# STRUCTURAL STEEL



# STRUCTURAL STEEL

## Reinforcing Bar & Mesh

**Available Standards:** AS/NZS 4671:2001 - Grade 300E, Grade 500N.
BS4449:1997 - Grade 460. Plain Round Grade 250.
BS4449:2004 - Grade B500B. MS146:2000 - Grade 500.
ASTM A615 - Grade 40 and Grade 60.
Refer to Page 92 for Rebar Technical Data.

### REINFORCING BAR

| SIZE (nominal diameter mm) DEFORMED | PLAIN ROUND | CROSS SECTIONAL AREA (mm2) | UNIT WEIGHT (KG/M) | LENGTHS PER MT (Based on 6 MTR) |
|---|---|---|---|---|
| D6 | - | 28.3 | 0.222 | 750 |
| D8 | 8 | 50.3 | 0.395 | 422 |
| D10 | 10 | 78.5 | 0.616 | 270 |
| D12 | 12 | 113.1 | 0.888 | 187 |
| D16 | 16 | 201.1 | 1.579 | 105 |
| D20 | 20 | 314.2 | 2.466 | 67 |
| D22 | 22 | 380.1 | 2.984 | 55 |
| D24 | 24 | 542.4 | 3.55 | 47 |
| D25 | 25 | 490.9 | 3.854 | 43 |
| D28 | 28 | 615.8 | 4.834 | 34 |
| D32 | 32 | 804.2 | 6.313 | 26 |
| D40 | - | 1256.6 | 9.864 | 16 |

### CONCRETE REINFORCING MESH: UNGALVANISED (BLACK)

| COMMON REF | LONGITUDINAL WIRES | | CROSS WIRES | | SHEET SIZE | APPROX MASS |
|---|---|---|---|---|---|---|
| | WIRE DIA (mm) | APERTURE (mm) | WIRE DIA (mm) | APERTURE (mm) | | KG/M2 |
| NZ STD | | | | | | |
| 6610 | 3.40 | 150 | 3.40 | 150 | 5.8m x 2.2m, 4.65m x 2.3m | 0.972 |
| 668 | 4.30 | 150 | 4.30 | 150 | 5.8m x 2.2m, 4.65m x 2.3m | 1.309 |
| 665 | 5.30 | 150 | 5.30 | 150 | 5.8m x 2.2m, 4.65m x 2.3m | 2.244 |
| 663 | 6.30 | 150 | 6.30 | 150 | 5.8m x 2.2m, 4.65m x 2.3m | 3.179 |
| AS STD | | | | | | |
| F52 | 4.75 | 200 | 4.75 | 200 | 5.8m x 2.2m | 1.730 |
| F62 | 6.00 | 200 | 6.00 | 200 | 5.8m x 2.2m | 2.721 |
| F72 | 6.75 | 200 | 6.75 | 200 | 5.8m x 2.2m | 3.301 |
| F82 | 7.30 | 200 | 7.30 | 200 | 5.8m x 2.2m | 3.834 |

Plain & Ribbed Wire Options are available. Other Specifications are available, please discuss with your Tropex Representative

### SECURITY MESH: GALVANISED

| COMMON REF | LONGITUDINAL WIRES | | CROSS WIRES | | SHEET SIZE | APPROX MASS |
|---|---|---|---|---|---|---|
| | WIRE DIA (mm) | APERTURE (mm) | WIRE DIA (mm) | APERTURE (mm) | | KG/M2 |
| NZ STD | | | | | | |
| 228 | 4.0 | 50 | 4.0 | 50 | 2.4m x 1.2m | 3.944 |
| 225 | 5.3 | 50 | 5.3 | 50 | 2.4m x 1.2m | 6.927 |
| 328 | 4.0 | 75 | 4.0 | 50 | 2.4m x 1.2m | 3.451 |
| 325 | 5.3 | 75 | 5.3 | 50 | 2.4m x 1.2m | 5.396 |

Please specify Galv Before or After Welding. Other Specifications are available, please discuss with your Tropex Representative

# STRUCTURAL STEEL

## Reinforcing Accessories


G85/100

| GROUND CHAIRS (CLIP-ON STYLE) | |
|---|---|
| G25/40 | Ground Chair (Clip-On Style) (100/Bag) |
| G50/65 | Ground Chair (Clip-On Style) (100/Bag) |
| G75/90 | Ground Chair (Clip-On Style) (100/Bag) |
| G85/100 | Ground Chair (50/Bag) |


PC60/75

| PRE CAST CHAIRS (CLIP-ON STYLE) | |
|---|---|
| PC25/40 | Pre Cast Chair (200/Bag) |
| G50/65 | Pre Cast Chair (100/Bag) |
| G60/75 | Pre Cast Chair (200/Bag) |


F55/60

| FORMWORK CHAIRS (CLIP-ON STYLE) | |
|---|---|
| F35/40 | Formwork Chair (200/Bag) |
| F45/50 | Formwork Chair (200/Bag) |
| F55/60 | Formwork Chair (200/Bag) |


SCY

| SAFETY CAPS | |
|---|---|
| SCY | Safety Cap Yellow (100/Bag) |
| SCO | Safety Cap Orange (100/Bag) |


FS

| FORMWORK SPREADER | |
|---|---|
| FS | Formwork Spreader (200/Bag) |


MS

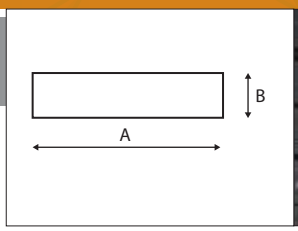
| MESH SPACERS - Plastic spacers for clipping mesh before plastering | |
|---|---|
| MS | Mesh Spacers (200/Bag) |


| SWIFT SHIM PACKERS (High impact plastic levelling shim - 100mm x 80mm) | |
|---|---|
| SHIM01 | Packing Shim Red, 1mm (Bag Size 100 units) |
| SHIM03 | Packing Shim Blue, 3mm (Bag Size 100 units) |
| SHIM06 | Packing Shim Green, 6mm (Bag Size 100 units) |
| SHIM10 | Packing Shim Black, 10mm (Bag Size 100 units) |
| SHIMPK | Mixed Shim Pack |

