



REALIZZAZIONE SCUOLA PRIMARIA CON 15 CLASSI

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PROGETTO DEFINITIVO
SVILUPPATO A LIVELLO ESECUTIVO

REV_02

RESISTENZA AL FUOCO - BLOCCO PALESTRA



INDICE

1.	PREMESSA	6
2.	NORMATIVA DI RIFERIMENTO	6
3.	CARATTERISTICHE MATERIALI UTILIZZATI	9
4.	MODELLAZIONE DELLE SEZIONI	10
5.	MODELLAZIONE STRUTTURA: ELEMENTI TRAVE	11
6.	MODELLAZIONE STRUTTURA: ELEMENTI SHELL	13
7.	MODELLAZIONE DELLA STRUTTURA: ELEMENTI SOLAIO-PANNELLO	14
8.	MODELLAZIONE DELLE AZIONI	16
9.	SCHEMATIZZAZIONE DEI CASI DI CARICO	18
10.	DEFINIZIONE DELLE COMBINAZIONI	18
11.	VERIFICHE DI RESISTENZA AL FUOCO	39
12.	CONCLUSIONI	46

COMUNE DI GASSINO (TO)

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1. PREMESSA

La presente relazione, 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.

In particolar modo la presente relazione riguarda la resistenza al fuoco degli elementi costituenti il fabbricato adibito a scuola. Per quanto non riportato in questa relazione, si rimanda alla relazione di calcolo.

2. NORMATIVA DI RIFERIMENTO

- D.Min. Infrastrutture Min. Interni e Prot. Civile 17 Gennaio 2018 e allegate "Norme tecniche per le costruzioni".
- D.Min. Infrastrutture Min. Interni e Prot. Civile 14 Gennaio 2008 e allegate "Norme tecniche per le costruzioni".
- D.Min. Infrastrutture e trasporti 14 Settembre 2005 e allegate "Norme tecniche per le costruzioni".
- 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".
- 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>>".
- D.M. LL.PP. 16 Gennaio 1996 "Norme tecniche per le costruzioni in zone sismiche".
- 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.
- 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.
- D.M. LL.PP. 20 Novembre 1987 "Norme tecniche per la progettazione, esecuzione e collaudo degli edifici in muratura e per il loro consolidamento".
- 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".



- 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".
- D.M. LL.PP. 3 Dicembre 1987 "Norme tecniche per la progettazione, esecuzione e collaudo delle costruzioni prefabbricate".
- UNI 9502 - Procedimento analitico per valutare la resistenza al fuoco degli elementi costruttivi di conglomerato cementizio armato, normale e precompresso - edizione maggio 2001
- 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.
- UNI EN 1990:2006 13/04/2006 Eurocodice 0 - Criteri generali di progettazione strutturale.
- UNI EN 1991-1-1:2004 01/08/2004 Eurocodice 1 - Azioni sulle strutture - Parte 1-1: Azioni in generale - Pesi per unità di volume, pesi propri e sovraccarichi per gli edifici.
- UNI EN 1991-2:2005 01/03/2005 Eurocodice 1 - Azioni sulle strutture - Parte 2: Carichi da traffico sui ponti.
- UNI EN 1991-1-3:2004 01/10/2004 Eurocodice 1 - Azioni sulle strutture - Parte 1-3: Azioni in generale - Carichi da neve.
- UNI EN 1991-1-4:2005 01/07/2005 Eurocodice 1 - Azioni sulle strutture - Parte 1-4: Azioni in generale - Azioni del vento.
- UNI EN 1991-1-5:2004 01/10/2004 Eurocodice 1 - Azioni sulle strutture - Parte 1-5: Azioni in generale - Azioni termiche.
- UNI EN 1992-1-1:2005 24/11/2005 Eurocodice 2 - Progettazione delle strutture di calcestruzzo - Parte 1-1: Regole generali e regole per gli edifici.
- UNI EN 1992-1-2:2005 01/04/2005 Eurocodice 2 - Progettazione delle strutture di calcestruzzo - Parte 1-2: Regole generali - Progettazione strutturale contro l'incendio.
- UNI EN 1993-1-1:2005 01/08/2005 Eurocodice 3 - Progettazione delle strutture di acciaio - Parte 1-1: Regole generali e regole per gli edifici.
- UNI EN 1993-1-8:2005 01/08/2005 Eurocodice 3 - Progettazione delle strutture di acciaio - Parte 1-8: Progettazione dei collegamenti.
- UNI EN 1994-1-1:2005 01/03/2005 Eurocodice 4 - Progettazione delle strutture composte acciaio-calcestruzzo - Parte 1-1: Regole generali e regole per gli edifici.



- UNI EN 1994-2:2006 12/01/2006 Eurocodice 4 - Progettazione delle strutture composte acciaio-calcestruzzo - Parte 2: Regole generali e regole per i ponti.
- UNI EN 1995-1-1:2005 01/02/2005 Eurocodice 5 - Progettazione delle strutture di legno - Parte 1-1: Regole generali - Regole comuni e regole per gli edifici.
- UNI EN 1995-2:2005 01/01/2005 Eurocodice 5 - Progettazione delle strutture di legno - Parte 2: Ponti.
- UNI EN 1996-1-1:2006 26/01/2006 Eurocodice 6 - Progettazione delle strutture di muratura - Parte 1-1: Regole generali per strutture di muratura armata e non armata.
- UNI EN 1996-3:2006 09/03/2006 Eurocodice 6 - Progettazione delle strutture di muratura - Parte 3: Metodi di calcolo semplificato per strutture di muratura non armata.
- UNI EN 1997-1:2005 01/02/2005 Eurocodice 7 - Progettazione geotecnica - Parte 1: Regole generali.
- UNI EN 1998-1:2005 01/03/2005 Eurocodice 8 - Progettazione delle strutture per la resistenza sismica - Parte 1: Regole generali, azioni sismiche e regole per gli edifici.
- UNI EN 1998-3:2005 01/08/2005 Eurocodice 8 - Progettazione delle strutture per la resistenza sismica - Parte 3: Valutazione e adeguamento degli edifici.
- UNI EN 1998-5:2005 01/01/2005 Eurocodice 8 - Progettazione delle strutture per la resistenza sismica - Parte 5: Fondazioni, strutture di contenimento ed aspetti geotecnici.

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 edificio 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.



3. CARATTERISTICHE MATERIALI UTILIZZATI

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

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

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

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

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

Id	Tipo / Note	V. ca- ratt.	V. medio	Young	Poisson	G	Gamma	Alfa	Altri
		daN/cm2	daN/cm2	daN/cm2		daN/cm2	daN/cm3		
5	Calcestruzzo Classe C32/40			3.360e+05	0.20	1.400e+05	2.50e-03	1.00e-05	
	Resistenza Rc	400.0							
	Resistenza fctm		31.0						
	Rapporto Rfessurata								1.00
	Coefficiente ksb								0.85
	Rapporto HRDb								1.00e-05
	Rapporto HRDv								1.00e-05
8	Calcestruzzo Classe C45/55			3.640e+05	0.20	1.517e+05	2.50e-03	1.00e-05	



Id	Tipo / Note	V. ca-ratt.	V. medio	Young	Poisson	G	Gamma	Alfa	Altri
	Resistenza Rc	550.0							
	Resistenza fctm		38.3						
	Rapporto Rfessurata								1.00
	Coefficiente ksb								0.85
	Rapporto HRDb								1.00e-05
	Rapporto HRDv								1.00e-05

4. MODELLAZIONE DELLE SEZIONI

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

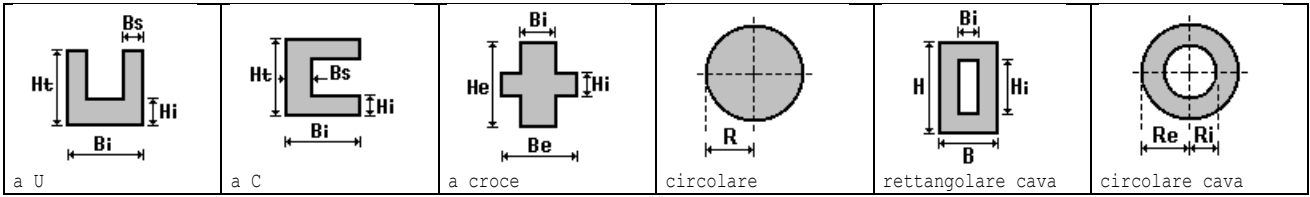
- sezione di tipo generico;
- profilati semplici;
- profilati accoppiati e speciali.

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



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

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.

Le sezioni utilizzate nel modello sono di seguito riportate:

Id	Tipo	Area	A V2	A V3	Jt	J 2-2	J 3-3	W 2-2	W 3-3	Wp 2-2	Wp 3-3
		cm2	cm2	cm2	cm4	cm4	cm4	cm3	cm3	cm3	cm3
1	Rettangolare: b=50 h=50	2500.00	2083.33	2083.33	8.785e+05	5.208e+05	5.208e+05	2.083e+04	2.083e+04	3.125e+04	3.125e+04
2	L regolare: bi=50 ht=76 bs=30 hi=40	3080.00	0.0	0.0	1.064e+06	5.678e+05	1.396e+06	1.992e+04	3.271e+04	3.499e+04	5.521e+04
3	L inversa: bi=50 ht=76 bs=30 hi=40	3080.00	0.0	0.0	1.064e+06	5.678e+05	1.396e+06	1.992e+04	3.271e+04	3.499e+04	5.521e+04
4	T rovescia: bi=70 ht=76 bs=30 hi=40	3880.00	0.0	0.0	1.470e+06	1.224e+06	1.615e+06	3.498e+04	3.556e+04	5.710e+04	6.487e+04
5	Rettangolare: b=70 h=40	2800.00	2333.33	2333.33	9.557e+05	1.143e+06	3.733e+05	3.267e+04	1.867e+04	4.900e+04	2.800e+04
6	Rettangolare: b=60 h=60	3600.00	3000.00	3000.00	1.822e+06	1.080e+06	1.080e+06	3.600e+04	3.600e+04	5.400e+04	5.400e+04
7	Rettangolare: b=50 h=36	1800.00	1500.00	1500.00	4.333e+05	3.750e+05	1.944e+05	1.500e+04	1.080e+04	2.250e+04	1.620e+04

5. MODELLAZIONE STRUTTURA: ELEMENTI TRAVE

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

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

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

<p>orientamento elementi 2D non verticali</p>	<p>orientamento elementi 2D verticali</p>
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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

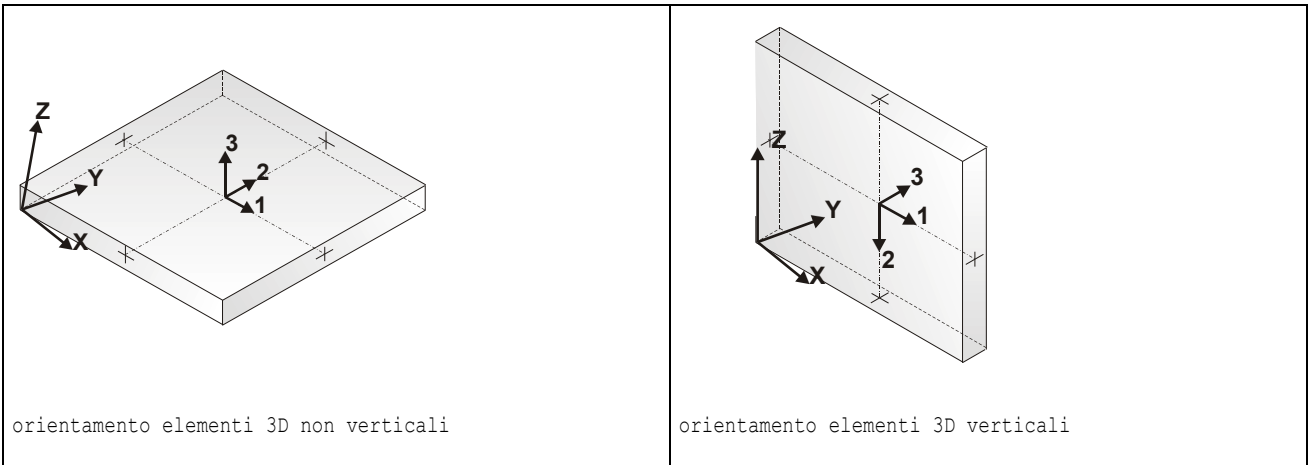


6. MODELLAZIONE STRUTTURA: ELEMENTI SHELL

Il programma utilizza per la modellazione elementi a tre o quattro nodi denominati in generale shell.

Ogni elemento shell è individuato dai nodi I, J, K, L (L=I per gli elementi a tre nodi).

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



In particolare per ogni elemento viene indicato in tabella:

Elem.	numero dell'elemento
Note	<p>codice di comportamento:</p> <p>Guscio (elemento guscio in elevazione non verticale)</p> <p>Guscio fond. (elemento guscio su suolo elastico)</p> <p>Setto (elemento guscio in elevazione verticale)</p> <p>Membrana (elemento guscio con comportamento membranale)</p>
Nodo I (J, K, L)	numero del nodo I (J, K, L)
Mat.	codice del materiale assegnato all'elemento
Spessore	spessore dell'elemento (costante)
Wink V	costante di sottofondo (coefficiente di Winkler) per la modellazione del suolo elastico verticale
Wink O	costante di sottofondo (coefficiente di Winkler) per la modellazione del suolo elastico orizzontale



7. MODELLAZIONE DELLA STRUTTURA: ELEMENTI SOLAIO-PANNELLO

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

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

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

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

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

Id.Arch.	Identificativo dell' archivio
Tipo	Tipo di carico 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: <i>per valore raro</i>
Psi 1	Coefficiente combinatorio dei valori caratteristici delle azioni variabili: <i>per valore frequente</i>
Psi 2	Coefficiente combinatorio dei valori caratteristici delle azioni variabili: <i>per valore quasi permanente</i>
Psi S 2	Coefficiente di combinazione che fornisce il valore quasi-permanente dell'azione variabile: <i>per la definizione delle masse sismiche</i>
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 istantanee 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
	<i>simboli utilizzati con il metodo delle tensioni ammissibili:</i>
sc max	Massima tensione di compressione del calcestruzzo
sf max	Massima tensione nell'acciaio
tau max	Massima tensione tangenziale nel cls
	<i>simboli utilizzati con il metodo degli stati limite:</i>
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]

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

Elem.	Numero identificativo dell'elemento
Stato	Codice di verifica
Ver. c.c.	Verifica nell'ipotesi di trave appoggiata con carico concentrato in mezzeria
Ver. c.d.	Verifica nell'ipotesi di trave appoggiata con carico distribuito
Ver. c.c.in.	Verifica nell'ipotesi di cinematico con formazione di cerniere plastiche in appoggio e mezzeria
Ver. CIS	Rapporto pa/pr (valore minore o uguale a 1 per verifica positiva)
Z	Quota del baricentro dell'elemento
T1	Periodo proprio dell'edificio nella direzione di interesse (ortogonale al pannello)
Ta	Periodo proprio della parete
Sa	Accelerazione massima, adimensionalizzata allo SLV
pa	Pressione sulla parete causata dall'azione sismica
pr	Pressione resistente del meccanismo ad arco
Drift	Spostamento relativo interpiano allo SLV valutato secondo il D.M. 14.01.2018 - § 7.3.3.3
Beta a	Coef. riduttivo per tener conto del danneggiamento del piano dipendente dallo spostamento, ottenuto sperimentalmente

