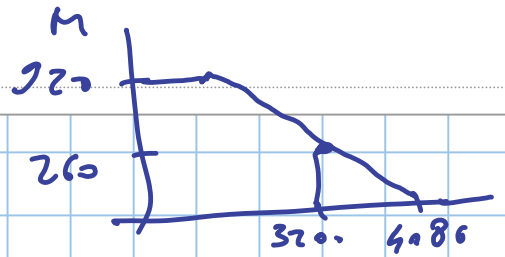
Titolo nota 10/12/2019

PROGETTO



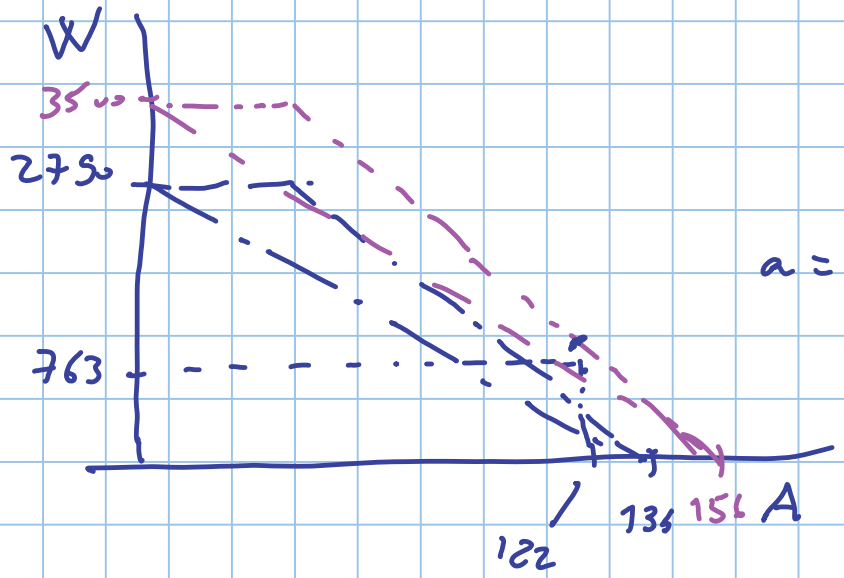
$N_{Ed} = 3200\ KN$

$M_{y,Ed} = 200\ KN_m$

S275

$$A \geq \frac{3200 \times 10^3 \times 1.05}{275} = 122.18 \times 10^2\ mm^2$$

$$W_{y,pl} \geq \frac{200 \times 10^6 \times 1,05}{275} = 763.6 \times 10^3\ mm^3$$



