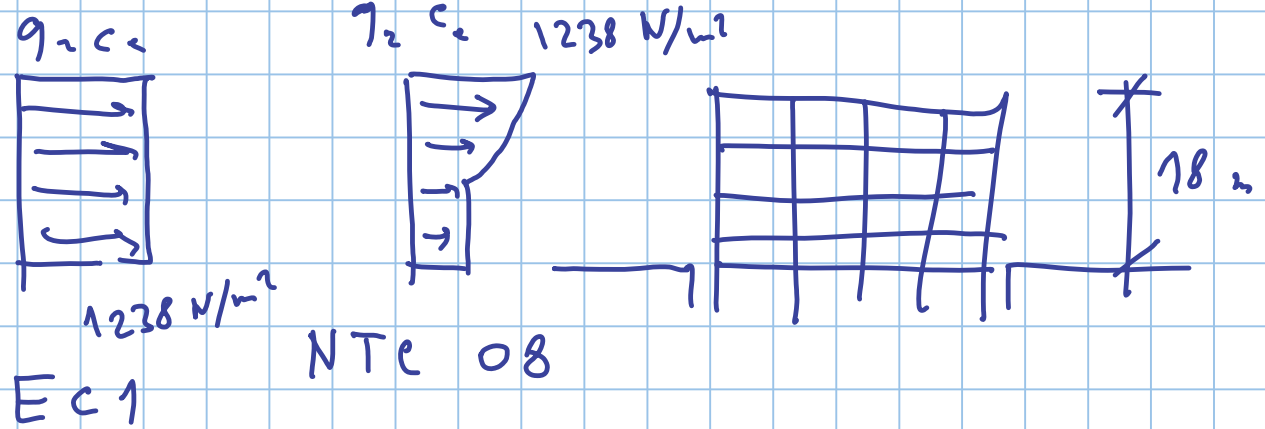
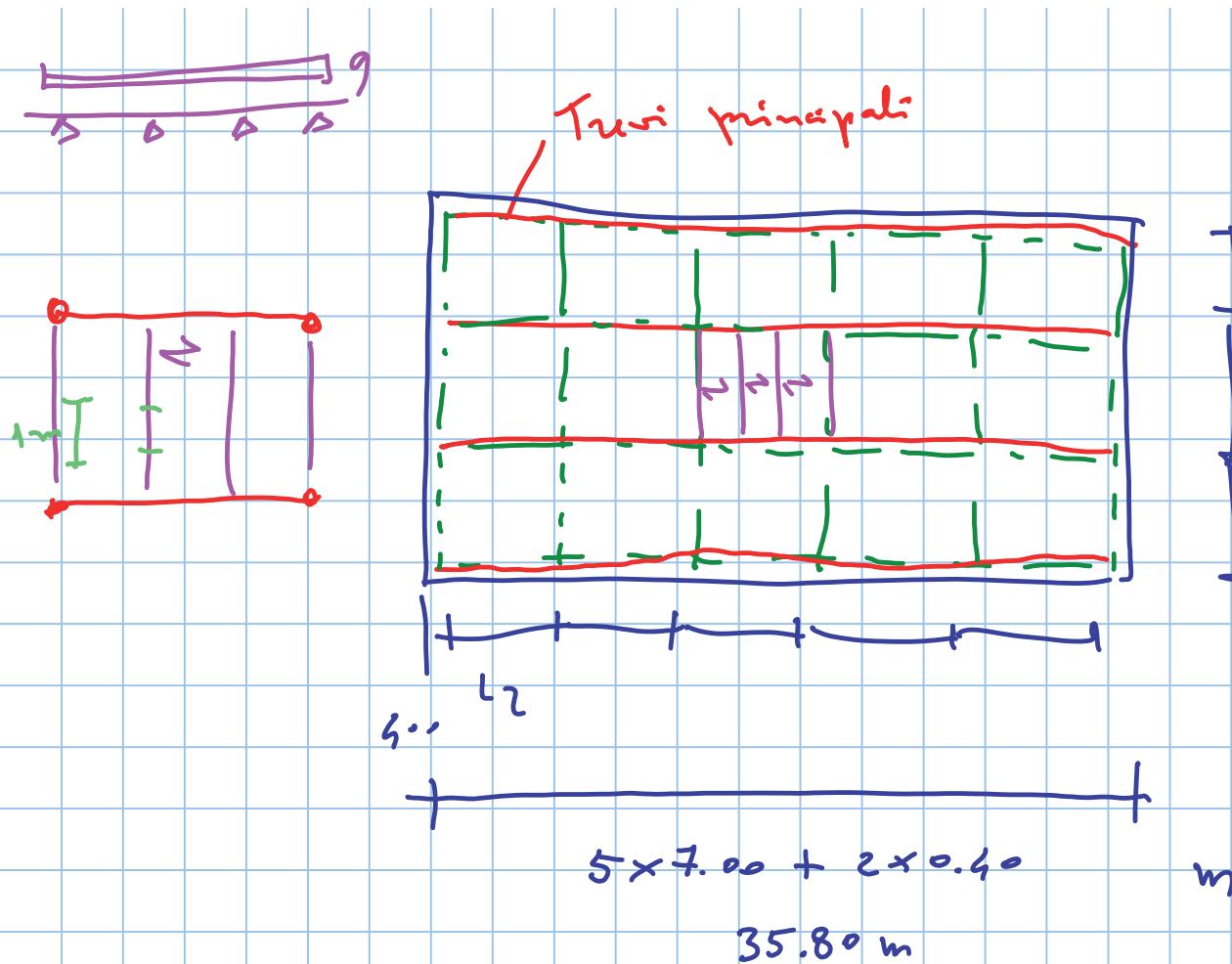


