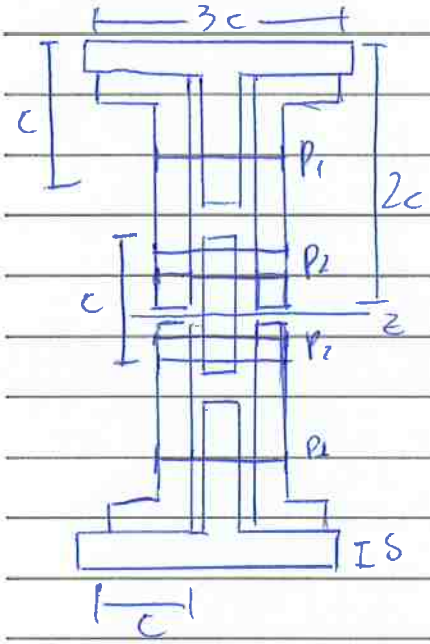
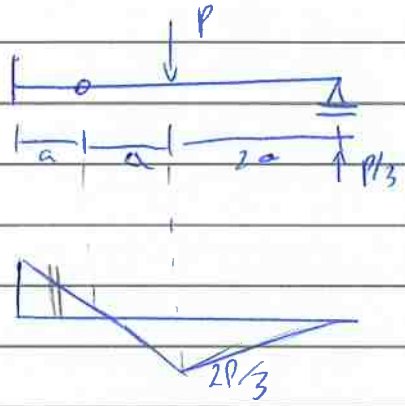
06/05/19

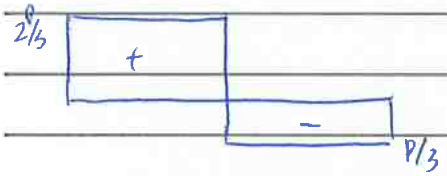
Arthur Miquelon Sagge, 8121218



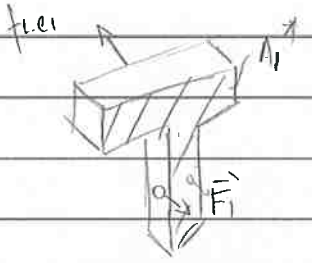
No trecho mais solicitado, A_1 e A_2 de modo que: $e_1 = e_2 = 10\,cm$

- $\bar{\tau} = 750\,kgf/cm^2$
- $P = 15000\,kgf$
- $a = 200\,cm$
- $c = 10\,cm$
- $\delta = 0{,}5\,cm$
- $I_z = S_6 S c^3$





Prego 1



$$f_1 e_1 = 2\bar{F}_1 = 2\tau_p A_{p1}$$

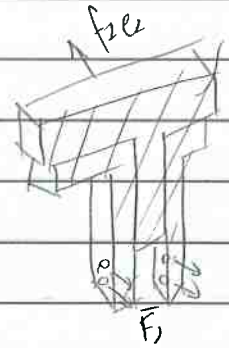
$$f_1 = \frac{V S_{z1}^*}{I_z} = \frac{2P}{3}\left(\frac{3c\cdot\delta\cdot 2c + c\cdot\frac{\delta 2c}{3}}{S_6 S c^3}\right)$$

$$\therefore f_1 = \frac{5P}{S_6 c}$$

$$\frac{5P}{S_6 c}\cdot e_1 = 2\tau_p A_{p1}$$

$$A_{p1} = \frac{5P}{S_6 c}\cdot e_1 \cdot \frac{1}{2\tau_p} \therefore A_{p1} = 0{,}89\,m^2$$

Prego 2



$$f_2 e_2 = 4\bar{F}_2 = 4\tau_p A_{p2}$$

$$f_2 = \frac{V S_{z1}^*}{I_z} = \frac{2P/3\,(S_{z1}^* + 2\times\square)}{I_z}$$

$$= \frac{2P/3\left(3c\delta 2c + c\frac{\delta 2c}{3} + 2c\delta 2c + 2c\delta 2c\right)}{S_6 c^3} = 276\,\frac{kgf}{cm^2}$$

$$276.10 = 4\times 150\times A_{p2} \therefore A_{p2} = 0{,}92\,cm^2$$