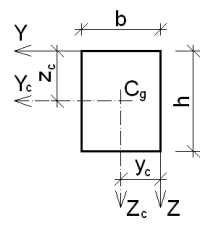
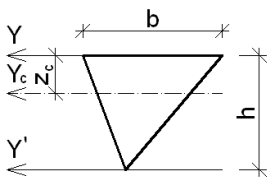
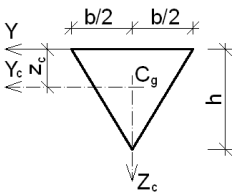
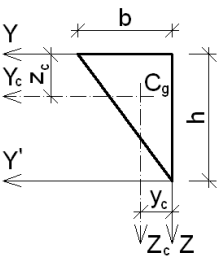
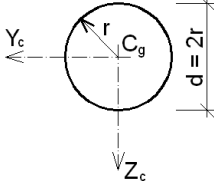
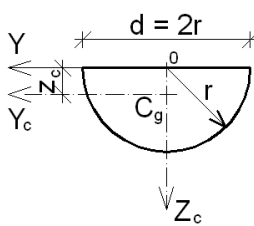
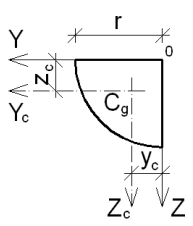
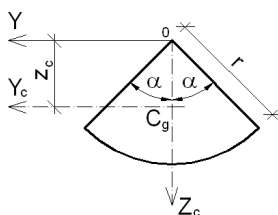


Geometrické charakteristiky rovinných obrazců

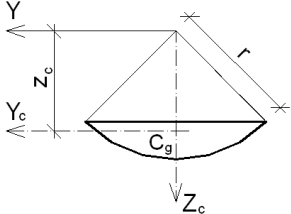
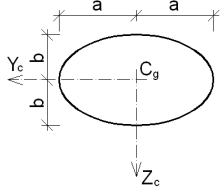
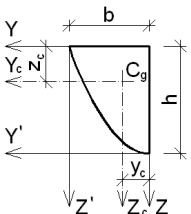
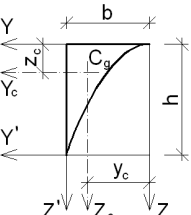
Tvar obrazce	Plocha A	Souřadnice těžiště	Axiální momenty setrvačnosti	Deviační momenty setrvačnosti
	$A = bh$	$y_c = \frac{b}{2}$ $z_c = \frac{h}{2}$	$I_{yC} = \frac{bh^3}{12}, \quad I_{zC} = \frac{hb^3}{12}$ $I_y = \frac{bh^3}{3}, \quad I_z = \frac{hb^3}{3}$	$D_{yCzC} = 0$ $D_{yz} = \frac{b^2h^2}{4}$
	$A = \frac{bh}{2}$	$z_C = \frac{h}{3}$	$I_{yC} = \frac{bh^3}{36}$ $I_y = \frac{bh^3}{12}$ $I_{y'} = \frac{bh^3}{4}$	
	$A = \frac{bh}{2}$	$z_C = \frac{h}{3}$	$I_{yC} = \frac{bh^3}{36}, \quad I_{zC} = \frac{hb^3}{48}$ $I_y = \frac{bh^3}{12}$	$D_{yCzC} = 0$
	$A = \frac{bh}{2}$	$y_c = \frac{b}{3}$ $z_c = \frac{h}{3}$	$I_{yC} = \frac{bh^3}{36}, \quad I_{zC} = \frac{hb^3}{36}$ $I_y = \frac{bh^3}{12}, \quad I_z = \frac{hb^3}{12}$ $I_{y'} = \frac{bh^3}{4}$	$D_{yCzC} = -\frac{b^2h^2}{72}$ $D_{yz} = \frac{b^2h^2}{24}$ $D_{y'z} = -\frac{b^2h^2}{8}$ <p style="text-align: center;">Znaménka!</p>

(pokračování na další stránce)

(pokračování tabulky)

