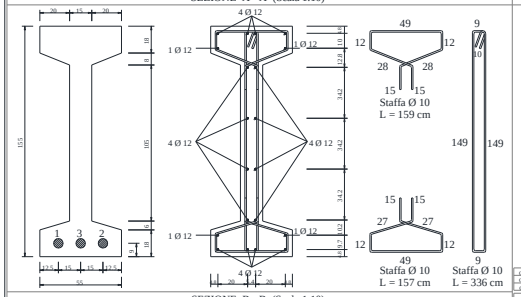
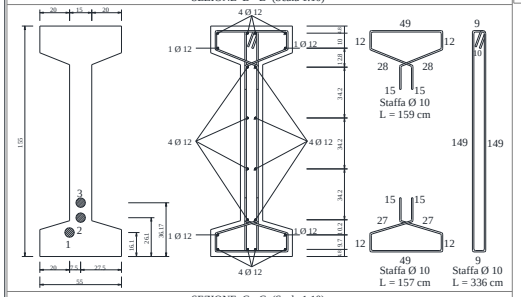
ALLEGATO GRAFICO 6

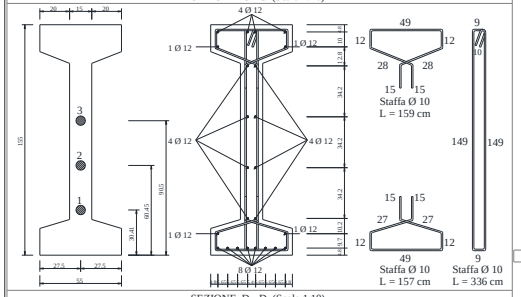
SEZIONE A - A (Scala 1:10)



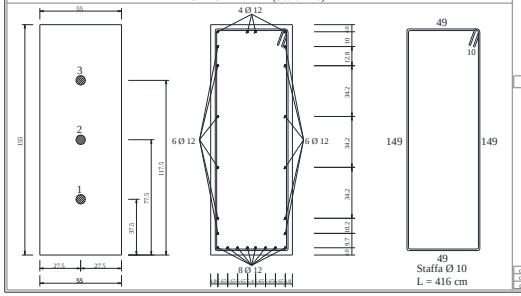
SEZIONE B - B (Scala 1:10)



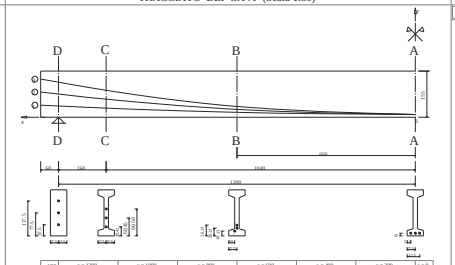
SEZIONE C - C (Scala 1:10)



SEZIONE D - D (Scala 1:10)

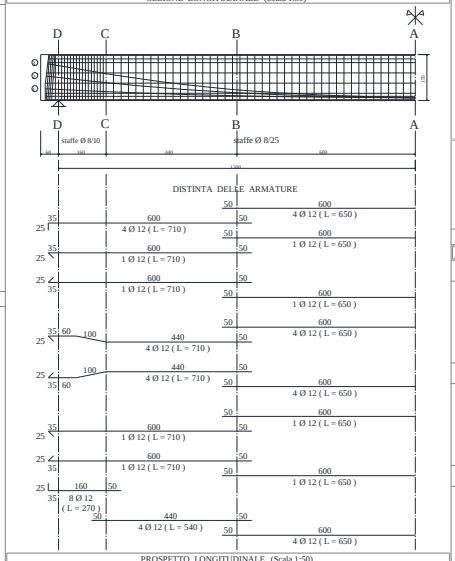


TRACCIATO DEI CAVI (Scala 1:50)

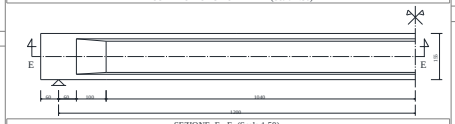


	x = 1200	x = 1200	x = 1000	x = 800	x = 600	x = 400	x = 200	x = 0	
CAVO 3	109.63	117.50	84.35	57.22	36.13	21.06	12.01	9	kN
CAVO 2	84.52	77.50	56.57	39.44	26.13	16.61	10.00	9	kN
CAVO 1	49.40	37.50	28.75	21.67	16.13	12.17	9.79	9	kN

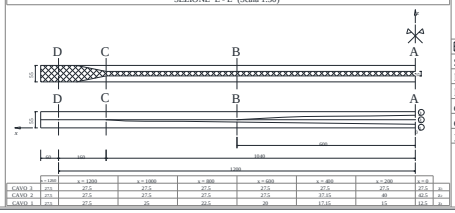
SEZIONE LONGITUDINALE (Scala 1:50)



PROSPETTO LONGITUDINALE (Scala 1:50)



