

PRODUCT RANGE



ANNEXURE - A

| INDIAN STANDARD NARROW PARALLEL FLANGE BEAMS / EUROPEAN I-BEAMS | Indian Designation | | | Section Dimensions | | | | Sectional Properties | | Moment of Inertia | | Sectional Modulus | | Radius of gyration | | Dimension for Detailing | | | | | Buckling Parameter | | Torsional | | | Section Classification | | Remarks | | | | |
|-----------------------------------------------------------------|--------------------|-------|------|--------------------|---------|------------------|-----------------|----------------------|-----------------|-------------------|-----------------|-------------------|-----------------|--------------------|------------|----------------------------------|----------------------------------|--------|----|-----|--------------------|---------|--------------|-----------------|-----------------|------------------------|-----------------|---------|---------------------|----------------------|-----------------|-----------------|
| | | | | Nominal Weight | Depth d | Web Thickness tw | Flange Width bf | Thick tf | Area A | X Axis Ixx | Y Axis Iyy | X Axis Zxx | Y Axis Zyy | X Axis rxx | Y Axis ryy | Plastic Modulus Fillet | | Radius | | End | | Notch n | Surface Area | | U1 | U2 | Index x2 | | Warping Constant Cw | Torsional Constant J | Bending | Compression |
| | | | | | | | | | | | | | | | | Zpx | Zpy | r | C | N | SA_m | | SA_t | | | | | | | | | |
| | | | | kg/m | mm | mm | mm | mm | mm ² | cm ⁴ | cm ⁴ | cm ³ | cm ³ | cm | cm | x10 ³ mm ³ | x10 ³ mm ³ | mm | mm | mm | mm | mm | mm | mm ² | mm ² | mm ⁴ | mm ⁴ | | mm ⁴ | mm ⁴ | mm ⁴ | mm ⁴ |
| IPEA 180/NPB 180x90x15.4 | NPB | 180 x | 90 x | 15.37 | 177 | 4.3 | 91 | 6.5 | 1957.63 | 1063 | 81.9 | 120.1 | 18 | 7.37 | 2.05 | 135.32 | 27.96 | 9 | 4 | 54 | 16 | 699 | 45506 | 0.9538 | 0.8831 | 26.0 | 5.93 | 2.70 | PL | PL | | |
| IPE 180/NPB 180x90x18.8 | NPB | 180 x | 90 x | 18.80 | 180 | 5.3 | 91 | 8.0 | 2394.63 | 1317 | 100.9 | 146.3 | 22.2 | 7.42 | 2.05 | 166.41 | 34.60 | 9 | 5 | 53 | 18 | 697 | 37095 | 0.9564 | 0.8818 | 21.7 | 7.43 | 4.79 | PL | PL | | |
| IPEA 180/NPB 180x90x21.3 | NPB | 180 x | 90 x | 21.27 | 182 | 6.0 | 92 | 9.0 | 2709.43 | 1505 | 117.3 | 165.4 | 25.5 | 7.45 | 2.08 | 189.14 | 39.61 | 9 | 5 | 53 | 18 | 700 | 32908 | 0.9583 | 0.8811 | 19.6 | 7.43 | 6.76 | PL | PL | | |

Sections under development

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|-----|-------|------|-------|-----|-----|----|-----|---------|-----|------|------|------|------|------|-------|-------|---|---|----|----|-----|-------|--------|--------|------|------|------|----|----|
| IPE 100/NPB 100x55x8.1 | NPB | 100 x | 55 x | 8.10 | 100 | 4.1 | 55 | 5.7 | 1032.26 | 171 | 15.9 | 34.2 | 5.8 | 4.07 | 1.24 | 39.40 | 9.15 | 7 | 4 | 36 | 14 | 399 | 49193 | 0.9873 | 0.8792 | 15.6 | .35 | 1.20 | PL | PL |
| IPE 120/NPB 120x60x10.4 | NPB | 120 x | 60 x | 10.37 | 120 | 4.4 | 64 | 6.3 | 1320.96 | 318 | 27.7 | 53 | 8.6 | 4.9 | 1.45 | 60.72 | 13.58 | 7 | 4 | 40 | 14 | 472 | 45482 | 0.9698 | 0.8798 | 17.7 | .89 | 1.74 | PL | PL |
| IPE 140/NPB 140x70x12.9 | NPB | 140 x | 70 x | 12.89 | 140 | 4.7 | 73 | 6.9 | 1842.54 | 541 | 44.9 | 77.3 | 12.3 | 5.74 | 1.65 | 88.34 | 19.25 | 7 | 4 | 45 | 14 | 545 | 42239 | 0.9582 | 0.8804 | 19.5 | 1.98 | 2.45 | PL | PL |

