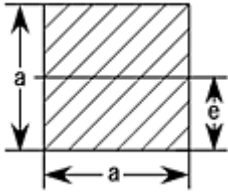
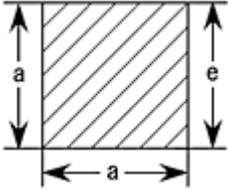
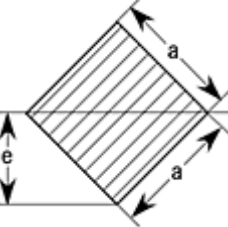
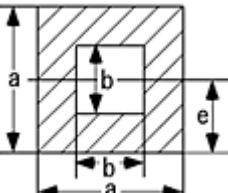
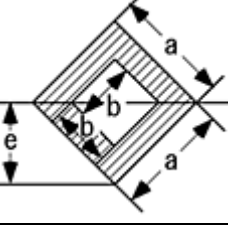
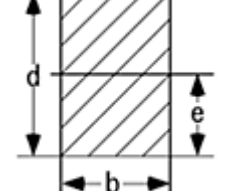


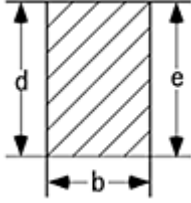
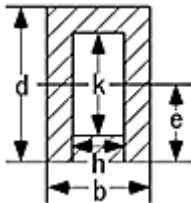
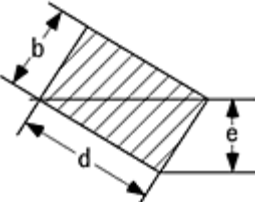
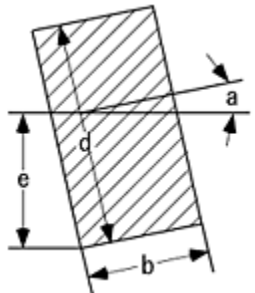
断面積の力学的諸性質

- 断面の慣性モーメント、断面係数、回転半径その他 -

四角形

断面の形状	断面積 A	中立軸より 最遠部までの距離 e	慣性モーメント I	断面係数 $z = \frac{I}{e}$	回転半径 $\rho = \sqrt{\frac{I}{A}}$
	a^2	$\frac{1}{2}a$	$\frac{a^4}{12}$	$\frac{a^3}{6}$	$\frac{a}{\sqrt{12}} = 0.289a$
	a^2	a	$\frac{a^4}{3}$	$\frac{a^3}{3}$	$\frac{a}{\sqrt{3}} = 0.557a$
	a^2	$\frac{a}{\sqrt{2}} = 0.707a$	$\frac{a^4}{12}$	$\frac{a^3}{6\sqrt{2}} = 0.118a^3$	$\frac{a}{6\sqrt{12}} = 0.289a$
	$a^2 - b^2$	$\frac{1}{2}a$	$\frac{a^4 - b^4}{12}$	$\frac{a^4 - b^4}{6a}$	$\sqrt{\frac{a^2 + b^2}{12}}$ $= 0.289\sqrt{a^2 + b^2}$
	$a^2 - b^2$	$\frac{a}{\sqrt{2}} = 0.707a$	$\frac{a^4 - b^4}{12}$	$\frac{\sqrt{2}(a^4 - b^4)}{12a}$ $= 0.118\frac{a^4 - b^4}{a}$	$\sqrt{\frac{a^2 + b^2}{12}}$ $= 0.289\sqrt{a^2 + b^2}$
	bd	$\frac{1}{2}d$	$\frac{bd^3}{12}$	$\frac{bd^2}{6}$	$\frac{d}{\sqrt{12}} = 0.289d$

四角形 (つづき)

断面の形状	断面積 A	中立軸より 最遠部までの距離 e	慣性モーメント I	断面係数 $Z = \frac{I}{e}$	回転半径 $\rho = \sqrt{\frac{I}{A}}$
	bd	d	$\frac{bd^3}{3}$	$\frac{bd^2}{3}$	$\frac{d}{\sqrt{3}} = 0.577d$
	$bd - hk$	$\frac{1}{2}d$	$\frac{bd^3 - hk^3}{12}$	$\frac{bd^3 - hk^3}{6d}$	$\sqrt{\frac{bd^3 - hk^3}{12(bd - hk)}}$ $= 0.289 \sqrt{\frac{bd^3 - hk^3}{bd - hk}}$
	bd	$\frac{bd}{\sqrt{b^2 + d^2}}$	$\frac{b^3 d^3}{6(b^2 + d^2)}$	$\frac{b^2 d^2}{6\sqrt{b^2 + d^2}}$	$\frac{bd}{\sqrt{6(b^2 + d^2)}}$ $= 0.408 \frac{bd}{\sqrt{b^2 + d^2}}$
	bd	$\frac{1}{2}(d \cos \alpha + b \sin \alpha)$	$\frac{bd}{12} \times$ $(d^2 \cos^2 \alpha + b^2 \sin^2 \alpha)$	$\frac{bd}{6} \times$ $\left(\frac{d^2 \cos^2 \alpha + b^2 \sin^2 \alpha}{d \cos \alpha + b \sin \alpha} \right)$	$\sqrt{\frac{d^2 \cos^2 \alpha + b^2 \sin^2 \alpha}{12}}$ $= 0.289 \times$ $\sqrt{d^2 \cos^2 \alpha + b^2 \sin^2 \alpha}$