue inoltre le indicazioni fornite al §10.2 del DM stesso per quanto concerne analisi e verifiche svolte con l'ausilio di codici di calcolo.

Nella presente parte sono riportati i principali elementi di inquadramento del progetto esecutivo riguardante le strutture, in relazione agli strumenti urbanistici, al progetto architettonico, al progetto delle componenti tecnologiche in generale ed alle prestazioni attese dalla struttura.

Descrizione generale dell'opera

Descrizione generale dell'opera	
Fabbricato ad uso	EDILIZIA SCOLASTICA
Ubicazione	Comune di SOAVE (VR) (Regione VENETO)
	Località SOAVE (VR)
	Longitudine 11.248, Latitudine 45.418
Numero di piani	Fuori terra
	Interrati
	le dimensioni dell'opera in pianta sono racchiuse in un rettangolo di
Numero vani scale	1
Numero vani ascensore	0
Tipo di fondazione	CONTINUE E A PLATEA

Principali caratteristiche della struttura	
Struttura regolare in pianta	SI
Struttura regolare in altezza	SI
Classe di duttilità	B
Travi: ricalate o in spessore	SPESSORE E RICALATE
Pilastri	SI
Pilastri in falso	NO
Tipo di fondazione	CONTINUE E A PLATEA
Condizioni per cui è necessario considerare la componente verticale del sisma	NO

Parametri della struttura			
Classe d'uso	Vita Vn [anni]	Coeff. Uso	Periodo Vr [anni]
III	50.0	1.5	75.0

Fattore di struttura
Q=3,90

Quadro normativo di riferimento adottato

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

Nel capitolo "normativa di riferimento" è comunque presente l'elenco completo delle normative disponibili.

Progetto-verifica degli elementi	
Progetto cemento armato	D.M. 17-01-2018
Progetto acciaio	D.M. 17-01-2018
Progetto legno	D.M. 17-01-2018
Progetto muratura	D.M. 17-01-2018
Azione sismica	
Norma applicata per l' azione sismica	D.M. 17-01-2018

Azioni di progetto sulla costruzione

Nei capitoli "modellazione delle azioni" e "schematizzazione dei casi di carico" sono indicate le azioni sulla costruzioni.

Nel prosieguo si indicano tipo di analisi strutturale condotta (statico,dinamico, lineare o non lineare) e il metodo adottato per la risoluzione del problema strutturale nonché le metodologie seguite per la verifica o per il progetto-verifica delle sezioni. Si riportano le combinazioni di carico adottate e, nel caso di calcoli non lineari, i percorsi di carico seguiti; le configurazioni studiate per la struttura in esame *sono risultate effettivamente esaustive per la progettazione-verifica.*

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. L'analisi strutturale è condotta con il metodo dell'analisi modale e dello spettro di risposta in termini di accelerazione per la valutazione dello stato tensodeformativo indotto da carichi dinamici (tra cui quelli di tipo sismico).

L'analisi strutturale viene effettuata con il metodo degli elementi finiti. Il metodo sopraindicato 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:

K * u = F dove **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.

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

Elemento tipo ***TRUSS*** (biella-D2)
Elemento tipo ***BEAM*** (trave-D2)
Elemento tipo ***MEMBRANE*** (membrana-D3)
Elemento tipo ***PLATE*** (piastra-guscio-D3)
Elemento tipo ***BOUNDARY*** (molla)
Elemento tipo ***STIFFNESS*** (matrice di rigidezza)
Elemento tipo ***BRICK*** (elemento solido)
Elemento tipo ***SOLAIO*** (macro elemento composto da più membrane)

Modello numerico

In questa parte viene descritto il modello numerico utilizzato (o i modelli numerici utilizzati) per l'analisi della struttura. La presentazione delle informazioni deve essere, coerentemente con le prescrizioni del paragrafo 10.2 e relativi sottoparagrafi delle NTC-18, tale da garantirne la leggibilità, la corretta interpretazione e la riproducibilità

Tipo di analisi strutturale	
Statica lineare	SI
Statica non lineare	NO
Sismica statica lineare	NO
Sismica dinamica lineare	SI
Sismica statica non lineare (prop. masse)	NO
Sismica statica non lineare (prop. modo)	NO
Sismica statica non lineare (triangolare)	NO
Non linearità geometriche (fattore P delta)	NO

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

Informazioni sul codice di calcolo	
Titolo:	PRO_SAP PROfessional Structural Analysis Program
Versione:	PROFESSIONAL (build 2018-03-180)
Produttore-Distributore:	2S.I. Software e Servizi per l'Ingegneria s.r.l., Ferrara
Codice Licenza:	Licenza dsi2355

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

Affidabilità dei codici utilizzati
2S.I. ha verificato l'affidabilità e la robustezza del codice di calcolo attraverso un numero significativo di casi prova in cui i risultati dell'analisi numerica sono stati confrontati con soluzioni teoriche. E' possibile reperire la documentazione contenente alcuni dei più significativi casi trattati al seguente link: http://www.2si.it/Software/Affidabilità.htm

Modellazione della geometria e proprietà meccaniche:	
nodi	112
elementi D2 (per aste, travi, pilastri…)	207
elementi D3 (per pareti, platee, gusci…)	0
elementi solaio	16
elementi solidi	0
Dimensione del modello strutturale [cm]:	
X min =	0.00
Xmax =	2013.00
Ymin =	0.00
Ymax =	1699.00
Zmin =	0.00
Zmax =	1065.00
Strutture verticali:	
Elementi di tipo asta	NO
Pilastri	SI
Pareti	NO
Setti (a comportamento membranale)	NO
Strutture non verticali:	
Elementi di tipo asta	NO
Travi	SI
Gusci	NO
Membrane	NO
Orizzontamenti:	
Solai con la proprietà piano rigido	SI
Solai senza la proprietà piano rigido	NO
Tipo di vincoli:	
Nodi vincolati rigidamente	NO
Nodi vincolati elasticamente	NO
Nodi con isolatori sismici	NO
Fondazioni puntuali (plinti/plinti su palo)	NO
Fondazioni di tipo trave	SI
Fondazioni di tipo platea	NO
Fondazioni con elementi solidi	NO

Modellazione delle azioni

Si veda il capitolo **“Schematizzazione dei casi di carico”** per le informazioni necessarie alla comprensione ed alla ricostruzione delle azioni applicate al modello numerico, coerentemente con quanto indicato nella parte “*2.6. Azioni di progetto sulla costruzione*”.

Combinazioni e/o percorsi di carico

Si veda il capitolo **“Definizione delle combinazioni”** in cui sono indicate le combinazioni di carico adottate e, nel caso di calcoli non lineari, i percorsi di carico seguiti.

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

Principali risultati

I risultati devono costituire una sintesi completa ed efficace, presentata in modo da riassumere il comportamento della struttura, per ogni tipo di analisi svolta.

2.8.1. Risultati dell'analisi modale

Viene riportato il tipo di analisi modale condotta, restituiti i risultati della stessa e valutate le informazioni desumibili in merito al comportamento della struttura.

2.8.2. Deformate e sollecitazioni per condizioni di carico

Vengono riportati i principali risultati atti a descrivere il comportamento della struttura, in termini di stati di sollecitazione e di deformazione generalizzata, distinti per condizione elementare di carico o per combinazioni omogenee delle stesse.

2.8.3. Inviluppo delle sollecitazioni maggiormente significative. L'analisi e la restituzione degli inviluppi (nelle combinazioni considerate agli SLU e agli SLE) delle caratteristiche di sollecitazione devono essere finalizzate alla valutazione dello stato di sollecitazione nei diversi elementi della struttura.

2.8.4. Reazioni vincolari

Vengono riportate le reazioni dei vincoli nelle singole condizioni di carico e/o nelle combinazioni considerate.

2.8.5. Altri risultati significativi

Nella presente parte vengono riportati tutti gli altri risultati che il progettista ritiene di interesse per la descrizione e la comprensione del/i modello/i e del comportamento della struttura.

Completare

La presente relazione, oltre ad illustrare in modo esaustivo i dati in ingresso ed i risultati delle analisi in forma tabellare, riporta una serie di immagini:

per i dati in ingresso:

- modello solido della struttura
- numerazione di nodi e ed elementi
- configurazioni di carico statiche
- configurazioni di carico sismiche con baricentri delle masse e eccentricità

per le combinazioni più significative (statisticamente più gravose per la struttura):

- configurazioni deformate
- diagrammi e inviluppi delle azioni interne
- mappe delle tensioni
- reazioni vincolari

- mappe delle pressioni sul terreno

per il progetto-verifica degli elementi:

- diagrammi di armatura
- percentuali di sfruttamento
- mappe delle verifiche più significative per i vari stati limite

Verifiche agli stati limite ultimi

Nel capitolo relativo alla progettazione degli elementi strutturali agli SLU vengono indicate, con riferimento alla normativa adottata, le modalità ed i criteri seguiti per valutare la sicurezza della struttura nei confronti delle possibili situazioni di crisi ed i risultati delle valutazioni svolte. In via generale, oltre alle verifiche di resistenza e di spostamento, devono essere prese in considerazione verifiche nei confronti dei fenomeni di instabilità, locale e globale, di fatica, di duttilità, di degrado.

Verifiche agli stati limite di esercizio

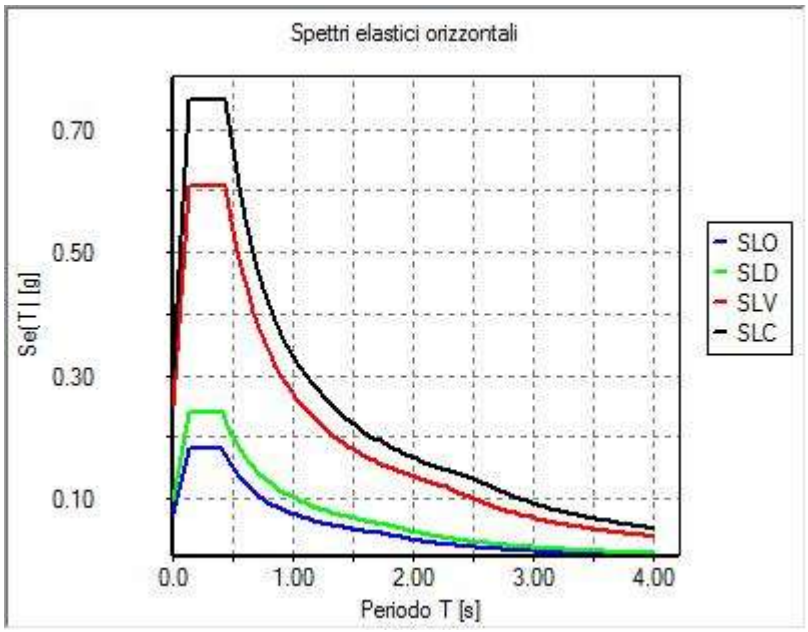
Nel capitolo relativo alla progettazione degli elementi strutturali agli SLU vengono indicate, con riferimento alla normativa adottata, le modalità seguite per valutare l’affidabilità della struttura nei confronti delle possibili situazioni di perdita di funzionalità (per eccessive deformazioni, fessurazioni, vibrazioni, etc.) ed i risultati delle valutazioni svolte.

NORMATIVA DI RIFERIMENTO

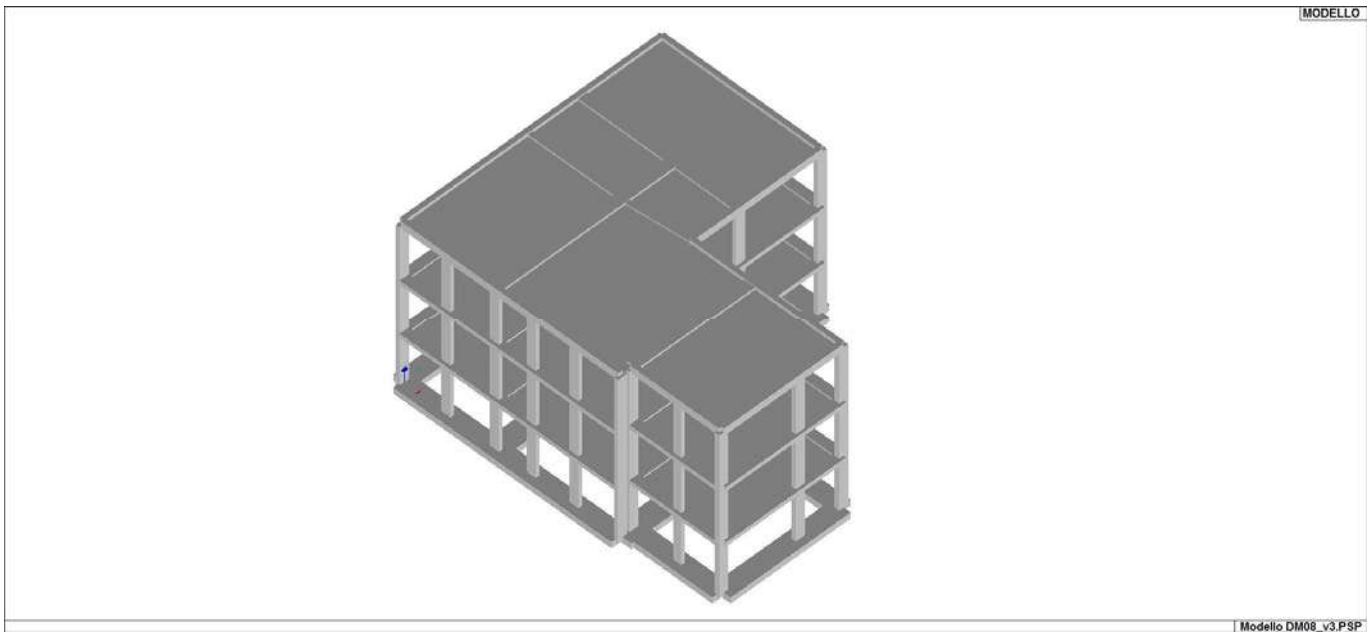
1. D.Min. Infrastrutture Min. Interni e Prot. Civile 17 Gennaio 2018 e allegate "Norme tecniche per le costruzioni".
2. D.Min. Infrastrutture Min. Interni e Prot. Civile 14 Gennaio 2008 e allegate "Norme tecniche per le costruzioni".
3. D.Min. Infrastrutture e trasporti 14 Settembre 2005 e allegate "Norme tecniche per le costruzioni".
4. D.M. LL.PP. 9 Gennaio 1996 "Norme tecniche per il calcolo, l'esecuzione ed il collaudo delle strutture in cemento armato, normale e precompresso e per le strutture metalliche".
5. D.M. LL.PP. 16 Gennaio 1996 "Norme tecniche relative ai <<Criteri generali per la verifica di sicurezza delle costruzioni e dei carichi e sovraccarichi>>".
6. D.M. LL.PP. 16 Gennaio 1996 "Norme tecniche per le costruzioni in zone sismiche".
7. Circolare 4/07/96, n.156AA.GG./STC. istruzioni per l'applicazione delle "Norme tecniche relative ai <<Criteri generali per la verifica di sicurezza delle costruzioni e dei carichi e sovraccarichi>>" di cui al D.M. 16/01/96.
8. Circolare 10/04/97, n.65AA.GG. istruzioni per l'applicazione delle "Norme tecniche per le costruzioni in zone sismiche" di cui al D.M. 16/01/96.
9. D.M. LL.PP. 20 Novembre 1987 "Norme tecniche per la progettazione, esecuzione e collaudo degli edifici in muratura e per il loro consolidamento".
10. Circolare 4 Gennaio 1989 n. 30787 “Istruzioni in merito alle norme tecniche per la progettazione, esecuzione e collaudo degli edifici in muratura e per il loro consolidamento”.
11. D.M. LL.PP. 11 Marzo 1988 “Norme tecniche riguardanti le indagini sui terreni e sulle rocce, la stabilità dei pendii naturali e delle scarpate, i criteri generali e le prescrizioni per la progettazione, l'esecuzione e il collaudo delle opere di sostegno delle terre e delle opere di fondazione”.
12. D.M. LL.PP. 3 Dicembre 1987 “Norme tecniche per la progettazione, esecuzione e collaudo delle costruzioni prefabbricate”.
13. UNI 9502 - Procedimento analitico per valutare la resistenza al fuoco degli elementi costruttivi di conglomerato cementizio armato, normale e precompresso - edizione maggio 2001
14. Ordinanza del Presidente del Consiglio dei Ministri n. 3274 del 20 marzo 2003 “Primi elementi in materia di criteri generali per la classificazione sismica del territorio nazionale e di normative tecniche per le costruzioni in zona sismica” e successive modificazioni e integrazioni.

NOTA sul capitolo "normativa di riferimento": riporta l' elenco delle normative implementate nel software. Le norme utilizzate per la struttura oggetto della presente relazione sono indicate nel precedente capitolo "RELAZIONE DI CALCOLO STRUTTURALE" "ANALISI E VERIFICHE SVOLTE CON L’AUSILIO DI CODICI DI CALCOLO". Laddove nei capitoli successivi vengano richiamate norme antecedenti al DM 17.01.08 è dovuto o a progettazione simulata di edifico esistente.

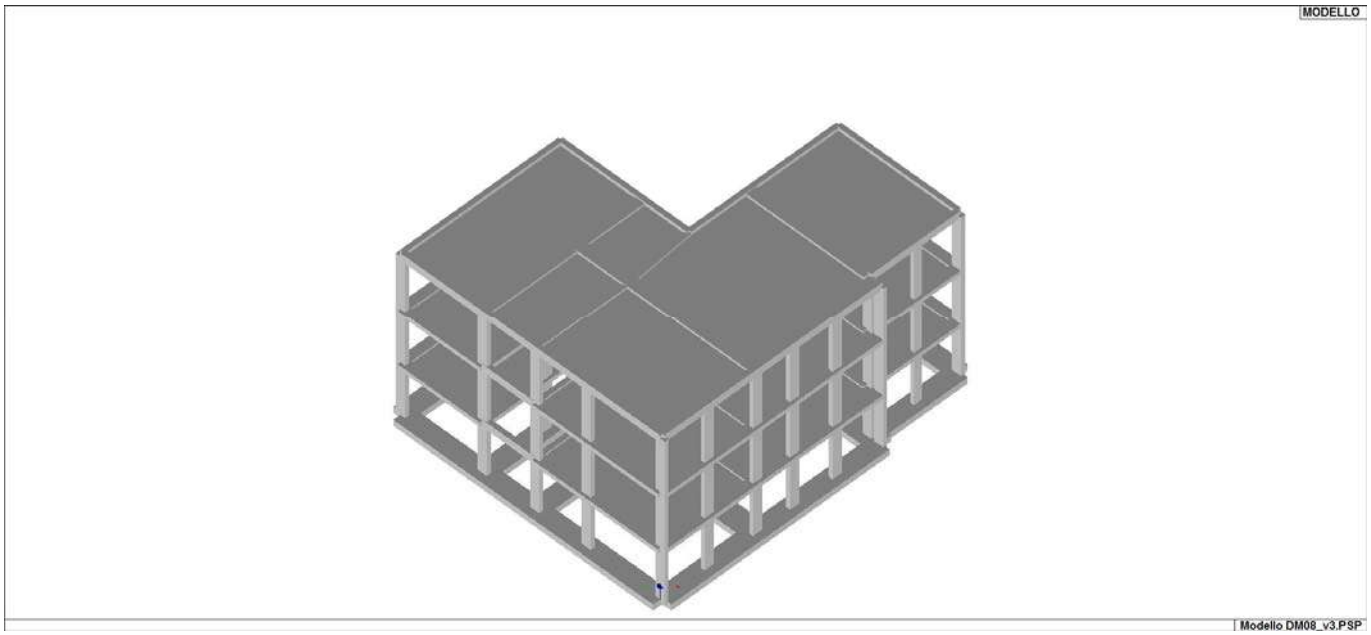
In attesa della pubblicazione della circolare di istruzione per l’applicazione delle Norme Tecniche delle Costruzioni del 17 gennaio 2018 viene utilizzata la CIRCOLARE esplicativa n. 617 del 2 febbraio 2009, “Istruzioni per l'applicazione delle «Nuove norme tecniche per le costruzioni» di cui al decreto ministeriale 14 gennaio 2008”. I riferimenti alla succitata circolare sono riportati con carattere di colore rosso.



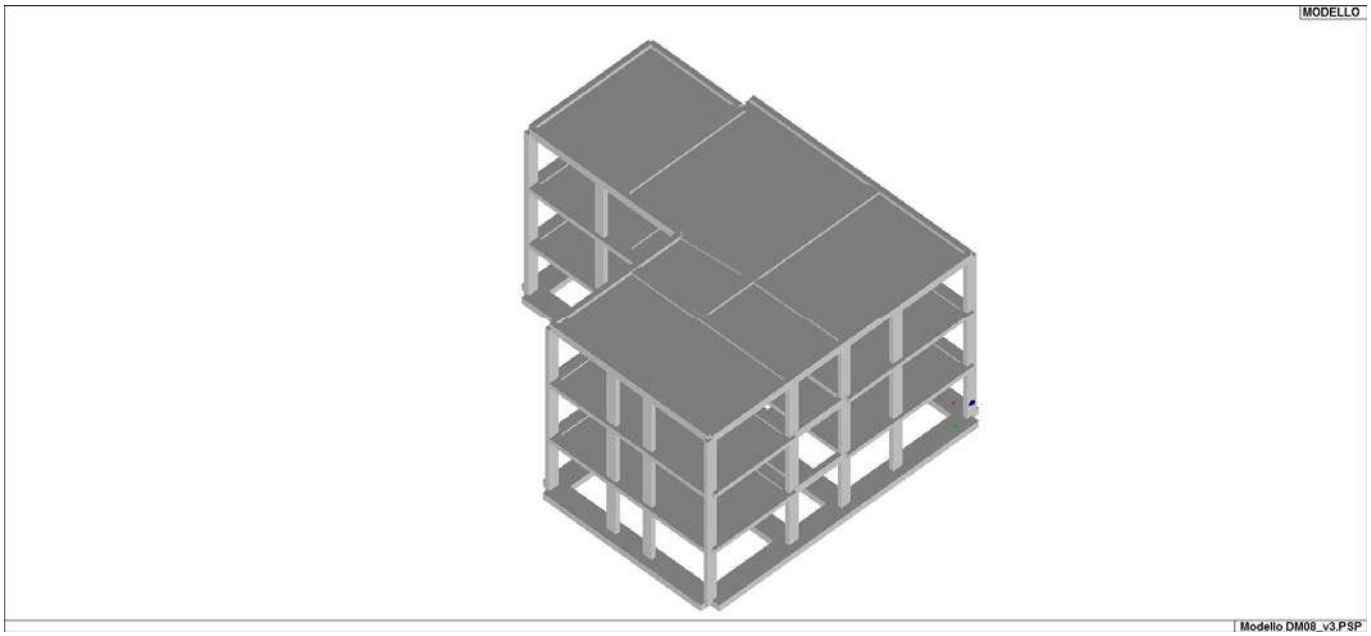
01_INT_SPETTRI_ELASTICI_O



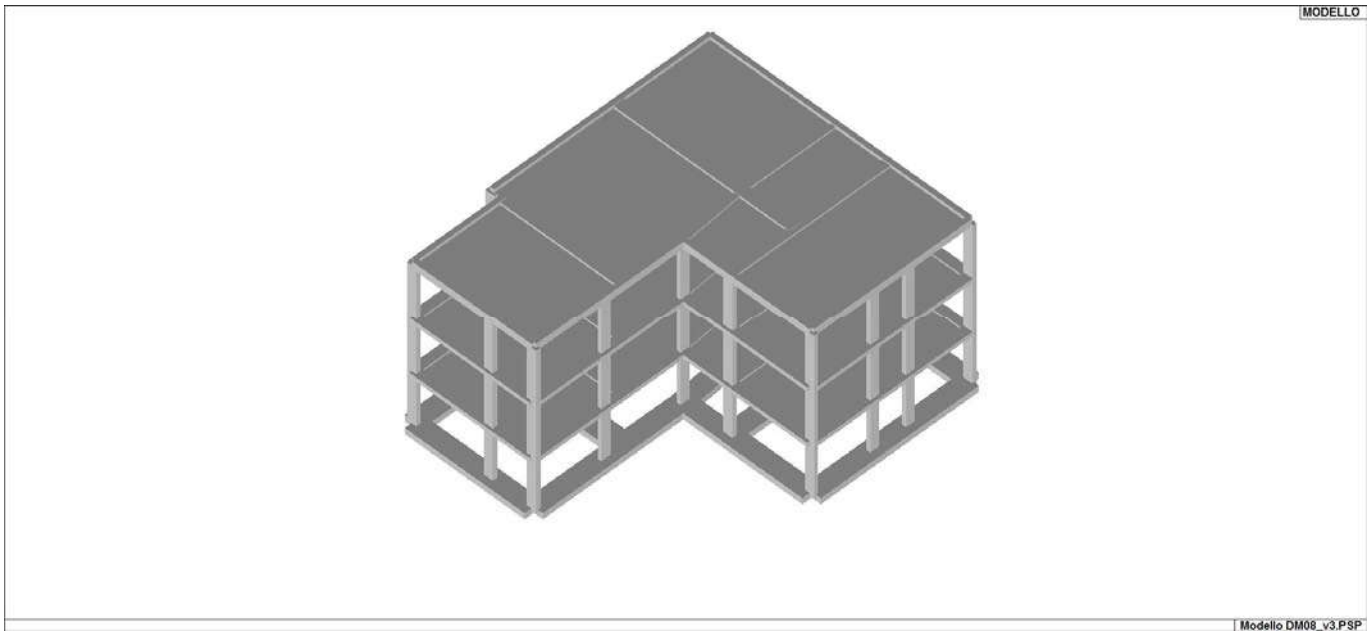
01_INT_VISTA_SOLIDA_001



01_INT_VISTA_SOLIDA_002



01_INT_VISTA_SOLIDA_003



01_INT_VISTA_SOLIDA_004

CARATTERISTICHE MATERIALI UTILIZZATI

LEGENDA TABELLA DATI MATERIALI

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

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

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

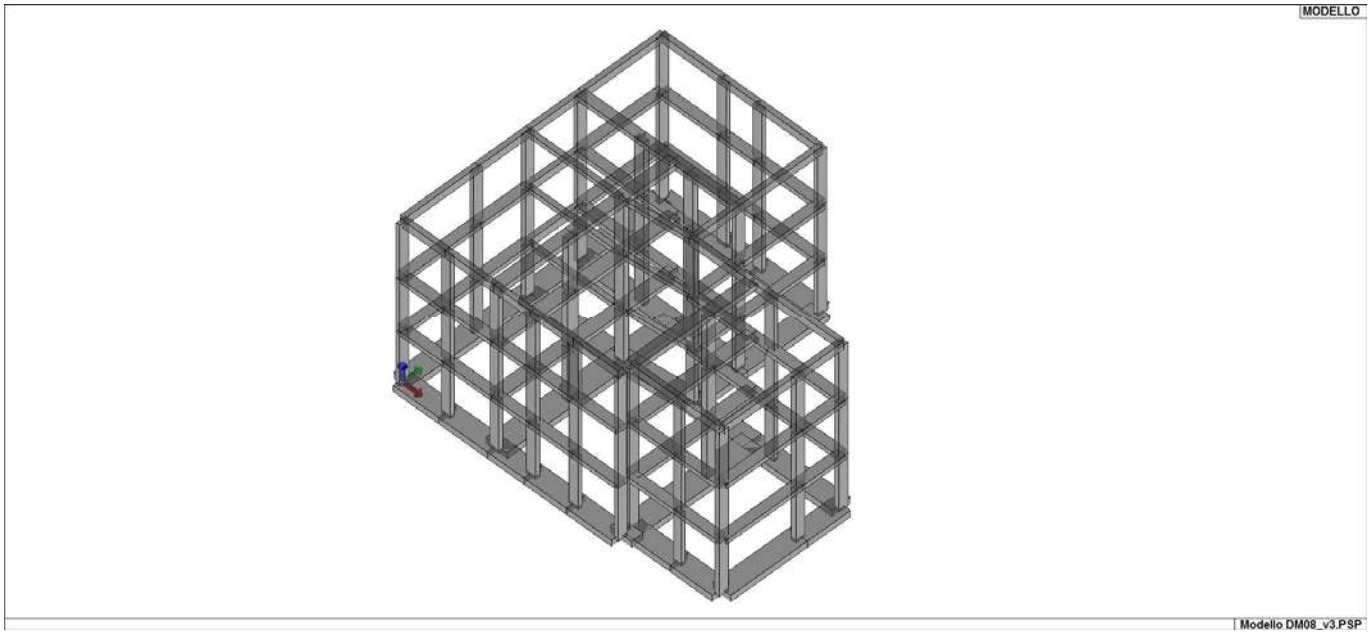
Young	modulo di elasticità normale
Poisson	coefficiente di contrazione trasversale
G	modulo di elasticità tangenziale
Gamma	peso specifico
Alfa	coefficiente di dilatazione termica

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

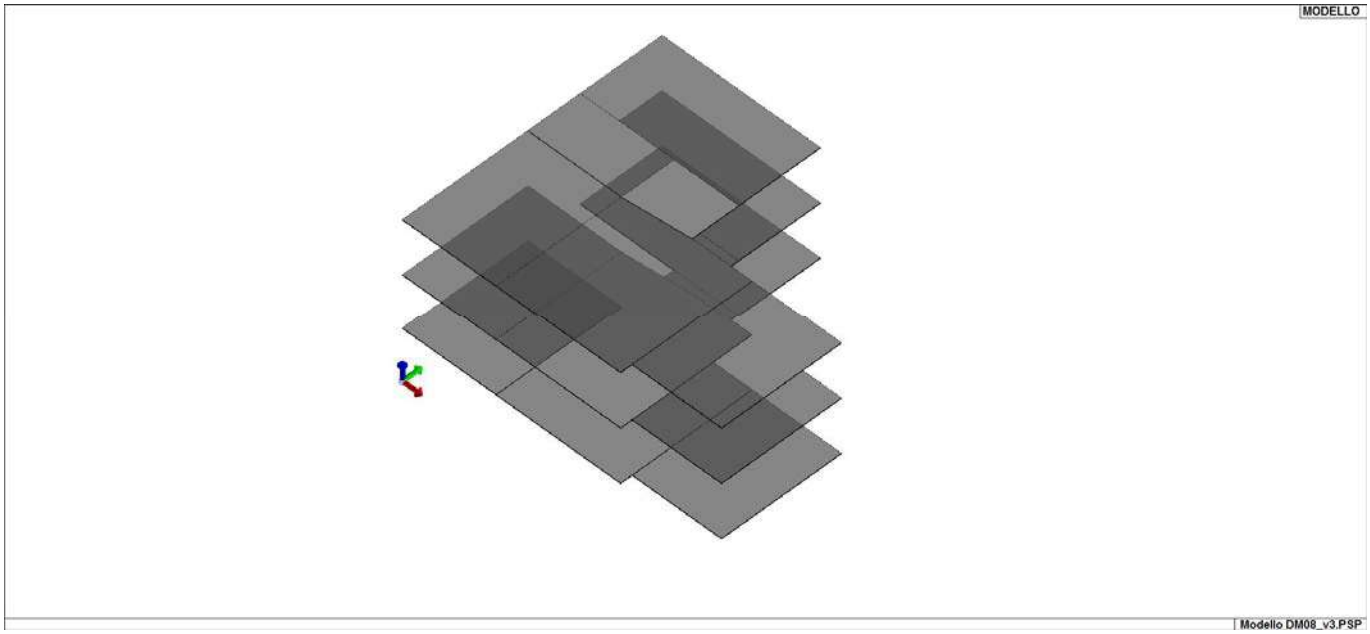
1	cemento armato		
		Rck	resistenza caratteristica cubica
		Fctm	resistenza media a trazione semplice
2	acciaio		
		Ft	tensione di rottura a trazione
		Fy	tensione di snervamento
		Fd	resistenza di calcolo
		Fdt	resistenza di calcolo per spess. t>40 mm
		Sadm	tensione ammissibile
		Sadmt	tensione ammissibile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

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

Id	Tipo / Note		Young	Poisson	G	Gamma	Alfa
		daN/cm2	daN/cm2		daN/cm2	daN/cm3	
1	Calcestruzzo Classe C25/30		3.145e+05	0.20	1.310e+05	2.50e-03	1.00e-05
	Rck	300.0					
	fctm	25.6					



11_MOD_MATERIALI_D2



11_MOD_MATERIALI_SOLAI

Pareti c.a.	1/7/..	2/8/..	3/9/..	4/10/..	5/11/..	6/12/..
Generalità						
Progetto armatura	Parete sismica	Parete sismica				
Armatura						
Inclinazione Av [gradi]	90.00	90.00				
Angolo Av-Ao [gradi]	90.00	90.00				
Minima tesa	0.25	0.25				
Massima tesa	4.00	4.00				
Maglia unica centrale	No	No				
Unico strato verticale	No	No				
Unico strato orizzontale	No	No				
Copriferro [cm]	2.00	2.00				
Maglia V						
diametro	10	10				
passo	25	25				
diametro aggiuntivi	12	12				
Maglia O						
diametro	8	8				
passo	25	25				
diametro aggiuntivi	8	8				
Stati limite ultimi						
Tensione fy [daN/cm2]	4500.00	4500.00				
Tipo acciaio	tipo C	tipo C				
Coefficiente gamma s	1.15	1.15				
Coefficiente gamma c	1.50	1.50				
Fattore di confidenza FC	0.0	0.0				
Verifiche con N costante	Si	Si				
Tensioni ammissibili						
Tensione amm. cls [daN/cm2]	97.50	97.50				
Tensione amm. acciaio [daN/cm2]	2600.00	2600.00				
Rapporto omogeneizzazione N	15.00	15.00				
Massimo rapporto area compressa/tesa	1.00	1.00				
Parete estesa debolmente armata						
Fattore amplificazione taglio V	1.50	1.50				
Hcrit. par. 7.4.4.5.1 [cm]	0.0	0.0				
Hcrit. par. 7.4.6.1.4 [cm]	0.0	0.0				
Diagramma inviluppo taglio	Si	No				
Vincolo lati	nessun lato	nessun lato				
Verifica come fascia	No	No				
Diametro di estremità	0	0				
Zona confinata						
Minima tesa	1.00	1.00				
Massima tesa	4.00	4.00				
Distanza barre [cm]	2.00	2.00				
Interferro	2	2				
Armatura inclinata						
Area barre [cm2]	0.0	0.0				
Angolo orizzontale [gradi]	0.0	0.0				
Distanza di base [cm]	0.0	0.0				
Resistenza al fuoco						
3- intradosso	No	No				
3+ estradosso	No	No				
Tempo di esposizione R	15	15				

Gusci c.a.	1/7/..	2/8/..	3/9/..	4/10/..	5/11/..	6/12/..
Armatura						
Inclinazione Ax [gradi]	0.0	0.0				
Angolo Ax-Ay [gradi]	90.00	90.00				
Minima tesa	0.31	0.20				
Massima tesa	0.78	0.78				
Maglia unica centrale	No	No				
Copriferro [cm]	2.00	2.00				
Maglia x						
diametro	10	10				
passo	20	20				
diametro aggiuntivi	12	12				
Maglia y						
diametro	10	10				
passo	20	20				
diametro aggiuntivi	12	12				
Stati limite ultimi						
Tensione fy [daN/cm2]	4500.00	4500.00				

Gusci c.a.	1/7/..	2/8/..	3/9/..	4/10/..	5/11/..	6/12/..
Tipo acciaio	tipo C	tipo C				
Coefficiente gamma s	1.15	1.15				
Coefficiente gamma c	1.50	1.50				
Fattore di confidenza FC	0.0	0.0				
Verifiche con N costante	Si	Si				
Applica SLU da DIN	No	No				
Tensioni ammissibili						
Tensione amm. cls [daN/cm2]	97.50	97.50				
Tensione amm. acciaio [daN/cm2]	2600.00	2600.00				
Rapporto omogeneizzazione N	15.00	15.00				
Massimo rapporto area compressa/tesa	1.00	1.00				
Resistenza al fuoco						
3- intradosso	No	No				
3+ estradosso	No	No				
Tempo di esposizione R	15	15				

Travi c.a.	1/7/..	2/8/..	3/9/..	4/10/..	5/11/..	6/12/..
Generalità						
Progetta a filo	Si	Si				
Af inf: da q*L*L /	0.0	0.0				
Armatura						
Minima tesa	0.31	0.10				
Minima compressa	0.31	0.10				
Massima tesa	1.50	1.50				
Da sezione	Si	Si				
Usa armatura teorica	No	No				
Stati limite ultimi						
Tensione fy [daN/cm2]	4500.00	4500.00				
Tensione fy staffe [daN/cm2]	4500.00	4500.00				
Tipo acciaio	tipo C	tipo C				
Coefficiente gamma s	1.15	1.15				
Coefficiente gamma c	1.50	1.50				
Fattore di confidenza FC	0.0	0.0				
Verifiche con N costante	Si	Si				
Fattore di ridistribuzione	0.0	0.0				
Modello per il confinamento						
Relazione tensio-deformativa	Mander	Mander				
Incrudimento acciaio	5.000e-03	5.000e-03				
Fattore lambda	1.00	1.00				
epsilon max,s	4.000e-02	4.000e-02				
epsilon cu2	4.500e-03	4.500e-03				
epsilon c2	0.0	0.0				
epsilon cy	0.0	0.0				
Tensioni ammissibili						
Tensione amm. cls [daN/cm2]	97.50	97.50				
Tensione amm. acciaio [daN/cm2]	2600.00	2600.00				
Rapporto omogeneizzazione N	15.00	15.00				
Massimo rapporto area compressa/tesa	1.00	1.00				
Staffe						
Diametro staffe	0.0	0.0				
Passo minimo [cm]	4.00	5.00				
Passo massimo [cm]	30.00	30.00				
Passo raffittito [cm]	10.00	10.00				
Lunghezza zona raffittita [cm]	50.00	50.00				
Ctg(Teta) Max	2.50	2.50				
Percentuale sagomati	0.0	0.0				
Luce di taglio per GR [cm]	1.00	1.00				
Adotta scorrimento medio	No	No				
Torsione non essenziale inclusa	No	No				

Pilastri c.a.	1/7/..	2/8/..	3/9/..	4/10/..	5/11/..	6/12/..
Generalità						
Progetto armatura	Privilegia lati	Privilegia lati				
Progetta a filo	Si	No				
Effetti del 2 ordine	No	Si				
Beta per 2-2	1.00	1.00				
Beta per 3-3	1.00	1.00				

Pilastri c.a.	1/7/..	2/8/..	3/9/..	4/10/..	5/11/..	6/12/..
Armatura						
Massima tesa	4.00	4.00				
Minima tesa	1.00	1.00				
Stati limite ultimi						
Tensione fy [daN/cm2]	4500.00	4500.00				
Tensione fy staffe [daN/cm2]	4500.00	4500.00				
Tipo acciaio	tipo C	tipo C				
Coefficiente gamma s	1.15	1.15				
Coefficiente gamma c	1.50	1.50				
Fattore di confidenza FC	0.0	0.0				
Verifiche con N costante	Si	Si				
Modello per il confinamento						
Relazione tensio-deformativa	Mander	Mander				
Incrudimento acciaio	5.000e-03	5.000e-03				
Fattore lambda	1.00	1.00				
epsilon max,s	4.000e-02	4.000e-02				
epsilon cu2	4.500e-03	4.500e-03				
epsilon c2	0.0	0.0				
epsilon cy	0.0	0.0				
Tensioni ammissibili						
Tensione amm. cls [daN/cm2]	97.50	97.50				
Tensione amm. acciaio [daN/cm2]	2600.00	2600.00				
Rapporto omogeneizzazione N	15.00	15.00				
Staffe						
Diametro staffe	0.0	0.0				
Passo minimo [cm]	1.00	5.00				
Passo massimo [cm]	15.00	25.00				
Passo raffittito [cm]	7.50	15.00				
Lunghezza zona raffittita [cm]	75.00	45.00				
Ctg(Teta) Max	2.50	2.50				
Luce di taglio per GR [cm]	1.00	1.00				
Massimizza gerarchia	No	Si				

Solai e pannelli	1/7/..	2/8/..	3/9/..	4/10/..	5/11/..	6/12/..
Generalità						
Usa tensioni ammissibili	No	No				
Af inf: da traliccio	Si	Si				
Consenti armatura a taglio	No	No				
Incrementa armatura longitudinale per taglio	Si	Si				
Af inf: da q*L*L /	20.00	20.00				
Incremento fascia piena [cm]	5.00	5.00				
Armatura						
Minima tesa	0.15	0.15				
Massima tesa	3.00	3.00				
Minima compressa	0.0	0.0				
Af/h [cm]	7.000e-02	7.000e-02				
Stati limite ultimi						
Tensione fy [daN/cm2]	4500.00	4500.00				
Tipo acciaio	tipo C	tipo C				
Coefficiente gamma s	1.15	1.15				
Coefficiente gamma c	1.50	1.50				
Fattore di ridistribuzione	0.0	0.0				
Tensioni ammissibili						
Tensione amm. cls [daN/cm2]	85.00	85.00				
Tensione amm. acciaio [daN/cm2]	2600.00	2600.00				
Rapporto omogeneizzazione N	15.00	15.00				
Massimo rapporto area compressa/tesa	1.00	1.00				
Verifica freccia						
Infinita	250.00	500.00				
Istantanea	500.00	1000.00				
Fattore viscosità	3.00	3.00				
Usa J non fessurato	No	No				
Elementi non strutturali						
Tamponatura antiespulsione	No	Si				
Tamponatura con armatura	No	No				
Fattore di struttura	2.00	2.00				
Coefficiente gamma m	0.0	0.0				
Periodo Ta	0.0	0.0				
Altezza pannello	0.0	0.0				

MODELLAZIONE DELLE SEZIONI

LEGENDA TABELLA DATI SEZIONI

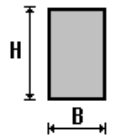
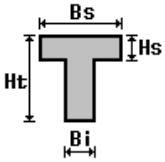
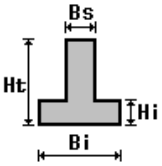
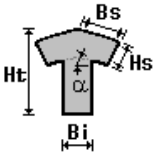
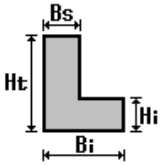
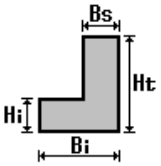
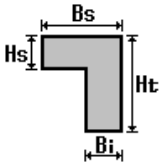
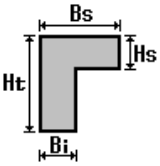
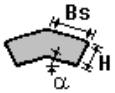
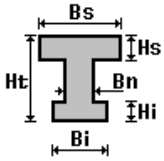
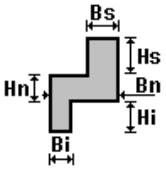
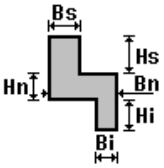
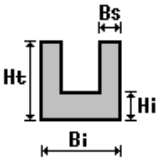
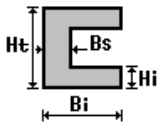
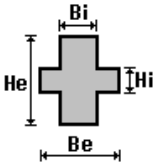
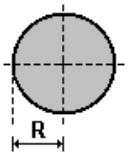
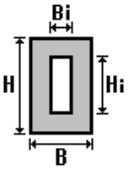
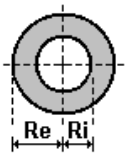
Il programma consente l'uso di sezioni diverse. Sono previsti i seguenti tipi di sezione:

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

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

Area	area della sezione
A V2	area della sezione/fattore di taglio (per il taglio in direzione 2)
A V3	area della sezione/fattore di taglio (per il taglio in direzione 3)
Jt	fattore torsionale di 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 sopra riportati vengono utilizzati per la determinazione dei carichi inerziali e per la definizione delle rigidezze degli elementi strutturali; qualora il valore di Area V2 (e/o Area V3) sia nullo la deformabilità per taglio V2 (e/o V3) è trascurata. La valutazione delle caratteristiche inerziali delle sezioni è condotta nel riferimento 2-3 dell'elemento.

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

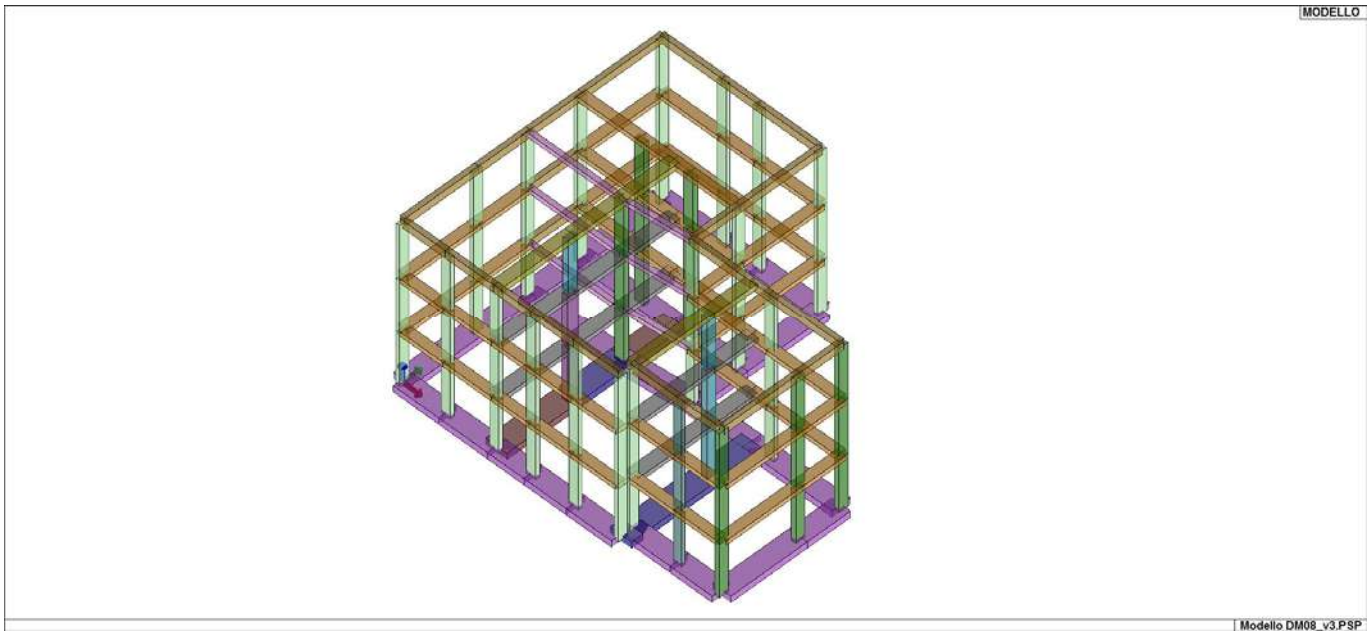
Per quanto concerne i profilati semplici ed accoppiati l'asse 2 del riferimento coincide con l'asse x riportato nei più diffusi profilatari.

Per quanto concerne le sezioni di tipo generico (tipo 1.):
i valori dimensionali con prefisso B sono riferiti all'asse 2
i valori dimensionali con prefisso H sono riferiti all'asse 3

Con riferimento al Documento di Affidabilità "Test di validazione del software di calcolo PRO_SAP e dei moduli aggiuntivi PRO_SAP Modulo Geotecnico, PRO_CAD nodi acciaio e PRO_MST" - versione Settembre 2014, disponibile per il download sul sito www.2si.it, si segnalano i seguenti esempi applicativi:

Test N°	Titolo
1	CARATTERISTICHE GEOMETRICHE E INERZIALI
45	VERIFICA AGLI SLU DI STRUTTURE IN C.A.
48	PROGETTAZIONE A TAGLIO DI STRUTTURE IN C.A. SECONDO IL D.M. 9/1/96
49	PROGETTAZIONE A TAGLIO DI STRUTTURE IN C.A. SECONDO IL D.M. 14/1/2008
50	VERIFICA ALLO SLE (TENSIONI E FESSURAZIONE) DI STRUTTURE IN C.A.
51	VERIFICA ALLO SLE (DEFORMAZIONE) DI STRUTTURE IN C.A.
104	ANALISI DI RESISTENZA AL FUOCO

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
3	Rettangolare: b=25 h=50	1250.00	1041.67	1041.67	1.784e+05	6.510e+04	2.604e+05	5208.33	1.042e+04	7812.50	1.563e+04
4	Rettangolare: b=25 h=60	1500.00	1250.00	1250.00	2.305e+05	7.813e+04	4.500e+05	6250.00	1.500e+04	9375.00	2.250e+04
5	T ribassata: bi=11 ht=28 bs=50 hs=4	464.00	0.0	0.0	1.036e+04	4.433e+04	3.524e+04	1773.15	1954.15	3226.00	3474.91
6	T ribassata: bi=22 ht=28 bs=61 hs=4	772.00	0.0	0.0	5.316e+04	9.696e+04	5.838e+04	3178.90	3554.24	6625.00	5907.45
7	Rettangolare: b=30 h=28	840.00	700.00	700.00	9.876e+04	6.300e+04	5.488e+04	4200.00	3920.00	6300.00	5880.00
10	Rettangolare: b=60 h=28	1680.00	1400.00	1400.00	3.100e+05	5.040e+05	1.098e+05	1.680e+04	7840.00	2.520e+04	1.176e+04
12	Rettangolare: b=80 h=28	2240.00	1866.67	1866.67	4.563e+05	1.195e+06	1.463e+05	2.987e+04	1.045e+04	4.480e+04	1.568e+04
15	Rettangolare: b=120 h=40	4800.00	4000.00	4000.00	2.022e+06	5.760e+06	6.400e+05	9.600e+04	3.200e+04	1.440e+05	4.800e+04
16	Rettangolare: b=140 h=40	5600.00	4666.67	4666.67	2.449e+06	9.147e+06	7.467e+05	1.307e+05	3.733e+04	1.960e+05	5.600e+04
17	Rettangolare: b=30 h=48	1440.00	1200.00	1200.00	2.619e+05	1.080e+05	2.765e+05	7200.00	1.152e+04	1.080e+04	1.728e+04
18	Rettangolare: b=70 h=35	2450.00	2041.67	2041.67	6.853e+05	1.000e+06	2.501e+05	2.858e+04	1.429e+04	4.288e+04	2.144e+04
19	Rettangolare: b=30 h=60	1800.00	1500.00	1500.00	3.699e+05	1.350e+05	5.400e+05	9000.00	1.800e+04	1.350e+04	2.700e+04
20	Rettangolare: b=35 h=60	2100.00	1750.00	1750.00	5.424e+05	2.144e+05	6.300e+05	1.225e+04	2.100e+04	1.838e+04	3.150e+04
21	Rettangolare: b=140 h=40	5600.00	4666.67	4666.67	2.449e+06	9.147e+06	7.467e+05	1.307e+05	3.733e+04	1.960e+05	5.600e+04
22	Rettangolare: b=40 h=70	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



13_MOD_SEZIONI

MODELLAZIONE STRUTTURA: NODI

LEGENDA TABELLA DATI NODI

Il programma utilizza per la modellazione nodi strutturali. Ogni nodo è individuato dalle coordinate cartesiane nel sistema di riferimento globale (X Y Z). Ad ogni nodo è eventualmente associato un codice di vincolamento rigido, un codice di fondazione speciale, ed un set di sei molle (tre per le traslazioni, tre per le rotazioni). Le tabelle sottoriportate riflettono le succitate possibilità. In particolare per ogni nodo viene indicato in tabella:

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

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

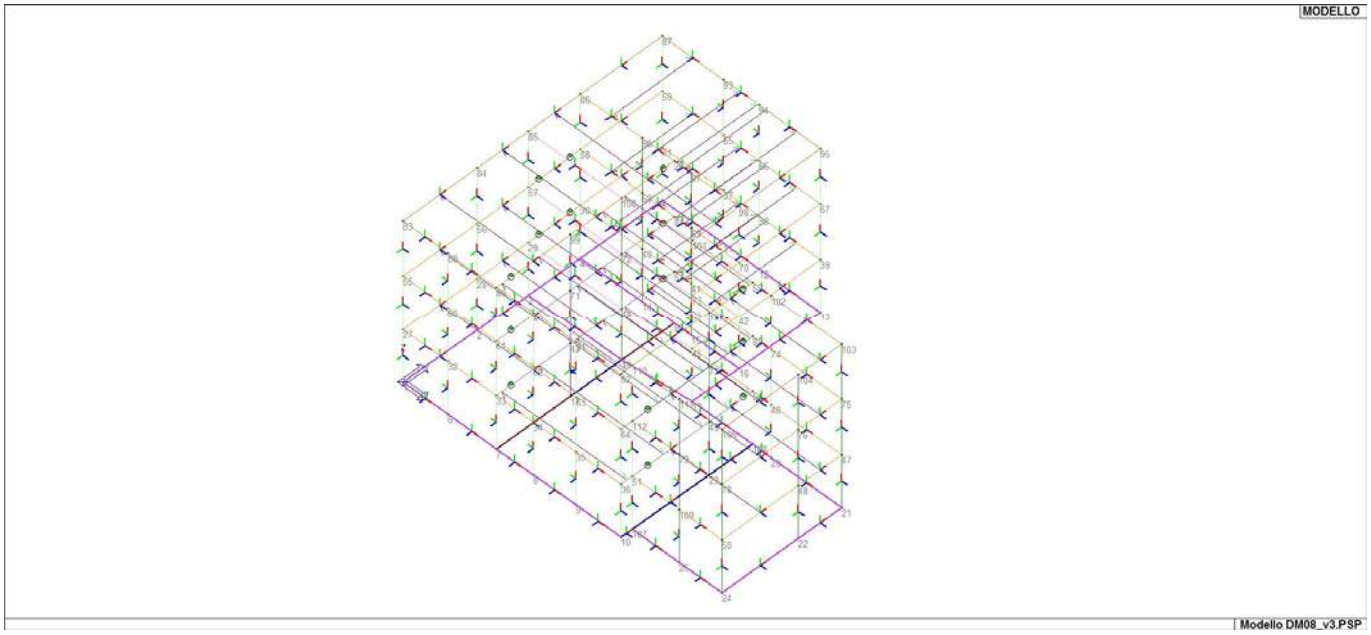
Nodo	numero del nodo.
X	valore della coordinata X
Y	valore della coordinata Y
Z	valore della coordinata Z
Note	eventuale codice di vincolo (es. v=110010 sei valori relativi ai sei gradi di libertà previsti per il nodo TxTyTzRxRyRz, il valore 1 indica che lo spostamento o rotazione relativo è impedito,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

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

TABELLA DATI NODI

Nodo	**X**	**Y**	**Z**	**Nodo**	**X**	**Y**	**Z**	**Nodo**	**X**	**Y**	**Z**
	cm	cm	cm		cm	cm	cm		cm	cm	cm
1	0.0	0.0	0.0	2	0.0	484.0	0.0	3	0.0	821.0	0.0
4	0.0	1164.0	0.0	5	0.0	1699.0	0.0	6	296.0	0.0	0.0
7	613.0	0.0	0.0	8	854.0	0.0	0.0	9	1133.0	0.0	0.0
10	1428.0	0.0	0.0	11	401.0	1699.0	0.0	12	634.0	1699.0	0.0
13	1035.0	1699.0	0.0	14	401.0	1164.0	0.0	15	723.0	1164.0	0.0
16	1035.0	1164.0	0.0	17	613.0	484.0	0.0	18	613.0	821.0	0.0
19	1035.0	859.0	0.0	20	1553.0	859.0	0.0	21	2013.0	859.0	0.0
22	2013.0	576.0	0.0	23	1428.0	576.0	0.0	24	2013.0	75.0	0.0
25	1736.5	75.0	0.0	26	613.0	1164.0	1065.0	27	0.0	0.0	345.0
28	0.0	484.0	345.0	29	0.0	821.0	345.0	30	0.0	1164.0	345.0
31	0.0	1699.0	345.0	32	296.0	0.0	345.0	33	613.0	0.0	345.0
34	854.0	0.0	345.0	35	1133.0	0.0	345.0	36	1428.0	0.0	345.0
37	401.0	1699.0	345.0	38	634.0	1699.0	345.0	39	1035.0	1699.0	345.0
40	401.0	1164.0	345.0	41	723.0	1164.0	345.0	42	1035.0	1164.0	345.0
43	613.0	484.0	345.0	44	613.0	821.0	345.0	45	1035.0	859.0	345.0
46	1553.0	859.0	345.0	47	2013.0	859.0	345.0	48	2013.0	576.0	345.0
49	1428.0	576.0	345.0	50	2013.0	75.0	345.0	51	1428.0	75.0	345.0
52	1428.0	859.0	1065.0	53	613.0	1164.0	345.0	54	1428.0	859.0	345.0
55	0.0	0.0	705.0	56	0.0	484.0	705.0	57	0.0	821.0	705.0
58	0.0	1164.0	705.0	59	0.0	1699.0	705.0	60	296.0	0.0	705.0
61	613.0	0.0	705.0	62	854.0	0.0	705.0	63	1133.0	0.0	705.0
64	1428.0	0.0	705.0	65	401.0	1699.0	705.0	66	634.0	1699.0	705.0

67	1035.0	1699.0	705.0	68	401.0	1164.0	705.0	69	723.0	1164.0	705.0
70	1035.0	1164.0	705.0	71	613.0	484.0	705.0	72	613.0	821.0	705.0
73	1035.0	859.0	705.0	74	1553.0	859.0	705.0	75	2013.0	859.0	705.0
76	2013.0	576.0	705.0	77	1428.0	576.0	705.0	78	2013.0	75.0	705.0
79	1736.5	75.0	705.0	80	613.0	1164.0	0.0	81	613.0	1164.0	705.0
82	1428.0	859.0	705.0	83	0.0	0.0	1065.0	84	0.0	484.0	1065.0
85	0.0	821.0	1065.0	86	0.0	1164.0	1065.0	87	0.0	1699.0	1065.0
88	296.0	0.0	1065.0	89	613.0	0.0	1065.0	90	854.0	0.0	1065.0
91	1133.0	0.0	1065.0	92	1428.0	0.0	1065.0	93	401.0	1699.0	1065.0
94	634.0	1699.0	1065.0	95	1035.0	1699.0	1065.0	96	401.0	1164.0	1065.0
97	723.0	1164.0	1065.0	98	1035.0	1164.0	1065.0	99	613.0	484.0	1065.0
100	613.0	821.0	1065.0	101	1035.0	859.0	1065.0	102	1553.0	859.0	1065.0
103	2013.0	859.0	1065.0	104	2013.0	576.0	1065.0	105	1428.0	576.0	1065.0
106	2013.0	75.0	1065.0	107	1428.0	75.0	0.0	108	1428.0	859.0	0.0
109	1736.5	75.0	345.0	110	1428.0	75.0	1065.0	111	1736.5	75.0	1065.0
112	1428.0	75.0	705.0								

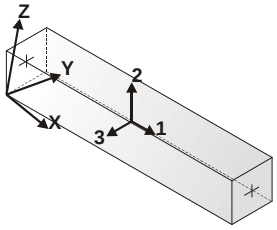


14_MOD_NUMERAZIONE_NODI

MODELLAZIONE STRUTTURA: ELEMENTI TRAVE

TABELLA DATI TRAVI

Il programma utilizza per la modellazione elementi a due nodi denominati in generale travi. Ogni elemento trave è individuato dal nodo iniziale e dal nodo finale. Ogni elemento è caratterizzato da un insieme di proprietà riportate in tabella che ne completano la modellazione.



orientamento elementi 2D non verticali

orientamento elementi 2D verticali

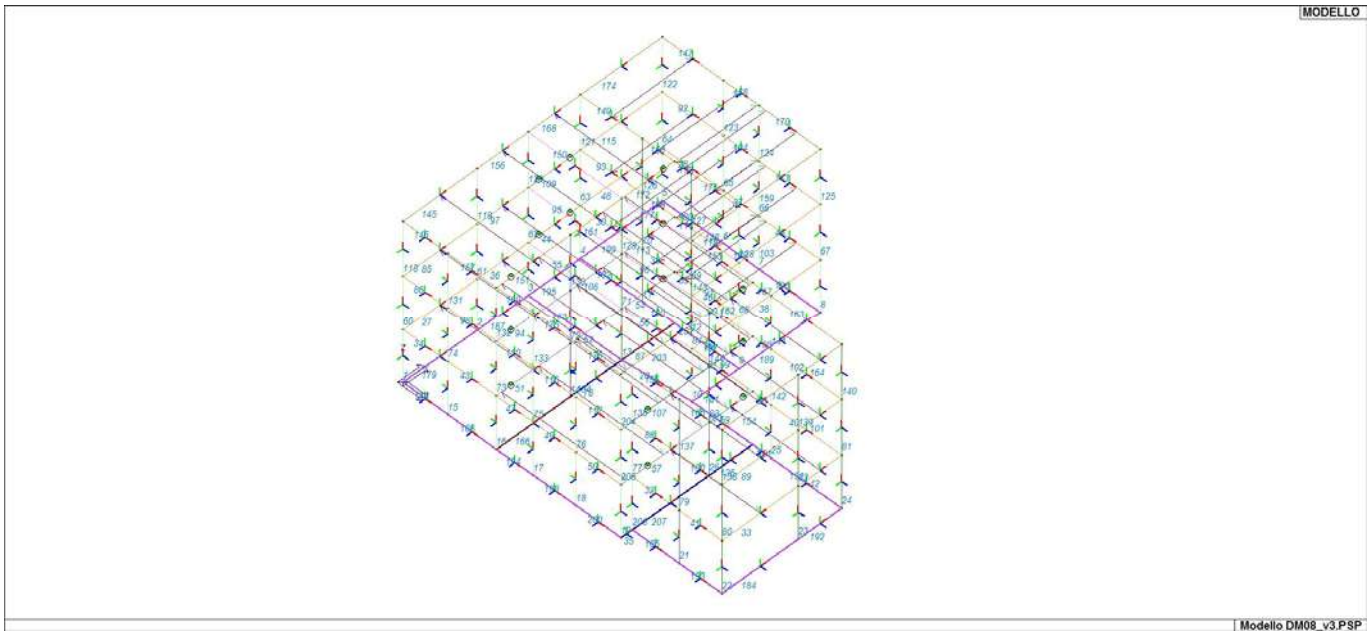
In particolare per ogni elemento viene indicato in tabella:

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

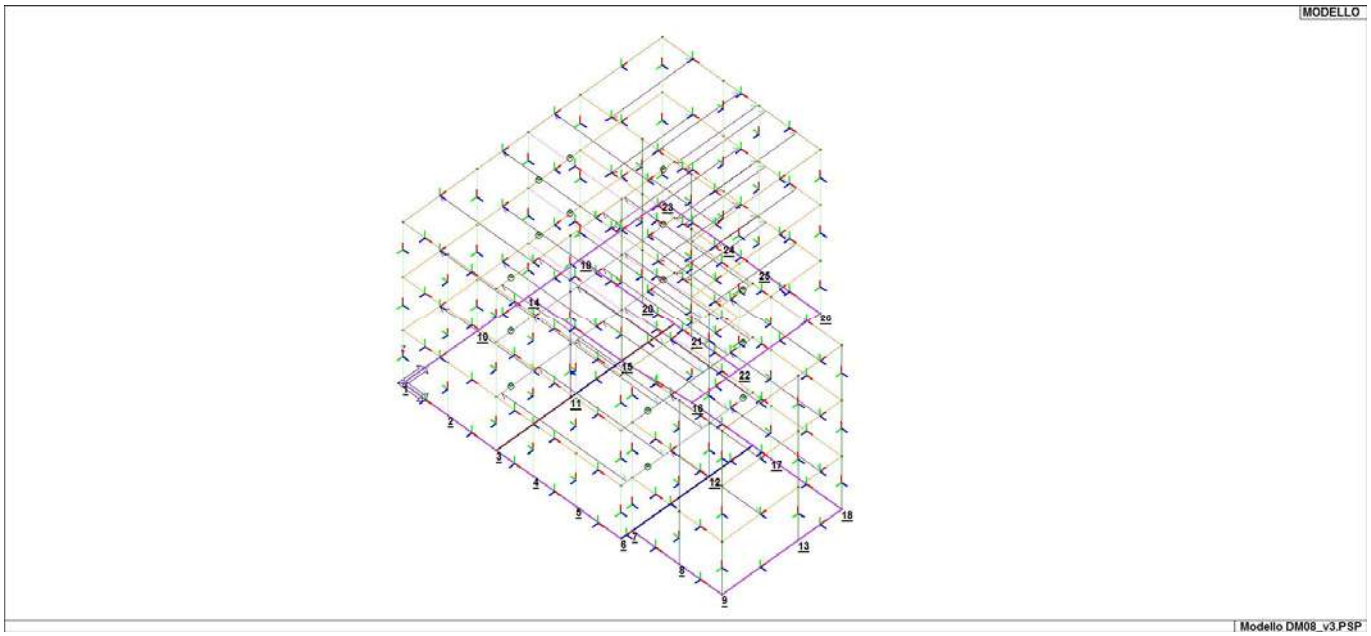
Elem.	Note	Nodo I	Nodo J	Mat.	Sez.	Rotaz.	Svincolo I	Svincolo J	Wink V	Wink O
						gradi			daN/cm3	daN/cm3
1	Pilas.	1	27	1	4	90.00				
2	Pilas.	2	28	1	4	90.00				
3	Pilas.	3	29	1	4	90.00				
4	Pilas.	4	30	1	4	90.00				
5	Pilas.	5	31	1	4	90.00				
6	Pilas.	11	37	1	4					
7	Pilas.	12	38	1	4					
8	Pilas.	13	39	1	4	90.00				
9	Pilas.	16	42	1	4	90.00				
10	Pilas.	19	45	1	4					
11	Pilas.	14	40	1	19					
12	Pilas.	15	41	1	19					
13	Pilas.	18	44	1	19					
14	Pilas.	17	43	1	22	90.00				
15	Pilas.	6	32	1	4					
16	Pilas.	7	33	1	4					
17	Pilas.	8	34	1	4					
18	Pilas.	9	35	1	4					
19	Pilas.	10	36	1	4	90.00				
20	Trave f.	18	19	1	15				5.00	0.40
21	Pilas.	25	109	1	3					
22	Pilas.	24	50	1	19	90.00				
23	Pilas.	22	48	1	19	90.00				
24	Pilas.	21	47	1	19	90.00				
25	Pilas.	20	46	1	4					
26	Pilas.	23	49	1	20	90.00				
27	Trave	27	28	1	10					
28	Trave	31	37	1	10					
29	Trave	45	42	1	10					
30	Trave	30	40	1	10					
31	Trave	45	54	1	10					
32	Trave	51	109	1	10					
33	Trave	50	48	1	10					
34	Trave	27	32	1	10					
35	Trave f.	10	107	1	21				5.00	0.40
36	Trave	28	29	1	10					
37	Trave	37	38	1	10					
38	Trave	42	39	1	10					
39	Trave	40	53	1	10					
40	Trave	46	47	1	10					
41	Trave	109	50	1	10					
42	Trave	48	47	1	10					
43	Trave	32	33	1	10					
44	Trave	29	30	1	17		000001	000001		
45	Trave	38	39	1	10					
46	Trave	41	42	1	10					
47	Trave	33	34	1	10					
48	Trave	30	31	1	10					
49	Trave	34	35	1	10					
50	Trave	35	36	1	10					
51	Trave	33	43	1	12		000001			
52	Trave	43	44	1	12					
53	Trave	53	41	1	10					
54	Trave	44	53	1	12			000001		
55	Trave	29	44	1	7					
56	Trave	44	45	1	7					
57	Trave	51	49	1	12		000001			
58	Trave	54	46	1	10					
59	Trave	49	54	1	12			000001		
60	Pilas.	27	55	1	4	90.00				
61	Pilas.	28	56	1	4	90.00				
62	Pilas.	29	57	1	4	90.00				
63	Pilas.	30	58	1	4	90.00				
64	Pilas.	31	59	1	4	90.00				
65	Pilas.	37	65	1	4					
66	Pilas.	38	66	1	4					
67	Pilas.	39	67	1	4	90.00				
68	Pilas.	42	70	1	4	90.00				
69	Pilas.	41	69	1	19					
70	Pilas.	40	68	1	19					
71	Pilas.	44	72	1	19					
72	Pilas.	43	71	1	22	90.00				
73	Pilas.	33	61	1	4					

74	Pilas.	32	60	1	4					
75	Pilas.	34	62	1	4					
76	Pilas.	35	63	1	4					
77	Pilas.	51	112	1	4	90.00				
78	Trave f.	17	18	1	21				5.00	0.40
79	Pilas.	109	79	1	3					
80	Pilas.	50	78	1	19	90.00				
81	Pilas.	47	75	1	19	90.00				
82	Pilas.	48	76	1	19	90.00				
83	Pilas.	49	77	1	20	90.00				
84	Pilas.	45	73	1	4					
85	Trave	55	56	1	10					
86	Trave	55	60	1	10					
87	Trave f.	18	80	1	16				5.00	0.40
88	Trave	112	79	1	10					
89	Trave	78	76	1	10					
90	Trave	73	82	1	10					
91	Trave	73	70	1	10					
92	Trave	59	65	1	10					
93	Trave	58	68	1	10					
94	Trave	61	71	1	12		000001			
95	Trave	57	72	1	7					
96	Trave	72	73	1	7					
97	Trave	56	57	1	10					
98	Trave	60	61	1	10					
99	Trave	77	82	1	12			000001		
100	Trave	79	78	1	10					
101	Trave	76	75	1	10					
102	Trave	74	75	1	10					
103	Trave	70	67	1	10					
104	Trave	65	66	1	10					
105	Trave	68	81	1	10					
106	Trave	71	72	1	12					
107	Trave	112	77	1	12		000001			
108	Trave	82	74	1	10					
109	Trave	57	58	1	17		000001	000001		
110	Trave	61	62	1	10					
111	Trave	66	67	1	10					
112	Trave	69	70	1	10					
113	Trave	72	81	1	12			000001		
114	Trave	81	69	1	10					
115	Trave	58	59	1	10					
116	Trave	62	63	1	10					
117	Trave	63	64	1	10					
118	Pilas.	55	83	1	4	90.00				
119	Pilas.	56	84	1	4	90.00				
120	Pilas.	57	85	1	4	90.00				
121	Pilas.	58	86	1	4	90.00				
122	Pilas.	59	87	1	4	90.00				
123	Pilas.	65	93	1	4					
124	Pilas.	66	94	1	4					
125	Pilas.	67	95	1	4	90.00				
126	Pilas.	68	96	1	19					
127	Pilas.	69	97	1	19					
128	Pilas.	70	98	1	4	90.00				
129	Pilas.	72	100	1	19					
130	Pilas.	71	99	1	20	90.00				
131	Pilas.	60	88	1	4					
132	Pilas.	61	89	1	4					
133	Pilas.	62	90	1	4					
134	Pilas.	63	91	1	4					
135	Pilas.	112	110	1	4	90.00				
136	Trave f.	23	108	1	21				5.00	0.40
137	Pilas.	79	111	1	3					
138	Pilas.	78	106	1	19	90.00				
139	Pilas.	76	104	1	19	90.00				
140	Pilas.	75	103	1	19	90.00				
141	Pilas.	74	102	1	4					
142	Pilas.	46	74	1	4					
143	Pilas.	73	101	1	4					
144	Pilas.	77	105	1	20	90.00				
145	Trave	83	84	1	17					
146	Trave	83	88	1	17					
147	Trave	87	93	1	17					
148	Trave	101	98	1	17					
149	Trave	86	96	1	10					
150	Trave	85	100	1	7					

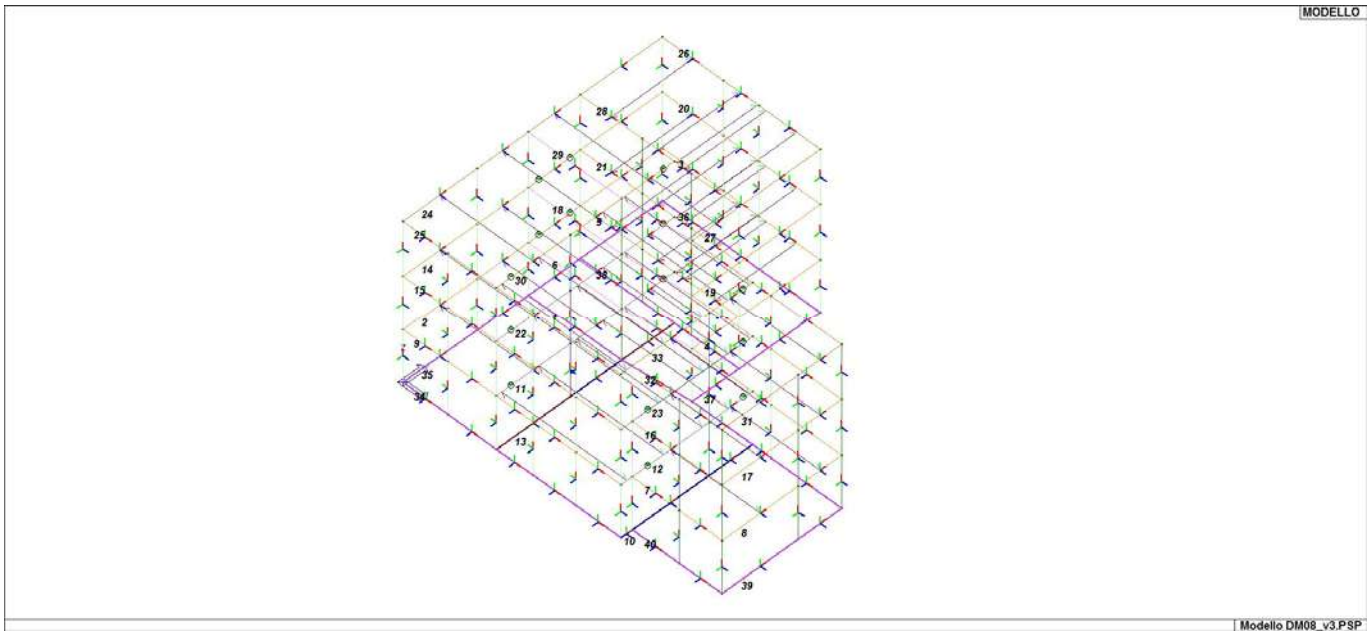
151	Trave	89	99	1	18		000001			
152	Trave f.	3	18	1	15				5.00	0.40
153	Trave	101	52	1	17					
154	Trave	106	104	1	17					
155	Trave	110	111	1	17					
156	Trave	84	85	1	17					
157	Trave	88	89	1	17					
158	Trave	93	94	1	17					
159	Trave	98	95	1	17					
160	Trave	96	26	1	10					
161	Trave	99	100	1	18					
162	Trave	105	52	1	18			000001		
163	Trave	102	103	1	17					
164	Trave	104	103	1	17					
165	Trave	111	106	1	17					
166	Trave f.	7	17	1	16				5.00	0.40
167	Trave	52	102	1	17					
168	Trave	85	86	1	17					
169	Trave	89	90	1	17					
170	Trave	94	95	1	17					
171	Trave	97	98	1	10					
172	Trave	100	26	1	18			000001		
173	Trave	26	97	1	10					
174	Trave	86	87	1	17					
175	Trave	90	91	1	17					
176	Trave	91	92	1	17					
177	Trave	100	101	1	7					
178	Trave f.	1	6	1	15				5.00	0.40
179	Trave f.	1	2	1	15				5.00	0.40
180	Trave f.	5	11	1	15				5.00	0.40
181	Trave f.	19	16	1	15				5.00	0.40
182	Trave f.	4	14	1	15				5.00	0.40
183	Trave f.	19	108	1	15				5.00	0.40
184	Trave f.	24	22	1	15				5.00	0.40
185	Trave f.	107	25	1	15				5.00	0.40
186	Trave f.	6	7	1	15				5.00	0.40
187	Trave f.	2	3	1	15				5.00	0.40
188	Trave f.	11	12	1	15				5.00	0.40
189	Trave f.	16	13	1	15				5.00	0.40
190	Trave f.	14	80	1	15				5.00	0.40
191	Trave f.	20	21	1	15				5.00	0.40
192	Trave f.	22	21	1	15				5.00	0.40
193	Trave f.	25	24	1	15				5.00	0.40
194	Trave f.	7	8	1	15				5.00	0.40
195	Trave f.	3	4	1	15				5.00	0.40
196	Trave f.	12	13	1	15				5.00	0.40
197	Trave f.	15	16	1	15				5.00	0.40
198	Trave f.	8	9	1	15				5.00	0.40
199	Trave f.	4	5	1	15				5.00	0.40
200	Trave f.	9	10	1	15				5.00	0.40
201	Trave f.	108	20	1	15				5.00	0.40
202	Trave f.	80	15	1	15				5.00	0.40
203	Trave	110	105	1	18					
204	Pilas.	64	92	1	4	90.00				
205	Pilas.	36	64	1	4	90.00				
206	Pilas.	107	51	1	4	90.00				
207	Trave f.	107	23	1	21				5.00	0.40



15_MOD_NUMERAZIONE_D2



15_MOD_NUMERAZIONE_D2_PILASTRATE



15_MOD_NUMERAZIONE_D2_TRAVATE

MODELLAZIONE DELLA STRUTTURA: ELEMENTI SOLAIO-PANNELLO

LEGENDA TABELLA DATI SOLAI-PANNELLI

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

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

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

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

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

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

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

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

In particolare i simboli utilizzati in tabella assumono il seguente significato:

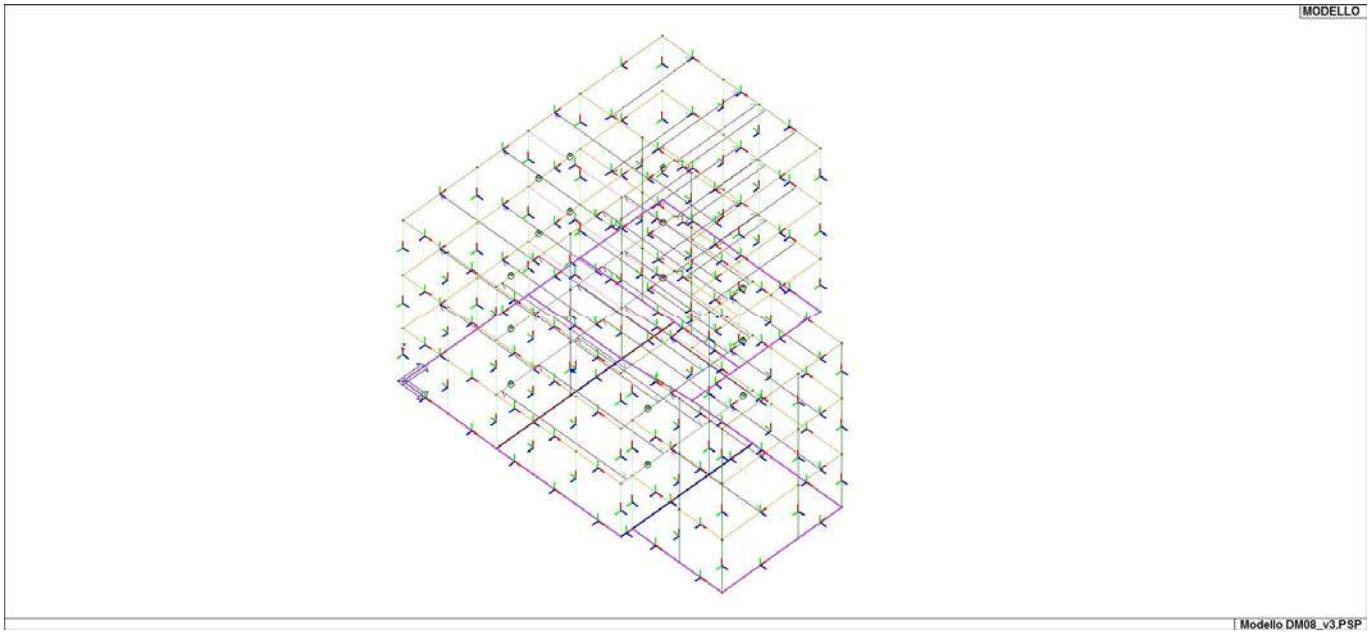
Elem.	numero identificativo dell'elemento
Stato	Codici di verifica relativi alle tensioni normali e alle tensioni tangenziali
Note	Viene riportato il codice relativo alla sezione(s) e relativo al materiale(m);
Pos.	Ascissa del punto di verifica
F ist, F infi	Frecce instantanee e a tempo infinito
Momento	Momento flettente
Taglio	Sollecitazione di taglio
Af inf.	Area di armatura longitudinale posta all'intradosso della trave
Af sup.	Area di armatura longitudinale posta all'estradosso della trave
AfV	Area dell'armatura atta ad assorbire le azioni di taglio
Beff	Base della sezione di cls per l'assorbimento del taglio
	simboli utilizzati con il metodo degli stati limite:
x/d	rapporto tra posizione dell'asse neutro e altezza utile alla rottura della sezione (per sola flessione)
verif.	rapporto Sd/Su con sollecitazioni ultime proporzionali: valore minore o uguale a 1 per verifica positiva
Verif.V	rapporto Sd/Su con sollecitazioni taglianti proporzionali valore minore o uguale a 1 per verifica positiva
rRfck	rapporto tra la massima compressione nel calcestruzzo e la tensione fck in combinazioni rare [normalizzato a 1]
rFfck	rapporto tra la massima compressione nel calcestruzzo e la tensione fck in combinazioni frequenti [normalizzato a 1]
rPfck	rapporto tra la massima compressione nel calcestruzzo e la tensione fck in combinazioni quasi permanenti [normalizzato a 1]
rRfyk	rapporto tra la massima tensione nell'acciaio e la tensione fyk in combinazioni frequenti [normalizzato a 1]
rFyk	rapporto tra la massima tensione nell'acciaio e la tensione fyk in combinazioni rare [normalizzato a 1]
rPfyk	rapporto tra la massima tensione nell'acciaio e la tensione fyk in combinazioni quasi permanenti [normalizzato a 1]
wR	apertura caratteristica delle fessure in combinazioni rare [mm]
wF	apertura caratteristica delle fessure in combinazioni frequenti [mm]
wP	apertura caratteristica delle fessure in combinazioni quasi permanenti [mm]

Nel caso in cui si sia proceduto alla verifica delle tamponature secondo il D.M. 17.01.2018 - §7.2.3 viene riportata una tabella riassuntiva delle verifiche degli elementi pannello. La verifica confronta i momenti sollecitanti indotti dal sisma con i momenti resistenti, secondo tre ipotesi, due basate sulla resistenza a pressoflessione della tamponatura ed una basata sul cinematismo a seguito della formazione di tre cerniere plastiche sulla tamponatura (rif. Ufficio di Vigilanza sulle Costruzioni, Provincia di Terni).

