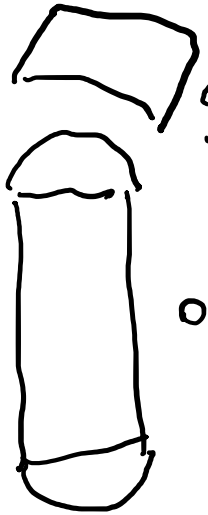
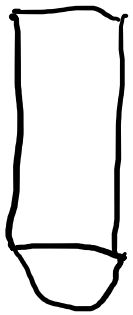
inversa

diretta



glenoide

omero



80%

20%

$f_{poc}^{omero} : 1 = 0.8 : 0.9$

$f_{pos}^{omero} : 1 = a\,1 : 0.9$

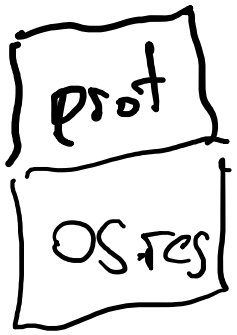
90%

10%

I

⇒

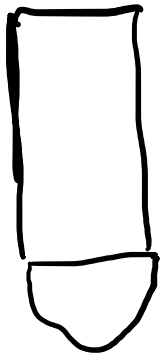
⇒



$$E_z^{res} = E_z (1-p)^{\alpha} A^{\beta} \dot{\varepsilon}^{\delta}$$

$$E_{xy}^{res} = E_{xy} (1-p)^{\alpha} A^{\beta} \dot{\varepsilon}^{\delta}$$

$$p = f_{SS}$$



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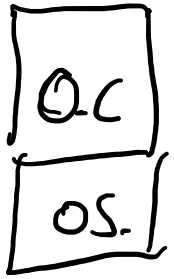
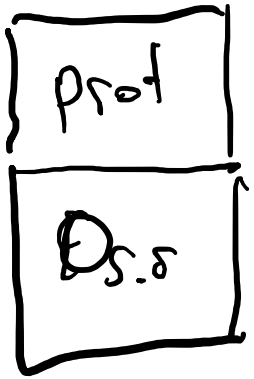


→

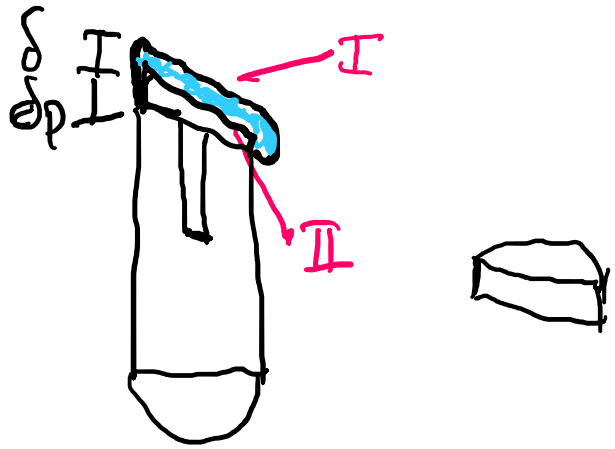
$$E_z = \frac{E_{oc}^{z} \cdot E_{os}}{f_{os} E_{oc}^{z} + f_{oc} E_{os}}$$

$$E_{xy} = E_{oc}^{xy} f_{oc} + E_{os} \cdot f_{os}$$

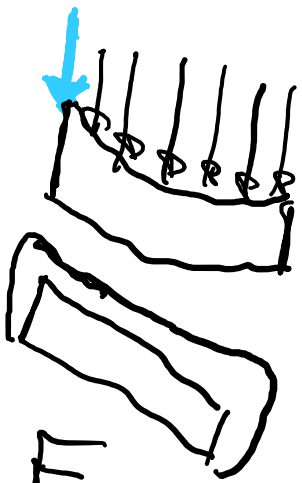
$$f_{os} + f_{oc} = 1.$$



$$\begin{cases} E_z = \dfrac{E_p \cdot E_{or}^z}{f_{or}^z \cdot E_p + f_p E_{or}^z} \\ E_{xy} = f_p E_p + f_{or} E_{or}^{xy} \\ f_p + f_{or} = 1 \end{cases}$$