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.	7.75e-02	8.00e-03	4.00e-02		1.00	0.70	0.70	0.60	0.60	1.00
2	Variab.	7.75e-02	8.00e-03	3.00e-02		1.00	0.70	0.70	0.60	0.60	1.00
4	Neve	6.90e-02		1.22e-02		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=5	5.0	0.0	7.75e-02	8.00e-03	4.00e-02	484	483	477	475	
2	CM	1	m=5	5.0	0.0	7.75e-02	8.00e-03	4.00e-02	483	951	950	477	
3	CM	1	m=5	5.0	0.0	7.75e-02	8.00e-03	4.00e-02	951	776	775	950	



Elem.	Tipo	ID Arch.	Mat.	Spessore	Orditura	G1k	G2k	Qk	Nodo 1/6..	Nodo 2/7..	Nodo 3/8..	Nodo..	Nodo..
4	CM	1	m=5	5.0	0.0	7.75e-02	8.00e-03	4.00e-02	776	482	478	775	
5	CM	1	m=5	5.0	0.0	7.75e-02	8.00e-03	4.00e-02	482	1110	1109	478	
6	CM	2	m=5	5.0	0.0	7.75e-02	8.00e-03	3.00e-02	829	833	834	830	
7	CM	2	m=5	5.0	0.0	7.75e-02	8.00e-03	3.00e-02	833	1255	1254	834	
8	CM	4	m=5	5.0	0.0	6.90e-02		1.22e-02	1975	1974	1968	1967	
9	CM	4	m=5	5.0	0.0	6.90e-02		1.22e-02	1974	1981	1980	1968	
10	CM	4	m=5	5.0	0.0	6.90e-02		1.22e-02	1981	1977	1976	1980	
11	CM	4	m=5	5.0	0.0	6.90e-02		1.22e-02	1977	1973	1969	1976	
12	CM	4	m=5	5.0	0.0	6.90e-02		1.22e-02	1973	1979	1982	1969	
13	CM	1	m=5	5.0	0.0	7.75e-02	8.00e-03	4.00e-02	845	479	480	1978	
14	CM	1	m=5	5.0	0.0	7.75e-02	8.00e-03	4.00e-02	1978	480	481	846	
15	CM	1	m=5	5.0	0.0	7.75e-02	8.00e-03	4.00e-02	1110	481	480	479	1109
16	CM	4	m=5	5.0	0.0	6.90e-02		1.22e-02	1979	1972	1971	1970	1982
17	PM		m=5	15.0	0.0				1110	481	138	1009	
18	PM		m=5	15.0	0.0				831	88	984	1109	479
19	PM		m=5	15.0	0.0				984	63	478	1109	
20	PM		m=5	15.0	0.0				63	650	775	478	
21	PM		m=5	15.0	0.0				650	872	1254	950	775
22	PM		m=5	15.0	0.0				828	832	480	481	
23	PM		m=5	15.0	0.0				832	831	479	480	
24	PM		m=5	15.0	0.0				484	483	833	829	
25	PM		m=5	15.0	0.0				829	833	188	206	
26	PM		m=5	15.0	0.0				483	951	1255	833	
27	PM		m=5	15.0	0.0				833	1255	871	188	
28	PM		m=5	15.0	0.0				951	776	675	871	1255
29	PM		m=5	15.0	0.0				776	482	163	675	
30	PM		m=5	15.0	0.0				482	1110	1009	163	
31	PM		m=5	15.0	0.0				1975	1974	483	484	
32	PM		m=5	15.0	0.0				1974	1981	951	483	
33	PM		m=5	15.0	0.0				1977	776	951	1981	
34	PM		m=5	15.0	0.0				1973	482	776	1977	
35	PM		m=5	15.0	0.0				1979	1110	482	1973	
36	PM		m=5	15.0	0.0				1972	481	1110	1979	
37	PM		m=5	15.0	0.0				1982	1109	478	1969	
38	PM		m=5	15.0	0.0				1969	478	775	1976	
39	PM		m=5	15.0	0.0				1967	1968	477	475	
40	PM		m=5	15.0	0.0				1968	1980	950	477	
41	PM		m=5	15.0	0.0				1976	775	950	1980	
42	PM		m=5	15.0	0.0				1970	479	1109	1982	
43	PM		m=5	15.0	0.0				481	480	1971	1972	
44	PM		m=5	15.0	0.0				480	479	1970	1971	

8. MODELLAZIONE DELLE AZIONI

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

1	carico concentrato nodale 6 dati (forza F_x , F_y , F_z , momento M_x , M_y , M_z)
2	spostamento nodale impresso 6 dati (spostamento T_x , T_y , T_z , rotazione R_x , R_y , R_z)
3	carico distribuito globale su elemento tipo trave 7 dati (f_x , f_y , f_z , m_x , m_y , m_z , ascissa di inizio carico) 7 dati (f_x , f_y , f_z , m_x , m_y , m_z , ascissa di fine carico)
4	carico distribuito locale su elemento tipo trave 7 dati (f_1 , f_2 , f_3 , m_1 , m_2 , m_3 , ascissa di inizio carico) 7 dati (f_1 , f_2 , f_3 , m_1 , m_2 , m_3 , ascissa di fine carico)
5	carico concentrato globale su elemento tipo trave 7 dati (F_x , F_y , F_z , M_x , M_y , M_z , ascissa di carico)
6	carico concentrato locale su elemento tipo trave



	7 dati ($F_1, F_2, F_3, M_1, M_2, M_3$, ascissa di carico)
7	variazione termica applicata ad elemento tipo trave 7 dati (variazioni termiche: uniforme, media e differenza in altezza e larghezza al nodo iniziale e finale)
8	carico di pressione uniforme su elemento tipo piastra 1 dato (pressione)
9	carico di pressione variabile su elemento tipo piastra 4 dati (pressione, quota, pressione, quota)
10	variazione termica applicata ad elemento tipo piastra 2 dati (variazioni termiche: media e differenza nello spessore)
11	carico variabile generale su elementi tipo trave e piastra 1 dato descrizione della tipologia 4 dati per segmento (posizione, valore, posizione, valore) la tipologia precisa l'ascissa di definizione, la direzione del carico, la modalità di carico e la larghezza d'influenza per gli elementi tipo trave
12	gruppo di carichi con impronta su piastra 9 dati (numero di ripetizioni in direzione X e Y, valore di ciascun carico, posizione centrale del primo, dimensioni dell'impronta, interasse tra i carichi)

	Carico nodale	concentrato		Spostamento impresso
	Carico globale	distribuito		Carico locale distribuito
	Carico globale	concentrato		Carico locale concentrato
	Carico termico 2D			Carico termico 3D
	Carico uniforme	pressione		Carico pressione variabile



Tipo	carico variabile generale
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Id	Tipo	ascissa cm	valore daN/cm2	ascissa cm	valore daN/cm2
1	G1 CONTROTERRA-QV:unif - Qz - Area Unif. Qz Area L2=0.0		-0.04		
2	VARIABILE SPOGLIATOI-QV:unif - Qz - Lineare Unif. Qz L2=0.0		-0.03 daN/cm		
3	VARIABILE PALESTRA-QV:unif - Qz - Area Unif. Qz Area L2=0.0		-0.05		
4	G2 SPOGLIATOI-QV:unif - Qz - Area Unif. Qz Area L2=0.0		-8.00e-03		

9. SCHEMATIZZAZIONE DEI 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.

10. DEFINIZIONE DELLE COMBINAZIONI

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

$$\gamma G1G1 + \gamma G2G2 + \gamma PP + \gamma Q1Qk1 + \gamma Q2\psi02Qk2 + \gamma Q3\psi03Qk3 + \dots$$

Combinazione caratteristica (rara) SLE

$$G1 + G2 + P + Qk1 + \psi02Qk2 + \psi03Qk3 + \dots$$

Combinazione frequente SLE

$$G1 + G2 + P + \psi11Qk1 + \psi22Qk2 + \psi23Qk3 + \dots$$

Combinazione quasi permanente SLE

$$G1 + G2 + P + \psi21Qk1 + \psi22Qk2 + \psi23Qk3 + \dots$$

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

$$E + G1 + G2 + P + \psi21Qk1 + \psi22Qk2 + \dots$$

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

$$G1 + G2 + P + \psi21Qk1 + \psi22Qk2 + \dots$$

Dove:

NTC 2018 Tabella 2.5.I

Destinazione d'uso/azione	$\psi0$	$\psi1$	$\psi2$
Categoria A residenziali	0,70	0,50	0,30
Categoria B uffici	0,70	0,50	0,30
Categoria C ambienti suscettibili di affollamento	0,70	0,70	0,60
Categoria D ambienti ad uso commerciale	0,70	0,70	0,60
Categoria E biblioteche, archivi, magazzini,...	1,00	0,90	0,80
Categoria F Rimesse e parcheggi (autoveicoli ≤ 30 kN)	0,70	0,70	0,60
Categoria G Rimesse e parcheggi (autoveicoli > 30 kN)	0,70	0,50	0,30
Categoria H Coperture	0,00	0,00	0,00
Vento	0,60	0,20	0,00
Neve a quota ≤ 1000 m	0,50	0,20	0,00
Neve a quota > 1000 m	0,70	0,50	0,20
Variazioni Termiche	0,60	0,50	0,00

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

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

NTC 2018 Tabella 2.6.I

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



Carichi variabili	Favorevoli	γ_{Qi}	0,0	0,0	0,0
	Sfavorevoli		1,5	1,5	1,3

Si riportano combinazioni utilizzate.

Cmb	Tipo	Sigla Id	effetto P-delta
1	SLU	Comb. SLU A1 1	
2	SLU	Comb. SLU A1 2	
3	SLU	Comb. SLU A1 3	
4	SLU	Comb. SLU A1 4	
5	SLU	Comb. SLU A1 5	
6	SLU	Comb. SLU A1 6	
7	SLU	Comb. SLU A1 7	
8	SLU	Comb. SLU A1 8	
9	SLU	Comb. SLU A1 9	
10	SLU	Comb. SLU A1 10	
11	SLU	Comb. SLU A1 11	
12	SLU	Comb. SLU A1 12	
13	SLU	Comb. SLU A1 13	
14	SLU	Comb. SLU A1 14	
15	SLU	Comb. SLU A1 15	
16	SLU	Comb. SLU A1 16	
17	SLU	Comb. SLU A1 17	
18	SLU	Comb. SLU A1 18	
19	SLU	Comb. SLU A1 19	
20	SLU	Comb. SLU A1 20	
21	SLU	Comb. SLU A1 21	
22	SLU	Comb. SLU A1 22	
23	SLU	Comb. SLU A1 23	
24	SLU	Comb. SLU A1 24	
25	SLU	Comb. SLU A1 25	
26	SLU	Comb. SLU A1 26	
27	SLU	Comb. SLU A1 27	
28	SLU	Comb. SLU A1 28	
29	SLU	Comb. SLU A1 29	
30	SLU	Comb. SLU A1 30	
31	SLU	Comb. SLU A1 31	
32	SLU	Comb. SLU A1 32	
33	SLU	Comb. SLU A1 33	
34	SLU	Comb. SLU A1 34	
35	SLU	Comb. SLU A1 35	
36	SLU	Comb. SLU A1 36	
37	SLU	Comb. SLU A1 37	
38	SLU	Comb. SLU A1 38	
39	SLU	Comb. SLU A1 39	
40	SLU	Comb. SLU A1 40	
41	SLU	Comb. SLU A1 41	
42	SLU	Comb. SLU A1 42	
43	SLU	Comb. SLU A1 43	
44	SLU	Comb. SLU A1 44	
45	SLU	Comb. SLU A1 45	
46	SLU	Comb. SLU A1 46	
47	SLU	Comb. SLU A1 47	
48	SLU	Comb. SLU A1 48	
49	SLU	Comb. SLU A1 49	
50	SLU	Comb. SLU A1 50	
51	SLU	Comb. SLU A1 51	
52	SLU	Comb. SLU A1 52	
53	SLU	Comb. SLU A1 53	
54	SLU	Comb. SLU A1 54	
55	SLU	Comb. SLU A1 55	
56	SLU	Comb. SLU A1 56	
57	SLU	Comb. SLU A1 57	
58	SLU	Comb. SLU A1 58	
59	SLU	Comb. SLU A1 59	
60	SLU	Comb. SLU A1 60	
61	SLU	Comb. SLU A1 61	
62	SLU	Comb. SLU A1 62	
63	SLU	Comb. SLU A1 63	
64	SLU	Comb. SLU A1 64	
65	SLU	Comb. SLU A1 65	
66	SLU	Comb. SLU A1 66	