ID Arch.	Tipo	G1k	G2k	Qk	Fatt. A	s sis.	Psi 0	Psi 1	Psi 2	Psi S 2	Fatt. Fi
		daN/cm2	daN/cm2	daN/cm2							
1	Variab.	6.40e-02	2.00e-02	3.00e-02		1.00	0.70	0.70	0.60	0.60	1.00
2	Variab.	6.00e-02	2.00e-02	3.00e-02		1.00	0.70	0.70	0.60	0.60	1.00
3	Neve	9.20e-02		8.00e-03		1.00	0.50	0.20	0.0	0.0	1.00
4	Neve	8.80e-02		8.00e-03		1.00	0.50	0.20	0.0	0.0	1.00

Elem.	Tipo	ID Arch.	Mat.	Spessore	Orditura	G1k	G2k	Qk	Nodo 1/6..	Nodo 2/7..	Nodo 3/8..	Nodo..	Nodo..
						daN/cm2	daN/cm2	daN/cm2					
1	CM	1	m=1	4.0	0.0	6.40e-02	2.00e-02	3.00e-02	29	28	27	32	33
									43	44			
2	CM	4	m=1	4.0	0.0	8.80e-02		8.00e-03	101	98	97	26	100
3	CM	1	m=1	4.0	0.0	6.40e-02	2.00e-02	3.00e-02	61	62	63	64	77
									82	73	72	71	
4	CM	2	m=1	4.0	0.0	6.00e-02	2.00e-02	3.00e-02	45	42	41	53	44
5	CM	1	m=1	4.0	0.0	6.40e-02	2.00e-02	3.00e-02	33	34	35	36	51
									49	54	45	44	43
6	CM	2	m=1	4.0	90.0	6.00e-02	2.00e-02	3.00e-02	40	53	41	42	39

								38	37	31	30		
7	CM	1	m=1	4.0	0.0	6.40e-02	2.00e-02	3.00e-02	57	56	55	60	61
									71	72			
8	CM	4	m=1	4.0	0.0	8.80e-02		8.00e-03	100	26	96	86	85
9	CM	3	m=1	4.0	0.0	9.20e-02		8.00e-03	89	90	91	92	110
									105	52	101	100	99
10	CM	2	m=1	4.0	0.0	6.00e-02	2.00e-02	3.00e-02	73	70	69	81	72
11	CM	1	m=1	4.0	0.0	6.40e-02	2.00e-02	3.00e-02	51	109	50	48	47
									46	54			
12	CM	2	m=1	4.0	90.0	6.00e-02	2.00e-02	3.00e-02	68	81	69	70	67
									66	65	59	58	
13	CM	3	m=1	4.0	0.0	9.20e-02		8.00e-03	85	84	83	88	89
									99	100			
14	CM	4	m=1	4.0	90.0	8.80e-02		8.00e-03	96	26	97	98	95
									94	93	87	86	
15	CM	3	m=1	4.0	0.0	9.20e-02		8.00e-03	110	111	106	104	103
									102	52			
16	CM	1	m=1	4.0	0.0	6.40e-02	2.00e-02	3.00e-02	112	79	78	76	75
									74	82			



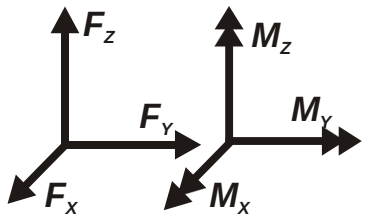
17_MOD_NUMERAZIONE_SOLAI

MODELLAZIONE DELLE AZIONI

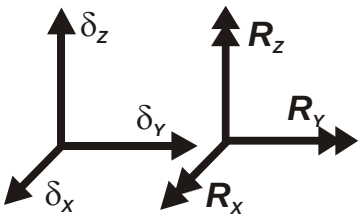
LEGENDA TABELLA DATI AZIONI

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

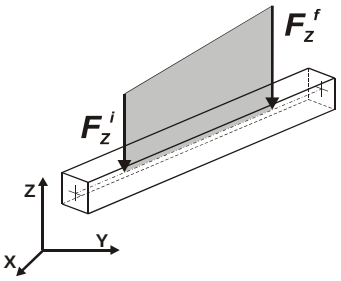
1	carico concentrato nodale 6 dati (forza Fx, Fy, Fz, momento Mx, My, Mz)
2	spostamento nodale impresso 6 dati (spostamento Tx,Ty,Tz, rotazione Rx,Ry,Rz)
3	carico distribuito globale su elemento tipo trave 7 dati (fx,fy,fz,mx,my,mz,ascissa di inizio carico) 7 dati (fx,fy,fz,mx,my,mz,ascissa di fine carico)
4	carico distribuito locale su elemento tipo trave 7 dati (f1,f2,f3,m1,m2,m3,ascissa di inizio carico) 7 dati (f1,f2,f3,m1,m2,m3,ascissa di fine carico)
5	carico concentrato globale su elemento tipo trave 7 dati (Fx,Fy,Fz,Mx,My,Mz,ascissa di carico)
6	carico concentrato locale su elemento tipo trave 7 dati (F1, F2, F3, M1, M2, M3, ascissa di carico)
7	variazione termica applicata ad elemento tipo trave 7 dati (variazioni termiche: uniforme, media e differenza in altezza e larghezza al nodo iniziale e finale)
8	carico di pressione uniforme su elemento tipo piastra 1 dato (pressione)
9	carico di pressione variabile su elemento tipo piastra 4 dati (pressione, quota, pressione, quota)
10	variazione termica applicata ad elemento tipo piastra 2 dati (variazioni termiche: media e differenza nello spessore)
11	carico variabile generale su elementi tipo trave e piastra 1 dato descrizione della tipologia 4 dati per segmento (posizione, valore, posizione, valore) la tipologia precisa l'ascissa di definizione, la direzione del carico, la modalità di carico e la larghezza d'influenza per gli elementi tipo trave
12	gruppo di carichi con impronta su piastra 9 dati (numero di ripetizioni in direzione X e Y, valore di ciascun carico, posizione centrale del primo, dimensioni dell' impronta, interasse tra i carichi



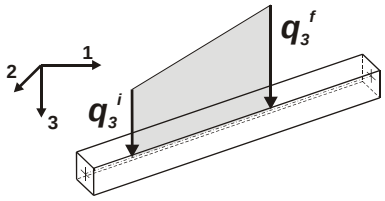
Carico concentrato nodale



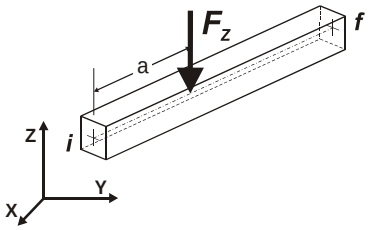
Spostamento impresso



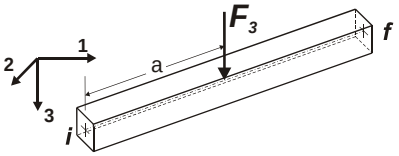
Carico distribuito globale



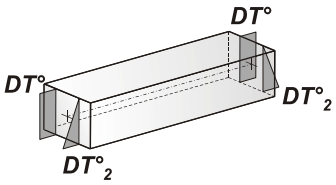
Carico distribuito locale



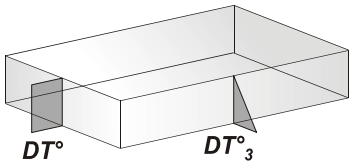
Carico concentrato globale



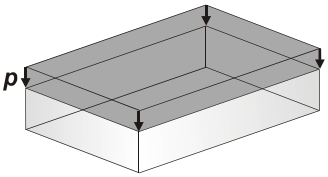
Carico concentrato locale



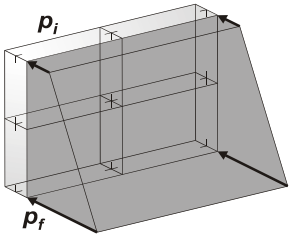
Carico termico 2D



Carico termico 3D



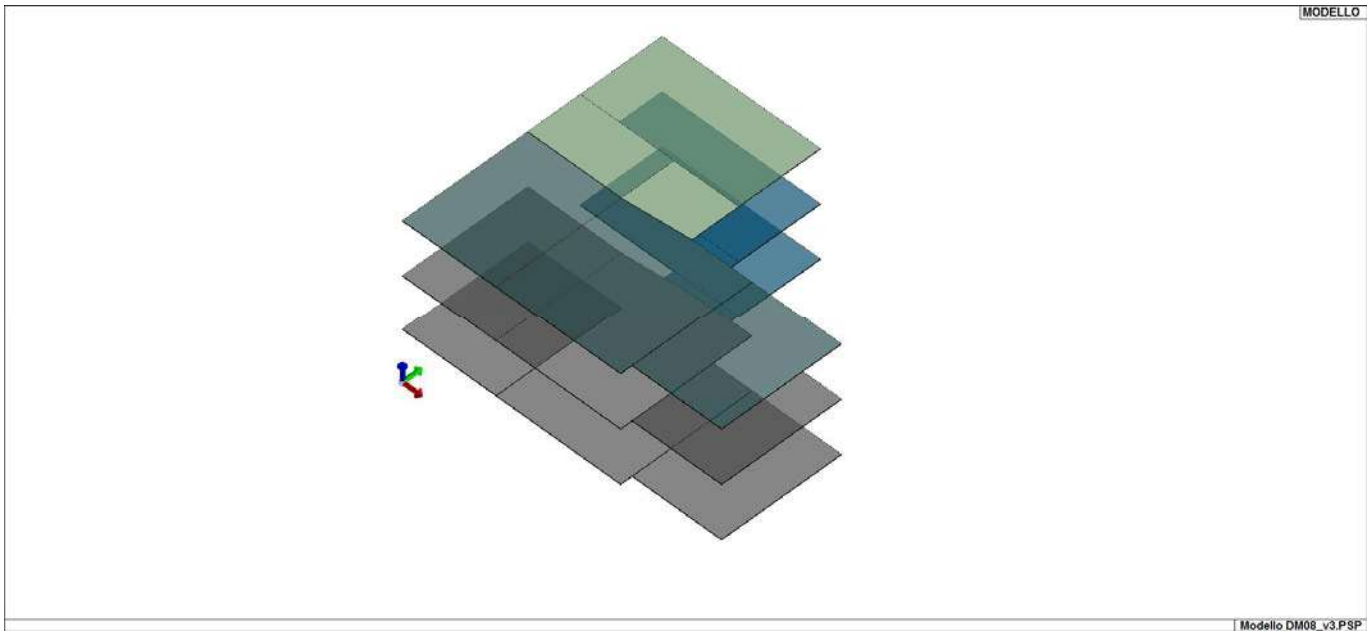
Carico pressione uniforme



Carico pressione variabile

Tipo	carico distribuito globale su trave

Id	Tipo	Pos.	fx	fy	fz	mx	my	mz
		cm	daN/cm	daN/cm	daN/cm	daN	daN	daN
1	DG:Fzi=-15.30 Fzf=-15.30	0.0	0.0	0.0	-15.30	0.0	0.0	0.0
		0.0	0.0	0.0	-15.30	0.0	0.0	0.0
2	Tamp Ext - Piano Tipo	0.0	0.0	0.0	-13.50	0.0	0.0	0.0
		0.0	0.0	0.0	-13.50	0.0	0.0	0.0
3	veletta	0.0	0.0	0.0	-9.80	0.0	0.0	0.0
		0.0	0.0	0.0	-9.80	0.0	0.0	0.0



21_CAR_CARICHI_SOLAI

SCHEMATIZZAZIONE DEI CASI DI CARICO

LEGENDA TABELLA CASI DI CARICO

Il programma consente l'applicazione di diverse tipologie di casi di carico. Sono previsti i seguenti 11 tipi di casi di carico:

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

Sono di tipo automatico A (ossia non prevedono introduzione dati da parte dell'utente) i seguenti casi di carico: 1-Ggk; 4-Gsk; 5-Qsk; 6-Qnk.

Sono di tipo semi-automatico SA (ossia prevedono una minima introduzione dati da parte dell'utente) i seguenti casi di carico:
7-Qtk, in quanto richiede solo il valore della variazione termica;
9-Esk e 10-Edk, in quanto richiedono il valore dell'angolo di ingresso del sisma e l'individuazione dei casi di carico partecipanti alla definizione delle masse.

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.

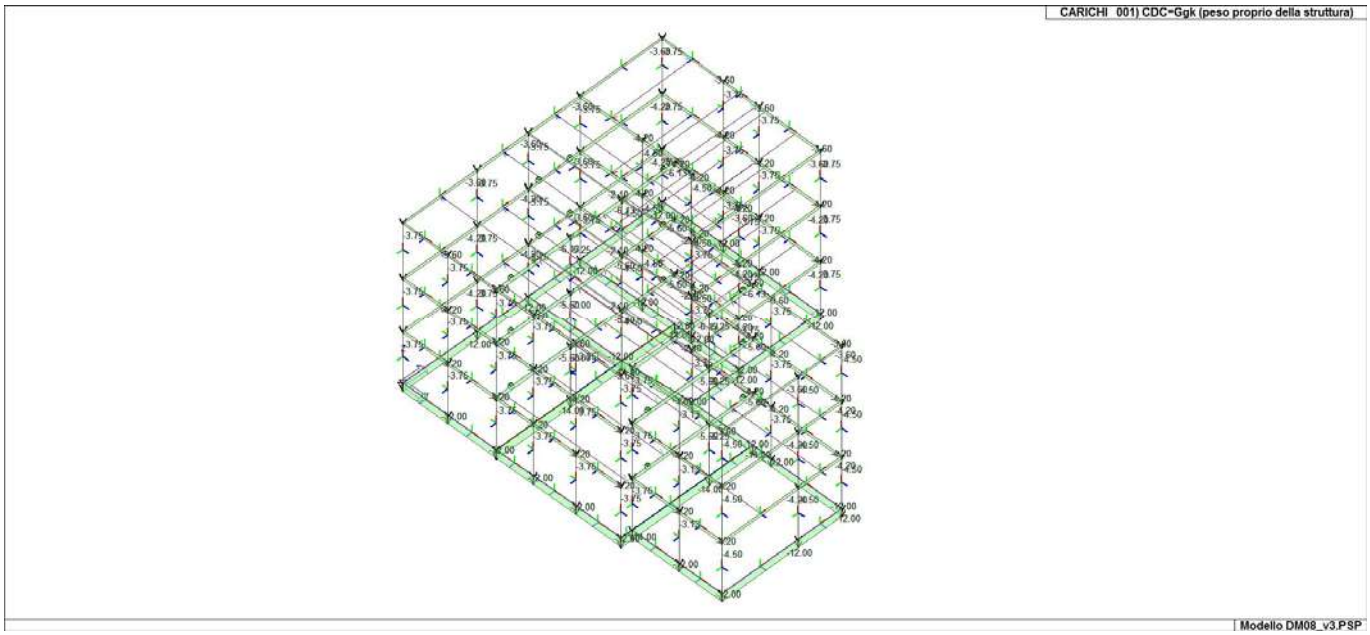
Nella tabella successiva vengono riportati i casi di carico agenti sulla struttura, con l'indicazione dei dati relativi al caso di carico stesso:
Numero Tipo e Sigla identificativa, Valore di riferimento del caso di carico (se previsto).

In successione, per i casi di carico non automatici, viene riportato l'elenco di nodi ed elementi direttamente caricati con la sigla identificativa del carico.

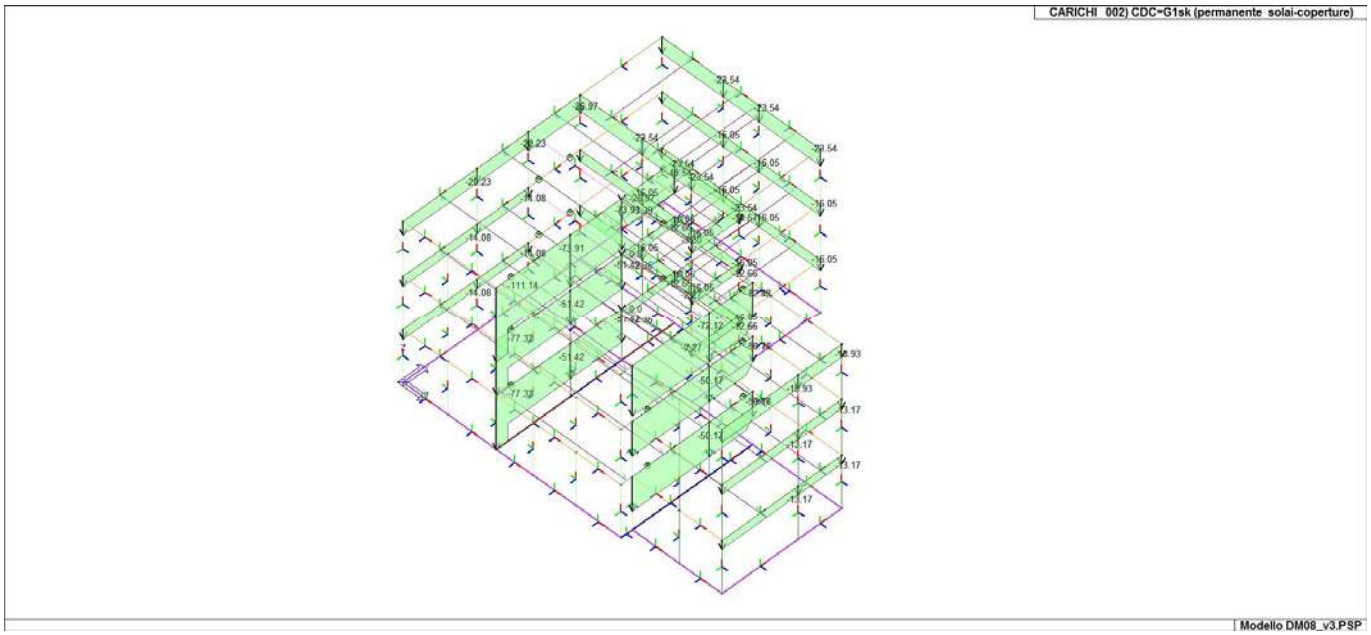
Per i casi di carico di tipo sismico (9-Esk e 10-Edk), viene riportata la tabella di definizione delle masse: per ogni caso di carico partecipante alla definizione delle masse viene indicata la relativa aliquota (partecipazione) considerata. Si precisa che per i caso di carico 5-Qsk e 6-Qnk la partecipazione è prevista localmente per ogni elemento solaio o copertura presente nel modello (si confronti il valore Sksol nel capitolo relativo agli elementi solaio) e pertanto la loro partecipazione è di norma pari a uno.

CDC	Tipo	Sigla Id	Note
1	Ggk	CDC=Ggk (peso proprio della struttura)	
2	Gsk	CDC=G1sk (permanente solai-coperture)	
3	Gsk	CDC=G2sk (permanente solai-coperture n.c.d.)	
4	Qsk	CDC=Qsk (variabile solai)	
5	Qnk	CDC=Qnk (carico da neve)	
6	Gk	CDC=G1k (permanente generico)	D2 :da 27 a 34 Azione : Tamp Ext - Piano Tipo
			D2 :da 36 a 45 Azione : Tamp Ext - Piano Tipo
			D2 :da 47 a 50 Azione : Tamp Ext - Piano Tipo
			D2 : 55 Azione : Tamp Ext - Piano Tipo
			D2 : 58 Azione : Tamp Ext - Piano Tipo
			D2 :da 85 a 86 Azione : Tamp Ext - Piano Tipo
			D2 :da 88 a 93 Azione : Tamp Ext - Piano Tipo
			D2 : 95 Azione : Tamp Ext - Piano Tipo

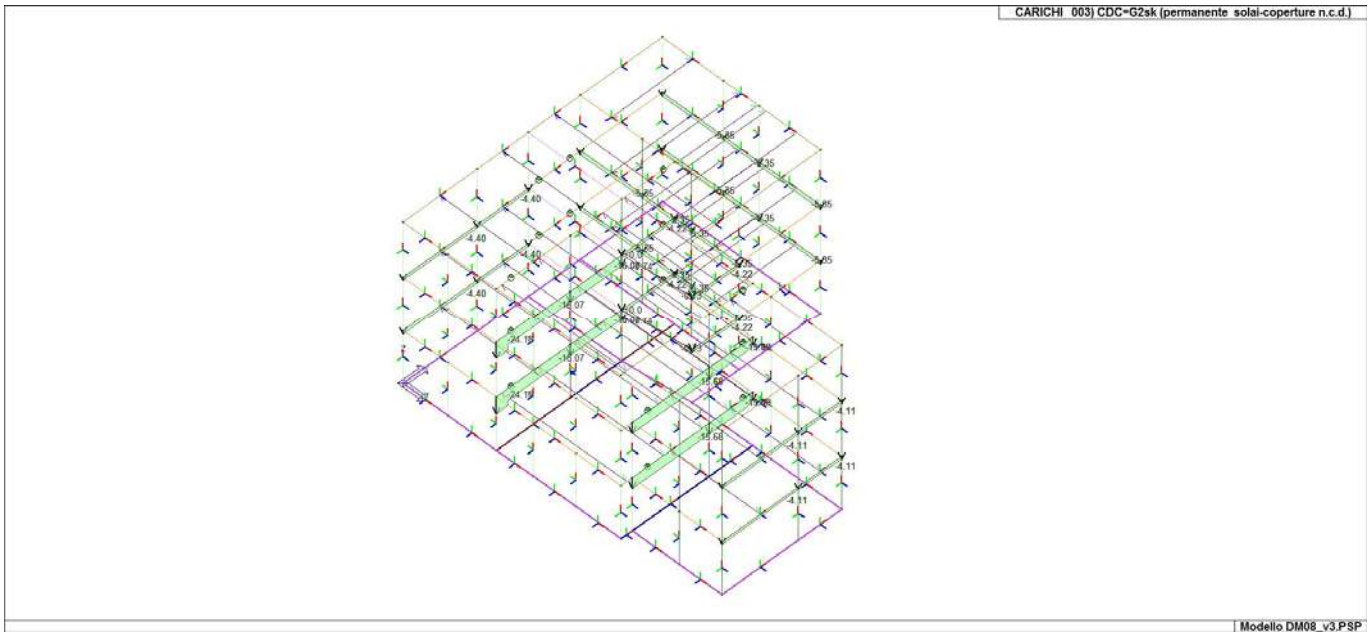
CDC	Tipo	Sigla Id	Note
			D2 :da 97 a 98 Azione : Tamp Ext - Piano Tipo
			D2 :da 100 a 105 Azione : Tamp Ext - Piano Tipo
			D2 :da 108 a 111 Azione : Tamp Ext - Piano Tipo
			D2 :da 115 a 117 Azione : Tamp Ext - Piano Tipo
			D2 :da 145 a 148 Azione : veletta
			D2 :da 153 a 159 Azione : veletta
			D2 :da 163 a 165 Azione : veletta
			D2 :da 167 a 170 Azione : veletta
			D2 :da 174 a 176 Azione : veletta
			D2 :da 178 a 181 Azione : DG:Fzi=-15.30 Fzf=-15.30
			D2 :da 183 a 189 Azione : DG:Fzi=-15.30 Fzf=-15.30
			D2 :da 191 a 196 Azione : DG:Fzi=-15.30 Fzf=-15.30
			D2 :da 198 a 201 Azione : DG:Fzi=-15.30 Fzf=-15.30
7	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=G2sk (permanente solai-coperture n.c.d.)
			partecipazione:1.00 per 4 CDC=Qsk (variabile solai)
			partecipazione:1.00 per 5 CDC=Qnk (carico da neve)
			partecipazione:1.00 per 6 CDC=G1k (permanente generico) .....
8	Edk	CDC=Ed (dinamico SLU) alfa=0.0 (ecc. -)	come precedente CDC sismico
9	Edk	CDC=Ed (dinamico SLU) alfa=90.00 (ecc. +)	come precedente CDC sismico
10	Edk	CDC=Ed (dinamico SLU) alfa=90.00 (ecc. -)	come precedente CDC sismico
11	Edk	CDC=Ed (dinamico SLD) alfa=0.0 (ecc. +)	come precedente CDC sismico
12	Edk	CDC=Ed (dinamico SLD) alfa=0.0 (ecc. -)	come precedente CDC sismico
13	Edk	CDC=Ed (dinamico SLD) alfa=90.00 (ecc. +)	come precedente CDC sismico
14	Edk	CDC=Ed (dinamico SLD) alfa=90.00 (ecc. -)	come precedente CDC sismico



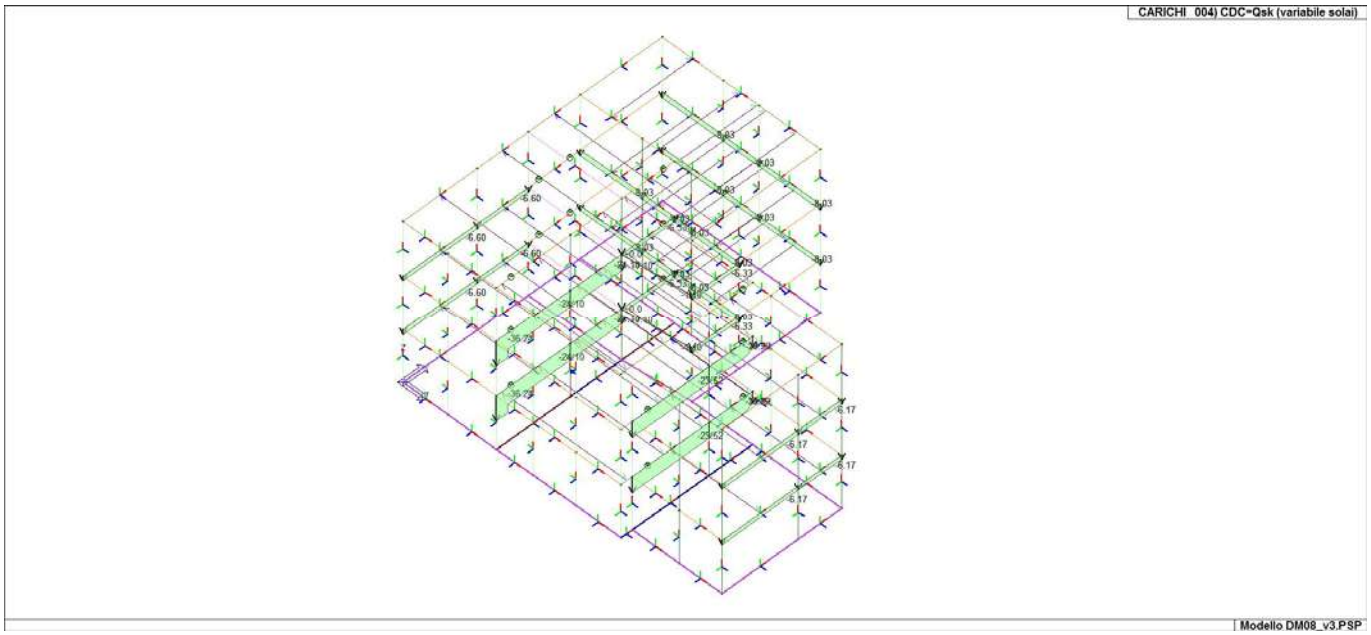
22_CDC_001_CDC=Ggk (peso proprio della struttura)



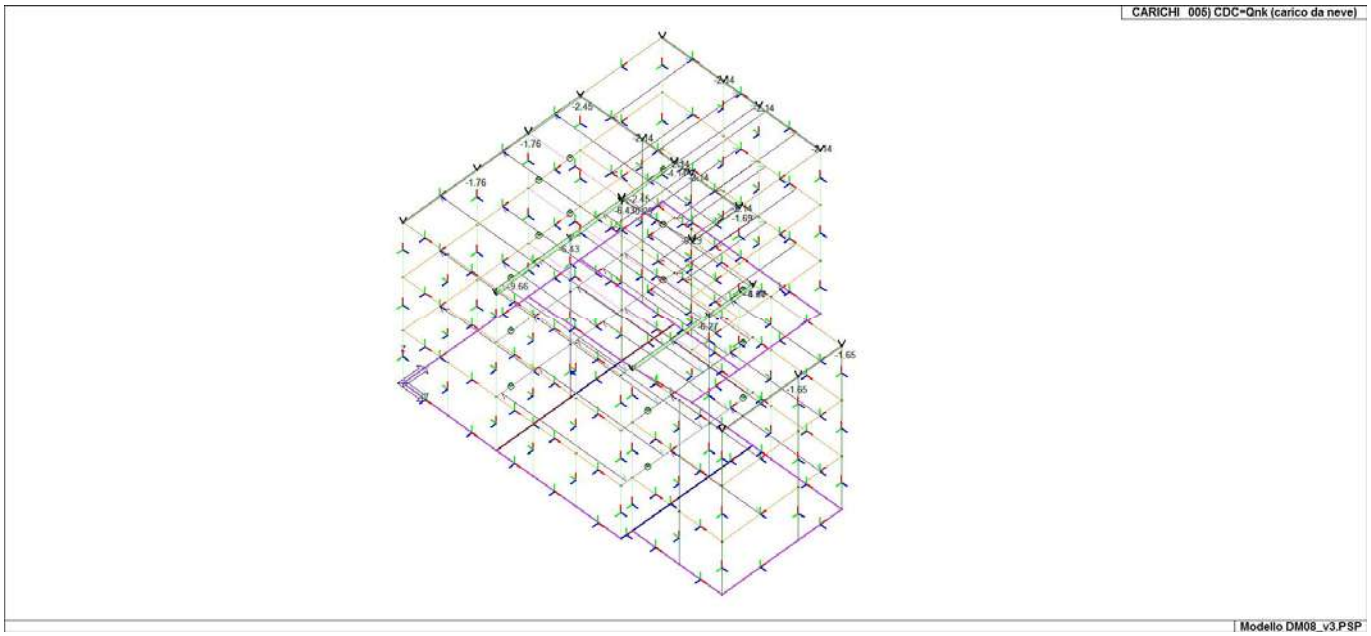
22_CDC_002_CDC=G1sk (permanente solai-coperture)



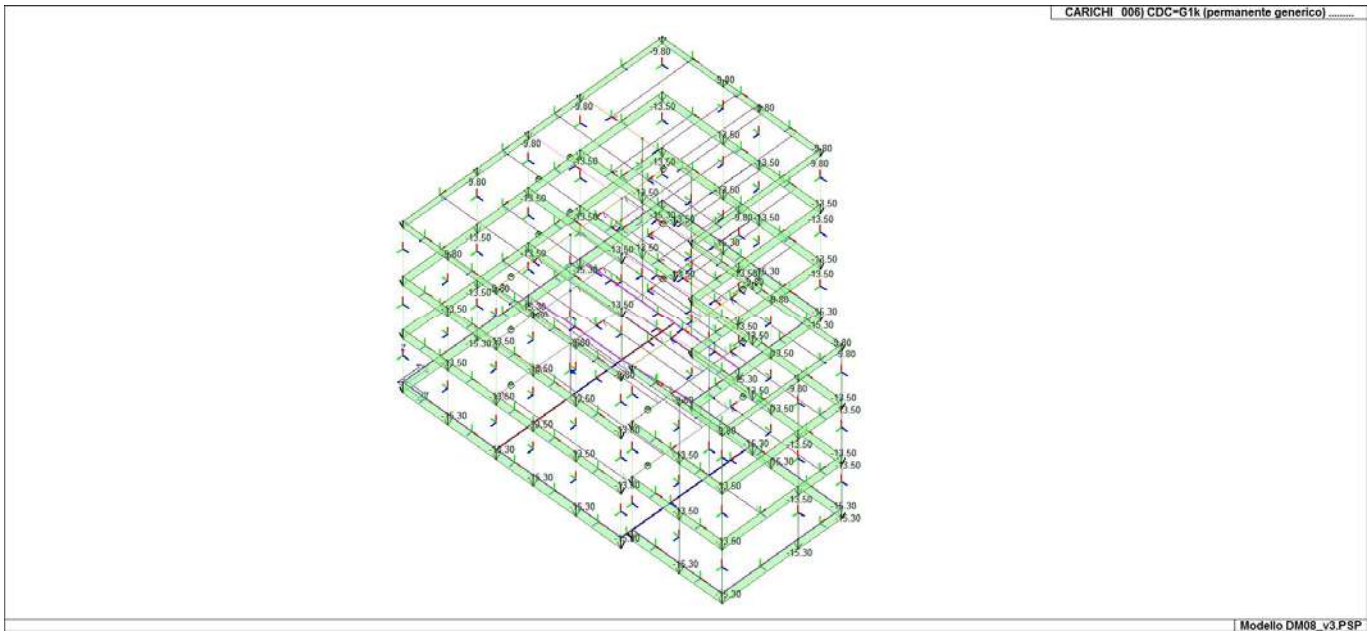
22_CDC_003_CDC=G2sk (permanente solai-coperture n.c.d.)



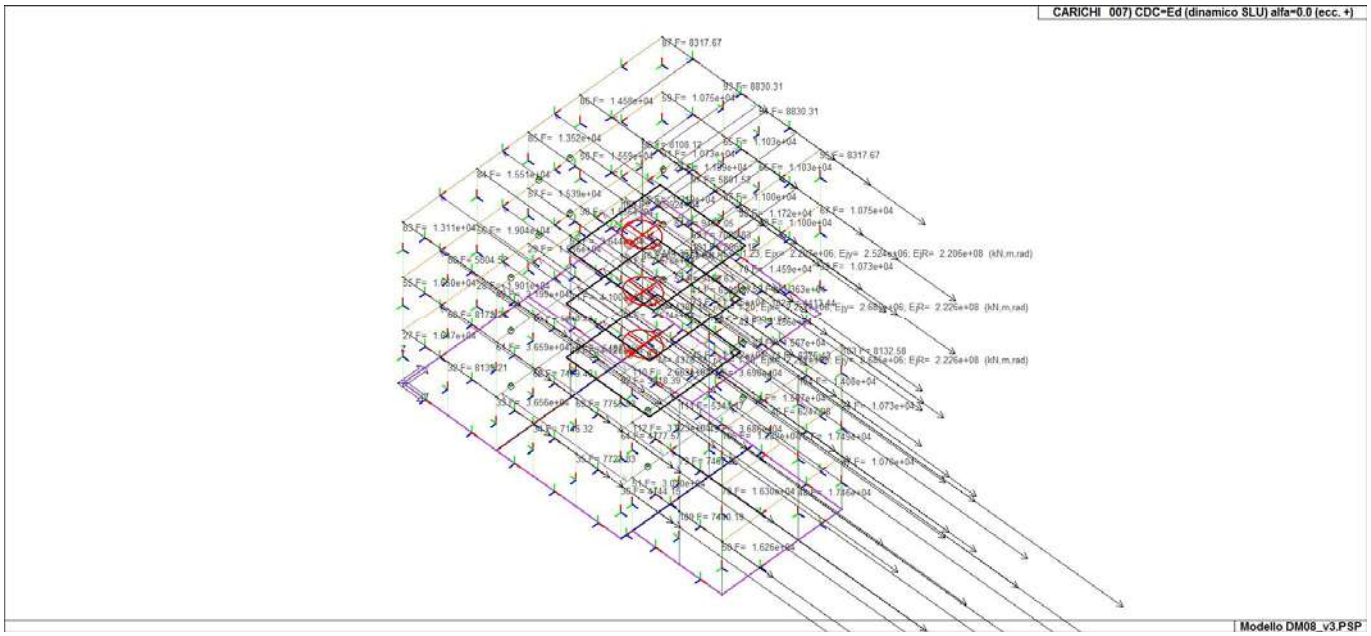
22_CDC_004_CDC=Qsk (variabile solai)



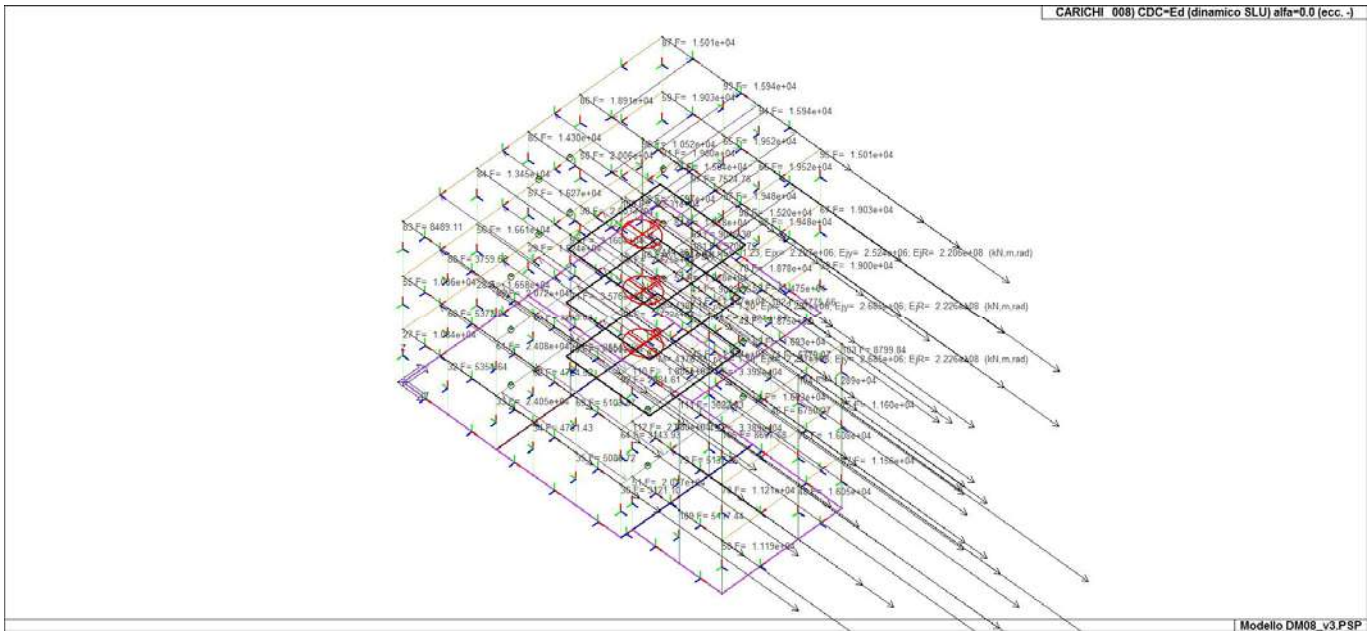
22_CDC_005_CDC=Qnk (carico da neve)



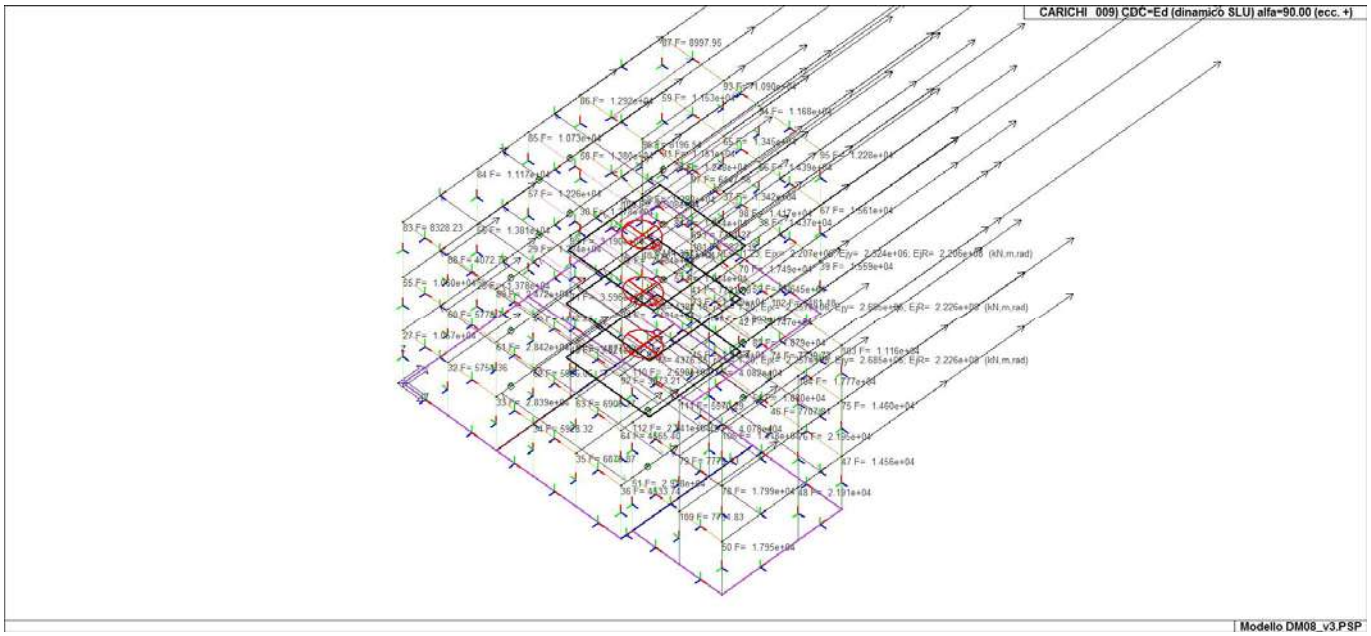
22_CDC_006_CDC=G1k (permanente generico) .....



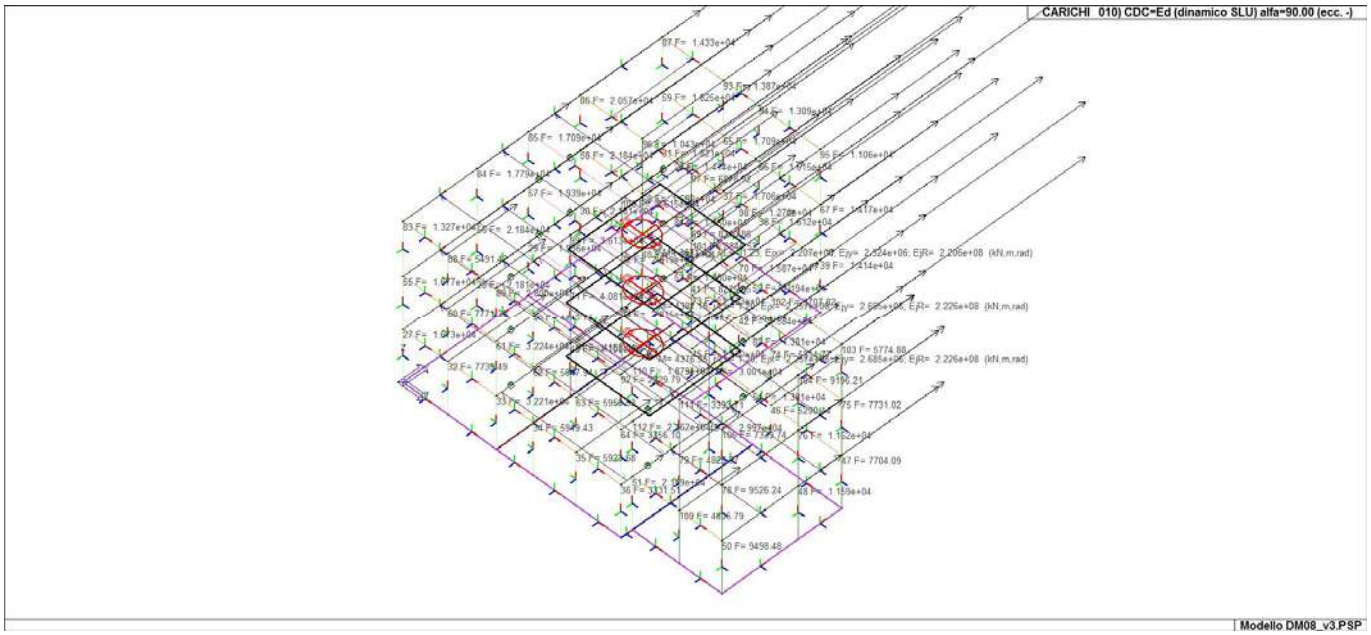
22_CDC_007_CDC=Ed (dinamico SLU) alfa=0.0 (ecc. +)



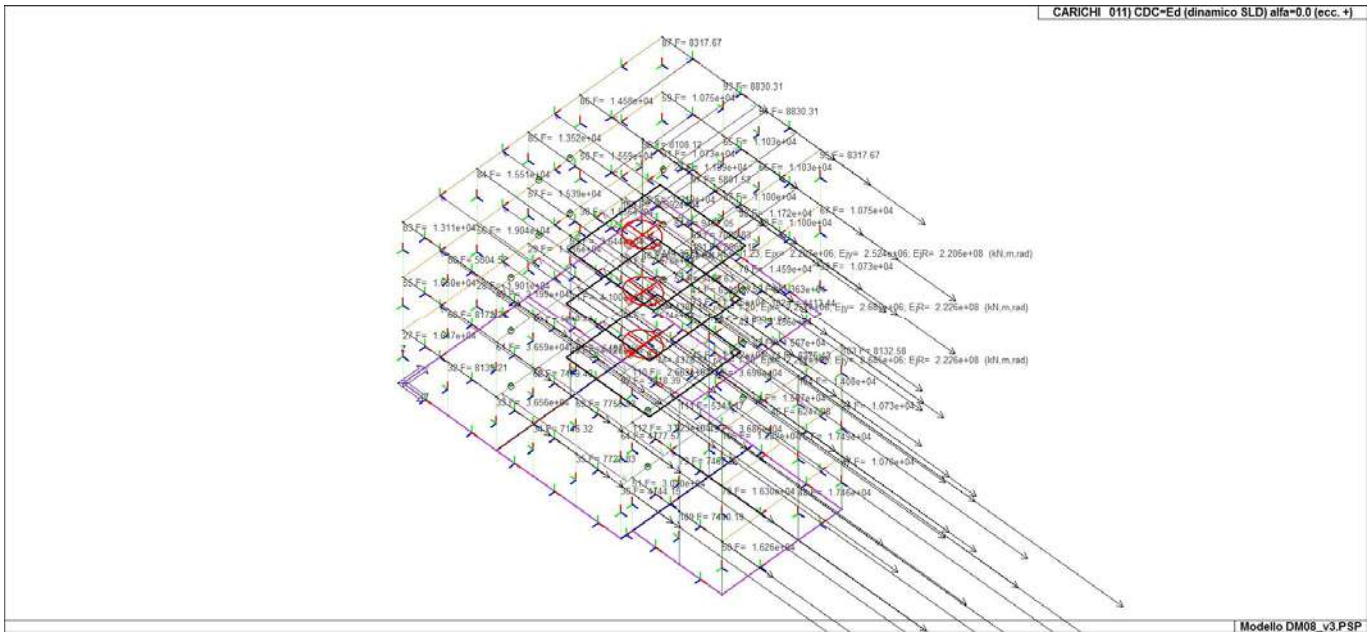
22_CDC_008_CDC=Ed (dinamico SLU) alfa=0.0 (ecc. -)



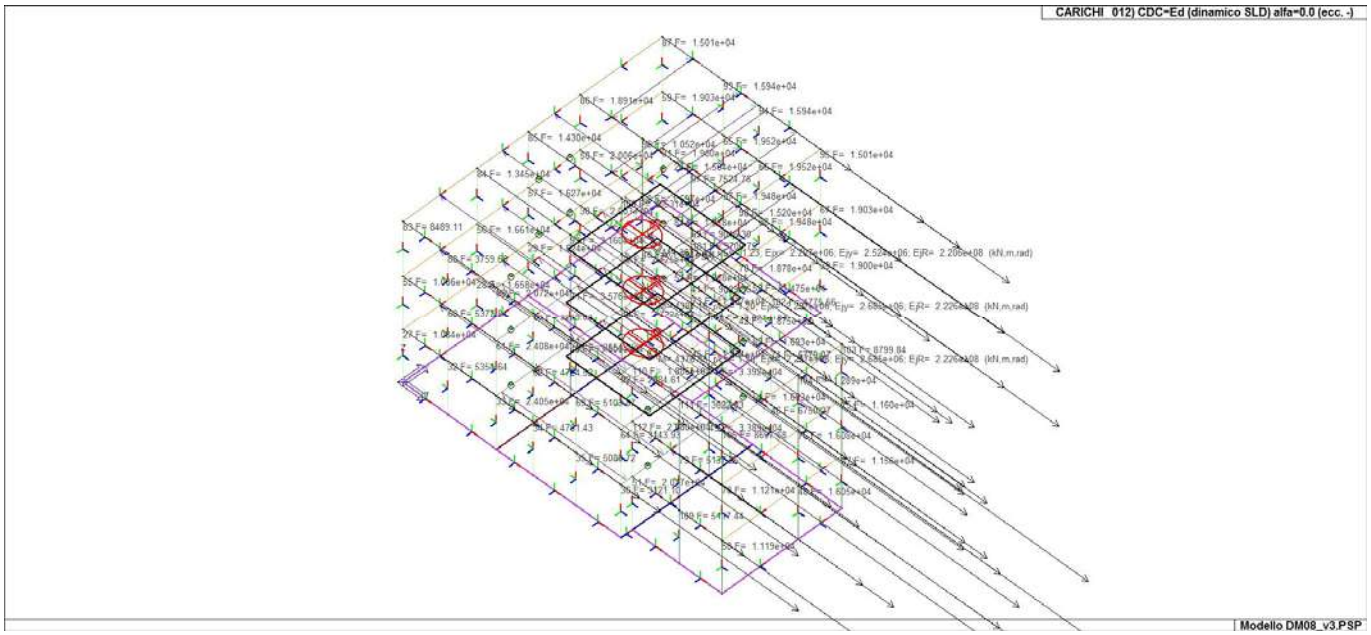
22_CDC_009_CDC=Ed (dinamico SLU) alfa=90.00 (ecc. +)



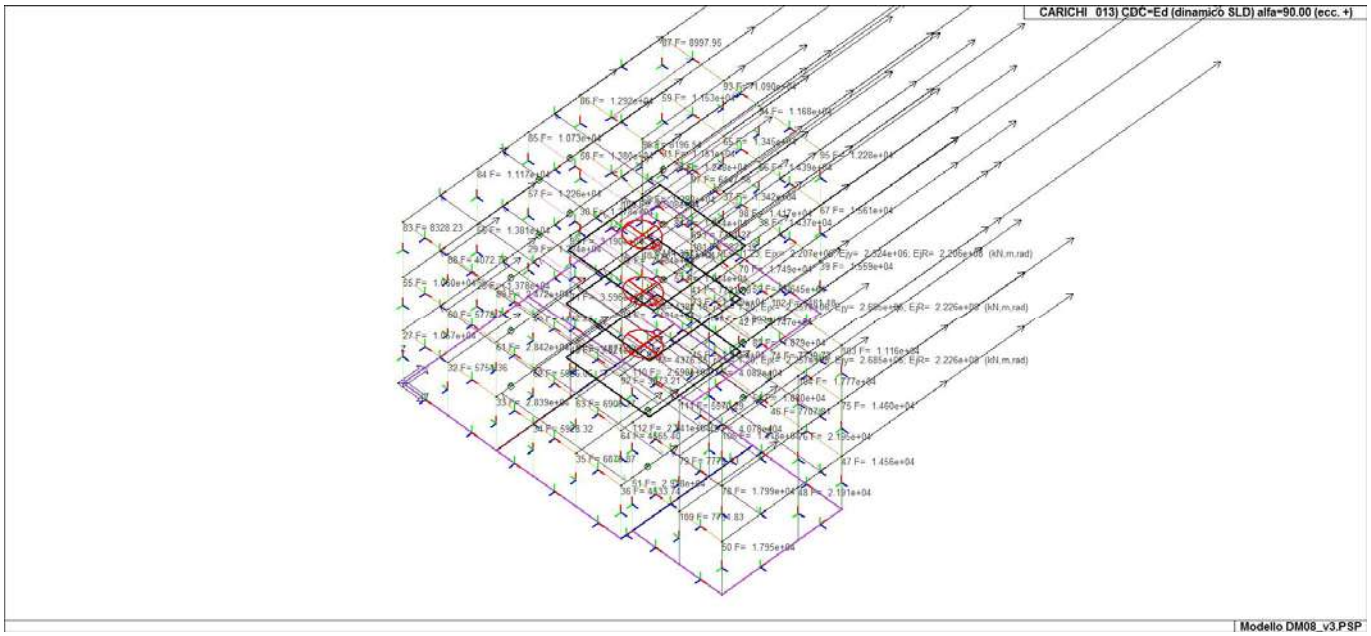
22_CDC_010_CDC=Ed (dinamico SLU) alfa=90.00 (ecc. -)



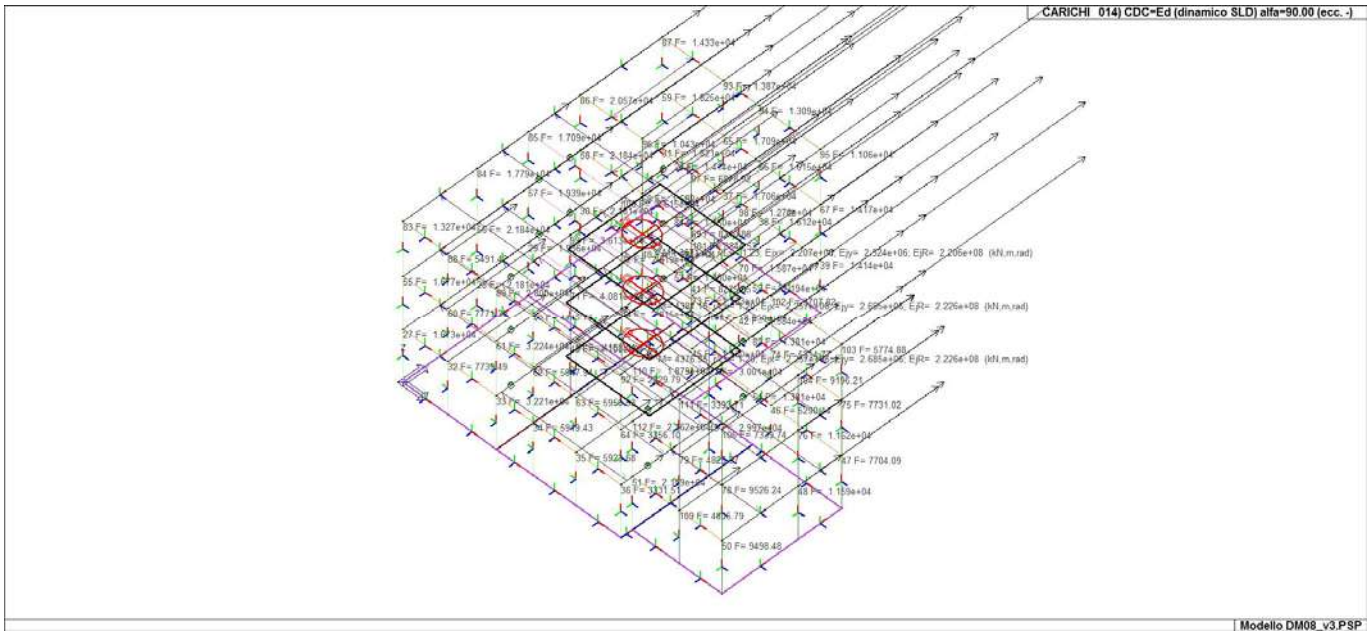
22_CDC_011_CDC=Ed (dinamico SLD) alfa=0.0 (ecc. +)



22_CDC_012_CDC=Ed (dinamico SLD) alfa=0.0 (ecc. -)



22_CDC_013_CDC=Ed (dinamico SLD) alfa=90.00 (ecc. +)



22_CDC_014_CDC=Ed (dinamico SLD) alfa=90.00 (ecc. -)

DEFINIZIONE DELLE COMBINAZIONI

LEGENDA TABELLA 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.

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

Combinazione fondamentale SLU

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

Combinazione caratteristica (rara) SLE

$G_1 + G_2 + P + Q_{k1} + \psi 02 \cdot Q_{k2} + \psi 03 \cdot Q_{k3} + \ldots$

Combinazione frequente SLE

$G_1 + G_2 + P + \psi 11 \cdot Q_{k1} + \psi 22 \cdot Q_{k2} + \psi 23 \cdot Q_{k3} + \ldots$

Combinazione quasi permanente SLE

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

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

$E + G_1 + G_2 + P + \psi 21 \cdot Qk1 + \psi 22 \cdot Qk2 + \ldots$

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

$G_1 + G_2 + A_d + P + \psi 21 \cdot Qk1 + \psi 22 \cdot Qk2 + \ldots$

Dove:

NTC 2018 Tabella 2.5.I

Destinazione d'uso/azione	ψ0	ψ1	ψ2
Categoria A residenziali	0,70	0,50	0,30
Categoria B uffici	0,70	0,50	0,30
Categoria C ambienti suscettibili di affollamento	0,70	0,70	0,60
Categoria D ambienti ad uso commerciale	0,70	0,70	0,60
Categoria E biblioteche, archivi, magazzini,…	1,00	0,90	0,80
Categoria F Rimesse e parcheggi (autoveicoli <= 30kN)	0,70	0,70	0,60
Categoria G Rimesse e parcheggi (autoveicoli > 30kN)	0,70	0,50	0,30
Categoria H Coperture	0,00	0,00	0,00
Vento	0,60	0,20	0,00
Neve a quota <= 1000 m	0,50	0,20	0,00
Neve a quota > 1000 m	0,70	0,50	0,20
Variazioni Termiche	0,60	0,50	0,00

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

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

NTC 2018 Tabella 2.6.I

		Coefficiente γf	EQU	A1	A2
Carichi permanenti	Favorevoli	γG1	0,9	1,0	1,0

	Sfavorevoli		1,1	1,3	1,0
Carichi permanenti non strutturali (Non compiutamente definiti)	Favorevoli	γG2	0,8	0,8	0,8
	Sfavorevoli		1,5	1,5	1,3
Carichi variabili	Favorevoli	γQi	0,0	0,0	0,0
	Sfavorevoli		1,5	1,5	1,3

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 (SLV sism.) 15	
16	SLU	Comb. SLU A1 (SLV sism.) 16	
17	SLU	Comb. SLU A1 (SLV sism.) 17	
18	SLU	Comb. SLU A1 (SLV sism.) 18	
19	SLU	Comb. SLU A1 (SLV sism.) 19	
20	SLU	Comb. SLU A1 (SLV sism.) 20	
21	SLU	Comb. SLU A1 (SLV sism.) 21	
22	SLU	Comb. SLU A1 (SLV sism.) 22	
23	SLU	Comb. SLU A1 (SLV sism.) 23	
24	SLU	Comb. SLU A1 (SLV sism.) 24	
25	SLU	Comb. SLU A1 (SLV sism.) 25	
26	SLU	Comb. SLU A1 (SLV sism.) 26	
27	SLU	Comb. SLU A1 (SLV sism.) 27	
28	SLU	Comb. SLU A1 (SLV sism.) 28	
29	SLU	Comb. SLU A1 (SLV sism.) 29	
30	SLU	Comb. SLU A1 (SLV sism.) 30	
31	SLU	Comb. SLU A1 (SLV sism.) 31	
32	SLU	Comb. SLU A1 (SLV sism.) 32	
33	SLU	Comb. SLU A1 (SLV sism.) 33	
34	SLU	Comb. SLU A1 (SLV sism.) 34	
35	SLU	Comb. SLU A1 (SLV sism.) 35	
36	SLU	Comb. SLU A1 (SLV sism.) 36	
37	SLU	Comb. SLU A1 (SLV sism.) 37	
38	SLU	Comb. SLU A1 (SLV sism.) 38	
39	SLU	Comb. SLU A1 (SLV sism.) 39	
40	SLU	Comb. SLU A1 (SLV sism.) 40	
41	SLU	Comb. SLU A1 (SLV sism.) 41	
42	SLU	Comb. SLU A1 (SLV sism.) 42	
43	SLU	Comb. SLU A1 (SLV sism.) 43	
44	SLU	Comb. SLU A1 (SLV sism.) 44	
45	SLU	Comb. SLU A1 (SLV sism.) 45	
46	SLU	Comb. SLU A1 (SLV sism.) 46	
47	SLD(sis)	Comb. SLE (SLD Danno sism.) 47	
48	SLD(sis)	Comb. SLE (SLD Danno sism.) 48	
49	SLD(sis)	Comb. SLE (SLD Danno sism.) 49	
50	SLD(sis)	Comb. SLE (SLD Danno sism.) 50	
51	SLD(sis)	Comb. SLE (SLD Danno sism.) 51	
52	SLD(sis)	Comb. SLE (SLD Danno sism.) 52	
53	SLD(sis)	Comb. SLE (SLD Danno sism.) 53	
54	SLD(sis)	Comb. SLE (SLD Danno sism.) 54	
55	SLD(sis)	Comb. SLE (SLD Danno sism.) 55	
56	SLD(sis)	Comb. SLE (SLD Danno sism.) 56	
57	SLD(sis)	Comb. SLE (SLD Danno sism.) 57	

Cmb	Tipo	Sigla Id	effetto P-delta
58	SLD(sis)	Comb. SLE (SLD Danno sism.) 58	
59	SLD(sis)	Comb. SLE (SLD Danno sism.) 59	
60	SLD(sis)	Comb. SLE (SLD Danno sism.) 60	
61	SLD(sis)	Comb. SLE (SLD Danno sism.) 61	
62	SLD(sis)	Comb. SLE (SLD Danno sism.) 62	
63	SLD(sis)	Comb. SLE (SLD Danno sism.) 63	
64	SLD(sis)	Comb. SLE (SLD Danno sism.) 64	
65	SLD(sis)	Comb. SLE (SLD Danno sism.) 65	
66	SLD(sis)	Comb. SLE (SLD Danno sism.) 66	
67	SLD(sis)	Comb. SLE (SLD Danno sism.) 67	
68	SLD(sis)	Comb. SLE (SLD Danno sism.) 68	
69	SLD(sis)	Comb. SLE (SLD Danno sism.) 69	
70	SLD(sis)	Comb. SLE (SLD Danno sism.) 70	
71	SLD(sis)	Comb. SLE (SLD Danno sism.) 71	
72	SLD(sis)	Comb. SLE (SLD Danno sism.) 72	
73	SLD(sis)	Comb. SLE (SLD Danno sism.) 73	
74	SLD(sis)	Comb. SLE (SLD Danno sism.) 74	
75	SLD(sis)	Comb. SLE (SLD Danno sism.) 75	
76	SLD(sis)	Comb. SLE (SLD Danno sism.) 76	
77	SLD(sis)	Comb. SLE (SLD Danno sism.) 77	
78	SLD(sis)	Comb. SLE (SLD Danno sism.) 78	
79	SLE(r)	Comb. SLE(rara) 79	
80	SLE(r)	Comb. SLE(rara) 80	
81	SLE(r)	Comb. SLE(rara) 81	
82	SLE(r)	Comb. SLE(rara) 82	
83	SLE(r)	Comb. SLE(rara) 83	
84	SLE(r)	Comb. SLE(rara) 84	
85	SLE(r)	Comb. SLE(rara) 85	

Cmb	CDC 1/15...	CDC 2/16...	CDC 3/17...	CDC 4/18...	CDC 5/19...	CDC 6/20...	CDC 7/21...	CDC 8/22...	CDC 9/23...	CDC 10/24...	CDC 11/25...	CDC 12/26...	CDC 13/27...	CDC 14/28...
1	1.30	1.30	1.50	0.0	0.0	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	1.30	1.30	1.50	0.0	0.75	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	1.30	1.30	1.50	1.50	0.0	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	1.30	1.30	1.50	1.50	0.75	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	1.00	1.00	0.80	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	1.00	1.00	0.80	0.0	0.75	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	1.00	1.00	0.80	1.50	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	1.00	1.00	0.80	1.50	0.75	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	1.30	1.30	1.50	0.0	1.50	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	1.30	1.30	1.50	1.05	0.0	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	1.30	1.30	1.50	1.05	1.50	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	1.00	1.00	0.80	0.0	1.50	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	1.00	1.00	0.80	1.05	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	1.00	1.00	0.80	1.05	1.50	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	1.00	1.00	1.00	0.60	0.0	1.00	-1.00	0.0	-0.30	0.0	0.0	0.0	0.0	0.0
16	1.00	1.00	1.00	0.60	0.0	1.00	-1.00	0.0	0.30	0.0	0.0	0.0	0.0	0.0
17	1.00	1.00	1.00	0.60	0.0	1.00	1.00	0.0	-0.30	0.0	0.0	0.0	0.0	0.0
18	1.00	1.00	1.00	0.60	0.0	1.00	1.00	0.0	0.30	0.0	0.0	0.0	0.0	0.0
19	1.00	1.00	1.00	0.60	0.0	1.00	-1.00	0.0	0.0	-0.30	0.0	0.0	0.0	0.0
20	1.00	1.00	1.00	0.60	0.0	1.00	-1.00	0.0	0.0	0.30	0.0	0.0	0.0	0.0
21	1.00	1.00	1.00	0.60	0.0	1.00	1.00	0.0	0.0	-0.30	0.0	0.0	0.0	0.0
22	1.00	1.00	1.00	0.60	0.0	1.00	1.00	0.0	0.0	0.30	0.0	0.0	0.0	0.0
23	1.00	1.00	1.00	0.60	0.0	1.00	0.0	-1.00	-0.30	0.0	0.0	0.0	0.0	0.0
24	1.00	1.00	1.00	0.60	0.0	1.00	0.0	-1.00	0.30	0.0	0.0	0.0	0.0	0.0
25	1.00	1.00	1.00	0.60	0.0	1.00	0.0	1.00	-0.30	0.0	0.0	0.0	0.0	0.0
26	1.00	1.00	1.00	0.60	0.0	1.00	0.0	1.00	0.30	0.0	0.0	0.0	0.0	0.0
27	1.00	1.00	1.00	0.60	0.0	1.00	0.0	-1.00	0.0	-0.30	0.0	0.0	0.0	0.0
28	1.00	1.00	1.00	0.60	0.0	1.00	0.0	-1.00	0.0	0.30	0.0	0.0	0.0	0.0
29	1.00	1.00	1.00	0.60	0.0	1.00	0.0	1.00	0.0	-0.30	0.0	0.0	0.0	0.0
30	1.00	1.00	1.00	0.60	0.0	1.00	0.0	1.00	0.0	0.30	0.0	0.0	0.0	0.0
31	1.00	1.00	1.00	0.60	0.0	1.00	-0.30	0.0	-1.00	0.0	0.0	0.0	0.0	0.0
32	1.00	1.00	1.00	0.60	0.0	1.00	-0.30	0.0	1.00	0.0	0.0	0.0	0.0	0.0
33	1.00	1.00	1.00	0.60	0.0	1.00	0.30	0.0	-1.00	0.0	0.0	0.0	0.0	0.0
34	1.00	1.00	1.00	0.60	0.0	1.00	0.30	0.0	1.00	0.0	0.0	0.0	0.0	0.0
35	1.00	1.00	1.00	0.60	0.0	1.00	0.0	-0.30	-1.00	0.0	0.0	0.0	0.0	0.0
36	1.00	1.00	1.00	0.60	0.0	1.00	0.0	-0.30	1.00	0.0	0.0	0.0	0.0	0.0
37	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.30	-1.00	0.0	0.0	0.0	0.0	0.0
38	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.30	1.00	0.0	0.0	0.0	0.0	0.0
39	1.00	1.00	1.00	0.60	0.0	1.00	-0.30	0.0	0.0	-1.00	0.0	0.0	0.0	0.0
40	1.00	1.00	1.00	0.60	0.0	1.00	-0.30	0.0	0.0	1.00	0.0	0.0	0.0	0.0

Cmb	CDC 1/15...	CDC 2/16...	CDC 3/17...	CDC 4/18...	CDC 5/19...	CDC 6/20...	CDC 7/21...	CDC 8/22...	CDC 9/23...	CDC 10/24...	CDC 11/25...	CDC 12/26...	CDC 13/27...	CDC 14/28...
41	1.00	1.00	1.00	0.60	0.0	1.00	0.30	0.0	0.0	-1.00	0.0	0.0	0.0	0.0
42	1.00	1.00	1.00	0.60	0.0	1.00	0.30	0.0	0.0	1.00	0.0	0.0	0.0	0.0
43	1.00	1.00	1.00	0.60	0.0	1.00	0.0	-0.30	0.0	-1.00	0.0	0.0	0.0	0.0
44	1.00	1.00	1.00	0.60	0.0	1.00	0.0	-0.30	0.0	1.00	0.0	0.0	0.0	0.0
45	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.30	0.0	-1.00	0.0	0.0	0.0	0.0
46	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.30	0.0	1.00	0.0	0.0	0.0	0.0
47	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	-1.00	0.0	-0.30	0.0
48	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	-1.00	0.0	0.30	0.0
49	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	1.00	0.0	-0.30	0.0
50	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	1.00	0.0	0.30	0.0
51	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	-1.00	0.0	0.0	-0.30
52	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	-1.00	0.0	0.0	0.30
53	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	1.00	0.0	0.0	-0.30
54	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	1.00	0.0	0.0	0.30
55	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	0.0	-1.00	-0.30	0.0
56	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	0.0	-1.00	0.30	0.0
57	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	0.0	1.00	-0.30	0.0
58	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.30	0.0
59	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	0.0	-1.00	0.0	-0.30
60	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	0.0	-1.00	0.0	0.30
61	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	-0.30
62	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.30
63	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	-0.30	0.0	-1.00	0.0
64	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	-0.30	0.0	1.00	0.0
65	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	0.30	0.0	-1.00	0.0
66	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	0.30	0.0	1.00	0.0
67	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	0.0	-0.30	-1.00	0.0
68	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	0.0	-0.30	1.00	0.0
69	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.30	-1.00	0.0
70	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.30	1.00	0.0
71	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	-0.30	0.0	0.0	-1.00
72	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	-0.30	0.0	0.0	1.00
73	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	0.30	0.0	0.0	-1.00
74	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	0.30	0.0	0.0	1.00
75	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	0.0	-0.30	0.0	-1.00
76	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	0.0	-0.30	0.0	1.00
77	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.30	0.0	-1.00
78	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.30	0.0	1.00
79	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80	1.00	1.00	1.00	0.0	0.50	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81	1.00	1.00	1.00	1.00	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82	1.00	1.00	1.00	1.00	0.50	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83	1.00	1.00	1.00	0.0	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84	1.00	1.00	1.00	0.70	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85	1.00	1.00	1.00	0.70	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AZIONE SISMICA

VALUTAZIONE DELL' AZIONE SISMICA

L'azione sismica sulle costruzioni è valutata 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 (vedi tabella Parametri della struttura). 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 (vedi tabella successiva):

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

Parametri della struttura					
Classe d'uso	Vita Vn [anni]	Coeff. Uso	Periodo Vr [anni]	Tipo di suolo	Categoria topografica
III	50.0	1.5	75.0	C	T1

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

- S è il coefficiente che tiene conto della categoria di sottosuolo e delle condizioni topografiche mediante la relazione seguente S = Ss*St (3.2.3)
- Fo è il fattore che quantifica l'amplificazione spettrale massima, su sito di riferimento rigido orizzontale
- Fv 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
- Tb è il periodo corrispondente all'inizio del tratto dello spettro ad accelerazione costante.
- Tc è il periodo corrispondente all'inizio del tratto dello spettro a velocità costante.
- Td è il periodo corrispondente all'inizio del tratto dello spettro a spostamento costante.

Id nodo	**Longitudine**	**Latitudine**	**Distanza**
			Km
Loc.	11.248	45.418	
12733	11.213	45.413	2.779
12734	11.285	45.415	2.898
12512	11.283	45.465	5.877
12511	11.212	45.463	5.719

SL	**Pver**	**Tr**	**ag**	**Fo**	**T*c**
		Anni	g		sec
SLO	81.0	45.0	0.049	2.480	0.250
SLD	63.0	75.0	0.065	2.490	0.260
SLV	10.0	712.0	0.172	2.450	0.280
SLC	5.0	1462.0	0.224	2.430	0.280

SL	**ag**	**S**	**Fo**	**Fv**	**Tb**	**Tc**	**Td**
	g				sec	sec	sec
SLO	0.049	1.500	2.480	0.743	0.138	0.415	1.797
SLD	0.065	1.500	2.490	0.854	0.142	0.426	1.858
SLV	0.172	1.447	2.450	1.371	0.149	0.447	2.287
SLC	0.224	1.373	2.430	1.553	0.149	0.447	2.496

RISULTATI ANALISI SISMICHE

LEGENDA TABELLA ANALISI SISMICHE

Il programma consente l'analisi di diverse configurazioni sismiche.

Sono previsti, infatti, i seguenti casi di carico:

9. Esk caso di carico sismico con analisi statica equivalente

10. Edkcaso di carico sismico con analisi dinamica

Ciascun caso di carico è caratterizzato da un angolo di ingresso e da una configurazione di masse determinante la forza sismica complessiva (si rimanda al capitolo relativo ai casi di carico per chiarimenti inerenti questo aspetto).

Nella colonna Note, in funzione della norma in uso 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 sotto riportati (le masse sono espresse in unità di forza):

a) analisi sismica statica equivalente:
   - quota, posizione del centro di applicazione e azione orizzontale risultante, posizione del baricentro delle rigidezze, rapporto r/Ls (per strutture a nucleo), indici di regolarità e/r secondo EC8 4.2.3.2
   - azione sismica complessiva

b) analisi sismica dinamica con spettro di risposta:
   - quota, posizione del centro di massa e massa risultante, posizione del baricentro delle rigidezze, rapporto r/Ls (per strutture a nucleo) **,** indici di regolarità e/r secondo EC8 4.2.3.2
   - 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 definita SLD o SLO 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 nella norma (es. 5 per edifici con tamponamenti collegati rigidamente alla struttura, 10.0 per edifici con tamponamenti collegati elasticamente, 3 per edifici in muratura ordinaria, 4 per edifici in muratura armata).

Calcolo dei fattori di comportamento secondo il D.M. 17/01/2018

La costruzione, nuova, è caratterizzata da regolarità sia in pianta sia in altezza ed è progettata in classe di duttilità media (CD"B").

Parametri fattore in direzione x e y

Sistema costruttivo: calcestruzzo
Tipologia strutturale: strutture a telaio, a pareti accoppiate, miste
Definizione rapporto α_u/α_1: valore come da normativa
Riferimento normativo α_u/α_1: strutture a telaio con più piani e più campate
Valore rapporto α_u/α_1 = 1.300
Valore base fattore $q_0 = 3.000\ \alpha_u/\alpha_1$ = 3.900
Fattore pareti k_w = 1.000
Fattore di regolarità K_R = 1.0
Fattore dissipativo $q_D = q_0 \bullet k_w \bullet K_R$ = 3.900

Fattori di comportamento utilizzati

	Dissipativi
q SLU x	3.900
q SLU y	3.900
q SLU z	1.500

CDC	Tipo	Sigla Id	Note
7	Edk	CDC=Ed (dinamico SLU) alfa=0.0 (ecc. +)	
			categoria suolo: C
			fattore di sito S = 1.447
			ordinata spettro (tratto Tb-Tc) = 0.156 g
			angolo di ingresso:0.0
			eccentricità aggiuntiva: positiva
			periodo proprio T1: 0.761 sec.
			fattore di struttura q: 3.900
			fattore per spost. mu d: 3.900
			classe di duttilità CD: B
			numero di modi considerati: 9
			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
cm	daN	cm	cm	cm	cm	cm	cm			
1065.00	3.671e+05	842.26	725.31	0.0	-84.95	949.57	713.73	1.230	0.115	0.012
705.00	4.381e+05	851.42	723.63	0.0	-84.95	929.34	708.64	1.197	0.086	0.015
345.00	4.376e+05	851.17	723.52	0.0	-84.95	929.34	708.64	1.197	0.086	0.015
Risulta	1.243e+06									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	1.121	0.892	0.078	12.33	9.92e-04	1.076e+06	86.6	1.27	1.02e-04	0.0	0.0
2	1.315	0.761	0.092	1.078e+06	86.7	0.09	7.12e-06	15.72	1.26e-03	0.0	0.0
3	1.510	0.662	0.105	2.695e+04	2.2	960.01	7.72e-02	0.38	3.07e-05	0.0	0.0
4	4.217	0.237	0.156	68.63	5.52e-03	1.435e+05	11.5	13.59	1.09e-03	0.0	0.0
5	4.484	0.223	0.156	1.177e+05	9.5	405.54	3.26e-02	220.38	1.77e-02	0.0	0.0
6	5.295	0.189	0.156	4337.42	0.3	741.86	5.97e-02	73.84	5.94e-03	0.0	0.0
7	6.354	0.157	0.156	1239.82	9.98e-02	3225.22	0.3	46.42	3.73e-03	0.0	0.0
8	7.616	0.131	0.167	0.33	2.69e-05	0.24	1.95e-05	2.039e+05	16.4	0.0	0.0
9	7.640	0.131	0.167	7.89	6.34e-04	40.17	3.23e-03	9.343e+04	7.5	0.0	0.0
Risulta				1.228e+06		1.225e+06		2.977e+05			
In percentuale				98.82		98.56		23.95			

CDC	Tipo	Sigla Id	Note
8	Edk	CDC=Ed (dinamico SLU) alfa=0.0 (ecc. -)	
			categoria suolo: C
			fattore di sito S = 1.447
			ordinata spettro (tratto Tb-Tc) = 0.156 g
			angolo di ingresso:0.0
			eccentricità aggiuntiva: negativa
			periodo proprio T1: 0.786 sec.

