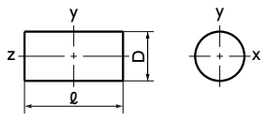
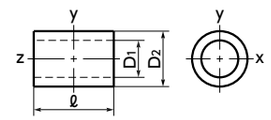
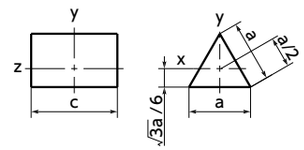
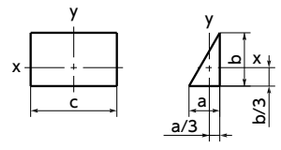
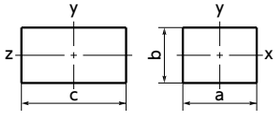
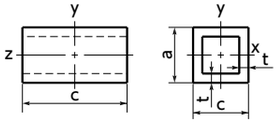
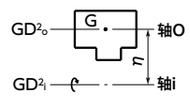
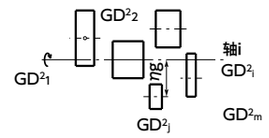
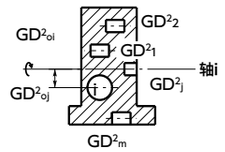
有关GD²的公式

(表中的符号r为比重量。)

物体的形状	W(重量)GD²
	$W=\frac{\pi}{4}rD^2l$ $GD^2_x=GD^2_y=W(\frac{D^2}{4}+\frac{l^2}{3})$ $GD^2_z=\frac{1}{2}WD^2$
	$W=\frac{\pi}{4}r(D_2^2-D_1^2)l$ $GD^2_x=GD^2_y=W\{\frac{(D_2^2+D_1^2)}{4}+\frac{l^2}{3}\}$ $GD^2_z=\frac{1}{2}W(D_2^2+D_1^2)$
	$W=\frac{\sqrt{3}}{4}ra^2c$ $GD^2_x=GD^2_y=\frac{1}{3}W(\frac{a^2}{2}+c^2)$ $GD^2_z=\frac{1}{3}Wa^2$
	$W=\frac{1}{2}rabc$ $GD^2_x=\frac{2}{3}W(\frac{b^2}{3}+\frac{c^2}{2})$ $GD^2_y=\frac{2}{3}W(\frac{a^2}{3}+\frac{c^2}{2})$ $GD^2_z=\frac{1}{9}W(a^2+b^2)$
	$W=rabc$ $GD^2_x=\frac{1}{3}W(b^2+c^2)$ $GD^2_y=\frac{1}{3}W(c^2+a^2)$ $GD^2_z=\frac{1}{3}W(a^2+b^2)$
	$W=4rtc(a-t)$ $GD^2_x=GD^2_y=\frac{2}{3}W\{(a-t)^2+t^2+\frac{c^2}{2}\}$ $GD^2_z=\frac{3}{4}W\{(a-t)^2+t^2\}$

物体的形状	W(重量)GD²
GD²下物体的平行轴定理 	$GD^2_i=GD^2_o+4W\eta^2$ GD^2_o: 与通过物体重心的轴O有关的GD^2(kgf・m²) GD^2_i: 与平行于轴O且与仅偏离 η 的轴i有关的GD^2(kgf・m²) W : 物体的重量[kgf] η : 轴O、轴i之间的距离[m]
GD²下物体的加法定理 	$GD^2_i=GD^2_1+GD^2_2+\cdots+GD^2_j+\cdots+GD^2_m$ $\sum_{j=1}^{m} GD^2_j$ GD^2_j: 与任意物体j的轴i有关的GD^2(kgf・m²) m : 物体数 注)物体的重心轴与轴i不一致时，应利用平行轴的定理等，求出并加上与各物体的轴i有关的GD^2
GD²下物体的减法定理 	$GD^2_i=GD^2_{oi}-(GD^2_1+GD^2_2+\cdots+GD^2_j+\cdots+GD^2_m)$ $GD^2_{oi}-\sum_{j=1}^{m} GD^2_j$ GD^2_{oj}: 与假设没有空间部分时的轴i有关的GD^2[kgf・m²] GD^2_j: 假设任意空间部分填满同一比重的物体时，与该假想物体的轴i有关的GD^2[kgf・m²]
GD^2、扭矩、轴转速、时间的基本关系	$T=\frac{GD^2}{375}\cdot\frac{(n-n_0)}{t}$ $n=\frac{375}{GD^2}Tt+n_0,\ t=\frac{GD^2}{375}\cdot\frac{(n-n_0)}{t}$ n : 轴转速[rpm] n0: 初始轴转速[rpm] t : 时间[sec] T : 扭矩[kgf・m](加速+、减速-)
旋转体的运动能量	$E=\frac{GD^2n^2}{7150}$ $E=1.4\times10^{-4}GD^2n^2$ n : 轴转速[rpm]

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