



PROTEZIONE CIVILE
 Presidenza del Consiglio dei Ministri
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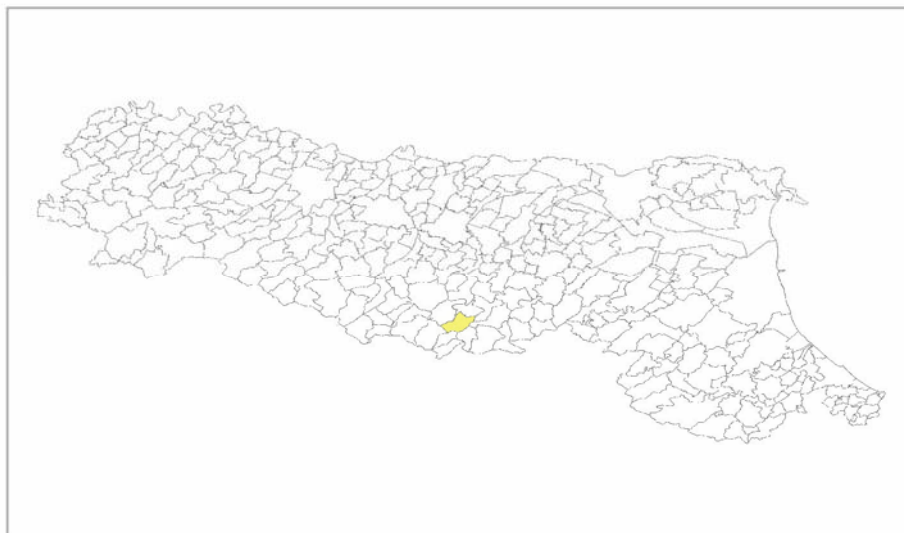
CONFERENZA DELLE REGIONI E
 DELLE PROVINCE AUTONOME

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MICROZONAZIONE SISMICA

Relazione illustrativa

Regione Emilia-Romagna
 Comune di Gaggio Montano



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<p>Data Dicembre 2016 rev. 2.4</p>	<p>Elaborato 1</p>	

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ALLEGATO A: Verifiche Analitiche di Stabilità

1. INTRODUZIONE

Il presente elaborato è a corredo dello *"studio di Microzonazione Sismica di secondo livello con analisi della Condizione Limite Locale per l'Emergenza (CLE) e locali approfondimenti di terzo livello"* del comune di Gaggio Montano (BO), di cui all'Ordinanza del Capo di Dipartimento della Protezione Civile n. 52/2013, e decreto del 15 aprile 2013 del Capo Dipartimento di Protezione Civile.

Lo studio si è posto l'obiettivo di realizzare la Microzonazione sismica di alcune aree urbanizzate e urbanizzabili del territorio comunale scelte, in accordo con l'Amministrazione Comunale, sulla base della loro rilevanza urbanistica, della presenza di un adeguato numero di dati geognostici di base, e, come per il caso della Località di Pietracolora, per la loro peculiarità geologica e/o morfologica.

In particolare le aree di studio sono (Figura 1):

1. il centro abitato e zona industriale di **Gaggio Montano**
2. la Località **Silla**
3. la Località **Marano**
4. la Località **Pietra Colora**.

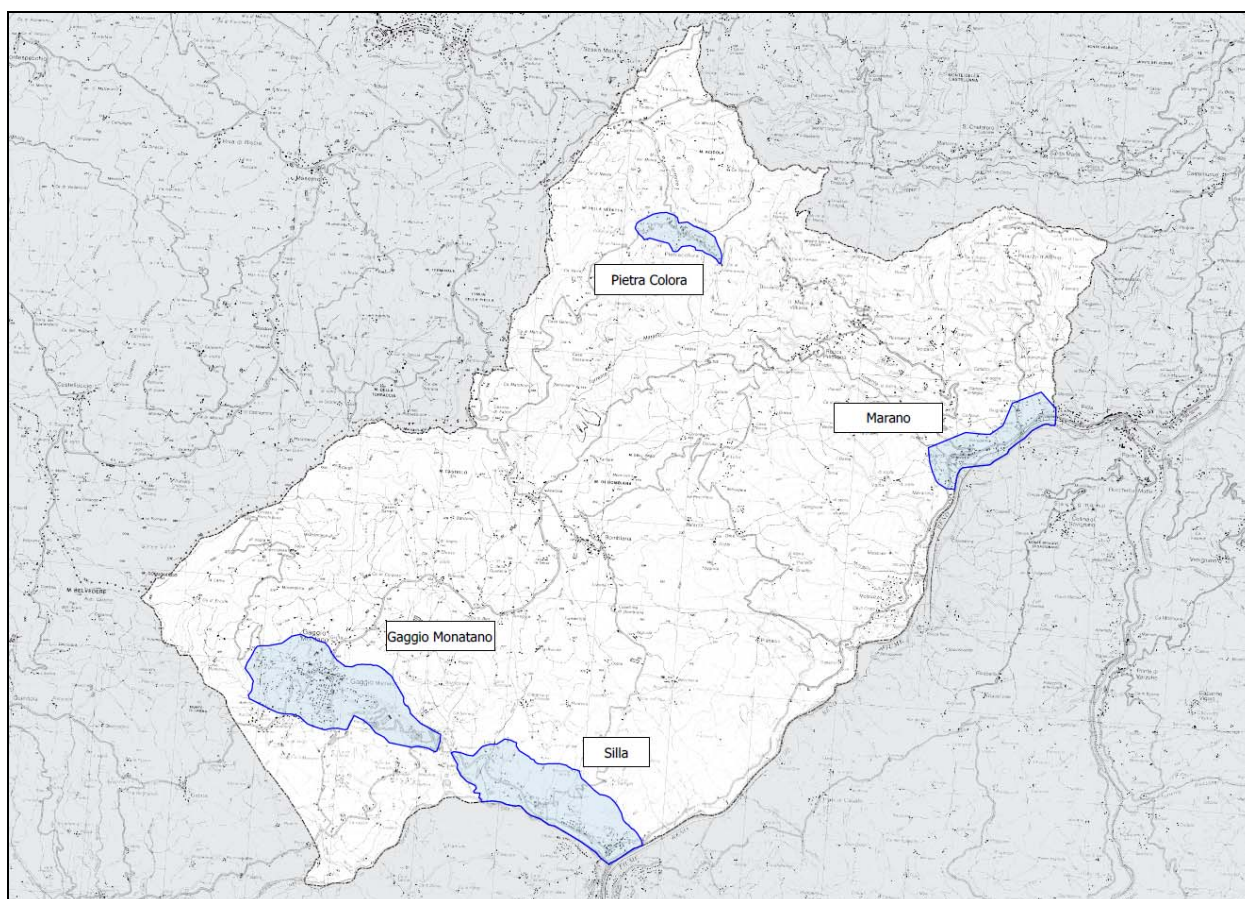


Figura 1. Individuazione delle aree studiate all'interno del territorio del Comune di Gaggio Montano.

Il Comune di Gaggio Montano (codice ISTAT 037027) si inserisce nell'alto Appennino bolognese, confinando con la Provincia di Modena a est e con i seguenti comuni:

- Castel d'Aiano a Nord;
- Vergato a NE;
- Drizzano M. e Castel di Casio a Est;
- Porretta Terme a Sud;
- Lizzano in Belvedere a SO.

Il territorio comunale si sviluppa su una superficie di 58,67 Km², ed è compreso fra le valli del Fiume Reno a Est e il Torrente Silla a Sud. Le sue quote sul livello del mare sono comprese tra 250 m, lungo il confine nord orientale in corrispondenza del Fiume Reno, e circa 1123 m in corrispondenza della cima del M. Gorgolesco ai confini sud-occidentali con il comune di Montese (MO).



Dal punto di vista cartografico il territorio comunale ricade nelle tavole della Carta Topografica Regionale dell'Emilia Romagna, alla scala 1:25.000: n° 235-SE "Montese", n° 237-SO "Vergato", n° 251-NE "Porretta Terme", n° 252-NO "Castiglione dei Pepoli"; mentre le quattro aree di studio ricadono nei seguenti elementi della Carta Tecnica Regionale, alla scala 1:5.000:

- Gaggio Montano: n° 236163 "Ronchidoso", n° 251044 "Gaggio Montano"
- Silla: n° 251041 "Silla", n° 251044 "Gaggio Montano";
- Marano: n° 237134 "Rocca Pitigliana", n° 237133 "Molinazzo";
- Pietracolora: n° 236122 "Sassomolare", n° 236161 "Pietra Colora";

Tutti i dati geognostici di base utilizzati per la redazione del presente elaborato sono stati reperiti presso l'*archivio dell'ufficio tecnico comunale* e l'*archivio dell'Unione dei comuni dell'Appennino bolognese*.

2. DEFINIZIONE DELLA PERICOLOSITA' DI BASE E DEGLI EVENTI DI RIFERIMENTO

L'analisi delle caratteristiche sismiche del territorio di Gaggio Montano (BO) parte direttamente dall'esame delle informazioni storiche esistenti raccolte nel Database Macrosismico Italiano 2011 (DBMI11). Il DBMI11 contiene 86071 MDP (Macrosismic Data Points) relativi a 1684 terremoti il cui epicentro ricade all'interno della nuova area CPTI11 (Catalogo Parametrico Dei Terremoti Italiani). I dati sono riferiti a 15416 località di cui 14150 in territorio italiano. Le informazioni sono consultabili on-line dal sito dell'Istituto Nazionale di Geofisica e Vulcanologia (<http://emidius.mi.ingv.it/DBMI11>). Di seguito si riportano le osservazioni sismiche disponibili per Gaggio Montano (Figura 2).

Storia sismica di Gaggio Montano [44.196, 10.932]

Effetti	In occasione del terremoto del:					
I [MCS]	Data	Ax	Np	Io	Mw	
6	1904 06 10 11:15	Frignano	102	6	5.03	±0.18
4-5	1985 01 23 10:10	Garfagnana	73	6	4.65	±0.15
2	1986 12 06 17:07	BONDENO	604	6	4.61	±0.10
5	1995 08 24 17:27	Appennino bolognese	56	6	4.48	±0.09
NF	1995 10 10 06:54	LUNIGIANA	341	7	4.85	±0.09
3-4	1997 12 24 17:53	Garfagnana	98	5	4.36	±0.09
4	1999 07 07 17:16	Frignano	32	5	4.70	±0.09
4-5	2000 10 03 01:12	Appennino tosco-emiliano	62	5	4.27	±0.09
5	2003 09 14 21:42	Appennino bolognese	133	6	5.29	±0.09

Figura 2. Osservazioni sismiche disponibili per il Comune di Gaggio Montano (BO): I= intensità degli effetti al sito espressa secondo la scala Mercalli-Cancani-Sieberg (MCS); As= Area epicentrale; Io= Intensità macrosismica epicentrale (MCS) da CPTI11; Mw= Magnitudo momento associata all'evento sismico.

Le stesse osservazioni sono riportate sottoforma di diagramma nella seguente figura.

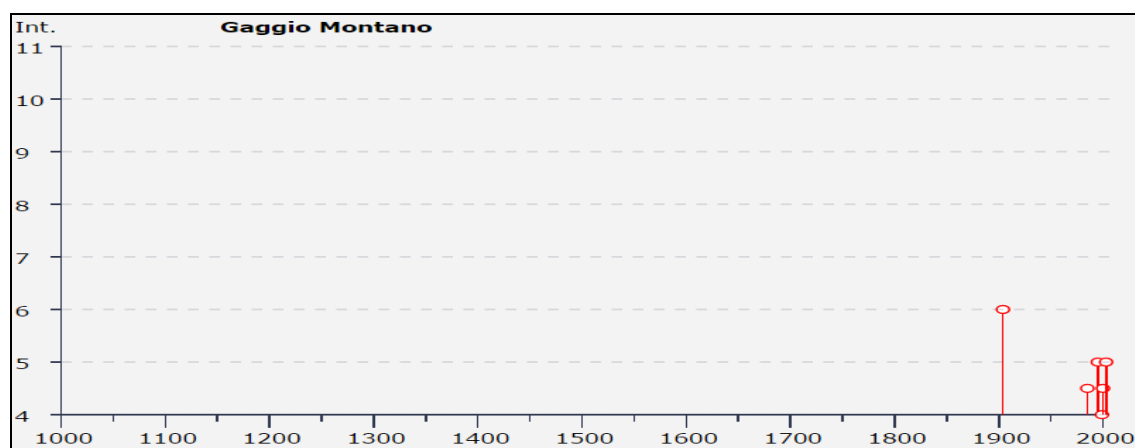


Figura 3 Osservazioni sismiche relative al comune di Gaggio Montano.

Per il territorio del comune di Gaggio Montano sono disponibili nove eventi sismici tre dei quali con intensità al sito maggiore o uguale al V° della scala MCS (Mercalli-Cancani-Sieberg). La massima intensità risentita all'interno del territorio comunale è del VI° MCS (corrispondente ad una *"scossa forte: qualche leggera lesione negli edifici e finestre in frantumi"*, Figura 4) relativa all'evento sismico verificatosi nel 1904 nel Frignano (l'epicentro è individuato a circa 7,5 Km a ovest del centro abitato di Gaggio Montano, Figura 5) con magnitudo momento stimata pari a 5.

Grado	Scossa	Descrizione
I	impercettibile	Avvertita solo dagli strumenti sismici.
II	molto leggera	Avvertita solo da qualche persona in opportune condizioni.
III	leggera	Avvertita da poche persone. Oscillano oggetti appesi con vibrazioni simili a quelle del passaggio di un'automobile.
IV	moderata	Avvertita da molte persone; tremito di infissi e cristalli, e leggere oscillazioni di oggetti appesi.
V	piuttosto forte	Avvertita anche da persone addormentate; caduta di oggetti.
VI	forte	Qualche leggera lesione negli edifici e finestre in frantumi.
VII	molto forte	Caduta di fumaio, lesioni negli edifici.
VIII	rovinosa	Rovina parziale di qualche edificio; qualche vittima isolata.
IX	distruttiva	Rovina totale di alcuni edifici e gravi lesioni in molti altri; vittime umane sparse ma non numerose.
X	completamente distruttiva	Rovina di molti edifici; molte vittime umane; crepacci nel suolo.
XI	catastrofica	Distruzione di agglomerati urbani; moltissime vittime; crepacci e frane nel suolo; maremoto.
XII	apocalittica	Distruzione di ogni manufatto; pochi superstiti; sconvolgimento del suolo; maremoto distruttivo; fuoriuscita di lava dal terreno.

Figura 4. Scala Mercalli-Cancani-Sieberg (MCS): I gradi più bassi della scala MCS generalmente affrontano la maniera in cui il terremoto è avvertito dalla popolazione; i valori più alti della scala sono basati sui danni strutturali osservati (da: https://it.wikipedia.org/wiki/Scala_Mercalli).

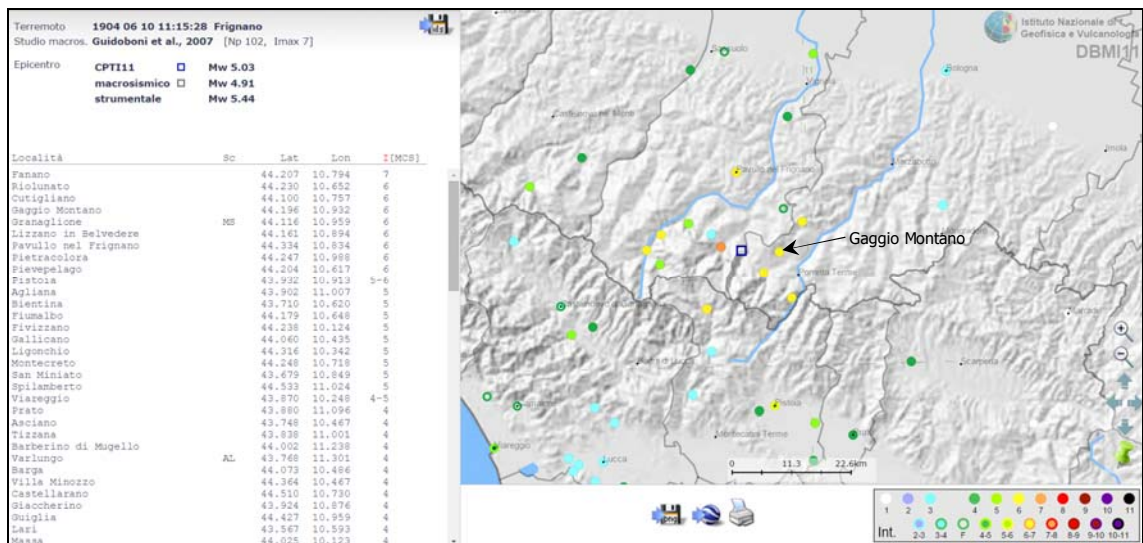


Figura 5. Dettagli dell'evento sismico del 10 giugno del 1904, localizzato nel Frignano.

Mentre l'evento più recente registrato nel catalogo è quello riguardante l'evento sismico, di magnitudo momento stimata pari a 5.29, verificatosi nel 2003 nell'Appennino Bolognese con epicentro nei pressi di Oliano (BO) (a circa 30 Km a ENE dal centro abitato di Gaggio Montano, Figura 6). L'intensità risentita all'interno del territorio comunale fu del V° MCS.

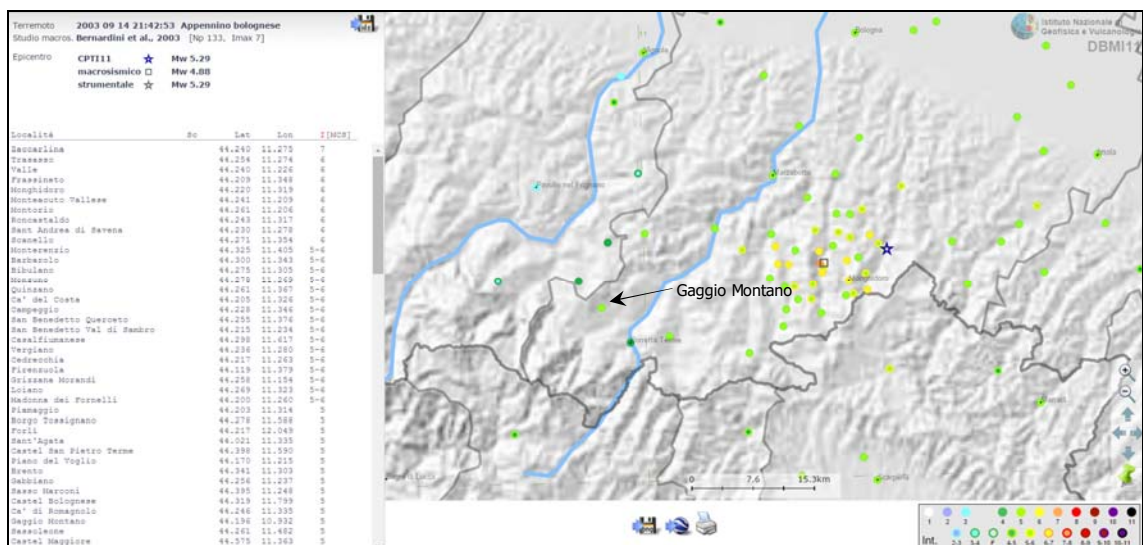


Figura 6. Dettagli dell'evento sismico del 14 settembre del 2003, localizzato nell'Appennino Bolognese.

Gli studi sulla pericolosità sismica promossi dall'Istituto Nazionale di Geofisica e Vulcanologia (INGV) hanno portato alla definizione di una nuova zonazione sismogenetica del territorio nazionale denominata

“ZS9”, che identifica le zone sorgenti a caratteristiche sismiche omogenee. In particolare la zonazione ha individuato 36 “zone-sorgente” i cui limiti sono stati appunto tracciati sulla base di informazioni tettoniche o geologico-strutturali e delle differenti caratteristiche della sismicità, quali distribuzione spaziale e frequenza degli eventi, massima magnitudo rilasciata, ecc..

Il territorio del comune di Gaggio Montano ricade all'interno della zona sismogenetica ZS913 "Appennino Emiliano Romagnolo"(Figura 7).

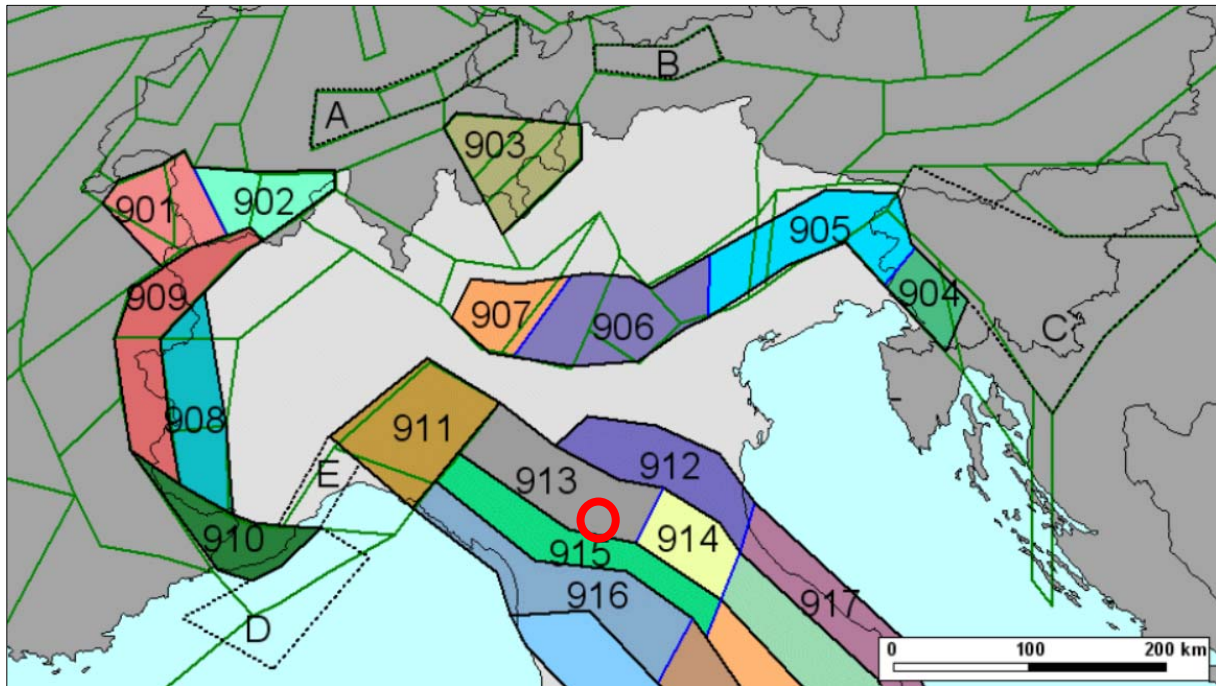


Figura 7. Stralcio Zonazione sismogenetica ZS9 (INGV).

Tale zona è caratterizzata da una sismicità storica che raramente ha raggiunto valori molto elevati di magnitudo e nella quale la profondità efficace (profondità alla quale avviene il maggior numero di terremoti che determina la pericolosità della zona) è relativamente elevata compresa tra 12 e 20 Km. La massima magnitudo associata alla zona è pari 6.14 Mw.

2.1. Stima della Pericolosità Sismica di Base

Dall'analisi della Mappa di pericolosità sismica del territorio nazionale, elaborata dall'INGV nel 2004 (consultabile on-line al sito <http://esse1-gis.mi.ingv.it>), che riporta i valori di pericolosità sismica sui punti di una griglia con passo 0.05° si può osservare (Figura 8) che la pericolosità sismica di base del territorio comunale di Gaggio Montano è caratterizzata da valori di accelerazione di picco, su suolo di riferimento, $a(g)$ compresa tra 0.150 e 0.175 g. La carta è realizzata considerando una probabilità di eccedenza del 10% in 50 anni e cioè un periodo di ritorno degli eventi sismici pari a: $TR=475$ anni.

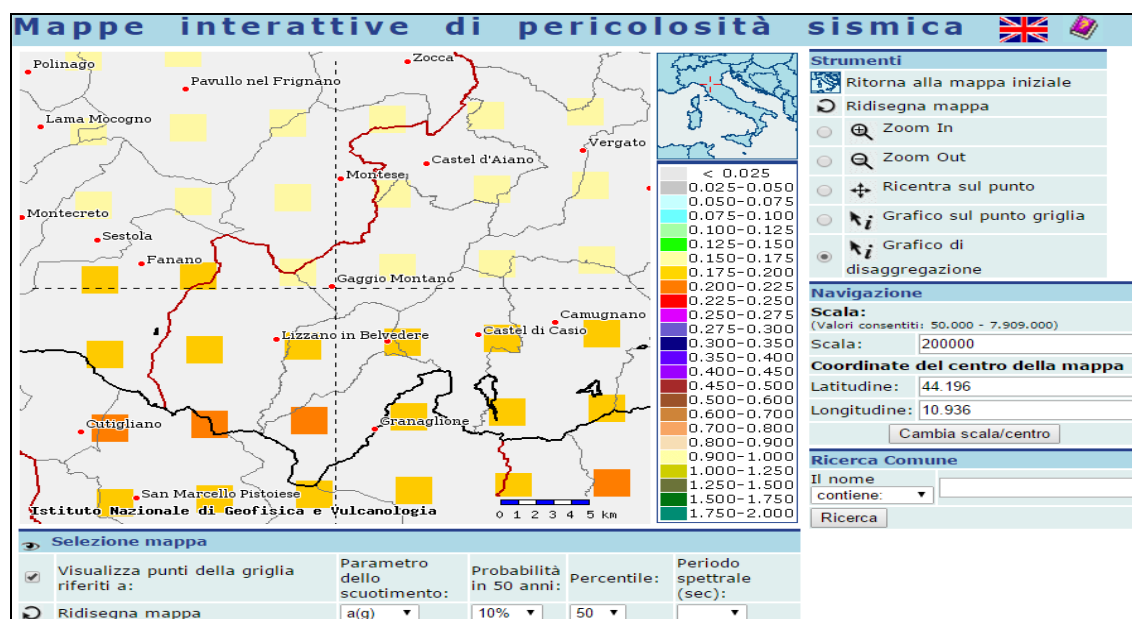


Figura 8. Mappa di pericolosità sismica (<http://esse1-gis.mi.ingv.it>).

La Regione Emilia Romagna, con Delibera di Giunta Regionale del 2 maggio 2007 (Oggetto n° 2131- Prog. n° 112) ha approvato l'atto di indirizzo e coordinamento tecnico ai sensi dell'art. 16, comma 1, della L.R. 20/2000 "Disciplina generale sulla tutela e l'uso del territorio", in merito a "Indirizzi per gli studi di microzonazione sismica in Emilia-Romagna per la pianificazione territoriale e urbanistica". La delibera fornisce i criteri per la valutazione della risposta sismica locale e per la microzonazione sismica del territorio regionale. In particolare nell'allegato A4 sono riportati, per ogni comune, i valori di accelerazione di picco su suolo di riferimento, che per Gaggio Montano è pari: $a_{refg} = 0,181g$. Recentemente sono stati approvati gli aggiornamenti alla DAL 112/2007 con la DGR 2193/2015. I valori di accelerazioni di riferimento sono ora relativi a punti di una griglia con passo 0.05° . Per le aree esaminate tale variazione non comporta una significativa variazioni nel valore di accelerazione riferimento, per tanto, nel caso specifico, risulta ininfluenza, negli studi di risposta sismica locale di III livello, fare riferimento alla DAL 112/2007 o alla DGR 293/2015.

3. ASSETTO GEOLOGICO E GEOMORFOLOGICO DELL'AREA

3.1. Geologia del Territorio Comunale

La geologia del Comune di Gaggio Montano è caratterizzata in gran parte da litotipi ascrivibili alle Unità Liguri ed alla Successione Epiligure, esclusivamente in una modesta porzione sud-occidentale si individuano termini riconducibili alle Unità Toscane.

I terreni della **Successione** Epiligure oligo-miocenica sono qui rappresentati dalle seguenti formazioni: Formazione di Cigarello, Formazione di Pantano, Breccie argillose della Val Tiepido-Canossa, Marne di Antognola e Breccie argillose di Baiso.

Le formazioni geologiche riscontrate nei comparti in studio per la Microzonazione Sismica sono riportate dall'alto nell'ordine geometrico in cui si ritrovano le unità tettoniche.

Le **Marne di Antognola (ANT)**, formatesi in ambiente di piattaforma esterna, scarpata e base scarpata con apporti torbiditici, sono costituite da marne argillose e marne silteose verdognole o grigie con patine manganesifere. La stratificazione si presenta da molto sottile a media, talora difficilmente percepibile, sia per scarsa classazione granulometrica sia per bioturbazione; la fratturazione è concoide o con tipiche superfici concentriche. Sono presenti rari livelli torbiditici di arenarie vulcanoclastiche, arcosiche e

quarzoso feldspatiche, da sottili a medi, e strati sottili e sottilissimi, discontinui, di cineriti biancastre, tipicamente alterate in giallo o giallo ocra. Al suo interno è stato distinto il *Membro di Anconella* con prevalenti torbiditi arenaceo-pelitiche. Si tratta di arenarie sono quarzoso-feldspatiche, generalmente poco cementate, gradate con grana da grossolana a fine, di colore grigio chiaro alterate in giallastro alternate a marne argillose, argille siltose grigie, grigio verdi, grigio scuro o nerastre. Gli strati variano da sottili a spessi, raramente banchi; talvolta amalgamati.

La **Formazione di Monte Venere (MOV)** è un tipico Flysch ad Elmintoidi caratterizzato dalla ripetizione sistematica di torbiditi calcareo-marnose alternate a pacchi di torbiditi arenaceo-pelitiche. Le torbiditi calcareo-marnose sono un carattere distintivo della formazione e sono rappresentate da strati, da spessi a molto spessi, e da megastrati con una porzione basale calcareo-arenacea a grana fine, a cui segue un potente intervallo marnoso, o calcareo-marnoso di colore grigio chiaro, ed infine un sottile livello emipelagico di argille grigio scure. I pacchi di torbiditi arenaceo-pelitiche sono costituiti in prevalenza da strati da sottili a medi con una porzione arenacea a grana da fine a media, di colore grigio o giallastro per alterazione, cui segue una porzione pelitica di argille grigio scure. Il rapporto arenaria/pelite varia da circa 1/1 a maggiore di 1. il numero degli strati arenacei è molto maggiore rispetto a quelli calcareo-marnosi, ma i due litotipi si equivalgono per quanto riguarda la somma degli spessori. L'ambiente di deposizione corrisponde ad una piana sottomarina con direzione delle paleo-correnti che suggerisce un'alimentazione dai quadranti settentrionali per le torbiditi calcareo-marnose e dai quadranti meridionali per quelle arenaceo-pelitiche.

Le **Argille variegata di Grizzana Morandi - litozona argillitica (AVTa)**, depostesi in ambiente di piana abissale, sono costituite da argilliti fissili grigio-bluastre, verdi e rossastre, con subordinate arenarie risedimentate grigie, fini e finissime e con siltiti nerastre fratturate; la silicizzazione è intensa e diffusa. La formazione si presenta intensamente deformata con perdita dell'originario ordine stratigrafico alla scala dell'affioramento e un assetto complessivo caotico.

Le **Argille a Palombini (APA)** sono costituite da un'alternanza irregolare di argille ed argilliti nerastre, fissili, con strati di calcilutiti grigie risedimentate, di spessore da decimetro a superiore al metro. Nelle argilliti, che a luoghi, come in quest'area, sono il litotipo dominante, si possono rinvenire intercalati strati singoli o pacchi di sottili torbiditi arenaceo-pelitiche con grana da media a finissima. Normalmente la Formazione ha perso il suo ordine stratigrafico interno infatti, quasi ovunque, le Argille a Palombini sono così intensamente deformate da assumere un aspetto stratigraficamente disordinato o caotico. La stratificazione non è quasi mai riconoscibile con sicurezza, poiché gli strati calcarei appaiono ridotti a blocchi più o meno allineati, deformati in modo fragile con forme, in sezione, da squadrate a lenticolari e con gli assi maggiori orientati parallelamente gli uni agli altri. La pelite, che nelle porzioni poco deformate è costituita da argilliti con una pronunciata fissilità parallela alla stratificazione, assume di norma una spiccata struttura scagliosa con carattere penetrativo (clivaggio scaglioso). Alla stratificazione si sostituisce così una struttura planare mesoscopica d'origine strutturale, una "*stratificazione tettonica*", che ha una persistenza ed una continuità di tipo cartografico. Questa stratificazione tettonica, oltre che dall'allineamento preferenziale dei boudins di litotipi competenti, è individuata anche dalla fissilità o dal clivaggio scaglioso presente nella pelite. All'interno della massa pelitica compaiono di frequente, sotto forma di inclusi, *masse di rocce ofiolitiche*, di dimensioni estremamente variabili, costituite prevalentemente da serpentiniti e basalti a luoghi pillows lavas, ma soprattutto breccie poligeniche

esclusivamente formate da clasti ofiolitici, o con clasti di rocce sedimentarie (diaspri, calcari tipo Calcari a Calpionella, ecc..). L'età delle Argille a Palombini è ancora mal definita per la scarsità di microfaune e di nanofossili: ben documentata è la presenza del Cretaceo inferiore ed incerta quella del Cenomaniano. La formazione rappresenta un deposito di piana sottomarina sottoalimentata situata sotto il livello di compensazione dei carbonati.

Le **Unità toscane** sono qui rappresentate esclusivamente dalle **Argilliti variegata con calcari (AVC)** depostesi in ambiente marino profondo; si tratta di marne e marne argillose grigiastre o nerastre alla frattura fresca, verdastre, bruno – rossastre o giallastre per alterazione in superficie. Si presentano con un'intensa fratturazione a scaglie e squame dalla forma appiattita e dai contorni irregolari; la presenza di sottili spalmature brunastre ferro – mangesifere, dà untuosità e lucidità alle superfici dei piccoli frammenti marnosi. Non rare sono le vene di calcite secondaria. Frequenti sono gli interstrati, di spessore compreso solitamente fra i 20 e i 50 cm, a volte lentiformi, di calcare marnoso o di calcilutite grigio chiara alla frattura, mentre brunastra o bluastra in superficie per le patine mangesifere. Questi livelli calcarei mostrano un'intensa fratturazione e deformazione con abbondanti vene di calcite secondaria lungo le litodasi. Numerosi sono inoltre i blocchi e gli inclusi di diversa litologia e di svariate dimensioni inglobati.

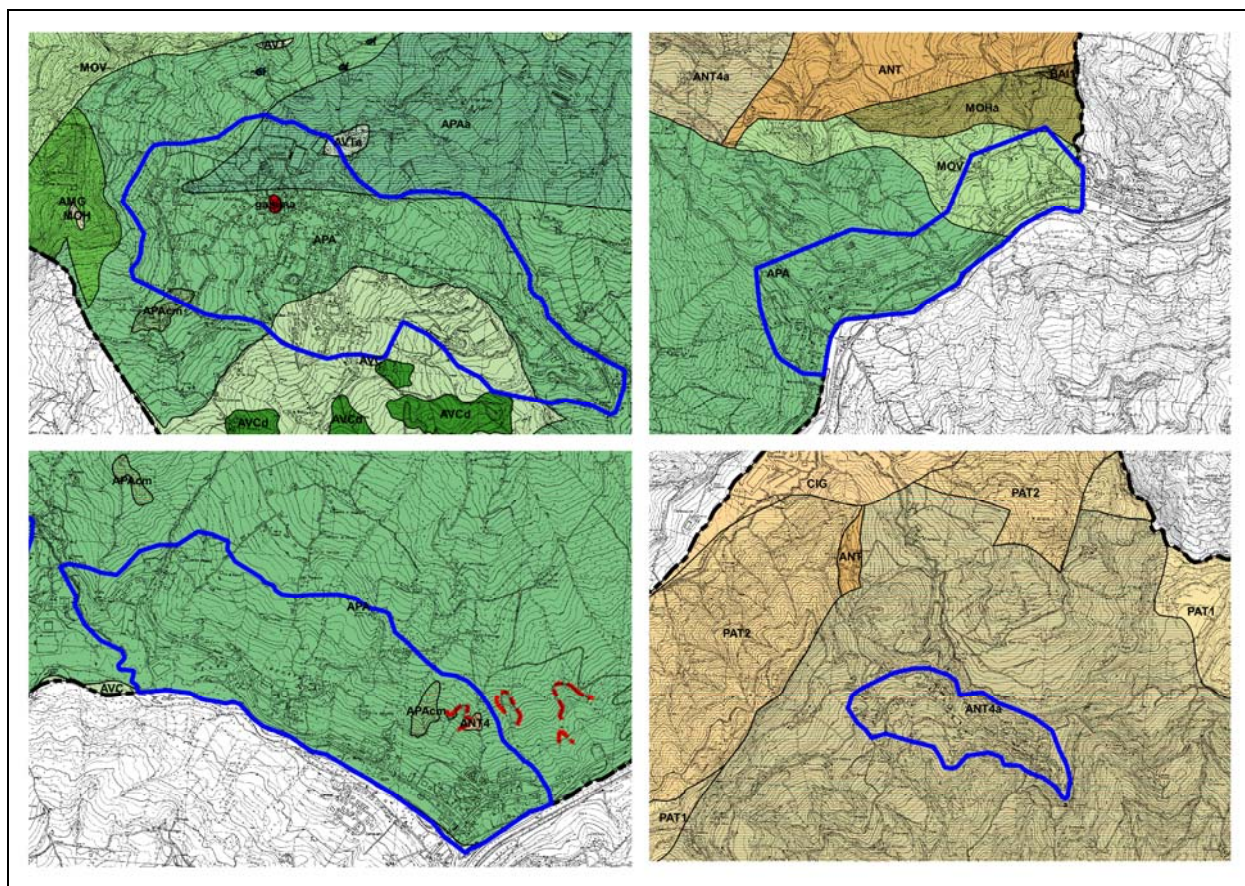


Figura 9. Geologia di base delle aree studia

3.2. Inquadramento Geomorfológico

Per l'inquadramento morfologico generale dell'area, si è partiti dall'analisi della cartografia geologica dell'Emilia Romagna che riporta gli elementi aggiornati dell'Inventario del Dissesto della regione. Tali analisi sono state poi integrate dal rilevamento morfologico e geologico originale delle aree studiate, rilevando in campagna gli elementi morfologici presenti.

Le forme del paesaggio che si possono osservare, nel territorio del comune di Gaggio Montano, sono il prodotto di una serie di processi che hanno modellato in passato e che modellano tuttora le masse litoidi

affioranti. Le forme di erosione sono state generate dall'azione degli agenti esogeni, che hanno operato in maniera selettiva sui vari litotipi; in questa continua azione l'assetto tettonico ed il diverso comportamento morfoselettivo del substrato litoide hanno rivestito un ruolo importante nella definizione dell'attuale assetto geomorfologico dell'area.

In particolare le tre aree di studio di Gaggio Montano, Silla e Marano presentano una morfologia tipica dei versanti argillosi con forme morbide, variamente ondulate e poco acclivi, mentre la Località di Pietracolora presenta una più elevata energia del rilievo con una morfologia generalmente più aspra in diretta correlazione con l'assetto strutturale di un substrato arenaceo più competente.

4. DATI GEOTECNICI E GEOFISICI

4.1. Dati Geotecnici

Al fine di caratterizzare dal punto di vista litotecnico i terreni di copertura ed il substrato geologico è stato necessario reperire tutte le informazioni di carattere geologico in possesso dell'amministrazione comunale e presso l'archivio dell'*Unione dei comuni dell'Appennino bolognese*. Si è trattato di una notevole quantità di dati, di tipo cartaceo, riguardante l'intero territorio comunale sui quali è stato necessario effettuare una selezione sulla base della loro attendibilità e utilità. In generale sono stati privilegiati i carotaggi di tipo continuo e l'indagine penetrometriche, meglio se direttamente correlabili a sondaggi realizzati in prossimità. In sintesi tra le indagini esistenti sono stati utilizzati complessivamente:

- 57 sondaggi stratigrafici meccanici a carotaggio continuo (S)\
- 11 prove penetrometriche dinamiche superpesanti (DPSH)
- 9 prove penetrometriche dinamiche leggere (DL)

Le prove geognostiche, unitamente ai dati rilevati nel corso dei vari sopralluoghi ed alle analisi geologiche in s.l., hanno consentito di individuare lo spessore delle coltri di copertura, stabilire la profondità del substrato geologico, e di fornire le indicazioni sulle caratteristiche geomeccaniche dei terreni attraversati.

4.2. Dati Geofisici

Per caratterizzare da un punto geofisico i terreni presenti è stata effettuata una campagna geosismica passiva costituita da 59 acquisizioni di microtremori a stazione singola (HVSr).

A seguito della richiesta di integrazione pervenuta con e-mail del Dott. Luca Martelli del 22 aprile 2016, si è provveduto ad integrare le indagini con due prospezioni di geofisica attiva mediante sismica a rifrazione.

4.2.1. Indagini HVSr

Le prove HVSr sono state ubicate in corrispondenza dei nodi di una maglia quadrata atta a coprire in maniera omogenea i quattro comparti, tenendo comunque in considerazione l'assetto geologico e geomorfologico delle aree di studio e le loro relative specificità.

Le indagini a stazione singola, con acquisizione di microtremori ambientali, sono state eseguite utilizzando un acquisitore **TROMINO®**.

Lo strumento è dotato di tre sensori elettrodinamici (velocimetri) orientati N-S, E-W e verticalmente, e permette la registrazione nel campo di frequenze 0-200 Hz. In sintesi, dopo che il segnale dei tre velocimetri è stato acquisito, per un determinato tempo t , e digitalizzato a 24 bit, viene trasmesso ad un

software dedicato, denominato Grilla il quale, per ciascuna delle 3 componenti del moto, esegue le seguenti operazioni:

1. divisione del tracciato in finestre la cui lunghezza è immessa dall'operatore;
2. depurazione del segnale dal trend di ciascuna finestra;
3. "taper" con una finestra di Bartlett;
4. "pad" di ciascuna finestra con degli zero;
5. calcolo della trasformata di Fourier (FFT) per ciascuna finestra;
6. calcolo dello spettro di ampiezza per ciascuna finestra;
7. smoothing (lisciamento) dello spettro di ogni finestra secondo differenti funzioni la cui scelta viene definita dall'operatore;
8. calcolo del rapporto spettrale HVSR per ogni frequenza e per ogni finestra.

Il risultato finale consiste nella graficizzazione delle medie degli HVSR di ciascuna finestra e nell'interpretazione secondo la tecnica di Nakamura.

Il metodo si basa sulla misura del rumore sismico ambientale, il quale è il prodotto sia da fenomeni atmosferici (onde oceaniche, vento) sia dall'attività antropica oltre, ovviamente, dall'attività dinamica terrestre. Si chiama anche microtremore perché riguarda oscillazioni molto piccole (10 -15 (m/s²) in termini di accelerazione), inferiori di diversi ordini di grandezza rispetto a quelle indotte dai terremoti nel campo vicino. Nel 2004, nell'ambito di un progetto europeo denominato SESAME (Site EffectS assessment using AMbient Excitations), sono state elaborate le linee guida per l'esecuzione e l'interpretazione di misure sismiche di microtremore, creando così le premesse per la standardizzazione di questo tipo di indagine geofisica.

Le misure di microtremori sono state utilizzate anche per la valutazione di velocità delle onde di taglio (Vs) grazie anche all'utilizzo dei dati geognostici disponibili. Il metodo risulta molto semplice ed intuitivo nell'ipotesi di un sottosuolo stratificato orizzontalmente e i cui parametri variano solo con la profondità (sistema monodimensionale 1D).

I dati misurati dallo strumento sono stati elaborati e interpretati con il software **Grilla®** fornendo un report finale così strutturato:

Dati delle misura.	Ora di inizio e fine registrazione, frequenza di campionamento, ecc.
Horizontal to vertical spectral ratio	Grafico H/V
H/V Time history	Grafico Time history del rapporto H/V
Directional H/V	Grafico Direzionalità del rapporto H/V
Single component spectra	Grafico delle singole componenti spettrali
Experimental vs. sintetic H/V	Sovrapposizione della curva sperimenta alla curva H/V e istogramma Velocità/Profondità

In corrispondenza dei comparti dove è stato effettuato lo studio di III livello (Silla zona industriale e Gaggio M. capoluogo) sono stati eseguiti, il 13 e 18 maggio 2016, due stendimenti sismici di 110 m di lunghezza con schema tipico a 12 geofoni con interdistanza di 10 m.

La strumentazione utilizzata nella prospezione è costituita da un Sismografo registratore ES-1225 Geometrics (USA), alimentato con batteria da 12 V/60 Ah, con 12 canali ed amplificatori su ciascun canale (guadagni 0 - 66 db e forme di traccia 0 - 51 db) filtri, addizionatore di impulsi, visualizzazione e memorizzazione dati; geofoni Sensor ad asse verticale da 14 Hz e ad asse orizzontale da 10 Hz; cavi

sismici multipli Cannon ITT con 12 prese ciascuno ad intervalli di 10 m fra le prese; energizzatore cannoncino Minibang da 1000 Kg.m di potenza, con geofono starter e cavi di collegamento.

La prospezione sismica a rifrazione consiste nell'eseguire una serie di misure in superficie per determinare le variazioni di velocità sismica dei terreni e/o delle rocce in profondità.

Tale metodo richiede l'immissione nel terreno di una certa quantità di energia, la cui intensità, data la distanza variabile tra sorgente di energia e sensori di ricezione, può essere regolata al fine di rispondere, nel modo più esauriente possibile, ai quesiti posti dall'indagine.

Il metodo sismico a rifrazione utilizza i dati forniti dalla rifrazione subita dalle onde elastiche nell'attraversare i terreni e le rocce investigate; più in particolare, attraverso una serie di geofoni (ricevitori) posti a distanze variabili dalla sorgente di energia, tali onde vengono trasformate in impulsi elettrici che opportunamente amplificati e decodificati dall'apparecchiatura di registrazione, permettono la lettura dei tempi di arrivo delle onde sismiche su uno schermo e quindi memorizzati per essere trasferiti successivamente sul computer di servizio.

L'elaborazione dei valori di tali tempi rispetto alle distanze dei geofoni, permette di determinare le velocità dei sismostrati e le loro profondità rispetto alla superficie topografica.

Scopo principale del rilievo sismico a rifrazione è quello di ricostruire il "bed rock", ossia l'orizzonte caratterizzato dalle velocità di propagazione più elevate e quindi dalle migliori caratteristiche di elasticità e resistenza meccanica.

Le basi sismiche a rifrazione sono state realizzate con il sistema delle dromocrone reciproche, in modo da ottenere un controllo sulle reali velocità sismiche dei rifrattori.

Per le basi sismiche in oggetto sono stati effettuati sette punti doppi di energizzazione (scoppi e registrazioni per VP e VS) ubicati secondo uno schema che ne prevede due a 25 m oltre le estremità dei geofoni 1 e 12, due in corrispondenza dei geofoni 1 e 12, uno tra i geofoni 3 e 4, uno al centro tra i geofoni 6 e 7 ed uno tra i geofoni 9 e 10.

Operando in tal modo, si sono ottenuti dati sufficienti per una corretta interpretazione delle velocità, dell'andamento dei rifrattori e della loro profondità di separazione dal piano campagna.

Gli impulsi nel terreno sono stati prodotti mediante cannoncino Minibang della Four Ltd alimentato con cartucce calibro 8 SM tipo industriale.

Per ogni punto di energizzazione è stata effettuata una registrazione dei tempi di arrivo ai vari geofoni degli impulsi sismici mediante memorizzazione.

Tali tempi sono stati successivamente riportati su un grafico tempi/distanze, ottenendo dei tratti di velocità chiamate dromocrone.

L'interpretazione delle basi sismiche a rifrazione è stata effettuata partendo dalle dromocrone con l'aiuto di un software (WinSism) basato su algoritmi matematici relativi al metodo dei tempi di intercetta. Le operazioni effettuate risultano perciò: input dei primi tempi di arrivo ai geofoni previa correzione topografica; output con visualizzazione dei diagrammi tempi/distanze geofoni; input con scelta dei tratti delle dromocrone attribuibili ai diversi strati sismici; output con calcolo delle velocità e delle profondità dei sismostrati, con visualizzazione e restituzione grafica delle sezioni interpretative.

L'interpretazione di tali dromocrone ha permesso di determinare le velocità sismiche dei terreni investigati e le loro profondità dal piano campagna.

In particolare sia la base sismica A (Silla Zona Industriale) sia la base sismica B (Gaggio M. capoluogo) hanno consentito di individuare quattro sismostrati caratterizzati da differenti velocità delle onde di taglio Vs come schematizzato nella seguente **Errore. L'origine riferimento non è stata trovata.**, confermando e validando il modello geofisico del terreno ottenuto con le indagini di sismica passiva HVSR.

BASE SISMICA A - LOC. SILLA ZONA INDUSTRIALE			BASE SISMICA B - GAGGIO M. CAPOLUOGO		
Sismostrato	Profondità base strato [m dal p.c.]	Vs [Km/s]	Sismostrato	Profondità base strato [m dal p.c.]	Vs [Km/s]
A1	2,0 ÷ 5,5	0,10 ÷ 0,13	B1	1,0 ÷ 2,3	0,07 ÷ 0,09
A2	8 ÷ 16	0,22 ÷ 0,35	B2	8 ÷ 12	0,18 ÷ 0,27
A3	19 ÷ 35	0,40 ÷ 0,50	B3	20 ÷ 30	0,45 ÷ 0,52
A4	-	0,68 ÷ 0,78	B4	-	0,73 ÷ 0,76

5. MODELLO DEL SOTTOSUOLO

Il modello geologico generale dei comparti di studio, che è stato definito grazie ai numerosi dati disponibili e alla campagna geofisica effettuata, è essenzialmente schematizzabile con due unità principali: la prima, superficiale, è costituita dai terreni di copertura che si sovrappongono alla seconda unità caratterizzata dai litotipi ascrivibili al substrato geologico inizialmente alterato e decompresso. La copertura presenta uno spessore variabile, generalmente in aumento procedendo da monte verso valle, e proprietà geomeccaniche solitamente in graduale miglioramento con la profondità.

In particolare la coltre di copertura argilloso limosa, che caratterizza i versanti dei tre comparti di Gaggio Montano, Silla e Marano, presenta caratteristiche a grandi linee omogenee con velocità sismiche mediamente basse (180÷300 m/sec) in superficie (indicativamente 5÷8 m di profondità) che aumentano progressivamente con la profondità, portandosi su valori di 450 ÷ 550 m/s a profondità elevate (25÷35 m dal p.c.).

Nelle aree di fondovalle di Silla e di Marano sono presenti terreni copertura di origine alluvionale strutturati in terrazzi e caratterizzati da una miscela di ghiaie eterometriche e sabbie da medie a grossolane; mentre nell'ambito di Pietra Colora la copertura è caratterizzata da corpi detritici di origine eluvio-colluviale caratterizzati da materiale derivante dal disfacimento meccanico della formazione, delle Marne di Antognola.

6. METODOLOGIE DI ELABORAZIONE E RISULTATI

6.1. Premessa

Lo studio di microzonazione sismica, per le quattro aree del comune di Gaggio Montano, è stato realizzato secondo le seguenti fasi:

1. Individuate delle aree suscettibili di effetti locali, o microzone omogenee in prospettiva sismica (→MOPS, **I° livello** di approfondimento), definendo per ognuna di esse i livelli di approfondimento ritenuti necessari;
2. Determinazione quantitativa attraverso una procedura semplificata dei fattori amplificazione dove consentito (→**II° livello** di approfondimento);
3. Analisi approfondita di **III° livello**;

6.2. Metodologie di elaborazione

Le metodologie utilizzate e i risultati ottenuti vengono qui sinteticamente descritti per i tre livelli di microzonazione sismica realizzati per i quattro comparti del comune di Gaggio Montano (I, II e III livello di microzonazione). Nel successivo capitolo ("Elaborati cartografici") i risultati saranno dettagliati e spiegati per ogni singolo prodotto realizzato all'interno dello studio.

6.3. I° Livello di Microzonazione

In riferimento agli Indirizzi e Criteri per la Microzonazione Sismica del Dip. Prot. Civ, sono state individuate e delimitate, all'interno delle quattro aree di studio, le zone a comportamento equivalente in occasione di sollecitazione sismica e i livelli di approfondimento che competono ad ognuna di esse.

Dall'analisi dei dati sono state individuate cinque **zone stabili suscettibili di amplificazioni locali** a comportamento sismico omogeneo.

- **Zona 1:** Terreni di copertura costituiti da argille inorganiche di media-bassa plasticità di spessore compreso tra 5 e 15 m (si tratta della copertura del substrato Argillitico);
- **Zona 2:** Terreni di copertura costituiti da argille inorganiche di media-bassa plasticità di spessore compreso tra 15 e 35 m (si tratta della copertura del substrato Argillitico).
- **Zona 3:** Terreni di copertura composti da ghiaie a granulometria ben assortita e sabbie da medie a grossolane di origine alluvionale (Terrazzi alluvionali di fondo valle);
- **Zona 4:** Terreni di copertura costituiti da sabbia limosa e limoso sabbioso (costituiscono la copertura eluvio-colluviale del substrato flyshoide delle Marne di Antognola – localizzato nel solo comparto di Pietra Colora)
- **Zona 5:** Substrato affiorante e/o sub affiorante molto fratturato, alterato e decompresso. (Velocità $V_s < 800$ m/s)

Nelle aree di studio, il substrato geologico affiorante o sub-affiorante, non è stato identificato come **zona stabile** priva di effetti amplificativi, bensì come **zona stabile suscettibile di amplificazioni locali** dato il suo stato di forte alterazione e fratturazione superficiale. I differenti tipi di substrato sono stati accumulati nella stessa tipologia di zona poiché associati a comportamenti meccanici e quindi sismici simili.

6.4. II° Livello di Microzonazione

Dall'analisi dei dati ottenuti e sulla base delle indagini sismiche passive realizzate è stato possibile quantificare i fattori amplificativi dei materiali geologici, dei terreni di copertura e del substrato sub-affiorante. Tali fattori sono tre per ogni area individuata, in termini di massima accelerazione al suolo (PGA) che di intensità di Housner (suddivisa in due distinti periodi T di riferimento: FH 0.1 – 0.5 s, FH 0.5 – 1.0 s) secondo l'approccio proposto dalla Regione Emilia-Romagna. A seguito dell'entrata in vigore del DGR n.2193 del 21/12/2015 (pubblicati nel BUR parte seconda – N.2 – del 8 gennaio 2016), che costituisce l'aggiornamento degli indirizzi regionali per studi di microzonazione sismica (MS) per la pianificazione urbanistica (DAL n. 112 del 2 maggio 2007), si è provveduto ad aggiornare i fattori di amplificazione precedentemente elaborati secondo le tabelle della DAL 112/2007.

In particolare gli abachi utilizzati per l'individuazione dei fattori di amplificazione sono quelli relativi al contesto "APPENNINO -zone collinari e montane con substrato non rigido, vale a dire caratterizzato da $V_s < 800$ m/s" (Allegato A2 del DGR 2193/2015).

	150	200	250	300	350	400	450	500	600	700
5	2.3	2.0	1.6	1.5	1.4	1.3	1.3	1.2	1.2	
10	2.3	2.2	2.0	1.8	1.6	1.4	1.3	1.3	1.2	
15	2.2	2.2	2.1	2.0	1.8	1.6	1.4	1.3	1.2	
20	2.1	2.1	2.1	2.0	1.9	1.7	1.5	1.4	1.2	
25	2.1	2.1	2.1	2.0	1.9	1.8	1.6	1.4	1.3	
30		2.1	2.1	2.0	1.9	1.8	1.6	1.4	1.3	
35		2.1	2.1	2.0	1.9	1.8	1.6	1.5	1.4	1.2
40		2.0	2.0	2.0	1.9	1.8	1.6	1.5	1.4	1.2
50		1.9	1.9	1.9	1.9	1.8	1.6	1.5	1.4	1.2

Fattori di Amplificazione **PGA**. Colonna 1 H (m), riga 1 V_{sH} (m/s)

	150	200	250	300	350	400	450	500	600	700
5	2.1	1.7	1.5	1.4	1.4	1.3	1.3	1.3	1.3	
10	2.6	2.3	1.9	1.6	1.5	1.4	1.3	1.3	1.3	
15	2.7	2.6	2.3	1.9	1.6	1.5	1.4	1.3	1.3	
20	2.6	2.6	2.4	2.1	1.8	1.6	1.5	1.4	1.3	
25	2.6	2.6	2.5	2.3	2.0	1.7	1.6	1.4	1.3	
30		2.4	2.4	2.3	2.1	1.8	1.6	1.5	1.3	
35		2.4	2.4	2.3	2.2	1.9	1.7	1.5	1.4	1.2
40		2.2	2.2	2.2	2.2	2.0	1.8	1.6	1.4	1.2
50		2.1	2.1	2.1	2.1	2.0	1.8	1.6	1.5	1.3

Fattori di Amplificazione **SI1** ($0.1s \leq T_0 \leq 0.5s$). Colonna 1 H (m), riga 1 V_{sH} (m/s)

	150	200	250	300	350	400	450	500	600	700
5	1.4	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3	
10	1.8	1.6	1.4	1.4	1.3	1.4	1.3	1.3	1.3	
15	2.3	1.9	1.6	1.4	1.4	1.4	1.3	1.3	1.3	
20	2.9	2.6	1.9	1.6	1.4	1.4	1.4	1.3	1.3	
25	3.6	3.0	2.3	1.7	1.5	1.4	1.4	1.4	1.3	
30		3.3	2.7	1.9	1.7	1.5	1.4	1.4	1.3	
35		3.5	3.0	2.2	1.8	1.6	1.5	1.4	1.3	1.1
40		3.5	3.2	2.6	2.0	1.8	1.6	1.5	1.4	1.2
50		3.3	3.3	3.0	2.4	2.0	1.8	1.6	1.5	1.3

Fattori di Amplificazione **SI2** ($0.5s \leq T_0 \leq 1.0s$). Colonna 1 H (m), riga 1 V_{sH} (m/s)

In caso di substrato marino caratterizzato da $V_S \ll 800$ m/s affiorante vengono utilizzate le seguenti tabelle.

V_{s30} (m/s) →	150	200	250	300	350	400	450	500	600	700
F.A. PGA					1.9	1.8	1.6	1.4	1.2	1.1
F.A. SI1					1.9	1.7	1.6	1.4	1.3	1.2
F.A. SI2					1.5	1.5	1.4	1.4	1.3	1.3

Fattori di Amplificazione **PGA**, **SI1** e **SI2**

Le analisi dei dati raccolti hanno permesso di definire gli spessori dei depositi di copertura e/o delle profondità del substrato rigido (H) oltre che di definire le velocità equivalenti delle onde di taglio per lo spessore considerato (V_{sH}) dei depositi di copertura secondo le formule di seguito riportate:

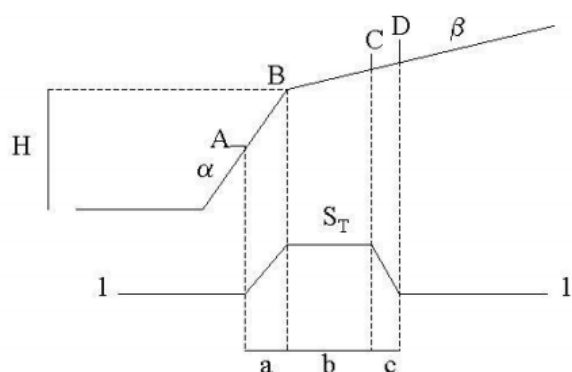
$$V_{sH} = \frac{H}{\sum_{i=1}^N h_i / V_{s_i}}$$

Sono state quindi prodotte tre carte nelle quali il territorio è stato suddiviso in isoaree sulla base delle classi di amplificazione come indicato nelle linee guida per la Microzonazione Sismica.

6.5. Effetti Della Topografia

Nell'area di Pietracolora, scelta proprio per la sua particolare conformazione morfologica, sono state effettuate tre tracce di sezione per la stima delle amplificazioni topografiche (Figura 10). Questi effetti vengono presi in considerazione nei pendii con inclinazione media uguale o maggiore di 15° e nel caso di

configurazioni geometriche bidimensionali e tridimensionali (cocuzzolo, cresta, dorsale allungata) di altezza (H) superiore a 30 metri. I fattori di amplificazione litostratigrafica devono essere moltiplicata per un fattore S_T (coefficiente di amplificazione topografica) calcolato nel seguente modo:



$$S_T = 1 + 0.8(\alpha - \beta - 0.4) \text{ sul segmento BC}$$

$$b: \text{valore minimo tra } 20\alpha \text{ e } \frac{H+10}{4}$$

α e β sono i gradienti della parte più ripida e meno ripida, rispettivamente:

$$S_T = 1 \text{ in A (} a = H/3 \text{) e } S_T = 1 \text{ in D (} c = H/4 \text{)}$$

S_T : si impone comunque un valore compreso tra 1 e 1.4.

Nel caso di Pietracolora i calcoli hanno portato a dei valori di S_T compresi tra 1 e 1.1 (Figura 11), non comportando alcun cambiamento significativo ai fattori di amplificazione già identificati per quelle aree, che si sono mantenuti all'interno delle loro classi.

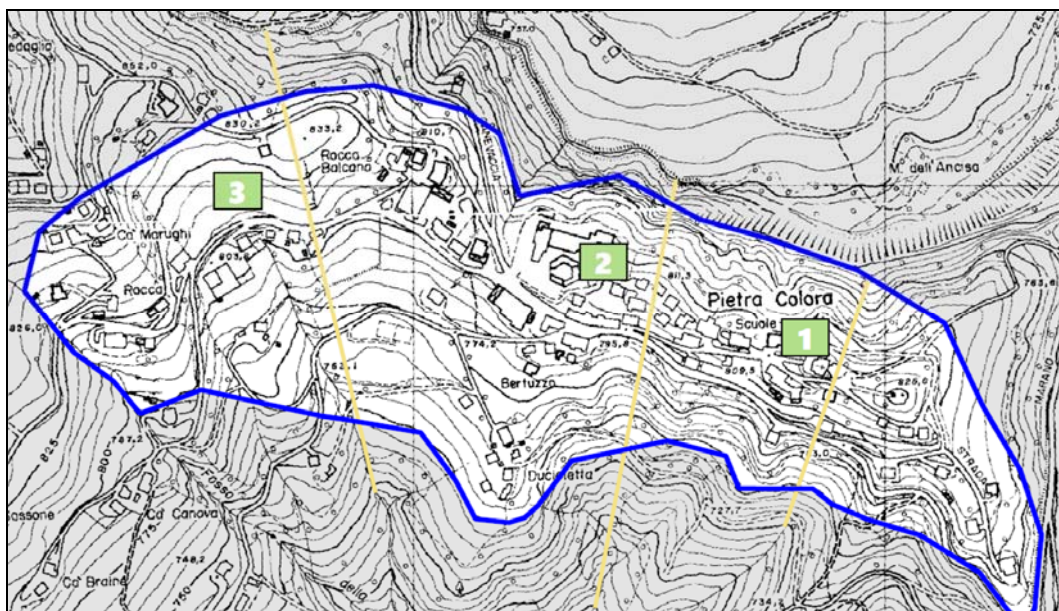


Figura 10. Ubicazione tracce di sezione per la stima del fattore di amplificazione topografica.