CDC	Tipo	Sigla Id	Note
			fattore di struttura q: 3.900
			fattore per spost. mu d: 3.900
			classe di duttilità CD: B
			numero di modi considerati: 9
			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
cm	daN	cm	cm	cm	cm	cm	cm			
1065.00	3.671e+05	842.26	725.31	0.0	84.95	949.57	713.73	1.230	0.115	0.012
705.00	4.381e+05	851.42	723.63	0.0	84.95	929.34	708.64	1.197	0.086	0.015
345.00	4.376e+05	851.17	723.52	0.0	84.95	929.34	708.64	1.197	0.086	0.015
Risulta	1.243e+06									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	1.121	0.892	0.078	931.10	7.49e-02	1.075e+06	86.5	1.43	1.15e-04	0.0	0.0
2	1.272	0.786	0.089	9.053e+05	72.8	2021.72	0.2	10.46	8.42e-04	0.0	0.0
3	1.527	0.655	0.107	1.978e+05	15.9	500.99	4.03e-02	6.23	5.01e-04	0.0	0.0
4	4.216	0.237	0.156	1898.54	0.2	1.416e+05	11.4	31.98	2.57e-03	0.0	0.0
5	4.409	0.227	0.156	1.075e+05	8.6	2868.92	0.2	192.33	1.55e-02	0.0	0.0
6	5.268	0.190	0.156	1.375e+04	1.1	582.38	4.69e-02	29.63	2.38e-03	0.0	0.0
7	7.073	0.141	0.161	1386.96	0.1	4077.96	0.3	589.03	4.74e-02	0.0	0.0
8	7.616	0.131	0.167	0.90	7.23e-05	2.12	1.70e-04	2.004e+05	16.1	0.0	0.0
9	7.642	0.131	0.167	24.42	1.96e-03	6.25	5.03e-04	9.795e+04	7.9	0.0	0.0
Risulta				1.229e+06		1.226e+06		2.992e+05			
In percentuale				98.84		98.66		24.07			

CDC	Tipo	Sigla Id	Note
9	Edk	CDC=Ed (dinamico SLU) alfa=90.00 (ecc. +)	
			categoria suolo: C
			fattore di sito S = 1.447
			ordinata spettro (tratto Tb-Tc) = 0.156 g
			angolo di ingresso:90.00
			eccentricità aggiuntiva: positiva
			periodo proprio T1: 0.898 sec.
			fattore di struttura q: 3.900
			fattore per spost. mu d: 3.900
			classe di duttilità CD: B
			numero di modi considerati: 9
			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
cm	daN	cm	cm	cm	cm	cm	cm			
1065.00	3.671e+05	842.26	725.31	100.65	0.0	949.57	713.73	1.230	0.115	0.012
705.00	4.381e+05	851.42	723.63	100.65	0.0	929.34	708.64	1.197	0.086	0.015
345.00	4.376e+05	851.17	723.52	100.65	0.0	929.34	708.64	1.197	0.086	0.015
Risulta	1.243e+06									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	1.114	0.898	0.078	313.99	2.53e-02	1.058e+06	85.2	1.15	9.25e-05	0.0	0.0
2	1.313	0.761	0.092	1.059e+06	85.2	1916.24	0.2	15.44	1.24e-03	0.0	0.0
3	1.486	0.673	0.104	4.494e+04	3.6	1.701e+04	1.4	0.85	6.87e-05	0.0	0.0
4	4.200	0.238	0.156	143.49	1.15e-02	1.414e+05	11.4	7.28	5.86e-04	0.0	0.0

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
5	4.513	0.222	0.156	1.216e+05	9.8	491.14	3.95e-02	259.92	2.09e-02	0.0	0.0
6	5.163	0.194	0.156	891.21	7.17e-02	2862.06	0.2	9.23	7.42e-04	0.0	0.0
7	6.548	0.153	0.156	1079.31	8.68e-02	3434.10	0.3	94.68	7.62e-03	0.0	0.0
8	7.616	0.131	0.167	0.41	3.27e-05	0.31	2.53e-05	2.055e+05	16.5	0.0	0.0
9	7.639	0.131	0.167	6.56	5.28e-04	40.84	3.29e-03	9.232e+04	7.4	0.0	0.0
Risulta				1.228e+06		1.225e+06		2.982e+05			
In percentuale				98.82		98.60		24.00			

CDC	Tipo	Sigla Id	Note
10	Edk	CDC=Ed (dinamico SLU) alfa=90.00 (ecc. -)	
			categoria suolo: C
			fattore di sito S = 1.447
			ordinata spettro (tratto Tb-Tc) = 0.156 g
			angolo di ingresso:90.00
			eccentricità aggiuntiva: negativa
			periodo proprio T1: 0.904 sec.
			fattore di struttura q: 3.900
			fattore per spost. mu d: 3.900
			classe di duttilità CD: B
			numero di modi considerati: 9
			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
cm	daN	cm	cm	cm	cm	cm	cm			
1065.00	3.671e+05	842.26	725.31	-100.65	0.0	949.57	713.73	1.230	0.115	0.012
705.00	4.381e+05	851.42	723.63	-100.65	0.0	929.34	708.64	1.197	0.086	0.015
345.00	4.376e+05	851.17	723.52	-100.65	0.0	929.34	708.64	1.197	0.086	0.015
Risulta	1.243e+06									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	1.106	0.904	0.077	1669.65	0.1	1.045e+06	84.0	1.33	1.07e-04	0.0	0.0
2	1.315	0.760	0.092	1.077e+06	86.7	4538.19	0.4	14.55	1.17e-03	0.0	0.0
3	1.539	0.650	0.107	2.556e+04	2.1	2.779e+04	2.2	1.84	1.48e-04	0.0	0.0
4	4.131	0.242	0.156	643.84	5.18e-02	1.365e+05	11.0	25.95	2.09e-03	0.0	0.0
5	4.515	0.221	0.156	1.215e+05	9.8	723.90	5.82e-02	237.30	1.91e-02	0.0	0.0
6	5.384	0.186	0.156	573.77	4.62e-02	7512.13	0.6	0.12	9.50e-06	0.0	0.0
7	6.868	0.146	0.158	1357.80	0.1	4028.55	0.3	257.77	2.07e-02	0.0	0.0
8	7.616	0.131	0.167	0.31	2.47e-05	2.82	2.27e-04	2.014e+05	16.2	0.0	0.0
9	7.641	0.131	0.167	15.85	1.27e-03	21.23	1.71e-03	9.650e+04	7.8	0.0	0.0
Risulta				1.229e+06		1.226e+06		2.984e+05			
In percentuale				98.84		98.61		24.01			

CDC	Tipo	Sigla Id	Note
11	Edk	CDC=Ed (dinamico SLD) alfa=0.0 (ecc. +)	
			categoria suolo: C
			fattore di sito S = 1.500
			ordinata spettro (tratto Tb-Tc) = 0.241 g
			angolo di ingresso:0.0
			eccentricità aggiuntiva: positiva
			periodo proprio T1: 0.761 sec.
			numero di modi considerati: 9
			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
cm	daN	cm	cm	cm	cm	cm	cm			
1065.00	3.671e+05	842.26	725.31	0.0	-84.95	949.57	713.73	1.230	0.115	0.012
705.00	4.381e+05	851.42	723.63	0.0	-84.95	929.34	708.64	1.197	0.086	0.015
345.00	4.376e+05	851.17	723.52	0.0	-84.95	929.34	708.64	1.197	0.086	0.015
Risulta	1.243e+06									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	1.121	0.892	0.115	12.33	9.92e-04	1.076e+06	86.6	1.27	1.02e-04	0.0	0.0
2	1.315	0.761	0.135	1.078e+06	86.7	0.09	7.12e-06	15.72	1.26e-03	0.0	0.0
3	1.510	0.662	0.155	2.695e+04	2.2	960.01	7.72e-02	0.38	3.07e-05	0.0	0.0
4	4.217	0.237	0.241	68.63	5.52e-03	1.435e+05	11.5	13.59	1.09e-03	0.0	0.0
5	4.484	0.223	0.241	1.177e+05	9.5	405.54	3.26e-02	220.38	1.77e-02	0.0	0.0
6	5.295	0.189	0.241	4337.42	0.3	741.86	5.97e-02	73.84	5.94e-03	0.0	0.0
7	6.354	0.157	0.241	1239.82	9.98e-02	3225.22	0.3	46.42	3.73e-03	0.0	0.0
8	7.616	0.131	0.230	0.33	2.69e-05	0.24	1.95e-05	2.039e+05	16.4	0.0	0.0
9	7.640	0.131	0.230	7.89	6.34e-04	40.17	3.23e-03	9.343e+04	7.5	0.0	0.0
Risulta				1.228e+06		1.225e+06		2.977e+05			
In percentuale				98.82		98.56		23.95			

CDC	Tipo	Sigla Id	Note
12	Edk	CDC=Ed (dinamico SLD) alfa=0.0 (ecc. -)	
			categoria suolo: C
			fattore di sito S = 1.500
			ordinata spettro (tratto Tb-Tc) = 0.241 g
			angolo di ingresso:0.0
			eccentricità aggiuntiva: negativa
			periodo proprio T1: 0.786 sec.
			numero di modi considerati: 9
			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
cm	daN	cm	cm	cm	cm	cm	cm			
1065.00	3.671e+05	842.26	725.31	0.0	84.95	949.57	713.73	1.230	0.115	0.012
705.00	4.381e+05	851.42	723.63	0.0	84.95	929.34	708.64	1.197	0.086	0.015
345.00	4.376e+05	851.17	723.52	0.0	84.95	929.34	708.64	1.197	0.086	0.015
Risulta	1.243e+06									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	1.121	0.892	0.115	931.10	7.49e-02	1.075e+06	86.5	1.43	1.15e-04	0.0	0.0
2	1.272	0.786	0.131	9.053e+05	72.8	2021.72	0.2	10.46	8.42e-04	0.0	0.0
3	1.527	0.655	0.157	1.978e+05	15.9	500.99	4.03e-02	6.23	5.01e-04	0.0	0.0
4	4.216	0.237	0.241	1898.54	0.2	1.416e+05	11.4	31.98	2.57e-03	0.0	0.0
5	4.409	0.227	0.241	1.075e+05	8.6	2868.92	0.2	192.33	1.55e-02	0.0	0.0
6	5.268	0.190	0.241	1.375e+04	1.1	582.38	4.69e-02	29.63	2.38e-03	0.0	0.0
7	7.073	0.141	0.240	1386.96	0.1	4077.96	0.3	589.03	4.74e-02	0.0	0.0
8	7.616	0.131	0.230	0.90	7.23e-05	2.12	1.70e-04	2.004e+05	16.1	0.0	0.0
9	7.642	0.131	0.230	24.42	1.96e-03	6.25	5.03e-04	9.795e+04	7.9	0.0	0.0
Risulta				1.229e+06		1.226e+06		2.992e+05			
In percentuale				98.84		98.66		24.07			

CDC	Tipo	Sigla Id	Note
13	Edk	CDC=Ed (dinamico SLD) alfa=90.00 (ecc. +)	
			categoria suolo: C
			fattore di sito S = 1.500
			ordinata spettro (tratto Tb-Tc) = 0.241 g
			angolo di ingresso:90.00
			eccentricità aggiuntiva: positiva
			periodo proprio T1: 0.898 sec.
			numero di modi considerati: 9
			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
cm	daN	cm	cm	cm	cm	cm	cm			
1065.00	3.671e+05	842.26	725.31	100.65	0.0	949.57	713.73	1.230	0.115	0.012
705.00	4.381e+05	851.42	723.63	100.65	0.0	929.34	708.64	1.197	0.086	0.015
345.00	4.376e+05	851.17	723.52	100.65	0.0	929.34	708.64	1.197	0.086	0.015
Risulta	1.243e+06									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	1.114	0.898	0.114	313.99	2.53e-02	1.058e+06	85.2	1.15	9.25e-05	0.0	0.0
2	1.313	0.761	0.135	1.059e+06	85.2	1916.24	0.2	15.44	1.24e-03	0.0	0.0
3	1.486	0.673	0.152	4.494e+04	3.6	1.701e+04	1.4	0.85	6.87e-05	0.0	0.0
4	4.200	0.238	0.241	143.49	1.15e-02	1.414e+05	11.4	7.28	5.86e-04	0.0	0.0
5	4.513	0.222	0.241	1.216e+05	9.8	491.14	3.95e-02	259.92	2.09e-02	0.0	0.0
6	5.163	0.194	0.241	891.21	7.17e-02	2862.06	0.2	9.23	7.42e-04	0.0	0.0
7	6.548	0.153	0.241	1079.31	8.68e-02	3434.10	0.3	94.68	7.62e-03	0.0	0.0
8	7.616	0.131	0.230	0.41	3.27e-05	0.31	2.53e-05	2.055e+05	16.5	0.0	0.0
9	7.639	0.131	0.230	6.56	5.28e-04	40.84	3.29e-03	9.232e+04	7.4	0.0	0.0
Risulta				1.228e+06		1.225e+06		2.982e+05			
In percentuale				98.82		98.60		24.00			

CDC	Tipo	Sigla Id	Note
14	Edk	CDC=Ed (dinamico SLD) alfa=90.00 (ecc. -)	
			categoria suolo: C
			fattore di sito S = 1.500
			ordinata spettro (tratto Tb-Tc) = 0.241 g
			angolo di ingresso:90.00
			eccentricità aggiuntiva: negativa
			periodo proprio T1: 0.904 sec.
			numero di modi considerati: 9
			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
cm	daN	cm	cm	cm	cm	cm	cm			
1065.00	3.671e+05	842.26	725.31	-100.65	0.0	949.57	713.73	1.230	0.115	0.012
705.00	4.381e+05	851.42	723.63	-100.65	0.0	929.34	708.64	1.197	0.086	0.015
345.00	4.376e+05	851.17	723.52	-100.65	0.0	929.34	708.64	1.197	0.086	0.015
Risulta	1.243e+06									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	1.106	0.904	0.114	1669.65	0.1	1.045e+06	84.0	1.33	1.07e-04	0.0	0.0
2	1.315	0.760	0.135	1.077e+06	86.7	4538.19	0.4	14.55	1.17e-03	0.0	0.0
3	1.539	0.650	0.158	2.556e+04	2.1	2.779e+04	2.2	1.84	1.48e-04	0.0	0.0

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
4	4.131	0.242	0.241	643.84	5.18e-02	1.365e+05	11.0	25.95	2.09e-03	0.0	0.0
5	4.515	0.221	0.241	1.215e+05	9.8	723.90	5.82e-02	237.30	1.91e-02	0.0	0.0
6	5.384	0.186	0.241	573.77	4.62e-02	7512.13	0.6	0.12	9.50e-06	0.0	0.0
7	6.868	0.146	0.241	1357.80	0.1	4028.55	0.3	257.77	2.07e-02	0.0	0.0
8	7.616	0.131	0.230	0.31	2.47e-05	2.82	2.27e-04	2.014e+05	16.2	0.0	0.0
9	7.641	0.131	0.230	15.85	1.27e-03	21.23	1.71e-03	9.650e+04	7.8	0.0	0.0
Risulta				1.229e+06		1.226e+06		2.984e+05			
In percentuale				98.84		98.61		24.01			

Cmb	Pilas.	1000 etaT/h	etaT	inter. h	Pilas.	1000 etaT/h	etaT	inter. h	Pilas.	1000 etaT/h	etaT	inter. h
			cm	cm			cm	cm			cm	cm
47	1	2.12	0.73	345.0	2	2.08	0.72	345.0	3	1.97	0.68	345.0
	4	1.82	0.63	345.0	5	1.56	0.54	345.0	6	1.58	0.55	345.0
	7	1.61	0.55	345.0	8	1.70	0.59	345.0	9	1.94	0.67	345.0
	10	2.07	0.71	345.0	11	1.84	0.63	345.0	12	1.87	0.64	345.0
	13	2.00	0.69	345.0	14	2.10	0.73	345.0	15	2.12	0.73	345.0
	16	2.14	0.74	345.0	17	2.16	0.74	345.0	18	2.20	0.76	345.0
	19	2.24	0.77	345.0	21	2.28	0.79	345.0	22	2.32	0.80	345.0
	23	2.28	0.79	345.0	24	2.19	0.76	345.0	25	2.12	0.73	345.0
	26	2.17	0.75	345.0	60	2.70	0.97	360.0	61	2.51	0.90	360.0
	62	2.35	0.84	360.0	63	2.19	0.79	360.0	64	1.98	0.71	360.0
	65	2.00	0.72	360.0	66	2.03	0.73	360.0	67	2.09	0.75	360.0
	68	2.29	0.82	360.0	69	2.24	0.81	360.0	70	2.20	0.79	360.0
	71	2.37	0.85	360.0	72	2.54	0.91	360.0	73	2.73	0.98	360.0
	74	2.71	0.98	360.0	75	2.76	1.00	360.0	76	2.79	1.00	360.0
	77	2.87	1.03	360.0	79	2.93	1.06	360.0	80	3.00	1.08	360.0
	81	2.64	0.95	360.0	82	2.79	1.00	360.0	83	2.62	0.94	360.0
	84	2.41	0.87	360.0	118	1.66	0.60	360.0	119	1.54	0.55	360.0
	120	1.43	0.51	360.0	121	1.37	0.49	360.0	122	1.23	0.44	360.0
	123	1.25	0.45	360.0	124	1.27	0.46	360.0	125	1.32	0.47	360.0
	126	1.39	0.50	360.0	127	1.41	0.51	360.0	128	1.44	0.52	360.0
	129	1.47	0.53	360.0	130	1.57	0.56	360.0	131	1.67	0.60	360.0
	132	1.69	0.61	360.0	133	1.71	0.61	360.0	134	1.74	0.63	360.0
	135	1.71	0.61	360.0	137	1.75	0.63	360.0	138	1.80	0.65	360.0
	139	1.71	0.62	360.0	140	1.65	0.59	360.0	141	1.57	0.57	360.0
	142	2.52	0.91	360.0	143	1.50	0.54	360.0	144	1.64	0.59	360.0
	204	1.79	0.64	360.0	205	2.84	1.02	360.0	206	2.23	0.77	345.0
48	1	2.24	0.77	345.0	2	2.29	0.79	345.0	3	2.30	0.79	345.0
	4	2.23	0.77	345.0	5	2.12	0.73	345.0	6	2.07	0.71	345.0
	7	2.04	0.70	345.0	8	1.96	0.68	345.0	9	2.08	0.72	345.0
	10	2.14	0.74	345.0	11	2.18	0.75	345.0	12	2.14	0.74	345.0
	13	2.23	0.77	345.0	14	2.21	0.76	345.0	15	2.20	0.76	345.0
	16	2.16	0.75	345.0	17	2.15	0.74	345.0	18	2.10	0.73	345.0
	19	2.08	0.72	345.0	21	2.07	0.71	345.0	22	2.04	0.70	345.0
	23	2.08	0.72	345.0	24	2.10	0.72	345.0	25	2.14	0.74	345.0
	26	2.11	0.73	345.0	60	2.92	1.05	360.0	61	2.88	1.04	360.0
	62	2.87	1.03	360.0	63	2.82	1.01	360.0	64	2.79	1.00	360.0
	65	2.71	0.97	360.0	66	2.67	0.96	360.0	67	2.60	0.94	360.0
	68	2.64	0.95	360.0	69	2.69	0.97	360.0	70	2.74	0.99	360.0
	71	2.75	0.99	360.0	72	2.76	1.00	360.0	73	2.82	1.01	360.0
	74	2.87	1.03	360.0	75	2.76	0.99	360.0	76	2.73	0.98	360.0
	77	2.78	1.00	360.0	79	2.72	0.98	360.0	80	2.67	0.96	360.0
	81	2.52	0.91	360.0	82	2.55	0.92	360.0	83	2.62	0.94	360.0
	84	2.68	0.96	360.0	118	1.83	0.66	360.0	119	1.81	0.65	360.0
	120	1.81	0.65	360.0	121	1.81	0.65	360.0	122	1.79	0.64	360.0
	123	1.73	0.62	360.0	124	1.71	0.61	360.0	125	1.66	0.60	360.0
	126	1.76	0.63	360.0	127	1.72	0.62	360.0	128	1.68	0.61	360.0
	129	1.74	0.63	360.0	130	1.75	0.63	360.0	131	1.81	0.65	360.0
	132	1.78	0.64	360.0	133	1.75	0.63	360.0	134	1.72	0.62	360.0
	135	1.59	0.57	360.0	137	1.58	0.57	360.0	138	1.56	0.56	360.0
	139	1.57	0.56	360.0	140	1.59	0.57	360.0	141	1.62	0.58	360.0
	142	2.60	0.94	360.0	143	1.68	0.61	360.0	144	1.64	0.59	360.0
	204	1.69	0.61	360.0	205	2.69	0.97	360.0	206	2.09	0.72	345.0
49	1	2.15	0.74	345.0	2	2.20	0.76	345.0	3	2.20	0.76	345.0
	4	2.10	0.73	345.0	5	1.98	0.68	345.0	6	1.93	0.67	345.0
	7	1.91	0.66	345.0	8	1.85	0.64	345.0	9	1.98	0.68	345.0
	10	2.05	0.71	345.0	11	2.05	0.71	345.0	12	2.02	0.70	345.0
	13	2.12	0.73	345.0	14	2.12	0.73	345.0	15	2.12	0.73	345.0
	16	2.10	0.72	345.0	17	2.08	0.72	345.0	18	2.05	0.71	345.0
	19	2.04	0.70	345.0	21	2.03	0.70	345.0	22	2.03	0.70	345.0

	23	2.02	0.70	345.0	24	2.01	0.69	345.0	25	2.03	0.70	345.0
	26	2.04	0.70	345.0	60	2.80	1.01	360.0	61	2.71	0.98	360.0
	62	2.68	0.96	360.0	63	2.61	0.94	360.0	64	2.53	0.91	360.0
	65	2.48	0.89	360.0	66	2.45	0.88	360.0	67	2.41	0.87	360.0
	68	2.49	0.90	360.0	69	2.52	0.91	360.0	70	2.55	0.92	360.0
	71	2.61	0.94	360.0	72	2.64	0.95	360.0	73	2.72	0.98	360.0
	74	2.76	0.99	360.0	75	2.69	0.97	360.0	76	2.68	0.96	360.0
	77	2.66	0.96	360.0	79	2.65	0.95	360.0	80	2.64	0.95	360.0
	81	2.55	0.92	360.0	82	2.56	0.92	360.0	83	2.57	0.92	360.0
	84	2.57	0.93	360.0	118	1.72	0.62	360.0	119	1.69	0.61	360.0
	120	1.69	0.61	360.0	121	1.69	0.61	360.0	122	1.66	0.60	360.0
	123	1.63	0.59	360.0	124	1.62	0.58	360.0	125	1.61	0.58	360.0
	126	1.67	0.60	360.0	127	1.65	0.59	360.0	128	1.64	0.59	360.0
	129	1.66	0.60	360.0	130	1.66	0.60	360.0	131	1.70	0.61	360.0
	132	1.68	0.61	360.0	133	1.67	0.60	360.0	134	1.66	0.60	360.0
	135	1.63	0.59	360.0	137	1.62	0.58	360.0	138	1.62	0.58	360.0
	139	1.61	0.58	360.0	140	1.62	0.58	360.0	141	1.63	0.59	360.0
	142	2.56	0.92	360.0	143	1.64	0.59	360.0	144	1.63	0.59	360.0
	204	1.65	0.59	360.0	205	2.66	0.96	360.0	206	2.04	0.70	345.0
50	1	2.22	0.77	345.0	2	2.17	0.75	345.0	3	2.04	0.70	345.0
	4	1.86	0.64	345.0	5	1.59	0.55	345.0	6	1.66	0.57	345.0
	7	1.71	0.59	345.0	8	1.86	0.64	345.0	9	2.10	0.73	345.0
	10	2.23	0.77	345.0	11	1.92	0.66	345.0	12	1.99	0.69	345.0
	13	2.12	0.73	345.0	14	2.23	0.77	345.0	15	2.26	0.78	345.0
	16	2.31	0.80	345.0	17	2.34	0.81	345.0	18	2.43	0.84	345.0
	19	2.50	0.86	345.0	21	2.56	0.88	345.0	22	2.63	0.91	345.0
	23	2.54	0.88	345.0	24	2.45	0.85	345.0	25	2.34	0.81	345.0
	26	2.40	0.83	345.0	60	2.96	1.07	360.0	61	2.74	0.99	360.0
	62	2.56	0.92	360.0	63	2.40	0.86	360.0	64	2.17	0.78	360.0
	65	2.27	0.82	360.0	66	2.34	0.84	360.0	67	2.48	0.89	360.0
	68	2.69	0.97	360.0	69	2.59	0.93	360.0	70	2.49	0.90	360.0
	71	2.71	0.97	360.0	72	2.88	1.04	360.0	73	3.08	1.11	360.0
	74	3.01	1.09	360.0	75	3.16	1.14	360.0	76	3.22	1.16	360.0
	77	3.27	1.18	360.0	79	3.35	1.20	360.0	80	3.42	1.23	360.0
	81	3.15	1.13	360.0	82	3.27	1.18	360.0	83	3.10	1.12	360.0
	84	2.83	1.02	360.0	118	1.88	0.68	360.0	119	1.77	0.64	360.0
	120	1.67	0.60	360.0	121	1.62	0.58	360.0	122	1.48	0.53	360.0
	123	1.56	0.56	360.0	124	1.61	0.58	360.0	125	1.69	0.61	360.0
	126	1.68	0.61	360.0	127	1.74	0.63	360.0	128	1.80	0.65	360.0
	129	1.78	0.64	360.0	130	1.87	0.67	360.0	131	1.92	0.69	360.0
	132	1.97	0.71	360.0	133	2.00	0.72	360.0	134	2.05	0.74	360.0
	135	2.08	0.75	360.0	137	2.15	0.77	360.0	138	2.21	0.79	360.0
	139	2.12	0.76	360.0	140	2.06	0.74	360.0	141	1.95	0.70	360.0
	142	3.01	1.08	360.0	143	1.85	0.67	360.0	144	1.99	0.72	360.0
	204	2.10	0.76	360.0	205	3.30	1.19	360.0	206	2.49	0.86	345.0
51	1	1.94	0.67	345.0	2	2.02	0.70	345.0	3	2.09	0.72	345.0
	4	2.00	0.69	345.0	5	1.88	0.65	345.0	6	1.91	0.66	345.0
	7	1.92	0.66	345.0	8	1.97	0.68	345.0	9	2.08	0.72	345.0
	10	2.16	0.75	345.0	11	2.01	0.69	345.0	12	2.03	0.70	345.0
	13	2.11	0.73	345.0	14	2.03	0.70	345.0	15	1.95	0.67	345.0
	16	1.96	0.68	345.0	17	1.97	0.68	345.0	18	1.99	0.69	345.0
	19	2.01	0.70	345.0	21	2.04	0.70	345.0	22	2.06	0.71	345.0
	23	2.11	0.73	345.0	24	2.20	0.76	345.0	25	2.17	0.75	345.0
	26	2.06	0.71	345.0	60	2.47	0.89	360.0	61	2.43	0.87	360.0
	62	2.47	0.89	360.0	63	2.41	0.87	360.0	64	2.40	0.86	360.0
	65	2.41	0.87	360.0	66	2.43	0.87	360.0	67	2.45	0.88	360.0
	68	2.47	0.89	360.0	69	2.44	0.88	360.0	70	2.42	0.87	360.0
	71	2.48	0.89	360.0	72	2.45	0.88	360.0	73	2.49	0.90	360.0
	74	2.48	0.89	360.0	75	2.52	0.91	360.0	76	2.53	0.91	360.0
	77	2.61	0.94	360.0	79	2.64	0.95	360.0	80	2.67	0.96	360.0
	81	2.60	0.93	360.0	82	2.58	0.93	360.0	83	2.49	0.90	360.0
	84	2.50	0.90	360.0	118	1.53	0.55	360.0	119	1.50	0.54	360.0
	120	1.51	0.54	360.0	121	1.52	0.55	360.0	122	1.50	0.54	360.0
	123	1.51	0.54	360.0	124	1.52	0.55	360.0	125	1.54	0.56	360.0
	126	1.53	0.55	360.0	127	1.54	0.56	360.0	128	1.56	0.56	360.0
	129	1.54	0.55	360.0	130	1.52	0.55	360.0	131	1.54	0.55	360.0
	132	1.55	0.56	360.0	133	1.56	0.56	360.0	134	1.58	0.57	360.0
	135	1.54	0.55	360.0	137	1.56	0.56	360.0	138	1.58	0.57	360.0
	139	1.56	0.56	360.0	140	1.61	0.58	360.0	141	1.58	0.57	360.0
	142	2.55	0.92	360.0	143	1.56	0.56	360.0	144	1.55	0.56	360.0
	204	1.61	0.58	360.0	205	2.55	0.92	360.0	206	2.02	0.70	345.0
52	1	2.50	0.86	345.0	2	2.46	0.85	345.0	3	2.31	0.80	345.0
	4	2.20	0.76	345.0	5	1.98	0.68	345.0	6	1.87	0.64	345.0
	7	1.80	0.62	345.0	8	1.66	0.57	345.0	9	1.91	0.66	345.0
	10	2.02	0.70	345.0	11	2.09	0.72	345.0	12	2.01	0.69	345.0
	13	2.16	0.74	345.0	14	2.31	0.80	345.0	15	2.43	0.84	345.0
	16	2.36	0.81	345.0	17	2.32	0.80	345.0	18	2.26	0.78	345.0

	19	2.22	0.77	345.0	21	2.15	0.74	345.0	22	2.14	0.74	345.0
	23	2.07	0.72	345.0	24	1.91	0.66	345.0	25	1.97	0.68	345.0
	26	2.13	0.74	345.0	60	3.26	1.18	360.0	61	3.09	1.11	360.0
	62	2.93	1.06	360.0	63	2.80	1.01	360.0	64	2.63	0.95	360.0
	65	2.46	0.88	360.0	66	2.36	0.85	360.0	67	2.22	0.80	360.0
	68	2.43	0.87	360.0	69	2.52	0.91	360.0	70	2.64	0.95	360.0
	71	2.70	0.97	360.0	72	2.88	1.04	360.0	73	3.07	1.11	360.0
	74	3.17	1.14	360.0	75	2.98	1.07	360.0	76	2.93	1.05	360.0
	77	2.92	1.05	360.0	79	2.86	1.03	360.0	80	2.81	1.01	360.0
	81	2.33	0.84	360.0	82	2.54	0.92	360.0	83	2.63	0.95	360.0
	84	2.55	0.92	360.0	118	2.04	0.73	360.0	119	1.94	0.70	360.0
	120	1.84	0.66	360.0	121	1.79	0.64	360.0	122	1.69	0.61	360.0
	123	1.58	0.57	360.0	124	1.52	0.55	360.0	125	1.42	0.51	360.0
	126	1.69	0.61	360.0	127	1.61	0.58	360.0	128	1.54	0.56	360.0
	129	1.70	0.61	360.0	130	1.81	0.65	360.0	131	1.98	0.71	360.0
	132	1.92	0.69	360.0	133	1.88	0.68	360.0	134	1.83	0.66	360.0
	135	1.67	0.60	360.0	137	1.64	0.59	360.0	138	1.62	0.58	360.0
	139	1.54	0.56	360.0	140	1.44	0.52	360.0	141	1.49	0.54	360.0
	142	2.42	0.87	360.0	143	1.60	0.58	360.0	144	1.63	0.59	360.0
	204	1.78	0.64	360.0	205	2.86	1.03	360.0	206	2.21	0.76	345.0
53	1	2.41	0.83	345.0	2	2.35	0.81	345.0	3	2.18	0.75	345.0
	4	2.04	0.70	345.0	5	1.80	0.62	345.0	6	1.69	0.58	345.0
	7	1.64	0.57	345.0	8	1.54	0.53	345.0	9	1.82	0.63	345.0
	10	1.93	0.67	345.0	11	1.94	0.67	345.0	12	1.88	0.65	345.0
	13	2.03	0.70	345.0	14	2.21	0.76	345.0	15	2.35	0.81	345.0
	16	2.30	0.79	345.0	17	2.27	0.78	345.0	18	2.23	0.77	345.0
	19	2.22	0.77	345.0	21	2.20	0.76	345.0	22	2.21	0.76	345.0
	23	2.09	0.72	345.0	24	1.91	0.66	345.0	25	1.90	0.66	345.0
	26	2.09	0.72	345.0	60	3.13	1.13	360.0	61	2.89	1.04	360.0
	62	2.68	0.96	360.0	63	2.52	0.91	360.0	64	2.27	0.82	360.0
	65	2.15	0.77	360.0	66	2.08	0.75	360.0	67	2.01	0.72	360.0
	68	2.28	0.82	360.0	69	2.33	0.84	360.0	70	2.40	0.86	360.0
	71	2.53	0.91	360.0	72	2.75	0.99	360.0	73	2.98	1.07	360.0
	74	3.05	1.10	360.0	75	2.94	1.06	360.0	76	2.91	1.05	360.0
	77	2.87	1.03	360.0	79	2.86	1.03	360.0	80	2.87	1.03	360.0
	81	2.45	0.88	360.0	82	2.64	0.95	360.0	83	2.63	0.95	360.0
	84	2.45	0.88	360.0	118	1.90	0.69	360.0	119	1.79	0.65	360.0
	120	1.67	0.60	360.0	121	1.61	0.58	360.0	122	1.48	0.53	360.0
	123	1.42	0.51	360.0	124	1.39	0.50	360.0	125	1.35	0.49	360.0
	126	1.56	0.56	360.0	127	1.52	0.55	360.0	128	1.50	0.54	360.0
	129	1.60	0.58	360.0	130	1.72	0.62	360.0	131	1.87	0.67	360.0
	132	1.83	0.66	360.0	133	1.82	0.65	360.0	134	1.80	0.65	360.0
	135	1.75	0.63	360.0	137	1.75	0.63	360.0	138	1.75	0.63	360.0
	139	1.65	0.60	360.0	140	1.54	0.56	360.0	141	1.54	0.56	360.0
	142	2.44	0.88	360.0	143	1.56	0.56	360.0	144	1.66	0.60	360.0
	204	1.79	0.64	360.0	205	2.90	1.04	360.0	206	2.20	0.76	345.0
54	1	2.08	0.72	345.0	2	2.14	0.74	345.0	3	2.19	0.76	345.0
	4	2.07	0.71	345.0	5	1.94	0.67	345.0	6	1.99	0.69	345.0
	7	2.02	0.70	345.0	8	2.10	0.73	345.0	9	2.22	0.77	345.0
	10	2.31	0.80	345.0	11	2.11	0.73	345.0	12	2.15	0.74	345.0
	13	2.24	0.77	345.0	14	2.18	0.75	345.0	15	2.11	0.73	345.0
	16	2.14	0.74	345.0	17	2.16	0.75	345.0	18	2.22	0.77	345.0
	19	2.26	0.78	345.0	21	2.31	0.80	345.0	22	2.34	0.81	345.0
	23	2.34	0.81	345.0	24	2.40	0.83	345.0	25	2.35	0.81	345.0
	26	2.27	0.78	345.0	60	2.79	1.00	360.0	61	2.72	0.98	360.0
	62	2.73	0.98	360.0	63	2.67	0.96	360.0	64	2.63	0.95	360.0
	65	2.68	0.97	360.0	66	2.72	0.98	360.0	67	2.79	1.00	360.0
	68	2.84	1.02	360.0	69	2.78	1.00	360.0	70	2.73	0.98	360.0
	71	2.82	1.02	360.0	72	2.81	1.01	360.0	73	2.88	1.04	360.0
	74	2.83	1.02	360.0	75	2.93	1.05	360.0	76	2.95	1.06	360.0
	77	2.99	1.08	360.0	79	3.02	1.09	360.0	80	3.05	1.10	360.0
	81	3.05	1.10	360.0	82	3.01	1.08	360.0	83	2.94	1.06	360.0
	84	2.90	1.04	360.0	118	1.80	0.65	360.0	119	1.78	0.64	360.0
	120	1.79	0.64	360.0	121	1.80	0.65	360.0	122	1.77	0.64	360.0
	123	1.81	0.65	360.0	124	1.84	0.66	360.0	125	1.88	0.68	360.0
	126	1.84	0.66	360.0	127	1.87	0.67	360.0	128	1.89	0.68	360.0
	129	1.86	0.67	360.0	130	1.84	0.66	360.0	131	1.83	0.66	360.0
	132	1.85	0.67	360.0	133	1.86	0.67	360.0	134	1.89	0.68	360.0
	135	1.90	0.69	360.0	137	1.94	0.70	360.0	138	1.97	0.71	360.0
	139	1.95	0.70	360.0	140	1.99	0.71	360.0	141	1.93	0.70	360.0
	142	2.99	1.08	360.0	143	1.89	0.68	360.0	144	1.89	0.68	360.0
	204	1.91	0.69	360.0	205	3.00	1.08	360.0	206	2.26	0.78	345.0
55	1	1.95	0.67	345.0	2	2.11	0.73	345.0	3	2.23	0.77	345.0
	4	2.40	0.83	345.0	5	2.66	0.92	345.0	6	2.50	0.86	345.0
	7	2.43	0.84	345.0	8	2.34	0.81	345.0	9	2.04	0.70	345.0
	10	1.86	0.64	345.0	11	2.21	0.76	345.0	12	2.13	0.73	345.0
	13	1.96	0.67	345.0	14	1.81	0.63	345.0	15	1.78	0.61	345.0

	16	1.63	0.56	345.0	17	1.50	0.52	345.0	18	1.47	0.51	345.0
	19	1.48	0.51	345.0	21	1.57	0.54	345.0	22	1.69	0.58	345.0
	23	1.89	0.65	345.0	24	2.01	0.69	345.0	25	1.88	0.65	345.0
	26	1.71	0.59	345.0	60	2.47	0.89	360.0	61	2.59	0.93	360.0
	62	2.74	0.99	360.0	63	2.94	1.06	360.0	64	3.37	1.21	360.0
	65	3.15	1.13	360.0	66	3.06	1.10	360.0	67	2.96	1.07	360.0
	68	2.47	0.89	360.0	69	2.55	0.92	360.0	70	2.68	0.97	360.0
	71	2.34	0.84	360.0	72	2.17	0.78	360.0	73	2.03	0.73	360.0
	74	2.23	0.80	360.0	75	2.07	0.74	360.0	76	1.87	0.67	360.0
	77	1.95	0.70	360.0	79	2.03	0.73	360.0	80	2.15	0.77	360.0
	81	2.41	0.87	360.0	82	2.30	0.83	360.0	83	2.08	0.75	360.0
	84	2.23	0.80	360.0	118	1.51	0.54	360.0	119	1.58	0.57	360.0
	120	1.67	0.60	360.0	121	1.82	0.65	360.0	122	2.07	0.74	360.0
	123	1.95	0.70	360.0	124	1.90	0.68	360.0	125	1.84	0.66	360.0
	126	1.68	0.60	360.0	127	1.60	0.58	360.0	128	1.55	0.56	360.0
	129	1.46	0.53	360.0	130	1.35	0.49	360.0	131	1.37	0.49	360.0
	132	1.26	0.45	360.0	133	1.24	0.45	360.0	134	1.16	0.42	360.0
	135	1.10	0.40	360.0	137	1.16	0.42	360.0	138	1.25	0.45	360.0
	139	1.39	0.50	360.0	140	1.50	0.54	360.0	141	1.39	0.50	360.0
	142	2.26	0.81	360.0	143	1.39	0.50	360.0	144	1.29	0.47	360.0
	204	1.17	0.42	360.0	205	1.88	0.68	360.0	206	1.50	0.52	345.0
56	1	1.30	0.45	345.0	2	1.61	0.55	345.0	3	1.88	0.65	345.0
	4	2.15	0.74	345.0	5	2.59	0.89	345.0	6	2.60	0.90	345.0
	7	2.65	0.91	345.0	8	2.82	0.97	345.0	9	2.42	0.84	345.0
	10	2.21	0.76	345.0	11	2.16	0.75	345.0	12	2.24	0.77	345.0
	13	1.97	0.68	345.0	14	1.71	0.59	345.0	15	1.30	0.45	345.0
	16	1.43	0.49	345.0	17	1.66	0.57	345.0	18	1.84	0.63	345.0
	19	2.11	0.73	345.0	21	2.42	0.84	345.0	22	2.68	0.93	345.0
	23	2.85	0.98	345.0	24	3.00	1.03	345.0	25	2.63	0.91	345.0
	26	2.34	0.81	345.0	60	1.64	0.59	360.0	61	1.94	0.70	360.0
	62	2.28	0.82	360.0	63	2.61	0.94	360.0	64	3.28	1.18	360.0
	65	3.34	1.20	360.0	66	3.42	1.23	360.0	67	3.66	1.32	360.0
	68	3.08	1.11	360.0	69	2.84	1.02	360.0	70	2.69	0.97	360.0
	71	2.46	0.88	360.0	72	2.15	0.77	360.0	73	1.90	0.68	360.0
	74	1.71	0.61	360.0	75	1.89	0.68	360.0	76	2.41	0.87	360.0
	77	2.85	1.03	360.0	79	3.18	1.14	360.0	80	3.48	1.25	360.0
	81	3.78	1.36	360.0	82	3.63	1.31	360.0	83	3.00	1.08	360.0
	84	2.82	1.01	360.0	118	1.02	0.37	360.0	119	1.22	0.44	360.0
	120	1.43	0.51	360.0	121	1.66	0.60	360.0	122	2.06	0.74	360.0
	123	2.12	0.76	360.0	124	2.18	0.78	360.0	125	2.33	0.84	360.0
	126	1.74	0.63	360.0	127	1.84	0.66	360.0	128	1.99	0.72	360.0
	129	1.59	0.57	360.0	130	1.41	0.51	360.0	131	1.10	0.40	360.0
	132	1.24	0.45	360.0	133	1.30	0.47	360.0	134	1.59	0.57	360.0
	135	1.74	0.63	360.0	137	2.03	0.73	360.0	138	2.28	0.82	360.0
	139	2.40	0.87	360.0	140	2.52	0.91	360.0	141	2.14	0.77	360.0
	142	3.32	1.19	360.0	143	1.82	0.66	360.0	144	1.93	0.69	360.0
	204	1.81	0.65	360.0	205	2.75	0.99	360.0	206	2.13	0.74	345.0
57	1	1.45	0.50	345.0	2	1.72	0.59	345.0	3	1.97	0.68	345.0
	4	2.20	0.76	345.0	5	2.61	0.90	345.0	6	2.57	0.89	345.0
	7	2.59	0.89	345.0	8	2.69	0.93	345.0	9	2.28	0.79	345.0
	10	2.06	0.71	345.0	11	2.15	0.74	345.0	12	2.16	0.75	345.0
	13	1.91	0.66	345.0	14	1.66	0.57	345.0	15	1.37	0.47	345.0
	16	1.39	0.48	345.0	17	1.51	0.52	345.0	18	1.63	0.56	345.0
	19	1.82	0.63	345.0	21	2.07	0.72	345.0	22	2.28	0.79	345.0
	23	2.46	0.85	345.0	24	2.62	0.90	345.0	25	2.32	0.80	345.0
	26	2.07	0.71	345.0	60	1.92	0.69	360.0	61	2.17	0.78	360.0
	62	2.47	0.89	360.0	63	2.79	1.00	360.0	64	3.41	1.23	360.0
	65	3.34	1.20	360.0	66	3.35	1.21	360.0	67	3.46	1.24	360.0
	68	2.86	1.03	360.0	69	2.75	0.99	360.0	70	2.72	0.98	360.0
	71	2.40	0.87	360.0	72	2.09	0.75	360.0	73	1.83	0.66	360.0
	74	1.83	0.66	360.0	75	1.82	0.66	360.0	76	2.08	0.75	360.0
	77	2.36	0.85	360.0	79	2.66	0.96	360.0	80	2.97	1.07	360.0
	81	3.37	1.21	360.0	82	3.17	1.14	360.0	83	2.60	0.94	360.0
	84	2.59	0.93	360.0	118	1.20	0.43	360.0	119	1.39	0.50	360.0
	120	1.60	0.57	360.0	121	1.83	0.66	360.0	122	2.21	0.80	360.0
	123	2.18	0.79	360.0	124	2.19	0.79	360.0	125	2.26	0.81	360.0
	126	1.79	0.64	360.0	127	1.81	0.65	360.0	128	1.89	0.68	360.0
	129	1.57	0.56	360.0	130	1.35	0.49	360.0	131	1.14	0.41	360.0
	132	1.15	0.41	360.0	133	1.17	0.42	360.0	134	1.33	0.48	360.0
	135	1.52	0.55	360.0	137	1.74	0.63	360.0	138	1.96	0.70	360.0
	139	2.10	0.76	360.0	140	2.24	0.80	360.0	141	1.94	0.70	360.0
	142	2.95	1.06	360.0	143	1.69	0.61	360.0	144	1.70	0.61	360.0
	204	1.51	0.54	360.0	205	2.33	0.84	360.0	206	1.84	0.64	345.0
58	1	2.24	0.77	345.0	2	2.37	0.82	345.0	3	2.46	0.85	345.0
	4	2.59	0.89	345.0	5	2.81	0.97	345.0	6	2.63	0.91	345.0
	7	2.54	0.88	345.0	8	2.40	0.83	345.0	9	2.12	0.73	345.0
	10	1.97	0.68	345.0	11	2.38	0.82	345.0	12	2.28	0.79	345.0

	13	2.14	0.74	345.0	14	2.02	0.70	345.0	15	2.06	0.71	345.0
	16	1.88	0.65	345.0	17	1.70	0.59	345.0	18	1.64	0.57	345.0
	19	1.55	0.53	345.0	21	1.56	0.54	345.0	22	1.58	0.54	345.0
	23	1.76	0.61	345.0	24	1.86	0.64	345.0	25	1.85	0.64	345.0
	26	1.74	0.60	345.0	60	3.04	1.10	360.0	61	3.13	1.13	360.0
	62	3.25	1.17	360.0	63	3.42	1.23	360.0	64	3.79	1.36	360.0
	65	3.50	1.26	360.0	66	3.37	1.21	360.0	67	3.17	1.14	360.0
	68	2.74	0.99	360.0	69	2.92	1.05	360.0	70	3.11	1.12	360.0
	71	2.78	1.00	360.0	72	2.64	0.95	360.0	73	2.54	0.92	360.0
	74	2.79	1.00	360.0	75	2.60	0.93	360.0	76	2.20	0.79	360.0
	77	2.08	0.75	360.0	79	2.02	0.73	360.0	80	2.03	0.73	360.0
	81	2.39	0.86	360.0	82	2.24	0.81	360.0	83	2.27	0.82	360.0
	84	2.55	0.92	360.0	118	1.97	0.71	360.0	119	2.04	0.73	360.0
	120	2.12	0.76	360.0	121	2.24	0.81	360.0	122	2.46	0.89	360.0
	123	2.30	0.83	360.0	124	2.21	0.80	360.0	125	2.09	0.75	360.0
	126	2.06	0.74	360.0	127	1.94	0.70	360.0	128	1.82	0.65	360.0
	129	1.83	0.66	360.0	130	1.74	0.63	360.0	131	1.80	0.65	360.0
	132	1.64	0.59	360.0	133	1.60	0.58	360.0	134	1.40	0.50	360.0
	135	1.33	0.48	360.0	137	1.29	0.46	360.0	138	1.29	0.46	360.0
	139	1.42	0.51	360.0	140	1.53	0.55	360.0	141	1.55	0.56	360.0
	142	2.39	0.86	360.0	143	1.67	0.60	360.0	144	1.47	0.53	360.0
	204	1.31	0.47	360.0	205	2.09	0.75	360.0	206	1.56	0.54	345.0
59	1	1.95	0.67	345.0	2	2.17	0.75	345.0	3	2.43	0.84	345.0
	4	2.64	0.91	345.0	5	3.03	1.04	345.0	6	2.83	0.98	345.0
	7	2.74	0.94	345.0	8	2.64	0.91	345.0	9	2.19	0.75	345.0
	10	1.97	0.68	345.0	11	2.40	0.83	345.0	12	2.29	0.79	345.0
	13	2.07	0.71	345.0	14	1.76	0.61	345.0	15	1.71	0.59	345.0
	16	1.48	0.51	345.0	17	1.31	0.45	345.0	18	1.27	0.44	345.0
	19	1.32	0.45	345.0	21	1.50	0.52	345.0	22	1.69	0.58	345.0
	23	1.96	0.68	345.0	24	2.22	0.77	345.0	25	2.02	0.70	345.0
	26	1.67	0.58	345.0	60	2.47	0.89	360.0	61	2.68	0.96	360.0
	62	2.97	1.07	360.0	63	3.25	1.17	360.0	64	3.83	1.38	360.0
	65	3.56	1.28	360.0	66	3.46	1.24	360.0	67	3.36	1.21	360.0
	68	2.67	0.96	360.0	69	2.75	0.99	360.0	70	2.92	1.05	360.0
	71	2.46	0.88	360.0	72	2.11	0.76	360.0	73	1.84	0.66	360.0
	74	2.13	0.77	360.0	75	1.84	0.66	360.0	76	1.61	0.58	360.0
	77	1.77	0.64	360.0	79	1.93	0.69	360.0	80	2.14	0.77	360.0
	81	2.66	0.96	360.0	82	2.39	0.86	360.0	83	2.04	0.73	360.0
	84	2.34	0.84	360.0	118	1.50	0.54	360.0	119	1.63	0.59	360.0
	120	1.81	0.65	360.0	121	2.01	0.72	360.0	122	2.36	0.85	360.0
	123	2.21	0.80	360.0	124	2.15	0.77	360.0	125	2.09	0.75	360.0
	126	1.83	0.66	360.0	127	1.74	0.63	360.0	128	1.68	0.61	360.0
	129	1.54	0.55	360.0	130	1.32	0.47	360.0	131	1.30	0.47	360.0
	132	1.14	0.41	360.0	133	1.10	0.39	360.0	134	1.01	0.36	360.0
	135	0.99	0.36	360.0	137	1.11	0.40	360.0	138	1.27	0.46	360.0
	139	1.46	0.53	360.0	140	1.67	0.60	360.0	141	1.49	0.54	360.0
	142	2.41	0.87	360.0	143	1.46	0.53	360.0	144	1.26	0.45	360.0
	204	1.04	0.37	360.0	205	1.67	0.60	360.0	206	1.35	0.47	345.0
60	1	1.49	0.52	345.0	2	1.69	0.58	345.0	3	1.77	0.61	345.0
	4	1.98	0.68	345.0	5	2.28	0.79	345.0	6	2.31	0.80	345.0
	7	2.37	0.82	345.0	8	2.52	0.87	345.0	9	2.26	0.78	345.0
	10	2.09	0.72	345.0	11	2.03	0.70	345.0	12	2.09	0.72	345.0
	13	1.89	0.65	345.0	14	1.80	0.62	345.0	15	1.53	0.53	345.0
	16	1.63	0.56	345.0	17	1.81	0.62	345.0	18	1.93	0.67	345.0
	19	2.13	0.74	345.0	21	2.36	0.81	345.0	22	2.56	0.88	345.0
	23	2.69	0.93	345.0	24	2.72	0.94	345.0	25	2.43	0.84	345.0
	26	2.29	0.79	345.0	60	1.90	0.68	360.0	61	2.04	0.73	360.0
	62	2.18	0.78	360.0	63	2.41	0.87	360.0	64	2.89	1.04	360.0
	65	2.98	1.07	360.0	66	3.06	1.10	360.0	67	3.28	1.18	360.0
	68	2.87	1.03	360.0	69	2.66	0.96	360.0	70	2.52	0.91	360.0
	71	2.39	0.86	360.0	72	2.27	0.82	360.0	73	2.15	0.77	360.0
	74	1.99	0.72	360.0	75	2.11	0.76	360.0	76	2.53	0.91	360.0
	77	2.87	1.03	360.0	79	3.10	1.12	360.0	80	3.33	1.20	360.0
	81	3.45	1.24	360.0	82	3.40	1.23	360.0	83	2.92	1.05	360.0
	84	2.69	0.97	360.0	118	1.19	0.43	360.0	119	1.30	0.47	360.0
	120	1.38	0.50	360.0	121	1.55	0.56	360.0	122	1.82	0.66	360.0
	123	1.89	0.68	360.0	124	1.95	0.70	360.0	125	2.09	0.75	360.0
	126	1.63	0.59	360.0	127	1.72	0.62	360.0	128	1.86	0.67	360.0
	129	1.55	0.56	360.0	130	1.47	0.53	360.0	131	1.27	0.46	360.0
	132	1.39	0.50	360.0	133	1.42	0.51	360.0	134	1.64	0.59	360.0
	135	1.72	0.62	360.0	137	1.95	0.70	360.0	138	2.15	0.77	360.0
	139	2.24	0.81	360.0	140	2.29	0.83	360.0	141	1.99	0.72	360.0
	142	3.09	1.11	360.0	143	1.73	0.62	360.0	144	1.88	0.68	360.0
	204	1.80	0.65	360.0	205	2.78	1.00	360.0	206	2.14	0.74	345.0
61	1	1.59	0.55	345.0	2	1.76	0.61	345.0	3	1.83	0.63	345.0
	4	2.01	0.69	345.0	5	2.28	0.79	345.0	6	2.26	0.78	345.0
	7	2.29	0.79	345.0	8	2.38	0.82	345.0	9	2.11	0.73	345.0

	10	1.93	0.67	345.0	11	1.99	0.69	345.0	12	2.01	0.69	345.0
	13	1.81	0.63	345.0	14	1.74	0.60	345.0	15	1.56	0.54	345.0
	16	1.59	0.55	345.0	17	1.69	0.58	345.0	18	1.76	0.61	345.0
	19	1.89	0.65	345.0	21	2.05	0.71	345.0	22	2.20	0.76	345.0
	23	2.33	0.80	345.0	24	2.36	0.81	345.0	25	2.13	0.74	345.0
	26	2.04	0.71	345.0	60	2.11	0.76	360.0	61	2.20	0.79	360.0
	62	2.32	0.83	360.0	63	2.54	0.91	360.0	64	2.97	1.07	360.0
	65	2.94	1.06	360.0	66	2.96	1.07	360.0	67	3.06	1.10	360.0
	68	2.65	0.95	360.0	69	2.55	0.92	360.0	70	2.51	0.90	360.0
	71	2.31	0.83	360.0	72	2.19	0.79	360.0	73	2.09	0.75	360.0
	74	2.07	0.74	360.0	75	2.07	0.75	360.0	76	2.27	0.82	360.0
	77	2.44	0.88	360.0	79	2.65	0.95	360.0	80	2.87	1.03	360.0
	81	3.06	1.10	360.0	82	2.99	1.08	360.0	83	2.58	0.93	360.0
	84	2.47	0.89	360.0	118	1.31	0.47	360.0	119	1.41	0.51	360.0
	120	1.50	0.54	360.0	121	1.67	0.60	360.0	122	1.94	0.70	360.0
	123	1.93	0.69	360.0	124	1.94	0.70	360.0	125	2.01	0.72	360.0
	126	1.66	0.60	360.0	127	1.68	0.60	360.0	128	1.74	0.63	360.0
	129	1.50	0.54	360.0	130	1.41	0.51	360.0	131	1.28	0.46	360.0
	132	1.30	0.47	360.0	133	1.31	0.47	360.0	134	1.43	0.52	360.0
	135	1.55	0.56	360.0	137	1.71	0.61	360.0	138	1.87	0.67	360.0
	139	1.97	0.71	360.0	140	2.03	0.73	360.0	141	1.80	0.65	360.0
	142	2.74	0.99	360.0	143	1.60	0.58	360.0	144	1.68	0.60	360.0
	204	1.55	0.56	360.0	205	2.43	0.88	360.0	206	1.90	0.65	345.0
62	1	2.26	0.78	345.0	2	2.45	0.84	345.0	3	2.67	0.92	345.0
	4	2.84	0.98	345.0	5	3.18	1.10	345.0	6	2.95	1.02	345.0
	7	2.84	0.98	345.0	8	2.69	0.93	345.0	9	2.26	0.78	345.0
	10	2.06	0.71	345.0	11	2.57	0.89	345.0	12	2.43	0.84	345.0
	13	2.25	0.78	345.0	14	1.98	0.68	345.0	15	2.01	0.69	345.0
	16	1.76	0.61	345.0	17	1.53	0.53	345.0	18	1.43	0.49	345.0
	19	1.36	0.47	345.0	21	1.40	0.48	345.0	22	1.48	0.51	345.0
	23	1.75	0.60	345.0	24	2.03	0.70	345.0	25	1.96	0.68	345.0
	26	1.68	0.58	345.0	60	3.07	1.11	360.0	61	3.25	1.17	360.0
	62	3.49	1.26	360.0	63	3.74	1.35	360.0	64	4.25	1.53	360.0
	65	3.91	1.41	360.0	66	3.75	1.35	360.0	67	3.54	1.27	360.0
	68	2.91	1.05	360.0	69	3.11	1.12	360.0	70	3.35	1.21	360.0
	71	2.89	1.04	360.0	72	2.60	0.94	360.0	73	2.39	0.86	360.0
	74	2.72	0.98	360.0	75	2.40	0.86	360.0	76	1.94	0.70	360.0
	77	1.82	0.66	360.0	79	1.80	0.65	360.0	80	1.89	0.68	360.0
	81	2.55	0.92	360.0	82	2.23	0.80	360.0	83	2.16	0.78	360.0
	84	2.63	0.95	360.0	118	1.99	0.72	360.0	119	2.11	0.76	360.0
	120	2.26	0.82	360.0	121	2.44	0.88	360.0	122	2.75	0.99	360.0
	123	2.55	0.92	360.0	124	2.45	0.88	360.0	125	2.31	0.83	360.0
	126	2.21	0.80	360.0	127	2.06	0.74	360.0	128	1.93	0.69	360.0
	129	1.91	0.69	360.0	130	1.71	0.62	360.0	131	1.77	0.64	360.0
	132	1.56	0.56	360.0	133	1.48	0.53	360.0	134	1.24	0.45	360.0
	135	1.17	0.42	360.0	137	1.15	0.41	360.0	138	1.20	0.43	360.0
	139	1.41	0.51	360.0	140	1.63	0.59	360.0	141	1.60	0.58	360.0
	142	2.48	0.89	360.0	143	1.72	0.62	360.0	144	1.39	0.50	360.0
	204	1.14	0.41	360.0	205	1.81	0.65	360.0	206	1.39	0.48	345.0
63	1	1.87	0.65	345.0	2	1.81	0.62	345.0	3	1.74	0.60	345.0
	4	1.71	0.59	345.0	5	1.69	0.58	345.0	6	1.94	0.67	345.0
	7	2.06	0.71	345.0	8	2.22	0.77	345.0	9	2.24	0.77	345.0
	10	2.26	0.78	345.0	11	1.92	0.66	345.0	12	2.07	0.71	345.0
	13	2.05	0.71	345.0	14	2.11	0.73	345.0	15	2.02	0.70	345.0
	16	2.17	0.75	345.0	17	2.26	0.78	345.0	18	2.37	0.82	345.0
	19	2.46	0.85	345.0	21	2.53	0.87	345.0	22	2.57	0.89	345.0
	23	2.54	0.88	345.0	24	2.50	0.86	345.0	25	2.39	0.83	345.0
	26	2.40	0.83	345.0	60	2.51	0.90	360.0	61	2.41	0.87	360.0
	62	2.34	0.84	360.0	63	2.30	0.83	360.0	64	2.25	0.81	360.0
	65	2.45	0.88	360.0	66	2.57	0.92	360.0	67	2.76	0.99	360.0
	68	2.80	1.01	360.0	69	2.64	0.95	360.0	70	2.48	0.89	360.0
	71	2.61	0.94	360.0	72	2.68	0.97	360.0	73	2.78	1.00	360.0
	74	2.64	0.95	360.0	75	2.90	1.04	360.0	76	3.02	1.09	360.0
	77	3.16	1.14	360.0	79	3.29	1.19	360.0	80	3.42	1.23	360.0
	81	3.29	1.18	360.0	82	3.35	1.21	360.0	83	3.08	1.11	360.0
	84	2.82	1.02	360.0	118	1.67	0.60	360.0	119	1.60	0.58	360.0
	120	1.55	0.56	360.0	121	1.53	0.55	360.0	122	1.52	0.55	360.0
	123	1.67	0.60	360.0	124	1.76	0.63	360.0	125	1.91	0.69	360.0
	126	1.68	0.61	360.0	127	1.80	0.65	360.0	128	1.92	0.69	360.0
	129	1.78	0.64	360.0	130	1.82	0.66	360.0	131	1.77	0.64	360.0
	132	1.88	0.68	360.0	133	1.96	0.71	360.0	134	2.08	0.75	360.0
	135	2.18	0.79	360.0	137	2.30	0.83	360.0	138	2.41	0.87	360.0
	139	2.37	0.85	360.0	140	2.34	0.84	360.0	141	2.15	0.77	360.0
	142	3.09	1.11	360.0	143	1.93	0.70	360.0	144	2.13	0.77	360.0
	204	2.20	0.79	360.0	205	3.16	1.14	360.0	206	2.45	0.85	345.0
64	1	2.23	0.77	345.0	2	2.25	0.78	345.0	3	2.30	0.79	345.0
	4	2.33	0.80	345.0	5	2.40	0.83	345.0	6	2.55	0.88	345.0

	7	2.62	0.90	345.0	8	2.65	0.92	345.0	9	2.60	0.90	345.0
	10	2.58	0.89	345.0	11	2.47	0.85	345.0	12	2.56	0.88	345.0
	13	2.51	0.87	345.0	14	2.46	0.85	345.0	15	2.34	0.81	345.0
	16	2.44	0.84	345.0	17	2.52	0.87	345.0	18	2.59	0.89	345.0
	19	2.64	0.91	345.0	21	2.69	0.93	345.0	22	2.71	0.94	345.0
	23	2.73	0.94	345.0	24	2.77	0.96	345.0	25	2.74	0.94	345.0
	26	2.66	0.92	345.0	60	3.17	1.14	360.0	61	3.21	1.16	360.0
	62	3.27	1.18	360.0	63	3.30	1.19	360.0	64	3.38	1.22	360.0
	65	3.47	1.25	360.0	66	3.53	1.27	360.0	67	3.64	1.31	360.0
	68	3.57	1.28	360.0	69	3.48	1.25	360.0	70	3.40	1.22	360.0
	71	3.42	1.23	360.0	72	3.37	1.21	360.0	73	3.35	1.20	360.0
	74	3.25	1.17	360.0	75	3.40	1.22	360.0	76	3.48	1.25	360.0
	77	3.61	1.30	360.0	79	3.61	1.30	360.0	80	3.62	1.30	360.0
	81	3.68	1.32	360.0	82	3.64	1.31	360.0	83	3.61	1.30	360.0
	84	3.54	1.27	360.0	118	2.19	0.79	360.0	119	2.21	0.79	360.0
	120	2.23	0.80	360.0	121	2.25	0.81	360.0	122	2.30	0.83	360.0
	123	2.38	0.86	360.0	124	2.42	0.87	360.0	125	2.48	0.89	360.0
	126	2.33	0.84	360.0	127	2.39	0.86	360.0	128	2.44	0.88	360.0
	129	2.36	0.85	360.0	130	2.34	0.84	360.0	131	2.26	0.81	360.0
	132	2.33	0.84	360.0	133	2.37	0.85	360.0	134	2.41	0.87	360.0
	135	2.42	0.87	360.0	137	2.52	0.91	360.0	138	2.60	0.93	360.0
	139	2.62	0.94	360.0	140	2.64	0.95	360.0	141	2.51	0.90	360.0
	142	3.66	1.32	360.0	143	2.42	0.87	360.0	144	2.46	0.88	360.0
	204	2.47	0.89	360.0	205	3.56	1.28	360.0	206	2.64	0.91	345.0
65	1	1.90	0.66	345.0	2	1.95	0.67	345.0	3	2.01	0.69	345.0
	4	2.04	0.70	345.0	5	2.13	0.73	345.0	6	2.26	0.78	345.0
	7	2.31	0.80	345.0	8	2.33	0.80	345.0	9	2.25	0.78	345.0
	10	2.23	0.77	345.0	11	2.14	0.74	345.0	12	2.21	0.76	345.0
	13	2.16	0.75	345.0	14	2.11	0.73	345.0	15	2.00	0.69	345.0
	16	2.08	0.72	345.0	17	2.14	0.74	345.0	18	2.17	0.75	345.0
	19	2.19	0.76	345.0	21	2.21	0.76	345.0	22	2.20	0.76	345.0
	23	2.23	0.77	345.0	24	2.28	0.79	345.0	25	2.27	0.78	345.0
	26	2.22	0.77	345.0	60	2.57	0.93	360.0	61	2.61	0.94	360.0
	62	2.67	0.96	360.0	63	2.71	0.98	360.0	64	2.78	1.00	360.0
	65	2.85	1.03	360.0	66	2.89	1.04	360.0	67	2.96	1.07	360.0
	68	2.89	1.04	360.0	69	2.83	1.02	360.0	70	2.77	1.00	360.0
	71	2.77	1.00	360.0	72	2.71	0.97	360.0	73	2.67	0.96	360.0
	74	2.62	0.94	360.0	75	2.71	0.98	360.0	76	2.78	1.00	360.0
	77	2.86	1.03	360.0	79	2.91	1.05	360.0	80	2.97	1.07	360.0
	81	3.05	1.10	360.0	82	2.99	1.08	360.0	83	2.89	1.04	360.0
	84	2.86	1.03	360.0	118	1.69	0.61	360.0	119	1.71	0.62	360.0
	120	1.76	0.63	360.0	121	1.79	0.64	360.0	122	1.86	0.67	360.0
	123	1.93	0.69	360.0	124	1.97	0.71	360.0	125	2.04	0.73	360.0
	126	1.86	0.67	360.0	127	1.93	0.69	360.0	128	1.98	0.71	360.0
	129	1.87	0.67	360.0	130	1.83	0.66	360.0	131	1.74	0.63	360.0
	132	1.80	0.65	360.0	133	1.86	0.67	360.0	134	1.92	0.69	360.0
	135	1.99	0.72	360.0	137	2.07	0.74	360.0	138	2.14	0.77	360.0
	139	2.16	0.78	360.0	140	2.20	0.79	360.0	141	2.08	0.75	360.0
	142	2.98	1.07	360.0	143	1.96	0.70	360.0	144	2.01	0.72	360.0
	204	2.00	0.72	360.0	205	2.84	1.02	360.0	206	2.19	0.76	345.0
66	1	2.22	0.76	345.0	2	2.13	0.74	345.0	3	2.06	0.71	345.0
	4	2.02	0.70	345.0	5	1.98	0.68	345.0	6	2.25	0.78	345.0
	7	2.38	0.82	345.0	8	2.57	0.89	345.0	9	2.60	0.90	345.0
	10	2.63	0.91	345.0	11	2.26	0.78	345.0	12	2.43	0.84	345.0
	13	2.41	0.83	345.0	14	2.47	0.85	345.0	15	2.37	0.82	345.0
	16	2.54	0.88	345.0	17	2.66	0.92	345.0	18	2.80	0.97	345.0
	19	2.92	1.01	345.0	21	3.02	1.04	345.0	22	3.09	1.07	345.0
	23	3.03	1.05	345.0	24	3.00	1.03	345.0	25	2.86	0.99	345.0
	26	2.85	0.98	345.0	60	3.16	1.14	360.0	61	3.07	1.11	360.0
	62	3.00	1.08	360.0	63	2.96	1.07	360.0	64	2.93	1.05	360.0
	65	3.15	1.13	360.0	66	3.28	1.18	360.0	67	3.52	1.27	360.0
	68	3.55	1.28	360.0	69	3.36	1.21	360.0	70	3.18	1.15	360.0
	71	3.33	1.20	360.0	72	3.40	1.23	360.0	73	3.50	1.26	360.0
	74	3.32	1.20	360.0	75	3.64	1.31	360.0	76	3.77	1.36	360.0
	77	3.92	1.41	360.0	79	4.01	1.44	360.0	80	4.10	1.48	360.0
	81	4.00	1.44	360.0	82	4.05	1.46	360.0	83	3.86	1.39	360.0
	84	3.57	1.29	360.0	118	2.20	0.79	360.0	119	2.14	0.77	360.0
	120	2.10	0.75	360.0	121	2.07	0.75	360.0	122	2.06	0.74	360.0
	123	2.21	0.79	360.0	124	2.30	0.83	360.0	125	2.44	0.88	360.0
	126	2.23	0.80	360.0	127	2.35	0.85	360.0	128	2.45	0.88	360.0
	129	2.33	0.84	360.0	130	2.38	0.86	360.0	131	2.31	0.83	360.0
	132	2.43	0.87	360.0	133	2.50	0.90	360.0	134	2.59	0.93	360.0
	135	2.67	0.96	360.0	137	2.81	1.01	360.0	138	2.92	1.05	360.0
	139	2.88	1.04	360.0	140	2.85	1.03	360.0	141	2.64	0.95	360.0
	142	3.85	1.39	360.0	143	2.47	0.89	360.0	144	2.62	0.94	360.0
	204	2.69	0.97	360.0	205	3.92	1.41	360.0	206	2.91	1.00	345.0
67	1	2.14	0.74	345.0	2	2.11	0.73	345.0	3	2.08	0.72	345.0

	4	2.08	0.72	345.0	5	2.08	0.72	345.0	6	2.16	0.74	345.0
	7	2.17	0.75	345.0	8	2.13	0.73	345.0	9	2.13	0.74	345.0
	10	2.14	0.74	345.0	11	2.12	0.73	345.0	12	2.16	0.74	345.0
	13	2.14	0.74	345.0	14	2.17	0.75	345.0	15	2.17	0.75	345.0
	16	2.19	0.76	345.0	17	2.16	0.74	345.0	18	2.17	0.75	345.0
	19	2.13	0.73	345.0	21	2.08	0.72	345.0	22	2.02	0.70	345.0
	23	2.01	0.69	345.0	24	1.98	0.68	345.0	25	2.06	0.71	345.0
	26	2.11	0.73	345.0	60	2.86	1.03	360.0	61	2.81	1.01	360.0
	62	2.78	1.00	360.0	63	2.77	1.00	360.0	64	2.74	0.99	360.0
	65	2.71	0.98	360.0	66	2.70	0.97	360.0	67	2.66	0.96	360.0
	68	2.68	0.97	360.0	69	2.71	0.97	360.0	70	2.73	0.98	360.0
	71	2.72	0.98	360.0	72	2.76	0.99	360.0	73	2.80	1.01	360.0
	74	2.83	1.02	360.0	75	2.90	1.04	360.0	76	2.77	1.00	360.0
	77	2.75	0.99	360.0	79	2.73	0.98	360.0	80	2.72	0.98	360.0
	81	2.63	0.95	360.0	82	2.68	0.96	360.0	83	2.72	0.98	360.0
	84	2.69	0.97	360.0	118	1.87	0.67	360.0	119	1.83	0.66	360.0
	120	1.81	0.65	360.0	121	1.80	0.65	360.0	122	1.80	0.65	360.0
	123	1.81	0.65	360.0	124	1.82	0.66	360.0	125	1.83	0.66	360.0
	126	1.82	0.65	360.0	127	1.83	0.66	360.0	128	1.83	0.66	360.0
	129	1.83	0.66	360.0	130	1.86	0.67	360.0	131	1.87	0.67	360.0
	132	1.88	0.68	360.0	133	1.93	0.70	360.0	134	1.91	0.69	360.0
	135	1.92	0.69	360.0	137	1.94	0.70	360.0	138	1.96	0.70	360.0
	139	1.93	0.69	360.0	140	1.91	0.69	360.0	141	1.88	0.68	360.0
	142	2.67	0.96	360.0	143	1.84	0.66	360.0	144	1.89	0.68	360.0
	204	1.94	0.70	360.0	205	2.75	0.99	360.0	206	2.13	0.73	345.0
68	1	1.85	0.64	345.0	2	1.87	0.64	345.0	3	1.94	0.67	345.0
	4	2.01	0.69	345.0	5	2.18	0.75	345.0	6	2.47	0.85	345.0
	7	2.62	0.90	345.0	8	2.85	0.98	345.0	9	2.73	0.94	345.0
	10	2.69	0.93	345.0	11	2.30	0.79	345.0	12	2.50	0.86	345.0
	13	2.40	0.83	345.0	14	2.34	0.81	345.0	15	2.08	0.72	345.0
	16	2.32	0.80	345.0	17	2.54	0.88	345.0	18	2.72	0.94	345.0
	19	2.90	1.00	345.0	21	3.08	1.06	345.0	22	3.22	1.11	345.0
	23	3.23	1.11	345.0	24	3.27	1.13	345.0	25	3.05	1.05	345.0
	26	2.92	1.01	345.0	60	2.69	0.97	360.0	61	2.73	0.98	360.0
	62	2.81	1.01	360.0	63	2.89	1.04	360.0	64	3.07	1.11	360.0
	65	3.37	1.21	360.0	66	3.54	1.28	360.0	67	3.87	1.39	360.0
	68	3.71	1.34	360.0	69	3.45	1.24	360.0	70	3.20	1.15	360.0
	71	3.29	1.19	360.0	72	3.23	1.16	360.0	73	3.21	1.16	360.0
	74	2.94	1.06	360.0	75	3.30	1.19	360.0	76	3.65	1.31	360.0
	77	3.93	1.42	360.0	79	4.11	1.48	360.0	80	4.26	1.54	360.0
	81	4.32	1.56	360.0	82	4.29	1.54	360.0	83	3.94	1.42	360.0
	84	3.66	1.32	360.0	118	1.91	0.69	360.0	119	1.93	0.69	360.0
	120	1.97	0.71	360.0	121	2.01	0.72	360.0	122	2.12	0.76	360.0
	123	2.32	0.83	360.0	124	2.43	0.87	360.0	125	2.63	0.95	360.0
	126	2.22	0.80	360.0	127	2.38	0.86	360.0	128	2.54	0.91	360.0
	129	2.30	0.83	360.0	130	2.27	0.82	360.0	131	2.08	0.75	360.0
	132	2.26	0.81	360.0	133	2.34	0.84	360.0	134	2.53	0.91	360.0
	135	2.64	0.95	360.0	137	2.85	1.03	360.0	138	3.03	1.09	360.0
	139	3.04	1.10	360.0	140	3.07	1.11	360.0	141	2.77	1.00	360.0
	142	4.06	1.46	360.0	143	2.51	0.90	360.0	144	2.67	0.96	360.0
	204	2.69	0.97	360.0	205	3.89	1.40	360.0	206	2.90	1.00	345.0
69	1	1.51	0.52	345.0	2	1.56	0.54	345.0	3	1.65	0.57	345.0
	4	1.73	0.60	345.0	5	1.93	0.67	345.0	6	2.19	0.76	345.0
	7	2.33	0.81	345.0	8	2.54	0.87	345.0	9	2.39	0.82	345.0
	10	2.33	0.80	345.0	11	1.99	0.69	345.0	12	2.16	0.75	345.0
	13	2.05	0.71	345.0	14	1.98	0.68	345.0	15	1.73	0.60	345.0
	16	1.95	0.67	345.0	17	2.15	0.74	345.0	18	2.29	0.79	345.0
	19	2.44	0.84	345.0	21	2.59	0.90	345.0	22	2.70	0.93	345.0
	23	2.72	0.94	345.0	24	2.77	0.96	345.0	25	2.58	0.89	345.0
	26	2.48	0.85	345.0	60	2.07	0.75	360.0	61	2.12	0.76	360.0
	62	2.22	0.80	360.0	63	2.32	0.84	360.0	64	2.53	0.91	360.0
	65	2.79	1.00	360.0	66	2.94	1.06	360.0	67	3.21	1.15	360.0
	68	3.04	1.09	360.0	69	2.80	1.01	360.0	70	2.58	0.93	360.0
	71	2.65	0.95	360.0	72	2.56	0.92	360.0	73	2.52	0.91	360.0
	74	2.28	0.82	360.0	75	2.59	0.93	360.0	76	2.92	1.05	360.0
	77	3.17	1.14	360.0	79	3.39	1.22	360.0	80	3.59	1.29	360.0
	81	3.68	1.32	360.0	82	3.62	1.30	360.0	83	3.21	1.15	360.0
	84	2.98	1.07	360.0	118	1.40	0.50	360.0	119	1.43	0.52	360.0
	120	1.50	0.54	360.0	121	1.57	0.57	360.0	122	1.73	0.62	360.0
	123	1.91	0.69	360.0	124	2.01	0.72	360.0	125	2.20	0.79	360.0
	126	1.77	0.64	360.0	127	1.92	0.69	360.0	128	2.08	0.75	360.0
	129	1.81	0.65	360.0	130	1.75	0.63	360.0	131	1.55	0.56	360.0
	132	1.72	0.62	360.0	133	1.82	0.66	360.0	134	2.03	0.73	360.0
	135	2.20	0.79	360.0	137	2.39	0.86	360.0	138	2.56	0.92	360.0
	139	2.58	0.93	360.0	140	2.62	0.94	360.0	141	2.34	0.84	360.0
	142	3.37	1.21	360.0	143	2.04	0.73	360.0	144	2.22	0.80	360.0
	204	2.21	0.80	360.0	205	3.15	1.14	360.0	206	2.45	0.84	345.0

