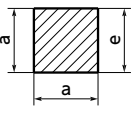
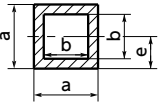
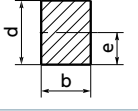
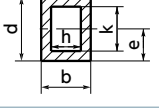
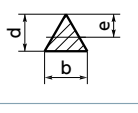
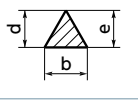
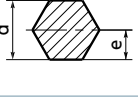
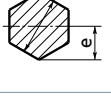
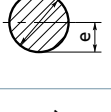
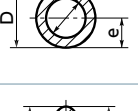
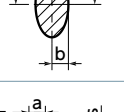



断面の断面二次モーメント、断面係数、回転半径その他

| 断面の形状 | 断面積 A | 中立軸より 最遠部までの距離 e | 断面二次モーメント I | 断面係数 $Z = \frac{I}{e}$ | 回転半径 $p = \sqrt{\frac{I}{A}}$ |
|---|---|-------------------------------------|--|---|--|
|  | a^2 | a | $\frac{a^4}{3}$ | $\frac{a^3}{3}$ | $\frac{a}{\sqrt{3}} = 0.577a$ |
|  | $a^2 - b^2$ | $\frac{1}{2}a$ | $\frac{a^4 - b^4}{12}$ | $\frac{a^4 - b^4}{6a}$ | $\sqrt{\frac{a^2 + b^2}{12}}$ $= 0.289\sqrt{a^2 + b^2}$ |
|  | bd | $\frac{1}{2}d$ | $\frac{bd^3}{12}$ | $\frac{bd^2}{6}$ | $\frac{d}{\sqrt{12}} = 0.289d$ |
|  | bd - hk | $\frac{1}{2}d$ | $\frac{bd^3 - hk^3}{12}$ | $\frac{bd^3 - hk^3}{6d}$ | $\sqrt{\frac{bd^3 - hk^3}{12(bd - hk)}}$ $= 0.289\sqrt{\frac{bd^3 - hk^3}{bd - hk}}$ |
|  | $\frac{1}{2}bd$ | $\frac{2}{3}d$ | $\frac{bd^3}{36}$ | $\frac{bd^2}{24}$ | $\frac{d}{\sqrt{18}} = 0.236d$ |
|  | $\frac{1}{2}bd$ | d | $\frac{bd^3}{12}$ | $\frac{bd^2}{12}$ | $\frac{a}{\sqrt{6}} = 0.408d$ |
|  | $\frac{3d^2 \tan 30^\circ}{2} = 0.866d^2$ | $\frac{d}{2}$ | $\frac{A}{12} \left[\frac{d^2(1+2\cos^2 30^\circ)}{4\cos^2 30^\circ} \right]$ $= 0.6d^4$ | | $\sqrt{\frac{d^2(1+2\cos^2 30^\circ)}{48\cos^2 30^\circ}}$ $= 0.264d$ |
|  | $\frac{3d^2 \tan 30^\circ}{2} = 0.866d^2$ | $\frac{d}{2\cos 30^\circ} = 0.577d$ | $\frac{A}{12} \left[\frac{d^2(1+2\cos^2 30^\circ)}{4\cos^2 30^\circ} \right]$ $= 0.6d^4$ | $\frac{A}{6} \left[\frac{d(1+2\cos^2 30^\circ)}{4\cos^2 30^\circ} \right]$ $= 0.104d^3$ | $\sqrt{\frac{d^2(1+2\cos^2 30^\circ)}{48\cos^2 30^\circ}}$ $= 0.264d$ |
|  | $\frac{\pi d^2}{4} = 0.7854d^2$ | $\frac{d}{2}$ | $\frac{\pi d^4}{64} = 0.049d^4$ | $\frac{\pi d^3}{32} = 0.098d^3$ | $\frac{d}{4}$ |
|  | $\frac{\pi(D^2 - d^2)}{4}$ $= 0.7854(D^2 - d^2)$ | $\frac{d}{2}$ | $\frac{\pi(D^4 - d^4)}{64}$ $= 0.049(D^4 - d^4)$ | $\frac{\pi(D^4 - d^4)}{32D}$ $= 0.098 \frac{D^4 - d^4}{D}$ | $\frac{\sqrt{D^4 - d^4}}{4}$ |
|  | $\pi ab = 3.1416ab$ | a | $\frac{\pi a^3 b}{4} = 0.7854a^3 b$ | $\frac{\pi a^2 b}{4} = 0.7854a^2 b$ | $\frac{a}{2}$ |
|  | dt + 2a(s + n) | $\frac{d}{2}$ | ただし g = つばのこう配 | $\frac{1}{6d} \left[bd^3 - \frac{1}{4g}(h^4 - l^4) \right]$ | $\sqrt{\frac{1}{12} \left[\frac{bd^3 - \frac{1}{4g}(h^4 - l^4)}{dt + 2a(s + n)} \right]}$ |