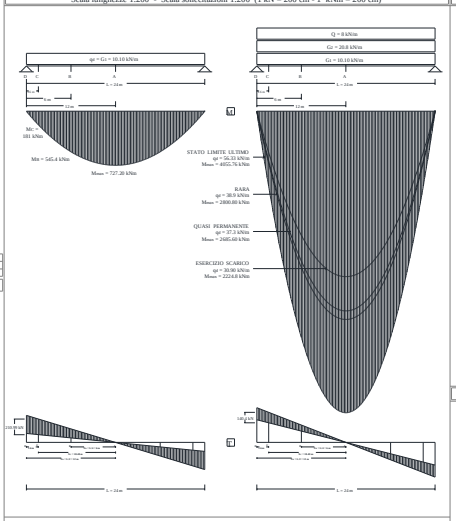
SEZIONE E - E (Scala 1:50)



	x = 1200	x = 1200	x = 1000	x = 800	x = 600	x = 400	x = 200	x = 0	
CAVO 3	273	27.5	27.5	27.5	27.5	27.5	27.5	27.5	kN
CAVO 2	273	27.5	27.5	27.5	27.5	37.45	49	40.5	kN
CAVO 1	273	27.5	25	22.5	20	17.15	15	12.5	kN

FASE DI TIRO / FASE DI ESERCIZIO

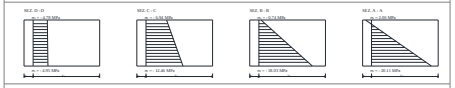
Scala lunghezze 1:200 - Scala sollecitazioni 1:200 (1 kN = 200 cm - 1 kNm = 200 cm)



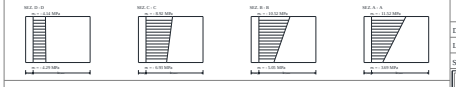
TENSIONI NORMALI

Scala lunghezze 1:50 - Scala tensioni 1 cm = 5 MPa

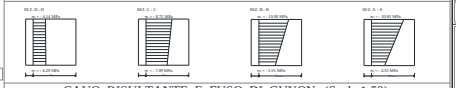
FASE DI TIRO $K_{0,min}$ = 3.06 MPa $K_{0,max}$ = - 22.40 MPa



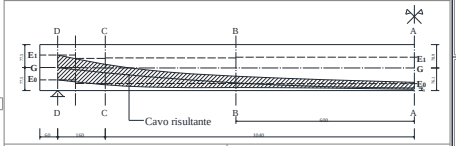
FASE DI ESERCIZIO (COMB. RARA) $K_{1,min}$ = 2.55 MPa $K_{1,max}$ = - 19.20 MPa



FASE DI ESERCIZIO (COMB. Q. P.) $K_{1,min}$ = 2.55 MPa $K_{1,max}$ = - 14.40 MPa



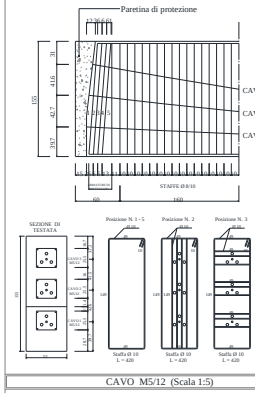
CAVO RISULTANTE E FUSO DI GUYON (Scala 1:50)



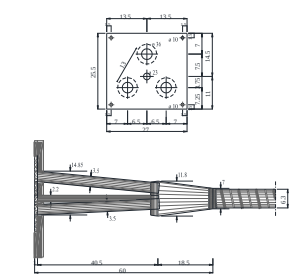
FUSO DI GUYON			
SEZIONE D - D	SEZIONE C - C	SEZIONE B - B	SEZIONE A - A
Mo/No = 0	Mo/No = 4.4 cm	Mo/No = 13.5 cm	Mo/No = 18.7 cm
Mmax/N = 0	Mmax/N = 20 cm	Mmax/N = 61.6	Mmax/N = 84.4 cm
e_0 = 41.35 cm	e_0 = 52.0 cm	e_0 = 52.27 cm	e_0 = 52.69 cm
e_1 = 42.24 cm	e_1 = 32.46 cm	e_1 = 34.04 cm	e_1 = 36.06 cm
y_{cr} = 77.316 cm	y_{cr} = 60.2 cm	y_{cr} = 26 cm	y_{cr} = 9 cm

DETTAGLI COSTRUTTIVI

ARMATURE DI FRETTAGGIO (Scala 1:20)



CAVO M5/12 (Scala 1:5)



Dimensioni piastra 25.5 x 27 [cm]	Peso teorico 0.0881 kN/m	Portata di servizio 1175.78 kN
Lunghezza del terminale 60 cm	Diametro interno guaina 6.3 cm	Portata iniziale 1449.2 kN
Sezione Nominale 11.148 cm²	Area del canale 32.1 cm²	Resistenza minima 1959.4 kN

UNIVERSITA' DEGLI STUDI DI NAPOLI "FEDERICO II"

