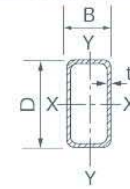




Section Properties



Specification:
IS : 4923

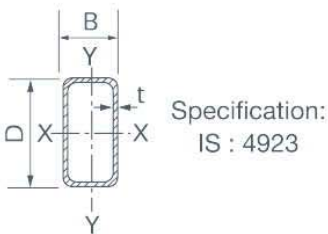
Properties of Tata Structura (Rectangular Hollow Sections)

YST 310 Grade

| RHS D x B mm | Thickness mm | Sec Area A cm ² | Unit W kg/m | Moment of Inertia | | Radius of Gyration | | Elastic Modulus | | Torsional Constants | | Outer Surface Area per m m ² |
|--------------------|-----------------|----------------------------------|-------------------|------------------------------------|------------------------------------|-----------------------|-----------------------|------------------------------------|------------------------------------|----------------------|----------------------|---|
| | | | | I _{xx} cm ⁴ | I _{yy} cm ⁴ | r _{xx} cm | r _{yy} cm | Z _{xx} cm ³ | Z _{yy} cm ³ | J cm ⁴ | B cm ³ | |
| 50 x 25 | 2.00 | 2.74 | 2.15 | 8.38 | 2.81 | 1.75 | 1.01 | 3.35 | 2.25 | 6.79 | 3.79 | 0.142 |
| | 2.60 | 3.46 | 2.71 | 10.16 | 3.36 | 1.71 | 0.99 | 4.06 | 2.69 | 8.27 | 4.53 | 0.137 |
| | 3.20 | 4.13 | 3.24 | 11.63 | 3.80 | 1.68 | 0.96 | 4.65 | 3.04 | 9.52 | 5.12 | 0.134 |
| | 4.00 | 4.95 | 3.88 | 13.13 | 4.23 | 1.63 | 0.92 | 5.25 | 3.38 | 10.86 | 5.69 | 0.129 |
| 60 x 40 | 2.60 | 4.76 | 3.73 | 22.76 | 12.09 | 2.19 | 1.59 | 7.59 | 6.05 | 25.59 | 9.83 | 0.187 |
| | 2.90 | 5.25 | 4.12 | 24.74 | 13.11 | 2.17 | 1.58 | 8.25 | 6.56 | 28.02 | 10.66 | 0.185 |
| | 3.60 | 6.35 | 4.98 | 28.90 | 15.23 | 2.13 | 1.55 | 9.63 | 7.62 | 33.30 | 12.41 | 0.181 |
| | 4.50 | 7.67 | 6.02 | 33.31 | 17.44 | 2.08 | 1.51 | 11.10 | 8.72 | 39.34 | 14.29 | 0.177 |
| 66 x 33 | 2.60 | 4.70 | 3.69 | 25.15 | 8.43 | 2.31 | 1.34 | 7.62 | 5.11 | 20.75 | 8.71 | 0.185 |
| | 2.90 | 5.19 | 4.07 | 27.33 | 9.12 | 2.29 | 1.33 | 8.28 | 5.53 | 22.65 | 9.43 | 0.183 |
| | 3.60 | 6.28 | 4.93 | 31.87 | 10.52 | 2.25 | 1.29 | 9.66 | 6.37 | 26.71 | 10.90 | 0.179 |
| | 4.50 | 7.58 | 5.95 | 36.64 | 11.93 | 2.20 | 1.25 | 11.10 | 7.23 | 31.21 | 12.43 | 0.175 |
| 80 x 40 | 2.60 | 5.80 | 4.55 | 46.58 | 15.74 | 2.84 | 1.65 | 11.65 | 7.87 | 38.50 | 13.46 | 0.227 |
| | 3.20 | 7.01 | 5.50 | 54.94 | 18.41 | 2.80 | 1.62 | 13.74 | 9.21 | 45.83 | 15.78 | 0.224 |
| | 4.00 | 8.55 | 6.71 | 64.79 | 21.49 | 2.75 | 1.59 | 16.20 | 10.74 | 54.77 | 18.49 | 0.219 |
| | 4.80 | 10.01 | 7.85 | 73.22 | 24.03 | 2.71 | 1.55 | 18.30 | 12.02 | 62.81 | 20.79 | 0.215 |
| 96 x 48 | 3.20 | 8.54 | 6.71 | 98.61 | 33.28 | 3.40 | 1.97 | 20.54 | 13.87 | 82.13 | 23.82 | 0.272 |
| | 4.00 | 10.47 | 8.22 | 117.54 | 39.32 | 3.35 | 1.94 | 24.49 | 16.38 | 99.11 | 28.24 | 0.267 |
| | 4.80 | 12.31 | 9.66 | 134.35 | 44.55 | 3.30 | 1.90 | 27.99 | 18.56 | 114.80 | 32.14 | 0.263 |
| | 3.60 | 12.32 | 9.67 | 232.61 | 78.83 | 4.34 | 2.53 | 38.13 | 25.84 | 193.91 | 44.50 | 0.347 |
| 122 x 61 | 4.50 | 15.14 | 11.88 | 278.94 | 93.78 | 4.29 | 2.49 | 45.73 | 30.75 | 235.99 | 53.13 | 0.343 |
| | 5.40 | 17.85 | 14.01 | 320.83 | 107.03 | 4.24 | 2.45 | 52.60 | 35.09 | 274.29 | 60.89 | 0.338 |