Tvar obrazce	Plocha A	Souřadnice těžiště	Axiální momenty setrvačnosti	Deviační momenty setrvačnosti
	$A = \pi r^2$ $= \frac{\pi d^2}{4}$		$I_{yC} = I_{zC} = \frac{\pi r^4}{4} = \frac{\pi d^4}{64}$	$D_{yCzC} = 0$
	$A = \frac{\pi r^2}{2}$ $= \frac{\pi d^2}{8}$	$z_C = \frac{4r}{3\pi}$ $= \frac{2d}{3\pi}$	$I_{yC} = \left(\frac{\pi}{8} - \frac{8}{9\pi}\right) r^4 =$ $\doteq 0,1098r^4$ $I_{zC} = \frac{\pi r^4}{8} = \frac{\pi d^4}{128}$ $I_y = I_z = \frac{\pi r^4}{8} = \frac{\pi d^4}{128}$	$D_{yCzC} = 0$
	$A = \frac{\pi r^2}{4}$ $= \frac{\pi d^2}{16}$	$y_C = z_C =$ $= \frac{4r}{3\pi}$ $= \frac{2d}{3\pi}$	$I_{yC} = I_{zC} = \left(\frac{\pi}{16} - \frac{4}{9\pi}\right) r^4$ $\doteq 0,0549r^4$ $I_y = I_z = \frac{\pi r^4}{16}$	$D_{yCzC} =$ $= \left(\frac{1}{8} - \frac{4}{9\pi}\right) r^4$ $\doteq -0,0165r^4$ $D_{y'z} = \frac{r^4}{8}$ <p>Znaménka!</p>
	$A = \hat{\alpha} r^2$ $= \text{arcc} \alpha r^2$ $= \frac{\alpha^\circ}{180^\circ} \pi r^2$	$z_C = \frac{2}{3} r \frac{\sin \alpha}{\hat{\alpha}}$	$I_{yC} = r^4 \left(\frac{2\hat{\alpha} + \sin 2\alpha}{8} - \frac{4 \sin^2 \alpha}{9\hat{\alpha}} \right)$ $I_{zC} = \frac{r^4}{8} (2\hat{\alpha} - \sin 2\alpha)$ $I_y = \frac{r^4}{8} (2\hat{\alpha} + \sin 2\alpha)$	$D_{yCzC} = 0$

(pokračování na další stránce)

Tvar obrazce	Plocha A	Souřadnice těžiště	Axiální momenty setrvačnosti	Deviační momenty setrvačnosti
	$A = r^2 \left(\hat{\alpha} - \frac{\sin 2\hat{\alpha}}{2} \right)$	$z_C = \frac{4r \sin^3 \alpha}{3(2\hat{\alpha} - \sin 2\alpha)}$	$I_{yC} = r^4 \left(\frac{4\hat{\alpha} - \sin 4\alpha}{16} - \frac{4 \sin^6 \alpha}{9 \hat{\alpha} - \sin 2\alpha} \right)$ $I_{zC} = \frac{r^4}{48} (12\hat{\alpha} - 8 \sin 2\alpha + \sin 4\alpha)$ $I_y = \frac{r^4}{16} (4\hat{\alpha} - \sin 4\alpha)$	$D_{yCzC} = 0$
	$A = \pi ab$		$I_{yC} = \frac{\pi}{4} ab^3$ $I_{zC} = \frac{\pi}{4} ba^3$	$D_{yCzC} = 0$
	$A = \frac{2}{3} bh$	$y_c = \frac{3}{8} b$ $z_c = \frac{2}{5} h$	$I_{yC} = \frac{8}{175} bh^3, \quad I_{zC} = \frac{19}{480} hb^3$ $I_y = \frac{16}{105} bh^3, \quad I_z = \frac{2}{15} hb^3$ $I_{y'} = \frac{2}{7} bh^3, \quad I_{z'} = \frac{3}{10} hb^3$	
	$A = \frac{bh}{3}$	$y_c = \frac{3}{4} b$ $z_c = \frac{3}{10} h$	$I_{yC} = \frac{37}{2100} bh^3, \quad I_{zC} = \frac{1}{80} hb^3$ $I_y = \frac{1}{21} bh^3, \quad I_z = \frac{1}{5} hb^3$ $I_{y'} = \frac{19}{105} bh^3, \quad I_{z'} = \frac{1}{30} hb^3$	