FACOLTA' DI INGEGNERIA

Corso di laurea in

INGEGNERIA EDILE - ARCHITETTURA

D.I.ST. Dipartimento di Ingegneria Strutturale

Insegnamento di

TECNICA DELLE COSTRUZIONI

Prof. Ing. Antonio De Luca A. A. 2011/12

PROGETTO GUIDA DI UNA "TRAVE IN C. A. P. A CAVI SCORREVOLI"

RIFERIMENTO NORMATIVO

D. M. 14 - 01 - 2008

CARATTERISTICHE DEI MATERIALI

Calcestruzzo C 32/40

Acciaio (armatura ordinaria) B450C

Acciaio (trefoli) - § 11.3.3.2 NTC '08

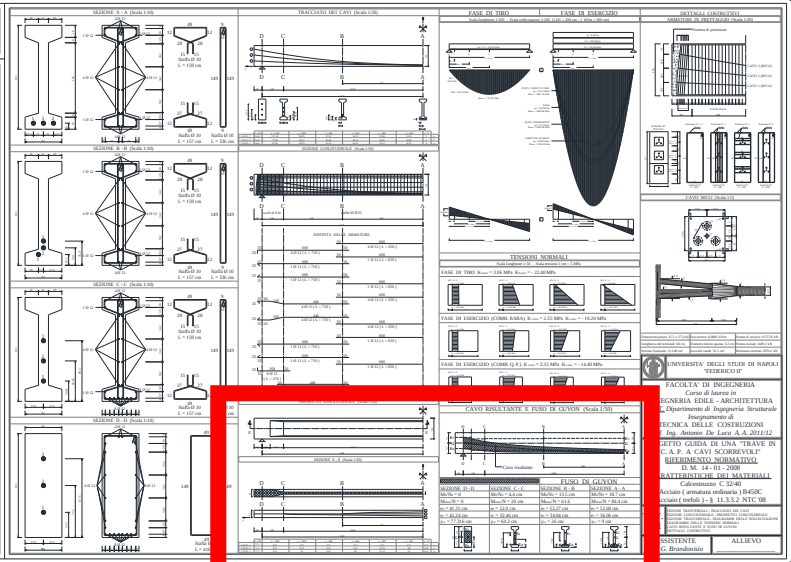
TAV. N° 1

SEZIONI TRASVERSALI - TRACCIATO DEI CAVI
SEZIONE LONGITUDINALE - PROSPETTO LONGITUDINALE
SEZIONE TRASVERSALE - DIAGRAMMI DELLE SOLLECITAZIONI
DIAGRAMMI DELLE TENSIONI NORMALI
CAVO RISULTANTE E FUSO DI GUYON
DETTAGLI COSTRUTTIVI

ASSISTENTE
Ing. G. Brandonisio

ALLIEVO

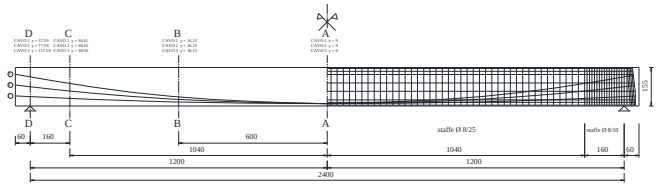
ALLEGATO GRAFICO 6



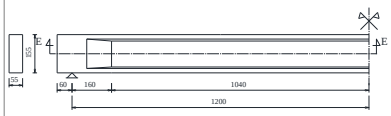
ALLEGATO GRAFICO 1

CARATTERISTICHE DELLA TRAVE	ACCIAIO ARMONICO	ARMATURA LONGITUDINALE ORDINARIA	
Tipo 155/55 H = 155 cm a = b = 55 cm bo = 15 cm	f_{ptk} = 1860 MPa		
L = 24 m *i* = 8 m G_1 = P.P. = 10.10 kN/m	$f_{p(1)k}$ = 1670 MPa	f_{yk} = 450 MPa	
Carico permanente G_2 = 20.8 kN/m	3 Cavi M5/12	f_{yd} = 391.3 MPa	
Carico accidentale Q = 8 kN/m	A_s = 11.148 cm²	Appoggio	Mezzeria
N_0 = 3250 kN N = 2600 kN β = 1.25	$A_{s\,tot}$ = 33.444 cm²	A's = 4 Ø 12 As = 8 Ø 12	A's = 4 Ø 12 As = 4 Ø 12

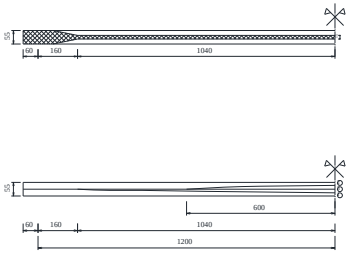
TRACCIATO DEI CAVI (Scala 1:200) DISTINTA ARMATURE

