Esercizio 3.09

$$A = \tilde{\pi}\frac{l^2}{4} - \tilde{\pi}\frac{\alpha^2 l^2}{4} = \tilde{\pi}\frac{l^2}{4}(1-\alpha^2)$$

$$W_{xx} = W_{yy} = \frac{\tilde{\pi}}{32} l^3 (1-\alpha^4)$$

$$W_P = \frac{\tilde{\pi} l^3}{16}(1-\alpha^4)$$

- N alla sezione incastrata

$$N = F$$

$$\sigma_{N_A} = \frac{F}{A} \quad ; \quad \sigma_{N_B} = \frac{F}{A}$$

- Mf alla sezione incastrata

$$M_{f(A)_{yy}} = F \cdot \beta l \quad ; \quad M_{f(B)xx} = F \cdot \lambda l + F \cdot \alpha l$$

$$\sigma_{f_A} = + \frac{F \cdot \beta l}{W_{yy}} \quad ; \quad \sigma_{f_B} = - \frac{F \cdot \lambda l + F \cdot \alpha l}{W_{xx}}$$

- T alla sezione incastrata

$$T = F$$

p. 245 del libro FCDM

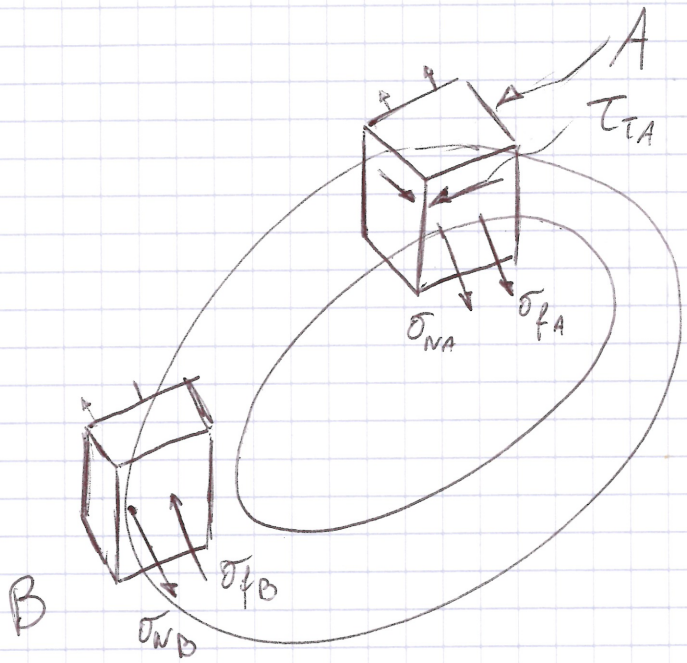
$$\tau_{T_A} = \tau_{MAX} = \tau_m \cdot \{ = \frac{T}{A} \cdot \frac{(3+2\nu)\cdot D^2 + (1+2\nu) d^2}{(1+\nu)(d^2+D^2)} =$$

$\{$ esatto

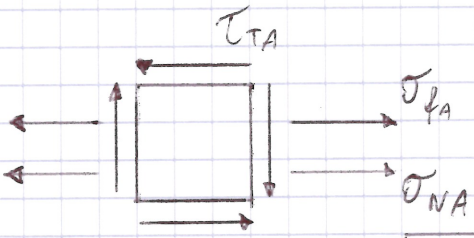
$\nu = 0.3$

$$= \frac{F}{A} \cdot \frac{l^2[(3+0.6) + \alpha^2(1+0.6)]}{(1.3)\cdot l^2 (1+\alpha^2)}$$

$$\tau_{T_B} = \emptyset$$



A)



$$\sigma_{A_{1-2}} = \frac{(\sigma_{tA} + \sigma_{NA})}{2} \pm \sqrt{\frac{(\sigma_{tA}+\sigma_{NA})^2}{4} + (\tau_{TA})^2}$$

B)

$$\sigma_{B_{1-2}} = \frac{(\sigma_{NB}+\sigma_{tB})}{2} \pm \sqrt{\frac{(\sigma_{NB}+\sigma_{tB})^2}{4} + 0}$$