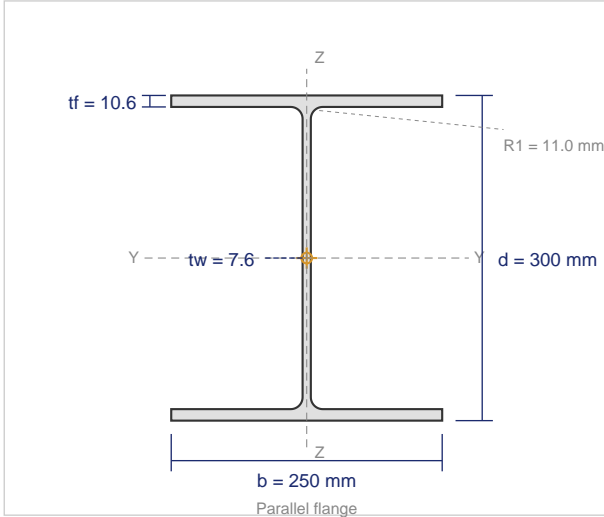


# ISHB 300

Indian Standard Heavy Beam -- IS 808 : 1989

## CROSS SECTION (Proportionally Accurate)



## DIMENSIONS

Depth (d)	300 mm
Flange Width (b)	250 mm
Web Thickness (tw)	7.6 mm
Flange Thickness (tf)	10.6 mm
Root Radius (R1)	11.0 mm
Variant	Light
Weight per Meter	54.7 kg/m
Cross-sectional Area	6971 mm <sup>2</sup>
Surface Area	1.539 m <sup>2</sup> /m

## SECTIONAL PROPERTIES

Property	About X-X Axis	About Y-Y Axis
Moment of Inertia	<b>I<sub>x</sub> = 120,186,000 mm<sup>4</sup></b>	<b>I<sub>y</sub> = 27,693,000 mm<sup>4</sup></b>
Elastic Section Modulus	<b>Z<sub>x</sub> = 801,200 mm<sup>3</sup></b>	<b>Z<sub>y</sub> = 221,500 mm<sup>3</sup></b>
Plastic Section Modulus	<b>Z<sub>px</sub> = 904,500 mm<sup>3</sup></b>	<b>Z<sub>py</sub> = 337,700 mm<sup>3</sup></b>
Radius of Gyration	<b>r<sub>x</sub> = 131.3 mm</b>	<b>r<sub>y</sub> = 63.0 mm</b>
Distance to Extreme Fibre	<b>c<sub>x</sub> = 150.0 mm</b>	<b>c<sub>y</sub> = 125.0 mm</b>
Shape Factor (Z <sub>p</sub> /Z)	<b>1.129</b>	<b>1.525</b>
Torsional Constant	<b>I<sub>t</sub> = 319,100 mm<sup>4</sup></b>	
Warping Constant	<b>I<sub>w</sub> = 571,900,000,000 mm<sup>6</sup></b>	
Shear Area	<b>A<sub>v</sub> = 2,280 mm<sup>2</sup></b>	

## FACTORED CAPACITY (per IS 800:2007, gamma\_m0 = 1.10)

Grade	Mp X-X (kN.m)	Mp Y-Y (kN.m)	Axial Pd (kN)
E 250 (Fe 410W)	205.6	76.8	1584
E 350	287.8	107.4	2218
E 410	337.1	125.9	2598
E 450	370.0	138.2	2852

## APPLICABLE STANDARDS

<b>IS 808 : 1989</b>	Dimensions for hot rolled steel beam, column, channel and angle sections
<b>IS 2062 : 2011</b>	Hot rolled medium and high tensile structural steel
<b>IS 800 : 2007</b>	General construction in steel -- Code of practice
<b>IS 1852</b>	Tolerances for hot rolled structural steel sections