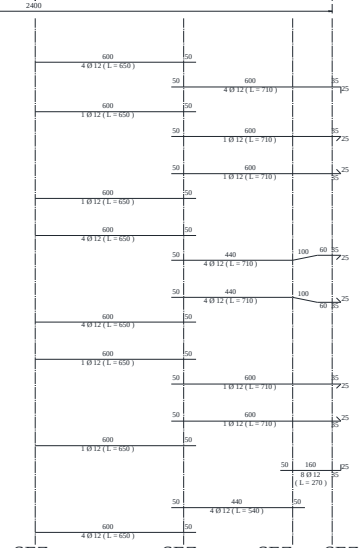


PROSPETTO LONGITUDINALE
(Scala 1:200)

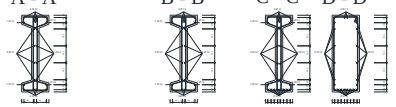


SEZIONE E - E
(Scala 1:200)





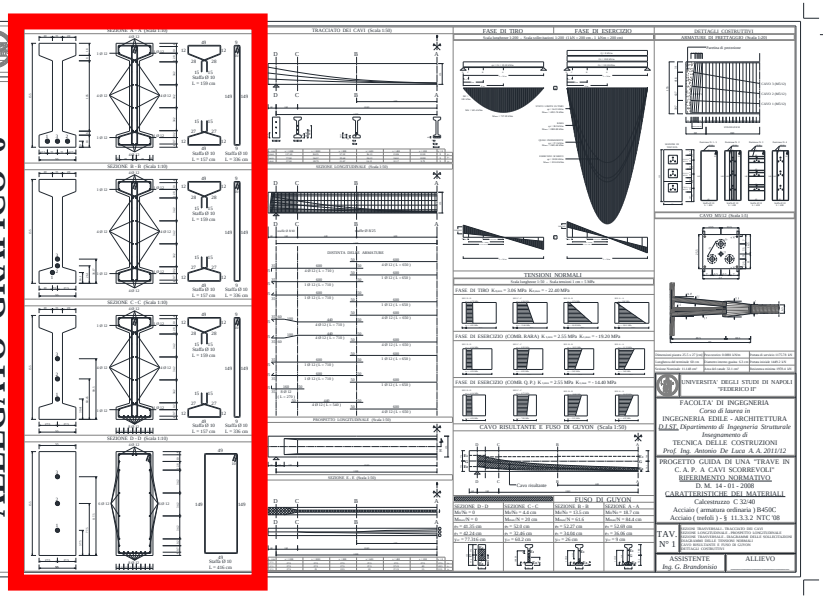
SEZ. A - A | SEZ. B - B | SEZ. C - C | SEZ. D - D



SEZIONI TRASVERSALI
(Scala 1:100)

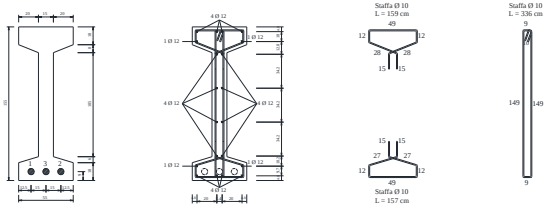
(SI VEDA L'ALLEGATO GRAFICO 2)

ALLEGATO GRAFICO 6

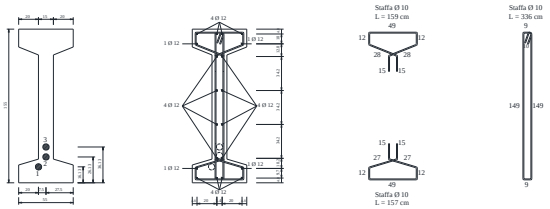


ALLEGATO GRAFICO 2

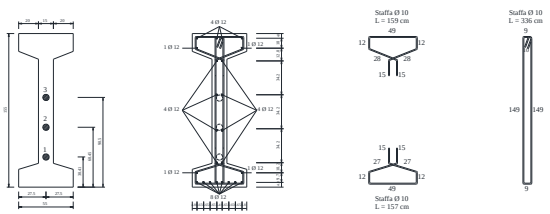
SEZIONE A - A (Scala 1:50)



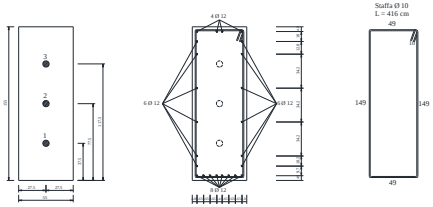
SEZIONE B - B (Scala 1:50)