IPE 600

$W_{pl} = 3512$

$A = 156$

$M_{Rd} = 919.8\ KN_m$

$N_{Rd} = 4086\ KN$

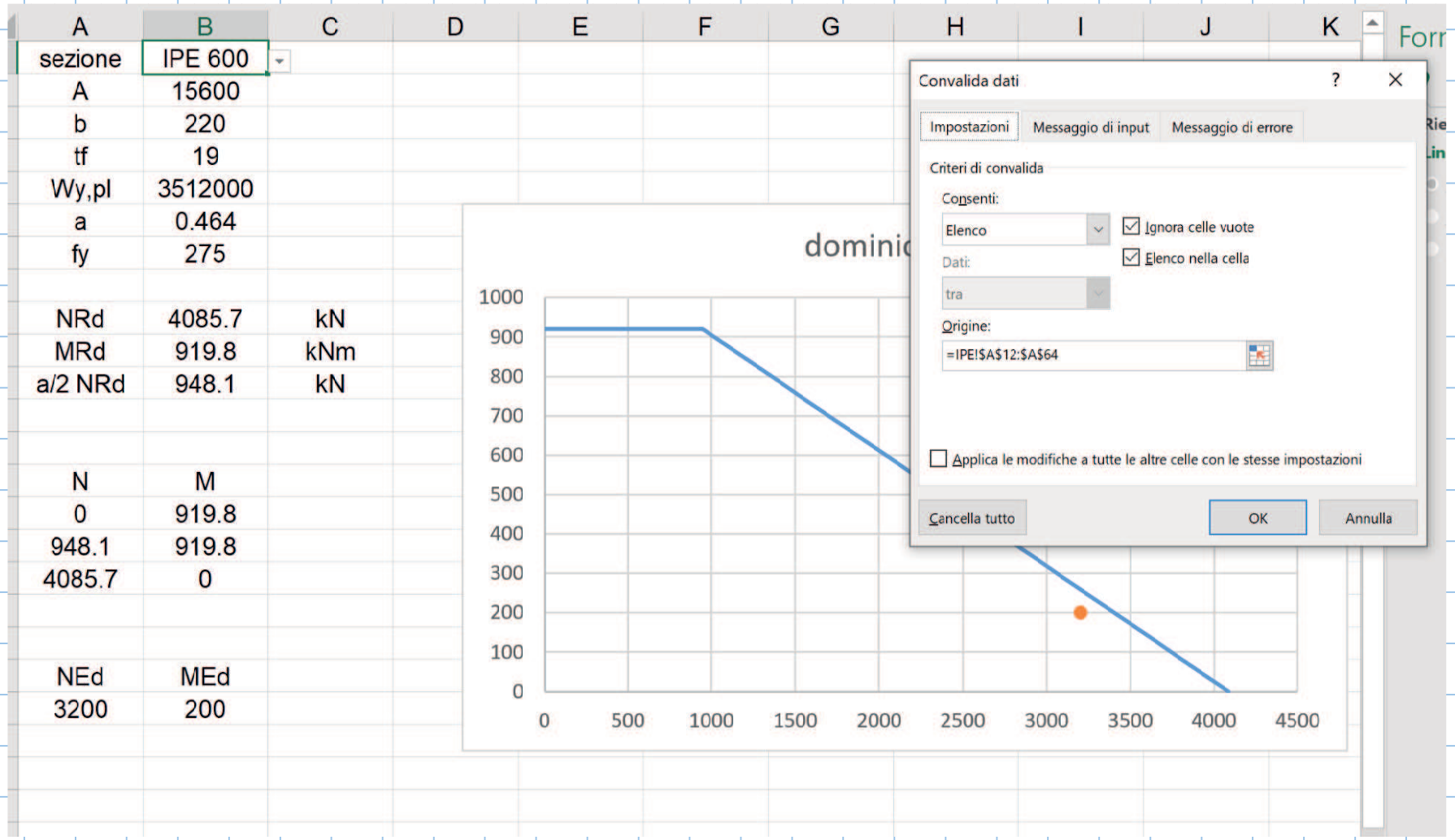
$\frac{N}{N_{Rd}} = 0.783$

$$a = \frac{15600 - 2 \times 220 \times 19}{15600} = 0.464$$

$$M_{y,N,Rd} = M_{y,Rd}\left(1 - \frac{N}{N_{Rd}}\right)\frac{1}{1-0.5a} = 259.9\ KN$$

0.282 ; 0.217 ; 0.768

OK


A
B
C
D
E
F
G
H
I
J
K
sezione
IPE 600
A
15600
b
220
tf
19
Wy,pl
3512000
a
0.464
fy
275
NRd
4085.7
kN
MRd
919.8
kNm
a/2 NRd
948.1
kN
N
M
0
919.8
948.1
919.8
4085.7
0
NEd
MEd
3200
200
dominio
1000
900
800
700
600
500
400
300
200
100
0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
Convalida dati
Impostazioni
Messaggio di input
Messaggio di errore
Criteri di convalida
Consenti:
Elenco
Ignora celle vuote
Elenco nella cella
Dati:
tra
Origine:
=IPE!$A$12:$A$64
Applica le modifiche a tutte le altre celle con le stesse impostazioni
Cancella tutto
OK
Annulla

PROGETTO

$N_{Ed} = 1750\ KN$

$M_{z,Ed} = 85\ KNm$

S 275

$$A \geq \frac{1750 \times 10^3 \times 1.05}{275} = 66.82 \times 10^2\ mm^2$$

$$W_{z,pl} \geq \frac{85 \times 10^6 \times 1.05}{275} = 324.5 \times 10^3\ mm^3$$

