

Tabular Form Calculation for Area Properties

Item	A mm ²	y-bar mm	Ay mm ³	Ay ² mm ⁴	Iy mm ⁴	z-bar mm	Az mm ³	Az ² mm ⁴	Iz mm ⁴	Ayz mm ⁴	Iyz mm ⁴
120x10	1200	5	6000	30000	1440000	60	72000	4320000	10000	360000	0
80x10	800	50	40000	2000000	6667	5	4000	20000	426667	200000	0
Total	2000	23	46000	2030000	1446667	38	76000	4340000	436667	560000	0

Properties about the Neutral Axes of the Angle:

Area = 2000 mm²

ybar = 23 mm

zbar = 38 mm

Iy = $\Sigma Iy + \Sigma Ay^2 - A \cdot ybar^2$

Iy = 2418667 mm⁴

Iz = $\Sigma Iz + \Sigma Az^2 - A \cdot zbar^2$

Iz = 1888667 mm⁴

Iyz = $\Sigma Iyz + \Sigma Ayz - A \cdot ybar \cdot zbar$

Iyz = -1188000 mm⁴