# STRUCTURAL STEEL

## Mild Steel Flat Bar

**Available Standards:** JIS G3101, BS4360, AS 3679.
Others available upon request






B

| A WIDTH (mm) | UNIT WEIGHT Kg/M | THICKNESS (mm) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 3 | 4 | 4.5 | 6 | 8 | 9 | 10 | 12 | 16 | 19 | 20 | 22 | 25 | 28 | 32 | 36 |
| | 12 | 0.28 | | 0.42 | | 0.75 | | 0.94 | | | | | | | | | |
| | 16 | 0.39 | 0.5 | 0.57 | 0.75 | 1 | | 1.26 | | | | | | | | | |
| | 19 | 0.45 | 0.6 | 0.67 | 0.89 | | 1.34 | 1.49 | 1.79 | | | | | | | | |
| | 25 | 0.59 | 0.79 | 0.88 | 1.18 | 1.57 | 1.77 | 1.96 | 2.36 | 3.14 | | 3.93 | | | | | |
| | 32 | 0.75 | 1 | 1.13 | 1.51 | 2.01 | 2.26 | 2.51 | 3.01 | 4.02 | 4.77 | | | | | | |
| | 38 | 0.89 | 1.19 | 1.34 | 1.79 | 2.39 | 2.68 | | 3.58 | 4.77 | 5.67 | | | | | | |
| | 44 | | | 1.55 | 2.07 | 2.76 | 3.11 | | 4.14 | 5.53 | 6.56 | | | | | | |
| | 50 | 1.18 | 1.57 | 1.77 | 2.36 | 3.14 | 3.53 | 3.93 | 4.71 | 6.28 | 7.46 | 7.85 | 8.64 | 9.81 | | | |
| | 65 | 1.53 | | 2.3 | 3.06 | 4.08 | 4.59 | 5.1 | 6.12 | 8.16 | 9.69 | 10.2 | 11.2 | 12.8 | | | |
| | 75 | | | 2.65 | 3.53 | 4.71 | 5.3 | 5.89 | 7.06 | 9.42 | 11.2 | 11.8 | 13 | 14.7 | | | |
| | 90 | | | | 4.24 | 5.65 | 6.36 | 7.07 | 8.48 | 11.3 | 13.4 | 14.1 | 15.5 | 17.7 | | | |
| | 100 | 2.36 | | | 4.71 | 6.28 | 7.07 | 7.85 | 9.42 | 12.6 | 14.9 | 15.7 | 17.3 | 19.6 | 22 | 25.1 | 28.3 |
| | 125 | | | | 5.89 | 7.85 | 8.83 | | 11.8 | 15.7 | 18.6 | | 21.6 | 24.5 | 27.5 | 31.4 | 35.3 |
| | 150 | 3.53 | | | 7.07 | 9.42 | 10.6 | 11.8 | 14.1 | 18.8 | 22.4 | 23.6 | 25.9 | 29.4 | 33 | 37.7 | 42.4 |
| | 180 | | | | 4.48 | 11.3 | 12.7 | 14.1 | 17 | 22.6 | 26.8 | 28.3 | 31.1 | 35.3 | 39.6 | 45.2 | 50.9 |
| | 200 | | | | 9.42 | 12.6 | 14.1 | 15.7 | 18.8 | 25.1 | 29.8 | 31.4 | 34.5 | 39.3 | 44 | 50.2 | 56.5 |
| | 230 | | | | | | 16.2 | | 21.7 | 28.9 | 34.3 | | 39.7 | 45.1 | 50.6 | 57.8 | 65 |
| | 250 | | | | 11.18 | 15.7 | 17.7 | 19.6 | 23.6 | 31.4 | 37.3 | 39.3 | 43.2 | 49.1 | 55 | 62.8 | 70.7 |
| | 280 | | | | | | | | 26.4 | 35.2 | 41.8 | | 48.4 | 55 | 61.5 | 70.3 | 79.1 |
| | 300 | | | | 14.1 | 18.8 | | 23.6 | 28.3 | 37.7 | 44.7 | 47.1 | 51.8 | 58.9 | 65.9 | 75.4 | 84.8 |