$0.5_{cm} < \delta < 1\,cm$



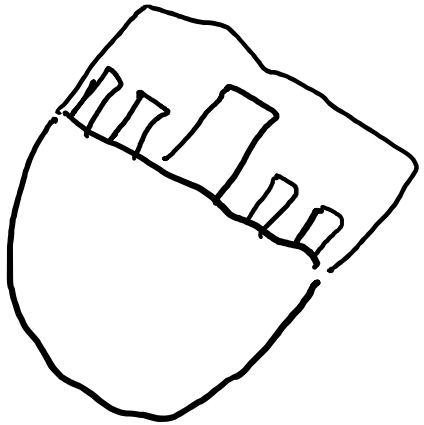
$$V_{TOT} = \pi r_{om}^2 \cdot h_{om} + \frac{2}{3}\pi r_{om}^3$$

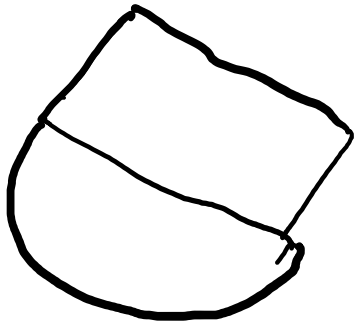
$$f_p = \frac{V_p}{V_{TOT}} = \frac{\pi r_{st}^2 h_{st} + \pi r_{om}^2 \cdot \delta_p}{V_{TOT}}$$

$$f_{or} = \frac{V_{osr}}{V_{TOT}} = \frac{\frac{2}{3}\pi r_{om}^3 + \pi r_{om}^2 h_{om} - \pi r_{st}^2 h_{st}}{V_{TOT}}$$

$$\sigma = \frac{F}{A} = \infty$$

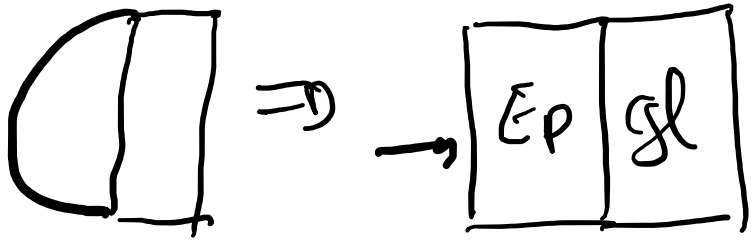
$$A = 0$$





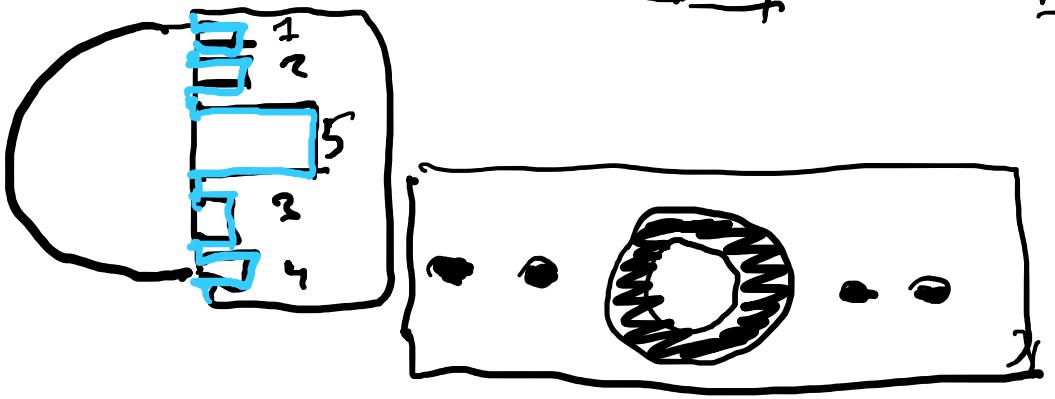
$$E_z = f_{gl}\, E_{oc}^{z} + f_{os}\, E_{os}$$