# VENTO

Titolo nota

24/10/2018





$$L_2 = 7000 \text{ mm}$$

$$L_1 = 6200 \text{ mm}$$

$$H = 3500 \text{ mm}$$

altezza fuori Terra

$$5 \times 3.50 = 17.50 \text{ m}$$

migli. scegliere per Travi principali  
quelle di lunghezza maggiore

Travi secondarie

3 camp. da 2.33 m

4 camp. da 1.75 m

coefficiente di pressione

parte superiore

$$\frac{h}{d} = \frac{17.50}{19.40} = 0.902$$

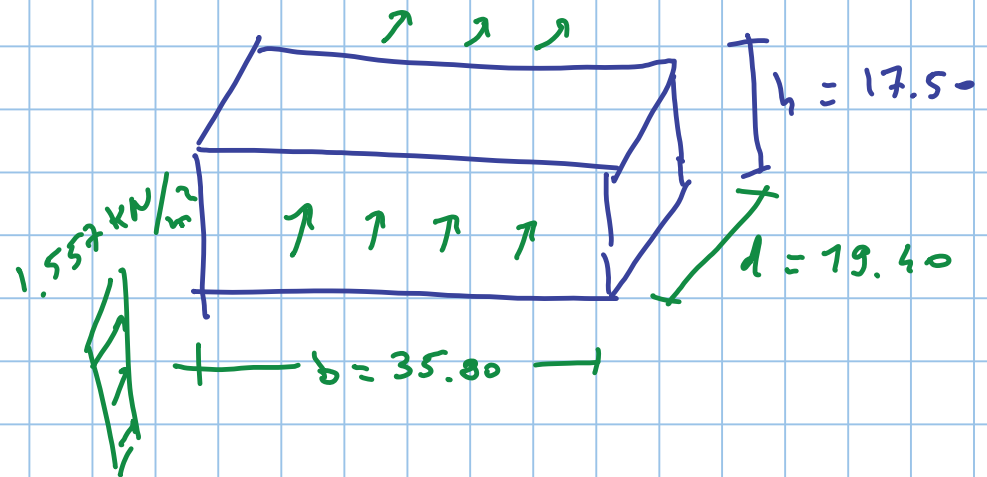
$$c_p = 0.7 + 0.1 \frac{h}{d} = 0.790$$

parte sott. int.