Cmb	Tipo	Sigla Id	effetto P-delta
67	SLU	Comb. SLU A1 67	
68	SLU	Comb. SLU A1 68	
69	SLU	Comb. SLU A1 69	
70	SLU	Comb. SLU A1 70	
71	SLU	Comb. SLU A1 71	
72	SLU	Comb. SLU A1 72	
73	SLU	Comb. SLU A1 73	
74	SLU	Comb. SLU A1 74	
75	SLU	Comb. SLU A1 75	
76	SLU	Comb. SLU A1 76	
77	SLU	Comb. SLU A1 77	
78	SLU	Comb. SLU A1 78	
79	SLU	Comb. SLU A1 79	
80	SLU	Comb. SLU A1 80	
81	SLU	Comb. SLU A1 81	
82	SLU	Comb. SLU A1 82	
83	SLU	Comb. SLU A1 83	
84	SLU	Comb. SLU A1 84	
85	SLU	Comb. SLU A1 85	
86	SLU	Comb. SLU A1 86	
87	SLU	Comb. SLU A1 87	
88	SLU	Comb. SLU A1 88	
89	SLU	Comb. SLU A1 89	
90	SLU	Comb. SLU A1 90	
91	SLU	Comb. SLU A1 91	
92	SLU	Comb. SLU A1 92	
93	SLU	Comb. SLU A1 93	
94	SLU	Comb. SLU A1 94	
95	SLU	Comb. SLU A1 (SLV sism.) 95	Si
96	SLU	Comb. SLU A1 (SLV sism.) 96	Si
97	SLU	Comb. SLU A1 (SLV sism.) 97	Si
98	SLU	Comb. SLU A1 (SLV sism.) 98	Si
99	SLU	Comb. SLU A1 (SLV sism.) 99	Si
100	SLU	Comb. SLU A1 (SLV sism.) 100	Si
101	SLU	Comb. SLU A1 (SLV sism.) 101	Si
102	SLU	Comb. SLU A1 (SLV sism.) 102	Si
103	SLU	Comb. SLU A1 (SLV sism.) 103	Si
104	SLU	Comb. SLU A1 (SLV sism.) 104	Si
105	SLU	Comb. SLU A1 (SLV sism.) 105	Si
106	SLU	Comb. SLU A1 (SLV sism.) 106	Si
107	SLU	Comb. SLU A1 (SLV sism.) 107	Si
108	SLU	Comb. SLU A1 (SLV sism.) 108	Si
109	SLU	Comb. SLU A1 (SLV sism.) 109	Si
110	SLU	Comb. SLU A1 (SLV sism.) 110	Si
111	SLU	Comb. SLU A1 (SLV sism.) 111	Si
112	SLU	Comb. SLU A1 (SLV sism.) 112	Si
113	SLU	Comb. SLU A1 (SLV sism.) 113	Si
114	SLU	Comb. SLU A1 (SLV sism.) 114	Si
115	SLU	Comb. SLU A1 (SLV sism.) 115	Si
116	SLU	Comb. SLU A1 (SLV sism.) 116	Si
117	SLU	Comb. SLU A1 (SLV sism.) 117	Si
118	SLU	Comb. SLU A1 (SLV sism.) 118	Si
119	SLU	Comb. SLU A1 (SLV sism.) 119	Si
120	SLU	Comb. SLU A1 (SLV sism.) 120	Si
121	SLU	Comb. SLU A1 (SLV sism.) 121	Si
122	SLU	Comb. SLU A1 (SLV sism.) 122	Si
123	SLU	Comb. SLU A1 (SLV sism.) 123	Si
124	SLU	Comb. SLU A1 (SLV sism.) 124	Si
125	SLU	Comb. SLU A1 (SLV sism.) 125	Si
126	SLU	Comb. SLU A1 (SLV sism.) 126	Si
127	SLU	Comb. SLU A1 (SLV sism.) 127	Si
128	SLU	Comb. SLU A1 (SLV sism.) 128	Si
129	SLU	Comb. SLU A1 (SLV sism.) 129	Si
130	SLU	Comb. SLU A1 (SLV sism.) 130	Si
131	SLU	Comb. SLU A1 (SLV sism.) 131	Si
132	SLU	Comb. SLU A1 (SLV sism.) 132	Si
133	SLU	Comb. SLU A1 (SLV sism.) 133	Si
134	SLU	Comb. SLU A1 (SLV sism.) 134	Si
135	SLU	Comb. SLU A1 (SLV sism.) 135	Si
136	SLU	Comb. SLU A1 (SLV sism.) 136	Si
137	SLU	Comb. SLU A1 (SLV sism.) 137	Si
138	SLU	Comb. SLU A1 (SLV sism.) 138	Si



Cmb	Tipo	Sigla Id	effetto P-delta
139	SLU	Comb. SLU A1 (SLV sism.) 139	Si
140	SLU	Comb. SLU A1 (SLV sism.) 140	Si
141	SLU	Comb. SLU A1 (SLV sism.) 141	Si
142	SLU	Comb. SLU A1 (SLV sism.) 142	Si
143	SLU	Comb. SLU A1 (SLV sism.) 143	Si
144	SLU	Comb. SLU A1 (SLV sism.) 144	Si
145	SLU	Comb. SLU A1 (SLV sism.) 145	Si
146	SLU	Comb. SLU A1 (SLV sism.) 146	Si
147	SLU	Comb. SLU A1 (SLV sism.) 147	Si
148	SLU	Comb. SLU A1 (SLV sism.) 148	Si
149	SLU	Comb. SLU A1 (SLV sism.) 149	Si
150	SLU	Comb. SLU A1 (SLV sism.) 150	Si
151	SLU	Comb. SLU A1 (SLV sism.) 151	Si
152	SLU	Comb. SLU A1 (SLV sism.) 152	Si
153	SLU	Comb. SLU A1 (SLV sism.) 153	Si
154	SLU	Comb. SLU A1 (SLV sism.) 154	Si
155	SLU	Comb. SLU A1 (SLV sism.) 155	Si
156	SLU	Comb. SLU A1 (SLV sism.) 156	Si
157	SLU	Comb. SLU A1 (SLV sism.) 157	Si
158	SLU	Comb. SLU A1 (SLV sism.) 158	Si
159	SLU	Comb. SLU A1 (SLV sism.) 159	Si
160	SLU	Comb. SLU A1 (SLV sism.) 160	Si
161	SLU	Comb. SLU A1 (SLV sism.) 161	Si
162	SLU	Comb. SLU A1 (SLV sism.) 162	Si
163	SLU	Comb. SLU A1 (SLV sism.) 163	Si
164	SLU	Comb. SLU A1 (SLV sism.) 164	Si
165	SLU	Comb. SLU A1 (SLV sism.) 165	Si
166	SLU	Comb. SLU A1 (SLV sism.) 166	Si
167	SLU	Comb. SLU A1 (SLV sism.) 167	Si
168	SLU	Comb. SLU A1 (SLV sism.) 168	Si
169	SLU	Comb. SLU A1 (SLV sism.) 169	Si
170	SLU	Comb. SLU A1 (SLV sism.) 170	Si
171	SLU	Comb. SLU A1 (SLV sism.) 171	Si
172	SLU	Comb. SLU A1 (SLV sism.) 172	Si
173	SLU	Comb. SLU A1 (SLV sism.) 173	Si
174	SLU	Comb. SLU A1 (SLV sism.) 174	Si
175	SLU	Comb. SLU A1 (SLV sism.) 175	Si
176	SLU	Comb. SLU A1 (SLV sism.) 176	Si
177	SLU	Comb. SLU A1 (SLV sism.) 177	Si
178	SLU	Comb. SLU A1 (SLV sism.) 178	Si
179	SLU	Comb. SLU A1 (SLV sism.) 179	Si
180	SLU	Comb. SLU A1 (SLV sism.) 180	Si
181	SLU	Comb. SLU A1 (SLV sism.) 181	Si
182	SLU	Comb. SLU A1 (SLV sism.) 182	Si
183	SLU	Comb. SLU A1 (SLV sism.) 183	Si
184	SLU	Comb. SLU A1 (SLV sism.) 184	Si
185	SLU	Comb. SLU A1 (SLV sism.) 185	Si
186	SLU	Comb. SLU A1 (SLV sism.) 186	Si
187	SLU	Comb. SLU A1 (SLV sism.) 187	Si
188	SLU	Comb. SLU A1 (SLV sism.) 188	Si
189	SLU	Comb. SLU A1 (SLV sism.) 189	Si
190	SLU	Comb. SLU A1 (SLV sism.) 190	Si
191	SLD(sis)	Comb. SLE (SLD Danno sism.) 191	Si
192	SLD(sis)	Comb. SLE (SLD Danno sism.) 192	Si
193	SLD(sis)	Comb. SLE (SLD Danno sism.) 193	Si
194	SLD(sis)	Comb. SLE (SLD Danno sism.) 194	Si
195	SLD(sis)	Comb. SLE (SLD Danno sism.) 195	Si
196	SLD(sis)	Comb. SLE (SLD Danno sism.) 196	Si
197	SLD(sis)	Comb. SLE (SLD Danno sism.) 197	Si
198	SLD(sis)	Comb. SLE (SLD Danno sism.) 198	Si
199	SLD(sis)	Comb. SLE (SLD Danno sism.) 199	Si
200	SLD(sis)	Comb. SLE (SLD Danno sism.) 200	Si
201	SLD(sis)	Comb. SLE (SLD Danno sism.) 201	Si
202	SLD(sis)	Comb. SLE (SLD Danno sism.) 202	Si
203	SLD(sis)	Comb. SLE (SLD Danno sism.) 203	Si
204	SLD(sis)	Comb. SLE (SLD Danno sism.) 204	Si
205	SLD(sis)	Comb. SLE (SLD Danno sism.) 205	Si
206	SLD(sis)	Comb. SLE (SLD Danno sism.) 206	Si
207	SLD(sis)	Comb. SLE (SLD Danno sism.) 207	Si
208	SLD(sis)	Comb. SLE (SLD Danno sism.) 208	Si
209	SLD(sis)	Comb. SLE (SLD Danno sism.) 209	Si
210	SLD(sis)	Comb. SLE (SLD Danno sism.) 210	Si



Cmb	Tipo	Sigla Id	effetto P-delta
211	SLD (sis)	Comb. SLE (SLD Danno sism.) 211	Si
212	SLD (sis)	Comb. SLE (SLD Danno sism.) 212	Si
213	SLD (sis)	Comb. SLE (SLD Danno sism.) 213	Si
214	SLD (sis)	Comb. SLE (SLD Danno sism.) 214	Si
215	SLD (sis)	Comb. SLE (SLD Danno sism.) 215	Si
216	SLD (sis)	Comb. SLE (SLD Danno sism.) 216	Si
217	SLD (sis)	Comb. SLE (SLD Danno sism.) 217	Si
218	SLD (sis)	Comb. SLE (SLD Danno sism.) 218	Si
219	SLD (sis)	Comb. SLE (SLD Danno sism.) 219	Si
220	SLD (sis)	Comb. SLE (SLD Danno sism.) 220	Si
221	SLD (sis)	Comb. SLE (SLD Danno sism.) 221	Si
222	SLD (sis)	Comb. SLE (SLD Danno sism.) 222	Si
223	SLD (sis)	Comb. SLE (SLD Danno sism.) 223	Si
224	SLD (sis)	Comb. SLE (SLD Danno sism.) 224	Si
225	SLD (sis)	Comb. SLE (SLD Danno sism.) 225	Si
226	SLD (sis)	Comb. SLE (SLD Danno sism.) 226	Si
227	SLD (sis)	Comb. SLE (SLD Danno sism.) 227	Si
228	SLD (sis)	Comb. SLE (SLD Danno sism.) 228	Si
229	SLD (sis)	Comb. SLE (SLD Danno sism.) 229	Si
230	SLD (sis)	Comb. SLE (SLD Danno sism.) 230	Si
231	SLD (sis)	Comb. SLE (SLD Danno sism.) 231	Si
232	SLD (sis)	Comb. SLE (SLD Danno sism.) 232	Si
233	SLD (sis)	Comb. SLE (SLD Danno sism.) 233	Si
234	SLD (sis)	Comb. SLE (SLD Danno sism.) 234	Si
235	SLD (sis)	Comb. SLE (SLD Danno sism.) 235	Si
236	SLD (sis)	Comb. SLE (SLD Danno sism.) 236	Si
237	SLD (sis)	Comb. SLE (SLD Danno sism.) 237	Si
238	SLD (sis)	Comb. SLE (SLD Danno sism.) 238	Si
239	SLD (sis)	Comb. SLE (SLD Danno sism.) 239	Si
240	SLD (sis)	Comb. SLE (SLD Danno sism.) 240	Si
241	SLD (sis)	Comb. SLE (SLD Danno sism.) 241	Si
242	SLD (sis)	Comb. SLE (SLD Danno sism.) 242	Si
243	SLD (sis)	Comb. SLE (SLD Danno sism.) 243	Si
244	SLD (sis)	Comb. SLE (SLD Danno sism.) 244	Si
245	SLD (sis)	Comb. SLE (SLD Danno sism.) 245	Si
246	SLD (sis)	Comb. SLE (SLD Danno sism.) 246	Si
247	SLD (sis)	Comb. SLE (SLD Danno sism.) 247	Si
248	SLD (sis)	Comb. SLE (SLD Danno sism.) 248	Si
249	SLD (sis)	Comb. SLE (SLD Danno sism.) 249	Si
250	SLD (sis)	Comb. SLE (SLD Danno sism.) 250	Si
251	SLD (sis)	Comb. SLE (SLD Danno sism.) 251	Si
252	SLD (sis)	Comb. SLE (SLD Danno sism.) 252	Si
253	SLD (sis)	Comb. SLE (SLD Danno sism.) 253	Si
254	SLD (sis)	Comb. SLE (SLD Danno sism.) 254	Si
255	SLD (sis)	Comb. SLE (SLD Danno sism.) 255	Si
256	SLD (sis)	Comb. SLE (SLD Danno sism.) 256	Si
257	SLD (sis)	Comb. SLE (SLD Danno sism.) 257	Si
258	SLD (sis)	Comb. SLE (SLD Danno sism.) 258	Si
259	SLD (sis)	Comb. SLE (SLD Danno sism.) 259	Si
260	SLD (sis)	Comb. SLE (SLD Danno sism.) 260	Si
261	SLD (sis)	Comb. SLE (SLD Danno sism.) 261	Si
262	SLD (sis)	Comb. SLE (SLD Danno sism.) 262	Si
263	SLD (sis)	Comb. SLE (SLD Danno sism.) 263	Si
264	SLD (sis)	Comb. SLE (SLD Danno sism.) 264	Si
265	SLD (sis)	Comb. SLE (SLD Danno sism.) 265	Si
266	SLD (sis)	Comb. SLE (SLD Danno sism.) 266	Si
267	SLD (sis)	Comb. SLE (SLD Danno sism.) 267	Si
268	SLD (sis)	Comb. SLE (SLD Danno sism.) 268	Si
269	SLD (sis)	Comb. SLE (SLD Danno sism.) 269	Si
270	SLD (sis)	Comb. SLE (SLD Danno sism.) 270	Si
271	SLD (sis)	Comb. SLE (SLD Danno sism.) 271	Si
272	SLD (sis)	Comb. SLE (SLD Danno sism.) 272	Si
273	SLD (sis)	Comb. SLE (SLD Danno sism.) 273	Si
274	SLD (sis)	Comb. SLE (SLD Danno sism.) 274	Si
275	SLD (sis)	Comb. SLE (SLD Danno sism.) 275	Si
276	SLD (sis)	Comb. SLE (SLD Danno sism.) 276	Si
277	SLD (sis)	Comb. SLE (SLD Danno sism.) 277	Si
278	SLD (sis)	Comb. SLE (SLD Danno sism.) 278	Si
279	SLD (sis)	Comb. SLE (SLD Danno sism.) 279	Si
280	SLD (sis)	Comb. SLE (SLD Danno sism.) 280	Si
281	SLD (sis)	Comb. SLE (SLD Danno sism.) 281	Si
282	SLD (sis)	Comb. SLE (SLD Danno sism.) 282	Si