# STRUCTURAL STEEL

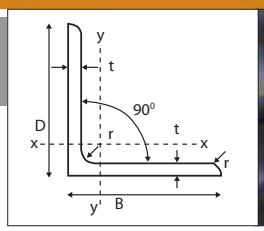
## Square Bar

**Available Standards:** JIS G3101, BS4360.
Others available upon request.

| Side Length | | Unit Weight (Kg/m) | Area of Section (cm2) |
|---|---|---|---|
| MM | Inches | | |
| 6 | 0.236 | 0.28 | 0.36 |
| 8 | 0.315 | 0.50 | 0.64 |
| 9 | 0.354 | 0.64 | 0.81 |
| 10 | 0.394 | 0.79 | 1.00 |
| 12 | 0.472 | 1.13 | 1.44 |
| 13 | 0.512 | 1.33 | 1.69 |
| 15 | 0.591 | 1.77 | 2.25 |
| 16 | 0.630 | 2.01 | 2.56 |
| 18 | 0.090 | 2.54 | 3.24 |
| 19 | 0.748 | 2.83 | 3.61 |
| 20 | 0.787 | 3.14 | 4.00 |
| 22 | 0.860 | 3.80 | 4.84 |
| 24 | 0.945 | 4.52 | 5.76 |
| 25 | 0.984 | 4.91 | 6.25 |
| 28 | 1.102 | 6.15 | 7.84 |
| 30 | 1.181 | 7.07 | 9.00 |
| 32 | 1.260 | 8.04 | 10.24 |
| 36 | 1.417 | 10.20 | 12.96 |
| 38 | 1.496 | 11.30 | 14.44 |
| 40 | 1.575 | 12.60 | 16.00 |
| 42 | 1.654 | 13.80 | 17.64 |
| 44 | 1.732 | 15.20 | 19.36 |
| 46 | 1.811 | 16.60 | 21.16 |
| 50 | 1.969 | 19.60 | 25.00 |
| 55 | 2.165 | 23.70 | 30.25 |
| 60 | 2.362 | 28.30 | 36.00 |
| 65 | 2.559 | 33.20 | 42.25 |
| 75 | 2.953 | 44.20 | 56.25 |
| 90 | 3.543 | 63.60 | 81.00 |
| 100 | 3.937 | 78.50 | 100.00 |
| 120 | 4.724 | 113.00 | 144.00 |
| 130 | 5.118 | 133.00 | 169.00 |
| 140 | 5.512 | 154.00 | 196.00 |
| 160 | 6.299 | 177.00 | 256.00 |

# STRUCTURAL STEEL

## Mild Steel Equal Angles



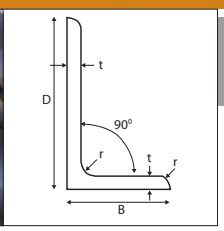

**Available Standards:** JIS G3101, BS4360, AS 3679.
Others available upon request.

| SIZE D x B x t (mm) | UNIT WEIGHT Kg/m | lb/ft |
|---|---|---|
| 20 x 20 x 3 | 0.89 | 0.59 |
| 25 x 25 x 3 | 1.12 | 0.75 |
| 4 | 1.45 | 0.97 |
| 5 | 1.77 | 1.19 |
| 30 x 30 x 3 | 1.36 | 0.91 |
| 4 | 1.78 | 1.2 |
| 5 | 2.16 | 1.45 |
| 40 x 40 x 3 | 1.83 | 1.23 |
| 4 | 2.41 | 1.62 |
| 5 | 2.95 | 1.98 |
| 6 | 3.49 | 2.35 |
| 45 x 45 x 3 | 2.11 | 1.42 |
| 4 | 2.74 | 1.84 |
| 5 | 3.38 | 2.27 |
| 50 x 50 x 3 | 2.33 | 1.57 |
| 4 | 3.06 | 2.06 |
| 5 | 3.77 | 2.53 |
| 6 | 4.43 | 2.98 |
| 8 | 5.78 | 3.88 |
| 60 x 60 x 4 | 3.68 | 2.47 |
| 5 | 4.55 | 3.06 |
| 6 | 5.41 | 3.64 |
| 63 x 63 x 5 | 4.81 | 3.23 |
| 6 | 5.72 | 3.84 |
| 8 | 7.47 | 5.02 |
| 65 x 65 x 5 | 5.00 | 3.36 |
| 6 | 5.91 | 3.97 |
| 8 | 7.66 | 5.15 |
| 10 | 9.42 | 6.33 |
| 70 x 70 x 5 | 5.37 | 3.61 |
| 6 | 6.38 | 4.29 |
| 7 | 7.35 | 4.94 |
| 75 x 75 x 5 | 5.76 | 3.87 |
| 6 | 6.85 | 4.6 |
| 8 | 8.92 | 5.99 |
| 9 | 9.96 | 6.69 |
| 12 | 13.00 | 8.74 |
| 80 x 80 x 6 | 7.32 | 4.92 |
| 7 | 8.50 | 5.71 |
| 8 | 9.55 | 6.42 |
| 9 | 10.70 | 7.19 |
| 10 | 11.90 | 8 |
| 12 | 13.90 | 9.34 |

| SIZE D x B x t (mm) | UNIT WEIGHT Kg/m | lb/ft |
|---|---|---|
| 90 x 90 x 6 | 8.28 | 5.56 |
| 7 | 9.59 | 6.44 |
| 8 | 10.90 | 7.32 |
| 9 | 12.10 | 8.13 |
| 10 | 13.30 | 8.94 |
| 12 | 15.90 | 10.68 |
| 13 | 17.00 | 11.42 |
| 16 | 20.70 | 13.91 |
| 100 x 100 x 6 | 9.22 | 6.2 |
| 7 | 10.70 | 7.19 |
| 8 | 12.10 | 8.13 |
| 9 | 13.50 | 9.07 |
| 10 | 17.90 | 10.01 |
| 12 | 17.80 | 11.96 |
| 13 | 19.10 | 12.83 |
| 15 | 21.90 | 14.72 |
| 110 x 110 x 8 | 13.40 | 9.00 |
| 10 | 16.60 | 11.15 |
| 12 | 19.70 | 13.24 |
| 16 | 25.80 | 17.34 |
| 120 x 120 x 8 | 14.70 | 9.88 |
| 10 | 18.20 | 12.23 |
| 11 | 19.90 | 13.37 |
| 12 | 21.50 | 14.45 |
| 13 | 23.30 | 15.66 |
| 15 | 26.60 | 17.87 |
| 125 x 125 x 8 | 14.90 | 10.01 |
| 10 | 18.00 | 12.09 |
| 12 | 22.50 | 15.12 |
| 16 | 29.10 | 19.55 |
| 130 x 130 x 8 | 16.00 | 10.75 |
| 9 | 17.90 | 12.03 |
| 10 | 19.70 | 13.24 |
| 11 | 21.50 | 14.45 |
| 12 | 23.40 | 15.72 |
| 15 | 28.80 | 19.35 |
| 16 | 30.80 | 20.70 |
| 150 x 150 x 10 | 22.90 | 15.39 |
| 11 | 25.10 | 16.87 |
| 12 | 27.30 | 18.34 |
| 14 | 31.60 | 21.23 |
| 15 | 33.60 | 22.58 |
| 16 | 35.70 | 23.99 |
| 18 | 40.10 | 26.94 |
| 19 | 41.90 | 28.15 |