INDIAN STANDARD WIDE PARALLEL FLANGE BEAMS / EUROPEAN WIDE FLANGE BEAMS

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|-----|-------|-------|--------|-----|------|-----|------|----------|-------|------|------|-------|-------|------|---------|--------|----|---|-----|----|------|-------|--------|--------|------|---------|--------|----|----|
| HEAA 320/WPB 320x300x74.2 | WPB | 320 x | 300 x | 74.24 | 301 | 8.0 | 300 | 11.0 | 9456.86 | 16450 | 4959 | 1093 | 330.6 | 13.19 | 7.24 | 1196.06 | 505.74 | 27 | 6 | 156 | 38 | 1885 | 25395 | 0.9694 | 0.8541 | 21.3 | 1040.74 | 55.87 | SC | SC |
| HEA 320/WPB 320x300x97.6 | WPB | 320 x | 300 x | 97.62 | 310 | 9.0 | 300 | 15.5 | 12435.86 | 22930 | 6985 | 1479 | 465.7 | 13.58 | 7.49 | 1627.95 | 709.74 | 27 | 7 | 156 | 44 | 1883 | 19291 | 0.9851 | 0.8612 | 17.9 | 1512.36 | 107.97 | CO | CO |
| HEB 320/WPB 320x300x126.6 | WPB | 320 x | 300 x | 126.65 | 320 | 11.5 | 300 | 20.5 | 16133.36 | 30820 | 9239 | 1926 | 615.9 | 13.82 | 7.57 | 2149.09 | 939.10 | 27 | 8 | 155 | 48 | 1878 | 14830 | 0.9955 | 0.8630 | 14.3 | 2068.71 | 225.07 | PL | PL |

UNIVERSAL BEAMS AS PER BS4-1:1993

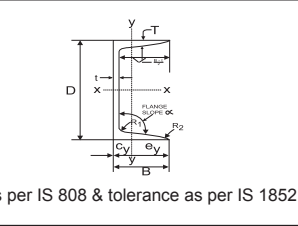
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|----|-------|-------|-------|-------|-----|-------|-----|---------|------|-------|-------|------|-------|------|--------|-------|-----|---|----|----|------|-------|--------|--------|------|-------|-------|----|----|
| UB 203x133x25 | UB | 203 x | 133 x | 25.09 | 203.2 | 5.7 | 133.2 | 7.8 | 3196.74 | 2340 | 307.6 | 230.3 | 46.2 | 8.56 | 3.10 | 257.72 | 70.94 | 7.6 | 5 | 74 | 16 | 908 | 36181 | 0.9336 | 0.8772 | 25.3 | 29.33 | 6.10 | PL | PL |
| UB 203x133x30 | UB | 203 x | 133 x | 30.00 | 206.8 | 6.4 | 133.9 | 9.6 | 3821.02 | 2896 | 384.7 | 280 | 57.5 | 8.71 | 3.17 | 314.36 | 88.22 | 7.6 | 5 | 74 | 18 | 909 | 30317 | 0.9427 | 0.8818 | 21.3 | 37.34 | 10.43 | PL | PL |
| UB 254x146x31 | UB | 254 x | 146 x | 31.15 | 251.4 | 6.0 | 146.1 | 8.6 | 3967.62 | 4413 | 447.5 | 351.1 | 61.3 | 10.55 | 3.36 | 393.06 | 94.13 | 7.6 | 5 | 81 | 18 | 1052 | 33781 | 0.9261 | 0.8798 | 29.4 | 65.88 | 8.68 | PL | PL |

* Product availability to be checked prior to order booking.

PRODUCT RANGE



Table of Indian Channels with columns for Sectional Area, Sectional Weight, Total Depth, Flange Width, Thk. of Web, Thk. of Flange, Flange Slope Max., Root Radius, Toe Radius, Dist. Of C.G., Moment of Inertia, Sectional Modulus, Radius of Gyration, Plastic Section Modulus, Torsional Constant, Warping Constant, Depth Bet. Root Fillets, Local Buckling Ratios, and Class of Section.



As per IS 808 & tolerance as per IS 1852

Table of Universal Columns AS PER BS-4:1-1993, including Parallel Flange Columns (UC Series) with columns for Sectional Weight, Total Depth, Flange Width, Thickness of Web/Flange, Root radius, Area of section, Moment of Inertia, Sectional Modulus, Radius of gyration, and Remarks.

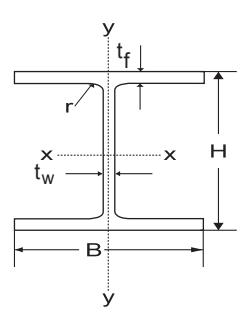


Table of Angles with columns for Sectional Weight, Thickness, Root radius, Distance of Centre of Gravity, Area of section, Moment of Inertia, Sectional Modulus, Radius of gyration, and Remarks. Includes Equal Leg Angles and unequal leg angles.

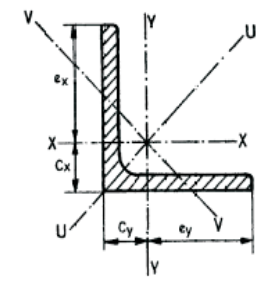
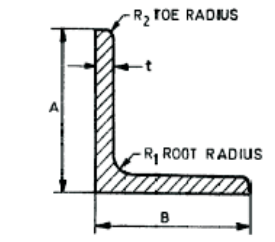
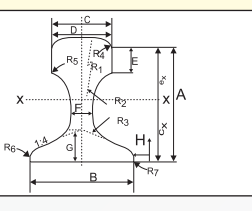


Table of Indian Crane Rails (CR-80, CR-100) and Track Rails (UIC 54, UIC 60, IRS 52) with columns for Sectional Weight (Kg/m) and Remarks.



Delivery Conditions for Beams/ Columns/ Channels/ Angles and Rails

Table detailing delivery conditions for structural sections, including length, dimensional norms, surface condition, packing, marking, minimum order quantity, and invoicing for both domestic and export sales.