Cmb	Tipo	Sigla Id	effetto P-delta
283	SLD(sis)	Comb. SLE (SLD Danno sism.) 283	Si
284	SLD(sis)	Comb. SLE (SLD Danno sism.) 284	Si
285	SLD(sis)	Comb. SLE (SLD Danno sism.) 285	Si
286	SLD(sis)	Comb. SLE (SLD Danno sism.) 286	Si
287	SLD(sis)	Comb. SLE (SLO Operativo sism.) 287	Si
288	SLD(sis)	Comb. SLE (SLO Operativo sism.) 288	Si
289	SLD(sis)	Comb. SLE (SLO Operativo sism.) 289	Si
290	SLD(sis)	Comb. SLE (SLO Operativo sism.) 290	Si
291	SLD(sis)	Comb. SLE (SLO Operativo sism.) 291	Si
292	SLD(sis)	Comb. SLE (SLO Operativo sism.) 292	Si
293	SLD(sis)	Comb. SLE (SLO Operativo sism.) 293	Si
294	SLD(sis)	Comb. SLE (SLO Operativo sism.) 294	Si
295	SLD(sis)	Comb. SLE (SLO Operativo sism.) 295	Si
296	SLD(sis)	Comb. SLE (SLO Operativo sism.) 296	Si
297	SLD(sis)	Comb. SLE (SLO Operativo sism.) 297	Si
298	SLD(sis)	Comb. SLE (SLO Operativo sism.) 298	Si
299	SLD(sis)	Comb. SLE (SLO Operativo sism.) 299	Si
300	SLD(sis)	Comb. SLE (SLO Operativo sism.) 300	Si
301	SLD(sis)	Comb. SLE (SLO Operativo sism.) 301	Si
302	SLD(sis)	Comb. SLE (SLO Operativo sism.) 302	Si
303	SLD(sis)	Comb. SLE (SLO Operativo sism.) 303	Si
304	SLD(sis)	Comb. SLE (SLO Operativo sism.) 304	Si
305	SLD(sis)	Comb. SLE (SLO Operativo sism.) 305	Si
306	SLD(sis)	Comb. SLE (SLO Operativo sism.) 306	Si
307	SLD(sis)	Comb. SLE (SLO Operativo sism.) 307	Si
308	SLD(sis)	Comb. SLE (SLO Operativo sism.) 308	Si
309	SLD(sis)	Comb. SLE (SLO Operativo sism.) 309	Si
310	SLD(sis)	Comb. SLE (SLO Operativo sism.) 310	Si
311	SLD(sis)	Comb. SLE (SLO Operativo sism.) 311	Si
312	SLD(sis)	Comb. SLE (SLO Operativo sism.) 312	Si
313	SLD(sis)	Comb. SLE (SLO Operativo sism.) 313	Si
314	SLD(sis)	Comb. SLE (SLO Operativo sism.) 314	Si
315	SLD(sis)	Comb. SLE (SLO Operativo sism.) 315	Si
316	SLD(sis)	Comb. SLE (SLO Operativo sism.) 316	Si
317	SLD(sis)	Comb. SLE (SLO Operativo sism.) 317	Si
318	SLD(sis)	Comb. SLE (SLO Operativo sism.) 318	Si
319	SLD(sis)	Comb. SLE (SLO Operativo sism.) 319	Si
320	SLD(sis)	Comb. SLE (SLO Operativo sism.) 320	Si
321	SLD(sis)	Comb. SLE (SLO Operativo sism.) 321	Si
322	SLD(sis)	Comb. SLE (SLO Operativo sism.) 322	Si
323	SLD(sis)	Comb. SLE (SLO Operativo sism.) 323	Si
324	SLD(sis)	Comb. SLE (SLO Operativo sism.) 324	Si
325	SLD(sis)	Comb. SLE (SLO Operativo sism.) 325	Si
326	SLD(sis)	Comb. SLE (SLO Operativo sism.) 326	Si
327	SLD(sis)	Comb. SLE (SLO Operativo sism.) 327	Si
328	SLD(sis)	Comb. SLE (SLO Operativo sism.) 328	Si
329	SLD(sis)	Comb. SLE (SLO Operativo sism.) 329	Si
330	SLD(sis)	Comb. SLE (SLO Operativo sism.) 330	Si
331	SLD(sis)	Comb. SLE (SLO Operativo sism.) 331	Si
332	SLD(sis)	Comb. SLE (SLO Operativo sism.) 332	Si
333	SLD(sis)	Comb. SLE (SLO Operativo sism.) 333	Si
334	SLD(sis)	Comb. SLE (SLO Operativo sism.) 334	Si
335	SLD(sis)	Comb. SLE (SLO Operativo sism.) 335	Si
336	SLD(sis)	Comb. SLE (SLO Operativo sism.) 336	Si
337	SLD(sis)	Comb. SLE (SLO Operativo sism.) 337	Si
338	SLD(sis)	Comb. SLE (SLO Operativo sism.) 338	Si
339	SLD(sis)	Comb. SLE (SLO Operativo sism.) 339	Si
340	SLD(sis)	Comb. SLE (SLO Operativo sism.) 340	Si
341	SLD(sis)	Comb. SLE (SLO Operativo sism.) 341	Si
342	SLD(sis)	Comb. SLE (SLO Operativo sism.) 342	Si
343	SLD(sis)	Comb. SLE (SLO Operativo sism.) 343	Si
344	SLD(sis)	Comb. SLE (SLO Operativo sism.) 344	Si
345	SLD(sis)	Comb. SLE (SLO Operativo sism.) 345	Si
346	SLD(sis)	Comb. SLE (SLO Operativo sism.) 346	Si
347	SLD(sis)	Comb. SLE (SLO Operativo sism.) 347	Si
348	SLD(sis)	Comb. SLE (SLO Operativo sism.) 348	Si
349	SLD(sis)	Comb. SLE (SLO Operativo sism.) 349	Si
350	SLD(sis)	Comb. SLE (SLO Operativo sism.) 350	Si
351	SLD(sis)	Comb. SLE (SLO Operativo sism.) 351	Si
352	SLD(sis)	Comb. SLE (SLO Operativo sism.) 352	Si
353	SLD(sis)	Comb. SLE (SLO Operativo sism.) 353	Si
354	SLD(sis)	Comb. SLE (SLO Operativo sism.) 354	Si



Cmb	Tipo	Sigla Id	effetto P-delta
355	SLD(sis)	Comb. SLE (SLO Operativo sism.) 355	Si
356	SLD(sis)	Comb. SLE (SLO Operativo sism.) 356	Si
357	SLD(sis)	Comb. SLE (SLO Operativo sism.) 357	Si
358	SLD(sis)	Comb. SLE (SLO Operativo sism.) 358	Si
359	SLD(sis)	Comb. SLE (SLO Operativo sism.) 359	Si
360	SLD(sis)	Comb. SLE (SLO Operativo sism.) 360	Si
361	SLD(sis)	Comb. SLE (SLO Operativo sism.) 361	Si
362	SLD(sis)	Comb. SLE (SLO Operativo sism.) 362	Si
363	SLD(sis)	Comb. SLE (SLO Operativo sism.) 363	Si
364	SLD(sis)	Comb. SLE (SLO Operativo sism.) 364	Si
365	SLD(sis)	Comb. SLE (SLO Operativo sism.) 365	Si
366	SLD(sis)	Comb. SLE (SLO Operativo sism.) 366	Si
367	SLD(sis)	Comb. SLE (SLO Operativo sism.) 367	Si
368	SLD(sis)	Comb. SLE (SLO Operativo sism.) 368	Si
369	SLD(sis)	Comb. SLE (SLO Operativo sism.) 369	Si
370	SLD(sis)	Comb. SLE (SLO Operativo sism.) 370	Si
371	SLD(sis)	Comb. SLE (SLO Operativo sism.) 371	Si
372	SLD(sis)	Comb. SLE (SLO Operativo sism.) 372	Si
373	SLD(sis)	Comb. SLE (SLO Operativo sism.) 373	Si
374	SLD(sis)	Comb. SLE (SLO Operativo sism.) 374	Si
375	SLD(sis)	Comb. SLE (SLO Operativo sism.) 375	Si
376	SLD(sis)	Comb. SLE (SLO Operativo sism.) 376	Si
377	SLD(sis)	Comb. SLE (SLO Operativo sism.) 377	Si
378	SLD(sis)	Comb. SLE (SLO Operativo sism.) 378	Si
379	SLD(sis)	Comb. SLE (SLO Operativo sism.) 379	Si
380	SLD(sis)	Comb. SLE (SLO Operativo sism.) 380	Si
381	SLD(sis)	Comb. SLE (SLO Operativo sism.) 381	Si
382	SLD(sis)	Comb. SLE (SLO Operativo sism.) 382	Si
383	SLE(r)	Comb. SLE(rara) 383	
384	SLE(r)	Comb. SLE(rara) 384	
385	SLE(r)	Comb. SLE(rara) 385	
386	SLE(r)	Comb. SLE(rara) 386	
387	SLE(r)	Comb. SLE(rara) 387	
388	SLE(r)	Comb. SLE(rara) 388	
389	SLE(r)	Comb. SLE(rara) 389	
390	SLE(r)	Comb. SLE(rara) 390	
391	SLE(r)	Comb. SLE(rara) 391	
392	SLE(r)	Comb. SLE(rara) 392	
393	SLE(r)	Comb. SLE(rara) 393	
394	SLE(r)	Comb. SLE(rara) 394	
395	SLE(r)	Comb. SLE(rara) 395	
396	SLE(r)	Comb. SLE(rara) 396	
397	SLE(r)	Comb. SLE(rara) 397	
398	SLE(r)	Comb. SLE(rara) 398	
399	SLE(r)	Comb. SLE(rara) 399	
400	SLE(r)	Comb. SLE(rara) 400	
401	SLE(r)	Comb. SLE(rara) 401	
402	SLE(r)	Comb. SLE(rara) 402	
403	SLE(r)	Comb. SLE(rara) 403	
404	SLE(r)	Comb. SLE(rara) 404	
405	SLE(r)	Comb. SLE(rara) 405	
406	SLE(r)	Comb. SLE(rara) 406	
407	SLE(r)	Comb. SLE(rara) 407	
408	SLE(r)	Comb. SLE(rara) 408	
409	SLE(r)	Comb. SLE(rara) 409	
410	SLE(r)	Comb. SLE(rara) 410	
411	SLE(r)	Comb. SLE(rara) 411	
412	SLE(r)	Comb. SLE(rara) 412	
413	SLE(r)	Comb. SLE(rara) 413	
414	SLE(r)	Comb. SLE(rara) 414	
415	SLE(r)	Comb. SLE(rara) 415	
416	SLE(r)	Comb. SLE(rara) 416	
417	SLE(r)	Comb. SLE(rara) 417	
418	SLE(r)	Comb. SLE(rara) 418	
419	SLE(r)	Comb. SLE(rara) 419	
420	SLE(r)	Comb. SLE(rara) 420	
421	SLE(r)	Comb. SLE(rara) 421	
422	SLE(r)	Comb. SLE(rara) 422	
423	SLE(r)	Comb. SLE(rara) 423	
424	SLE(r)	Comb. SLE(rara) 424	
425	SLE(r)	Comb. SLE(rara) 425	
426	SLE(r)	Comb. SLE(rara) 426	



Cmb	Tipo	Sigla Id	effetto P-delta
427	SLE(r)	Comb. SLE(rara) 427	
428	SLE(r)	Comb. SLE(rara) 428	
429	SLE(r)	Comb. SLE(rara) 429	
430	SLE(f)	Comb. SLE(freq.) 430	
431	SLE(f)	Comb. SLE(freq.) 431	
432	SLE(f)	Comb. SLE(freq.) 432	
433	SLE(f)	Comb. SLE(freq.) 433	
434	SLE(f)	Comb. SLE(freq.) 434	
435	SLE(f)	Comb. SLE(freq.) 435	
436	SLE(f)	Comb. SLE(freq.) 436	
437	SLE(f)	Comb. SLE(freq.) 437	
438	SLE(f)	Comb. SLE(freq.) 438	
439	SLE(f)	Comb. SLE(freq.) 439	
440	SLE(f)	Comb. SLE(freq.) 440	
441	SLE(f)	Comb. SLE(freq.) 441	
442	SLE(f)	Comb. SLE(freq.) 442	
443	SLE(f)	Comb. SLE(freq.) 443	
444	SLE(f)	Comb. SLE(freq.) 444	
445	SLE(f)	Comb. SLE(freq.) 445	
446	SLE(p)	Comb. SLE(perm.) 446	
447	SLE(p)	Comb. SLE(perm.) 447	
448	SLE(p)	Comb. SLE(perm.) 448	
449	SLE(p)	Comb. SLE(perm.) 449	
450	SLU(acc.)	Comb. SLU (Accid.) 450	
451	SLU(acc.)	Comb. SLU (Accid.) 451	
452	SLU(acc.)	Comb. SLU (Accid.) 452	
453	SLU(acc.)	Comb. SLU (Accid.) 453	

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	1.50	0.0	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0	0.0			
2	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
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0	0.75			
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
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.90	0.0			
4	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
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.90	0.75			
5	1.30	1.30	1.50	1.50	0.0	1.30	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0	0.0			
6	1.30	1.30	1.50	1.50	0.0	1.30	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0	0.75			
7	1.30	1.30	1.50	1.50	0.0	1.30	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.90	0.0			
8	1.30	1.30	1.50	1.50	0.0	1.30	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.90	0.75			
9	1.30	1.30	1.50	1.50	1.50	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0	0.0			
10	1.30	1.30	1.50	1.50	1.50	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0	0.75			
11	1.30	1.30	1.50	1.50	1.50	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.90	0.0			
12	1.30	1.30	1.50	1.50	1.50	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.90	0.75			
13	1.30	1.30	1.50	1.50	1.50	1.30	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0	0.0			
14	1.30	1.30	1.50	1.50	1.50	1.30	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0	0.75			
15	1.30	1.30	1.50	1.50	1.50	1.30	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.90	0.0			
16	1.30	1.30	1.50	1.50	1.50	1.30	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.90	0.75			
17	1.00	1.00	0.80	0.80	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.0	0.0			
18	1.00	1.00	0.80	0.80	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.0	0.75			
19	1.00	1.00	0.80	0.80	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.90	0.0			
20	1.00	1.00	0.80	0.80	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.90	0.75			
21	1.00	1.00	0.80	0.80	0.0	1.00	1.05	0.0	0.0	0.0	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...
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.0	0.0			
22	1.00	1.00	0.80	0.80	0.0	1.00	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.0	0.75			
23	1.00	1.00	0.80	0.80	0.0	1.00	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.90	0.0			
24	1.00	1.00	0.80	0.80	0.0	1.00	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.90	0.75			
25	1.00	1.00	0.80	0.80	1.50	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.0	0.0			
26	1.00	1.00	0.80	0.80	1.50	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.0	0.75			
27	1.00	1.00	0.80	0.80	1.50	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.90	0.0			
28	1.00	1.00	0.80	0.80	1.50	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.90	0.75			
29	1.00	1.00	0.80	0.80	1.50	1.00	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.0	0.0			
30	1.00	1.00	0.80	0.80	1.50	1.00	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.0	0.75			
31	1.00	1.00	0.80	0.80	1.50	1.00	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.90	0.0			
32	1.00	1.00	0.80	0.80	1.50	1.00	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.90	0.75			
33	1.30	1.30	1.50	1.50	0.0	1.30	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0	0.0			
34	1.30	1.30	1.50	1.50	0.0	1.30	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0	0.75			
35	1.30	1.30	1.50	1.50	0.0	1.30	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.90	0.0			
36	1.30	1.30	1.50	1.50	0.0	1.30	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.90	0.75			
37	1.30	1.30	1.50	1.50	1.05	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0	0.0			
38	1.30	1.30	1.50	1.50	1.05	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0	0.75			
39	1.30	1.30	1.50	1.50	1.05	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.90	0.0			
40	1.30	1.30	1.50	1.50	1.05	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.90	0.75			
41	1.30	1.30	1.50	1.50	1.05	1.30	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0	0.0			
42	1.30	1.30	1.50	1.50	1.05	1.30	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0	0.75			
43	1.30	1.30	1.50	1.50	1.05	1.30	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.90	0.0			
44	1.30	1.30	1.50	1.50	1.05	1.30	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.90	0.75			
45	1.00	1.00	0.80	0.80	0.0	1.00	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.0	0.0			
46	1.00	1.00	0.80	0.80	0.0	1.00	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.0	0.75			
47	1.00	1.00	0.80	0.80	0.0	1.00	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.90	0.0			
48	1.00	1.00	0.80	0.80	0.0	1.00	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.90	0.75			
49	1.00	1.00	0.80	0.80	1.05	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.0	0.0			
50	1.00	1.00	0.80	0.80	1.05	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.0	0.75			
51	1.00	1.00	0.80	0.80	1.05	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.90	0.0			
52	1.00	1.00	0.80	0.80	1.05	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.90	0.75			
53	1.00	1.00	0.80	0.80	1.05	1.00	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.0	0.0			
54	1.00	1.00	0.80	0.80	1.05	1.00	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.0	0.75			
55	1.00	1.00	0.80	0.80	1.05	1.00	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.90	0.0			
56	1.00	1.00	0.80	0.80	1.05	1.00	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.90	0.75			



