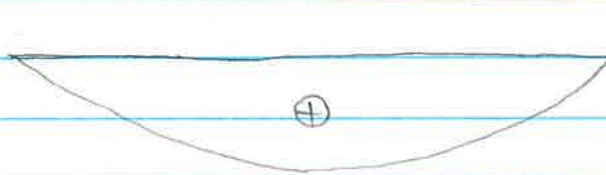
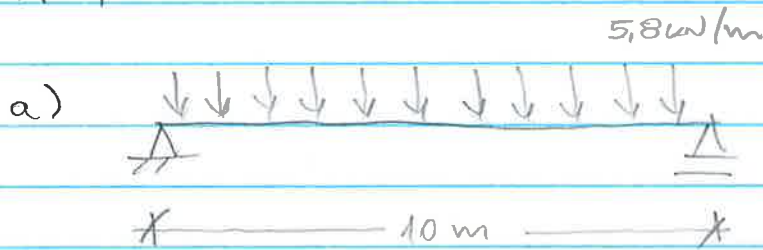


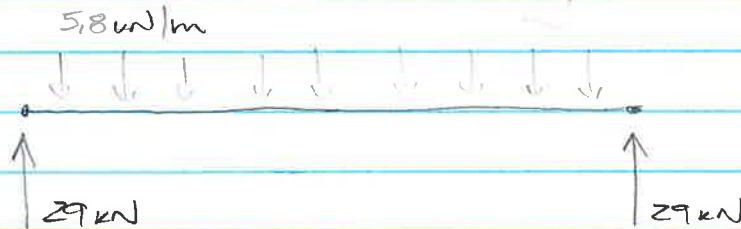
mm

Q4-PZ 2015



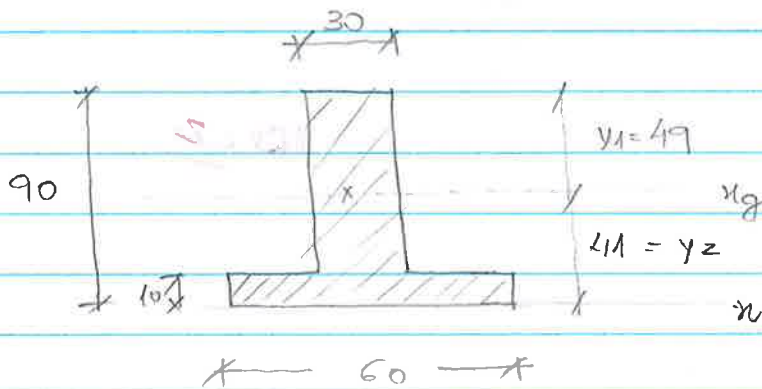
$$M_{\max} = \frac{5,8 \times 10^2}{8}$$

$$M_{\max} = 72,5 \text{ kN}\cdot\text{m}$$



$$M_{\max} = (29 \times 5) - \left( 5,8 \times 5 \times \frac{5}{2} \right) = 72,5 \text{ kN}\cdot\text{m}$$

0,4



$$I_x = 7.300.000 \text{ cm}^4$$

$$A = (30 \times 80) + (60 \times 10)$$

$$A = 3.000 \text{ cm}^2$$

$$I_{yg} = I_x - A \cdot y_i^2$$

$$I_{yg} = 7.300.000 - 3.000 \cdot 41^2$$

$$I_{yg} = 2.257.000 \text{ cm}^4$$

0,4

$$\sigma = \frac{M}{I_{\text{ng}}} \cdot y$$

$$\sigma_{c, \text{MAX}} = \frac{M_{\text{MAX}}}{I_{\text{ng}}} \cdot y_1$$

$$\sigma_{c, \text{MAX}} = \frac{7250}{2257000} \cdot 49$$

$$\sigma_{c, \text{MAX}} = 0,16 \text{ kN/cm}^2$$

$$\sigma_{c, \text{MAX}} = 1,6 \text{ MPa} \quad \underline{0,16}$$

$$\sigma_{t, \text{MAX}} = \frac{M_{\text{MAX}}}{I_{\text{ng}}} \cdot y_2$$

$$\sigma_{t, \text{MAX}} = \frac{7250}{2257000} \cdot 41$$

$$\sigma_{t, \text{MAX}} = 0,14 \text{ kN/cm}^2$$

$$\sigma_{t, \text{MAX}} = 1,4 \text{ MPa} \quad \underline{0,14}$$

b)  $\gamma = \bar{\sigma} / \sigma_s$

$$\gamma_{\text{COMP.}} = 3,0 / 0,16$$

$$\gamma_{\text{COMP.}} = 18,8 \quad \underline{0,14}$$

$$\gamma_{\text{ESTRUC.}} = 2,5$$

$$\underline{0,12}$$

$$\gamma_{\text{TENS.}} = 0,13 / 0,14$$

$$\gamma_{\text{TENS.}} = 2,1 \quad \underline{0,14}$$

