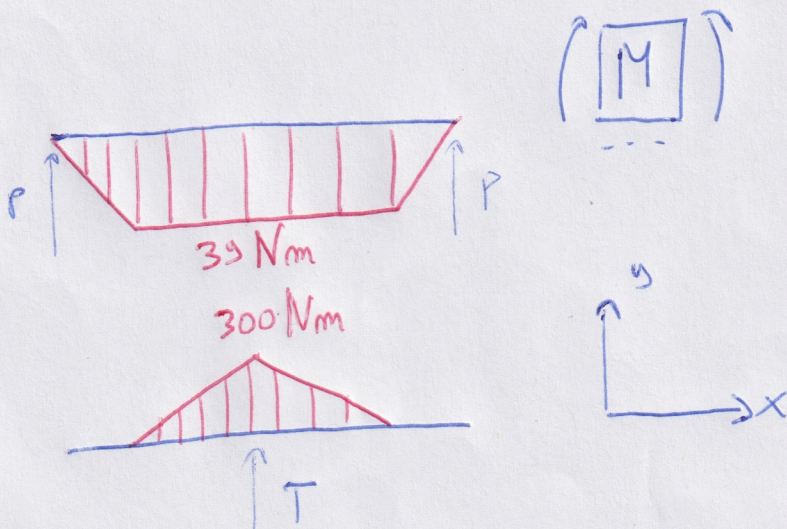
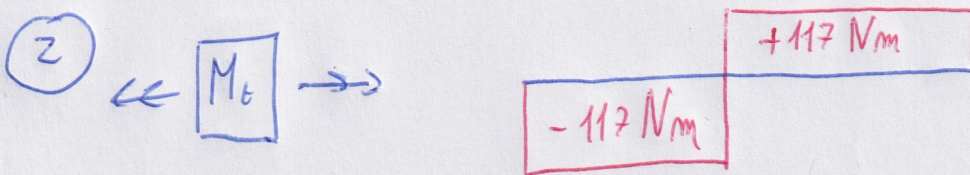
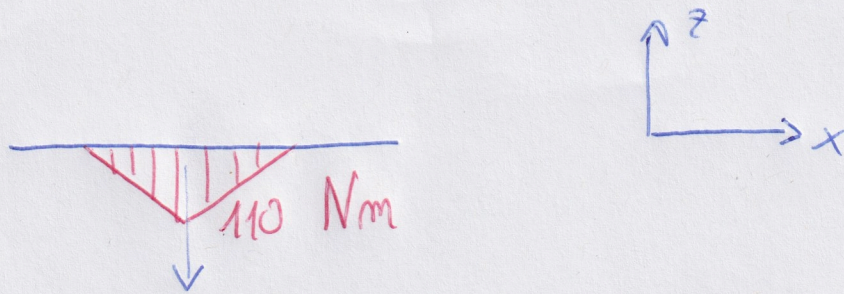


$$(1) \quad 2Ph = \frac{D_{ru} T}{2}$$

$$P = \frac{D_{ru} T}{2 \cdot 2h} = 780 \text{ N}$$



(1)



(3)

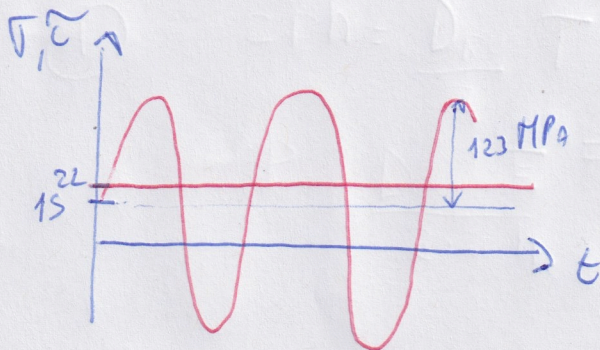
$$\sigma_e = \frac{32 M_{f_{TOT}}}{\pi d^3} = 120 \text{ MPa}$$

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$$M_{f_{TOT}} = \sqrt{300^2 + 110^2} = 319,53 \text{ Nm}$$

$$\tau_m = \frac{32 M_f(P)}{\pi d^3} = 15 \text{ MPa}$$

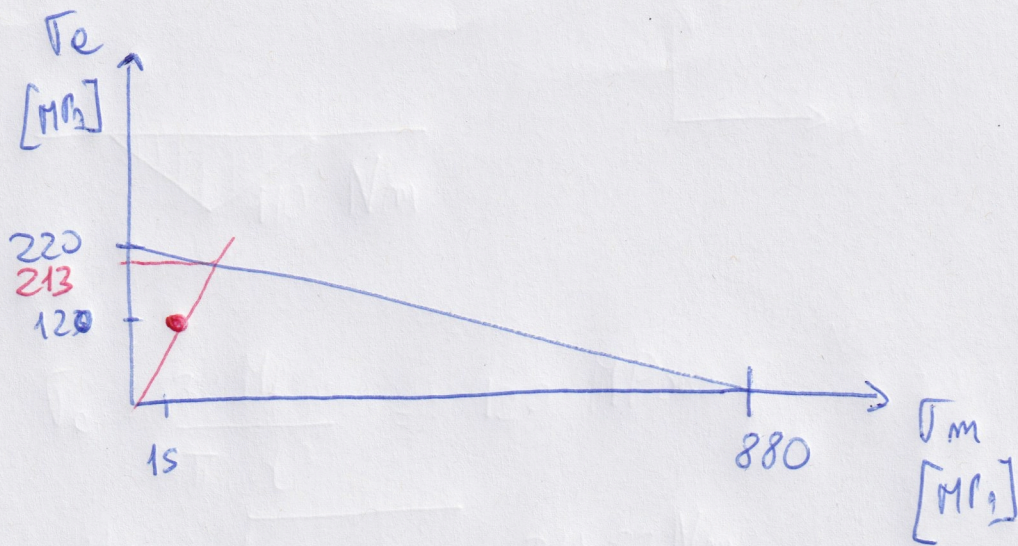
$$\sigma_m = \frac{16 M_G}{\pi d^3} = 22 \text{ MPa}$$



$$\sigma'_{FAf} = \frac{\sigma_{FA} b_2 b_3}{k_f} = \frac{0,5 \cdot 880 \cdot 0,85 \cdot 0,85}{1 + q(1,5 - 1)} = 220 \text{ MPa}$$

$$q = \frac{1}{1 + \sqrt{\frac{D}{r}}} \approx 0,88$$

(2)



$$\begin{cases} y = 8x \\ y = -0,25x + 220 \end{cases} \quad y = 213 \text{ MPa}$$

$$\sigma_{Rf}^i = 213 \text{ MPa}$$

$$\sigma_{GP}^* = \sqrt{120^2 + \left(\frac{213}{0,8 R_m}\right)^2 \cdot 22^2} = 120$$

$$\eta = \frac{213}{120} = 1,76 \quad \boxed{04}$$