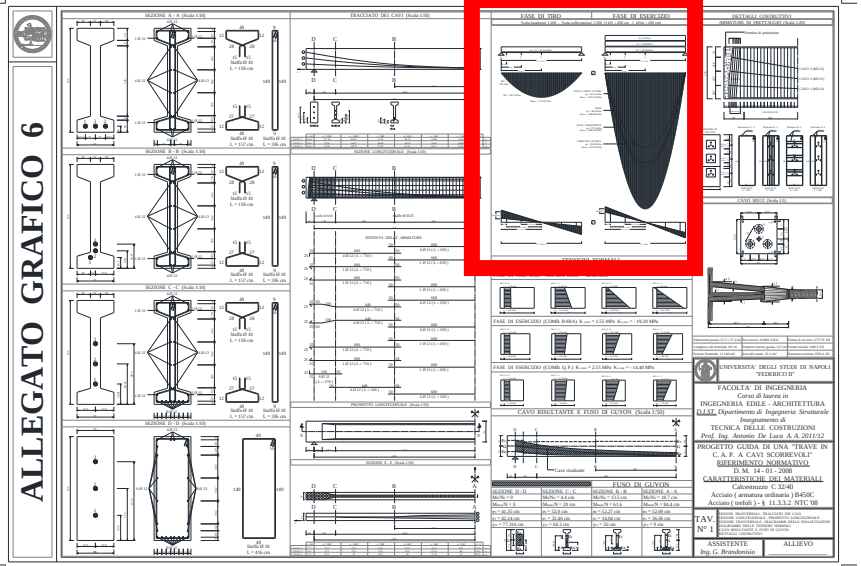


SEZIONE C - C (Scala 1:50)



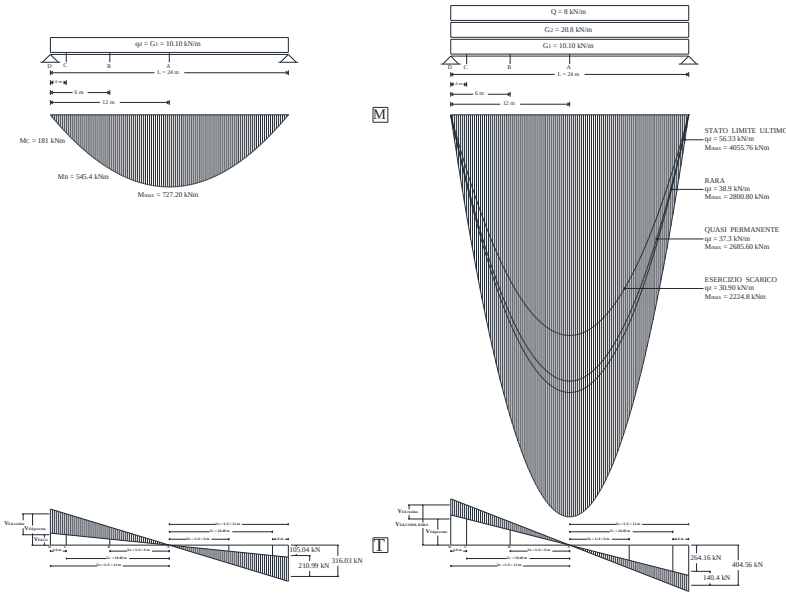
SEZIONE D - D mezzeria (Scala 1:50)





ALLEGATO GRAFICO 3

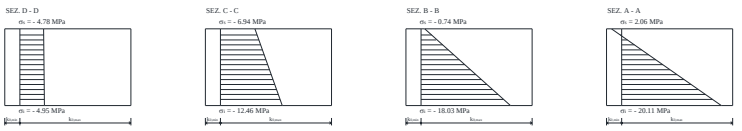
FASE DI TIRO	Scala lunghezze 1:500 Scala sollecitazioni 1:500	FASE DI ESERCIZIO	Scala lunghezze 1:500 Scala sollecitazioni 1:500



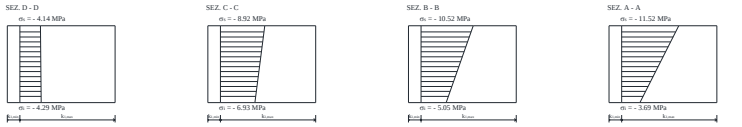
TENSIONI NORMALI

Scala lunghezze 1:100
Scala tensioni 1 cm = 10 MPa

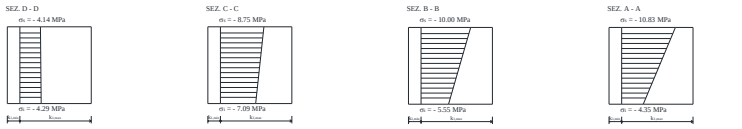
FASE DI TIRO $K_{0,min}$ = 3.06 MPa $K_{0,max}$ = - 22.40 MPa



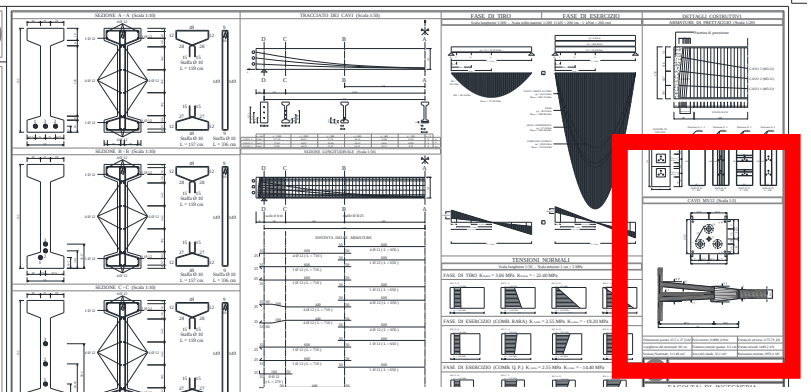
FASE DI ESERCIZIO (COMB. RARA) $K_{1,min}$ = 2.55 MPa $K_{1,max}$ = - 19.20 MPa