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...
57	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
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	1.50	0.0			
58	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
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	1.50	0.75			
59	1.30	1.30	1.50	1.50	0.0	1.30	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	1.50	0.0			
60	1.30	1.30	1.50	1.50	0.0	1.30	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	1.50	0.75			
61	1.30	1.30	1.50	1.50	1.05	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	1.50	0.0			
62	1.30	1.30	1.50	1.50	1.05	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	1.50	0.75			
63	1.30	1.30	1.50	1.50	1.05	1.30	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0	0.0			
64	1.30	1.30	1.50	1.50	1.05	1.30	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0	0.75			
65	1.30	1.30	1.50	1.50	1.05	1.30	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	1.50	0.0			
66	1.30	1.30	1.50	1.50	1.05	1.30	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	1.50	0.75			
67	1.00	1.00	0.80	0.80	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	1.50	0.0			
68	1.00	1.00	0.80	0.80	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	1.50	0.75			
69	1.00	1.00	0.80	0.80	0.0	1.00	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	1.50	0.0			
70	1.00	1.00	0.80	0.80	0.0	1.00	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	1.50	0.75			
71	1.00	1.00	0.80	0.80	1.05	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	1.50	0.0			
72	1.00	1.00	0.80	0.80	1.05	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	1.50	0.75			
73	1.00	1.00	0.80	0.80	1.05	1.00	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.0	0.0			
74	1.00	1.00	0.80	0.80	1.05	1.00	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.0	0.75			
75	1.00	1.00	0.80	0.80	1.05	1.00	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	1.50	0.0			
76	1.00	1.00	0.80	0.80	1.05	1.00	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	1.50	0.75			
77	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
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0	1.50			
78	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
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.90	1.50			
79	1.30	1.30	1.50	1.50	0.0	1.30	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0	1.50			
80	1.30	1.30	1.50	1.50	0.0	1.30	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.90	1.50			
81	1.30	1.30	1.50	1.50	1.05	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0	1.50			
82	1.30	1.30	1.50	1.50	1.05	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.90	1.50			
83	1.30	1.30	1.50	1.50	1.05	1.30	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0	1.50			
84	1.30	1.30	1.50	1.50	1.05	1.30	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.90	0.0			
85	1.30	1.30	1.50	1.50	1.05	1.30	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.90	1.50			
86	1.00	1.00	0.80	0.80	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.0	1.50			
87	1.00	1.00	0.80	0.80	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.90	1.50			
88	1.00	1.00	0.80	0.80	0.0	1.00	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.0	1.50			
89	1.00	1.00	0.80	0.80	0.0	1.00	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.90	1.50			
90	1.00	1.00	0.80	0.80	1.05	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.0	1.50			
91	1.00	1.00	0.80	0.80	1.05	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.90	1.50			
92	1.00	1.00	0.80	0.80	1.05	1.00	1.05	0.0	0.0	0.0	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...
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.0	1.50			
93	1.00	1.00	0.80	0.80	1.05	1.00	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.90	0.0			
94	1.00	1.00	0.80	0.80	1.05	1.00	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80	0.90	1.50			
95	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-1.00	0.0	-0.30	0.0	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
96	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-1.00	0.0	-0.30	0.0	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
97	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-1.00	0.0	0.30	0.0	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
98	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-1.00	0.0	0.30	0.0	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
99	1.00	1.00	1.00	1.00	0.60	1.00	0.60	1.00	0.0	-0.30	0.0	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
100	1.00	1.00	1.00	1.00	0.60	1.00	0.60	1.00	0.0	-0.30	0.0	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
101	1.00	1.00	1.00	1.00	0.60	1.00	0.60	1.00	0.0	0.30	0.0	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
102	1.00	1.00	1.00	1.00	0.60	1.00	0.60	1.00	0.0	0.30	0.0	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
103	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-1.00	0.0	0.0	-0.30	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
104	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-1.00	0.0	0.0	-0.30	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
105	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-1.00	0.0	0.0	0.30	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
106	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-1.00	0.0	0.0	0.30	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
107	1.00	1.00	1.00	1.00	0.60	1.00	0.60	1.00	0.0	0.0	-0.30	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
108	1.00	1.00	1.00	1.00	0.60	1.00	0.60	1.00	0.0	0.0	-0.30	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
109	1.00	1.00	1.00	1.00	0.60	1.00	0.60	1.00	0.0	0.0	0.30	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
110	1.00	1.00	1.00	1.00	0.60	1.00	0.60	1.00	0.0	0.0	0.30	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
111	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-1.00	-0.30	0.0	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
112	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-1.00	-0.30	0.0	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
113	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-1.00	0.30	0.0	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
114	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-1.00	0.30	0.0	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
115	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	1.00	-0.30	0.0	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
116	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	1.00	-0.30	0.0	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
117	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	1.00	0.30	0.0	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
118	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	1.00	0.30	0.0	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
119	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-1.00	0.0	-0.30	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
120	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-1.00	0.0	-0.30	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
121	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-1.00	0.0	0.30	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
122	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-1.00	0.0	0.30	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
123	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	1.00	0.0	-0.30	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
124	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	1.00	0.0	-0.30	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
125	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	1.00	0.0	0.30	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
126	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	1.00	0.0	0.30	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
127	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-0.30	0.0	-1.00	0.0	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	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...
128	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-0.30	0.0	-1.00	0.0	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
129	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-0.30	0.0	1.00	0.0	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
130	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-0.30	0.0	1.00	0.0	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
131	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.30	0.0	-1.00	0.0	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
132	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.30	0.0	-1.00	0.0	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
133	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.30	0.0	1.00	0.0	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
134	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.30	0.0	1.00	0.0	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
135	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-0.30	-1.00	0.0	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
136	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-0.30	-1.00	0.0	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
137	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-0.30	1.00	0.0	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
138	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-0.30	1.00	0.0	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
139	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.30	-1.00	0.0	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
140	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.30	-1.00	0.0	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
141	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.30	1.00	0.0	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
142	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.30	1.00	0.0	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
143	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-0.30	0.0	0.0	-1.00	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
144	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-0.30	0.0	0.0	-1.00	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
145	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-0.30	0.0	0.0	1.00	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
146	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-0.30	0.0	0.0	1.00	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
147	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.30	0.0	0.0	-1.00	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
148	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.30	0.0	0.0	-1.00	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
149	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.30	0.0	0.0	1.00	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
150	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.30	0.0	0.0	1.00	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
151	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-0.30	0.0	-1.00	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
152	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-0.30	0.0	-1.00	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
153	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-0.30	0.0	1.00	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
154	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-0.30	0.0	1.00	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
155	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.30	0.0	-1.00	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
156	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.30	0.0	-1.00	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
157	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.30	0.0	1.00	-0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
158	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.30	0.0	1.00	0.30	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
159	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-0.30	0.0	-0.30	0.0	-1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
160	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-0.30	0.0	-0.30	0.0	1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
161	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-0.30	0.0	0.30	0.0	-1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
162	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-0.30	0.0	0.30	0.0	1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
163	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.30	0.0	-0.30	0.0	-1.00	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...
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
164	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.30	0.0	-0.30	0.0	1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
165	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.30	0.0	0.30	0.0	-1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
166	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.30	0.0	0.30	0.0	1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
167	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-0.30	0.0	0.0	-0.30	-1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
168	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-0.30	0.0	0.0	-0.30	1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
169	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-0.30	0.0	0.0	0.30	-1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
170	1.00	1.00	1.00	1.00	0.60	1.00	0.60	-0.30	0.0	0.0	0.30	1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
171	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.30	0.0	0.0	-0.30	-1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
172	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.30	0.0	0.0	-0.30	1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
173	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.30	0.0	0.0	0.30	-1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
174	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.30	0.0	0.0	0.30	1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
175	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-0.30	-0.30	0.0	-1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
176	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-0.30	-0.30	0.0	1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
177	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-0.30	0.30	0.0	-1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
178	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-0.30	0.30	0.0	1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
179	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.30	-0.30	0.0	-1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
180	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.30	-0.30	0.0	1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
181	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.30	0.30	0.0	-1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
182	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.30	0.30	0.0	1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
183	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-0.30	0.0	-0.30	-1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
184	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-0.30	0.0	-0.30	1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
185	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-0.30	0.0	0.30	-1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
186	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	-0.30	0.0	0.30	1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
187	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.30	0.0	-0.30	-1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
188	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.30	0.0	-0.30	1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
189	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.30	0.0	0.30	-1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
190	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.30	0.0	0.30	1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
191	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-1.00	0.0
	-0.30	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
192	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-1.00	0.0
	-0.30	0.0	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
193	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-1.00	0.0
	0.30	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
194	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-1.00	0.0
	0.30	0.0	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
195	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	1.00	0.0
	-0.30	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
196	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	1.00	0.0
	-0.30	0.0	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
197	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	1.00	0.0
	0.30	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
198	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	1.00	0.0
	0.30	0.0	0.30	0.0	0.0	0.0	0.0	0.0	1.00	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...
199	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-1.00	0.0
	0.0	-0.30	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
200	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-1.00	0.0
	0.0	-0.30	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
201	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-1.00	0.0
	0.0	0.30	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
202	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-1.00	0.0
	0.0	0.30	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
203	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	1.00	0.0
	0.0	-0.30	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
204	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	1.00	0.0
	0.0	-0.30	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
205	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	1.00	0.0
	0.0	0.30	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
206	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	1.00	0.0
	0.0	0.30	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
207	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-1.00
	-0.30	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
208	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-1.00
	-0.30	0.0	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
209	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-1.00
	0.30	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
210	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-1.00
	0.30	0.0	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
211	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	1.00
	-0.30	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
212	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	1.00
	-0.30	0.0	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
213	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	1.00
	0.30	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
214	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	1.00
	0.30	0.0	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
215	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-1.00
	0.0	-0.30	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
216	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-1.00
	0.0	-0.30	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
217	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-1.00
	0.0	0.30	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
218	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-1.00
	0.0	0.30	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
219	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	1.00
	0.0	-0.30	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
220	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	1.00
	0.0	-0.30	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
221	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	1.00
	0.0	0.30	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
222	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	1.00
	0.0	0.30	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
223	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-0.30	0.0
	-1.00	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
224	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-0.30	0.0
	-1.00	0.0	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
225	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-0.30	0.0
	1.00	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
226	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-0.30	0.0
	1.00	0.0	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
227	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.30	0.0
	-1.00	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
228	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.30	0.0
	-1.00	0.0	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
229	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.30	0.0
	1.00	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
230	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.30	0.0
	1.00	0.0	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
231	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-0.30
	-1.00	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
232	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-0.30
	-1.00	0.0	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
233	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-0.30
	1.00	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
234	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-0.30