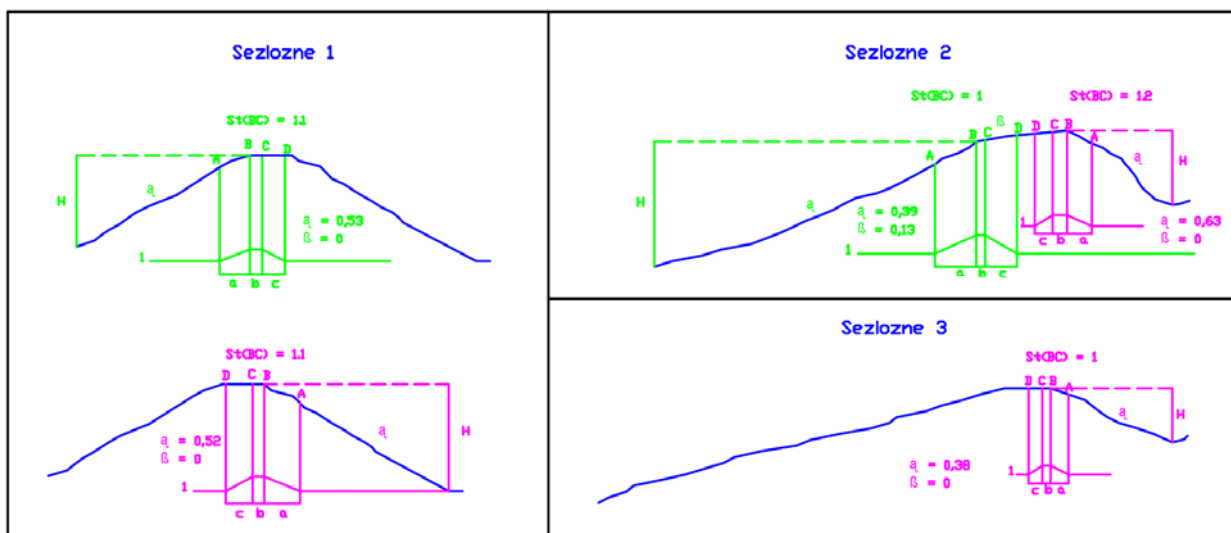


Figura 11. Profili topografici e determinazione di S_T per l'area di studio di Pietracolora.

nel dominio del tempo, o utilizzando il metodo della teoria vibrazione casuale (RVT), e permette la randomizzazione delle proprietà del sito.

○ Moto Di Input

Per la definizione del moto di input ci si è riferiti a quanto contenuto negli Atti di indirizzi per gli studi di microzonazione sismica in Emilia-Romagna per la pianificazione territoriale e urbanistica (DAL 112/2007) in quanto si ritiene che gli aggiornamenti approvati con la DGR 2193/2015 non comportino significative variazioni al risultato finale.

La DAL 112/2007 dispone che il calcolo della risposta sismica locale nelle analisi di terzo livello sia eseguito sulla base di segnali di riferimento assegnati ad ogni comune. Tali segnali sono rappresentativi dello scuotimento atteso su un suolo di riferimento, quest'ultimo inteso come la superficie al di sotto della quale si può assumere una velocità di propagazione delle onde di taglio (V_s) superiore o uguale a 800 m/s.

Tali segnali (scaricabili nel sito web del Servizio Geologico, Sismico e dei Suoli regionale <http://ambiente.regione.emilia-romagna.it/geologia/temi/sismica>) sono stati selezionati dalla banca dati accelerometrica "European Strong Motion database" (ISESD) attraverso una procedura che valuta la similarità tra una forma spettrale di riferimento corrispondente al 10% di probabilità di eccedenza in 50 anni e la forma degli spettri di risposta dei segnali contenuti nella banca dati ISESD.

In particolare, per il comune di Gaggio Montano, è associato un valore di accelerazione massima orizzontale di picco al suolo ($a_{g,ref}$), cioè per $T = 0$, espressa in frazione dell'accelerazione di gravità g (pari $9,81 \text{ m/s}^2$) e i seguenti tre segnali di riferimento:

1. 000046xa_037027GaggioMontano.xy
2. 000126xa_037027GaggioMontano.xy;
3. 000354xa_037027GaggioMontano.xy;

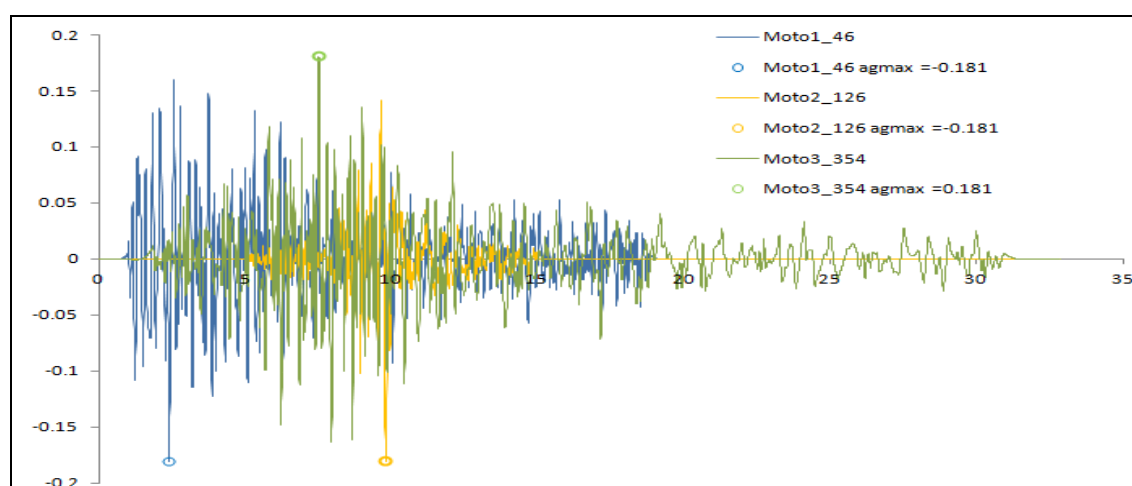


Figura 1. Andamento temporale degli accelerogrammi forniti dalla Regione Emilia Romagna per il comune di Gaggio Montano (BO).

Ogni file contiene due colonne: la prima colonna corrisponde al tempo, espresso in secondi, la seconda contiene il valore di accelerazione, espresso in frazioni dell'accelerazione di gravità g (pari a 9.81 m/s^2) al tempo t .

○ Sismostratigrafia di Input

Per ogni comparto è stata ricostruita la stratigrafia sismica del sito facendo riferimento sia alle indagini

sismiche passive a stazione singola realizzate sia ai dati geognostici disponibili. Il risultato di tali indagini è stato infatti confermato e validato dalle successive indagini di sismica attiva (sismica a rifrazione) realizzate, a seguito della richiesta di integrazione pervenuta con e-mail del Dott. Luca Martelli del 22 aprile 2016, in tali comparti.

Nelle seguenti tabelle si riporta in dettaglio la sismostratigrafia utilizzata nelle simulazioni effettuate con il software STRATA sia per Gaggio Montano che per Silla.

Profondità base strato [m]	Spessore [m]	Vs [m/s]	Descrizione
22	22	300	Coltre argilloso limosa
77	55	620	Substrato alterato e decompresso
Inf.	Inf.	800	Substrato di riferimento

Tabella 1. Stratigrafia sismica definita in STRATA per Gaggio Montano.

Profondità base strato [m]	Spessore [m]	Vs [m/s]	Descrizione
7	7	190	Coltre argilloso limosa superficiale
29	22	300	Coltre argilloso limosa
119	90	600	Substrato alterato e decompresso
Inf.	Inf.	800	Substrato di riferimento

Tabella 2. Stratigrafia sismica definita in STRATA per Silla.

Visto il contesto geologico di riferimento e i dati disponibili, per le curve di degrado dei terreni (decadimento del modulo di rigidità a taglio normalizzato G/G_0 e del fattore di smorzamento D "damping ratio" con la deformazione) si è fatto riferimento a dati bibliografici. In particolare quelle ritenute meglio rappresentative del comportamento dei terreni sono riportate nella seguente Tabella 3.

Descrizione	G/G_max Model	Dampin Model
Coltre argilloso limosa	Vucetic & Dobry, PI = 15	Vucetic & Dobry, PI = 15
Substrato alterato e decompresso	Argilliti (Garfagnana)	Argilliti (Garfagnana)

Tabella 3. Curva di degrado utilizzate nella simulazione con il software STRATA.

Alle curve predefinite nel database del programma STRATA è stata aggiunta quella relativa alle argilliti ("*argilliti (Garfagnana)*") nella tabella) ricavate da uno studio condotto dall' *UNIVERSITÀ DEGLI STUDI DI FIRENZE DIPARTIMENTO DI INGEGNERIA CIVILE* dal titolo: "*Studio geotecnico finalizzato alla valutazione degli effetti locali in alcuni siti campione della Garfagnana (Castelnuovo g., Pieve Fosciana, S. Romano G., Piazza al Serchio)*" il cui responsabile è *Prof. Ing. Teresa Crespellani*, e nel quale sono stati analizzati terreni assimilabili a quelli presenti in sito.

Al fine di valutare l'incertezza e la dispersione che generalmente caratterizza le curve di degrado, è stata attivata l'opzione "Varied". In tal modo il programma utilizza differenti curve generate attraverso la funzione proposta da Darandeli.

Figura 14. Impostazioni utilizzate per la variazione dei parametri delle curve di degrado secondo la funzione di Darandeli.

○ *Risultato Della Modellazione Numerica*

La modellazione porta a definire i seguenti spettri di risposta in superficie, rappresentati in forma grafica.

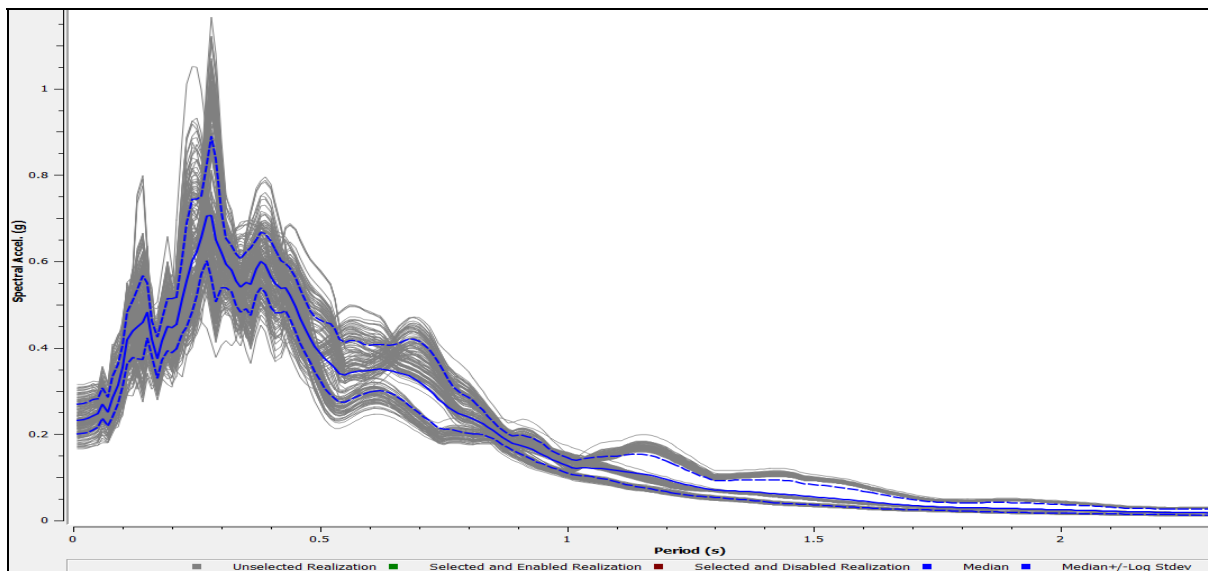


Figura 15. Spettro di risposta in accelerazione ottenuto con la modellazione di STRATA per Gaggio Montano.

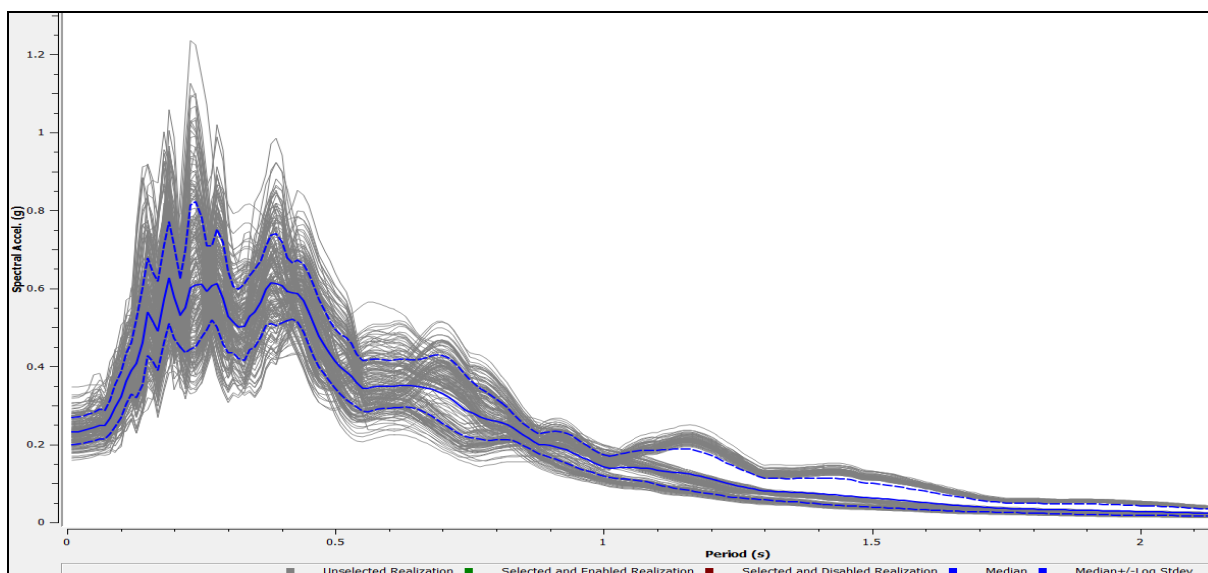


Figura 16. Spettro di risposta in accelerazione ottenuto con la modellazione di STRATA per Silla.

Di seguito inoltre si riporta il confronto degli spettri di risposta elastici medi simulati con Strata, quelli relativi alla categoria di suolo A e C delle NTC08 e quello di riferimento per il comune di Gaggio Montano secondo la DAL 112/2007.

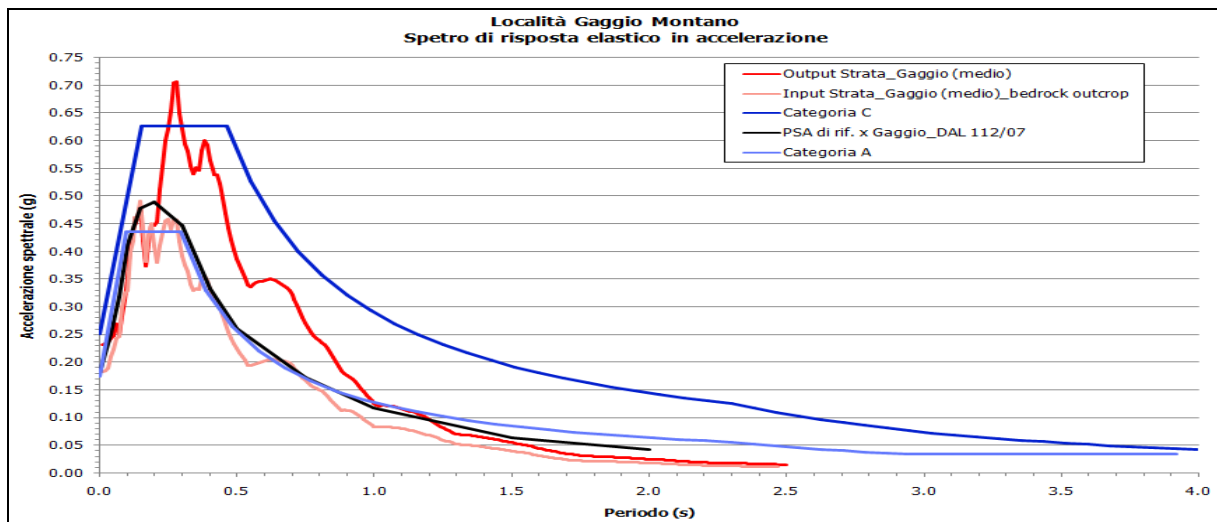


Figura 17. Località Gaggio Montano; confronto tra lo spettro di risposta elastico medio ottenuto con la simulazione di STRATA e quelli da normativa NTC08 e DAL 112/2007.

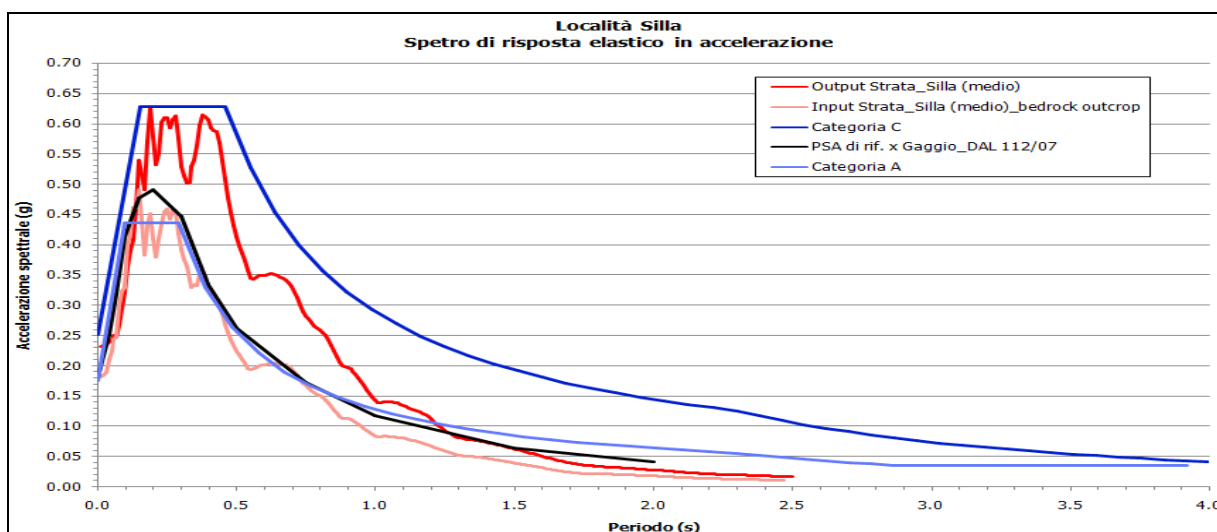


Figura 18. Località Silla; confronto tra lo spettro di risposta elastico medio ottenuto con la simulazione di STRATA e quelli da normativa NTC08 e DAL 112/2007.

Il software STRATA non fornisce in output lo spettro di risposta in velocità necessario per il calcolo del rapporto di Intensità di Housner (SI/SI_0) come definito nella DAL 112/2007. Pertanto per prima cosa sono stati ricavati gli spettri di risposta in velocità partendo dallo spettro di risposta in accelerazione sia in superficie sia al suolo di riferimento (bedrock_outcrop in STRATA) tramite la relazione:

$$PSV(t) = PSA(t) \cdot T / (2\pi)$$

dove:

- $PSA(t)$ è lo spettro di risposta in accelerazione
- T = tempo in secondi

Quindi sono stati calcolati i rapporti di intensità di Housner (SI/SI_0) per i due intervalli di periodo (0,1÷0,5 sec e 0,5÷1,0 sec). L'intensità di Housner è definita come l'integrale dello spettro di risposta in velocità, nei periodi di tempo considerati.

$$SI = \int PSV(t) dt$$

I valori di amplificazione calcolati sono riportati di seguito sia in forma tabellare che grafica.

Fattori di Amplificazione Derivati dalla Simulazione con Strata			
Località	PGA/PGA ₀	SI/SI ₀ (0.1-0.5)	SI/SI ₀ (0.5-1.0)
Gaggio Montano	1.3	1.4	1.6
Silla	1.3	1.4	1.7

Tabella 4. Fattori di amplificazione desunti dallo studio di RSL attraverso il software STRATA.

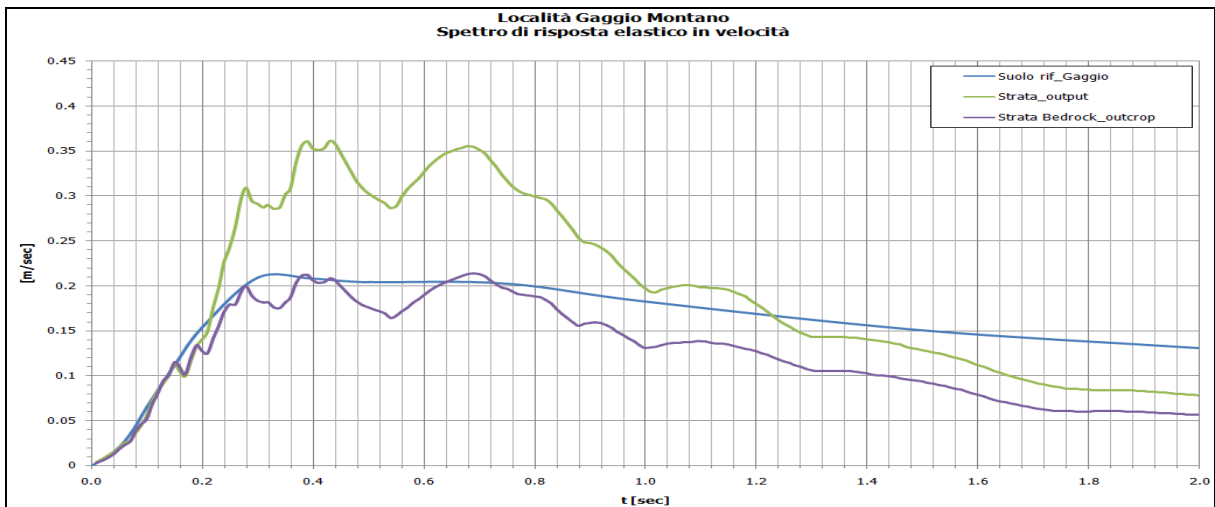


Figura 19. PSV spettro di risposta in velocità per la località Gaggio Montano.

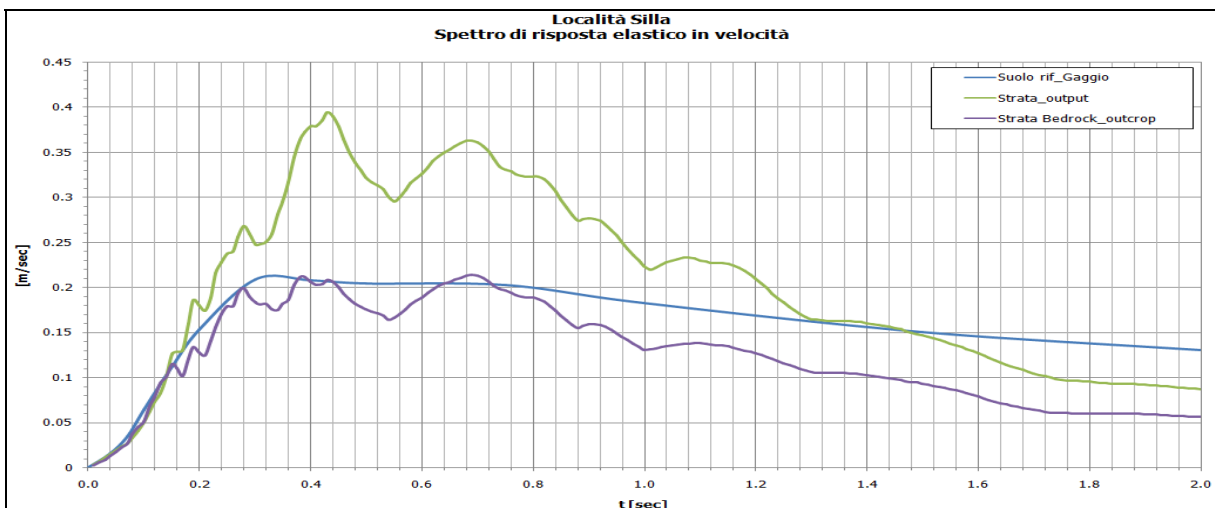


Figura 20. PSV spettro di risposta in velocità per la località Silla.

6.6.2. VERIFICHE ANALITICHE DI STABILITÀ

Le verifiche analitiche di stabilità sono state eseguite con il programma di calcolo "Slope" della Geostru Software, che consente di determinare il coefficiente di sicurezza relativo ad ipotetiche superfici di rottura, pari al rapporto tra la resistenza al taglio disponibile e la resistenza al taglio mobilitata. I metodi di calcolo prevedono la suddivisione della porzione di pendio in oggetto in un numero determinato di conci di uguale ampiezza. Ipotizzando che la base di ciascun concio sia piana e che lungo la superficie di scorrimento valga il criterio di rottura di Mohr-Coulomb, che correla tra loro le reazioni tangenziali e normali, le incognite risultano essere le reazioni laterali, i loro punti di applicazione e le reazioni normali alla base. La risoluzione del calcolo analitico si ottiene introducendo ulteriori condizioni sugli sforzi agenti sui conci, che risultano differenti a seconda del metodo di calcolo utilizzato (Bell, Bishop, ecc). Su ciascuna sezione sono state analizzate diverse superfici di scivolamento individuate compatibilmente con i dati inclinometrici disponibili.

Tutte le verifiche sono state realizzate facendo riferimento alle Norme Tecniche per le Costruzioni,

approvate con il D.M. 14-01-2008, seguendo l'Approccio 1 - Combinazione 2.

Dal punto di vista sismico le analisi di stabilità hanno fatto riferimento all'Ordinanza del Presidente del Consiglio dei Ministri 20 marzo 2003, n° 3274 ed al D.M. 14-gennaio-2008. Per la definizione delle azioni sismiche da utilizzare nel modello di calcolo è stata realizzato uno studio di risposta sismica locale (RSL) come descritto nell'apposito paragrafo.

Considerato il contesto geologico-stratigrafico studiato le verifiche sono state condotte, cautelativamente, considerando una situazione a lungo termine con i parametri geotecnici efficaci.

I materiali sono i terreni limoso argillosi e argillosi limosi che costituiscono la coltre di copertura del substrato argillitico. Vista la forte variabilità in merito alle caratteristiche meccaniche, considerate anche le notevoli dimensioni delle superfici e di volumi interessati, per una stima la più attendibile possibile, dei parametri geotecnici caratteristici, si è fatto riferimento, oltre che ai numerosi dati geotecnici puntuali disponibili, anche a quanto contenuto nella Tesi di Dottorato a cura del Dott. Eros Leoni dal titolo "Contributo della modellistica idrologica all'analisi di suscettività alle frane superficiali in argilla", che prende in considerazione il risultato di dati derivanti da prove fisico-meccaniche eseguite su oltre 100 campioni (Alma Mater Studiorum Università degli Studi di Bologna Facoltà di Scienze Matematiche, Fisiche e Naturali - Dipartimento di Scienze della Terra e Geologico-Ambientali - Dottorato di ricerca in Modellistica Fisica per la Protezione Ambientale - XX Ciclo Settore Scientifico Disciplinare: GEO/05).

Da quanto emerso i terreni di copertura presenti sono dotati di un angolo di attrito di picco di circa 22° e residuo compreso tra 14° e 15° con un range di coesione efficace realisticamente compreso tra 0÷3 kPa. Nelle analisi analitiche di stabilità sono state ipotizzate, per entrambi i settori, quattro superfici di scivolamento compatibili con l'assetto morfologico dell'area e con i risultati dei monitoraggi inclinometrici disponibili. Su tali superfici le resistenze disponibili e utilizzate derivano dai parametri geotecnici residui. Nella seguente Tabella 5 si riportano i parametri geotecnici utilizzati nella calcolazione analitica.

PARAMETRI GEOTECNICI CARATTERISTICI			
<i>Unità litotecnica</i>	γ_k [t/m ³]	φ'_k [°]	c'_k [KPa]
<i>A: Coltre eluvio-colluviale argilloso limosa</i>	1,9	14	0

Tabella 5. Parametri geotecnici caratteristici. γ_k = peso di volume; φ'_k = angolo d'attrito interno c'_k = coesione.

Le verifiche effettuate in condizioni statiche hanno mostrato, per entrambi i settori, fattori di sicurezza ampiamente maggiori di 1.1 indicando una situazione stabile. Per il settore di Gaggio Montano, dove il corpo di frana, sulla base dei dati inclinometrici utilizzati, è stato considerato in uno stato di attività (quindi con un fattore di sicurezza che dovrebbe risultare pari o inferiore a 1) è stata imposta (per raggiungere tali valori), una falda acquifera la cui profondità è stata determinata attraverso un processo di back analysis sino a determinare un valore del coefficiente di sicurezza FS= 1 (vedi tabulati allegati).

La sintesi delle verifiche effettuate è riportata nella seguente Tabella 6.

VERIFICA ANALITICHE DI STABILITÀ IN CONDIZIONI STATICHE METODO DI CALCOLO DI BELL (1968)				
<i>Descrizione</i>	FS SUP. 1	FS SUP. 2	FS SUP. E 3	FS SUP. 4
SEZIONE 1 GAGGIO MONTANO	1,01	1,00	1,01	1,01
SEZIONE 2 SILLA	1,27	1,31	1,28	1,38

Tabella 6. Sintesi analisi analitica di stabilità in condizioni statiche.

Le verifiche analitiche di stabilità in condizioni sismiche sono state eseguite con il metodo pseudostatico e, come già accennato, facendo riferimento alle indicazioni delle NTC08 che prevede i seguenti dati di input:

- coordinate geografiche del sito d'intervento (ED50);
- cautelativamente categoria di suolo C (vedi risultati della risposta sismica locale effettuata);
- tipo di opera: 2-Opere ordinarie;
- classe d'uso: Classe II;
- stato limite: Salvaguardia della vita (SLV; TR = 475 anni);

I risultati ottenuti dalle verifiche di stabilità in condizioni sismiche, mostrano per le superfici analizzate fattori di sicurezza inferiori a 1 (Gaggio montano FS= 0,59÷0,71; Silla FS= 0,86÷0,92) vedi Tabella 7.

VERIFICA ANALITICHE DI STABILITÀ IN CONDIZIONI SISMICHE METODO DI CALCOLO DI BELL (1968)				
<i>Descrizione</i>	<i>FS SUP. 1</i>	<i>FS SUP. 2</i>	<i>FS SUP.E 3</i>	<i>FS SUP. 4</i>
GAGGIO MONTANO	0,71	0,61	0,59	0,62
SILLA	0,86	0,88	0,87	0,92

Tabella 7. Sintesi analisi analitica di stabilità in condizioni sismiche.

Il programma di calcolo "Slope" della Geostru Software, consente la stima degli spostamenti cosismici del versante lungo le superfici analizzate mediante l'applicazione di metodi dinamici semplificati, ed in particolare attraverso il metodo del blocco rigido di Newmark (1965).

Per la sezione di Gaggio Montano avendo impostato nelle verifiche in condizioni statiche dei parametri che hanno definito dei valori al limite della stabilità il valore dell'accelerazione critica Kc (accelerazione critica di instabilità del versante), è stato giocoforza impostato pari a Kc= 0,01g. Per l'area di Silla è stato invece determinato il valore di Kc che individua per ogni superficie la soglia di instabilità. Le analisi sono state effettuate considerando i tre accelerogrammi di riferimento forniti dalla Regione Emilia Romagna per il comune di Gaggio Montano (allegato 4 DAL 112/2007). I risultati ottenuti sono sintetizzati nella seguente Tabella 8.

SEZIONE GAGGIO - SPOSTAMENTI					SEZIONE SILLA - SPOSTAMENTI				
	Kc [a/g]	acc.0046	acc.0126	acc.0354		Kc [a/g]	acc.0046	acc.0126	acc.0354
Sup1	0.010	9.7 cm	2.2 cm	16.3 cm	Sup1	0.038	1.4 cm	0.3 cm	2.0 cm
Sup2	0.010	9.7 cm	2.2 cm	16.3 cm	Sup2	0.042	1.1 cm	0.2 cm	1.6 cm
Sup3	0.010	9.7 cm	2.2 cm	16.3 cm	Sup3	0.040	1.2 cm	0.3 cm	1.8 cm
Sup4	0.010	9.7 cm	2.2 cm	16.3 cm	Sup4	0.049	0.8 cm	0.2 cm	1.1 cm

Tabella 8. Sintesi stima spostamenti permanenti post sismici attesi.

I massimi spostamenti post sismici permanenti stimati sono di 16 cm per Gaggio Montano e di 2 cm per Silla. Si sottolinea che tali valori sono da intendersi esclusivamente come indicatori del livello di danno che la zona considerata può subire in occorrenza di un evento sismico e non come reali spostamenti.

7. ELABORATI CARTOGRAFICI

7.1. Carta delle Indagini

Le 138 indagini geotecniche e geofisiche complessivamente utilizzate per questo studio sono descritte nel Capitolo 4. Tutte le prove utilizzate sono rappresentate nella Carta delle Indagini, riportata in allegato ed

archivate nel database associato. La carta e il database sono stati realizzati secondo gli standard di rappresentazione e archiviazione informatica per la Microzonazione Sismica versione 3.0.

7.2. Carta geologico-tecnica per la micro zonazione sismica

La denominazione delle litologie descritte nella carta geologico-tecnica è stata resa armonica con la legenda della Carta Geologica Regionale dell'Emilia-Romagna, che è stata utilizzata come cartografia di riferimento. I risultati riportati nelle cartografie derivano dai rilevamenti diretti effettuati nel corso del rilevamento geologico e morfologico effettuato nell'ambito del presente studio.

Secondo gli standard di rappresentazione di riferimento i terreni di copertura e il substrato geologico sono stati catalogati come segue:

Terreni di copertura

- **CL** : Argille inorganiche di media-bassa plasticità, argille ghiaiose e sabbiose
- **MH** : Limi organici, sabbie fini, limi micacei o diatomici
- **GW** : Ghiaie pulite con granulometria ben assortita, miscela di ghiaie e sabbie

Substrato geologico

- **LP_SF** : Lapideo molto fratturato
- **CO_SF**: Coesivo sovraconsolidato molto fratturato
- **AL_SF**: Alternanza di litotipi molto fratturato

Sono state individuate due categorie di instabilità di versante:

- Colamento
- Complessa

Entrambe sono state differenziate in base al loro stato di attività o di quiescenza.

Come descritto negli standard, nella carta sono state inserite le tracce di sezione geologica rappresentative del modello di sottosuolo. Inoltre sono presenti i sondaggi che hanno raggiunto il substrato geologico con relativa indicazione della quota.

7.3. Carta delle microzone omogenee in prospettiva sismica

Come descritto nel capitolo 6, sono state individuate cinque zone stabili suscettibili di amplificazioni locali:

- **Zona 1**: Terreni di copertura costituiti da argille inorganiche di media-bassa plasticità di spessore compreso tra 5 e 15 m (si tratta della copertura del substrato Argillitico);
- **Zona 2**: Terreni di copertura costituiti da argille inorganiche di media-bassa plasticità di spessore compreso tra 15 e 35 m (si tratta della copertura del substrato Argillitico).
- **Zona 3**: Terreni di copertura composti da ghiaie a granulometria ben assortite e sabbie da medie a grossolane di origine alluvionale (Terrazzi alluvionali di fondo valle);
- **Zona 4**: Terreni di copertura costituiti da sabbia limosa e limoso sabbioso (costituiscono la copertura eluvio-colluviale del substrato flyshoide delle Marne di Antognola – localizzato nel solo comparto di Pietra Colora.)
- **Zona 5**: Substrato affiorante e/o sub affiorante molto fratturato, alterato e decompresso. (Velocità $V_s < 800$ m/s)

Nella carta sono stati inseriti i punti di misura di rumore ambientale, in aggiunta alle tracce di sezione geologica e a quelle per gli approfondimenti delle amplificazioni topografiche.

Le zone di attenzione per instabilità di versante sono state suddivise come segue:

- **ZAFR_A** : Zona di attenzione per instabilità di versante attiva
- **ZAFR_Q** : Zona di attenzione per instabilità di versante quiescente

7.4. Carta di microzonazione sismica (livello 3) – [FPGA] – [FH 01-0.5 s] – [FH 0.5-1 s]

Sono state prodotte tre distinte carte, ognuna delle quali associata ad uno specifico fattore di amplificazione.

Alle aree stabili e instabili perimetrare nella carta delle microzone omogenee in prospettiva sismica sono associati, nelle carte di microzonazione sismica di livello 3, i fattori di amplificazione valutati con metodi semplificati descritti nel Paragrafo 7.1.

- F.A._{p,G,A}
- F.A._{h 0.1-0.5 s}
- F.A._{h 0.5-1 s}

In relazione ai risultati ottenuti nello studio di III livello, le **zone di attenzione per instabilità di versante** analizzate sono state denominate come **ZSFR zone di suscettibilità per frana in terra o crollo** e classificate secondo il parametro di movimento FRT e al loro relativi fattori di amplificazione stimati sulla base dello studio di RSL effettuato. Queste aree presentano quindi in carta due retini sovrapposti, come indicato dagli standard di rappresentazione.

Bologna, dicembre 2016
 1° stesura settembre 2015;
 2° stesura giugno 2016.



ALLEGATO A

VERIFICHE ANALITICHE DI STABILITÀ

Relazione di calcolo

Definizione

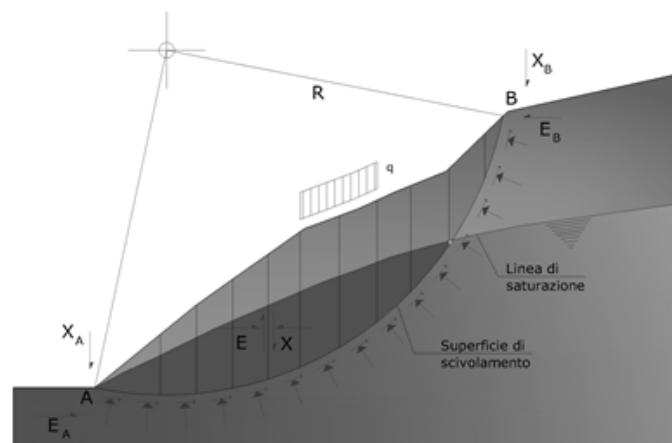
Per pendio s'intende una porzione di versante naturale il cui profilo originario è stato modificato da interventi artificiali rilevanti rispetto alla stabilità. Per frana s'intende una situazione di instabilità che interessa versanti naturali e coinvolgono volumi considerevoli di terreno.

Metodo equilibrio limite (LEM)

Il metodo dell'equilibrio limite consiste nello studiare l'equilibrio di un corpo rigido, costituito dal pendio e da una superficie di scorrimento di forma qualsiasi (linea retta, arco di cerchio, spirale logaritmica); da tale equilibrio vengono calcolate le tensioni da taglio (τ) e confrontate con la resistenza disponibile (τ_f), valutata secondo il criterio di rottura di Coulomb, da tale confronto ne scaturisce la prima indicazione sulla stabilità attraverso il coefficiente di sicurezza:

$$F = \tau_f / \tau$$

Tra i metodi dell'equilibrio limite alcuni considerano l'equilibrio globale del corpo rigido (Culman), altri a causa della non omogeneità dividono il corpo in concii considerando l'equilibrio di ciascuno (Fellenius, Bishop, Janbu ecc.). Di seguito vengono discussi i metodi dell'equilibrio limite dei concii.



Metodo dei concii

La massa interessata dallo scivolamento viene suddivisa in un numero conveniente di concii. Se il numero dei concii è pari a n , il problema presenta le seguenti incognite:

- n valori delle forze normali N_i agenti sulla base di ciascun concio;
- n valori delle forze di taglio alla base del concio T_i ;
- $(n-1)$ forze normali E_i agenti sull'interfaccia dei concii;
- $(n-1)$ forze tangenziali X_i agenti sull'interfaccia dei concii;
- n valori della coordinata a che individua il punto di applicazione delle E_i ;
- $(n-1)$ valori della coordinata b che individua il punto di applicazione delle X_i ;
- una incognita costituita dal fattore di sicurezza F .

Complessivamente le incognite sono $(6n-2)$.

Mentre le equazioni a disposizione sono:

- equazioni di equilibrio dei momenti n ;
- equazioni di equilibrio alla traslazione verticale n ;
- equazioni di equilibrio alla traslazione orizzontale n ;
- equazioni relative al criterio di rottura n .

Totale numero di equazioni $4n$.

Il problema è staticamente indeterminato ed il grado di indeterminazione è pari a :

$$i = (6n - 2) - (4n) = 2n - 2$$

Il grado di indeterminazione si riduce ulteriormente a $(n-2)$ in quanto si fa l'assunzione che N_i sia applicato nel punto medio della striscia. Ciò equivale ad ipotizzare che le tensioni normali totali siano uniformemente distribuite.

I diversi metodi che si basano sulla teoria dell'equilibrio limite si differenziano per il modo in cui vengono eliminate le $(n-2)$ indeterminazioni.

Metodo di Bell (1968)

Le forze agenti sul corpo che scivola includono il peso effettivo del terreno, W , le forze sismiche pseudostatiche orizzontali e verticali $K_X W$ e $K_Z W$, le forze orizzontali e verticali X e Z applicate esternamente al profilo del pendio, infine, la risultante degli sforzi totali normali e di taglio σ e τ agenti sulla superficie potenziale di scivolamento. Lo sforzo totale normale può includere un eccesso di pressione dei pori u che deve essere specificata con l'introduzione dei parametri di forza efficace.

In pratica questo metodo può essere considerato come un'estensione del metodo del cerchio di attrito per sezioni omogenee precedentemente descritto da Taylor.

In accordo con la legge della resistenza di Mohr-Coulomb in termini di tensione efficace, la forza di taglio agente sulla base dell' i -esimo concio è data da:

$$T_i = \frac{c_i L_i + (N_i - u_{ci} L_i) \tan \Phi_i}{F}$$

in cui:

F = il fattore di sicurezza;

c_i = la coesione efficace (o totale) alla base dell' i -esimo concio;

Φ_i = l'angolo di attrito efficace (= 0 con la coesione totale) alla base dell' i -esimo concio;

L_i = la lunghezza della base dell' i -esimo concio;

u_{ci} = la pressione dei pori al centro della base dell' i -esimo concio.

L'equilibrio risulta uguagliando a zero la somma delle forze orizzontali, la somma delle forze verticali e la somma dei momenti rispetto all'origine.

Viene adottata la seguente assunzione sulla variazione della tensione normale agente sulla potenziale superficie di scorrimento:

$$\sigma_{ci} = \left[C_1 (1 - K_Z) \frac{W_i \cos \alpha_i}{L_i} \right] + C_2 f(x_{ci}, y_{ci}, z_{ci})$$

in cui il primo termine dell'equazione include l'espressione:

$$W_i \cos \alpha_i / L_i = \text{valore dello sforzo normale totale associato con il metodo ordinario dei concii}$$

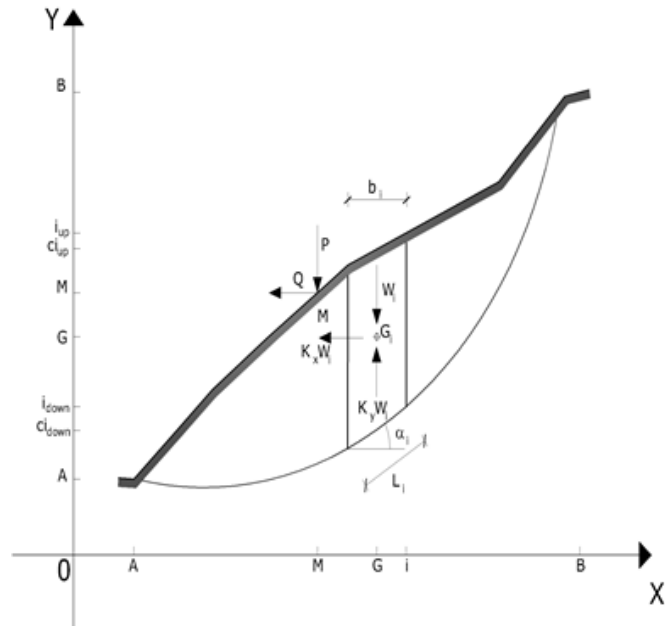
Il secondo termine dell'equazione include la funzione:

$$f = \sin 2\pi \left(\frac{x_n - x_{ci}}{x_n - x_0} \right)$$

dove x_0 ed x_n sono rispettivamente le ascisse del primo e dell'ultimo punto della superficie di scorrimento, mentre x_{ci} rappresenta l'ascissa del punto medio della base del concio i -esimo.

Una parte sensibile di riduzione del peso associata con una accelerazione verticale del terreno $K_Z g$ può essere trasmessa direttamente alla base e ciò è incluso nel fattore $(1 - K_Z)$.

Lo sforzo normale totale alla base di un concio è dato da:



$$N_i = \sigma_{ci} L_i$$

La soluzione delle equazioni di equilibrio si ricava risolvendo un sistema lineare di tre equazioni ottenute moltiplicando le equazioni di equilibrio per il fattore di sicurezza F , sostituendo l'espressione di N_i e moltiplicando ciascun termine della coesione per un coefficiente arbitrario C_3 . Qualsiasi coppia di valori del fattore di sicurezza nell'intorno di una stima fisicamente ragionevole può essere usata per iniziare una soluzione iterativa.

Il numero necessario di iterazioni dipende sia dalla stima iniziale sia dalla desiderata precisione della soluzione; normalmente, il processo converge rapidamente.

Ricerca della superficie di scorrimento critica

In presenza di mezzi omogenei non si hanno a disposizione metodi per individuare la superficie di scorrimento critica ed occorre esaminarne un numero elevato di potenziali superfici.

Nel caso vengano ipotizzate superfici di forma circolare, la ricerca diventa più semplice, in quanto dopo aver posizionato una maglia dei centri costituita da m righe e n colonne saranno esaminate tutte le superfici aventi per centro il generico nodo della maglia $m \times n$ e raggio variabile in un determinato range di valori tale da esaminare superfici cinematicamente ammissibili.

Analisi di stabilità dei pendii con: BELL (1968)

Lat./Long.	44.195456/10.941047
Normativa	NTC 2008
Numero di strati	1.0
Numero dei conci	200.0
Grado di sicurezza ritenuto accettabile	1.0
Coefficiente parziale resistenza	1.1
Analisi	Condizione drenata
Superficie di forma generica	

Coefficienti sismici [N.T.C.]

Dati generali

Tipo opera:	2 - Opere ordinarie
Classe d'uso:	Classe II
Vita nominale:	50.0 [anni]
Vita di riferimento:	50.0 [anni]

Parametri sismici su sito di riferimento

Categoria sottosuolo:	B
Categoria topografica:	T1

S.L. Stato limite	TR Tempo ritorno [anni]	ag [m/s ²]	F0 [-]	TC* [sec]
S.L.O.	30.0	0.59	2.48	0.25
S.L.D.	50.0	0.75	2.45	0.26
S.L.V.	475.0	1.77	2.46	0.29
S.L.C.	975.0	2.23	2.47	0.3

Coefficienti sismici orizzontali e verticali

Opera: Stabilità dei pendii e Fondazioni

S.L. Stato limite	amax [m/s ²]	beta [-]	kh [-]	kv [sec]
S.L.O.	0.708	0.2	0.0144	0.0072
S.L.D.	0.9	0.2	0.0184	0.0092
S.L.V.	2.124	0.24	0.052	0.026
S.L.C.	2.621	0.28	0.0748	0.0374

Vertici profilo

N	X m	y m
1	28.72	47.31
2	45.57	52.31
3	62.91	57.31
4	73.87	62.31
5	81.61	67.31
6	101.32	72.31
7	155.66	77.31
8	216.13	82.31
9	238.62	87.31
10	275.8	92.31
11	319.63	97.31
12	422.99	102.31
13	455.34	107.31
14	471.31	112.31
15	499.26	117.31
16	558.09	122.31
17	582.86	127.31
18	637.0	132.31
19	695.93	137.31
20	728.85	142.31
21	766.82	147.31
22	803.74	152.31

23	852.0	157.31
24	905.9	162.31
25	947.16	167.31
26	987.7	172.31
27	1035.59	177.31
28	1183.44	182.31
29	1265.83	187.31
30	1298.43	192.31
31	1356.05	197.31
32	1419.83	202.31
33	1445.04	207.31
34	1476.93	212.31
35	1510.62	217.31
36	1556.37	222.31
37	1642.18	227.31
38	1667.39	232.31
39	1695.3	237.31
40	1718.26	242.31
41	1744.88	247.31
42	1770.25	252.31
43	1795.47	257.31
44	1811.91	262.31
45	1845.67	267.31
46	1885.83	272.31
47	1902.04	277.31
48	1986.94	282.31
49	2004.99	287.31
50	2029.78	292.31
51	2053.68	297.31
52	2076.43	302.31
53	2095.92	307.31
54	2106.44	312.31
55	2129.96	317.31
56	2148.04	322.31
57	2168.75	327.31

Falda

Nr.	X (m)	y (m)
1	28.43	47.35
2	68.34	55.21
3	104.02	61.12
4	277.19	84.93
5	320.53	88.54
6	422.99	98.3
7	455.34	103.3
8	478.98	105.57
9	586.75	120.76
10	727.57	136.72
11	804.51	143.49
12	853.2	149.14
13	904.01	152.66
14	937.88	154.78
15	971.05	157.6
16	997.16	161.13
17	1033.85	162.54
18	1183.44	178.3
19	1265.83	183.3
20	1298.43	188.3
21	1356.05	193.3
22	1419.83	198.3
23	1445.04	203.3
24	1476.93	208.3

25	1510.62	213.3
26	1556.37	218.3
27	1642.18	223.3
28	1661.23	229.29
29	1691.81	233.33
30	1726.88	237.67
31	1877.86	262.65
32	2004.99	283.3

Vertici superficie Nr...1

N	X m	y m
1	1642.18	227.31
2	1678.07	230.12
3	1709.8	233.24
4	2009.87	284.15
5	2086.17	304.81

Vertici superficie Nr...2

N	X m	y m
1	30.35	47.9
2	163.39	52.83
3	225.83	58.44
4	297.19	69.59
5	804.05	128.18
6	1025.31	159.61
7	1045.6	173.27
8	1049.23	177.84

Vertici superficie Nr...3

N	X m	y m
1	1266.19	187.47
2	1312.77	183.64
3	1341.34	182.73
4	1359.43	183.46
5	1448.69	184.87
6	1569.7	198.32
7	1629.14	226.59

Vertici superficie Nr...4

N	X m	y m
1	28.72	47.31
2	163.39	52.85
3	225.83	58.69
4	297.19	69.61
5	378.72	80.05
6	397.3	83.99
7	408.79	89.59
8	417.18	96.77
9	422.99	102.31

Coefficienti parziali per i parametri geotecnici del terreno

Tangente angolo di resistenza al taglio	1.25
Coesione efficace	1.25
Coesione non drenata	1.4
Riduzione parametri geotecnici terreno	Si

Stratigrafia

c: coesione; cu: coesione non drenata; Fi: Angolo di attrito; G: Peso Specifico; Gs: Peso Specifico Saturo; K: Modulo di Winkler

Strato	c (kN/m ²)	cu (kN/m ²)	Fi (°)	G (t/m ³)	Gs (t/m ³)	K (Kg/cm ³)	Litologia
1			14	1.9		0.00	

B: Larghezza del concio; Alfa: Angolo di inclinazione della base del concio; Li: Lunghezza della base del concio; Wi: Peso del concio; Ui: Forze derivanti dalle pressioni neutre; Ni: forze agenti normalmente alla direzione di scivolamento; Ti: forze agenti parallelamente alla superficie di scivolamento; Fi: Angolo di attrito; c: coesione.

Superficie Nr...1 Fattore di sicurezza=1.01

Nr.	B m	Alfa (°)	Li m	Wi (kN)	Kh•Wi (kN)	Kv•Wi (kN)	c (kN/m ²)	Fi (°)	Ui (kN)	N'i (kN)	Ti (kN)
1	2.22	4.5	2.23	5.52	0.0	0.0	0.0	11.3	0.0	0.8	0.1
2	2.22	4.5	2.23	16.55	0.0	0.0	0.0	11.3	0.0	2.7	0.5
3	2.22	4.5	2.23	27.58	0.0	0.0	0.0	11.3	0.0	4.6	0.8
4	2.22	4.5	2.23	38.62	0.0	0.0	0.0	11.3	0.0	6.5	1.2
5	2.22	4.5	2.23	49.65	0.0	0.0	0.0	11.3	0.0	8.5	1.5
6	2.22	4.5	2.23	60.68	0.0	0.0	0.0	11.3	0.0	10.4	1.9
7	2.22	4.5	2.23	71.72	0.0	0.0	0.0	11.3	0.0	12.3	2.2
8	2.22	4.5	2.23	82.75	0.0	0.0	0.0	11.3	0.0	14.2	2.5
9	2.22	4.5	2.23	93.79	0.0	0.0	0.0	11.3	4.4	6.4	1.1
10	2.22	4.5	2.23	104.82	0.0	0.0	0.0	11.3	5.9	5.0	0.9
11	2.22	4.5	2.23	115.85	0.0	0.0	0.0	11.3	7.1	4.3	0.8
12	2.22	4.5	2.23	126.63	0.0	0.0	0.0	11.3	8.2	3.6	0.6
13	2.22	4.5	2.23	135.89	0.0	0.0	0.0	11.3	9.4	2.6	0.5
14	2.22	4.5	2.23	145.16	0.0	0.0	0.0	11.3	10.6	1.6	0.3
15	2.22	4.5	2.23	154.42	0.0	0.0	0.0	11.3	11.7	0.6	0.1
16	2.22	4.5	2.23	163.69	0.0	0.0	0.0	11.3	12.9	-0.4	-0.1
17	2.22	5.4	2.23	172.18	0.0	0.0	0.0	11.3	13.9	5.3	1.0
18	2.22	5.6	2.23	179.75	0.0	0.0	0.0	11.3	14.7	6.6	1.2
19	2.22	5.6	2.23	187.16	0.0	0.0	0.0	11.3	15.4	6.6	1.2
20	2.22	5.6	2.23	194.57	0.0	0.0	0.0	11.3	16.1	6.6	1.2
21	2.22	5.6	2.23	201.98	0.0	0.0	0.0	11.3	16.9	6.6	1.2
22	2.22	5.6	2.23	209.39	0.0	0.0	0.0	11.3	17.6	6.5	1.2
23	2.22	5.6	2.23	216.8	0.0	0.0	0.0	11.3	18.3	6.6	1.2
24	2.22	5.6	2.23	224.2	0.0	0.0	0.0	11.3	18.9	7.0	1.3
25	2.22	5.6	2.23	233.64	0.0	0.0	0.0	11.3	19.4	7.8	1.4
26	2.22	5.6	2.23	244.6	0.0	0.0	0.0	11.3	20.0	9.0	1.6
27	2.22	5.6	2.23	255.56	0.0	0.0	0.0	11.3	20.5	10.2	1.8
28	2.22	5.6	2.23	266.52	0.0	0.0	0.0	11.3	21.1	11.3	2.0
29	2.22	5.6	2.23	277.49	0.0	0.0	0.0	11.3	21.6	12.5	2.2
30	2.22	5.6	2.23	288.45	0.0	0.0	0.0	11.3	22.2	13.7	2.4
31	2.22	7.8	2.24	297.64	0.0	0.0	0.0	11.3	22.3	40.9	7.3
32	2.22	9.6	2.25	303.57	0.0	0.0	0.0	11.3	21.7	66.2	11.8
33	2.22	9.6	2.25	307.99	0.0	0.0	0.0	11.3	20.7	70.1	12.5
34	2.22	9.6	2.25	312.41	0.0	0.0	0.0	11.3	19.7	73.9	13.2
35	2.22	9.6	2.25	316.2	0.0	0.0	0.0	11.3	18.7	77.6	13.9
36	2.22	9.6	2.25	317.87	0.0	0.0	0.0	11.3	17.7	80.4	14.4
37	2.22	9.6	2.25	319.54	0.0	0.0	0.0	11.3	16.7	83.3	14.9
38	2.22	9.6	2.25	321.21	0.0	0.0	0.0	11.3	15.7	86.1	15.4
39	2.22	9.6	2.25	322.87	0.0	0.0	0.0	11.3	15.0	88.3	15.8
40	2.22	9.6	2.25	324.54	0.0	0.0	0.0	11.3	14.9	89.1	15.9
41	2.22	9.6	2.25	326.21	0.0	0.0	0.0	11.3	14.8	89.9	16.1
42	2.22	9.6	2.25	327.88	0.0	0.0	0.0	11.3	14.7	90.8	16.2
43	2.22	9.6	2.25	329.55	0.0	0.0	0.0	11.3	14.6	91.6	16.4
44	2.22	9.6	2.25	331.22	0.0	0.0	0.0	11.3	14.6	92.4	16.5
45	2.22	9.6	2.25	332.88	0.0	0.0	0.0	11.3	14.5	93.3	16.7
46	2.22	9.6	2.25	334.55	0.0	0.0	0.0	11.3	14.4	94.1	16.8
47	2.22	9.6	2.25	336.42	0.0	0.0	0.0	11.3	14.3	95.0	17.0
48	2.22	9.6	2.25	338.94	0.0	0.0	0.0	11.3	14.2	96.2	17.2
49	2.22	9.6	2.25	341.46	0.0	0.0	0.0	11.3	14.1	97.3	17.4
50	2.22	9.6	2.25	343.98	0.0	0.0	0.0	11.3	14.0	98.5	17.6
51	2.22	9.6	2.25	346.49	0.0	0.0	0.0	11.3	13.9	99.6	17.8
52	2.22	9.6	2.25	349.01	0.0	0.0	0.0	11.3	13.8	100.8	18.0
53	2.22	9.6	2.25	351.53	0.0	0.0	0.0	11.3	13.7	102.0	18.2
54	2.22	9.6	2.25	354.05	0.0	0.0	0.0	11.3	13.6	103.1	18.5

55	2.22	9.6	2.25	356.57	0.0	0.0	0.0	11.3	13.5	104.3	18.7
56	2.22	9.6	2.25	359.09	0.0	0.0	0.0	11.3	13.4	105.4	18.9
57	2.22	9.6	2.25	361.6	0.0	0.0	0.0	11.3	13.4	106.6	19.1
58	2.22	9.6	2.25	364.12	0.0	0.0	0.0	11.3	13.3	107.7	19.3
59	2.22	9.6	2.25	366.73	0.0	0.0	0.0	11.3	13.2	108.9	19.5
60	2.22	9.6	2.25	369.36	0.0	0.0	0.0	11.3	13.1	110.1	19.7
61	2.22	9.6	2.25	371.99	0.0	0.0	0.0	11.3	13.0	111.3	19.9
62	2.22	9.6	2.25	374.62	0.0	0.0	0.0	11.3	12.9	112.5	20.1
63	2.22	9.6	2.25	377.26	0.0	0.0	0.0	11.3	12.8	113.7	20.4
64	2.22	9.6	2.25	379.89	0.0	0.0	0.0	11.3	12.7	114.9	20.6
65	2.22	9.6	2.25	382.52	0.0	0.0	0.0	11.3	12.6	116.1	20.8
66	2.22	9.6	2.25	385.15	0.0	0.0	0.0	11.3	12.5	117.3	21.0
67	2.22	9.6	2.25	387.78	0.0	0.0	0.0	11.3	12.4	118.5	21.2
68	2.22	9.6	2.25	390.41	0.0	0.0	0.0	11.3	12.3	119.7	21.4
69	2.22	9.6	2.25	393.04	0.0	0.0	0.0	11.3	12.2	120.9	21.6
70	2.22	9.6	2.25	400.05	0.0	0.0	0.0	11.3	12.2	123.7	22.1
71	2.22	9.6	2.25	412.39	0.0	0.0	0.0	11.3	12.1	128.6	23.0
72	2.22	9.6	2.25	424.73	0.0	0.0	0.0	11.3	12.0	133.5	23.9
73	2.22	9.6	2.25	437.07	0.0	0.0	0.0	11.3	11.9	138.3	24.8
74	2.22	9.6	2.25	449.41	0.0	0.0	0.0	11.3	11.8	143.2	25.6
75	2.22	9.6	2.25	461.75	0.0	0.0	0.0	11.3	11.7	148.0	26.5
76	2.22	9.6	2.25	474.09	0.0	0.0	0.0	11.3	11.6	152.9	27.4
77	2.22	9.6	2.25	485.82	0.0	0.0	0.0	11.3	11.5	157.5	28.2
78	2.22	9.6	2.25	483.85	0.0	0.0	0.0	11.3	11.4	157.0	28.1
79	2.22	9.6	2.25	481.87	0.0	0.0	0.0	11.3	11.3	156.4	28.0
80	2.22	9.6	2.25	479.89	0.0	0.0	0.0	11.3	11.2	155.9	27.9
81	2.22	9.6	2.25	477.91	0.0	0.0	0.0	11.3	11.1	155.4	27.8
82	2.22	9.6	2.25	475.93	0.0	0.0	0.0	11.3	11.0	154.8	27.7
83	2.22	9.6	2.25	473.95	0.0	0.0	0.0	11.3	11.0	154.3	27.6
84	2.22	9.6	2.25	471.97	0.0	0.0	0.0	11.3	10.9	153.8	27.5
85	2.22	9.6	2.25	469.99	0.0	0.0	0.0	11.3	10.8	153.2	27.4
86	2.22	9.6	2.25	468.02	0.0	0.0	0.0	11.3	10.7	152.7	27.3
87	2.22	9.6	2.25	466.04	0.0	0.0	0.0	11.3	10.6	152.1	27.2
88	2.22	9.6	2.25	464.06	0.0	0.0	0.0	11.3	10.5	151.6	27.1
89	2.22	9.6	2.25	462.08	0.0	0.0	0.0	11.3	10.4	151.0	27.0
90	2.22	9.6	2.25	460.1	0.0	0.0	0.0	11.3	10.3	150.5	26.9
91	2.22	9.6	2.25	458.12	0.0	0.0	0.0	11.3	10.2	150.0	26.8
92	2.22	9.6	2.25	456.14	0.0	0.0	0.0	11.3	10.1	149.4	26.7
93	2.22	9.6	2.25	452.35	0.0	0.0	0.0	11.3	10.0	148.2	26.5
94	2.22	9.6	2.25	448.21	0.0	0.0	0.0	11.3	9.9	146.8	26.3
95	2.22	9.6	2.25	444.06	0.0	0.0	0.0	11.3	9.8	145.5	26.0
96	2.22	9.6	2.25	439.91	0.0	0.0	0.0	11.3	9.8	144.1	25.8
97	2.22	9.6	2.25	435.77	0.0	0.0	0.0	11.3	9.7	142.8	25.6
98	2.22	9.6	2.25	431.62	0.0	0.0	0.0	11.3	9.6	141.4	25.3
99	2.22	9.6	2.25	427.48	0.0	0.0	0.0	11.3	9.5	140.1	25.1
100	2.22	9.6	2.25	423.33	0.0	0.0	0.0	11.3	9.4	138.7	24.8
101	2.22	9.6	2.25	419.18	0.0	0.0	0.0	11.3	9.3	137.3	24.6
102	2.22	9.6	2.25	415.04	0.0	0.0	0.0	11.3	9.2	136.0	24.3
103	2.22	9.6	2.25	410.89	0.0	0.0	0.0	11.3	9.1	134.6	24.1
104	2.22	9.6	2.25	406.75	0.0	0.0	0.0	11.3	9.0	133.3	23.9
105	2.22	9.6	2.25	402.6	0.0	0.0	0.0	11.3	8.9	131.9	23.6
106	2.22	9.6	2.25	398.45	0.0	0.0	0.0	11.3	8.8	130.6	23.4
107	2.22	9.6	2.25	394.31	0.0	0.0	0.0	11.3	8.7	129.2	23.1
108	2.22	9.6	2.25	390.16	0.0	0.0	0.0	11.3	8.6	128.0	22.9
109	2.22	9.6	2.25	386.02	0.0	0.0	0.0	11.3	8.4	126.8	22.7
110	2.22	9.6	2.25	381.87	0.0	0.0	0.0	11.3	8.2	125.6	22.5
111	2.22	9.6	2.25	390.3	0.0	0.0	0.0	11.3	8.1	129.1	23.1
112	2.22	9.6	2.25	403.05	0.0	0.0	0.0	11.3	7.9	134.3	24.0
113	2.22	9.6	2.25	415.8	0.0	0.0	0.0	11.3	7.8	139.4	25.0
114	2.22	9.6	2.25	428.55	0.0	0.0	0.0	11.3	7.6	144.6	25.9
115	2.22	9.6	2.25	441.3	0.0	0.0	0.0	11.3	7.5	149.7	26.8
116	2.22	9.6	2.25	454.05	0.0	0.0	0.0	11.3	7.3	154.9	27.7
117	2.22	9.6	2.25	466.8	0.0	0.0	0.0	11.3	7.2	160.1	28.6