FASE DI ESERCIZIO (COMB. Q. P.) $K_{1,min}$ = 2.55 MPa $K_{1,max}$ = - 14.40 MPa

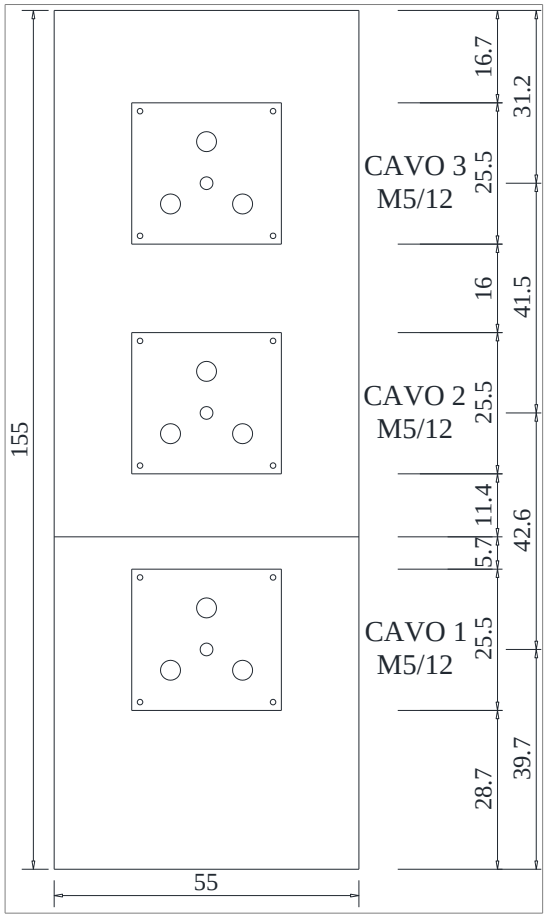


ALLEGATO GRAFICO 6

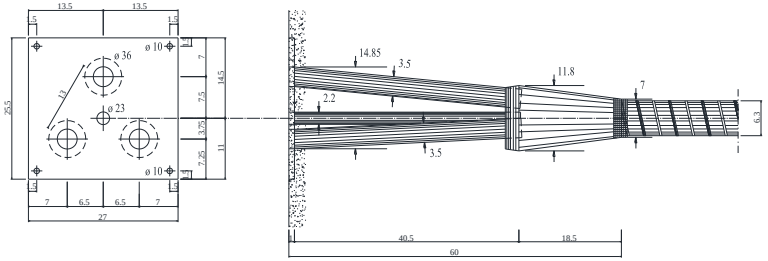


ALLEGATO GRAFICO 4

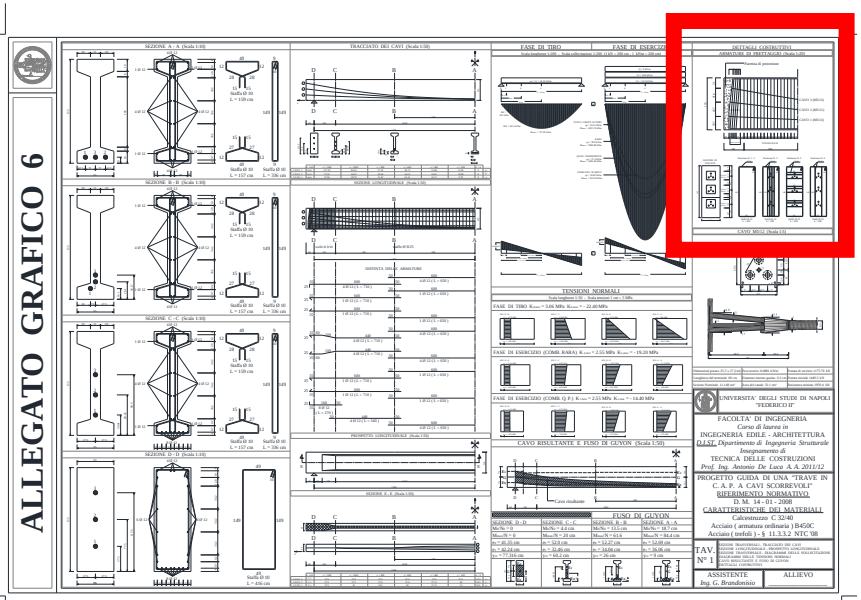
PARTICOLARE SEZIONE DI TESTATA
Scala 1:10