$$c_p = -0.3 - 0.2 \frac{h}{d} = -0.480$$

eff.  $c_p$  compressione

$$0.790 + 0.480 = 1.270$$



$$q_z c_e = 1226 \text{ N/m}^2$$

$$1226 \times 1.270 = 1557 \text{ N/m}^2$$

$$= 1.557 \text{ kN/m}^2$$

parte superior

$$\frac{h}{d} = \frac{17.50}{35.80} = 0.489$$

$$c_p = 0.7 + 0.1 \frac{h}{d} = 0.749$$

parte inferior

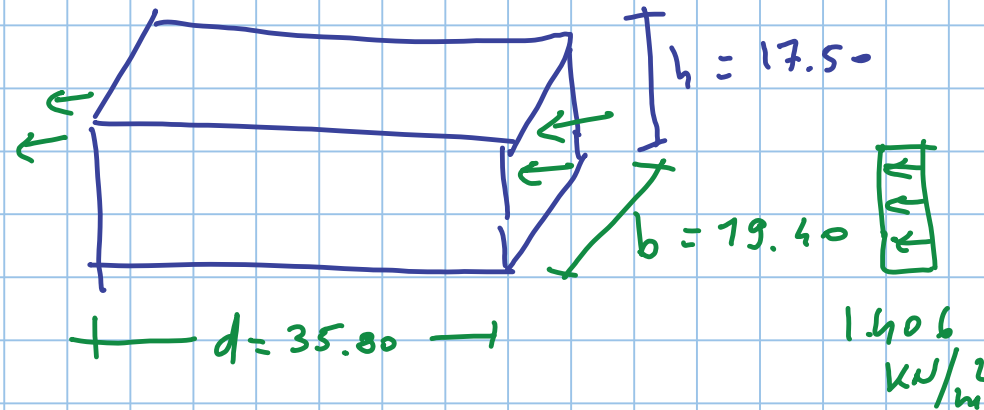
$$c_p = -0.3 - 0.2 \frac{h}{d} = -0.398$$

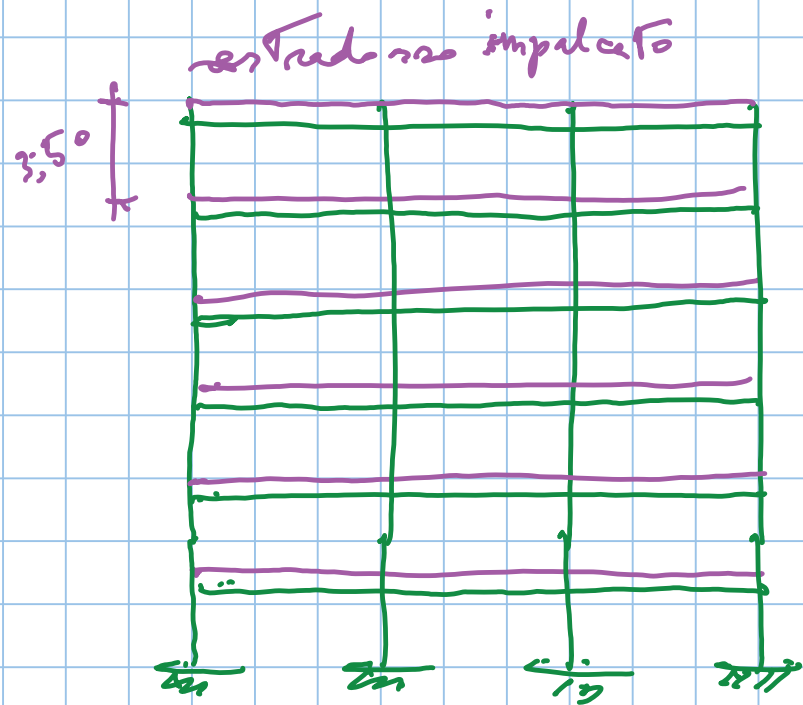
valor complessivo

$$0.749 + 0.398 = 1.147$$

$$1226 \times 1.147 = 1406 \text{ N/m}^2$$

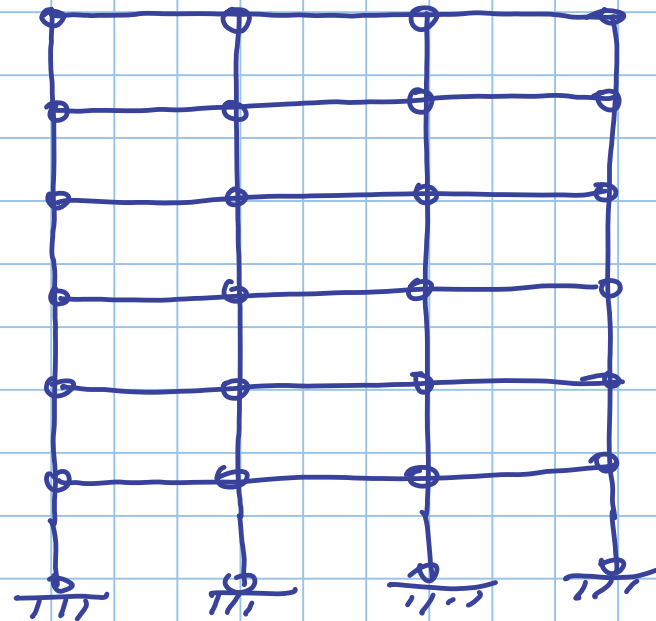
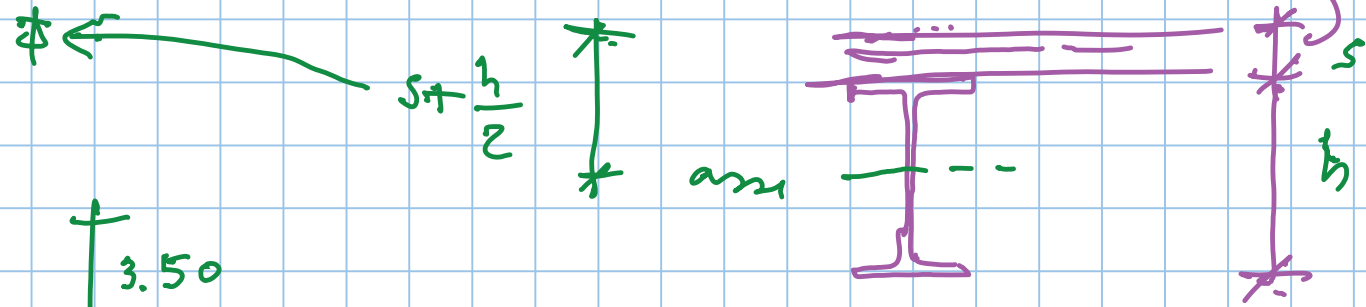
$$= 1.406 \text{ kN/m}^2$$