$$E_{x-y} = \frac{E_{oc}^{xy}\, E_{os}}{f_{os}\, E_{oc}^{xy} + f_{gl} E_{os}}$$



$$f_{gl} + f_{os} = 1$$

une equazione di isostatica



2 t

ℓ_{p1}, h_{p1}

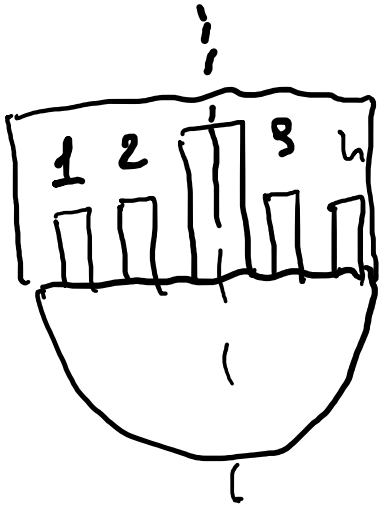
ℓ_{p2}, h_{p2}

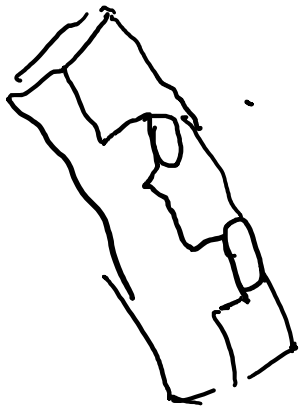
ℓ_{p3}, h_{p3}

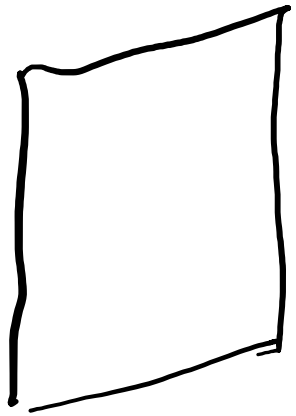
ℓ_{p4}, h_{p4}

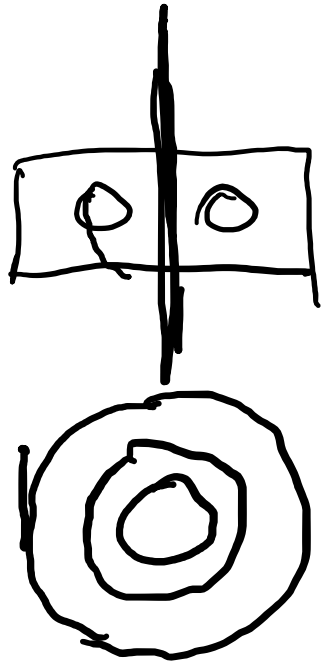
$\ell_{p5int}, \ell_{p5ext}, h_{p5}$

Perni o viti possono essere lavorati??