PARTICOLARE CAVO M5/12 - Scala 1:10

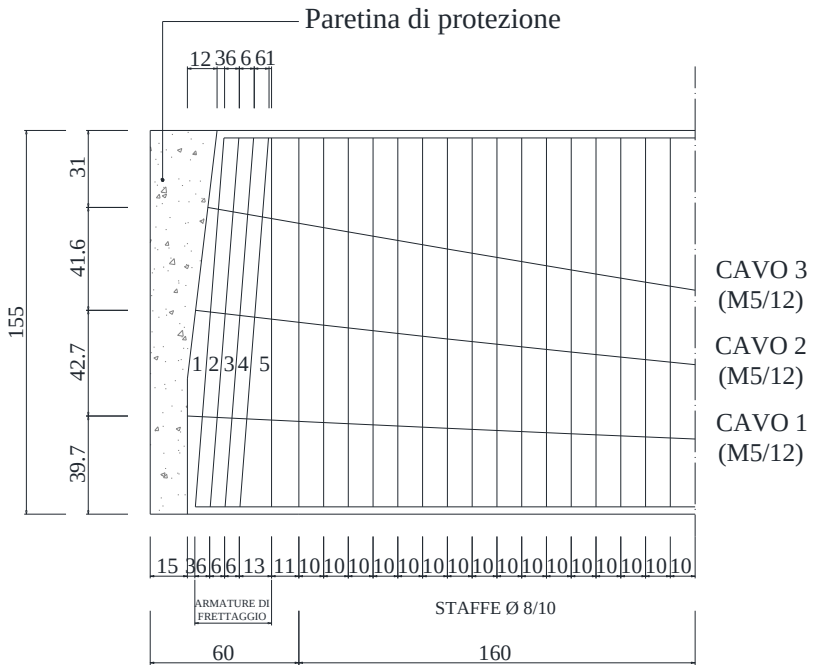


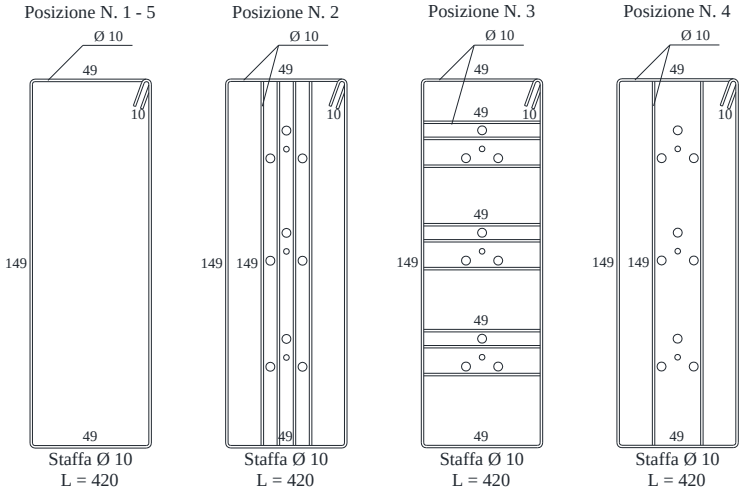
Dimensioni piastra 25.5 x 27 [cm]	Peso teorico 0.0881 kN/m	Portata di servizio 1175.78 kN
Lunghezza del terminale 60 cm	Diametro interno guaina 6.3 cm	Portata iniziale 1449.2 kN
Sezione Nominale 11.148 cm²	Area del canale 32.1 cm²	Resistenza minima 1959.4 kN



ALLEGATO GRAFICO 5

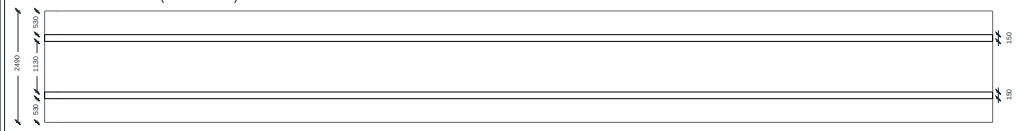
ARMATURE DI FRETTAGGIO - Scala 1:20





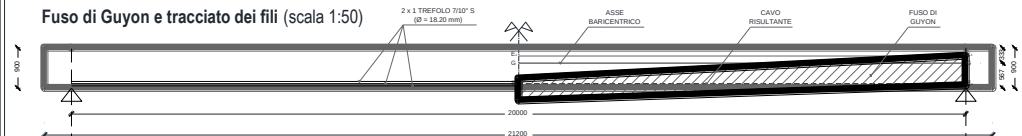
C:\Users\USER\Desktop\precompresso giacomo\TAB.JPG

Vista dal basso (scala 1:50)