HE 240 B

$A = 106$

$W_{pl,z} = 498.5$

$N_{Rd} = 2776\ KN$

$M_{z,Rd} = 130.5\ KNm$

$\frac{N}{N_{Rd}} = 0.630$

$$a = \frac{10600 - 2 \times 240 \times 17}{10600} = 0.230$$

$a N_{Rd} = 639\ KN$

$$M_{z,N,Rd} = M_{Rd}\left(1 - \left[\frac{N/N_R - a}{1-a}\right]^2\right) = 95.3\ KNm$$

0.730

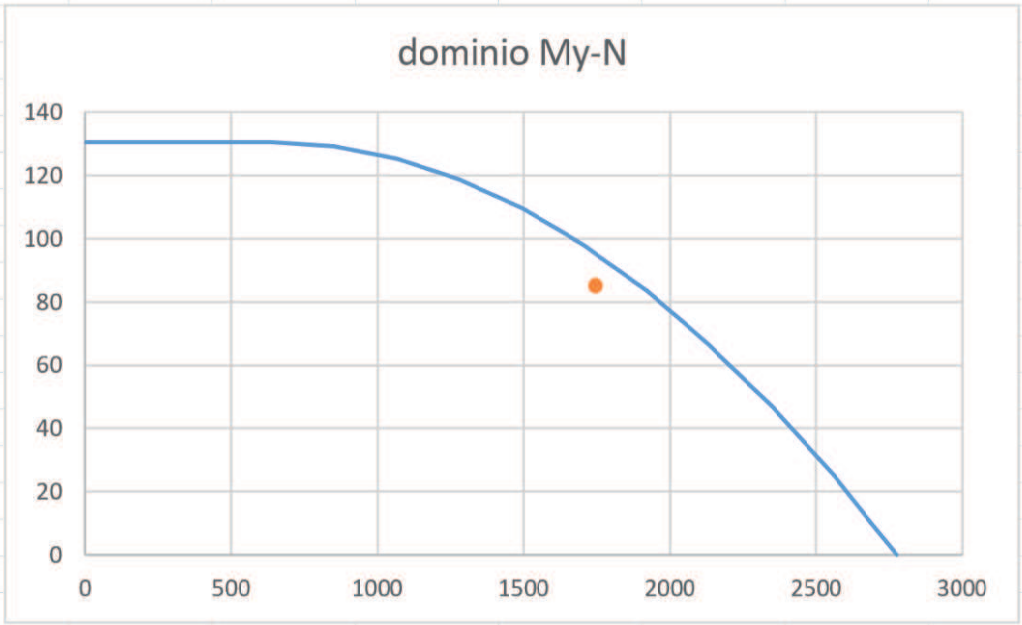
0.519

OK

sezione	HE 240 B	
A	10600	
b	240	
tf	17	
Wz,pl	498400	
a	0.230	
fy	275	
NRd	2776.2	kN
MRd	130.5	kNm
a NRd	639.0	kN

