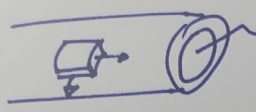
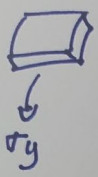


100 bars = 10 MPa

$\phi = 0{,}15\,m = 2r$

h : épaisseur du composite



$$\sigma_x = \frac{N_x}{h \cdot \frac{2\pi r}{l}}$$

$$\sigma_x = \frac{P \cdot r}{2h}$$

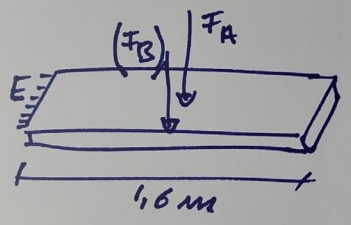
$$\frac{N_x}{l} = \frac{P \cdot r}{2} = 375\,000\ N/m$$

$$\sigma_y = \frac{N_y}{h \cdot l}$$

l : longueur de la soufflerie

$$\sigma_y = \frac{P \cdot r}{h}$$

$$\frac{N_y}{l} = P \cdot r = 750\,000\ N/m$$



exp : encastrement en E

$N_x = F_A \cdot 0{,}8 = 3\,515\ N/m$

$\frac{N_x}{l} = \frac{N_x}{0{,}25} = 14\,060\ \frac{N}{m}$

exp $m = 70\,kg$
chute de 2 m
$v = 6{,}28\,m/sec$

$F_A = 4394\,N$ choc dur
$F_A = 878\,N$ choc mou

(exp si $h = 0{,}01\,m$ $\quad I = \frac{bh^3}{12}$

$\sigma_x = \frac{N_x \cdot h/2}{I} \approx 843\,MPa$)

$(F_B \Rightarrow) N_y = \frac{50\ N/m}{1{,}6} = 31{,}2\ \frac{N}{m}$