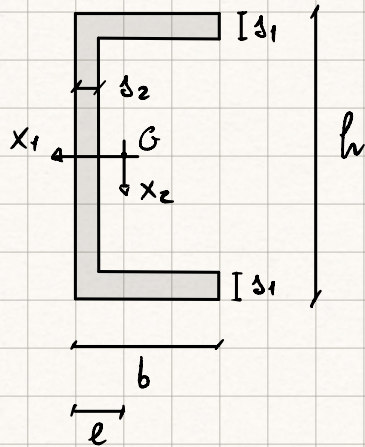


Esercizio



$$h = 120 \text{ mm}$$

$$b = 55 \text{ mm}$$

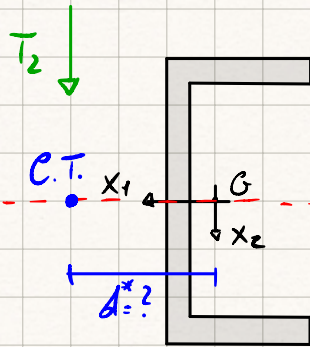
$$\delta_1 = 3 \text{ mm}$$

$$\delta_2 = 7 \text{ mm}$$

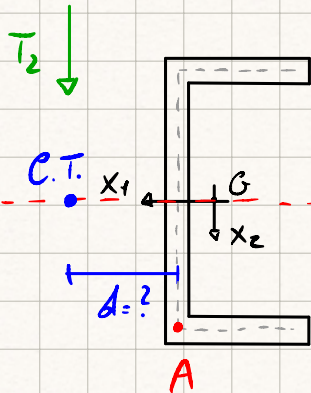
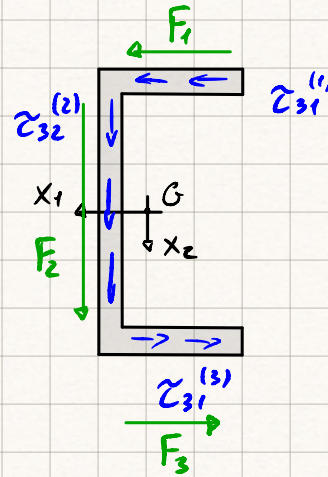
$$I_1 = 3,68 \cdot 10^6 \text{ mm}^4$$

$$e = 17,44 \text{ mm}$$

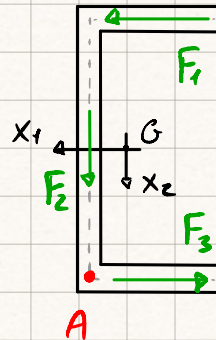
Svolgimento



\Rightarrow



\equiv

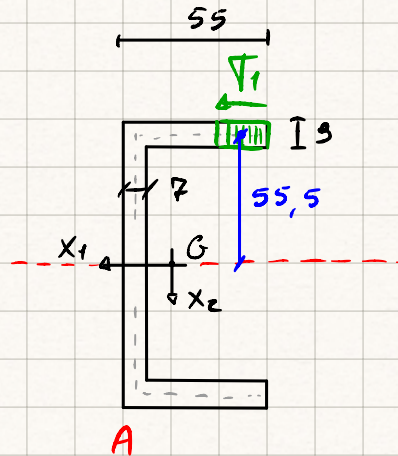


Calcoliamo il momento rispetto ad A :

$$T_2 \cdot d = F_1 \cdot 111 \rightarrow$$

$$\Rightarrow d = \frac{F_1 \cdot 111}{T_2}$$

$$\sigma_{3i} = - \frac{T_2 S_1^*}{I_1 \cdot \delta_j}$$



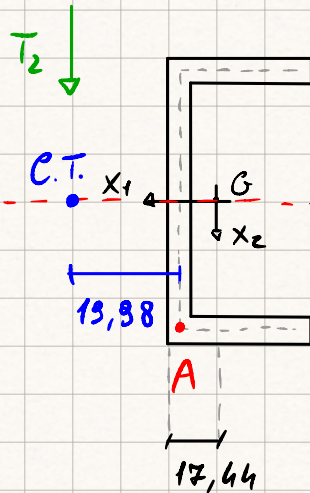
$$S_1^{*('')} = - 9 \cdot \nabla_1 \cdot 55,5 \Rightarrow \sigma_{3i}^{('')} = - \frac{T_2 (-\cancel{9} t_1 \cdot 55,5)}{3,68 \cdot 10^6 \cdot \cancel{9}} = \frac{T_2 \cdot 55,5 \cdot t_1}{3,68 \cdot 10^6}$$

$$F_1 = \int_{A^*} \sigma_{3i}^{('')} dA \Rightarrow F_1 = \int_0^{51,5} \frac{T_2 \cdot 55,5 \cdot t_1}{3,68 \cdot 10^6} \cdot 9 dt_1 = \frac{T_2 \cdot 55,5 \cdot 9}{3,68 \cdot 10^6} \cdot \frac{\nabla_1^2}{2} \Big|_0^{51,5} \Rightarrow$$

$$A = 9 \cdot t_1 \Rightarrow dA = 9 dt_1$$

$$\Rightarrow F_1 = \frac{T_2 \cdot 55,5 \cdot 9 \cdot (51,5)^2}{2 \cdot 3,68 \cdot 10^6} = 0,18 T_2$$

$$d = \frac{F_1 \cdot 111}{T_2} = \frac{0,18 \cancel{T_2} \cdot 111}{\cancel{T_2}} = 19,98 \text{ mm}$$



$$\Rightarrow 19,98 - 3,5 = 16,48 \text{ mm} \Rightarrow$$

$$\Rightarrow x_{1c} = 16,48 \text{ mm} + 17,44 \text{ mm} =$$

$$= 33,92 \text{ mm}$$

$$C_T = (33,92; 0)$$