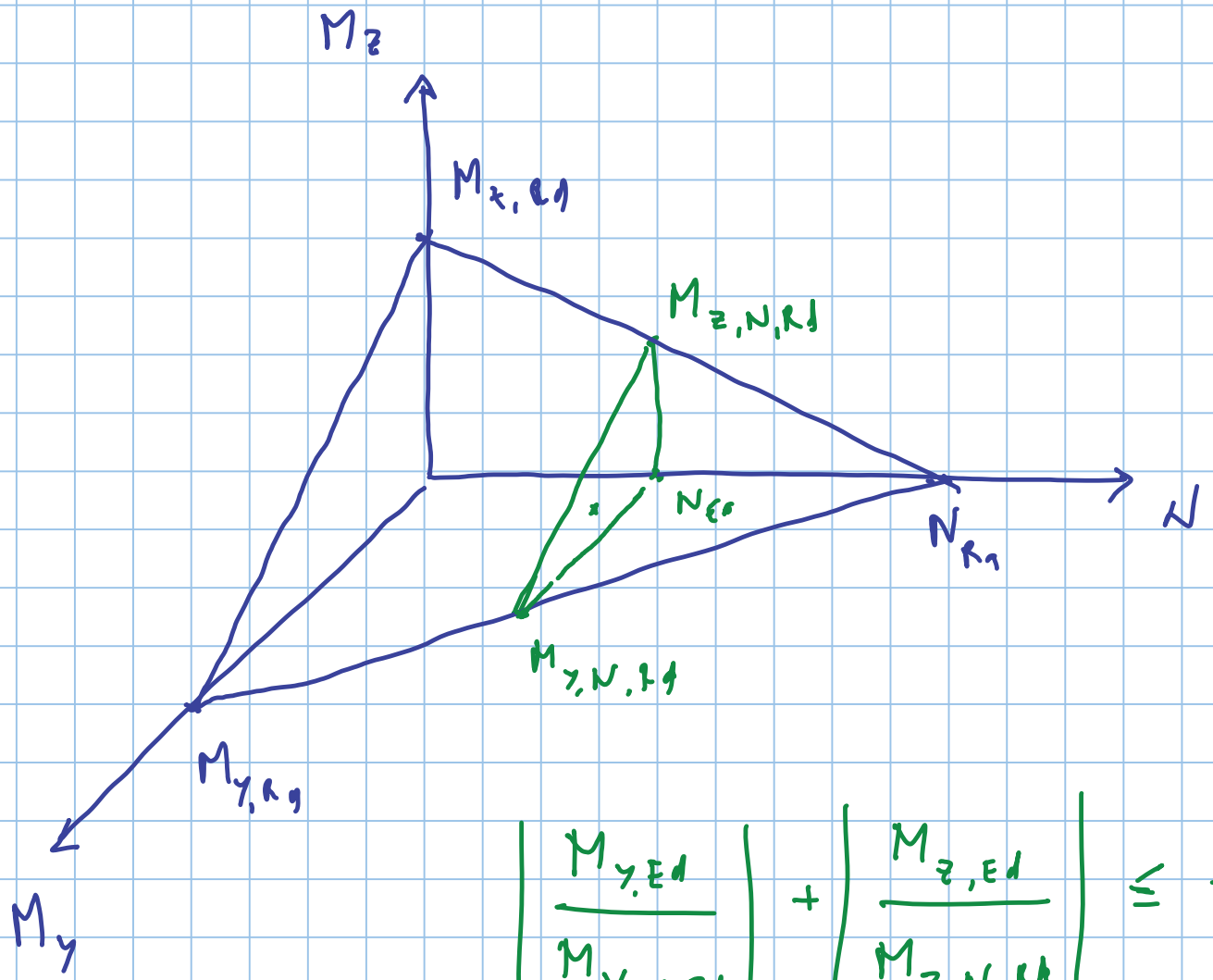
NEd	MEd
1750	85

	N	M
	0	130.5
0	639.0	130.5
0.1	852.8	129.2
0.2	1066.5	125.3
0.3	1280.2	118.8
0.4	1493.9	109.6
0.5	1707.6	97.9
0.6	1921.3	83.5
0.7	2135.0	66.6
0.8	2348.8	47.0
0.9	2562.5	24.8
1	2776.2	0.0