118	2.22	9.6	2.25	469.38	0.0	0.0	0.0	11.3	7.0	161.4	28.9
119	2.22	9.6	2.25	459.21	0.0	0.0	0.0	11.3	6.8	157.9	28.3
120	2.22	9.6	2.25	449.04	0.0	0.0	0.0	11.3	6.7	154.4	27.6
121	2.22	9.6	2.25	438.87	0.0	0.0	0.0	11.3	6.5	150.9	27.0
122	2.22	9.6	2.25	428.7	0.0	0.0	0.0	11.3	6.4	147.4	26.4
123	2.22	9.6	2.25	418.53	0.0	0.0	0.0	11.3	6.2	143.9	25.8
124	2.22	9.6	2.25	408.36	0.0	0.0	0.0	11.3	6.1	140.5	25.1
125	2.22	9.6	2.25	398.18	0.0	0.0	0.0	11.3	5.9	137.0	24.5
126	2.22	9.6	2.25	388.01	0.0	0.0	0.0	11.3	5.7	133.5	23.9
127	2.22	9.6	2.25	377.84	0.0	0.0	0.0	11.3	5.6	130.0	23.3
128	2.22	9.6	2.25	367.67	0.0	0.0	0.0	11.3	5.4	126.5	22.6
129	2.22	9.6	2.25	357.5	0.0	0.0	0.0	11.3	5.3	123.0	22.0
130	2.22	9.6	2.25	347.33	0.0	0.0	0.0	11.3	5.1	119.5	21.4
131	2.22	9.6	2.25	337.16	0.0	0.0	0.0	11.3	5.0	116.1	20.8
132	2.22	9.6	2.25	326.99	0.0	0.0	0.0	11.3	4.8	112.6	20.1
133	2.22	9.6	2.25	316.82	0.0	0.0	0.0	11.3	4.7	109.1	19.5
134	2.22	9.6	2.25	306.65	0.0	0.0	0.0	11.3	4.5	105.6	18.9
135	2.22	9.6	2.25	296.48	0.0	0.0	0.0	11.3	4.3	102.1	18.3
136	2.22	9.6	2.25	286.31	0.0	0.0	0.0	11.3	4.2	98.6	17.7
137	2.22	9.6	2.25	276.14	0.0	0.0	0.0	11.3	4.0	95.1	17.0
138	2.22	9.6	2.25	265.97	0.0	0.0	0.0	11.3	3.9	91.6	16.4
139	2.22	9.6	2.25	255.79	0.0	0.0	0.0	11.3	3.7	88.1	15.8
140	2.22	9.6	2.25	245.62	0.0	0.0	0.0	11.3	3.6	84.7	15.2
141	2.22	9.6	2.25	235.45	0.0	0.0	0.0	11.3	3.4	81.2	14.5
142	2.22	9.6	2.25	225.28	0.0	0.0	0.0	11.3	3.2	77.7	13.9
143	2.22	9.6	2.25	215.11	0.0	0.0	0.0	11.3	3.1	74.2	13.3
144	2.22	9.6	2.25	204.94	0.0	0.0	0.0	11.3	2.9	70.7	12.7
145	2.22	9.6	2.25	194.77	0.0	0.0	0.0	11.3	2.8	67.2	12.0
146	2.22	9.6	2.25	184.6	0.0	0.0	0.0	11.3	2.6	63.7	11.4
147	2.22	9.6	2.25	174.43	0.0	0.0	0.0	11.3	2.5	60.3	10.8
148	2.22	9.6	2.25	164.26	0.0	0.0	0.0	11.3	2.3	56.8	10.2
149	2.22	9.6	2.25	154.09	0.0	0.0	0.0	11.3	2.2	53.3	9.5
150	2.22	9.6	2.25	143.92	0.0	0.0	0.0	11.3	2.0	49.8	8.9
151	2.22	9.6	2.25	133.74	0.0	0.0	0.0	11.3	1.8	46.3	8.3
152	2.22	9.6	2.25	123.58	0.0	0.0	0.0	11.3	1.7	42.8	7.7
153	2.22	9.6	2.25	113.4	0.0	0.0	0.0	11.3	1.5	39.3	7.0
154	2.22	9.6	2.25	103.23	0.0	0.0	0.0	11.3	1.4	35.8	6.4
155	2.22	9.6	2.25	93.06	0.0	0.0	0.0	11.3	1.2	32.4	5.8
156	2.22	9.6	2.25	86.89	0.0	0.0	0.0	11.3	1.1	30.4	5.4
157	2.22	9.6	2.25	96.75	0.0	0.0	0.0	11.3	0.9	34.4	6.2
158	2.22	9.6	2.25	106.61	0.0	0.0	0.0	11.3	0.7	38.5	6.9
159	2.22	9.6	2.25	116.48	0.0	0.0	0.0	11.3	0.6	42.6	7.6
160	2.22	9.6	2.25	126.34	0.0	0.0	0.0	11.3	0.4	46.6	8.3
161	2.22	9.6	2.25	136.21	0.0	0.0	0.0	11.3	0.3	50.7	9.1
162	2.22	9.6	2.25	146.07	0.0	0.0	0.0	11.3	0.1	54.8	9.8
163	2.22	9.6	2.25	155.93	0.0	0.0	0.0	11.3	0.0	58.8	10.5
164	2.22	9.6	2.25	165.31	0.0	0.0	0.0	11.3	0.0	62.3	11.2
165	2.22	9.6	2.25	168.25	0.0	0.0	0.0	11.3	0.0	63.4	11.3
166	2.22	11.7	2.27	169.47	0.0	0.0	0.0	11.3	0.0	78.0	14.0
167	2.22	15.2	2.3	166.05	0.0	0.0	0.0	11.3	0.0	99.9	17.9
168	2.22	15.2	2.3	159.7	0.0	0.0	0.0	11.3	0.0	96.1	17.2
169	2.22	15.2	2.3	153.36	0.0	0.0	0.0	11.3	0.0	92.3	16.5
170	2.22	15.2	2.3	147.01	0.0	0.0	0.0	11.3	0.0	88.5	15.8
171	2.22	15.2	2.3	140.66	0.0	0.0	0.0	11.3	0.0	84.6	15.1
172	2.22	15.2	2.3	134.31	0.0	0.0	0.0	11.3	0.0	80.8	14.5
173	2.22	15.2	2.3	127.97	0.0	0.0	0.0	11.3	0.0	77.0	13.8
174	2.22	15.2	2.3	121.62	0.0	0.0	0.0	11.3	0.0	73.2	13.1
175	2.22	15.2	2.3	115.27	0.0	0.0	0.0	11.3	0.0	69.4	12.4
176	2.22	15.2	2.3	109.55	0.0	0.0	0.0	11.3	0.0	65.9	11.8
177	2.22	15.2	2.3	103.89	0.0	0.0	0.0	11.3	0.0	62.5	11.2
178	2.22	15.2	2.3	98.23	0.0	0.0	0.0	11.3	0.0	59.1	10.6
179	2.22	15.2	2.3	92.57	0.0	0.0	0.0	11.3	0.0	55.7	10.0
180	2.22	15.2	2.3	86.92	0.0	0.0	0.0	11.3	0.0	52.3	9.4

181	2.22	15.2	2.3	81.26	0.0	0.0	0.0	11.3	0.0	48.9	8.8
182	2.22	15.2	2.3	75.61	0.0	0.0	0.0	11.3	0.0	45.5	8.1
183	2.22	15.2	2.3	69.95	0.0	0.0	0.0	11.3	0.0	42.1	7.5
184	2.22	15.2	2.3	64.29	0.0	0.0	0.0	11.3	0.0	38.7	6.9
185	2.22	15.2	2.3	58.63	0.0	0.0	0.0	11.3	0.0	35.3	6.3
186	2.22	15.2	2.3	53.11	0.0	0.0	0.0	11.3	0.0	32.0	5.7
187	2.22	15.2	2.3	48.43	0.0	0.0	0.0	11.3	0.0	29.1	5.2
188	2.22	15.2	2.3	43.74	0.0	0.0	0.0	11.3	0.0	26.3	4.7
189	2.22	15.2	2.3	39.06	0.0	0.0	0.0	11.3	0.0	23.5	4.2
190	2.22	15.2	2.3	34.38	0.0	0.0	0.0	11.3	0.0	20.7	3.7
191	2.22	15.2	2.3	29.7	0.0	0.0	0.0	11.3	0.0	17.9	3.2
192	2.22	15.2	2.3	25.01	0.0	0.0	0.0	11.3	0.0	15.0	2.7
193	2.22	15.2	2.3	20.33	0.0	0.0	0.0	11.3	0.0	12.2	2.2
194	2.22	15.2	2.3	15.65	0.0	0.0	0.0	11.3	0.0	9.4	1.7
195	2.22	15.2	2.3	10.96	0.0	0.0	0.0	11.3	0.0	6.6	1.2
196	2.22	15.2	2.3	6.28	0.0	0.0	0.0	11.3	0.0	3.8	0.7
197	2.22	15.2	2.3	4.6	0.0	0.0	0.0	11.3	0.0	2.8	0.5
198	2.22	15.2	2.3	3.28	0.0	0.0	0.0	11.3	0.0	2.0	0.4
199	2.22	15.2	2.3	1.97	0.0	0.0	0.0	11.3	0.0	1.2	0.2
200	2.22	15.1	2.3	0.67	0.0	0.0	0.0	11.3	0.0	0.4	0.1

Superficie Nr...2 Fattore di sicurezza=1.00

Nr.	B m	Alfa (°)	Li m	Wi (kN)	Kh•Wi (kN)	Kv•Wi (kN)	c (kN/m ²)	Fi (°)	Ui (kN)	N'i (kN)	Ti (kN)
1	5.09	2.1	5.1	62.72	0.0	0.0	0.0	11.3	2.9	-18.3	-3.3
2	5.09	2.1	5.1	188.16	0.0	0.0	0.0	11.3	10.9	-35.1	-6.3
3	5.09	2.1	5.1	313.6	0.0	0.0	0.0	11.3	18.9	-51.9	-9.4
4	5.09	2.1	5.1	436.67	0.0	0.0	0.0	11.3	26.9	-69.2	-12.5
5	5.09	2.1	5.1	558.09	0.0	0.0	0.0	11.3	34.9	-86.7	-15.7
6	5.09	2.1	5.1	679.51	0.0	0.0	0.0	11.3	42.9	-104.3	-18.9
7	5.09	2.1	5.1	815.97	0.0	0.0	0.0	11.3	50.8	-119.0	-21.5
8	5.09	2.1	5.1	1018.61	0.0	0.0	0.0	11.3	58.7	-120.2	-21.8
9	5.09	2.1	5.1	1224.36	0.0	0.0	0.0	11.3	65.1	-113.8	-20.6
10	5.09	2.1	5.1	1518.22	0.0	0.0	0.0	11.3	71.5	-90.6	-16.4
11	5.09	2.1	5.1	1715.19	0.0	0.0	0.0	11.3	77.9	-85.7	-15.5
12	5.09	2.1	5.1	1819.91	0.0	0.0	0.0	11.3	84.3	-98.5	-17.8
13	5.09	2.1	5.1	1924.63	0.0	0.0	0.0	11.3	90.7	-111.2	-20.1
14	5.09	2.1	5.1	2029.35	0.0	0.0	0.0	11.3	97.1	-123.9	-22.4
15	5.09	2.1	5.1	2083.81	0.0	0.0	0.0	11.3	103.4	-145.3	-26.3
16	5.09	2.1	5.1	2110.38	0.0	0.0	0.0	11.3	108.4	-165.8	-30.0
17	5.09	2.1	5.1	2136.94	0.0	0.0	0.0	11.3	113.4	-186.2	-33.7
18	5.09	2.1	5.1	2163.51	0.0	0.0	0.0	11.3	118.5	-206.6	-37.4
19	5.09	2.1	5.1	2190.08	0.0	0.0	0.0	11.3	123.5	-227.1	-41.1
20	5.09	2.1	5.1	2216.64	0.0	0.0	0.0	11.3	128.5	-247.5	-44.8
21	5.09	2.1	5.1	2243.21	0.0	0.0	0.0	11.3	133.5	-267.9	-48.5
22	5.09	2.1	5.1	2269.77	0.0	0.0	0.0	11.3	138.5	-288.4	-52.2
23	5.09	2.1	5.1	2296.34	0.0	0.0	0.0	11.3	143.5	-308.8	-55.9
24	5.09	2.1	5.1	2322.91	0.0	0.0	0.0	11.3	148.6	-329.3	-59.6
25	5.09	2.1	5.1	2349.47	0.0	0.0	0.0	11.3	153.6	-349.7	-63.3
26	5.09	2.1	5.1	2371.65	0.0	0.0	0.0	11.3	158.6	-371.0	-67.1
27	5.09	5.0	5.11	2381.54	0.0	0.0	0.0	11.3	162.4	226.8	41.0
28	5.09	5.1	5.11	2378.66	0.0	0.0	0.0	11.3	164.8	243.5	44.1
29	5.09	5.1	5.11	2375.17	0.0	0.0	0.0	11.3	167.2	229.9	41.6
30	5.09	5.1	5.11	2371.68	0.0	0.0	0.0	11.3	169.6	216.3	39.1
31	5.09	5.1	5.11	2368.2	0.0	0.0	0.0	11.3	171.9	202.6	36.7
32	5.09	5.1	5.11	2364.71	0.0	0.0	0.0	11.3	174.3	189.0	34.2
33	5.09	5.1	5.11	2361.22	0.0	0.0	0.0	11.3	176.7	175.3	31.7
34	5.09	5.1	5.11	2357.74	0.0	0.0	0.0	11.3	179.1	161.7	29.3
35	5.09	5.1	5.11	2354.25	0.0	0.0	0.0	11.3	181.5	148.0	26.8
36	5.09	5.1	5.11	2350.77	0.0	0.0	0.0	11.3	183.8	134.4	24.3

37	5.09	5.1	5.11	2353.68	0.0	0.0	0.0	11.3	186.2	123.7	22.4
38	5.09	5.1	5.11	2417.69	0.0	0.0	0.0	11.3	188.6	141.1	25.5
39	5.09	7.7	5.14	2470.62	0.0	0.0	0.0	11.3	189.8	739.9	133.9
40	5.09	8.9	5.15	2507.52	0.0	0.0	0.0	11.3	189.4	1031.3	186.6
41	5.09	8.9	5.15	2539.47	0.0	0.0	0.0	11.3	188.5	1061.7	192.1
42	5.09	8.9	5.15	2542.59	0.0	0.0	0.0	11.3	187.6	1069.0	193.4
43	5.09	8.9	5.15	2532.08	0.0	0.0	0.0	11.3	186.6	1065.4	192.8
44	5.09	8.9	5.15	2521.56	0.0	0.0	0.0	11.3	185.7	1061.8	192.1
45	5.09	8.9	5.15	2511.05	0.0	0.0	0.0	11.3	184.8	1058.3	191.5
46	5.09	8.9	5.15	2500.54	0.0	0.0	0.0	11.3	183.8	1054.7	190.8
47	5.09	8.9	5.15	2490.03	0.0	0.0	0.0	11.3	182.9	1051.1	190.2
48	5.09	8.9	5.15	2479.52	0.0	0.0	0.0	11.3	182.0	1047.5	189.5
49	5.09	8.9	5.15	2465.29	0.0	0.0	0.0	11.3	180.7	1042.4	188.6
50	5.09	8.9	5.15	2444.93	0.0	0.0	0.0	11.3	177.1	1044.7	189.0
51	5.09	8.9	5.15	2424.57	0.0	0.0	0.0	11.3	173.5	1047.0	189.4
52	5.09	8.9	5.15	2404.2	0.0	0.0	0.0	11.3	169.8	1049.3	189.9
53	5.09	7.3	5.13	2390.49	0.0	0.0	0.0	11.3	166.9	716.3	129.6
54	5.09	6.6	5.13	2386.58	0.0	0.0	0.0	11.3	164.9	563.2	101.9
55	5.09	6.6	5.13	2385.85	0.0	0.0	0.0	11.3	163.3	571.1	103.3
56	5.09	6.6	5.13	2385.11	0.0	0.0	0.0	11.3	161.7	578.9	104.7
57	5.09	6.6	5.13	2384.38	0.0	0.0	0.0	11.3	160.1	586.8	106.2
58	5.09	6.6	5.13	2359.2	0.0	0.0	0.0	11.3	158.8	578.3	104.6
59	5.09	6.6	5.13	2326.72	0.0	0.0	0.0	11.3	157.8	564.4	102.1
60	5.09	6.6	5.13	2294.23	0.0	0.0	0.0	11.3	156.8	550.3	99.6
61	5.09	6.6	5.13	2261.75	0.0	0.0	0.0	11.3	155.8	536.4	97.0
62	5.09	6.6	5.13	2229.27	0.0	0.0	0.0	11.3	154.8	522.4	94.5
63	5.09	6.6	5.13	2196.79	0.0	0.0	0.0	11.3	153.7	508.4	92.0
64	5.09	6.6	5.13	2164.31	0.0	0.0	0.0	11.3	152.7	494.4	89.5
65	5.09	6.6	5.13	2131.83	0.0	0.0	0.0	11.3	151.7	480.4	86.9
66	5.09	6.6	5.13	2099.35	0.0	0.0	0.0	11.3	150.7	466.4	84.4
67	5.09	6.6	5.13	2066.87	0.0	0.0	0.0	11.3	149.7	452.4	81.9
68	5.09	6.6	5.13	2034.39	0.0	0.0	0.0	11.3	148.7	438.4	79.3
69	5.09	6.6	5.13	2001.91	0.0	0.0	0.0	11.3	147.6	424.4	76.8
70	5.09	6.6	5.13	1969.43	0.0	0.0	0.0	11.3	146.6	410.4	74.3
71	5.09	6.6	5.13	1936.94	0.0	0.0	0.0	11.3	145.6	396.4	71.7
72	5.09	6.6	5.13	1904.46	0.0	0.0	0.0	11.3	144.6	382.5	69.2
73	5.09	6.6	5.13	1871.98	0.0	0.0	0.0	11.3	143.6	368.5	66.7
74	5.09	6.6	5.13	1839.5	0.0	0.0	0.0	11.3	142.6	354.5	64.1
75	5.09	6.6	5.13	1807.02	0.0	0.0	0.0	11.3	141.5	340.5	61.6
76	5.09	6.6	5.13	1774.54	0.0	0.0	0.0	11.3	140.5	326.5	59.1
77	5.09	6.6	5.13	1742.06	0.0	0.0	0.0	11.3	139.5	312.5	56.5
78	5.09	6.6	5.13	1733.8	0.0	0.0	0.0	11.3	139.9	305.7	55.3
79	5.09	6.6	5.13	1752.61	0.0	0.0	0.0	11.3	141.8	307.1	55.6
80	5.09	6.6	5.13	1771.42	0.0	0.0	0.0	11.3	143.8	308.4	55.8
81	5.09	6.6	5.13	1790.23	0.0	0.0	0.0	11.3	145.7	309.7	56.0
82	5.09	6.6	5.13	1809.04	0.0	0.0	0.0	11.3	147.7	311.0	56.3
83	5.09	6.6	5.13	1827.85	0.0	0.0	0.0	11.3	149.6	312.4	56.5
84	5.09	6.6	5.13	1855.73	0.0	0.0	0.0	11.3	151.2	320.8	58.0
85	5.09	6.6	5.13	1951.15	0.0	0.0	0.0	11.3	150.2	382.4	69.2
86	5.09	6.6	5.13	2046.58	0.0	0.0	0.0	11.3	149.2	444.0	80.3
87	5.09	6.6	5.13	2142.0	0.0	0.0	0.0	11.3	148.3	505.6	91.5
88	5.09	6.6	5.13	2173.72	0.0	0.0	0.0	11.3	147.3	529.5	95.8
89	5.09	6.6	5.13	2204.29	0.0	0.0	0.0	11.3	147.4	547.2	99.0
90	5.09	6.6	5.13	2234.86	0.0	0.0	0.0	11.3	148.6	559.0	101.1
91	5.09	6.6	5.13	2265.43	0.0	0.0	0.0	11.3	149.9	570.8	103.3
92	5.09	6.6	5.13	2295.99	0.0	0.0	0.0	11.3	151.2	582.5	105.4
93	5.09	6.6	5.13	2304.2	0.0	0.0	0.0	11.3	152.4	581.0	105.1
94	5.09	6.6	5.13	2289.42	0.0	0.0	0.0	11.3	153.7	565.9	102.4
95	5.09	6.6	5.13	2274.63	0.0	0.0	0.0	11.3	155.0	550.8	99.7
96	5.09	6.6	5.13	2259.85	0.0	0.0	0.0	11.3	156.2	535.7	96.9
97	5.09	6.6	5.13	2245.06	0.0	0.0	0.0	11.3	157.5	520.6	94.2
98	5.09	6.6	5.13	2230.27	0.0	0.0	0.0	11.3	158.7	505.5	91.5
99	5.09	6.6	5.13	2215.49	0.0	0.0	0.0	11.3	160.0	490.4	88.7

100	5.09	6.6	5.13	2200.7	0.0	0.0	0.0	11.3	161.3	475.3	86.0
101	5.09	6.6	5.13	2185.92	0.0	0.0	0.0	11.3	162.5	460.2	83.3
102	5.09	6.6	5.13	2171.13	0.0	0.0	0.0	11.3	163.8	445.0	80.5
103	5.09	6.6	5.13	2156.34	0.0	0.0	0.0	11.3	165.1	429.9	77.8
104	5.09	6.6	5.13	2141.56	0.0	0.0	0.0	11.3	166.3	414.8	75.1
105	5.09	6.6	5.13	2179.89	0.0	0.0	0.0	11.3	167.6	431.2	78.0
106	5.09	6.6	5.13	2221.55	0.0	0.0	0.0	11.3	168.8	449.5	81.3
107	5.09	6.6	5.13	2263.2	0.0	0.0	0.0	11.3	170.1	467.8	84.6
108	5.09	6.6	5.13	2304.85	0.0	0.0	0.0	11.3	171.4	486.2	88.0
109	5.09	6.6	5.13	2342.49	0.0	0.0	0.0	11.3	172.6	502.1	90.9
110	5.09	6.6	5.13	2331.26	0.0	0.0	0.0	11.3	173.5	491.3	88.9
111	5.09	6.6	5.13	2320.03	0.0	0.0	0.0	11.3	173.4	485.3	87.8
112	5.09	6.6	5.13	2308.8	0.0	0.0	0.0	11.3	173.2	479.3	86.7
113	5.09	6.6	5.13	2297.56	0.0	0.0	0.0	11.3	173.1	473.3	85.6
114	5.09	6.6	5.13	2286.33	0.0	0.0	0.0	11.3	173.0	467.2	84.5
115	5.09	6.6	5.13	2275.1	0.0	0.0	0.0	11.3	172.9	461.2	83.5
116	5.09	6.6	5.13	2263.86	0.0	0.0	0.0	11.3	172.8	455.2	82.4
117	5.09	6.6	5.13	2252.63	0.0	0.0	0.0	11.3	172.7	449.2	81.3
118	5.09	6.6	5.13	2241.4	0.0	0.0	0.0	11.3	172.6	443.2	80.2
119	5.09	6.6	5.13	2230.17	0.0	0.0	0.0	11.3	172.5	437.2	79.1
120	5.09	6.6	5.13	2217.32	0.0	0.0	0.0	11.3	172.4	430.2	77.8
121	5.09	6.6	5.13	2202.47	0.0	0.0	0.0	11.3	172.3	422.0	76.4
122	5.09	6.6	5.13	2187.61	0.0	0.0	0.0	11.3	172.1	413.9	74.9
123	5.09	6.6	5.13	2172.75	0.0	0.0	0.0	11.3	172.0	405.7	73.4
124	5.09	6.6	5.13	2157.89	0.0	0.0	0.0	11.3	171.9	397.5	71.9
125	5.09	6.6	5.13	2143.03	0.0	0.0	0.0	11.3	171.8	389.4	70.5
126	5.09	6.6	5.13	2128.18	0.0	0.0	0.0	11.3	171.7	381.2	69.0
127	5.09	6.6	5.13	2113.32	0.0	0.0	0.0	11.3	171.6	373.0	67.5
128	5.09	6.6	5.13	2098.46	0.0	0.0	0.0	11.3	171.5	364.9	66.0
129	5.09	6.6	5.13	2083.6	0.0	0.0	0.0	11.3	171.4	356.7	64.5
130	5.09	6.6	5.13	2068.75	0.0	0.0	0.0	11.3	171.3	348.5	63.1
131	5.09	6.6	5.13	2053.89	0.0	0.0	0.0	11.3	171.1	340.4	61.6
132	5.09	6.6	5.13	2067.25	0.0	0.0	0.0	11.3	171.0	348.9	63.1
133	5.09	6.6	5.13	2084.76	0.0	0.0	0.0	11.3	170.9	360.0	65.1
134	5.09	6.6	5.13	2102.27	0.0	0.0	0.0	11.3	170.8	371.0	67.1
135	5.09	6.6	5.13	2119.78	0.0	0.0	0.0	11.3	170.7	382.0	69.1
136	5.09	6.6	5.13	2137.29	0.0	0.0	0.0	11.3	170.6	393.0	71.1
137	5.09	6.6	5.13	2154.8	0.0	0.0	0.0	11.3	170.5	404.0	73.1
138	5.09	6.6	5.13	2168.36	0.0	0.0	0.0	11.3	169.5	417.0	75.4
139	5.09	6.6	5.13	2176.13	0.0	0.0	0.0	11.3	168.2	428.7	77.6
140	5.09	6.6	5.13	2183.9	0.0	0.0	0.0	11.3	166.8	440.4	79.7
141	5.09	6.6	5.13	2191.67	0.0	0.0	0.0	11.3	165.4	452.1	81.8
142	5.09	6.6	5.13	2199.45	0.0	0.0	0.0	11.3	164.0	463.8	83.9
143	5.09	6.6	5.13	2207.22	0.0	0.0	0.0	11.3	162.6	475.5	86.0
144	5.09	6.6	5.13	2214.99	0.0	0.0	0.0	11.3	161.3	487.2	88.2
145	5.09	6.6	5.13	2222.76	0.0	0.0	0.0	11.3	159.9	498.9	90.3
146	5.09	6.6	5.13	2232.25	0.0	0.0	0.0	11.3	158.5	511.7	92.6
147	5.09	6.6	5.13	2241.83	0.0	0.0	0.0	11.3	157.1	524.5	94.9
148	5.09	6.6	5.13	2251.41	0.0	0.0	0.0	11.3	155.7	537.2	97.2
149	5.09	6.6	5.13	2260.99	0.0	0.0	0.0	11.3	154.4	550.0	99.5
150	5.09	6.6	5.13	2270.57	0.0	0.0	0.0	11.3	153.0	562.8	101.8
151	5.09	6.6	5.13	2280.14	0.0	0.0	0.0	11.3	151.6	575.6	104.1
152	5.09	6.8	5.13	2288.84	0.0	0.0	0.0	11.3	150.1	631.2	114.2
153	5.09	8.1	5.14	2280.41	0.0	0.0	0.0	11.3	148.8	899.2	162.7
154	5.09	8.1	5.14	2261.85	0.0	0.0	0.0	11.3	147.5	892.4	161.5
155	5.09	8.1	5.14	2243.29	0.0	0.0	0.0	11.3	146.2	885.6	160.2
156	5.09	8.1	5.14	2224.73	0.0	0.0	0.0	11.3	144.9	878.8	159.0
157	5.09	8.1	5.14	2206.17	0.0	0.0	0.0	11.3	143.5	872.0	157.8
158	5.09	8.1	5.14	2187.62	0.0	0.0	0.0	11.3	142.2	865.2	156.5
159	5.09	8.1	5.14	2169.06	0.0	0.0	0.0	11.3	140.9	858.4	155.3
160	5.09	8.1	5.14	2150.5	0.0	0.0	0.0	11.3	139.6	851.6	154.1
161	5.09	8.1	5.14	2131.94	0.0	0.0	0.0	11.3	138.3	844.8	152.8
162	5.09	8.1	5.14	2112.22	0.0	0.0	0.0	11.3	137.0	837.2	151.5

163	5.09	8.1	5.14	2088.41	0.0	0.0	0.0	11.3	133.4	838.2	151.7
164	5.09	8.1	5.14	2064.61	0.0	0.0	0.0	11.3	129.8	839.4	151.9
165	5.09	8.1	5.14	2040.81	0.0	0.0	0.0	11.3	126.2	840.6	152.1
166	5.09	8.1	5.14	2017.01	0.0	0.0	0.0	11.3	122.6	841.8	152.3
167	5.09	8.1	5.14	1993.21	0.0	0.0	0.0	11.3	118.9	843.0	152.5
168	5.09	8.1	5.14	1969.4	0.0	0.0	0.0	11.3	115.3	844.2	152.7
169	5.09	8.1	5.14	1945.6	0.0	0.0	0.0	11.3	111.7	845.4	153.0
170	5.09	8.1	5.14	1921.8	0.0	0.0	0.0	11.3	108.1	846.6	153.2
171	5.09	8.1	5.14	1898.0	0.0	0.0	0.0	11.3	104.4	847.8	153.4
172	5.09	8.1	5.14	1874.2	0.0	0.0	0.0	11.3	100.8	849.0	153.6
173	5.09	8.1	5.14	1859.13	0.0	0.0	0.0	11.3	96.8	858.3	155.3
174	5.09	8.1	5.14	1849.07	0.0	0.0	0.0	11.3	92.9	871.3	157.7
175	5.09	8.1	5.14	1839.0	0.0	0.0	0.0	11.3	88.9	884.3	160.0
176	5.09	8.1	5.14	1828.93	0.0	0.0	0.0	11.3	84.9	897.2	162.3
177	5.09	8.1	5.14	1818.87	0.0	0.0	0.0	11.3	81.0	910.2	164.7
178	5.09	8.1	5.14	1808.8	0.0	0.0	0.0	11.3	77.0	923.2	167.0
179	5.09	8.1	5.14	1798.74	0.0	0.0	0.0	11.3	73.4	934.1	169.0
180	5.09	8.1	5.14	1788.68	0.0	0.0	0.0	11.3	70.6	941.3	170.3
181	5.09	8.1	5.14	1779.16	0.0	0.0	0.0	11.3	67.7	949.0	171.7
182	5.09	8.1	5.14	1770.13	0.0	0.0	0.0	11.3	64.9	956.9	173.1
183	5.09	8.1	5.14	1761.1	0.0	0.0	0.0	11.3	62.1	964.9	174.6
184	5.09	8.1	5.14	1752.06	0.0	0.0	0.0	11.3	59.2	972.9	176.0
185	5.09	8.1	5.14	1743.03	0.0	0.0	0.0	11.3	56.4	980.9	177.5
186	5.09	8.1	5.14	1733.99	0.0	0.0	0.0	11.3	55.6	978.1	177.0
187	5.09	8.1	5.14	1724.96	0.0	0.0	0.0	11.3	55.3	973.4	176.1
188	5.09	8.1	5.14	1715.93	0.0	0.0	0.0	11.3	54.9	968.6	175.3
189	5.09	8.1	5.14	1701.67	0.0	0.0	0.0	11.3	54.6	960.1	173.7
190	5.09	8.1	5.14	1683.51	0.0	0.0	0.0	11.3	54.3	948.7	171.6
191	5.09	8.1	5.14	1665.34	0.0	0.0	0.0	11.3	50.5	954.9	172.8
192	5.09	8.1	5.14	1647.18	0.0	0.0	0.0	11.3	45.3	968.0	175.2
193	5.09	8.1	5.14	1629.01	0.0	0.0	0.0	11.3	40.1	981.3	177.5
194	5.09	8.1	5.14	1610.84	0.0	0.0	0.0	11.3	34.9	994.4	179.9
195	5.09	8.1	5.14	1592.68	0.0	0.0	0.0	11.3	29.8	1007.6	182.3
196	5.09	26.9	5.71	1486.34	0.0	0.0	0.0	11.3	15.5	3784.2	684.7
197	5.09	34.0	6.14	1251.67	0.0	0.0	0.0	11.3	0.0	4320.2	781.7
198	5.09	34.0	6.14	971.08	0.0	0.0	0.0	11.3	0.0	3351.7	606.4
199	5.09	34.0	6.14	662.13	0.0	0.0	0.0	11.3	0.0	2285.4	413.5
200	5.09	47.3	7.51	253.83	0.0	0.0	0.0	11.3	0.0	1411.3	255.3

Superficie Nr...3 Fattore di sicurezza=1.01

Nr.	B m	Alfa (°)	Li m	Wi (kN)	Kh•Wi (kN)	Kv•Wi (kN)	c (kN/m²)	Fi (°)	Ui (kN)	N'i (kN)	Ti (kN)
1	1.81	-4.7	1.82	7.21	0.0	0.0	0.0	11.3	0.0	-17.2	-3.1
2	1.81	-4.7	1.82	21.62	0.0	0.0	0.0	11.3	0.0	-19.3	-3.4
3	1.81	-4.7	1.82	36.03	0.0	0.0	0.0	11.3	0.0	-21.4	-3.8
4	1.81	-4.7	1.82	50.45	0.0	0.0	0.0	11.3	0.0	-23.6	-4.2
5	1.81	-4.7	1.82	64.86	0.0	0.0	0.0	11.3	0.0	-25.7	-4.6
6	1.81	-4.7	1.82	79.27	0.0	0.0	0.0	11.3	0.0	-27.8	-5.0
7	1.81	-4.7	1.82	93.69	0.0	0.0	0.0	11.3	0.0	-30.0	-5.4
8	1.81	-4.7	1.82	108.1	0.0	0.0	0.0	11.3	0.0	-32.1	-5.7
9	1.81	-4.7	1.82	122.52	0.0	0.0	0.0	11.3	0.0	-34.2	-6.1
10	1.81	-4.7	1.82	136.93	0.0	0.0	0.0	11.3	0.4	-37.2	-6.6
11	1.81	-4.7	1.82	151.34	0.0	0.0	0.0	11.3	4.6	-46.9	-8.4
12	1.81	-4.7	1.82	165.76	0.0	0.0	0.0	11.3	8.8	-56.6	-10.1
13	1.81	-4.7	1.82	180.17	0.0	0.0	0.0	11.3	13.0	-66.4	-11.9
14	1.81	-4.7	1.82	194.58	0.0	0.0	0.0	11.3	17.2	-76.1	-13.6
15	1.81	-4.7	1.82	209.0	0.0	0.0	0.0	11.3	21.4	-85.8	-15.3
16	1.81	-4.7	1.82	223.41	0.0	0.0	0.0	11.3	25.6	-95.5	-17.1
17	1.81	-4.7	1.82	237.82	0.0	0.0	0.0	11.3	29.7	-105.2	-18.8
18	1.81	-4.7	1.82	252.24	0.0	0.0	0.0	11.3	33.9	-115.0	-20.5

19	1.81	-4.7	1.82	262.79	0.0	0.0	0.0	11.3	37.0	-122.1	-21.8
20	1.81	-4.7	1.82	273.13	0.0	0.0	0.0	11.3	40.0	-129.0	-23.1
21	1.81	-4.7	1.82	283.47	0.0	0.0	0.0	11.3	43.0	-136.0	-24.3
22	1.81	-4.7	1.82	293.81	0.0	0.0	0.0	11.3	46.0	-142.9	-25.5
23	1.81	-4.7	1.82	304.15	0.0	0.0	0.0	11.3	49.0	-149.9	-26.8
24	1.81	-4.7	1.82	314.48	0.0	0.0	0.0	11.3	52.0	-156.8	-28.0
25	1.81	-4.7	1.82	324.82	0.0	0.0	0.0	11.3	55.0	-163.8	-29.3
26	1.81	-3.2	1.81	334.34	0.0	0.0	0.0	11.3	57.8	-153.3	-27.4
27	1.81	-1.8	1.81	342.31	0.0	0.0	0.0	11.3	60.1	-143.2	-25.6
28	1.81	-1.8	1.81	349.57	0.0	0.0	0.0	11.3	62.2	-147.4	-26.3
29	1.81	-1.8	1.81	356.82	0.0	0.0	0.0	11.3	64.3	-151.5	-27.1
30	1.81	-1.8	1.81	364.08	0.0	0.0	0.0	11.3	66.4	-155.7	-27.8
31	1.81	-1.8	1.81	371.33	0.0	0.0	0.0	11.3	68.5	-159.9	-28.6
32	1.81	-1.8	1.81	378.59	0.0	0.0	0.0	11.3	70.6	-164.0	-29.3
33	1.81	-1.8	1.81	385.84	0.0	0.0	0.0	11.3	72.7	-168.2	-30.1
34	1.81	-1.8	1.81	393.1	0.0	0.0	0.0	11.3	74.8	-172.4	-30.8
35	1.81	-1.8	1.81	400.35	0.0	0.0	0.0	11.3	76.9	-176.6	-31.6
36	1.81	-1.8	1.81	407.61	0.0	0.0	0.0	11.3	79.1	-180.7	-32.3
37	1.81	-1.8	1.81	414.86	0.0	0.0	0.0	11.3	81.2	-184.9	-33.0
38	1.81	-1.8	1.81	422.12	0.0	0.0	0.0	11.3	83.3	-189.1	-33.8
39	1.81	-1.8	1.81	429.37	0.0	0.0	0.0	11.3	85.4	-193.2	-34.5
40	1.81	-1.8	1.81	436.63	0.0	0.0	0.0	11.3	87.5	-197.4	-35.3
41	1.81	-1.8	1.81	443.88	0.0	0.0	0.0	11.3	89.6	-201.6	-36.0
42	1.81	1.3	1.81	449.45	0.0	0.0	0.0	11.3	91.2	-158.3	-28.3
43	1.81	2.3	1.81	452.81	0.0	0.0	0.0	11.3	92.2	-145.7	-26.0
44	1.81	2.3	1.81	455.67	0.0	0.0	0.0	11.3	93.0	-146.9	-26.2
45	1.81	2.3	1.81	458.52	0.0	0.0	0.0	11.3	93.8	-148.1	-26.5
46	1.81	2.3	1.81	461.37	0.0	0.0	0.0	11.3	94.7	-149.3	-26.7
47	1.81	2.3	1.81	464.23	0.0	0.0	0.0	11.3	95.5	-150.5	-26.9
48	1.81	2.3	1.81	467.08	0.0	0.0	0.0	11.3	96.3	-151.7	-27.1
49	1.81	2.3	1.81	469.93	0.0	0.0	0.0	11.3	97.2	-152.9	-27.3
50	1.81	2.3	1.81	472.71	0.0	0.0	0.0	11.3	98.0	-154.1	-27.5
51	1.81	2.3	1.81	475.05	0.0	0.0	0.0	11.3	98.6	-155.1	-27.7
52	1.81	1.2	1.81	477.98	0.0	0.0	0.0	11.3	99.5	-173.4	-31.0
53	1.81	0.9	1.81	481.65	0.0	0.0	0.0	11.3	100.6	-179.8	-32.1
54	1.81	0.9	1.81	485.47	0.0	0.0	0.0	11.3	101.7	-181.6	-32.5
55	1.81	0.9	1.81	489.3	0.0	0.0	0.0	11.3	102.8	-183.4	-32.8
56	1.81	0.9	1.81	493.13	0.0	0.0	0.0	11.3	103.9	-185.2	-33.1
57	1.81	0.9	1.81	496.96	0.0	0.0	0.0	11.3	105.0	-187.1	-33.4
58	1.81	0.9	1.81	500.79	0.0	0.0	0.0	11.3	106.1	-188.9	-33.8
59	1.81	0.9	1.81	504.61	0.0	0.0	0.0	11.3	107.2	-190.7	-34.1
60	1.81	0.9	1.81	508.44	0.0	0.0	0.0	11.3	108.3	-192.5	-34.4
61	1.81	0.9	1.81	512.27	0.0	0.0	0.0	11.3	109.5	-194.3	-34.7
62	1.81	0.9	1.81	516.1	0.0	0.0	0.0	11.3	110.6	-196.2	-35.1
63	1.81	0.9	1.81	519.93	0.0	0.0	0.0	11.3	111.7	-198.0	-35.4
64	1.81	0.9	1.81	523.75	0.0	0.0	0.0	11.3	112.8	-199.8	-35.7
65	1.81	0.9	1.81	527.58	0.0	0.0	0.0	11.3	113.9	-201.6	-36.0
66	1.81	0.9	1.81	531.41	0.0	0.0	0.0	11.3	115.0	-203.4	-36.4
67	1.81	0.9	1.81	535.24	0.0	0.0	0.0	11.3	116.1	-205.3	-36.7
68	1.81	0.9	1.81	539.07	0.0	0.0	0.0	11.3	117.2	-207.1	-37.0
69	1.81	0.9	1.81	542.89	0.0	0.0	0.0	11.3	118.3	-208.9	-37.3
70	1.81	0.9	1.81	546.72	0.0	0.0	0.0	11.3	119.5	-210.7	-37.7
71	1.81	0.9	1.81	550.55	0.0	0.0	0.0	11.3	120.6	-212.5	-38.0
72	1.81	0.9	1.81	554.38	0.0	0.0	0.0	11.3	121.7	-214.4	-38.3
73	1.81	0.9	1.81	558.21	0.0	0.0	0.0	11.3	122.8	-216.2	-38.6
74	1.81	0.9	1.81	562.04	0.0	0.0	0.0	11.3	123.9	-218.0	-39.0
75	1.81	0.9	1.81	565.86	0.0	0.0	0.0	11.3	125.0	-219.8	-39.3
76	1.81	0.9	1.81	569.69	0.0	0.0	0.0	11.3	126.1	-221.7	-39.6
77	1.81	0.9	1.81	573.52	0.0	0.0	0.0	11.3	127.2	-223.5	-39.9
78	1.81	0.9	1.81	577.35	0.0	0.0	0.0	11.3	128.4	-225.3	-40.3
79	1.81	0.9	1.81	581.18	0.0	0.0	0.0	11.3	129.5	-227.1	-40.6
80	1.81	0.9	1.81	585.0	0.0	0.0	0.0	11.3	130.6	-228.9	-40.9
81	1.81	0.9	1.81	588.83	0.0	0.0	0.0	11.3	131.7	-230.8	-41.2

82	1.81	0.9	1.81	592.66	0.0	0.0	0.0	11.3	132.8	-232.6	-41.6
83	1.81	0.9	1.81	596.49	0.0	0.0	0.0	11.3	133.9	-234.4	-41.9
84	1.81	0.9	1.81	600.32	0.0	0.0	0.0	11.3	135.0	-236.2	-42.2
85	1.81	0.9	1.81	604.14	0.0	0.0	0.0	11.3	136.1	-238.0	-42.5
86	1.81	0.9	1.81	615.01	0.0	0.0	0.0	11.3	139.3	-243.4	-43.5
87	1.81	0.9	1.81	626.17	0.0	0.0	0.0	11.3	142.5	-248.8	-44.5
88	1.81	0.9	1.81	637.34	0.0	0.0	0.0	11.3	145.8	-254.3	-45.4
89	1.81	0.9	1.81	648.5	0.0	0.0	0.0	11.3	149.0	-259.8	-46.4
90	1.81	0.9	1.81	659.66	0.0	0.0	0.0	11.3	152.3	-265.2	-47.4
91	1.81	0.9	1.81	670.83	0.0	0.0	0.0	11.3	155.5	-270.7	-48.4
92	1.81	0.9	1.81	681.99	0.0	0.0	0.0	11.3	158.7	-276.2	-49.4
93	1.81	0.9	1.81	693.16	0.0	0.0	0.0	11.3	162.0	-281.6	-50.3
94	1.81	0.9	1.81	704.32	0.0	0.0	0.0	11.3	165.2	-287.1	-51.3
95	1.81	0.9	1.81	715.48	0.0	0.0	0.0	11.3	168.5	-292.5	-52.3
96	1.81	0.9	1.81	726.65	0.0	0.0	0.0	11.3	171.7	-298.0	-53.3
97	1.81	0.9	1.81	737.81	0.0	0.0	0.0	11.3	175.0	-303.5	-54.2
98	1.81	0.9	1.81	748.98	0.0	0.0	0.0	11.3	178.2	-308.9	-55.2
99	1.81	0.9	1.81	760.03	0.0	0.0	0.0	11.3	181.4	-314.3	-56.2
100	1.81	0.9	1.81	768.65	0.0	0.0	0.0	11.3	183.9	-318.5	-56.9
101	1.81	3.8	1.82	775.73	0.0	0.0	0.0	11.3	186.0	-248.3	-44.4
102	1.81	6.3	1.82	779.89	0.0	0.0	0.0	11.3	187.2	-185.0	-33.1
103	1.81	6.3	1.82	782.69	0.0	0.0	0.0	11.3	188.0	-185.8	-33.2
104	1.81	6.3	1.82	785.48	0.0	0.0	0.0	11.3	188.8	-186.6	-33.3
105	1.81	6.3	1.82	788.28	0.0	0.0	0.0	11.3	189.6	-187.4	-33.5
106	1.81	6.3	1.82	791.08	0.0	0.0	0.0	11.3	190.4	-188.2	-33.6
107	1.81	6.3	1.82	793.88	0.0	0.0	0.0	11.3	191.2	-189.0	-33.8
108	1.81	6.3	1.82	796.68	0.0	0.0	0.0	11.3	192.1	-189.8	-33.9
109	1.81	6.3	1.82	799.48	0.0	0.0	0.0	11.3	192.9	-190.6	-34.1
110	1.81	6.3	1.82	802.27	0.0	0.0	0.0	11.3	193.7	-191.4	-34.2
111	1.81	6.3	1.82	805.07	0.0	0.0	0.0	11.3	194.5	-192.2	-34.4
112	1.81	6.3	1.82	807.87	0.0	0.0	0.0	11.3	195.3	-193.1	-34.5
113	1.81	6.3	1.82	810.67	0.0	0.0	0.0	11.3	196.1	-193.9	-34.6
114	1.81	6.3	1.82	813.47	0.0	0.0	0.0	11.3	196.9	-194.7	-34.8
115	1.81	6.3	1.82	816.27	0.0	0.0	0.0	11.3	197.7	-195.5	-34.9
116	1.81	6.3	1.82	819.07	0.0	0.0	0.0	11.3	198.6	-196.3	-35.1
117	1.81	6.3	1.82	821.63	0.0	0.0	0.0	11.3	199.3	-197.0	-35.2
118	1.81	6.3	1.82	823.91	0.0	0.0	0.0	11.3	200.0	-197.7	-35.3
119	1.81	6.3	1.82	826.2	0.0	0.0	0.0	11.3	200.6	-198.3	-35.4
120	1.81	6.3	1.82	828.48	0.0	0.0	0.0	11.3	201.3	-199.0	-35.6
121	1.81	6.3	1.82	830.76	0.0	0.0	0.0	11.3	202.0	-199.6	-35.7
122	1.81	6.3	1.82	833.04	0.0	0.0	0.0	11.3	202.6	-200.3	-35.8
123	1.81	6.3	1.82	835.33	0.0	0.0	0.0	11.3	203.3	-200.9	-35.9
124	1.81	6.3	1.82	837.61	0.0	0.0	0.0	11.3	203.9	-201.5	-36.0
125	1.81	6.3	1.82	839.89	0.0	0.0	0.0	11.3	204.6	-202.2	-36.1
126	1.81	6.3	1.82	842.17	0.0	0.0	0.0	11.3	205.3	-202.9	-36.3
127	1.81	6.3	1.82	844.46	0.0	0.0	0.0	11.3	205.9	-203.5	-36.4
128	1.81	6.3	1.82	846.74	0.0	0.0	0.0	11.3	206.6	-204.1	-36.5
129	1.81	6.3	1.82	849.02	0.0	0.0	0.0	11.3	207.3	-204.8	-36.6
130	1.81	6.3	1.82	851.3	0.0	0.0	0.0	11.3	207.9	-205.4	-36.7
131	1.81	6.3	1.82	853.58	0.0	0.0	0.0	11.3	208.6	-206.1	-36.8
132	1.81	6.3	1.82	855.87	0.0	0.0	0.0	11.3	209.2	-206.7	-36.9
133	1.81	6.3	1.82	858.15	0.0	0.0	0.0	11.3	209.9	-207.4	-37.1
134	1.81	6.3	1.82	860.43	0.0	0.0	0.0	11.3	210.6	-208.0	-37.2
135	1.81	6.3	1.82	862.71	0.0	0.0	0.0	11.3	211.2	-208.7	-37.3
136	1.81	6.3	1.82	862.95	0.0	0.0	0.0	11.3	211.3	-208.7	-37.3
137	1.81	6.3	1.82	862.84	0.0	0.0	0.0	11.3	211.3	-208.5	-37.3
138	1.81	6.3	1.82	862.73	0.0	0.0	0.0	11.3	211.2	-208.4	-37.2
139	1.81	6.3	1.82	862.62	0.0	0.0	0.0	11.3	211.2	-208.3	-37.2
140	1.81	6.3	1.82	862.51	0.0	0.0	0.0	11.3	211.2	-208.2	-37.2
141	1.81	6.3	1.82	862.4	0.0	0.0	0.0	11.3	211.1	-208.1	-37.2
142	1.81	6.3	1.82	862.29	0.0	0.0	0.0	11.3	211.1	-208.0	-37.2
143	1.81	6.3	1.82	862.18	0.0	0.0	0.0	11.3	211.1	-207.8	-37.1
144	1.81	6.3	1.82	862.07	0.0	0.0	0.0	11.3	211.0	-207.7	-37.1

145	1.81	6.3	1.82	861.96	0.0	0.0	0.0	11.3	211.0	-207.6	-37.1
146	1.81	6.3	1.82	861.85	0.0	0.0	0.0	11.3	211.0	-207.5	-37.1
147	1.81	6.3	1.82	861.74	0.0	0.0	0.0	11.3	210.9	-207.4	-37.1
148	1.81	6.3	1.82	861.63	0.0	0.0	0.0	11.3	210.9	-207.3	-37.0
149	1.81	6.3	1.82	861.52	0.0	0.0	0.0	11.3	210.9	-207.2	-37.0
150	1.81	6.3	1.82	861.41	0.0	0.0	0.0	11.3	210.9	-207.0	-37.0
151	1.81	6.3	1.82	861.3	0.0	0.0	0.0	11.3	210.8	-206.9	-37.0
152	1.81	6.3	1.82	861.19	0.0	0.0	0.0	11.3	210.8	-206.8	-37.0
153	1.81	6.3	1.82	861.08	0.0	0.0	0.0	11.3	210.8	-206.7	-36.9
154	1.81	6.3	1.82	860.97	0.0	0.0	0.0	11.3	210.7	-206.6	-36.9
155	1.81	6.3	1.82	860.86	0.0	0.0	0.0	11.3	210.7	-206.4	-36.9
156	1.81	6.3	1.82	860.75	0.0	0.0	0.0	11.3	210.7	-206.3	-36.9
157	1.81	6.3	1.82	860.64	0.0	0.0	0.0	11.3	210.6	-206.2	-36.9
158	1.81	6.3	1.82	860.53	0.0	0.0	0.0	11.3	210.6	-206.1	-36.8
159	1.81	6.3	1.82	860.42	0.0	0.0	0.0	11.3	210.6	-206.0	-36.8
160	1.81	6.3	1.82	860.31	0.0	0.0	0.0	11.3	210.5	-205.9	-36.8
161	1.81	6.3	1.82	858.29	0.0	0.0	0.0	11.3	209.9	-205.1	-36.7
162	1.81	6.3	1.82	855.06	0.0	0.0	0.0	11.3	209.0	-204.0	-36.5
163	1.81	6.3	1.82	851.83	0.0	0.0	0.0	11.3	208.1	-202.9	-36.3
164	1.81	6.3	1.82	848.6	0.0	0.0	0.0	11.3	207.1	-201.8	-36.1
165	1.81	6.3	1.82	845.36	0.0	0.0	0.0	11.3	206.2	-200.7	-35.9
166	1.81	6.3	1.82	842.13	0.0	0.0	0.0	11.3	205.3	-199.6	-35.7
167	1.81	6.3	1.82	838.9	0.0	0.0	0.0	11.3	204.3	-198.5	-35.5
168	1.81	21.2	1.94	827.23	0.0	0.0	0.0	11.3	200.9	232.3	41.5
169	1.81	25.4	2.01	804.4	0.0	0.0	0.0	11.3	194.3	361.4	64.6
170	1.81	25.4	2.01	778.86	0.0	0.0	0.0	11.3	186.9	352.2	62.9
171	1.81	25.4	2.01	753.32	0.0	0.0	0.0	11.3	179.5	343.0	61.3
172	1.81	25.4	2.01	727.78	0.0	0.0	0.0	11.3	172.0	333.8	59.6
173	1.81	25.4	2.01	702.24	0.0	0.0	0.0	11.3	164.6	324.6	58.0
174	1.81	25.4	2.01	676.7	0.0	0.0	0.0	11.3	157.2	315.3	56.4
175	1.81	25.4	2.01	651.16	0.0	0.0	0.0	11.3	149.8	306.1	54.7
176	1.81	25.4	2.01	625.62	0.0	0.0	0.0	11.3	142.4	296.9	53.1
177	1.81	25.4	2.01	600.08	0.0	0.0	0.0	11.3	135.0	287.7	51.4
178	1.81	25.4	2.01	574.54	0.0	0.0	0.0	11.3	127.5	278.5	49.8
179	1.81	25.4	2.01	549.0	0.0	0.0	0.0	11.3	120.1	269.3	48.1
180	1.81	25.4	2.01	523.46	0.0	0.0	0.0	11.3	112.7	260.1	46.5
181	1.81	25.4	2.01	497.92	0.0	0.0	0.0	11.3	105.3	250.9	44.8
182	1.81	25.4	2.01	472.38	0.0	0.0	0.0	11.3	97.9	241.6	43.2
183	1.81	25.4	2.01	446.84	0.0	0.0	0.0	11.3	90.4	232.4	41.5
184	1.81	25.4	2.01	421.3	0.0	0.0	0.0	11.3	83.0	223.2	39.9
185	1.81	25.4	2.01	395.75	0.0	0.0	0.0	11.3	75.6	214.0	38.2
186	1.81	25.4	2.01	370.21	0.0	0.0	0.0	11.3	68.2	204.8	36.6
187	1.81	25.4	2.01	344.67	0.0	0.0	0.0	11.3	60.8	195.6	35.0
188	1.81	25.4	2.01	319.13	0.0	0.0	0.0	11.3	53.4	186.4	33.3
189	1.81	25.4	2.01	293.59	0.0	0.0	0.0	11.3	45.9	177.2	31.7
190	1.81	25.4	2.01	268.05	0.0	0.0	0.0	11.3	38.5	167.9	30.0
191	1.81	25.4	2.01	242.51	0.0	0.0	0.0	11.3	31.1	158.7	28.4
192	1.81	25.4	2.01	216.97	0.0	0.0	0.0	11.3	23.7	149.5	26.7
193	1.81	25.4	2.01	191.43	0.0	0.0	0.0	11.3	16.3	140.3	25.1
194	1.81	25.4	2.01	165.89	0.0	0.0	0.0	11.3	8.9	131.1	23.4
195	1.81	25.4	2.01	140.35	0.0	0.0	0.0	11.3	1.4	121.9	21.8
196	1.81	25.4	2.01	114.81	0.0	0.0	0.0	11.3	0.0	101.8	18.2
197	1.81	25.4	2.01	89.27	0.0	0.0	0.0	11.3	0.0	79.2	14.2
198	1.81	25.4	2.01	63.73	0.0	0.0	0.0	11.3	0.0	56.5	10.1
199	1.81	25.4	2.01	38.19	0.0	0.0	0.0	11.3	0.0	33.9	6.1
200	1.81	25.3	2.0	12.72	0.0	0.0	0.0	11.3	0.0	11.2	2.0

Superficie Nr...4 Fattore di sicurezza=1.01

Nr.	B m	Alfa (°)	Li m	Wi (kN)	Kh•Wi (kN)	Kv•Wi (kN)	c (kN/m²)	Fi (°)	Ui (kN)	N'i (kN)	Ti (kN)
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1	1.97	2.4	1.97	9.25	0.0	0.0	0.0	11.3	2.4	-21.4	-3.9
2	1.97	2.4	1.97	27.76	0.0	0.0	0.0	11.3	5.4	-25.8	-4.6
3	1.97	2.4	1.97	46.26	0.0	0.0	0.0	11.3	8.4	-30.1	-5.4
4	1.97	2.4	1.97	64.77	0.0	0.0	0.0	11.3	11.4	-34.4	-6.2
5	1.97	2.4	1.97	83.27	0.0	0.0	0.0	11.3	14.4	-38.7	-7.0
6	1.97	2.4	1.97	101.78	0.0	0.0	0.0	11.3	17.5	-43.1	-7.7
7	1.97	2.4	1.97	120.28	0.0	0.0	0.0	11.3	20.5	-47.4	-8.5
8	1.97	2.4	1.97	138.79	0.0	0.0	0.0	11.3	23.5	-51.7	-9.3
9	1.97	2.4	1.97	157.3	0.0	0.0	0.0	11.3	26.5	-56.1	-10.1
10	1.97	2.4	1.97	175.23	0.0	0.0	0.0	11.3	29.5	-60.4	-10.9
11	1.97	2.4	1.97	193.13	0.0	0.0	0.0	11.3	32.5	-64.8	-11.7
12	1.97	2.4	1.97	211.03	0.0	0.0	0.0	11.3	35.6	-69.2	-12.4
13	1.97	2.4	1.97	228.94	0.0	0.0	0.0	11.3	38.6	-73.6	-13.2
14	1.97	2.4	1.97	246.84	0.0	0.0	0.0	11.3	41.6	-77.9	-14.0
15	1.97	2.4	1.97	264.74	0.0	0.0	0.0	11.3	44.6	-82.3	-14.8
16	1.97	2.4	1.97	282.64	0.0	0.0	0.0	11.3	47.6	-86.7	-15.6
17	1.97	2.4	1.97	300.55	0.0	0.0	0.0	11.3	50.6	-91.1	-16.4
18	1.97	2.4	1.97	320.33	0.0	0.0	0.0	11.3	53.7	-95.3	-17.1
19	1.97	2.4	1.97	350.4	0.0	0.0	0.0	11.3	56.7	-98.7	-17.7
20	1.97	2.4	1.97	380.48	0.0	0.0	0.0	11.3	59.7	-102.0	-18.4
21	1.97	2.4	1.97	410.56	0.0	0.0	0.0	11.3	62.5	-104.9	-18.9
22	1.97	2.4	1.97	440.63	0.0	0.0	0.0	11.3	64.9	-107.1	-19.3
23	1.97	2.4	1.97	470.71	0.0	0.0	0.0	11.3	67.3	-109.3	-19.7
24	1.97	2.4	1.97	508.96	0.0	0.0	0.0	11.3	69.7	-110.7	-19.9
25	1.97	2.4	1.97	552.7	0.0	0.0	0.0	11.3	72.1	-111.8	-20.1
26	1.97	2.4	1.97	596.45	0.0	0.0	0.0	11.3	74.5	-112.8	-20.3
27	1.97	2.4	1.97	640.2	0.0	0.0	0.0	11.3	76.9	-113.9	-20.5
28	1.97	2.4	1.97	665.04	0.0	0.0	0.0	11.3	79.3	-116.5	-20.9
29	1.97	2.4	1.97	680.44	0.0	0.0	0.0	11.3	81.7	-119.8	-21.6
30	1.97	2.4	1.97	695.84	0.0	0.0	0.0	11.3	84.1	-123.2	-22.2
31	1.97	2.4	1.97	711.24	0.0	0.0	0.0	11.3	86.5	-126.6	-22.8
32	1.97	2.4	1.97	726.64	0.0	0.0	0.0	11.3	88.9	-130.0	-23.4
33	1.97	2.4	1.97	742.04	0.0	0.0	0.0	11.3	91.3	-133.3	-24.0
34	1.97	2.4	1.97	757.44	0.0	0.0	0.0	11.3	93.7	-136.7	-24.6
35	1.97	2.4	1.97	772.84	0.0	0.0	0.0	11.3	96.1	-140.1	-25.2
36	1.97	2.4	1.97	788.24	0.0	0.0	0.0	11.3	98.5	-143.5	-25.8
37	1.97	2.4	1.97	803.64	0.0	0.0	0.0	11.3	100.9	-146.9	-26.4
38	1.97	2.4	1.97	811.16	0.0	0.0	0.0	11.3	103.3	-150.9	-27.1
39	1.97	2.4	1.97	814.85	0.0	0.0	0.0	11.3	105.6	-154.9	-27.9
40	1.97	2.4	1.97	818.53	0.0	0.0	0.0	11.3	107.4	-158.2	-28.5
41	1.97	2.4	1.97	822.22	0.0	0.0	0.0	11.3	109.3	-161.5	-29.0
42	1.97	2.4	1.97	825.91	0.0	0.0	0.0	11.3	111.2	-164.8	-29.6
43	1.97	2.4	1.97	829.59	0.0	0.0	0.0	11.3	113.0	-168.0	-30.2
44	1.97	2.4	1.97	833.28	0.0	0.0	0.0	11.3	114.9	-171.3	-30.8
45	1.97	2.4	1.97	836.97	0.0	0.0	0.0	11.3	116.8	-174.6	-31.4
46	1.97	2.4	1.97	840.65	0.0	0.0	0.0	11.3	118.6	-177.9	-32.0
47	1.97	2.4	1.97	844.34	0.0	0.0	0.0	11.3	120.5	-181.2	-32.6
48	1.97	2.4	1.97	848.02	0.0	0.0	0.0	11.3	122.3	-184.5	-33.2
49	1.97	2.4	1.97	851.71	0.0	0.0	0.0	11.3	124.2	-187.7	-33.8
50	1.97	2.4	1.97	855.4	0.0	0.0	0.0	11.3	126.1	-191.0	-34.4
51	1.97	2.4	1.97	859.08	0.0	0.0	0.0	11.3	127.9	-194.3	-35.0
52	1.97	2.4	1.97	862.77	0.0	0.0	0.0	11.3	129.8	-197.6	-35.5
53	1.97	2.4	1.97	866.45	0.0	0.0	0.0	11.3	131.7	-200.9	-36.1
54	1.97	2.4	1.97	870.14	0.0	0.0	0.0	11.3	133.5	-204.2	-36.7
55	1.97	2.4	1.97	873.83	0.0	0.0	0.0	11.3	135.4	-207.4	-37.3
56	1.97	2.4	1.97	877.51	0.0	0.0	0.0	11.3	137.3	-210.7	-37.9
57	1.97	2.4	1.97	881.2	0.0	0.0	0.0	11.3	139.1	-214.0	-38.5
58	1.97	2.4	1.97	884.89	0.0	0.0	0.0	11.3	141.0	-217.3	-39.1
59	1.97	2.4	1.97	888.57	0.0	0.0	0.0	11.3	142.9	-220.6	-39.7
60	1.97	2.4	1.97	892.26	0.0	0.0	0.0	11.3	144.7	-223.9	-40.3
61	1.97	2.4	1.97	895.95	0.0	0.0	0.0	11.3	146.6	-227.1	-40.9
62	1.97	2.4	1.97	899.63	0.0	0.0	0.0	11.3	148.4	-230.4	-41.4
63	1.97	2.4	1.97	903.32	0.0	0.0	0.0	11.3	150.3	-233.7	-42.0

