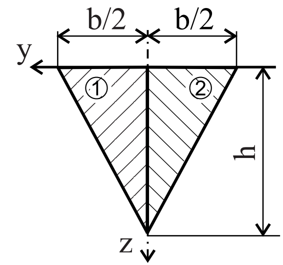
Back to problem

properties

basic shapes



We turn profit of basic properties of quadratic moments by dividing the cross section into two symmetric parts having the shape of a right triangle. Then we can use the formulas derived for the right triangle using the basic integral relations.

$$J_y^{(1)} = J_y^{(2)} = \frac{\left(\frac{b}{2}\right) h^3}{12}$$

$$J_z^{(1)} = J_z^{(2)} = \frac{h \left(\frac{b}{2}\right)^3}{12}$$

$$J_y = J_y^{(1)} + J_y^{(2)} = 2\frac{\left(\frac{b}{2}\right) h^3}{12} = 4,17 \cdot 10^6 \, \mathrm{mm}^4,$$

$$J_z = J_z^{(1)} + J_z^{(2)} = 2\frac{h \left(\frac{b}{2}\right)^3}{12} = 0,26 \cdot 10^6 \, \mathrm{mm}^4,$$

$$J_{yz} = 0$$

CONTENT