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...
	1.00	0.0	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
235	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.30
	-1.00	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
236	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.30
	-1.00	0.0	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
237	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.30
	1.00	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
238	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.30
	1.00	0.0	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
239	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-0.30	0.0
	0.0	-1.00	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
240	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-0.30	0.0
	0.0	-1.00	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
241	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-0.30	0.0
	0.0	1.00	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
242	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-0.30	0.0
	0.0	1.00	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
243	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.30	0.0
	0.0	-1.00	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
244	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.30	0.0
	0.0	-1.00	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
245	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.30	0.0
	0.0	1.00	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
246	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.30	0.0
	0.0	1.00	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
247	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-0.30
	0.0	-1.00	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
248	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-0.30
	0.0	-1.00	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
249	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-0.30
	0.0	1.00	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
250	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-0.30
	0.0	1.00	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
251	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.30
	0.0	-1.00	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
252	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.30
	0.0	-1.00	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
253	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.30
	0.0	1.00	-0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
254	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.30
	0.0	1.00	0.30	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
255	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-0.30	0.0
	-0.30	0.0	-1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
256	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-0.30	0.0
	-0.30	0.0	1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
257	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-0.30	0.0
	0.30	0.0	-1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
258	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-0.30	0.0
	0.30	0.0	1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
259	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.30	0.0
	-0.30	0.0	-1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
260	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.30	0.0
	-0.30	0.0	1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
261	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.30	0.0
	0.30	0.0	-1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
262	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.30	0.0
	0.30	0.0	1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
263	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-0.30	0.0
	0.0	-0.30	-1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
264	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-0.30	0.0
	0.0	-0.30	1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
265	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-0.30	0.0
	0.0	0.30	-1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
266	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-0.30	0.0
	0.0	0.30	1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
267	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.30	0.0
	0.0	-0.30	-1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
268	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.30	0.0
	0.0	-0.30	1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
269	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.30	0.0
	0.0	0.30	-1.00	0.0	0.0	0.0	0.0	0.0	1.00	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...
270	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.30	0.0
	0.0	0.30	1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
271	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-0.30
	-0.30	0.0	-1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
272	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-0.30
	-0.30	0.0	1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
273	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-0.30
	0.30	0.0	-1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
274	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-0.30
	0.30	0.0	1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
275	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.30
	-0.30	0.0	-1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
276	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.30
	-0.30	0.0	1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
277	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.30
	0.30	0.0	-1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
278	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.30
	0.30	0.0	1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
279	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-0.30
	0.0	-0.30	-1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
280	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-0.30
	0.0	-0.30	1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
281	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-0.30
	0.0	0.30	-1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
282	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	-0.30
	0.0	0.30	1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
283	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.30
	0.0	-0.30	-1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
284	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.30
	0.0	-0.30	1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
285	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.30
	0.0	0.30	-1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
286	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.30
	0.0	0.30	1.00	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
287	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-1.00	0.0	-0.30	0.0	-0.30	1.00	0.0	0.0			
288	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-1.00	0.0	-0.30	0.0	0.30	1.00	0.0	0.0			
289	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-1.00	0.0	0.30	0.0	-0.30	1.00	0.0	0.0			
290	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-1.00	0.0	0.30	0.0	0.30	1.00	0.0	0.0			
291	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	1.00	0.0	-0.30	0.0	-0.30	1.00	0.0	0.0			
292	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	1.00	0.0	-0.30	0.0	0.30	1.00	0.0	0.0			
293	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	1.00	0.0	0.30	0.0	-0.30	1.00	0.0	0.0			
294	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	1.00	0.0	0.30	0.0	0.30	1.00	0.0	0.0			
295	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-1.00	0.0	0.0	-0.30	-0.30	1.00	0.0	0.0			
296	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-1.00	0.0	0.0	-0.30	0.30	1.00	0.0	0.0			
297	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-1.00	0.0	0.0	0.30	-0.30	1.00	0.0	0.0			
298	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-1.00	0.0	0.0	0.30	0.30	1.00	0.0	0.0			
299	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	1.00	0.0	0.0	-0.30	-0.30	1.00	0.0	0.0			
300	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	1.00	0.0	0.0	-0.30	0.30	1.00	0.0	0.0			
301	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	1.00	0.0	0.0	0.30	-0.30	1.00	0.0	0.0			
302	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	1.00	0.0	0.0	0.30	0.30	1.00	0.0	0.0			
303	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-1.00	-0.30	0.0	-0.30	1.00	0.0	0.0			
304	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-1.00	-0.30	0.0	0.30	1.00	0.0	0.0			
305	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	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...
	0.0	0.0	0.0	0.0	-1.00	0.30	0.0	-0.30	1.00	0.0	0.0	0.0	0.0	0.0
306	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-1.00	0.30	0.0	0.30	1.00	0.0	0.0	0.0	0.0	0.0
307	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	1.00	-0.30	0.0	-0.30	1.00	0.0	0.0	0.0	0.0	0.0
308	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	1.00	-0.30	0.0	0.30	1.00	0.0	0.0	0.0	0.0	0.0
309	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	1.00	0.30	0.0	-0.30	1.00	0.0	0.0	0.0	0.0	0.0
310	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	1.00	0.30	0.0	0.30	1.00	0.0	0.0	0.0	0.0	0.0
311	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-1.00	0.0	-0.30	-0.30	1.00	0.0	0.0	0.0	0.0	0.0
312	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-1.00	0.0	-0.30	0.30	1.00	0.0	0.0	0.0	0.0	0.0
313	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-1.00	0.0	0.30	-0.30	1.00	0.0	0.0	0.0	0.0	0.0
314	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-1.00	0.0	0.30	0.30	1.00	0.0	0.0	0.0	0.0	0.0
315	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	1.00	0.0	-0.30	-0.30	1.00	0.0	0.0	0.0	0.0	0.0
316	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	1.00	0.0	-0.30	0.30	1.00	0.0	0.0	0.0	0.0	0.0
317	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	1.00	0.0	0.30	-0.30	1.00	0.0	0.0	0.0	0.0	0.0
318	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	1.00	0.0	0.30	0.30	1.00	0.0	0.0	0.0	0.0	0.0
319	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-0.30	0.0	-1.00	0.0	-0.30	1.00	0.0	0.0	0.0	0.0	0.0
320	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-0.30	0.0	-1.00	0.0	0.30	1.00	0.0	0.0	0.0	0.0	0.0
321	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-0.30	0.0	1.00	0.0	-0.30	1.00	0.0	0.0	0.0	0.0	0.0
322	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-0.30	0.0	1.00	0.0	0.30	1.00	0.0	0.0	0.0	0.0	0.0
323	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.30	0.0	-1.00	0.0	-0.30	1.00	0.0	0.0	0.0	0.0	0.0
324	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.30	0.0	-1.00	0.0	0.30	1.00	0.0	0.0	0.0	0.0	0.0
325	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.30	0.0	1.00	0.0	-0.30	1.00	0.0	0.0	0.0	0.0	0.0
326	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.30	0.0	1.00	0.0	0.30	1.00	0.0	0.0	0.0	0.0	0.0
327	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-0.30	-1.00	0.0	-0.30	1.00	0.0	0.0	0.0	0.0	0.0
328	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-0.30	-1.00	0.0	0.30	1.00	0.0	0.0	0.0	0.0	0.0
329	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-0.30	1.00	0.0	-0.30	1.00	0.0	0.0	0.0	0.0	0.0
330	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-0.30	1.00	0.0	0.30	1.00	0.0	0.0	0.0	0.0	0.0
331	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.30	-1.00	0.0	-0.30	1.00	0.0	0.0	0.0	0.0	0.0
332	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.30	-1.00	0.0	0.30	1.00	0.0	0.0	0.0	0.0	0.0
333	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.30	1.00	0.0	-0.30	1.00	0.0	0.0	0.0	0.0	0.0
334	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.30	1.00	0.0	0.30	1.00	0.0	0.0	0.0	0.0	0.0
335	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-0.30	0.0	0.0	-1.00	-0.30	1.00	0.0	0.0	0.0	0.0	0.0
336	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-0.30	0.0	0.0	-1.00	0.30	1.00	0.0	0.0	0.0	0.0	0.0
337	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-0.30	0.0	0.0	1.00	-0.30	1.00	0.0	0.0	0.0	0.0	0.0
338	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-0.30	0.0	0.0	1.00	0.30	1.00	0.0	0.0	0.0	0.0	0.0
339	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.30	0.0	0.0	-1.00	-0.30	1.00	0.0	0.0	0.0	0.0	0.0
340	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.30	0.0	0.0	-1.00	0.30	1.00	0.0	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...
341	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.30	0.0	0.0	1.00	-0.30	1.00	0.0	0.0			
342	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.30	0.0	0.0	1.00	0.30	1.00	0.0	0.0			
343	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-0.30	0.0	-1.00	-0.30	1.00	0.0	0.0			
344	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-0.30	0.0	-1.00	0.30	1.00	0.0	0.0			
345	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-0.30	0.0	1.00	-0.30	1.00	0.0	0.0			
346	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-0.30	0.0	1.00	0.30	1.00	0.0	0.0			
347	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.30	0.0	-1.00	-0.30	1.00	0.0	0.0			
348	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.30	0.0	-1.00	0.30	1.00	0.0	0.0			
349	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.30	0.0	1.00	-0.30	1.00	0.0	0.0			
350	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.30	0.0	1.00	0.30	1.00	0.0	0.0			
351	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-0.30	0.0	-0.30	0.0	-1.00	1.00	0.0	0.0			
352	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-0.30	0.0	-0.30	0.0	1.00	1.00	0.0	0.0			
353	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-0.30	0.0	0.30	0.0	-1.00	1.00	0.0	0.0			
354	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-0.30	0.0	0.30	0.0	1.00	1.00	0.0	0.0			
355	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.30	0.0	-0.30	0.0	-1.00	1.00	0.0	0.0			
356	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.30	0.0	-0.30	0.0	1.00	1.00	0.0	0.0			
357	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.30	0.0	0.30	0.0	-1.00	1.00	0.0	0.0			
358	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.30	0.0	0.30	0.0	1.00	1.00	0.0	0.0			
359	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-0.30	0.0	0.0	-0.30	-1.00	1.00	0.0	0.0			
360	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-0.30	0.0	0.0	-0.30	1.00	1.00	0.0	0.0			
361	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-0.30	0.0	0.0	0.30	-1.00	1.00	0.0	0.0			
362	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	-0.30	0.0	0.0	0.30	1.00	1.00	0.0	0.0			
363	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.30	0.0	0.0	-0.30	-1.00	1.00	0.0	0.0			
364	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.30	0.0	0.0	-0.30	1.00	1.00	0.0	0.0			
365	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.30	0.0	0.0	0.30	-1.00	1.00	0.0	0.0			
366	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.30	0.0	0.0	0.30	1.00	1.00	0.0	0.0			
367	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-0.30	-0.30	0.0	-1.00	1.00	0.0	0.0			
368	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-0.30	-0.30	0.0	1.00	1.00	0.0	0.0			
369	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-0.30	0.30	0.0	-1.00	1.00	0.0	0.0			
370	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-0.30	0.30	0.0	1.00	1.00	0.0	0.0			
371	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.30	-0.30	0.0	-1.00	1.00	0.0	0.0			
372	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.30	-0.30	0.0	1.00	1.00	0.0	0.0			
373	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.30	0.30	0.0	-1.00	1.00	0.0	0.0			
374	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.30	0.30	0.0	1.00	1.00	0.0	0.0			
375	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-0.30	0.0	-0.30	-1.00	1.00	0.0	0.0			
376	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	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...
	0.0	0.0	0.0	0.0	-0.30	0.0	-0.30	1.00	1.00	0.0	0.0			
377	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-0.30	0.0	0.30	-1.00	1.00	0.0	0.0			
378	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	-0.30	0.0	0.30	1.00	1.00	0.0	0.0			
379	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.30	0.0	-0.30	-1.00	1.00	0.0	0.0			
380	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.30	0.0	-0.30	1.00	1.00	0.0	0.0			
381	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.30	0.0	0.30	-1.00	1.00	0.0	0.0			
382	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.30	0.0	0.30	1.00	1.00	0.0	0.0			
383	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
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
384	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
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.50			
385	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
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.60	0.0			
386	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
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.60	0.50			
387	1.00	1.00	1.00	1.00	0.0	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
388	1.00	1.00	1.00	1.00	0.0	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.50			
389	1.00	1.00	1.00	1.00	0.0	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.60	0.0			
390	1.00	1.00	1.00	1.00	0.0	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.60	0.50			
391	1.00	1.00	1.00	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
392	1.00	1.00	1.00	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.50			
393	1.00	1.00	1.00	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.60	0.0			
394	1.00	1.00	1.00	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.60	0.50			
395	1.00	1.00	1.00	1.00	1.00	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
396	1.00	1.00	1.00	1.00	1.00	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.50			
397	1.00	1.00	1.00	1.00	1.00	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.60	0.0			
398	1.00	1.00	1.00	1.00	1.00	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.60	0.50			
399	1.00	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
400	1.00	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.50			
401	1.00	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.60	0.0			
402	1.00	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.60	0.50			
403	1.00	1.00	1.00	1.00	0.70	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
404	1.00	1.00	1.00	1.00	0.70	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.50			
405	1.00	1.00	1.00	1.00	0.70	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.60	0.0			
406	1.00	1.00	1.00	1.00	0.70	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.60	0.50			
407	1.00	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
408	1.00	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.50			
409	1.00	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.60	0.0			
410	1.00	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.60	0.50			
411	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
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00	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...
412	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
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00	0.50			
413	1.00	1.00	1.00	1.00	0.0	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00	0.0			
414	1.00	1.00	1.00	1.00	0.0	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00	0.50			
415	1.00	1.00	1.00	1.00	0.70	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00	0.0			
416	1.00	1.00	1.00	1.00	0.70	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00	0.50			
417	1.00	1.00	1.00	1.00	0.70	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
418	1.00	1.00	1.00	1.00	0.70	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.50			
419	1.00	1.00	1.00	1.00	0.70	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00	0.0			
420	1.00	1.00	1.00	1.00	0.70	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00	0.50			
421	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
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	1.00			
422	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
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.60	1.00			
423	1.00	1.00	1.00	1.00	0.0	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	1.00			
424	1.00	1.00	1.00	1.00	0.0	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.60	1.00			
425	1.00	1.00	1.00	1.00	0.70	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	1.00			
426	1.00	1.00	1.00	1.00	0.70	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.60	1.00			
427	1.00	1.00	1.00	1.00	0.70	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	1.00			
428	1.00	1.00	1.00	1.00	0.70	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.60	0.0			
429	1.00	1.00	1.00	1.00	0.70	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.60	1.00			
430	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
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
431	1.00	1.00	1.00	1.00	0.0	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
432	1.00	1.00	1.00	1.00	0.70	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
433	1.00	1.00	1.00	1.00	0.70	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
434	1.00	1.00	1.00	1.00	0.0	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
435	1.00	1.00	1.00	1.00	0.60	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
436	1.00	1.00	1.00	1.00	0.60	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
437	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
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.50	0.0			
438	1.00	1.00	1.00	1.00	0.0	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.50	0.0			
439	1.00	1.00	1.00	1.00	0.60	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.50	0.0			
440	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
441	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.50	0.0			
442	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
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.20			
443	1.00	1.00	1.00	1.00	0.0	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.20			
444	1.00	1.00	1.00	1.00	0.60	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.20			
445	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.20			
446	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
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
447	1.00	1.00	1.00	1.00	0.0	1.00	0.60	0.0	0.0	0.0	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...
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
448	1.00	1.00	1.00	1.00	0.60	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
449	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
450	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
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
451	1.00	1.00	1.00	1.00	0.0	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
452	1.00	1.00	1.00	1.00	0.60	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			
453	1.00	1.00	1.00	1.00	0.60	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.0			

11. VERIFICHE DI RESISTENZA AL FUOCO

11.1 VERIFICHE RESISTENZA AL FUOCO PER ELEMENTI IN CEMENTO ARMATO

Le verifiche di resistenza al fuoco sono condotte in ottemperanza alla UNI EN 1992-1-2:2005 come previsto dal DM Infrastrutture 17 gennaio 2018.

Si precisa che:

- con riferimento alla figura 1. di UNI EN 1992-1-2:2005 "Procedure di progettazione" si è seguito il ramo "progettazione" > "regole prescrittive" > "analisi delle membrature" > calcolo delle azioni" > "modelli di calcolo semplificati" e "modelli di calcolo avanzati";
- l'incendio di progetto, assieme alle regole per l'analisi della temperatura, è previsto come nella sezione 3 di UNI EN-1991-1-2:2005;
- i materiali sono definiti come nella sezione 3 di UNI EN 1992-1-2:2005 per quanto concerne proprietà meccaniche e fisiche in funzione della temperatura;
- parametri di riduzione della resistenza per i modelli di calcolo semplificati sono tratti dalla sezione 4 di UNI EN 1992-1-2:2005.

La verifica dello stato limite per sollecitazioni N,M2,M3 è condotta sia per i modelli semplificati che per i modelli avanzati con le usuali ipotesi di conservazione delle sezioni piane ed aderenza acciaio-cls. La verifica dello stato limite per la sollecitazione di taglio V si esplica nel controllo della minor sicurezza lato acciaio (taglio portato dall' armatura trasversale) e lato cls (verifica della biella compressa).

I modelli semplificati adottano:

- diagrammi tensioni deformazioni utilizzati a freddo opportunamente ridotti;
- UNI EN 1992-1-1:2005 per il calcestruzzo prevede al punto 3.1.7. il diagramma parabola rettangolo o bilineare;



- UNI EN 1992-1-1:2005 per l'acciaio prevede al punto 3.2.7 e 3.3.6 diagrammi di tipo elastico perfettamente plastico senza limiti di deformazione o elastico incrudito con limite di deformazione;
- fattori di riduzione funzione della temperatura per i calcestruzzi silicei o calcarei;
- fattori di riduzione per gli acciai funzione del tipo e del comportamento limite della sezione (acciaio compresso e teso con deformazione inferiore al 2% e acciaio teso con deformazione superiore al 2%).

La modalità di verifica secondo il modello semplificato richiede pertanto gli usuali parametri e algoritmi in uso nelle verifiche a freddo.