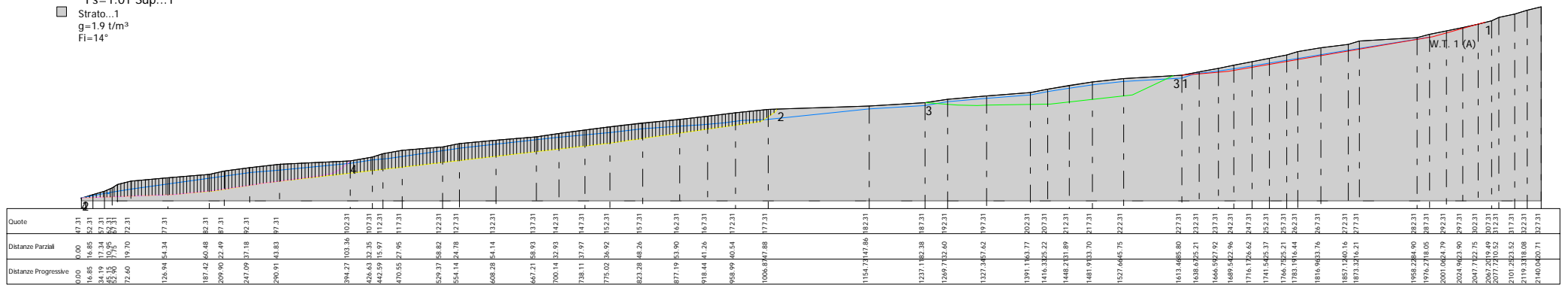
64	1.97	2.4	1.97	907.0	0.0	0.0	0.0	11.3	152.2	-237.0	-42.6
65	1.97	2.4	1.97	910.62	0.0	0.0	0.0	11.3	154.0	-240.3	-43.2
66	1.97	2.4	1.97	913.63	0.0	0.0	0.0	11.3	155.9	-243.6	-43.8
67	1.97	2.4	1.97	916.64	0.0	0.0	0.0	11.3	157.8	-247.0	-44.4
68	1.97	2.4	1.97	919.65	0.0	0.0	0.0	11.3	159.6	-250.3	-45.0
69	1.97	4.4	1.98	921.36	0.0	0.0	0.0	11.3	161.2	-186.5	-33.5
70	1.97	5.3	1.98	921.17	0.0	0.0	0.0	11.3	162.2	-157.8	-28.4
71	1.97	5.3	1.98	920.38	0.0	0.0	0.0	11.3	163.0	-159.6	-28.7
72	1.97	5.3	1.98	919.59	0.0	0.0	0.0	11.3	163.9	-161.3	-29.0
73	1.97	5.3	1.98	918.8	0.0	0.0	0.0	11.3	164.7	-163.0	-29.3
74	1.97	5.3	1.98	918.01	0.0	0.0	0.0	11.3	165.6	-164.8	-29.6
75	1.97	5.3	1.98	917.22	0.0	0.0	0.0	11.3	166.4	-166.5	-30.0
76	1.97	5.3	1.98	916.44	0.0	0.0	0.0	11.3	167.3	-168.3	-30.3
77	1.97	5.3	1.98	915.65	0.0	0.0	0.0	11.3	168.1	-170.0	-30.6
78	1.97	5.3	1.98	914.86	0.0	0.0	0.0	11.3	169.0	-171.7	-30.9
79	1.97	5.3	1.98	914.07	0.0	0.0	0.0	11.3	169.8	-173.5	-31.2
80	1.97	5.3	1.98	913.28	0.0	0.0	0.0	11.3	170.7	-175.2	-31.5
81	1.97	5.3	1.98	912.5	0.0	0.0	0.0	11.3	171.5	-176.9	-31.8
82	1.97	5.3	1.98	911.71	0.0	0.0	0.0	11.3	172.4	-178.7	-32.1
83	1.97	5.3	1.98	910.92	0.0	0.0	0.0	11.3	173.2	-180.4	-32.5
84	1.97	5.3	1.98	910.13	0.0	0.0	0.0	11.3	174.1	-182.1	-32.8
85	1.97	5.3	1.98	909.34	0.0	0.0	0.0	11.3	174.9	-183.9	-33.1
86	1.97	5.3	1.98	908.55	0.0	0.0	0.0	11.3	175.8	-185.6	-33.4
87	1.97	5.3	1.98	907.77	0.0	0.0	0.0	11.3	176.6	-187.4	-33.7
88	1.97	5.3	1.98	906.98	0.0	0.0	0.0	11.3	177.5	-189.1	-34.0
89	1.97	5.3	1.98	906.19	0.0	0.0	0.0	11.3	178.3	-190.8	-34.3
90	1.97	5.3	1.98	905.4	0.0	0.0	0.0	11.3	179.2	-192.6	-34.6
91	1.97	5.3	1.98	904.61	0.0	0.0	0.0	11.3	180.0	-194.3	-35.0
92	1.97	5.3	1.98	903.83	0.0	0.0	0.0	11.3	180.9	-196.0	-35.3
93	1.97	5.3	1.98	903.04	0.0	0.0	0.0	11.3	181.7	-197.8	-35.6
94	1.97	5.3	1.98	902.25	0.0	0.0	0.0	11.3	182.6	-199.5	-35.9
95	1.97	5.3	1.98	901.46	0.0	0.0	0.0	11.3	183.4	-201.2	-36.2
96	1.97	5.3	1.98	905.02	0.0	0.0	0.0	11.3	184.3	-202.2	-36.4
97	1.97	5.3	1.98	914.35	0.0	0.0	0.0	11.3	185.1	-202.0	-36.3
98	1.97	5.3	1.98	923.68	0.0	0.0	0.0	11.3	186.0	-201.8	-36.3
99	1.97	5.3	1.98	933.0	0.0	0.0	0.0	11.3	186.8	-201.7	-36.3
100	1.97	5.4	1.98	942.3	0.0	0.0	0.0	11.3	187.7	-200.1	-36.0
101	1.97	8.7	1.99	949.45	0.0	0.0	0.0	11.3	187.9	-87.1	-15.7
102	1.97	8.7	1.99	954.47	0.0	0.0	0.0	11.3	187.6	-84.9	-15.3
103	1.97	8.7	1.99	959.5	0.0	0.0	0.0	11.3	187.3	-82.7	-14.9
104	1.97	8.7	1.99	964.52	0.0	0.0	0.0	11.3	187.0	-80.4	-14.5
105	1.97	8.7	1.99	969.54	0.0	0.0	0.0	11.3	186.7	-78.2	-14.1
106	1.97	8.7	1.99	974.56	0.0	0.0	0.0	11.3	186.4	-76.0	-13.7
107	1.97	8.7	1.99	979.43	0.0	0.0	0.0	11.3	186.1	-73.8	-13.3
108	1.97	8.7	1.99	978.09	0.0	0.0	0.0	11.3	185.8	-73.5	-13.2
109	1.97	8.7	1.99	976.74	0.0	0.0	0.0	11.3	185.5	-73.3	-13.2
110	1.97	8.7	1.99	975.4	0.0	0.0	0.0	11.3	185.2	-73.0	-13.1
111	1.97	8.7	1.99	974.06	0.0	0.0	0.0	11.3	184.9	-72.7	-13.1
112	1.97	8.7	1.99	972.71	0.0	0.0	0.0	11.3	184.6	-72.5	-13.0
113	1.97	8.7	1.99	971.37	0.0	0.0	0.0	11.3	184.3	-72.2	-13.0
114	1.97	8.7	1.99	970.03	0.0	0.0	0.0	11.3	184.0	-71.9	-12.9
115	1.97	8.7	1.99	968.68	0.0	0.0	0.0	11.3	183.7	-71.7	-12.9
116	1.97	8.7	1.99	967.34	0.0	0.0	0.0	11.3	183.4	-71.4	-12.8
117	1.97	8.7	1.99	966.0	0.0	0.0	0.0	11.3	183.1	-71.1	-12.8
118	1.97	8.7	1.99	964.66	0.0	0.0	0.0	11.3	182.8	-70.9	-12.8
119	1.97	8.7	1.99	963.31	0.0	0.0	0.0	11.3	182.5	-70.6	-12.7
120	1.97	8.7	1.99	961.97	0.0	0.0	0.0	11.3	182.2	-70.4	-12.7
121	1.97	8.7	1.99	960.63	0.0	0.0	0.0	11.3	181.9	-70.1	-12.6
122	1.97	8.7	1.99	959.28	0.0	0.0	0.0	11.3	181.6	-69.8	-12.6
123	1.97	8.7	1.99	957.94	0.0	0.0	0.0	11.3	181.3	-69.6	-12.5
124	1.97	8.7	1.99	956.6	0.0	0.0	0.0	11.3	181.0	-69.3	-12.5
125	1.97	8.7	1.99	955.25	0.0	0.0	0.0	11.3	180.8	-69.0	-12.4
126	1.97	8.7	1.99	953.67	0.0	0.0	0.0	11.3	180.5	-68.8	-12.4

127	1.97	8.7	1.99	950.85	0.0	0.0	0.0	11.3	179.7	-68.1	-12.2
128	1.97	8.7	1.99	948.03	0.0	0.0	0.0	11.3	178.3	-66.2	-11.9
129	1.97	8.7	1.99	945.21	0.0	0.0	0.0	11.3	177.0	-64.3	-11.6
130	1.97	8.7	1.99	942.39	0.0	0.0	0.0	11.3	175.6	-62.4	-11.2
131	1.97	8.7	1.99	939.57	0.0	0.0	0.0	11.3	174.3	-60.6	-10.9
132	1.97	8.7	1.99	936.75	0.0	0.0	0.0	11.3	172.9	-58.7	-10.6
133	1.97	8.7	1.99	933.93	0.0	0.0	0.0	11.3	171.6	-56.8	-10.2
134	1.97	8.7	1.99	931.11	0.0	0.0	0.0	11.3	170.2	-54.9	-9.9
135	1.97	8.7	1.99	928.29	0.0	0.0	0.0	11.3	168.9	-53.1	-9.5
136	1.97	8.7	1.99	925.47	0.0	0.0	0.0	11.3	167.5	-51.2	-9.2
137	1.97	7.6	1.99	923.39	0.0	0.0	0.0	11.3	166.4	-87.3	-15.7
138	1.97	7.3	1.99	922.22	0.0	0.0	0.0	11.3	165.5	-94.3	-17.0
139	1.97	7.3	1.99	921.21	0.0	0.0	0.0	11.3	164.6	-92.8	-16.7
140	1.97	7.3	1.99	920.2	0.0	0.0	0.0	11.3	163.8	-91.3	-16.4
141	1.97	7.3	1.99	919.19	0.0	0.0	0.0	11.3	162.9	-89.7	-16.1
142	1.97	7.3	1.99	918.18	0.0	0.0	0.0	11.3	162.0	-88.2	-15.9
143	1.97	7.3	1.99	917.17	0.0	0.0	0.0	11.3	161.2	-86.7	-15.6
144	1.97	7.3	1.99	916.17	0.0	0.0	0.0	11.3	160.3	-85.1	-15.3
145	1.97	7.3	1.99	915.16	0.0	0.0	0.0	11.3	159.4	-83.6	-15.0
146	1.97	7.3	1.99	914.15	0.0	0.0	0.0	11.3	158.6	-82.1	-14.8
147	1.97	7.3	1.99	913.14	0.0	0.0	0.0	11.3	157.7	-80.5	-14.5
148	1.97	7.3	1.99	912.13	0.0	0.0	0.0	11.3	156.8	-79.0	-14.2
149	1.97	7.3	1.99	906.7	0.0	0.0	0.0	11.3	156.1	-78.8	-14.2
150	1.97	7.3	1.99	900.93	0.0	0.0	0.0	11.3	155.5	-79.0	-14.2
151	1.97	7.3	1.99	895.17	0.0	0.0	0.0	11.3	154.8	-79.1	-14.2
152	1.97	7.3	1.99	889.4	0.0	0.0	0.0	11.3	154.2	-79.3	-14.3
153	1.97	7.3	1.99	883.63	0.0	0.0	0.0	11.3	153.6	-79.4	-14.3
154	1.97	7.3	1.99	877.87	0.0	0.0	0.0	11.3	152.9	-79.6	-14.3
155	1.97	7.3	1.99	872.1	0.0	0.0	0.0	11.3	152.3	-79.7	-14.3
156	1.97	7.3	1.99	866.33	0.0	0.0	0.0	11.3	151.7	-79.9	-14.4
157	1.97	7.3	1.99	860.57	0.0	0.0	0.0	11.3	151.0	-80.0	-14.4
158	1.97	7.3	1.99	854.8	0.0	0.0	0.0	11.3	150.4	-80.2	-14.4
159	1.97	7.3	1.99	849.03	0.0	0.0	0.0	11.3	149.8	-80.3	-14.4
160	1.97	7.3	1.99	843.27	0.0	0.0	0.0	11.3	149.1	-80.5	-14.5
161	1.97	7.3	1.99	837.5	0.0	0.0	0.0	11.3	148.5	-80.6	-14.5
162	1.97	7.3	1.99	831.74	0.0	0.0	0.0	11.3	147.9	-80.8	-14.5
163	1.97	7.3	1.99	825.97	0.0	0.0	0.0	11.3	147.2	-80.9	-14.6
164	1.97	7.3	1.99	820.2	0.0	0.0	0.0	11.3	146.6	-81.0	-14.6
165	1.97	7.3	1.99	814.44	0.0	0.0	0.0	11.3	146.0	-81.2	-14.6
166	1.97	7.3	1.99	808.67	0.0	0.0	0.0	11.3	145.3	-81.3	-14.6
167	1.97	7.3	1.99	802.9	0.0	0.0	0.0	11.3	144.7	-81.5	-14.7
168	1.97	7.3	1.99	797.14	0.0	0.0	0.0	11.3	144.1	-81.6	-14.7
169	1.97	7.3	1.99	791.37	0.0	0.0	0.0	11.3	143.4	-81.8	-14.7
170	1.97	7.3	1.99	785.6	0.0	0.0	0.0	11.3	142.8	-81.9	-14.7
171	1.97	7.3	1.99	779.84	0.0	0.0	0.0	11.3	142.2	-82.1	-14.8
172	1.97	7.3	1.99	774.07	0.0	0.0	0.0	11.3	141.5	-82.2	-14.8
173	1.97	7.3	1.99	768.31	0.0	0.0	0.0	11.3	140.9	-82.4	-14.8
174	1.97	7.3	1.99	762.54	0.0	0.0	0.0	11.3	140.3	-82.5	-14.8
175	1.97	7.3	1.99	756.77	0.0	0.0	0.0	11.3	139.6	-82.7	-14.9
176	1.97	7.3	1.99	751.01	0.0	0.0	0.0	11.3	139.0	-82.8	-14.9
177	1.97	7.3	1.99	745.24	0.0	0.0	0.0	11.3	138.4	-83.0	-14.9
178	1.97	9.4	2.0	738.08	0.0	0.0	0.0	11.3	137.3	-25.7	-4.6
179	1.97	12.0	2.02	727.88	0.0	0.0	0.0	11.3	135.5	41.4	7.4
180	1.97	12.0	2.02	716.03	0.0	0.0	0.0	11.3	133.3	40.8	7.3
181	1.97	12.0	2.02	704.17	0.0	0.0	0.0	11.3	131.0	40.3	7.3
182	1.97	12.0	2.02	692.32	0.0	0.0	0.0	11.3	128.8	39.8	7.2
183	1.97	12.0	2.02	680.47	0.0	0.0	0.0	11.3	126.5	39.3	7.1
184	1.97	12.0	2.02	668.61	0.0	0.0	0.0	11.3	124.2	38.8	7.0
185	1.97	12.0	2.02	656.76	0.0	0.0	0.0	11.3	122.0	38.3	6.9
186	1.97	12.0	2.02	644.91	0.0	0.0	0.0	11.3	119.7	37.8	6.8
187	1.97	12.5	2.02	632.72	0.0	0.0	0.0	11.3	117.4	48.9	8.8
188	1.97	26.0	2.19	610.54	0.0	0.0	0.0	11.3	112.4	376.8	67.8
189	1.97	26.0	2.19	578.69	0.0	0.0	0.0	11.3	104.8	360.6	64.9

190	1.97	26.0	2.19	546.84	0.0	0.0	0.0	11.3	97.2	344.4	62.0
191	1.97	26.0	2.19	514.99	0.0	0.0	0.0	11.3	89.6	328.2	59.0
192	1.97	26.0	2.19	483.14	0.0	0.0	0.0	11.3	82.0	312.0	56.1
193	1.97	29.4	2.26	448.58	0.0	0.0	0.0	11.3	73.6	362.1	65.1
194	1.97	40.5	2.59	400.75	0.0	0.0	0.0	11.3	61.8	566.4	101.9
195	1.97	40.5	2.59	342.36	0.0	0.0	0.0	11.3	47.1	495.1	89.1
196	1.97	40.5	2.59	283.97	0.0	0.0	0.0	11.3	32.4	423.7	76.2
197	1.97	40.5	2.59	225.58	0.0	0.0	0.0	11.3	17.7	352.4	63.4
198	1.97	43.5	2.72	163.79	0.0	0.0	0.0	11.3	2.1	308.0	55.4
199	1.97	43.7	2.72	98.39	0.0	0.0	0.0	11.3	0.0	188.6	33.9
200	1.97	43.7	2.73	32.8	0.0	0.0	0.0	11.3	0.0	62.9	11.3

GAGGIO MONTANO
 VERIFICA ANALITICA DI STABILITA'
 IN CONDIZIONI STATICHE
 (Approccio 1 - Combinazione 2)

Fs=1.01 Sup...4
 Fs=1.01 Sup...3
 Fs=1.00 Sup...2
 Fs=1.01 Sup...1
 Strato...1
 g=1.9 t/m³
 Fi=14°



Analisi di stabilità dei pendii con: BELL (1968)

Lat./Long.	44.195456/10.941047
Normativa	NTC 2008
Numero di strati	1.0
Numero dei conci	200.0
Grado di sicurezza ritenuto accettabile	1.0
Coefficiente parziale resistenza	1.1
Analisi	Condizione drenata
Superficie di forma generica	

Coefficienti sismici [N.T.C.]

Dati generali

Tipo opera:	2 - Opere ordinarie
Classe d'uso:	Classe II
Vita nominale:	50.0 [anni]
Vita di riferimento:	50.0 [anni]

Parametri sismici su sito di riferimento

Categoria sottosuolo:	C
Categoria topografica:	T1

S.L. Stato limite	TR Tempo ritorno [anni]	ag [m/s ²]	F0 [-]	TC* [sec]
S.L.O.	30.0	0.59	2.48	0.25
S.L.D.	50.0	0.75	2.45	0.26
S.L.V.	475.0	1.77	2.46	0.29
S.L.C.	975.0	2.23	2.47	0.3

Coefficienti sismici orizzontali e verticali

Opera: Stabilità dei pendii e Fondazioni

S.L. Stato limite	amax [m/s ²]	beta [-]	kh [-]	kv [sec]
S.L.O.	0.885	0.2	0.0181	0.009
S.L.D.	1.125	0.2	0.0229	0.0115
S.L.V.	2.5374	0.24	0.0621	0.0311
S.L.C.	3.0394	0.28	0.0868	0.0434

Coefficiente azione sismica orizzontale 0.0621

Coefficiente azione sismica verticale 0.0311

Vertici profilo

N	X m	y m
1	28.72	47.31
2	45.57	52.31
3	62.91	57.31
4	73.87	62.31
5	81.61	67.31
6	101.32	72.31
7	155.66	77.31
8	216.13	82.31
9	238.62	87.31
10	275.8	92.31
11	319.63	97.31
12	422.99	102.31
13	455.34	107.31
14	471.31	112.31
15	499.26	117.31
16	558.09	122.31
17	582.86	127.31
18	637.0	132.31
19	695.93	137.31
20	728.85	142.31
21	766.82	147.31

22	803.74	152.31
23	852.0	157.31
24	905.9	162.31
25	947.16	167.31
26	987.7	172.31
27	1035.59	177.31
28	1183.44	182.31
29	1265.83	187.31
30	1298.43	192.31
31	1356.05	197.31
32	1419.83	202.31
33	1445.04	207.31
34	1476.93	212.31
35	1510.62	217.31
36	1556.37	222.31
37	1642.18	227.31
38	1667.39	232.31
39	1695.3	237.31
40	1718.26	242.31
41	1744.88	247.31
42	1770.25	252.31
43	1795.47	257.31
44	1811.91	262.31
45	1845.67	267.31
46	1885.83	272.31
47	1902.04	277.31
48	1986.94	282.31
49	2004.99	287.31
50	2029.78	292.31
51	2053.68	297.31
52	2076.43	302.31
53	2095.92	307.31
54	2106.44	312.31
55	2129.96	317.31
56	2148.04	322.31
57	2168.75	327.31

Falda

Nr.	X (m)	y (m)
1	28.43	47.35
2	68.34	55.21
3	104.02	61.12
4	277.19	84.93
5	320.53	88.54
6	422.99	98.3
7	455.34	103.3
8	478.98	105.57
9	586.75	120.76
10	727.57	136.72
11	804.51	143.49
12	853.2	149.14
13	904.01	152.66
14	937.88	154.78
15	971.05	157.6
16	997.16	161.13
17	1033.85	162.54
18	1183.44	178.3
19	1265.83	183.3
20	1298.43	188.3
21	1356.05	193.3
22	1419.83	198.3
23	1445.04	203.3

24	1476.93	208.3
25	1510.62	213.3
26	1556.37	218.3
27	1642.18	223.3
28	1661.23	229.29
29	1691.81	233.33
30	1726.88	237.67
31	1877.86	262.65
32	2004.99	283.3

Vertici superficie Nr...1

N	X m	y m
1	1642.18	227.31
2	1678.07	230.12
3	1709.8	233.24
4	2009.87	284.15
5	2086.17	304.81

Vertici superficie Nr...2

N	X m	y m
1	30.35	47.9
2	163.39	52.83
3	225.83	58.44
4	297.19	69.59
5	804.05	128.18
6	1025.31	159.61
7	1045.6	173.27
8	1049.23	177.84

Vertici superficie Nr...3

N	X m	y m
1	1266.19	187.47
2	1312.77	183.64
3	1341.34	182.73
4	1359.43	183.46
5	1448.69	184.87
6	1569.7	198.32
7	1629.14	226.59

Vertici superficie Nr...4

N	X m	y m
1	28.72	47.31
2	163.39	52.85
3	225.83	58.69
4	297.19	69.61
5	378.72	80.05
6	397.3	83.99
7	408.79	89.59
8	417.18	96.77
9	422.99	102.31

Coefficienti parziali per i parametri geotecnici del terreno

Tangente angolo di resistenza al taglio	1.25
Coesione efficace	1.25
Coesione non drenata	1.4
Riduzione parametri geotecnici terreno	Si

Stratigrafia

c: coesione; cu: coesione non drenata; Fi: Angolo di attrito; G: Peso Specifico; Gs: Peso Specifico Saturo; K: Modulo di Winkler

Strato	c (kN/m ²)	cu (kN/m ²)	Fi (°)	G (t/m ³)	Gs (t/m ³)	K (Kg/cm ³)	Litologia
1			14	1.9		0.00	

Superficie Nr...1 Fattore di sicurezza=0.71

Nr.	B m	Alfa (°)	Li m	Wi (kN)	Kh•Wi (kN)	Kv•Wi (kN)	c (kN/m ²)	Fi (°)	Ui (kN)	N'i (kN)	Ti (kN)
1	2.22	4.5	2.23	5.52	0.34	0.17	0.0	11.3	0.0	-2.3	-0.6
2	2.22	4.5	2.23	16.55	1.03	0.51	0.0	11.3	0.0	-0.4	-0.1
3	2.22	4.5	2.23	27.58	1.71	0.86	0.0	11.3	0.0	1.5	0.4
4	2.22	4.5	2.23	38.62	2.4	1.2	0.0	11.3	0.0	3.3	0.8
5	2.22	4.5	2.23	49.65	3.08	1.54	0.0	11.3	0.0	5.2	1.3
6	2.22	4.5	2.23	60.68	3.77	1.89	0.0	11.3	0.0	7.1	1.8
7	2.22	4.5	2.23	71.72	4.45	2.23	0.0	11.3	0.0	8.9	2.3
8	2.22	4.5	2.23	82.75	5.14	2.57	0.0	11.3	0.0	10.8	2.7
9	2.22	4.5	2.23	93.79	5.82	2.92	0.0	11.3	4.4	2.9	0.7
10	2.22	4.5	2.23	104.82	6.51	3.26	0.0	11.3	5.9	1.5	0.4
11	2.22	4.5	2.23	115.85	7.19	3.6	0.0	11.3	7.1	0.7	0.2
12	2.22	4.5	2.23	126.63	7.86	3.94	0.0	11.3	8.2	-0.1	0.0
13	2.22	4.5	2.23	135.89	8.44	4.23	0.0	11.3	9.4	-1.1	-0.3
14	2.22	4.5	2.23	145.16	9.01	4.51	0.0	11.3	10.6	-2.1	-0.5
15	2.22	4.5	2.23	154.42	9.59	4.8	0.0	11.3	11.7	-3.2	-0.8
16	2.22	4.5	2.23	163.69	10.17	5.09	0.0	11.3	12.9	-4.2	-1.1
17	2.22	5.4	2.23	172.18	10.69	5.35	0.0	11.3	13.9	1.2	0.3
18	2.22	5.6	2.23	179.75	11.16	5.59	0.0	11.3	14.7	2.4	0.6
19	2.22	5.6	2.23	187.16	11.62	5.82	0.0	11.3	15.4	2.3	0.6
20	2.22	5.6	2.23	194.57	12.08	6.05	0.0	11.3	16.1	2.3	0.6
21	2.22	5.6	2.23	201.98	12.54	6.28	0.0	11.3	16.9	2.2	0.6
22	2.22	5.6	2.23	209.39	13.0	6.51	0.0	11.3	17.6	2.2	0.6
23	2.22	5.6	2.23	216.8	13.46	6.74	0.0	11.3	18.3	2.2	0.6
24	2.22	5.6	2.23	224.2	13.92	6.97	0.0	11.3	18.9	2.5	0.6
25	2.22	5.6	2.23	233.64	14.51	7.27	0.0	11.3	19.4	3.3	0.8
26	2.22	5.6	2.23	244.6	15.19	7.61	0.0	11.3	20.0	4.4	1.1
27	2.22	5.6	2.23	255.56	15.87	7.95	0.0	11.3	20.5	5.5	1.4
28	2.22	5.6	2.23	266.52	16.55	8.29	0.0	11.3	21.1	6.6	1.7
29	2.22	5.6	2.23	277.49	17.23	8.63	0.0	11.3	21.6	7.7	2.0
30	2.22	5.6	2.23	288.45	17.91	8.97	0.0	11.3	22.2	8.8	2.2
31	2.22	7.8	2.24	297.64	18.48	9.26	0.0	11.3	22.3	35.0	8.9
32	2.22	9.6	2.25	303.57	18.85	9.44	0.0	11.3	21.7	59.4	15.1
33	2.22	9.6	2.25	307.99	19.13	9.58	0.0	11.3	20.7	63.3	16.1
34	2.22	9.6	2.25	312.41	19.4	9.72	0.0	11.3	19.7	67.1	17.1
35	2.22	9.6	2.25	316.2	19.64	9.83	0.0	11.3	18.7	70.7	18.0
36	2.22	9.6	2.25	317.87	19.74	9.89	0.0	11.3	17.7	73.6	18.7
37	2.22	9.6	2.25	319.54	19.84	9.94	0.0	11.3	16.7	76.4	19.4
38	2.22	9.6	2.25	321.21	19.95	9.99	0.0	11.3	15.7	79.2	20.1
39	2.22	9.6	2.25	322.87	20.05	10.04	0.0	11.3	15.0	81.4	20.7
40	2.22	9.6	2.25	324.54	20.15	10.09	0.0	11.3	14.9	82.2	20.9
41	2.22	9.6	2.25	326.21	20.26	10.15	0.0	11.3	14.8	83.0	21.1
42	2.22	9.6	2.25	327.88	20.36	10.2	0.0	11.3	14.7	83.9	21.3
43	2.22	9.6	2.25	329.55	20.46	10.25	0.0	11.3	14.6	84.7	21.5
44	2.22	9.6	2.25	331.22	20.57	10.3	0.0	11.3	14.6	85.5	21.7
45	2.22	9.6	2.25	332.88	20.67	10.35	0.0	11.3	14.5	86.3	21.9
46	2.22	9.6	2.25	334.55	20.78	10.4	0.0	11.3	14.4	87.2	22.2
47	2.22	9.6	2.25	336.42	20.89	10.46	0.0	11.3	14.3	88.1	22.4
48	2.22	9.6	2.25	338.94	21.05	10.54	0.0	11.3	14.2	89.2	22.7
49	2.22	9.6	2.25	341.46	21.2	10.62	0.0	11.3	14.1	90.3	23.0
50	2.22	9.6	2.25	343.98	21.36	10.7	0.0	11.3	14.0	91.5	23.3
51	2.22	9.6	2.25	346.49	21.52	10.78	0.0	11.3	13.9	92.6	23.5

52	2.22	9.6	2.25	349.01	21.67	10.85	0.0	11.3	13.8	93.8	23.8
53	2.22	9.6	2.25	351.53	21.83	10.93	0.0	11.3	13.7	94.9	24.1
54	2.22	9.6	2.25	354.05	21.99	11.01	0.0	11.3	13.6	96.0	24.4
55	2.22	9.6	2.25	356.57	22.14	11.09	0.0	11.3	13.5	97.2	24.7
56	2.22	9.6	2.25	359.09	22.3	11.17	0.0	11.3	13.4	98.3	25.0
57	2.22	9.6	2.25	361.6	22.46	11.25	0.0	11.3	13.4	99.4	25.3
58	2.22	9.6	2.25	364.12	22.61	11.32	0.0	11.3	13.3	100.6	25.6
59	2.22	9.6	2.25	366.73	22.77	11.41	0.0	11.3	13.2	101.7	25.9
60	2.22	9.6	2.25	369.36	22.94	11.49	0.0	11.3	13.1	102.9	26.2
61	2.22	9.6	2.25	371.99	23.1	11.57	0.0	11.3	13.0	104.1	26.5
62	2.22	9.6	2.25	374.62	23.26	11.65	0.0	11.3	12.9	105.3	26.8
63	2.22	9.6	2.25	377.26	23.43	11.73	0.0	11.3	12.8	106.4	27.1
64	2.22	9.6	2.25	379.89	23.59	11.81	0.0	11.3	12.7	107.6	27.4
65	2.22	9.6	2.25	382.52	23.75	11.9	0.0	11.3	12.6	108.8	27.7
66	2.22	9.6	2.25	385.15	23.92	11.98	0.0	11.3	12.5	110.0	28.0
67	2.22	9.6	2.25	387.78	24.08	12.06	0.0	11.3	12.4	111.2	28.3
68	2.22	9.6	2.25	390.41	24.24	12.14	0.0	11.3	12.3	112.3	28.6
69	2.22	9.6	2.25	393.04	24.41	12.22	0.0	11.3	12.2	113.5	28.9
70	2.22	9.6	2.25	400.05	24.84	12.44	0.0	11.3	12.2	116.3	29.6
71	2.22	9.6	2.25	412.39	25.61	12.83	0.0	11.3	12.1	121.0	30.8
72	2.22	9.6	2.25	424.73	26.38	13.21	0.0	11.3	12.0	125.7	31.9
73	2.22	9.6	2.25	437.07	27.14	13.59	0.0	11.3	11.9	130.4	33.1
74	2.22	9.6	2.25	449.41	27.91	13.98	0.0	11.3	11.8	135.1	34.3
75	2.22	9.6	2.25	461.75	28.67	14.36	0.0	11.3	11.7	139.8	35.5
76	2.22	9.6	2.25	474.09	29.44	14.74	0.0	11.3	11.6	144.5	36.7
77	2.22	9.6	2.25	485.82	30.17	15.11	0.0	11.3	11.5	149.0	37.9
78	2.22	9.6	2.25	483.85	30.05	15.05	0.0	11.3	11.4	148.5	37.7
79	2.22	9.6	2.25	481.87	29.92	14.99	0.0	11.3	11.3	148.0	37.6
80	2.22	9.6	2.25	479.89	29.8	14.92	0.0	11.3	11.2	147.5	37.5
81	2.22	9.6	2.25	477.91	29.68	14.86	0.0	11.3	11.1	147.0	37.4
82	2.22	9.6	2.25	475.93	29.56	14.8	0.0	11.3	11.0	146.5	37.2
83	2.22	9.6	2.25	473.95	29.43	14.74	0.0	11.3	11.0	146.0	37.1
84	2.22	9.6	2.25	471.97	29.31	14.68	0.0	11.3	10.9	145.5	37.0
85	2.22	9.6	2.25	469.99	29.19	14.62	0.0	11.3	10.8	145.0	36.9
86	2.22	9.6	2.25	468.02	29.06	14.56	0.0	11.3	10.7	144.5	36.7
87	2.22	9.6	2.25	466.04	28.94	14.49	0.0	11.3	10.6	144.0	36.6
88	2.22	9.6	2.25	464.06	28.82	14.43	0.0	11.3	10.5	143.5	36.5
89	2.22	9.6	2.25	462.08	28.7	14.37	0.0	11.3	10.4	143.0	36.4
90	2.22	9.6	2.25	460.1	28.57	14.31	0.0	11.3	10.3	142.5	36.2
91	2.22	9.6	2.25	458.12	28.45	14.25	0.0	11.3	10.2	142.0	36.1
92	2.22	9.6	2.25	456.14	28.33	14.19	0.0	11.3	10.1	141.5	36.0
93	2.22	9.6	2.25	452.35	28.09	14.07	0.0	11.3	10.0	140.4	35.7
94	2.22	9.6	2.25	448.21	27.83	13.94	0.0	11.3	9.9	139.1	35.4
95	2.22	9.6	2.25	444.06	27.58	13.81	0.0	11.3	9.8	137.8	35.0
96	2.22	9.6	2.25	439.91	27.32	13.68	0.0	11.3	9.8	136.5	34.7
97	2.22	9.6	2.25	435.77	27.06	13.55	0.0	11.3	9.7	135.2	34.4
98	2.22	9.6	2.25	431.62	26.8	13.42	0.0	11.3	9.6	134.0	34.1
99	2.22	9.6	2.25	427.48	26.55	13.29	0.0	11.3	9.5	132.7	33.7
100	2.22	9.6	2.25	423.33	26.29	13.17	0.0	11.3	9.4	131.4	33.4
101	2.22	9.6	2.25	419.18	26.03	13.04	0.0	11.3	9.3	130.1	33.1
102	2.22	9.6	2.25	415.04	25.77	12.91	0.0	11.3	9.2	128.8	32.7
103	2.22	9.6	2.25	410.89	25.52	12.78	0.0	11.3	9.1	127.5	32.4
104	2.22	9.6	2.25	406.75	25.26	12.65	0.0	11.3	9.0	126.2	32.1
105	2.22	9.6	2.25	402.6	25.0	12.52	0.0	11.3	8.9	125.0	31.8
106	2.22	9.6	2.25	398.45	24.74	12.39	0.0	11.3	8.8	123.7	31.4
107	2.22	9.6	2.25	394.31	24.49	12.26	0.0	11.3	8.7	122.4	31.1
108	2.22	9.6	2.25	390.16	24.23	12.13	0.0	11.3	8.6	121.3	30.8
109	2.22	9.6	2.25	386.02	23.97	12.01	0.0	11.3	8.4	120.1	30.5
110	2.22	9.6	2.25	381.87	23.71	11.88	0.0	11.3	8.2	119.0	30.2
111	2.22	9.6	2.25	390.3	24.24	12.14	0.0	11.3	8.1	122.4	31.1
112	2.22	9.6	2.25	403.05	25.03	12.53	0.0	11.3	7.9	127.4	32.4
113	2.22	9.6	2.25	415.8	25.82	12.93	0.0	11.3	7.8	132.4	33.7
114	2.22	9.6	2.25	428.55	26.61	13.33	0.0	11.3	7.6	137.4	34.9

115	2.22	9.6	2.25	441.3	27.4	13.72	0.0	11.3	7.5	142.4	36.2
116	2.22	9.6	2.25	454.05	28.2	14.12	0.0	11.3	7.3	147.4	37.5
117	2.22	9.6	2.25	466.8	28.99	14.52	0.0	11.3	7.2	152.4	38.7
118	2.22	9.6	2.25	469.38	29.15	14.6	0.0	11.3	7.0	153.7	39.1
119	2.22	9.6	2.25	459.21	28.52	14.28	0.0	11.3	6.8	150.4	38.2
120	2.22	9.6	2.25	449.04	27.89	13.97	0.0	11.3	6.7	147.0	37.4
121	2.22	9.6	2.25	438.87	27.25	13.65	0.0	11.3	6.5	143.7	36.5
122	2.22	9.6	2.25	428.7	26.62	13.33	0.0	11.3	6.4	140.4	35.7
123	2.22	9.6	2.25	418.53	25.99	13.02	0.0	11.3	6.2	137.0	34.8
124	2.22	9.6	2.25	408.36	25.36	12.7	0.0	11.3	6.1	133.7	34.0
125	2.22	9.6	2.25	398.18	24.73	12.38	0.0	11.3	5.9	130.4	33.1
126	2.22	9.6	2.25	388.01	24.1	12.07	0.0	11.3	5.7	127.0	32.3
127	2.22	9.6	2.25	377.84	23.46	11.75	0.0	11.3	5.6	123.7	31.4
128	2.22	9.6	2.25	367.67	22.83	11.43	0.0	11.3	5.4	120.4	30.6
129	2.22	9.6	2.25	357.5	22.2	11.12	0.0	11.3	5.3	117.0	29.7
130	2.22	9.6	2.25	347.33	21.57	10.8	0.0	11.3	5.1	113.7	28.9
131	2.22	9.6	2.25	337.16	20.94	10.49	0.0	11.3	5.0	110.4	28.1
132	2.22	9.6	2.25	326.99	20.31	10.17	0.0	11.3	4.8	107.0	27.2
133	2.22	9.6	2.25	316.82	19.67	9.85	0.0	11.3	4.7	103.7	26.4
134	2.22	9.6	2.25	306.65	19.04	9.54	0.0	11.3	4.5	100.4	25.5
135	2.22	9.6	2.25	296.48	18.41	9.22	0.0	11.3	4.3	97.0	24.7
136	2.22	9.6	2.25	286.31	17.78	8.9	0.0	11.3	4.2	93.7	23.8
137	2.22	9.6	2.25	276.14	17.15	8.59	0.0	11.3	4.0	90.4	23.0
138	2.22	9.6	2.25	265.97	16.52	8.27	0.0	11.3	3.9	87.0	22.1
139	2.22	9.6	2.25	255.79	15.88	7.96	0.0	11.3	3.7	83.7	21.3
140	2.22	9.6	2.25	245.62	15.25	7.64	0.0	11.3	3.6	80.4	20.4
141	2.22	9.6	2.25	235.45	14.62	7.32	0.0	11.3	3.4	77.0	19.6
142	2.22	9.6	2.25	225.28	13.99	7.01	0.0	11.3	3.2	73.7	18.7
143	2.22	9.6	2.25	215.11	13.36	6.69	0.0	11.3	3.1	70.4	17.9
144	2.22	9.6	2.25	204.94	12.73	6.37	0.0	11.3	2.9	67.1	17.0
145	2.22	9.6	2.25	194.77	12.1	6.06	0.0	11.3	2.8	63.7	16.2
146	2.22	9.6	2.25	184.6	11.46	5.74	0.0	11.3	2.6	60.4	15.3
147	2.22	9.6	2.25	174.43	10.83	5.42	0.0	11.3	2.5	57.1	14.5
148	2.22	9.6	2.25	164.26	10.2	5.11	0.0	11.3	2.3	53.7	13.7
149	2.22	9.6	2.25	154.09	9.57	4.79	0.0	11.3	2.2	50.4	12.8
150	2.22	9.6	2.25	143.92	8.94	4.48	0.0	11.3	2.0	47.1	12.0
151	2.22	9.6	2.25	133.74	8.31	4.16	0.0	11.3	1.8	43.7	11.1
152	2.22	9.6	2.25	123.58	7.67	3.84	0.0	11.3	1.7	40.4	10.3
153	2.22	9.6	2.25	113.4	7.04	3.53	0.0	11.3	1.5	37.1	9.4
154	2.22	9.6	2.25	103.23	6.41	3.21	0.0	11.3	1.4	33.7	8.6
155	2.22	9.6	2.25	93.06	5.78	2.89	0.0	11.3	1.2	30.4	7.7
156	2.22	9.6	2.25	86.89	5.4	2.7	0.0	11.3	1.1	28.5	7.2
157	2.22	9.6	2.25	96.75	6.01	3.01	0.0	11.3	0.9	32.5	8.3
158	2.22	9.6	2.25	106.61	6.62	3.32	0.0	11.3	0.7	36.4	9.3
159	2.22	9.6	2.25	116.48	7.23	3.62	0.0	11.3	0.6	40.4	10.3
160	2.22	9.6	2.25	126.34	7.85	3.93	0.0	11.3	0.4	44.3	11.3
161	2.22	9.6	2.25	136.21	8.46	4.24	0.0	11.3	0.3	48.2	12.3
162	2.22	9.6	2.25	146.07	9.07	4.54	0.0	11.3	0.1	52.2	13.3
163	2.22	9.6	2.25	155.93	9.68	4.85	0.0	11.3	0.0	56.1	14.2
164	2.22	9.6	2.25	165.31	10.27	5.14	0.0	11.3	0.0	59.5	15.1
165	2.22	9.6	2.25	168.25	10.45	5.23	0.0	11.3	0.0	60.6	15.4
166	2.22	11.7	2.27	169.47	10.52	5.27	0.0	11.3	0.0	74.6	19.0
167	2.22	15.2	2.3	166.05	10.31	5.16	0.0	11.3	0.0	95.8	24.3
168	2.22	15.2	2.3	159.7	9.92	4.97	0.0	11.3	0.0	92.1	23.4
169	2.22	15.2	2.3	153.36	9.52	4.77	0.0	11.3	0.0	88.4	22.5
170	2.22	15.2	2.3	147.01	9.13	4.57	0.0	11.3	0.0	84.8	21.5
171	2.22	15.2	2.3	140.66	8.74	4.37	0.0	11.3	0.0	81.1	20.6
172	2.22	15.2	2.3	134.31	8.34	4.18	0.0	11.3	0.0	77.4	19.7
173	2.22	15.2	2.3	127.97	7.95	3.98	0.0	11.3	0.0	73.8	18.8
174	2.22	15.2	2.3	121.62	7.55	3.78	0.0	11.3	0.0	70.1	17.8
175	2.22	15.2	2.3	115.27	7.16	3.58	0.0	11.3	0.0	66.4	16.9
176	2.22	15.2	2.3	109.55	6.8	3.41	0.0	11.3	0.0	63.1	16.0
177	2.22	15.2	2.3	103.89	6.45	3.23	0.0	11.3	0.0	59.9	15.2

178	2.22	15.2	2.3	98.23	6.1	3.06	0.0	11.3	0.0	56.6	14.4
179	2.22	15.2	2.3	92.57	5.75	2.88	0.0	11.3	0.0	53.3	13.6
180	2.22	15.2	2.3	86.92	5.4	2.7	0.0	11.3	0.0	50.1	12.7
181	2.22	15.2	2.3	81.26	5.05	2.53	0.0	11.3	0.0	46.8	11.9
182	2.22	15.2	2.3	75.61	4.7	2.35	0.0	11.3	0.0	43.5	11.1
183	2.22	15.2	2.3	69.95	4.34	2.18	0.0	11.3	0.0	40.3	10.2
184	2.22	15.2	2.3	64.29	3.99	2.0	0.0	11.3	0.0	37.0	9.4
185	2.22	15.2	2.3	58.63	3.64	1.82	0.0	11.3	0.0	33.8	8.6
186	2.22	15.2	2.3	53.11	3.3	1.65	0.0	11.3	0.0	30.6	7.8
187	2.22	15.2	2.3	48.43	3.01	1.51	0.0	11.3	0.0	27.9	7.1
188	2.22	15.2	2.3	43.74	2.72	1.36	0.0	11.3	0.0	25.2	6.4
189	2.22	15.2	2.3	39.06	2.43	1.21	0.0	11.3	0.0	22.5	5.7
190	2.22	15.2	2.3	34.38	2.13	1.07	0.0	11.3	0.0	19.8	5.0
191	2.22	15.2	2.3	29.7	1.84	0.92	0.0	11.3	0.0	17.1	4.3
192	2.22	15.2	2.3	25.01	1.55	0.78	0.0	11.3	0.0	14.4	3.7
193	2.22	15.2	2.3	20.33	1.26	0.63	0.0	11.3	0.0	11.7	3.0
194	2.22	15.2	2.3	15.65	0.97	0.49	0.0	11.3	0.0	9.0	2.3
195	2.22	15.2	2.3	10.96	0.68	0.34	0.0	11.3	0.0	6.3	1.6
196	2.22	15.2	2.3	6.28	0.39	0.2	0.0	11.3	0.0	3.6	0.9
197	2.22	15.2	2.3	4.6	0.29	0.14	0.0	11.3	0.0	2.6	0.7
198	2.22	15.2	2.3	3.28	0.2	0.1	0.0	11.3	0.0	1.9	0.5
199	2.22	15.2	2.3	1.97	0.12	0.06	0.0	11.3	0.0	1.1	0.3
200	2.22	15.1	2.3	0.67	0.04	0.02	0.0	11.3	0.0	0.4	0.1

Superficie Nr...2 Fattore di sicurezza=0.61

Nr.	B m	Alfa (°)	Li m	Wi (kN)	Kh•Wi (kN)	Kv•Wi (kN)	c (kN/m ²)	Fi (°)	Ui (kN)	N'i (kN)	Ti (kN)
1	5.09	2.1	5.1	62.72	3.89	1.95	0.0	11.3	2.9	1.0	0.3
2	5.09	2.1	5.1	188.16	11.68	5.85	0.0	11.3	10.9	-17.0	-5.0
3	5.09	2.1	5.1	313.6	19.47	9.75	0.0	11.3	18.9	-35.0	-10.3
4	5.09	2.1	5.1	436.67	27.12	13.58	0.0	11.3	26.9	-53.4	-15.8
5	5.09	2.1	5.1	558.09	34.66	17.36	0.0	11.3	34.9	-72.1	-21.3
6	5.09	2.1	5.1	679.51	42.2	21.13	0.0	11.3	42.9	-90.7	-26.8
7	5.09	2.1	5.1	815.97	50.67	25.38	0.0	11.3	50.8	-106.7	-31.5
8	5.09	2.1	5.1	1018.61	63.26	31.68	0.0	11.3	58.7	-109.7	-32.4
9	5.09	2.1	5.1	1224.36	76.03	38.08	0.0	11.3	65.1	-105.0	-31.1
10	5.09	2.1	5.1	1518.22	94.28	47.22	0.0	11.3	71.5	-84.4	-25.0
11	5.09	2.1	5.1	1715.19	106.51	53.34	0.0	11.3	77.9	-81.3	-24.0
12	5.09	2.1	5.1	1819.91	113.02	56.6	0.0	11.3	84.3	-95.0	-28.1
13	5.09	2.1	5.1	1924.63	119.52	59.86	0.0	11.3	90.7	-108.7	-32.1
14	5.09	2.1	5.1	2029.35	126.02	63.11	0.0	11.3	97.1	-122.4	-36.2
15	5.09	2.1	5.1	2083.81	129.4	64.81	0.0	11.3	103.4	-144.4	-42.7
16	5.09	2.1	5.1	2110.38	131.05	65.63	0.0	11.3	108.4	-165.1	-48.8
17	5.09	2.1	5.1	2136.94	132.7	66.46	0.0	11.3	113.4	-185.9	-55.0
18	5.09	2.1	5.1	2163.51	134.35	67.29	0.0	11.3	118.5	-206.7	-61.1
19	5.09	2.1	5.1	2190.08	136.0	68.11	0.0	11.3	123.5	-227.4	-67.2
20	5.09	2.1	5.1	2216.64	137.65	68.94	0.0	11.3	128.5	-248.2	-73.4
21	5.09	2.1	5.1	2243.21	139.3	69.76	0.0	11.3	133.5	-268.9	-79.5
22	5.09	2.1	5.1	2269.77	140.95	70.59	0.0	11.3	138.5	-289.7	-85.6
23	5.09	2.1	5.1	2296.34	142.6	71.42	0.0	11.3	143.5	-310.4	-91.8
24	5.09	2.1	5.1	2322.91	144.25	72.24	0.0	11.3	148.6	-331.2	-97.9
25	5.09	2.1	5.1	2349.47	145.9	73.07	0.0	11.3	153.6	-352.0	-104.1
26	5.09	2.1	5.1	2371.65	147.28	73.76	0.0	11.3	158.6	-373.5	-110.4
27	5.09	5.0	5.11	2381.54	147.89	74.07	0.0	11.3	162.4	197.1	58.3
28	5.09	5.1	5.11	2378.66	147.71	73.98	0.0	11.3	164.8	212.4	62.8
29	5.09	5.1	5.11	2375.17	147.5	73.87	0.0	11.3	167.2	198.8	58.8
30	5.09	5.1	5.11	2371.68	147.28	73.76	0.0	11.3	169.6	185.1	54.7
31	5.09	5.1	5.11	2368.2	147.07	73.65	0.0	11.3	171.9	171.4	50.7
32	5.09	5.1	5.11	2364.71	146.85	73.54	0.0	11.3	174.3	157.7	46.6
33	5.09	5.1	5.11	2361.22	146.63	73.43	0.0	11.3	176.7	144.1	42.6

34	5.09	5.1	5.11	2357.74	146.42	73.33	0.0	11.3	179.1	130.4	38.5
35	5.09	5.1	5.11	2354.25	146.2	73.22	0.0	11.3	181.5	116.7	34.5
36	5.09	5.1	5.11	2350.77	145.98	73.11	0.0	11.3	183.8	103.0	30.5
37	5.09	5.1	5.11	2353.68	146.16	73.2	0.0	11.3	186.2	92.2	27.3
38	5.09	5.1	5.11	2417.69	150.14	75.19	0.0	11.3	188.6	108.2	32.0
39	5.09	7.7	5.14	2470.62	153.43	76.84	0.0	11.3	189.8	680.4	201.2
40	5.09	8.9	5.15	2507.52	155.72	77.98	0.0	11.3	189.4	959.0	283.5
41	5.09	8.9	5.15	2539.47	157.7	78.98	0.0	11.3	188.5	988.2	292.1
42	5.09	8.9	5.15	2542.59	157.89	79.07	0.0	11.3	187.6	995.3	294.2
43	5.09	8.9	5.15	2532.08	157.24	78.75	0.0	11.3	186.6	992.0	293.3
44	5.09	8.9	5.15	2521.56	156.59	78.42	0.0	11.3	185.7	988.6	292.3
45	5.09	8.9	5.15	2511.05	155.94	78.09	0.0	11.3	184.8	985.3	291.3
46	5.09	8.9	5.15	2500.54	155.28	77.77	0.0	11.3	183.8	982.0	290.3
47	5.09	8.9	5.15	2490.03	154.63	77.44	0.0	11.3	182.9	978.7	289.3
48	5.09	8.9	5.15	2479.52	153.98	77.11	0.0	11.3	182.0	975.4	288.4
49	5.09	8.9	5.15	2465.29	153.09	76.67	0.0	11.3	180.7	970.7	287.0
50	5.09	8.9	5.15	2444.93	151.83	76.04	0.0	11.3	177.1	973.6	287.8
51	5.09	8.9	5.15	2424.57	150.57	75.4	0.0	11.3	173.5	976.5	288.7
52	5.09	8.9	5.15	2404.2	149.3	74.77	0.0	11.3	169.8	979.4	289.6
53	5.09	7.3	5.13	2390.49	148.45	74.34	0.0	11.3	166.9	661.6	195.6
54	5.09	6.6	5.13	2386.58	148.21	74.22	0.0	11.3	164.9	515.6	152.4
55	5.09	6.6	5.13	2385.85	148.16	74.2	0.0	11.3	163.3	523.3	154.7
56	5.09	6.6	5.13	2385.11	148.12	74.18	0.0	11.3	161.7	531.1	157.0
57	5.09	6.6	5.13	2384.38	148.07	74.15	0.0	11.3	160.1	538.9	159.3
58	5.09	6.6	5.13	2359.2	146.51	73.37	0.0	11.3	158.8	531.0	157.0
59	5.09	6.6	5.13	2326.72	144.49	72.36	0.0	11.3	157.8	517.8	153.1
60	5.09	6.6	5.13	2294.23	142.47	71.35	0.0	11.3	156.8	504.5	149.2
61	5.09	6.6	5.13	2261.75	140.45	70.34	0.0	11.3	155.8	491.3	145.2
62	5.09	6.6	5.13	2229.27	138.44	69.33	0.0	11.3	154.8	478.0	141.3
63	5.09	6.6	5.13	2196.79	136.42	68.32	0.0	11.3	153.7	464.8	137.4
64	5.09	6.6	5.13	2164.31	134.4	67.31	0.0	11.3	152.7	451.5	133.5
65	5.09	6.6	5.13	2131.83	132.39	66.3	0.0	11.3	151.7	438.3	129.6
66	5.09	6.6	5.13	2099.35	130.37	65.29	0.0	11.3	150.7	425.0	125.7
67	5.09	6.6	5.13	2066.87	128.35	64.28	0.0	11.3	149.7	411.8	121.7
68	5.09	6.6	5.13	2034.39	126.34	63.27	0.0	11.3	148.7	398.5	117.8
69	5.09	6.6	5.13	2001.91	124.32	62.26	0.0	11.3	147.6	385.3	113.9
70	5.09	6.6	5.13	1969.43	122.3	61.25	0.0	11.3	146.6	372.1	110.0
71	5.09	6.6	5.13	1936.94	120.28	60.24	0.0	11.3	145.6	358.8	106.1
72	5.09	6.6	5.13	1904.46	118.27	59.23	0.0	11.3	144.6	345.6	102.2
73	5.09	6.6	5.13	1871.98	116.25	58.22	0.0	11.3	143.6	332.3	98.2
74	5.09	6.6	5.13	1839.5	114.23	57.21	0.0	11.3	142.6	319.1	94.3
75	5.09	6.6	5.13	1807.02	112.22	56.2	0.0	11.3	141.5	305.8	90.4
76	5.09	6.6	5.13	1774.54	110.2	55.19	0.0	11.3	140.5	292.6	86.5
77	5.09	6.6	5.13	1742.06	108.18	54.18	0.0	11.3	139.5	279.4	82.6
78	5.09	6.6	5.13	1733.8	107.67	53.92	0.0	11.3	139.9	272.7	80.6
79	5.09	6.6	5.13	1752.61	108.84	54.51	0.0	11.3	141.8	273.4	80.8
80	5.09	6.6	5.13	1771.42	110.01	55.09	0.0	11.3	143.8	274.2	81.1
81	5.09	6.6	5.13	1790.23	111.17	55.68	0.0	11.3	145.7	274.9	81.3
82	5.09	6.6	5.13	1809.04	112.34	56.26	0.0	11.3	147.7	275.7	81.5
83	5.09	6.6	5.13	1827.85	113.51	56.85	0.0	11.3	149.6	276.4	81.7
84	5.09	6.6	5.13	1855.73	115.24	57.71	0.0	11.3	151.2	284.0	84.0
85	5.09	6.6	5.13	1951.15	121.17	60.68	0.0	11.3	150.2	343.0	101.4
86	5.09	6.6	5.13	2046.58	127.09	63.65	0.0	11.3	149.2	402.1	118.9
87	5.09	6.6	5.13	2142.0	133.02	66.62	0.0	11.3	148.3	461.1	136.3
88	5.09	6.6	5.13	2173.72	134.99	67.6	0.0	11.3	147.3	484.0	143.1
89	5.09	6.6	5.13	2204.29	136.89	68.55	0.0	11.3	147.4	500.8	148.1
90	5.09	6.6	5.13	2234.86	138.78	69.5	0.0	11.3	148.6	511.7	151.3
91	5.09	6.6	5.13	2265.43	140.68	70.45	0.0	11.3	149.9	522.6	154.5
92	5.09	6.6	5.13	2295.99	142.58	71.41	0.0	11.3	151.2	533.4	157.7
93	5.09	6.6	5.13	2304.2	143.09	71.66	0.0	11.3	152.4	531.7	157.2
94	5.09	6.6	5.13	2289.42	142.17	71.2	0.0	11.3	153.7	516.8	152.8
95	5.09	6.6	5.13	2274.63	141.25	70.74	0.0	11.3	155.0	502.0	148.4
96	5.09	6.6	5.13	2259.85	140.34	70.28	0.0	11.3	156.2	487.2	144.0