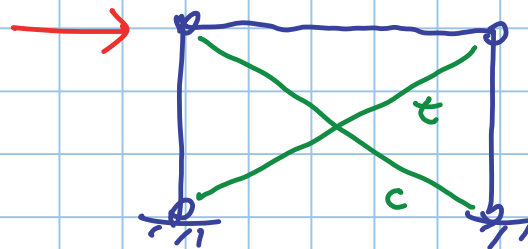
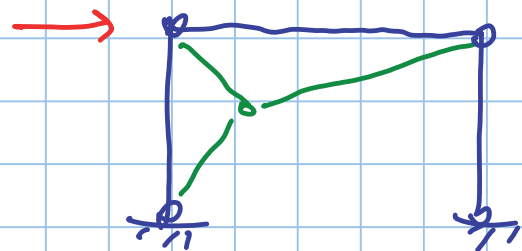
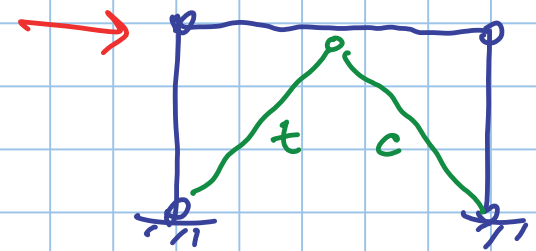
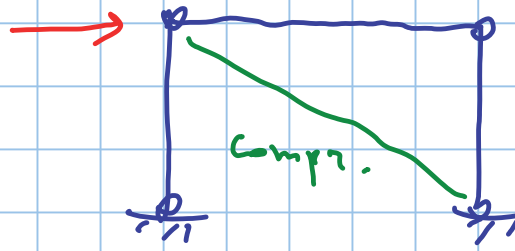
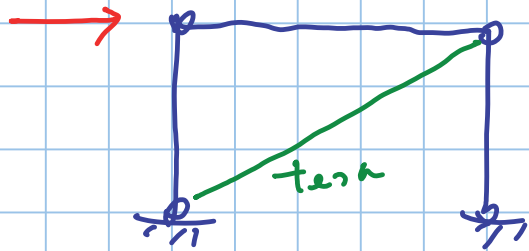


OGGETTO  
REALE

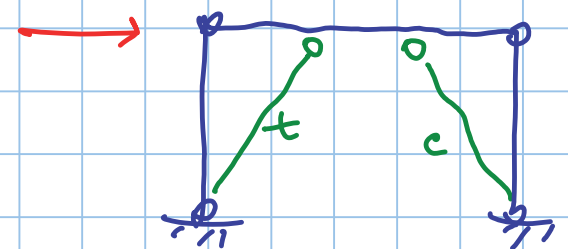
è necessario  
inserire  
diagonali  
di controvento.