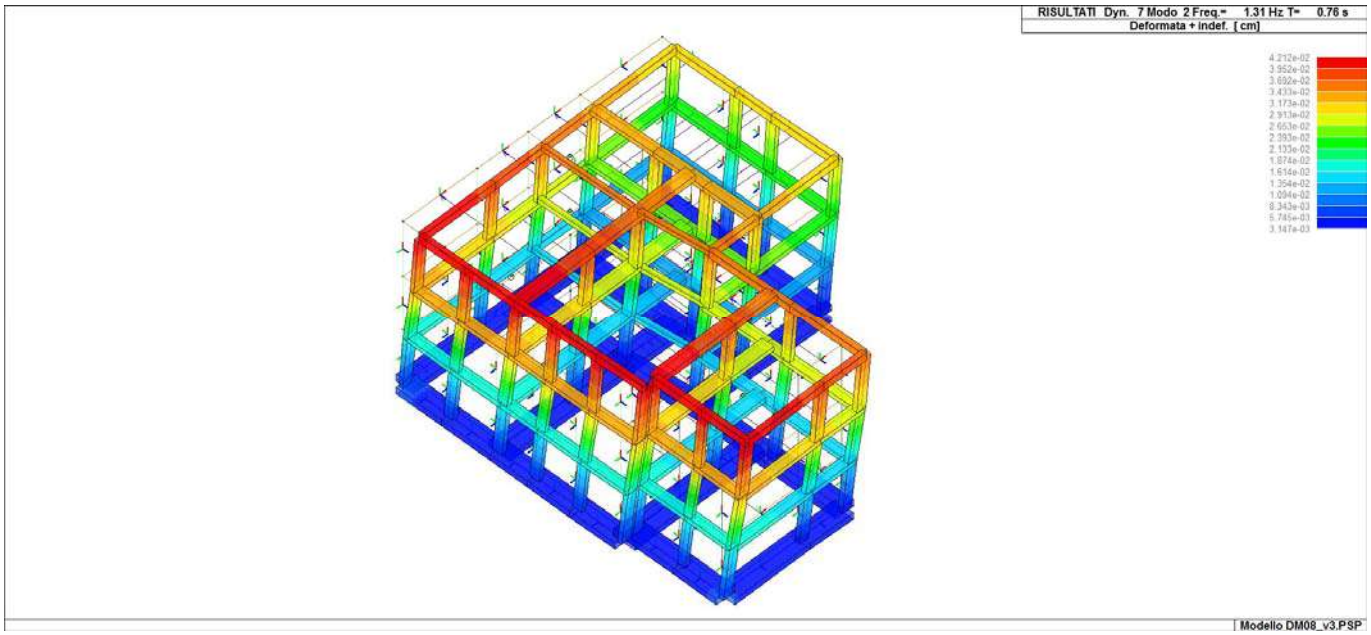
70	1	2.49	0.86	345.0	2	2.45	0.84	345.0	3	2.41	0.83	345.0
	4	2.39	0.82	345.0	5	2.37	0.82	345.0	6	2.46	0.85	345.0
	7	2.49	0.86	345.0	8	2.47	0.85	345.0	9	2.49	0.86	345.0
	10	2.51	0.87	345.0	11	2.46	0.85	345.0	12	2.52	0.87	345.0
	13	2.50	0.86	345.0	14	2.53	0.87	345.0	15	2.53	0.87	345.0
	16	2.57	0.89	345.0	17	2.56	0.88	345.0	18	2.60	0.90	345.0
	19	2.59	0.89	345.0	21	2.57	0.89	345.0	22	2.54	0.88	345.0
	23	2.50	0.86	345.0	24	2.48	0.85	345.0	25	2.53	0.87	345.0
	26	2.56	0.88	345.0	60	3.51	1.26	360.0	61	3.48	1.25	360.0
	62	3.44	1.24	360.0	63	3.44	1.24	360.0	64	3.42	1.23	360.0
	65	3.41	1.23	360.0	66	3.41	1.23	360.0	67	3.42	1.23	360.0
	68	3.43	1.24	360.0	69	3.43	1.24	360.0	70	3.43	1.23	360.0
	71	3.44	1.24	360.0	72	3.48	1.25	360.0	73	3.53	1.27	360.0
	74	3.52	1.27	360.0	75	3.64	1.31	360.0	76	3.52	1.27	360.0
	77	3.52	1.27	360.0	79	3.45	1.24	360.0	80	3.39	1.22	360.0
	81	3.34	1.20	360.0	82	3.38	1.22	360.0	83	3.49	1.26	360.0
	84	3.44	1.24	360.0	118	2.41	0.87	360.0	119	2.38	0.86	360.0
	120	2.35	0.85	360.0	121	2.35	0.84	360.0	122	2.34	0.84	360.0
	123	2.35	0.85	360.0	124	2.36	0.85	360.0	125	2.36	0.85	360.0
	126	2.37	0.85	360.0	127	2.38	0.86	360.0	128	2.37	0.85	360.0
	129	2.39	0.86	360.0	130	2.42	0.87	360.0	131	2.42	0.87	360.0
	132	2.44	0.88	360.0	133	2.47	0.89	360.0	134	2.43	0.87	360.0
	135	2.41	0.87	360.0	137	2.44	0.88	360.0	138	2.46	0.89	360.0
	139	2.44	0.88	360.0	140	2.42	0.87	360.0	141	2.38	0.86	360.0
	142	3.43	1.24	360.0	143	2.38	0.86	360.0	144	2.39	0.86	360.0
	204	2.43	0.88	360.0	205	3.51	1.27	360.0	206	2.59	0.89	345.0
71	1	2.31	0.80	345.0	2	2.34	0.81	345.0	3	2.45	0.85	345.0
	4	2.48	0.85	345.0	5	2.57	0.89	345.0	6	2.53	0.87	345.0
	7	2.47	0.85	345.0	8	2.34	0.81	345.0	9	2.23	0.77	345.0
	10	2.23	0.77	345.0	11	2.39	0.82	345.0	12	2.30	0.79	345.0
	13	2.32	0.80	345.0	14	2.20	0.76	345.0	15	2.25	0.78	345.0
	16	2.17	0.75	345.0	17	2.07	0.72	345.0	18	1.97	0.68	345.0
	19	1.84	0.63	345.0	21	1.71	0.59	345.0	22	1.57	0.54	345.0
	23	1.63	0.56	345.0	24	1.80	0.62	345.0	25	1.98	0.68	345.0
	26	1.89	0.65	345.0	60	3.09	1.11	360.0	61	3.12	1.12	360.0
	62	3.21	1.16	360.0	63	3.26	1.17	360.0	64	3.37	1.21	360.0
	65	3.19	1.15	360.0	66	3.09	1.11	360.0	67	2.91	1.05	360.0
	68	2.77	1.00	360.0	69	2.91	1.05	360.0	70	3.05	1.10	360.0
	71	2.90	1.04	360.0	72	2.80	1.01	360.0	73	2.77	1.00	360.0
	74	2.93	1.06	360.0	75	2.67	0.96	360.0	76	2.53	0.91	360.0
	77	2.41	0.87	360.0	79	2.27	0.82	360.0	80	2.16	0.78	360.0
	81	2.31	0.83	360.0	82	2.20	0.79	360.0	83	2.45	0.88	360.0
	84	2.72	0.98	360.0	118	2.01	0.73	360.0	119	2.02	0.73	360.0
	120	2.06	0.74	360.0	121	2.10	0.75	360.0	122	2.17	0.78	360.0
	123	2.08	0.75	360.0	124	2.04	0.73	360.0	125	1.95	0.70	360.0
	126	2.01	0.73	360.0	127	1.95	0.70	360.0	128	1.88	0.68	360.0
	129	1.94	0.70	360.0	130	1.89	0.68	360.0	131	1.94	0.70	360.0
	132	1.87	0.67	360.0	133	1.82	0.65	360.0	134	1.76	0.63	360.0
	135	1.71	0.62	360.0	137	1.64	0.59	360.0	138	1.59	0.57	360.0
	139	1.60	0.58	360.0	140	1.67	0.60	360.0	141	1.75	0.63	360.0
	142	2.50	0.90	360.0	143	1.85	0.66	360.0	144	1.71	0.62	360.0
	204	1.71	0.62	360.0	205	2.40	0.86	360.0	206	1.84	0.64	345.0
72	1	3.00	1.04	345.0	2	2.94	1.01	345.0	3	2.86	0.99	345.0
	4	2.85	0.98	345.0	5	2.84	0.98	345.0	6	2.71	0.93	345.0
	7	2.60	0.90	345.0	8	2.32	0.80	345.0	9	2.34	0.81	345.0
	10	2.35	0.81	345.0	11	2.69	0.93	345.0	12	2.54	0.87	345.0
	13	2.61	0.90	345.0	14	2.69	0.93	345.0	15	2.89	1.00	345.0
	16	2.76	0.95	345.0	17	2.66	0.92	345.0	18	2.50	0.86	345.0
	19	2.35	0.81	345.0	21	2.17	0.75	345.0	22	2.03	0.70	345.0
	23	1.95	0.67	345.0	24	1.83	0.63	345.0	25	2.10	0.73	345.0
	26	2.26	0.78	345.0	60	4.14	1.49	360.0	61	4.07	1.47	360.0
	62	4.01	1.44	360.0	63	4.00	1.44	360.0	64	3.99	1.44	360.0
	65	3.70	1.33	360.0	66	3.53	1.27	360.0	67	3.25	1.17	360.0
	68	3.25	1.17	360.0	69	3.47	1.25	360.0	70	3.70	1.33	360.0
	71	3.56	1.28	360.0	72	3.64	1.31	360.0	73	3.73	1.34	360.0
	74	3.94	1.42	360.0	75	3.55	1.28	360.0	76	3.38	1.22	360.0
	77	3.23	1.16	360.0	79	2.97	1.07	360.0	80	2.76	0.99	360.0
	81	2.51	0.90	360.0	82	2.62	0.94	360.0	83	3.09	1.11	360.0
	84	3.27	1.18	360.0	118	2.75	0.99	360.0	119	2.71	0.97	360.0
	120	2.67	0.96	360.0	121	2.66	0.96	360.0	122	2.66	0.96	360.0
	123	2.50	0.90	360.0	124	2.41	0.87	360.0	125	2.24	0.81	360.0
	126	2.50	0.90	360.0	127	2.37	0.85	360.0	128	2.23	0.80	360.0
	129	2.43	0.88	360.0	130	2.48	0.89	360.0	131	2.64	0.95	360.0
	132	2.52	0.91	360.0	133	2.42	0.87	360.0	134	2.30	0.83	360.0
	135	2.11	0.76	360.0	137	2.02	0.73	360.0	138	1.94	0.70	360.0
	139	1.91	0.69	360.0	140	1.86	0.67	360.0	141	2.01	0.72	360.0
	142	2.90	1.04	360.0	143	2.24	0.81	360.0	144	2.10	0.76	360.0

	204	2.18	0.79	360.0	205	3.18	1.15	360.0	206	2.33	0.80	345.0
73	1	2.70	0.93	345.0	2	2.64	0.91	345.0	3	2.54	0.88	345.0
	4	2.54	0.88	345.0	5	2.55	0.88	345.0	6	2.40	0.83	345.0
	7	2.28	0.79	345.0	8	1.97	0.68	345.0	9	1.97	0.68	345.0
	10	1.98	0.68	345.0	11	2.35	0.81	345.0	12	2.17	0.75	345.0
	13	2.25	0.77	345.0	14	2.35	0.81	345.0	15	2.59	0.89	345.0
	16	2.44	0.84	345.0	17	2.32	0.80	345.0	18	2.14	0.74	345.0
	19	1.97	0.68	345.0	21	1.78	0.61	345.0	22	1.62	0.56	345.0
	23	1.49	0.51	345.0	24	1.33	0.46	345.0	25	1.63	0.56	345.0
	26	1.85	0.64	345.0	60	3.60	1.29	360.0	61	3.48	1.25	360.0
	62	3.38	1.22	360.0	63	3.35	1.20	360.0	64	3.31	1.19	360.0
	65	3.00	1.08	360.0	66	2.81	1.01	360.0	67	2.49	0.90	360.0
	68	2.52	0.91	360.0	69	2.76	0.99	360.0	70	3.01	1.08	360.0
	71	2.88	1.04	360.0	72	3.00	1.08	360.0	73	3.14	1.13	360.0
	74	3.37	1.21	360.0	75	2.96	1.06	360.0	76	2.78	1.00	360.0
	77	2.57	0.92	360.0	79	2.38	0.86	360.0	80	2.22	0.80	360.0
	81	1.87	0.67	360.0	82	2.04	0.73	360.0	83	2.42	0.87	360.0
	84	2.56	0.92	360.0	118	2.28	0.82	360.0	119	2.22	0.80	360.0
	120	2.16	0.78	360.0	121	2.14	0.77	360.0	122	2.13	0.77	360.0
	123	1.97	0.71	360.0	124	1.87	0.67	360.0	125	1.71	0.62	360.0
	126	1.98	0.71	360.0	127	1.85	0.67	360.0	128	1.73	0.62	360.0
	129	1.92	0.69	360.0	130	1.99	0.72	360.0	131	2.17	0.78	360.0
	132	2.05	0.74	360.0	133	1.97	0.71	360.0	134	1.87	0.67	360.0
	135	1.76	0.63	360.0	137	1.65	0.60	360.0	138	1.57	0.56	360.0
	139	1.50	0.54	360.0	140	1.41	0.51	360.0	141	1.57	0.56	360.0
	142	2.19	0.79	360.0	143	1.75	0.63	360.0	144	1.69	0.61	360.0
	204	1.78	0.64	360.0	205	2.59	0.93	360.0	206	1.95	0.67	345.0
74	1	2.66	0.92	345.0	2	2.68	0.92	345.0	3	2.77	0.96	345.0
	4	2.77	0.96	345.0	5	2.84	0.98	345.0	6	2.81	0.97	345.0
	7	2.77	0.95	345.0	8	2.65	0.91	345.0	9	2.58	0.89	345.0
	10	2.58	0.89	345.0	11	2.72	0.94	345.0	12	2.65	0.91	345.0
	13	2.67	0.92	345.0	14	2.57	0.89	345.0	15	2.61	0.90	345.0
	16	2.55	0.88	345.0	17	2.48	0.86	345.0	18	2.41	0.83	345.0
	19	2.31	0.80	345.0	21	2.21	0.76	345.0	22	2.10	0.73	345.0
	23	2.13	0.73	345.0	24	2.25	0.78	345.0	25	2.42	0.83	345.0
	26	2.34	0.81	345.0	60	3.74	1.34	360.0	61	3.78	1.36	360.0
	62	3.87	1.39	360.0	63	3.91	1.41	360.0	64	4.01	1.45	360.0
	65	3.85	1.39	360.0	66	3.76	1.35	360.0	67	3.62	1.30	360.0
	68	3.51	1.26	360.0	69	3.62	1.30	360.0	70	3.75	1.35	360.0
	71	3.61	1.30	360.0	72	3.53	1.27	360.0	73	3.49	1.26	360.0
	74	3.62	1.30	360.0	75	3.41	1.23	360.0	76	3.28	1.18	360.0
	77	3.19	1.15	360.0	79	3.00	1.08	360.0	80	2.85	1.03	360.0
	81	3.01	1.08	360.0	82	2.90	1.05	360.0	83	3.23	1.16	360.0
	84	3.46	1.25	360.0	118	2.55	0.92	360.0	119	2.57	0.92	360.0
	120	2.61	0.94	360.0	121	2.64	0.95	360.0	122	2.71	0.97	360.0
	123	2.62	0.94	360.0	124	2.58	0.93	360.0	125	2.49	0.90	360.0
	126	2.56	0.92	360.0	127	2.50	0.90	360.0	128	2.42	0.87	360.0
	129	2.49	0.90	360.0	130	2.45	0.88	360.0	131	2.49	0.90	360.0
	132	2.42	0.87	360.0	133	2.35	0.85	360.0	134	2.28	0.82	360.0
	135	2.18	0.79	360.0	137	2.14	0.77	360.0	138	2.09	0.75	360.0
	139	2.11	0.76	360.0	140	2.18	0.79	360.0	141	2.25	0.81	360.0
	142	3.26	1.17	360.0	143	2.38	0.86	360.0	144	2.21	0.80	360.0
	204	2.20	0.79	360.0	205	3.16	1.14	360.0	206	2.31	0.80	345.0
75	1	2.67	0.92	345.0	2	2.69	0.93	345.0	3	2.79	0.96	345.0
	4	2.84	0.98	345.0	5	3.01	1.04	345.0	6	2.81	0.97	345.0
	7	2.66	0.92	345.0	8	2.36	0.81	345.0	9	2.15	0.74	345.0
	10	2.11	0.73	345.0	11	2.59	0.89	345.0	12	2.39	0.83	345.0
	13	2.40	0.83	345.0	14	2.28	0.79	345.0	15	2.48	0.86	345.0
	16	2.26	0.78	345.0	17	2.03	0.70	345.0	18	1.81	0.63	345.0
	19	1.55	0.53	345.0	21	1.28	0.44	345.0	22	1.04	0.36	345.0
	23	1.11	0.38	345.0	24	1.35	0.47	345.0	25	1.67	0.58	345.0
	26	1.59	0.55	345.0	60	3.54	1.28	360.0	61	3.56	1.28	360.0
	62	3.65	1.31	360.0	63	3.72	1.34	360.0	64	3.92	1.41	360.0
	65	3.54	1.27	360.0	66	3.32	1.20	360.0	67	2.96	1.07	360.0
	68	2.69	0.97	360.0	69	2.99	1.08	360.0	70	3.30	1.19	360.0
	71	3.00	1.08	360.0	72	2.90	1.04	360.0	73	2.88	1.04	360.0
	74	3.22	1.16	360.0	75	2.75	0.99	360.0	76	2.33	0.84	360.0
	77	2.04	0.73	360.0	79	1.74	0.62	360.0	80	1.48	0.53	360.0
	81	1.70	0.61	360.0	82	1.53	0.55	360.0	83	2.08	0.75	360.0
	84	2.59	0.93	360.0	118	2.27	0.82	360.0	119	2.27	0.82	360.0
	120	2.32	0.83	360.0	121	2.37	0.85	360.0	122	2.48	0.89	360.0
	123	2.28	0.82	360.0	124	2.16	0.78	360.0	125	1.96	0.71	360.0
	126	2.15	0.78	360.0	127	1.99	0.72	360.0	128	1.81	0.65	360.0
	129	1.99	0.72	360.0	130	1.93	0.70	360.0	131	2.10	0.76	360.0
	132	1.92	0.69	360.0	133	1.82	0.66	360.0	134	1.63	0.59	360.0
	135	1.47	0.53	360.0	137	1.30	0.47	360.0	138	1.15	0.41	360.0
	139	1.16	0.42	360.0	140	1.26	0.45	360.0	141	1.49	0.54	360.0

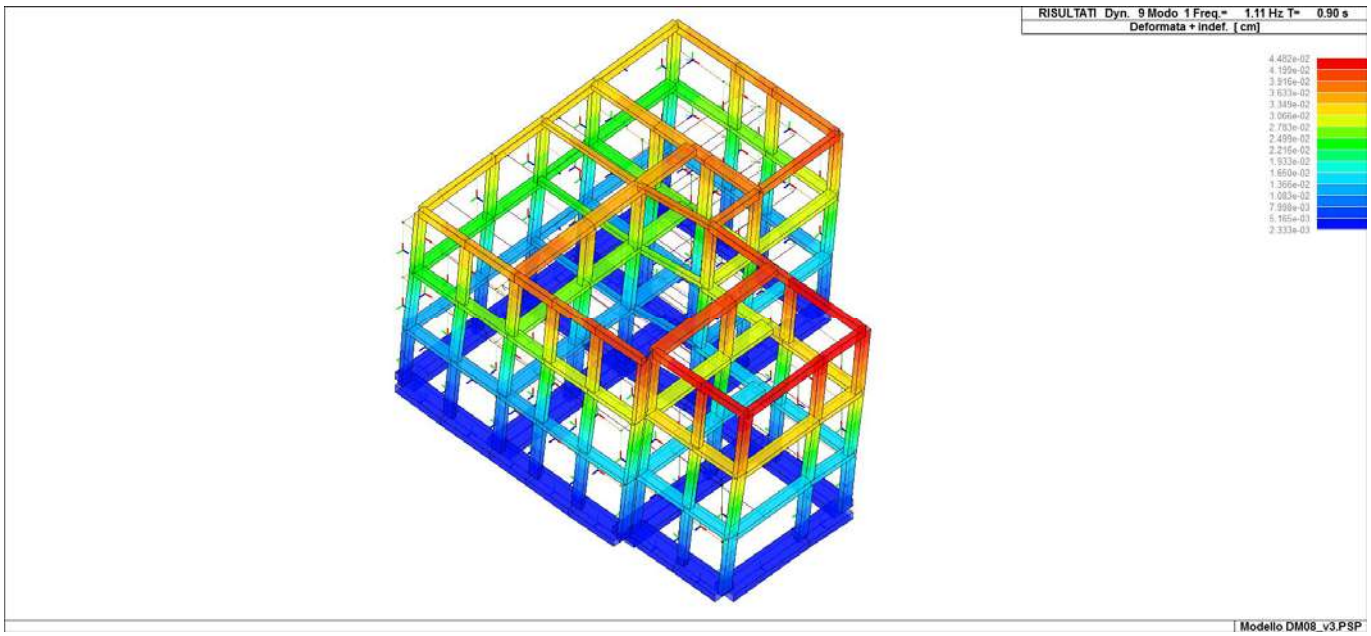
	142	2.10	0.76	360.0	143	1.76	0.63	360.0	144	1.48	0.53	360.0
	204	1.47	0.53	360.0	205	2.04	0.73	360.0	206	1.55	0.53	345.0
76	1	2.60	0.90	345.0	2	2.55	0.88	345.0	3	2.49	0.86	345.0
	4	2.49	0.86	345.0	5	2.47	0.85	345.0	6	2.52	0.87	345.0
	7	2.51	0.87	345.0	8	2.44	0.84	345.0	9	2.46	0.85	345.0
	10	2.46	0.85	345.0	11	2.50	0.86	345.0	12	2.47	0.85	345.0
	13	2.50	0.86	345.0	14	2.56	0.88	345.0	15	2.60	0.90	345.0
	16	2.60	0.90	345.0	17	2.63	0.91	345.0	18	2.58	0.89	345.0
	19	2.54	0.88	345.0	21	2.49	0.86	345.0	22	2.44	0.84	345.0
	23	2.41	0.83	345.0	24	2.34	0.81	345.0	25	2.43	0.84	345.0
	26	2.50	0.86	345.0	60	3.62	1.30	360.0	61	3.59	1.29	360.0
	62	3.54	1.28	360.0	63	3.54	1.27	360.0	64	3.52	1.27	360.0
	65	3.46	1.24	360.0	66	3.42	1.23	360.0	67	3.38	1.22	360.0
	68	3.39	1.22	360.0	69	3.41	1.23	360.0	70	3.47	1.25	360.0
	71	3.44	1.24	360.0	72	3.49	1.26	360.0	73	3.54	1.27	360.0
	74	3.58	1.29	360.0	75	3.40	1.22	360.0	76	3.47	1.25	360.0
	77	3.48	1.25	360.0	79	3.37	1.21	360.0	80	3.29	1.18	360.0
	81	3.16	1.14	360.0	82	3.23	1.16	360.0	83	3.40	1.22	360.0
	84	3.39	1.22	360.0	118	2.45	0.88	360.0	119	2.43	0.87	360.0
	120	2.40	0.86	360.0	121	2.39	0.86	360.0	122	2.40	0.86	360.0
	123	2.37	0.85	360.0	124	2.35	0.85	360.0	125	2.33	0.84	360.0
	126	2.38	0.86	360.0	127	2.35	0.85	360.0	128	2.33	0.84	360.0
	129	2.37	0.85	360.0	130	2.41	0.87	360.0	131	2.44	0.88	360.0
	132	2.43	0.87	360.0	133	2.37	0.85	360.0	134	2.38	0.86	360.0
	135	2.30	0.83	360.0	137	2.32	0.83	360.0	138	2.32	0.84	360.0
	139	2.32	0.84	360.0	140	2.30	0.83	360.0	141	2.28	0.82	360.0
	142	3.31	1.19	360.0	143	2.33	0.84	360.0	144	2.31	0.83	360.0
	204	2.36	0.85	360.0	205	3.43	1.23	360.0	206	2.53	0.87	345.0
77	1	2.29	0.79	345.0	2	2.25	0.78	345.0	3	2.17	0.75	345.0
	4	2.18	0.75	345.0	5	2.18	0.75	345.0	6	2.20	0.76	345.0
	7	2.19	0.75	345.0	8	2.10	0.72	345.0	9	2.10	0.72	345.0
	10	2.09	0.72	345.0	11	2.16	0.75	345.0	12	2.10	0.73	345.0
	13	2.14	0.74	345.0	14	2.22	0.76	345.0	15	2.29	0.79	345.0
	16	2.27	0.78	345.0	17	2.27	0.78	345.0	18	2.20	0.76	345.0
	19	2.13	0.73	345.0	21	2.05	0.71	345.0	22	1.97	0.68	345.0
	23	1.92	0.66	345.0	24	1.83	0.63	345.0	25	1.95	0.67	345.0
	26	2.07	0.71	345.0	60	3.07	1.11	360.0	61	2.99	1.08	360.0
	62	2.91	1.05	360.0	63	2.89	1.04	360.0	64	2.85	1.03	360.0
	65	2.76	1.00	360.0	66	2.71	0.97	360.0	67	2.63	0.95	360.0
	68	2.66	0.96	360.0	69	2.71	0.98	360.0	70	2.79	1.00	360.0
	71	2.76	0.99	360.0	72	2.84	1.02	360.0	73	2.93	1.05	360.0
	74	3.00	1.08	360.0	75	2.77	1.00	360.0	76	2.83	1.02	360.0
	77	2.77	1.00	360.0	79	2.72	0.98	360.0	80	2.68	0.97	360.0
	81	2.51	0.90	360.0	82	2.60	0.94	360.0	83	2.70	0.97	360.0
	84	2.68	0.97	360.0	118	1.98	0.71	360.0	119	1.94	0.70	360.0
	120	1.89	0.68	360.0	121	1.88	0.68	360.0	122	1.87	0.67	360.0
	123	1.85	0.67	360.0	124	1.83	0.66	360.0	125	1.81	0.65	360.0
	126	1.86	0.67	360.0	127	1.84	0.66	360.0	128	1.82	0.66	360.0
	129	1.86	0.67	360.0	130	1.91	0.69	360.0	131	1.96	0.71	360.0
	132	1.94	0.70	360.0	133	1.90	0.68	360.0	134	1.93	0.69	360.0
	135	1.91	0.69	360.0	137	1.91	0.69	360.0	138	1.91	0.69	360.0
	139	1.88	0.68	360.0	140	1.83	0.66	360.0	141	1.83	0.66	360.0
	142	2.59	0.93	360.0	143	1.84	0.66	360.0	144	1.88	0.68	360.0
	204	1.93	0.69	360.0	205	2.78	1.00	360.0	206	2.12	0.73	345.0
78	1	3.01	1.04	345.0	2	3.02	1.04	345.0	3	3.11	1.07	345.0
	4	3.14	1.08	345.0	5	3.27	1.13	345.0	6	3.09	1.06	345.0
	7	2.95	1.02	345.0	8	2.65	0.91	345.0	9	2.49	0.86	345.0
	10	2.46	0.85	345.0	11	2.92	1.01	345.0	12	2.74	0.94	345.0
	13	2.75	0.95	345.0	14	2.65	0.91	345.0	15	2.84	0.98	345.0
	16	2.63	0.91	345.0	17	2.43	0.84	345.0	18	2.25	0.77	345.0
	19	2.01	0.69	345.0	21	1.78	0.61	345.0	22	1.56	0.54	345.0
	23	1.60	0.55	345.0	24	1.77	0.61	345.0	25	2.10	0.72	345.0
	26	2.05	0.71	345.0	60	4.18	1.50	360.0	61	4.22	1.52	360.0
	62	4.31	1.55	360.0	63	4.38	1.58	360.0	64	4.56	1.64	360.0
	65	4.19	1.51	360.0	66	3.98	1.43	360.0	67	3.64	1.31	360.0
	68	3.41	1.23	360.0	69	3.70	1.33	360.0	70	4.00	1.44	360.0
	71	3.71	1.34	360.0	72	3.62	1.30	360.0	73	3.59	1.29	360.0
	74	3.89	1.40	360.0	75	3.47	1.25	360.0	76	3.08	1.11	360.0
	77	2.82	1.01	360.0	79	2.47	0.89	360.0	80	2.16	0.78	360.0
	81	2.39	0.86	360.0	82	2.23	0.80	360.0	83	2.86	1.03	360.0
	84	3.33	1.20	360.0	118	2.80	1.01	360.0	119	2.82	1.01	360.0
	120	2.86	1.03	360.0	121	2.91	1.05	360.0	122	3.02	1.09	360.0
	123	2.81	1.01	360.0	124	2.70	0.97	360.0	125	2.48	0.89	360.0
	126	2.70	0.97	360.0	127	2.54	0.91	360.0	128	2.35	0.85	360.0
	129	2.54	0.92	360.0	130	2.49	0.90	360.0	131	2.64	0.95	360.0
	132	2.47	0.89	360.0	133	2.36	0.85	360.0	134	2.14	0.77	360.0
	135	1.94	0.70	360.0	137	1.78	0.64	360.0	138	1.64	0.59	360.0

139	1.67	0.60	360.0	140	1.77	0.64	360.0	141	1.99	0.72	360.0
142	2.85	1.03	360.0	143	2.29	0.83	360.0	144	1.97	0.71	360.0
204	1.96	0.70	360.0	205	2.79	1.00	360.0	206	2.01	0.70	345.0

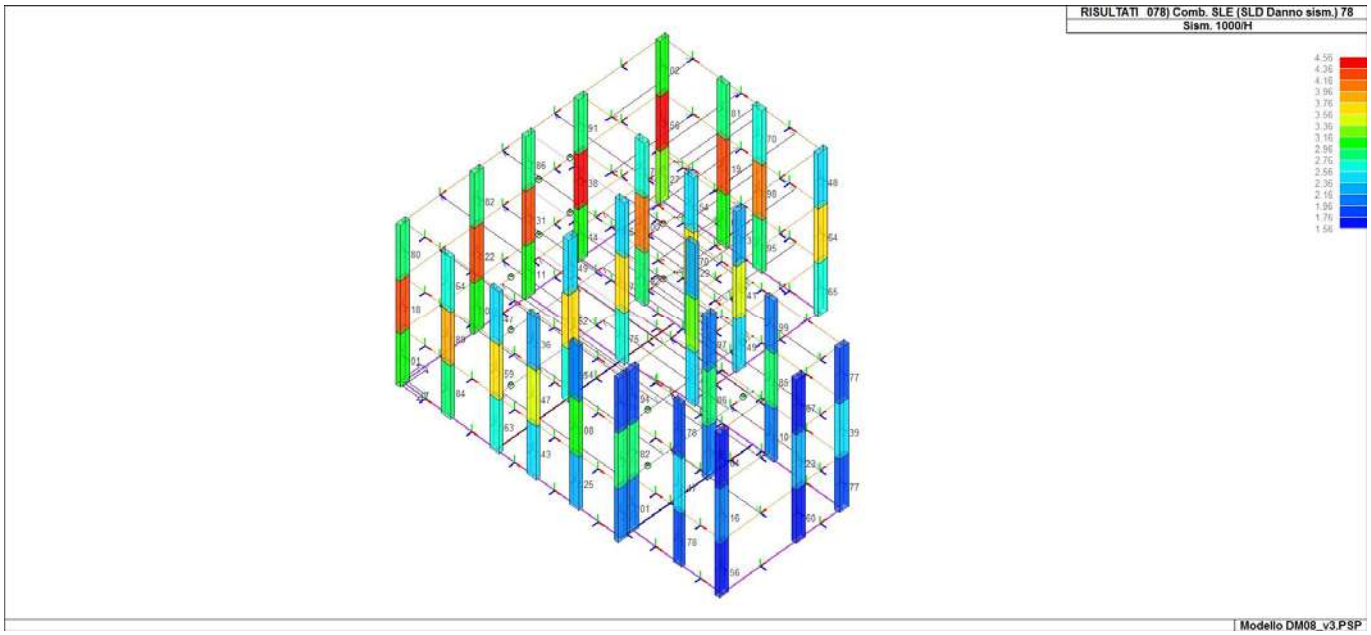
Cmb	**1000 etaT/h**
	4.56



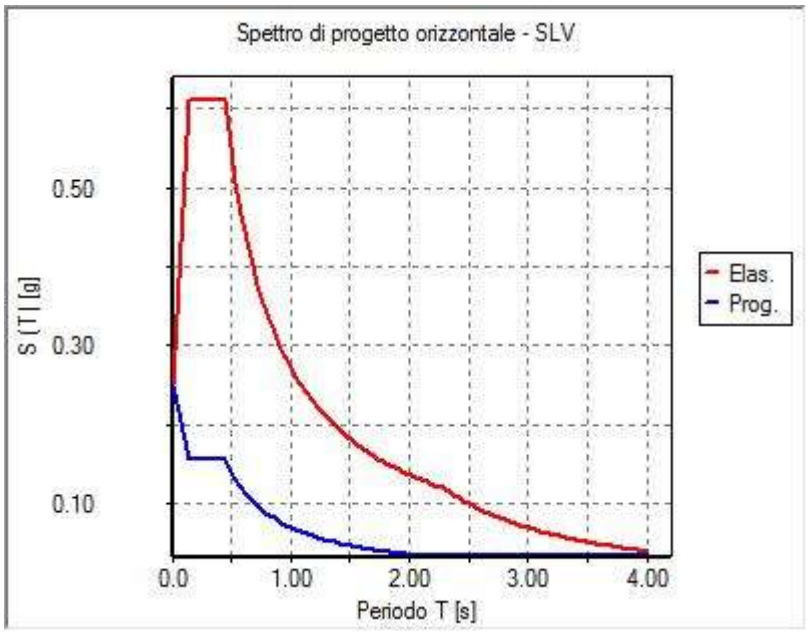
31_RIS_MODOX_002_CDC=Ed (dinamico SLU) alfa=0.0 (ecc. +)



31_RIS_MODOY_001_CDC=Ed (dinamico SLU) alfa=90.00 (ecc. +)



31_RIS_SLE_078_Comb. SLE (SLD Danno sism.) 78



31_RIS_SPETTRI_PROGETTO_SLV_O

RISULTATI NODALI

LEGENDA RISULTATI NODALI

Il controllo dei risultati delle analisi condotte, per quanto concerne i nodi strutturali, è possibile in relazione alle tabelle sottoriportate.

Una prima tabella riporta infatti per ogni nodo e per ogni combinazione (o caso di carico) gli spostamenti nodali.

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

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

Nodo	Cmb	Traslazione X	Traslazione Y	Traslazione Z	Rotazione X	Rotazione Y	Rotazione Z
		cm	cm	cm			
1	53	-0.37	0.15	-0.36	5.80e-04	-9.18e-04	-1.65e-04
1	54	-0.33	-0.02	-0.43	1.24e-03	-1.14e-03	-9.12e-05
1	78	-1.86e-03	-0.33	-0.42	1.89e-03	-1.03e-03	7.33e-05
1	81	-1.54e-03	-1.66e-03	-0.28	6.76e-04	-5.73e-04	2.15e-06
1	82	-1.55e-03	-1.65e-03	-0.28	6.79e-04	-5.77e-04	2.12e-06
2	52	0.27	-0.15	-0.28	1.38e-04	5.15e-05	1.77e-04
2	78	-0.04	-0.33	-0.31	5.07e-04	-6.70e-04	2.75e-05
2	81	3.43e-04	-2.21e-03	-0.28	-1.11e-04	-4.89e-04	-4.01e-06
2	82	3.45e-04	-2.21e-03	-0.28	-1.12e-04	-4.92e-04	-4.02e-06
3	52	0.24	-0.15	-0.18	3.23e-04	-3.98e-04	1.04e-04
3	73	-0.09	0.31	-0.27	-3.22e-04	-9.44e-04	-1.16e-04
3	78	-0.05	-0.33	-0.18	4.82e-04	-7.11e-04	1.50e-04
3	81	5.28e-04	-2.50e-03	-0.22	1.20e-04	-7.57e-04	2.29e-06
3	82	5.30e-04	-2.50e-03	-0.22	1.21e-04	-7.62e-04	2.29e-06
4	57	-0.27	-0.08	-0.26	2.04e-04	-7.68e-04	2.04e-04
4	59	0.28	0.22	-0.17	-9.92e-05	-3.47e-04	-2.14e-04
4	78	-0.12	-0.33	-0.22	5.95e-04	-5.56e-04	1.57e-04
4	82	9.62e-04	-3.10e-03	-0.21	1.62e-04	-5.49e-04	0.0
5	59	0.39	0.21	-0.22	-6.80e-04	-4.42e-04	-2.46e-04
5	65	-0.13	0.20	-0.40	-1.67e-03	-1.12e-03	-3.63e-05
5	78	-0.20	-0.33	-0.19	5.44e-04	-3.35e-04	1.91e-04
5	82	2.64e-03	-4.05e-03	-0.28	-5.91e-04	-6.38e-04	-6.09e-06
5	83	2.76e-03	-3.15e-03	-0.26	-5.67e-04	-6.09e-04	-6.32e-06
6	50	-0.37	-0.02	-0.26	8.29e-04	-4.69e-04	-4.40e-05
6	53	-0.37	0.12	-0.24	3.72e-04	-4.14e-04	-9.62e-05
6	75	-7.47e-04	0.28	-0.17	-4.13e-04	1.69e-04	-1.75e-04
6	82	-1.73e-03	2.85e-04	-0.21	5.12e-04	1.43e-05	8.02e-06
6	83	-1.28e-03	3.40e-04	-0.20	4.66e-04	5.41e-06	5.11e-06
7	50	-0.37	-0.04	-0.28	7.45e-04	-3.98e-04	-1.25e-04
7	53	-0.37	0.08	-0.27	5.56e-04	-3.99e-04	-1.34e-04
7	75	-5.38e-04	0.23	-0.22	2.16e-04	7.68e-05	-4.56e-05
7	81	-1.87e-03	2.23e-03	-0.25	5.71e-04	4.69e-05	3.89e-06
7	82	-1.88e-03	2.23e-03	-0.26	5.73e-04	4.70e-05	3.88e-06
8	52	0.37	-0.05	-0.24	5.65e-04	2.37e-04	9.20e-05
8	53	-0.37	0.06	-0.18	1.30e-04	-5.76e-04	-8.10e-05
8	67	0.13	0.21	-0.20	-3.41e-04	0.0	1.77e-05
8	81	-1.98e-03	3.54e-03	-0.22	3.59e-04	-1.86e-04	5.68e-06
8	82	-1.99e-03	3.54e-03	-0.22	3.60e-04	-1.88e-04	5.68e-06
9	52	0.37	-0.03	-0.24	5.86e-04	4.15e-04	4.70e-05
9	53	-0.37	0.04	-0.13	-1.32e-04	-3.71e-04	-4.21e-05
9	69	-5.89e-03	0.25	-0.16	-7.91e-04	-1.25e-04	1.41e-04
9	81	-2.33e-03	4.73e-03	-0.19	2.33e-04	2.66e-05	2.50e-06
9	82	-2.34e-03	4.73e-03	-0.19	2.33e-04	2.76e-05	2.49e-06
10	53	-0.37	0.02	-0.18	-3.90e-04	3.93e-05	-1.48e-04
10	68	6.56e-04	-0.28	-0.33	1.39e-03	4.04e-04	-5.73e-05
10	69	-5.46e-03	0.29	-0.14	-1.05e-03	-6.44e-05	5.38e-05
10	81	-2.63e-03	4.79e-03	-0.24	1.67e-04	1.80e-04	-2.23e-06
10	82	-2.65e-03	4.79e-03	-0.25	1.66e-04	1.81e-04	-2.23e-06
11	57	-0.37	-0.01	-0.37	-4.32e-04	-3.95e-04	1.54e-04
11	59	0.39	0.12	-0.22	-8.36e-04	1.04e-03	-2.13e-04
11	78	-0.20	-0.25	-0.33	9.26e-04	-1.41e-05	1.86e-04
11	82	2.72e-03	-6.12e-03	-0.31	-3.07e-04	3.42e-04	-2.00e-06
11	83	2.80e-03	-5.40e-03	-0.28	-3.02e-04	3.04e-04	-2.78e-06
12	59	0.39	0.08	-0.37	-7.94e-04	4.16e-04	-1.76e-04
12	78	-0.20	-0.22	-0.25	9.03e-04	-7.14e-04	1.27e-04
12	82	2.91e-03	-5.89e-03	-0.31	-3.01e-04	-3.41e-04	3.78e-06

12	83	2.95e-03	-5.40e-03	-0.28	-2.97e-04	-3.02e-04	2.60e-06
13	59	0.39	8.12e-03	-0.40	-1.10e-03	1.06e-03	-2.03e-04
13	68	0.18	-0.24	-0.19	4.75e-04	3.03e-04	-1.40e-04
13	75	0.20	0.18	-0.42	-1.74e-03	1.13e-03	-1.25e-04
13	82	2.95e-03	-3.86e-03	-0.27	-5.64e-04	5.66e-04	3.00e-06
13	85	2.97e-03	-3.89e-03	-0.27	-5.59e-04	5.60e-04	2.66e-06
14	57	-0.27	-4.89e-03	-0.29	-9.02e-05	-4.70e-04	1.62e-04
14	59	0.28	0.14	-0.17	-3.47e-04	6.05e-04	-1.95e-04
14	75	0.12	0.26	-0.22	-6.99e-04	3.28e-04	-1.64e-04
14	81	1.16e-03	3.17e-04	-0.24	-4.79e-05	4.61e-05	1.00e-05
14	82	1.16e-03	3.17e-04	-0.24	-4.88e-05	4.68e-05	1.00e-05
15	59	0.28	0.05	-0.24	-2.81e-04	6.06e-04	-2.00e-04
15	77	-0.03	0.22	-0.22	-6.24e-04	-6.13e-05	-4.43e-05
15	81	1.24e-03	7.44e-04	-0.21	-1.04e-04	3.53e-05	-9.70e-06
15	82	1.25e-03	7.37e-04	-0.21	-1.06e-04	3.51e-05	-9.76e-06
16	59	0.28	9.98e-03	-0.26	-9.70e-05	4.58e-04	-2.22e-04
16	68	0.11	-0.24	-0.18	6.31e-04	2.04e-04	-1.26e-04
16	82	1.26e-03	-2.87e-03	-0.20	1.06e-04	1.93e-04	-8.39e-06
16	83	1.02e-03	-2.99e-03	-0.18	9.43e-05	1.98e-04	-8.06e-06
17	53	-0.28	0.09	-0.46	-4.08e-04	-9.23e-04	-1.97e-04
17	75	0.03	0.23	-0.41	-1.02e-03	2.02e-04	-4.02e-05
17	78	-0.04	-0.23	-0.54	8.41e-04	-1.18e-04	3.23e-05
17	81	-1.43e-03	2.07e-03	-0.51	-9.14e-05	4.17e-05	-4.53e-06
17	82	-1.44e-03	2.07e-03	-0.51	-9.26e-05	4.18e-05	-4.54e-06
18	52	0.24	-0.08	-0.21	5.37e-04	6.16e-04	1.00e-04
18	73	-0.09	0.23	-0.26	3.37e-04	-6.30e-05	-1.24e-04
18	75	0.05	0.23	-0.26	3.45e-04	2.18e-04	-1.54e-04
18	81	2.82e-04	1.73e-03	-0.24	5.17e-04	1.20e-04	-4.73e-06
18	82	2.81e-04	1.73e-03	-0.24	5.23e-04	1.20e-04	-4.76e-06
19	52	0.24	-0.07	-0.21	2.52e-04	3.48e-04	9.12e-05
19	68	0.09	-0.24	-0.25	5.76e-04	1.07e-04	-1.13e-04
19	82	4.88e-04	-2.34e-03	-0.19	2.97e-04	-2.33e-05	3.62e-06
19	83	1.19e-04	-2.51e-03	-0.18	2.41e-04	-1.30e-05	2.94e-06
20	48	0.24	-0.02	-0.24	6.69e-04	5.08e-04	6.60e-05
20	63	0.05	0.29	-0.29	-7.57e-05	1.67e-04	1.65e-04
20	69	-0.09	0.31	-0.28	-1.17e-04	-8.97e-05	1.84e-04
20	81	5.42e-04	4.74e-03	-0.24	6.48e-04	5.90e-05	-2.51e-06
20	82	5.41e-04	4.76e-03	-0.24	6.56e-04	5.87e-05	-2.40e-06
21	48	0.24	5.02e-03	-0.26	2.11e-04	9.84e-04	5.67e-05
21	63	0.05	0.37	-0.47	-1.47e-03	1.41e-03	1.43e-04
21	68	0.09	-0.40	-0.04	1.80e-03	-3.70e-05	-1.92e-04
21	81	3.94e-04	-7.57e-04	-0.23	1.46e-04	5.22e-04	-1.38e-05
21	82	3.91e-04	-7.09e-04	-0.23	1.48e-04	5.24e-04	-1.38e-05
22	53	-0.27	-0.05	-0.24	-9.00e-05	-4.70e-04	-1.71e-04
22	68	0.05	-0.40	-0.33	7.63e-04	2.76e-04	-3.40e-05
22	81	-2.28e-03	-8.01e-04	-0.28	-1.21e-04	3.40e-04	-4.47e-06
22	82	-2.29e-03	-7.55e-04	-0.28	-1.21e-04	3.42e-04	-4.52e-06
23	52	0.27	-6.75e-03	-0.46	4.67e-05	7.24e-04	1.69e-04
23	66	-0.10	-0.26	-0.49	5.76e-04	-4.32e-05	-1.37e-04
23	69	-0.05	0.29	-0.45	-6.77e-04	1.09e-04	3.37e-05
23	82	6.16e-04	4.75e-03	-0.50	-2.96e-05	1.91e-04	-4.43e-06
24	53	-0.36	-0.05	-0.12	1.09e-04	-3.58e-04	-1.19e-04
24	56	0.21	-0.30	-0.42	1.72e-03	1.15e-03	1.37e-04
24	68	6.01e-03	-0.40	-0.42	2.08e-03	9.20e-04	-8.83e-05
24	82	-2.97e-03	-3.53e-04	-0.27	6.71e-04	4.77e-04	-5.30e-06
24	83	-2.44e-03	5.66e-04	-0.26	6.08e-04	4.35e-04	-3.24e-06
25	53	-0.36	-0.02	-0.18	-2.90e-05	-3.71e-04	-8.69e-05
25	68	6.63e-03	-0.34	-0.24	1.63e-03	2.23e-04	-2.19e-04
25	69	-0.01	0.34	-0.15	-8.08e-04	-1.53e-04	2.00e-04
25	82	-2.74e-03	2.16e-03	-0.20	4.27e-04	3.02e-05	-1.08e-05
25	83	-2.24e-03	2.28e-03	-0.19	3.91e-04	3.73e-05	-7.51e-06
26	62	-2.68	-1.44	-0.33	8.52e-04	-5.78e-04	1.53e-03
26	69	-1.07	2.38	-0.35	-1.40e-03	-4.01e-04	9.19e-04
26	78	-1.20	-3.31	-0.29	1.97e-03	-4.43e-04	1.07e-03
26	82	-0.05	-0.32	-0.33	2.26e-04	-3.60e-04	-2.45e-05
27	53	-1.13	0.48	-0.40	-1.49e-03	-1.43e-03	-3.08e-04
27	54	-1.02	-0.23	-0.47	4.13e-04	-1.54e-03	-1.40e-04
27	78	-0.04	-1.37	-0.45	3.37e-03	-4.75e-04	4.37e-04
27	82	-0.02	-0.07	-0.31	-8.91e-05	3.19e-06	-4.33e-06
28	53	-1.01	0.48	-0.30	-8.29e-04	-2.47e-03	-3.16e-04
28	78	-0.17	-1.37	-0.36	3.49e-03	-2.95e-04	4.28e-04
28	82	-0.01	-0.07	-0.32	4.05e-04	1.46e-04	-1.04e-05
29	54	-0.96	-0.22	-0.26	8.62e-04	-1.51e-03	-1.50e-04
29	73	-0.21	1.18	-0.31	-2.97e-03	2.32e-04	-3.58e-04
29	78	-0.34	-1.36	-0.20	3.81e-03	-1.03e-04	4.34e-04
29	82	-7.62e-03	-0.06	-0.26	3.59e-04	6.90e-04	-1.08e-05
30	62	-1.03	-0.84	-0.30	2.17e-03	-9.57e-04	6.19e-04

30	78	-0.45	-1.36	-0.27	3.74e-03	-4.79e-05	4.32e-04
30	82	-1.57e-03	-0.06	-0.25	1.24e-04	7.30e-04	-8.92e-06
31	59	1.29	0.73	-0.24	-1.54e-03	2.66e-03	-6.37e-04
31	65	-0.46	0.86	-0.44	-2.02e-03	5.73e-06	1.46e-04
31	78	-0.65	-1.36	-0.21	3.98e-03	-1.70e-04	4.28e-04
31	79	4.23e-03	-0.04	-0.29	4.41e-04	6.70e-04	-1.13e-05
31	82	3.72e-03	-0.06	-0.30	5.20e-04	8.02e-04	-1.32e-05
32	50	-1.12	-0.21	-0.28	6.50e-04	-2.30e-03	-2.83e-04
32	53	-1.13	0.39	-0.26	-1.22e-03	-2.31e-03	-2.99e-04
32	78	-0.04	-1.25	-0.26	3.74e-03	-1.47e-04	4.38e-04
32	82	-0.02	-0.07	-0.23	1.55e-04	-6.63e-05	0.0
33	50	-1.12	-0.30	-0.33	9.54e-04	-2.24e-03	-2.97e-04
33	53	-1.13	0.30	-0.32	-9.83e-04	-2.26e-03	-3.13e-04
33	78	-0.04	-1.14	-0.32	3.62e-03	-1.65e-04	4.28e-04
33	82	-0.02	-0.07	-0.30	2.11e-04	-9.60e-05	-1.18e-05
34	52	1.10	-0.37	-0.26	1.20e-03	2.05e-03	2.88e-04
34	53	-1.13	0.24	-0.20	-7.26e-04	-2.20e-03	-3.18e-04
34	68	0.04	-1.08	-0.24	3.38e-03	6.32e-05	-3.99e-04
34	82	-0.02	-0.07	-0.23	2.74e-04	-8.50e-05	-1.65e-05
35	52	1.10	-0.29	-0.26	9.85e-04	2.16e-03	2.83e-04
35	53	-1.13	0.15	-0.14	-4.06e-04	-2.25e-03	-3.17e-04
35	68	0.04	-1.17	-0.23	3.67e-03	1.13e-04	-4.01e-04
35	82	-0.02	-0.08	-0.20	3.28e-04	-4.95e-05	-1.84e-05
36	53	-1.13	0.06	-0.17	-1.15e-04	-1.46e-03	-3.22e-04
36	64	0.14	-1.14	-0.34	3.51e-03	4.31e-04	-1.75e-04
36	68	0.04	-1.28	-0.34	3.88e-03	3.13e-04	-4.03e-04
36	82	-0.02	-0.08	-0.25	3.66e-04	-7.32e-05	-1.97e-05
37	57	-1.26	-2.56e-03	-0.41	1.47e-04	-2.86e-03	5.94e-04
37	59	1.29	0.49	-0.25	-1.19e-03	2.53e-03	-6.32e-04
37	78	-0.65	-1.21	-0.37	3.85e-03	-1.55e-03	4.27e-04
37	79	4.66e-03	-0.05	-0.31	3.42e-04	-1.72e-04	-1.03e-05
37	82	4.24e-03	-0.07	-0.35	4.30e-04	-2.00e-04	-1.20e-05
38	59	1.29	0.35	-0.42	-8.13e-04	2.90e-03	-6.30e-04
38	78	-0.65	-1.13	-0.28	3.63e-03	-1.24e-03	4.34e-04
38	79	4.27e-03	-0.05	-0.31	3.49e-04	1.57e-04	-5.74e-06
38	82	3.81e-03	-0.07	-0.34	4.39e-04	1.80e-04	-7.56e-06
39	59	1.29	0.09	-0.44	5.75e-05	1.24e-03	-6.36e-04
39	68	0.59	-1.14	-0.22	3.44e-03	7.83e-05	-3.92e-04
39	75	0.66	0.85	-0.46	-2.01e-03	3.14e-04	-4.51e-04
39	79	4.69e-03	-0.05	-0.28	4.62e-04	-6.44e-04	-5.46e-06
39	82	4.32e-03	-0.07	-0.30	5.53e-04	-7.76e-04	-7.49e-06
40	57	-1.01	-2.40e-03	-0.32	3.19e-05	-2.39e-03	5.94e-04
40	62	-1.03	-0.61	-0.31	1.94e-03	-2.43e-03	6.09e-04
40	78	-0.45	-1.21	-0.26	3.89e-03	-1.12e-03	4.26e-04
40	82	-9.85e-04	-0.07	-0.27	3.38e-04	-9.86e-05	-9.98e-06
41	59	1.03	0.30	-0.27	-8.06e-04	2.24e-03	-6.38e-04
41	78	-0.45	-1.10	-0.18	3.57e-03	-1.08e-03	4.34e-04
41	79	8.94e-04	-0.05	-0.21	2.73e-04	-6.23e-05	-9.57e-06
41	82	-4.97e-04	-0.07	-0.24	3.67e-04	-7.83e-05	-1.23e-05
42	59	1.03	0.09	-0.30	-7.62e-04	1.27e-03	-6.42e-04
42	68	0.40	-1.14	-0.21	2.74e-03	3.19e-04	-3.93e-04
42	79	9.49e-04	-0.05	-0.21	1.51e-04	-2.08e-04	-6.42e-06
42	82	-4.48e-04	-0.07	-0.23	2.37e-04	-2.83e-04	-8.53e-06
43	53	-1.01	0.30	-0.51	-4.57e-04	-2.73e-03	-3.26e-04
43	78	-0.16	-1.13	-0.60	3.49e-03	-5.10e-04	4.27e-04
43	82	-9.55e-03	-0.07	-0.57	5.78e-04	-7.35e-05	-1.50e-05
44	54	-0.95	-0.32	-0.28	9.04e-04	-2.59e-03	-1.55e-04
44	73	-0.21	0.99	-0.33	-1.12e-03	-6.86e-04	-3.63e-04
44	78	-0.34	-1.14	-0.24	2.10e-03	-1.01e-03	4.35e-04
44	82	-4.57e-03	-0.07	-0.30	5.89e-04	-1.73e-04	-1.30e-05
45	54	-0.95	-0.39	-0.24	4.93e-04	-2.19e-03	-1.48e-04
45	68	0.31	-1.14	-0.29	1.59e-03	6.23e-04	-3.97e-04
45	82	-2.48e-03	-0.08	-0.22	-1.07e-04	8.93e-05	-1.18e-05
46	51	0.95	0.33	-0.31	-9.17e-04	2.05e-03	1.18e-04
46	63	0.23	1.10	-0.34	-3.15e-03	3.55e-04	2.72e-04
46	68	0.31	-1.33	-0.22	3.78e-03	5.43e-04	-4.15e-04
46	79	1.74e-03	-0.07	-0.26	1.75e-04	-1.57e-04	-2.22e-05
46	82	1.27e-04	-0.09	-0.28	2.34e-04	-2.09e-04	-2.77e-05
47	51	0.95	0.40	-0.39	-7.64e-04	1.68e-03	1.27e-04
47	63	0.23	1.21	-0.51	-2.81e-03	1.61e-04	2.79e-04
47	68	0.31	-1.50	-0.04	3.82e-03	3.26e-04	-4.10e-04
47	79	2.64e-03	-0.07	-0.24	3.09e-04	-3.14e-04	-1.70e-05
47	82	1.11e-03	-0.10	-0.25	3.96e-04	-3.32e-04	-2.10e-05
48	53	-0.99	-0.12	-0.26	3.77e-04	-2.74e-03	-3.33e-04
48	68	0.19	-1.50	-0.37	3.78e-03	6.27e-04	-4.00e-04
48	82	-4.82e-03	-0.10	-0.31	4.99e-04	-1.45e-04	-1.92e-05
49	53	-0.99	0.06	-0.53	1.98e-04	-2.63e-03	-3.31e-04

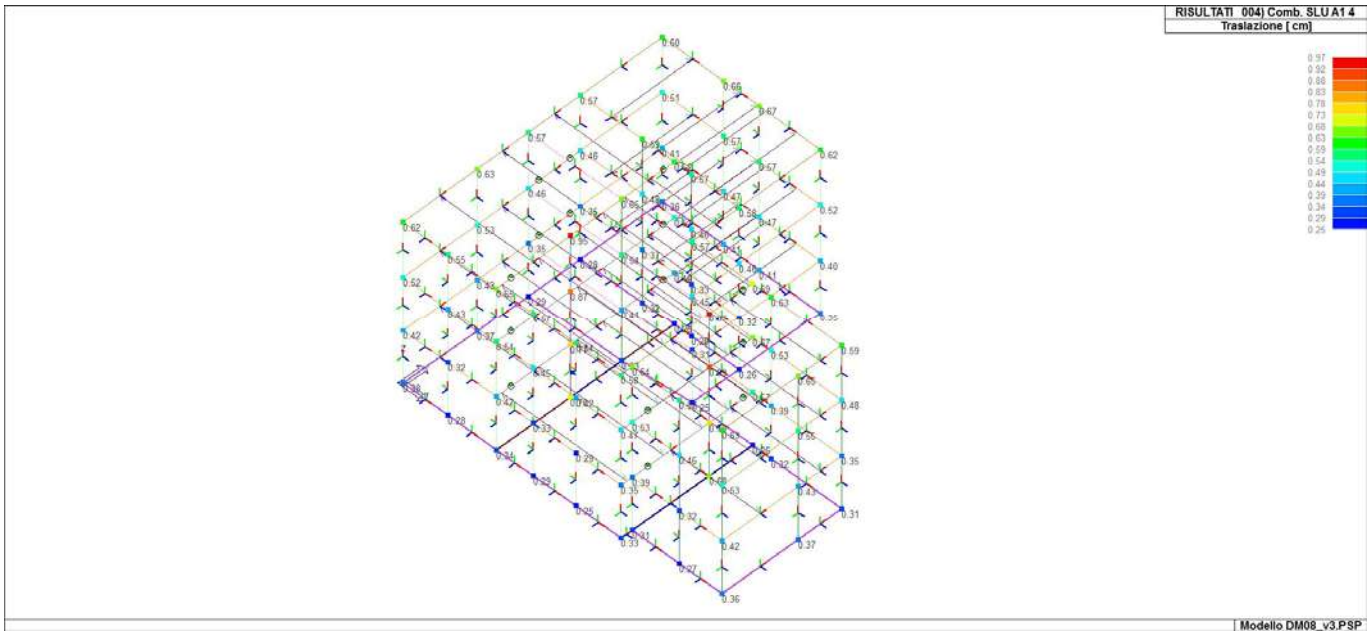
49	66	-0.34	-1.22	-0.55	3.71e-03	-1.01e-03	-3.11e-04
49	68	0.19	-1.28	-0.55	3.88e-03	3.21e-04	-4.03e-04
49	82	-6.69e-03	-0.08	-0.57	7.30e-04	-1.84e-04	-1.87e-05
50	53	-1.12	-0.12	-0.13	-3.04e-05	-2.08e-03	-3.37e-04
50	56	0.67	-1.10	-0.45	2.46e-03	1.36e-03	-6.30e-04
50	68	0.06	-1.50	-0.45	3.59e-03	5.16e-04	-4.14e-04
50	82	-0.02	-0.10	-0.30	2.50e-05	-6.57e-05	-2.65e-05
51	53	-1.12	0.06	-0.26	-1.98e-04	-1.58e-03	-3.28e-04
51	68	0.06	-1.28	-0.29	3.84e-03	1.81e-04	-4.05e-04
51	70	-0.38	-1.08	-0.29	3.29e-03	-4.76e-04	-8.30e-05
51	82	-0.02	-0.08	-0.28	2.74e-04	-1.58e-05	-1.95e-05
52	54	-2.46	-1.36	-0.38	6.75e-04	-5.04e-04	-3.04e-04
52	68	0.75	-3.65	-0.31	1.73e-03	-5.39e-04	-9.41e-04
52	69	-0.85	3.05	-0.43	-1.55e-03	-1.48e-04	9.21e-04
52	82	-0.06	-0.33	-0.39	1.07e-04	-3.57e-04	-1.18e-05
53	57	-1.01	0.12	-0.33	-2.68e-04	-2.87e-04	6.00e-04
53	62	-1.03	-0.48	-0.32	1.62e-03	-2.85e-04	6.19e-04
53	78	-0.45	-1.14	-0.26	3.68e-03	-3.15e-04	4.36e-04
53	79	7.20e-04	-0.05	-0.25	2.65e-04	-3.39e-04	-8.89e-06
53	82	-6.83e-04	-0.07	-0.29	3.57e-04	-4.01e-04	-1.14e-05
54	51	0.95	0.31	-0.30	-8.64e-04	-5.51e-04	1.18e-04
54	57	-0.89	0.59	-0.54	-1.58e-03	-1.18e-03	5.76e-04
54	68	0.31	-1.28	-0.28	3.28e-03	-7.66e-04	-4.09e-04
54	79	1.26e-03	-0.06	-0.37	1.07e-04	-8.05e-04	-2.12e-05
54	82	-4.50e-04	-0.08	-0.42	1.52e-04	-9.38e-04	-2.58e-05
55	53	-2.18	0.89	-0.42	-3.93e-04	-1.37e-03	-5.78e-04
55	54	-1.96	-0.57	-0.49	1.36e-03	-1.46e-03	-2.57e-04
55	78	-0.10	-2.87	-0.47	3.38e-03	-5.00e-04	8.22e-04
55	82	-0.05	-0.20	-0.33	2.11e-04	-7.48e-05	-2.56e-05
56	53	-1.97	0.89	-0.32	-7.28e-04	-2.09e-03	-5.78e-04
56	78	-0.35	-2.88	-0.39	3.19e-03	-3.73e-04	8.25e-04
56	82	-0.04	-0.20	-0.34	3.67e-04	-2.16e-05	-2.59e-05
57	54	-1.88	-0.57	-0.28	1.00e-03	-1.28e-03	-2.65e-04
57	73	-0.41	2.37	-0.34	-2.61e-03	1.05e-04	-6.79e-04
57	78	-0.69	-2.88	-0.22	3.64e-03	-1.60e-04	8.22e-04
57	82	-0.03	-0.20	-0.28	4.67e-04	4.69e-04	-2.51e-05
58	62	-2.02	-1.75	-0.34	2.05e-03	-9.46e-04	1.18e-03
58	78	-0.90	-2.88	-0.30	3.55e-03	-1.57e-04	8.24e-04
58	82	-0.02	-0.20	-0.28	2.42e-04	5.13e-04	-2.49e-05
59	62	-2.51	-1.75	-0.37	2.10e-03	-1.24e-03	1.17e-03
59	65	-0.90	1.76	-0.46	-2.03e-03	-2.08e-04	2.71e-04
59	78	-1.29	-2.88	-0.23	3.55e-03	-3.06e-04	8.21e-04
59	82	-7.75e-03	-0.20	-0.32	3.90e-04	5.50e-04	-2.48e-05
60	50	-2.16	-0.54	-0.30	1.30e-03	-2.02e-03	-5.44e-04
60	53	-2.18	0.73	-0.28	-3.24e-04	-2.02e-03	-5.81e-04
60	78	-0.10	-2.66	-0.28	3.44e-03	-1.56e-04	8.22e-04
60	82	-0.05	-0.20	-0.24	3.85e-04	-7.54e-05	-2.60e-05
61	50	-2.16	-0.70	-0.36	1.21e-03	-1.97e-03	-5.44e-04
61	53	-2.18	0.55	-0.35	-3.82e-04	-1.98e-03	-5.83e-04
61	78	-0.10	-2.43	-0.35	3.17e-03	-1.62e-04	8.28e-04
61	82	-0.05	-0.21	-0.34	4.03e-04	-9.43e-05	-2.71e-05
62	52	2.09	-0.81	-0.27	1.11e-03	1.77e-03	5.35e-04
62	53	-2.18	0.41	-0.21	-3.98e-04	-1.96e-03	-5.87e-04
62	70	-0.76	-2.31	-0.25	3.04e-03	-7.14e-04	-1.23e-04
62	82	-0.05	-0.22	-0.25	3.93e-04	-1.09e-04	-2.89e-05
63	52	2.09	-0.67	-0.27	9.54e-04	1.86e-03	5.35e-04
63	53	-2.18	0.27	-0.15	-2.71e-04	-1.97e-03	-5.82e-04
63	68	0.07	-2.49	-0.24	3.22e-03	8.60e-05	-7.35e-04
63	82	-0.05	-0.23	-0.21	3.79e-04	-6.00e-05	-2.57e-05
64	53	-2.18	0.11	-0.17	-1.35e-04	-1.33e-03	-5.76e-04
64	64	0.27	-2.42	-0.34	3.12e-03	3.81e-04	-3.01e-04
64	68	0.07	-2.68	-0.34	3.42e-03	2.75e-04	-7.26e-04
64	82	-0.05	-0.23	-0.25	3.65e-04	-7.84e-05	-2.39e-05
65	57	-2.46	-0.03	-0.44	1.90e-05	-2.47e-03	1.14e-03
65	62	-2.51	-1.29	-0.44	1.65e-03	-2.51e-03	1.18e-03
65	78	-1.29	-2.58	-0.39	3.34e-03	-1.32e-03	8.26e-04
65	82	-7.86e-03	-0.21	-0.37	3.46e-04	-1.15e-04	-2.57e-05
66	59	2.50	0.65	-0.44	-7.32e-04	2.43e-03	-1.23e-03
66	62	-2.51	-1.03	-0.26	1.36e-03	-2.40e-03	1.18e-03
66	78	-1.29	-2.41	-0.30	3.15e-03	-1.23e-03	8.30e-04
66	82	-7.78e-03	-0.21	-0.37	3.52e-04	1.87e-05	-2.65e-05
67	62	-2.51	-0.55	-0.15	8.70e-04	-2.36e-03	1.18e-03
67	68	1.11	-2.43	-0.23	3.08e-03	-2.72e-04	-7.41e-04
67	75	1.27	1.72	-0.48	-2.02e-03	4.30e-04	-8.73e-04
67	82	-7.83e-03	-0.22	-0.32	4.10e-04	-6.05e-04	-2.55e-05
68	57	-1.99	-0.03	-0.35	3.91e-05	-2.02e-03	1.14e-03
68	62	-2.02	-1.29	-0.34	1.67e-03	-2.06e-03	1.18e-03

68	78	-0.90	-2.58	-0.28	3.36e-03	-9.79e-04	8.29e-04
68	82	-0.02	-0.21	-0.29	3.57e-04	-1.12e-04	-2.58e-05
69	59	1.98	0.55	-0.29	-6.03e-04	1.86e-03	-1.22e-03
69	62	-2.02	-0.94	-0.20	1.26e-03	-2.01e-03	1.17e-03
69	78	-0.90	-2.35	-0.20	3.06e-03	-9.25e-04	8.25e-04
69	82	-0.02	-0.21	-0.26	3.65e-04	-8.23e-05	-2.71e-05
70	59	1.99	0.15	-0.33	-1.84e-04	1.14e-03	-1.22e-03
70	62	-2.02	-0.55	-0.16	7.19e-04	-1.57e-03	1.18e-03
70	68	0.76	-2.43	-0.24	2.72e-03	2.90e-04	-7.44e-04
70	82	-0.02	-0.22	-0.25	3.05e-04	-2.47e-04	-2.50e-05
71	53	-1.97	0.55	-0.54	-2.41e-04	-2.35e-03	-5.70e-04
71	78	-0.35	-2.43	-0.63	3.23e-03	-4.63e-04	8.15e-04
71	82	-0.04	-0.21	-0.60	5.45e-04	-8.65e-05	-2.40e-05
72	54	-1.88	-0.75	-0.31	9.87e-04	-2.08e-03	-2.75e-04
72	73	-0.41	2.01	-0.37	-9.27e-04	-5.67e-04	-6.80e-04
72	78	-0.69	-2.43	-0.27	2.14e-03	-8.51e-04	8.21e-04
72	82	-0.03	-0.21	-0.34	6.65e-04	-1.68e-04	-2.50e-05
73	54	-1.87	-0.88	-0.26	5.55e-04	-1.86e-03	-2.75e-04
73	68	0.58	-2.43	-0.32	1.58e-03	6.27e-04	-7.50e-04
73	82	-0.03	-0.22	-0.25	-2.74e-05	-5.03e-06	-3.03e-05
74	54	-1.87	-1.03	-0.26	1.30e-03	-2.05e-03	-2.34e-04
74	63	0.42	2.19	-0.37	-2.62e-03	2.37e-04	4.89e-04
74	68	0.58	-2.76	-0.24	3.43e-03	4.62e-04	-6.79e-04
74	82	-0.03	-0.24	-0.31	3.56e-04	-2.08e-04	-4.03e-06
75	54	-1.87	-1.16	-0.10	1.40e-03	-1.98e-03	-2.34e-04
75	63	0.42	2.38	-0.53	-2.71e-03	3.48e-04	4.93e-04
75	68	0.58	-3.04	-0.04	3.63e-03	1.59e-04	-6.77e-04
75	82	-0.03	-0.24	-0.26	3.73e-04	-2.42e-04	-1.34e-06
76	53	-1.94	-0.20	-0.28	2.30e-04	-2.20e-03	-5.77e-04
76	68	0.36	-3.04	-0.39	3.47e-03	3.58e-04	-6.87e-04
76	82	-0.03	-0.24	-0.33	3.89e-04	-8.33e-05	-4.28e-06
77	53	-1.94	0.10	-0.57	1.35e-04	-2.14e-03	-5.79e-04
77	66	-0.68	-2.57	-0.59	3.34e-03	-8.06e-04	-5.24e-04
77	68	0.35	-2.69	-0.59	3.48e-03	2.86e-04	-7.09e-04
77	82	-0.04	-0.24	-0.61	6.37e-04	-1.38e-04	-1.29e-05
78	53	-2.15	-0.20	-0.14	6.44e-05	-1.80e-03	-5.70e-04
78	56	1.30	-2.19	-0.47	2.46e-03	1.23e-03	-1.12e-03
78	68	0.15	-3.04	-0.47	3.60e-03	4.77e-04	-6.77e-04
78	82	-0.03	-0.24	-0.31	2.37e-04	-3.11e-05	-1.07e-06
79	53	-2.15	-0.06	-0.22	1.36e-04	-1.74e-03	-5.70e-04
79	68	0.15	-2.87	-0.29	3.83e-03	1.32e-04	-6.77e-04
79	82	-0.03	-0.24	-0.24	4.79e-04	-5.76e-05	1.23e-06
80	59	0.28	0.10	-0.18	-3.28e-04	2.54e-04	-1.99e-04
80	73	-0.02	0.23	-0.21	-5.10e-04	4.00e-05	-1.14e-04
80	75	0.12	0.23	-0.21	-5.14e-04	1.53e-04	-1.46e-04
80	81	1.22e-03	1.44e-03	-0.19	-2.29e-04	5.69e-05	-1.98e-06
80	82	1.23e-03	1.44e-03	-0.19	-2.31e-04	5.81e-05	-2.00e-06
81	57	-1.99	0.20	-0.34	-2.16e-04	-4.28e-04	1.14e-03
81	62	-2.02	-1.05	-0.33	1.39e-03	-4.27e-04	1.18e-03
81	78	-0.90	-2.43	-0.28	3.16e-03	-3.67e-04	8.26e-04
81	82	-0.02	-0.21	-0.31	3.62e-04	-3.99e-04	-2.65e-05
82	54	-1.87	-1.00	-0.49	1.11e-03	-1.17e-03	-2.55e-04
82	57	-1.77	1.12	-0.55	-1.23e-03	-1.09e-03	1.13e-03
82	68	0.58	-2.69	-0.31	3.00e-03	-8.28e-04	-7.32e-04
82	82	-0.03	-0.24	-0.44	2.63e-04	-9.13e-04	-2.30e-05
83	53	-2.82	1.13	-0.43	-4.44e-04	-6.67e-04	-7.17e-04
83	54	-2.55	-0.84	-0.50	3.99e-04	-8.42e-04	-3.15e-04
83	78	-0.15	-3.88	-0.48	1.39e-03	-6.73e-04	1.04e-03
83	82	-0.08	-0.30	-0.34	-1.36e-04	-2.82e-04	-3.04e-05
84	53	-2.57	1.13	-0.33	6.87e-05	-1.21e-03	-7.13e-04
84	78	-0.47	-3.88	-0.40	1.38e-03	-4.72e-04	1.05e-03
84	82	-0.06	-0.30	-0.35	3.08e-04	-9.04e-05	-2.35e-05
85	54	-2.46	-0.84	-0.29	1.94e-04	-8.63e-04	-3.21e-04
85	73	-0.55	3.14	-0.35	-6.97e-04	-1.33e-04	-8.51e-04
85	78	-0.92	-3.88	-0.23	8.70e-04	-2.88e-04	1.05e-03
85	82	-0.06	-0.30	-0.29	8.80e-05	5.44e-05	-2.50e-05
86	57	-2.64	-0.60	-0.35	6.34e-05	-1.41e-04	1.47e-03
86	62	-2.68	-2.34	-0.34	4.78e-04	-1.46e-04	1.51e-03
86	78	-1.20	-3.88	-0.30	9.04e-04	1.84e-04	1.05e-03
86	82	-0.05	-0.30	-0.29	1.17e-04	4.50e-04	-2.77e-05
87	62	-3.31	-2.34	-0.38	1.09e-03	3.69e-04	1.48e-03
87	65	-1.21	2.35	-0.47	-1.00e-03	1.85e-04	3.54e-04
87	78	-1.70	-3.88	-0.24	1.88e-03	7.02e-04	1.03e-03
87	82	-0.03	-0.30	-0.33	2.74e-04	5.51e-04	-2.63e-05
88	50	-2.80	-0.80	-0.31	7.12e-04	-6.82e-04	-6.90e-04
88	53	-2.82	0.92	-0.29	-3.33e-04	-6.07e-04	-7.28e-04
88	78	-0.15	-3.60	-0.29	2.08e-03	-2.05e-04	1.03e-03

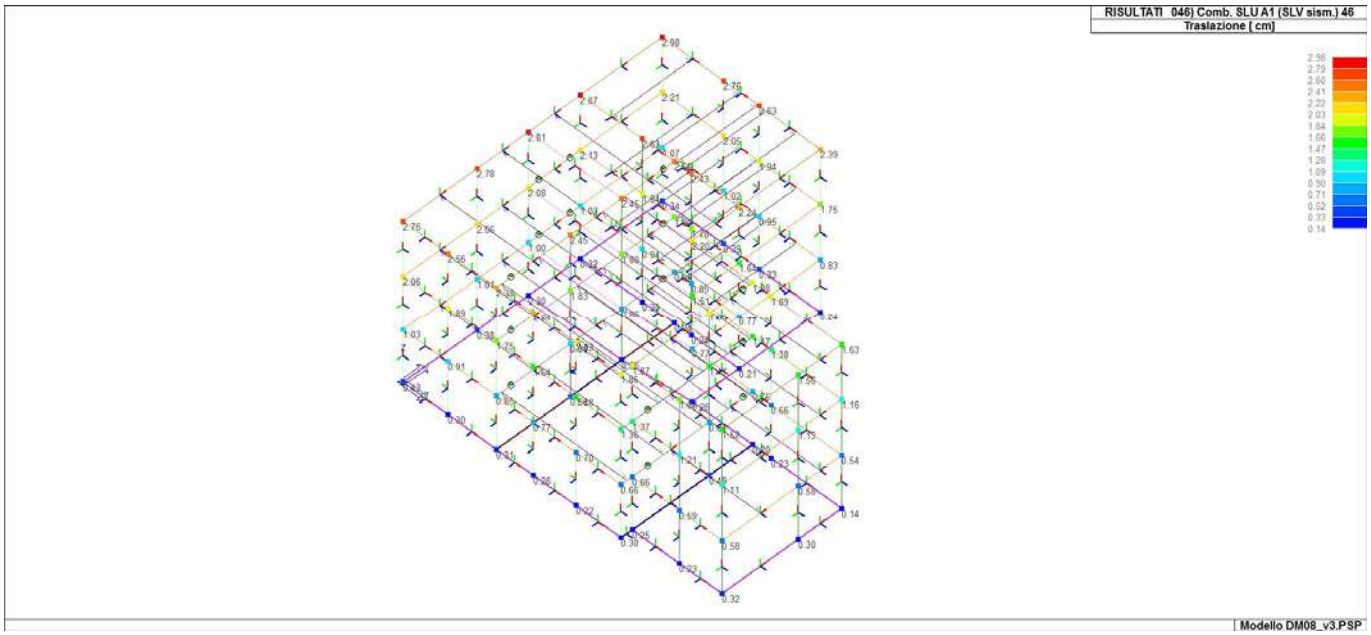
88	82	-0.08	-0.31	-0.25	1.56e-04	2.81e-05	-3.39e-05
89	50	-2.80	-1.01	-0.38	7.92e-04	-7.28e-04	-6.73e-04
89	53	-2.82	0.70	-0.36	-3.32e-04	-7.24e-04	-7.19e-04
89	78	-0.15	-3.31	-0.36	2.16e-03	-1.21e-04	1.07e-03
89	82	-0.07	-0.32	-0.35	2.26e-04	-7.64e-05	-2.26e-05
90	52	2.69	-1.11	-0.28	7.21e-04	4.14e-04	6.92e-04
90	53	-2.82	0.53	-0.21	-2.98e-04	-8.65e-04	-7.20e-04
90	70	-0.98	-3.17	-0.25	2.16e-03	-4.56e-04	-1.43e-04
90	82	-0.07	-0.32	-0.25	2.36e-04	-2.48e-04	-1.64e-05
91	52	2.69	-0.93	-0.28	6.32e-04	6.32e-04	6.97e-04
91	53	-2.82	0.35	-0.15	-2.16e-04	-6.22e-04	-7.16e-04
91	68	0.10	-3.40	-0.24	2.30e-03	1.96e-04	-9.41e-04
91	82	-0.07	-0.33	-0.22	2.32e-04	5.48e-06	-1.21e-05
92	53	-2.82	0.15	-0.17	-1.28e-04	-1.64e-04	-7.00e-04
92	64	0.34	-3.30	-0.35	2.25e-03	3.08e-04	-3.79e-04
92	68	0.10	-3.65	-0.34	2.45e-03	3.02e-04	-9.16e-04
92	82	-0.07	-0.33	-0.26	2.26e-04	7.59e-05	-1.22e-05
93	57	-3.25	-0.03	-0.45	1.20e-06	-1.23e-03	1.46e-03
93	62	-3.31	-1.75	-0.44	1.05e-03	-1.10e-03	1.50e-03
93	78	-1.70	-3.51	-0.37	2.17e-03	-2.72e-04	1.05e-03
93	82	-0.03	-0.31	-0.38	2.68e-04	-1.52e-04	-2.68e-05
94	59	3.25	0.84	-0.45	-4.23e-04	1.20e-03	-1.56e-03
94	62	-3.31	-1.41	-0.26	9.08e-04	-1.02e-03	1.51e-03
94	78	-1.70	-3.29	-0.31	2.07e-03	-5.24e-04	1.06e-03
94	82	-0.03	-0.32	-0.38	2.65e-04	8.43e-05	-2.60e-05
95	62	-3.31	-0.79	-0.16	7.22e-04	-9.10e-04	1.49e-03
95	68	1.43	-3.31	-0.24	1.54e-03	-6.99e-04	-9.32e-04
95	75	1.64	2.32	-0.49	-1.05e-03	-1.45e-04	-1.09e-03
95	82	-0.03	-0.33	-0.32	2.58e-04	-5.70e-04	-2.57e-05
96	57	-2.64	-0.03	-0.35	-4.04e-05	-1.19e-03	1.47e-03
96	62	-2.68	-1.75	-0.35	9.60e-04	-1.22e-03	1.51e-03
96	78	-1.20	-3.51	-0.29	2.03e-03	-6.01e-04	1.05e-03
96	82	-0.05	-0.31	-0.30	2.36e-04	-7.54e-05	-2.90e-05
97	59	2.59	0.71	-0.30	-4.07e-04	9.96e-04	-1.56e-03
97	62	-2.68	-1.29	-0.21	8.03e-04	-1.31e-03	1.53e-03
97	78	-1.20	-3.21	-0.21	1.94e-03	-6.58e-04	1.08e-03
97	82	-0.05	-0.32	-0.27	2.21e-04	-1.65e-04	-2.00e-05
98	59	2.59	0.20	-0.34	-3.21e-04	3.41e-04	-1.57e-03
98	62	-2.68	-0.79	-0.17	4.21e-04	-8.06e-04	1.52e-03
98	68	0.98	-3.31	-0.25	1.04e-03	-1.07e-04	-9.52e-04
98	82	-0.05	-0.33	-0.26	6.31e-05	-2.52e-04	-2.39e-05
99	53	-2.57	0.70	-0.56	3.85e-04	-1.26e-03	-7.19e-04
99	78	-0.47	-3.31	-0.66	2.02e-03	-2.84e-04	1.07e-03
99	82	-0.06	-0.32	-0.62	7.77e-04	-6.81e-05	-2.11e-05
100	54	-2.47	-1.07	-0.33	4.75e-04	-1.14e-03	-3.25e-04
100	73	-0.55	2.69	-0.39	-1.87e-04	-4.82e-04	-8.60e-04
100	78	-0.92	-3.31	-0.29	8.72e-04	-3.01e-04	1.07e-03
100	82	-0.06	-0.32	-0.36	3.98e-04	-7.66e-05	-2.41e-05
101	54	-2.46	-1.22	-0.28	2.84e-04	-6.74e-04	-3.16e-04
101	68	0.75	-3.31	-0.33	4.22e-04	3.11e-04	-9.49e-04
101	82	-0.06	-0.33	-0.26	-1.24e-04	1.60e-04	-2.33e-05
102	54	-2.46	-1.40	-0.27	8.15e-04	-9.67e-04	-2.79e-04
102	63	0.52	2.96	-0.38	-1.73e-03	8.00e-05	6.50e-04
102	68	0.74	-3.75	-0.25	2.14e-03	-1.76e-04	-9.04e-04
102	82	-0.06	-0.33	-0.32	1.81e-04	-2.59e-04	-3.33e-06
103	54	-2.46	-1.56	-0.11	9.67e-04	-8.51e-04	-2.88e-04
103	63	0.52	3.22	-0.53	-1.61e-03	2.34e-04	6.36e-04
103	68	0.74	-4.13	-0.05	2.28e-03	-3.30e-04	-8.94e-04
103	82	-0.06	-0.34	-0.27	3.02e-04	-2.15e-04	-9.43e-06
104	53	-2.53	-0.24	-0.29	2.12e-04	-1.20e-03	-7.04e-04
104	68	0.44	-4.13	-0.40	1.77e-03	1.20e-04	-9.05e-04
104	82	-0.06	-0.34	-0.34	3.15e-04	-8.78e-05	-1.05e-05
105	53	-2.53	0.15	-0.59	2.26e-04	-1.05e-03	-7.19e-04
105	66	-0.90	-3.49	-0.61	1.68e-03	-5.04e-04	-6.81e-04
105	68	0.44	-3.65	-0.61	1.74e-03	1.29e-05	-9.31e-04
105	82	-0.06	-0.33	-0.63	4.48e-04	-1.52e-04	-1.45e-05
106	53	-2.78	-0.23	-0.14	-6.68e-04	-6.77e-04	-6.93e-04
106	56	1.65	-2.93	-0.48	1.00e-03	8.23e-04	-1.45e-03
106	68	0.15	-4.13	-0.47	1.61e-03	5.28e-04	-8.86e-04
106	82	-0.07	-0.34	-0.32	-1.38e-04	1.71e-04	-5.04e-06
107	53	-0.36	0.02	-0.21	-1.54e-04	-1.54e-04	-1.59e-04
107	69	-0.01	0.29	-0.20	-6.52e-04	-1.63e-04	4.92e-05
107	72	0.16	-0.17	-0.24	1.08e-03	7.96e-05	1.16e-04
107	81	-2.40e-03	4.79e-03	-0.23	2.98e-04	-3.74e-05	-4.33e-06
107	82	-2.42e-03	4.79e-03	-0.23	2.98e-04	-3.83e-05	-4.33e-06
108	48	0.24	-0.03	-0.16	8.47e-04	5.04e-04	8.80e-05
108	69	-0.09	0.29	-0.23	4.93e-04	6.10e-04	6.57e-05

108	81	5.03e-04	4.46e-03	-0.19	8.85e-04	4.75e-04	7.05e-06
108	82	5.02e-04	4.47e-03	-0.19	8.96e-04	4.77e-04	7.13e-06
109	53	-1.12	-0.03	-0.20	-2.89e-05	-1.95e-03	-3.38e-04
109	68	0.06	-1.40	-0.27	3.92e-03	5.61e-04	-4.22e-04
109	82	-0.02	-0.09	-0.22	2.29e-04	-1.30e-05	-3.07e-05
110	53	-2.78	0.15	-0.32	-1.20e-03	-5.18e-04	-7.11e-04
110	66	-1.18	-3.48	-0.35	2.84e-04	-3.50e-04	-6.75e-04
110	68	0.14	-3.65	-0.35	3.41e-04	-1.81e-04	-9.31e-04
110	82	-0.07	-0.33	-0.33	-1.06e-03	-2.42e-04	-1.24e-05
111	53	-2.78	-0.05	-0.22	-4.15e-04	-6.34e-04	-7.16e-04
111	68	0.15	-3.90	-0.30	1.73e-03	1.98e-04	-9.08e-04
111	82	-0.07	-0.33	-0.25	-2.13e-04	-3.03e-05	-6.15e-06
112	53	-2.15	0.10	-0.30	1.42e-04	-1.39e-03	-5.75e-04
112	66	-0.88	-2.57	-0.33	3.77e-03	-5.46e-04	-4.77e-04
112	68	0.15	-2.69	-0.33	3.92e-03	1.31e-04	-6.54e-04
112	82	-0.03	-0.24	-0.31	6.79e-04	-4.07e-05	1.31e-05

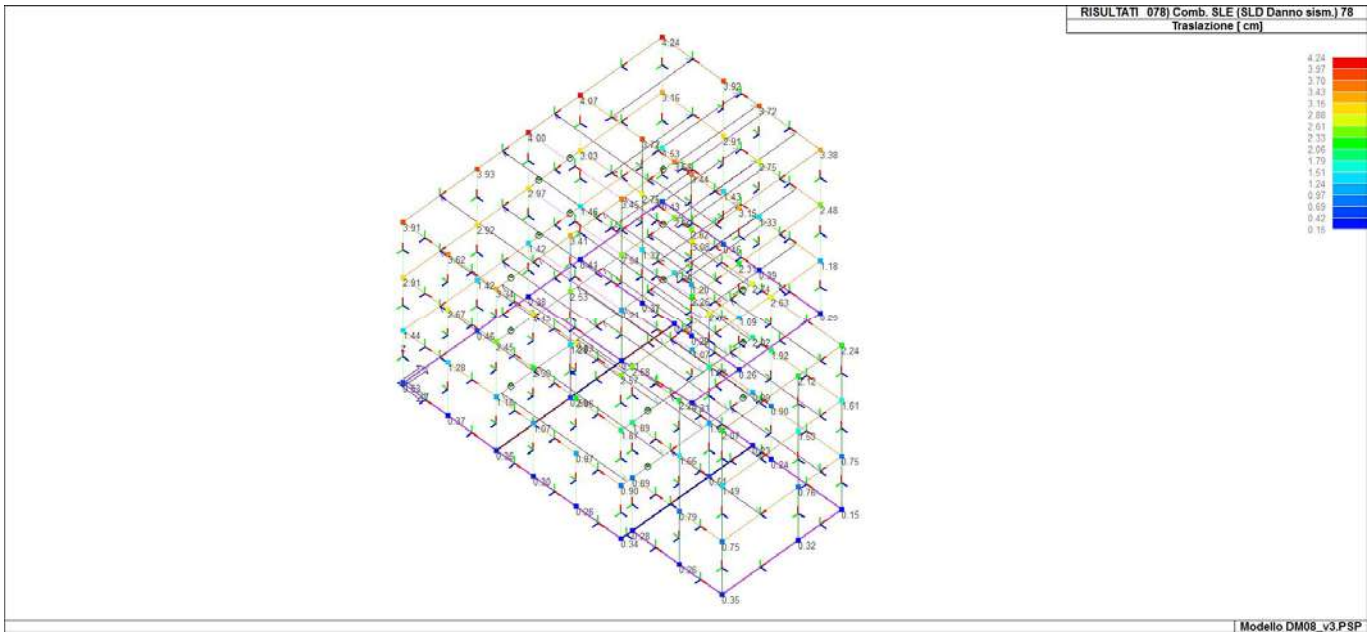
Nodo	**Traslazione X**	**Traslazione Y**	**Traslazione Z**	**Rotazione X**	**Rotazione Y**	**Rotazione Z**
	-3.31	-4.13	-0.66	-3.15e-03	-2.86e-03	-1.57e-03
	3.25	3.22	-0.04	3.98e-03	2.90e-03	1.53e-03



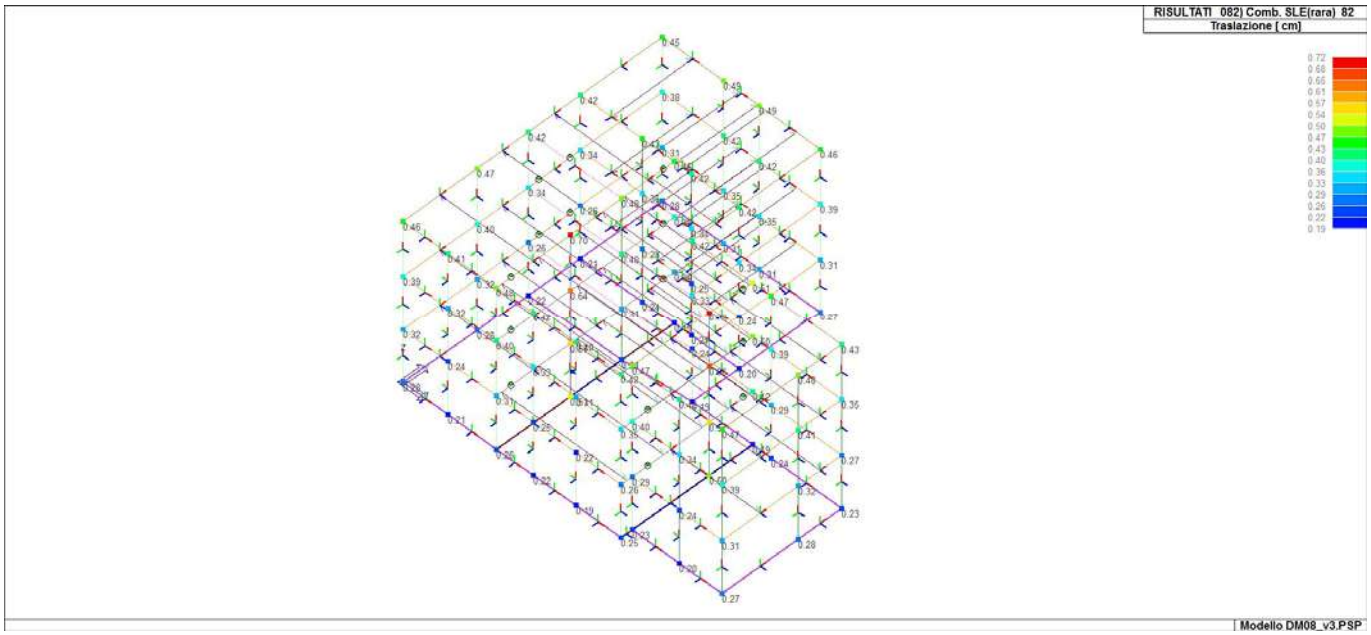
41_RIS_SPOSTAMENTI_004_Comb. SLU A1 4



41_RIS_SPOSTAMENTI_046_Comb. SLU A1 (SLV sism.) 46



41_RIS_SPOSTAMENTI_078_Comb. SLE (SLD Danno sism.) 78



41_RIS_SPOSTAMENTI_082_Comb. SLE(rara) 82

RISULTATI OPERE DI FONDAZIONE

LEGENDA RISULTATI OPERE DI FONDAZIONE

Il controllo dei risultati delle analisi condotte, per quanto concerne le opere di fondazione, è possibile in relazione alle tabelle sotto riportate.