| SIZE D x B x t (mm) | UNIT WEIGHT Kg/m | lb/ft |
|---|---|---|
| 160 x 160 x 14 | 34.10 | 22.91 |
| 15 | 36.20 | 24.32 |
| 16 | 38.40 | 25.80 |
| 17 | 40.70 | 27.35 |
| 18 | 42.90 | 28.83 |
| 19 | 45.10 | 30.30 |
| 175 x 175 x 12 | 31.80 | 21.37 |
| 15 | 39.40 | 26.47 |
| 180 x 180 x 13 | 35.70 | 23.99 |
| 14 | 38.30 | 25.74 |
| 15 | 40.90 | 27.48 |
| 16 | 43.50 | 29.23 |
| 17 | 46.00 | 30.90 |
| 18 | 48.60 | 32.66 |
| 19 | 51.50 | 34.60 |
| 20 | 53.70 | 36.08 |
| 200 x 200 x 13 | 40.00 | 26.88 |
| 15 | 45.30 | 30.44 |
| 16 | 48.50 | 32.59 |
| 18 | 54.20 | 36.41 |
| 20 | 59.70 | 40.11 |
| 24 | 71.10 | 47.77 |
| 25 | 73.60 | 49.45 |
| 26 | 76.80 | 51.60 |
| 250 x 250 x 25 | 93.70 | 62.96 |
| 28 | 104.00 | 69.88 |
| 32 | 118.00 | 79.29 |
| 35 | 128.00 | 86.01 |
| 300 x 300 x 35 | 155.00 | 104.15 |
| 350 x 350 x 35 | 182.00 | 122.29 |

# STRUCTURAL STEEL




## Mild Steel Un-Equal Angles

**Available Standards:** JIS G3101, BS4360, AS 3679.
Others available upon request.

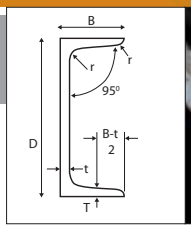
| SIZE D x B x t (mm) | UNIT WEIGHT Kg/m | lb/ft |
|---|---|---|
| **60 x 50 x 5** | 4.16 | 2.80 |
| **7** | 5.66 | 3.80 |
| **65 x 50 x 5** | 4.36 | 2.93 |
| **6** | 5.16 | 3.47 |
| **7** | 5.94 | 3.99 |
| **9** | 7.49 | 5.03 |
| **70 x 60 x 6** | 5.91 | 3.97 |
| **8** | 7.66 | 5.15 |
| **10** | 9.42 | 6.33 |
| **75 x 50 x 6** | 5.67 | 3.81 |
| **8** | 7.35 | 4.94 |
| **10** | 9.03 | 6.07 |
| **75 x 65 x 6** | 6.38 | 4.29 |
| **8** | 8.29 | 5.57 |
| **10** | 10.20 | 6.85 |
| **80 x 60 x 6** | 6.38 | 4.29 |
| **8** | 8.29 | 5.57 |
| **10** | 10.20 | 6.85 |
| **80 x 70 x 6** | 6.85 | 4.60 |
| **9** | 9.96 | 6.69 |
| **12** | 13.00 | 8.74 |
| **90 x 60 x 6** | 6.85 | 4.60 |
| **9** | 9.96 | 6.69 |
| **12** | 13.00 | 8.74 |
| **90 x 75 x 6** | 7.56 | 5.08 |
| **9** | 11.00 | 7.39 |
| **12** | 14.40 | 9.68 |
| **90 x 80 x 7** | 9.04 | 6.07 |
| **10** | 12.60 | 8.47 |
| **13** | 16.00 | 10.75 |
| **100 x 65 x 7** | 8.77 | 5.89 |
| **8** | 9.94 | 6.68 |
| **9** | 11.10 | 7.46 |
| **10** | 12.30 | 8.26 |
| **11** | 13.40 | 9.00 |
| **12** | 14.40 | 9.68 |

| SIZE D x B x t (mm) | UNIT WEIGHT Kg/m | lb/ft |
|---|---|---|
| **100 x 75 x 6** | 7.98 | 5.36 |
| **7** | 9.32 | 6.26 |
| **8** | 10.60 | 7.12 |
| **9** | 11.80 | 7.93 |
| **10** | 13.00 | 8.74 |
| **11** | 14.30 | 9.61 |
| **12** | 15.40 | 10.35 |
| **13** | 16.50 | 11.09 |
| **100 x 80 x 7** | 9.59 | 6.44 |
| **10** | 13.30 | 8.94 |
| **13** | 17.00 | 11.40 |
| **100 x 90 x 7** | 10.10 | 6.79 |
| **10** | 14.10 | 9.47 |
| **13** | 18.10 | 12.16 |
| **120 x 80 x 8** | 12.2 | 8.2 |
| **10** | 15 | 10.08 |
| **12** | 17.8 | 11.96 |
| **125 x 75 x 7** | 10.7 | 7.19 |
| **8** | 12.2 | 8.2 |
| **9** | 13.6 | 9.14 |
| **10** | 15 | 10.08 |
| **11** | 16.4 | 11.02 |
| **12** | 17.8 | 11.96 |
| **13** | 19.1 | 12.83 |
| **125 x 90 x 7** | 11.5 | 7.73 |
| **10** | 16.1 | 10.82 |
| **13** | 20.6 | 13.84 |
| **130 x 65 x 8** | 11.8 | 7.93 |
| **10** | 14.6 | 9.81 |
| **150 x 75 x 7** | 12.1 | 8.13 |
| **9** | 15.3 | 10.28 |
| **10** | 17 | 11.42 |
| **11** | 18.6 | 12.5 |
| **12** | 20.2 | 13.57 |
| **13** | 21.8 | 14.61 |
| **15** | 24.8 | 16.66 |