MODELLO

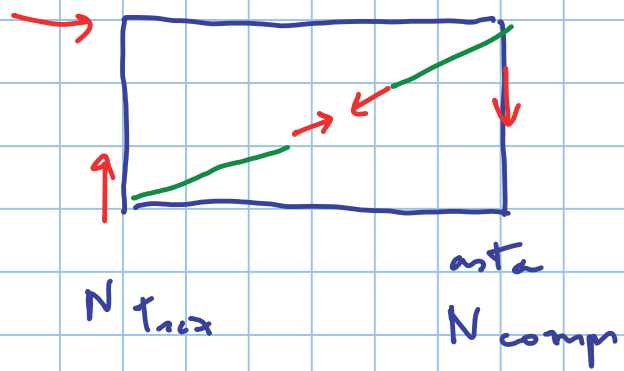
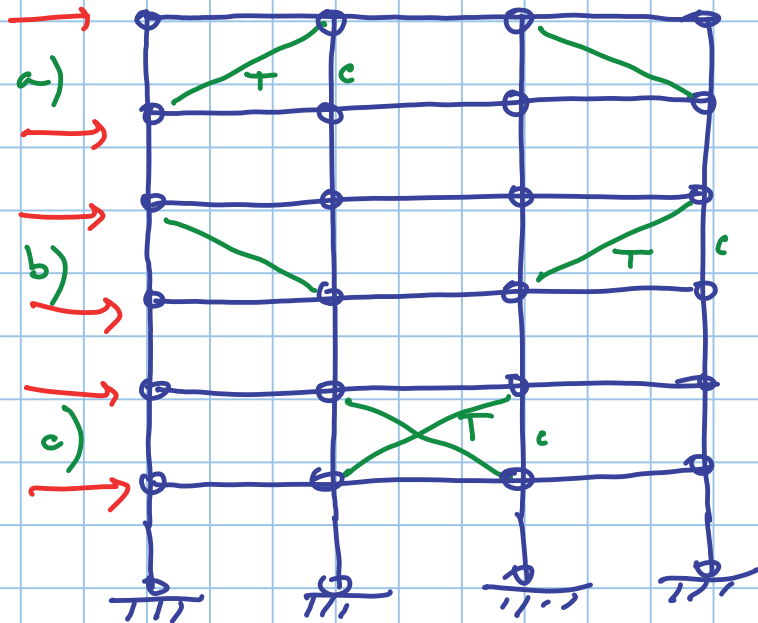


trascuriamo il  
contributo  
all'asta compressa

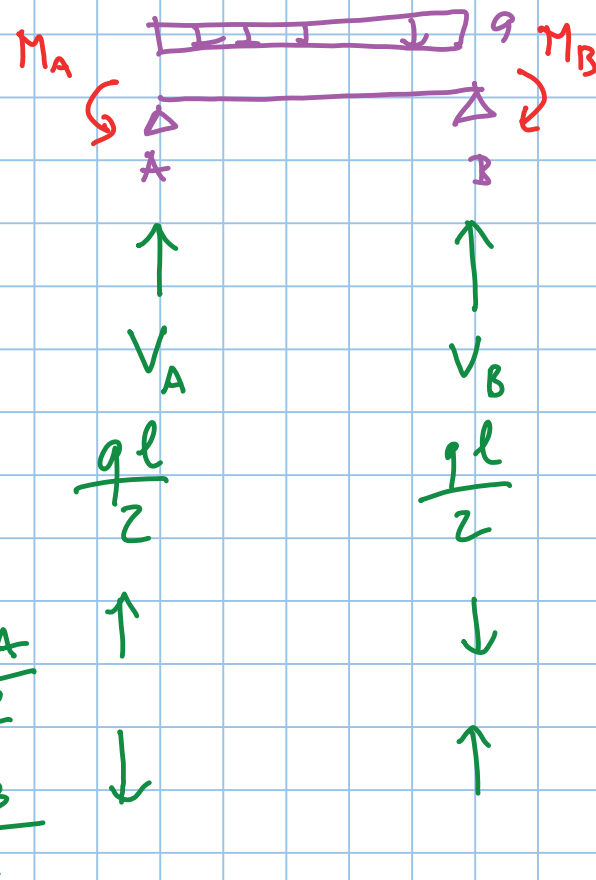
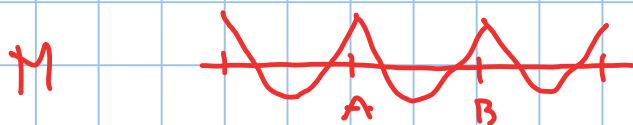
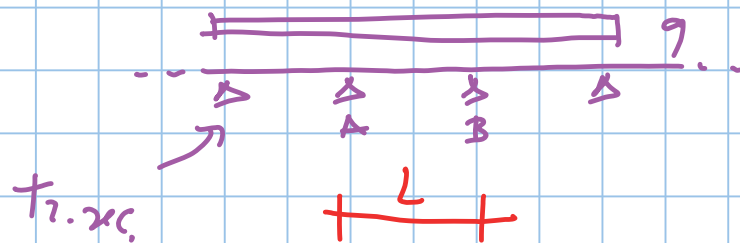