classe 3

modello lineare

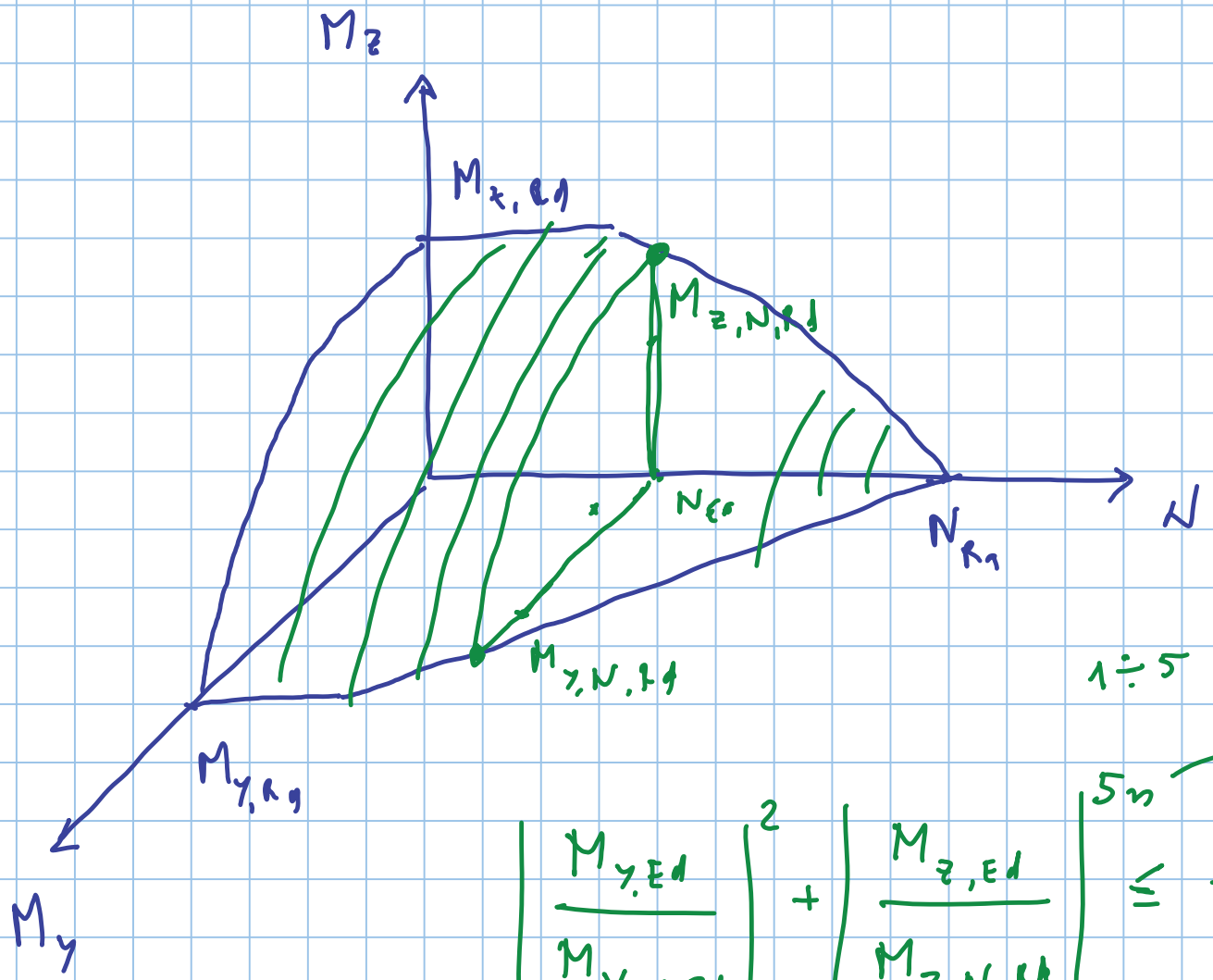


$$\left|\frac{M_{y,Ed}}{M_{y,N,Rd}}\right| + \left|\frac{M_{z,Ed}}{M_{z,N,Rd}}\right| \leq 1$$

$$\sigma = \frac{N}{A} + \frac{M_y}{I_y} z - \frac{M_z}{I_z} y = \frac{f_y}{\gamma_m}$$

pian.

classe 1 e 2



$1 \div 5$

$$n = \frac{N_{Ed}}{N_{Rd}}$$

$$\left| \frac{M_{y,Ed}}{M_{y,N,Rd}} \right|^{2} + \left| \frac{M_{z,Ed}}{M_{z,N,Rd}} \right|^{5n} \leq 1 \qquad 5n \geq 1$$