97	5.09	6.6	5.13	2245.06	139.42	69.82	0.0	11.3	157.5	472.3	139.6
98	5.09	6.6	5.13	2230.27	138.5	69.36	0.0	11.3	158.7	457.5	135.3
99	5.09	6.6	5.13	2215.49	137.58	68.9	0.0	11.3	160.0	442.7	130.9
100	5.09	6.6	5.13	2200.7	136.66	68.44	0.0	11.3	161.3	427.9	126.5
101	5.09	6.6	5.13	2185.92	135.75	67.98	0.0	11.3	162.5	413.1	122.1
102	5.09	6.6	5.13	2171.13	134.83	67.52	0.0	11.3	163.8	398.2	117.7
103	5.09	6.6	5.13	2156.34	133.91	67.06	0.0	11.3	165.1	383.4	113.3
104	5.09	6.6	5.13	2141.56	132.99	66.6	0.0	11.3	166.3	368.6	109.0
105	5.09	6.6	5.13	2179.89	135.37	67.79	0.0	11.3	167.6	383.8	113.5
106	5.09	6.6	5.13	2221.55	137.96	69.09	0.0	11.3	168.8	401.0	118.5
107	5.09	6.6	5.13	2263.2	140.54	70.39	0.0	11.3	170.1	418.1	123.6
108	5.09	6.6	5.13	2304.85	143.13	71.68	0.0	11.3	171.4	435.3	128.7
109	5.09	6.6	5.13	2342.49	145.47	72.85	0.0	11.3	172.6	450.2	133.1
110	5.09	6.6	5.13	2331.26	144.77	72.5	0.0	11.3	173.5	439.5	129.9
111	5.09	6.6	5.13	2320.03	144.07	72.15	0.0	11.3	173.4	433.7	128.2
112	5.09	6.6	5.13	2308.8	143.38	71.8	0.0	11.3	173.2	427.9	126.5
113	5.09	6.6	5.13	2297.56	142.68	71.45	0.0	11.3	173.1	422.1	124.8
114	5.09	6.6	5.13	2286.33	141.98	71.1	0.0	11.3	173.0	416.2	123.1
115	5.09	6.6	5.13	2275.1	141.28	70.76	0.0	11.3	172.9	410.4	121.3
116	5.09	6.6	5.13	2263.86	140.59	70.41	0.0	11.3	172.8	404.6	119.6
117	5.09	6.6	5.13	2252.63	139.89	70.06	0.0	11.3	172.7	398.8	117.9
118	5.09	6.6	5.13	2241.4	139.19	69.71	0.0	11.3	172.6	392.9	116.2
119	5.09	6.6	5.13	2230.17	138.49	69.36	0.0	11.3	172.5	387.1	114.4
120	5.09	6.6	5.13	2217.32	137.7	68.96	0.0	11.3	172.4	380.4	112.5
121	5.09	6.6	5.13	2202.47	136.77	68.5	0.0	11.3	172.3	372.5	110.1
122	5.09	6.6	5.13	2187.61	135.85	68.03	0.0	11.3	172.1	364.6	107.8
123	5.09	6.6	5.13	2172.75	134.93	67.57	0.0	11.3	172.0	356.7	105.5
124	5.09	6.6	5.13	2157.89	134.01	67.11	0.0	11.3	171.9	348.9	103.1
125	5.09	6.6	5.13	2143.03	133.08	66.65	0.0	11.3	171.8	341.0	100.8
126	5.09	6.6	5.13	2128.18	132.16	66.19	0.0	11.3	171.7	333.1	98.5
127	5.09	6.6	5.13	2113.32	131.24	65.72	0.0	11.3	171.6	325.2	96.2
128	5.09	6.6	5.13	2098.46	130.31	65.26	0.0	11.3	171.5	317.4	93.8
129	5.09	6.6	5.13	2083.6	129.39	64.8	0.0	11.3	171.4	309.5	91.5
130	5.09	6.6	5.13	2068.75	128.47	64.34	0.0	11.3	171.3	301.6	89.2
131	5.09	6.6	5.13	2053.89	127.55	63.88	0.0	11.3	171.1	293.7	86.8
132	5.09	6.6	5.13	2067.25	128.38	64.29	0.0	11.3	171.0	301.8	89.2
133	5.09	6.6	5.13	2084.76	129.46	64.84	0.0	11.3	170.9	312.3	92.3
134	5.09	6.6	5.13	2102.27	130.55	65.38	0.0	11.3	170.8	322.8	95.4
135	5.09	6.6	5.13	2119.78	131.64	65.93	0.0	11.3	170.7	333.2	98.5
136	5.09	6.6	5.13	2137.29	132.73	66.47	0.0	11.3	170.6	343.7	101.6
137	5.09	6.6	5.13	2154.8	133.81	67.01	0.0	11.3	170.5	354.2	104.7
138	5.09	6.6	5.13	2168.36	134.66	67.44	0.0	11.3	169.5	366.6	108.4
139	5.09	6.6	5.13	2176.13	135.14	67.68	0.0	11.3	168.2	378.0	111.8
140	5.09	6.6	5.13	2183.9	135.62	67.92	0.0	11.3	166.8	389.4	115.1
141	5.09	6.6	5.13	2191.67	136.1	68.16	0.0	11.3	165.4	400.9	118.5
142	5.09	6.6	5.13	2199.45	136.59	68.4	0.0	11.3	164.0	412.3	121.9
143	5.09	6.6	5.13	2207.22	137.07	68.64	0.0	11.3	162.6	423.7	125.3
144	5.09	6.6	5.13	2214.99	137.55	68.89	0.0	11.3	161.3	435.1	128.6
145	5.09	6.6	5.13	2222.76	138.03	69.13	0.0	11.3	159.9	446.5	132.0
146	5.09	6.6	5.13	2232.25	138.62	69.42	0.0	11.3	158.5	458.9	135.7
147	5.09	6.6	5.13	2241.83	139.22	69.72	0.0	11.3	157.1	471.3	139.3
148	5.09	6.6	5.13	2251.41	139.81	70.02	0.0	11.3	155.7	483.8	143.0
149	5.09	6.6	5.13	2260.99	140.41	70.32	0.0	11.3	154.4	496.2	146.7
150	5.09	6.6	5.13	2270.57	141.0	70.61	0.0	11.3	153.0	508.6	150.4
151	5.09	6.6	5.13	2280.14	141.6	70.91	0.0	11.3	151.6	521.1	154.0
152	5.09	6.8	5.13	2288.84	142.14	71.18	0.0	11.3	150.1	574.4	169.8
153	5.09	8.1	5.14	2280.41	141.61	70.92	0.0	11.3	148.8	830.9	245.6
154	5.09	8.1	5.14	2261.85	140.46	70.34	0.0	11.3	147.5	824.6	243.8
155	5.09	8.1	5.14	2243.29	139.31	69.77	0.0	11.3	146.2	818.3	241.9
156	5.09	8.1	5.14	2224.73	138.16	69.19	0.0	11.3	144.9	812.0	240.0
157	5.09	8.1	5.14	2206.17	137.0	68.61	0.0	11.3	143.5	805.6	238.2
158	5.09	8.1	5.14	2187.62	135.85	68.03	0.0	11.3	142.2	799.4	236.3
159	5.09	8.1	5.14	2169.06	134.7	67.46	0.0	11.3	140.9	793.0	234.5

160	5.09	8.1	5.14	2150.5	133.55	66.88	0.0	11.3	139.6	786.7	232.6
161	5.09	8.1	5.14	2131.94	132.39	66.3	0.0	11.3	138.3	780.4	230.7
162	5.09	8.1	5.14	2112.22	131.17	65.69	0.0	11.3	137.0	773.3	228.6
163	5.09	8.1	5.14	2088.41	129.69	64.95	0.0	11.3	133.4	775.0	229.1
164	5.09	8.1	5.14	2064.61	128.21	64.21	0.0	11.3	129.8	776.9	229.7
165	5.09	8.1	5.14	2040.81	126.73	63.47	0.0	11.3	126.2	778.7	230.2
166	5.09	8.1	5.14	2017.01	125.26	62.73	0.0	11.3	122.6	780.6	230.8
167	5.09	8.1	5.14	1993.21	123.78	61.99	0.0	11.3	118.9	782.5	231.3
168	5.09	8.1	5.14	1969.4	122.3	61.25	0.0	11.3	115.3	784.3	231.9
169	5.09	8.1	5.14	1945.6	120.82	60.51	0.0	11.3	111.7	786.2	232.4
170	5.09	8.1	5.14	1921.8	119.34	59.77	0.0	11.3	108.1	788.1	233.0
171	5.09	8.1	5.14	1898.0	117.87	59.03	0.0	11.3	104.4	789.9	233.5
172	5.09	8.1	5.14	1874.2	116.39	58.29	0.0	11.3	100.8	791.8	234.1
173	5.09	8.1	5.14	1859.13	115.45	57.82	0.0	11.3	96.8	801.5	237.0
174	5.09	8.1	5.14	1849.07	114.83	57.51	0.0	11.3	92.9	814.7	240.9
175	5.09	8.1	5.14	1839.0	114.2	57.19	0.0	11.3	88.9	827.9	244.8
176	5.09	8.1	5.14	1828.93	113.58	56.88	0.0	11.3	84.9	841.1	248.7
177	5.09	8.1	5.14	1818.87	112.95	56.57	0.0	11.3	81.0	854.3	252.6
178	5.09	8.1	5.14	1808.8	112.33	56.25	0.0	11.3	77.0	867.5	256.5
179	5.09	8.1	5.14	1798.74	111.7	55.94	0.0	11.3	73.4	878.6	259.8
180	5.09	8.1	5.14	1788.68	111.08	55.63	0.0	11.3	70.6	886.1	262.0
181	5.09	8.1	5.14	1779.16	110.49	55.33	0.0	11.3	67.7	893.9	264.3
182	5.09	8.1	5.14	1770.13	109.92	55.05	0.0	11.3	64.9	902.1	266.7
183	5.09	8.1	5.14	1761.1	109.36	54.77	0.0	11.3	62.1	910.2	269.1
184	5.09	8.1	5.14	1752.06	108.8	54.49	0.0	11.3	59.2	918.4	271.5
185	5.09	8.1	5.14	1743.03	108.24	54.21	0.0	11.3	56.4	926.6	273.9
186	5.09	8.1	5.14	1733.99	107.68	53.93	0.0	11.3	55.6	924.0	273.2
187	5.09	8.1	5.14	1724.96	107.12	53.65	0.0	11.3	55.3	919.4	271.8
188	5.09	8.1	5.14	1715.93	106.56	53.37	0.0	11.3	54.9	914.9	270.5
189	5.09	8.1	5.14	1701.67	105.67	52.92	0.0	11.3	54.6	906.7	268.1
190	5.09	8.1	5.14	1683.51	104.55	52.36	0.0	11.3	54.3	895.8	264.8
191	5.09	8.1	5.14	1665.34	103.42	51.79	0.0	11.3	50.5	902.5	266.8
192	5.09	8.1	5.14	1647.18	102.29	51.23	0.0	11.3	45.3	916.1	270.8
193	5.09	8.1	5.14	1629.01	101.16	50.66	0.0	11.3	40.1	929.8	274.9
194	5.09	8.1	5.14	1610.84	100.03	50.1	0.0	11.3	34.9	943.5	278.9
195	5.09	8.1	5.14	1592.68	98.91	49.53	0.0	11.3	29.8	957.1	283.0
196	5.09	26.9	5.71	1486.34	92.3	46.23	0.0	11.3	15.5	3614.7	1068.7
197	5.09	34.0	6.14	1251.67	77.73	38.93	0.0	11.3	0.0	4130.5	1221.2
198	5.09	34.0	6.14	971.08	60.3	30.2	0.0	11.3	0.0	3204.5	947.4
199	5.09	34.0	6.14	662.13	41.12	20.59	0.0	11.3	0.0	2185.0	646.0
200	5.09	47.3	7.51	253.83	15.76	7.89	0.0	11.3	0.0	1349.2	398.9

Superficie Nr...3 Fattore di sicurezza=0.59

Nr.	B m	Alfa (°)	Li m	Wi (kN)	Kh•Wi (kN)	Kv•Wi (kN)	c (kN/m²)	Fi (°)	Ui (kN)	N'i (kN)	Ti (kN)
1	1.81	-4.7	1.82	7.21	0.45	0.22	0.0	11.3	0.0	-16.0	-5.0
2	1.81	-4.7	1.82	21.62	1.34	0.67	0.0	11.3	0.0	-18.1	-5.6
3	1.81	-4.7	1.82	36.03	2.24	1.12	0.0	11.3	0.0	-20.1	-6.2
4	1.81	-4.7	1.82	50.45	3.13	1.57	0.0	11.3	0.0	-22.2	-6.9
5	1.81	-4.7	1.82	64.86	4.03	2.02	0.0	11.3	0.0	-24.3	-7.5
6	1.81	-4.7	1.82	79.27	4.92	2.47	0.0	11.3	0.0	-26.3	-8.1
7	1.81	-4.7	1.82	93.69	5.82	2.91	0.0	11.3	0.0	-28.4	-8.8
8	1.81	-4.7	1.82	108.1	6.71	3.36	0.0	11.3	0.0	-30.4	-9.4
9	1.81	-4.7	1.82	122.52	7.61	3.81	0.0	11.3	0.0	-32.5	-10.0
10	1.81	-4.7	1.82	136.93	8.5	4.26	0.0	11.3	0.4	-35.3	-10.9
11	1.81	-4.7	1.82	151.34	9.4	4.71	0.0	11.3	4.6	-45.0	-13.9
12	1.81	-4.7	1.82	165.76	10.29	5.15	0.0	11.3	8.8	-54.6	-16.9
13	1.81	-4.7	1.82	180.17	11.19	5.6	0.0	11.3	13.0	-64.3	-19.9
14	1.81	-4.7	1.82	194.58	12.08	6.05	0.0	11.3	17.2	-73.9	-22.8
15	1.81	-4.7	1.82	209.0	12.98	6.5	0.0	11.3	21.4	-83.6	-25.8

16	1.81	-4.7	1.82	223.41	13.87	6.95	0.0	11.3	25.6	-93.2	-28.8
17	1.81	-4.7	1.82	237.82	14.77	7.4	0.0	11.3	29.7	-102.9	-31.8
18	1.81	-4.7	1.82	252.24	15.66	7.84	0.0	11.3	33.9	-112.5	-34.8
19	1.81	-4.7	1.82	262.79	16.32	8.17	0.0	11.3	37.0	-119.5	-36.9
20	1.81	-4.7	1.82	273.13	16.96	8.49	0.0	11.3	40.0	-126.4	-39.1
21	1.81	-4.7	1.82	283.47	17.6	8.82	0.0	11.3	43.0	-133.3	-41.2
22	1.81	-4.7	1.82	293.81	18.25	9.14	0.0	11.3	46.0	-140.2	-43.3
23	1.81	-4.7	1.82	304.15	18.89	9.46	0.0	11.3	49.0	-147.1	-45.5
24	1.81	-4.7	1.82	314.48	19.53	9.78	0.0	11.3	52.0	-154.0	-47.6
25	1.81	-4.7	1.82	324.82	20.17	10.1	0.0	11.3	55.0	-160.9	-49.7
26	1.81	-3.2	1.81	334.34	20.76	10.4	0.0	11.3	57.8	-151.0	-46.7
27	1.81	-1.8	1.81	342.31	21.26	10.65	0.0	11.3	60.1	-141.5	-43.7
28	1.81	-1.8	1.81	349.57	21.71	10.87	0.0	11.3	62.2	-145.6	-45.0
29	1.81	-1.8	1.81	356.82	22.16	11.1	0.0	11.3	64.3	-149.8	-46.3
30	1.81	-1.8	1.81	364.08	22.61	11.32	0.0	11.3	66.4	-153.9	-47.6
31	1.81	-1.8	1.81	371.33	23.06	11.55	0.0	11.3	68.5	-158.1	-48.8
32	1.81	-1.8	1.81	378.59	23.51	11.77	0.0	11.3	70.6	-162.3	-50.1
33	1.81	-1.8	1.81	385.84	23.96	12.0	0.0	11.3	72.7	-166.4	-51.4
34	1.81	-1.8	1.81	393.1	24.41	12.23	0.0	11.3	74.8	-170.6	-52.7
35	1.81	-1.8	1.81	400.35	24.86	12.45	0.0	11.3	76.9	-174.7	-54.0
36	1.81	-1.8	1.81	407.61	25.31	12.68	0.0	11.3	79.1	-178.9	-55.3
37	1.81	-1.8	1.81	414.86	25.76	12.9	0.0	11.3	81.2	-183.1	-56.6
38	1.81	-1.8	1.81	422.12	26.21	13.13	0.0	11.3	83.3	-187.2	-57.8
39	1.81	-1.8	1.81	429.37	26.66	13.35	0.0	11.3	85.4	-191.4	-59.1
40	1.81	-1.8	1.81	436.63	27.11	13.58	0.0	11.3	87.5	-195.5	-60.4
41	1.81	-1.8	1.81	443.88	27.57	13.8	0.0	11.3	89.6	-199.7	-61.7
42	1.81	1.3	1.81	449.45	27.91	13.98	0.0	11.3	91.2	-158.2	-48.9
43	1.81	2.3	1.81	452.81	28.12	14.08	0.0	11.3	92.2	-146.1	-45.1
44	1.81	2.3	1.81	455.67	28.3	14.17	0.0	11.3	93.0	-147.3	-45.5
45	1.81	2.3	1.81	458.52	28.47	14.26	0.0	11.3	93.8	-148.5	-45.9
46	1.81	2.3	1.81	461.37	28.65	14.35	0.0	11.3	94.7	-149.8	-46.3
47	1.81	2.3	1.81	464.23	28.83	14.44	0.0	11.3	95.5	-151.0	-46.7
48	1.81	2.3	1.81	467.08	29.01	14.53	0.0	11.3	96.3	-152.2	-47.0
49	1.81	2.3	1.81	469.93	29.18	14.61	0.0	11.3	97.2	-153.4	-47.4
50	1.81	2.3	1.81	472.71	29.36	14.7	0.0	11.3	98.0	-154.6	-47.8
51	1.81	2.3	1.81	475.05	29.5	14.77	0.0	11.3	98.6	-155.6	-48.1
52	1.81	1.2	1.81	477.98	29.68	14.87	0.0	11.3	99.5	-173.3	-53.5
53	1.81	0.9	1.81	481.65	29.91	14.98	0.0	11.3	100.6	-179.5	-55.5
54	1.81	0.9	1.81	485.47	30.15	15.1	0.0	11.3	101.7	-181.3	-56.0
55	1.81	0.9	1.81	489.3	30.39	15.22	0.0	11.3	102.8	-183.2	-56.6
56	1.81	0.9	1.81	493.13	30.62	15.34	0.0	11.3	103.9	-185.0	-57.2
57	1.81	0.9	1.81	496.96	30.86	15.46	0.0	11.3	105.0	-186.8	-57.7
58	1.81	0.9	1.81	500.79	31.1	15.57	0.0	11.3	106.1	-188.7	-58.3
59	1.81	0.9	1.81	504.61	31.34	15.69	0.0	11.3	107.2	-190.5	-58.9
60	1.81	0.9	1.81	508.44	31.57	15.81	0.0	11.3	108.3	-192.3	-59.4
61	1.81	0.9	1.81	512.27	31.81	15.93	0.0	11.3	109.5	-194.2	-60.0
62	1.81	0.9	1.81	516.1	32.05	16.05	0.0	11.3	110.6	-196.0	-60.6
63	1.81	0.9	1.81	519.93	32.29	16.17	0.0	11.3	111.7	-197.8	-61.1
64	1.81	0.9	1.81	523.75	32.53	16.29	0.0	11.3	112.8	-199.7	-61.7
65	1.81	0.9	1.81	527.58	32.76	16.41	0.0	11.3	113.9	-201.5	-62.3
66	1.81	0.9	1.81	531.41	33.0	16.53	0.0	11.3	115.0	-203.3	-62.8
67	1.81	0.9	1.81	535.24	33.24	16.65	0.0	11.3	116.1	-205.1	-63.4
68	1.81	0.9	1.81	539.07	33.48	16.76	0.0	11.3	117.2	-207.0	-63.9
69	1.81	0.9	1.81	542.89	33.71	16.88	0.0	11.3	118.3	-208.8	-64.5
70	1.81	0.9	1.81	546.72	33.95	17.0	0.0	11.3	119.5	-210.6	-65.1
71	1.81	0.9	1.81	550.55	34.19	17.12	0.0	11.3	120.6	-212.5	-65.6
72	1.81	0.9	1.81	554.38	34.43	17.24	0.0	11.3	121.7	-214.3	-66.2
73	1.81	0.9	1.81	558.21	34.66	17.36	0.0	11.3	122.8	-216.1	-66.8
74	1.81	0.9	1.81	562.04	34.9	17.48	0.0	11.3	123.9	-218.0	-67.3
75	1.81	0.9	1.81	565.86	35.14	17.6	0.0	11.3	125.0	-219.8	-67.9
76	1.81	0.9	1.81	569.69	35.38	17.72	0.0	11.3	126.1	-221.6	-68.5
77	1.81	0.9	1.81	573.52	35.62	17.84	0.0	11.3	127.2	-223.5	-69.0
78	1.81	0.9	1.81	577.35	35.85	17.96	0.0	11.3	128.4	-225.3	-69.6

79	1.81	0.9	1.81	581.18	36.09	18.07	0.0	11.3	129.5	-227.1	-70.2
80	1.81	0.9	1.81	585.0	36.33	18.19	0.0	11.3	130.6	-228.9	-70.7
81	1.81	0.9	1.81	588.83	36.57	18.31	0.0	11.3	131.7	-230.8	-71.3
82	1.81	0.9	1.81	592.66	36.8	18.43	0.0	11.3	132.8	-232.6	-71.9
83	1.81	0.9	1.81	596.49	37.04	18.55	0.0	11.3	133.9	-234.4	-72.4
84	1.81	0.9	1.81	600.32	37.28	18.67	0.0	11.3	135.0	-236.3	-73.0
85	1.81	0.9	1.81	604.14	37.52	18.79	0.0	11.3	136.1	-238.1	-73.6
86	1.81	0.9	1.81	615.01	38.19	19.13	0.0	11.3	139.3	-243.4	-75.2
87	1.81	0.9	1.81	626.17	38.89	19.47	0.0	11.3	142.5	-248.9	-76.9
88	1.81	0.9	1.81	637.34	39.58	19.82	0.0	11.3	145.8	-254.4	-78.6
89	1.81	0.9	1.81	648.5	40.27	20.17	0.0	11.3	149.0	-259.9	-80.3
90	1.81	0.9	1.81	659.66	40.97	20.52	0.0	11.3	152.3	-265.4	-82.0
91	1.81	0.9	1.81	670.83	41.66	20.86	0.0	11.3	155.5	-270.8	-83.7
92	1.81	0.9	1.81	681.99	42.35	21.21	0.0	11.3	158.7	-276.3	-85.4
93	1.81	0.9	1.81	693.16	43.05	21.56	0.0	11.3	162.0	-281.8	-87.1
94	1.81	0.9	1.81	704.32	43.74	21.9	0.0	11.3	165.2	-287.3	-88.8
95	1.81	0.9	1.81	715.48	44.43	22.25	0.0	11.3	168.5	-292.8	-90.5
96	1.81	0.9	1.81	726.65	45.12	22.6	0.0	11.3	171.7	-298.3	-92.2
97	1.81	0.9	1.81	737.81	45.82	22.95	0.0	11.3	175.0	-303.7	-93.8
98	1.81	0.9	1.81	748.98	46.51	23.29	0.0	11.3	178.2	-309.2	-95.5
99	1.81	0.9	1.81	760.03	47.2	23.64	0.0	11.3	181.4	-314.7	-97.2
100	1.81	0.9	1.81	768.65	47.73	23.91	0.0	11.3	183.9	-318.9	-98.5
101	1.81	3.8	1.82	775.73	48.17	24.13	0.0	11.3	186.0	-251.5	-77.7
102	1.81	6.3	1.82	779.89	48.43	24.25	0.0	11.3	187.2	-190.6	-58.9
103	1.81	6.3	1.82	782.69	48.6	24.34	0.0	11.3	188.0	-191.4	-59.2
104	1.81	6.3	1.82	785.48	48.78	24.43	0.0	11.3	188.8	-192.3	-59.4
105	1.81	6.3	1.82	788.28	48.95	24.52	0.0	11.3	189.6	-193.1	-59.7
106	1.81	6.3	1.82	791.08	49.13	24.6	0.0	11.3	190.4	-194.0	-59.9
107	1.81	6.3	1.82	793.88	49.3	24.69	0.0	11.3	191.2	-194.8	-60.2
108	1.81	6.3	1.82	796.68	49.47	24.78	0.0	11.3	192.1	-195.7	-60.4
109	1.81	6.3	1.82	799.48	49.65	24.86	0.0	11.3	192.9	-196.5	-60.7
110	1.81	6.3	1.82	802.27	49.82	24.95	0.0	11.3	193.7	-197.3	-61.0
111	1.81	6.3	1.82	805.07	50.0	25.04	0.0	11.3	194.5	-198.2	-61.2
112	1.81	6.3	1.82	807.87	50.17	25.12	0.0	11.3	195.3	-199.0	-61.5
113	1.81	6.3	1.82	810.67	50.34	25.21	0.0	11.3	196.1	-199.8	-61.7
114	1.81	6.3	1.82	813.47	50.52	25.3	0.0	11.3	196.9	-200.7	-62.0
115	1.81	6.3	1.82	816.27	50.69	25.39	0.0	11.3	197.7	-201.5	-62.3
116	1.81	6.3	1.82	819.07	50.86	25.47	0.0	11.3	198.6	-202.4	-62.5
117	1.81	6.3	1.82	821.63	51.02	25.55	0.0	11.3	199.3	-203.1	-62.8
118	1.81	6.3	1.82	823.91	51.17	25.62	0.0	11.3	200.0	-203.8	-63.0
119	1.81	6.3	1.82	826.2	51.31	25.69	0.0	11.3	200.6	-204.5	-63.2
120	1.81	6.3	1.82	828.48	51.45	25.77	0.0	11.3	201.3	-205.1	-63.4
121	1.81	6.3	1.82	830.76	51.59	25.84	0.0	11.3	202.0	-205.8	-63.6
122	1.81	6.3	1.82	833.04	51.73	25.91	0.0	11.3	202.6	-206.5	-63.8
123	1.81	6.3	1.82	835.33	51.87	25.98	0.0	11.3	203.3	-207.1	-64.0
124	1.81	6.3	1.82	837.61	52.02	26.05	0.0	11.3	203.9	-207.8	-64.2
125	1.81	6.3	1.82	839.89	52.16	26.12	0.0	11.3	204.6	-208.5	-64.4
126	1.81	6.3	1.82	842.17	52.3	26.19	0.0	11.3	205.3	-209.1	-64.6
127	1.81	6.3	1.82	844.46	52.44	26.26	0.0	11.3	205.9	-209.8	-64.8
128	1.81	6.3	1.82	846.74	52.58	26.33	0.0	11.3	206.6	-210.5	-65.0
129	1.81	6.3	1.82	849.02	52.72	26.4	0.0	11.3	207.3	-211.2	-65.2
130	1.81	6.3	1.82	851.3	52.87	26.48	0.0	11.3	207.9	-211.8	-65.4
131	1.81	6.3	1.82	853.58	53.01	26.55	0.0	11.3	208.6	-212.5	-65.6
132	1.81	6.3	1.82	855.87	53.15	26.62	0.0	11.3	209.2	-213.2	-65.9
133	1.81	6.3	1.82	858.15	53.29	26.69	0.0	11.3	209.9	-213.8	-66.1
134	1.81	6.3	1.82	860.43	53.43	26.76	0.0	11.3	210.6	-214.5	-66.3
135	1.81	6.3	1.82	862.71	53.57	26.83	0.0	11.3	211.2	-215.2	-66.5
136	1.81	6.3	1.82	862.95	53.59	26.84	0.0	11.3	211.3	-215.2	-66.5
137	1.81	6.3	1.82	862.84	53.58	26.83	0.0	11.3	211.3	-215.0	-66.4
138	1.81	6.3	1.82	862.73	53.58	26.83	0.0	11.3	211.2	-214.9	-66.4
139	1.81	6.3	1.82	862.62	53.57	26.83	0.0	11.3	211.2	-214.8	-66.4
140	1.81	6.3	1.82	862.51	53.56	26.82	0.0	11.3	211.2	-214.7	-66.3
141	1.81	6.3	1.82	862.4	53.55	26.82	0.0	11.3	211.1	-214.6	-66.3

142	1.81	6.3	1.82	862.29	53.55	26.82	0.0	11.3	211.1	-214.5	-66.3
143	1.81	6.3	1.82	862.18	53.54	26.81	0.0	11.3	211.1	-214.4	-66.2
144	1.81	6.3	1.82	862.07	53.53	26.81	0.0	11.3	211.0	-214.3	-66.2
145	1.81	6.3	1.82	861.96	53.53	26.81	0.0	11.3	211.0	-214.2	-66.2
146	1.81	6.3	1.82	861.85	53.52	26.8	0.0	11.3	211.0	-214.1	-66.1
147	1.81	6.3	1.82	861.74	53.51	26.8	0.0	11.3	210.9	-213.9	-66.1
148	1.81	6.3	1.82	861.63	53.51	26.8	0.0	11.3	210.9	-213.8	-66.1
149	1.81	6.3	1.82	861.52	53.5	26.79	0.0	11.3	210.9	-213.7	-66.0
150	1.81	6.3	1.82	861.41	53.49	26.79	0.0	11.3	210.9	-213.6	-66.0
151	1.81	6.3	1.82	861.3	53.49	26.79	0.0	11.3	210.8	-213.5	-66.0
152	1.81	6.3	1.82	861.19	53.48	26.78	0.0	11.3	210.8	-213.4	-65.9
153	1.81	6.3	1.82	861.08	53.47	26.78	0.0	11.3	210.8	-213.3	-65.9
154	1.81	6.3	1.82	860.97	53.47	26.78	0.0	11.3	210.7	-213.2	-65.9
155	1.81	6.3	1.82	860.86	53.46	26.77	0.0	11.3	210.7	-213.0	-65.8
156	1.81	6.3	1.82	860.75	53.45	26.77	0.0	11.3	210.7	-212.9	-65.8
157	1.81	6.3	1.82	860.64	53.45	26.77	0.0	11.3	210.6	-212.8	-65.8
158	1.81	6.3	1.82	860.53	53.44	26.76	0.0	11.3	210.6	-212.7	-65.7
159	1.81	6.3	1.82	860.42	53.43	26.76	0.0	11.3	210.6	-212.6	-65.7
160	1.81	6.3	1.82	860.31	53.43	26.76	0.0	11.3	210.5	-212.5	-65.7
161	1.81	6.3	1.82	858.29	53.3	26.69	0.0	11.3	209.9	-211.8	-65.4
162	1.81	6.3	1.82	855.06	53.1	26.59	0.0	11.3	209.0	-210.6	-65.1
163	1.81	6.3	1.82	851.83	52.9	26.49	0.0	11.3	208.1	-209.5	-64.7
164	1.81	6.3	1.82	848.6	52.7	26.39	0.0	11.3	207.1	-208.4	-64.4
165	1.81	6.3	1.82	845.36	52.5	26.29	0.0	11.3	206.2	-207.2	-64.0
166	1.81	6.3	1.82	842.13	52.3	26.19	0.0	11.3	205.3	-206.1	-63.7
167	1.81	6.3	1.82	838.9	52.1	26.09	0.0	11.3	204.3	-205.0	-63.3
168	1.81	21.2	1.94	827.23	51.37	25.73	0.0	11.3	200.9	209.6	64.7
169	1.81	25.4	2.01	804.4	49.95	25.02	0.0	11.3	194.3	334.2	103.3
170	1.81	25.4	2.01	778.86	48.37	24.22	0.0	11.3	186.9	325.9	100.7
171	1.81	25.4	2.01	753.32	46.78	23.43	0.0	11.3	179.5	317.5	98.1
172	1.81	25.4	2.01	727.78	45.2	22.63	0.0	11.3	172.0	309.2	95.5
173	1.81	25.4	2.01	702.24	43.61	21.84	0.0	11.3	164.6	300.8	92.9
174	1.81	25.4	2.01	676.7	42.02	21.05	0.0	11.3	157.2	292.5	90.4
175	1.81	25.4	2.01	651.16	40.44	20.25	0.0	11.3	149.8	284.1	87.8
176	1.81	25.4	2.01	625.62	38.85	19.46	0.0	11.3	142.4	275.8	85.2
177	1.81	25.4	2.01	600.08	37.26	18.66	0.0	11.3	135.0	267.4	82.6
178	1.81	25.4	2.01	574.54	35.68	17.87	0.0	11.3	127.5	259.1	80.0
179	1.81	25.4	2.01	549.0	34.09	17.07	0.0	11.3	120.1	250.7	77.5
180	1.81	25.4	2.01	523.46	32.51	16.28	0.0	11.3	112.7	242.4	74.9
181	1.81	25.4	2.01	497.92	30.92	15.49	0.0	11.3	105.3	234.0	72.3
182	1.81	25.4	2.01	472.38	29.33	14.69	0.0	11.3	97.9	225.7	69.7
183	1.81	25.4	2.01	446.84	27.75	13.9	0.0	11.3	90.4	217.3	67.1
184	1.81	25.4	2.01	421.3	26.16	13.1	0.0	11.3	83.0	209.0	64.6
185	1.81	25.4	2.01	395.75	24.58	12.31	0.0	11.3	75.6	200.6	62.0
186	1.81	25.4	2.01	370.21	22.99	11.51	0.0	11.3	68.2	192.3	59.4
187	1.81	25.4	2.01	344.67	21.4	10.72	0.0	11.3	60.8	183.9	56.8
188	1.81	25.4	2.01	319.13	19.82	9.93	0.0	11.3	53.4	175.6	54.2
189	1.81	25.4	2.01	293.59	18.23	9.13	0.0	11.3	45.9	167.2	51.7
190	1.81	25.4	2.01	268.05	16.65	8.34	0.0	11.3	38.5	158.9	49.1
191	1.81	25.4	2.01	242.51	15.06	7.54	0.0	11.3	31.1	150.5	46.5
192	1.81	25.4	2.01	216.97	13.47	6.75	0.0	11.3	23.7	142.2	43.9
193	1.81	25.4	2.01	191.43	11.89	5.95	0.0	11.3	16.3	133.8	41.4
194	1.81	25.4	2.01	165.89	10.3	5.16	0.0	11.3	8.9	125.5	38.8
195	1.81	25.4	2.01	140.35	8.72	4.36	0.0	11.3	1.4	117.1	36.2
196	1.81	25.4	2.01	114.81	7.13	3.57	0.0	11.3	0.0	98.0	30.3
197	1.81	25.4	2.01	89.27	5.54	2.78	0.0	11.3	0.0	76.2	23.5
198	1.81	25.4	2.01	63.73	3.96	1.98	0.0	11.3	0.0	54.4	16.8
199	1.81	25.4	2.01	38.19	2.37	1.19	0.0	11.3	0.0	32.6	10.1
200	1.81	25.3	2.0	12.72	0.79	0.4	0.0	11.3	0.0	10.8	3.3

Superficie Nr...4 Fattore di sicurezza=0.62

Nr.	B m	Alfa (°)	Li m	Wi (kN)	Kh•Wi (kN)	Kv•Wi (kN)	c (kN/m ²)	Fi (°)	Ui (kN)	N'i (kN)	Ti (kN)
1	1.97	2.4	1.97	9.25	0.57	0.29	0.0	11.3	2.4	-5.2	-1.5
2	1.97	2.4	1.97	27.76	1.72	0.86	0.0	11.3	5.4	-9.7	-2.8
3	1.97	2.4	1.97	46.26	2.87	1.44	0.0	11.3	8.4	-14.2	-4.2
4	1.97	2.4	1.97	64.77	4.02	2.01	0.0	11.3	11.4	-18.6	-5.5
5	1.97	2.4	1.97	83.27	5.17	2.59	0.0	11.3	14.4	-23.1	-6.8
6	1.97	2.4	1.97	101.78	6.32	3.17	0.0	11.3	17.5	-27.6	-8.1
7	1.97	2.4	1.97	120.28	7.47	3.74	0.0	11.3	20.5	-32.1	-9.5
8	1.97	2.4	1.97	138.79	8.62	4.32	0.0	11.3	23.5	-36.6	-10.8
9	1.97	2.4	1.97	157.3	9.77	4.89	0.0	11.3	26.5	-41.1	-12.1
10	1.97	2.4	1.97	175.23	10.88	5.45	0.0	11.3	29.5	-45.6	-13.4
11	1.97	2.4	1.97	193.13	11.99	6.01	0.0	11.3	32.5	-50.1	-14.8
12	1.97	2.4	1.97	211.03	13.11	6.56	0.0	11.3	35.6	-54.7	-16.1
13	1.97	2.4	1.97	228.94	14.22	7.12	0.0	11.3	38.6	-59.2	-17.4
14	1.97	2.4	1.97	246.84	15.33	7.68	0.0	11.3	41.6	-63.7	-18.8
15	1.97	2.4	1.97	264.74	16.44	8.23	0.0	11.3	44.6	-68.3	-20.1
16	1.97	2.4	1.97	282.64	17.55	8.79	0.0	11.3	47.6	-72.8	-21.4
17	1.97	2.4	1.97	300.55	18.66	9.35	0.0	11.3	50.6	-77.3	-22.8
18	1.97	2.4	1.97	320.33	19.89	9.96	0.0	11.3	53.7	-81.7	-24.1
19	1.97	2.4	1.97	350.4	21.76	10.9	0.0	11.3	56.7	-85.3	-25.1
20	1.97	2.4	1.97	380.48	23.63	11.83	0.0	11.3	59.7	-88.8	-26.2
21	1.97	2.4	1.97	410.56	25.5	12.77	0.0	11.3	62.5	-91.9	-27.1
22	1.97	2.4	1.97	440.63	27.36	13.7	0.0	11.3	64.9	-94.3	-27.8
23	1.97	2.4	1.97	470.71	29.23	14.64	0.0	11.3	67.3	-96.7	-28.5
24	1.97	2.4	1.97	508.96	31.61	15.83	0.0	11.3	69.7	-98.4	-29.0
25	1.97	2.4	1.97	552.7	34.32	17.19	0.0	11.3	72.1	-99.7	-29.4
26	1.97	2.4	1.97	596.45	37.04	18.55	0.0	11.3	74.5	-101.0	-29.8
27	1.97	2.4	1.97	640.2	39.76	19.91	0.0	11.3	76.9	-102.3	-30.1
28	1.97	2.4	1.97	665.04	41.3	20.68	0.0	11.3	79.3	-105.1	-31.0
29	1.97	2.4	1.97	680.44	42.26	21.16	0.0	11.3	81.7	-108.6	-32.0
30	1.97	2.4	1.97	695.84	43.21	21.64	0.0	11.3	84.1	-112.1	-33.0
31	1.97	2.4	1.97	711.24	44.17	22.12	0.0	11.3	86.5	-115.6	-34.1
32	1.97	2.4	1.97	726.64	45.12	22.6	0.0	11.3	88.9	-119.2	-35.1
33	1.97	2.4	1.97	742.04	46.08	23.08	0.0	11.3	91.3	-122.7	-36.1
34	1.97	2.4	1.97	757.44	47.04	23.56	0.0	11.3	93.7	-126.2	-37.2
35	1.97	2.4	1.97	772.84	47.99	24.04	0.0	11.3	96.1	-129.7	-38.2
36	1.97	2.4	1.97	788.24	48.95	24.51	0.0	11.3	98.5	-133.2	-39.3
37	1.97	2.4	1.97	803.64	49.91	24.99	0.0	11.3	100.9	-136.8	-40.3
38	1.97	2.4	1.97	811.16	50.37	25.23	0.0	11.3	103.3	-140.9	-41.5
39	1.97	2.4	1.97	814.85	50.6	25.34	0.0	11.3	105.6	-145.0	-42.7
40	1.97	2.4	1.97	818.53	50.83	25.46	0.0	11.3	107.4	-148.4	-43.7
41	1.97	2.4	1.97	822.22	51.06	25.57	0.0	11.3	109.3	-151.8	-44.7
42	1.97	2.4	1.97	825.91	51.29	25.69	0.0	11.3	111.2	-155.2	-45.7
43	1.97	2.4	1.97	829.59	51.52	25.8	0.0	11.3	113.0	-158.5	-46.7
44	1.97	2.4	1.97	833.28	51.75	25.91	0.0	11.3	114.9	-161.9	-47.7
45	1.97	2.4	1.97	836.97	51.98	26.03	0.0	11.3	116.8	-165.3	-48.7
46	1.97	2.4	1.97	840.65	52.2	26.14	0.0	11.3	118.6	-168.7	-49.7
47	1.97	2.4	1.97	844.34	52.43	26.26	0.0	11.3	120.5	-172.1	-50.7
48	1.97	2.4	1.97	848.02	52.66	26.37	0.0	11.3	122.3	-175.4	-51.7
49	1.97	2.4	1.97	851.71	52.89	26.49	0.0	11.3	124.2	-178.8	-52.7
50	1.97	2.4	1.97	855.4	53.12	26.6	0.0	11.3	126.1	-182.2	-53.7
51	1.97	2.4	1.97	859.08	53.35	26.72	0.0	11.3	127.9	-185.6	-54.7
52	1.97	2.4	1.97	862.77	53.58	26.83	0.0	11.3	129.8	-189.0	-55.7
53	1.97	2.4	1.97	866.45	53.81	26.95	0.0	11.3	131.7	-192.3	-56.7
54	1.97	2.4	1.97	870.14	54.04	27.06	0.0	11.3	133.5	-195.7	-57.7
55	1.97	2.4	1.97	873.83	54.26	27.18	0.0	11.3	135.4	-199.1	-58.7
56	1.97	2.4	1.97	877.51	54.49	27.29	0.0	11.3	137.3	-202.5	-59.7
57	1.97	2.4	1.97	881.2	54.72	27.41	0.0	11.3	139.1	-205.9	-60.6
58	1.97	2.4	1.97	884.89	54.95	27.52	0.0	11.3	141.0	-209.2	-61.6

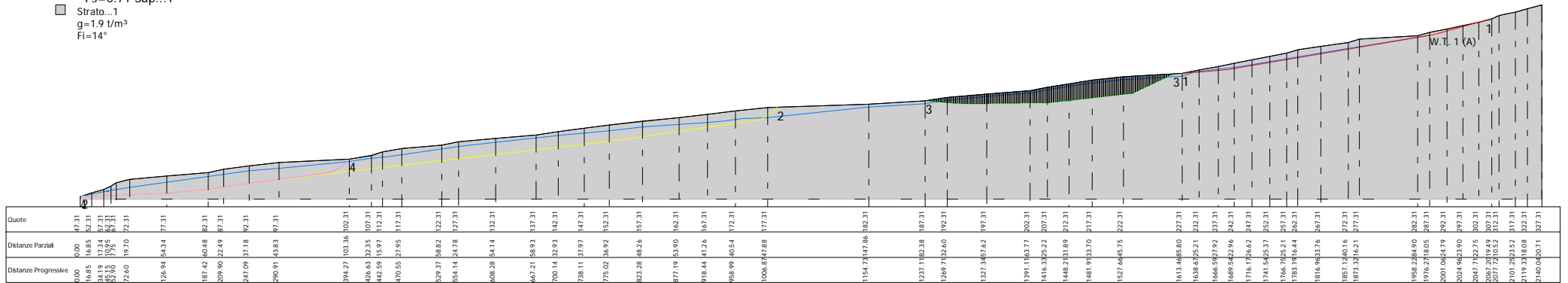
59	1.97	2.4	1.97	888.57	55.18	27.63	0.0	11.3	142.9	-212.6	-62.6
60	1.97	2.4	1.97	892.26	55.41	27.75	0.0	11.3	144.7	-216.0	-63.6
61	1.97	2.4	1.97	895.95	55.64	27.86	0.0	11.3	146.6	-219.4	-64.6
62	1.97	2.4	1.97	899.63	55.87	27.98	0.0	11.3	148.4	-222.8	-65.6
63	1.97	2.4	1.97	903.32	56.1	28.09	0.0	11.3	150.3	-226.1	-66.6
64	1.97	2.4	1.97	907.0	56.32	28.21	0.0	11.3	152.2	-229.5	-67.6
65	1.97	2.4	1.97	910.62	56.55	28.32	0.0	11.3	154.0	-232.9	-68.6
66	1.97	2.4	1.97	913.63	56.74	28.41	0.0	11.3	155.9	-236.3	-69.6
67	1.97	2.4	1.97	916.64	56.92	28.51	0.0	11.3	157.8	-239.8	-70.6
68	1.97	2.4	1.97	919.65	57.11	28.6	0.0	11.3	159.6	-243.2	-71.6
69	1.97	4.4	1.98	921.36	57.22	28.65	0.0	11.3	161.2	-182.7	-53.8
70	1.97	5.3	1.98	921.17	57.2	28.65	0.0	11.3	162.2	-155.6	-45.8
71	1.97	5.3	1.98	920.38	57.16	28.62	0.0	11.3	163.0	-157.4	-46.4
72	1.97	5.3	1.98	919.59	57.11	28.6	0.0	11.3	163.9	-159.2	-46.9
73	1.97	5.3	1.98	918.8	57.06	28.57	0.0	11.3	164.7	-161.1	-47.4
74	1.97	5.3	1.98	918.01	57.01	28.55	0.0	11.3	165.6	-162.9	-48.0
75	1.97	5.3	1.98	917.22	56.96	28.53	0.0	11.3	166.4	-164.7	-48.5
76	1.97	5.3	1.98	916.44	56.91	28.5	0.0	11.3	167.3	-166.5	-49.0
77	1.97	5.3	1.98	915.65	56.86	28.48	0.0	11.3	168.1	-168.3	-49.6
78	1.97	5.3	1.98	914.86	56.81	28.45	0.0	11.3	169.0	-170.1	-50.1
79	1.97	5.3	1.98	914.07	56.76	28.43	0.0	11.3	169.8	-171.9	-50.7
80	1.97	5.3	1.98	913.28	56.71	28.4	0.0	11.3	170.7	-173.7	-51.2
81	1.97	5.3	1.98	912.5	56.67	28.38	0.0	11.3	171.5	-175.6	-51.7
82	1.97	5.3	1.98	911.71	56.62	28.35	0.0	11.3	172.4	-177.4	-52.3
83	1.97	5.3	1.98	910.92	56.57	28.33	0.0	11.3	173.2	-179.2	-52.8
84	1.97	5.3	1.98	910.13	56.52	28.31	0.0	11.3	174.1	-181.0	-53.3
85	1.97	5.3	1.98	909.34	56.47	28.28	0.0	11.3	174.9	-182.8	-53.9
86	1.97	5.3	1.98	908.55	56.42	28.26	0.0	11.3	175.8	-184.6	-54.4
87	1.97	5.3	1.98	907.77	56.37	28.23	0.0	11.3	176.6	-186.4	-54.9
88	1.97	5.3	1.98	906.98	56.32	28.21	0.0	11.3	177.5	-188.2	-55.5
89	1.97	5.3	1.98	906.19	56.27	28.18	0.0	11.3	178.3	-190.0	-56.0
90	1.97	5.3	1.98	905.4	56.23	28.16	0.0	11.3	179.2	-191.9	-56.5
91	1.97	5.3	1.98	904.61	56.18	28.13	0.0	11.3	180.0	-193.7	-57.1
92	1.97	5.3	1.98	903.83	56.13	28.11	0.0	11.3	180.9	-195.5	-57.6
93	1.97	5.3	1.98	903.04	56.08	28.08	0.0	11.3	181.7	-197.3	-58.1
94	1.97	5.3	1.98	902.25	56.03	28.06	0.0	11.3	182.6	-199.1	-58.7
95	1.97	5.3	1.98	901.46	55.98	28.04	0.0	11.3	183.4	-200.9	-59.2
96	1.97	5.3	1.98	905.02	56.2	28.15	0.0	11.3	184.3	-201.9	-59.5
97	1.97	5.3	1.98	914.35	56.78	28.44	0.0	11.3	185.1	-201.9	-59.5
98	1.97	5.3	1.98	923.68	57.36	28.73	0.0	11.3	186.0	-201.9	-59.5
99	1.97	5.3	1.98	933.0	57.94	29.02	0.0	11.3	186.8	-201.9	-59.5
100	1.97	5.4	1.98	942.3	58.52	29.31	0.0	11.3	187.7	-200.6	-59.1
101	1.97	8.7	1.99	949.45	58.96	29.53	0.0	11.3	187.9	-93.2	-27.5
102	1.97	8.7	1.99	954.47	59.27	29.68	0.0	11.3	187.6	-91.1	-26.8
103	1.97	8.7	1.99	959.5	59.58	29.84	0.0	11.3	187.3	-89.1	-26.2
104	1.97	8.7	1.99	964.52	59.9	30.0	0.0	11.3	187.0	-87.0	-25.6
105	1.97	8.7	1.99	969.54	60.21	30.15	0.0	11.3	186.7	-84.9	-25.0
106	1.97	8.7	1.99	974.56	60.52	30.31	0.0	11.3	186.4	-82.9	-24.4
107	1.97	8.7	1.99	979.43	60.82	30.46	0.0	11.3	186.1	-80.8	-23.8
108	1.97	8.7	1.99	978.09	60.74	30.42	0.0	11.3	185.8	-80.6	-23.8
109	1.97	8.7	1.99	976.74	60.66	30.38	0.0	11.3	185.5	-80.4	-23.7
110	1.97	8.7	1.99	975.4	60.57	30.33	0.0	11.3	185.2	-80.2	-23.6
111	1.97	8.7	1.99	974.06	60.49	30.29	0.0	11.3	184.9	-80.0	-23.6
112	1.97	8.7	1.99	972.71	60.41	30.25	0.0	11.3	184.6	-79.8	-23.5
113	1.97	8.7	1.99	971.37	60.32	30.21	0.0	11.3	184.3	-79.6	-23.5
114	1.97	8.7	1.99	970.03	60.24	30.17	0.0	11.3	184.0	-79.4	-23.4
115	1.97	8.7	1.99	968.68	60.16	30.13	0.0	11.3	183.7	-79.2	-23.3
116	1.97	8.7	1.99	967.34	60.07	30.08	0.0	11.3	183.4	-79.0	-23.3
117	1.97	8.7	1.99	966.0	59.99	30.04	0.0	11.3	183.1	-78.8	-23.2
118	1.97	8.7	1.99	964.66	59.91	30.0	0.0	11.3	182.8	-78.6	-23.2
119	1.97	8.7	1.99	963.31	59.82	29.96	0.0	11.3	182.5	-78.4	-23.1
120	1.97	8.7	1.99	961.97	59.74	29.92	0.0	11.3	182.2	-78.2	-23.0
121	1.97	8.7	1.99	960.63	59.65	29.88	0.0	11.3	181.9	-78.0	-23.0

122	1.97	8.7	1.99	959.28	59.57	29.83	0.0	11.3	181.6	-77.8	-22.9
123	1.97	8.7	1.99	957.94	59.49	29.79	0.0	11.3	181.3	-77.6	-22.9
124	1.97	8.7	1.99	956.6	59.4	29.75	0.0	11.3	181.0	-77.4	-22.8
125	1.97	8.7	1.99	955.25	59.32	29.71	0.0	11.3	180.8	-77.2	-22.7
126	1.97	8.7	1.99	953.67	59.22	29.66	0.0	11.3	180.5	-77.1	-22.7
127	1.97	8.7	1.99	950.85	59.05	29.57	0.0	11.3	179.7	-76.3	-22.5
128	1.97	8.7	1.99	948.03	58.87	29.48	0.0	11.3	178.3	-74.5	-21.9
129	1.97	8.7	1.99	945.21	58.7	29.4	0.0	11.3	177.0	-72.7	-21.4
130	1.97	8.7	1.99	942.39	58.52	29.31	0.0	11.3	175.6	-70.8	-20.9
131	1.97	8.7	1.99	939.57	58.35	29.22	0.0	11.3	174.3	-69.0	-20.3
132	1.97	8.7	1.99	936.75	58.17	29.13	0.0	11.3	172.9	-67.2	-19.8
133	1.97	8.7	1.99	933.93	58.0	29.05	0.0	11.3	171.6	-65.3	-19.2
134	1.97	8.7	1.99	931.11	57.82	28.96	0.0	11.3	170.2	-63.5	-18.7
135	1.97	8.7	1.99	928.29	57.65	28.87	0.0	11.3	168.9	-61.6	-18.2
136	1.97	8.7	1.99	925.47	57.47	28.78	0.0	11.3	167.5	-59.8	-17.6
137	1.97	7.6	1.99	923.39	57.34	28.72	0.0	11.3	166.4	-94.1	-27.7
138	1.97	7.3	1.99	922.22	57.27	28.68	0.0	11.3	165.5	-100.8	-29.7
139	1.97	7.3	1.99	921.21	57.21	28.65	0.0	11.3	164.6	-99.3	-29.3
140	1.97	7.3	1.99	920.2	57.14	28.62	0.0	11.3	163.8	-97.9	-28.8
141	1.97	7.3	1.99	919.19	57.08	28.59	0.0	11.3	162.9	-96.4	-28.4
142	1.97	7.3	1.99	918.18	57.02	28.56	0.0	11.3	162.0	-95.0	-28.0
143	1.97	7.3	1.99	917.17	56.96	28.52	0.0	11.3	161.2	-93.5	-27.5
144	1.97	7.3	1.99	916.17	56.89	28.49	0.0	11.3	160.3	-92.0	-27.1
145	1.97	7.3	1.99	915.16	56.83	28.46	0.0	11.3	159.4	-90.6	-26.7
146	1.97	7.3	1.99	914.15	56.77	28.43	0.0	11.3	158.6	-89.1	-26.3
147	1.97	7.3	1.99	913.14	56.71	28.4	0.0	11.3	157.7	-87.7	-25.8
148	1.97	7.3	1.99	912.13	56.64	28.37	0.0	11.3	156.8	-86.2	-25.4
149	1.97	7.3	1.99	906.7	56.31	28.2	0.0	11.3	156.1	-86.0	-25.3
150	1.97	7.3	1.99	900.93	55.95	28.02	0.0	11.3	155.5	-86.2	-25.4
151	1.97	7.3	1.99	895.17	55.59	27.84	0.0	11.3	154.8	-86.3	-25.4
152	1.97	7.3	1.99	889.4	55.23	27.66	0.0	11.3	154.2	-86.5	-25.5
153	1.97	7.3	1.99	883.63	54.87	27.48	0.0	11.3	153.6	-86.7	-25.5
154	1.97	7.3	1.99	877.87	54.52	27.3	0.0	11.3	152.9	-86.8	-25.6
155	1.97	7.3	1.99	872.1	54.16	27.12	0.0	11.3	152.3	-87.0	-25.6
156	1.97	7.3	1.99	866.33	53.8	26.94	0.0	11.3	151.7	-87.1	-25.7
157	1.97	7.3	1.99	860.57	53.44	26.76	0.0	11.3	151.0	-87.3	-25.7
158	1.97	7.3	1.99	854.8	53.08	26.58	0.0	11.3	150.4	-87.4	-25.8
159	1.97	7.3	1.99	849.03	52.73	26.4	0.0	11.3	149.8	-87.6	-25.8
160	1.97	7.3	1.99	843.27	52.37	26.23	0.0	11.3	149.1	-87.7	-25.9
161	1.97	7.3	1.99	837.5	52.01	26.05	0.0	11.3	148.5	-87.9	-25.9
162	1.97	7.3	1.99	831.74	51.65	25.87	0.0	11.3	147.9	-88.1	-25.9
163	1.97	7.3	1.99	825.97	51.29	25.69	0.0	11.3	147.2	-88.2	-26.0
164	1.97	7.3	1.99	820.2	50.93	25.51	0.0	11.3	146.6	-88.4	-26.0
165	1.97	7.3	1.99	814.44	50.58	25.33	0.0	11.3	146.0	-88.5	-26.1
166	1.97	7.3	1.99	808.67	50.22	25.15	0.0	11.3	145.3	-88.7	-26.1
167	1.97	7.3	1.99	802.9	49.86	24.97	0.0	11.3	144.7	-88.8	-26.2
168	1.97	7.3	1.99	797.14	49.5	24.79	0.0	11.3	144.1	-89.0	-26.2
169	1.97	7.3	1.99	791.37	49.14	24.61	0.0	11.3	143.4	-89.2	-26.3
170	1.97	7.3	1.99	785.6	48.79	24.43	0.0	11.3	142.8	-89.3	-26.3
171	1.97	7.3	1.99	779.84	48.43	24.25	0.0	11.3	142.2	-89.5	-26.4
172	1.97	7.3	1.99	774.07	48.07	24.07	0.0	11.3	141.5	-89.6	-26.4
173	1.97	7.3	1.99	768.31	47.71	23.89	0.0	11.3	140.9	-89.8	-26.5
174	1.97	7.3	1.99	762.54	47.35	23.71	0.0	11.3	140.3	-89.9	-26.5
175	1.97	7.3	1.99	756.77	47.0	23.54	0.0	11.3	139.6	-90.1	-26.5
176	1.97	7.3	1.99	751.01	46.64	23.36	0.0	11.3	139.0	-90.3	-26.6
177	1.97	7.3	1.99	745.24	46.28	23.18	0.0	11.3	138.4	-90.4	-26.6
178	1.97	9.4	2.0	738.08	45.83	22.95	0.0	11.3	137.3	-35.9	-10.6
179	1.97	12.0	2.02	727.88	45.2	22.64	0.0	11.3	135.5	28.0	8.2
180	1.97	12.0	2.02	716.03	44.47	22.27	0.0	11.3	133.3	27.6	8.1
181	1.97	12.0	2.02	704.17	43.73	21.9	0.0	11.3	131.0	27.3	8.0
182	1.97	12.0	2.02	692.32	42.99	21.53	0.0	11.3	128.8	26.9	7.9
183	1.97	12.0	2.02	680.47	42.26	21.16	0.0	11.3	126.5	26.6	7.8
184	1.97	12.0	2.02	668.61	41.52	20.79	0.0	11.3	124.2	26.2	7.7

185	1.97	12.0	2.02	656.76	40.78	20.43	0.0	11.3	122.0	25.9	7.6
186	1.97	12.0	2.02	644.91	40.05	20.06	0.0	11.3	119.7	25.5	7.5
187	1.97	12.5	2.02	632.72	39.29	19.68	0.0	11.3	117.4	36.2	10.7
188	1.97	26.0	2.19	610.54	37.91	18.99	0.0	11.3	112.4	348.6	102.7
189	1.97	26.0	2.19	578.69	35.94	18.0	0.0	11.3	104.8	333.8	98.3
190	1.97	26.0	2.19	546.84	33.96	17.01	0.0	11.3	97.2	319.1	94.0
191	1.97	26.0	2.19	514.99	31.98	16.02	0.0	11.3	89.6	304.3	89.6
192	1.97	26.0	2.19	483.14	30.0	15.03	0.0	11.3	82.0	289.6	85.3
193	1.97	29.4	2.26	448.58	27.86	13.95	0.0	11.3	73.6	337.9	99.6
194	1.97	40.5	2.59	400.75	24.89	12.46	0.0	11.3	61.8	533.3	157.1
195	1.97	40.5	2.59	342.36	21.26	10.65	0.0	11.3	47.1	466.8	137.5
196	1.97	40.5	2.59	283.97	17.63	8.83	0.0	11.3	32.4	400.3	117.9
197	1.97	40.5	2.59	225.58	14.01	7.02	0.0	11.3	17.7	333.8	98.3
198	1.97	43.5	2.72	163.79	10.17	5.09	0.0	11.3	2.1	293.0	86.3
199	1.97	43.7	2.72	98.39	6.11	3.06	0.0	11.3	0.0	179.6	52.9
200	1.97	43.7	2.73	32.8	2.04	1.02	0.0	11.3	0.0	59.9	17.6

GAGGIO MONTANO
 VERIFICA ANALITICA DI STABILITA'
 IN CONDIZIONI SISMICHE
 (Approccio 1 - Combinazione 2)

Fs=0.62 Sup...4
 Fs=0.59 Sup...3
 Fs=0.61 Sup...2
 Fs=0.71 Sup...1
 ■ Strato...1
 g=1.9 t/m³
 Fi=14°



Analisi di stabilità dei pendii con: BELL (1968)

Lat./Long.	44.195456/10.941047
Normativa	NTC 2008
Numero di strati	1.0
Numero dei conci	200.0
Grado di sicurezza ritenuto accettabile	1.0
Coefficiente parziale resistenza	1.1
Analisi	Condizione drenata
Superficie di forma generica	

Coefficienti sismici [N.T.C.]