La prima tabella è riferita alle fondazioni tipo palo e plinto su pali.

Per questo tipo di fondazione vengono riportate le sei componenti di sollecitazione (espresse nel riferimento globale della struttura) per ogni palo componente l'opera.

In particolare viene riportato:

Nodo	numero del nodo a cui è applicato il plinto
Tipo	codice corrispondente al nome assegnato al tipo di plinto di fondazione: 3) palo singolo (*PALO*) 4) plinto su palo 5) plinto su due pali (*PL.2P*) 6) plinto su tre pali (*PL.3P*) 7) plinto su quattro pali (*PL.4P*) 8) plinto rettangolare su cinque pali (*PL.5P.R*) 9) plinto pentagonale su cinque pali (*PL.5P*) 10) plinto su sei pali (*PL.6P*)
Palo	numero del palo
Comb.	combinazione di carico in cui si verificano le sei componenti di sollecitazione.
Quota	quota assoluta della sezione del palo per cui si riportano le sei componenti di sollecitazione.

L'azione Fz (corrispondente allo sforzo normale nel palo) è costante poiché il peso del palo stesso non è considerato nella modellazione.

La seconda tabella è riferita alle fondazioni tipo plinto su suolo elastico.

Per questo tipo di fondazione vengono riportate le pressioni nei quattro vertici dell'impronta sul terreno.

In particolare viene riportato:

Nodo		numero del nodo a cui è applicato il plinto
Tipo		Codice identificativo del nome assegnato al plinto
area		area dell'impronta del plinto
Wink O	Wink V	coefficienti di Winkler (orizzontale e verticale) adottati
Comb		Combinazione di carico in cui si verificano i valori riportati
Pt (P1 P2 P3 P4)		valori di pressione nei vertici

La terza tabella è riferita alle fondazioni tipo platea su suolo elastico.

Per questo tipo di fondazione vengono riportate le pressioni in ogni vertice (nodo) degli elementi costituenti la platea.

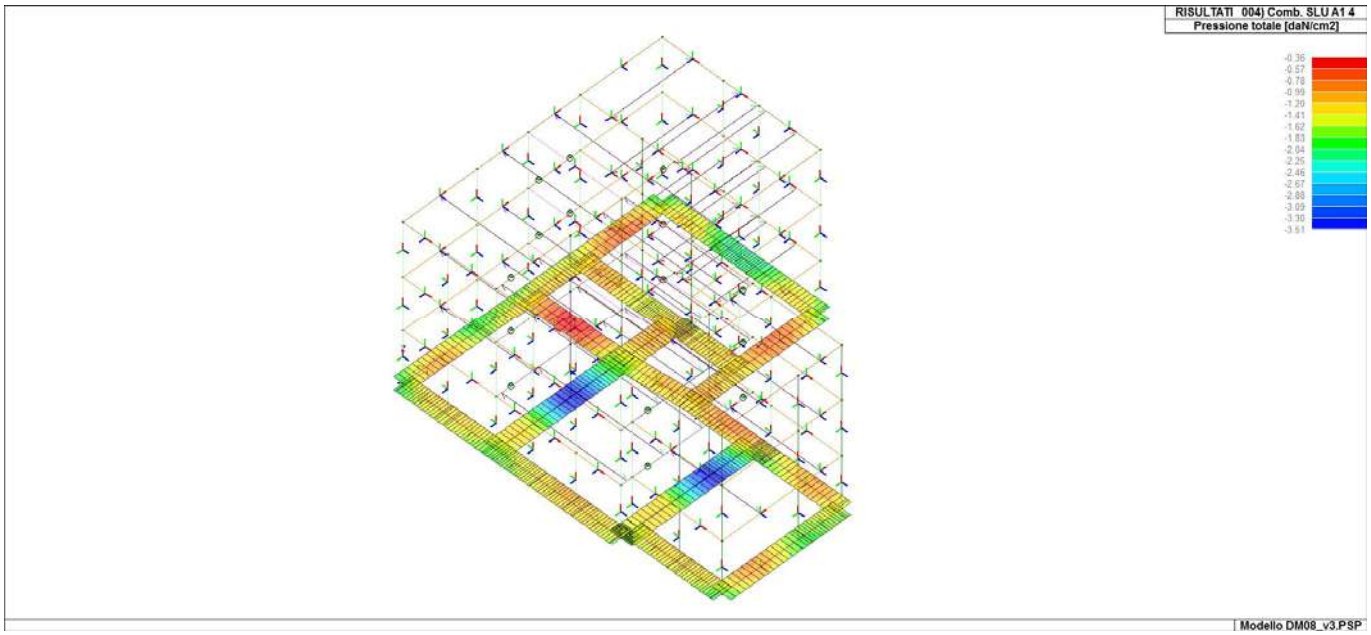
La quarta tabella è riferita alle fondazioni tipo trave su suolo elastico.

Per questo tipo di fondazione vengono riportate le pressioni alle estremità dell'elemento e la massima (in valore assoluto) pressione lungo lo sviluppo dell'elemento.

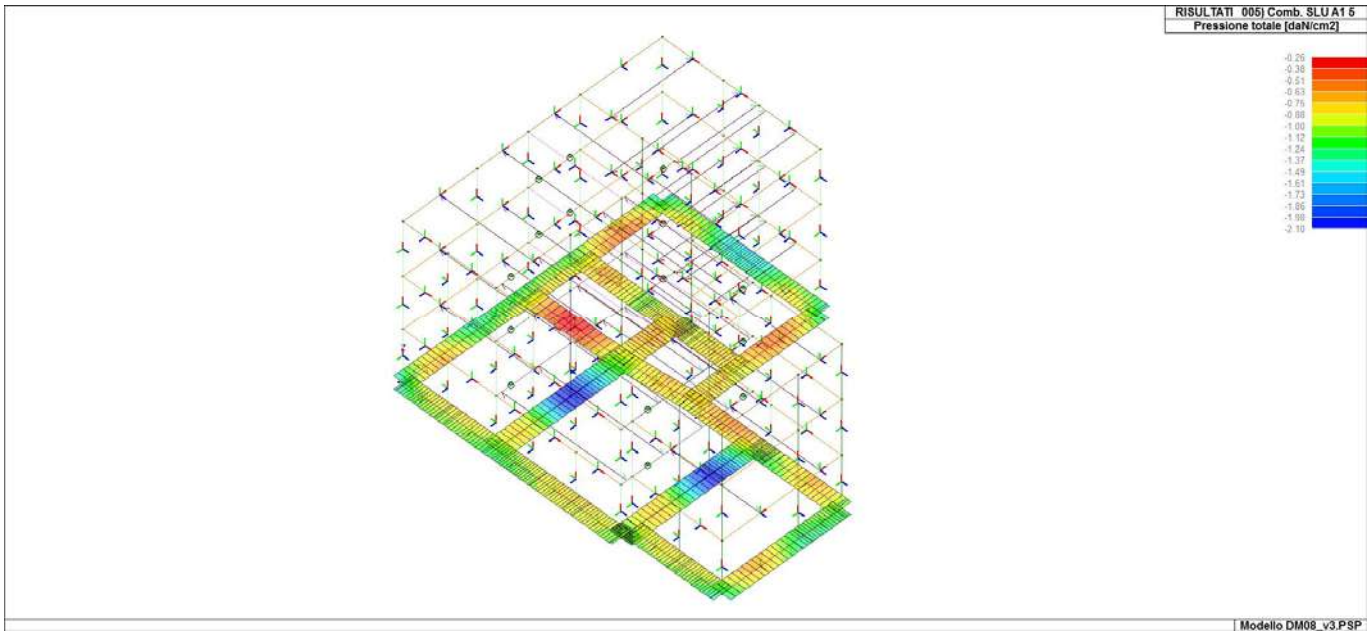
Vengono inoltre riportati, con funzione statistica, i valori massimo e minimo delle pressioni che compaiono nella tabella.

Elem.	Cmb	Pt ini	Pt fin	Pt max	Cmb	Pt ini	Pt fin	Pt max	Cmb	Pt ini	Pt fin	Pt max
		daN/cm2	daN/cm2	daN/cm2		daN/cm2	daN/cm2	daN/cm2		daN/cm2	daN/cm2	daN/cm2
20	71	-1.51	-1.40	-1.51	82	-1.37	-1.05	-1.37				
35	67	-1.81	-1.26	-1.81	82	-1.29	-1.16	-1.29				
78	71	-2.86	-1.42	-2.86	82	-2.59	-1.25	-2.59				
87	51	-1.45	-1.07	-1.45	82	-1.25	-0.98	-1.25				
136	47	-2.68	-1.25	-2.68	82	-2.57	-1.14	-2.57				
152	71	-1.49	-1.50	-1.50	82	-1.14	-1.37	-1.37				
166	71	-1.47	-2.86	-2.89	82	-1.30	-2.59	-2.59				
178	75	-2.67	-1.62	-2.67	82	-1.62	-1.20	-1.62				
179	51	-2.47	-1.73	-2.47	82	-1.59	-1.54	-1.59				
180	71	-2.52	-2.07	-2.52	82	-1.55	-1.64	-1.64				
181	59	-1.17	-1.43	-1.43	82	-0.97	-1.04	-1.04				
182	55	-1.40	-1.53	-1.55	82	-1.12	-1.20	-1.20				
183	67	-1.44	-1.50	-1.50	82	-1.05	-1.24	-1.24				
184	55	-2.46	-1.93	-2.46	82	-1.51	-1.49	-1.51				
185	67	-1.58	-1.71	-1.71	82	-1.24	-1.14	-1.24				
186	63	-1.59	-1.67	-1.68	82	-1.20	-1.45	-1.45				
187	75	-1.77	-1.59	-1.77	82	-1.54	-1.34	-1.55				
188	75	-2.11	-2.14	-2.14	82	-1.64	-1.64	-1.71				
189	75	-1.33	-2.45	-2.45	82	-1.04	-1.51	-1.51				
190	55	-1.53	-1.07	-1.53	82	-1.20	-1.03	-1.20				
191	63	-1.84	-2.92	-2.92	82	-1.42	-1.21	-1.42				
192	63	-1.86	-2.83	-2.83	82	-1.49	-1.32	-1.50				
193	67	-1.71	-2.71	-2.71	82	-1.14	-1.57	-1.57				
194	63	-1.67	-1.47	-1.67	82	-1.45	-1.19	-1.45				
195	71	-1.61	-1.33	-1.62	82	-1.34	-1.24	-1.34				
196	75	-2.14	-2.63	-2.63	82	-1.64	-1.51	-1.64				
197	75	-1.38	-1.40	-1.40	82	-1.08	-1.01	-1.08				
198	71	-1.47	-1.43	-1.47	82	-1.19	-1.00	-1.19				
199	63	-1.34	-2.34	-2.34	82	-1.24	-1.57	-1.57				
200	67	-1.43	-2.09	-2.09	82	-1.00	-1.28	-1.28				
201	63	-1.48	-1.84	-1.84	82	-1.24	-1.42	-1.42				
202	75	-1.20	-1.38	-1.38	82	-1.03	-1.08	-1.08				
207	47	-1.23	-2.68	-2.68	82	-1.16	-2.57	-2.57				

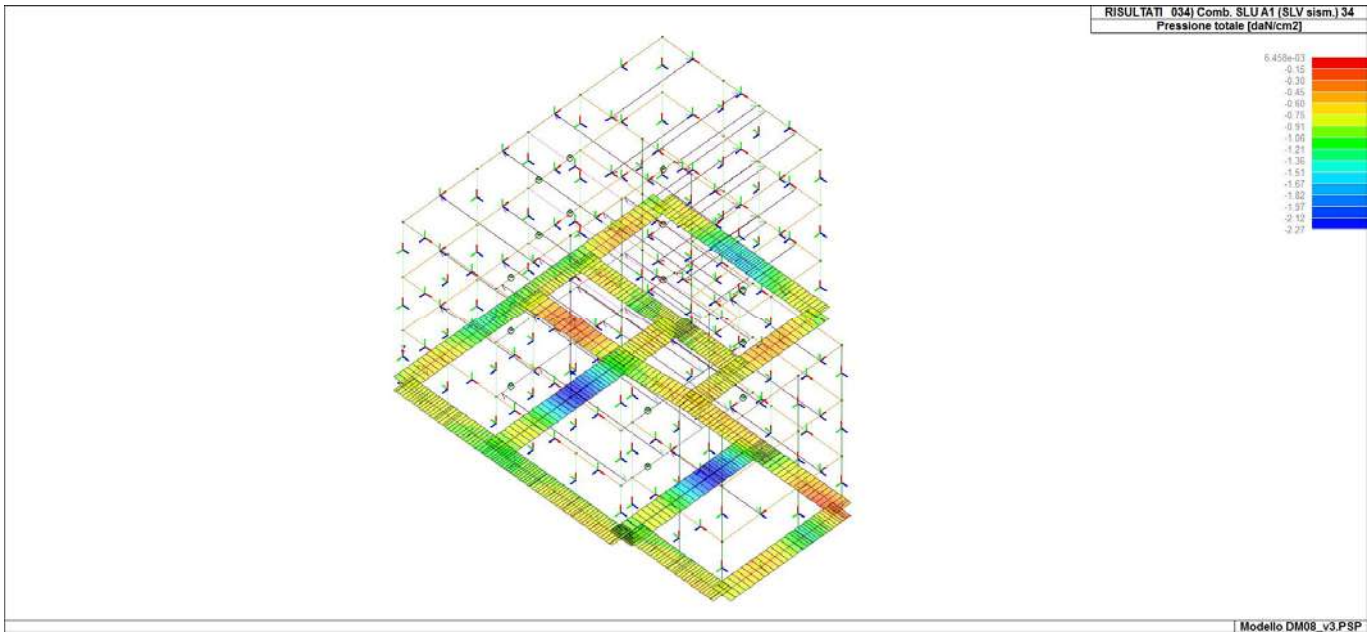
Elem.		Pt ini	Pt fin	Pt max		Pt ini	Pt fin	Pt max		Pt ini	Pt fin	Pt max
		-2.92										
		-0.97										



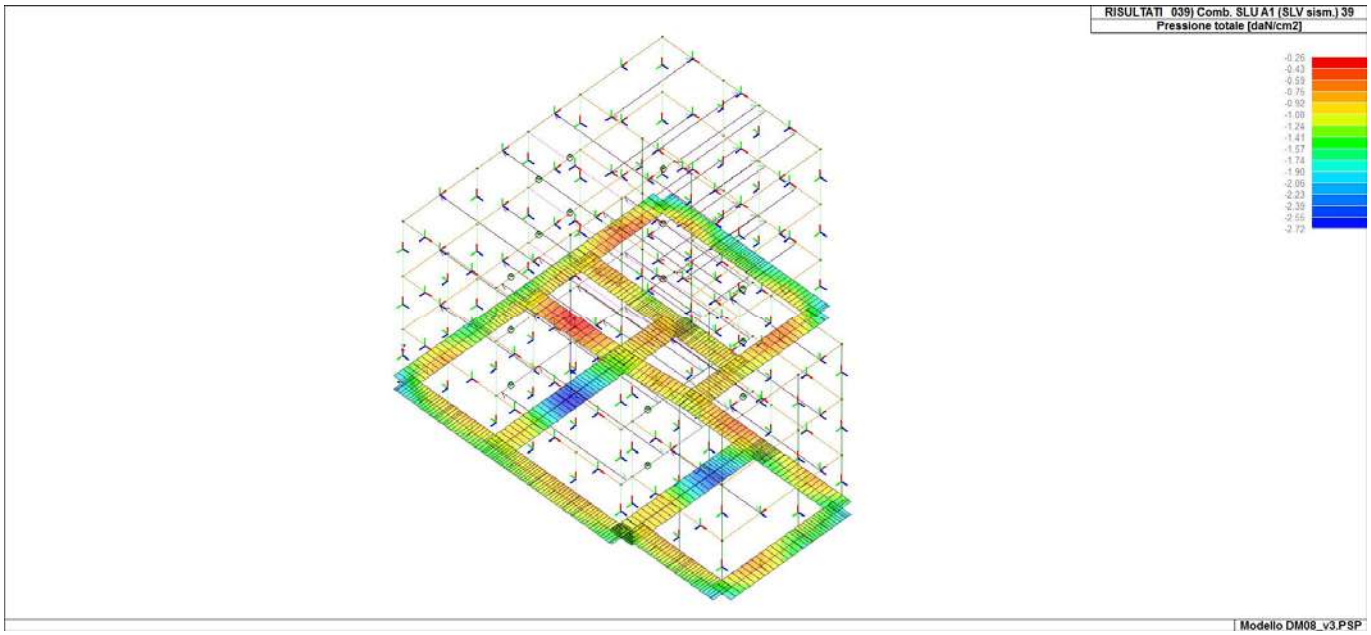
46_RIS_PRESSIONI_004_Comb. SLU A1 4



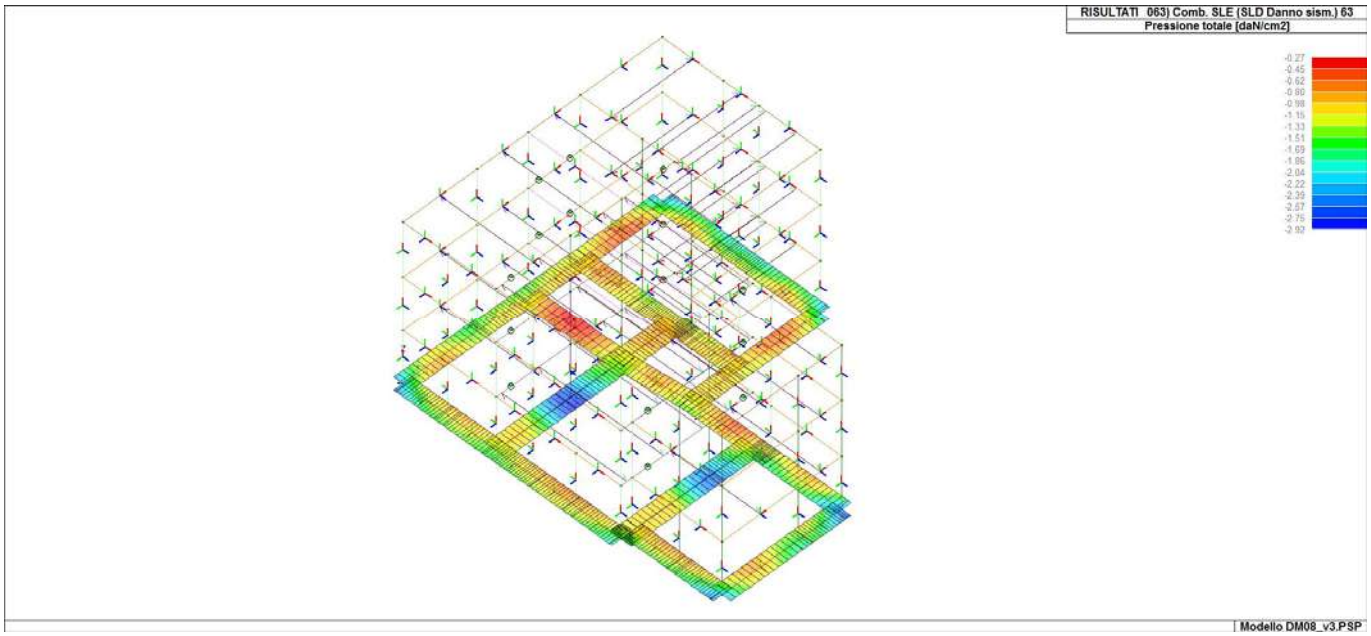
46_RIS_PRESSIONI_005_Comb. SLU A1 5



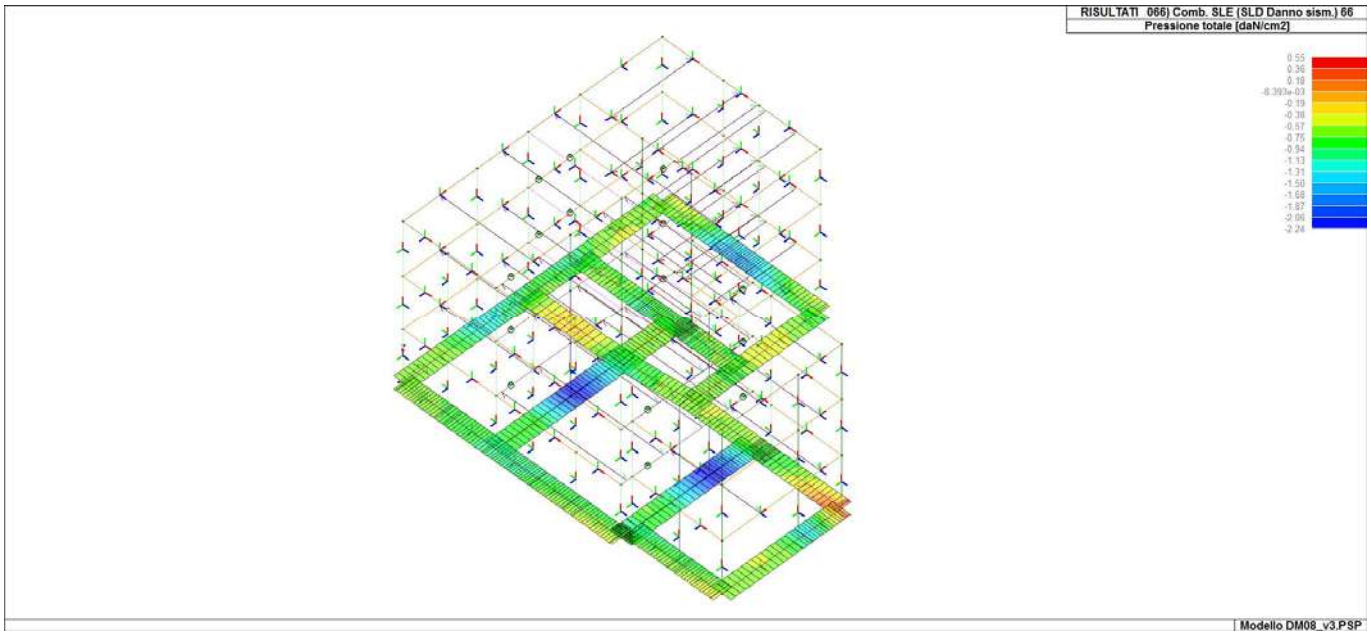
46_RIS_PRESSIONI_034_Comb. SLU A1 (SLV sism.) 34



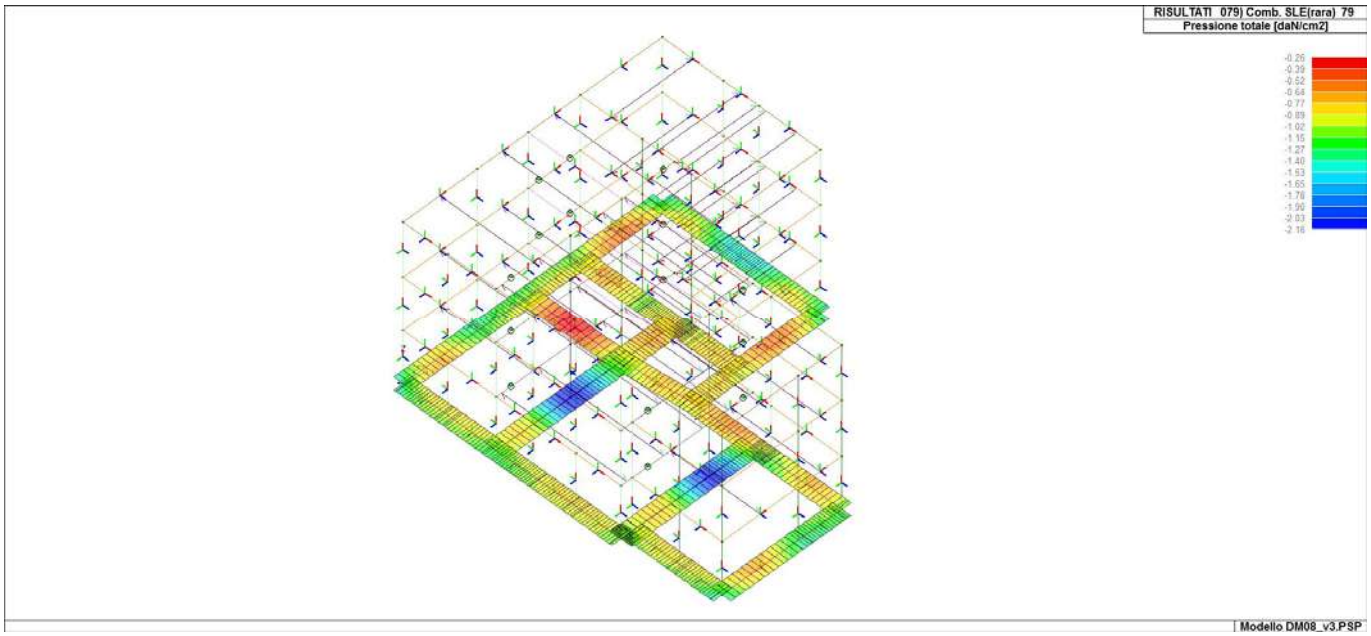
46_RIS_PRESSIONI_039_Comb. SLU A1 (SLV sism.) 39



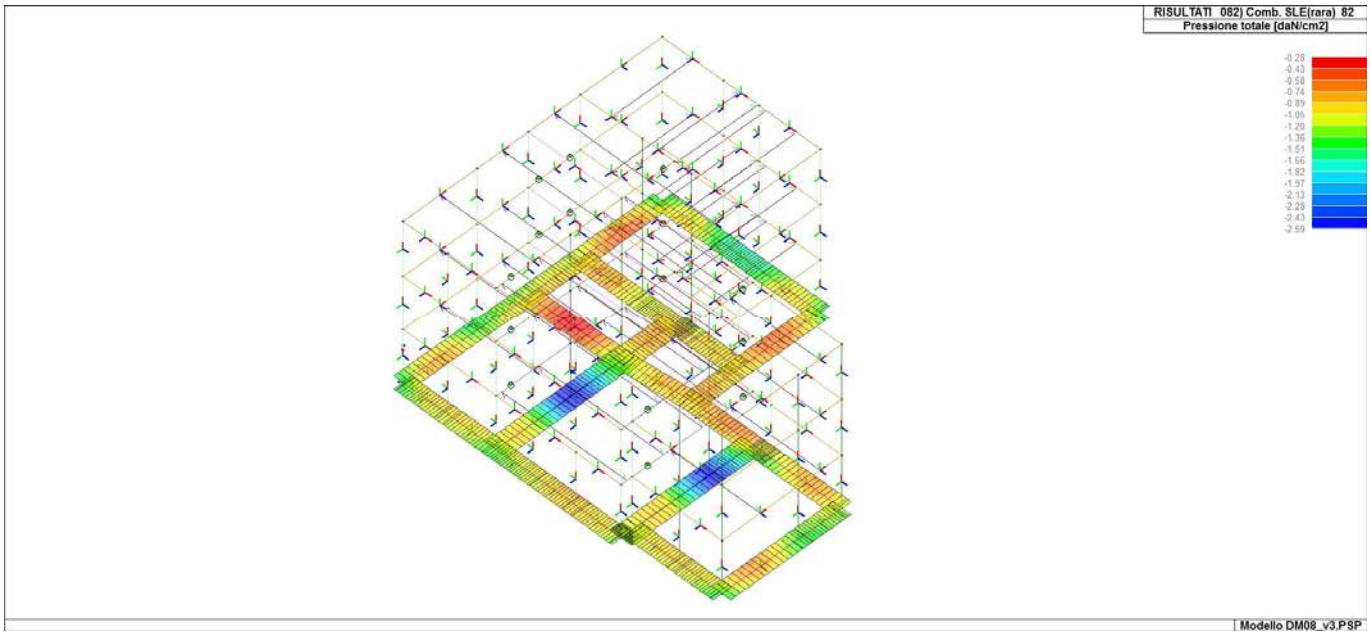
46_RIS_PRESSIONI_063_Comb. SLE (SLD Danno sism.) 63



46_RIS_PRESSIONI_066_Comb. SLE (SLD Danno sism.) 66



46_RIS_PRESSIONI_079_Comb. SLE(rara) 79



46_RIS_PRESSIONI_082_Comb. SLE(rara) 82

RISULTATI ELEMENTI TIPO TRAVE

LEGENDA RISULTATI ELEMENTI TIPO TRAVE

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

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

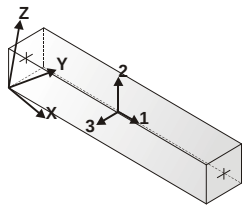
Per ogni elemento e per ogni combinazione (o caso di carico) vengono riportati i risultati più significativi.

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

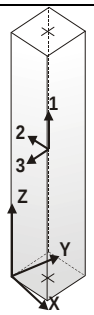
Pilas.	numero dell'elemento pilastro
Cmb	combinazione in cui si verificano i valori riportati
M3 mx/mn	momento flettente in campata M3 max (prima riga) / min (seconda riga)
M2 mx/mn	momento flettente in campata M2 max (prima riga) / min (seconda riga)
D2/D3	freccia massima in direzione 2 (prima riga)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

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

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



orientamento elementi 2D non verticali

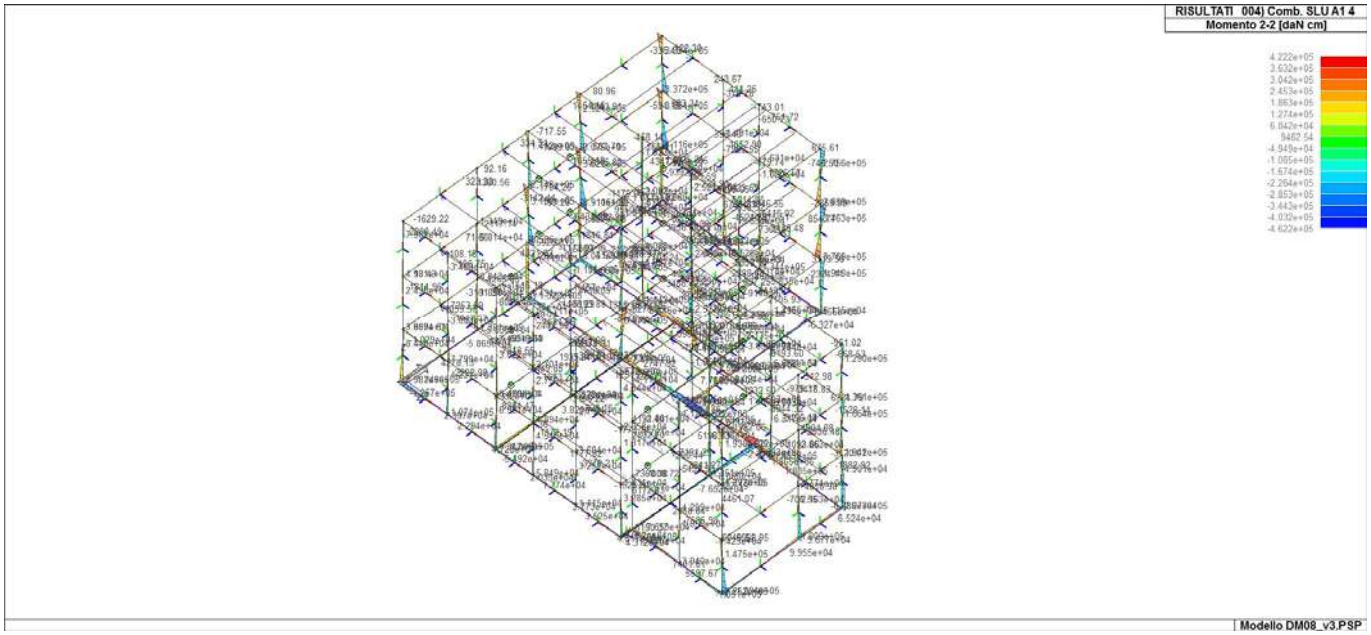


orientamento elementi 2D verticali

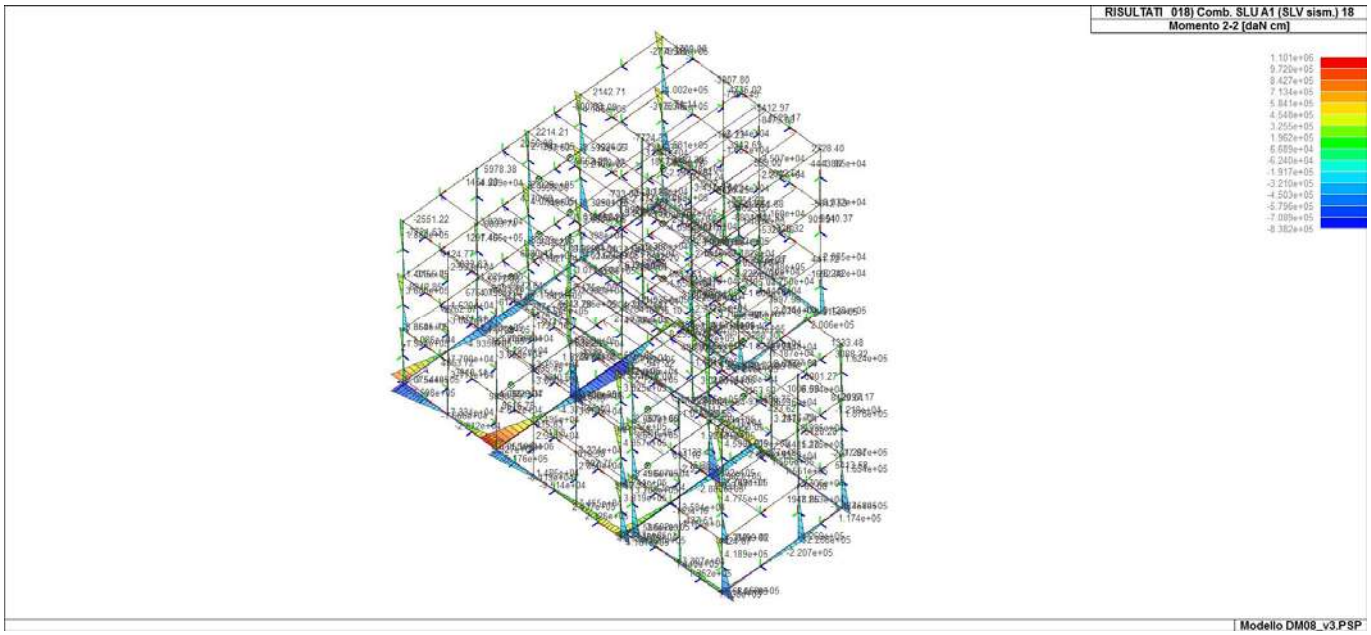
Pilas.	Cmb	M3 mx/mn	M2 mx/mn	D 2 / D 3	Q 2 / Q 3	Pos.	N	V 2	V 3	T	M 2	M 3
		daN cm	daN cm	cm	daN	cm	daN	daN	daN	daN cm	daN cm	daN cm
Pilas.		**M3 mx/mn**	**M2 mx/mn**	**D 2 / D 3**	**Q 2 / Q 3**		**N**	**V 2**	**V 3**	**T**		
		-4.472e+06	-1.537e+06	-1.29	0.0		-1.798e+05	-1.552e+04	-5394.39	-1.427e+05		
		5.377e+06	1.330e+06	1.53	0.0		1.321e+04	1.765e+04	7877.00	1.375e+05		

Trave	Cmb	M3 mx/mn	M2 mx/mn	D 2 / D 3	Q 2 / Q 3	Pos.	N	V 2	V 3	T	M 2	M 3
		daN cm	daN cm	cm	daN	cm	daN	daN	daN	daN cm	daN cm	daN cm
Trave		**M3 mx/mn**	**M2 mx/mn**	**D 2 / D 3**	**Q 2 / Q 3**		**N**	**V 2**	**V 3**	**T**		
		-3.643e+06	-2.260e+05	-1.31	-6.984e+04		-7549.92	-4.030e+04	-1562.99	-5.960e+05		
		2.506e+06	2.693e+05	0.69	0.0		6475.12	2.956e+04	1776.18	3.479e+05		

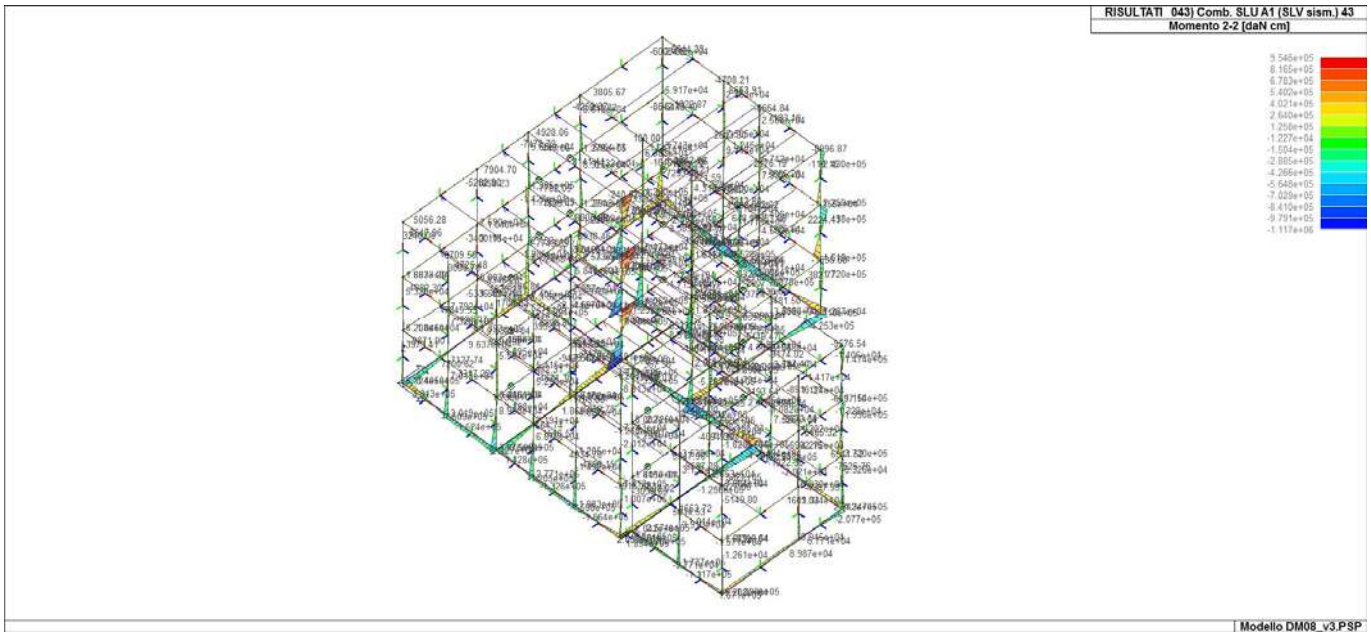
Trave f.	Cmb	M3 mx/mn	M2 mx/mn	D 2 / D 3	Pt	Pos.	N	V 2	V 3	T	M 2	M 3
		daN cm	daN cm	cm	daN/cm2	cm	daN	daN	daN	daN cm	daN cm	daN cm
Trave f.		**M3 mx/mn**	**M2 mx/mn**	**D 2 / D 3**	**Pt**		**N**	**V 2**	**V 3**	**T**		
		-2.814e+06	-1.469e+06	-0.42	-3.51		-1.149e+04	-8.721e+04	-8872.52	-1.280e+06		
		8.833e+06	1.591e+06	0.37	-0.68		8575.49	9.262e+04	1.144e+04	8.827e+05		



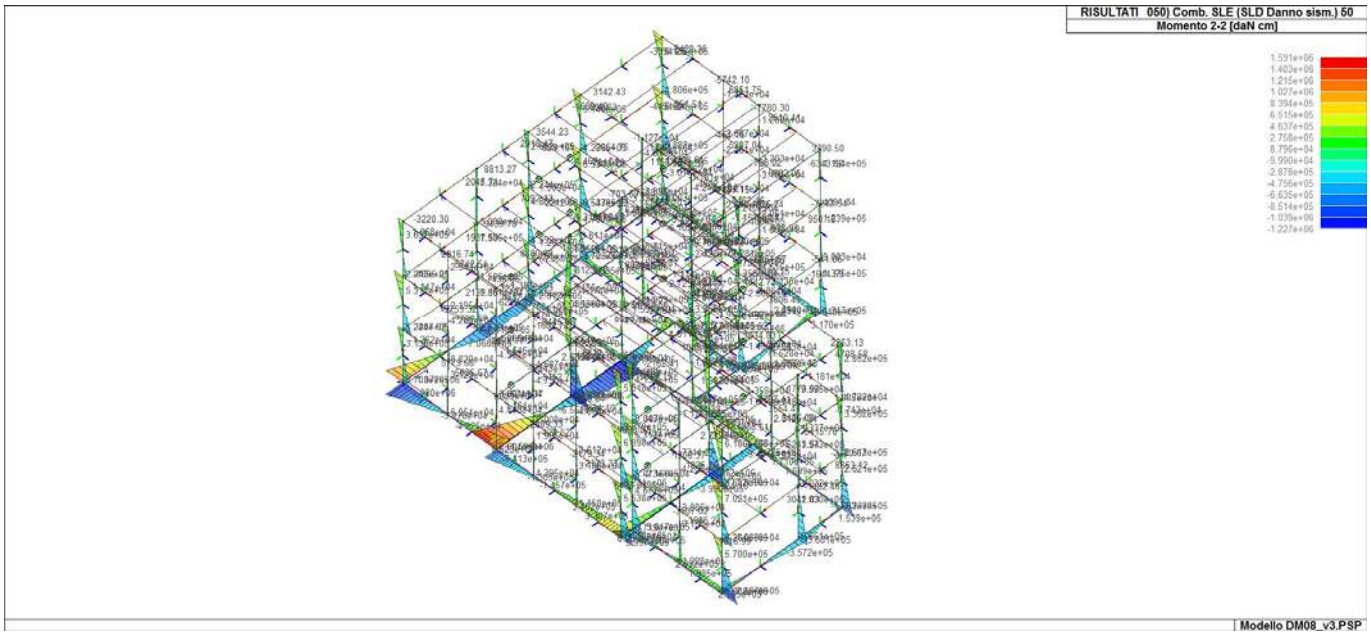
43_RIS_M2_004_Comb. SLU A1 4



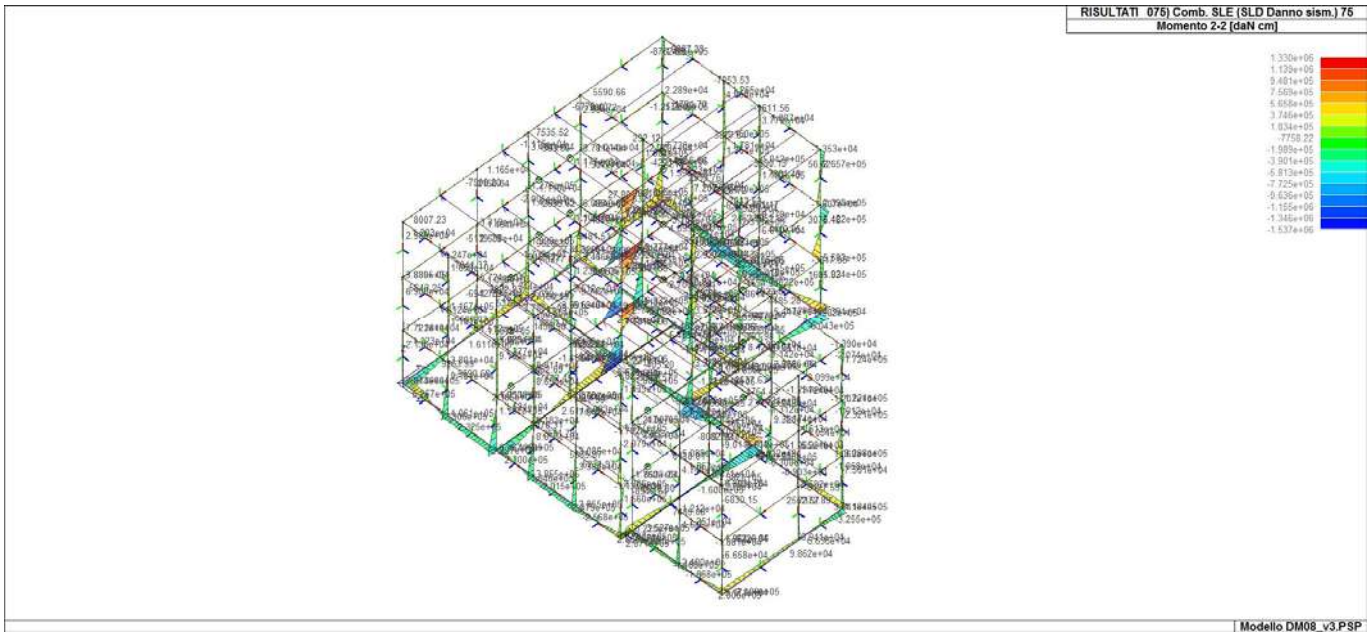
43_RIS_M2_018_Comb. SLU A1 (SLV sism.) 18



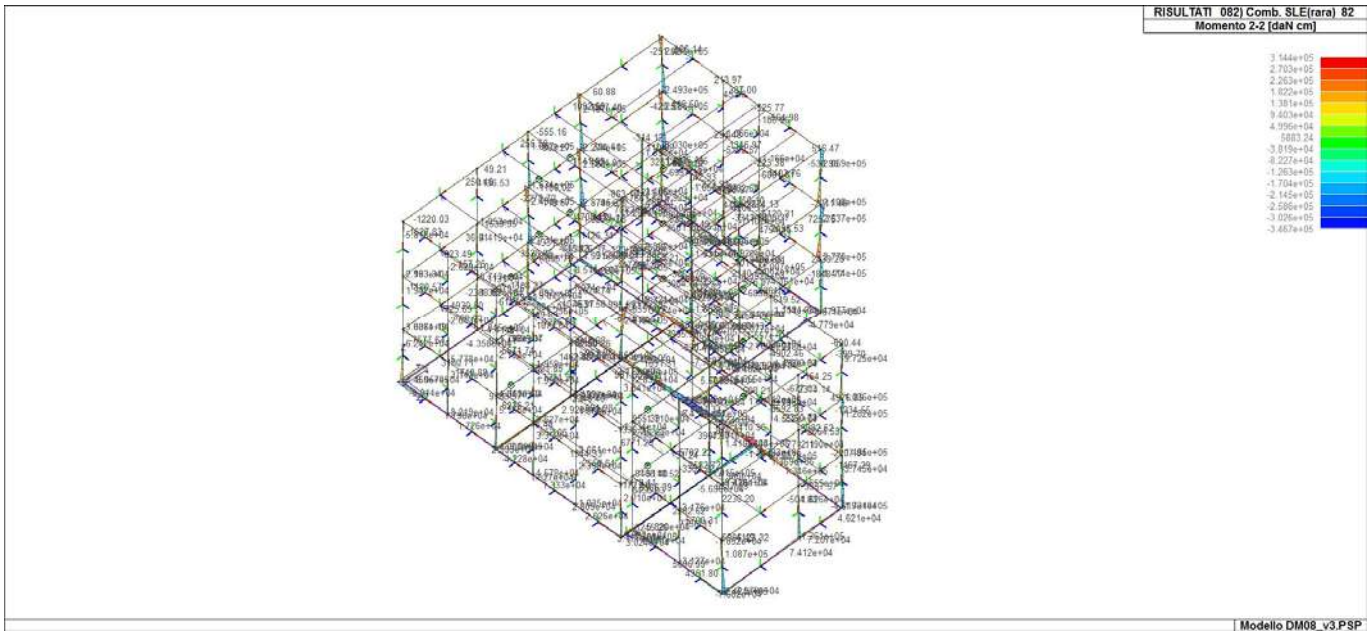
43_RIS_M2_043_Comb. SLU A1 (SLV sism.) 43



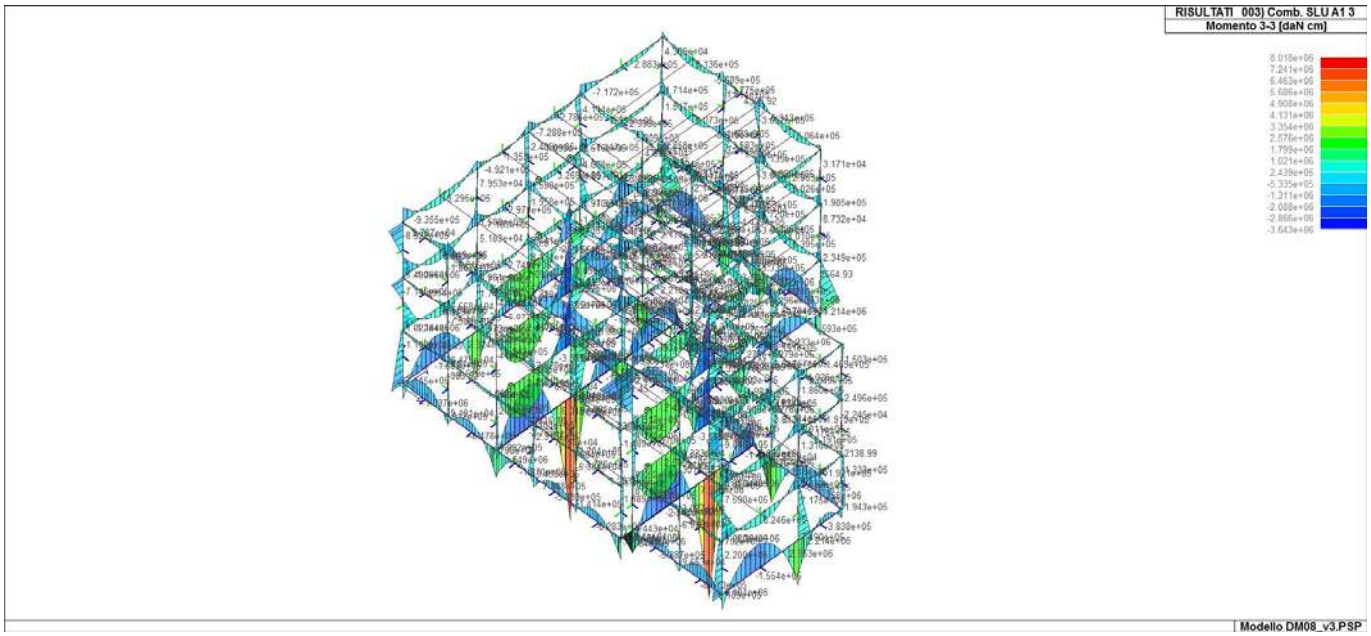
43_RIS_M2_050_Comb. SLE (SLD Danno sism.) 50



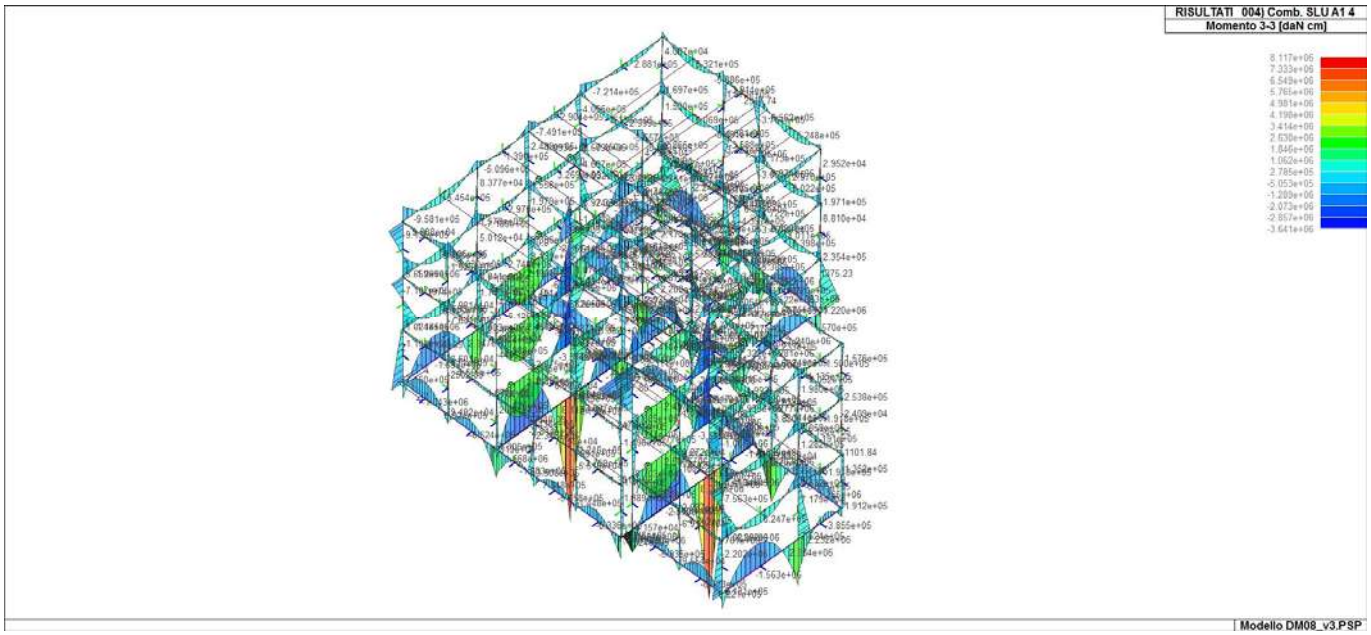
43_RIS_M2_075_Comb. SLE (SLD Danno sism.) 75



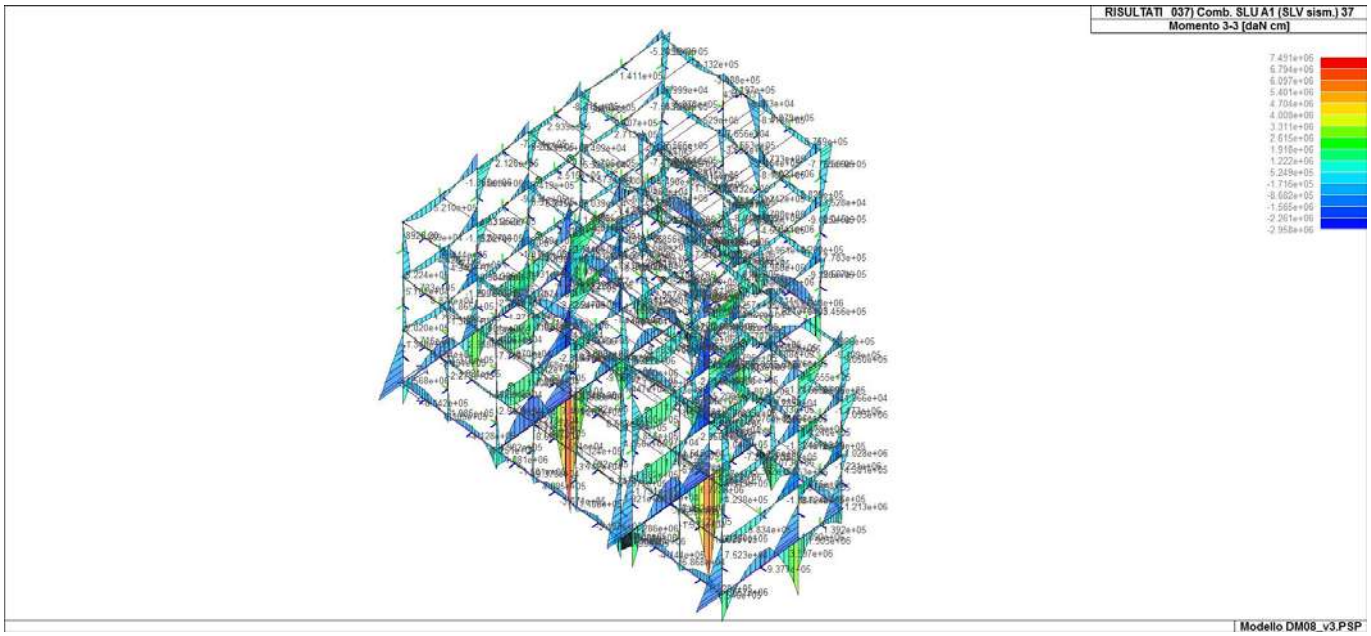
43_RIS_M2_082_Comb. SLE(rara) 82



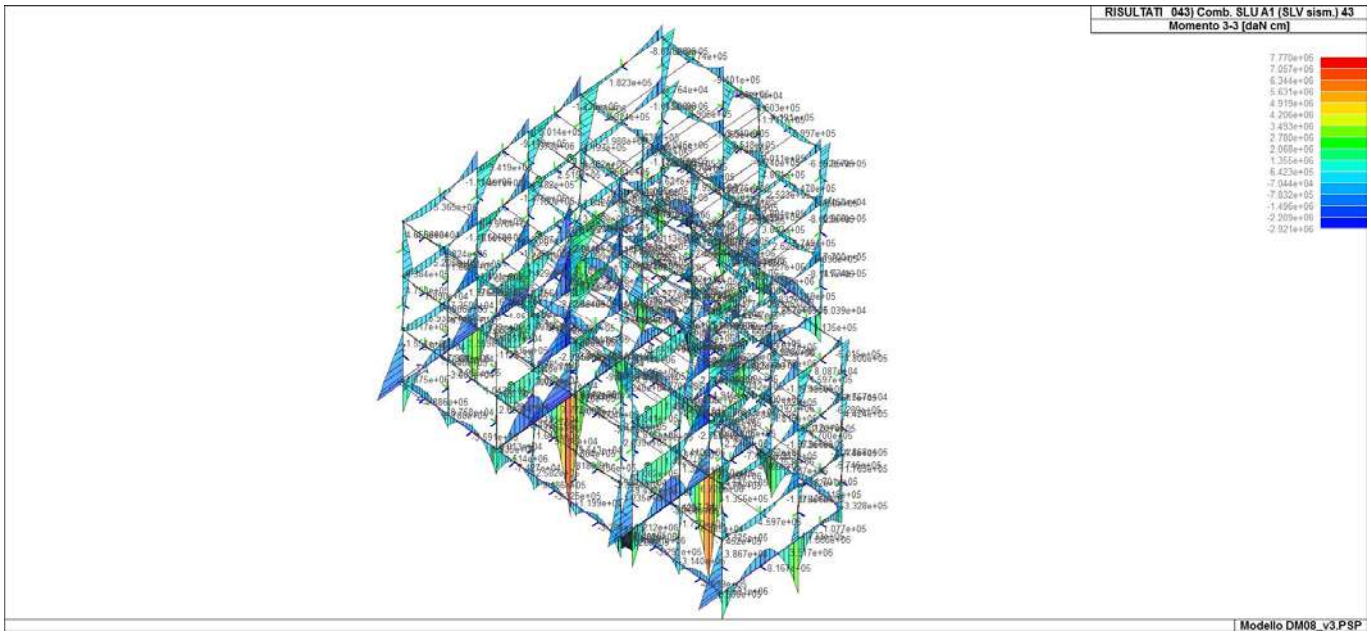
43_RIS_M3_003_Comb. SLU A1 3



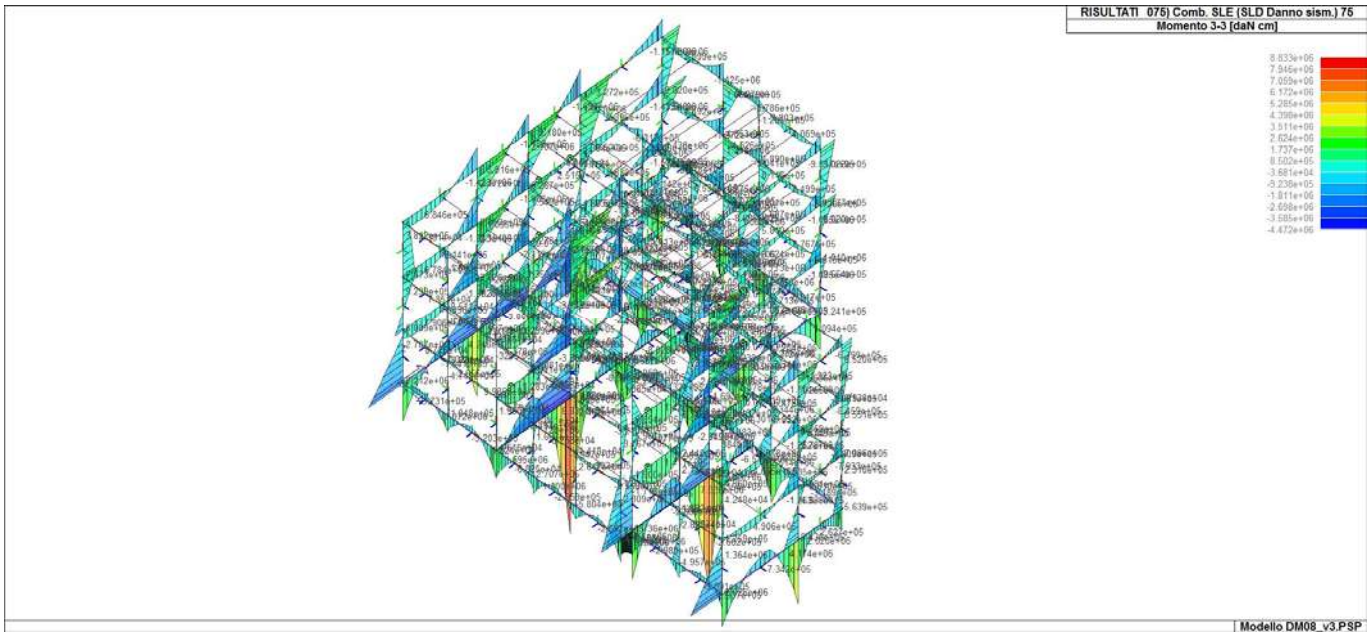
43_RIS_M3_004_Comb. SLU A1 4



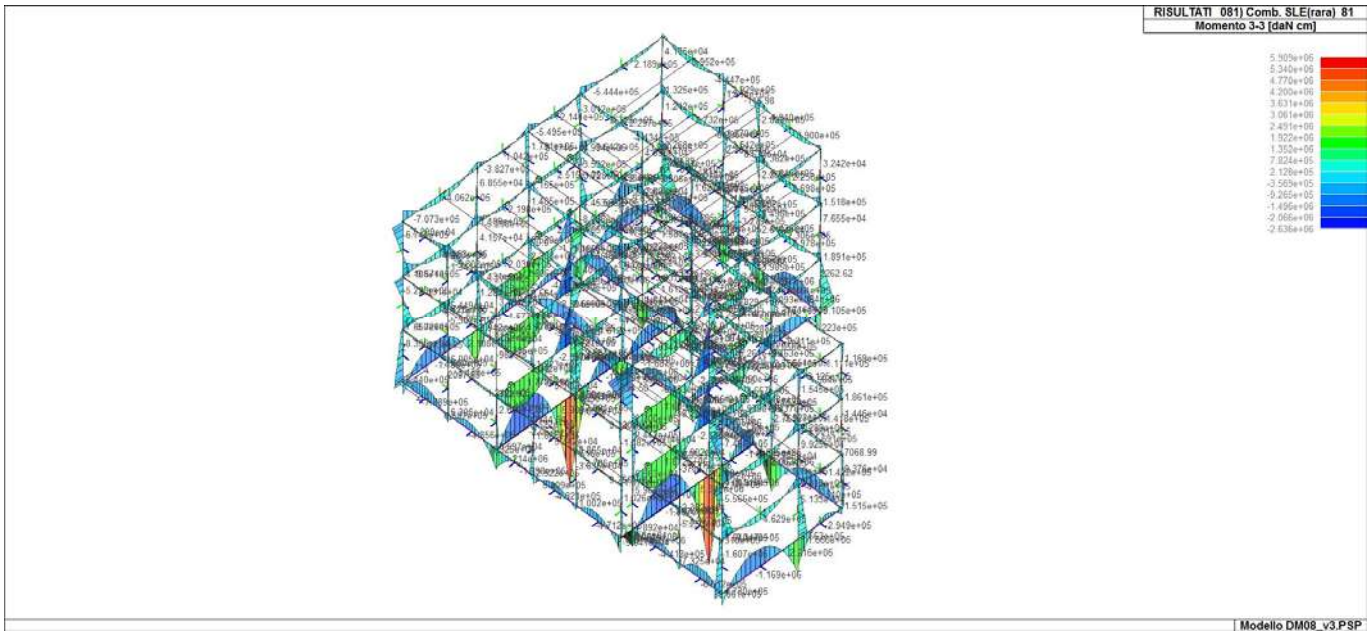
43_RIS_M3_037_Comb. SLU A1 (SLV sism.) 37



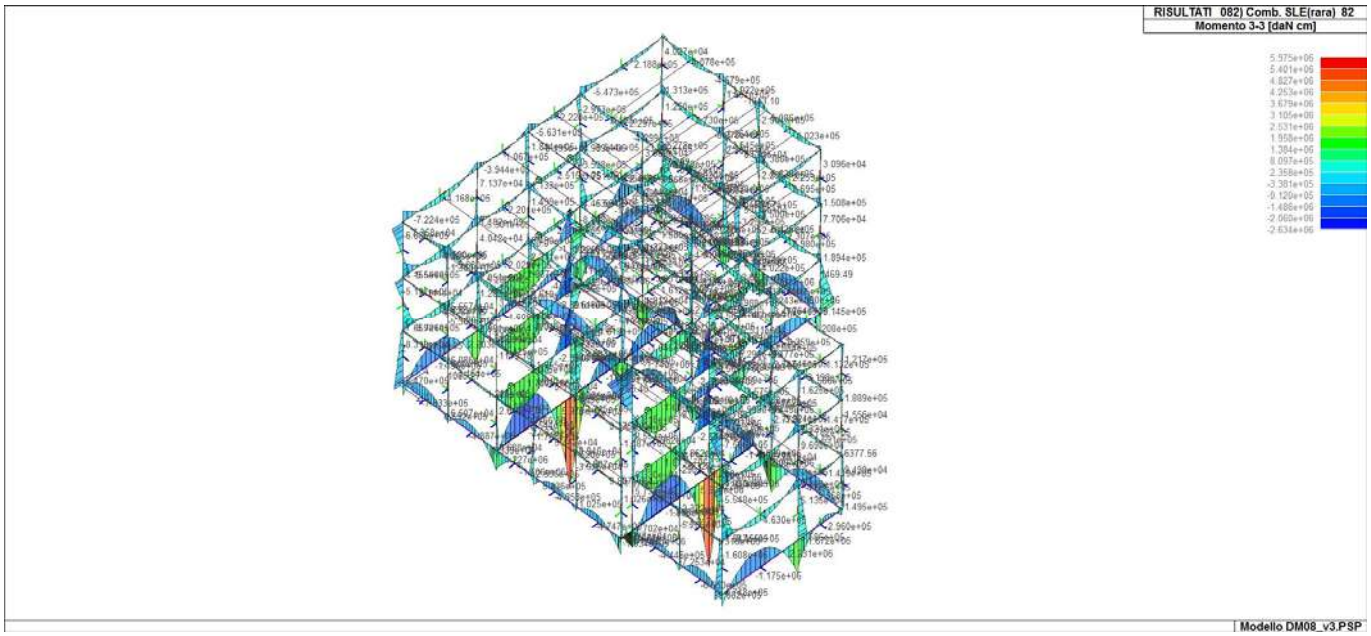
43_RIS_M3_043_Comb. SLU A1 (SLV sism.) 43