entrambe le aste  
devono lavorare

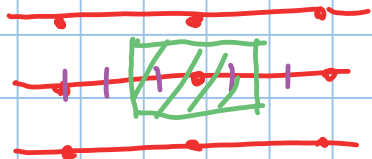
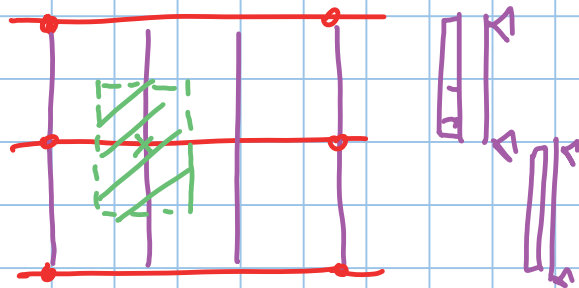
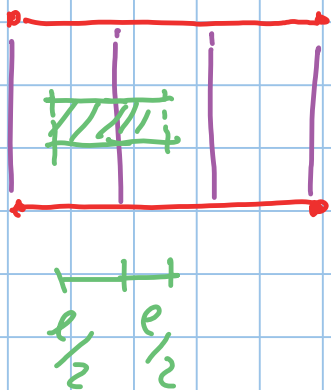
solution diagram