Dati generali

Tipo opera:	2 - Opere ordinarie
Classe d'uso:	Classe II
Vita nominale:	50.0 [anni]
Vita di riferimento:	50.0 [anni]

Parametri sismici su sito di riferimento

Categoria sottosuolo:	B
Categoria topografica:	T1

S.L. Stato limite	TR Tempo ritorno [anni]	ag [m/s ²]	F0 [-]	TC* [sec]
S.L.O.	30.0	0.59	2.48	0.25
S.L.D.	50.0	0.75	2.45	0.26
S.L.V.	475.0	1.77	2.46	0.29
S.L.C.	975.0	2.23	2.47	0.3

Coefficienti sismici orizzontali e verticali

Opera: Stabilità dei pendii e Fondazioni

S.L. Stato limite	amax [m/s ²]	beta [-]	kh [-]	kv [sec]
S.L.O.	0.708	0.2	0.0144	0.0072
S.L.D.	0.9	0.2	0.0184	0.0092
S.L.V.	2.124	0.24	0.052	0.026
S.L.C.	2.621	0.28	0.0748	0.0374

Vertici profilo

N	X m	y m
1	28.72	47.29
2	59.14	47.95
3	69.77	54.04
4	81.91	63.19
5	92.24	63.22
6	117.0	68.08
7	136.4	72.25
8	149.14	74.49
9	160.06	77.23
10	178.35	80.22
11	213.09	80.22
12	224.14	85.53
13	266.34	85.53
14	278.0	90.61
15	281.21	91.38
16	290.33	91.32
17	293.52	92.92
18	301.99	94.34
19	311.13	96.7
20	322.42	97.36

21	339.28	98.34
22	347.27	99.14
23	355.93	100.02
24	362.74	100.7
25	377.96	101.74
26	391.76	104.2
27	400.83	106.73
28	413.78	107.76
29	427.44	110.09
30	434.98	112.43
31	445.76	114.68
32	456.86	116.99
33	471.93	118.63
34	485.87	120.74
35	497.93	120.74
36	537.12	126.69
37	571.31	127.9
38	605.14	132.63
39	614.97	134.39
40	617.72	136.4
41	628.33	138.19
42	651.68	141.19
43	670.63	143.04
44	682.06	145.82
45	701.85	150.64
46	708.93	151.91
47	732.45	156.13
48	753.1	158.63
49	784.1	162.78
50	817.24	163.17
51	855.43	163.49

Vertici superficie Nr...1

N	X m	y m
1	59.14	47.95
2	109.22	47.0
3	158.55	47.98
4	202.09	50.79
5	248.23	55.83
6	294.25	62.02
7	336.3	69.03
8	421.56	86.48
9	506.55	105.23
10	634.63	121.59
11	762.71	142.23
12	773.04	145.41
13	783.36	150.45
14	789.89	156.68
15	795.37	162.98

Vertici superficie Nr...2

N	X m	y m
1	372.4	101.46
2	442.26	102.32
3	506.55	105.23
4	634.63	121.59
5	762.71	142.23
6	773.04	145.41
7	783.36	150.45
8	789.89	156.68
9	795.38	162.98

Vertici superficie Nr...3

N	X m	y m
1	59.14	47.95
2	109.22	47.0
3	158.55	47.98
4	202.09	50.79
5	248.17	55.82
6	294.25	62.02
7	336.3	69.03
8	421.42	86.46
9	506.55	105.23
10	518.72	109.39
11	528.94	116.7
12	537.12	126.69

Vertici superficie Nr...4

N	X m	y m
1	59.14	47.95
2	109.22	47.0
3	158.55	47.98
4	202.09	50.79
5	248.23	55.83
6	294.25	62.02
7	336.3	69.03
8	357.83	74.81
9	368.6	80.16
10	379.36	87.88
11	400.83	106.73

Coefficienti parziali per i parametri geotecnici del terreno

Tangente angolo di resistenza al taglio	1.25
Coesione efficace	1.25
Coesione non drenata	1.4
Riduzione parametri geotecnici terreno	Si

Stratigrafia

c: coesione; cu: coesione non drenata; Fi: Angolo di attrito; G: Peso Specifico; Gs: Peso Specifico Saturo; K: Modulo di Winkler

Strato	c (kN/m ²)	cu (kN/m ²)	Fi (°)	G (t/m ³)	Gs (t/m ³)	K (Kg/cm ³)	Litologia
1			14	1.9		0.00	

Superficie Nr...1 Fattore di sicurezza=1.27

Nr.	B m	Alfa (°)	Li m	Wi (kN)	Kh•Wi (kN)	Kv•Wi (kN)	c (kN/m ²)	Fi (°)	Ui (kN)	N'i (kN)	Ti (kN)
1	3.68	-1.1	3.68	74.65	0.0	0.0	0.0	11.3	0.0	-19.5	-2.8
2	3.68	-1.1	3.68	223.95	0.0	0.0	0.0	11.3	0.0	-30.0	-4.3
3	3.68	-1.1	3.68	373.25	0.0	0.0	0.0	11.3	0.0	-40.6	-5.8
4	3.68	-1.1	3.68	550.67	0.0	0.0	0.0	11.3	0.0	-53.1	-7.6
5	3.68	-1.1	3.68	745.89	0.0	0.0	0.0	11.3	0.0	-66.9	-9.5
6	3.68	-1.1	3.68	941.1	0.0	0.0	0.0	11.3	0.0	-80.7	-11.5
7	3.68	-1.1	3.68	1076.5	0.0	0.0	0.0	11.3	0.0	-90.3	-12.9
8	3.68	-1.1	3.68	1081.94	0.0	0.0	0.0	11.3	0.0	-90.6	-12.9
9	3.68	-1.1	3.68	1087.38	0.0	0.0	0.0	11.3	0.0	-90.9	-13.0
10	3.68	-1.1	3.68	1117.73	0.0	0.0	0.0	11.3	0.0	-93.0	-13.3
11	3.68	-1.1	3.68	1172.08	0.0	0.0	0.0	11.3	0.0	-96.8	-13.8
12	3.68	-1.1	3.68	1226.43	0.0	0.0	0.0	11.3	0.0	-100.6	-14.3
13	3.68	-1.1	3.68	1280.78	0.0	0.0	0.0	11.3	0.0	-104.4	-14.9

14	3.68	-0.2	3.68	1333.19	0.0	0.0	0.0	11.3	0.0	-31.6	-4.5
15	3.68	1.1	3.68	1380.66	0.0	0.0	0.0	11.3	0.0	89.5	12.8
16	3.68	1.1	3.68	1425.16	0.0	0.0	0.0	11.3	0.0	92.9	13.2
17	3.68	1.1	3.68	1473.39	0.0	0.0	0.0	11.3	0.0	96.6	13.8
18	3.68	1.1	3.68	1522.67	0.0	0.0	0.0	11.3	0.0	100.3	14.3
19	3.68	1.1	3.68	1571.96	0.0	0.0	0.0	11.3	0.0	104.1	14.8
20	3.68	1.1	3.68	1621.24	0.0	0.0	0.0	11.3	0.0	107.8	15.4
21	3.68	1.1	3.68	1670.52	0.0	0.0	0.0	11.3	0.0	111.5	15.9
22	3.68	1.1	3.68	1714.73	0.0	0.0	0.0	11.3	0.0	114.9	16.4
23	3.68	1.1	3.68	1754.12	0.0	0.0	0.0	11.3	0.0	117.9	16.8
24	3.68	1.1	3.68	1793.5	0.0	0.0	0.0	11.3	0.0	120.9	17.2
25	3.68	1.1	3.68	1833.82	0.0	0.0	0.0	11.3	0.0	124.0	17.7
26	3.68	1.1	3.68	1892.0	0.0	0.0	0.0	11.3	0.0	128.4	18.3
27	3.68	1.1	3.68	1950.18	0.0	0.0	0.0	11.3	0.0	132.8	18.9
28	3.68	3.7	3.69	2000.95	0.0	0.0	0.0	11.3	0.0	465.8	66.4
29	3.68	3.7	3.69	2026.03	0.0	0.0	0.0	11.3	0.0	474.2	67.6
30	3.68	3.7	3.69	2051.08	0.0	0.0	0.0	11.3	0.0	480.3	68.5
31	3.68	3.7	3.69	2076.12	0.0	0.0	0.0	11.3	0.0	486.4	69.3
32	3.68	3.7	3.69	2101.17	0.0	0.0	0.0	11.3	0.0	492.5	70.2
33	3.68	3.7	3.69	2121.52	0.0	0.0	0.0	11.3	0.0	497.5	70.9
34	3.68	3.7	3.69	2105.25	0.0	0.0	0.0	11.3	0.0	493.6	70.3
35	3.68	3.7	3.69	2088.97	0.0	0.0	0.0	11.3	0.0	489.8	69.8
36	3.68	3.7	3.69	2072.7	0.0	0.0	0.0	11.3	0.0	486.0	69.3
37	3.68	3.7	3.69	2056.43	0.0	0.0	0.0	11.3	0.0	482.1	68.7
38	3.68	3.7	3.69	2040.15	0.0	0.0	0.0	11.3	0.0	478.3	68.2
39	3.68	4.1	3.69	2022.94	0.0	0.0	0.0	11.3	0.0	530.1	75.5
40	3.68	6.2	3.7	2000.1	0.0	0.0	0.0	11.3	0.0	801.6	114.2
41	3.68	6.2	3.7	1972.54	0.0	0.0	0.0	11.3	0.0	790.5	112.7
42	3.68	6.2	3.7	1944.99	0.0	0.0	0.0	11.3	0.0	779.4	111.1
43	3.68	6.2	3.7	1999.42	0.0	0.0	0.0	11.3	0.0	801.6	114.2
44	3.68	6.2	3.7	2093.18	0.0	0.0	0.0	11.3	0.0	839.7	119.7
45	3.68	6.2	3.7	2186.94	0.0	0.0	0.0	11.3	0.0	877.9	125.1
46	3.68	6.2	3.7	2198.85	0.0	0.0	0.0	11.3	0.0	882.9	125.8
47	3.68	6.2	3.7	2171.3	0.0	0.0	0.0	11.3	0.0	871.7	124.2
48	3.68	6.2	3.7	2143.74	0.0	0.0	0.0	11.3	0.0	860.6	122.6
49	3.68	6.2	3.7	2116.19	0.0	0.0	0.0	11.3	0.0	849.5	121.1
50	3.68	6.2	3.7	2088.64	0.0	0.0	0.0	11.3	0.0	838.3	119.5
51	3.68	6.2	3.7	2061.08	0.0	0.0	0.0	11.3	0.0	827.2	117.9
52	3.68	7.1	3.71	2031.51	0.0	0.0	0.0	11.3	0.0	936.6	133.5
53	3.68	7.7	3.71	1998.71	0.0	0.0	0.0	11.3	0.0	991.6	141.3
54	3.68	7.7	3.71	1964.73	0.0	0.0	0.0	11.3	0.0	974.7	138.9
55	3.68	7.7	3.71	1930.75	0.0	0.0	0.0	11.3	0.0	957.7	136.5
56	3.68	7.7	3.71	1896.76	0.0	0.0	0.0	11.3	0.0	940.7	134.1
57	3.68	7.7	3.71	1885.73	0.0	0.0	0.0	11.3	0.0	935.3	133.3
58	3.68	7.7	3.71	1961.81	0.0	0.0	0.0	11.3	0.0	973.5	138.7
59	3.68	7.7	3.71	2037.88	0.0	0.0	0.0	11.3	0.0	1011.7	144.2
60	3.68	7.7	3.71	2111.91	0.0	0.0	0.0	11.3	0.0	1048.9	149.5
61	3.68	7.7	3.71	2128.14	0.0	0.0	0.0	11.3	0.0	1057.1	150.7
62	3.68	7.7	3.71	2092.51	0.0	0.0	0.0	11.3	0.0	1039.3	148.1
63	3.68	7.7	3.71	2056.89	0.0	0.0	0.0	11.3	0.0	1021.5	145.6
64	3.68	7.9	3.72	2109.22	0.0	0.0	0.0	11.3	0.0	1079.9	153.9
65	3.68	9.5	3.73	2127.68	0.0	0.0	0.0	11.3	0.0	1311.4	186.9
66	3.68	9.5	3.73	2127.88	0.0	0.0	0.0	11.3	0.0	1311.6	186.9
67	3.68	9.5	3.73	2140.07	0.0	0.0	0.0	11.3	0.0	1319.3	188.0
68	3.68	9.5	3.73	2163.18	0.0	0.0	0.0	11.3	0.0	1333.7	190.1
69	3.68	9.5	3.73	2184.29	0.0	0.0	0.0	11.3	0.0	1346.9	192.0
70	3.68	9.5	3.73	2156.89	0.0	0.0	0.0	11.3	0.0	1329.9	189.5
71	3.68	9.5	3.73	2129.49	0.0	0.0	0.0	11.3	0.0	1313.0	187.1
72	3.68	9.5	3.73	2102.09	0.0	0.0	0.0	11.3	0.0	1296.1	184.7
73	3.68	9.5	3.73	2074.69	0.0	0.0	0.0	11.3	0.0	1279.1	182.3
74	3.68	9.5	3.73	2047.3	0.0	0.0	0.0	11.3	0.0	1262.2	179.9
75	3.68	9.5	3.73	2019.9	0.0	0.0	0.0	11.3	0.0	1245.2	177.5
76	3.68	10.9	3.75	1989.12	0.0	0.0	0.0	11.3	0.0	1424.2	203.0

77	3.68	11.6	3.76	1957.77	0.0	0.0	0.0	11.3	0.0	1483.7	211.5
78	3.68	11.6	3.76	1931.54	0.0	0.0	0.0	11.3	0.0	1463.8	208.6
79	3.68	11.6	3.76	1905.31	0.0	0.0	0.0	11.3	0.0	1443.9	205.8
80	3.68	11.6	3.76	1879.07	0.0	0.0	0.0	11.3	0.0	1424.0	202.9
81	3.68	11.6	3.76	1852.84	0.0	0.0	0.0	11.3	0.0	1404.0	200.1
82	3.68	11.6	3.76	1826.6	0.0	0.0	0.0	11.3	0.0	1384.1	197.3
83	3.68	11.6	3.76	1800.2	0.0	0.0	0.0	11.3	0.0	1364.0	194.4
84	3.68	11.6	3.76	1765.82	0.0	0.0	0.0	11.3	0.0	1337.9	190.7
85	3.68	11.6	3.76	1731.44	0.0	0.0	0.0	11.3	0.0	1311.8	186.9
86	3.68	11.6	3.76	1697.05	0.0	0.0	0.0	11.3	0.0	1285.6	183.2
87	3.68	11.6	3.76	1662.67	0.0	0.0	0.0	11.3	0.0	1259.5	179.5
88	3.68	11.6	3.76	1652.76	0.0	0.0	0.0	11.3	0.0	1252.0	178.4
89	3.68	11.6	3.76	1646.07	0.0	0.0	0.0	11.3	0.0	1247.0	177.7
90	3.68	11.6	3.76	1639.39	0.0	0.0	0.0	11.3	0.0	1241.9	177.0
91	3.68	11.6	3.76	1636.16	0.0	0.0	0.0	11.3	0.0	1239.5	176.7
92	3.68	11.6	3.76	1654.8	0.0	0.0	0.0	11.3	0.0	1253.8	178.7
93	3.68	11.6	3.76	1673.43	0.0	0.0	0.0	11.3	0.0	1268.1	180.7
94	3.68	11.6	3.76	1658.4	0.0	0.0	0.0	11.3	0.0	1256.7	179.1
95	3.68	11.6	3.76	1626.89	0.0	0.0	0.0	11.3	0.0	1232.8	175.7
96	3.68	11.6	3.76	1595.39	0.0	0.0	0.0	11.3	0.0	1208.8	172.3
97	3.68	11.6	3.76	1567.37	0.0	0.0	0.0	11.3	0.0	1187.5	169.2
98	3.68	11.6	3.76	1558.74	0.0	0.0	0.0	11.3	0.0	1181.0	168.3
99	3.68	12.0	3.76	1549.03	0.0	0.0	0.0	11.3	0.0	1223.1	174.3
100	3.68	12.4	3.77	1537.31	0.0	0.0	0.0	11.3	0.0	1255.5	178.9
101	3.68	12.4	3.77	1540.28	0.0	0.0	0.0	11.3	0.0	1258.1	179.3
102	3.68	12.4	3.77	1562.96	0.0	0.0	0.0	11.3	0.0	1276.7	182.0
103	3.68	12.4	3.77	1575.48	0.0	0.0	0.0	11.3	0.0	1287.1	183.4
104	3.68	12.4	3.77	1572.33	0.0	0.0	0.0	11.3	0.0	1284.6	183.1
105	3.68	12.4	3.77	1569.18	0.0	0.0	0.0	11.3	0.0	1282.1	182.7
106	3.68	12.4	3.77	1566.03	0.0	0.0	0.0	11.3	0.0	1279.6	182.4
107	3.68	12.4	3.77	1562.88	0.0	0.0	0.0	11.3	0.0	1277.1	182.0
108	3.68	12.4	3.77	1559.73	0.0	0.0	0.0	11.3	0.0	1274.5	181.6
109	3.68	12.4	3.77	1545.36	0.0	0.0	0.0	11.3	0.0	1262.8	180.0
110	3.68	12.4	3.77	1517.26	0.0	0.0	0.0	11.3	0.0	1239.8	176.7
111	3.68	12.4	3.77	1489.16	0.0	0.0	0.0	11.3	0.0	1216.8	173.4
112	3.68	12.4	3.77	1461.07	0.0	0.0	0.0	11.3	0.0	1193.8	170.1
113	3.68	12.4	3.77	1436.7	0.0	0.0	0.0	11.3	0.0	1173.8	167.3
114	3.68	12.4	3.77	1419.11	0.0	0.0	0.0	11.3	0.0	1159.5	165.2
115	3.68	12.4	3.77	1401.52	0.0	0.0	0.0	11.3	0.0	1145.1	163.2
116	3.68	12.4	3.77	1383.94	0.0	0.0	0.0	11.3	0.0	1130.7	161.1
117	3.68	12.4	3.77	1344.74	0.0	0.0	0.0	11.3	0.0	1098.6	156.6
118	3.68	12.4	3.77	1289.06	0.0	0.0	0.0	11.3	0.0	1052.9	150.1
119	3.68	12.4	3.77	1233.39	0.0	0.0	0.0	11.3	0.0	1007.2	143.5
120	3.68	12.4	3.77	1188.88	0.0	0.0	0.0	11.3	0.0	970.8	138.3
121	3.68	12.4	3.77	1171.59	0.0	0.0	0.0	11.3	0.0	956.6	136.3
122	3.68	10.1	3.74	1159.56	0.0	0.0	0.0	11.3	0.0	766.8	109.3
123	3.68	7.3	3.71	1159.25	0.0	0.0	0.0	11.3	0.0	545.9	77.8
124	3.68	7.3	3.71	1165.39	0.0	0.0	0.0	11.3	0.0	548.9	78.2
125	3.68	7.3	3.71	1171.53	0.0	0.0	0.0	11.3	0.0	551.9	78.7
126	3.68	7.3	3.71	1177.67	0.0	0.0	0.0	11.3	0.0	554.9	79.1
127	3.68	7.3	3.71	1183.82	0.0	0.0	0.0	11.3	0.0	557.9	79.5
128	3.68	7.3	3.71	1189.96	0.0	0.0	0.0	11.3	0.0	560.9	79.9
129	3.68	7.3	3.71	1196.1	0.0	0.0	0.0	11.3	0.0	563.9	80.4
130	3.68	7.3	3.71	1202.24	0.0	0.0	0.0	11.3	0.0	566.9	80.8
131	3.68	7.3	3.71	1189.42	0.0	0.0	0.0	11.3	0.0	560.9	79.9
132	3.68	7.3	3.71	1166.11	0.0	0.0	0.0	11.3	0.0	549.8	78.4
133	3.68	7.3	3.71	1142.8	0.0	0.0	0.0	11.3	0.0	538.8	76.8
134	3.68	7.3	3.71	1119.5	0.0	0.0	0.0	11.3	0.0	527.8	75.2
135	3.68	7.3	3.71	1096.19	0.0	0.0	0.0	11.3	0.0	516.8	73.6
136	3.68	7.3	3.71	1072.88	0.0	0.0	0.0	11.3	0.0	505.8	72.1
137	3.68	7.3	3.71	1049.57	0.0	0.0	0.0	11.3	0.0	494.8	70.5
138	3.68	7.3	3.71	1026.27	0.0	0.0	0.0	11.3	0.0	483.7	68.9
139	3.68	7.3	3.71	1002.96	0.0	0.0	0.0	11.3	0.0	472.7	67.4

140	3.68	7.3	3.71	989.04	0.0	0.0	0.0	11.3	0.0	466.2	66.4
141	3.68	7.3	3.71	992.03	0.0	0.0	0.0	11.3	0.0	467.7	66.6
142	3.68	7.3	3.71	995.02	0.0	0.0	0.0	11.3	0.0	469.2	66.9
143	3.68	7.3	3.71	998.01	0.0	0.0	0.0	11.3	0.0	470.7	67.1
144	3.68	7.3	3.71	1000.99	0.0	0.0	0.0	11.3	0.0	472.1	67.3
145	3.68	7.3	3.71	1003.98	0.0	0.0	0.0	11.3	0.0	473.6	67.5
146	3.68	7.3	3.71	1006.97	0.0	0.0	0.0	11.3	0.0	475.1	67.7
147	3.68	7.3	3.71	1009.96	0.0	0.0	0.0	11.3	0.0	476.6	67.9
148	3.68	7.3	3.71	1012.94	0.0	0.0	0.0	11.3	0.0	478.1	68.1
149	3.68	7.3	3.71	1017.61	0.0	0.0	0.0	11.3	0.0	480.4	68.5
150	3.68	7.3	3.71	1030.76	0.0	0.0	0.0	11.3	0.0	486.7	69.4
151	3.68	7.3	3.71	1043.91	0.0	0.0	0.0	11.3	0.0	493.1	70.3
152	3.68	7.3	3.71	1125.89	0.0	0.0	0.0	11.3	0.0	532.1	75.8
153	3.68	7.3	3.71	1172.14	0.0	0.0	0.0	11.3	0.0	554.2	79.0
154	3.68	7.3	3.71	1182.48	0.0	0.0	0.0	11.3	0.0	559.2	79.7
155	3.68	7.3	3.71	1192.82	0.0	0.0	0.0	11.3	0.0	564.2	80.4
156	3.68	7.3	3.71	1194.31	0.0	0.0	0.0	11.3	0.0	565.0	80.5
157	3.68	8.5	3.72	1191.67	0.0	0.0	0.0	11.3	0.0	660.6	94.1
158	3.68	9.2	3.73	1184.82	0.0	0.0	0.0	11.3	0.0	708.1	100.9
159	3.68	9.2	3.73	1176.5	0.0	0.0	0.0	11.3	0.0	703.2	100.2
160	3.68	9.2	3.73	1168.18	0.0	0.0	0.0	11.3	0.0	698.3	99.5
161	3.68	9.2	3.73	1159.86	0.0	0.0	0.0	11.3	0.0	693.3	98.8
162	3.68	9.2	3.73	1147.54	0.0	0.0	0.0	11.3	0.0	686.0	97.8
163	3.68	9.2	3.73	1131.53	0.0	0.0	0.0	11.3	0.0	676.5	96.4
164	3.68	9.2	3.73	1115.53	0.0	0.0	0.0	11.3	0.0	667.0	95.1
165	3.68	9.2	3.73	1099.53	0.0	0.0	0.0	11.3	0.0	657.4	93.7
166	3.68	9.2	3.73	1083.52	0.0	0.0	0.0	11.3	0.0	647.9	92.3
167	3.68	9.2	3.73	1081.21	0.0	0.0	0.0	11.3	0.0	646.6	92.1
168	3.68	9.2	3.73	1101.99	0.0	0.0	0.0	11.3	0.0	659.1	93.9
169	3.68	9.2	3.73	1122.77	0.0	0.0	0.0	11.3	0.0	671.7	95.7
170	3.68	9.2	3.73	1143.55	0.0	0.0	0.0	11.3	0.0	684.2	97.5
171	3.68	9.2	3.73	1164.33	0.0	0.0	0.0	11.3	0.0	696.8	99.3
172	3.68	9.2	3.73	1185.1	0.0	0.0	0.0	11.3	0.0	709.3	101.1
173	3.68	9.2	3.73	1205.88	0.0	0.0	0.0	11.3	0.0	721.8	102.9
174	3.68	9.2	3.73	1226.66	0.0	0.0	0.0	11.3	0.0	734.4	104.7
175	3.68	9.2	3.73	1247.44	0.0	0.0	0.0	11.3	0.0	746.9	106.4
176	3.68	9.2	3.73	1253.82	0.0	0.0	0.0	11.3	0.0	750.8	107.0
177	3.68	9.2	3.73	1258.44	0.0	0.0	0.0	11.3	0.0	753.7	107.4
178	3.68	9.2	3.73	1263.05	0.0	0.0	0.0	11.3	0.0	756.5	107.8
179	3.68	9.2	3.73	1267.67	0.0	0.0	0.0	11.3	0.0	759.3	108.2
180	3.68	9.2	3.73	1272.28	0.0	0.0	0.0	11.3	0.0	762.2	108.6
181	3.68	9.2	3.73	1276.9	0.0	0.0	0.0	11.3	0.0	765.0	109.0
182	3.68	9.2	3.73	1281.51	0.0	0.0	0.0	11.3	0.0	767.9	109.4
183	3.68	9.2	3.73	1286.13	0.0	0.0	0.0	11.3	0.0	770.7	109.8
184	3.68	9.2	3.73	1282.2	0.0	0.0	0.0	11.3	0.0	768.4	109.5
185	3.68	9.2	3.73	1272.04	0.0	0.0	0.0	11.3	0.0	762.4	108.7
186	3.68	9.2	3.73	1261.87	0.0	0.0	0.0	11.3	0.0	756.4	107.8
187	3.68	9.2	3.73	1251.71	0.0	0.0	0.0	11.3	0.0	750.4	106.9
188	3.68	9.2	3.73	1241.54	0.0	0.0	0.0	11.3	0.0	744.3	106.1
189	3.68	9.2	3.73	1231.38	0.0	0.0	0.0	11.3	0.0	738.3	105.2
190	3.68	9.2	3.73	1224.44	0.0	0.0	0.0	11.3	0.0	734.2	104.6
191	3.68	9.2	3.73	1217.61	0.0	0.0	0.0	11.3	0.0	730.2	104.1
192	3.68	16.0	3.83	1194.87	0.0	0.0	0.0	11.3	0.0	1277.7	182.1
193	3.68	17.1	3.85	1153.55	0.0	0.0	0.0	11.3	0.0	1324.4	188.7
194	3.68	17.6	3.86	1108.39	0.0	0.0	0.0	11.3	0.0	1310.5	186.8
195	3.68	26.0	4.1	1040.51	0.0	0.0	0.0	11.3	0.0	1892.6	269.7
196	3.68	26.0	4.1	951.05	0.0	0.0	0.0	11.3	0.0	1729.9	246.5
197	3.68	31.1	4.3	847.12	0.0	0.0	0.0	11.3	0.0	1902.8	271.2
198	3.68	43.7	5.09	667.43	0.0	0.0	0.0	11.3	0.0	2374.4	338.4
199	3.68	46.3	5.33	417.68	0.0	0.0	0.0	11.3	0.0	1628.5	232.1
200	3.68	49.0	5.61	143.51	0.0	0.0	0.0	11.3	0.0	614.0	87.5

Superficie Nr...2 Fattore di sicurezza=1.31

Nr.	B m	Alfa (°)	Li m	Wi (kN)	Kh•Wi (kN)	Kv•Wi (kN)	c (kN/m ²)	Fi (°)	Ui (kN)	N'i (kN)	Ti (kN)
1	2.11	0.7	2.11	2.32	0.0	0.0	0.0	11.3	0.0	-12.6	-1.7
2	2.11	0.7	2.11	6.97	0.0	0.0	0.0	11.3	0.0	-12.5	-1.7
3	2.11	0.7	2.11	17.8	0.0	0.0	0.0	11.3	0.0	-12.1	-1.7
4	2.11	0.7	2.11	31.51	0.0	0.0	0.0	11.3	0.0	-11.7	-1.6
5	2.11	0.7	2.11	45.23	0.0	0.0	0.0	11.3	0.0	-11.3	-1.6
6	2.11	0.7	2.11	58.94	0.0	0.0	0.0	11.3	0.0	-10.8	-1.5
7	2.11	0.7	2.11	72.65	0.0	0.0	0.0	11.3	0.0	-10.4	-1.4
8	2.11	0.7	2.11	86.36	0.0	0.0	0.0	11.3	0.0	-10.0	-1.4
9	2.11	0.7	2.11	101.18	0.0	0.0	0.0	11.3	0.0	-9.5	-1.3
10	2.11	0.7	2.11	123.18	0.0	0.0	0.0	11.3	0.0	-8.9	-1.2
11	2.11	0.7	2.11	145.18	0.0	0.0	0.0	11.3	0.0	-8.2	-1.1
12	2.11	0.7	2.11	167.18	0.0	0.0	0.0	11.3	0.0	-7.6	-1.0
13	2.11	0.7	2.11	189.18	0.0	0.0	0.0	11.3	0.0	-6.9	-1.0
14	2.11	0.7	2.11	197.66	0.0	0.0	0.0	11.3	0.0	-6.7	-0.9
15	2.11	0.7	2.11	203.25	0.0	0.0	0.0	11.3	0.0	-6.5	-0.9
16	2.11	0.7	2.11	208.84	0.0	0.0	0.0	11.3	0.0	-6.2	-0.9
17	2.11	0.7	2.11	214.43	0.0	0.0	0.0	11.3	0.0	-6.0	-0.8
18	2.11	0.7	2.11	220.01	0.0	0.0	0.0	11.3	0.0	-5.8	-0.8
19	2.11	0.7	2.11	225.6	0.0	0.0	0.0	11.3	0.0	-5.6	-0.8
20	2.11	0.7	2.11	236.24	0.0	0.0	0.0	11.3	0.0	-5.3	-0.7
21	2.11	0.7	2.11	249.31	0.0	0.0	0.0	11.3	0.0	-4.9	-0.7
22	2.11	0.7	2.11	262.39	0.0	0.0	0.0	11.3	0.0	-4.4	-0.6
23	2.11	0.7	2.11	275.47	0.0	0.0	0.0	11.3	0.0	-4.0	-0.6
24	2.11	0.7	2.11	288.54	0.0	0.0	0.0	11.3	0.0	-3.6	-0.5
25	2.11	0.7	2.11	301.62	0.0	0.0	0.0	11.3	0.0	-3.2	-0.4
26	2.11	0.7	2.11	316.87	0.0	0.0	0.0	11.3	0.0	-2.8	-0.4
27	2.11	0.7	2.11	341.5	0.0	0.0	0.0	11.3	0.0	-2.0	-0.3
28	2.11	0.7	2.11	366.13	0.0	0.0	0.0	11.3	0.0	-1.3	-0.2
29	2.11	0.7	2.11	390.77	0.0	0.0	0.0	11.3	0.0	-0.6	-0.1
30	2.11	0.7	2.11	410.27	0.0	0.0	0.0	11.3	0.0	0.0	0.0
31	2.11	0.7	2.11	426.45	0.0	0.0	0.0	11.3	0.0	0.5	0.1
32	2.11	0.7	2.11	442.63	0.0	0.0	0.0	11.3	0.0	1.0	0.1
33	2.11	1.9	2.11	457.92	0.0	0.0	0.0	11.3	0.0	22.6	3.1
34	2.11	2.6	2.11	471.85	0.0	0.0	0.0	11.3	0.0	35.4	4.9
35	2.11	2.6	2.11	485.3	0.0	0.0	0.0	11.3	0.0	36.7	5.1
36	2.11	2.6	2.11	498.75	0.0	0.0	0.0	11.3	0.0	38.1	5.3
37	2.11	2.6	2.11	512.21	0.0	0.0	0.0	11.3	0.0	39.5	5.5
38	2.11	2.6	2.11	525.66	0.0	0.0	0.0	11.3	0.0	40.9	5.6
39	2.11	2.6	2.11	539.11	0.0	0.0	0.0	11.3	0.0	42.2	5.8
40	2.11	2.6	2.11	550.77	0.0	0.0	0.0	11.3	0.0	43.4	6.0
41	2.11	2.6	2.11	556.06	0.0	0.0	0.0	11.3	0.0	44.0	6.1
42	2.11	2.6	2.11	561.35	0.0	0.0	0.0	11.3	0.0	44.6	6.2
43	2.11	2.6	2.11	566.63	0.0	0.0	0.0	11.3	0.0	45.2	6.2
44	2.11	2.6	2.11	571.92	0.0	0.0	0.0	11.3	0.0	45.7	6.3
45	2.11	2.6	2.11	577.21	0.0	0.0	0.0	11.3	0.0	46.3	6.4
46	2.11	2.6	2.11	582.49	0.0	0.0	0.0	11.3	0.0	46.9	6.5
47	2.11	2.6	2.11	587.99	0.0	0.0	0.0	11.3	0.0	47.5	6.6
48	2.11	2.6	2.11	596.72	0.0	0.0	0.0	11.3	0.0	48.4	6.7
49	2.11	2.6	2.11	605.45	0.0	0.0	0.0	11.3	0.0	49.3	6.8
50	2.11	2.6	2.11	614.17	0.0	0.0	0.0	11.3	0.0	50.2	6.9
51	2.11	2.6	2.11	622.9	0.0	0.0	0.0	11.3	0.0	51.2	7.1
52	2.11	2.6	2.11	631.63	0.0	0.0	0.0	11.3	0.0	52.1	7.2
53	2.11	2.6	2.11	640.35	0.0	0.0	0.0	11.3	0.0	53.0	7.3
54	2.11	2.6	2.11	643.57	0.0	0.0	0.0	11.3	0.0	53.4	7.4
55	2.11	2.6	2.11	639.83	0.0	0.0	0.0	11.3	0.0	53.1	7.3
56	2.11	2.6	2.11	636.09	0.0	0.0	0.0	11.3	0.0	52.8	7.3
57	2.11	2.6	2.11	632.35	0.0	0.0	0.0	11.3	0.0	52.5	7.2
58	2.11	2.6	2.11	628.6	0.0	0.0	0.0	11.3	0.0	52.2	7.2

59	2.11	2.6	2.11	624.86	0.0	0.0	0.0	11.3	0.0	51.9	7.2
60	2.11	2.6	2.11	630.11	0.0	0.0	0.0	11.3	0.0	52.4	7.2
61	2.11	2.6	2.11	638.94	0.0	0.0	0.0	11.3	0.0	53.4	7.4
62	2.11	2.6	2.11	647.76	0.0	0.0	0.0	11.3	0.0	54.3	7.5
63	2.11	3.2	2.11	656.17	0.0	0.0	0.0	11.3	0.0	69.4	9.6
64	2.11	7.3	2.12	661.17	0.0	0.0	0.0	11.3	0.0	173.0	23.9
65	2.11	7.3	2.12	663.18	0.0	0.0	0.0	11.3	0.0	173.6	24.0
66	2.11	7.3	2.12	665.19	0.0	0.0	0.0	11.3	0.0	174.2	24.1
67	2.11	7.3	2.12	667.2	0.0	0.0	0.0	11.3	0.0	174.8	24.2
68	2.11	7.3	2.12	669.21	0.0	0.0	0.0	11.3	0.0	175.4	24.2
69	2.11	7.3	2.12	671.22	0.0	0.0	0.0	11.3	0.0	176.1	24.3
70	2.11	7.3	2.12	673.23	0.0	0.0	0.0	11.3	0.0	176.7	24.4
71	2.11	7.3	2.12	675.24	0.0	0.0	0.0	11.3	0.0	177.3	24.5
72	2.11	7.3	2.12	677.25	0.0	0.0	0.0	11.3	0.0	177.9	24.6
73	2.11	7.3	2.12	679.26	0.0	0.0	0.0	11.3	0.0	178.5	24.7
74	2.11	7.3	2.12	681.27	0.0	0.0	0.0	11.3	0.0	179.2	24.8
75	2.11	7.3	2.12	683.28	0.0	0.0	0.0	11.3	0.0	179.8	24.8
76	2.11	7.3	2.12	685.29	0.0	0.0	0.0	11.3	0.0	180.4	24.9
77	2.11	7.3	2.12	687.3	0.0	0.0	0.0	11.3	0.0	181.0	25.0
78	2.11	7.3	2.12	688.29	0.0	0.0	0.0	11.3	0.0	181.3	25.1
79	2.11	7.3	2.12	680.66	0.0	0.0	0.0	11.3	0.0	179.3	24.8
80	2.11	7.3	2.12	673.03	0.0	0.0	0.0	11.3	0.0	177.3	24.5
81	2.11	7.3	2.12	665.4	0.0	0.0	0.0	11.3	0.0	175.2	24.2
82	2.11	7.3	2.12	657.77	0.0	0.0	0.0	11.3	0.0	173.2	23.9
83	2.11	7.3	2.12	650.14	0.0	0.0	0.0	11.3	0.0	171.2	23.7
84	2.11	7.3	2.12	642.51	0.0	0.0	0.0	11.3	0.0	169.1	23.4
85	2.11	7.3	2.12	634.88	0.0	0.0	0.0	11.3	0.0	167.1	23.1
86	2.11	7.3	2.12	627.25	0.0	0.0	0.0	11.3	0.0	165.1	22.8
87	2.11	7.3	2.12	619.62	0.0	0.0	0.0	11.3	0.0	163.0	22.5
88	2.11	7.3	2.12	611.99	0.0	0.0	0.0	11.3	0.0	161.0	22.2
89	2.11	7.3	2.12	604.36	0.0	0.0	0.0	11.3	0.0	159.0	22.0
90	2.11	7.3	2.12	596.73	0.0	0.0	0.0	11.3	0.0	156.9	21.7
91	2.11	7.3	2.12	589.1	0.0	0.0	0.0	11.3	0.0	154.9	21.4
92	2.11	7.3	2.12	581.47	0.0	0.0	0.0	11.3	0.0	152.9	21.1
93	2.11	7.3	2.12	573.85	0.0	0.0	0.0	11.3	0.0	150.8	20.8
94	2.11	7.3	2.12	566.22	0.0	0.0	0.0	11.3	0.0	148.8	20.6
95	2.11	7.3	2.12	566.11	0.0	0.0	0.0	11.3	0.0	148.8	20.6
96	2.11	7.3	2.12	567.09	0.0	0.0	0.0	11.3	0.0	149.2	20.6
97	2.11	7.3	2.12	568.07	0.0	0.0	0.0	11.3	0.0	149.5	20.7
98	2.11	7.3	2.12	569.05	0.0	0.0	0.0	11.3	0.0	149.8	20.7
99	2.11	7.3	2.12	570.03	0.0	0.0	0.0	11.3	0.0	150.2	20.8
100	2.11	7.3	2.12	571.0	0.0	0.0	0.0	11.3	0.0	150.5	20.8
101	2.11	7.3	2.12	571.98	0.0	0.0	0.0	11.3	0.0	150.8	20.8
102	2.11	7.3	2.12	572.96	0.0	0.0	0.0	11.3	0.0	151.2	20.9
103	2.11	7.3	2.12	573.94	0.0	0.0	0.0	11.3	0.0	151.5	20.9
104	2.11	7.3	2.12	574.92	0.0	0.0	0.0	11.3	0.0	151.8	21.0
105	2.11	7.3	2.12	575.89	0.0	0.0	0.0	11.3	0.0	152.2	21.0
106	2.11	7.3	2.12	576.87	0.0	0.0	0.0	11.3	0.0	152.5	21.1
107	2.11	7.3	2.12	577.85	0.0	0.0	0.0	11.3	0.0	152.8	21.1
108	2.11	7.3	2.12	578.83	0.0	0.0	0.0	11.3	0.0	153.2	21.2
109	2.11	7.3	2.12	579.8	0.0	0.0	0.0	11.3	0.0	153.5	21.2
110	2.11	7.3	2.12	580.78	0.0	0.0	0.0	11.3	0.0	153.8	21.3
111	2.11	7.3	2.12	584.45	0.0	0.0	0.0	11.3	0.0	154.9	21.4
112	2.11	7.3	2.12	588.76	0.0	0.0	0.0	11.3	0.0	156.2	21.6
113	2.11	7.3	2.12	593.06	0.0	0.0	0.0	11.3	0.0	157.4	21.7
114	2.11	7.3	2.12	597.37	0.0	0.0	0.0	11.3	0.0	158.7	21.9
115	2.11	7.3	2.12	608.14	0.0	0.0	0.0	11.3	0.0	161.7	22.3
116	2.11	7.3	2.12	657.94	0.0	0.0	0.0	11.3	0.0	175.4	24.2
117	2.11	7.3	2.12	669.03	0.0	0.0	0.0	11.3	0.0	178.5	24.7
118	2.11	7.3	2.12	672.42	0.0	0.0	0.0	11.3	0.0	179.5	24.8
119	2.11	7.3	2.12	675.8	0.0	0.0	0.0	11.3	0.0	180.5	24.9
120	2.11	7.3	2.12	679.18	0.0	0.0	0.0	11.3	0.0	181.5	25.1
121	2.11	7.3	2.12	682.57	0.0	0.0	0.0	11.3	0.0	182.5	25.2

122	2.11	7.3	2.12	683.28	0.0	0.0	0.0	11.3	0.0	182.8	25.3
123	2.11	7.3	2.12	683.32	0.0	0.0	0.0	11.3	0.0	182.9	25.3
124	2.11	7.9	2.13	682.94	0.0	0.0	0.0	11.3	0.0	197.8	27.3
125	2.11	9.2	2.13	681.18	0.0	0.0	0.0	11.3	0.0	231.4	32.0
126	2.11	9.2	2.13	678.45	0.0	0.0	0.0	11.3	0.0	230.5	31.9
127	2.11	9.2	2.13	675.73	0.0	0.0	0.0	11.3	0.0	229.6	31.7
128	2.11	9.2	2.13	673.0	0.0	0.0	0.0	11.3	0.0	228.7	31.6
129	2.11	9.2	2.13	670.28	0.0	0.0	0.0	11.3	0.0	227.9	31.5
130	2.11	9.2	2.13	667.56	0.0	0.0	0.0	11.3	0.0	227.0	31.4
131	2.11	9.2	2.13	664.83	0.0	0.0	0.0	11.3	0.0	226.1	31.2
132	2.11	9.2	2.13	662.11	0.0	0.0	0.0	11.3	0.0	225.2	31.1
133	2.11	9.2	2.13	657.61	0.0	0.0	0.0	11.3	0.0	223.7	30.9
134	2.11	9.2	2.13	652.37	0.0	0.0	0.0	11.3	0.0	222.0	30.7
135	2.11	9.2	2.13	647.13	0.0	0.0	0.0	11.3	0.0	220.2	30.4
136	2.11	9.2	2.13	641.89	0.0	0.0	0.0	11.3	0.0	218.5	30.2
137	2.11	9.2	2.13	636.65	0.0	0.0	0.0	11.3	0.0	216.7	29.9
138	2.11	9.2	2.13	631.41	0.0	0.0	0.0	11.3	0.0	215.0	29.7
139	2.11	9.2	2.13	626.17	0.0	0.0	0.0	11.3	0.0	213.2	29.5
140	2.11	9.2	2.13	620.94	0.0	0.0	0.0	11.3	0.0	211.5	29.2
141	2.11	9.2	2.13	615.7	0.0	0.0	0.0	11.3	0.0	209.7	29.0
142	2.11	9.2	2.13	619.01	0.0	0.0	0.0	11.3	0.0	210.9	29.1
143	2.11	9.2	2.13	625.81	0.0	0.0	0.0	11.3	0.0	213.3	29.5
144	2.11	9.2	2.13	632.61	0.0	0.0	0.0	11.3	0.0	215.8	29.8
145	2.11	9.2	2.13	639.41	0.0	0.0	0.0	11.3	0.0	218.2	30.1
146	2.11	9.2	2.13	646.21	0.0	0.0	0.0	11.3	0.0	220.6	30.5
147	2.11	9.2	2.13	653.01	0.0	0.0	0.0	11.3	0.0	223.0	30.8
148	2.11	9.2	2.13	659.82	0.0	0.0	0.0	11.3	0.0	225.5	31.2
149	2.11	9.2	2.13	666.62	0.0	0.0	0.0	11.3	0.0	227.9	31.5
150	2.11	9.2	2.13	673.42	0.0	0.0	0.0	11.3	0.0	230.3	31.8
151	2.11	9.2	2.13	680.22	0.0	0.0	0.0	11.3	0.0	232.7	32.2
152	2.11	9.2	2.13	687.02	0.0	0.0	0.0	11.3	0.0	235.2	32.5
153	2.11	9.2	2.13	693.82	0.0	0.0	0.0	11.3	0.0	237.6	32.8
154	2.11	9.2	2.13	700.62	0.0	0.0	0.0	11.3	0.0	240.0	33.2
155	2.11	9.2	2.13	707.43	0.0	0.0	0.0	11.3	0.0	242.4	33.5
156	2.11	9.2	2.13	714.23	0.0	0.0	0.0	11.3	0.0	244.9	33.8
157	2.11	9.2	2.13	716.34	0.0	0.0	0.0	11.3	0.0	245.6	33.9
158	2.11	9.2	2.13	717.86	0.0	0.0	0.0	11.3	0.0	246.2	34.0
159	2.11	9.2	2.13	719.37	0.0	0.0	0.0	11.3	0.0	246.8	34.1
160	2.11	9.2	2.13	720.88	0.0	0.0	0.0	11.3	0.0	247.4	34.2
161	2.11	9.2	2.13	722.39	0.0	0.0	0.0	11.3	0.0	248.0	34.3
162	2.11	9.2	2.13	723.9	0.0	0.0	0.0	11.3	0.0	248.6	34.3
163	2.11	9.2	2.13	725.41	0.0	0.0	0.0	11.3	0.0	249.2	34.4
164	2.11	9.2	2.13	726.92	0.0	0.0	0.0	11.3	0.0	249.8	34.5
165	2.11	9.2	2.13	728.43	0.0	0.0	0.0	11.3	0.0	250.4	34.6
166	2.11	9.2	2.13	729.94	0.0	0.0	0.0	11.3	0.0	250.9	34.7
167	2.11	9.2	2.13	731.45	0.0	0.0	0.0	11.3	0.0	251.5	34.8
168	2.11	9.2	2.13	732.96	0.0	0.0	0.0	11.3	0.0	252.1	34.8
169	2.11	9.2	2.13	734.47	0.0	0.0	0.0	11.3	0.0	252.7	34.9
170	2.11	9.2	2.13	735.99	0.0	0.0	0.0	11.3	0.0	253.3	35.0
171	2.11	9.2	2.13	735.77	0.0	0.0	0.0	11.3	0.0	253.3	35.0
172	2.11	9.2	2.13	732.45	0.0	0.0	0.0	11.3	0.0	252.2	34.8
173	2.11	9.2	2.13	729.12	0.0	0.0	0.0	11.3	0.0	251.1	34.7
174	2.11	9.2	2.13	725.79	0.0	0.0	0.0	11.3	0.0	250.0	34.5
175	2.11	9.2	2.13	722.46	0.0	0.0	0.0	11.3	0.0	248.9	34.4
176	2.11	9.2	2.13	719.14	0.0	0.0	0.0	11.3	0.0	247.8	34.2
177	2.11	9.2	2.13	715.81	0.0	0.0	0.0	11.3	0.0	246.8	34.1
178	2.11	9.2	2.13	712.48	0.0	0.0	0.0	11.3	0.0	245.7	33.9
179	2.11	9.2	2.13	709.15	0.0	0.0	0.0	11.3	0.0	244.6	33.8
180	2.11	9.2	2.13	705.82	0.0	0.0	0.0	11.3	0.0	243.5	33.6
181	2.11	9.2	2.13	703.1	0.0	0.0	0.0	11.3	0.0	242.6	33.5
182	2.11	9.2	2.13	700.87	0.0	0.0	0.0	11.3	0.0	241.9	33.4
183	2.11	9.2	2.13	698.63	0.0	0.0	0.0	11.3	0.0	241.2	33.3
184	2.11	9.2	2.13	696.39	0.0	0.0	0.0	11.3	0.0	240.5	33.2

185	2.11	13.1	2.16	691.2	0.0	0.0	0.0	11.3	0.0	345.2	47.7
186	2.11	17.1	2.2	679.92	0.0	0.0	0.0	11.3	0.0	450.3	62.2
187	2.11	17.1	2.2	665.52	0.0	0.0	0.0	11.3	0.0	440.8	60.9
188	2.11	17.1	2.2	651.12	0.0	0.0	0.0	11.3	0.0	431.3	59.6
189	2.11	17.1	2.2	636.72	0.0	0.0	0.0	11.3	0.0	421.8	58.3
190	2.11	22.5	2.28	617.98	0.0	0.0	0.0	11.3	0.0	549.1	75.9
191	2.11	26.0	2.34	591.8	0.0	0.0	0.0	11.3	0.0	621.5	85.9
192	2.11	26.0	2.34	562.52	0.0	0.0	0.0	11.3	0.0	590.8	81.6
193	2.11	26.0	2.34	533.24	0.0	0.0	0.0	11.3	0.0	560.0	77.4
194	2.11	26.0	2.34	503.95	0.0	0.0	0.0	11.3	0.0	529.3	73.1
195	2.11	38.9	2.7	461.56	0.0	0.0	0.0	11.3	0.0	800.1	110.6
196	2.11	43.7	2.91	391.49	0.0	0.0	0.0	11.3	0.0	804.5	111.2
197	2.11	43.7	2.91	313.52	0.0	0.0	0.0	11.3	0.0	644.3	89.0
198	2.11	46.8	3.08	230.97	0.0	0.0	0.0	11.3	0.0	529.8	73.2
199	2.11	48.9	3.2	140.54	0.0	0.0	0.0	11.3	0.0	346.4	47.9
200	2.11	48.9	3.2	46.84	0.0	0.0	0.0	11.3	0.0	115.4	15.9

Superficie Nr...3 Fattore di sicurezza=1.28

Nr.	B m	Alfa (°)	Li m	Wi (kN)	Kh•Wi (kN)	Kv•Wi (kN)	c (kN/m²)	Fi (°)	Ui (kN)	N'i (kN)	Ti (kN)
1	2.39	-1.1	2.39	31.47	0.0	0.0	0.0	11.3	0.0	-18.0	-2.5
2	2.39	-1.1	2.39	94.41	0.0	0.0	0.0	11.3	0.0	-20.8	-2.9
3	2.39	-1.1	2.39	157.35	0.0	0.0	0.0	11.3	0.0	-23.7	-3.3
4	2.39	-1.1	2.39	220.29	0.0	0.0	0.0	11.3	0.0	-26.5	-3.7
5	2.39	-1.1	2.39	284.25	0.0	0.0	0.0	11.3	0.0	-29.4	-4.2
6	2.39	-1.1	2.39	366.54	0.0	0.0	0.0	11.3	0.0	-33.1	-4.7
7	2.39	-1.1	2.39	448.84	0.0	0.0	0.0	11.3	0.0	-36.9	-5.2
8	2.39	-1.1	2.39	531.14	0.0	0.0	0.0	11.3	0.0	-40.6	-5.7
9	2.39	-1.1	2.39	613.43	0.0	0.0	0.0	11.3	0.0	-44.3	-6.3
10	2.39	-1.1	2.39	695.73	0.0	0.0	0.0	11.3	0.0	-48.1	-6.8
11	2.39	-1.1	2.39	700.07	0.0	0.0	0.0	11.3	0.0	-48.2	-6.8
12	2.39	-1.1	2.39	702.37	0.0	0.0	0.0	11.3	0.0	-48.2	-6.8
13	2.39	-1.1	2.39	704.66	0.0	0.0	0.0	11.3	0.0	-48.2	-6.8
14	2.39	-1.1	2.39	706.95	0.0	0.0	0.0	11.3	0.0	-48.3	-6.8
15	2.39	-1.1	2.39	722.7	0.0	0.0	0.0	11.3	0.0	-48.9	-6.9
16	2.39	-1.1	2.39	745.61	0.0	0.0	0.0	11.3	0.0	-49.9	-7.0
17	2.39	-1.1	2.39	768.53	0.0	0.0	0.0	11.3	0.0	-50.9	-7.2
18	2.39	-1.1	2.39	791.44	0.0	0.0	0.0	11.3	0.0	-51.8	-7.3
19	2.39	-1.1	2.39	814.35	0.0	0.0	0.0	11.3	0.0	-52.8	-7.5
20	2.39	-1.1	2.39	837.26	0.0	0.0	0.0	11.3	0.0	-53.8	-7.6
21	2.39	-1.0	2.39	860.08	0.0	0.0	0.0	11.3	0.0	-51.1	-7.2
22	2.39	1.1	2.39	880.82	0.0	0.0	0.0	11.3	0.0	28.0	4.0
23	2.39	1.1	2.39	899.58	0.0	0.0	0.0	11.3	0.0	29.0	4.1
24	2.39	1.1	2.39	918.34	0.0	0.0	0.0	11.3	0.0	30.0	4.2
25	2.39	1.1	2.39	937.68	0.0	0.0	0.0	11.3	0.0	31.0	4.4
26	2.39	1.1	2.39	958.46	0.0	0.0	0.0	11.3	0.0	32.1	4.5
27	2.39	1.1	2.39	979.23	0.0	0.0	0.0	11.3	0.0	33.2	4.7
28	2.39	1.1	2.39	1000.01	0.0	0.0	0.0	11.3	0.0	34.3	4.8
29	2.39	1.1	2.39	1020.78	0.0	0.0	0.0	11.3	0.0	35.4	5.0
30	2.39	1.1	2.39	1041.56	0.0	0.0	0.0	11.3	0.0	36.5	5.2
31	2.39	1.1	2.39	1062.33	0.0	0.0	0.0	11.3	0.0	37.6	5.3
32	2.39	1.1	2.39	1083.11	0.0	0.0	0.0	11.3	0.0	38.7	5.5
33	2.39	1.1	2.39	1103.16	0.0	0.0	0.0	11.3	0.0	39.7	5.6
34	2.39	1.1	2.39	1119.76	0.0	0.0	0.0	11.3	0.0	40.6	5.7
35	2.39	1.1	2.39	1136.36	0.0	0.0	0.0	11.3	0.0	41.5	5.9
36	2.39	1.1	2.39	1152.96	0.0	0.0	0.0	11.3	0.0	42.4	6.0
37	2.39	1.1	2.39	1169.57	0.0	0.0	0.0	11.3	0.0	43.3	6.1
38	2.39	1.1	2.39	1186.17	0.0	0.0	0.0	11.3	0.0	44.2	6.2
39	2.39	1.1	2.39	1209.45	0.0	0.0	0.0	11.3	0.0	45.4	6.4
40	2.39	1.1	2.39	1233.97	0.0	0.0	0.0	11.3	0.0	46.7	6.6

41	2.39	1.1	2.39	1258.5	0.0	0.0	0.0	11.3	0.0	47.9	6.8
42	2.39	2.2	2.39	1282.06	0.0	0.0	0.0	11.3	0.0	105.3	14.9
43	2.39	3.7	2.39	1300.74	0.0	0.0	0.0	11.3	0.0	190.9	27.0
44	2.39	3.7	2.39	1311.29	0.0	0.0	0.0	11.3	0.0	192.6	27.2
45	2.39	3.7	2.39	1321.85	0.0	0.0	0.0	11.3	0.0	194.4	27.5
46	2.39	3.7	2.39	1332.41	0.0	0.0	0.0	11.3	0.0	196.1	27.7
47	2.39	3.7	2.39	1342.97	0.0	0.0	0.0	11.3	0.0	197.8	28.0
48	2.39	3.7	2.39	1353.53	0.0	0.0	0.0	11.3	0.0	199.6	28.2
49	2.39	3.7	2.39	1364.08	0.0	0.0	0.0	11.3	0.0	201.3	28.4
50	2.39	3.7	2.39	1374.64	0.0	0.0	0.0	11.3	0.0	203.0	28.7
51	2.39	3.7	2.39	1374.41	0.0	0.0	0.0	11.3	0.0	203.1	28.7
52	2.39	3.7	2.39	1367.55	0.0	0.0	0.0	11.3	0.0	202.1	28.6
53	2.39	3.7	2.39	1360.69	0.0	0.0	0.0	11.3	0.0	201.1	28.4
54	2.39	3.7	2.39	1353.83	0.0	0.0	0.0	11.3	0.0	200.1	28.3
55	2.39	3.7	2.39	1346.97	0.0	0.0	0.0	11.3	0.0	199.1	28.1
56	2.39	3.7	2.39	1340.11	0.0	0.0	0.0	11.3	0.0	198.1	28.0
57	2.39	3.7	2.39	1333.25	0.0	0.0	0.0	11.3	0.0	197.1	27.9
58	2.39	3.7	2.39	1326.39	0.0	0.0	0.0	11.3	0.0	196.2	27.7
59	2.39	3.7	2.39	1319.53	0.0	0.0	0.0	11.3	0.0	195.2	27.6
60	2.39	4.2	2.4	1312.22	0.0	0.0	0.0	11.3	0.0	221.0	31.2
61	2.39	6.2	2.4	1302.53	0.0	0.0	0.0	11.3	0.0	334.2	47.2
62	2.39	6.2	2.4	1290.92	0.0	0.0	0.0	11.3	0.0	331.2	46.8
63	2.39	6.2	2.4	1279.3	0.0	0.0	0.0	11.3	0.0	328.2	46.4
64	2.39	6.2	2.4	1267.69	0.0	0.0	0.0	11.3	0.0	325.2	45.9
65	2.39	6.2	2.4	1260.35	0.0	0.0	0.0	11.3	0.0	323.3	45.7
66	2.39	6.2	2.4	1299.87	0.0	0.0	0.0	11.3	0.0	333.9	47.2
67	2.39	6.2	2.4	1339.4	0.0	0.0	0.0	11.3	0.0	344.4	48.7
68	2.39	6.2	2.4	1378.92	0.0	0.0	0.0	11.3	0.0	355.0	50.2
69	2.39	6.2	2.4	1418.45	0.0	0.0	0.0	11.3	0.0	365.6	51.7
70	2.39	6.2	2.4	1434.38	0.0	0.0	0.0	11.3	0.0	369.9	52.3
71	2.39	6.2	2.4	1422.76	0.0	0.0	0.0	11.3	0.0	366.9	51.8
72	2.39	6.2	2.4	1411.15	0.0	0.0	0.0	11.3	0.0	363.9	51.4
73	2.39	6.2	2.4	1399.53	0.0	0.0	0.0	11.3	0.0	360.9	51.0
74	2.39	6.2	2.4	1387.92	0.0	0.0	0.0	11.3	0.0	357.9	50.6
75	2.39	6.2	2.4	1376.3	0.0	0.0	0.0	11.3	0.0	354.9	50.1
76	2.39	6.2	2.4	1364.69	0.0	0.0	0.0	11.3	0.0	351.9	49.7
77	2.39	6.2	2.4	1353.07	0.0	0.0	0.0	11.3	0.0	348.9	49.3
78	2.39	6.2	2.4	1341.46	0.0	0.0	0.0	11.3	0.0	345.9	48.9
79	2.39	6.2	2.4	1329.84	0.0	0.0	0.0	11.3	0.0	342.9	48.4
80	2.39	7.5	2.41	1317.0	0.0	0.0	0.0	11.3	0.0	413.5	58.4
81	2.39	7.7	2.41	1302.8	0.0	0.0	0.0	11.3	0.0	416.5	58.8
82	2.39	7.7	2.41	1288.48	0.0	0.0	0.0	11.3	0.0	411.9	58.2
83	2.39	7.7	2.41	1274.16	0.0	0.0	0.0	11.3	0.0	407.3	57.5
84	2.39	7.7	2.41	1259.83	0.0	0.0	0.0	11.3	0.0	402.7	56.9
85	2.39	7.7	2.41	1245.51	0.0	0.0	0.0	11.3	0.0	398.1	56.2
86	2.39	7.7	2.41	1231.19	0.0	0.0	0.0	11.3	0.0	393.5	55.6
87	2.39	7.7	2.41	1216.87	0.0	0.0	0.0	11.3	0.0	388.9	54.9
88	2.39	7.7	2.41	1239.73	0.0	0.0	0.0	11.3	0.0	396.4	56.0
89	2.39	7.7	2.41	1271.81	0.0	0.0	0.0	11.3	0.0	407.0	57.5
90	2.39	7.7	2.41	1303.88	0.0	0.0	0.0	11.3	0.0	417.6	59.0
91	2.39	7.7	2.41	1335.95	0.0	0.0	0.0	11.3	0.0	428.2	60.5
92	2.39	7.7	2.41	1368.03	0.0	0.0	0.0	11.3	0.0	438.8	62.0
93	2.39	7.7	2.41	1380.89	0.0	0.0	0.0	11.3	0.0	443.1	62.6
94	2.39	7.7	2.41	1376.94	0.0	0.0	0.0	11.3	0.0	441.8	62.4
95	2.39	7.7	2.41	1361.92	0.0	0.0	0.0	11.3	0.0	437.0	61.7
96	2.39	7.7	2.41	1346.91	0.0	0.0	0.0	11.3	0.0	432.2	61.1
97	2.39	7.7	2.41	1331.9	0.0	0.0	0.0	11.3	0.0	427.4	60.4
98	2.39	7.7	2.41	1358.13	0.0	0.0	0.0	11.3	0.0	436.0	61.6
99	2.39	8.8	2.42	1380.74	0.0	0.0	0.0	11.3	0.0	510.9	72.2
100	2.39	9.5	2.42	1381.47	0.0	0.0	0.0	11.3	0.0	551.7	77.9
101	2.39	9.5	2.42	1381.56	0.0	0.0	0.0	11.3	0.0	551.9	78.0
102	2.39	9.5	2.42	1381.65	0.0	0.0	0.0	11.3	0.0	552.0	78.0
103	2.39	9.5	2.42	1390.27	0.0	0.0	0.0	11.3	0.0	555.6	78.5

104	2.39	9.5	2.42	1400.02	0.0	0.0	0.0	11.3	0.0	559.6	79.1
105	2.39	9.5	2.42	1409.76	0.0	0.0	0.0	11.3	0.0	563.6	79.6
106	2.39	9.5	2.42	1418.24	0.0	0.0	0.0	11.3	0.0	567.2	80.1
107	2.39	9.5	2.42	1406.69	0.0	0.0	0.0	11.3	0.0	562.5	79.5
108	2.39	9.5	2.42	1395.14	0.0	0.0	0.0	11.3	0.0	557.9	78.8
109	2.39	9.5	2.42	1383.59	0.0	0.0	0.0	11.3	0.0	553.3	78.2
110	2.39	9.5	2.42	1372.03	0.0	0.0	0.0	11.3	0.0	548.7	77.5
111	2.39	9.5	2.42	1360.48	0.0	0.0	0.0	11.3	0.0	544.2	76.9
112	2.39	9.5	2.42	1348.93	0.0	0.0	0.0	11.3	0.0	539.5	76.2
113	2.39	9.5	2.42	1337.38	0.0	0.0	0.0	11.3	0.0	534.9	75.6
114	2.39	9.5	2.42	1325.83	0.0	0.0	0.0	11.3	0.0	530.3	74.9
115	2.39	9.5	2.42	1314.28	0.0	0.0	0.0	11.3	0.0	525.7	74.3
116	2.39	9.5	2.42	1302.67	0.0	0.0	0.0	11.3	0.0	524.9	74.2
117	2.39	11.6	2.44	1289.04	0.0	0.0	0.0	11.3	0.0	634.7	89.7
118	2.39	11.6	2.44	1274.72	0.0	0.0	0.0	11.3	0.0	627.7	88.7
119	2.39	11.6	2.44	1263.66	0.0	0.0	0.0	11.3	0.0	622.3	87.9
120	2.39	11.6	2.44	1252.6	0.0	0.0	0.0	11.3	0.0	616.8	87.1
121	2.39	11.6	2.44	1241.54	0.0	0.0	0.0	11.3	0.0	611.4	86.4
122	2.39	11.6	2.44	1230.48	0.0	0.0	0.0	11.3	0.0	606.0	85.6
123	2.39	11.6	2.44	1219.42	0.0	0.0	0.0	11.3	0.0	600.6	84.9
124	2.39	11.6	2.44	1208.36	0.0	0.0	0.0	11.3	0.0	595.2	84.1
125	2.39	11.6	2.44	1197.3	0.0	0.0	0.0	11.3	0.0	589.7	83.3
126	2.39	11.6	2.44	1186.24	0.0	0.0	0.0	11.3	0.0	584.3	82.6
127	2.39	11.6	2.44	1175.18	0.0	0.0	0.0	11.3	0.0	578.9	81.8
128	2.39	11.6	2.44	1162.52	0.0	0.0	0.0	11.3	0.0	572.7	80.9
129	2.39	11.6	2.44	1148.02	0.0	0.0	0.0	11.3	0.0	565.5	79.9
130	2.39	11.6	2.44	1133.53	0.0	0.0	0.0	11.3	0.0	558.4	78.9
131	2.39	11.6	2.44	1119.03	0.0	0.0	0.0	11.3	0.0	551.3	77.9
132	2.39	11.6	2.44	1104.54	0.0	0.0	0.0	11.3	0.0	544.1	76.9
133	2.39	11.6	2.44	1090.04	0.0	0.0	0.0	11.3	0.0	537.0	75.9
134	2.39	11.6	2.44	1076.67	0.0	0.0	0.0	11.3	0.0	530.4	74.9
135	2.39	11.6	2.44	1073.85	0.0	0.0	0.0	11.3	0.0	529.1	74.8
136	2.39	11.6	2.44	1071.03	0.0	0.0	0.0	11.3	0.0	527.8	74.6
137	2.39	11.6	2.44	1068.21	0.0	0.0	0.0	11.3	0.0	526.5	74.4
138	2.39	11.6	2.44	1065.39	0.0	0.0	0.0	11.3	0.0	525.2	74.2
139	2.39	11.6	2.44	1062.57	0.0	0.0	0.0	11.3	0.0	523.8	74.0
140	2.39	11.6	2.44	1063.23	0.0	0.0	0.0	11.3	0.0	524.3	74.1
141	2.39	11.6	2.44	1071.08	0.0	0.0	0.0	11.3	0.0	528.2	74.6
142	2.39	11.6	2.44	1078.93	0.0	0.0	0.0	11.3	0.0	532.2	75.2
143	2.39	11.6	2.44	1086.79	0.0	0.0	0.0	11.3	0.0	536.2	75.8
144	2.39	11.6	2.44	1083.49	0.0	0.0	0.0	11.3	0.0	534.7	75.5
145	2.39	11.6	2.44	1070.2	0.0	0.0	0.0	11.3	0.0	528.2	74.6
146	2.39	11.6	2.44	1056.92	0.0	0.0	0.0	11.3	0.0	521.6	73.7
147	2.39	11.6	2.44	1043.64	0.0	0.0	0.0	11.3	0.0	515.1	72.8
148	2.39	11.6	2.44	1030.35	0.0	0.0	0.0	11.3	0.0	508.6	71.8
149	2.39	11.6	2.44	1018.12	0.0	0.0	0.0	11.3	0.0	502.6	71.0
150	2.39	11.6	2.44	1014.48	0.0	0.0	0.0	11.3	0.0	500.8	70.8
151	2.39	11.6	2.44	1010.84	0.0	0.0	0.0	11.3	0.0	499.1	70.5
152	2.39	11.9	2.44	1006.86	0.0	0.0	0.0	11.3	0.0	513.1	72.5
153	2.39	12.4	2.45	1002.03	0.0	0.0	0.0	11.3	0.0	533.4	75.4
154	2.39	12.4	2.45	996.71	0.0	0.0	0.0	11.3	0.0	530.6	75.0
155	2.39	12.4	2.45	997.24	0.0	0.0	0.0	11.3	0.0	531.0	75.0
156	2.39	12.4	2.45	1006.8	0.0	0.0	0.0	11.3	0.0	536.2	75.8
157	2.39	12.4	2.45	1016.36	0.0	0.0	0.0	11.3	0.0	541.4	76.5
158	2.39	12.4	2.45	1023.34	0.0	0.0	0.0	11.3	0.0	545.3	77.0
159	2.39	12.4	2.45	1022.01	0.0	0.0	0.0	11.3	0.0	544.6	76.9
160	2.39	12.4	2.45	1020.68	0.0	0.0	0.0	11.3	0.0	544.0	76.9
161	2.39	12.4	2.45	1019.36	0.0	0.0	0.0	11.3	0.0	543.4	76.8
162	2.39	12.4	2.45	1018.03	0.0	0.0	0.0	11.3	0.0	542.8	76.7
163	2.39	12.4	2.45	1016.71	0.0	0.0	0.0	11.3	0.0	542.1	76.6
164	2.39	12.4	2.45	1015.38	0.0	0.0	0.0	11.3	0.0	541.5	76.5
165	2.39	12.4	2.45	1014.06	0.0	0.0	0.0	11.3	0.0	540.9	76.4
166	2.39	12.4	2.45	1012.73	0.0	0.0	0.0	11.3	0.0	540.3	76.3

