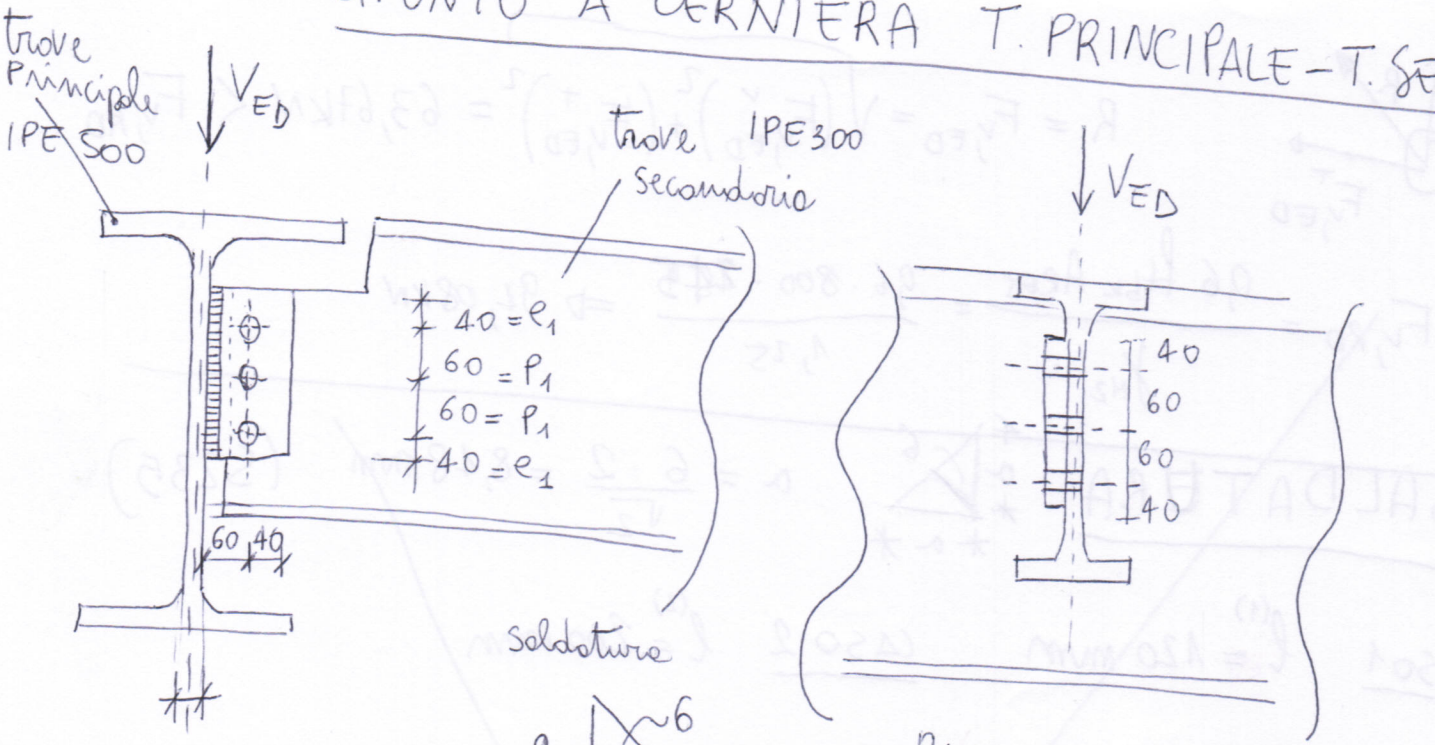
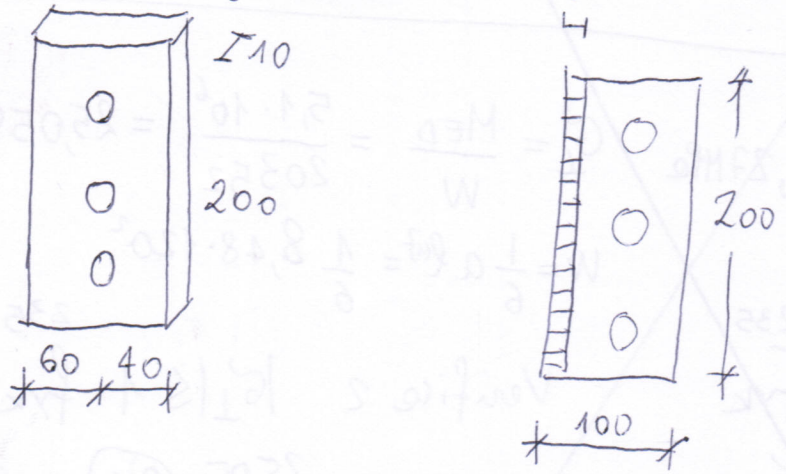
GIUNTO A CERNIERA T. PRINCIPALE – T. SECOND