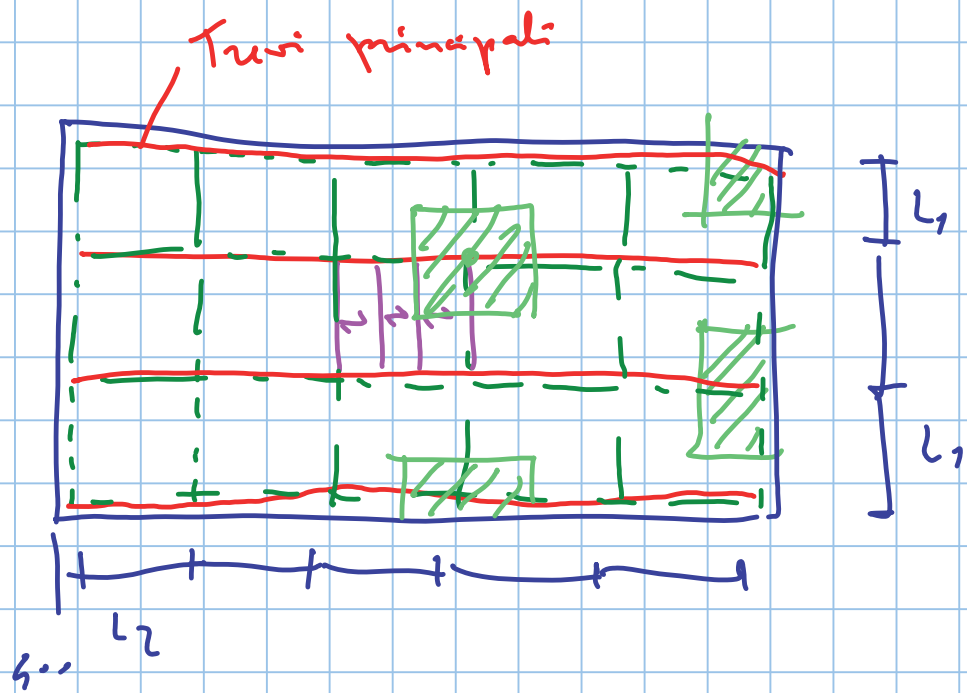
lamiera

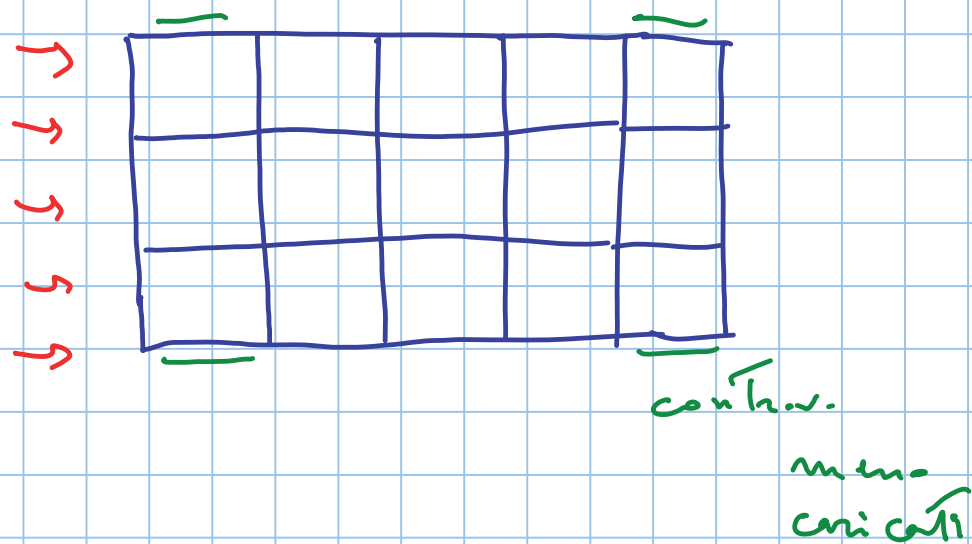
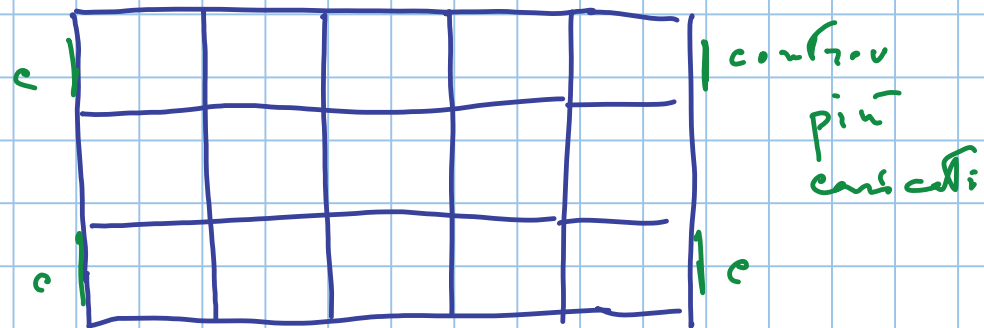
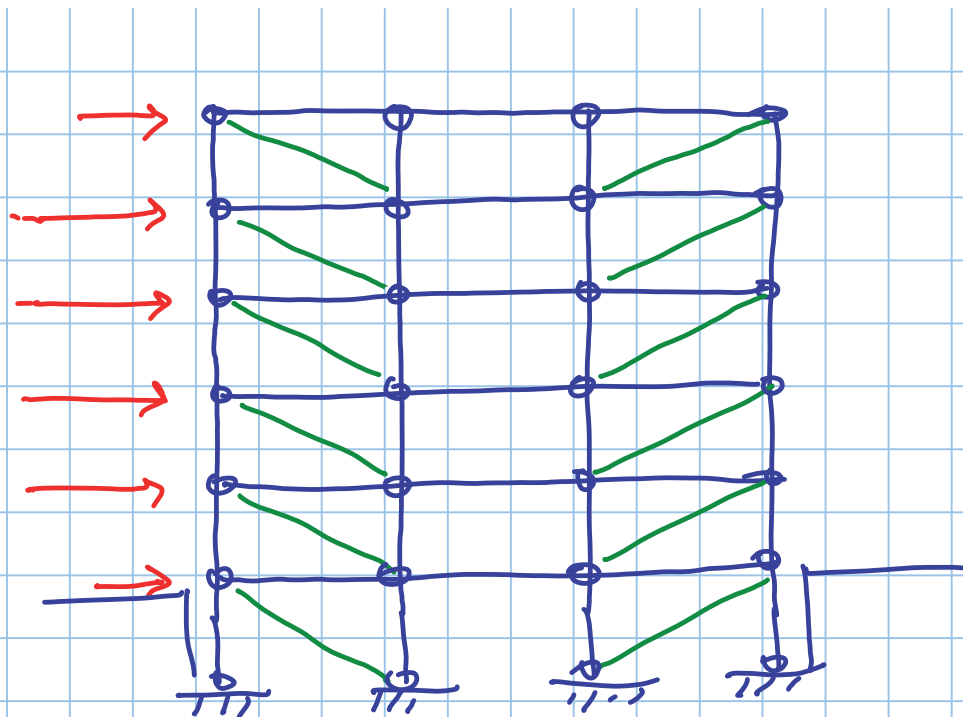