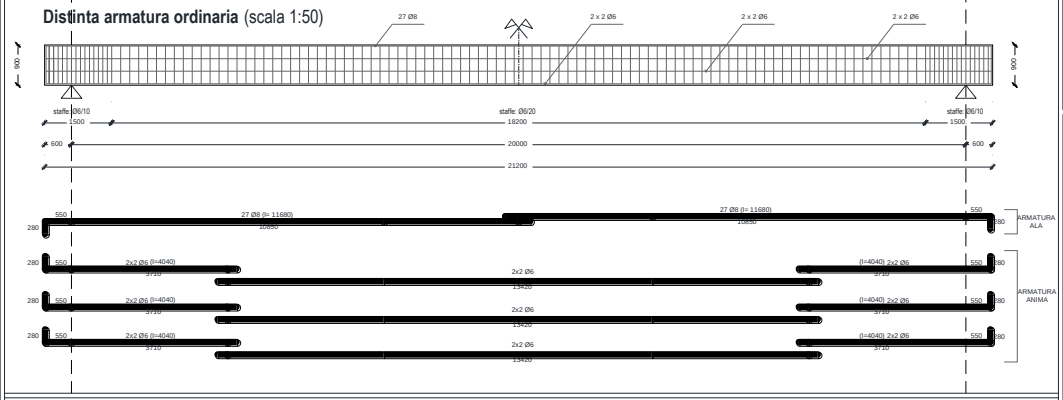


Vista laterale (scala 1:50)

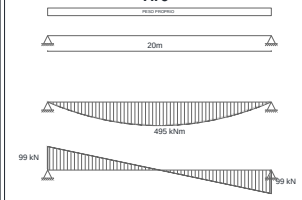
Fuso di Guyon e tracciato dei fili (scala 1:50)



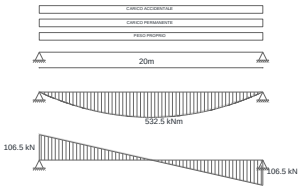
Distinta armatura ordinaria (scala 1:50)



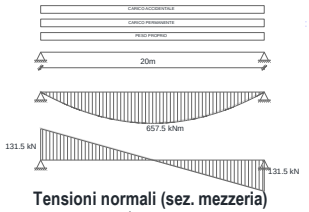
Tiro



Esercizio (Q.P.)

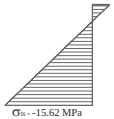


Esercizio (Rara)



Tensioni normali (sez. mezzeria)

σ_{ts} = 3.05 MPa



σ_{ti} = -15.62 MPa

Tensioni normali (sez. mezzeria)

σ'_{s} = - 2. 65 MPa

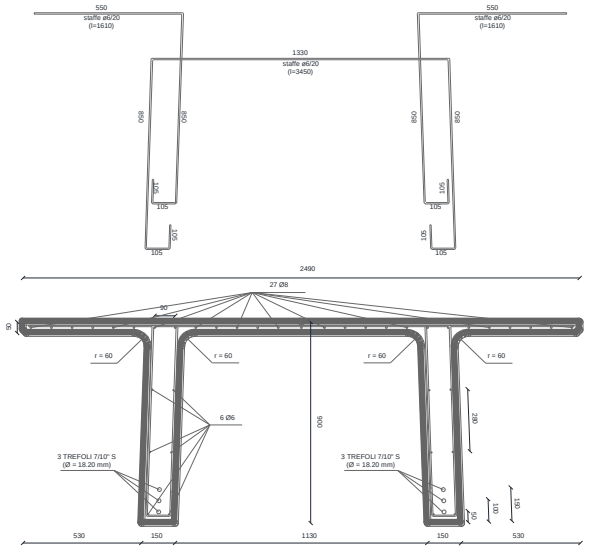
σ'_{i} = - 4.10 MPa

Tensioni normali (sez. mezzeria)

σ'_{s} = - 3.83 MPa

σ'_{i} = - 2.16 MPa

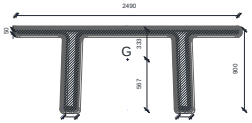
SEZIONI TRASVERSALE DEL TEGOLONE (scala 1:10)



Caratteristiche della trave:

L=20 m H= 0.90 m
B (ala) = 2.49 m
B(anima) = 0.15 m
interrasse = 2.50 m
Peso Proprio = 9.90 kN/m
Carico permanente = 0.3 kN/m²
Carico accidentale = 1 kN/m²
N = 1290 kN N°= 1695.6 kN β = 1.31 kN

C:\Users\USER\Desktop\tegolo.JPG



Caratteristiche dei materiali:

Calcestruzzo C32/40
Rck = 40 MPa

Acciaio ordinario B450C
fyk= 450 MPa
fyd= 391.3 MPa
Af = 0.1 x area anima

Acciaio armonico: trefoli 7/10" S
fptk = 1770 MPa
fp1k = 1570 MPa
ω = 200 mm² Ø = 18.20 mm
Ea = 200000 MPa

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CORSO DI TECNICA DELLE COSTRUZIONI
Prof. Ing. Antonello De Luca

TRAVE IN C.A.P. a fili aderenti

Caratteristiche dei materiali:

calcestruzzo C32/40
acciaio B450C
trefoli 7/10" S

Assistente:
Ing. G. Brandonisio