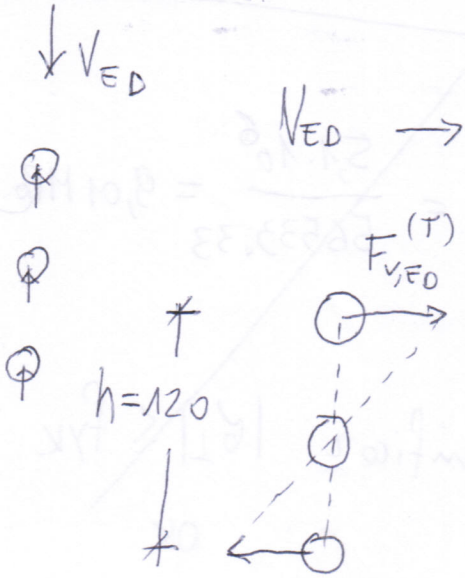
BULLONI M20 CL. 8.8

dimensioni in [mm]

Piatto collegamento:



CALCOLO SOLLECITAZIONI SUI BULLONI (M20 CL 8.8)

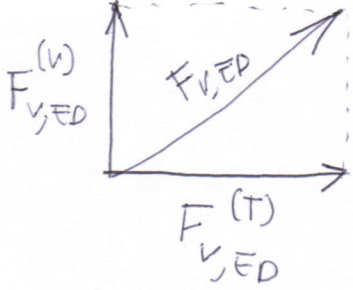


$$V_{ED} \rightarrow F_{V,ED}^{(V)} = \frac{V_{ED}}{n_{bf}} = \frac{100}{3 \cdot 1} = 33{,}33\ kN \uparrow$$

$$T_{ED} = V_{ED}\ b_1 = V_{ED}\left(60 + \frac{t_w}{2}\right) = 6.51\ kN\ m$$

$$F_{V,ED} = \frac{T_{ED}}{h} \Rightarrow 54{,}25\ kN$$

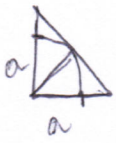
h = 120



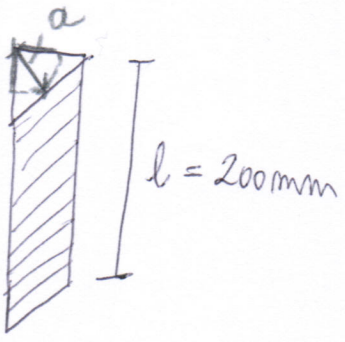
$$F_{V,ED} = \sqrt{\left(F_{V,ED}^{(V)}\right)^2 + \left(F_{V,ED}^{(T)}\right)^2} = 63{,}67\ kN < F_{V,RD}$$

$$F_{V,RD} = \frac{0{,}6\ f_{tbk}\ A_{res}}{\gamma_{M2}} = \frac{0{,}6 \cdot 800 \cdot 245}{1{,}25} \Rightarrow 94{,}08\ kN$$

SALDATURA



$a = 6\ mm$



Sollecitazioni:

V_{ED};

$$M_{ED} = V_{ED} \cdot \frac{T_w}{2} = 100 \cdot 0{,}0051 = 0{,}51\ kN \cdot m$$

$$\tau_{//} = \frac{V_{ED}}{a\,l} = \frac{100}{6 \cdot 200} = 83{,}33\ MPa$$

$$\sigma_\perp = \frac{M_{ED}}{W_S} = \frac{0{,}51 \cdot 10^6}{40\,000} = 12{,}75\ MPa$$

$$W = \frac{1}{6} a\,l^2 = \frac{1}{6} \cdot 6 \cdot 200^2 = 40\,000\ mm^3$$

VERIFICHE

S235 ($\beta_1 = 0{,}85$; $\beta_2 = 1$)

$$\sqrt{\underbrace{\sigma_\perp^2 + \tau_{//}^2}_{84{,}3\ MPa}} < 0{,}85 \cdot 235$$

$$\underbrace{|\sigma_\perp|}_{12{,}75\ MPa} < 1 \cdot 235$$