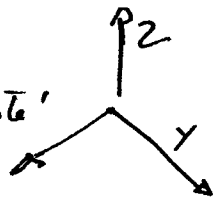
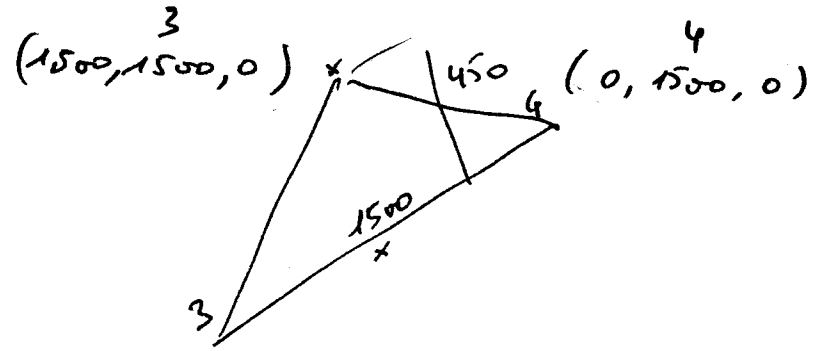
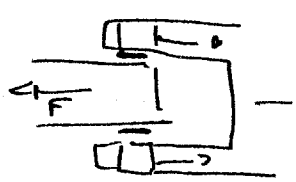
cas le plus défavorable 1,5T sur 1 coté



6 (750, 1500, 450) (450 = hauteur)

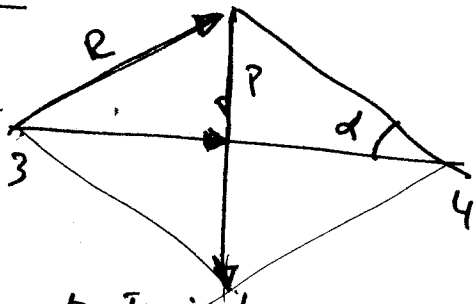


Rappel



$\sigma = \frac{F}{S} = \frac{2F}{\frac{\pi D^2}{4}} = \frac{2F}{\pi D^2}$

diagramme effort 6



calcul de l'angle 3

$\tan\alpha = \frac{45\phi}{150\phi/2} = \frac{8\phi}{15\phi}$ 5

$\boxed{\tan\alpha = \frac{3}{5}}$

calcul cisaillement en traction haute

$\sigma_{cis.} = \frac{2F}{k_2 \cdot \pi d^2}$

$\tan\alpha = \frac{P/2}{T} = \frac{15000/2}{T}$ N

$T = \frac{7500}{3/5} = \frac{7500 \times 5}{3}$

$\sigma = \frac{2 \times 12,5 \times 10^3}{\pi \times 4^2}$

cas le plus défavorable

$\boxed{T = 12,5\ kN}$

$\boxed{\sigma = 497\ MPa.}$

Contrainte admissible avant rupture.

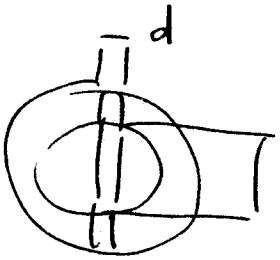
Vis 8×8 → 800 MPa. en traction et $\boxed{560\ MPa}$ en cisaillt.

Voir cisaillement

$\sigma = \frac{4T}{\pi d^2 D}$ N

T N/mm.

mm^2 mm



Calcul couple de serrage pour $T = 12,5$ kN.

$$C = (0,16 \times p + 0,583 \times F_f \times D_f + 0,5 \times f_t \times D_m) \frac{\times F}{1000}$$

ϕ_f 16 $\quad p = 3 \quad F_f = 0,15 \quad f_t = 0,15$

$F = 12,5$ kN.

$\phi_m = 20$.

$$C = \frac{[(0,16 \times 3) + (0,583 \times 0,15 \times 16) + (0,5 \times 0,15 \times 20)]}{1000}$$

$\times 12500$

$C = 12,5 \times [3,38] = 42,2$ N/m.

$$\boxed{C = 42 \text{ N/m}}$$

Contrainte dans la goupille en cisaillement / Couple

$$\sigma = \frac{4 \times 42 \times}{\pi 4^2 \times 16} = \frac{42.10^3}{\pi \times 4 \times 16} = \frac{10,5}{\pi \times 16}$$

$\sigma = 0,2 \times 10^3 = 209$ MPa.

$\boxed{\sigma = 209 \text{ MPa}} \ll \boxed{560 \text{ MPa}}$

d'où l'importance de bien graisser.