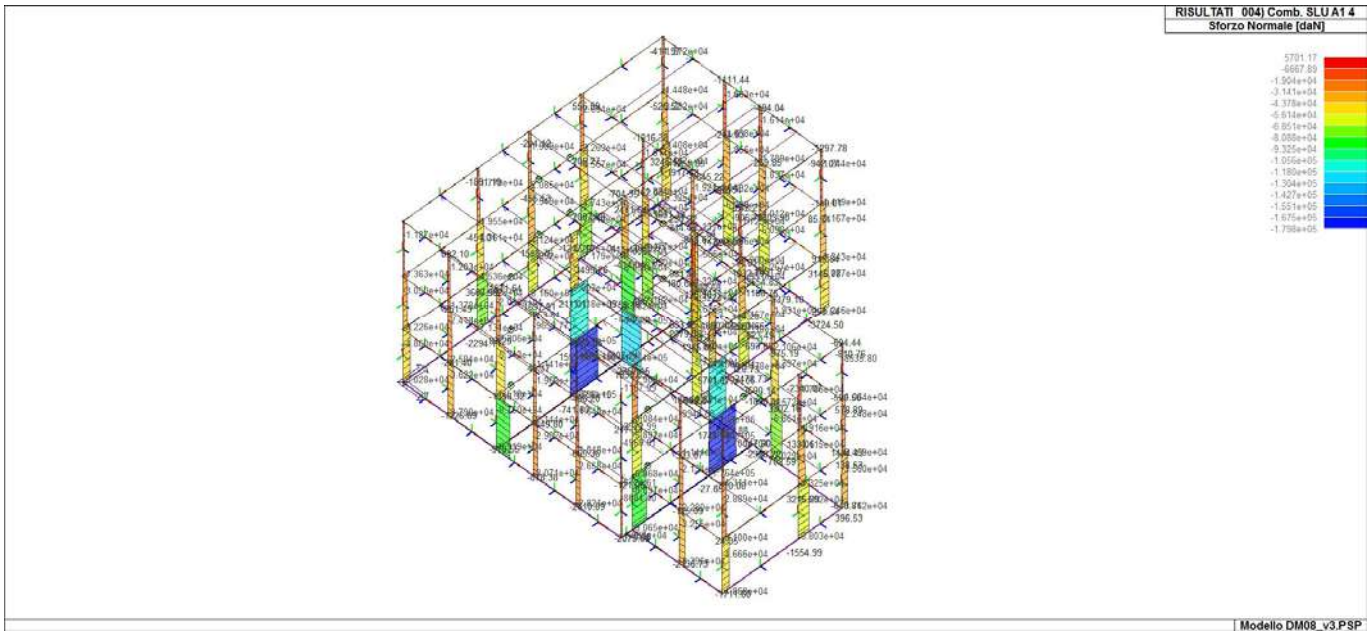
43_RIS_M3_075_Comb. SLE (SLD Danno sism.) 75



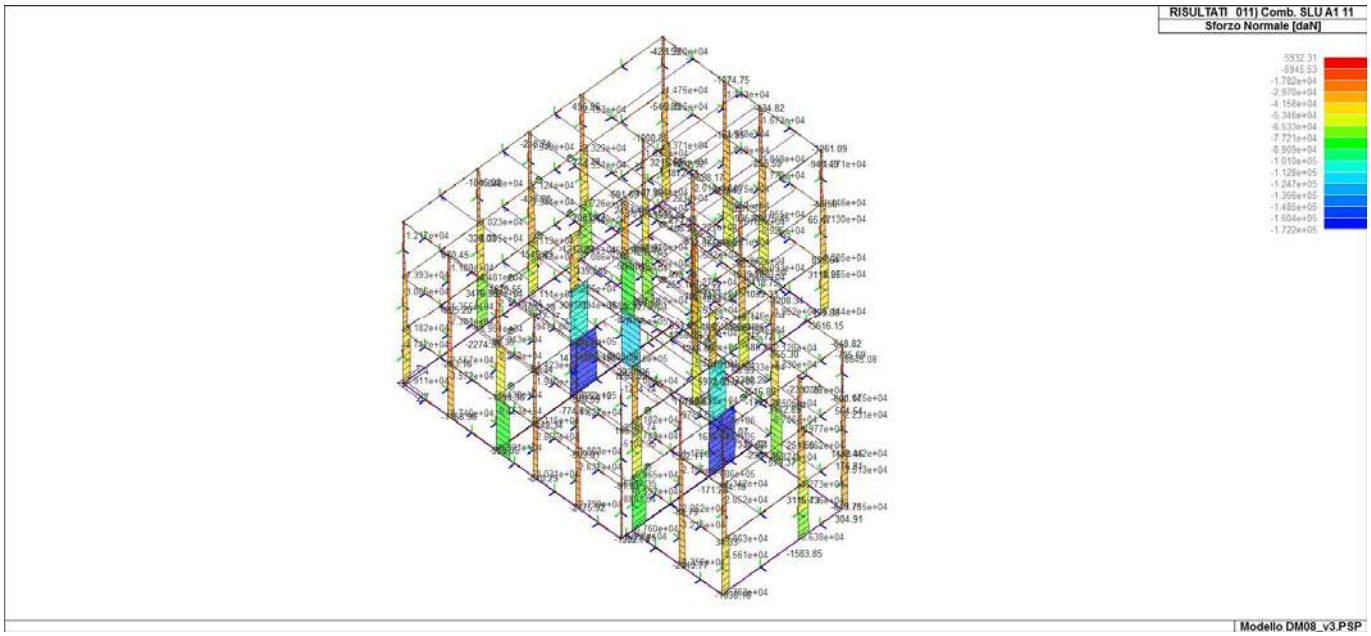
43_RIS_M3_081_Comb. SLE(rara) 81



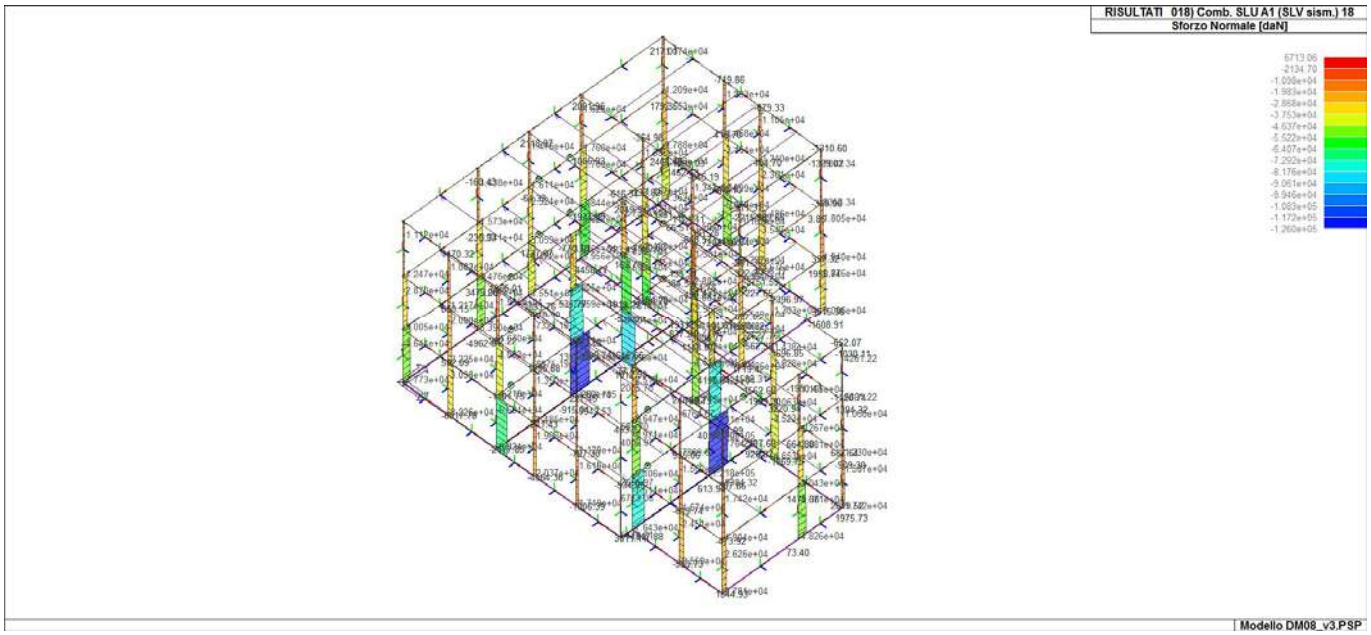
43_RIS_M3_082_Comb. SLE(rara) 82



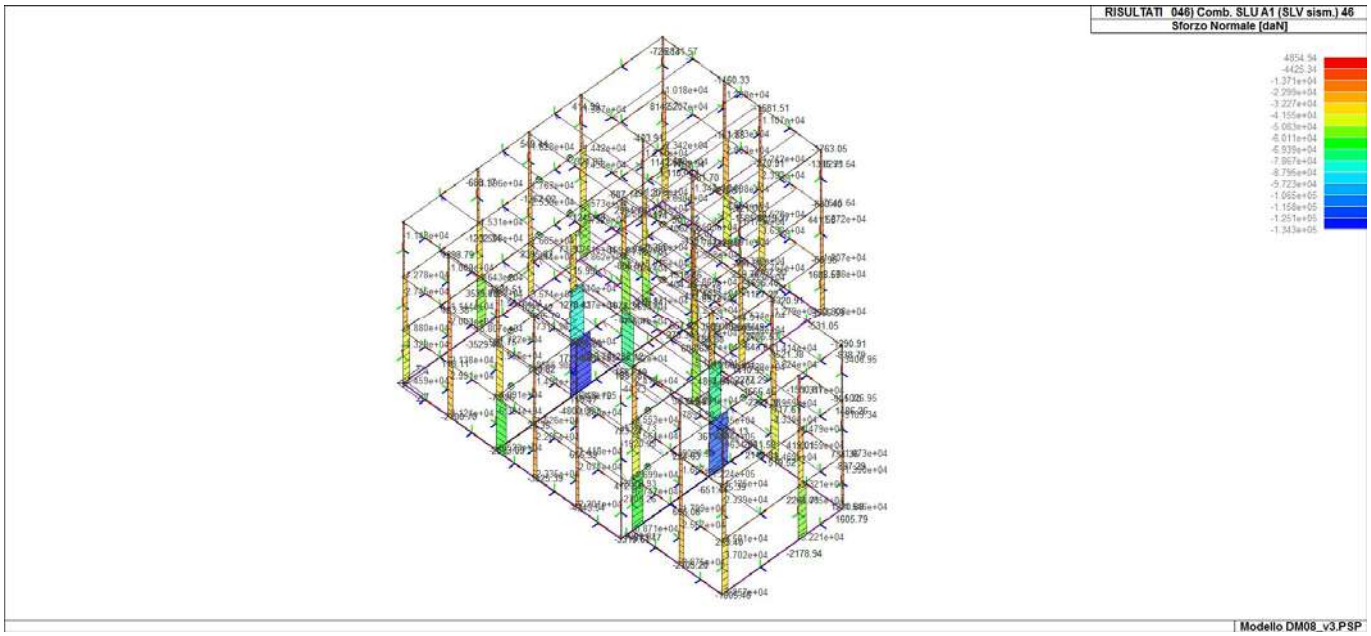
43_RIS_N_004_Comb. SLU A1 4



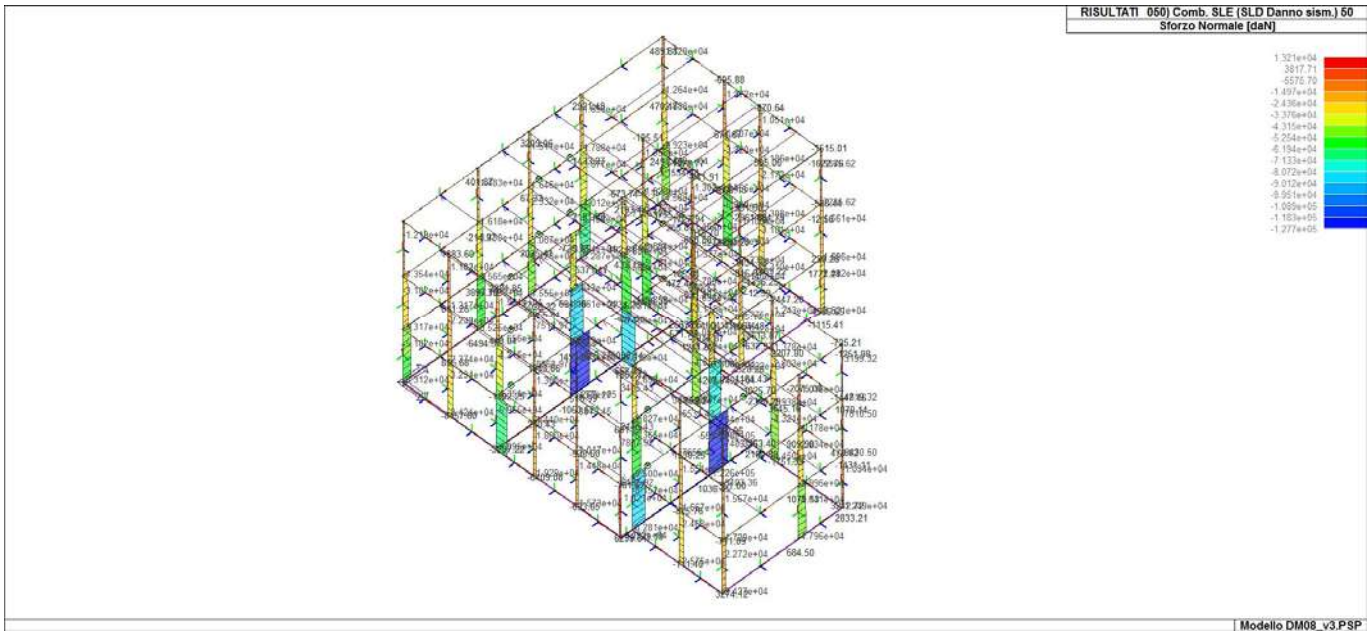
43_RIS_N_011_Comb. SLU A1 11



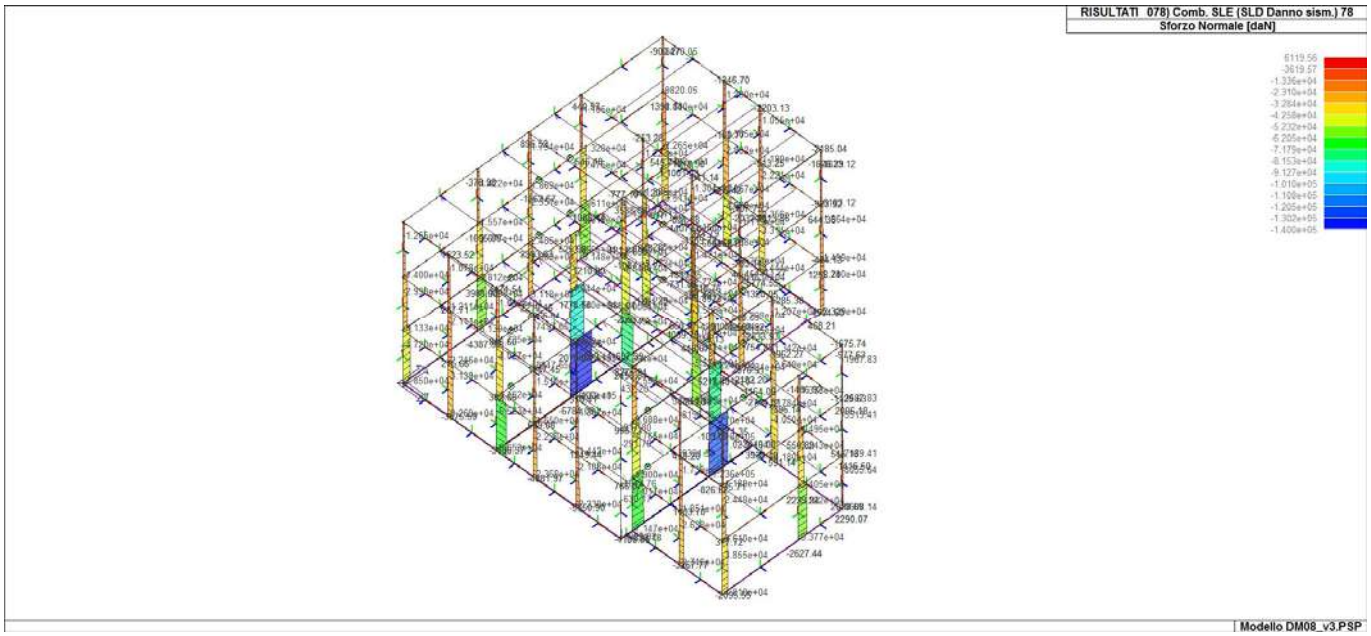
43_RIS_N_018_Comb. SLU A1 (SLV sism.) 18



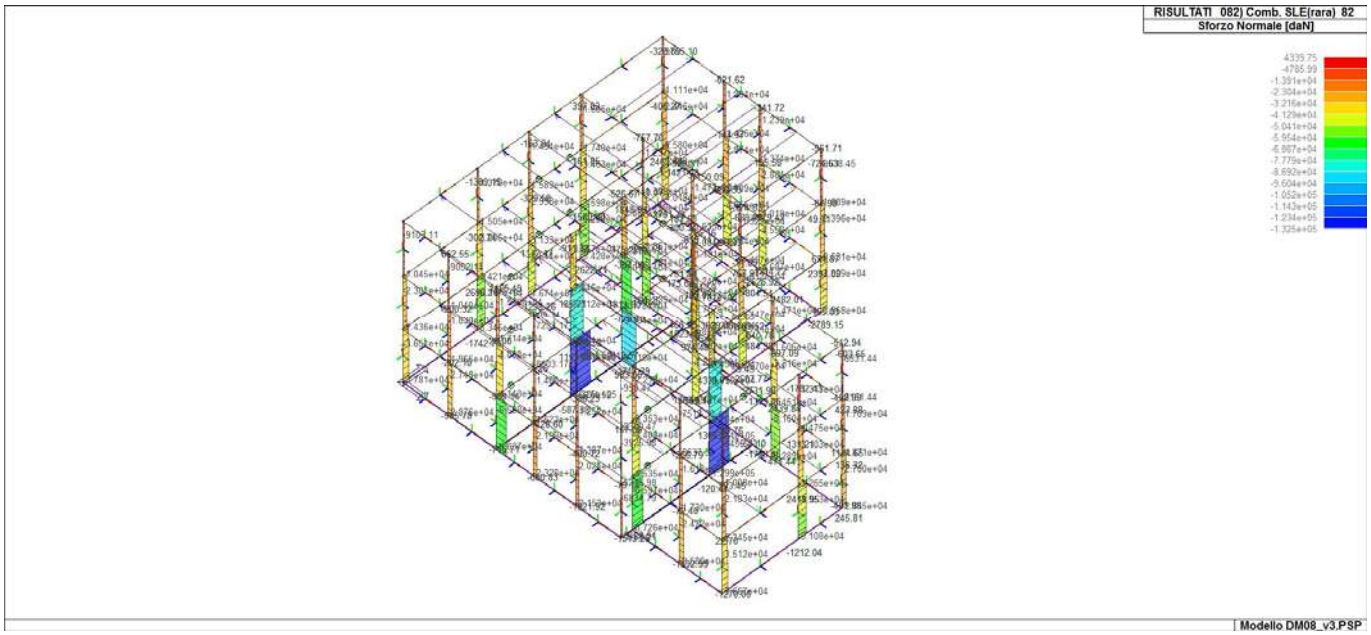
43_RIS_N_046_Comb. SLU A1 (SLV sism.) 46



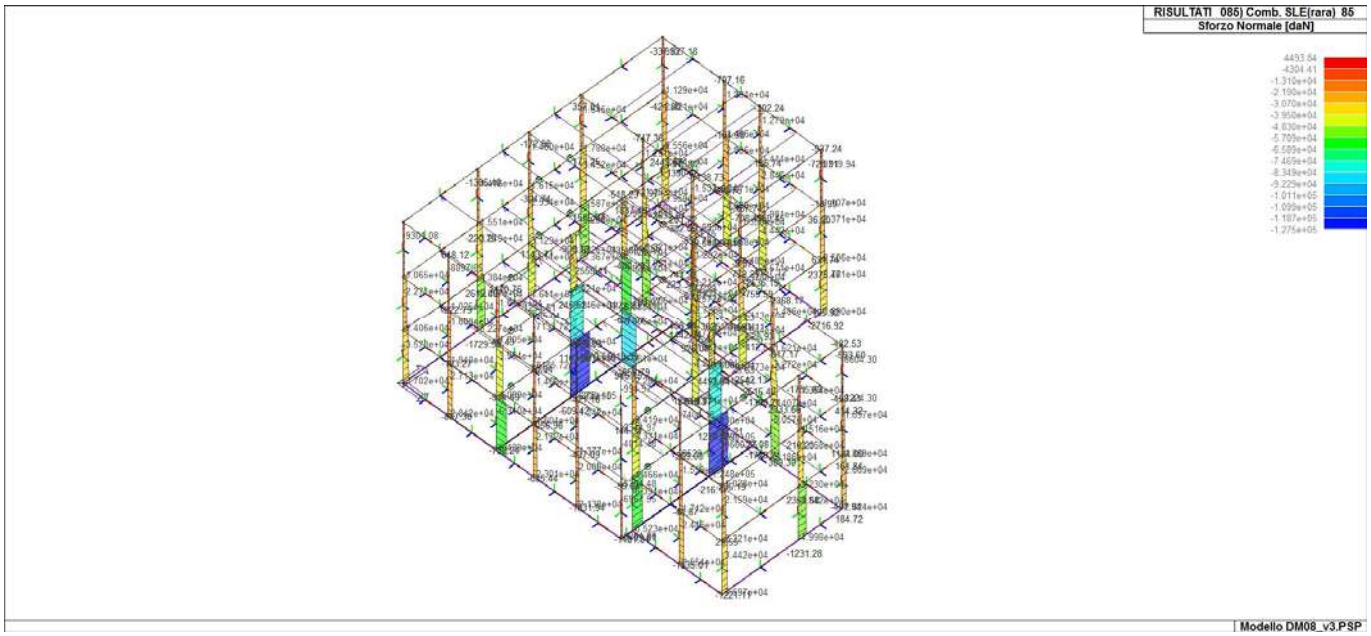
43_RIS_N_050_Comb. SLE (SLD Danno sism.) 50



43_RIS_N_078_Comb. SLE (SLD Danno sism.) 78



43_RIS_N_082_Comb. SLE(rara) 82



43_RIS_N_085_Comb. SLE(rara) 85

VERIFICHE ELEMENTI TRAVE C.A.

LEGENDA TABELLA VERIFICHE ELEMENTI TRAVE C.A.

In tabella vengono riportati per ogni elemento il numero dello stesso ed il codice di verifica.

Nel caso in cui si sia proceduto alla progettazione con il metodo degli stati limite vengono riportati il rapporto x/d, le verifiche per sollecitazioni proporzionali e la verifica per compressione media con l'indicazione delle combinazioni in cui si sono attinti i rispettivi valori.

Per gli elementi tipo pilastro sono riportati numero e diametro dei ferri di vertice, numero e diametro di ferri disposti lungo i lati L1 (paralleli alla base della sezione) e lungo i lati L2 (paralleli all'altezza della sezione).

Per gli elementi tipo trave sono riportati infine le quantità di armatura inferiore e superiore.

PROGETTAZIONE DELLE FONDAZIONI

Il D.M.17/01/2018 - par: 7.2.5 prevede:

"Sia per CD"A" sia per CD"B" il dimensionamento delle strutture di fondazione e la verifica di sicurezza del complesso fondazione-terreno devono essere eseguiti assumendo come azione in fondazione, trasmessa dagli elementi soprastanti, una tra le seguenti:

- quella derivante dall'analisi strutturale eseguita ipotizzando comportamento strutturale non dissipativo;
- […];
- quella trasferita dagli elementi soprastanti nell'ipotesi di comportamento strutturale dissipativo, amplificata di un coefficiente pari a 1,30 in CD"A" e 1,10 in CD"B";

Nel contesto visualizzazione risultati e nella stampa della relazione sulle fondazioni PRO_SAP mostra le sollecitazioni che derivano dall'analisi non incrementate sia in termini di pressioni sul terreno che in termini di sollecitazioni.

La progettazione degli elementi strutturali con proprietà fondazione è effettuata da PRO_SAP (per travi e platee) o da PRO_CAD Plinti (per plinti e pali di fondazione) incrementando le sollecitazioni delle combinazioni con sisma di un coefficiente pari 1.1 in CDB e 1.3 in CDA per pali, plinti, travi e platee.

Per i bicchieri dei plinti di fondazione prefabbricati l'incremento delle sollecitazioni ha un fattore pari a 1.2 in CDB e 1.35 in CDA.

N.B.: se il fattore di struttura q è =1 la progettazione viene effettuata senza nessun incremento.

Le verifiche geotecniche vengono effettuate dal modulo geotecnico incrementando automaticamente le sollecitazioni del fattore 1.1 in CDB e 1.3 in CDA per pali, plinti, travi e platee.

N.B.: se il fattore di struttura q è =1 le verifiche geotecniche vengono effettuate senza nessun incremento.

Mentre i simboli utilizzati con il metodo degli stati limite assumono il seguente significato:

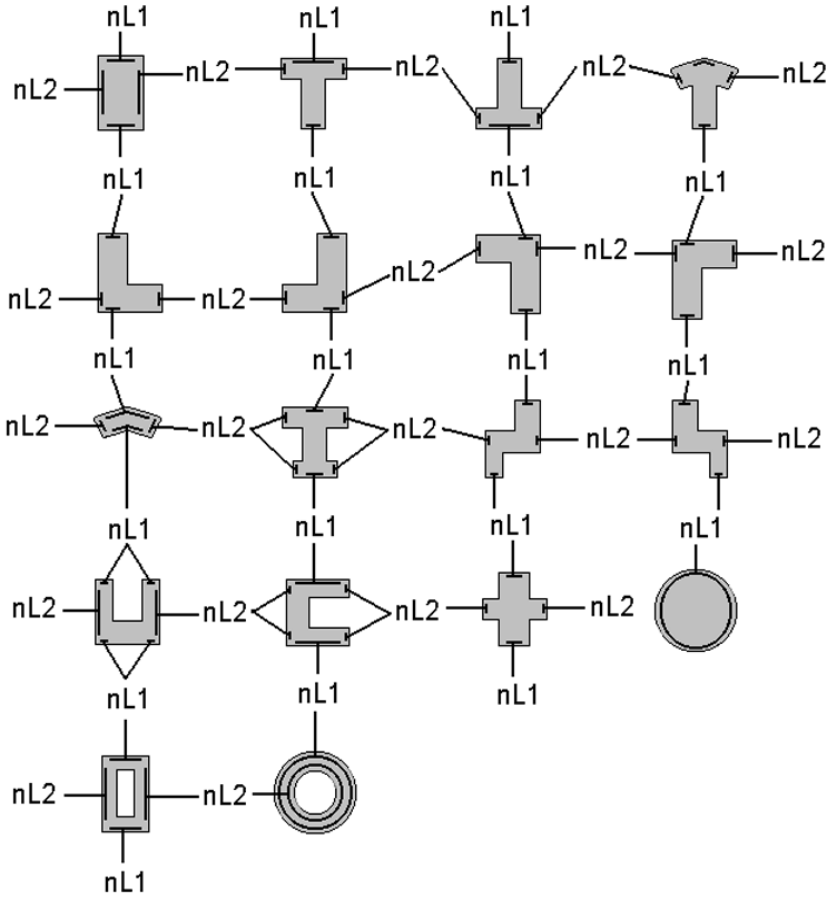
r. snell.	Rapporto λ su λ*: valore superiore a 1 per elementi snelli, caso in cui viene effettuata la verifica con il metodo diretto dello stato di equilibrio
Verifica (verif.)	rapporto Sd/Su con sollecitazioni ultime proporzionali o a sforzo normale costante: valore minore o uguale a 1 per verifica positiva
ver.sis	rapporto Nd/Nu con Nu calcolato come al punto 7.4.4.2.1; valore minore o uguale a 1 per verifica positiva
ver.V/T	rapporto Sd/Su con sollecitazioni taglianti e torcenti proporzionali valore minore o uguale a 1 per verifica positiva
x/d	rapporto tra posizione dell'asse neutro e altezza utile alla rottura della sezione (per sola flessione)

Per gli elementi progettati secondo il criterio della gerarchia delle resistenze (pilastri e travi) si riporta una ulteriore tabella di seguito descritta:

M negativo i	Valore del momento resistente negativo (positivo) all' estremità iniziale i (finale f) della trave
V M-i M+f	Taglio generato dai momenti resistenti negativo i e positivo f (positivo i e negativo f)
V totale	Massimo valore assoluto ottenuto per combinazione del taglio isostatico e dei tagli concomitanti (p.to 7.4.4.1.1)
Verif. V	Rapporto tra il taglio massimo e Vr1 (p.to 7.4.4.1.1);
Sovr. 2-2 i	Sovraresistenza del pilastro (come da formula 7.4.4). Rapporto tra i momenti resistenti delle travi e dei pilastri. Il valore del fattore rispettivamente per il momento 2-2 (3-3) alla base i ed alla sommità f del pilastro deve essere maggiore del gammaRd adottato
M 2-2 i	Valore del momento resistente rispettivamente per 2-2 (3-3) alla base i ed alla sommità f del pilastro (massimo momento in presenza dello sforzo normale di calcolo)
Luce per V	Luce di calcolo per la definizione del taglio (generato dai momenti resistenti)
V M2-2	Valore del taglio generato dai momenti resistenti 2-2 (3-3)

Per i nodi trave-pilastro viene riportata la seguente tabella relativa al calcolo delle armature di confinamento e alla verifica di resistenza del nodo (richiesta solo per strutture in classe di duttilità alta); le caselle vuote indicano parametri non riportati in quanto non necessari.

Stato	Esito della verifica (come da formula 7.4.8) per resistenza a compressione del nodo (solo CDA)
Bj2(3)	Dimensione del nodo per il taglio in direzione 2 (3)
Hjc2(2)	Distanza tra le giaciture di armatura del pilastro per il taglio in direzione 2 (3)
V. 7.4.8	Rapporto tra il taglio Vjbd e il taglio resistente come da formula 7.4.8 (solo CDA)
I 7.4.10	Passo delle staffe valutato in funzione della formula 7.4.10 (solo CDA)



schema della distribuzione delle armature longitudinali

Pilas.	Note	Stato	Quota cm	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe L=cm	V V/T cls	V V/T acc	Rif. cmb
					M_P= 1	**X=0.0**	**Y=0.0**					
1	s=4,m=1	ok,ok	0.0	1.14	0.93	4d16 4+4 d12	0.79	0.35	2+4d10/5 L=75	0.58	0.12	41,18,36,36
			172.5	1.14	0.93	4d16 4+4 d12	0.38	0.34	2+4d10/12 L=195	0.59	0.31	45,18,36,36
	[b=1.0;1.0]		345.0	1.14	0.93	4d16 4+4 d12	0.41	0.34	2+4d10/5 L=75	0.59	0.12	20,18,36,36
60	s=4,m=1	ok,ok	345.0	1.14	0.78	4d16 4+4 d12	0.63	0.22	2+4d10/5 L=75	0.56	0.11	40,18,41,43
			525.0	1.14	0.78	4d16 4+4 d12	0.13	0.21	2+4d10/12 L=210	0.56	0.28	21,18,41,43
	[b=1.0;1.0]		705.0	1.14	0.78	4d16 4+4 d12	0.63	0.21	2+4d10/5 L=75	0.56	0.11	40,18,41,43
118	s=4,m=1	ok,ok	705.0	1.61	0.51	4d16 4+4 d16	0.96	0.09	2+4d10/5 L=75	0.56	0.11	43,42,40,43
			885.0	1.14	0.51	4d16 4+4 d12	0.33	0.09	2+4d10/12 L=210	0.56	0.27	40,42,40,43
	[b=1.0;1.0]		1065.0	1.14	0.51	4d16 4+4 d12	0.75	0.08	2+4d10/5 L=75	0.56	0.11	40,42,40,43
					M_P= 2	**X=296.0**	**Y=0.0**					
Pilas.	Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
15	s=4,m=1	ok,ok	0.0	1.14	0.81	4d16 4+4 d12	0.77	0.23	2+4d10/5 L=75	0.57	0.12	21,18,27,24
			172.5	1.14	0.81	4d16 4+4 d12	0.25	0.23	2+4d10/12 L=195	0.57	0.30	21,18,27,24
	[b=1.0;1.0]		345.0	1.14	0.81	4d16 4+4 d12	0.32	0.23	2+4d10/5 L=75	0.58	0.12	20,18,27,24
74	s=4,m=1	ok,ok	345.0	1.14	0.70	4d16 4+4 d12	0.46	0.16	2+4d10/5 L=75	0.55	0.11	21,18,24,27
			525.0	1.14	0.70	4d16 4+4 d12	0.07	0.16	2+4d10/12 L=210	0.55	0.27	4,18,24,27
	[b=1.0;1.0]		705.0	1.14	0.70	4d16 4+4 d12	0.53	0.15	2+4d10/5 L=75	0.55	0.11	21,18,24,27
131	s=4,m=1	ok,ok	705.0	1.14	0.51	4d16 4+4 d12	0.19	0.09	2+4d10/5 L=75	0.50	0.10	21,18,27,24
			885.0	1.14	0.51	4d16 4+4 d12	0.19	0.08	2+4d10/12 L=210	0.50	0.24	21,18,27,24
	[b=1.0;1.0]		1065.0	1.14	0.51	4d16 4+4 d12	0.53	0.08	2+4d10/5 L=75	0.50	0.10	21,18,27,24
					M_P= 3	**X=613.0**	**Y=0.0**					
Pilas.	Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
16	s=4,m=1	ok,ok	0.0	1.14	1.24	4d16 4+4 d12	0.82	0.50	2+4d10/5 L=75	0.61	0.14	21,18,27,27
			172.5	1.14	1.24	4d16 4+4 d12	0.40	0.49	2+4d10/12 L=195	0.61	0.35	18,18,27,27
	[b=1.0;1.0]		345.0	1.14	1.24	4d16 4+4 d12	0.45	0.49	2+4d10/5 L=75	0.61	0.14	18,18,27,27
73	s=4,m=1	ok,ok	345.0	1.14	1.02	4d16 4+4 d12	0.45	0.31	2+4d10/5 L=75	0.56	0.12	20,18,27,27
			525.0	1.14	1.02	4d16 4+4 d12	0.27	0.30	2+4d10/12 L=210	0.56	0.30	4,18,27,27
	[b=1.0;1.0]		705.0	1.14	1.02	4d16 4+4 d12	0.51	0.30	2+4d10/5 L=75	0.56	0.12	20,18,27,27
132	s=4,m=1	ok,ok	705.0	1.14	0.68	4d16 4+4 d12	0.22	0.13	2+4d10/5 L=75	0.51	0.10	20,32,30,30
			885.0	1.14	0.68	4d16 4+4 d12	0.16	0.12	2+4d10/12 L=210	0.51	0.26	21,32,30,30
	[b=1.0;1.0]		1065.0	1.14	0.68	4d16 4+4 d12	0.48	0.12	2+4d10/5 L=75	0.51	0.10	20,32,30,30
					M_P= 4	**X=854.0**	**Y=0.0**					
Pilas.	Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
17	s=4,m=1	ok,ok	0.0	1.14	0.73	4d16 4+4 d12	0.84	0.19	2+4d10/5 L=75	0.57	0.12	15,20,27,27
			172.5	1.14	0.73	4d16 4+4 d12	0.23	0.18	2+4d10/12 L=195	0.57	0.29	20,20,27,27
	[b=1.0;1.0]		345.0	1.14	0.73	4d16 4+4 d12	0.43	0.18	2+4d10/5 L=75	0.57	0.12	20,20,27,27
75	s=4,m=1	ok,ok	345.0	1.14	0.64	4d16 4+4 d12	0.54	0.12	2+4d10/5 L=75	0.53	0.10	21,20,30,27
			525.0	1.14	0.64	4d16 4+4 d12	0.09	0.12	2+4d10/12 L=210	0.53	0.26	37,20,30,27
	[b=1.0;1.0]		705.0	1.14	0.64	4d16 4+4 d12	0.60	0.11	2+4d10/5 L=75	0.53	0.10	20,20,30,27
133	s=4,m=1	ok,ok	705.0	1.14	0.46	4d16 4+4 d12	0.31	0.06	2+4d10/5 L=75	0.48	0.09	20,34,30,30
			885.0	1.14	0.46	4d16 4+4 d12	0.19	0.06	2+4d10/12 L=210	0.48	0.24	20,34,30,30
	[b=1.0;1.0]		1065.0	1.14	0.46	4d16 4+4 d12	0.65	0.05	2+4d10/5 L=75	0.48	0.09	20,34,30,30
					M_P= 5	**X=1133.0**	**Y=0.0**					
Pilas.	Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
18	s=4,m=1	ok,ok	0.0	1.14	0.70	4d16 4+4 d12	0.85	0.19	2+4d10/5 L=75	0.57	0.12	18,20,27,27
			172.5	1.14	0.70	4d16 4+4 d12	0.26	0.18	2+4d10/12 L=195	0.57	0.29	18,20,27,27
	[b=1.0;1.0]		345.0	1.14	0.70	4d16 4+4 d12	0.38	0.18	2+4d10/5 L=75	0.57	0.12	18,20,27,27
76	s=4,m=1	ok,ok	345.0	1.14	0.58	4d16 4+4 d12	0.54	0.12	2+4d10/5 L=75	0.53	0.10	21,20,30,27
			525.0	1.14	0.58	4d16 4+4 d12	0.06	0.12	2+4d10/12 L=210	0.53	0.26	20,20,30,27
	[b=1.0;1.0]		705.0	1.14	0.58	4d16 4+4 d12	0.62	0.11	2+4d10/5 L=75	0.53	0.10	21,20,30,27
134	s=4,m=1	ok,ok	705.0	1.14	0.39	4d16 4+4 d12	0.24	0.06	2+4d10/5 L=75	0.48	0.09	18,20,30,30
			885.0	1.14	0.39	4d16 4+4 d12	0.19	0.05	2+4d10/12 L=210	0.49	0.23	18,20,30,30
	[b=1.0;1.0]		1065.0	1.14	0.39	4d16 4+4 d12	0.60	0.05	2+4d10/5 L=75	0.49	0.09	18,20,30,30
					M_P= 6	**X=1428.0**	**Y=0.0**					
Pilas.	Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
19	s=4,m=1	ok,ok	0.0	1.14	0.62	4d16 4+4 d12	0.90	0.16	2+4d10/5 L=75	0.59	0.11	18,15,46,43
			172.5	1.14	0.62	4d16 4+4 d12	0.44	0.16	2+4d10/12 L=195	0.59	0.28	34,15,46,43
	[b=1.0;1.0]		345.0	1.14	0.62	4d16 4+4 d12	0.59	0.15	2+4d10/5 L=75	0.59	0.11	18,15,46,43
205	s=4,m=1	ok,ok	345.0	1.14	0.51	4d16 4+4 d12	0.63	0.10	2+4d10/5 L=75	0.53	0.10	18,15,41,43
			525.0	1.14	0.51	4d16 4+4 d12	0.10	0.09	2+4d10/12 L=210	0.53	0.24	45,15,41,43
	[b=1.0;1.0]		705.0	1.14	0.51	4d16 4+4 d12	0.67	0.09	2+4d10/5 L=75	0.53	0.10	18,15,41,43
204	s=4,m=1	ok,ok	705.0	1.14	0.32	4d16 4+4 d12	0.40	0.04	2+4d10/5 L=75	0.48	0.09	38,15,46,46
			885.0	1.14	0.32	4d16 4+4 d12	0.17	0.03	2+4d10/12 L=210	0.48	0.22	36,15,46,46
	[b=1.0;1.0]		1065.0	1.14	0.32	4d16 4+4 d12	0.54	0.03	2+4d10/5 L=75	0.48	0.09	18,15,46,46
					M_P= 7	**X=1428.0**	**Y=75.0**					
Pilas.	Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
206	s=4,m=1	ok,ok	0.0	1.14	1.25	4d16 4+4 d12	0.68	0.56	2+4d10/5 L=75	0.58	0.14	18,18,41,43
			172.5	1.14	1.25	4d16 4+4 d12	0.48	0.55	2+4d10/12 L=195	0.58	0.34	34,18,41,43
	[b=1.0;1.0]		345.0	1.14	1.25	4d16 4+4 d12	0.47	0.55	2+4d10/5 L=75	0.58	0.14	18,18,41,43
77	s=4,m=1	ok,ok	345.0	1.14	1.07	4d16 4+4 d12	0.38	0.37	2+4d10/5 L=75	0.56	0.12	20,18,40,46

		525.0	1.14	1.07	4d16 4+4 d12	0.31	0.372	+4d10/12 L=210	0.57	0.31	4,18,40,46
[b=1.0;1.0]		705.0	1.14	1.07	4d16 4+4 d12	0.43	0.36	2+4d10/5 L=75	0.57	0.12	21,18,40,46
135 s=4,m=1	ok,ok	705.0	1.14	0.77	4d16 4+4 d12	0.34	0.19	2+4d10/5 L=75	0.51	0.11	31,34,31,36
		885.0	1.14	0.77	4d16 4+4 d12	0.54	0.192	+4d10/12 L=210	0.52	0.27	36,34,31,36
[b=1.0;1.0]		1065.0	1.14	0.77	4d16 4+4 d12	0.97	0.18	2+4d10/5 L=75	0.52	0.11	36,34,31,36
				M_P= 8	**X=1736.5**	**Y=75.0**					
Pilas. Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
21 s=3,m=1	ok,ok	0.0	1.01	0.84	4d16 0+4 d12	0.81	0.25	2+4d10/5 L=75	0.45	0.09	18,36,27,27
		172.5	1.01	0.84	4d16 0+4 d12	0.20	0.242	+4d10/12 L=195	0.45	0.23	18,36,27,27
[b=1.0;1.0]		345.0	1.01	0.84	4d16 0+4 d12	0.48	0.24	2+4d10/5 L=75	0.45	0.09	18,36,27,27
79 s=3,m=1	ok,NV	345.0	1.01	0.72	4d16 0+4 d12	0.63	0.17	2+4d10/5 L=75	0.43	0.08	21,36,30,30
		525.0	1.01	0.72	4d16 0+4 d12	0.07	0.162	+4d10/12 L=210	0.43	0.21	4,36,30,30
[b=1.0;1.0]		705.0	1.01	0.72	4d16 0+4 d12	0.69	0.16	2+4d10/5 L=75	0.43	0.08	21,36,30,30
137 s=3,m=1	ok,ok	705.0	1.01	0.51	4d16 0+4 d12	0.36	0.09	2+4d10/5 L=75	0.39	0.07	18,36,25,27
		885.0	1.01	0.51	4d16 0+4 d12	0.17	0.082	+4d10/12 L=210	0.39	0.18	36,36,25,27
[b=1.0;1.0]		1065.0	1.01	0.51	4d16 0+4 d12	0.65	0.08	2+4d10/5 L=75	0.39	0.07	18,36,25,27
				M_P= 9	**X=2013.0**	**Y=75.0**					
Pilas. Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
22s=19,m=1	ok,ok	0.0	1.34	0.70	4d16 4+4 d16	0.66	0.28	2+4d10/5 L=75	0.64	0.16	35,16,46,43
		172.5	1.34	0.70	4d16 4+4 d16	0.33	0.282	+4d10/15 L=195	0.64	0.47	35,16,46,43
[b=1.0;1.0]		345.0	1.34	0.70	4d16 4+4 d16	0.32	0.27	2+4d10/5 L=75	0.64	0.16	18,16,46,43
80s=19,m=1	ok,ok	345.0	1.34	0.58	4d16 4+4 d16	0.49	0.18	2+4d10/5 L=75	0.59	0.14	36,16,41,46
		525.0	1.34	0.58	4d16 4+4 d16	0.10	0.172	+4d10/15 L=210	0.59	0.42	15,16,41,46
[b=1.0;1.0]		705.0	1.34	0.58	4d16 4+4 d16	0.50	0.17	2+4d10/5 L=75	0.59	0.14	18,16,41,46
138s=19,m=1	ok,ok	705.0	1.34	0.38	4d16 4+4 d16	0.94	0.08	2+4d10/5 L=75	0.56	0.13	37,36,46,43
		885.0	1.34	0.38	4d16 4+4 d16	0.29	0.072	+4d10/15 L=210	0.57	0.38	36,36,46,43
[b=1.0;1.0]		1065.0	1.34	0.38	4d16 4+4 d16	0.67	0.07	2+4d10/5 L=75	0.57	0.13	34,36,46,43
				M_P= 10	**X=0.0**	**Y=484.0**					
Pilas. Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
2 s=4,m=1	ok,ok	0.0	1.14	1.11	4d16 4+4 d12	0.93	0.42	2+4d10/5 L=75	0.58	0.13	46,46,43,43
		172.5	1.14	1.11	4d16 4+4 d12	0.47	0.422	+4d10/12 L=195	0.58	0.33	46,46,43,43
[b=1.0;1.0]		345.0	1.14	1.11	4d16 4+4 d12	0.39	0.41	2+4d10/5 L=75	0.59	0.13	46,46,43,43
61 s=4,m=1	ok,ok	345.0	1.14	0.92	4d16 4+4 d12	0.56	0.26	2+4d10/5 L=75	0.54	0.11	43,46,43,43
		525.0	1.14	0.92	4d16 4+4 d12	0.11	0.262	+4d10/12 L=210	0.54	0.29	4,46,43,43
[b=1.0;1.0]		705.0	1.14	0.92	4d16 4+4 d12	0.61	0.25	2+4d10/5 L=75	0.54	0.11	43,46,43,43
119 s=4,m=1	ok,ok	705.0	1.14	0.62	4d16 4+4 d12	0.27	0.11	2+4d10/5 L=75	0.48	0.10	43,18,43,46
		885.0	1.14	0.62	4d16 4+4 d12	0.23	0.112	+4d10/12 L=210	0.48	0.25	46,18,43,46
[b=1.0;1.0]		1065.0	1.14	0.62	4d16 4+4 d12	0.66	0.10	2+4d10/5 L=75	0.48	0.10	43,18,43,46
				M_P= 11	**X=613.0**	**Y=484.0**					
Pilas. Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
14s=22,m=1	ok,ok	0.0	1.15	0.81	4d16 4+8 d16	0.64	0.52	2+5d10/5 L=75	0.64	0.24	46,46,43,43
		172.5	1.15	0.81	4d16 4+8 d16	0.36	0.522	+5d10/15 L=195	0.64	0.71	46,46,43,43
[b=1.0;1.0]		345.0	1.15	0.81	4d16 4+8 d16	0.27	0.51	2+5d10/5 L=75	0.64	0.24	43,46,43,43
72s=22,m=1	ok,NV	345.0	1.15	0.67	4d16 4+8 d16	0.42	0.34	2+5d10/5 L=75	0.61	0.21	43,46,43,43
		525.0	1.15	0.67	4d16 4+8 d16	0.09	0.332	+5d10/15 L=210	0.61	0.64	4,46,43,43
[b=1.0;1.0]		705.0	1.15	0.67	4d16 4+8 d16	0.46	0.33	2+5d10/5 L=75	0.62	0.21	43,46,43,43
130s=20,m=1	ok,NV	705.0	2.68	0.61	4d16 12+12 d16	0.97	0.20	2+4d10/5 L=75	0.68	0.20	46,46,43,46
		885.0	1.15	0.61	4d16 4+4 d16	0.28	0.202	+4d10/15 L=210	0.68	0.61	43,46,43,46
[b=1.0;1.0]		1065.0	1.15	0.61	4d16 4+4 d16	0.68	0.19	2+4d10/5 L=75	0.68	0.20	43,46,43,46
				M_P= 12	**X=1428.0**	**Y=576.0**					
Pilas. Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
26s=20,m=1	ok,ok	0.0	1.15	1.05	4d16 4+4 d16	0.69	0.64	2+4d10/5 L=75	0.59	0.19	36,34,43,43
		172.5	1.15	1.05	4d16 4+4 d16	0.40	0.632	+4d10/15 L=195	0.59	0.57	4,34,43,43
[b=1.0;1.0]		345.0	1.15	1.05	4d16 4+4 d16	0.48	0.63	2+4d10/5 L=75	0.59	0.19	4,34,43,43
83s=20,m=1	ok,ok	345.0	1.15	0.87	4d16 4+4 d16	0.46	0.40	2+4d10/5 L=75	0.56	0.17	35,34,43,46
		525.0	1.15	0.87	4d16 4+4 d16	0.13	0.402	+4d10/15 L=210	0.56	0.52	4,34,43,46
[b=1.0;1.0]		705.0	1.15	0.87	4d16 4+4 d16	0.49	0.39	2+4d10/5 L=75	0.56	0.17	37,34,43,46
144s=20,m=1	ok,ok	705.0	1.15	0.57	4d16 4+4 d16	0.38	0.18	2+4d10/5 L=75	0.50	0.14	4,37,36,43
		885.0	1.15	0.57	4d16 4+4 d16	0.21	0.172	+4d10/15 L=210	0.50	0.43	36,37,36,43
[b=1.0;1.0]		1065.0	1.15	0.57	4d16 4+4 d16	0.63	0.17	2+4d10/5 L=75	0.51	0.14	37,37,36,43
				M_P= 13	**X=2013.0**	**Y=576.0**					
Pilas. Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
23s=19,m=1	ok,ok	0.0	1.34	0.82	4d16 4+4 d16	0.83	0.35	2+4d10/5 L=75	0.62	0.16	36,36,37,43
		172.5	1.34	0.82	4d16 4+4 d16	0.35	0.342	+4d10/15 L=195	0.62	0.48	36,36,37,43
[b=1.0;1.0]		345.0	1.34	0.82	4d16 4+4 d16	0.26	0.34	2+4d10/5 L=75	0.62	0.16	37,36,37,43
82s=19,m=1	ok,ok	345.0	1.34	0.69	4d16 4+4 d16	0.47	0.22	2+4d10/5 L=75	0.57	0.14	37,36,43,46
		525.0	1.34	0.69	4d16 4+4 d16	0.07	0.212	+4d10/15 L=210	0.58	0.43	4,36,43,46
[b=1.0;1.0]		705.0	1.34	0.69	4d16 4+4 d16	0.48	0.21	2+4d10/5 L=75	0.58	0.14	37,36,43,46
139s=19,m=1	ok,ok	705.0	1.34	0.47	4d16 4+4 d16	0.24	0.10	2+4d10/5 L=75	0.54	0.13	37,15,43,43
		885.0	1.34	0.47	4d16 4+4 d16	0.20	0.092	+4d10/15 L=210	0.54	0.39	36,15,43,43
[b=1.0;1.0]		1065.0	1.34	0.47	4d16 4+4 d16	0.56	0.09	2+4d10/5 L=75	0.54	0.13	37,15,43,43
				M_P= 14	**X=0.0**	**Y=821.0**					
Pilas. Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
3 s=4,m=1	ok,ok	0.0	1.14	1.03	4d16 4+4 d12	0.85	0.41	2+4d10/5 L=75	0.61	0.13	43,45,46,43
		172.5	1.14	1.03	4d16 4+4 d12	0.40	0.412	+4d10/12 L=195	0.61	0.34	40,45,46,43
[b=1.0;1.0]		345.0	1.14	1.03	4d16 4+4 d12	0.32	0.40	2+4d10/5 L=75	0.61	0.13	4,45,46,43
62 s=4,m=1	ok,ok	345.0	1.14	0.88	4d16 4+4 d12	0.47	0.25	2+4d10/5 L=75	0.61	0.12	46,41,46,43

		525.0	1.14	0.88	4d16 4+4 d12	0.11	0.25	2+4d10/12 L=210	0.61	0.30	21,41,46,43
[b=1.0;1.0]		705.0	1.14	0.88	4d16 4+4 d12	0.50	0.24	2+4d10/5 L=75	0.61	0.12	41,41,46,43
120 s=4,m=1	ok,ok	705.0	1.14	0.63	4d16 4+4 d12	0.25	0.13	2+4d10/5 L=75	0.53	0.10	3,46,37,46
		885.0	1.14	0.63	4d16 4+4 d12	0.35	0.12	2+4d10/12 L=210	0.53	0.26	46,46,37,46
[b=1.0;1.0]		1065.0	1.14	0.63	4d16 4+4 d12	0.78	0.12	2+4d10/5 L=75	0.53	0.10	46,46,37,46
				M_P= 15	**X=613.0**	**Y=821.0**					
Pilas. Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
13s=19,m=1	ok,ok	0.0	1.34	1.12	4d16 4+4 d16	0.66	0.59	2+4d10/5 L=75	0.71	0.18	43,41,27,27
		172.5	1.34	1.12	4d16 4+4 d16	0.33	0.59	2+4d10/15 L=195	0.71	0.53	4,41,27,27
[b=1.0;1.0]		345.0	1.34	1.12	4d16 4+4 d16	0.75	0.59	2+4d10/5 L=75	0.71	0.18	39,41,27,27
71s=19,m=1	ok,ok	345.0	1.79	0.95	4d16 6+6 d16	0.91	0.39	2+4d10/5 L=75	0.80	0.20	36,41,27,27
		525.0	1.34	0.95	4d16 4+4 d16	0.12	0.38	2+4d10/15 L=210	0.80	0.60	4,41,27,27
[b=1.0;1.0]		705.0	2.23	0.95	4d16 8+8 d16	0.87	0.38	2+4d10/5 L=75	0.80	0.20	32,41,27,27
129s=19,m=1	ok,ok	705.0	1.34	0.67	4d16 4+4 d16	0.81	0.19	2+4d10/5 L=75	0.61	0.14	37,41,27,30
		885.0	1.34	0.67	4d16 4+4 d16	0.13	0.18	2+4d10/15 L=210	0.61	0.42	30,41,27,30
[b=1.0;1.0]		1065.0	1.34	0.67	4d16 4+4 d16	0.54	0.18	2+4d10/5 L=75	0.61	0.14	43,41,27,30
				M_P= 16	**X=1035.0**	**Y=859.0**					
Pilas. Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
10 s=4,m=1	ok,ok	0.0	1.14	1.01	4d16 4+4 d12	0.64	0.39	2+4d10/5 L=75	0.62	0.13	17,34,24,27
		172.5	1.14	1.01	4d16 4+4 d12	0.27	0.38	2+4d10/12 L=195	0.62	0.33	4,34,24,27
[b=1.0;1.0]		345.0	1.14	1.01	4d16 4+4 d12	0.38	0.38	2+4d10/5 L=75	0.62	0.13	34,34,24,27
84 s=4,m=1	ok,ok	345.0	1.14	0.85	4d16 4+4 d12	0.63	0.25	2+4d10/5 L=75	0.61	0.12	34,34,24,27
		525.0	1.14	0.85	4d16 4+4 d12	0.10	0.24	2+4d10/12 L=210	0.61	0.29	19,34,24,27
[b=1.0;1.0]		705.0	1.14	0.85	4d16 4+4 d12	0.63	0.24	2+4d10/5 L=75	0.61	0.12	34,34,24,27
143 s=4,m=1	ok,ok	705.0	1.14	0.58	4d16 4+4 d12	0.48	0.11	2+4d10/5 L=75	0.55	0.10	36,34,24,30
		885.0	1.14	0.58	4d16 4+4 d12	0.16	0.11	2+4d10/12 L=210	0.55	0.25	17,34,24,30
[b=1.0;1.0]		1065.0	1.14	0.58	4d16 4+4 d12	0.60	0.10	2+4d10/5 L=75	0.55	0.10	34,34,24,30
				M_P= 17	**X=1553.0**	**Y=859.0**					
Pilas. Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
25 s=4,m=1	ok,ok	0.0	1.14	1.10	4d16 4+4 d12	0.62	0.43	2+4d10/5 L=75	0.59	0.13	15,31,30,27
		172.5	1.14	1.10	4d16 4+4 d12	0.32	0.42	2+4d10/12 L=195	0.59	0.34	4,31,30,27
[b=1.0;1.0]		345.0	1.14	1.10	4d16 4+4 d12	0.36	0.42	2+4d10/5 L=75	0.59	0.13	4,31,30,27
142 s=4,m=1	ok,ok	345.0	1.14	0.93	4d16 4+4 d12	0.35	0.28	2+4d10/5 L=75	0.57	0.12	19,31,30,30
		525.0	1.14	0.93	4d16 4+4 d12	0.11	0.27	2+4d10/12 L=210	0.57	0.30	4,31,30,30
[b=1.0;1.0]		705.0	1.14	0.93	4d16 4+4 d12	0.43	0.27	2+4d10/5 L=75	0.57	0.12	19,31,30,30
141 s=4,m=1	ok,ok	705.0	1.14	0.63	4d16 4+4 d12	0.23	0.13	2+4d10/5 L=75	0.51	0.10	24,31,30,30
		885.0	1.14	0.63	4d16 4+4 d12	0.17	0.12	2+4d10/12 L=210	0.51	0.26	24,31,30,30
[b=1.0;1.0]		1065.0	1.14	0.63	4d16 4+4 d12	0.52	0.12	2+4d10/5 L=75	0.51	0.10	24,31,30,30
				M_P= 18	**X=2013.0**	**Y=859.0**					
Pilas. Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
24s=19,m=1	ok,ok	0.0	1.34	0.67	4d16 4+4 d16	0.64	0.27	2+4d10/5 L=75	0.66	0.15	25,31,36,43
		172.5	1.34	0.67	4d16 4+4 d16	0.23	0.27	2+4d10/15 L=195	0.66	0.46	36,31,36,43
[b=1.0;1.0]		345.0	1.34	0.67	4d16 4+4 d16	0.25	0.26	2+4d10/5 L=75	0.66	0.15	24,31,36,43
81s=19,m=1	ok,ok	345.0	1.34	0.56	4d16 4+4 d16	0.42	0.17	2+4d10/5 L=75	0.61	0.14	36,31,40,46
		525.0	1.34	0.56	4d16 4+4 d16	0.05	0.17	2+4d10/15 L=210	0.61	0.42	31,31,40,46
[b=1.0;1.0]		705.0	1.34	0.56	4d16 4+4 d16	0.63	0.16	2+4d10/5 L=75	0.61	0.14	36,31,40,46
140s=19,m=1	ok,ok	705.0	1.34	0.36	4d16 4+4 d16	0.24	0.07	2+4d10/5 L=75	0.58	0.13	36,31,36,43
		885.0	1.34	0.36	4d16 4+4 d16	0.21	0.07	2+4d10/15 L=210	0.58	0.38	36,31,36,43
[b=1.0;1.0]		1065.0	1.34	0.36	4d16 4+4 d16	0.41	0.06	2+4d10/5 L=75	0.58	0.13	24,31,36,43
				M_P= 19	**X=0.0**	**Y=1164.0**					
Pilas. Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
4 s=4,m=1	ok,ok	0.0	1.14	1.11	4d16 4+4 d12	0.85	0.45	2+4d10/5 L=75	0.61	0.14	46,30,43,43
		172.5	1.14	1.11	4d16 4+4 d12	0.46	0.45	2+4d10/12 L=195	0.61	0.34	46,30,43,43
[b=1.0;1.0]		345.0	1.14	1.11	4d16 4+4 d12	0.53	0.44	2+4d10/5 L=75	0.61	0.14	30,30,43,43
63 s=4,m=1	ok,ok	345.0	1.14	0.94	4d16 4+4 d12	0.67	0.29	2+4d10/5 L=75	0.62	0.12	30,25,46,43
		525.0	1.14	0.94	4d16 4+4 d12	0.11	0.28	2+4d10/12 L=210	0.62	0.31	21,25,46,43
[b=1.0;1.0]		705.0	1.14	0.94	4d16 4+4 d12	0.74	0.28	2+4d10/5 L=75	0.62	0.12	46,25,46,43
121 s=4,m=1	ok,ok	705.0	1.61	0.66	4d16 4+4 d16	0.88	0.15	2+4d10/5 L=75	0.63	0.12	43,41,46,43
		885.0	1.14	0.66	4d16 4+4 d12	0.43	0.14	2+4d10/12 L=210	0.63	0.29	46,41,46,43
[b=1.0;1.0]		1065.0	1.14	0.66	4d16 4+4 d12	0.90	0.14	2+4d10/5 L=75	0.63	0.12	46,41,46,43
				M_P= 20	**X=401.0**	**Y=1164.0**					
Pilas. Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
11s=19,m=1	ok,ok	0.0	1.34	0.85	4d16 4+4 d16	0.61	0.35	2+4d10/5 L=75	0.64	0.17	30,25,27,24
		172.5	1.34	0.85	4d16 4+4 d16	0.24	0.34	2+4d10/15 L=195	0.64	0.50	30,25,27,24
[b=1.0;1.0]		345.0	1.34	0.85	4d16 4+4 d16	0.27	0.34	2+4d10/5 L=75	0.64	0.17	24,25,27,24
70s=19,m=1	ok,ok	345.0	1.34	0.70	4d16 4+4 d16	0.34	0.22	2+4d10/5 L=75	0.61	0.15	27,25,27,27
		525.0	1.34	0.70	4d16 4+4 d16	0.07	0.21	2+4d10/15 L=210	0.61	0.44	4,25,27,27
[b=1.0;1.0]		705.0	1.34	0.70	4d16 4+4 d16	0.43	0.21	2+4d10/5 L=75	0.61	0.15	27,25,27,27
126s=19,m=1	ok,ok	705.0	1.34	0.46	4d16 4+4 d16	0.14	0.09	2+4d10/5 L=75	0.54	0.13	40,25,24,27
		885.0	1.34	0.46	4d16 4+4 d16	0.10	0.09	2+4d10/15 L=210	0.54	0.38	30,25,24,27
[b=1.0;1.0]		1065.0	1.34	0.46	4d16 4+4 d16	0.28	0.08	2+4d10/5 L=75	0.54	0.13	24,25,24,27
				M_P= 21	**X=723.0**	**Y=1164.0**					
Pilas. Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
12s=19,m=1	ok,ok	0.0	1.34	0.81	4d16 4+4 d16	0.63	0.30	2+4d10/5 L=75	0.64	0.16	30,27,30,27
		172.5	1.34	0.81	4d16 4+4 d16	0.23	0.30	2+4d10/15 L=195	0.64	0.48	30,27,30,27
[b=1.0;1.0]		345.0	1.34	0.81	4d16 4+4 d16	0.27	0.29	2+4d10/5 L=75	0.64	0.16	27,27,30,27
69s=19,m=1	ok,ok	345.0	1.34	0.69	4d16 4+4 d16	0.33	0.20	2+4d10/5 L=75	0.60	0.15	27,27,30,27

		525.0	1.34	0.69	4d16 4+4 d16	0.07	0.192	+4d10/15 L=210	0.60	0.44	4,27,30,27	
[b=1.0;1.0]		705.0	1.34	0.69	4d16 4+4 d16	0.41	0.19	2+4d10/5 L=75	0.60	0.15	27,27,30,27	
127	s=19,m=1	ok,ok	705.0	1.34	0.49	4d16 4+4 d16	0.12	0.10	2+4d10/5 L=75	0.55	0.13	27,27,30,30
			885.0	1.34	0.49	4d16 4+4 d16	0.10	0.102	+4d10/15 L=210	0.55	0.39	24,27,30,30
[b=1.0;1.0]			1065.0	1.34	0.49	4d16 4+4 d16	0.30	0.09	2+4d10/5 L=75	0.55	0.13	27,27,30,30
				M_P= 22		**X=1035.0 Y=1164.0**						
Pilas.	Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
9	s=4,m=1	ok,ok	0.0	1.14	1.06	4d16 4+4 d12	0.74	0.42	2+4d10/5 L=75	0.60	0.13	36,27,46,46
			172.5	1.14	1.06	4d16 4+4 d12	0.29	0.412	+4d10/12 L=195	0.61	0.33	4,27,46,46
[b=1.0;1.0]			345.0	1.14	1.06	4d16 4+4 d12	0.37	0.41	2+4d10/5 L=75	0.61	0.13	24,27,46,46
68	s=4,m=1	ok,ok	345.0	1.14	0.89	4d16 4+4 d12	0.59	0.26	2+4d10/5 L=75	0.56	0.11	36,27,43,43
			525.0	1.14	0.89	4d16 4+4 d12	0.10	0.262	+4d10/12 L=210	0.56	0.28	4,27,43,43
[b=1.0;1.0]			705.0	1.14	0.89	4d16 4+4 d12	0.62	0.25	2+4d10/5 L=75	0.56	0.11	36,27,43,43
128	s=4,m=1	ok,ok	705.0	1.14	0.60	4d16 4+4 d12	0.35	0.12	2+4d10/5 L=75	0.51	0.10	24,27,43,46
			885.0	1.14	0.60	4d16 4+4 d12	0.22	0.112	+4d10/12 L=210	0.51	0.25	36,27,43,46
[b=1.0;1.0]			1065.0	1.14	0.60	4d16 4+4 d12	0.71	0.11	2+4d10/5 L=75	0.51	0.10	36,27,43,46
				M_P= 23		**X=0.0 Y=1699.0**						
Pilas.	Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
5	s=4,m=1	ok,ok	0.0	1.14	0.96	4d16 4+4 d12	0.94	0.35	2+4d10/5 L=75	0.61	0.13	46,25,46,36
			172.5	1.14	0.96	4d16 4+4 d12	0.42	0.352	+4d10/12 L=195	0.61	0.31	46,25,46,36
[b=1.0;1.0]			345.0	1.14	0.96	4d16 4+4 d12	0.49	0.34	2+4d10/5 L=75	0.61	0.13	30,25,46,36
64	s=4,m=1	ok,ok	345.0	1.14	0.80	4d16 4+4 d12	0.78	0.22	2+4d10/5 L=75	0.67	0.12	30,25,46,43
			525.0	1.14	0.80	4d16 4+4 d12	0.09	0.222	+4d10/12 L=210	0.67	0.30	30,25,46,43
[b=1.0;1.0]			705.0	1.61	0.80	4d16 4+4 d16	0.84	0.21	2+4d10/5 L=75	0.67	0.12	24,25,46,43
122	s=4,m=1	ok,ok	705.0	1.61	0.53	4d16 4+4 d16	0.90	0.10	2+4d10/5 L=75	0.62	0.11	16,25,46,43
			885.0	1.14	0.53	4d16 4+4 d12	0.27	0.092	+4d10/12 L=210	0.62	0.27	46,25,46,43
[b=1.0;1.0]			1065.0	1.14	0.53	4d16 4+4 d12	0.82	0.09	2+4d10/5 L=75	0.62	0.11	30,25,46,43
				M_P= 24		**X=401.0 Y=1699.0**						
Pilas.	Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
6	s=4,m=1	ok,ok	0.0	1.14	1.05	4d16 4+4 d12	0.85	0.41	2+4d10/5 L=75	0.62	0.13	30,25,24,24
			172.5	1.14	1.05	4d16 4+4 d12	0.33	0.412	+4d10/12 L=195	0.62	0.33	4,25,24,24
[b=1.0;1.0]			345.0	1.14	1.05	4d16 4+4 d12	0.37	0.40	2+4d10/5 L=75	0.62	0.13	27,25,24,24
65	s=4,m=1	ok,ok	345.0	1.14	0.88	4d16 4+4 d12	0.62	0.26	2+4d10/5 L=75	0.57	0.12	27,25,27,27
			525.0	1.14	0.88	4d16 4+4 d12	0.10	0.252	+4d10/12 L=210	0.57	0.29	4,25,27,27
[b=1.0;1.0]			705.0	1.14	0.88	4d16 4+4 d12	0.66	0.25	2+4d10/5 L=75	0.57	0.12	27,25,27,27
123	s=4,m=1	ok,ok	705.0	1.14	0.60	4d16 4+4 d12	0.24	0.11	2+4d10/5 L=75	0.50	0.10	27,25,27,27
			885.0	1.14	0.60	4d16 4+4 d12	0.18	0.112	+4d10/12 L=210	0.50	0.25	27,25,27,27
[b=1.0;1.0]			1065.0	1.14	0.60	4d16 4+4 d12	0.56	0.10	2+4d10/5 L=75	0.50	0.10	27,25,27,27
				M_P= 25		**X=634.0 Y=1699.0**						
Pilas.	Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
7	s=4,m=1	ok,ok	0.0	1.14	1.04	4d16 4+4 d12	0.83	0.41	2+4d10/5 L=75	0.62	0.13	24,27,30,27
			172.5	1.14	1.04	4d16 4+4 d12	0.32	0.402	+4d10/12 L=195	0.62	0.33	27,27,30,27
[b=1.0;1.0]			345.0	1.14	1.04	4d16 4+4 d12	0.35	0.40	2+4d10/5 L=75	0.62	0.13	25,27,30,27
66	s=4,m=1	ok,ok	345.0	1.14	0.87	4d16 4+4 d12	0.63	0.25	2+4d10/5 L=75	0.56	0.12	30,27,30,27
			525.0	1.14	0.87	4d16 4+4 d12	0.11	0.252	+4d10/12 L=210	0.57	0.29	27,27,30,27
[b=1.0;1.0]			705.0	1.14	0.87	4d16 4+4 d12	0.66	0.24	2+4d10/5 L=75	0.57	0.12	30,27,30,27
124	s=4,m=1	ok,ok	705.0	1.14	0.59	4d16 4+4 d12	0.28	0.11	2+4d10/5 L=75	0.50	0.10	25,27,30,30
			885.0	1.14	0.59	4d16 4+4 d12	0.18	0.102	+4d10/12 L=210	0.50	0.25	25,27,30,30
[b=1.0;1.0]			1065.0	1.14	0.59	4d16 4+4 d12	0.60	0.10	2+4d10/5 L=75	0.50	0.10	25,27,30,30
				M_P= 26		**X=1035.0 Y=1699.0**						
Pilas.	Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
8	s=4,m=1	ok,ok	0.0	1.14	0.95	4d16 4+4 d12	0.87	0.36	2+4d10/5 L=75	0.61	0.13	36,27,36,43
			172.5	1.14	0.95	4d16 4+4 d12	0.39	0.352	+4d10/12 L=195	0.61	0.32	36,27,36,43
[b=1.0;1.0]			345.0	1.14	0.95	4d16 4+4 d12	0.48	0.35	2+4d10/5 L=75	0.61	0.13	24,27,36,43
67	s=4,m=1	ok,ok	345.0	1.14	0.79	4d16 4+4 d12	0.75	0.23	2+4d10/5 L=75	0.60	0.11	27,27,36,43
			525.0	1.14	0.79	4d16 4+4 d12	0.10	0.222	+4d10/12 L=210	0.60	0.28	24,27,36,43
[b=1.0;1.0]			705.0	1.14	0.79	4d16 4+4 d12	0.88	0.22	2+4d10/5 L=75	0.60	0.11	36,27,36,43
125	s=4,m=1	ok,ok	705.0	1.14	0.52	4d16 4+4 d12	0.58	0.10	2+4d10/5 L=75	0.55	0.10	24,43,36,46
			885.0	1.14	0.52	4d16 4+4 d12	0.26	0.102	+4d10/12 L=210	0.55	0.24	36,43,36,46
[b=1.0;1.0]			1065.0	1.14	0.52	4d16 4+4 d12	0.74	0.09	2+4d10/5 L=75	0.55	0.10	24,43,36,46

Pilas.	**%Af**	**r. snell.**	**V N/M**	**V N sis**	**V V/T cls**	**V V/T acc**
	2.68	1.25	0.97	0.64	0.80	0.71

Pilas.	**sovr. Xi**	**sovr. Xf**	**sovr. Yi**	**sovr. Yf**	**M 2-2 i**	**M 2-2 f**	**M 3-3 i**	**M 3-3 f**	**Luce per V**	**V M2-2**	**V M3-3**
					daN cm	daN cm	daN cm	daN cm	cm	daN	daN
1	0.0	1.84	0.0	2.92	9.710e+05	9.637e+05	2.601e+06	2.585e+06	311.00	6843.28	1.834e+04
2	0.0	0.0	0.0	2.37	1.018e+06	1.012e+06	2.719e+06	2.705e+06	311.00	7181.13	1.918e+04
3	0.0	2.54	0.0	3.93	1.012e+06	1.007e+06	2.705e+06	2.691e+06	301.00	7379.90	1.972e+04
4	0.0	1.75	0.0	3.62	1.029e+06	1.026e+06	2.758e+06	2.745e+06	301.00	7510.87	2.011e+04
5	0.0	1.38	0.0	4.38	9.742e+05	9.670e+05	2.608e+06	2.592e+06	311.00	6865.86	1.839e+04
6	0.0	2.27	0.0	0.0	1.012e+06	1.006e+06	2.703e+06	2.689e+06	311.00	7137.95	1.907e+04
7	0.0	2.25	0.0	0.0	1.010e+06	1.005e+06	2.699e+06	2.685e+06	311.00	7126.44	1.904e+04
8	0.0	1.36	0.0	5.13	9.787e+05	9.722e+05	2.619e+06	2.604e+06	311.00	6900.58	1.847e+04
9	0.0	1.98	0.0	2.28	1.016e+06	1.011e+06	2.714e+06	2.700e+06	311.00	7167.75	1.915e+04
10	0.0	2.98	0.0	1.58	9.970e+05	9.912e+05	2.666e+06	2.651e+06	311.00	7032.25	1.880e+04

11	0.0	3.21	0.0	0.0	1.538e+06	1.530e+06	3.330e+06	3.312e+06	311.00	1.085e+04	2.349e+04
12	0.0	3.50	0.0	0.0	1.495e+06	1.486e+06	3.239e+06	3.220e+06	311.00	1.054e+04	2.284e+04
13	0.0	7.18	0.0	1.38	1.651e+06	1.649e+06	3.582e+06	3.577e+06	311.00	1.167e+04	2.532e+04
14	0.0	0.0	0.0	2.87	3.411e+06	3.403e+06	5.726e+06	5.710e+06	311.00	2.410e+04	4.045e+04
15	0.0	2.52	0.0	0.0	8.793e+05	8.713e+05	2.396e+06	2.377e+06	311.00	6191.70	1.688e+04
16	0.0	2.95	0.0	0.0	1.043e+06	1.041e+06	2.800e+06	2.794e+06	311.00	7371.38	1.979e+04
17	0.0	2.25	0.0	0.0	8.370e+05	8.287e+05	2.299e+06	2.280e+06	311.00	5891.52	1.620e+04
18	0.0	2.18	0.0	0.0	8.385e+05	8.302e+05	2.302e+06	2.284e+06	311.00	5901.95	1.622e+04
19	0.0	1.38	0.0	0.0	8.156e+05	8.072e+05	2.250e+06	2.230e+06	311.00	5739.48	1.585e+04
21	0.0	1.72	0.0	0.0	7.188e+05	7.103e+05	1.486e+06	1.474e+06	311.00	5054.91	1.047e+04
22	0.0	2.97	0.0	3.40	1.478e+06	1.469e+06	3.203e+06	3.183e+06	311.00	1.042e+04	2.259e+04
23	0.0	0.0	0.0	2.94	1.538e+06	1.530e+06	3.330e+06	3.313e+06	311.00	1.085e+04	2.350e+04
24	0.0	2.76	0.0	5.14	1.467e+06	1.458e+06	3.180e+06	3.161e+06	311.00	1.035e+04	2.243e+04
25	0.0	2.56	0.0	0.0	1.020e+06	1.015e+06	2.724e+06	2.711e+06	311.00	7197.14	1.922e+04
26	0.0	0.0	0.0	1.96	2.160e+06	2.157e+06	3.901e+06	3.896e+06	311.00	1.527e+04	2.758e+04
60	1.84	2.40	2.92	3.12	8.656e+05	8.571e+05	2.364e+06	2.345e+06	332.00	5707.50	1.560e+04
61	0.0	0.0	2.37	2.33	9.049e+05	8.967e+05	2.454e+06	2.435e+06	332.00	5969.37	1.620e+04
62	2.54	2.38	3.93	3.70	8.952e+05	8.869e+05	2.432e+06	2.413e+06	312.00	6282.80	1.708e+04
63	1.75	1.77	3.62	4.23	9.227e+05	9.146e+05	2.494e+06	2.475e+06	312.00	6477.55	1.752e+04
64	1.38	1.60	4.38	6.13	8.708e+05	1.052e+06	2.376e+06	2.886e+06	332.00	6369.98	1.744e+04
65	2.27	2.48	0.0	0.0	8.981e+05	8.898e+05	2.438e+06	2.419e+06	332.00	5923.55	1.609e+04
66	2.25	2.46	0.0	0.0	8.947e+05	8.863e+05	2.430e+06	2.412e+06	332.00	5900.90	1.604e+04
67	1.36	1.43	5.13	4.70	8.739e+05	8.654e+05	2.383e+06	2.364e+06	332.00	5762.83	1.573e+04
68	1.98	2.22	2.28	2.49	9.032e+05	8.949e+05	2.450e+06	2.431e+06	332.00	5957.55	1.617e+04
69	3.50	3.63	0.0	0.0	1.393e+06	1.381e+06	3.027e+06	3.006e+06	332.00	9191.50	1.999e+04
70	3.21	3.25	0.0	0.0	1.412e+06	1.402e+06	3.064e+06	3.043e+06	332.00	9322.66	2.023e+04
71	7.18	7.25	1.38	1.38	1.822e+06	2.073e+06	3.995e+06	4.604e+06	332.00	1.291e+04	2.849e+04
72	0.0	0.0	2.87	3.06	3.129e+06	3.109e+06	5.303e+06	5.270e+06	332.00	2.067e+04	3.503e+04
73	2.95	2.91	0.0	0.0	9.392e+05	9.313e+05	2.531e+06	2.513e+06	332.00	6197.63	1.671e+04
74	2.52	2.34	0.0	0.0	8.158e+05	8.070e+05	2.251e+06	2.229e+06	332.00	5376.69	1.484e+04
75	2.25	2.56	0.0	0.0	7.818e+05	7.715e+05	2.155e+06	2.128e+06	332.00	5146.61	1.419e+04
76	2.18	2.46	0.0	0.0	7.785e+05	7.678e+05	2.146e+06	2.118e+06	332.00	5123.18	1.413e+04
77	2.64	2.37	0.0	0.0	9.873e+05	9.810e+05	2.641e+06	2.625e+06	332.00	6521.23	1.745e+04
79	1.72	1.58	0.0	0.0	6.435e+05	6.341e+05	1.380e+06	1.367e+06	332.00	4232.92	9100.56
80	2.97	3.46	3.40	3.57	1.363e+06	1.351e+06	2.973e+06	2.951e+06	332.00	8993.71	1.963e+04
81	2.76	3.30	5.14	5.94	1.360e+06	1.348e+06	2.967e+06	2.945e+06	332.00	8971.90	1.959e+04
82	0.0	0.0	2.94	2.75	1.414e+06	1.404e+06	3.068e+06	3.047e+06	332.00	9335.24	2.026e+04
83	0.0	0.0	1.96	1.75	2.036e+06	2.025e+06	3.674e+06	3.654e+06	332.00	1.345e+04	2.428e+04
84	2.98	3.06	1.58	1.44	8.912e+05	8.829e+05	2.423e+06	2.404e+06	332.00	5878.08	1.599e+04
118	2.40	0.0	3.12	0.0	9.537e+05	7.375e+05	2.668e+06	2.040e+06	322.00	5777.48	1.608e+04
119	0.0	0.0	2.33	0.0	7.718e+05	7.610e+05	2.129e+06	2.101e+06	322.00	5236.12	1.445e+04
120	2.38	0.0	3.70	0.0	7.856e+05	7.761e+05	2.166e+06	2.140e+06	312.00	5505.96	1.518e+04
121	1.77	0.0	4.23	0.0	9.981e+05	7.942e+05	2.767e+06	2.192e+06	312.00	6319.23	1.748e+04
122	1.60	0.0	6.13	0.0	9.574e+05	7.424e+05	2.676e+06	2.053e+06	322.00	5806.63	1.615e+04
123	2.48	0.0	0.0	0.0	7.689e+05	7.581e+05	2.121e+06	2.094e+06	322.00	5216.53	1.440e+04
124	2.46	0.0	0.0	0.0	7.654e+05	7.545e+05	2.112e+06	2.084e+06	322.00	5192.14	1.434e+04
125	1.43	0.0	4.70	0.0	7.560e+05	7.451e+05	2.088e+06	2.060e+06	322.00	5128.06	1.417e+04
126	3.25	0.0	0.0	0.0	1.259e+06	1.246e+06	2.781e+06	2.750e+06	332.00	8299.40	1.833e+04
127	3.63	0.0	0.0	0.0	1.273e+06	1.260e+06	2.808e+06	2.785e+06	332.00	8391.61	1.853e+04
128	2.22	0.0	2.49	0.0	7.728e+05	7.620e+05	2.131e+06	2.104e+06	322.00	5243.12	1.447e+04
129	7.25	0.0	1.38	0.0	1.380e+06	1.368e+06	3.003e+06	2.982e+06	328.50	9201.23	2.004e+04
130	0.0	0.0	3.06	0.0	3.129e+06	1.757e+06	5.794e+06	3.179e+06	328.50	1.636e+04	3.005e+04
131	2.34	0.0	0.0	0.0	7.431e+05	7.321e+05	2.054e+06	2.025e+06	322.00	5039.28	1.394e+04
132	2.91	0.0	0.0	0.0	7.844e+05	7.747e+05	2.163e+06	2.136e+06	322.00	5326.02	1.469e+04
133	2.56	0.0	0.0	0.0	7.151e+05	7.038e+05	1.980e+06	1.950e+06	322.00	4847.15	1.342e+04
134	2.46	0.0	0.0	0.0	7.062e+05	6.949e+05	1.956e+06	1.924e+06	322.00	4786.18	1.326e+04
135	2.37	0.0	0.0	0.0	8.450e+05	8.363e+05	2.317e+06	2.298e+06	322.00	5743.60	1.577e+04
137	1.58	0.0	0.0	0.0	5.629e+05	5.531e+05	1.245e+06	1.226e+06	322.00	3812.66	8441.37
138	3.46	0.0	3.57	0.0	1.240e+06	1.224e+06	2.739e+06	2.707e+06	322.00	8420.37	1.860e+04
139	0.0	0.0	2.75	0.0	1.269e+06	1.257e+06	2.801e+06	2.776e+06	322.00	8628.53	1.905e+04
140	3.30	0.0	5.94	0.0	1.233e+06	1.216e+06	2.723e+06	2.691e+06	322.00	8365.86	1.850e+04
141	2.53	0.0	0.0	0.0	7.856e+05	7.761e+05	2.167e+06	2.140e+06	322.00	5335.27	1.471e+04
142	2.56	2.53	0.0	0.0	9.143e+05	9.061e+05	2.475e+06	2.456e+06	332.00	6031.35	1.634e+04
143	3.06	0.0	1.44	0.0	7.673e+05	7.565e+05	2.117e+06	2.089e+06	322.00	5205.80	1.437e+04
144	0.0	0.0	1.75	0.0	1.734e+06	1.719e+06	3.138e+06	3.112e+06	328.50	1.156e+04	2.093e+04
204	1.76	0.0	0.0	0.0	6.877e+05	6.763e+05	1.903e+06	1.870e+06	322.00	4659.39	1.289e+04
205	1.38	1.76	0.0	0.0	7.545e+05	7.435e+05	2.084e+06	2.056e+06	332.00	4963.23	1.372e+04
206	0.0	2.64	0.0	0.0	1.060e+06	1.057e+06	2.837e+06	2.832e+06	311.00	7488.50	2.005e+04