$$V_A = \frac{qL}{2} + \frac{M_A - M_B}{L} = 2 \frac{qL}{2}$$









A STA soggetto a trazione

$$N_{Ed} \leq N_{Rd} = A \frac{f_y}{\gamma_{M0}}$$

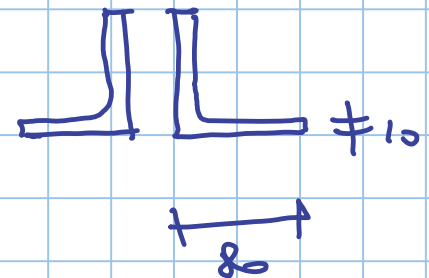
coppi: L 80 x 80 x 10

$$A = 15.1 \times 10^2 \text{ mm}^2 \quad \text{un L}$$

$$A = 30.2 \times 10^2 \text{ mm}^2$$

$$N_{Rd} = 30.2 \times 10^2 \times \frac{275}{1.05} \times 10^{-3} = 791.0 \text{ KN}$$

S 275



$$f_y = 275 \text{ MPa}$$

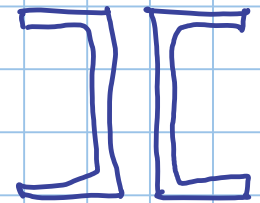
progett.

$$N_{Ed} = 1200 \text{ KN}$$

S 275

vogli. usare UPE

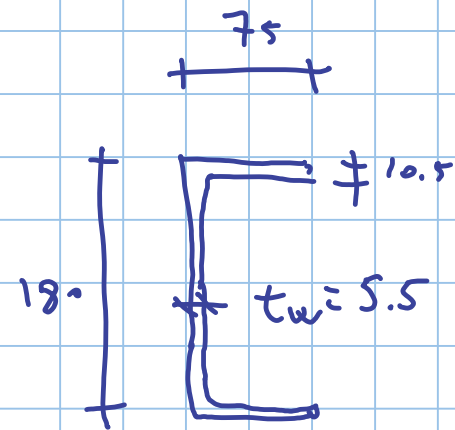
$$N_{Ed} \leq N_{Rd} = A \frac{f_y}{\gamma_{M2}}$$



$$A \geq \frac{N_{Ed}}{f_y} \gamma_{M2} = \frac{1200 \times 10^3}{275} \times 1.05 = 45.82 \times 10^2 \text{ mm}^2$$

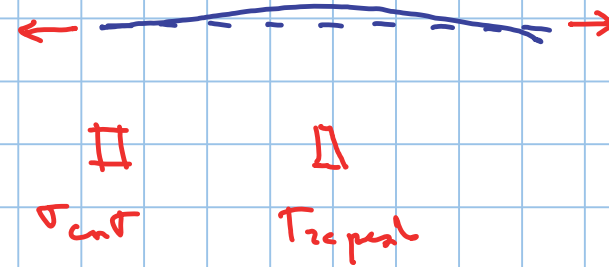
single UPE  $A \geq \frac{45.82}{2} = 22.91 \times 10^2 \text{ mm}^2$

usare UPE 180  $A \geq 25.1 \times 10^2 \text{ mm}^2$



# IMPERFEZIONI

- geometriche      asse non rettilineo

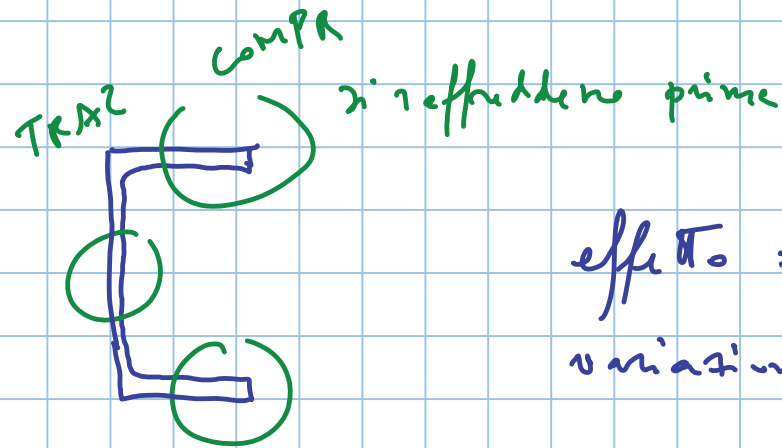


- meccaniche

nel raffreddamento

TENSIONI  
RESIDUE

- autotensioni
- autoequilibrate



si raffreddano prima

effetto:

variazione deformazione

rimane 
$$N_{RA} = A \frac{f_y}{\gamma_{ns}}$$