| | 4.80 | 20.28 | 15.92 | 555.16 | 228.50 | 5.23 | 3.36 | 76.57 | 55.73 | 534.27 | 94.45 | 0.429 |
| 145 x 82 | 5.40 | 22.60 | 17.74 | 610.85 | 250.59 | 5.20 | 3.33 | 84.26 | 61.12 | 592.70 | 103.81 | 0.426 |
| | 4.80 | 23.83 | 18.71 | 917.13 | 346.91 | 6.20 | 3.82 | 106.64 | 75.41 | 826.04 | 128.85 | 0.503 |
| 172 x 92 | 5.40 | 26.59 | 20.88 | 1012.47 | 381.74 | 6.17 | 3.79 | 117.73 | 82.99 | 918.10 | 142.04 | 0.500 |
| | 4.00 | 22.95 | 18.01 | 1199.71 | 410.78 | 7.23 | 4.23 | 119.97 | 82.16 | 991.47 | 141.46 | 0.579 |
| 200 x 100 | 5.00 | 28.36 | 22.26 | 1459.25 | 496.94 | 7.17 | 4.19 | 145.93 | 99.39 | 1216.96 | 171.53 | 0.574 |
| | 6.00 | 33.63 | 26.40 | 1703.31 | 576.91 | 7.12 | 4.14 | 170.33 | 115.38 | 1434.03 | 199.68 | 0.569 |
| | 8.00 | 43.79 | 34.38 | 2146.21 | 719.19 | 7.00 | 4.05 | 214.62 | 143.84 | 1843.86 | 250.68 | 0.559 |
| | 4.00 | 27.75 | 21.78 | 1892.62 | 947.66 | 8.26 | 5.84 | 172.06 | 135.38 | 2004.80 | 223.74 | 0.699 |
| 220 x 140 | 5.00 | 34.36 | 26.97 | 2313.45 | 1155.26 | 8.21 | 5.80 | 210.31 | 165.04 | 2468.51 | 272.71 | 0.694 |
| | 6.00 | 40.83 | 32.05 | 2714.10 | 1351.70 | 8.15 | 5.75 | 246.74 | 193.10 | 2914.71 | 318.93 | 0.689 |
| | 8.00 | 53.39 | 41.91 | 3456.31 | 1712.25 | 8.05 | 5.66 | 314.21 | 244.61 | 3270.10 | 378.40 | 0.679 |
| | 4.00 | 27.75 | 21.78 | 2110.72 | 725.35 | 8.72 | 5.11 | 175.89 | 120.89 | 1736.39 | 208.03 | 0.699 |
| 240 x 120 | 5.00 | 34.36 | 26.97 | 2579.67 | 882.47 | 8.67 | 5.07 | 214.97 | 147.08 | 2138.48 | 253.55 | 0.694 |
| | 6.00 | 40.83 | 32.05 | 3025.91 | 1030.45 | 8.61 | 5.02 | 252.16 | 171.74 | 2528.39 | 296.70 | 0.689 |
| | 8.00 | 53.39 | 41.91 | 3851.84 | 1299.95 | 8.49 | 4.93 | 320.99 | 216.66 | 3272.90 | 376.29 | 0.679 |
| | 6.00 | 50.43 | 39.59 | 4855.87 | 2763.43 | 9.81 | 7.40 | 373.53 | 307.05 | 5619.50 | 501.05 | 0.849 |
| 260 x 180 | 8.00 | 66.19 | 51.96 | 6238.69 | 3538.10 | 9.71 | 7.31 | 479.90 | 393.12 | 6821.23 | 620.13 | 0.839 |
| | 10.00 | 81.43 | 63.92 | 7509.51 | 4244.26 | 9.60 | 7.22 | 577.65 | 471.58 | 8972.14 | 760.42 | 0.834 |
| | 12.00 | 96.14 | 75.47 | 8672.42 | 4884.94 | 9.50 | 7.13 | 667.11 | 542.77 | 10150.39 | 875.12 | 0.829 |
| | 6.00 | 51.63 | 40.53 | 6073.51 | 2079.57 | 10.85 | 6.35 | 404.90 | 277.28 | 5034.64 | 478.20 | 0.869 |
| 300 x 150 | 8.00 | 67.79 | 53.22 | 7807.95 | 2654.12 | 10.73 | 6.26 | 520.53 | 353.88 | 6559.05 | 612.64 | 0.859 |
| | 10.00 | 83.43 | 65.49 | 9403.90 | 3173.71 | 10.62 | 6.17 | 626.93 | 423.16 | 8011.67 | 736.01 | 0.848 |
| | 12.00 | 98.54 | 77.35 | 10866.10 | 3641.00 | 10.50 | 6.08 | 724.41 | 485.47 | 9110.72 | 829.98 | 0.838 |
| | 6.00 | 57.63 | 45.24 | 7370.23 | 3962.19 | 11.31 | 8.29 | 491.35 | 396.22 | 8186.02 | 650.85 | 0.969 |
| 300 x 200 | 8.00 | 75.79 | 59.50 | 9513.66 | 5097.04 | 11.20 | 8.20 | 634.24 | 509.70 | 10722.83 | 839.51 | 0.959 |
| | 10.00 | 93.43 | 73.34 | 11507.24 | 6144.30 | 11.10 | 8.11 | 767.15 | 614.43 | 13169.70 | 1015.43 | 0.948 |
| | 12.00 | 110.54 | 86.77 | 13355.84 | 7107.43 | 10.99 | 8.02 | 890.39 | 710.43 | 15215.03 | 1160.24 | 0.938 |