167	2.39	12.4	2.45	1010.52	0.0	0.0	0.0	11.3	0.0	539.2	76.2
168	2.39	12.4	2.45	998.68	0.0	0.0	0.0	11.3	0.0	532.9	75.3
169	2.39	12.4	2.45	986.84	0.0	0.0	0.0	11.3	0.0	526.6	74.4
170	2.39	12.4	2.45	975.0	0.0	0.0	0.0	11.3	0.0	520.4	73.5
171	2.39	12.4	2.45	963.15	0.0	0.0	0.0	11.3	0.0	514.1	72.6
172	2.39	12.4	2.45	951.31	0.0	0.0	0.0	11.3	0.0	507.8	71.7
173	2.39	12.4	2.45	939.47	0.0	0.0	0.0	11.3	0.0	501.6	70.9
174	2.39	12.4	2.45	931.07	0.0	0.0	0.0	11.3	0.0	497.1	70.2
175	2.39	12.4	2.45	923.66	0.0	0.0	0.0	11.3	0.0	493.2	69.7
176	2.39	12.4	2.45	916.25	0.0	0.0	0.0	11.3	0.0	489.4	69.1
177	2.39	12.4	2.45	908.84	0.0	0.0	0.0	11.3	0.0	485.5	68.6
178	2.39	12.4	2.45	901.43	0.0	0.0	0.0	11.3	0.0	481.6	68.0
179	2.39	12.4	2.45	894.02	0.0	0.0	0.0	11.3	0.0	477.7	67.5
180	2.39	12.4	2.45	871.45	0.0	0.0	0.0	11.3	0.0	465.7	65.8
181	2.39	12.4	2.45	847.98	0.0	0.0	0.0	11.3	0.0	453.2	64.0
182	2.39	12.4	2.45	824.51	0.0	0.0	0.0	11.3	0.0	440.7	62.3
183	2.39	12.4	2.45	801.04	0.0	0.0	0.0	11.3	0.0	428.2	60.5
184	2.39	12.4	2.45	777.58	0.0	0.0	0.0	11.3	0.0	415.7	58.7
185	2.39	12.4	2.45	768.63	0.0	0.0	0.0	11.3	0.0	410.9	58.1
186	2.39	12.4	2.45	761.35	0.0	0.0	0.0	11.3	0.0	407.1	57.5
187	2.39	12.4	2.45	754.06	0.0	0.0	0.0	11.3	0.0	403.3	57.0
188	2.39	17.6	2.51	741.64	0.0	0.0	0.0	11.3	0.0	570.6	80.6
189	2.39	18.9	2.53	722.74	0.0	0.0	0.0	11.3	0.0	600.9	84.9
190	2.39	18.9	2.53	702.49	0.0	0.0	0.0	11.3	0.0	584.1	82.5
191	2.39	18.9	2.53	682.23	0.0	0.0	0.0	11.3	0.0	567.3	80.1
192	2.39	18.9	2.53	661.98	0.0	0.0	0.0	11.3	0.0	550.5	77.8
193	2.39	31.1	2.79	627.84	0.0	0.0	0.0	11.3	0.0	920.5	130.0
194	2.39	35.6	2.94	573.9	0.0	0.0	0.0	11.3	0.0	997.0	140.8
195	2.39	35.6	2.94	514.02	0.0	0.0	0.0	11.3	0.0	893.0	126.2
196	2.39	35.6	2.94	454.14	0.0	0.0	0.0	11.3	0.0	789.0	111.5
197	2.39	42.9	3.26	382.86	0.0	0.0	0.0	11.3	0.0	864.8	122.2
198	2.39	50.7	3.77	284.6	0.0	0.0	0.0	11.3	0.0	845.2	119.4
199	2.39	50.7	3.77	170.78	0.0	0.0	0.0	11.3	0.0	507.2	71.7
200	2.39	50.7	3.77	56.93	0.0	0.0	0.0	11.3	0.0	169.2	23.9

Superficie Nr...4 Fattore di sicurezza=1.38

Nr.	B m	Alfa (°)	Li m	Wi (kN)	Kh•Wi (kN)	Kv•Wi (kN)	c (kN/m ²)	Fi (°)	Ui (kN)	N'i (kN)	Ti (kN)
1	1.71	-1.1	1.71	16.08	0.0	0.0	0.0	11.3	0.0	-41.9	-5.5
2	1.71	-1.1	1.71	48.25	0.0	0.0	0.0	11.3	0.0	-42.8	-5.6
3	1.71	-1.1	1.71	80.41	0.0	0.0	0.0	11.3	0.0	-43.7	-5.7
4	1.71	-1.1	1.71	112.57	0.0	0.0	0.0	11.3	0.0	-44.6	-5.9
5	1.71	-1.1	1.71	144.74	0.0	0.0	0.0	11.3	0.0	-45.5	-6.0
6	1.71	-1.1	1.71	176.9	0.0	0.0	0.0	11.3	0.0	-46.4	-6.1
7	1.71	-1.1	1.71	211.82	0.0	0.0	0.0	11.3	0.0	-47.4	-6.2
8	1.71	-1.1	1.71	253.88	0.0	0.0	0.0	11.3	0.0	-48.6	-6.4
9	1.71	-1.1	1.71	295.93	0.0	0.0	0.0	11.3	0.0	-49.8	-6.6
10	1.71	-1.1	1.71	337.99	0.0	0.0	0.0	11.3	0.0	-51.1	-6.7
11	1.71	-1.1	1.71	380.04	0.0	0.0	0.0	11.3	0.0	-52.3	-6.9
12	1.71	-1.1	1.71	422.1	0.0	0.0	0.0	11.3	0.0	-53.5	-7.0
13	1.71	-1.1	1.71	464.15	0.0	0.0	0.0	11.3	0.0	-54.8	-7.2
14	1.71	-1.1	1.71	499.06	0.0	0.0	0.0	11.3	0.0	-55.7	-7.3
15	1.71	-1.1	1.71	500.23	0.0	0.0	0.0	11.3	0.0	-55.6	-7.3
16	1.71	-1.1	1.71	501.41	0.0	0.0	0.0	11.3	0.0	-55.4	-7.3
17	1.71	-1.1	1.71	502.58	0.0	0.0	0.0	11.3	0.0	-55.2	-7.3
18	1.71	-1.1	1.71	503.75	0.0	0.0	0.0	11.3	0.0	-55.1	-7.2
19	1.71	-1.1	1.71	504.92	0.0	0.0	0.0	11.3	0.0	-54.9	-7.2
20	1.71	-1.1	1.71	507.45	0.0	0.0	0.0	11.3	0.0	-54.8	-7.2
21	1.71	-1.1	1.71	519.16	0.0	0.0	0.0	11.3	0.0	-55.0	-7.2
22	1.71	-1.1	1.71	530.87	0.0	0.0	0.0	11.3	0.0	-55.2	-7.2

23	1.71	-1.1	1.71	542.58	0.0	0.0	0.0	11.3	0.0	-55.4	-7.3
24	1.71	-1.1	1.71	554.29	0.0	0.0	0.0	11.3	0.0	-55.5	-7.3
25	1.71	-1.1	1.71	566.0	0.0	0.0	0.0	11.3	0.0	-55.7	-7.3
26	1.71	-1.1	1.71	577.71	0.0	0.0	0.0	11.3	0.0	-55.9	-7.4
27	1.71	-1.1	1.71	589.42	0.0	0.0	0.0	11.3	0.0	-56.1	-7.4
28	1.71	-1.1	1.71	601.12	0.0	0.0	0.0	11.3	0.0	-56.3	-7.4
29	1.71	-1.1	1.71	612.83	0.0	0.0	0.0	11.3	0.0	-56.5	-7.4
30	1.71	0.4	1.71	623.81	0.0	0.0	0.0	11.3	0.0	-26.8	-3.5
31	1.71	1.1	1.71	633.73	0.0	0.0	0.0	11.3	0.0	-12.5	-1.6
32	1.71	1.1	1.71	643.32	0.0	0.0	0.0	11.3	0.0	-12.0	-1.6
33	1.71	1.1	1.71	652.9	0.0	0.0	0.0	11.3	0.0	-11.4	-1.5
34	1.71	1.1	1.71	662.49	0.0	0.0	0.0	11.3	0.0	-10.9	-1.4
35	1.71	1.1	1.71	672.73	0.0	0.0	0.0	11.3	0.0	-10.3	-1.4
36	1.71	1.1	1.71	683.34	0.0	0.0	0.0	11.3	0.0	-9.7	-1.3
37	1.71	1.1	1.71	693.96	0.0	0.0	0.0	11.3	0.0	-9.1	-1.2
38	1.71	1.1	1.71	704.58	0.0	0.0	0.0	11.3	0.0	-8.5	-1.1
39	1.71	1.1	1.71	715.19	0.0	0.0	0.0	11.3	0.0	-8.0	-1.0
40	1.71	1.1	1.71	725.81	0.0	0.0	0.0	11.3	0.0	-7.4	-1.0
41	1.71	1.1	1.71	736.43	0.0	0.0	0.0	11.3	0.0	-6.8	-0.9
42	1.71	1.1	1.71	747.04	0.0	0.0	0.0	11.3	0.0	-6.2	-0.8
43	1.71	1.1	1.71	757.66	0.0	0.0	0.0	11.3	0.0	-5.6	-0.7
44	1.71	1.1	1.71	768.28	0.0	0.0	0.0	11.3	0.0	-5.0	-0.7
45	1.71	1.1	1.71	778.89	0.0	0.0	0.0	11.3	0.0	-4.4	-0.6
46	1.71	1.1	1.71	788.91	0.0	0.0	0.0	11.3	0.0	-3.9	-0.5
47	1.71	1.1	1.71	797.4	0.0	0.0	0.0	11.3	0.0	-3.4	-0.4
48	1.71	1.1	1.71	805.88	0.0	0.0	0.0	11.3	0.0	-2.8	-0.4
49	1.71	1.1	1.71	814.36	0.0	0.0	0.0	11.3	0.0	-2.3	-0.3
50	1.71	1.1	1.71	822.85	0.0	0.0	0.0	11.3	0.0	-1.8	-0.2
51	1.71	1.1	1.71	831.33	0.0	0.0	0.0	11.3	0.0	-1.3	-0.2
52	1.71	1.1	1.71	839.82	0.0	0.0	0.0	11.3	0.0	-0.8	-0.1
53	1.71	1.1	1.71	848.3	0.0	0.0	0.0	11.3	0.0	-0.3	0.0
54	1.71	1.1	1.71	860.11	0.0	0.0	0.0	11.3	0.0	0.3	0.0
55	1.71	1.1	1.71	872.65	0.0	0.0	0.0	11.3	0.0	1.0	0.1
56	1.71	1.1	1.71	885.18	0.0	0.0	0.0	11.3	0.0	1.6	0.2
57	1.71	1.1	1.71	897.71	0.0	0.0	0.0	11.3	0.0	2.3	0.3
58	1.71	1.1	1.71	910.25	0.0	0.0	0.0	11.3	0.0	3.0	0.4
59	1.71	3.2	1.71	921.8	0.0	0.0	0.0	11.3	0.0	63.2	8.3
60	1.71	3.7	1.71	930.1	0.0	0.0	0.0	11.3	0.0	78.0	10.3
61	1.71	3.7	1.71	935.5	0.0	0.0	0.0	11.3	0.0	78.9	10.4
62	1.71	3.7	1.71	940.89	0.0	0.0	0.0	11.3	0.0	79.7	10.5
63	1.71	3.7	1.71	946.29	0.0	0.0	0.0	11.3	0.0	80.5	10.6
64	1.71	3.7	1.71	951.68	0.0	0.0	0.0	11.3	0.0	81.4	10.7
65	1.71	3.7	1.71	957.08	0.0	0.0	0.0	11.3	0.0	82.2	10.8
66	1.71	3.7	1.71	962.47	0.0	0.0	0.0	11.3	0.0	83.0	10.9
67	1.71	3.7	1.71	967.87	0.0	0.0	0.0	11.3	0.0	83.9	11.0
68	1.71	3.7	1.71	973.26	0.0	0.0	0.0	11.3	0.0	84.7	11.1
69	1.71	3.7	1.71	978.66	0.0	0.0	0.0	11.3	0.0	85.5	11.2
70	1.71	3.7	1.71	984.06	0.0	0.0	0.0	11.3	0.0	86.3	11.3
71	1.71	3.7	1.71	983.01	0.0	0.0	0.0	11.3	0.0	86.4	11.4
72	1.71	3.7	1.71	979.51	0.0	0.0	0.0	11.3	0.0	86.2	11.3
73	1.71	3.7	1.71	976.0	0.0	0.0	0.0	11.3	0.0	86.0	11.3
74	1.71	3.7	1.71	972.5	0.0	0.0	0.0	11.3	0.0	85.8	11.3
75	1.71	3.7	1.71	968.99	0.0	0.0	0.0	11.3	0.0	85.6	11.3
76	1.71	3.7	1.71	965.48	0.0	0.0	0.0	11.3	0.0	85.5	11.2
77	1.71	3.7	1.71	961.98	0.0	0.0	0.0	11.3	0.0	85.3	11.2
78	1.71	3.7	1.71	958.47	0.0	0.0	0.0	11.3	0.0	85.1	11.2
79	1.71	3.7	1.71	954.97	0.0	0.0	0.0	11.3	0.0	84.9	11.2
80	1.71	3.7	1.71	951.46	0.0	0.0	0.0	11.3	0.0	84.7	11.1
81	1.71	3.7	1.71	947.95	0.0	0.0	0.0	11.3	0.0	84.5	11.1
82	1.71	3.7	1.71	944.45	0.0	0.0	0.0	11.3	0.0	84.3	11.1
83	1.71	3.7	1.71	940.94	0.0	0.0	0.0	11.3	0.0	84.1	11.1
84	1.71	4.5	1.71	937.03	0.0	0.0	0.0	11.3	0.0	108.7	14.3
85	1.71	6.2	1.72	931.91	0.0	0.0	0.0	11.3	0.0	157.8	20.7

86	1.71	6.2	1.72	925.97	0.0	0.0	0.0	11.3	0.0	156.9	20.6
87	1.71	6.2	1.72	920.04	0.0	0.0	0.0	11.3	0.0	155.9	20.5
88	1.71	6.2	1.72	914.1	0.0	0.0	0.0	11.3	0.0	155.0	20.4
89	1.71	6.2	1.72	908.17	0.0	0.0	0.0	11.3	0.0	154.0	20.2
90	1.71	6.2	1.72	902.23	0.0	0.0	0.0	11.3	0.0	153.1	20.1
91	1.71	6.2	1.72	906.48	0.0	0.0	0.0	11.3	0.0	154.1	20.3
92	1.71	6.2	1.72	926.68	0.0	0.0	0.0	11.3	0.0	158.3	20.8
93	1.71	6.2	1.72	946.88	0.0	0.0	0.0	11.3	0.0	162.4	21.3
94	1.71	6.2	1.72	967.08	0.0	0.0	0.0	11.3	0.0	166.6	21.9
95	1.71	6.2	1.72	987.28	0.0	0.0	0.0	11.3	0.0	170.7	22.4
96	1.71	6.2	1.72	1007.48	0.0	0.0	0.0	11.3	0.0	174.9	23.0
97	1.71	6.2	1.72	1027.67	0.0	0.0	0.0	11.3	0.0	179.0	23.5
98	1.71	6.2	1.72	1023.73	0.0	0.0	0.0	11.3	0.0	178.5	23.5
99	1.71	6.2	1.72	1017.79	0.0	0.0	0.0	11.3	0.0	177.5	23.3
100	1.71	6.2	1.72	1011.86	0.0	0.0	0.0	11.3	0.0	176.6	23.2
101	1.71	6.2	1.72	1005.92	0.0	0.0	0.0	11.3	0.0	175.6	23.1
102	1.71	6.2	1.72	999.98	0.0	0.0	0.0	11.3	0.0	174.7	23.0
103	1.71	6.2	1.72	994.05	0.0	0.0	0.0	11.3	0.0	173.7	22.8
104	1.71	6.2	1.72	988.11	0.0	0.0	0.0	11.3	0.0	172.8	22.7
105	1.71	6.2	1.72	982.18	0.0	0.0	0.0	11.3	0.0	171.8	22.6
106	1.71	6.2	1.72	976.24	0.0	0.0	0.0	11.3	0.0	170.9	22.5
107	1.71	6.2	1.72	970.3	0.0	0.0	0.0	11.3	0.0	169.9	22.3
108	1.71	6.2	1.72	964.37	0.0	0.0	0.0	11.3	0.0	169.0	22.2
109	1.71	6.2	1.72	958.43	0.0	0.0	0.0	11.3	0.0	168.0	22.1
110	1.71	6.2	1.72	952.5	0.0	0.0	0.0	11.3	0.0	167.1	22.0
111	1.71	6.7	1.72	946.34	0.0	0.0	0.0	11.3	0.0	180.0	23.7
112	1.71	7.7	1.72	939.49	0.0	0.0	0.0	11.3	0.0	207.7	27.3
113	1.71	7.7	1.72	932.17	0.0	0.0	0.0	11.3	0.0	206.2	27.1
114	1.71	7.7	1.72	924.84	0.0	0.0	0.0	11.3	0.0	204.6	26.9
115	1.71	7.7	1.72	917.52	0.0	0.0	0.0	11.3	0.0	203.1	26.7
116	1.71	7.7	1.72	910.2	0.0	0.0	0.0	11.3	0.0	201.5	26.5
117	1.71	7.7	1.72	902.88	0.0	0.0	0.0	11.3	0.0	199.9	26.3
118	1.71	7.7	1.72	895.56	0.0	0.0	0.0	11.3	0.0	198.4	26.1
119	1.71	7.7	1.72	888.24	0.0	0.0	0.0	11.3	0.0	196.8	25.9
120	1.71	7.7	1.72	880.92	0.0	0.0	0.0	11.3	0.0	195.3	25.7
121	1.71	7.7	1.72	873.6	0.0	0.0	0.0	11.3	0.0	193.7	25.5
122	1.71	7.7	1.72	871.5	0.0	0.0	0.0	11.3	0.0	193.4	25.4
123	1.71	7.7	1.72	887.88	0.0	0.0	0.0	11.3	0.0	197.6	26.0
124	1.71	7.7	1.72	904.27	0.0	0.0	0.0	11.3	0.0	201.7	26.5
125	1.71	7.7	1.72	920.66	0.0	0.0	0.0	11.3	0.0	205.9	27.1
126	1.71	7.7	1.72	937.05	0.0	0.0	0.0	11.3	0.0	210.1	27.6
127	1.71	7.7	1.72	953.44	0.0	0.0	0.0	11.3	0.0	214.2	28.2
128	1.71	7.7	1.72	969.83	0.0	0.0	0.0	11.3	0.0	218.4	28.7
129	1.71	7.7	1.72	982.0	0.0	0.0	0.0	11.3	0.0	221.5	29.1
130	1.71	7.7	1.72	987.76	0.0	0.0	0.0	11.3	0.0	223.1	29.3
131	1.71	7.7	1.72	986.59	0.0	0.0	0.0	11.3	0.0	223.0	29.3
132	1.71	7.7	1.72	978.91	0.0	0.0	0.0	11.3	0.0	221.4	29.1
133	1.71	7.7	1.72	971.24	0.0	0.0	0.0	11.3	0.0	219.8	28.9
134	1.71	7.7	1.72	963.57	0.0	0.0	0.0	11.3	0.0	218.1	28.7
135	1.71	7.7	1.72	955.89	0.0	0.0	0.0	11.3	0.0	216.5	28.5
136	1.71	7.7	1.72	953.24	0.0	0.0	0.0	11.3	0.0	216.0	28.4
137	1.71	7.7	1.72	973.06	0.0	0.0	0.0	11.3	0.0	221.0	29.0
138	1.71	8.4	1.73	986.95	0.0	0.0	0.0	11.3	0.0	246.4	32.4
139	1.71	9.5	1.73	987.53	0.0	0.0	0.0	11.3	0.0	281.6	37.0
140	1.71	9.5	1.73	987.57	0.0	0.0	0.0	11.3	0.0	281.8	37.0
141	1.71	9.5	1.73	987.62	0.0	0.0	0.0	11.3	0.0	282.0	37.1
142	1.71	9.5	1.73	987.66	0.0	0.0	0.0	11.3	0.0	282.2	37.1
143	1.71	9.5	1.73	989.45	0.0	0.0	0.0	11.3	0.0	283.0	37.2
144	1.71	9.5	1.73	994.43	0.0	0.0	0.0	11.3	0.0	284.7	37.4
145	1.71	9.5	1.73	999.4	0.0	0.0	0.0	11.3	0.0	286.4	37.6
146	1.71	9.5	1.73	1004.38	0.0	0.0	0.0	11.3	0.0	288.1	37.9
147	1.71	9.5	1.73	1009.36	0.0	0.0	0.0	11.3	0.0	289.7	38.1
148	1.71	9.5	1.73	1014.32	0.0	0.0	0.0	11.3	0.0	291.4	38.3

149	1.71	9.5	1.73	1008.42	0.0	0.0	0.0	11.3	0.0	289.9	38.1
150	1.71	9.5	1.73	1002.51	0.0	0.0	0.0	11.3	0.0	288.3	37.9
151	1.71	9.5	1.73	996.61	0.0	0.0	0.0	11.3	0.0	286.8	37.7
152	1.71	9.5	1.73	990.71	0.0	0.0	0.0	11.3	0.0	285.2	37.5
153	1.71	9.5	1.73	984.8	0.0	0.0	0.0	11.3	0.0	283.7	37.3
154	1.71	9.5	1.73	978.9	0.0	0.0	0.0	11.3	0.0	282.1	37.1
155	1.71	9.5	1.73	973.0	0.0	0.0	0.0	11.3	0.0	280.6	36.9
156	1.71	9.5	1.73	967.1	0.0	0.0	0.0	11.3	0.0	279.0	36.7
157	1.71	9.5	1.73	961.19	0.0	0.0	0.0	11.3	0.0	277.5	36.5
158	1.71	9.5	1.73	955.29	0.0	0.0	0.0	11.3	0.0	275.9	36.3
159	1.71	9.5	1.73	949.39	0.0	0.0	0.0	11.3	0.0	274.4	36.1
160	1.71	9.5	1.73	943.49	0.0	0.0	0.0	11.3	0.0	272.8	35.9
161	1.71	9.5	1.73	937.58	0.0	0.0	0.0	11.3	0.0	271.3	35.7
162	1.71	9.5	1.73	931.68	0.0	0.0	0.0	11.3	0.0	269.7	35.5
163	1.71	13.8	1.76	923.64	0.0	0.0	0.0	11.3	0.0	397.3	52.2
164	1.71	15.0	1.77	912.84	0.0	0.0	0.0	11.3	0.0	430.2	56.5
165	1.71	15.0	1.77	902.64	0.0	0.0	0.0	11.3	0.0	425.5	55.9
166	1.71	15.0	1.77	893.53	0.0	0.0	0.0	11.3	0.0	421.3	55.4
167	1.71	15.0	1.77	884.42	0.0	0.0	0.0	11.3	0.0	417.2	54.8
168	1.71	15.0	1.77	875.31	0.0	0.0	0.0	11.3	0.0	413.0	54.3
169	1.71	15.0	1.77	866.21	0.0	0.0	0.0	11.3	0.0	408.9	53.7
170	1.71	15.0	1.77	857.1	0.0	0.0	0.0	11.3	0.0	404.7	53.2
171	1.71	15.0	1.77	847.99	0.0	0.0	0.0	11.3	0.0	400.5	52.6
172	1.71	15.0	1.77	838.89	0.0	0.0	0.0	11.3	0.0	396.4	52.1
173	1.71	15.0	1.77	829.78	0.0	0.0	0.0	11.3	0.0	392.2	51.6
174	1.71	15.0	1.77	820.67	0.0	0.0	0.0	11.3	0.0	388.1	51.0
175	1.71	17.1	1.79	810.5	0.0	0.0	0.0	11.3	0.0	440.0	57.8
176	1.71	26.4	1.91	794.1	0.0	0.0	0.0	11.3	0.0	700.8	92.1
177	1.71	26.4	1.91	772.53	0.0	0.0	0.0	11.3	0.0	681.9	89.6
178	1.71	26.4	1.91	750.97	0.0	0.0	0.0	11.3	0.0	662.9	87.1
179	1.71	26.4	1.91	728.0	0.0	0.0	0.0	11.3	0.0	642.7	84.5
180	1.71	26.4	1.91	704.67	0.0	0.0	0.0	11.3	0.0	622.2	81.8
181	1.71	26.4	1.91	681.35	0.0	0.0	0.0	11.3	0.0	601.7	79.1
182	1.71	34.5	2.07	652.83	0.0	0.0	0.0	11.3	0.0	798.9	105.0
183	1.71	35.6	2.1	618.35	0.0	0.0	0.0	11.3	0.0	788.6	103.6
184	1.71	35.6	2.1	583.09	0.0	0.0	0.0	11.3	0.0	743.6	97.7
185	1.71	35.6	2.1	547.82	0.0	0.0	0.0	11.3	0.0	698.6	91.8
186	1.71	35.6	2.1	512.56	0.0	0.0	0.0	11.3	0.0	653.6	85.9
187	1.71	35.6	2.1	477.29	0.0	0.0	0.0	11.3	0.0	608.7	80.0
188	1.71	38.9	2.2	444.82	0.0	0.0	0.0	11.3	0.0	639.8	84.1
189	1.71	41.3	2.27	408.66	0.0	0.0	0.0	11.3	0.0	638.6	83.9
190	1.71	41.3	2.27	370.61	0.0	0.0	0.0	11.3	0.0	579.1	76.1
191	1.71	41.3	2.27	332.55	0.0	0.0	0.0	11.3	0.0	519.6	68.3
192	1.71	41.3	2.27	294.5	0.0	0.0	0.0	11.3	0.0	460.2	60.5
193	1.71	41.3	2.27	256.44	0.0	0.0	0.0	11.3	0.0	400.7	52.7
194	1.71	41.3	2.27	218.39	0.0	0.0	0.0	11.3	0.0	341.2	44.8
195	1.71	41.3	2.27	180.33	0.0	0.0	0.0	11.3	0.0	281.7	37.0
196	1.71	41.3	2.27	146.71	0.0	0.0	0.0	11.3	0.0	229.2	30.1
197	1.71	41.3	2.27	114.11	0.0	0.0	0.0	11.3	0.0	178.2	23.4
198	1.71	41.3	2.27	81.51	0.0	0.0	0.0	11.3	0.0	127.3	16.7
199	1.71	41.3	2.27	48.9	0.0	0.0	0.0	11.3	0.0	76.4	10.0
200	1.71	41.3	2.27	16.3	0.0	0.0	0.0	11.3	0.0	25.5	3.3

Analisi di stabilità dei pendii con: BELL (1968)

Lat./Long.	44.195456/10.941047
Normativa	NTC 2008
Numero di strati	1.0
Numero dei conci	200.0
Grado di sicurezza ritenuto accettabile	1.0
Coefficiente parziale resistenza	1.1
Analisi	Condizione drenata
Superficie di forma generica	

Coefficienti sismici [N.T.C.]

Dati generali

Tipo opera:	2 - Opere ordinarie
Classe d'uso:	Classe II
Vita nominale:	50.0 [anni]
Vita di riferimento:	50.0 [anni]

Parametri sismici su sito di riferimento

Categoria sottosuolo:	C
Categoria topografica:	T1

S.L. Stato limite	TR Tempo ritorno [anni]	ag [m/s ²]	F0 [-]	TC* [sec]
S.L.O.	30.0	0.59	2.48	0.25
S.L.D.	50.0	0.75	2.45	0.26
S.L.V.	475.0	1.77	2.46	0.29
S.L.C.	975.0	2.23	2.47	0.3

Coefficienti sismici orizzontali e verticali

Opera: Stabilità dei pendii e Fondazioni

S.L. Stato limite	amax [m/s ²]	beta [-]	kh [-]	kv [sec]
S.L.O.	0.885	0.2	0.0181	0.009
S.L.D.	1.125	0.2	0.0229	0.0115
S.L.V.	2.5374	0.24	0.0621	0.0311
S.L.C.	3.0394	0.28	0.0868	0.0434

Coefficiente azione sismica orizzontale 0.0621
 Coefficiente azione sismica verticale 0.0311

Vertici profilo

N	X m	y m
1	28.72	47.29
2	59.14	47.95
3	69.77	54.04
4	81.91	63.19
5	92.24	63.22
6	117.0	68.08
7	136.4	72.25
8	149.14	74.49
9	160.06	77.23
10	178.35	80.22
11	213.09	80.22
12	224.14	85.53
13	266.34	85.53
14	278.0	90.61
15	281.21	91.38
16	290.33	91.32
17	293.52	92.92
18	301.99	94.34
19	311.13	96.7

20	322.42	97.36
21	339.28	98.34
22	347.27	99.14
23	355.93	100.02
24	362.74	100.7
25	377.96	101.74
26	391.76	104.2
27	400.83	106.73
28	413.78	107.76
29	427.44	110.09
30	434.98	112.43
31	445.76	114.68
32	456.86	116.99
33	471.93	118.63
34	485.87	120.74
35	497.93	120.74
36	537.12	126.69
37	571.31	127.9
38	605.14	132.63
39	614.97	134.39
40	617.72	136.4
41	628.33	138.19
42	651.68	141.19
43	670.63	143.04
44	682.06	145.82
45	701.85	150.64
46	708.93	151.91
47	732.45	156.13
48	753.1	158.63
49	784.1	162.78
50	817.24	163.17
51	855.43	163.49

Vertici superficie Nr...1

N	X m	y m
1	59.14	47.95
2	109.22	47.0
3	158.55	47.98
4	202.09	50.79
5	248.23	55.83
6	294.25	62.02
7	336.3	69.03
8	421.56	86.48
9	506.55	105.23
10	634.63	121.59
11	762.71	142.23
12	773.04	145.41
13	783.36	150.45
14	789.89	156.68
15	795.37	162.98

Vertici superficie Nr...2

N	X m	y m
1	372.4	101.46
2	442.26	102.32
3	506.55	105.23
4	634.63	121.59
5	762.71	142.23
6	773.04	145.41
7	783.36	150.45
8	789.89	156.68
9	795.38	162.98

Vertici superficie Nr...3

N	X m	y m
1	59.14	47.95
2	109.22	47.0
3	158.55	47.98
4	202.09	50.79
5	248.17	55.82
6	294.25	62.02
7	336.3	69.03
8	421.42	86.46
9	506.55	105.23
10	518.72	109.39
11	528.94	116.7
12	537.12	126.69

Vertici superficie Nr...4

N	X m	y m
1	59.14	47.95
2	109.22	47.0
3	158.55	47.98
4	202.09	50.79
5	248.23	55.83
6	294.25	62.02
7	336.3	69.03
8	357.83	74.81
9	368.6	80.16
10	379.36	87.88
11	400.83	106.73

Coefficienti parziali per i parametri geotecnici del terreno

Tangente angolo di resistenza al taglio	1.25
Coesione efficace	1.25
Coesione non drenata	1.4
Riduzione parametri geotecnici terreno	Si

Stratigrafia

c: coesione; cu: coesione non drenata; Fi: Angolo di attrito; G: Peso Specifico; Gs: Peso Specifico Saturo; K: Modulo di Winkler

Strato	c (kN/m ²)	cu (kN/m ²)	Fi (°)	G (t/m ³)	Gs (t/m ³)	K (Kg/cm ³)	Litologia
1			14	1.9		0.00	

Superficie Nr...1 Fattore di sicurezza=0.86

Nr.	B m	Alfa (°)	Li m	Wi (kN)	Kh•Wi (kN)	Kv•Wi (kN)	c (kN/m ²)	Fi (°)	Ui (kN)	N'i (kN)	Ti (kN)
1	3.68	-1.1	3.68	74.65	4.64	2.32	0.0	11.3	0.0	21.3	4.5
2	3.68	-1.1	3.68	223.95	13.91	6.96	0.0	11.3	0.0	11.1	2.3
3	3.68	-1.1	3.68	373.25	23.18	11.61	0.0	11.3	0.0	0.9	0.2
4	3.68	-1.1	3.68	550.67	34.2	17.13	0.0	11.3	0.0	-11.1	-2.3
5	3.68	-1.1	3.68	745.89	46.32	23.2	0.0	11.3	0.0	-24.4	-5.1
6	3.68	-1.1	3.68	941.1	58.44	29.27	0.0	11.3	0.0	-37.6	-7.9
7	3.68	-1.1	3.68	1076.5	66.85	33.48	0.0	11.3	0.0	-46.9	-9.9
8	3.68	-1.1	3.68	1081.94	67.19	33.65	0.0	11.3	0.0	-47.4	-10.0
9	3.68	-1.1	3.68	1087.38	67.53	33.82	0.0	11.3	0.0	-47.9	-10.1
10	3.68	-1.1	3.68	1117.73	69.41	34.76	0.0	11.3	0.0	-50.1	-10.5
11	3.68	-1.1	3.68	1172.08	72.79	36.45	0.0	11.3	0.0	-53.8	-11.3
12	3.68	-1.1	3.68	1226.43	76.16	38.14	0.0	11.3	0.0	-57.6	-12.1
13	3.68	-1.1	3.68	1280.78	79.54	39.83	0.0	11.3	0.0	-61.4	-12.9
14	3.68	-0.2	3.68	1333.19	82.79	41.46	0.0	11.3	0.0	7.2	1.5

15	3.68	1.1	3.68	1380.66	85.74	42.94	0.0	11.3	0.0	121.6	25.6
16	3.68	1.1	3.68	1425.16	88.5	44.32	0.0	11.3	0.0	124.6	26.2
17	3.68	1.1	3.68	1473.39	91.5	45.82	0.0	11.3	0.0	127.9	26.9
18	3.68	1.1	3.68	1522.67	94.56	47.36	0.0	11.3	0.0	131.2	27.6
19	3.68	1.1	3.68	1571.96	97.62	48.89	0.0	11.3	0.0	134.6	28.3
20	3.68	1.1	3.68	1621.24	100.68	50.42	0.0	11.3	0.0	137.9	29.0
21	3.68	1.1	3.68	1670.52	103.74	51.95	0.0	11.3	0.0	141.3	29.7
22	3.68	1.1	3.68	1714.73	106.49	53.33	0.0	11.3	0.0	144.2	30.3
23	3.68	1.1	3.68	1754.12	108.93	54.55	0.0	11.3	0.0	146.9	30.9
24	3.68	1.1	3.68	1793.5	111.38	55.78	0.0	11.3	0.0	149.5	31.4
25	3.68	1.1	3.68	1833.82	113.88	57.03	0.0	11.3	0.0	152.2	32.0
26	3.68	1.1	3.68	1892.0	117.49	58.84	0.0	11.3	0.0	156.2	32.8
27	3.68	1.1	3.68	1950.18	121.11	60.65	0.0	11.3	0.0	160.2	33.7
28	3.68	3.7	3.69	2000.95	124.26	62.23	0.0	11.3	0.0	475.2	99.9
29	3.68	3.7	3.69	2026.03	125.82	63.01	0.0	11.3	0.0	482.9	101.5
30	3.68	3.7	3.69	2051.08	127.37	63.79	0.0	11.3	0.0	488.5	102.7
31	3.68	3.7	3.69	2076.12	128.93	64.57	0.0	11.3	0.0	494.0	103.9
32	3.68	3.7	3.69	2101.17	130.48	65.35	0.0	11.3	0.0	499.6	105.0
33	3.68	3.7	3.69	2121.52	131.75	65.98	0.0	11.3	0.0	504.1	106.0
34	3.68	3.7	3.69	2105.25	130.74	65.47	0.0	11.3	0.0	500.2	105.2
35	3.68	3.7	3.69	2088.97	129.73	64.97	0.0	11.3	0.0	496.4	104.4
36	3.68	3.7	3.69	2072.7	128.71	64.46	0.0	11.3	0.0	492.6	103.6
37	3.68	3.7	3.69	2056.43	127.7	63.95	0.0	11.3	0.0	488.8	102.8
38	3.68	3.7	3.69	2040.15	126.69	63.45	0.0	11.3	0.0	484.9	102.0
39	3.68	4.1	3.69	2022.94	125.62	62.91	0.0	11.3	0.0	533.7	112.2
40	3.68	6.2	3.7	2000.1	124.21	62.2	0.0	11.3	0.0	790.6	166.2
41	3.68	6.2	3.7	1972.54	122.49	61.35	0.0	11.3	0.0	779.8	164.0
42	3.68	6.2	3.7	1944.99	120.78	60.49	0.0	11.3	0.0	769.1	161.7
43	3.68	6.2	3.7	1999.42	124.16	62.18	0.0	11.3	0.0	789.9	166.1
44	3.68	6.2	3.7	2093.18	129.99	65.1	0.0	11.3	0.0	825.8	173.6
45	3.68	6.2	3.7	2186.94	135.81	68.01	0.0	11.3	0.0	861.8	181.2
46	3.68	6.2	3.7	2198.85	136.55	68.38	0.0	11.3	0.0	866.2	182.1
47	3.68	6.2	3.7	2171.3	134.84	67.53	0.0	11.3	0.0	855.5	179.9
48	3.68	6.2	3.7	2143.74	133.13	66.67	0.0	11.3	0.0	844.7	177.6
49	3.68	6.2	3.7	2116.19	131.42	65.81	0.0	11.3	0.0	834.0	175.4
50	3.68	6.2	3.7	2088.64	129.7	64.96	0.0	11.3	0.0	823.3	173.1
51	3.68	6.2	3.7	2061.08	127.99	64.1	0.0	11.3	0.0	812.6	170.8
52	3.68	7.1	3.71	2031.51	126.16	63.18	0.0	11.3	0.0	915.9	192.6
53	3.68	7.7	3.71	1998.71	124.12	62.16	0.0	11.3	0.0	967.8	203.5
54	3.68	7.7	3.71	1964.73	122.01	61.1	0.0	11.3	0.0	951.6	200.1
55	3.68	7.7	3.71	1930.75	119.9	60.05	0.0	11.3	0.0	935.3	196.6
56	3.68	7.7	3.71	1896.76	117.79	58.99	0.0	11.3	0.0	919.1	193.2
57	3.68	7.7	3.71	1885.73	117.1	58.65	0.0	11.3	0.0	913.7	192.1
58	3.68	7.7	3.71	1961.81	121.83	61.01	0.0	11.3	0.0	949.6	199.7
59	3.68	7.7	3.71	2037.88	126.55	63.38	0.0	11.3	0.0	985.6	207.2
60	3.68	7.7	3.71	2111.91	131.15	65.68	0.0	11.3	0.0	1020.6	214.6
61	3.68	7.7	3.71	2128.14	132.16	66.18	0.0	11.3	0.0	1028.1	216.2
62	3.68	7.7	3.71	2092.51	129.95	65.08	0.0	11.3	0.0	1011.1	212.6
63	3.68	7.7	3.71	2056.89	127.73	63.97	0.0	11.3	0.0	994.1	209.0
64	3.68	7.9	3.72	2109.22	130.98	65.6	0.0	11.3	0.0	1049.2	220.6
65	3.68	9.5	3.73	2127.68	132.13	66.17	0.0	11.3	0.0	1268.1	266.6
66	3.68	9.5	3.73	2127.88	132.14	66.18	0.0	11.3	0.0	1268.1	266.6
67	3.68	9.5	3.73	2140.07	132.9	66.56	0.0	11.3	0.0	1275.1	268.1
68	3.68	9.5	3.73	2163.18	134.33	67.27	0.0	11.3	0.0	1288.6	270.9
69	3.68	9.5	3.73	2184.29	135.64	67.93	0.0	11.3	0.0	1300.8	273.5
70	3.68	9.5	3.73	2156.89	133.94	67.08	0.0	11.3	0.0	1284.6	270.1
71	3.68	9.5	3.73	2129.49	132.24	66.23	0.0	11.3	0.0	1268.4	266.7
72	3.68	9.5	3.73	2102.09	130.54	65.38	0.0	11.3	0.0	1252.1	263.3
73	3.68	9.5	3.73	2074.69	128.84	64.52	0.0	11.3	0.0	1235.9	259.8
74	3.68	9.5	3.73	2047.3	127.14	63.67	0.0	11.3	0.0	1219.7	256.4
75	3.68	9.5	3.73	2019.9	125.44	62.82	0.0	11.3	0.0	1203.5	253.0
76	3.68	10.9	3.75	1989.12	123.52	61.86	0.0	11.3	0.0	1372.7	288.6
77	3.68	11.6	3.76	1957.77	121.58	60.89	0.0	11.3	0.0	1428.9	300.4

78	3.68	11.6	3.76	1931.54	119.95	60.07	0.0	11.3	0.0	1409.8	296.4
79	3.68	11.6	3.76	1905.31	118.32	59.26	0.0	11.3	0.0	1390.8	292.4
80	3.68	11.6	3.76	1879.07	116.69	58.44	0.0	11.3	0.0	1371.7	288.4
81	3.68	11.6	3.76	1852.84	115.06	57.62	0.0	11.3	0.0	1352.7	284.4
82	3.68	11.6	3.76	1826.6	113.43	56.81	0.0	11.3	0.0	1333.6	280.4
83	3.68	11.6	3.76	1800.2	111.79	55.99	0.0	11.3	0.0	1314.4	276.4
84	3.68	11.6	3.76	1765.82	109.66	54.92	0.0	11.3	0.0	1289.5	271.1
85	3.68	11.6	3.76	1731.44	107.52	53.85	0.0	11.3	0.0	1264.5	265.9
86	3.68	11.6	3.76	1697.05	105.39	52.78	0.0	11.3	0.0	1239.6	260.6
87	3.68	11.6	3.76	1662.67	103.25	51.71	0.0	11.3	0.0	1214.7	255.4
88	3.68	11.6	3.76	1652.76	102.64	51.4	0.0	11.3	0.0	1207.4	253.8
89	3.68	11.6	3.76	1646.07	102.22	51.19	0.0	11.3	0.0	1202.4	252.8
90	3.68	11.6	3.76	1639.39	101.81	50.98	0.0	11.3	0.0	1197.5	251.8
91	3.68	11.6	3.76	1636.16	101.61	50.88	0.0	11.3	0.0	1195.0	251.2
92	3.68	11.6	3.76	1654.8	102.76	51.46	0.0	11.3	0.0	1208.3	254.0
93	3.68	11.6	3.76	1673.43	103.92	52.04	0.0	11.3	0.0	1221.6	256.8
94	3.68	11.6	3.76	1658.4	102.99	51.58	0.0	11.3	0.0	1210.6	254.5
95	3.68	11.6	3.76	1626.89	101.03	50.6	0.0	11.3	0.0	1187.8	249.7
96	3.68	11.6	3.76	1595.39	99.07	49.62	0.0	11.3	0.0	1164.9	244.9
97	3.68	11.6	3.76	1567.37	97.33	48.75	0.0	11.3	0.0	1144.6	240.6
98	3.68	11.6	3.76	1558.74	96.8	48.48	0.0	11.3	0.0	1138.2	239.3
99	3.68	12.0	3.76	1549.03	96.19	48.17	0.0	11.3	0.0	1177.8	247.6
100	3.68	12.4	3.77	1537.31	95.47	47.81	0.0	11.3	0.0	1208.4	254.1
101	3.68	12.4	3.77	1540.28	95.65	47.9	0.0	11.3	0.0	1210.5	254.5
102	3.68	12.4	3.77	1562.96	97.06	48.61	0.0	11.3	0.0	1228.0	258.2
103	3.68	12.4	3.77	1575.48	97.84	49.0	0.0	11.3	0.0	1237.6	260.2
104	3.68	12.4	3.77	1572.33	97.64	48.9	0.0	11.3	0.0	1235.0	259.7
105	3.68	12.4	3.77	1569.18	97.45	48.8	0.0	11.3	0.0	1232.5	259.1
106	3.68	12.4	3.77	1566.03	97.25	48.7	0.0	11.3	0.0	1229.9	258.6
107	3.68	12.4	3.77	1562.88	97.05	48.61	0.0	11.3	0.0	1227.3	258.0
108	3.68	12.4	3.77	1559.73	96.86	48.51	0.0	11.3	0.0	1224.7	257.5
109	3.68	12.4	3.77	1545.36	95.97	48.06	0.0	11.3	0.0	1213.4	255.1
110	3.68	12.4	3.77	1517.26	94.22	47.19	0.0	11.3	0.0	1191.4	250.5
111	3.68	12.4	3.77	1489.16	92.48	46.31	0.0	11.3	0.0	1169.5	245.9
112	3.68	12.4	3.77	1461.07	90.73	45.44	0.0	11.3	0.0	1147.5	241.3
113	3.68	12.4	3.77	1436.7	89.22	44.68	0.0	11.3	0.0	1128.4	237.2
114	3.68	12.4	3.77	1419.11	88.13	44.13	0.0	11.3	0.0	1114.6	234.3
115	3.68	12.4	3.77	1401.52	87.03	43.59	0.0	11.3	0.0	1100.8	231.4
116	3.68	12.4	3.77	1383.94	85.94	43.04	0.0	11.3	0.0	1087.0	228.5
117	3.68	12.4	3.77	1344.74	83.51	41.82	0.0	11.3	0.0	1056.4	222.1
118	3.68	12.4	3.77	1289.06	80.05	40.09	0.0	11.3	0.0	1013.0	213.0
119	3.68	12.4	3.77	1233.39	76.59	38.36	0.0	11.3	0.0	969.6	203.9
120	3.68	12.4	3.77	1188.88	73.83	36.97	0.0	11.3	0.0	934.9	196.6
121	3.68	12.4	3.77	1171.59	72.76	36.44	0.0	11.3	0.0	921.3	193.7
122	3.68	10.1	3.74	1159.56	72.01	36.06	0.0	11.3	0.0	741.3	155.9
123	3.68	7.3	3.71	1159.25	71.99	36.05	0.0	11.3	0.0	532.1	111.9
124	3.68	7.3	3.71	1165.39	72.37	36.24	0.0	11.3	0.0	534.7	112.4
125	3.68	7.3	3.71	1171.53	72.75	36.43	0.0	11.3	0.0	537.3	113.0
126	3.68	7.3	3.71	1177.67	73.13	36.63	0.0	11.3	0.0	540.0	113.5
127	3.68	7.3	3.71	1183.82	73.51	36.82	0.0	11.3	0.0	542.6	114.1
128	3.68	7.3	3.71	1189.96	73.9	37.01	0.0	11.3	0.0	545.2	114.6
129	3.68	7.3	3.71	1196.1	74.28	37.2	0.0	11.3	0.0	547.8	115.2
130	3.68	7.3	3.71	1202.24	74.66	37.39	0.0	11.3	0.0	550.5	115.7
131	3.68	7.3	3.71	1189.42	73.86	36.99	0.0	11.3	0.0	544.6	114.5
132	3.68	7.3	3.71	1166.11	72.42	36.27	0.0	11.3	0.0	534.0	112.3
133	3.68	7.3	3.71	1142.8	70.97	35.54	0.0	11.3	0.0	523.3	110.0
134	3.68	7.3	3.71	1119.5	69.52	34.82	0.0	11.3	0.0	512.7	107.8
135	3.68	7.3	3.71	1096.19	68.07	34.09	0.0	11.3	0.0	502.1	105.6
136	3.68	7.3	3.71	1072.88	66.63	33.37	0.0	11.3	0.0	491.5	103.3
137	3.68	7.3	3.71	1049.57	65.18	32.64	0.0	11.3	0.0	480.8	101.1
138	3.68	7.3	3.71	1026.27	63.73	31.92	0.0	11.3	0.0	470.2	98.9
139	3.68	7.3	3.71	1002.96	62.28	31.19	0.0	11.3	0.0	459.6	96.6
140	3.68	7.3	3.71	989.04	61.42	30.76	0.0	11.3	0.0	453.2	95.3

141	3.68	7.3	3.71	992.03	61.61	30.85	0.0	11.3	0.0	454.4	95.5
142	3.68	7.3	3.71	995.02	61.79	30.95	0.0	11.3	0.0	455.6	95.8
143	3.68	7.3	3.71	998.01	61.98	31.04	0.0	11.3	0.0	456.8	96.0
144	3.68	7.3	3.71	1000.99	62.16	31.13	0.0	11.3	0.0	458.0	96.3
145	3.68	7.3	3.71	1003.98	62.35	31.22	0.0	11.3	0.0	459.3	96.6
146	3.68	7.3	3.71	1006.97	62.53	31.32	0.0	11.3	0.0	460.5	96.8
147	3.68	7.3	3.71	1009.96	62.72	31.41	0.0	11.3	0.0	461.7	97.1
148	3.68	7.3	3.71	1012.94	62.9	31.5	0.0	11.3	0.0	462.9	97.3
149	3.68	7.3	3.71	1017.61	63.19	31.65	0.0	11.3	0.0	464.9	97.7
150	3.68	7.3	3.71	1030.76	64.01	32.06	0.0	11.3	0.0	470.6	99.0
151	3.68	7.3	3.71	1043.91	64.83	32.47	0.0	11.3	0.0	476.4	100.2
152	3.68	7.3	3.71	1125.89	69.92	35.02	0.0	11.3	0.0	513.2	107.9
153	3.68	7.3	3.71	1172.14	72.79	36.45	0.0	11.3	0.0	533.9	112.2
154	3.68	7.3	3.71	1182.48	73.43	36.78	0.0	11.3	0.0	538.4	113.2
155	3.68	7.3	3.71	1192.82	74.07	37.1	0.0	11.3	0.0	542.9	114.1
156	3.68	7.3	3.71	1194.31	74.17	37.14	0.0	11.3	0.0	543.5	114.3
157	3.68	8.5	3.72	1191.67	74.0	37.06	0.0	11.3	0.0	633.8	133.3
158	3.68	9.2	3.73	1184.82	73.58	36.85	0.0	11.3	0.0	678.5	142.7
159	3.68	9.2	3.73	1176.5	73.06	36.59	0.0	11.3	0.0	673.7	141.6
160	3.68	9.2	3.73	1168.18	72.54	36.33	0.0	11.3	0.0	668.8	140.6
161	3.68	9.2	3.73	1159.86	72.03	36.07	0.0	11.3	0.0	663.9	139.6
162	3.68	9.2	3.73	1147.54	71.26	35.69	0.0	11.3	0.0	656.8	138.1
163	3.68	9.2	3.73	1131.53	70.27	35.19	0.0	11.3	0.0	647.6	136.2
164	3.68	9.2	3.73	1115.53	69.27	34.69	0.0	11.3	0.0	638.4	134.2
165	3.68	9.2	3.73	1099.53	68.28	34.2	0.0	11.3	0.0	629.1	132.3
166	3.68	9.2	3.73	1083.52	67.29	33.7	0.0	11.3	0.0	619.9	130.3
167	3.68	9.2	3.73	1081.21	67.14	33.63	0.0	11.3	0.0	618.5	130.0
168	3.68	9.2	3.73	1101.99	68.43	34.27	0.0	11.3	0.0	630.1	132.5
169	3.68	9.2	3.73	1122.77	69.72	34.92	0.0	11.3	0.0	641.8	134.9
170	3.68	9.2	3.73	1143.55	71.01	35.56	0.0	11.3	0.0	653.5	137.4
171	3.68	9.2	3.73	1164.33	72.3	36.21	0.0	11.3	0.0	665.2	139.8
172	3.68	9.2	3.73	1185.1	73.59	36.86	0.0	11.3	0.0	676.8	142.3
173	3.68	9.2	3.73	1205.88	74.89	37.5	0.0	11.3	0.0	688.5	144.7
174	3.68	9.2	3.73	1226.66	76.18	38.15	0.0	11.3	0.0	700.1	147.2
175	3.68	9.2	3.73	1247.44	77.47	38.8	0.0	11.3	0.0	711.8	149.7
176	3.68	9.2	3.73	1253.82	77.86	38.99	0.0	11.3	0.0	715.3	150.4
177	3.68	9.2	3.73	1258.44	78.15	39.14	0.0	11.3	0.0	717.8	150.9
178	3.68	9.2	3.73	1263.05	78.44	39.28	0.0	11.3	0.0	720.3	151.4
179	3.68	9.2	3.73	1267.67	78.72	39.42	0.0	11.3	0.0	722.8	152.0
180	3.68	9.2	3.73	1272.28	79.01	39.57	0.0	11.3	0.0	725.3	152.5
181	3.68	9.2	3.73	1276.9	79.3	39.71	0.0	11.3	0.0	727.7	153.0
182	3.68	9.2	3.73	1281.51	79.58	39.86	0.0	11.3	0.0	730.2	153.5
183	3.68	9.2	3.73	1286.13	79.87	40.0	0.0	11.3	0.0	732.7	154.1
184	3.68	9.2	3.73	1282.2	79.62	39.88	0.0	11.3	0.0	730.4	153.6
185	3.68	9.2	3.73	1272.04	78.99	39.56	0.0	11.3	0.0	724.4	152.3
186	3.68	9.2	3.73	1261.87	78.36	39.24	0.0	11.3	0.0	718.5	151.1
187	3.68	9.2	3.73	1251.71	77.73	38.93	0.0	11.3	0.0	712.6	149.8
188	3.68	9.2	3.73	1241.54	77.1	38.61	0.0	11.3	0.0	706.7	148.6
189	3.68	9.2	3.73	1231.38	76.47	38.3	0.0	11.3	0.0	700.8	147.3
190	3.68	9.2	3.73	1224.44	76.04	38.08	0.0	11.3	0.0	696.8	146.5
191	3.68	9.2	3.73	1217.61	75.61	37.87	0.0	11.3	0.0	692.7	145.6
192	3.68	16.0	3.83	1194.87	74.2	37.16	0.0	11.3	0.0	1210.6	254.5
193	3.68	17.1	3.85	1153.55	71.64	35.88	0.0	11.3	0.0	1254.6	263.8
194	3.68	17.6	3.86	1108.39	68.83	34.47	0.0	11.3	0.0	1241.3	261.0
195	3.68	26.0	4.1	1040.51	64.62	32.36	0.0	11.3	0.0	1791.8	376.7
196	3.68	26.0	4.1	951.05	59.06	29.58	0.0	11.3	0.0	1637.7	344.3
197	3.68	31.1	4.3	847.12	52.61	26.35	0.0	11.3	0.0	1801.1	378.7
198	3.68	43.7	5.09	667.43	41.45	20.76	0.0	11.3	0.0	2247.1	472.5
199	3.68	46.3	5.33	417.68	25.94	12.99	0.0	11.3	0.0	1541.2	324.0
200	3.68	49.0	5.61	143.51	8.91	4.46	0.0	11.3	0.0	581.0	122.2

Superficie Nr...2 Fattore di sicurezza=0.88

Nr.	B m	Alfa (°)	Li m	Wi (kN)	Kh•Wi (kN)	Kv•Wi (kN)	c (kN/m ²)	Fi (°)	Ui (kN)	N'i (kN)	Ti (kN)
1	2.11	0.7	2.11	2.32	0.14	0.07	0.0	11.3	0.0	-3.4	-0.7
2	2.11	0.7	2.11	6.97	0.43	0.22	0.0	11.3	0.0	-3.2	-0.7
3	2.11	0.7	2.11	17.8	1.11	0.55	0.0	11.3	0.0	-2.9	-0.6
4	2.11	0.7	2.11	31.51	1.96	0.98	0.0	11.3	0.0	-2.6	-0.5
5	2.11	0.7	2.11	45.23	2.81	1.41	0.0	11.3	0.0	-2.2	-0.5
6	2.11	0.7	2.11	58.94	3.66	1.83	0.0	11.3	0.0	-1.9	-0.4
7	2.11	0.7	2.11	72.65	4.51	2.26	0.0	11.3	0.0	-1.5	-0.3
8	2.11	0.7	2.11	86.36	5.36	2.69	0.0	11.3	0.0	-1.1	-0.2
9	2.11	0.7	2.11	101.18	6.28	3.15	0.0	11.3	0.0	-0.7	-0.2
10	2.11	0.7	2.11	123.18	7.65	3.83	0.0	11.3	0.0	-0.2	0.0
11	2.11	0.7	2.11	145.18	9.02	4.52	0.0	11.3	0.0	0.4	0.1
12	2.11	0.7	2.11	167.18	10.38	5.2	0.0	11.3	0.0	1.0	0.2
13	2.11	0.7	2.11	189.18	11.75	5.88	0.0	11.3	0.0	1.5	0.3
14	2.11	0.7	2.11	197.66	12.27	6.15	0.0	11.3	0.0	1.8	0.4
15	2.11	0.7	2.11	203.25	12.62	6.32	0.0	11.3	0.0	1.9	0.4
16	2.11	0.7	2.11	208.84	12.97	6.49	0.0	11.3	0.0	2.1	0.4
17	2.11	0.7	2.11	214.43	13.32	6.67	0.0	11.3	0.0	2.2	0.5
18	2.11	0.7	2.11	220.01	13.66	6.84	0.0	11.3	0.0	2.4	0.5
19	2.11	0.7	2.11	225.6	14.01	7.02	0.0	11.3	0.0	2.6	0.5
20	2.11	0.7	2.11	236.24	14.67	7.35	0.0	11.3	0.0	2.8	0.6
21	2.11	0.7	2.11	249.31	15.48	7.75	0.0	11.3	0.0	3.2	0.7
22	2.11	0.7	2.11	262.39	16.29	8.16	0.0	11.3	0.0	3.5	0.7
23	2.11	0.7	2.11	275.47	17.11	8.57	0.0	11.3	0.0	3.9	0.8
24	2.11	0.7	2.11	288.54	17.92	8.97	0.0	11.3	0.0	4.2	0.9
25	2.11	0.7	2.11	301.62	18.73	9.38	0.0	11.3	0.0	4.6	0.9
26	2.11	0.7	2.11	316.87	19.68	9.85	0.0	11.3	0.0	5.0	1.0
27	2.11	0.7	2.11	341.5	21.21	10.62	0.0	11.3	0.0	5.6	1.2
28	2.11	0.7	2.11	366.13	22.74	11.39	0.0	11.3	0.0	6.2	1.3
29	2.11	0.7	2.11	390.77	24.27	12.15	0.0	11.3	0.0	6.9	1.4
30	2.11	0.7	2.11	410.27	25.48	12.76	0.0	11.3	0.0	7.4	1.5
31	2.11	0.7	2.11	426.45	26.48	13.26	0.0	11.3	0.0	7.8	1.6
32	2.11	0.7	2.11	442.63	27.49	13.77	0.0	11.3	0.0	8.2	1.7
33	2.11	1.9	2.11	457.92	28.44	14.24	0.0	11.3	0.0	28.8	5.9
34	2.11	2.6	2.11	471.85	29.3	14.67	0.0	11.3	0.0	40.9	8.4
35	2.11	2.6	2.11	485.3	30.14	15.09	0.0	11.3	0.0	42.2	8.7
36	2.11	2.6	2.11	498.75	30.97	15.51	0.0	11.3	0.0	43.4	8.9
37	2.11	2.6	2.11	512.21	31.81	15.93	0.0	11.3	0.0	44.7	9.2
38	2.11	2.6	2.11	525.66	32.64	16.35	0.0	11.3	0.0	46.0	9.5
39	2.11	2.6	2.11	539.11	33.48	16.77	0.0	11.3	0.0	47.2	9.7
40	2.11	2.6	2.11	550.77	34.2	17.13	0.0	11.3	0.0	48.3	9.9
41	2.11	2.6	2.11	556.06	34.53	17.29	0.0	11.3	0.0	48.9	10.1
42	2.11	2.6	2.11	561.35	34.86	17.46	0.0	11.3	0.0	49.4	10.2
43	2.11	2.6	2.11	566.63	35.19	17.62	0.0	11.3	0.0	49.9	10.3
44	2.11	2.6	2.11	571.92	35.52	17.79	0.0	11.3	0.0	50.4	10.4
45	2.11	2.6	2.11	577.21	35.84	17.95	0.0	11.3	0.0	50.9	10.5
46	2.11	2.6	2.11	582.49	36.17	18.12	0.0	11.3	0.0	51.4	10.6
47	2.11	2.6	2.11	587.99	36.51	18.29	0.0	11.3	0.0	51.9	10.7
48	2.11	2.6	2.11	596.72	37.06	18.56	0.0	11.3	0.0	52.7	10.9
49	2.11	2.6	2.11	605.45	37.6	18.83	0.0	11.3	0.0	53.6	11.0
50	2.11	2.6	2.11	614.17	38.14	19.1	0.0	11.3	0.0	54.4	11.2
51	2.11	2.6	2.11	622.9	38.68	19.37	0.0	11.3	0.0	55.2	11.4
52	2.11	2.6	2.11	631.63	39.22	19.64	0.0	11.3	0.0	56.1	11.5
53	2.11	2.6	2.11	640.35	39.77	19.92	0.0	11.3	0.0	56.9	11.7
54	2.11	2.6	2.11	643.57	39.97	20.01	0.0	11.3	0.0	57.2	11.8
55	2.11	2.6	2.11	639.83	39.73	19.9	0.0	11.3	0.0	56.9	11.7
56	2.11	2.6	2.11	636.09	39.5	19.78	0.0	11.3	0.0	56.5	11.6
57	2.11	2.6	2.11	632.35	39.27	19.67	0.0	11.3	0.0	56.2	11.6
58	2.11	2.6	2.11	628.6	39.04	19.55	0.0	11.3	0.0	55.9	11.5

