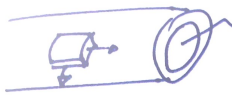


100 bars = 10 MPa

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

h : épaisseur du composite

$\sigma_x = \frac{N_x}{h \cdot \underbrace{2\pi R}_{l}}$

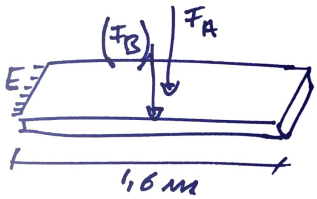
$\sigma_x = \frac{P \cdot R}{2h}$

$\left.\begin{array}{l}\end{array}\right\} \frac{N_x}{l} = \frac{P \cdot R}{2} = 375\,000\ N/m$

$\sigma_y = \frac{N_y}{h \cdot l}$ ← longueur de la bouteille

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

$\left.\begin{array}{l}\end{array}\right\} \frac{N_y}{l} = P \cdot R = 750\,000\ N/m$



0,75 m, x, y

exp : encastrement en E

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

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

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

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

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