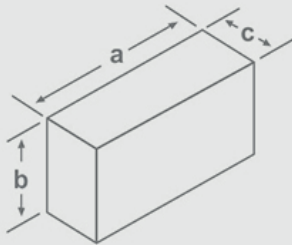




FÓRMULAS PARA
CÁLCULOS



FÓRMULAS PARA CÁLCULOS



$$P = V \cdot \gamma$$

P - massa (kg)
V - volume (dm³)
 γ - densidade aparente (kg/dm³)

$$V = a \cdot b \cdot c$$

a - comprimento (dm)
b - largura (dm)
c - espessura (dm)

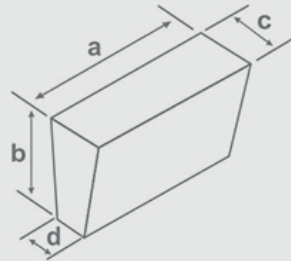
EXEMPLO:

a = 229mm; b = 114mm; c = 76mm; $\gamma = 2.1\text{g/cm}^3$

$$p = a \cdot b \cdot c \cdot \gamma$$

$$p = 2,29 \cdot 1,14 \cdot 0,76 \cdot 2,1 = 4,2 \text{ kg}$$

$$P = 4,2\text{kg}$$



$$P = V \cdot \gamma$$

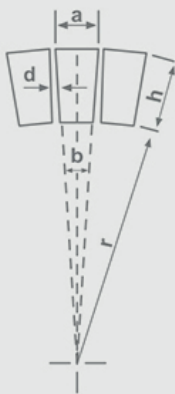
P - massa (kg)
V - volume (dm³)
 γ - densidade aparente (kg/dm³)

$$V = \frac{c + d}{2} \cdot b \cdot a$$

EXEMPLO:

a = 229mm; b = 114mm; c = 76mm; d = 63mm; $\gamma = 2.1\text{g/cm}^3$

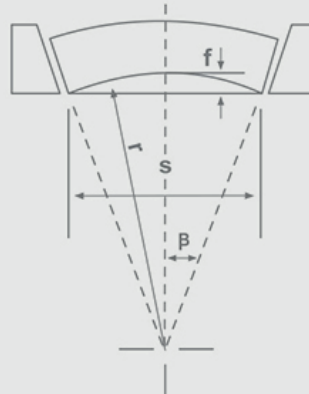
$$p = 2,29 \cdot 1,14 \cdot \frac{(0,76 + 0,63)}{2} \cdot 2,1 = 3,81\text{kg}$$



h = altura
a = espessura maior
b = espessura menor
d = junta
r = raio interno

$$r = \frac{(b + d) \cdot h}{(a - b)}$$

$$(a - b) = \frac{(b + d) \cdot h}{r}$$



f = flecha
s = corda
r = raio interno
 β = angulo

$$r = \frac{f^2 + (\frac{s}{2})^2}{2f}$$

$$f = r - \sqrt{r^2 - (\frac{s}{2})^2}$$

$$\text{sen } \beta = \frac{s}{2r}$$