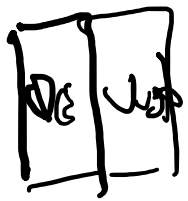




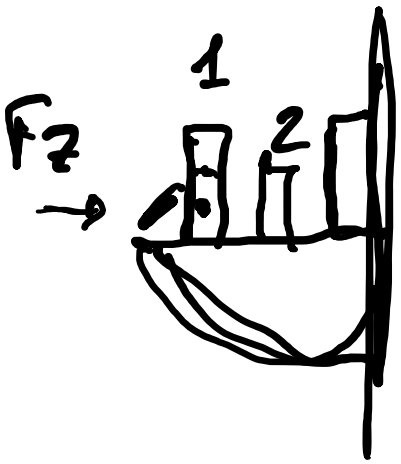


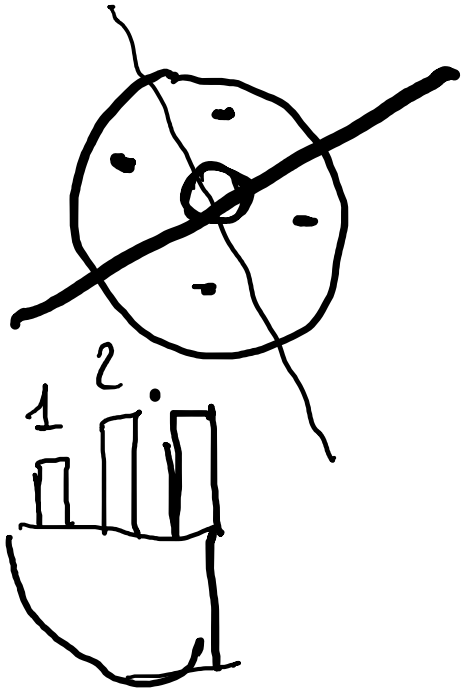


$\sigma = \frac{F}{A} = E\varepsilon$



$E = E_0(1-p)^d$

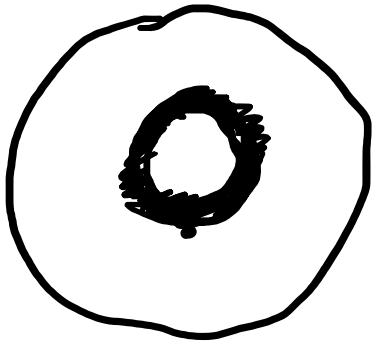




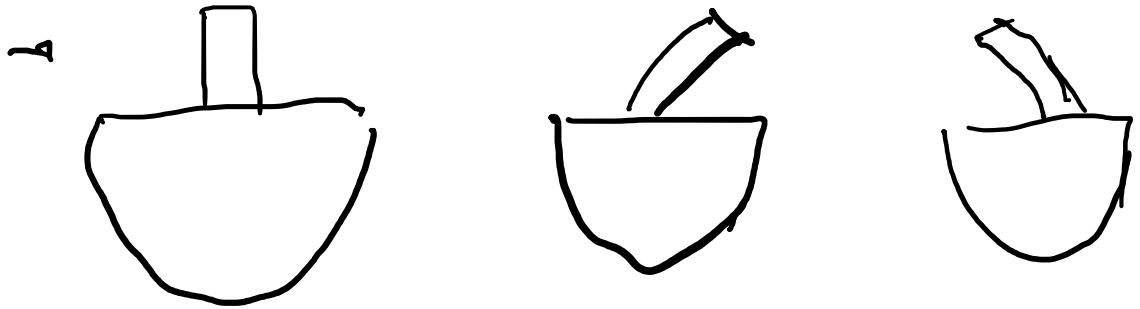
ϱt -

$\varrho p, h_p$

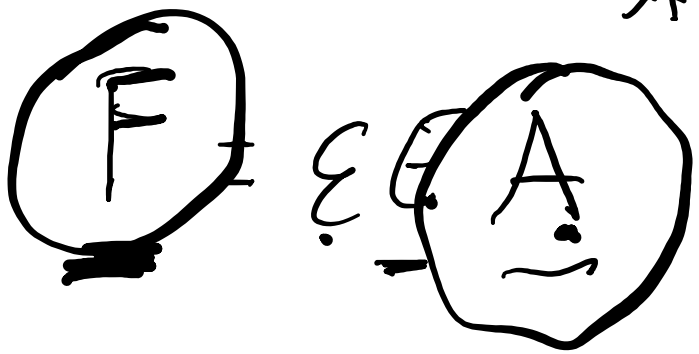
$\varrho_{int\,vit}, \varrho_{est,vit}, h_{vit}$