| SIZE D x B x t (mm) | UNIT WEIGHT Kg/m | lb/ft |
|---|---|---|
| **150 x 90 x 8** | 14.3 | 9.61 |
| **9** | 16.4 | 11.02 |
| **10** | 18.2 | 12.23 |
| **11** | 19.9 | 13.37 |
| **12** | 21.6 | 14.51 |
| **15** | 26.6 | 17.87 |
| **150 x 100 x 9** | 17.1 | 11.49 |
| **10** | 19 | 12.77 |
| **12** | 22.4 | 15.05 |
| **14** | 26.1 | 17.54 |
| **15** | 27.7 | 18.61 |
| **160 x 80 x 10** | 18.2 | 12.23 |
| **12** | 21.6 | 14.51 |
| **175 x 90 x 9** | 18.2 | 12.23 |
| **12** | 23.8 | 15.99 |
| **15** | 29.4 | 17.75 |
| **200 x 100 x 10** | 23 | 15.45 |
| **12** | 27.3 | 18.34 |
| **14** | 31.6 | 21.23 |
| **15** | 33.7 | 22.64 |
| **200 x 150 x 12** | 32 | 21.5 |
| **15** | 39.6 | 26.61 |
| **18** | 47.1 | 31.65 |

# STRUCTURAL STEEL

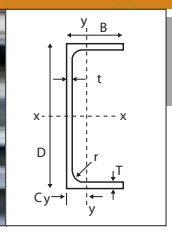
## Taper Flange Channels




**Available Standards:** JIS G3101, BS4360.
Others available upon request.

| SIZE Depth x Width D x B mm | WEIGHT Kg/m | WEIGHT lb/ft | THICKNESS mm Web (t) | THICKNESS mm Flange (T) |
|---|---|---|---|---|
| **50 x 25** | 3.86 | 2.59 | 5.00 | 6.00 |
| **75 x 40** | 6.92 | 4.65 | 5.00 | 7.00 |
| **76 x 38** | 6.70 | 4.50 | 5.10 | 6.80 |
| **100 x 50** | 9.36 | 6.29 | 5.00 | 7.50 |
| **102 x 51** | 10.40 | 7.00 | 6.10 | 7.60 |
| **125 x 65** | 13.40 | 9.00 | 6.00 | 8.00 |
| **127 x 64** | 14.90 | 10.00 | 6.40 | 9.20 |
| **150 x 75** | 18.60 | 12.50 | 6.50 | 10.00 |
| **150 x 75** | 24.00 | 16.10 | 9.00 | 12.50 |
| **152 x 76** | 17.90 | 12.00 | 6.40 | 9.00 |
| **152 x 89** | 23.80 | 16.00 | 7.10 | 11.60 |
| **180 x 75** | 21.40 | 14.40 | 7.00 | 10.50 |
| **180 x 90** | 27.10 | 18.20 | 7.50 | 12.50 |
| **178 x 6** | 20.80 | 14.00 | 6.60 | 10.30 |
| **178 x 89** | 26.80 | 18.00 | 7.60 | 12.30 |
| **200 x 75** | 25.30 | 17.00 | 8.50 | 11.50 |
| **200 x 80** | 24.60 | 16.50 | 7.50 | 11.00 |
| **200 x 90** | 30.30 | 20.10 | 8.00 | 13.50 |
| **203 x 76** | 23.80 | 16.00 | 7.10 | 11.20 |
| **203 x 89** | 29.80 | 20.00 | 8.10 | 12.90 |
| **230 x 80** | 28.40 | 19.10 | 8.00 | 12.00 |
| **230 x 90** | 33.10 | 22.20 | 8.50 | 13.50 |
| **229 x 76** | 26.10 | 17.50 | 7.60 | 11.20 |
| **229 x 89** | 32.80 | 22.00 | 8.60 | 13.30 |
| **250 x 80** | 30.20 | 20.30 | 8.00 | 12.50 |
| **250 x 90** | 34.60 | 23.30 | 9.00 | 13.00 |
| **250 x 90** | 40.20 | 27.00 | 11.00 | 14.50 |
| **254 x 76** | 28.30 | 19.00 | 8.10 | 10.90 |
| **254 x 89** | 35.70 | 24.00 | 9.10 | 13.60 |
| **280 x 100** | 38.80 | 26.10 | 9.00 | 13.00 |
| **280 x 100** | 48.20 | 32.40 | 11.50 | 16.00 |
| **300 x 90** | 38.10 | 25.60 | 9.00 | 13.00 |
| **300 x 90** | 43.80 | 29.40 | 10.00 | 15.50 |
| **300 x 90** | 48.60 | 32.10 | 12.00 | 16.00 |
| **305 x 89** | 41.70 | 28.00 | 10.20 | 13.70 |
| **305 x 102** | 46.20 | 31.00 | 10.20 | 14.80 |
| **380 x 100** | 54.50 | 36.60 | 10.50 | 16.00 |
| **380 x 100** | 62.00 | 41.70 | 13.00 | 16.50 |
| **380 x 100** | 67.30 | 45.20 | 13.00 | 20.00 |
| **381 x 102** | 55.10 | 37.00 | 10.40 | 16.30 |
| **432 x 102** | 65.50 | 44.00 | 12.20 | 16.80 |