I modelli avanzati utilizzano diagrammi tensioni deformazioni come da sezione 3 di UNI EN-1991-1-2:2005:

- per il calcestruzzo si adotta un diagramma definito dai tre parametri funzione della temperatura resistenza massima, deformazione corrispondente alla resistenza massima, deformazione corrispondente alla tensione nulla (esiste pertanto un ramo discendente);
- per l'acciaio si adotta un diagramma definito dai seguenti parametri tutti funzione della temperatura:

$E(t)$	modulo elastico
$f_p(t)$	tensione al limite proporzionale
$f_y(t)$	tensione massima
$e_p(t)$	deformazione per f_p
$e_y(t)$	deformazione iniziale per f_y (inizio tratto orizzontale)
$e_t(t)$	deformazione finale per f_y (fine tratto orizzontale)
$e_u(t)$	deformazione per tensione nulla (esiste pertanto un ramo discendente)

La modalità di verifica con il modello avanzato necessita di alcune precisazioni:

- il calcestruzzo al crescere della temperatura diminuisce la resistenza;
- il calcestruzzo al crescere della temperatura diventa più duttile ossia aumenta la deformazione per cui attinge la massima resistenza e la deformazione in cui si annulla la resistenza;
- si ammette pertanto che alcune fibre siano deformate in modo da cadere nel ramo discendente;
- l'acciaio al crescere della temperatura diminuisce il modulo elastico, presenta una fascia non lineare (tra la proporzionale e la plastica) crescente, e in particolare nel precompresso varia $e_t(t)$ e $e_u(t)$.

La resistenza limite della sezione si ottiene pertanto iterando sulla curvatura ossia variando la deformazione massima del calcestruzzo e limitando quella dell'acciaio alla $e_t(t)$.

La modalità di analisi termica della sezione è identica nei due modelli. Per determinare la mappa termica si è



effettuata una analisi del transitorio con elementi finiti bidimensionali utilizzando il codice "FIRES-T3: A Computer Program for the Fire Response of Structure-Thermal (Three-Dimensional Version)" di Iding, R.; Bresler, B.; Nizamuddin, Z. disponibile presso il "Building and Fire Research Laboratory National Institute of Standards and Technology Gaithersburg, MD 20899". Il software, opportunamente adattato per operare in ambiente grafico-interattivo assicura risultati coerenti con le mappe termiche della norma UNI EN 1992-1-2:2005. Poiché l'analisi termica della sezione è effettuata indipendentemente dalla disposizione delle armature può essere adottata per tutte le verifiche allo stato limite ultimo.

Le tabelle sottoriportate, relative ad elementi trave e pilastro, guscio e setto riportano le verifiche condotte ed in particolare:

Trave / Pilas	Numero dell'elemento
Stato	Codice di verifica dell'elemento ok: verificato NV: non verificato
Note	Indice della sezione dell'elemento e valore del tempo di esposizione (in minuti)
%Res C	Indicatore della capacità residua per compressione (in percentuale).
%Res T	Indicatore della capacità residua per trazione (in percentuale).
Temp. s	Massima temperatura dell'armatura longitudinale (valutata per un D16 a titolo esemplificativo)
Temp. w	Massima temperatura delle staffe
Pos.	Posizione della sezione lungo l'elemento
Verif. N/M	Rapporto azioni di calcolo e azioni ultime N,M2,M3
Verif. V	Rapporto azioni di calcolo e azioni ultime T,V2,V3 (verifica della biella compressa)
Verif. V(w)	Rapporto azioni di calcolo e azioni ultime T,V2,V3 (verifica dell'armatura trasversale)
Rif. cmb	Combinazioni in cui si sono rispettivamente attinti i massimi dei tre precedenti rapporti.

Guscio /Setto	Numero dell'elemento
Stato	Codice di verifica dell'elemento ok: verificato NV: non verificato
Note	Modalità di esposizione all' incendio: lato - (intradosso) e/o lato + (estradosso) e valore del tempo di esposizione (in minuti)
%Res C	Indicatore della capacità residua per compressione (in percentuale).
%Res T	Indicatore della capacità residua per trazione (in percentuale).
Temp. L-	Temperatura dell'armatura longitudinale valutata al centro del ferro più esterno (lato -)
Temp. L+	Temperatura dell'armatura longitudinale valutata al centro del ferro più esterno (lato +)
Nodo	Numero del nodo verificato
Verif. N/M	Rapporto azioni di calcolo e azioni ultime N,M (azioni di membrana e flessione)
Verif. v	Rapporto azioni di calcolo e azioni ultime V (azione di taglio ortogonale al piano): verifica della biella compressa
Verif. V(t)	Rapporto azioni di calcolo e azioni ultime V (azione di taglio ortogonale al piano): verifica della capacità in assenza di armatura per taglio
Rif. cmb	Combinazioni in cui si sono rispettivamente attinti i massimi dei tre precedenti rapporti.

Si riportano una parte dei risultati tabellari e tutte le verifiche in formato grafico degli elementi in c.a. della palestra.

Trave	Stato	Note	% Res. C	% Res. T	Temp. s	Temp. w	Pos.	Verif. N-M	Verif. V	Verif. V(w)	Rif. cmb
10	ok	s=2,t=60	87.3	77.1	455.2	585.0	0.0	0.1	0.2	0.5	452,452,452
							25.0	0.1	0.2	0.5	452,452,452
							74.4	0.3	0.1	0.4	452,452,452
							148.9	0.4	0.1	0.6	452,452,452
							223.3	0.5	9.94e-02	0.5	452,452,452
							297.8	0.5	7.95e-02	0.4	452,452,452
							372.2	0.6	5.97e-02	0.3	452,452,452
							446.6	0.6	3.98e-02	0.2	452,452,452
							521.1	0.6	1.99e-02	9.39e-02	452,452,452



Trave	Stato	Note	% Res. C	% Res. T	Temp. s	Temp. w	Pos.	Verif. N-M	Verif. V	Verif. V(w)	Rif. cmb
							595.5	0.6	0.0	0.0	452,450,450
							669.9	0.6	1.99e-02	9.39e-02	452,452,452
							744.4	0.6	3.98e-02	0.2	452,452,452
							818.8	0.6	5.97e-02	0.3	452,452,452
							893.3	0.5	7.95e-02	0.4	452,452,452
							967.7	0.5	9.94e-02	0.5	452,452,452
							1042.1	0.4	0.1	0.6	452,452,452
							1116.6	0.3	0.1	0.4	452,452,452
							1166.0	0.1	0.2	0.5	452,452,452
							1191.0	0.1	0.2	0.5	452,452,452
11	ok	s=5,t=60	90.8	83.2	453.9	572.9	0.0	0.1	7.48e-02	0.3	452,452,452
							25.0	0.1	7.48e-02	0.3	452,452,452
							37.6	0.2	7.14e-02	0.3	452,452,452
							75.1	0.4	6.12e-02	0.3	452,452,452
							112.7	0.4	5.10e-02	0.3	452,452,452
							150.3	0.6	4.08e-02	0.2	452,452,452
							187.8	0.5	3.06e-02	0.2	452,452,452
							225.4	0.6	2.04e-02	0.1	452,452,452
							262.9	0.6	1.02e-02	5.43e-02	452,452,452
							300.5	0.6	0.0	0.0	452,452,452
							338.1	0.6	1.02e-02	5.43e-02	452,452,452
							375.6	0.6	2.04e-02	0.1	452,452,452
							413.2	0.5	3.06e-02	0.2	452,452,452
							450.8	0.6	4.08e-02	0.2	452,452,452
							488.3	0.4	5.10e-02	0.3	452,452,452
							525.9	0.4	6.12e-02	0.3	452,452,452
							563.4	0.2	7.14e-02	0.3	452,452,452
							576.0	0.1	7.48e-02	0.3	452,452,452
							601.0	0.1	7.48e-02	0.3	452,452,452
12	ok	s=5,t=60	90.8	83.2	453.9	572.9	0.0	0.1	7.33e-02	0.3	452,452,452
							25.0	0.1	7.33e-02	0.3	452,452,452
							36.9	0.2	7.01e-02	0.2	452,452,452
							73.8	0.4	6.01e-02	0.2	452,452,452
							110.6	0.5	5.01e-02	0.3	452,452,452
							147.5	0.5	4.01e-02	0.2	452,452,452
							184.4	0.5	3.00e-02	0.2	452,452,452
							221.3	0.6	2.00e-02	0.1	452,452,452
							258.1	0.6	1.00e-02	5.33e-02	452,452,452
							295.0	0.6	0.0	0.0	452,452,452
							331.9	0.6	1.00e-02	5.33e-02	452,452,452
							368.8	0.6	2.00e-02	0.1	452,452,452
							405.6	0.5	3.00e-02	0.2	452,452,452
							442.5	0.5	4.01e-02	0.2	452,452,452
							479.4	0.5	5.01e-02	0.3	452,452,452
							516.3	0.4	6.01e-02	0.2	452,452,452
							553.1	0.2	7.01e-02	0.2	452,452,452
							565.0	0.1	7.33e-02	0.3	452,452,452
							590.0	0.1	7.33e-02	0.3	452,452,452
13	ok	s=4,t=60	91.1	84.1	447.1	582.0	0.0	0.2	0.2	0.7	452,452,452
							25.0	0.1	0.2	0.7	452,452,452
							74.4	0.3	0.2	0.7	452,452,452
							148.9	0.4	0.2	0.9	452,452,452
							223.3	0.5	0.2	0.7	452,452,452
							297.8	0.5	0.1	0.6	452,452,452
							372.2	0.6	9.04e-02	0.4	452,452,452
							446.6	0.6	6.03e-02	0.3	452,452,452
							521.1	0.6	3.01e-02	0.1	452,452,452
							595.5	0.6	0.0	0.0	452,451,450
							669.9	0.6	3.01e-02	0.1	452,452,452
							744.4	0.6	6.03e-02	0.3	452,452,452
							818.8	0.6	9.04e-02	0.4	452,452,452
							893.3	0.5	0.1	0.6	452,452,452
							967.7	0.5	0.2	0.7	452,452,452
							1042.1	0.4	0.2	0.9	452,452,452
							1116.6	0.3	0.2	0.7	452,452,452
							1166.0	0.1	0.2	0.7	452,452,452
							1191.0	0.2	0.2	0.7	452,452,452
14	ok	s=4,t=60	91.1	84.1	447.1	582.0	0.0	0.2	0.3	0.4	452,452,452
							30.0	0.2	0.3	0.4	452,452,452
							74.4	0.3	0.2	0.4	452,452,452
							148.9	0.4	0.2	0.8	452,452,452
							223.3	0.5	0.2	0.7	452,452,452

