

2.4-Sections courantes

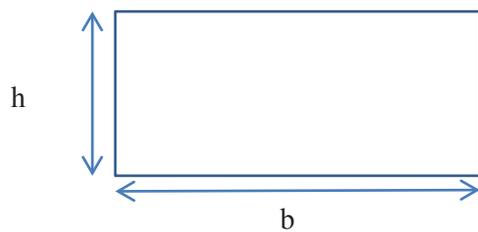
Pour Ω_1 on utilise des expressions approchées. Pour les formes usuelles on peut retenir :

Ω = aire de la section droite

Ω' = section réduite pour le calcul de la contrainte maximale sous effort tranchant

Ω_1 = section réduite pour le calcul de la déformation sous effort tranchant

Rectangle

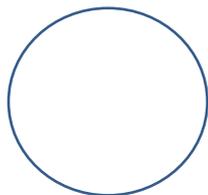


$$\Omega = b h$$

$$\Omega' = 2/3 \Omega$$

$$\Omega_1 = 5/6 \Omega$$

Cercle de rayon R

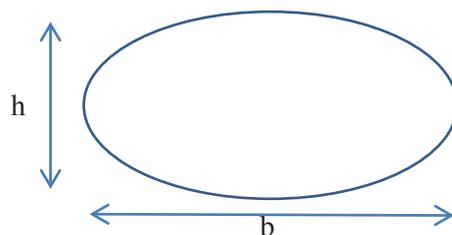


$$\Omega = \pi R^2$$

$$\Omega' = 3/4 \Omega$$

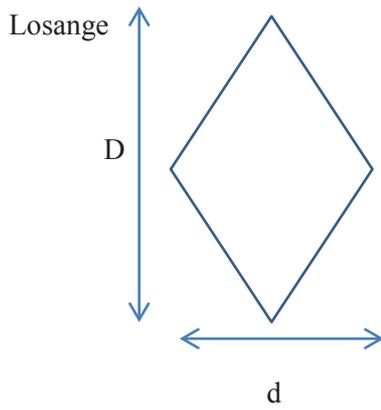
$$\Omega_1 = 9/10 \Omega$$

Ellipse



$$\Omega = \pi/4 b h$$

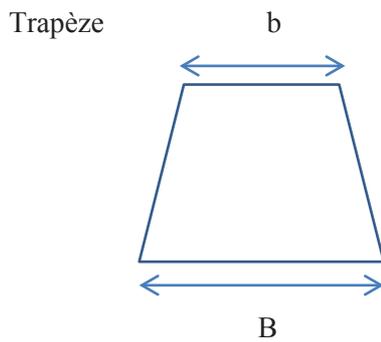
$$\Omega' = 3/4 \Omega$$



$$\Omega = D d / 2$$

$$\Omega' = 8/9 \Omega$$

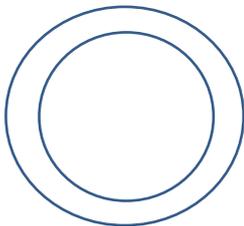
$$\Omega_1 = 30/31 \Omega$$



$$\Omega = (B + b) h / 2$$

$$\Omega' = 2/3 \Omega$$

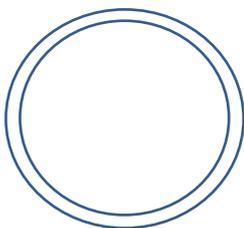
Anneau de rayon R_i intérieur, R_e extérieur



$$\Omega = \pi (R_e^2 - R_i^2)$$

$$\Omega' = 3/4 \Omega (1 - R_i/R_e) [1 + (R_i/R_e)^2] / [1 - (R_i/R_e)^3]$$

Anneau de faible épaisseur (e) et rayon R extérieur. $e < R/10$



$$\Omega = 2\pi R e$$

$$\Omega' = 1/2 \Omega$$

$$\Omega_1 = 1/2 \Omega$$