# STRUCTURAL STEEL




## Parallel Flange Channels

**Available Standards:** AS/NZS 3679.1: 1996. BS EN 10025. BS4360.
Others available upon request.

| Standard Sectional Dimension (mm) | | | | | | Sectional Area (cm²) | Weight Kg/m |
|---|---|---|---|---|---|---|---|
| Nominal Size | D | B | t | T | r | | |
| **150 PFC** | 150 | 75 | 6.0 | 9.5 | 10 | 22.5 | 17.7 |
| **180 PFC** | 180 | 75 | 6.0 | 11.0 | 12 | 26.6 | 20.9 |
| **200 PFC** | 200 | 75 | 6.0 | 12.0 | 12 | 29.2 | 22.9 |
| **230 PFC** | 230 | 75 | 6.5 | 12.0 | 12 | 32 | 25.1 |
| **250 PFC** | 250 | 90 | 8.0 | 15.0 | 12 | 45.2 | 35.5 |
| **300 PFC** | 300 | 90 | 8.0 | 16.0 | 14 | 51.1 | 40.1 |

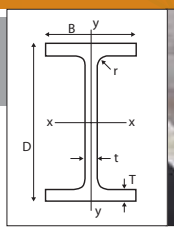




Refer Page 62 For Full Product Details

# STRUCTURAL STEEL

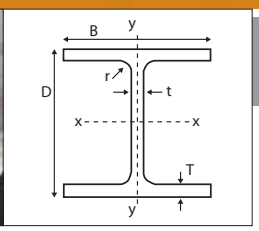
## Universal Beams and Columns




**Available Standards:** AS/NZS 3679.1: 1996. ASTM A6:1997. BS4360, BS EN 10025. Others available upon request.

| NOMINAL SIZE | WEIGHT | SECTIONAL DIMENSION | | | | | SECTIONAL AREA |
|---|---|---|---|---|---|---|---|
| | | D | B | T | t | r | |
| | Kg/m | mm | mm | mm | mm | mm | cm2 |
| **150 UB** | 14.0 | 155.0 | 75 | 5.0 | 7.0 | 8.0 | 17.8 |
| | 18.00 | 155.0 | 75 | 6.0 | 9.5 | 8.0 | 23.0 |
| **180 UB** | 16.1 | 173.0 | 90 | 4.5 | 7.0 | 8.9 | 20.4 |
| | 18.1 | 175.0 | 90 | 5.0 | 8.0 | 8.9 | 23.0 |
| | 22.2 | 179.0 | 90 | 6.0 | 10.0 | 8.9 | 28.2 |
| **200 UB** | 18.2 | 198.0 | 99 | 4.5 | 7.0 | 11.0 | 23.2 |
| | 22.3 | 201.6 | 133 | 5.0 | 7.0 | 8.9 | 28.7 |
| | 25.4 | 203.2 | 133 | 5.8 | 7.8 | 8.9 | 32.3 |
| | 29.8 | 207.0 | 134 | 6.3 | 9.6 | 8.9 | 38.2 |
| **250 UB** | 25.7 | 248.0 | 124 | 5.0 | 8.0 | 12.0 | 32.7 |
| | 31.4 | 251.6 | 146 | 6.1 | 8.6 | 8.9 | 40.1 |
| | 37.3 | 256.2 | 146 | 6.4 | 10.9 | 8.9 | 47.5 |
| **310 UB** | 32.0 | 298.0 | 149 | 5.5 | 8.0 | 13.0 | 40.8 |
| | 40.4 | 304.0 | 165 | 6.1 | 10.2 | 11.4 | 52.1 |
| | 46.2 | 307.2 | 166 | 6.7 | 11.8 | 11.4 | 59.3 |
| **360 UB** | 44.7 | 352.0 | 171 | 6.9 | 9.7 | 11.4 | 57.2 |
| | 50.7 | 355.6 | 171 | 7.3 | 11.5 | 11.4 | 64.7 |
| | 56.7 | 358.6 | 172 | 8.0 | 13.0 | 11.4 | 72.4 |
| **410 UB** | 53.7 | 402.6 | 178 | 7.6 | 10.9 | 11.4 | 68.9 |
| | 59.7 | 406.4 | 178 | 7.8 | 12.8 | 11.4 | 76.4 |
| **460 UB** | 87.1 | 453.8 | 190 | 8.5 | 12.7 | 11.4 | 85.8 |
| | 74.6 | 457.4 | 190 | 9.1 | 14.5 | 11.4 | 95.2 |
| | 82.1 | 460.4 | 191 | 9.9 | 16.0 | 11.4 | 105.0 |
| **530 UB** | 82.0 | 528.2 | 209 | 9.6 | 13.2 | 14.0 | 105.0 |
| | 92.4 | 533.0 | 209 | 10.2 | 15.6 | 14.0 | 118.0 |
| **610 UB** | 101.0 | 602.0 | 228 | 10.6 | 14.8 | 14.0 | 130.0 |
| | 113.0 | 607.0 | 228 | 11.2 | 17.3 | 14.0 | 145.0 |
| | 125.0 | 611.6 | 229 | 11.9 | 19.6 | 14.0 | 160.0 |
| **100 UC** | 14.8 | 97.0 | 99 | 5.0 | 7.0 | 10.0 | 18.9 |
| **150 UC** | 23.4 | 152.4 | 152 | 6.1 | 6.8 | 8.9 | 29.8 |
| | 30.0 | 157.6 | 153 | 6.6 | 9.4 | 8.9 | 38.6 |
| | 30.7 | 161.8 | 154 | 8.1 | 11.5 | 8.9 | 47.3 |
| **200 UC** | 46.2 | 203.4 | 203 | 7.3 | 11.0 | 11.4 | 59.0 |
| | 52.2 | 206.4 | 204 | 8.0 | 12.5 | 11.4 | 66.6 |
| | 59.5 | 209.8 | 205 | 9.3 | 14.2 | 11.4 | 76.2 |
| **250 UC** | 72.9 | 253.8 | 251 | 8.6 | 14.2 | 14.0 | 63.2 |
| | 89.5 | 260.0 | 256 | 10.5 | 17.3 | 14.0 | 114.0 |
| **310 UB** | 96.8 | 308.0 | 305 | 9.9 | 15.4 | 16.5 | 124.0 |
| | 118.0 | 314.6 | 307 | 11.9 | 18.7 | 16.5 | 150.0 |
| | 137.0 | 320.6 | 309 | 13.8 | 21.7 | 16.5 | 175.0 |
| | 158.0 | 327.2 | 311 | 15.7 | 25.0 | 16.5 | 201.0 |