Pilas.	**M 2-2 i**	**M 2-2 f**	**M 3-3 i**	**M 3-3 f**	**V M2-2**	**V M3-3**
	3.411e+06	3.403e+06	5.794e+06	5.710e+06	2.410e+04	4.045e+04

Nodo	**Stato**	**Pilas.**	**Diam st**	**l 7.4.29**	**n. br. 2**	**Bj2**	**Hjc2**	**n. br. 3**	**Bj3**	**Hjc3**	**V. 7.4.8**	**l 7.4.10**	**Rif. cmb**
			mm	cm		cm	cm		cm	cm			
27	ok	1	10	15.0	2	25.0	52.4	4	60.0	17.4	0.9	1.7	45
28	ok	2	10	15.0	2	25.0	52.4	4	60.0	17.4	1.0	1.5	44

29	ok	3	10	15.0	2	25.0	52.4	4	42.5	17.4	0.8	2.5	27
30	ok	4	10	15.0	2	25.0	52.4	4	60.0	17.4	1.0	1.9	37
31	ok	5	10	15.0	2	25.0	52.4	4	60.0	17.4	0.9	1.7	21
32	ok	15	10	15.0	2	25.0	52.4	4	60.0	17.4	0.8	1.7	30
33	ok	16	10	15.0	2	25.0	52.4	4	60.0	17.4	0.8	2.6	30
34	ok	17	10	15.0	2	25.0	52.4	4	60.0	17.4	0.8	1.2	24
35	ok	18	10	15.0	2	25.0	52.4	4	60.0	17.4	0.8	1.1	30
36	ok	19	10	15.0	2	25.0	52.4	4	60.0	17.4	0.6	1.7	25
37	ok	6	10	15.0	2	25.0	52.4	4	60.0	17.4	0.9	1.3	15
38	ok	7	10	15.0	2	25.0	52.4	4	60.0	17.4	0.9	1.3	21
39	ok	8	10	15.0	2	25.0	52.4	4	60.0	17.4	0.9	1.7	15
40	ok	11	10	15.0	2	30.0	52.4	4	60.0	22.4	0.7	2.0	15
41	ok	12	10	15.0	2	30.0	52.4	4	60.0	22.4	0.6	2.4	15
42	ok	9	10	15.0	2	25.0	52.4	4	60.0	17.4	0.9	1.4	40
43	ok	14	10	15.0	2	40.0	62.4	5	70.0	32.4	0.9	1.3	37
44	ok	13	10	15.0	2	30.0	52.4	4	60.0	22.4	0.4	10.0	23
45	ok	10	10	15.0	2	25.0	52.4	4	60.0	17.4	0.8	2.7	46
46	ok	25	10	15.0	2	25.0	52.4	4	60.0	17.4	0.9	1.9	23
47	ok	24	10	15.0	2	30.0	52.4	4	60.0	22.4	0.5	4.7	43
48	ok	23	10	15.0	2	30.0	52.4	4	60.0	22.4	0.8	1.6	43
49	ok	26	10	15.0	2	35.0	52.4	4	60.0	27.4	0.8	3.8	36
50	ok	22	10	15.0	2	30.0	52.4	4	60.0	22.4	0.8	1.6	31
51	ok	206	10	15.0	2	25.0	52.4	4	60.0	17.4	0.6	5.0	34
55	ok	60	10	15.0	2	25.0	52.4	4	60.0	17.4	0.9	1.3	41
56	ok	61	10	15.0	2	25.0	52.4	4	60.0	17.4	0.8	1.2	44
57	ok	62	10	15.0	2	25.0	52.4	4	42.5	17.4	0.8	1.4	37
58	ok	63	10	15.0	2	25.0	52.4	4	60.0	17.4	0.7	2.4	21
59	ok	64	10	15.0	2	25.0	52.4	4	60.0	17.4	0.8	1.2	15
60	ok	74	10	15.0	2	25.0	52.4	4	60.0	17.4	0.7	1.2	30
61	ok	73	10	15.0	2	25.0	52.4	4	60.0	17.4	0.7	1.9	30
62	ok	75	10	15.0	2	25.0	52.4	4	60.0	17.4	0.7	1.3	30
63	ok	76	10	15.0	2	25.0	52.4	4	60.0	17.4	0.7	1.2	24
64	ok	205	10	15.0	2	25.0	52.4	4	60.0	17.4	0.5	2.8	24
65	ok	65	10	15.0	2	25.0	52.4	4	60.0	17.4	0.7	1.3	20
66	ok	66	10	15.0	2	25.0	52.4	4	60.0	17.4	0.7	1.3	18
67	ok	67	10	15.0	2	25.0	52.4	4	60.0	17.4	0.7	1.6	22
68	ok	70	10	15.0	2	30.0	52.4	4	60.0	22.4	0.6	1.5	15
69	ok	69	10	15.0	2	30.0	52.4	4	60.0	22.4	0.6	2.0	21
70	ok	68	10	15.0	2	25.0	52.4	4	60.0	17.4	0.7	1.4	46
71	NV	72	10	15.0	2	40.0	62.4	5	70.0	32.4	0.8	0.8	37
72	ok	71	10	15.0	2	30.0	52.4	4	60.0	22.4	0.4	10.0	15
73	ok	84	10	15.0	2	25.0	52.4	4	60.0	17.4	0.7	2.2	46
74	ok	142	10	15.0	2	25.0	52.4	4	60.0	17.4	0.7	1.5	15
75	ok	81	10	15.0	2	30.0	52.4	4	60.0	22.4	0.4	5.0	46
76	ok	82	10	15.0	2	30.0	52.4	4	60.0	22.4	0.7	1.1	43
77	ok	83	10	15.0	2	35.0	52.4	4	60.0	27.4	0.7	1.7	36
78	ok	80	10	15.0	2	30.0	52.4	4	60.0	22.4	0.7	1.5	35
79	NV	79	10	15.0	2	25.0	42.4	4	50.0	17.4	0.8	0.9	24
83	ok	118	10	15.0	2	25.0	52.4	4	42.5	17.4	0.5	3.2	15
84	ok	119	10	15.0	2	25.0	52.4	4	60.0	17.4	0.4	2.1	31
85	ok	120	10	15.0	2	25.0	52.4	4	42.5	17.4	0.5	1.5	32
86	ok	121	10	15.0	2	25.0	52.4	4	60.0	17.4	0.5	2.1	15
87	ok	122	10	15.0	2	25.0	52.4	4	42.5	17.4	0.5	3.2	15
88	ok	131	10	15.0	2	25.0	52.4	4	60.0	17.4	0.4	2.1	15
89	ok	132	10	15.0	2	25.0	52.4	4	60.0	17.4	0.6	1.6	31
90	ok	133	10	15.0	2	25.0	52.4	4	60.0	17.4	0.4	2.1	15
91	ok	134	10	15.0	2	25.0	52.4	4	60.0	17.4	0.4	2.1	15
92	ok	204	10	15.0	2	25.0	52.4	4	42.5	17.4	0.5	3.2	15
93	ok	123	10	15.0	2	25.0	52.4	4	60.0	17.4	0.4	2.1	16
94	ok	124	10	15.0	2	25.0	52.4	4	60.0	17.4	0.4	2.1	17
95	ok	125	10	15.0	2	25.0	52.4	4	42.5	17.4	0.5	3.2	15
96	ok	126	10	15.0	2	30.0	52.4	4	60.0	22.4	0.5	1.4	24
97	ok	127	10	15.0	2	30.0	52.4	4	60.0	22.4	0.5	1.4	24
98	ok	128	10	15.0	2	25.0	52.4	4	60.0	17.4	0.5	2.1	15
99	NV	130	10	15.0	2	35.0	52.4	4	60.0	27.4	0.6	0.7	43
100	ok	129	10	15.0	2	30.0	52.4	4	60.0	22.4	0.2	10.0	15
101	ok	143	10	15.0	2	25.0	52.4	4	42.5	17.4	0.5	3.1	31
102	ok	141	10	15.0	2	25.0	52.4	4	60.0	17.4	0.4	2.1	16
103	ok	140	10	15.0	2	30.0	52.4	4	45.0	22.4	0.4	5.0	15
104	ok	139	10	15.0	2	30.0	52.4	4	60.0	22.4	0.4	1.8	31
105	ok	144	10	15.0	2	35.0	52.4	4	60.0	27.4	0.5	1.0	31
106	ok	138	10	15.0	2	30.0	52.4	4	45.0	22.4	0.4	4.0	32
109	ok	21	10	15.0	2	25.0	42.4	4	50.0	17.4	0.9	1.3	24
110	ok	135	10	15.0	2	25.0	52.4	4	42.5	17.4	0.7	1.1	31
111	ok	137	10	15.0	2	25.0	42.4	4	50.0	17.4	0.5	1.3	17
112	ok	77	10	15.0	2	25.0	52.4	4	60.0	17.4	0.6	5.0	34

Nodo	**I 7.4.29**						**V. 7.4.8**	**I 7.4.10**
	15.00							0.68
							0.97	

							M_T= 1	**Z=0.0**	**P=14**	**P=18**		
Trave	Note	Pos. cm	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe L=cm	Rif. cmb
152	ok,ok	0.0	0.16	7.7	7.7	0.0	0.11	0.94	0.35	0.22	4d10/10 L=50	27,46,4
	s=15,m=1	306.5	0.22	7.7	10.8	0.0	0.13	0.92	0.15	0.05	4d10/17 L=470	4,46,15
		613.0	0.42	20.0	7.7	0.0	0.17	1.00	0.52	0.32	4d10/10 L=50	15,4,4
20	ok,ok	0.0	0.38	18.5	7.7	0.0	0.16	0.97	0.49	0.31	4d10/10 L=50	19,4,4
	s=15,m=1	211.9	0.16	7.7	7.7	0.0	0.11	0.85	0.17	0.10	4d10/17 L=261	4,19,22
		423.7	0.29	13.9	7.7	0.0	0.14	0.90	0.38	0.23	4d10/10 L=50	19,31,39
183	ok,ok	0.0	0.29	13.9	7.7	6.2	0.14	0.96	0.34	0.83	4d10/10 L=50	23,4,4
	s=15,m=1	196.5	0.19	7.7	9.2	9.2	0.12	0.72	0.25	0.69	4d10/15 L=263	4,4,4
		393.0	0.16	7.7	7.7	9.2	0.11	0.77	0.38	0.79	4d10/10 L=50	26,23,4
201	ok,ok	0.0	0.16	7.7	7.7	12.3	0.11	0.82	0.76	0.76	4d10/8 L=95	38,35,4
	s=15,m=1	125.0	0.35	16.9	7.7	9.2	0.15	0.99	0.85	0.99	4d10/8 L=95	23,35,4
191	ok,ok	0.0	0.38	18.5	7.7	9.2	0.16	0.99	0.45	1.00	4d10/9 L=75	19,41,4
	s=15,m=1	230.0	0.29	7.7	13.9	9.2	0.14	0.91	0.29	0.63	4d10/14 L=265	34,23,35
		460.0	0.16	7.7	7.7	12.3	0.11	1.00	0.58	1.00	4d10/8 L=75	23,23,35
							M_T= 10	**Z=0.0**	**P=6**	**P=12**		
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb
35	ok,ok	0.0	0.16	9.2	7.7	0.0	0.11	0.87	0.84	0.36	4d10/10 L=15	35,15,15
	s=21,m=1	75.0	0.16	9.2	7.7	0.0	0.11	0.94	0.86	0.39	4d10/10 L=15	35,15,15
207	ok,ok	0.0	0.30	16.9	12.3	6.2	0.14	0.96	0.40	0.85	4d10/10 L=100	35,38,18
	s=21,m=1	250.5	0.38	7.7	21.5	6.2	0.16	0.92	0.20	0.38	4d10/15 L=241	4,17,22
		501.0	0.88	49.3	9.2	9.2	0.30	0.97	0.83	1.00	4d10/6 L=100	35,4,22
136	ok,NV	0.0	0.88	49.3	7.7	6.2	0.31	0.95	0.81	1.00	4d10/5 L=80	4,18,4
	s=21,m=1	141.5	0.19	10.8	7.7	6.2	0.12	0.29	0.52	0.87	4d10/9 L=93	34,18,4
		283.0	0.25	7.7	13.9	9.2	0.13	0.95	0.34	0.40	4d10/10 L=80	34,18,4
							M_T= 13	**Z=0.0**	**P=3**	**P=15**		
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb
166	ok,ok	0.0	0.16	9.2	9.2	0.0	0.12	0.99	0.33	0.36	4d10/10 L=50	39,22,4
	s=16,m=1	242.0	0.41	7.7	23.1	0.0	0.17	0.92	0.21	0.17	4d10/15 L=336	4,19,43
		484.0	0.88	49.3	12.3	0.0	0.29	0.99	0.74	0.81	4d10/10 L=50	43,19,4
78	ok,ok	0.0	0.71	40.0	7.7	9.2	0.25	0.98	0.71	1.00	4d10/6 L=75	4,4,22
	s=21,m=1	168.5	0.22	7.7	12.3	6.2	0.12	0.74	0.27	0.67	4d10/12 L=137	46,26,22
		337.0	0.14	7.7	7.7	6.2	0.11	0.49	0.28	0.62	4d10/10 L=75	46,4,21
87	ok,ok	0.0	0.16	9.2	7.7	0.0	0.11	0.86	0.34	0.27	4d10/10 L=50	39,20,4
	s=16,m=1	171.5	0.19	7.7	10.8	0.0	0.12	0.94	0.16	0.07	4d10/15 L=228	4,15,39
		343.0	0.19	10.8	7.7	0.0	0.12	0.92	0.30	0.27	4d10/10 L=50	43,19,4
							M_T= 34	**Z=0.0**	**P=1**	**P=6**		
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb
178	ok,ok	0.0	0.16	7.7	7.7	6.2	0.11	0.68	0.37	0.54	4d10/10 L=50	19,4,27
	s=15,m=1	148.0	0.19	7.7	9.2	6.2	0.12	0.90	0.23	0.57	4d10/17 L=153	46,19,27
		296.0	0.16	7.7	7.7	3.1	0.11	0.91	0.35	0.62	4d10/10 L=50	19,19,27
186	ok,ok	0.0	0.19	9.2	7.7	6.2	0.12	0.92	0.36	0.46	4d10/10 L=50	15,46,43
	s=15,m=1	158.5	0.16	7.7	7.7	6.2	0.11	0.56	0.23	0.54	4d10/17 L=157	4,40,39
		317.0	0.32	15.4	7.7	3.1	0.15	0.97	0.40	0.65	4d10/10 L=50	15,40,39
194	ok,ok	0.0	0.26	12.3	7.7	0.0	0.13	0.96	0.45	0.22	4d10/10 L=50	19,33,22
	s=15,m=1	120.5	0.16	7.7	7.7	0.0	0.11	0.15	0.34	0.20	4d10/17 L=81	31,33,22
		241.0	0.16	7.7	7.7	0.0	0.11	0.86	0.42	0.15	4d10/10 L=50	19,31,19
198	ok,ok	0.0	0.19	9.2	7.7	0.0	0.12	0.96	0.29	0.21	4d10/10 L=50	15,17,22
	s=15,m=1	139.5	0.16	7.7	7.7	0.0	0.11	0.52	0.21	0.15	4d10/17 L=119	4,15,22
		279.0	0.16	7.7	7.7	0.0	0.11	0.79	0.31	0.15	4d10/10 L=50	22,35,15
200	ok,ok	0.0	0.22	7.7	10.8	0.0	0.13	0.89	0.21	0.18	4d10/10 L=50	18,22,22
	s=15,m=1	147.5	0.16	7.7	7.7	0.0	0.11	0.67	0.20	0.16	4d10/17 L=152	18,15,15
		295.0	0.22	10.8	7.7	0.0	0.13	0.98	0.39	0.24	4d10/10 L=50	15,35,31
							M_T= 35	**Z=0.0**	**P=1**	**P=23**		
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb
179	ok,ok	0.0	0.26	12.3	9.2	0.0	0.13	0.98	0.41	0.26	4d10/10 L=50	39,22,22
	s=15,m=1	242.0	0.32	7.7	15.4	0.0	0.15	0.79	0.15	0.14	4d10/17 L=324	46,39,43
		484.0	0.48	23.1	7.7	0.0	0.18	0.98	0.47	0.35	4d10/10 L=50	43,43,43
187	ok,ok	0.0	0.32	15.4	7.7	3.1	0.15	0.99	0.41	0.85	4d10/10 L=55	43,3,4
	s=15,m=1	168.5	0.16	7.7	7.7	6.2	0.11	0.54	0.21	0.49	4d10/17 L=167	40,15,4
		337.0	0.16	7.7	7.7	6.2	0.11	0.72	0.37	0.66	4d10/10 L=55	43,3,43
195	ok,ok	0.0	0.26	12.3	10.8	0.0	0.14	0.98	0.42	0.23	4d10/10 L=50	43,42,46
	s=15,m=1	171.5	0.16	7.7	7.7	0.0	0.11	0.52	0.19	0.20	4d10/17 L=183	4,46,43
		343.0	0.38	18.5	7.7	0.0	0.16	0.95	0.31	0.27	4d10/10 L=50	43,4,43
199	ok,ok	0.0	0.29	13.9	7.7	0.0	0.14	0.99	0.34	0.24	4d10/10 L=50	39,42,4
	s=15,m=1	267.5	0.26	7.7	12.3	0.0	0.13	0.86	0.13	0.09	4d10/17 L=375	38,39,46
		535.0	0.32	15.4	7.7	0.0	0.15	0.96	0.42	0.25	4d10/10 L=50	43,43,27
							M_T= 36	**Z=0.0**	**P=23**	**P=26**		
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb
180	ok,ok	0.0	0.16	7.7	7.7	6.2	0.11	0.68	0.46	0.86	4d10/10 L=50	27,34,42

	s=15,m=1	200.5	0.29	7.7	13.9	6.2	0.14	0.89	0.18	0.33	4d10/17 L=258	4,4,22
		401.0	0.45	21.5	7.7	6.2	0.17	0.96	0.45	0.65	4d10/10 L=50	27,4,42
188	ok,ok	0.0	0.22	10.8	7.7	0.0	0.13	0.89	0.26	0.21	4d10/10 L=50	23,22,4
	s=15,m=1	116.5	0.16	7.7	7.7	0.0	0.11	0.27	0.09	0.08	4d10/17 L=73	4,30,30
		233.0	0.19	9.2	7.7	0.0	0.12	1.00	0.24	0.20	4d10/10 L=50	27,15,4
196	ok,ok	0.0	0.42	20.0	7.7	3.1	0.17	0.95	0.43	0.64	4d10/10 L=50	23,4,31
	s=15,m=1	200.5	0.29	7.7	13.9	6.2	0.14	0.89	0.17	0.33	4d10/17 L=258	46,27,19
		401.0	0.16	7.7	7.7	6.2	0.11	0.57	0.47	0.84	4d10/10 L=50	23,39,31
							M_T= 37	**Z=0.0**	**P=16**	**P=26**		
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb
181	ok,ok	0.0	0.16	7.7	7.7	0.0	0.11	0.74	0.25	0.08	4d10/10 L=50	26,22,4
	s=15,m=1	152.5	0.16	7.7	7.7	0.0	0.11	0.52	0.21	0.17	4d10/17 L=162	4,4,35
		305.0	0.26	12.3	7.7	0.0	0.13	0.97	0.37	0.22	4d10/10 L=50	35,4,23
189	ok,ok	0.0	0.35	16.9	7.7	3.1	0.15	0.97	0.35	0.80	4d10/10 L=50	39,22,46
	s=15,m=1	267.5	0.26	7.7	12.3	6.2	0.13	0.88	0.20	0.53	4d10/16 L=375	46,36,46
		535.0	0.29	13.9	7.7	6.2	0.14	0.98	0.43	0.70	4d10/10 L=50	35,4,44
							M_T= 38	**Z=0.0**	**P=19**	**P=22**		
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb
182	ok,ok	0.0	0.16	7.7	7.7	0.0	0.11	0.62	0.30	0.18	4d10/10 L=50	26,4,4
	s=15,m=1	200.5	0.22	7.7	10.8	0.0	0.13	0.85	0.20	0.15	4d10/17 L=258	4,35,23
		401.0	0.45	21.5	7.7	0.0	0.17	0.93	0.45	0.32	4d10/10 L=50	27,23,23
190	ok,ok	0.0	0.32	15.4	7.7	0.0	0.15	0.95	0.53	0.33	4d10/10 L=50	27,43,4
	s=15,m=1	106.0	0.16	7.7	7.7	0.0	0.11	0.56	0.42	0.35	4d10/17 L=82	30,41,4
		212.0	0.26	7.7	12.3	0.0	0.13	0.97	0.30	0.09	4d10/10 L=50	26,41,26
202	ok,ok	0.0	0.26	7.7	12.3	0.0	0.13	0.88	0.57	0.23	4d10/10 L=80	4,36,27
	s=15,m=1	110.0	0.22	10.8	7.7	0.0	0.13	0.99	0.66	0.35	4d10/10 L=80	23,36,4
197	ok,ok	0.0	0.32	15.4	7.7	0.0	0.15	0.93	0.42	0.27	4d10/10 L=50	27,30,30
	s=15,m=1	156.0	0.16	7.7	7.7	0.0	0.11	0.66	0.23	0.17	4d10/17 L=169	30,30,30
		312.0	0.16	7.7	7.7	0.0	0.11	0.66	0.29	0.14	4d10/10 L=50	30,4,4
							M_T= 39	**Z=0.0**	**P=9**	**P=18**		
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb
184	ok,ok	0.0	0.32	15.4	12.3	0.0	0.15	0.92	0.37	0.26	4d10/10 L=50	35,33,18
	s=15,m=1	250.5	0.32	7.7	15.4	0.0	0.15	0.83	0.24	0.16	4d10/17 L=341	26,35,35
		501.0	0.58	27.7	7.7	0.0	0.21	0.99	0.54	0.39	4d10/10 L=50	35,35,35
192	ok,ok	0.0	0.26	12.3	7.7	6.2	0.13	0.87	0.50	0.96	4d10/10 L=60	35,26,38
	s=15,m=1	141.5	0.19	7.7	9.2	9.2	0.12	0.71	0.35	0.83	4d10/14 L=103	34,26,38
		283.0	0.19	9.2	9.2	9.2	0.12	0.88	0.33	0.54	4d10/10 L=60	35,26,32
							M_T= 40	**Z=0.0**	**P=7**	**P=9**		
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb
185	ok,ok	0.0	0.26	12.3	7.7	3.1	0.13	0.92	0.34	0.61	4d10/10 L=50	19,18,34
	s=15,m=1	154.3	0.16	7.7	7.7	6.2	0.11	0.58	0.21	0.46	4d10/17 L=171	22,26,34
		308.5	0.16	7.7	7.7	6.2	0.11	0.94	0.30	0.45	4d10/10 L=50	19,32,38
193	ok,ok	0.0	0.16	7.7	7.7	6.2	0.11	0.40	0.30	0.58	4d10/10 L=50	18,22,30
	s=15,m=1	138.3	0.19	7.7	9.2	6.2	0.12	0.87	0.19	0.57	4d10/17 L=136	18,22,26
		276.5	0.16	7.7	7.7	6.2	0.11	0.75	0.40	0.74	4d10/10 L=50	15,11,4
							M_T= 2	**Z=345.0**	**P=1**	**P=23**		
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb
27	ok,ok	0.0	1.08	10.0	18.1	0.0	0.25	0.90	0.66	0.18	4d8/5 L=50	46,24,46
	s=10,m=1	242.0	0.48	8.0	8.0	0.0	0.16	0.91	0.36	0.20	4d8/15 L=324	4,24,46
		484.0	0.96	8.0	16.1	0.0	0.24	0.89	0.66	0.18	4d8/5 L=50	43,24,46
36	ok,ok	0.0	0.96	8.0	16.1	0.0	0.24	0.98	0.75	0.19	4d8/5 L=50	43,21,46
	s=10,m=1	168.5	0.48	8.0	8.0	0.0	0.16	0.39	0.54	0.33	4d8/15 L=177	3,21,46
		337.0	0.84	12.1	14.1	0.0	0.20	0.95	0.69	0.17	4d8/5 L=50	43,21,46
44	ok,ok	0.0	0.42	6.0	6.0	0.0	0.10	0.11	0.51	0.27	2d8/10 L=50	4,21,46
	s=17,m=1	171.5	0.42	6.0	6.0	0.0	0.10	0.35	0.41	0.39	2d8/20 L=183	4,21,46
		343.0	0.42	6.0	6.0	0.0	0.10	0.11	0.51	0.27	2d8/10 L=50	4,21,46
48	ok,ok	0.0	0.96	8.0	16.1	0.0	0.24	0.88	0.36	0.11	4d8/5 L=50	46,24,46
	s=10,m=1	267.5	0.48	8.0	8.0	0.0	0.16	0.46	0.21	0.17	4d8/15 L=375	4,24,46
		535.0	0.72	8.0	12.1	0.0	0.20	0.92	0.34	0.10	4d8/5 L=50	46,24,46
							M_T= 3	**Z=345.0**	**P=23**	**P=26**		
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb
28	ok,ok	0.0	0.84	8.0	14.1	0.0	0.22	0.88	0.58	0.17	4d8/5 L=50	30,25,46
	s=10,m=1	200.5	0.48	8.0	8.0	0.0	0.16	0.78	0.30	0.20	4d8/15 L=258	4,25,46
		401.0	0.84	8.0	14.1	0.0	0.22	0.92	0.58	0.17	4d8/5 L=50	27,25,46
37	ok,ok	0.0	0.72	10.0	12.1	0.0	0.19	0.93	0.65	0.20	4d8/5 L=50	30,27,46
	s=10,m=1	116.5	0.48	8.0	8.0	0.0	0.16	0.10	0.49	0.42	4d8/15 L=73	3,27,46
		233.0	0.72	10.0	12.1	0.0	0.19	0.94	0.65	0.20	4d8/5 L=50	27,27,46
45	ok,ok	0.0	0.84	8.0	14.1	0.0	0.22	0.89	0.60	0.17	4d8/5 L=50	25,27,46
	s=10,m=1	200.5	0.48	8.0	8.0	0.0	0.16	0.77	0.33	0.20	4d8/15 L=258	4,27,46
		401.0	0.84	8.0	14.1	0.0	0.22	0.86	0.60	0.17	4d8/5 L=50	24,27,46
							M_T= 4	**Z=345.0**	**P=16**	**P=26**		
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb
29	ok,ok	0.0	0.72	8.0	12.1	0.0	0.20	0.96	0.73	0.16	4d8/5 L=50	36,19,46
	s=10,m=1	152.5	0.48	8.0	8.0	0.0	0.16	0.39	0.55	0.28	4d8/15 L=162	4,19,46
		305.0	0.60	10.0	10.0	0.0	0.17	0.98	0.69	0.14	4d8/5 L=50	37,19,46
38	ok,ok	0.0	0.84	8.0	14.1	0.0	0.22	0.89	0.43	0.11	4d8/5 L=50	36,30,46
	s=10,m=1	267.5	0.48	8.0	8.0	0.0	0.16	0.45	0.28	0.15	4d8/15 L=375	4,30,46

		535.0	0.60	8.0	10.0	0.0	0.18	0.87	0.41	0.10	4d8/5 L=50 37,30,46
							M_T= 5	**Z=345.0**	**P=19**	**P=22**	
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe Rif. cmb
30	ok,ok	0.0	0.72	8.0	12.1	0.0	0.20	0.88	0.59	0.16	4d8/5 L=50 30,24,46
	s=10,m=1	200.5	0.48	8.0	8.0	0.0	0.16	0.75	0.33	0.20	4d8/15 L=258 4,24,46
		401.0	0.84	8.0	14.1	0.0	0.22	0.86	0.60	0.17	4d8/5 L=50 27,24,46
39	ok,ok	0.0	0.72	8.0	12.1	0.0	0.20	0.95	0.59	0.18	4d8/5 L=50 30,27,46
	s=10,m=1	106.0	0.48	8.0	8.0	0.0	0.16	0.57	0.44	0.37	4d8/15 L=82 27,27,46
		212.0	0.48	8.0	8.0	0.0	0.16	0.88	0.53	0.15	4d8/5 L=50 25,27,46
53	ok,ok	0.0	0.48	8.0	8.0	0.0	0.16	0.55	0.81	0.26	4d8/5 L=80 25,27,46
	s=10,m=1	110.0	0.72	8.0	12.1	0.0	0.20	0.89	0.92	0.30	4d8/5 L=80 27,27,46
46	ok,ok	0.0	0.72	8.0	12.1	0.0	0.20	0.85	0.59	0.14	4d8/5 L=50 30,46,46
	s=10,m=1	156.0	0.48	8.0	8.0	0.0	0.16	0.31	0.44	0.25	4d8/15 L=169 4,46,46
		312.0	0.60	8.0	10.0	0.0	0.18	0.87	0.57	0.13	4d8/5 L=50 27,46,46
							M_T= 6	**Z=345.0**	**P=14**	**P=18**	
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe Rif. cmb
55	ok,ok	0.0	0.96	4.0	8.0	0.0	0.24	0.94	0.61	0.16	2d8/5 L=50 22,43,46
	s=7,m=1	306.5	0.72	6.0	4.0	0.0	0.20	0.70	0.31	0.14	2d8/15 L=470 4,43,46
		613.0	0.96	4.0	8.0	0.0	0.24	0.89	0.61	0.16	2d8/5 L=50 19,43,46
56	ok,ok	0.0	0.72	4.0	6.0	0.0	0.20	0.86	0.40	0.09	2d8/5 L=50 19,23,46
	s=7,m=1	211.9	0.48	4.0	4.0	0.0	0.16	0.14	0.32	0.18	2d8/15 L=261 3,23,46
		423.7	0.72	4.0	6.0	0.0	0.20	0.83	0.40	0.09	2d8/5 L=50 19,23,46
31	ok,ok	0.0	0.84	8.0	14.1	0.0	0.22	0.88	0.58	0.11	4d8/5 L=50 17,36,46
	s=10,m=1	196.5	0.48	8.0	8.0	0.0	0.16	0.47	0.47	0.22	4d8/15 L=263 19,36,46
		393.0	0.60	10.0	8.0	0.0	0.18	0.93	0.52	0.09	4d8/5 L=50 25,36,46
58	ok,ok	0.0	0.60	10.0	8.0	0.0	0.18	0.83	0.99	0.26	4d8/5 L=95 25,36,46
	s=10,m=1	125.0	0.84	8.0	14.1	0.0	0.22	0.86	1.00	0.31	4d8/5 L=95 19,24,36
40	ok,ok	0.0	0.60	8.0	10.0	0.0	0.18	0.97	0.38	0.10	4d8/5 L=50 25,43,46
	s=10,m=1	230.0	0.48	8.0	8.0	0.0	0.16	0.31	0.26	0.15	4d8/15 L=315 9,43,46
		460.0	0.60	8.0	10.0	0.0	0.18	0.86	0.38	0.10	4d8/5 L=50 24,43,46
							M_T= 7	**Z=345.0**	**P=7**	**P=9**	
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe Rif. cmb
32	ok,ok	0.0	0.48	8.0	8.0	0.0	0.16	0.97	0.37	0.10	4d8/5 L=50 18,30,46
	s=10,m=1	154.3	0.48	8.0	8.0	0.0	0.16	0.14	0.31	0.22	4d8/15 L=171 21,30,46
		308.5	0.60	8.0	10.0	0.0	0.18	0.97	0.39	0.11	4d8/5 L=50 20,30,46
41	ok,ok	0.0	0.60	8.0	10.0	0.0	0.18	0.96	0.50	0.12	4d8/5 L=50 18,46,46
	s=10,m=1	138.3	0.48	8.0	8.0	0.0	0.16	0.12	0.42	0.28	4d8/15 L=136 1,46,46
		276.5	0.60	10.0	8.0	0.0	0.18	0.91	0.45	0.10	4d8/5 L=50 18,46,46
							M_T= 8	**Z=345.0**	**P=9**	**P=18**	
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe Rif. cmb
33	ok,ok	0.0	1.20	10.0	20.1	0.0	0.28	0.86	0.63	0.18	4d8/5 L=50 36,30,46
	s=10,m=1	250.5	0.48	8.0	8.0	0.0	0.16	0.93	0.33	0.21	4d8/15 L=341 4,30,46
		501.0	0.96	8.0	16.1	0.0	0.24	0.91	0.62	0.18	4d8/5 L=50 37,30,46
42	ok,ok	0.0	0.84	8.0	14.1	0.0	0.22	0.92	0.73	0.19	4d8/5 L=50 36,20,46
	s=10,m=1	141.5	0.48	8.0	8.0	0.0	0.16	0.24	0.56	0.38	4d8/15 L=123 3,20,46
		283.0	0.72	12.1	12.1	0.0	0.18	0.86	0.65	0.16	4d8/5 L=50 37,20,46
							M_T= 9	**Z=345.0**	**P=1**	**P=6**	
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe Rif. cmb
34	ok,ok	0.0	0.60	10.0	8.0	0.0	0.18	0.86	0.46	0.10	4d8/5 L=50 21,36,46
	s=10,m=1	148.0	0.48	8.0	8.0	0.0	0.16	0.18	0.43	0.26	4d8/15 L=153 21,36,46
		296.0	0.60	8.0	10.0	0.0	0.18	0.98	0.51	0.12	4d8/5 L=50 20,36,46
43	ok,ok	0.0	0.72	8.0	12.1	0.0	0.20	0.94	0.46	0.13	4d8/5 L=50 21,24,46
	s=10,m=1	158.5	0.48	8.0	8.0	0.0	0.16	0.14	0.37	0.28	4d8/15 L=157 4,24,46
		317.0	0.60	10.0	8.0	0.0	0.18	0.96	0.40	0.10	4d8/5 L=50 20,24,46
47	ok,ok	0.0	0.72	12.1	10.0	0.0	0.19	0.85	0.50	0.14	4d8/5 L=50 20,27,46
	s=10,m=1	120.5	0.48	8.0	8.0	0.0	0.16	0.07	0.53	0.44	4d8/15 L=81 4,27,46
		241.0	0.72	8.0	12.1	0.0	0.20	0.92	0.59	0.17	4d8/5 L=50 21,27,46
49	ok,ok	0.0	0.60	10.0	10.0	0.0	0.17	0.92	0.48	0.13	4d8/5 L=50 18,27,46
	s=10,m=1	139.5	0.48	8.0	8.0	0.0	0.16	0.10	0.43	0.33	4d8/15 L=119 1,27,46
		279.0	0.72	10.0	12.1	0.0	0.19	0.86	0.51	0.14	4d8/5 L=50 20,27,46
50	ok,ok	0.0	0.72	8.0	12.1	0.0	0.20	0.88	0.46	0.13	4d8/5 L=50 18,27,46
	s=10,m=1	147.5	0.48	8.0	8.0	0.0	0.16	0.20	0.38	0.29	4d8/15 L=152 15,27,46
		295.0	0.60	10.0	8.0	0.0	0.18	0.96	0.39	0.10	4d8/5 L=50 15,27,46
							M_T= 11	**Z=345.0**	**P=3**	**P=15**	
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe Rif. cmb
51	ok,ok	0.0	0.45	10.0	10.0	0.0	0.16	0.41	0.84	0.35	4d8/5 L=50 4,27,46
	s=12,m=1	242.0	1.62	36.2	10.0	0.0	0.46	0.79	0.36	0.33	4d8/15 L=336 4,27,46
		484.0	1.53	18.1	34.2	0.0	0.31	0.80	0.85	0.41	4d8/5 L=50 3,27,3
52	ok,ok	0.0	0.63	10.0	14.1	0.0	0.18	0.98	0.65	0.26	4d8/5 L=50 46,28,46
	s=12,m=1	168.5	0.36	8.0	8.0	0.0	0.15	0.87	0.35	0.34	4d8/15 L=187 4,28,46
		337.0	0.90	10.0	20.1	0.0	0.23	0.95	0.69	0.29	4d8/5 L=50 43,28,46
54	ok,ok	0.0	0.54	8.0	12.1	0.0	0.17	0.90	0.76	0.12	4d8/5 L=50 46,19,46
	s=12,m=1	171.5	0.36	8.0	8.0	0.0	0.15	0.46	0.66	0.21	4d8/15 L=228 43,19,46
		343.0	0.36	8.0	8.0	0.0	0.15	0.01	0.74	0.11	4d8/5 L=50 43,19,46
							M_T= 12	**Z=345.0**	**P=7**	**P=12**	
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe Rif. cmb
57	ok,ok	0.0	0.45	10.0	10.0	0.0	0.16	0.82	0.82	0.32	4d8/5 L=50 3,30,46

	s=12,m=1	250.5	1.71	38.2	10.0	0.0	0.49	0.78	0.40	0.35	4d8/15 L=341 4,30,46
		501.0	1.71	20.1	38.2	0.0	0.33	0.79	0.91	0.42	4d8/5 L=50 3,30,3
59	ok,ok	0.0	0.72	8.0	16.1	0.0	0.21	0.95	1.00	0.34	4d8/5 L=50 38,20,19
	s=12,m=1	141.5	0.45	10.0	8.0	0.0	0.16	0.95	0.95	0.32	4d8/15 L=153 35,19,46
		283.0	0.36	8.0	8.0	0.0	0.15	7.00e-03	1.00	0.26	4d8/5 L=50 38,27,19
							M_T= 14	**Z=705.0**	**P=1**	**P=23**	

Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe Rif. cmb
85	ok,ok	0.0	1.08	10.0	18.1	0.0	0.25	0.88	0.60	0.18	4d8/5 L=50 46,24,46
	s=10,m=1	242.0	0.48	8.0	8.0	0.0	0.16	0.81	0.30	0.20	4d8/15 L=324 3,24,46
		484.0	0.84	8.0	14.1	0.0	0.22	0.93	0.59	0.17	4d8/5 L=50 43,24,46
97	ok,ok	0.0	0.84	8.0	14.1	0.0	0.22	0.97	0.68	0.17	4d8/5 L=50 46,21,46
	s=10,m=1	168.5	0.48	8.0	8.0	0.0	0.16	0.40	0.46	0.28	4d8/15 L=177 4,21,46
		337.0	0.84	10.0	14.1	0.0	0.21	0.96	0.65	0.17	4d8/5 L=50 46,21,46
109	ok,ok	0.0	0.42	6.0	6.0	0.0	0.10	0.11	0.47	0.27	2d8/10 L=50 2,21,46
	s=17,m=1	171.5	0.42	6.0	6.0	0.0	0.10	0.33	0.37	0.39	2d8/20 L=183 2,21,46
		343.0	0.42	6.0	6.0	0.0	0.10	0.11	0.47	0.27	2d8/10 L=50 2,21,46
115	ok,ok	0.0	0.84	8.0	14.1	0.0	0.22	0.94	0.34	0.11	4d8/5 L=50 46,24,46
	s=10,m=1	267.5	0.48	8.0	8.0	0.0	0.16	0.40	0.19	0.15	4d8/15 L=375 2,24,46
		535.0	0.60	8.0	10.0	0.0	0.18	0.97	0.32	0.10	4d8/5 L=50 43,24,46
							M_T= 15	**Z=705.0**	**P=1**	**P=5**	

Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe Rif. cmb
86	ok,ok	0.0	0.48	8.0	8.0	0.0	0.16	0.84	0.40	0.10	4d8/5 L=50 20,24,46
	s=10,m=1	148.0	0.48	8.0	8.0	0.0	0.16	0.16	0.34	0.24	4d8/15 L=153 21,24,46
		296.0	0.60	8.0	10.0	0.0	0.18	0.85	0.42	0.11	4d8/5 L=50 20,24,46
98	ok,ok	0.0	0.72	8.0	12.1	0.0	0.20	0.88	0.43	0.13	4d8/5 L=50 21,27,46
	s=10,m=1	158.5	0.48	8.0	8.0	0.0	0.16	0.14	0.35	0.28	4d8/15 L=157 3,27,46
		317.0	0.60	10.0	8.0	0.0	0.18	0.88	0.37	0.10	4d8/5 L=50 21,27,46
110	ok,ok	0.0	0.60	10.0	8.0	0.0	0.18	0.92	0.43	0.12	4d8/5 L=50 20,30,46
	s=10,m=1	120.5	0.48	8.0	8.0	0.0	0.16	0.08	0.42	0.37	4d8/15 L=81 4,30,46
		241.0	0.60	8.0	10.0	0.0	0.18	0.98	0.49	0.15	4d8/5 L=50 20,30,46
116	ok,ok	0.0	0.60	8.0	10.0	0.0	0.18	0.90	0.42	0.12	4d8/5 L=50 20,30,46
	s=10,m=1	139.5	0.48	8.0	8.0	0.0	0.16	0.10	0.34	0.28	4d8/15 L=119 1,30,46
		279.0	0.60	8.0	10.0	0.0	0.18	0.87	0.42	0.12	4d8/5 L=50 21,30,46
117	ok,ok	0.0	0.60	8.0	10.0	0.0	0.18	0.93	0.39	0.11	4d8/5 L=50 18,30,46
	s=10,m=1	147.5	0.48	8.0	8.0	0.0	0.16	0.17	0.30	0.24	4d8/15 L=152 15,30,46
		295.0	0.48	8.0	8.0	0.0	0.16	0.93	0.36	0.10	4d8/5 L=50 18,30,46
							M_T= 16	**Z=705.0**	**P=7**	**P=9**	

Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe Rif. cmb
88	ok,ok	0.0	0.48	8.0	8.0	0.0	0.16	0.83	0.41	0.10	4d8/5 L=50 21,30,46
	s=10,m=1	154.3	0.48	8.0	8.0	0.0	0.16	0.14	0.34	0.22	4d8/15 L=171 21,30,46
		308.5	0.60	8.0	10.0	0.0	0.18	0.84	0.43	0.11	4d8/5 L=50 20,30,46
100	ok,ok	0.0	0.60	8.0	10.0	0.0	0.18	0.86	0.47	0.11	4d8/5 L=50 18,46,46
	s=10,m=1	138.3	0.48	8.0	8.0	0.0	0.16	0.10	0.39	0.25	4d8/15 L=136 1,46,46
		276.5	0.48	8.0	8.0	0.0	0.16	0.96	0.44	0.10	4d8/5 L=50 18,46,46
							M_T= 17	**Z=705.0**	**P=9**	**P=18**	

Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe Rif. cmb
89	ok,ok	0.0	1.08	10.0	18.1	0.0	0.25	0.93	0.58	0.18	4d8/5 L=50 36,30,46
	s=10,m=1	250.5	0.48	8.0	8.0	0.0	0.16	0.84	0.28	0.19	4d8/15 L=341 4,30,46
		501.0	0.96	8.0	16.1	0.0	0.24	0.86	0.58	0.18	4d8/5 L=50 37,30,46
101	ok,ok	0.0	0.72	8.0	12.1	0.0	0.20	0.93	0.62	0.17	4d8/5 L=50 36,20,46
	s=10,m=1	141.5	0.48	8.0	8.0	0.0	0.16	0.26	0.45	0.33	4d8/15 L=123 4,20,46
		283.0	0.60	10.0	10.0	0.0	0.17	0.95	0.57	0.15	4d8/5 L=50 37,20,46
							M_T= 18	**Z=705.0**	**P=14**	**P=18**	

Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe Rif. cmb
95	ok,ok	0.0	0.96	4.0	8.0	0.0	0.24	0.88	0.59	0.16	2d8/5 L=50 22,43,46
	s=7,m=1	306.5	0.48	4.0	4.0	0.0	0.16	0.95	0.29	0.14	2d8/15 L=470 9,43,46
		613.0	0.96	4.0	8.0	0.0	0.24	0.78	0.59	0.16	2d8/5 L=50 19,43,46
96	ok,ok	0.0	0.48	4.0	4.0	0.0	0.16	0.90	0.37	0.08	2d8/5 L=50 22,35,46
	s=7,m=1	211.9	0.48	4.0	4.0	0.0	0.16	0.14	0.32	0.18	2d8/15 L=261 4,35,46
		423.7	0.72	4.0	6.0	0.0	0.20	0.69	0.40	0.09	2d8/5 L=50 19,35,46
90	ok,ok	0.0	0.72	8.0	12.1	0.0	0.20	0.92	0.53	0.11	4d8/5 L=50 25,36,46
	s=10,m=1	196.5	0.48	8.0	8.0	0.0	0.16	0.41	0.42	0.20	4d8/15 L=263 19,36,46
		393.0	0.60	10.0	8.0	0.0	0.18	0.81	0.48	0.09	4d8/5 L=50 25,36,46
108	ok,ok	0.0	0.48	8.0	8.0	0.0	0.16	0.98	0.87	0.22	4d8/5 L=95 4,36,46
	s=10,m=1	125.0	0.72	8.0	12.1	0.0	0.20	0.90	0.93	0.25	4d8/5 L=95 19,36,46
102	ok,ok	0.0	0.60	8.0	10.0	0.0	0.18	0.83	0.34	0.10	4d8/5 L=50 25,27,46
	s=10,m=1	230.0	0.48	8.0	8.0	0.0	0.16	0.29	0.21	0.15	4d8/15 L=315 9,27,46
		460.0	0.48	8.0	8.0	0.0	0.16	0.98	0.32	0.09	4d8/5 L=50 24,27,46
							M_T= 19	**Z=705.0**	**P=16**	**P=26**	

Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe Rif. cmb
91	ok,ok	0.0	0.72	8.0	12.1	0.0	0.20	0.94	0.62	0.15	4d8/5 L=50 36,20,46
	s=10,m=1	152.5	0.48	8.0	8.0	0.0	0.16	0.38	0.44	0.25	4d8/15 L=162 3,20,46
		305.0	0.60	8.0	10.0	0.0	0.18	0.97	0.60	0.14	4d8/5 L=50 36,20,46
103	ok,ok	0.0	0.72	8.0	12.1	0.0	0.20	0.96	0.40	0.10	4d8/5 L=50 36,30,46
	s=10,m=1	267.5	0.48	8.0	8.0	0.0	0.16	0.40	0.25	0.14	4d8/15 L=375 9,30,46
		535.0	0.60	8.0	10.0	0.0	0.18	0.82	0.38	0.10	4d8/5 L=50 37,30,46
							M_T= 20	**Z=705.0**	**P=23**	**P=26**	

Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb
92	ok,ok	0.0	0.84	8.0	14.1	0.0	0.22	0.87	0.55	0.17	4d8/5 L=50	30,25,46
	s=10,m=1	200.5	0.48	8.0	8.0	0.0	0.16	0.71	0.27	0.20	4d8/15 L=258	3,25,46
		401.0	0.72	8.0	12.1	0.0	0.20	0.96	0.53	0.16	4d8/5 L=50	27,25,46
104	ok,ok	0.0	0.60	8.0	10.0	0.0	0.18	0.92	0.56	0.18	4d8/5 L=50	30,27,46
	s=10,m=1	116.5	0.48	8.0	8.0	0.0	0.16	0.17	0.40	0.35	4d8/15 L=73	4,27,46
		233.0	0.60	8.0	10.0	0.0	0.18	0.91	0.56	0.18	4d8/5 L=50	30,27,46
111	ok,ok	0.0	0.72	8.0	12.1	0.0	0.20	0.97	0.54	0.16	4d8/5 L=50	25,27,46
	s=10,m=1	200.5	0.48	8.0	8.0	0.0	0.16	0.71	0.27	0.19	4d8/15 L=258	3,27,46
		401.0	0.72	8.0	12.1	0.0	0.20	0.95	0.54	0.16	4d8/5 L=50	24,27,46
							M_T= 21	**Z=705.0**	**P=19**	**P=22**		
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb
93	ok,ok	0.0	0.72	8.0	12.1	0.0	0.20	0.84	0.55	0.16	4d8/5 L=50	30,27,46
	s=10,m=1	200.5	0.48	8.0	8.0	0.0	0.16	0.71	0.27	0.19	4d8/15 L=258	3,27,46
		401.0	0.72	8.0	12.1	0.0	0.20	0.86	0.55	0.16	4d8/5 L=50	27,27,46
105	ok,ok	0.0	0.60	8.0	10.0	0.0	0.18	0.94	0.54	0.16	4d8/5 L=50	25,27,46
	s=10,m=1	106.0	0.48	8.0	8.0	0.0	0.16	0.48	0.39	0.33	4d8/15 L=82	28,27,46
		212.0	0.48	8.0	8.0	0.0	0.16	0.73	0.51	0.15	4d8/5 L=50	25,27,46
114	ok,ok	0.0	0.48	8.0	8.0	0.0	0.16	0.50	0.76	0.24	4d8/5 L=80	25,27,46
	s=10,m=1	110.0	0.60	8.0	10.0	0.0	0.18	0.91	0.83	0.27	4d8/5 L=80	27,27,46
112	ok,ok	0.0	0.60	8.0	10.0	0.0	0.18	0.86	0.48	0.13	4d8/5 L=50	30,46,46
	s=10,m=1	156.0	0.48	8.0	8.0	0.0	0.16	0.30	0.34	0.22	4d8/15 L=169	4,46,46
		312.0	0.48	8.0	8.0	0.0	0.16	0.94	0.46	0.12	4d8/5 L=50	27,46,46
							M_T= 22	**Z=705.0**	**P=3**	**P=15**		
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb
94	ok,ok	0.0	0.45	10.0	10.0	0.0	0.16	0.40	0.82	0.35	4d8/5 L=50	4,27,46
	s=12,m=1	242.0	1.62	36.2	10.0	0.0	0.46	0.79	0.33	0.33	4d8/15 L=336	4,27,46
		484.0	1.53	18.1	34.2	0.0	0.31	0.80	0.84	0.41	4d8/5 L=50	3,3,3
106	ok,ok	0.0	0.63	8.0	14.1	0.0	0.19	0.91	0.64	0.26	4d8/5 L=50	46,20,46
	s=12,m=1	168.5	0.36	8.0	8.0	0.0	0.15	0.90	0.32	0.32	4d8/15 L=187	4,20,46
		337.0	0.90	10.0	20.1	0.0	0.23	0.88	0.67	0.28	4d8/5 L=50	43,20,46
113	ok,ok	0.0	0.54	8.0	12.1	0.0	0.17	0.87	0.66	0.12	4d8/5 L=50	46,19,46
	s=12,m=1	171.5	0.36	8.0	8.0	0.0	0.15	0.43	0.56	0.21	4d8/15 L=228	43,19,46
		343.0	0.36	8.0	8.0	0.0	0.15	0.01	0.64	0.11	4d8/5 L=50	33,19,46
							M_T= 23	**Z=705.0**	**P=7**	**P=12**		
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb
107	ok,ok	0.0	0.45	10.0	10.0	0.0	0.16	0.86	0.78	0.32	4d8/5 L=50	4,30,46
	s=12,m=1	250.5	1.62	36.2	10.0	0.0	0.46	0.82	0.36	0.35	4d8/15 L=341	4,30,46
		501.0	1.71	20.1	38.2	0.0	0.33	0.81	0.88	0.42	4d8/5 L=50	3,3,3
99	ok,ok	0.0	0.63	8.0	14.1	0.0	0.19	0.97	1.00	0.29	4d8/5 L=50	38,28,20
	s=12,m=1	141.5	0.45	10.0	8.0	0.0	0.16	0.93	0.86	0.29	4d8/15 L=153	35,20,46
		283.0	0.36	8.0	8.0	0.0	0.15	0.01	1.00	0.23	4d8/5 L=50	28,28,20
							M_T= 24	**Z=1065.0**	**P=1**	**P=23**		
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb
145	ok,ok	0.0	0.56	6.0	8.0	0.0	0.12	0.91	0.61	0.36	2d8/10 L=50	44,16,46
	s=17,m=1	242.0	0.42	6.0	6.0	0.0	0.10	0.55	0.34	0.30	2d8/20 L=324	9,16,46
		484.0	0.42	6.0	6.0	0.0	0.10	0.90	0.58	0.34	2d8/10 L=50	45,16,46
156	ok,ok	0.0	0.42	6.0	6.0	0.0	0.10	0.80	0.56	0.34	2d8/10 L=50	46,18,46
	s=17,m=1	168.5	0.42	6.0	6.0	0.0	0.10	0.16	0.37	0.40	2d8/20 L=177	43,18,46
		337.0	0.42	6.0	6.0	0.0	0.10	0.65	0.56	0.34	2d8/10 L=50	43,18,46
168	ok,ok	0.0	0.56	6.0	8.0	0.0	0.12	0.87	0.72	0.40	2d8/10 L=50	46,18,46
	s=17,m=1	171.5	0.42	6.0	6.0	0.0	0.10	0.30	0.49	0.45	2d8/20 L=183	9,18,46
		343.0	0.42	6.0	6.0	0.0	0.10	0.91	0.68	0.37	2d8/10 L=50	43,18,46
174	ok,ok	0.0	0.42	6.0	6.0	0.0	0.10	0.89	0.35	0.21	2d8/10 L=50	46,30,46
	s=17,m=1	267.5	0.42	6.0	6.0	0.0	0.10	0.27	0.23	0.23	2d8/20 L=375	46,30,46
		535.0	0.42	6.0	6.0	0.0	0.10	0.69	0.35	0.21	2d8/10 L=50	46,30,46
							M_T= 25	**Z=1065.0**	**P=1**	**P=6**		
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb
146	ok,ok	0.0	0.42	6.0	6.0	0.0	0.10	0.37	0.57	0.27	2d8/10 L=50	20,36,46
	s=17,m=1	148.0	0.42	6.0	6.0	0.0	0.10	0.10	0.50	0.44	2d8/20 L=153	40,36,46
		296.0	0.42	6.0	6.0	0.0	0.10	0.68	0.57	0.27	2d8/10 L=50	20,36,46
157	ok,ok	0.0	0.56	6.0	8.0	0.0	0.12	0.74	0.49	0.30	2d8/10 L=50	18,36,46
	s=17,m=1	158.5	0.42	6.0	6.0	0.0	0.10	0.16	0.41	0.50	2d8/20 L=157	39,36,46
		317.0	0.42	6.0	6.0	0.0	0.10	0.92	0.44	0.27	2d8/10 L=50	18,36,46
169	ok,ok	0.0	0.42	6.0	6.0	0.0	0.10	0.75	0.53	0.35	2d8/10 L=50	20,24,46
	s=17,m=1	120.5	0.42	6.0	6.0	0.0	0.10	0.13	0.47	0.61	2d8/20 L=81	4,24,46
		241.0	0.42	6.0	6.0	0.0	0.10	0.68	0.53	0.35	2d8/10 L=50	20,24,46
175	ok,ok	0.0	0.42	6.0	6.0	0.0	0.10	0.64	0.46	0.30	2d8/10 L=50	18,25,46
	s=17,m=1	139.5	0.42	6.0	6.0	0.0	0.10	0.06	0.40	0.51	2d8/20 L=119	4,25,46
		279.0	0.42	6.0	6.0	0.0	0.10	0.62	0.46	0.30	2d8/10 L=50	20,25,46
176	ok,ok	0.0	0.42	6.0	6.0	0.0	0.10	0.65	0.42	0.27	2d8/10 L=50	18,25,46
	s=17,m=1	147.5	0.42	6.0	6.0	0.0	0.10	0.13	0.36	0.44	2d8/20 L=152	15,25,46
		295.0	0.42	6.0	6.0	0.0	0.10	0.37	0.42	0.27	2d8/10 L=50	18,25,46
							M_T= 26	**Z=1065.0**	**P=23**	**P=26**		
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb
147	ok,ok	0.0	0.42	6.0	6.0	0.0	0.10	0.56	0.54	0.34	2d8/10 L=50	30,37,46
	s=17,m=1	200.5	0.42	6.0	6.0	0.0	0.10	0.54	0.29	0.31	2d8/20 L=258	9,37,46

		401.0	0.42	6.0	6.0	0.0	0.10	0.84	0.54	0.34	2d8/10 L=50 27,37,46
158	ok,ok	0.0	0.42	6.0	6.0	0.0	0.10	0.50	0.62	0.43	2d8/10 L=50 25,25,46
	s=17,m=1	116.5	0.42	6.0	6.0	0.0	0.10	0.11	0.48	0.64	2d8/20 L=73 43,25,46
		233.0	0.42	6.0	6.0	0.0	0.10	0.45	0.62	0.43	2d8/10 L=50 27,25,46
170	ok,ok	0.0	0.42	6.0	6.0	0.0	0.10	0.85	0.56	0.34	2d8/10 L=50 25,43,46
	s=17,m=1	200.5	0.42	6.0	6.0	0.0	0.10	0.53	0.30	0.31	2d8/20 L=258 9,43,46
		401.0	0.42	6.0	6.0	0.0	0.10	0.52	0.56	0.34	2d8/10 L=50 24,43,46
							M_T= 27	**Z=1065.0**	**P=16**	**P=26**	
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe Rif. cmb
148	ok,ok	0.0	0.42	6.0	6.0	0.0	0.10	0.53	0.64	0.34	2d8/10 L=50 36,15,46
	s=17,m=1	152.5	0.42	6.0	6.0	0.0	0.10	0.27	0.47	0.42	2d8/20 L=162 32,15,46
		305.0	0.42	6.0	6.0	0.0	0.10	0.55	0.64	0.34	2d8/10 L=50 37,15,46
159	ok,ok	0.0	0.42	6.0	6.0	0.0	0.10	0.97	0.38	0.21	2d8/10 L=50 38,16,46
	s=17,m=1	267.5	0.42	6.0	6.0	0.0	0.10	0.28	0.25	0.23	2d8/20 L=375 24,16,46
		535.0	0.42	6.0	6.0	0.0	0.10	0.68	0.38	0.21	2d8/10 L=50 36,16,46
							M_T= 28	**Z=1065.0**	**P=19**	**P=22**	
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe Rif. cmb
149	ok,ok	0.0	0.48	8.0	8.0	0.0	0.16	0.59	0.50	0.11	4d8/5 L=50 30,46,46
	s=10,m=1	200.5	0.48	8.0	8.0	0.0	0.16	0.45	0.32	0.15	4d8/15 L=258 9,46,46
		401.0	0.48	8.0	8.0	0.0	0.16	0.75	0.50	0.11	4d8/5 L=50 27,46,46
160	ok,ok	0.0	0.48	8.0	8.0	0.0	0.16	0.74	0.40	0.13	4d8/5 L=50 25,25,46
	s=10,m=1	106.0	0.48	8.0	8.0	0.0	0.16	0.27	0.31	0.30	4d8/15 L=82 24,25,46
		212.0	0.48	8.0	8.0	0.0	0.16	0.64	0.40	0.13	4d8/5 L=50 25,25,46
173	ok,ok	0.0	0.48	8.0	8.0	0.0	0.16	0.65	0.70	0.24	4d8/5 L=80 9,25,46
	s=10,m=1	110.0	0.48	8.0	8.0	0.0	0.16	0.71	0.70	0.24	4d8/5 L=80 27,25,46
171	ok,ok	0.0	0.48	8.0	8.0	0.0	0.16	0.71	0.52	0.12	4d8/5 L=50 30,40,46
	s=10,m=1	156.0	0.48	8.0	8.0	0.0	0.16	0.24	0.38	0.20	4d8/15 L=169 11,40,46
		312.0	0.48	8.0	8.0	0.0	0.16	0.42	0.52	0.12	4d8/5 L=50 27,40,46
							M_T= 29	**Z=1065.0**	**P=14**	**P=18**	
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe Rif. cmb
150	ok,ok	0.0	0.48	4.0	4.0	0.0	0.16	0.48	0.18	0.05	2d8/5 L=50 22,43,46
	s=7,m=1	306.5	0.48	4.0	4.0	0.0	0.16	0.13	0.14	0.09	2d8/15 L=470 11,43,46
		613.0	0.48	4.0	4.0	0.0	0.16	0.38	0.18	0.05	2d8/5 L=50 19,43,46
177	ok,ok	0.0	0.48	4.0	4.0	0.0	0.16	0.45	0.33	0.08	2d8/5 L=50 22,15,46
	s=7,m=1	211.9	0.48	4.0	4.0	0.0	0.16	0.12	0.26	0.15	2d8/15 L=261 9,15,46
		423.7	0.48	4.0	4.0	0.0	0.16	0.70	0.33	0.08	2d8/5 L=50 19,15,46
153	ok,ok	0.0	0.42	6.0	6.0	0.0	0.10	0.93	0.52	0.22	2d8/10 L=50 25,36,46
	s=17,m=1	196.5	0.42	6.0	6.0	0.0	0.10	0.29	0.43	0.31	2d8/20 L=263 16,36,46
		393.0	0.42	6.0	6.0	0.0	0.10	0.81	0.52	0.22	2d8/10 L=50 25,36,46
167	ok,ok	0.0	0.42	6.0	6.0	0.0	0.10	0.73	1.00	0.62	2d8/10 L=95 25,32,36
	s=17,m=1	125.0	0.42	6.0	6.0	0.0	0.10	0.71	1.00	0.62	2d8/10 L=95 19,32,36
163	ok,ok	0.0	0.42	6.0	6.0	0.0	0.10	0.71	0.35	0.21	2d8/10 L=50 25,43,46
	s=17,m=1	230.0	0.42	6.0	6.0	0.0	0.10	0.15	0.25	0.27	2d8/20 L=315 3,43,46
		460.0	0.42	6.0	6.0	0.0	0.10	0.46	0.35	0.21	2d8/10 L=50 24,43,46
							M_T= 30	**Z=1065.0**	**P=3**	**P=15**	
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe Rif. cmb
151	ok,ok	0.0	0.41	10.0	8.0	0.0	0.13	0.27	0.65	0.24	4d8/5 L=50 11,24,46
	s=18,m=1	242.0	0.90	22.1	8.0	0.0	0.23	0.87	0.26	0.21	4d8/15 L=341 11,24,46
		484.0	0.66	8.0	16.1	0.0	0.17	0.91	0.66	0.27	4d8/5 L=50 9,24,9
161	ok,ok	0.0	0.33	8.0	8.0	0.0	0.12	0.91	0.47	0.18	4d8/5 L=50 46,25,46
	s=18,m=1	168.5	0.33	8.0	8.0	0.0	0.12	0.46	0.23	0.23	4d8/15 L=192 11,25,46
		337.0	0.49	8.0	12.1	0.0	0.14	0.92	0.51	0.20	4d8/5 L=50 11,25,46
172	ok,ok	0.0	0.41	8.0	10.0	0.0	0.13	0.98	0.62	0.14	4d8/5 L=50 11,16,46
	s=18,m=1	171.5	0.33	8.0	8.0	0.0	0.12	0.47	0.45	0.19	4d8/15 L=228 9,16,46
		343.0	0.33	8.0	8.0	0.0	0.12	0.03	0.61	0.14	4d8/5 L=50 4,16,46
							M_T= 31	**Z=1065.0**	**P=9**	**P=18**	
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe Rif. cmb
154	ok,ok	0.0	0.70	6.0	10.1	0.0	0.14	0.85	0.60	0.37	2d8/10 L=50 36,22,46
	s=17,m=1	250.5	0.42	6.0	6.0	0.0	0.10	0.77	0.33	0.33	2d8/20 L=341 25,22,46
		501.0	0.56	6.0	8.0	0.0	0.12	0.85	0.58	0.35	2d8/10 L=50 35,22,46
164	ok,ok	0.0	0.42	6.0	6.0	0.0	0.10	0.60	0.68	0.36	2d8/10 L=50 36,16,46
	s=17,m=1	141.5	0.42	6.0	6.0	0.0	0.10	0.21	0.52	0.50	2d8/20 L=123 36,16,46
		283.0	0.42	6.0	6.0	0.0	0.10	0.67	0.68	0.36	2d8/10 L=50 37,16,46
							M_T= 32	**Z=1065.0**	**P=7**	**P=9**	
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe Rif. cmb
155	ok,ok	0.0	0.42	6.0	6.0	0.0	0.10	0.38	0.72	0.26	2d8/10 L=50 15,36,46
	s=17,m=1	154.3	0.42	6.0	6.0	0.0	0.10	0.10	0.64	0.41	2d8/20 L=171 40,36,46
		308.5	0.42	6.0	6.0	0.0	0.10	0.71	0.72	0.26	2d8/10 L=50 20,36,46
165	ok,ok	0.0	0.42	6.0	6.0	0.0	0.10	0.59	0.47	0.28	2d8/10 L=50 34,43,46
	s=17,m=1	138.3	0.42	6.0	6.0	0.0	0.10	0.06	0.40	0.47	2d8/20 L=136 16,43,46
		276.5	0.42	6.0	6.0	0.0	0.10	0.47	0.47	0.28	2d8/10 L=50 18,43,46
							M_T= 33	**Z=1065.0**	**P=7**	**P=12**	
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe Rif. cmb
203	ok,ok	0.0	0.66	8.0	16.1	0.0	0.17	0.97	0.66	0.24	4d8/5 L=50 36,19,46
	s=18,m=1	250.5	0.57	14.1	8.0	0.0	0.16	0.89	0.26	0.18	4d8/15 L=341 11,19,46
		501.0	0.49	8.0	12.1	0.0	0.14	0.97	0.64	0.23	4d8/5 L=50 37,19,46
162	ok,ok	0.0	0.33	8.0	8.0	0.0	0.12	0.71	0.73	0.17	4d8/5 L=50 36,16,46

s=18,m=1	141.5	0.33	8.0	8.0	0.0	0.12	0.90	0.50	0.22	4d8/15 L=153 37,16,46
	283.0	0.33	8.0	8.0	0.0	0.12	0.02	0.72	0.17	4d8/5 L=50 28,16,46

Trave	**%Af**	**Af inf.**	**Af. sup**	**Af long.**	**x/d**	**V N/M**	**V V/T cls**	**V V/T acc**
	1.71	49.26	38.20	12.32	0.49	1.00	1.00	1.00

Trave	**M negativo i**	**M positivo i**	**M negativo f**	**M positivo f**	**Luce per V**	**V M-i M+f**	**V M+i M-f**	**VEd,min**	**VEd,max**	**Vr1**	**As**
	daN cm	daN cm	daN cm	daN cm	cm	daN	daN	daN	daN	daN	cm2
27	1.517e+06	8.712e+05	1.355e+06	7.065e+05	424.00	5768.22	5775.15	0.0	0.0	0.0	0.0
28	1.196e+06	7.067e+05	1.196e+06	7.067e+05	358.50	5836.63	5836.63	0.0	0.0	0.0	0.0
29	1.034e+06	7.072e+05	8.714e+05	8.714e+05	262.50	7985.97	6615.05	0.0	0.0	0.0	0.0
30	1.034e+06	7.072e+05	1.196e+06	7.067e+05	358.50	5342.15	5838.14	0.0	0.0	0.0	0.0
31	1.196e+06	7.067e+05	7.072e+05	8.711e+05	363.00	6262.54	4284.62	0.0	0.0	0.0	0.0
32	7.071e+05	7.071e+05	8.711e+05	7.072e+05	271.00	5740.85	6406.18	0.0	0.0	0.0	0.0
33	1.673e+06	8.712e+05	1.355e+06	7.065e+05	441.00	5935.86	5552.47	0.0	0.0	0.0	0.0
34	7.072e+05	8.711e+05	8.711e+05	7.072e+05	253.50	6137.59	7560.13	0.0	0.0	0.0	0.0
36	1.355e+06	7.065e+05	1.198e+06	1.035e+06	277.00	9490.29	7561.84	0.0	0.0	0.0	0.0
37	1.035e+06	8.714e+05	1.035e+06	8.714e+05	173.00	1.212e+04	1.212e+04	0.0	0.0	0.0	0.0
38	1.196e+06	7.067e+05	8.711e+05	7.072e+05	475.00	4406.31	3653.94	0.0	0.0	0.0	0.0
39	1.034e+06	7.072e+05	7.071e+05	7.071e+05	182.00	1.053e+04	8548.06	0.0	0.0	0.0	0.0
40	8.711e+05	7.072e+05	8.711e+05	7.072e+05	415.00	4183.58	4183.58	0.0	0.0	0.0	0.0
41	8.711e+05	7.072e+05	7.072e+05	8.711e+05	236.50	8103.56	6578.77	0.0	0.0	0.0	0.0
42	1.196e+06	7.067e+05	1.035e+06	1.035e+06	223.00	1.100e+04	8589.96	0.0	0.0	0.0	0.0
43	1.034e+06	7.072e+05	7.072e+05	8.711e+05	257.00	8155.77	6053.92	0.0	0.0	0.0	0.0
44	9.894e+05	9.894e+05	9.894e+05	9.894e+05	283.00	7691.25	7691.25	0.0	0.0	0.0	0.0
45	1.196e+06	7.067e+05	1.196e+06	7.067e+05	358.50	5836.63	5836.63	0.0	0.0	0.0	0.0
46	1.034e+06	7.072e+05	8.711e+05	7.072e+05	269.50	7108.44	6442.17	0.0	0.0	0.0	0.0
47	8.714e+05	1.035e+06	1.034e+06	7.072e+05	181.00	9593.67	1.257e+04	0.0	0.0	0.0	0.0
48	1.355e+06	7.065e+05	1.034e+06	7.072e+05	475.00	4775.32	4031.45	0.0	0.0	0.0	0.0
49	8.714e+05	8.714e+05	1.035e+06	8.714e+05	219.00	8753.74	9574.34	0.0	0.0	0.0	0.0
50	1.034e+06	7.072e+05	7.072e+05	8.711e+05	252.50	8301.12	6161.81	0.0	0.0	0.0	0.0
51	8.882e+05	8.882e+05	2.816e+06	1.543e+06	436.50	6127.22	9333.95	0.0	0.0	0.0	0.0
52	1.216e+06	8.880e+05	1.700e+06	8.875e+05	287.00	8062.92	9918.60	0.0	0.0	0.0	0.0
53	7.071e+05	7.071e+05	1.034e+06	7.072e+05	80.00	1.945e+04	2.395e+04	0.0	0.0	0.0	0.0
54	1.053e+06	7.230e+05	7.230e+05	7.230e+05	328.00	5954.79	4849.12	0.0	0.0	0.0	0.0
55	6.774e+05	3.533e+05	6.774e+05	3.533e+05	570.50	1987.31	1987.31	0.0	0.0	0.0	0.0
56	5.172e+05	3.536e+05	5.172e+05	3.536e+05	361.48	2649.78	2649.78	0.0	0.0	0.0	0.0
57	8.882e+05	8.882e+05	3.131e+06	1.707e+06	441.00	6473.08	1.002e+04	0.0	0.0	0.0	0.0
58	7.072e+05	8.711e+05	1.196e+06	7.067e+05	95.00	1.637e+04	2.393e+04	0.0	0.0	0.0	0.0
59	1.378e+06	7.230e+05	7.230e+05	7.230e+05	253.00	9134.03	6286.79	0.0	0.0	0.0	0.0
85	1.517e+06	8.712e+05	1.196e+06	7.067e+05	424.00	5768.74	5361.69	0.0	0.0	0.0	0.0
86	7.071e+05	7.071e+05	8.711e+05	7.072e+05	253.50	6137.16	6848.42	0.0	0.0	0.0	0.0
88	7.071e+05	7.071e+05	8.711e+05	7.072e+05	271.00	5740.85	6406.18	0.0	0.0	0.0	0.0
89	1.517e+06	8.712e+05	1.355e+06	7.065e+05	441.00	5545.86	5552.53	0.0	0.0	0.0	0.0
90	1.034e+06	7.072e+05	7.072e+05	8.711e+05	363.00	5774.19	4286.11	0.0	0.0	0.0	0.0
91	1.034e+06	7.072e+05	8.711e+05	7.072e+05	262.50	7298.00	6613.96	0.0	0.0	0.0	0.0
92	1.196e+06	7.067e+05	1.034e+06	7.072e+05	358.50	5838.14	5342.15	0.0	0.0	0.0	0.0
93	1.034e+06	7.072e+05	1.034e+06	7.072e+05	358.50	5343.66	5343.66	0.0	0.0	0.0	0.0
94	8.882e+05	8.882e+05	2.816e+06	1.543e+06	436.50	6127.22	9333.95	0.0	0.0	0.0	0.0
95	6.774e+05	3.533e+05	6.774e+05	3.533e+05	570.50	1987.31	1987.31	0.0	0.0	0.0	0.0
96	3.536e+05	3.536e+05	5.172e+05	3.536e+05	361.48	2151.90	2649.66	0.0	0.0	0.0	0.0
97	1.196e+06	7.067e+05	1.197e+06	8.710e+05	277.00	8206.40	7559.72	0.0	0.0	0.0	0.0
98	1.034e+06	7.072e+05	7.072e+05	8.711e+05	257.00	8155.77	6053.92	0.0	0.0	0.0	0.0
99	1.216e+06	7.231e+05	7.230e+05	7.230e+05	253.00	8430.23	6287.39	0.0	0.0	0.0	0.0
100	8.711e+05	7.072e+05	7.071e+05	7.071e+05	236.50	7340.70	6578.31	0.0	0.0	0.0	0.0
101	1.034e+06	7.072e+05	8.714e+05	8.714e+05	223.00	9400.53	7786.77	0.0	0.0	0.0	0.0
102	8.711e+05	7.072e+05	7.071e+05	7.071e+05	415.00	4183.31	3748.84	0.0	0.0	0.0	0.0
103	1.034e+06	7.072e+05	8.711e+05	7.072e+05	475.00	4033.11	3655.08	0.0	0.0	0.0	0.0
104	8.711e+05	7.072e+05	8.711e+05	7.072e+05	173.00	1.004e+04	1.004e+04	0.0	0.0	0.0	0.0
105	8.711e+05	7.072e+05	7.071e+05	7.071e+05	182.00	9538.88	8548.18	0.0	0.0	0.0	0.0
106	1.216e+06	7.231e+05	1.700e+06	8.875e+05	287.00	8062.00	9286.70	0.0	0.0	0.0	0.0
107	8.882e+05	8.882e+05	3.131e+06	1.707e+06	441.00	6473.08	1.002e+04	0.0	0.0	0.0	0.0
108	7.071e+05	7.071e+05	1.034e+06	7.072e+05	95.00	1.638e+04	2.016e+04	0.0	0.0	0.0	0.0
109	9.894e+05	9.894e+05	9.894e+05	9.894e+05	283.00	7691.25	7691.25	0.0	0.0	0.0	0.0
110	7.072e+05	8.711e+05	8.711e+05	7.072e+05	181.00	8596.02	1.059e+04	0.0	0.0	0.0	0.0
111	1.034e+06	7.072e+05	1.034e+06	7.072e+05	358.50	5343.66	5343.66	0.0	0.0	0.0	0.0
112	8.711e+05	7.072e+05	7.071e+05	7.071e+05	269.50	6441.84	5772.80	0.0	0.0	0.0	0.0
113	1.053e+06	7.230e+05	7.230e+05	7.230e+05	328.00	5954.79	4849.12	0.0	0.0	0.0	0.0
114	7.071e+05	7.071e+05	8.711e+05	7.072e+05	80.00	1.945e+04	2.170e+04	0.0	0.0	0.0	0.0
115	1.196e+06	7.067e+05	8.711e+05	7.072e+05	475.00	4406.31	3653.94	0.0	0.0	0.0	0.0
116	8.711e+05	7.072e+05	8.711e+05	7.072e+05	219.00	7927.79	7927.79	0.0	0.0	0.0	0.0
117	8.711e+05	7.072e+05	7.071e+05	7.071e+05	252.50	6875.55	6161.46	0.0	0.0	0.0	0.0
145	1.309e+06	9.895e+05	9.894e+05	9.894e+05	424.00	5962.78	5133.89	0.0	0.0	0.0	0.0
146	9.894e+05	9.894e+05	9.894e+05	9.894e+05	253.50	8586.28	8586.28	0.0	0.0	0.0	0.0
147	9.894e+05	9.894e+05	9.894e+05	9.894e+05	358.50	6071.47	6071.47	0.0	0.0	0.0	0.0
148	9.894e+05	9.894e+05	9.894e+05	9.894e+05	262.50	8291.90	8291.90	0.0	0.0	0.0	0.0

149	7.071e+05	7.071e+05	7.071e+05	7.071e+05	358.50	4339.36	4339.36	0.0	0.0	0.0	0.0
150	3.536e+05	3.536e+05	3.536e+05	3.536e+05	570.50	1363.42	1363.42	0.0	0.0	0.0	0.0
151	9.352e+05	1.155e+06	1.807e+06	9.355e+05	441.50	4660.99	7381.58	0.0	0.0	0.0	0.0
153	9.894e+05	9.894e+05	9.894e+05	9.894e+05	363.00	5996.21	5996.21	0.0	0.0	0.0	0.0
154	1.626e+06	9.891e+05	1.309e+06	9.895e+05	441.00	6524.56	5732.21	0.0	0.0	0.0	0.0
155	9.894e+05	9.894e+05	9.894e+05	9.894e+05	271.00	8031.82	8031.82	0.0	0.0	0.0	0.0
156	9.894e+05	9.894e+05	9.894e+05	9.894e+05	277.00	7857.84	7857.84	0.0	0.0	0.0	0.0
157	1.309e+06	9.895e+05	9.894e+05	9.894e+05	257.00	9837.43	8469.91	0.0	0.0	0.0	0.0
158	9.894e+05	9.894e+05	9.894e+05	9.894e+05	173.00	1.258e+04	1.258e+04	0.0	0.0	0.0	0.0
159	9.894e+05	9.894e+05	9.894e+05	9.894e+05	475.00	4582.36	4582.36	0.0	0.0	0.0	0.0
160	7.071e+05	7.071e+05	7.071e+05	7.071e+05	182.00	8547.58	8547.58	0.0	0.0	0.0	0.0
161	9.355e+05	9.355e+05	1.374e+06	9.354e+05	292.00	7047.98	8700.66	0.0	0.0	0.0	0.0
162	9.355e+05	9.355e+05	9.355e+05	9.355e+05	253.00	8134.70	8134.70	0.0	0.0	0.0	0.0
163	9.894e+05	9.894e+05	9.894e+05	9.894e+05	415.00	5244.87	5244.87	0.0	0.0	0.0	0.0
164	9.894e+05	9.894e+05	9.894e+05	9.894e+05	223.00	9760.64	9760.64	0.0	0.0	0.0	0.0
165	9.894e+05	9.894e+05	9.894e+05	9.894e+05	236.50	9203.48	9203.48	0.0	0.0	0.0	0.0
167	9.894e+05	9.894e+05	9.894e+05	9.894e+05	95.00	2.291e+04	2.291e+04	0.0	0.0	0.0	0.0
168	1.309e+06	9.895e+05	9.894e+05	9.894e+05	283.00	8933.63	7691.76	0.0	0.0	0.0	0.0
169	9.894e+05	9.894e+05	9.894e+05	9.894e+05	181.00	1.203e+04	1.203e+04	0.0	0.0	0.0	0.0
170	9.894e+05	9.894e+05	9.894e+05	9.894e+05	358.50	6071.47	6071.47	0.0	0.0	0.0	0.0
171	7.071e+05	7.071e+05	7.071e+05	7.071e+05	269.50	5772.39	5772.39	0.0	0.0	0.0	0.0
172	1.155e+06	9.352e+05	9.355e+05	9.355e+05	328.00	7011.58	6273.73	0.0	0.0	0.0	0.0
173	7.071e+05	7.071e+05	7.071e+05	7.071e+05	80.00	1.945e+04	1.945e+04	0.0	0.0	0.0	0.0
174	9.894e+05	9.894e+05	9.894e+05	9.894e+05	475.00	4582.36	4582.36	0.0	0.0	0.0	0.0
175	9.894e+05	9.894e+05	9.894e+05	9.894e+05	219.00	9938.92	9938.92	0.0	0.0	0.0	0.0
176	9.894e+05	9.894e+05	9.894e+05	9.894e+05	252.50	8620.29	8620.29	0.0	0.0	0.0	0.0
177	3.536e+05	3.536e+05	3.536e+05	3.536e+05	361.48	2151.77	2151.77	0.0	0.0	0.0	0.0
203	1.807e+06	9.355e+05	1.374e+06	9.354e+05	441.00	6841.67	5761.08	0.0	0.0	0.0	0.0

Trave	**M negativo i**	**M positivo i**	**M negativo f**	**M positivo f**	**V M-i M+f**	**V M+i M-f**	**VEd,min**	**VEd,max**	**Vr1**	**As**
							0.0			
	1.807e+06	1.155e+06	3.131e+06	1.707e+06	2.291e+04	2.395e+04		0.0	0.0	0.0

STATI LIMITE D' ESERCIZIO

LEGENDA TABELLA STATI LIMITE D' ESERCIZIO

In tabella vengono riportati i valori di interesse per il controllo degli stati limite d'esercizio.