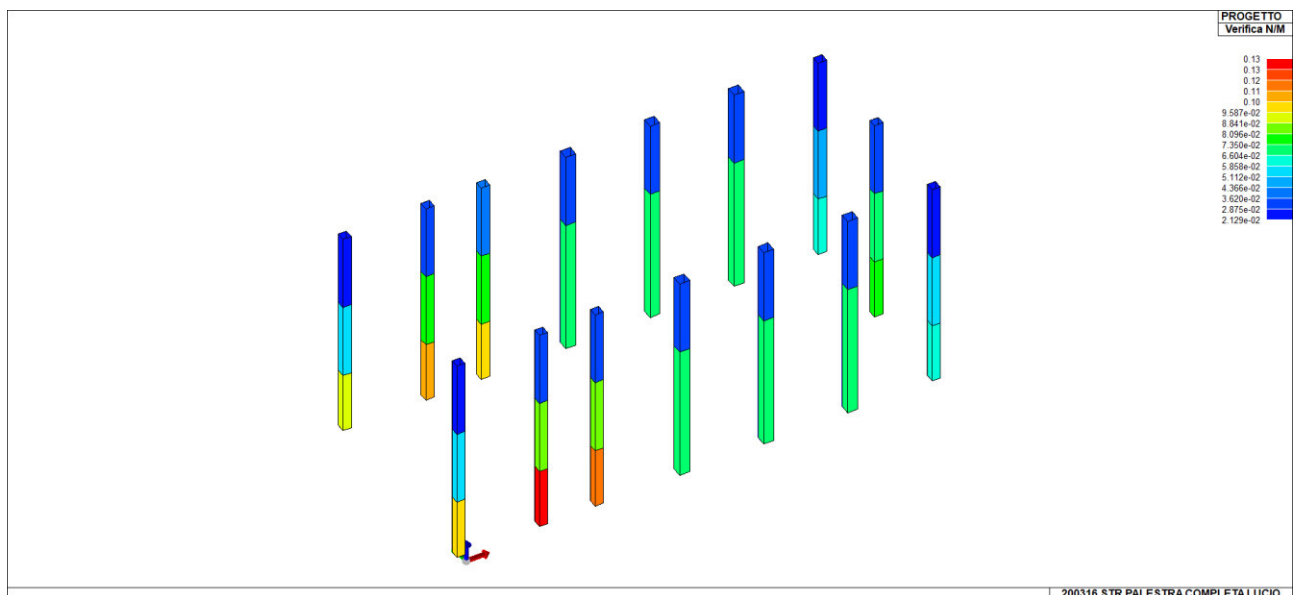


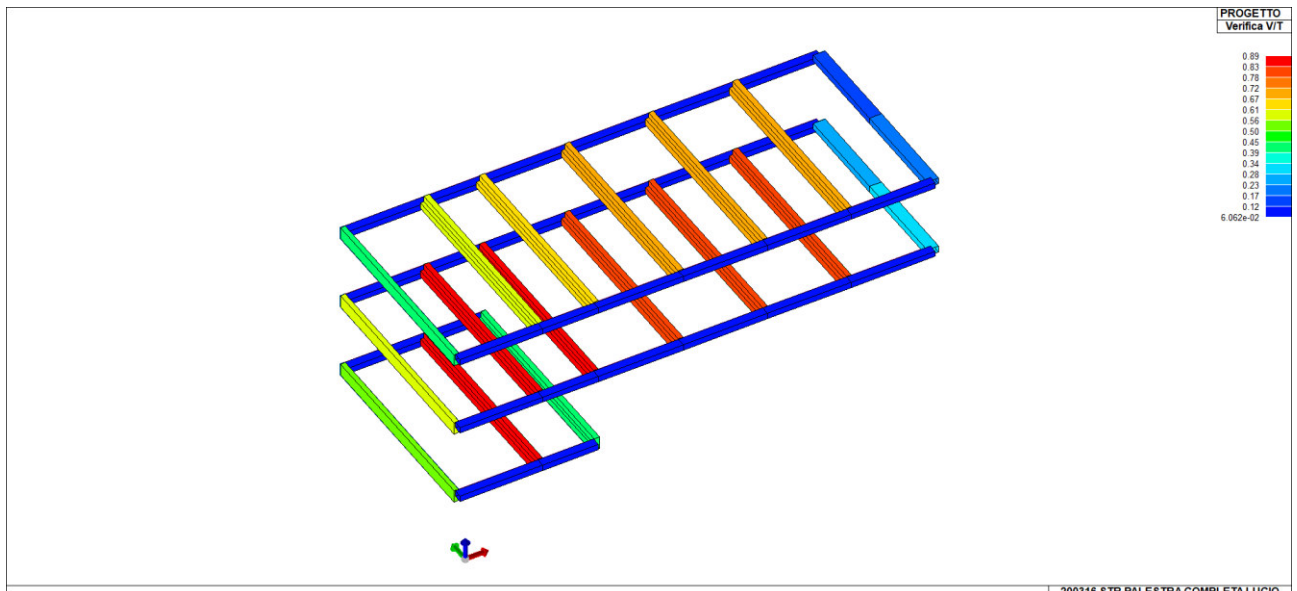
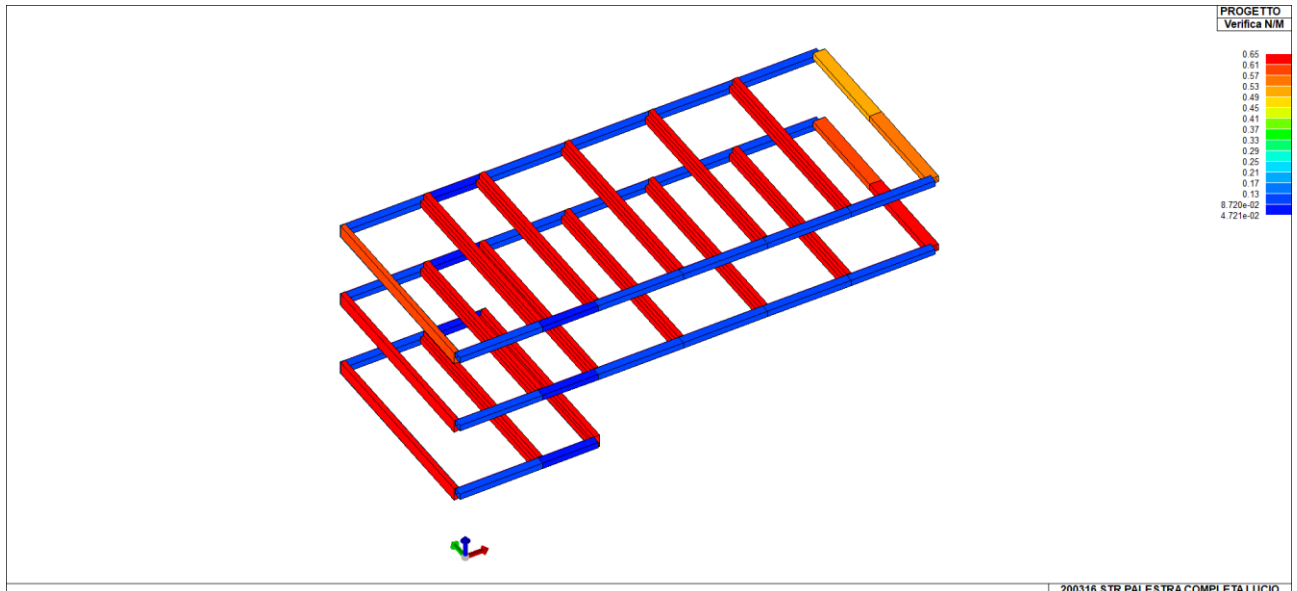
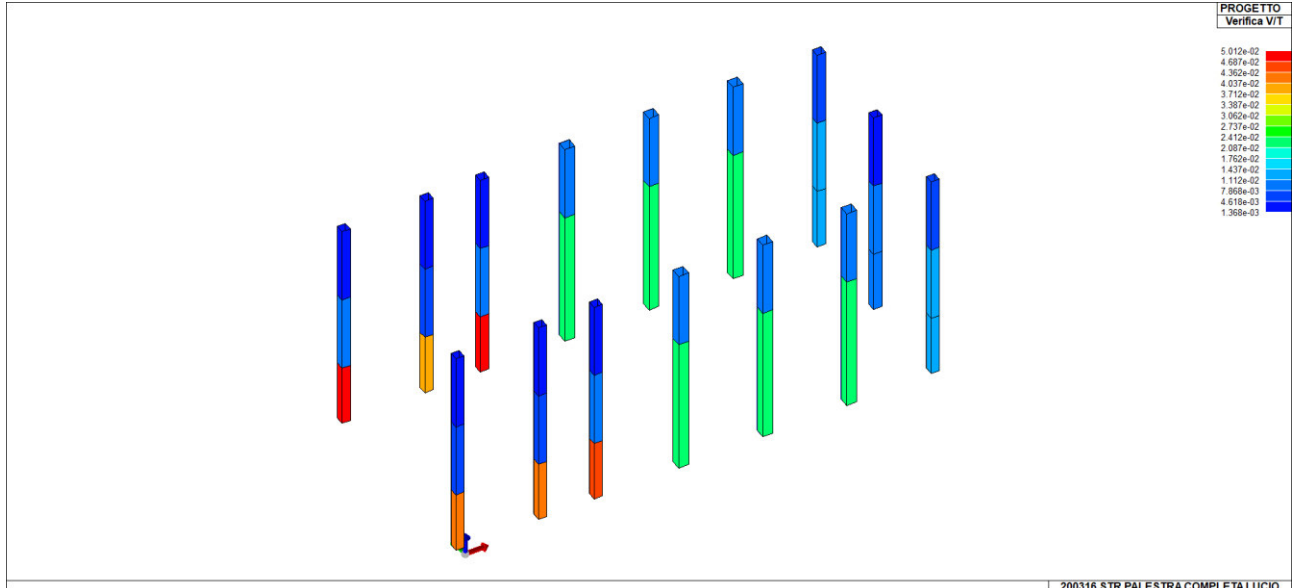
Trave	Stato	Note	% Res. C	% Res. T	Temp. s	Temp. w	Pos.	Verif. N-M	Verif. V	Verif. V(w)	Rif. cmb
							297.8	0.6	0.1	0.5	452,452,452
							372.2	0.6	0.1	0.4	452,452,452
							446.6	0.6	7.10e-02	0.3	452,452,452
							521.1	0.6	3.55e-02	0.1	452,452,452
							595.5	0.6	0.0	0.0	452,450,450
							669.9	0.6	3.55e-02	0.1	452,452,452
							744.4	0.6	7.10e-02	0.3	452,452,452
							818.8	0.6	0.1	0.4	452,452,452
							893.3	0.6	0.1	0.5	452,452,452
							967.7	0.5	0.2	0.7	452,452,452
							1042.1	0.4	0.2	0.8	452,452,452
							1116.6	0.3	0.2	0.4	452,452,452
							1161.0	0.2	0.3	0.4	452,452,452
							1191.0	0.2	0.3	0.4	452,452,452
omissis											
86	ok	s=7,t=60	88.9	80.1	472.1	599.4	0.0	2.18e-02	1.04e-02	9.54e-02	453,450,450
							25.0	2.18e-02	1.04e-02	9.54e-02	453,450,450
							31.3	2.64e-02	1.01e-02	9.27e-02	453,450,450
							62.5	4.77e-02	8.64e-03	7.95e-02	453,450,450
							93.8	6.57e-02	7.20e-03	8.88e-02	453,450,450
							125.0	8.05e-02	5.76e-03	7.10e-02	453,450,450
							156.3	9.20e-02	4.32e-03	5.33e-02	453,450,450
							187.5	0.1	2.88e-03	3.55e-02	453,450,450
							218.8	0.1	1.44e-03	1.78e-02	453,450,450
							250.0	0.1	0.0	0.0	453,450,450
							281.3	0.1	1.44e-03	1.78e-02	453,450,450
							312.5	0.1	2.88e-03	3.55e-02	453,450,450
							343.8	9.20e-02	4.32e-03	5.33e-02	453,450,450
							375.0	8.05e-02	5.76e-03	7.10e-02	453,450,450
							406.3	6.57e-02	7.20e-03	8.88e-02	453,450,450
							437.5	4.77e-02	8.64e-03	7.95e-02	453,450,450
							468.8	2.64e-02	1.01e-02	9.27e-02	453,450,450
							475.0	2.18e-02	1.04e-02	9.54e-02	453,450,450
							500.0	2.18e-02	1.04e-02	9.54e-02	453,450,450
Trave								Verif. N-M	Verif. V	Verif. V(w)	
								0.65	0.27	0.89	

Pilas.	Stato	Note	% Res. C	% Res. T	Temp. s	Temp. w	Pos. cm	Verif. N-M	Verif. V	Verif. V(w)	Rif. cmb
1	ok	s=1,t=60	86.2	75.4	464.4	595.2	0.0	9.19e-02	5.78e-03	5.01e-02	453,453,453
							47.1	9.16e-02	5.78e-03	5.01e-02	453,453,453
							47.5	9.16e-02	5.78e-03	5.01e-02	453,453,453
							94.1	8.72e-02	5.79e-03	5.01e-02	453,453,453
							141.2	8.29e-02	5.79e-03	5.01e-02	453,453,453
							188.3	7.87e-02	5.79e-03	5.01e-02	453,453,453
							235.3	7.49e-02	5.79e-03	5.01e-02	452,453,453
							282.4	7.15e-02	5.79e-03	5.01e-02	452,453,453
							329.4	7.11e-02	5.79e-03	5.01e-02	453,453,453
							343.2	7.65e-02	5.80e-03	5.01e-02	453,453,453
							376.5	7.63e-02	5.80e-03	5.01e-02	453,453,453
2	ok	s=1,t=60	86.2	75.4	464.4	595.2	0.0	0.1	3.47e-03	3.72e-02	453,451,451
							47.1	0.1	3.47e-03	3.72e-02	453,451,451
							47.5	0.1	3.47e-03	3.72e-02	453,451,451
							94.1	0.1	3.48e-03	3.72e-02	453,451,451
							141.2	0.1	3.48e-03	3.72e-02	453,451,451
							188.3	0.1	3.48e-03	3.72e-02	453,451,451
							235.3	0.1	3.48e-03	3.72e-02	452,451,451
							282.4	0.1	3.48e-03	3.72e-02	453,451,451
							329.4	0.1	3.48e-03	3.72e-02	452,451,451
							345.9	0.1	3.48e-03	3.72e-02	452,451,451
							376.5	0.1	3.48e-03	3.72e-02	452,451,451
3	ok	s=6,t=60	88.5	79.3	464.4	595.2	0.0	7.16e-02	1.38e-03	2.17e-02	453,451,451
							47.5	7.08e-02	1.38e-03	2.17e-02	453,451,451
							105.2	6.93e-02	1.38e-03	2.17e-02	453,451,451
							210.4	6.65e-02	1.38e-03	2.17e-02	453,451,451
							315.6	6.38e-02	1.39e-03	2.17e-02	453,451,451
							420.8	6.12e-02	1.39e-03	2.17e-02	453,451,451
							525.9	5.88e-02	1.39e-03	2.17e-02	453,451,451
							631.1	5.88e-02	1.39e-03	2.17e-02	453,451,451



Pilas.	Stato	Note	% Res. C	% Res. T	Temp. s	Temp. w	Pos.	Verif. N-M	Verif. V	Verif. V(w)	Rif. cmb
							736.3	5.76e-02	1.40e-03	2.17e-02	453,451,451
							810.9	5.70e-02	1.40e-03	2.17e-02	453,451,451
							841.5	5.64e-02	1.40e-03	2.17e-02	453,451,451
4	ok	s=1,t=60	86.2	75.4	464.4	595.2	0.0	6.37e-02	1.45e-03	1.35e-02	453,453,453
							47.1	6.30e-02	1.45e-03	1.35e-02	453,453,453
							47.5	6.30e-02	1.45e-03	1.35e-02	453,453,453
							94.1	6.13e-02	1.45e-03	1.35e-02	453,453,453
							141.2	5.95e-02	1.45e-03	1.35e-02	453,453,453
							188.3	5.78e-02	1.46e-03	1.35e-02	453,453,453
							235.3	5.61e-02	1.46e-03	1.35e-02	453,453,453
							282.4	5.44e-02	1.46e-03	1.35e-02	453,453,453
							329.4	5.28e-02	1.46e-03	1.35e-02	453,453,453
							376.5	5.11e-02	1.46e-03	1.35e-02	453,453,453
5	ok	s=1,t=60	86.2	75.4	464.4	595.2	0.0	7.35e-02	6.71e-04	9.10e-03	453,451,451
							47.1	7.32e-02	6.71e-04	9.10e-03	453,451,451
							47.5	7.32e-02	6.71e-04	9.10e-03	453,451,451
							94.1	7.25e-02	6.71e-04	9.10e-03	453,451,451
							141.2	7.19e-02	6.72e-04	9.10e-03	453,451,451
							188.3	7.12e-02	6.72e-04	9.10e-03	453,451,451
							235.3	7.05e-02	6.72e-04	9.10e-03	453,451,451
							282.4	6.98e-02	6.72e-04	9.10e-03	453,451,451
							329.4	6.91e-02	6.72e-04	9.10e-03	453,451,451
							376.5	6.85e-02	6.73e-04	9.10e-03	453,451,451
omissi											
82	ok	s=1,t=60	86.2	75.4	464.4	595.2	0.0	3.41e-02	2.98e-04	3.96e-03	451,451,451
							20.0	3.36e-02	2.98e-04	3.96e-03	451,451,451
							58.1	3.18e-02	2.99e-04	3.96e-03	451,451,451
							116.3	2.92e-02	2.99e-04	3.96e-03	451,451,451
							174.4	2.65e-02	3.00e-04	3.96e-03	451,451,451
							232.5	2.38e-02	3.00e-04	3.96e-03	451,451,451
							290.6	2.12e-02	3.01e-04	3.96e-03	451,451,451
							348.8	1.85e-02	3.01e-04	3.96e-03	451,451,451
							406.9	1.59e-02	3.02e-04	3.96e-03	453,451,451
							445.0	1.41e-02	3.02e-04	3.96e-03	453,451,451
							465.0	1.36e-02	3.02e-04	3.96e-03	453,451,451
Pilas.								Verif. N-M	Verif. V	Verif. V(w)	
								0.13	5.80e-03	0.05	







La verifica di resistenza al fuoco per i solai alveolari (spiroroll) è stata eseguita con il metodo tabellare secondo il D.M. 16/02/2007 illustrato di seguito, che riporta l'altezza minima H e la distanza minima dell'asse dell'armatura longitudinali alla superficie esposta per garantire il requisito R per diverse tipologie di solai.

Classe	30		60		90		120		180		240	
	H	a	H	a	H	a	H	a	H	a	H	a
Solette piene con armatura monodirezionale o bidirezionale	80	10	120	20	120	30	160	40	200	55	240	65
Solai misti di lamiera di acciaio con riempimento di calcestruzzo [1]	80	10	120	20	120	30	160	40	200	55	240	65
Solai a travetti con alleggerimento [2]	160	15	200	30	240	35	240	45	300	60	300	75
Solai a lastra con alleggerimento [3]	160	15	200	30	240	35	240	45	300	60	300	75

I solai alveolari utilizzati per il progetto della palestra hanno H=280mm e a = 30mm ciò significa che garantiscono una capacità portante per resistenza al fuoco pari a R60.

12. CONCLUSIONI

In considerazione dei risultati delle analisi e delle verifiche effettuate, è possibile affermare che le strutture che compongono l'edificio in oggetto sono classificabili come R60.