# STRUCTURAL STEEL




## Universal Bearing Piles

**Available Standards:** ATSM A 6/A 6M:2003
EURONORM IPE & HE, EN53:1962 & EN19: 1957
BS4360, AS 3679.1, JIS G3101.
Others sizes and specifications are available to suit your project requirements

| SIZE (mm) | MASS (KG/M) | DEPTH OF SECTION D (mm) | WIDTH OF SECION B (mm) | THICKNESS WEB & FLANGE T (mm) |
|---|---|---|---|---|
| 356 x 368 | 174 | 361.5 | 378.1 | 20.4 |
| | 152 | 356.4 | 375.5 | 17.9 |
| | 133 | 351.9 | 373.3 | 15.6 |
| | 109 | 346.4 | 370.5 | 12.9 |
| 350 x 350 | 156 | 350.0 | 357.0 | 19.0 |
| | 131 | 344.0 | 354.0 | 16.0 |
| | 106 | 338.0 | 351.0 | 13.0 |
| 305 x 305 | 223 | 338.0 | 325.4 | 30.5 |
| | 186 | 328.4 | 320.5 | 25.7 |
| | 149 | 318.2 | 315.5 | 20.6 |
| | 126 | 312.6 | 312.7 | 17.8 |
| | 110 | 307.9 | 310.3 | 15.4 |
| | 95 | 303.8 | 308.3 | 13.4 |
| | 88 | 301.7 | 307.2 | 12.3 |
| | 79 | 299.2 | 306.0 | 11.1 |
| 300 x 300 | 106 | 300.0 | 305.0 | 15.0 |
| | 84.5 | 294.0 | 302.0 | 12.0 |
| 254 x 254 | 85 | 254.3 | 259.7 | 14.3 |
| | 71 | 249.9 | 257.5 | 12.1 |
| | 63 | 246.9 | 256.0 | 10.6 |
| 250 x 250 | 82.2 | 250.0 | 255.0 | 14.0 |
| | 64.4 | 244.0 | 252.0 | 11.0 |
| 203 x 203 | 54 | 203.9 | 207.0 | 11.3 |
| | 45 | 200.2 | 205.4 | 9.5 |
| 200 x 200 | 56.2 | 200.0 | 204.0 | 12.0 |

# STRUCTURAL STEEL

## Permanent Brand Welding

**"Permanent"** Welding Electrodes are used for the welding of Steel Sheets, Vehicles, Vessels, Bridges, Buildings and also welding within general construction work.

MT - 06: Cellulose Electrode for Welding Pipelines of Carbon Steel
MT - 12: Electrode for Welding Mild Steel & Low Carbon Steel
MT - 48: Low Hydrogen Electrode for Welding High Tensile Steel
MT - 50: Electrode for Welding Mild Steel
MT - 52: Electrode for Welding with High Efficiency
MT - B52: Electrode for Welding 50kg/mm2 Class High Tensile Steel



**Permanent Brand Welding Electrodes have received the following approvals:**

ABS: American Bureau of Shipping

BV: Bureau Veritas

GL: Germanischer Lloyd

LR: Lloyds Register of Shipping

CCS: China Classification Society

DNV: Det Norske Veritas

NK: Nippon Kaiji Kyokai

| GRADE / BUREAU / PRODUCT | APPROVED PRODUCTS TABLE | | | | | | |
|---|---|---|---|---|---|---|---|
| | ABS | BV | CCS | DNV | GL | LR | NK |
| MT - 12 | 2 | 2 | 2 | 2 | 2 | 2 | KMW2 |
| MT- 45 | 3YH10 | - | - | - | - | - | - |
| MT- 48 | 3YH10 | 3YHH | 3YH10 | 3YH10 | 3YH10 | 3YH15 | KMW53H10 |
| MT- 50 | 3 | 3 | 3 | 3 | 3 | 3 | KMW3 |
| MT- 52 | 2Y | 2Y | 2Y | 2YH10 | 2Y | 2Y | KMW52 |
| MT6013 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |