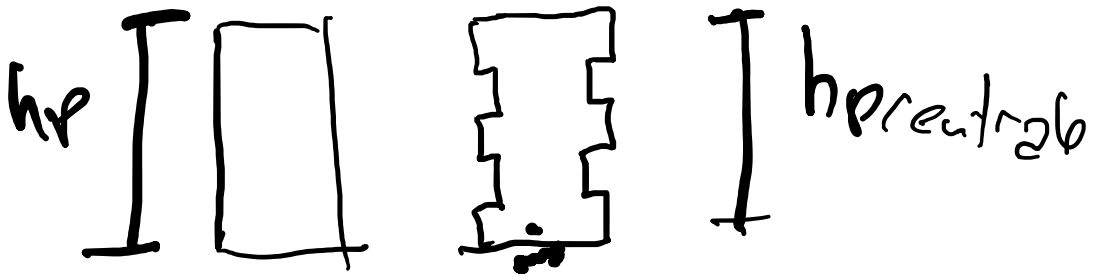


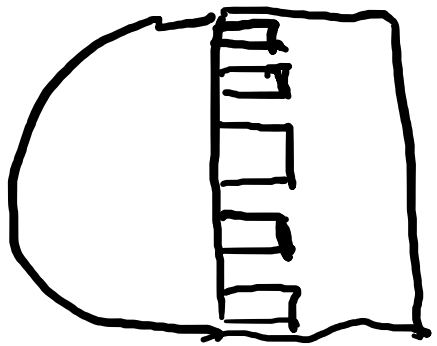
$\varrho_{estvit} = \varrho_p$



$$\sigma = \varepsilon E = \frac{F}{A}$$



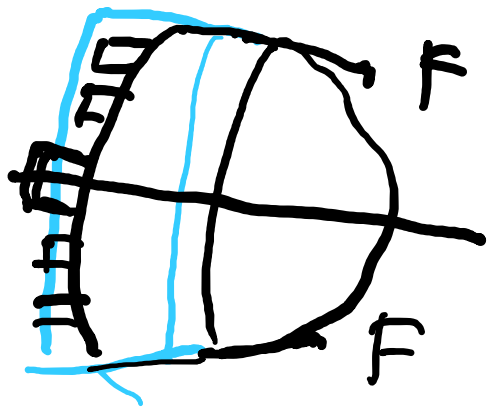




$\sigma_{bon} = 120\ MPa$

el

$\sigma_{ben} = 100\ MPa$

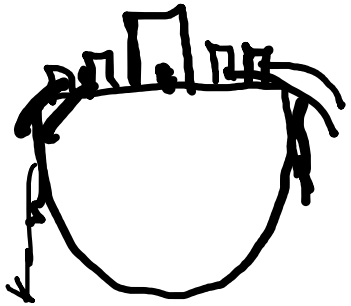


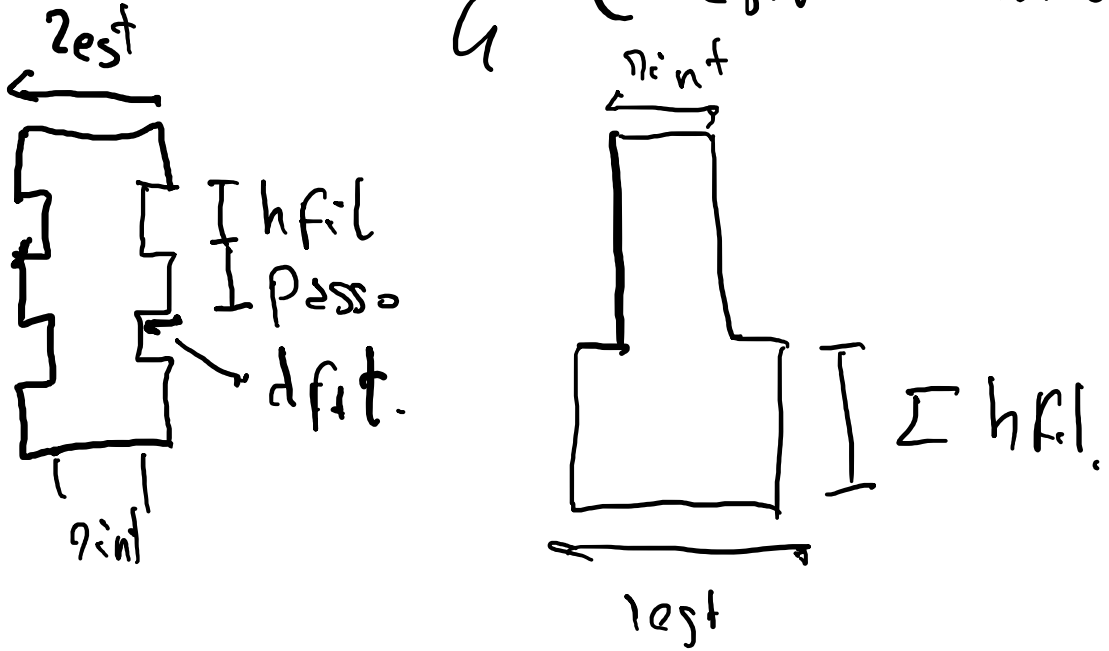
$$\sigma_{ben} = \frac{M_{ben} \cdot z_{test}}{I_{ben}}$$