59	2.11	2.6	2.11	624.86	38.8	19.43	0.0	11.3	0.0	55.5	11.4
60	2.11	2.6	2.11	630.11	39.13	19.6	0.0	11.3	0.0	56.0	11.5
61	2.11	2.6	2.11	638.94	39.68	19.87	0.0	11.3	0.0	56.9	11.7
62	2.11	2.6	2.11	647.76	40.23	20.15	0.0	11.3	0.0	57.7	11.9
63	2.11	3.2	2.11	656.17	40.75	20.41	0.0	11.3	0.0	72.1	14.8
64	2.11	7.3	2.12	661.17	41.06	20.56	0.0	11.3	0.0	170.7	35.1
65	2.11	7.3	2.12	663.18	41.18	20.62	0.0	11.3	0.0	171.3	35.2
66	2.11	7.3	2.12	665.19	41.31	20.69	0.0	11.3	0.0	171.8	35.4
67	2.11	7.3	2.12	667.2	41.43	20.75	0.0	11.3	0.0	172.3	35.5
68	2.11	7.3	2.12	669.21	41.56	20.81	0.0	11.3	0.0	172.9	35.6
69	2.11	7.3	2.12	671.22	41.68	20.87	0.0	11.3	0.0	173.4	35.7
70	2.11	7.3	2.12	673.23	41.81	20.94	0.0	11.3	0.0	174.0	35.8
71	2.11	7.3	2.12	675.24	41.93	21.0	0.0	11.3	0.0	174.5	35.9
72	2.11	7.3	2.12	677.25	42.06	21.06	0.0	11.3	0.0	175.1	36.0
73	2.11	7.3	2.12	679.26	42.18	21.12	0.0	11.3	0.0	175.6	36.1
74	2.11	7.3	2.12	681.27	42.31	21.19	0.0	11.3	0.0	176.2	36.3
75	2.11	7.3	2.12	683.28	42.43	21.25	0.0	11.3	0.0	176.7	36.4
76	2.11	7.3	2.12	685.29	42.56	21.31	0.0	11.3	0.0	177.2	36.5
77	2.11	7.3	2.12	687.3	42.68	21.38	0.0	11.3	0.0	177.8	36.6
78	2.11	7.3	2.12	688.29	42.74	21.41	0.0	11.3	0.0	178.1	36.6
79	2.11	7.3	2.12	680.66	42.27	21.17	0.0	11.3	0.0	176.1	36.2
80	2.11	7.3	2.12	673.03	41.79	20.93	0.0	11.3	0.0	174.1	35.8
81	2.11	7.3	2.12	665.4	41.32	20.69	0.0	11.3	0.0	172.1	35.4
82	2.11	7.3	2.12	657.77	40.85	20.46	0.0	11.3	0.0	170.1	35.0
83	2.11	7.3	2.12	650.14	40.37	20.22	0.0	11.3	0.0	168.2	34.6
84	2.11	7.3	2.12	642.51	39.9	19.98	0.0	11.3	0.0	166.2	34.2
85	2.11	7.3	2.12	634.88	39.43	19.74	0.0	11.3	0.0	164.2	33.8
86	2.11	7.3	2.12	627.25	38.95	19.51	0.0	11.3	0.0	162.2	33.4
87	2.11	7.3	2.12	619.62	38.48	19.27	0.0	11.3	0.0	160.2	33.0
88	2.11	7.3	2.12	611.99	38.0	19.03	0.0	11.3	0.0	158.3	32.6
89	2.11	7.3	2.12	604.36	37.53	18.8	0.0	11.3	0.0	156.3	32.2
90	2.11	7.3	2.12	596.73	37.06	18.56	0.0	11.3	0.0	154.3	31.8
91	2.11	7.3	2.12	589.1	36.58	18.32	0.0	11.3	0.0	152.3	31.3
92	2.11	7.3	2.12	581.47	36.11	18.08	0.0	11.3	0.0	150.3	30.9
93	2.11	7.3	2.12	573.85	35.64	17.85	0.0	11.3	0.0	148.4	30.5
94	2.11	7.3	2.12	566.22	35.16	17.61	0.0	11.3	0.0	146.4	30.1
95	2.11	7.3	2.12	566.11	35.16	17.61	0.0	11.3	0.0	146.4	30.1
96	2.11	7.3	2.12	567.09	35.22	17.64	0.0	11.3	0.0	146.6	30.2
97	2.11	7.3	2.12	568.07	35.28	17.67	0.0	11.3	0.0	146.9	30.2
98	2.11	7.3	2.12	569.05	35.34	17.7	0.0	11.3	0.0	147.2	30.3
99	2.11	7.3	2.12	570.03	35.4	17.73	0.0	11.3	0.0	147.5	30.3
100	2.11	7.3	2.12	571.0	35.46	17.76	0.0	11.3	0.0	147.7	30.4
101	2.11	7.3	2.12	571.98	35.52	17.79	0.0	11.3	0.0	148.0	30.5
102	2.11	7.3	2.12	572.96	35.58	17.82	0.0	11.3	0.0	148.3	30.5
103	2.11	7.3	2.12	573.94	35.64	17.85	0.0	11.3	0.0	148.6	30.6
104	2.11	7.3	2.12	574.92	35.7	17.88	0.0	11.3	0.0	148.8	30.6
105	2.11	7.3	2.12	575.89	35.76	17.91	0.0	11.3	0.0	149.1	30.7
106	2.11	7.3	2.12	576.87	35.82	17.94	0.0	11.3	0.0	149.4	30.7
107	2.11	7.3	2.12	577.85	35.88	17.97	0.0	11.3	0.0	149.6	30.8
108	2.11	7.3	2.12	578.83	35.95	18.0	0.0	11.3	0.0	149.9	30.9
109	2.11	7.3	2.12	579.8	36.01	18.03	0.0	11.3	0.0	150.2	30.9
110	2.11	7.3	2.12	580.78	36.07	18.06	0.0	11.3	0.0	150.5	31.0
111	2.11	7.3	2.12	584.45	36.29	18.18	0.0	11.3	0.0	151.4	31.2
112	2.11	7.3	2.12	588.76	36.56	18.31	0.0	11.3	0.0	152.6	31.4
113	2.11	7.3	2.12	593.06	36.83	18.44	0.0	11.3	0.0	153.7	31.6
114	2.11	7.3	2.12	597.37	37.1	18.58	0.0	11.3	0.0	154.9	31.9
115	2.11	7.3	2.12	608.14	37.77	18.91	0.0	11.3	0.0	157.7	32.5
116	2.11	7.3	2.12	657.94	40.86	20.46	0.0	11.3	0.0	170.8	35.1
117	2.11	7.3	2.12	669.03	41.55	20.81	0.0	11.3	0.0	173.7	35.7
118	2.11	7.3	2.12	672.42	41.76	20.91	0.0	11.3	0.0	174.6	35.9
119	2.11	7.3	2.12	675.8	41.97	21.02	0.0	11.3	0.0	175.5	36.1
120	2.11	7.3	2.12	679.18	42.18	21.12	0.0	11.3	0.0	176.4	36.3
121	2.11	7.3	2.12	682.57	42.39	21.23	0.0	11.3	0.0	177.3	36.5

122	2.11	7.3	2.12	683.28	42.43	21.25	0.0	11.3	0.0	177.5	36.5
123	2.11	7.3	2.12	683.32	42.43	21.25	0.0	11.3	0.0	177.5	36.5
124	2.11	7.9	2.13	682.94	42.41	21.24	0.0	11.3	0.0	191.7	39.5
125	2.11	9.2	2.13	681.18	42.3	21.18	0.0	11.3	0.0	223.7	46.0
126	2.11	9.2	2.13	678.45	42.13	21.1	0.0	11.3	0.0	222.8	45.9
127	2.11	9.2	2.13	675.73	41.96	21.02	0.0	11.3	0.0	221.9	45.7
128	2.11	9.2	2.13	673.0	41.79	20.93	0.0	11.3	0.0	221.0	45.5
129	2.11	9.2	2.13	670.28	41.62	20.85	0.0	11.3	0.0	220.1	45.3
130	2.11	9.2	2.13	667.56	41.46	20.76	0.0	11.3	0.0	219.3	45.1
131	2.11	9.2	2.13	664.83	41.29	20.68	0.0	11.3	0.0	218.4	44.9
132	2.11	9.2	2.13	662.11	41.12	20.59	0.0	11.3	0.0	217.5	44.8
133	2.11	9.2	2.13	657.61	40.84	20.45	0.0	11.3	0.0	216.0	44.5
134	2.11	9.2	2.13	652.37	40.51	20.29	0.0	11.3	0.0	214.3	44.1
135	2.11	9.2	2.13	647.13	40.19	20.13	0.0	11.3	0.0	212.6	43.8
136	2.11	9.2	2.13	641.89	39.86	19.96	0.0	11.3	0.0	210.9	43.4
137	2.11	9.2	2.13	636.65	39.54	19.8	0.0	11.3	0.0	209.2	43.1
138	2.11	9.2	2.13	631.41	39.21	19.64	0.0	11.3	0.0	207.5	42.7
139	2.11	9.2	2.13	626.17	38.89	19.47	0.0	11.3	0.0	205.7	42.3
140	2.11	9.2	2.13	620.94	38.56	19.31	0.0	11.3	0.0	204.0	42.0
141	2.11	9.2	2.13	615.7	38.23	19.15	0.0	11.3	0.0	202.3	41.6
142	2.11	9.2	2.13	619.01	38.44	19.25	0.0	11.3	0.0	203.4	41.9
143	2.11	9.2	2.13	625.81	38.86	19.46	0.0	11.3	0.0	205.7	42.3
144	2.11	9.2	2.13	632.61	39.29	19.67	0.0	11.3	0.0	208.0	42.8
145	2.11	9.2	2.13	639.41	39.71	19.89	0.0	11.3	0.0	210.2	43.3
146	2.11	9.2	2.13	646.21	40.13	20.1	0.0	11.3	0.0	212.5	43.7
147	2.11	9.2	2.13	653.01	40.55	20.31	0.0	11.3	0.0	214.7	44.2
148	2.11	9.2	2.13	659.82	40.97	20.52	0.0	11.3	0.0	217.0	44.7
149	2.11	9.2	2.13	666.62	41.4	20.73	0.0	11.3	0.0	219.3	45.1
150	2.11	9.2	2.13	673.42	41.82	20.94	0.0	11.3	0.0	221.5	45.6
151	2.11	9.2	2.13	680.22	42.24	21.15	0.0	11.3	0.0	223.8	46.1
152	2.11	9.2	2.13	687.02	42.66	21.37	0.0	11.3	0.0	226.1	46.5
153	2.11	9.2	2.13	693.82	43.09	21.58	0.0	11.3	0.0	228.3	47.0
154	2.11	9.2	2.13	700.62	43.51	21.79	0.0	11.3	0.0	230.6	47.5
155	2.11	9.2	2.13	707.43	43.93	22.0	0.0	11.3	0.0	232.9	47.9
156	2.11	9.2	2.13	714.23	44.35	22.21	0.0	11.3	0.0	235.1	48.4
157	2.11	9.2	2.13	716.34	44.48	22.28	0.0	11.3	0.0	235.8	48.5
158	2.11	9.2	2.13	717.86	44.58	22.33	0.0	11.3	0.0	236.4	48.6
159	2.11	9.2	2.13	719.37	44.67	22.37	0.0	11.3	0.0	236.9	48.8
160	2.11	9.2	2.13	720.88	44.77	22.42	0.0	11.3	0.0	237.4	48.9
161	2.11	9.2	2.13	722.39	44.86	22.47	0.0	11.3	0.0	237.9	49.0
162	2.11	9.2	2.13	723.9	44.95	22.51	0.0	11.3	0.0	238.4	49.1
163	2.11	9.2	2.13	725.41	45.05	22.56	0.0	11.3	0.0	238.9	49.2
164	2.11	9.2	2.13	726.92	45.14	22.61	0.0	11.3	0.0	239.5	49.3
165	2.11	9.2	2.13	728.43	45.24	22.65	0.0	11.3	0.0	240.0	49.4
166	2.11	9.2	2.13	729.94	45.33	22.7	0.0	11.3	0.0	240.5	49.5
167	2.11	9.2	2.13	731.45	45.42	22.75	0.0	11.3	0.0	241.0	49.6
168	2.11	9.2	2.13	732.96	45.52	22.8	0.0	11.3	0.0	241.5	49.7
169	2.11	9.2	2.13	734.47	45.61	22.84	0.0	11.3	0.0	242.0	49.8
170	2.11	9.2	2.13	735.99	45.7	22.89	0.0	11.3	0.0	242.6	49.9
171	2.11	9.2	2.13	735.77	45.69	22.88	0.0	11.3	0.0	242.5	49.9
172	2.11	9.2	2.13	732.45	45.48	22.78	0.0	11.3	0.0	241.4	49.7
173	2.11	9.2	2.13	729.12	45.28	22.68	0.0	11.3	0.0	240.3	49.5
174	2.11	9.2	2.13	725.79	45.07	22.57	0.0	11.3	0.0	239.3	49.2
175	2.11	9.2	2.13	722.46	44.86	22.47	0.0	11.3	0.0	238.2	49.0
176	2.11	9.2	2.13	719.14	44.66	22.37	0.0	11.3	0.0	237.1	48.8
177	2.11	9.2	2.13	715.81	44.45	22.26	0.0	11.3	0.0	236.0	48.6
178	2.11	9.2	2.13	712.48	44.25	22.16	0.0	11.3	0.0	234.9	48.4
179	2.11	9.2	2.13	709.15	44.04	22.05	0.0	11.3	0.0	233.9	48.1
180	2.11	9.2	2.13	705.82	43.83	21.95	0.0	11.3	0.0	232.8	47.9
181	2.11	9.2	2.13	703.1	43.66	21.87	0.0	11.3	0.0	231.9	47.7
182	2.11	9.2	2.13	700.87	43.52	21.8	0.0	11.3	0.0	231.2	47.6
183	2.11	9.2	2.13	698.63	43.38	21.73	0.0	11.3	0.0	230.4	47.4
184	2.11	9.2	2.13	696.39	43.25	21.66	0.0	11.3	0.0	229.7	47.3

185	2.11	13.1	2.16	691.2	42.92	21.5	0.0	11.3	0.0	329.4	67.8
186	2.11	17.1	2.2	679.92	42.22	21.15	0.0	11.3	0.0	429.5	88.4
187	2.11	17.1	2.2	665.52	41.33	20.7	0.0	11.3	0.0	420.4	86.5
188	2.11	17.1	2.2	651.12	40.43	20.25	0.0	11.3	0.0	411.3	84.7
189	2.11	17.1	2.2	636.72	39.54	19.8	0.0	11.3	0.0	402.2	82.8
190	2.11	22.5	2.28	617.98	38.38	19.22	0.0	11.3	0.0	523.4	107.7
191	2.11	26.0	2.34	591.8	36.75	18.4	0.0	11.3	0.0	592.3	121.9
192	2.11	26.0	2.34	562.52	34.93	17.49	0.0	11.3	0.0	563.0	115.9
193	2.11	26.0	2.34	533.24	33.11	16.58	0.0	11.3	0.0	533.7	109.8
194	2.11	26.0	2.34	503.95	31.3	15.67	0.0	11.3	0.0	504.4	103.8
195	2.11	38.9	2.7	461.56	28.66	14.35	0.0	11.3	0.0	762.2	156.9
196	2.11	43.7	2.91	391.49	24.31	12.18	0.0	11.3	0.0	766.3	157.7
197	2.11	43.7	2.91	313.52	19.47	9.75	0.0	11.3	0.0	613.7	126.3
198	2.11	46.8	3.08	230.97	14.34	7.18	0.0	11.3	0.0	504.7	103.9
199	2.11	48.9	3.2	140.54	8.73	4.37	0.0	11.3	0.0	330.0	67.9
200	2.11	48.9	3.2	46.84	2.91	1.46	0.0	11.3	0.0	109.9	22.6

Superficie Nr...3 Fattore di sicurezza=0.87

Nr.	B m	Alfa (°)	Li m	Wi (kN)	Kh•Wi (kN)	Kv•Wi (kN)	c (kN/m²)	Fi (°)	Ui (kN)	N'i (kN)	Ti (kN)
1	2.39	-1.1	2.39	31.47	1.95	0.98	0.0	11.3	0.0	21.8	4.5
2	2.39	-1.1	2.39	94.41	5.86	2.94	0.0	11.3	0.0	18.9	3.9
3	2.39	-1.1	2.39	157.35	9.77	4.89	0.0	11.3	0.0	16.1	3.3
4	2.39	-1.1	2.39	220.29	13.68	6.85	0.0	11.3	0.0	13.2	2.8
5	2.39	-1.1	2.39	284.25	17.65	8.84	0.0	11.3	0.0	10.3	2.1
6	2.39	-1.1	2.39	366.54	22.76	11.4	0.0	11.3	0.0	6.6	1.4
7	2.39	-1.1	2.39	448.84	27.87	13.96	0.0	11.3	0.0	2.9	0.6
8	2.39	-1.1	2.39	531.14	32.98	16.52	0.0	11.3	0.0	-0.8	-0.2
9	2.39	-1.1	2.39	613.43	38.09	19.08	0.0	11.3	0.0	-4.6	-0.9
10	2.39	-1.1	2.39	695.73	43.2	21.64	0.0	11.3	0.0	-8.3	-1.7
11	2.39	-1.1	2.39	700.07	43.47	21.77	0.0	11.3	0.0	-8.6	-1.8
12	2.39	-1.1	2.39	702.37	43.62	21.84	0.0	11.3	0.0	-8.8	-1.8
13	2.39	-1.1	2.39	704.66	43.76	21.91	0.0	11.3	0.0	-9.0	-1.9
14	2.39	-1.1	2.39	706.95	43.9	21.99	0.0	11.3	0.0	-9.2	-1.9
15	2.39	-1.1	2.39	722.7	44.88	22.48	0.0	11.3	0.0	-10.0	-2.1
16	2.39	-1.1	2.39	745.61	46.3	23.19	0.0	11.3	0.0	-11.1	-2.3
17	2.39	-1.1	2.39	768.53	47.73	23.9	0.0	11.3	0.0	-12.3	-2.6
18	2.39	-1.1	2.39	791.44	49.15	24.61	0.0	11.3	0.0	-13.4	-2.8
19	2.39	-1.1	2.39	814.35	50.57	25.33	0.0	11.3	0.0	-14.5	-3.0
20	2.39	-1.1	2.39	837.26	51.99	26.04	0.0	11.3	0.0	-15.6	-3.3
21	2.39	-1.0	2.39	860.08	53.41	26.75	0.0	11.3	0.0	-13.3	-2.8
22	2.39	1.1	2.39	880.82	54.7	27.39	0.0	11.3	0.0	61.0	12.7
23	2.39	1.1	2.39	899.58	55.86	27.98	0.0	11.3	0.0	61.8	12.9
24	2.39	1.1	2.39	918.34	57.03	28.56	0.0	11.3	0.0	62.5	13.0
25	2.39	1.1	2.39	937.68	58.23	29.16	0.0	11.3	0.0	63.3	13.2
26	2.39	1.1	2.39	958.46	59.52	29.81	0.0	11.3	0.0	64.1	13.4
27	2.39	1.1	2.39	979.23	60.81	30.45	0.0	11.3	0.0	65.0	13.5
28	2.39	1.1	2.39	1000.01	62.1	31.1	0.0	11.3	0.0	65.8	13.7
29	2.39	1.1	2.39	1020.78	63.39	31.75	0.0	11.3	0.0	66.6	13.9
30	2.39	1.1	2.39	1041.56	64.68	32.39	0.0	11.3	0.0	67.5	14.1
31	2.39	1.1	2.39	1062.33	65.97	33.04	0.0	11.3	0.0	68.3	14.2
32	2.39	1.1	2.39	1083.11	67.26	33.68	0.0	11.3	0.0	69.1	14.4
33	2.39	1.1	2.39	1103.16	68.51	34.31	0.0	11.3	0.0	69.9	14.6
34	2.39	1.1	2.39	1119.76	69.54	34.82	0.0	11.3	0.0	70.6	14.7
35	2.39	1.1	2.39	1136.36	70.57	35.34	0.0	11.3	0.0	71.2	14.8
36	2.39	1.1	2.39	1152.96	71.6	35.86	0.0	11.3	0.0	71.9	15.0
37	2.39	1.1	2.39	1169.57	72.63	36.37	0.0	11.3	0.0	72.5	15.1
38	2.39	1.1	2.39	1186.17	73.66	36.89	0.0	11.3	0.0	73.2	15.2
39	2.39	1.1	2.39	1209.45	75.11	37.61	0.0	11.3	0.0	74.1	15.4
40	2.39	1.1	2.39	1233.97	76.63	38.38	0.0	11.3	0.0	75.1	15.6

41	2.39	1.1	2.39	1258.5	78.15	39.14	0.0	11.3	0.0	76.1	15.9
42	2.39	2.2	2.39	1282.06	79.62	39.87	0.0	11.3	0.0	129.9	27.1
43	2.39	3.7	2.39	1300.74	80.78	40.45	0.0	11.3	0.0	210.4	43.8
44	2.39	3.7	2.39	1311.29	81.43	40.78	0.0	11.3	0.0	211.8	44.1
45	2.39	3.7	2.39	1321.85	82.09	41.11	0.0	11.3	0.0	213.3	44.4
46	2.39	3.7	2.39	1332.41	82.74	41.44	0.0	11.3	0.0	214.7	44.7
47	2.39	3.7	2.39	1342.97	83.4	41.77	0.0	11.3	0.0	216.2	45.0
48	2.39	3.7	2.39	1353.53	84.05	42.09	0.0	11.3	0.0	217.6	45.3
49	2.39	3.7	2.39	1364.08	84.71	42.42	0.0	11.3	0.0	219.0	45.6
50	2.39	3.7	2.39	1374.64	85.37	42.75	0.0	11.3	0.0	220.5	45.9
51	2.39	3.7	2.39	1374.41	85.35	42.74	0.0	11.3	0.0	220.3	45.9
52	2.39	3.7	2.39	1367.55	84.92	42.53	0.0	11.3	0.0	219.2	45.7
53	2.39	3.7	2.39	1360.69	84.5	42.32	0.0	11.3	0.0	218.1	45.4
54	2.39	3.7	2.39	1353.83	84.07	42.1	0.0	11.3	0.0	216.9	45.2
55	2.39	3.7	2.39	1346.97	83.65	41.89	0.0	11.3	0.0	215.8	45.0
56	2.39	3.7	2.39	1340.11	83.22	41.68	0.0	11.3	0.0	214.7	44.7
57	2.39	3.7	2.39	1333.25	82.79	41.46	0.0	11.3	0.0	213.5	44.5
58	2.39	3.7	2.39	1326.39	82.37	41.25	0.0	11.3	0.0	212.4	44.3
59	2.39	3.7	2.39	1319.53	81.94	41.04	0.0	11.3	0.0	211.3	44.0
60	2.39	4.2	2.4	1312.22	81.49	40.81	0.0	11.3	0.0	235.5	49.1
61	2.39	6.2	2.4	1302.53	80.89	40.51	0.0	11.3	0.0	341.9	71.2
62	2.39	6.2	2.4	1290.92	80.17	40.15	0.0	11.3	0.0	338.9	70.6
63	2.39	6.2	2.4	1279.3	79.44	39.79	0.0	11.3	0.0	335.9	70.0
64	2.39	6.2	2.4	1267.69	78.72	39.43	0.0	11.3	0.0	332.8	69.4
65	2.39	6.2	2.4	1260.35	78.27	39.2	0.0	11.3	0.0	330.9	68.9
66	2.39	6.2	2.4	1299.87	80.72	40.43	0.0	11.3	0.0	340.6	71.0
67	2.39	6.2	2.4	1339.4	83.18	41.66	0.0	11.3	0.0	350.4	73.0
68	2.39	6.2	2.4	1378.92	85.63	42.88	0.0	11.3	0.0	360.2	75.0
69	2.39	6.2	2.4	1418.45	88.09	44.11	0.0	11.3	0.0	369.9	77.1
70	2.39	6.2	2.4	1434.38	89.07	44.61	0.0	11.3	0.0	373.8	77.9
71	2.39	6.2	2.4	1422.76	88.35	44.25	0.0	11.3	0.0	370.8	77.3
72	2.39	6.2	2.4	1411.15	87.63	43.89	0.0	11.3	0.0	367.8	76.6
73	2.39	6.2	2.4	1399.53	86.91	43.53	0.0	11.3	0.0	364.7	76.0
74	2.39	6.2	2.4	1387.92	86.19	43.16	0.0	11.3	0.0	361.7	75.4
75	2.39	6.2	2.4	1376.3	85.47	42.8	0.0	11.3	0.0	358.7	74.7
76	2.39	6.2	2.4	1364.69	84.75	42.44	0.0	11.3	0.0	355.7	74.1
77	2.39	6.2	2.4	1353.07	84.03	42.08	0.0	11.3	0.0	352.7	73.5
78	2.39	6.2	2.4	1341.46	83.3	41.72	0.0	11.3	0.0	349.6	72.9
79	2.39	6.2	2.4	1329.84	82.58	41.36	0.0	11.3	0.0	346.6	72.2
80	2.39	7.5	2.41	1317.0	81.79	40.96	0.0	11.3	0.0	412.9	86.0
81	2.39	7.7	2.41	1302.8	80.9	40.52	0.0	11.3	0.0	415.6	86.6
82	2.39	7.7	2.41	1288.48	80.01	40.07	0.0	11.3	0.0	411.1	85.6
83	2.39	7.7	2.41	1274.16	79.13	39.63	0.0	11.3	0.0	406.5	84.7
84	2.39	7.7	2.41	1259.83	78.24	39.18	0.0	11.3	0.0	402.0	83.8
85	2.39	7.7	2.41	1245.51	77.35	38.74	0.0	11.3	0.0	397.5	82.8
86	2.39	7.7	2.41	1231.19	76.46	38.29	0.0	11.3	0.0	392.9	81.9
87	2.39	7.7	2.41	1216.87	75.57	37.84	0.0	11.3	0.0	388.4	80.9
88	2.39	7.7	2.41	1239.73	76.99	38.56	0.0	11.3	0.0	395.3	82.4
89	2.39	7.7	2.41	1271.81	78.98	39.55	0.0	11.3	0.0	405.1	84.4
90	2.39	7.7	2.41	1303.88	80.97	40.55	0.0	11.3	0.0	414.9	86.4
91	2.39	7.7	2.41	1335.95	82.96	41.55	0.0	11.3	0.0	424.6	88.5
92	2.39	7.7	2.41	1368.03	84.95	42.55	0.0	11.3	0.0	434.4	90.5
93	2.39	7.7	2.41	1380.89	85.75	42.95	0.0	11.3	0.0	438.2	91.3
94	2.39	7.7	2.41	1376.94	85.51	42.82	0.0	11.3	0.0	436.9	91.0
95	2.39	7.7	2.41	1361.92	84.58	42.36	0.0	11.3	0.0	432.2	90.0
96	2.39	7.7	2.41	1346.91	83.64	41.89	0.0	11.3	0.0	427.4	89.1
97	2.39	7.7	2.41	1331.9	82.71	41.42	0.0	11.3	0.0	422.7	88.1
98	2.39	7.7	2.41	1358.13	84.34	42.24	0.0	11.3	0.0	430.7	89.7
99	2.39	8.8	2.42	1380.74	85.74	42.94	0.0	11.3	0.0	501.0	104.4
100	2.39	9.5	2.42	1381.47	85.79	42.96	0.0	11.3	0.0	539.3	112.4
101	2.39	9.5	2.42	1381.56	85.79	42.97	0.0	11.3	0.0	539.2	112.4
102	2.39	9.5	2.42	1381.65	85.8	42.97	0.0	11.3	0.0	539.1	112.3
103	2.39	9.5	2.42	1390.27	86.34	43.24	0.0	11.3	0.0	542.3	113.0

104	2.39	9.5	2.42	1400.02	86.94	43.54	0.0	11.3	0.0	545.9	113.7
105	2.39	9.5	2.42	1409.76	87.55	43.84	0.0	11.3	0.0	549.5	114.5
106	2.39	9.5	2.42	1418.24	88.07	44.11	0.0	11.3	0.0	552.7	115.2
107	2.39	9.5	2.42	1406.69	87.36	43.75	0.0	11.3	0.0	548.1	114.2
108	2.39	9.5	2.42	1395.14	86.64	43.39	0.0	11.3	0.0	543.6	113.3
109	2.39	9.5	2.42	1383.59	85.92	43.03	0.0	11.3	0.0	539.1	112.3
110	2.39	9.5	2.42	1372.03	85.2	42.67	0.0	11.3	0.0	534.5	111.4
111	2.39	9.5	2.42	1360.48	84.49	42.31	0.0	11.3	0.0	530.0	110.4
112	2.39	9.5	2.42	1348.93	83.77	41.95	0.0	11.3	0.0	525.5	109.5
113	2.39	9.5	2.42	1337.38	83.05	41.59	0.0	11.3	0.0	520.9	108.5
114	2.39	9.5	2.42	1325.83	82.33	41.23	0.0	11.3	0.0	516.4	107.6
115	2.39	9.5	2.42	1314.28	81.62	40.87	0.0	11.3	0.0	511.9	106.7
116	2.39	9.5	2.42	1302.67	80.9	40.51	0.0	11.3	0.0	510.9	106.4
117	2.39	11.6	2.44	1289.04	80.05	40.09	0.0	11.3	0.0	614.2	128.0
118	2.39	11.6	2.44	1274.72	79.16	39.64	0.0	11.3	0.0	607.4	126.6
119	2.39	11.6	2.44	1263.66	78.47	39.3	0.0	11.3	0.0	602.1	125.5
120	2.39	11.6	2.44	1252.6	77.79	38.96	0.0	11.3	0.0	596.8	124.3
121	2.39	11.6	2.44	1241.54	77.1	38.61	0.0	11.3	0.0	591.5	123.2
122	2.39	11.6	2.44	1230.48	76.41	38.27	0.0	11.3	0.0	586.2	122.1
123	2.39	11.6	2.44	1219.42	75.73	37.92	0.0	11.3	0.0	580.9	121.0
124	2.39	11.6	2.44	1208.36	75.04	37.58	0.0	11.3	0.0	575.6	119.9
125	2.39	11.6	2.44	1197.3	74.35	37.24	0.0	11.3	0.0	570.3	118.8
126	2.39	11.6	2.44	1186.24	73.67	36.89	0.0	11.3	0.0	565.0	117.7
127	2.39	11.6	2.44	1175.18	72.98	36.55	0.0	11.3	0.0	559.7	116.6
128	2.39	11.6	2.44	1162.52	72.19	36.15	0.0	11.3	0.0	553.6	115.4
129	2.39	11.6	2.44	1148.02	71.29	35.7	0.0	11.3	0.0	546.7	113.9
130	2.39	11.6	2.44	1133.53	70.39	35.25	0.0	11.3	0.0	539.8	112.5
131	2.39	11.6	2.44	1119.03	69.49	34.8	0.0	11.3	0.0	532.9	111.0
132	2.39	11.6	2.44	1104.54	68.59	34.35	0.0	11.3	0.0	526.0	109.6
133	2.39	11.6	2.44	1090.04	67.69	33.9	0.0	11.3	0.0	519.0	108.1
134	2.39	11.6	2.44	1076.67	66.86	33.48	0.0	11.3	0.0	512.6	106.8
135	2.39	11.6	2.44	1073.85	66.69	33.4	0.0	11.3	0.0	511.2	106.5
136	2.39	11.6	2.44	1071.03	66.51	33.31	0.0	11.3	0.0	509.8	106.2
137	2.39	11.6	2.44	1068.21	66.34	33.22	0.0	11.3	0.0	508.3	105.9
138	2.39	11.6	2.44	1065.39	66.16	33.13	0.0	11.3	0.0	506.9	105.6
139	2.39	11.6	2.44	1062.57	65.99	33.05	0.0	11.3	0.0	505.5	105.3
140	2.39	11.6	2.44	1063.23	66.03	33.07	0.0	11.3	0.0	505.6	105.4
141	2.39	11.6	2.44	1071.08	66.51	33.31	0.0	11.3	0.0	509.2	106.1
142	2.39	11.6	2.44	1078.93	67.0	33.55	0.0	11.3	0.0	512.8	106.8
143	2.39	11.6	2.44	1086.79	67.49	33.8	0.0	11.3	0.0	516.3	107.6
144	2.39	11.6	2.44	1083.49	67.28	33.7	0.0	11.3	0.0	514.7	107.2
145	2.39	11.6	2.44	1070.2	66.46	33.28	0.0	11.3	0.0	508.3	105.9
146	2.39	11.6	2.44	1056.92	65.63	32.87	0.0	11.3	0.0	502.0	104.6
147	2.39	11.6	2.44	1043.64	64.81	32.46	0.0	11.3	0.0	495.6	103.3
148	2.39	11.6	2.44	1030.35	63.98	32.04	0.0	11.3	0.0	489.3	101.9
149	2.39	11.6	2.44	1018.12	63.23	31.66	0.0	11.3	0.0	483.4	100.7
150	2.39	11.6	2.44	1014.48	63.0	31.55	0.0	11.3	0.0	481.6	100.3
151	2.39	11.6	2.44	1010.84	62.77	31.44	0.0	11.3	0.0	479.8	100.0
152	2.39	11.9	2.44	1006.86	62.53	31.31	0.0	11.3	0.0	492.8	102.7
153	2.39	12.4	2.45	1002.03	62.23	31.16	0.0	11.3	0.0	511.7	106.6
154	2.39	12.4	2.45	996.71	61.9	31.0	0.0	11.3	0.0	508.9	106.0
155	2.39	12.4	2.45	997.24	61.93	31.01	0.0	11.3	0.0	509.1	106.1
156	2.39	12.4	2.45	1006.8	62.52	31.31	0.0	11.3	0.0	513.8	107.1
157	2.39	12.4	2.45	1016.36	63.12	31.61	0.0	11.3	0.0	518.5	108.0
158	2.39	12.4	2.45	1023.34	63.55	31.83	0.0	11.3	0.0	521.9	108.7
159	2.39	12.4	2.45	1022.01	63.47	31.78	0.0	11.3	0.0	521.1	108.6
160	2.39	12.4	2.45	1020.68	63.38	31.74	0.0	11.3	0.0	520.3	108.4
161	2.39	12.4	2.45	1019.36	63.3	31.7	0.0	11.3	0.0	519.5	108.3
162	2.39	12.4	2.45	1018.03	63.22	31.66	0.0	11.3	0.0	518.7	108.1
163	2.39	12.4	2.45	1016.71	63.14	31.62	0.0	11.3	0.0	518.0	107.9
164	2.39	12.4	2.45	1015.38	63.06	31.58	0.0	11.3	0.0	517.2	107.8
165	2.39	12.4	2.45	1014.06	62.97	31.54	0.0	11.3	0.0	516.4	107.6
166	2.39	12.4	2.45	1012.73	62.89	31.5	0.0	11.3	0.0	515.6	107.4

167	2.39	12.4	2.45	1010.52	62.75	31.43	0.0	11.3	0.0	514.3	107.2
168	2.39	12.4	2.45	998.68	62.02	31.06	0.0	11.3	0.0	508.3	105.9
169	2.39	12.4	2.45	986.84	61.28	30.69	0.0	11.3	0.0	502.1	104.6
170	2.39	12.4	2.45	975.0	60.55	30.32	0.0	11.3	0.0	496.1	103.4
171	2.39	12.4	2.45	963.15	59.81	29.95	0.0	11.3	0.0	489.9	102.1
172	2.39	12.4	2.45	951.31	59.08	29.59	0.0	11.3	0.0	483.9	100.8
173	2.39	12.4	2.45	939.47	58.34	29.22	0.0	11.3	0.0	477.8	99.5
174	2.39	12.4	2.45	931.07	57.82	28.96	0.0	11.3	0.0	473.4	98.6
175	2.39	12.4	2.45	923.66	57.36	28.73	0.0	11.3	0.0	469.5	97.8
176	2.39	12.4	2.45	916.25	56.9	28.5	0.0	11.3	0.0	465.7	97.0
177	2.39	12.4	2.45	908.84	56.44	28.26	0.0	11.3	0.0	461.8	96.2
178	2.39	12.4	2.45	901.43	55.98	28.03	0.0	11.3	0.0	457.9	95.4
179	2.39	12.4	2.45	894.02	55.52	27.8	0.0	11.3	0.0	454.1	94.6
180	2.39	12.4	2.45	871.45	54.12	27.1	0.0	11.3	0.0	442.6	92.2
181	2.39	12.4	2.45	847.98	52.66	26.37	0.0	11.3	0.0	430.6	89.7
182	2.39	12.4	2.45	824.51	51.2	25.64	0.0	11.3	0.0	418.6	87.2
183	2.39	12.4	2.45	801.04	49.74	24.91	0.0	11.3	0.0	406.6	84.7
184	2.39	12.4	2.45	777.58	48.29	24.18	0.0	11.3	0.0	394.7	82.2
185	2.39	12.4	2.45	768.63	47.73	23.9	0.0	11.3	0.0	390.0	81.3
186	2.39	12.4	2.45	761.35	47.28	23.68	0.0	11.3	0.0	386.2	80.5
187	2.39	12.4	2.45	754.06	46.83	23.45	0.0	11.3	0.0	382.4	79.7
188	2.39	17.6	2.51	741.64	46.06	23.07	0.0	11.3	0.0	539.8	112.5
189	2.39	18.9	2.53	722.74	44.88	22.48	0.0	11.3	0.0	568.1	118.4
190	2.39	18.9	2.53	702.49	43.62	21.85	0.0	11.3	0.0	552.1	115.0
191	2.39	18.9	2.53	682.23	42.37	21.22	0.0	11.3	0.0	536.1	111.7
192	2.39	18.9	2.53	661.98	41.11	20.59	0.0	11.3	0.0	520.1	108.4
193	2.39	31.1	2.79	627.84	38.99	19.53	0.0	11.3	0.0	868.4	180.9
194	2.39	35.6	2.94	573.9	35.64	17.85	0.0	11.3	0.0	940.3	195.9
195	2.39	35.6	2.94	514.02	31.92	15.99	0.0	11.3	0.0	842.2	175.5
196	2.39	35.6	2.94	454.14	28.2	14.12	0.0	11.3	0.0	744.0	155.0
197	2.39	42.9	3.26	382.86	23.78	11.91	0.0	11.3	0.0	815.2	169.9
198	2.39	50.7	3.77	284.6	17.67	8.85	0.0	11.3	0.0	796.7	166.0
199	2.39	50.7	3.77	170.78	10.61	5.31	0.0	11.3	0.0	478.1	99.6
200	2.39	50.7	3.77	56.93	3.54	1.77	0.0	11.3	0.0	159.5	33.2

Superficie Nr...4 Fattore di sicurezza=0.92

Nr.	B m	Alfa (°)	Li m	Wi (kN)	Kh•Wi (kN)	Kv•Wi (kN)	c (kN/m ²)	Fi (°)	Ui (kN)	N'i (kN)	Ti (kN)
1	1.71	-1.1	1.71	16.08	1.0	0.5	0.0	11.3	0.0	-6.2	-1.2
2	1.71	-1.1	1.71	48.25	3.0	1.5	0.0	11.3	0.0	-7.3	-1.4
3	1.71	-1.1	1.71	80.41	4.99	2.5	0.0	11.3	0.0	-8.3	-1.6
4	1.71	-1.1	1.71	112.57	6.99	3.5	0.0	11.3	0.0	-9.3	-1.8
5	1.71	-1.1	1.71	144.74	8.99	4.5	0.0	11.3	0.0	-10.3	-2.0
6	1.71	-1.1	1.71	176.9	10.99	5.5	0.0	11.3	0.0	-11.3	-2.2
7	1.71	-1.1	1.71	211.82	13.15	6.59	0.0	11.3	0.0	-12.4	-2.4
8	1.71	-1.1	1.71	253.88	15.77	7.9	0.0	11.3	0.0	-13.7	-2.7
9	1.71	-1.1	1.71	295.93	18.38	9.2	0.0	11.3	0.0	-15.0	-3.0
10	1.71	-1.1	1.71	337.99	20.99	10.51	0.0	11.3	0.0	-16.3	-3.2
11	1.71	-1.1	1.71	380.04	23.6	11.82	0.0	11.3	0.0	-17.6	-3.5
12	1.71	-1.1	1.71	422.1	26.21	13.13	0.0	11.3	0.0	-18.9	-3.7
13	1.71	-1.1	1.71	464.15	28.82	14.44	0.0	11.3	0.0	-20.3	-4.0
14	1.71	-1.1	1.71	499.06	30.99	15.52	0.0	11.3	0.0	-21.4	-4.2
15	1.71	-1.1	1.71	500.23	31.06	15.56	0.0	11.3	0.0	-21.4	-4.2
16	1.71	-1.1	1.71	501.41	31.14	15.59	0.0	11.3	0.0	-21.4	-4.2
17	1.71	-1.1	1.71	502.58	31.21	15.63	0.0	11.3	0.0	-21.4	-4.2
18	1.71	-1.1	1.71	503.75	31.28	15.67	0.0	11.3	0.0	-21.4	-4.2
19	1.71	-1.1	1.71	504.92	31.36	15.7	0.0	11.3	0.0	-21.4	-4.2
20	1.71	-1.1	1.71	507.45	31.51	15.78	0.0	11.3	0.0	-21.5	-4.2
21	1.71	-1.1	1.71	519.16	32.24	16.15	0.0	11.3	0.0	-21.8	-4.3
22	1.71	-1.1	1.71	530.87	32.97	16.51	0.0	11.3	0.0	-22.1	-4.4

23	1.71	-1.1	1.71	542.58	33.69	16.87	0.0	11.3	0.0	-22.5	-4.5
24	1.71	-1.1	1.71	554.29	34.42	17.24	0.0	11.3	0.0	-22.8	-4.5
25	1.71	-1.1	1.71	566.0	35.15	17.6	0.0	11.3	0.0	-23.2	-4.6
26	1.71	-1.1	1.71	577.71	35.88	17.97	0.0	11.3	0.0	-23.5	-4.7
27	1.71	-1.1	1.71	589.42	36.6	18.33	0.0	11.3	0.0	-23.9	-4.7
28	1.71	-1.1	1.71	601.12	37.33	18.69	0.0	11.3	0.0	-24.2	-4.8
29	1.71	-1.1	1.71	612.83	38.06	19.06	0.0	11.3	0.0	-24.6	-4.9
30	1.71	0.4	1.71	623.81	38.74	19.4	0.0	11.3	0.0	3.2	0.6
31	1.71	1.1	1.71	633.73	39.35	19.71	0.0	11.3	0.0	16.4	3.2
32	1.71	1.1	1.71	643.32	39.95	20.01	0.0	11.3	0.0	16.7	3.3
33	1.71	1.1	1.71	652.9	40.55	20.31	0.0	11.3	0.0	17.1	3.4
34	1.71	1.1	1.71	662.49	41.14	20.6	0.0	11.3	0.0	17.4	3.5
35	1.71	1.1	1.71	672.73	41.78	20.92	0.0	11.3	0.0	17.8	3.5
36	1.71	1.1	1.71	683.34	42.44	21.25	0.0	11.3	0.0	18.2	3.6
37	1.71	1.1	1.71	693.96	43.09	21.58	0.0	11.3	0.0	18.6	3.7
38	1.71	1.1	1.71	704.58	43.75	21.91	0.0	11.3	0.0	19.0	3.8
39	1.71	1.1	1.71	715.19	44.41	22.24	0.0	11.3	0.0	19.4	3.8
40	1.71	1.1	1.71	725.81	45.07	22.57	0.0	11.3	0.0	19.7	3.9
41	1.71	1.1	1.71	736.43	45.73	22.9	0.0	11.3	0.0	20.1	4.0
42	1.71	1.1	1.71	747.04	46.39	23.23	0.0	11.3	0.0	20.5	4.1
43	1.71	1.1	1.71	757.66	47.05	23.56	0.0	11.3	0.0	20.9	4.1
44	1.71	1.1	1.71	768.28	47.71	23.89	0.0	11.3	0.0	21.3	4.2
45	1.71	1.1	1.71	778.89	48.37	24.22	0.0	11.3	0.0	21.7	4.3
46	1.71	1.1	1.71	788.91	48.99	24.54	0.0	11.3	0.0	22.0	4.4
47	1.71	1.1	1.71	797.4	49.52	24.8	0.0	11.3	0.0	22.3	4.4
48	1.71	1.1	1.71	805.88	50.05	25.06	0.0	11.3	0.0	22.7	4.5
49	1.71	1.1	1.71	814.36	50.57	25.33	0.0	11.3	0.0	23.0	4.5
50	1.71	1.1	1.71	822.85	51.1	25.59	0.0	11.3	0.0	23.3	4.6
51	1.71	1.1	1.71	831.33	51.63	25.85	0.0	11.3	0.0	23.6	4.7
52	1.71	1.1	1.71	839.82	52.15	26.12	0.0	11.3	0.0	23.9	4.7
53	1.71	1.1	1.71	848.3	52.68	26.38	0.0	11.3	0.0	24.2	4.8
54	1.71	1.1	1.71	860.11	53.41	26.75	0.0	11.3	0.0	24.7	4.9
55	1.71	1.1	1.71	872.65	54.19	27.14	0.0	11.3	0.0	25.1	5.0
56	1.71	1.1	1.71	885.18	54.97	27.53	0.0	11.3	0.0	25.6	5.1
57	1.71	1.1	1.71	897.71	55.75	27.92	0.0	11.3	0.0	26.0	5.1
58	1.71	1.1	1.71	910.25	56.53	28.31	0.0	11.3	0.0	26.5	5.2
59	1.71	3.2	1.71	921.8	57.24	28.67	0.0	11.3	0.0	82.9	16.4
60	1.71	3.7	1.71	930.1	57.76	28.93	0.0	11.3	0.0	96.7	19.1
61	1.71	3.7	1.71	935.5	58.09	29.09	0.0	11.3	0.0	97.3	19.3
62	1.71	3.7	1.71	940.89	58.43	29.26	0.0	11.3	0.0	97.9	19.4
63	1.71	3.7	1.71	946.29	58.76	29.43	0.0	11.3	0.0	98.5	19.5
64	1.71	3.7	1.71	951.68	59.1	29.6	0.0	11.3	0.0	99.1	19.6
65	1.71	3.7	1.71	957.08	59.43	29.77	0.0	11.3	0.0	99.8	19.7
66	1.71	3.7	1.71	962.47	59.77	29.93	0.0	11.3	0.0	100.4	19.9
67	1.71	3.7	1.71	967.87	60.1	30.1	0.0	11.3	0.0	101.0	20.0
68	1.71	3.7	1.71	973.26	60.44	30.27	0.0	11.3	0.0	101.6	20.1
69	1.71	3.7	1.71	978.66	60.77	30.44	0.0	11.3	0.0	102.2	20.2
70	1.71	3.7	1.71	984.06	61.11	30.6	0.0	11.3	0.0	102.8	20.3
71	1.71	3.7	1.71	983.01	61.05	30.57	0.0	11.3	0.0	102.7	20.3
72	1.71	3.7	1.71	979.51	60.83	30.46	0.0	11.3	0.0	102.4	20.3
73	1.71	3.7	1.71	976.0	60.61	30.35	0.0	11.3	0.0	102.0	20.2
74	1.71	3.7	1.71	972.5	60.39	30.24	0.0	11.3	0.0	101.7	20.1
75	1.71	3.7	1.71	968.99	60.17	30.14	0.0	11.3	0.0	101.3	20.0
76	1.71	3.7	1.71	965.48	59.96	30.03	0.0	11.3	0.0	101.0	20.0
77	1.71	3.7	1.71	961.98	59.74	29.92	0.0	11.3	0.0	100.6	19.9
78	1.71	3.7	1.71	958.47	59.52	29.81	0.0	11.3	0.0	100.3	19.8
79	1.71	3.7	1.71	954.97	59.3	29.7	0.0	11.3	0.0	99.9	19.8
80	1.71	3.7	1.71	951.46	59.09	29.59	0.0	11.3	0.0	99.6	19.7
81	1.71	3.7	1.71	947.95	58.87	29.48	0.0	11.3	0.0	99.2	19.6
82	1.71	3.7	1.71	944.45	58.65	29.37	0.0	11.3	0.0	98.9	19.6
83	1.71	3.7	1.71	940.94	58.43	29.26	0.0	11.3	0.0	98.5	19.5
84	1.71	4.5	1.71	937.03	58.19	29.14	0.0	11.3	0.0	121.5	24.0
85	1.71	6.2	1.72	931.91	57.87	28.98	0.0	11.3	0.0	167.5	33.1

86	1.71	6.2	1.72	925.97	57.5	28.8	0.0	11.3	0.0	166.5	32.9
87	1.71	6.2	1.72	920.04	57.13	28.61	0.0	11.3	0.0	165.4	32.7
88	1.71	6.2	1.72	914.1	56.77	28.43	0.0	11.3	0.0	164.4	32.5
89	1.71	6.2	1.72	908.17	56.4	28.24	0.0	11.3	0.0	163.3	32.3
90	1.71	6.2	1.72	902.23	56.03	28.06	0.0	11.3	0.0	162.2	32.1
91	1.71	6.2	1.72	906.48	56.29	28.19	0.0	11.3	0.0	163.1	32.3
92	1.71	6.2	1.72	926.68	57.55	28.82	0.0	11.3	0.0	166.8	33.0
93	1.71	6.2	1.72	946.88	58.8	29.45	0.0	11.3	0.0	170.5	33.7
94	1.71	6.2	1.72	967.08	60.06	30.08	0.0	11.3	0.0	174.3	34.5
95	1.71	6.2	1.72	987.28	61.31	30.7	0.0	11.3	0.0	178.0	35.2
96	1.71	6.2	1.72	1007.48	62.56	31.33	0.0	11.3	0.0	181.7	36.0
97	1.71	6.2	1.72	1027.67	63.82	31.96	0.0	11.3	0.0	185.4	36.7
98	1.71	6.2	1.72	1023.73	63.57	31.84	0.0	11.3	0.0	184.8	36.6
99	1.71	6.2	1.72	1017.79	63.2	31.65	0.0	11.3	0.0	183.7	36.3
100	1.71	6.2	1.72	1011.86	62.84	31.47	0.0	11.3	0.0	182.6	36.1
101	1.71	6.2	1.72	1005.92	62.47	31.28	0.0	11.3	0.0	181.6	35.9
102	1.71	6.2	1.72	999.98	62.1	31.1	0.0	11.3	0.0	180.5	35.7
103	1.71	6.2	1.72	994.05	61.73	30.91	0.0	11.3	0.0	179.5	35.5
104	1.71	6.2	1.72	988.11	61.36	30.73	0.0	11.3	0.0	178.4	35.3
105	1.71	6.2	1.72	982.18	60.99	30.55	0.0	11.3	0.0	177.3	35.1
106	1.71	6.2	1.72	976.24	60.62	30.36	0.0	11.3	0.0	176.3	34.9
107	1.71	6.2	1.72	970.3	60.26	30.18	0.0	11.3	0.0	175.2	34.7
108	1.71	6.2	1.72	964.37	59.89	29.99	0.0	11.3	0.0	174.2	34.5
109	1.71	6.2	1.72	958.43	59.52	29.81	0.0	11.3	0.0	173.1	34.2
110	1.71	6.2	1.72	952.5	59.15	29.62	0.0	11.3	0.0	172.0	34.0
111	1.71	6.7	1.72	946.34	58.77	29.43	0.0	11.3	0.0	184.0	36.4
112	1.71	7.7	1.72	939.49	58.34	29.22	0.0	11.3	0.0	209.9	41.5
113	1.71	7.7	1.72	932.17	57.89	28.99	0.0	11.3	0.0	208.3	41.2
114	1.71	7.7	1.72	924.84	57.43	28.76	0.0	11.3	0.0	206.7	40.9
115	1.71	7.7	1.72	917.52	56.98	28.53	0.0	11.3	0.0	205.0	40.6
116	1.71	7.7	1.72	910.2	56.52	28.31	0.0	11.3	0.0	203.4	40.2
117	1.71	7.7	1.72	902.88	56.07	28.08	0.0	11.3	0.0	201.8	39.9
118	1.71	7.7	1.72	895.56	55.61	27.85	0.0	11.3	0.0	200.2	39.6
119	1.71	7.7	1.72	888.24	55.16	27.62	0.0	11.3	0.0	198.5	39.3
120	1.71	7.7	1.72	880.92	54.7	27.4	0.0	11.3	0.0	196.9	39.0
121	1.71	7.7	1.72	873.6	54.25	27.17	0.0	11.3	0.0	195.3	38.6
122	1.71	7.7	1.72	871.5	54.12	27.1	0.0	11.3	0.0	194.8	38.5
123	1.71	7.7	1.72	887.88	55.14	27.61	0.0	11.3	0.0	198.6	39.3
124	1.71	7.7	1.72	904.27	56.16	28.12	0.0	11.3	0.0	202.3	40.0
125	1.71	7.7	1.72	920.66	57.17	28.63	0.0	11.3	0.0	206.0	40.8
126	1.71	7.7	1.72	937.05	58.19	29.14	0.0	11.3	0.0	209.8	41.5
127	1.71	7.7	1.72	953.44	59.21	29.65	0.0	11.3	0.0	213.5	42.2
128	1.71	7.7	1.72	969.83	60.23	30.16	0.0	11.3	0.0	217.2	43.0
129	1.71	7.7	1.72	982.0	60.98	30.54	0.0	11.3	0.0	220.0	43.5
130	1.71	7.7	1.72	987.76	61.34	30.72	0.0	11.3	0.0	221.4	43.8
131	1.71	7.7	1.72	986.59	61.27	30.68	0.0	11.3	0.0	221.1	43.7
132	1.71	7.7	1.72	978.91	60.79	30.44	0.0	11.3	0.0	219.4	43.4
133	1.71	7.7	1.72	971.24	60.31	30.21	0.0	11.3	0.0	217.7	43.1
134	1.71	7.7	1.72	963.57	59.84	29.97	0.0	11.3	0.0	216.0	42.7
135	1.71	7.7	1.72	955.89	59.36	29.73	0.0	11.3	0.0	214.3	42.4
136	1.71	7.7	1.72	953.24	59.2	29.65	0.0	11.3	0.0	213.7	42.3
137	1.71	7.7	1.72	973.06	60.43	30.26	0.0	11.3	0.0	218.2	43.2
138	1.71	8.4	1.73	986.95	61.29	30.69	0.0	11.3	0.0	242.0	47.9
139	1.71	9.5	1.73	987.53	61.33	30.71	0.0	11.3	0.0	274.8	54.4
140	1.71	9.5	1.73	987.57	61.33	30.71	0.0	11.3	0.0	274.8	54.4
141	1.71	9.5	1.73	987.62	61.33	30.71	0.0	11.3	0.0	274.9	54.4
142	1.71	9.5	1.73	987.66	61.33	30.72	0.0	11.3	0.0	274.9	54.4
143	1.71	9.5	1.73	989.45	61.44	30.77	0.0	11.3	0.0	275.4	54.5
144	1.71	9.5	1.73	994.43	61.75	30.93	0.0	11.3	0.0	276.9	54.8
145	1.71	9.5	1.73	999.4	62.06	31.08	0.0	11.3	0.0	278.3	55.1
146	1.71	9.5	1.73	1004.38	62.37	31.24	0.0	11.3	0.0	279.7	55.3
147	1.71	9.5	1.73	1009.36	62.68	31.39	0.0	11.3	0.0	281.1	55.6
148	1.71	9.5	1.73	1014.32	62.99	31.55	0.0	11.3	0.0	282.6	55.9

149	1.71	9.5	1.73	1008.42	62.62	31.36	0.0	11.3	0.0	280.9	55.6
150	1.71	9.5	1.73	1002.51	62.26	31.18	0.0	11.3	0.0	279.3	55.3
151	1.71	9.5	1.73	996.61	61.89	30.99	0.0	11.3	0.0	277.7	54.9
152	1.71	9.5	1.73	990.71	61.52	30.81	0.0	11.3	0.0	276.1	54.6
153	1.71	9.5	1.73	984.8	61.16	30.63	0.0	11.3	0.0	274.4	54.3
154	1.71	9.5	1.73	978.9	60.79	30.44	0.0	11.3	0.0	272.8	54.0
155	1.71	9.5	1.73	973.0	60.42	30.26	0.0	11.3	0.0	271.2	53.7
156	1.71	9.5	1.73	967.1	60.06	30.08	0.0	11.3	0.0	269.6	53.3
157	1.71	9.5	1.73	961.19	59.69	29.89	0.0	11.3	0.0	267.9	53.0
158	1.71	9.5	1.73	955.29	59.32	29.71	0.0	11.3	0.0	266.3	52.7
159	1.71	9.5	1.73	949.39	58.96	29.53	0.0	11.3	0.0	264.7	52.4
160	1.71	9.5	1.73	943.49	58.59	29.34	0.0	11.3	0.0	263.1	52.0
161	1.71	9.5	1.73	937.58	58.22	29.16	0.0	11.3	0.0	261.4	51.7
162	1.71	9.5	1.73	931.68	57.86	28.98	0.0	11.3	0.0	259.8	51.4
163	1.71	13.8	1.76	923.64	57.36	28.73	0.0	11.3	0.0	379.5	75.1
164	1.71	15.0	1.77	912.84	56.69	28.39	0.0	11.3	0.0	410.3	81.2
165	1.71	15.0	1.77	902.64	56.05	28.07	0.0	11.3	0.0	405.7	80.3
166	1.71	15.0	1.77	893.53	55.49	27.79	0.0	11.3	0.0	401.6	79.5
167	1.71	15.0	1.77	884.42	54.92	27.51	0.0	11.3	0.0	397.6	78.7
168	1.71	15.0	1.77	875.31	54.36	27.22	0.0	11.3	0.0	393.5	77.9
169	1.71	15.0	1.77	866.21	53.79	26.94	0.0	11.3	0.0	389.4	77.0
170	1.71	15.0	1.77	857.1	53.23	26.66	0.0	11.3	0.0	385.3	76.2
171	1.71	15.0	1.77	847.99	52.66	26.37	0.0	11.3	0.0	381.3	75.4
172	1.71	15.0	1.77	838.89	52.09	26.09	0.0	11.3	0.0	377.2	74.6
173	1.71	15.0	1.77	829.78	51.53	25.81	0.0	11.3	0.0	373.1	73.8
174	1.71	15.0	1.77	820.67	50.96	25.52	0.0	11.3	0.0	369.0	73.0
175	1.71	17.1	1.79	810.5	50.33	25.21	0.0	11.3	0.0	417.7	82.6
176	1.71	26.4	1.91	794.1	49.31	24.7	0.0	11.3	0.0	662.8	131.1
177	1.71	26.4	1.91	772.53	47.97	24.03	0.0	11.3	0.0	644.8	127.6
178	1.71	26.4	1.91	750.97	46.63	23.36	0.0	11.3	0.0	626.8	124.0
179	1.71	26.4	1.91	728.0	45.21	22.64	0.0	11.3	0.0	607.6	120.2
180	1.71	26.4	1.91	704.67	43.76	21.92	0.0	11.3	0.0	588.2	116.4
181	1.71	26.4	1.91	681.35	42.31	21.19	0.0	11.3	0.0	568.7	112.5
182	1.71	34.5	2.07	652.83	40.54	20.3	0.0	11.3	0.0	754.1	149.2
183	1.71	35.6	2.1	618.35	38.4	19.23	0.0	11.3	0.0	744.2	147.2
184	1.71	35.6	2.1	583.09	36.21	18.13	0.0	11.3	0.0	701.7	138.8
185	1.71	35.6	2.1	547.82	34.02	17.04	0.0	11.3	0.0	659.3	130.4
186	1.71	35.6	2.1	512.56	31.83	15.94	0.0	11.3	0.0	616.9	122.0
187	1.71	35.6	2.1	477.29	29.64	14.84	0.0	11.3	0.0	574.4	113.6
188	1.71	38.9	2.2	444.82	27.62	13.83	0.0	11.3	0.0	603.5	119.4
189	1.71	41.3	2.27	408.66	25.38	12.71	0.0	11.3	0.0	602.3	119.2
190	1.71	41.3	2.27	370.61	23.01	11.53	0.0	11.3	0.0	546.2	108.1
191	1.71	41.3	2.27	332.55	20.65	10.34	0.0	11.3	0.0	490.1	97.0
192	1.71	41.3	2.27	294.5	18.29	9.16	0.0	11.3	0.0	434.1	85.9
193	1.71	41.3	2.27	256.44	15.93	7.98	0.0	11.3	0.0	378.0	74.8
194	1.71	41.3	2.27	218.39	13.56	6.79	0.0	11.3	0.0	321.9	63.7
195	1.71	41.3	2.27	180.33	11.2	5.61	0.0	11.3	0.0	265.8	52.6
196	1.71	41.3	2.27	146.71	9.11	4.56	0.0	11.3	0.0	216.2	42.8
197	1.71	41.3	2.27	114.11	7.09	3.55	0.0	11.3	0.0	168.2	33.3
198	1.71	41.3	2.27	81.51	5.06	2.53	0.0	11.3	0.0	120.1	23.8
199	1.71	41.3	2.27	48.9	3.04	1.52	0.0	11.3	0.0	72.1	14.3
200	1.71	41.3	2.27	16.3	1.01	0.51	0.0	11.3	0.0	24.0	4.8

SILLA
 VERIFICA ANALITICA DI STABILITA'
 IN CONDIZIONI SISMICHE
 (Approccio 1-Combinazione 2)

Fs=0.92 Sup...4
 Fs=0.87 Sup...3
 Fs=0.88 Sup...2
 Fs=0.86 Sup...1

Strato...1
 g=1.9 t/m³
 Fi=14°