* For availability of size/thickness please refer to page 11.


Product Range Availability



Product Range: Rectangular Hollow Sections (RHS)

| | | Wall Thickness (mm) = t | | | | | | | | | | | | | | | |
|--------------|-----|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| Section Size | | D | B | 2.0 | 2.6 | 2.9 | 3.2 | 3.6 | 4.0 | 4.5 | 4.8 | 5.0 | 5.4 | 6.0 | 8.0 | 10.0 | 12.0 |
| | 50 | 25 | 2.0 | 2.6 | | 3.2 | | 4.0 | | | | | | | | | |
| | 60 | 40 | | 2.6 | 2.9 | | 3.6 | | 4.5 | | | | | | | | |
| | 66 | 33 | | 2.6 | 2.9 | | 3.6 | | 4.5 | | | | | | | | |
| | 80 | 40 | | 2.6 | | 3.2 | | 4.0 | | 4.8 | | | | | | | |
| | 96 | 48 | | | | 3.2 | | 4.0 | | 4.8 | | | | | | | |
| | 122 | 61 | | | | | 3.6 | | 4.5 | | | 5.4 | | | | | |
| | 145 | 82 | | | | | | | | 4.8 | | 5.4 | | | | | |
| | 172 | 92 | | | | | | | | 4.8 | | 5.4 | | | | | |
| | 200 | 100 | | | | | | 4.0 | | | 5.0 | | 6.0 | 8.0 | | | |
| | 220 | 140 | | | | | | 4.0 | | | 5.0 | | 6.0 | 8.0 | | | |
| | 240 | 120 | | | | | | 4.0 | | | 5.0 | | 6.0 | 8.0 | | | |
| | 260 | 180 | | | | | | | | | | | 6.0 | 8.0 | 10.0 | 12.0 | |
| | 300 | 150 | | | | | | | | | | | 6.0 | 8.0 | 10.0 | 12.0 | |
| | 300 | 200 | | | | | | | | | | | 6.0 | 8.0 | 10.0 | 12.0 | |

 - Indicates presently rolled section

 - Under development, please confirm availability before adoption in design