# STRUCTURAL STEEL

## Welding Electrodes

| PRODUCT TYPE | CORRESPONDING TO | SIZE (mm) | PACKING | DESCRIPTION | APPLICATION | TYPICAL MECHANICAL PROPERTIES OF WELDED METAL |
|---|---|---|---|---|---|---|
| **MT 12 Electrode for Welding Mild Steel** | AWS E6013 | 2.50 x 300 | 8 boxes of 2.5kg/box | MT12 is a low carbon steel style electrode with titania coating. It gives the user excellent welding performance with a stable arc and negligible spatter loss. The Slag is fluid and upon hardening is compact & easy to remove. Suitable for all position welding. | Where the user is welding structures of Steel Sheets, Vehicles, Buildings, Vessels, Machinery Manufacture and various structures of low carbon steel | Yield strength 39kg / mm2, 400N / mm2<br><br>Tensile Strength: 48kg / mm2 490N / mm2<br><br>Elongation 29% |
| | | 3.2 x 350 | 4 boxes of 5kg/box | | | |
| | JIS D4313 | 4.0 x 400 | | | | |
| | GB E4313 | 5.0 x 400 | | | | |
| **MT 06 Cellulose Electrode for Welding Pipeline** | AWS E6011 | 2.5 x 300 | 8 boxes of 2.5kg/box | MT06 is a cellulose type electrode for welding low carbon steel. It is versatile in all welding positions and develops a low volume of slag that can be easily removed. | For high quality welds, such as carbon steel pipelines, ships, bridges and buildings | Yield strength 41kg / mm2, 410N / mm2<br><br>Tensile Strength: 57kg / mm2 570N / mm2<br><br>Elongation 24% |
| | | 3.2 x 350 | 4 boxes of 5kg/box | | | |
| | | 4.0 x 400 | | | | |
| | GB E4311 | 5.0 x 400 | | | | |
| **MT 48 Low Hydrogen Electrode for Welding High Tensile Steel** | AWS E7018 | 2.5 x 300 | 8 boxes of 2.5kg/box | MT48 is an iron powder low hydrogen electrode for welding low alloy, high tensile steel. Operates in all positions on DC and AC (AC open circuit voltage > 70V). | For the welding of key structures and 50kg/mm2 class high tensile steel for ships & bridges | Yield strength 47kg / mm2, 480N / mm2<br><br>Tensile Strength: 56kg / mm2 570N / mm2<br><br>Elongation 30% |
| | | 3.2 x 350 | 4 boxes of 5kg/box | | | |
| | JIS D5016 | 4.0 x 400 | | | | |
| | GB E5018 | 5.0 x 400 | | | | |

# STRUCTURAL STEEL

## Welding Electrodes



| PRODUCT TYPE | CORRESPONDING TO | SIZE (mm) | PACKING | DESCRIPTION | APPLICATION | TYPICAL MECHANICAL PROPERTIES OF WELDED METAL |
|---|---|---|---|---|---|---|
| **MT 50 Electrode for Welding Mild Steel** | JIS D4303 | 2.50 x 300 | 8 boxes of 2.5kg/box | MT50 is a titania calcium coated type electrode and offers the user excellent welding performance. The arc is stable, concentrated and is easy to restrike. It welds in all positions and the slag is easy to remove with the bead surface appearing neat and clean. The MT50 **has won the approval of the shipbuilding industry.** | For structural welding of ships, boilers, vehicles, high pressure containers and heavy machinery. | Yield strength 37kg / mm2, 370N / mm2<br><br>Tensile Strength: 48kg / mm2 490N / mm2<br><br>Elongation 29% |
| | | 3.2 x 350 | 4 boxes of 5kg/box | | | |
| | | 4.0 x 400 | | | | |
| | GB E4303 | 5.0 x 400 | | | | |
| **MT 52 Electrode for Welding with High Efficiency** | AWS E7024 | 2.5 x 300 | 8 boxes of 2.5kg/box | MT 52 is a titanium iron powder coated electrode. The Iron powder content in the flux coating gives a high efficency to the electrode and the MT 52 is suitable for flat or horizontal position welding. | For welding the structures of vehicles, boilers ships and where welding in a flat or horizontal position. | Yield strength 42kg / mm2, 480N / mm2<br><br>Tensile Strength: 50kg / mm2 490N / mm2<br><br>Elongation 27% |
| | JIS D4304 | 3.2 x 350 | 4 boxes of 5kg/box | | | |
| | GB E5024 | 4.0 x 400 | | | | |
| | | 5.0 x 400 | | | | |

# STRUCTURAL STEEL

## Welding Electrodes

| PRODUCT TYPE | CORRESPONDING TO | SIZE (mm) | PACKING | DESCRIPTION | APPLICATION | TYPICAL MECHANICAL PROPERTIES OF WELDED METAL |
|---|---|---|---|---|---|---|
| **MT B52 Electrode for Welding 50kg/mm2 Class with High Tensile Steel** | AWS A5.1 E7016 | 2.5 x 300 | 8 boxes of 2.5kg/box | MT B52 is a low hydrogen potassium type electrode. It provides excellent plasticity, impact toughness and crack resistance. It is our most popular electrode for 50kg/mm2 class high tensile steel. | Suitable for the welding of 50kg/mm2 class high tensile steel in ship structures, vehicles, buildings and bridges. | Yield strength 520 MPA<br>Tensile Strength: 580 MPA<br>Elongation 28% |
| | BS EN:499 E42 3B | 3.2 x 350 | 4 boxes of 5kg/box | | | |
| | JIS: Z2312 D5016 | 4.0 x 400 | | | | |
| | GB E5016 | 5.0 x 400 | | | | |
| We can also offer Stainless Steel Welding Electrodes and Wire, Cast Iron Welding Electrodes and Submerged-Arc Welding wires, Brazing and soldering consumables, Welding Flux (i.e MTF101 & MTF301) and Copper Alloy welding Consumables.<br>All Welding Electrodes are supplied in 20kg cartons | | | | | | |
| **MT- C56 CO2 Gas-shielded welding wire** | AWS ER 70S-6 | | 20kg / ctn | MTC-56 is a copper coated low alloy steel wire, suitable for the welding of mild and medium strength steel. | For the Welding of mild Steel and 500 MPA grade high strength steel structures. | Yield strength >420 MPA<br>Tensile Strength: > 500 MPA<br>Elongation 22% |