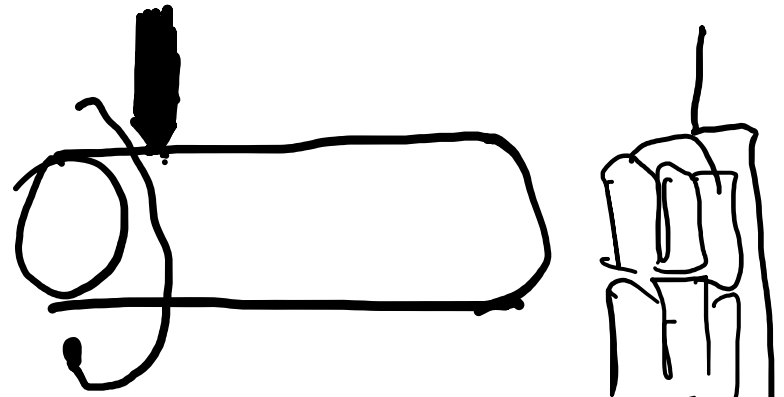
$$I_{ben} = \frac{\pi}{4}\left(r_{est}^4 - r_{int}^4\right)$$

$$M_{ben} = F_{xy} \cdot 2_{test}$$

$$\sigma_{ben} = \frac{F_{xy} \cdot 2_{test}}{\frac{\pi}{4}\left(2^4_{esty} - 2^4_{intuit}\right)}$$

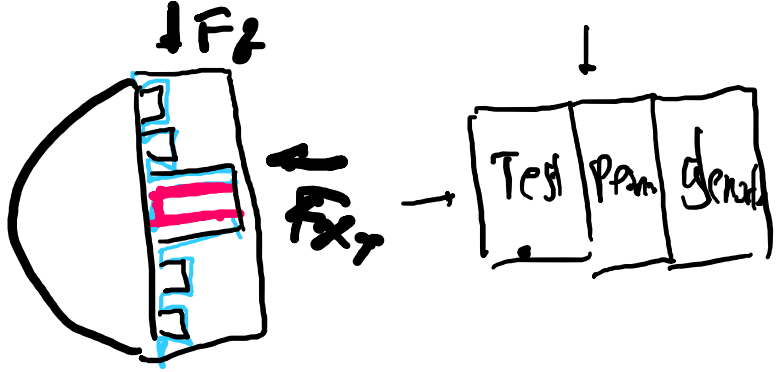






$h_{min} = 100\ mm$

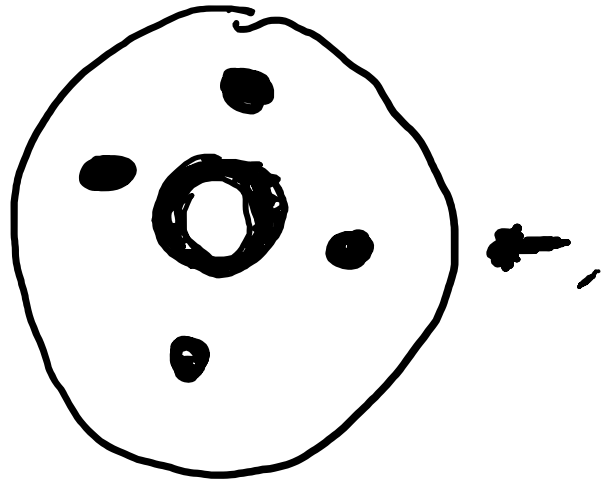
Protesi inversa



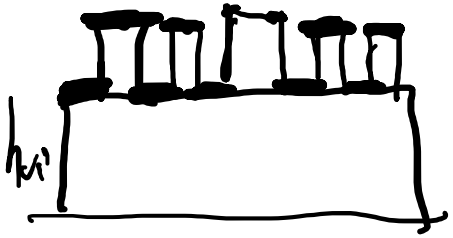
$$\frac{1}{E_{xy}} = \frac{f_{TEST}}{E_T} + \frac{f_P}{E_P} + \frac{f_{OT}}{E_{OT}^2}$$

$$E_z = f_{TEST} E_{TEST} + f_P E_P + f_{OT} E_{OT}^2$$

$$f_{TEST} + f_{PERNO} + f_{OT} + f_{PROTESI} = 1$$



$$\frac{R_{xy}}{\pi r_{test}^2 - \pi r_{interno}^2} = \frac{R_z}{4 \pi r_p h_p + 2\pi r_{esterno} h_{esterno}}$$



$$\frac{R_{fr}}{\pi r_{interno}^2} = \frac{R_z}{2\pi r_{interno} h_{interno}}$$

$$\sigma_{ben} = \frac{F_{xy} r_{test}}{\frac{\pi}{4}(r_{esterno}^4 - r_{interno}^4)}$$


1 & 2
fxy