In particolare vengono riportati, in relazione al tipo di elemento strutturale, i risultati relativi alle tre categorie di combinazione considerate:

- Combinazioni rare
- Combinazioni frequenti
- Combinazioni quasi permanenti.

I valori di interesse sono i seguenti:

rRfck	rapporto tra la massima compressione nel calcestruzzo e la tensione fck in combinazioni rare [*normalizzato a 1*]
rRfyk	rapporto tra la massima tensione nell'acciaio e la tensione fyk in combinazioni rare [*normalizzato a 1*]
rPfck	rapporto tra la massima compressione nel calcestruzzo e la tensione fck in combinazioni quasi permanenti [*normalizzato a 1*]
wR	apertura caratteristica delle fessure in combinazioni rare [*mm*]
wF	apertura caratteristica delle fessure in combinazioni frequenti [*mm*]
wP	apertura caratteristica delle fessure in combinazioni quasi permanenti [*mm*]
dR	massima deformazione in combinazioni rare
dF	massima deformazione in combinazioni frequenti
dP	massima deformazione in combinazioni quasi permanenti

Per ognuno dei nove valori soprariportati viene indicata (Rif.cmb) la combinazione in cui si è verificato.

In relazione al tipo di elemento strutturale i valori sono selezionati nel modo seguente:

pilastri	rRfck	rRfyk	rPfck	per sezioni significative
travi	rRfck	rRfyk	rPfck	per sezioni significative
	wR	wF	wP	per sezioni significative
	dR	dF	dP	massimi in campata
setti e gusci	rRfck	rRfyk	rPfck	massimi nei nodi dell'elemento
	wR	wF	wP	massimi nei nodi dell'elemento

Si precisa che i valori di massima deformazione per travi sono riferiti al piano verticale (piano locale 1-2 con momenti flettenti 3-3).

Pilas.	Pos. cm	rRfck	rRfyk	rPfck	Rif. cmb	Pos. cm	rRfck	rRfyk	rPfck	Rif. cmb
1	0.0	0.48	0.25	0.0	82,82,0	172.5	0.29	0.16	0.0	82,82,0
	345.0	0.22	0.13	0.0	82,82,0					
2	0.0	0.39	0.22	0.0	82,82,0	172.5	0.32	0.18	0.0	82,82,0
	345.0	0.25	0.15	0.0	82,82,0					
3	0.0	0.28	0.16	0.0	82,82,0	172.5	0.30	0.17	0.0	82,82,0
	345.0	0.34	0.19	0.0	82,82,0					
4	0.0	0.27	0.16	0.0	82,82,0	172.5	0.29	0.17	0.0	82,82,0
	345.0	0.34	0.19	0.0	82,82,0					
5	0.0	0.59	0.32	0.0	82,82,0	172.5	0.41	0.22	0.0	82,82,0
	345.0	0.28	0.15	0.0	82,82,0					
6	0.0	0.39	0.22	0.0	82,82,0	172.5	0.30	0.17	0.0	82,82,0
	345.0	0.21	0.13	0.0	82,82,0					
7	0.0	0.40	0.22	0.0	82,82,0	172.5	0.30	0.17	0.0	82,82,0
	345.0	0.20	0.12	0.0	82,82,0					
8	0.0	0.56	0.31	0.0	82,82,0	172.5	0.40	0.22	0.0	82,82,0
	345.0	0.28	0.15	0.0	82,82,0					
9	0.0	0.25	0.15	0.0	82,82,0	172.5	0.23	0.14	0.0	82,82,0
	345.0	0.23	0.14	0.0	82,82,0					
10	0.0	0.19	0.12	0.0	82,82,0	172.5	0.21	0.12	0.0	82,82,0
	345.0	0.28	0.16	0.0	82,82,0					
11	0.0	0.22	0.13	0.0	82,82,0	172.5	0.21	0.13	0.0	82,82,0
	345.0	0.20	0.12	0.0	82,82,0					
12	0.0	0.22	0.13	0.0	82,82,0	172.5	0.20	0.12	0.0	82,82,0
	345.0	0.18	0.11	0.0	82,82,0					
13	0.0	0.45	0.26	0.0	82,82,0	172.5	0.33	0.20	0.0	82,82,0
	345.0	0.48	0.27	0.0	82,82,0					
14	0.0	0.37	0.22	0.0	82,82,0	172.5	0.39	0.24	0.0	82,82,0
	345.0	0.42	0.25	0.0	82,82,0					
15	0.0	0.20	0.11	0.0	82,82,0	172.5	0.14	0.08	0.0	82,82,0
	345.0	0.13	0.08	0.0	82,82,0					
16	0.0	0.37	0.21	0.0	82,82,0	172.5	0.29	0.18	0.0	82,82,0
	345.0	0.30	0.18	0.0	82,82,0					
17	0.0	0.21	0.11	0.0	82,82,0	172.5	0.11	0.06	0.0	82,82,0
	345.0	0.16	0.09	0.0	82,82,0					
18	0.0	0.12	0.07	0.0	82,82,0	172.5	0.10	0.06	0.0	82,82,0
	345.0	0.11	0.06	0.0	82,82,0					
19	0.0	0.11	0.06	0.0	82,82,0	172.5	0.07	0.04	0.0	82,82,0
	345.0	0.08	0.04	0.0	82,82,0					
21	0.0	0.19	0.11	0.0	82,82,0	172.5	0.14	0.08	0.0	82,82,0
	345.0	0.15	0.09	0.0	82,82,0					
22	0.0	0.41	0.22	0.0	82,82,0	172.5	0.24	0.14	0.0	82,82,0
	345.0	0.21	0.12	0.0	82,82,0					
23	0.0	0.39	0.22	0.0	82,82,0	172.5	0.28	0.16	0.0	82,82,0
	345.0	0.18	0.11	0.0	82,82,0					
24	0.0	0.23	0.13	0.0	82,82,0	172.5	0.18	0.10	0.0	82,82,0
	345.0	0.14	0.08	0.0	82,82,0					
25	0.0	0.30	0.17	0.0	82,82,0	172.5	0.26	0.16	0.0	82,82,0
	345.0	0.32	0.19	0.0	82,82,0					
26	0.0	0.44	0.26	0.0	82,82,0	172.5	0.49	0.29	0.0	82,82,0
	345.0	0.55	0.32	0.0	82,82,0					
60	0.0	0.44	0.24	0.0	82,82,0	180.0	0.14	0.08	0.0	82,82,0
	360.0	0.29	0.16	0.0	81,81,0					
61	0.0	0.21	0.12	0.0	82,82,0	180.0	0.14	0.09	0.0	82,82,0
	360.0	0.17	0.10	0.0	82,82,0					
62	0.0	0.39	0.19	0.0	82,82,0	180.0	0.14	0.09	0.0	82,82,0
	360.0	0.38	0.19	0.0	82,82,0					
63	0.0	0.58	0.29	0.0	82,82,0	180.0	0.16	0.10	0.0	82,82,0
	360.0	0.49	0.25	0.0	81,82,0					
64	0.0	0.55	0.25	0.0	82,82,0	180.0	0.13	0.08	0.0	82,82,0
	360.0	0.41	0.19	0.0	82,82,0					
65	0.0	0.22	0.13	0.0	82,82,0	180.0	0.13	0.08	0.0	82,82,0
	360.0	0.19	0.11	0.0	82,82,0					
66	0.0	0.23	0.13	0.0	82,82,0	180.0	0.14	0.08	0.0	82,82,0
	360.0	0.19	0.11	0.0	82,82,0					
67	0.0	0.49	0.23	0.0	82,82,0	180.0	0.12	0.07	0.0	82,82,0
	360.0	0.39	0.18	0.0	81,82,0					
68	0.0	0.30	0.17	0.0	82,82,0	180.0	0.13	0.08	0.0	82,82,0
	360.0	0.27	0.15	0.0	82,82,0					
69	0.0	0.13	0.08	0.0	82,82,0	180.0	0.10	0.06	0.0	82,82,0
	360.0	0.13	0.07	0.0	82,82,0					
70	0.0	0.15	0.09	0.0	82,82,0	180.0	0.10	0.06	0.0	82,82,0
	360.0	0.15	0.09	0.0	82,82,0					
71	0.0	0.32	0.18	0.0	82,82,0	180.0	0.19	0.12	0.0	82,82,0

	360.0	0.31	0.18	0.0	82,82,0					
72	0.0	0.32	0.19	0.0	82,82,0	180.0	0.18	0.11	0.0	82,82,0
	360.0	0.30	0.18	0.0	82,82,0					
73	0.0	0.20	0.12	0.0	82,82,0	180.0	0.17	0.10	0.0	82,82,0
	360.0	0.17	0.10	0.0	82,82,0					
74	0.0	0.14	0.08	0.0	82,82,0	180.0	0.09	0.05	0.0	82,82,0
	360.0	0.11	0.06	0.0	82,82,0					
75	0.0	0.09	0.05	0.0	82,82,0	180.0	0.07	0.04	0.0	82,82,0
	360.0	0.08	0.05	0.0	82,82,0					
76	0.0	0.10	0.06	0.0	82,82,0	180.0	0.05	0.03	0.0	82,82,0
	360.0	0.09	0.05	0.0	82,82,0					
77	0.0	0.20	0.12	0.0	82,82,0	180.0	0.23	0.14	0.0	82,82,0
	360.0	0.26	0.15	0.0	85,85,0					
79	0.0	0.12	0.07	0.0	82,82,0	180.0	0.10	0.06	0.0	82,82,0
	360.0	0.08	0.05	0.0	81,81,0					
80	0.0	0.32	0.18	0.0	82,82,0	180.0	0.10	0.06	0.0	82,82,0
	360.0	0.23	0.13	0.0	81,81,0					
81	0.0	0.15	0.08	0.0	83,83,0	180.0	0.06	0.04	0.0	82,82,0
	360.0	0.13	0.07	0.0	82,82,0					
82	0.0	0.17	0.10	0.0	82,82,0	180.0	0.12	0.07	0.0	82,82,0
	360.0	0.13	0.08	0.0	82,82,0					
83	0.0	0.46	0.26	0.0	82,82,0	180.0	0.24	0.15	0.0	82,82,0
	360.0	0.42	0.24	0.0	82,82,0					
84	0.0	0.41	0.21	0.0	82,82,0	180.0	0.13	0.08	0.0	82,82,0
	360.0	0.36	0.18	0.0	81,81,0					
118	0.0	0.22	0.12	0.0	82,82,0	180.0	0.10	0.06	0.0	85,85,0
	360.0	0.43	0.37	0.0	82,82,0					
119	0.0	0.10	0.06	0.0	85,85,0	180.0	0.07	0.04	0.0	82,82,0
	360.0	0.09	0.05	0.0	83,83,0					
120	0.0	0.29	0.14	0.0	81,82,0	180.0	0.14	0.08	0.0	82,82,0
	360.0	0.23	0.11	0.0	82,82,0					
121	0.0	0.37	0.17	0.0	82,82,0	180.0	0.09	0.05	0.0	81,81,0
	360.0	0.45	0.23	0.0	82,82,0					
122	0.0	0.40	0.26	0.0	82,82,0	180.0	0.06	0.03	0.0	83,85,0
	360.0	0.37	0.28	0.0	85,82,0					
123	0.0	0.10	0.06	0.0	82,82,0	180.0	0.07	0.04	0.0	83,83,0
	360.0	0.11	0.06	0.0	83,83,0					
124	0.0	0.14	0.08	0.0	82,82,0	180.0	0.07	0.04	0.0	83,83,0
	360.0	0.15	0.09	0.0	83,83,0					
125	0.0	0.40	0.27	0.0	82,81,0	180.0	0.06	0.04	0.0	81,81,0
	360.0	0.30	0.21	0.0	85,82,0					
126	0.0	0.07	0.04	0.0	82,85,0	180.0	0.05	0.03	0.0	82,85,0
	360.0	0.06	0.04	0.0	83,83,0					
127	0.0	0.08	0.05	0.0	82,85,0	180.0	0.07	0.04	0.0	85,85,0
	360.0	0.10	0.06	0.0	85,85,0					
128	0.0	0.16	0.08	0.0	82,82,0	180.0	0.09	0.05	0.0	82,82,0
	360.0	0.25	0.13	0.0	82,82,0					
129	0.0	0.25	0.14	0.0	82,82,0	180.0	0.12	0.07	0.0	85,85,0
	360.0	0.18	0.10	0.0	82,82,0					
130	0.0	0.28	0.16	0.0	82,82,0	180.0	0.16	0.10	0.0	83,83,0
	360.0	0.47	0.26	0.0	85,85,0					
131	0.0	0.06	0.04	0.0	82,82,0	180.0	0.07	0.04	0.0	82,82,0
	360.0	0.11	0.06	0.0	82,82,0					
132	0.0	0.10	0.06	0.0	85,83,0	180.0	0.08	0.05	0.0	83,83,0
	360.0	0.08	0.05	0.0	83,83,0					
133	0.0	0.13	0.07	0.0	82,82,0	180.0	0.06	0.03	0.0	82,82,0
	360.0	0.16	0.10	0.0	82,82,0					
134	0.0	0.05	0.03	0.0	82,82,0	180.0	0.04	0.02	0.0	82,82,0
	360.0	0.05	0.03	0.0	82,82,0					
135	0.0	0.17	0.10	0.0	83,83,0	180.0	0.40	0.22	0.0	85,85,0
	360.0	0.88	0.82	0.0	85,85,0					
137	0.0	0.08	0.04	0.0	82,82,0	180.0	0.08	0.04	0.0	82,82,0
	360.0	0.20	0.09	0.0	82,82,0					
138	0.0	0.25	0.15	0.0	82,82,0	180.0	0.10	0.06	0.0	85,85,0
	360.0	0.45	0.37	0.0	82,82,0					
139	0.0	0.11	0.06	0.0	85,85,0	180.0	0.05	0.03	0.0	82,82,0
	360.0	0.10	0.06	0.0	83,83,0					
140	0.0	0.18	0.09	0.0	82,82,0	180.0	0.03	0.02	0.0	82,82,0
	360.0	0.13	0.06	0.0	82,85,0					
141	0.0	0.18	0.10	0.0	82,82,0	180.0	0.08	0.05	0.0	83,83,0
	360.0	0.19	0.10	0.0	82,85,0					
142	0.0	0.27	0.15	0.0	82,82,0	180.0	0.14	0.08	0.0	82,82,0
	360.0	0.25	0.14	0.0	82,82,0					
143	0.0	0.34	0.16	0.0	82,82,0	180.0	0.08	0.05	0.0	85,85,0
	360.0	0.42	0.24	0.0	82,82,0					
144	0.0	0.41	0.22	0.0	82,82,0	180.0	0.12	0.07	0.0	82,82,0
	360.0	0.33	0.18	0.0	85,85,0					

204	0.0	0.08	0.05	0.0	82,82,0	180.0	0.05	0.03	0.0	82,82,0
	360.0	0.05	0.05	0.0	82,82,0					
205	0.0	0.07	0.04	0.0	82,82,0	180.0	0.02	0.01	0.0	79,79,0
	360.0	0.07	0.04	0.0	82,82,0					
206	0.0	0.28	0.17	0.0	82,82,0	172.5	0.26	0.16	0.0	82,82,0
	345.0	0.27	0.17	0.0	82,82,0					

Pilas.	**rRfck**	**rRfyk**	**rPfck**	**rRfck**	**rRfyk**	**rPfck**
	0.88	0.82	0.0			

Trave	**Pos.**	**rRfck**	**rRfyk**	**rPfck**	**Rif. cmb**	**wR**	**wF**	**wP**	**Rif. cmb**	**dR**	**dF**	**dP**	**Rif. cmb**
	cm					mm	mm	mm		cm	cm	cm	
20	0.0	0.35	0.64	0.0	82,82,0	0.10	0.0	0.0	82,0,0	-0.17	0.0	0.0	82,0,0
	211.9	0.26	0.79	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	423.7	0.19	0.41	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
27	0.0	0.45	0.44	0.0	82,82,0	0.08	0.0	0.0	82,0,0	-0.93	0.0	0.0	82,0,0
	242.0	0.49	0.77	0.0	82,82,0	0.22	0.0	0.0	82,0,0				
	484.0	0.38	0.39	0.0	81,81,0	0.06	0.0	0.0	81,0,0				
28	0.0	0.30	0.32	0.0	82,82,0	0.03	0.0	0.0	82,0,0	-0.55	0.0	0.0	82,0,0
	200.5	0.44	0.65	0.0	82,82,0	0.17	0.0	0.0	82,0,0				
	401.0	0.33	0.35	0.0	81,81,0	0.05	0.0	0.0	81,0,0				
29	0.0	0.24	0.30	0.0	82,82,0	0.0	0.0	0.0	0,0,0	-0.08	0.0	0.0	82,0,0
	152.5	0.21	0.34	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	305.0	0.06	0.11	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
30	0.0	0.30	0.35	0.0	82,82,0	0.03	0.0	0.0	82,0,0	-0.50	0.0	0.0	82,0,0
	200.5	0.42	0.63	0.0	82,82,0	0.15	0.0	0.0	82,0,0				
	401.0	0.38	0.40	0.0	81,81,0	0.07	0.0	0.0	81,0,0				
31	0.0	0.39	0.44	0.0	82,82,0	0.08	0.0	0.0	82,0,0	-0.65	0.0	0.0	82,0,0
	196.5	0.22	0.37	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	393.0	0.33	0.47	0.0	82,82,0	0.08	0.0	0.0	82,0,0				
32	0.0	0.03	0.04	0.0	79,79,0	0.0	0.0	0.0	0,0,0	0.10	0.0	0.0	82,0,0
	154.3	0.08	0.12	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
	308.5	0.17	0.21	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
33	0.0	0.49	0.44	0.0	82,82,0	0.08	0.0	0.0	82,0,0	-1.02	0.0	0.0	82,0,0
	250.5	0.50	0.78	0.0	82,82,0	0.23	0.0	0.0	82,0,0				
	501.0	0.37	0.38	0.0	81,81,0	0.06	0.0	0.0	81,0,0				
34	0.0	0.06	0.08	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.16	0.0	0.0	82,0,0
	148.0	0.08	0.11	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
	296.0	0.19	0.23	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
35	0.0	0.08	0.26	0.0	85,82,0	0.0	0.0	0.0	0,0,0	0.05	0.0	0.0	79,0,0
	75.0	0.16	0.48	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
36	0.0	0.26	0.26	0.0	82,82,0	0.01	0.0	0.0	82,0,0	0.12	0.0	0.0	82,0,0
	168.5	0.21	0.33	0.0	81,81,0	0.0	0.0	0.0	0,0,0				
	337.0	0.09	0.12	0.0	81,82,0	0.0	0.0	0.0	0,0,0				
37	0.0	0.12	0.13	0.0	82,82,0	0.0	0.0	0.0	0,0,0	3.79e-03	0.0	0.0	82,0,0
	116.5	0.06	0.06	0.0	81,81,0	0.0	0.0	0.0	0,0,0				
	233.0	0.12	0.12	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
38	0.0	0.39	0.44	0.0	82,82,0	0.08	0.0	0.0	82,0,0	-0.25	0.0	0.0	82,0,0
	267.5	0.25	0.41	0.0	83,82,0	0.0	0.0	0.0	0,0,0				
	535.0	0.12	0.19	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
39	0.0	0.22	0.26	0.0	82,82,0	0.0	0.0	0.0	0,0,0	-0.04	0.0	0.0	81,0,0
	106.0	0.15	0.23	0.0	81,81,0	0.0	0.0	0.0	0,0,0				
	212.0	0.22	0.33	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
40	0.0	0.27	0.36	0.0	81,81,0	0.01	0.0	0.0	81,0,0	-0.13	0.0	0.0	79,0,0
	230.0	0.18	0.28	0.0	79,83,0	0.0	0.0	0.0	0,0,0				
	460.0	0.16	0.22	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
41	0.0	0.23	0.29	0.0	82,82,0	0.0	0.0	0.0	0,0,0	-0.13	0.0	0.0	82,0,0
	138.3	0.07	0.10	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
	276.5	0.12	0.16	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
42	0.0	0.24	0.25	0.0	81,81,0	0.0	0.0	0.0	0,0,0	0.11	0.0	0.0	82,0,0
	141.5	0.14	0.20	0.0	81,81,0	0.0	0.0	0.0	0,0,0				
	283.0	3.69e-03	6.67e-03	0.0	81,81,0	0.0	0.0	0.0	0,0,0				
43	0.0	0.22	0.24	0.0	82,82,0	0.0	0.0	0.0	0,0,0	-0.14	0.0	0.0	82,0,0
	158.5	0.09	0.11	0.0	82,83,0	0.0	0.0	0.0	0,0,0				
	317.0	0.10	0.11	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
44	0.0	0.05	0.13	0.0	79,82,0	0.0	0.0	0.0	0,0,0	-0.07	0.0	0.0	81,0,0
	171.5	0.16	0.32	0.0	79,82,0	0.0	0.0	0.0	0,0,0				
	343.0	0.05	0.13	0.0	79,82,0	0.0	0.0	0.0	0,0,0				
45	0.0	0.33	0.35	0.0	81,81,0	0.04	0.0	0.0	81,0,0	-0.53	0.0	0.0	81,0,0
	200.5	0.43	0.64	0.0	82,82,0	0.16	0.0	0.0	82,0,0				
	401.0	0.31	0.33	0.0	82,82,0	0.04	0.0	0.0	82,0,0				
46	0.0	0.18	0.21	0.0	81,81,0	0.0	0.0	0.0	0,0,0	-0.07	0.0	0.0	81,0,0
	156.0	0.17	0.25	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	312.0	0.10	0.12	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
47	0.0	0.09	0.09	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.13	0.0	0.0	82,0,0
	120.5	0.05	0.05	0.0	82,83,0	0.0	0.0	0.0	0,0,0				

	241.0	0.15	0.16	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
48	0.0	0.34	0.35	0.0	82,82,0	0.05	0.0	0.0	82,0,0	-0.27	0.0	0.0	81,0,0
	267.5	0.25	0.42	0.0	82,82,0	1.24e-03	0.0	0.0	82,0,0				
	535.0	0.13	0.19	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
49	0.0	0.03	0.03	0.0	79,79,0	0.0	0.0	0.0	0,0,0	0.06	0.0	0.0	82,0,0
	139.5	0.06	0.08	0.0	79,83,0	0.0	0.0	0.0	0,0,0				
	279.0	0.07	0.08	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
50	0.0	0.17	0.19	0.0	82,82,0	0.0	0.0	0.0	0,0,0	-0.09	0.0	0.0	82,0,0
	147.5	0.08	0.11	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
	295.0	0.05	0.06	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
51	0.0	0.22	0.34	0.0	82,82,0	0.0	0.0	0.0	0,0,0	-1.85	0.0	0.0	82,0,0
	242.0	0.91	0.61	0.0	82,82,0	0.12	0.0	0.0	82,0,0				
	484.0	0.84	0.64	0.0	81,81,0	0.13	0.0	0.0	81,0,0				
52	0.0	0.21	0.24	0.0	81,81,0	0.0	0.0	0.0	0,0,0	1.01	0.0	0.0	82,0,0
	168.5	0.44	0.71	0.0	82,82,0	0.19	0.0	0.0	82,0,0				
	337.0	0.56	0.54	0.0	82,82,0	0.12	0.0	0.0	82,0,0				
53	0.0	0.26	0.40	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.09	0.0	0.0	82,0,0
	110.0	0.25	0.30	0.0	81,81,0	2.70e-03	0.0	0.0	81,0,0				
54	0.0	0.45	0.59	0.0	82,82,0	0.14	0.0	0.0	82,0,0	-0.04	0.0	0.0	82,0,0
	171.5	0.09	0.16	0.0	81,81,0	0.0	0.0	0.0	0,0,0				
	343.0	0.0	5.55e-03	0.0	0,83,0	0.0	0.0	0.0	0,0,0				
55	0.0	0.64	0.64	0.0	82,82,0	0.15	0.0	0.0	82,0,0	-1.61	0.0	0.0	82,0,0
	306.5	0.50	0.61	0.0	82,82,0	0.15	0.0	0.0	82,0,0				
	613.0	0.62	0.61	0.0	79,79,0	0.14	0.0	0.0	79,0,0				
56	0.0	0.08	0.12	0.0	81,81,0	0.0	0.0	0.0	0,0,0	0.15	0.0	0.0	82,0,0
	211.9	0.07	0.14	0.0	81,81,0	0.0	0.0	0.0	0,0,0				
	423.7	0.17	0.22	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
57	0.0	0.43	0.67	0.0	82,81,0	0.17	0.0	0.0	81,0,0	-1.95	0.0	0.0	82,0,0
	250.5	0.93	0.60	0.0	82,82,0	0.12	0.0	0.0	82,0,0				
	501.0	0.87	0.63	0.0	81,81,0	0.12	0.0	0.0	81,0,0				
58	0.0	0.49	0.67	0.0	82,82,0	0.17	0.0	0.0	82,0,0	0.39	0.0	0.0	82,0,0
	125.0	0.51	0.56	0.0	82,82,0	0.12	0.0	0.0	82,0,0				
59	0.0	0.42	0.45	0.0	81,81,0	0.08	0.0	0.0	81,0,0	0.56	0.0	0.0	82,0,0
	141.5	0.38	0.53	0.0	82,82,0	0.09	0.0	0.0	82,0,0				
	283.0	3.72e-03	2.32e-03	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
78	0.0	0.66	0.82	0.0	82,82,0	0.19	0.0	0.0	82,0,0	1.28	0.0	0.0	82,0,0
	168.5	0.21	0.52	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	337.0	0.07	0.20	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
85	0.0	0.53	0.47	0.0	82,82,0	0.09	0.0	0.0	82,0,0	-0.76	0.0	0.0	82,0,0
	242.0	0.47	0.68	0.0	81,82,0	0.18	0.0	0.0	81,0,0				
	484.0	0.38	0.38	0.0	81,81,0	0.06	0.0	0.0	81,0,0				
86	0.0	0.04	0.05	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.16	0.0	0.0	82,0,0
	148.0	0.07	0.10	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
	296.0	0.18	0.22	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
87	0.0	0.10	0.28	0.0	85,83,0	0.0	0.0	0.0	0,0,0	-0.19	0.0	0.0	82,0,0
	171.5	0.31	0.85	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	343.0	0.17	0.44	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
88	0.0	0.02	0.02	0.0	79,79,0	0.0	0.0	0.0	0,0,0	0.14	0.0	0.0	82,0,0
	154.3	0.08	0.11	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
	308.5	0.18	0.23	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
89	0.0	0.55	0.50	0.0	82,82,0	0.10	0.0	0.0	82,0,0	-0.87	0.0	0.0	82,0,0
	250.5	0.48	0.70	0.0	81,82,0	0.20	0.0	0.0	82,0,0				
	501.0	0.38	0.36	0.0	81,81,0	0.05	0.0	0.0	81,0,0				
90	0.0	0.45	0.50	0.0	82,82,0	0.11	0.0	0.0	82,0,0	-0.63	0.0	0.0	82,0,0
	196.5	0.21	0.30	0.0	81,82,0	0.0	0.0	0.0	0,0,0				
	393.0	0.35	0.44	0.0	82,82,0	0.07	0.0	0.0	82,0,0				
91	0.0	0.29	0.34	0.0	82,82,0	0.03	0.0	0.0	82,0,0	-0.08	0.0	0.0	82,0,0
	152.5	0.21	0.33	0.0	81,82,0	0.0	0.0	0.0	0,0,0				
	305.0	0.03	0.05	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
92	0.0	0.37	0.38	0.0	82,82,0	0.06	0.0	0.0	82,0,0	-0.43	0.0	0.0	82,0,0
	200.5	0.41	0.59	0.0	81,81,0	0.13	0.0	0.0	81,0,0				
	401.0	0.34	0.39	0.0	81,81,0	0.05	0.0	0.0	81,0,0				
93	0.0	0.36	0.41	0.0	82,82,0	0.06	0.0	0.0	82,0,0	-0.43	0.0	0.0	82,0,0
	200.5	0.41	0.59	0.0	81,81,0	0.13	0.0	0.0	81,0,0				
	401.0	0.37	0.42	0.0	81,81,0	0.07	0.0	0.0	81,0,0				
94	0.0	0.22	0.33	0.0	81,82,0	0.0	0.0	0.0	0,0,0	-1.83	0.0	0.0	82,0,0
	242.0	0.91	0.60	0.0	82,82,0	0.12	0.0	0.0	82,0,0				
	484.0	0.84	0.64	0.0	81,81,0	0.13	0.0	0.0	81,0,0				
95	0.0	0.70	0.65	0.0	82,82,0	0.15	0.0	0.0	82,0,0	-1.73	0.0	0.0	82,0,0
	306.5	0.58	0.82	0.0	81,83,0	0.26	0.0	0.0	83,0,0				
	613.0	0.61	0.57	0.0	79,79,0	0.13	0.0	0.0	79,0,0				
96	0.0	0.10	0.14	0.0	81,81,0	0.0	0.0	0.0	0,0,0	0.18	0.0	0.0	82,0,0
	211.9	0.08	0.12	0.0	81,82,0	0.0	0.0	0.0	0,0,0				
	423.7	0.16	0.18	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
97	0.0	0.28	0.28	0.0	82,82,0	0.02	0.0	0.0	82,0,0	0.12	0.0	0.0	82,0,0
	168.5	0.23	0.33	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	337.0	0.08	0.08	0.0	81,81,0	0.0	0.0	0.0	0,0,0				

98	0.0	0.25	0.28	0.0	82,82,0	0.0	0.0	0.0	0,0,0	-0.17	0.0	0.0	82,0,0
	158.5	0.08	0.12	0.0	85,81,0	0.0	0.0	0.0	0,0,0				
	317.0	0.12	0.16	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
99	0.0	0.39	0.47	0.0	81,81,0	0.09	0.0	0.0	81,0,0	0.69	0.0	0.0	82,0,0
	141.5	0.41	0.60	0.0	82,82,0	0.13	0.0	0.0	82,0,0				
	283.0	0.0	8.59e-03	0.0	0,81,0	0.0	0.0	0.0	0,0,0				
100	0.0	0.24	0.30	0.0	82,82,0	0.0	0.0	0.0	0,0,0	-0.13	0.0	0.0	82,0,0
	138.3	0.06	0.08	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
	276.5	0.12	0.17	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
101	0.0	0.19	0.22	0.0	81,81,0	0.0	0.0	0.0	0,0,0	0.13	0.0	0.0	82,0,0
	141.5	0.15	0.22	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	283.0	0.04	0.06	0.0	83,83,0	0.0	0.0	0.0	0,0,0				
102	0.0	0.25	0.31	0.0	81,81,0	0.0	0.0	0.0	0,0,0	-0.12	0.0	0.0	79,0,0
	230.0	0.18	0.25	0.0	83,83,0	0.0	0.0	0.0	0,0,0				
	460.0	0.22	0.31	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
103	0.0	0.42	0.48	0.0	82,82,0	0.09	0.0	0.0	82,0,0	-0.22	0.0	0.0	81,0,0
	267.5	0.24	0.35	0.0	83,85,0	0.0	0.0	0.0	0,0,0				
	535.0	0.15	0.19	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
104	0.0	0.11	0.15	0.0	82,82,0	0.0	0.0	0.0	0,0,0	-0.02	0.0	0.0	82,0,0
	116.5	0.09	0.14	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	233.0	0.07	0.09	0.0	81,81,0	0.0	0.0	0.0	0,0,0				
105	0.0	0.24	0.31	0.0	82,82,0	0.0	0.0	0.0	0,0,0	-0.04	0.0	0.0	81,0,0
	106.0	0.15	0.22	0.0	81,82,0	0.0	0.0	0.0	0,0,0				
	212.0	0.22	0.32	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
106	0.0	0.22	0.26	0.0	81,81,0	0.0	0.0	0.0	0,0,0	1.05	0.0	0.0	82,0,0
	168.5	0.45	0.74	0.0	82,82,0	0.21	0.0	0.0	82,0,0				
	337.0	0.54	0.52	0.0	82,82,0	0.11	0.0	0.0	82,0,0				
107	0.0	0.43	0.71	0.0	81,82,0	0.19	0.0	0.0	82,0,0	-2.01	0.0	0.0	82,0,0
	250.5	0.93	0.64	0.0	81,82,0	0.13	0.0	0.0	82,0,0				
	501.0	0.88	0.65	0.0	81,82,0	0.13	0.0	0.0	82,0,0				
108	0.0	0.56	0.80	0.0	82,82,0	0.25	0.0	0.0	82,0,0	0.42	0.0	0.0	82,0,0
	125.0	0.55	0.61	0.0	82,82,0	0.15	0.0	0.0	82,0,0				
109	0.0	0.05	0.10	0.0	81,83,0	0.0	0.0	0.0	0,0,0	-0.07	0.0	0.0	82,0,0
	171.5	0.17	0.29	0.0	81,83,0	0.0	0.0	0.0	0,0,0				
	343.0	0.05	0.10	0.0	81,83,0	0.0	0.0	0.0	0,0,0				
110	0.0	0.14	0.18	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.17	0.0	0.0	82,0,0
	120.5	0.05	0.07	0.0	82,81,0	0.0	0.0	0.0	0,0,0				
	241.0	0.20	0.25	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
111	0.0	0.37	0.42	0.0	81,81,0	0.07	0.0	0.0	81,0,0	-0.43	0.0	0.0	81,0,0
	200.5	0.41	0.59	0.0	81,81,0	0.13	0.0	0.0	81,0,0				
	401.0	0.36	0.41	0.0	82,82,0	0.07	0.0	0.0	82,0,0				
112	0.0	0.19	0.25	0.0	81,81,0	0.0	0.0	0.0	0,0,0	-0.06	0.0	0.0	81,0,0
	156.0	0.17	0.25	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	312.0	0.11	0.16	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
113	0.0	0.45	0.59	0.0	82,82,0	0.14	0.0	0.0	82,0,0	0.08	0.0	0.0	82,0,0
	171.5	0.09	0.15	0.0	81,81,0	0.0	0.0	0.0	0,0,0				
	343.0	1.33e-03	8.30e-04	0.0	83,83,0	0.0	0.0	0.0	0,0,0				
114	0.0	0.26	0.38	0.0	81,82,0	0.0	0.0	0.0	0,0,0	0.10	0.0	0.0	82,0,0
	110.0	0.26	0.34	0.0	81,81,0	5.50e-03	0.0	0.0	81,0,0				
115	0.0	0.37	0.38	0.0	82,82,0	0.06	0.0	0.0	82,0,0	-0.23	0.0	0.0	81,0,0
	267.5	0.24	0.34	0.0	83,79,0	0.0	0.0	0.0	0,0,0				
	535.0	0.18	0.22	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
116	0.0	0.04	0.04	0.0	79,79,0	0.0	0.0	0.0	0,0,0	0.06	0.0	0.0	82,0,0
	139.5	0.06	0.08	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
	279.0	0.08	0.09	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
117	0.0	0.17	0.22	0.0	82,82,0	0.0	0.0	0.0	0,0,0	-0.08	0.0	0.0	82,0,0
	147.5	0.08	0.11	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
	295.0	0.04	0.06	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
136	0.0	0.73	0.79	0.0	82,82,0	0.17	0.0	0.0	82,0,0	-1.21	0.0	0.0	82,0,0
	141.5	0.02	0.05	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
	283.0	0.29	0.67	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
145	0.0	0.30	0.38	0.0	82,82,0	0.03	0.0	0.0	82,0,0	-0.18	0.0	0.0	85,0,0
	242.0	0.30	0.46	0.0	83,83,0	0.03	0.0	0.0	83,0,0				
	484.0	0.21	0.31	0.0	83,83,0	0.0	0.0	0.0	0,0,0				
146	0.0	0.05	0.10	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.16	0.0	0.0	82,0,0
	148.0	0.03	0.06	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	296.0	0.23	0.41	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
147	0.0	0.12	0.18	0.0	82,82,0	0.0	0.0	0.0	0,0,0	-0.13	0.0	0.0	82,0,0
	200.5	0.29	0.46	0.0	85,83,0	0.03	0.0	0.0	85,0,0				
	401.0	0.18	0.28	0.0	83,83,0	0.0	0.0	0.0	0,0,0				
148	0.0	0.10	0.15	0.0	82,82,0	0.0	0.0	0.0	0,0,0	-0.03	0.0	0.0	83,0,0
	152.5	0.13	0.20	0.0	85,85,0	0.0	0.0	0.0	0,0,0				
	305.0	0.06	0.08	0.0	83,83,0	0.0	0.0	0.0	0,0,0				
149	0.0	0.21	0.29	0.0	85,85,0	0.0	0.0	0.0	0,0,0	-0.17	0.0	0.0	85,0,0
	200.5	0.27	0.38	0.0	85,83,0	0.0	0.0	0.0	0,0,0				
	401.0	0.31	0.44	0.0	83,83,0	0.04	0.0	0.0	83,0,0				
150	0.0	0.16	0.22	0.0	82,82,0	0.0	0.0	0.0	0,0,0	-0.13	0.0	0.0	82,0,0

	306.5	0.08	0.10	0.0	85,83,0	0.0	0.0	0.0	0,0,0				
	613.0	0.08	0.09	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
151	0.0	0.15	0.22	0.0	85,85,0	0.0	0.0	0.0	0,0,0	-1.46	0.0	0.0	85,0,0
	242.0	0.77	0.74	0.0	85,85,0	0.18	0.0	0.0	85,0,0				
	484.0	0.67	0.78	0.0	83,83,0	0.22	0.0	0.0	83,0,0				
152	0.0	0.17	0.51	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.64	0.0	0.0	82,0,0
	306.5	0.33	0.83	0.0	82,82,0	0.05	0.0	0.0	82,0,0				
	613.0	0.42	0.74	0.0	82,82,0	0.17	0.0	0.0	82,0,0				
153	0.0	0.31	0.46	0.0	85,85,0	0.04	0.0	0.0	85,0,0	-0.27	0.0	0.0	85,0,0
	196.5	0.15	0.18	0.0	85,83,0	0.0	0.0	0.0	0,0,0				
	393.0	0.34	0.51	0.0	85,85,0	0.07	0.0	0.0	85,0,0				
154	0.0	0.29	0.32	0.0	82,82,0	0.02	0.0	0.0	82,0,0	-0.20	0.0	0.0	85,0,0
	250.5	0.30	0.46	0.0	83,83,0	0.04	0.0	0.0	83,0,0				
	501.0	0.20	0.25	0.0	83,83,0	0.0	0.0	0.0	0,0,0				
155	0.0	0.03	0.09	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.15	0.0	0.0	82,0,0
	154.3	0.0	0.04	0.0	0,82,0	0.0	0.0	0.0	0,0,0				
	308.5	0.19	0.36	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
156	0.0	0.17	0.29	0.0	83,83,0	0.0	0.0	0.0	0,0,0	0.12	0.0	0.0	82,0,0
	168.5	0.08	0.12	0.0	83,83,0	0.0	0.0	0.0	0,0,0				
	337.0	0.15	0.24	0.0	85,85,0	0.0	0.0	0.0	0,0,0				
157	0.0	0.26	0.39	0.0	82,82,0	0.03	0.0	0.0	82,0,0	-0.18	0.0	0.0	82,0,0
	158.5	0.05	0.12	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	317.0	0.25	0.46	0.0	82,82,0	0.02	0.0	0.0	82,0,0				
158	0.0	0.13	0.21	0.0	83,83,0	0.0	0.0	0.0	0,0,0	6.39e-03	0.0	0.0	83,0,0
	116.5	0.01	0.01	0.0	83,83,0	0.0	0.0	0.0	0,0,0				
	233.0	0.09	0.15	0.0	83,83,0	0.0	0.0	0.0	0,0,0				
159	0.0	0.28	0.46	0.0	82,82,0	0.03	0.0	0.0	82,0,0	-0.11	0.0	0.0	81,0,0
	267.5	0.13	0.20	0.0	81,81,0	0.0	0.0	0.0	0,0,0				
	535.0	0.03	0.03	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
160	0.0	0.26	0.36	0.0	83,83,0	0.0	0.0	0.0	0,0,0	-0.07	0.0	0.0	83,0,0
	106.0	0.12	0.15	0.0	85,85,0	0.0	0.0	0.0	0,0,0				
	212.0	0.31	0.44	0.0	83,83,0	0.04	0.0	0.0	83,0,0				
161	0.0	0.26	0.51	0.0	83,83,0	0.0	0.0	0.0	0,0,0	0.41	0.0	0.0	82,0,0
	168.5	0.20	0.41	0.0	85,85,0	0.0	0.0	0.0	0,0,0				
	337.0	0.53	0.78	0.0	85,85,0	0.23	0.0	0.0	85,0,0				
162	0.0	0.18	0.34	0.0	83,83,0	0.0	0.0	0.0	0,0,0	0.91	0.0	0.0	82,0,0
	141.5	0.39	0.72	0.0	82,82,0	0.18	0.0	0.0	82,0,0				
	283.0	0.0	0.01	0.0	0,82,0	0.0	0.0	0.0	0,0,0				
163	0.0	0.20	0.32	0.0	83,83,0	0.0	0.0	0.0	0,0,0	0.10	0.0	0.0	82,0,0
	230.0	0.08	0.12	0.0	81,81,0	0.0	0.0	0.0	0,0,0				
	460.0	0.05	0.08	0.0	81,81,0	0.0	0.0	0.0	0,0,0				
164	0.0	0.13	0.20	0.0	83,83,0	0.0	0.0	0.0	0,0,0	0.13	0.0	0.0	82,0,0
	141.5	0.07	0.11	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	283.0	0.02	0.03	0.0	83,83,0	0.0	0.0	0.0	0,0,0				
165	0.0	0.24	0.43	0.0	82,82,0	0.0	0.0	0.0	0,0,0	-0.13	0.0	0.0	82,0,0
	138.3	7.85e-03	0.04	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	276.5	0.10	0.19	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
166	0.0	0.06	0.17	0.0	79,79,0	0.0	0.0	0.0	0,0,0	1.51	0.0	0.0	82,0,0
	242.0	0.45	0.79	0.0	82,82,0	0.19	0.0	0.0	82,0,0				
	484.0	0.66	0.74	0.0	82,82,0	0.16	0.0	0.0	82,0,0				
167	0.0	0.39	0.59	0.0	85,85,0	0.11	0.0	0.0	85,0,0	0.12	0.0	0.0	85,0,0
	125.0	0.28	0.41	0.0	85,85,0	5.62e-03	0.0	0.0	85,0,0				
168	0.0	0.21	0.30	0.0	82,82,0	0.0	0.0	0.0	0,0,0	-0.04	0.0	0.0	85,0,0
	171.5	0.15	0.26	0.0	83,83,0	0.0	0.0	0.0	0,0,0				
	343.0	0.07	0.12	0.0	83,83,0	0.0	0.0	0.0	0,0,0				
169	0.0	0.26	0.47	0.0	82,82,0	0.02	0.0	0.0	82,0,0	0.18	0.0	0.0	82,0,0
	120.5	0.06	0.14	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	241.0	0.20	0.38	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
170	0.0	0.21	0.33	0.0	83,83,0	0.0	0.0	0.0	0,0,0	-0.12	0.0	0.0	82,0,0
	200.5	0.28	0.45	0.0	85,83,0	0.02	0.0	0.0	83,0,0				
	401.0	0.10	0.14	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
171	0.0	0.24	0.35	0.0	83,83,0	0.0	0.0	0.0	0,0,0	-0.05	0.0	0.0	83,0,0
	156.0	0.14	0.21	0.0	85,85,0	0.0	0.0	0.0	0,0,0				
	312.0	0.06	0.08	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
172	0.0	0.51	0.83	0.0	85,85,0	0.27	0.0	0.0	85,0,0	-0.07	0.0	0.0	83,0,0
	171.5	0.22	0.42	0.0	83,83,0	0.0	0.0	0.0	0,0,0				
	343.0	0.0	0.02	0.0	0,82,0	0.0	0.0	0.0	0,0,0				
173	0.0	0.40	0.56	0.0	83,83,0	0.11	0.0	0.0	83,0,0	0.11	0.0	0.0	85,0,0
	110.0	0.29	0.40	0.0	83,83,0	0.01	0.0	0.0	83,0,0				
174	0.0	0.28	0.47	0.0	82,82,0	0.03	0.0	0.0	82,0,0	-0.09	0.0	0.0	81,0,0
	267.5	0.13	0.20	0.0	81,81,0	0.0	0.0	0.0	0,0,0				
	535.0	0.02	0.03	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
175	0.0	0.06	0.18	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.06	0.0	0.0	82,0,0
	139.5	0.0	0.09	0.0	0,82,0	0.0	0.0	0.0	0,0,0				
	279.0	0.07	0.19	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
176	0.0	0.12	0.23	0.0	82,82,0	0.0	0.0	0.0	0,0,0	-0.07	0.0	0.0	82,0,0
	147.5	0.02	0.06	0.0	79,79,0	0.0	0.0	0.0	0,0,0				

	295.0	0.02	0.07	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
177	0.0	0.03	0.03	0.0	83,79,0	0.0	0.0	0.0	0,0,0	0.19	0.0	0.0	82,0,0
	211.9	0.07	0.09	0.0	83,83,0	0.0	0.0	0.0	0,0,0				
	423.7	0.26	0.35	0.0	85,85,0	0.0	0.0	0.0	0,0,0				
178	0.0	0.03	0.08	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.27	0.0	0.0	82,0,0
	148.0	0.27	0.75	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	296.0	0.03	0.07	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
179	0.0	0.06	0.13	0.0	83,83,0	0.0	0.0	0.0	0,0,0	0.47	0.0	0.0	82,0,0
	242.0	0.33	0.67	0.0	82,82,0	0.08	0.0	0.0	82,0,0				
	484.0	0.35	0.56	0.0	82,82,0	0.08	0.0	0.0	82,0,0				
180	0.0	5.90e-03	0.02	0.0	79,79,0	0.0	0.0	0.0	0,0,0	0.42	0.0	0.0	82,0,0
	200.5	0.35	0.79	0.0	82,82,0	0.13	0.0	0.0	82,0,0				
	401.0	0.24	0.42	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
181	0.0	0.16	0.44	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.06	0.0	0.0	82,0,0
	152.5	0.16	0.46	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	305.0	0.26	0.59	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
182	0.0	0.06	0.19	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.25	0.0	0.0	82,0,0
	200.5	0.30	0.78	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	401.0	0.31	0.54	0.0	82,82,0	0.06	0.0	0.0	82,0,0				
183	0.0	0.24	0.54	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.17	0.0	0.0	82,0,0
	196.5	0.23	0.66	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	393.0	0.04	0.13	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
184	0.0	0.06	0.13	0.0	83,83,0	0.0	0.0	0.0	0,0,0	0.46	0.0	0.0	82,0,0
	250.5	0.33	0.67	0.0	82,82,0	0.07	0.0	0.0	82,0,0				
	501.0	0.34	0.49	0.0	82,82,0	0.06	0.0	0.0	82,0,0				
185	0.0	0.27	0.62	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.10	0.0	0.0	82,0,0
	154.3	0.16	0.46	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	308.5	0.05	0.13	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
186	0.0	0.04	0.09	0.0	79,79,0	0.0	0.0	0.0	0,0,0	0.16	0.0	0.0	82,0,0
	158.5	0.17	0.52	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	317.0	0.22	0.45	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
187	0.0	0.35	0.71	0.0	82,82,0	0.11	0.0	0.0	82,0,0	0.19	0.0	0.0	82,0,0
	168.5	0.16	0.46	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	337.0	0.09	0.25	0.0	83,83,0	0.0	0.0	0.0	0,0,0				
188	0.0	0.28	0.74	0.0	82,82,0	0.0	0.0	0.0	0,0,0	-0.05	0.0	0.0	82,0,0
	116.5	0.08	0.27	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	233.0	0.28	0.81	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
189	0.0	0.25	0.46	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.37	0.0	0.0	82,0,0
	267.5	0.29	0.65	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	535.0	0.18	0.36	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
190	0.0	0.34	0.71	0.0	82,82,0	0.10	0.0	0.0	82,0,0	-0.16	0.0	0.0	82,0,0
	106.0	0.08	0.27	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	212.0	0.34	0.82	0.0	82,82,0	0.11	0.0	0.0	82,0,0				
191	0.0	0.39	0.72	0.0	82,82,0	0.15	0.0	0.0	82,0,0	0.25	0.0	0.0	82,0,0
	230.0	0.26	0.58	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	460.0	0.06	0.19	0.0	83,83,0	0.0	0.0	0.0	0,0,0				
192	0.0	0.32	0.77	0.0	82,82,0	0.06	0.0	0.0	82,0,0	-0.17	0.0	0.0	82,0,0
	141.5	0.08	0.23	0.0	83,83,0	0.0	0.0	0.0	0,0,0				
	283.0	0.02	0.07	0.0	81,81,0	0.0	0.0	0.0	0,0,0				
193	0.0	0.02	0.03	0.0	79,79,0	0.0	0.0	0.0	0,0,0	0.25	0.0	0.0	82,0,0
	138.3	0.23	0.62	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	276.5	0.06	0.16	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
194	0.0	0.23	0.53	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.13	0.0	0.0	82,0,0
	120.5	0.03	0.09	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
	241.0	0.03	0.09	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
195	0.0	0.06	0.12	0.0	83,83,0	0.0	0.0	0.0	0,0,0	0.06	0.0	0.0	82,0,0
	171.5	0.17	0.47	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	343.0	0.24	0.42	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
196	0.0	0.25	0.44	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.37	0.0	0.0	82,0,0
	200.5	0.34	0.76	0.0	82,82,0	0.11	0.0	0.0	82,0,0				
	401.0	0.04	0.12	0.0	83,83,0	0.0	0.0	0.0	0,0,0				
197	0.0	0.22	0.47	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.07	0.0	0.0	82,0,0
	156.0	0.19	0.59	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	312.0	0.02	0.06	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
198	0.0	0.06	0.15	0.0	83,83,0	0.0	0.0	0.0	0,0,0	0.10	0.0	0.0	82,0,0
	139.5	0.16	0.47	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	279.0	0.01	0.01	0.0	79,79,0	0.0	0.0	0.0	0,0,0				
199	0.0	0.28	0.60	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.41	0.0	0.0	82,0,0
	267.5	0.31	0.70	0.0	82,82,0	8.20e-03	0.0	0.0	82,0,0				
	535.0	0.17	0.32	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
200	0.0	0.03	0.07	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.20	0.0	0.0	82,0,0
	147.5	0.17	0.49	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
	295.0	0.26	0.64	0.0	82,82,0	0.0	0.0	0.0	0,0,0				
201	0.0	0.17	0.55	0.0	82,82,0	0.0	0.0	0.0	0,0,0	0.21	0.0	0.0	82,0,0
	125.0	0.36	0.72	0.0	82,82,0	0.13	0.0	0.0	82,0,0				
202	0.0	0.33	0.78	0.0	82,82,0	0.08	0.0	0.0	82,0,0	-0.06	0.0	0.0	82,0,0
	110.0	0.19	0.48	0.0	82,82,0	0.0	0.0	0.0	0,0,0				

203	0.0	0.60	0.68	0.0	85,85,0	0.18	0.0	0.0	85,0,0	-1.17	0.0	0.0	82,0,0
	250.5	0.63	0.76	0.0	85,85,0	0.22	0.0	0.0	85,0,0				
	501.0	0.47	0.63	0.0	83,83,0	0.16	0.0	0.0	83,0,0				
207	0.0	0.08	0.17	0.0	83,85,0	0.0	0.0	0.0	0,0,0	-1.53	0.0	0.0	82,0,0
	250.5	0.43	0.79	0.0	82,82,0	0.19	0.0	0.0	82,0,0				
	501.0	0.72	0.80	0.0	82,82,0	0.17	0.0	0.0	82,0,0				

Trave	**rRfck**	**rRfyk**	**rPfck**	**wR**	**wF**	**wP**	**dR**	**dF**	**dP**
	0.93	0.85	0.0	0.27	0.0	0.0	1.51	0.0	0.0

VERIFICA SOLAI PRIMO IMPALCATO

STATO LIMITE DI RESISTENZA DELLA STRUTTURA - STR

Verifica secondo D. M. 17 Gennaio 2018

Il D. M. 14 gennaio 2008 al punto 4.1.2.1.2.2 permette di adottare altri diagrammi sforzi - deformazioni oltre a quello parabola rettangolo
a condizione che i risultati che con questi si ottengono siano in accordo o chiaramente giustificabili con quelli derivanti dall'impiego del diagramma parabola rettangolo; si utilizza il diagramma parabola-rettangolo semplificato;
la distribuzione delle compressioni è assunta uniforme con un valore pari all' 80% della tensione ultima
che porta allo schiacciamento del calcestruzzo in corrispondenza della deformazione ultima ε_c = 0,35%

		G_1 k kN / ml	G_2 k kN / ml	Q k kN / ml
SOLAIO PRIMO IMPALCATO - N. 1				
P.P. Solaio in L. cemento tipo VR H=24+4=28 cm				
Travetto binato i=61cm	3.75 kN/m^2			
Intonaco a intradosso sp. =1.5 cm				
(densità γ = 20,00 kN/m^3)	0.30 kN/m^2			
Pannello Isolante in polistirolo espanso(sp. 10cm)				
(densità γ = 1,20 kN/m^3)	0.10 kN/m^2			
Calcestruzzo cellulare per pendenze (sp. medio 12 cm)				
(densità γ = 10,00 kN/m^3)	1.20 kN/m^2			
Sottofondo in sabbia e cemento (sp. 5cm)				
(densità γ = 20,00 kN/m^3)	0.80 kN/m^2			
Pavimentazione (sp. 1,0cm)				
(densità γ = 25,00 kN/m^3)	0.25 kN/m^2			
Tramezze - Peso per unità di superficie	2.00 kN/m^2			
Sovraccarico accidentale	3.00 kN/m^2			
TOTALE	11.40 kN/m^2	3.90	1.22	1.83

SOLAIO PRIMO IMPALCATO - N. 2				
P.P. Solaio in L. cemento tipo VR H=24+4=28 cm Int=50cm	3.35 kN/m^2			
Intonaco a intradosso sp. =1.5 cm				
(densità γ = 20,00 kN/m^3)	0.30 kN/m^2			
Pannello Isolante in polistirolo espanso(sp. 10cm)				

(densità γ = 1,20 kN/m^3)	0.10 kN/m^2				
Calcestruzzo cellulare per pendenze (sp. medio 12 cm)					
(densità γ = 10,00 kN/m^3)	1.20 kN/m^2				
Sottofondo in sabbia e cemento (sp. 5cm)					
(densità γ = 20,00 kN/m^3)	0.80 kN/m^2				
Pavimentazione (sp. 1,0cm)					
(densità γ = 25,00 kN/m^3)	0.25 kN/m^2				
Tramezze - Peso per unità di superficie	2.00 kN/m^2				
Sovraccarico accidentale	3.00 kN/m^2				
TOTALE	11.00 kN/m^2	3.00	1.00	1.50	

MATERIALI DI PROGETTO

	R_{ck}	f_{ck}	f_{cm}	f_{ctm}	$f_{ctk\ 5\%}$	$f_{ctk\ 95\%}$	f_{cfm}	γ_{cls}	f_{cd}	f_{ctd}	$E_{m\ cls}$
	N / mm^2	N / mm^2	N / mm^2	N / mm^2	N / mm^2	N / mm^2	N / mm^2	-	N / mm^2	N / mm^2	N / mm^2
cls C25/30	30	25	33	2.6	1.8	3.3	3.1	**1.50**	14	2.0	31447

	Tipo	f_{yk}	f_{tk}	γ_s	f_{yd}	E_s
		N / mm^2	N / mm^2	-	N / mm^2	N / mm^2
ACCIAIO	B450C	450	540	**1.15**	391	210000

CARATTERISTICHE GEOMETRICHE DEL SOLAIO

	H	i = B	b	s	c	c'	0,3*d
	cm	cm	cm	cm	cm	cm	cm
N. 1	28	61	22	4.0	2.0	2.5	7.8
N. 2	28	50	11	4.0	2.0	2.5	7.8

CARICHI DI PROGETTO

	$G_{1\ k}$	γ_g	$G_{2\ k}$	γ_g	Q_k	γ_q	F_d
	kN / m	-	kN / m	-	kN / m	-	kN / m
tipo 1	3.90	**1.30**	1.22	**1.50**	1.83	**1.50**	9.65
tipo 1	3.00	**1.30**	1.00	**1.50**	1.50	**1.50**	7.65

VERIFICA A FLESSIONE^{+} - SLU

Solaio	Campata	q solaio	L solaio	M Sd	n	ϕ	As , TOT	n	ϕ	A's , TOT	x	F s	F c	F' s	C	d''	M cls,Rd	
	-	kN / m	m	kN m	-	mm	cm^2	-	mm	cm^2	cm	kN	kN	kN	kN	cm	kN m	
S1-01	A-B	9.65	6.00	34.74	4	12	4.52	1	6	0.28	6.7	177	166	11	177	2.7	41.31	verificato!
	B-C	9.65	8.15	64.10	4	16	8.04	1	6	0.28	12.2	315	304	11	315	4.8	66.70	verificato!
	C-D	9.65	5.70	31.35	4	12	4.52	1	6	0.28	6.7	177	166	11	177	2.7	41.31	verificato!
S1-02	A-B	7.65	4.00	14.40	2	12	2.26	1	6	0.28	6.2	89	77	11	89	2.5	20.80	verificato!
S1-03	A-B	9.65	5.05	28.95	2	16	4.02	1	6	0.28	11.8	157	146	11	157	4.6	33.74	verificato!

VERIFICHE DI DUTTILITA' E DI DEFORMAZIONE - SLU

Solaio	Campata	x	d	δ		M Sd	q solaio	L calcolo	h min = L max / 25	
	-	cm	cm	-		kg m	kg / ml	m	cm	
S1-01	A-B	6.7	26.0	0.76	verificato!	34.74	9.65	5.37	21	verificato!
	B-C	12.2	26.0	1.03	NOT OK!	64.10	9.65	7.29	29	NO!
	C-D	6.7	26.0	0.76	verificato!	31.35	9.65	5.10	20	verificato!
S1-02	A-B	6.2	26.0	0.74	verificato!	14.40	7.65	3.88	16	verificato!
S1-03	A-B	11.8	26.0	1.01	NOT OK!	28.95	9.65	4.90	20	verificato!

VERIFICA A FLESSIONE - SLU

Solaio	Appoggio	M^{-} Sd	n	ϕ	A's	A's, RETE	A's, TOT	n	ϕ	As , TOT	x	F c	F' s	F s	C	d''	M cls,Rd	
	-	kg m	-	mm	cm^2	cm^2	cm^2	-	mm	cm^2	cm	kN	kN	kN	kN	cm	kg m	
S1-01	B	50.63	4	14	6.16	0.28	6.44	4	10	3.14	5.2	128.97	251.90	122.93	251.90	3.0	57.90	verificato!
	C	48.38	4	14	6.16	0.28	6.44	4	10	3.14	5.2	128.97	251.90	122.93	251.90	3.0	57.90	verificato!

VERIFICA A TAGLIO - SLU

Solaio	Appoggio	q solaio	L solaio	V Sd	Δx	V Sd,ver	bw	d	k	n	ϕ	As , TOT	ρ lon	V Rd	
	-	kN / m	m	kN	m	kN	mm	mm	-	-	mm	mm^2	-	kN	
S1-01	A	9.65		20.51			220	260	1.88	4	10	314	0.005	30.81	verificato!
	B - Δx	9.65		37.39	0.25	34.98	220	235	1.92			644	0.012	37.47	verificato!
	B + Δx	9.65		37.39	0.50	34.78	220	235	1.92			644	0.012	37.47	verificato!
	C - Δx	9.65		39.05	0.50	34.22	220	235	1.92			644	0.012	37.47	verificato!
	C + Δx	9.65		39.05	0.50	34.29	220	235	1.92			644	0.012	37.47	verificato!
	D	9.65		19.02			220	260	1.88	4	10	314	0.005	30.81	verificato!
S1-02	A	7.65	4.00	15.30			220	260	1.88	2	10	157	0.003	24.45	verificato!
S1-03	A	7.65	5.05	21.93			220	260	1.88	2	10	157	0.003	24.45	verificato!

VERIFICA SOLAI TERZO IMPALCATO

STATO LIMITE DI RESISTENZA DELLA STRUTTURA - STR

Verifica secondo D. M. 14 Gennaio 2008

Il D. M. 14 gennaio 2008 al punto 4.1.2.1.2.2 permette di adottare altri diagrammi sforzi - deformazioni oltre a quello parabola rettangolo
a condizione che i risultati che con questi si ottengono siano in accordo o chiaramente giustificabili con quelli derivanti dall'impiego del diagramma parabola rettangolo; si utilizza il diagramma parabola-rettangolo semplificato;
la distribuzione delle compressioni è assunta uniforme con un valore pari all' 80% della tensione ultima
che porta allo schiacciamento del calcestruzzo in corrispondenza della deformazione ultima ε_c = 0,35%

		G_1 k kN / ml	G_2 k kN / ml	Q k kN / ml
SOLAIO TERZO IMPALCATO - N. 1				
P.P. Solaio in L. cemento tipo VR H=24+4=28 cm				
Travetto binato i=61cm	3.75 kN/m^2			
Intonaco a intradosso sp. =1.5 cm				
(densità γ = 20,00 kN/m^3)	0.30 kN/m^2			
Pannello Isolante in polistirolo espanso(sp. 20cm)				
(densità γ = 1,20 kN/m^3)	0.20 kN/m^2			
Calcestruzzo cellulare per pendenze (sp. medio 12 cm)				
(densità γ = 10,00 kN/m^3)	1.20 kN/m^2			
Peso proprio muretti in laterizio (sp. medio 12 cm)				
(densità γ = 10,00 kN/m^3)	2.50 kN/m^2			
Tavelloni in laterizio (sp. 4cm)				
(densità γ = 11,00 kN/m^3)	0.45 kN/m^2			
Tegole in laterizio	0.80 kN/m^2			
Tramezze - Peso per unità di superficie	0.00 kN/m^2			
Sovraccarico accidentale	0.80 kN/m^2			
TOTALE	10.00 kN/m^2	5.61	0.00	0.49

SOLAIO TERZO IMPALCATO - N. 2				
P.P. Solaio in L. cemento tipo VR H=24+4=28 cm Int=50cm	3.35 kN/m^2			
Intonaco a intradosso sp. =1.5 cm				

(densità γ = 20,00 kN/m^3)	0.30 kN/m^2			
Pannello Isolante in polistirolo espanso(sp. 20cm)				
(densità γ = 1,20 kN/m^3)	0.20 kN/m^2			
Calcestruzzo cellulare per pendenze (sp. medio 12 cm)				
(densità γ = 10,00 kN/m^3)	1.20 kN/m^2			
Peso proprio muretti in laterizio (sp. medio 12 cm)				
(densità γ = 10,00 kN/m^3)	2.50 kN/m^2			
Tavelloni in laterizio (sp. 4cm)				
(densità γ = 11,00 kN/m^3)	0.45 kN/m^2			
Tegole in laterizio	0.80 kN/m^2			
Tramezze - Peso per unità di superficie	0.00 kN/m^2			
Sovraccarico accidentale	0.80 kN/m^2			
TOTALE	9.60 kN/m^2	4.40	0.00	0.40

MATERIALI DI PROGETTO

	R_{ck}	f_{ck}	f_{cm}	f_{ctm}	$f_{ctk\ 5\%}$	$f_{ctk\ 95\%}$	f_{cfm}	γ_{cls}	f_{cd}	f_{ctd}	$E_{m\ cls}$
	N / mm^2	N / mm^2	N / mm^2	N / mm^2	N / mm^2	N / mm^2	N / mm^2	-	N / mm^2	N / mm^2	N / mm^2
cls C25/30	30	25	33	2.6	1.8	3.3	3.1	**1.50**	14	2.0	31447

	Tipo	f_{yk}	f_{tk}	γ_s	f_{yd}	E_s
		N / mm^2	N / mm^2	-	N / mm^2	N / mm^2
ACCIAIO	B450C	450	540	**1.15**	391	210000

CARATTERISTICHE GEOMETRICHE DEL SOLAIO

	H	i = B	b	s	c	c'	0,3*d
	cm	cm	cm	cm	cm	cm	cm
N. 1	28	61	22	4.0	2.0	2.5	7.8
N. 2	28	50	11	4.0	2.0	2.5	7.8

CARICHI DI PROGETTO

	$G_{1\ k}$	γ_g	$G_{2\ k}$	γ_g	Q_k	γ_q	F_d
	kN / m	-	kN / m	-	kN / m	-	kN / m
tipo 1	5.61	**1.30**	0.00	**1.50**	0.49	**1.50**	8.03

tipo 1	4.40	**1.30**	0.00	**1.50**	0.40	**1.50**	6.32		

VERIFICA A FLESSIONE^{+} - SLU

Solaio	Campata	q solaio	L solaio	M Sd	n	ϕ	As , TOT	n	ϕ	A's , TOT	x	F s	F c	F' s	C	d''	M cls,Rd	
	-	kN / m	m	kN m	-	mm	cm^2	-	mm	cm^2	cm	kN	kN	kN	kN	cm	kN m	
S3-01	A-B	8.03	6.00	28.90	4	12	4.52	1	6	0.28	6.7	177	166	11	177	2.7	41.31	verificato!
	B-C	8.03	8.15	53.32	4	16	8.04	1	6	0.28	12.2	315	304	11	315	4.8	66.70	verificato!
	C-D	8.03	5.70	26.08	4	12	4.52	1	6	0.28	6.7	177	166	11	177	2.7	41.31	verificato!
S3-02	A-B	6.32	5.90	22.00	2	16	4.02	1	6	0.28	11.8	157	146	11	157	4.6	33.74	verificato!
	B-C	6.32	4.10	10.62	2	10	1.57	1	6	0.28	4.1	61	50	11	61	1.8	14.89	verificato!
S3-03	A-B	8.03	5.05	24.09	2	16	4.02	1	6	0.28	11.8	157	146	11	157	4.6	33.74	verificato!

VERIFICHE DI DUTTILITA' E DI DEFORMAZIONE - SLU

Solaio	Campata	x	d	δ		M Sd	q solaio	L calcolo	h min	= L max / 25
	-	cm	cm	-		kg m	kg / ml	m	cm	
S3-01	A-B	6.7	26.0	0.76	verificato!	28.90	8.03	5.37	21	verificato!
	B-C	12.2	26.0	1.03	NOT OK!	53.32	8.03	7.29	29	NO!
	C-D	6.7	26.0	0.76	verificato!	26.08	8.03	5.10	20	verificato!
S3-02	A-B	11.8	26.0	1.01	NOT OK!	22.00	6.32	5.28	21	verificato!
	B-C	4.1	26.0	0.64	NOT OK!	10.62	6.32	3.67	15	verificato!
S3-03	A-B	11.8	26.0	1.01	NOT OK!	24.09	8.03	4.90	20	verificato!

VERIFICA A FLESSIONE - SLU

Solaio	Appoggio	M^{-} Sd	n	ϕ	A's	A's, RETE	A's, TOT	n	ϕ	As , TOT	x	F c	F' s	F s	C	d''	M cls,Rd	
	-	kg m	-	mm	cm^2	cm^2	cm^2	-	mm	cm^2	cm	kN	kN	kN	kN	cm	kg m	
S3-01	B	42.12	4	14	6.16	0.28	6.44	4	10	3.14	5.2	128.97	251.90	122.93	251.90	3.0	57.90	verificato!
	C	40.25	4	14	6.16	0.28	6.44	4	10	3.14	5.2	128.97	251.90	122.93	251.90	3.0	57.90	verificato!
S3-02	B	21.67	2	16	4.02	0.28	4.30	2	10	1.57	8.6	106.84	168.31	61.47	168.31	3.6	37.62	verificato!

VERIFICA A TAGLIO - SLU

Solaio	Appoggio	q solaio	L solaio	V Sd	Δx	V Sd,ver	bw	d	k	n	ϕ	As , TOT	ρ lon	V Rd
	-	kN / m	m	kN	m	kN	mm	mm	-	-	mm	mm^2	-	kN

S3-01	A	8.03		17.06			220	260	1.88	4	10	314	0.005	30.81	verificato!
	B - Δx	8.03		31.10	0.25	29.10	220	235	1.92			644	0.012	37.47	verificato!
	B + Δx	8.03		31.10	0.50	28.93	220	235	1.92			644	0.012	37.47	verificato!
	C - Δx	8.03		32.48	0.50	28.47	220	235	1.92			644	0.012	37.47	verificato!
	C + Δx	8.03		32.48	0.50	28.53	220	235	1.92			644	0.012	37.47	verificato!
	D	8.03		15.82			220	260	1.88	4	10	314	0.005	30.81	verificato!
S3-02	A	6.32		14.97			110	260	1.88	2	10	157	0.005	15.41	verificato!
	B - Δx	6.32		22.32	0.50	19.16	110	235	1.92			430	0.017	20.64	verificato!
	B + Δx	6.32		22.32	0.00	17.93	110	235	1.92			430	0.017	20.64	verificato!
	C	6.32		7.67			110	260	1.88	2	10	157	0.005	15.41	verificato!
S3-03	A	6.32	5.05	18.24			220	260	1.88	2	10	157	0.003	24.45	verificato!

VERIFICA SCALE SC1

STATO LIMITE DI RESISTENZA DELLA STRUTTURA - STR

Verifica secondo D. M. 14 Gennaio 2008

Il D. M. 14 gennaio 2008 al punto 4.1.2.1.2.2 permette di adottare altri diagrammi sforzi - deformazioni oltre a quello parabola rettangolo
a condizione che i risultati che con questi si ottengono siano in accordo o chiaramente giustificabili con quelli derivanti dall'impiego del diagramma parabola rettangolo; si utilizza il diagramma parabola-rettangolo semplificato;
la distribuzione delle compressioni è assunta uniforme con un valore pari all' 80% della tensione ultima
che porta allo schiacciamento del calcestruzzo in corrispondenza della deformazione ultima ε_c = 0,35%

MATERIALI DI PROGETTO

	R_{ck}	f_{ck}	f_{cm}	f_{ctm}	$f_{ctk\ 5\%}$	$f_{ctk\ 95\%}$	f_{cfm}	γ_{cls}	f_{cd}	f_{ctd}	$E_{m\ cls}$
cls C25/30	N / mm²	N / mm²	N / mm²	N / mm²	N / mm²	N / mm²	N / mm²	-	N / mm²	N / mm²	N / mm²
	30	25	33	2.6	1.8	3.3	3.1	**1.50**	14	2.0	31447

	Tipo	f_{yk}	f_{tk}	γ_s	f_{yd}	E_s
ACCIAIO		N / mm²	N / mm²	-	N / mm²	N / mm²
	B450C	450	540	**1.15**	391	210000

RAMPE SCALE SC1

DA PIANO TERRA A PIANO PRIMO

P.P. Rampa scale in cls a soletta piena h=10cm				
Alzata h=21,00cm Pedata p=25cm	4.90 kN/mq			
Sottofondo (sp. 4cm)				
(densità γ = 20,00 kN/m³)	0.80 kN/mq			
Rivestimento (sp. 2cm)				
(densità γ = 25,00 kN/m³)	0.50 kN/mq			
Sovraccarico accidentale	4.00 kN/mq			
TOTALE	10.20 kN/mq	9.30	6.00	

ANALISI DEI CARICHI ANALITICA

$H_{interpiano}$	$n_{gradini}$	h_{alzata}	p_{pedata}	A	I	h_{media}	$sp_{soletta}$	p.p
m	-	cm	cm	cm²	cm	cm	cm	kN/m²
3.35	19	17.63	30	264	35	7.6	12	4.90

CARICHI DI PROGETTO

G_k	γ_{G1}	Q_k	γ_{Q1}	F_d
kN / ml	-	kN / ml	-	kN / ml
9.30	**1.30**	6.00	**1.50**	21.09

CARATTERISTICHE GEOMETRICHE

sp soletta	L larghezza	h	c	c'
cm	cm	cm	cm	cm
12	150	10	2.0	2.0

VERIFICA A FLESSIONE - SLU

rampa	sez.	q scale	L solaio	M_{Sd}	n	ϕ	$A_{s,TOT}$	n	ϕ	$A'_{s,TOT}$	x	F_c	F_s	F'_s	d''	$M_{cls,Rd}$	
	-	kN / ml	m	kN m	-	mm	cm^2	-	mm	cm^2	cm	kN	kg	kN	cm	kg m	
SC1	A1-A1	21.09	3.90	40.10	11	12	12.44	5	6	1.41	2.5	431	487	55	1.1	43.18	verificato!
SC1	A2-A2	27.42	3.10	32.93	11	12	12.44	5	6	1.41	2.5	431	487	55	1.1	43.18	verificato!
SC1	A3-A3	21.09	2.75	19.94	11	12	12.44	5	6	1.41	2.5	431	487	55	0.9	44.28	verificato!

VERIFICA A TAGLIO - SLU

rampa	sez.	q solaio	L solaio	V_{Sd}	b_w	d	k	n	ϕ	$A_{s,TOT}$	ρ_{lon}	V_{Rd}	
	-	kN / ml	m	kN	mm	mm	-	-	mm	mm^2	-	kN	
SC1	A1-A1	21.09	3.90	41.13	1500	100	2.41	11	12	1244	0.008	119.22	verificato!
SC1	A2-A2	27.42	3.10	42.50	1500	100	2.41	11	12	1244	0.008	119.22	verificato!

RAMPE SCALE SC1

DA PIANO PRIMO A PIANO SECONDO

P.P. Rampa scale in cls a soletta piena h=10cm			
Alzata h=19,50cm Pedata p=25cm	4.88 kN/mq		
Sottofondo (sp. 4cm)			
(densità γ = 20,00 kN/m^3)	0.80 kN/mq		
Rivestimento (sp. 2cm)			
(densità γ = 25,00 kN/m^3)	0.50 kN/mq		
Sovraccarico accidentale	4.00 kN/mq		
TOTALE	10.18 kN/mq	7.72	5.00

ANALISI DEI CARICHI ANALITICA

$H_{interpiano}$	$n_{gradini}$	h alzata	p pedata	A	I	h_{media}	sp soletta	p.p
m	-	cm	cm	cm^2	cm	cm	cm	kN/m^2
3.65	21	17.38	30	261	35	7.5	12	4.88

CARICHI DI PROGETTO

G_k	γ_{G1}	Q_k	γ_{Q1}	F_d
kN / ml	-	kN / ml	-	kN / ml
7.72	**1.30**	5.00	**1.50**	17.54

CARATTERISTICHE GEOMETRICHE

sp soletta	L larghezza	h	c	c'
cm	cm	cm	cm	cm
12	125	10	2.0	2.0

VERIFICA A FLESSIONE - SLU

rampa	sez.	q scale	L solaio	M_{Sd}	n	ϕ	$A_{s,TOT}$	n	ϕ	$A'_{s,TOT}$	x	F_c	F_s	F'_s	d''	$M_{cls,Rd}$	
	-	kN / ml	m	kN m	-	mm	cm^2	-	mm	cm^2	cm	kN	kg	kN	cm	kg m	
SC1	A3-A3	17.54	3.20	28.58	10	12	11.31	5	8	2.51	2.4	344	443	98	1.2	38.93	verificato!
SC1	A4-A4	17.54	2.10	9.67	10	10	7.85	5	8	2.51	1.5	209	307	98	1.0	27.53	verificato!

VERIFICA A TAGLIO - SLU

rampa	sez.	q solaio	L solaio	V_{Sd}	b_w	d	k	n	ϕ	$A_{s,TOT}$	ρ_{lon}	V_{Rd}	
	-	kN / ml	m	kN	mm	mm	-	-	mm	mm^2	-	kN	
SC1	A3-A3	17.54	3.20	28.07	1250	100	2.41	10	12	1131	0.009	102.28	verificato!
SC1	A4-A4	17.54	2.10	18.42	1250	100	2.41	10	10	785	0.006	90.57	verificato!