



Southern Pipe

Southern Pipe

**WORLDWIDE LEADER
IN THE FIELD OF
PIPE INDUSTRY**



*F*ULFILLING THE NEEDS OF A DEMANDING ECONOMY



Head Office (Butterworth Plant)

Southern Pipe Industry (Malaysia) Sdn. Bhd. is currently one of the biggest steel pipe manufacturers in Malaysia. Its sales revenue ascended to more than RM 200 million while annual production capacity exceeded 200,000 mt. At present, Southern Pipe Industry (Malaysia) Sdn. Bhd. has expanded into two steel pipe factories. The main plant is located in Butterworth, Seberang Prai Utara,

Penang, while the other plant is located in Nibong Tebal, Seberang Prai Selatan, Penang. Manufacturing activities are carried out by both plants. Strategically located near the Penang Port to facilitate exports throughout South East Asia, Taiwan, Middle east, Australia, Europe and United States of America, we aim to be a leading exporter in the ASEAN region.

| PRODUCT | CLASSIFICATION | STANDARD SPECIFICATION | | APPLICATIONS |
|---|--|--|---|--|
| Circular Hollow Section | Carbon Steel Tubes For General Structural Purposes and Scaffolding | JIS G 3444 (Pg. 3, 4) | STK 290 STK 400 STK 490 STK 500 STK 540 | Civil Engineering, Architecture, Steel Towers, Scaffoldings, Piles, Struts and other structures. |
| | Carbon Steel Tubes For Machine Structural Purposes | JIS G 3445 (Pg. 5) | STKM 11 A | Bicycles, Vehicles, Machineries, etc. |
| | Carbon Steel Tubes For Ordinary Uses, Water Piping and Structural Purposes | JIS G 3452 (Pg. 6) | SGP | City & Industrial Water, Irrigation & Agriculture Water, Oil and Gas Supply, Sprinkler & Fire Fighting Piping, Ship Piping, Sewage & Drainage Piping, Civil Engineering, Steel Towers, Furniture, etc. |
| | | BS 1387 SS 17 (Pg. 7, 8) | Light Medium Heavy | |
| | | ASTM A 53 (Pg. 9) | Grade A | |
| | Carbon Steel Tubes For Water and Sewage Purposes | BS 534/MWA (Pg. 10) | | City & Industrial Water, Irrigation & Agriculture Water, Sewage & Drainage Piping, etc. |
| | Carbon Steel Tubes For Scaffolding | BS 1139 (Pg. 11) | | Falsework and Working Scaffolds |
| | Carbon Steel Tubes For Structural Purposes (AA Pipes) | SPIM B 100 (Pg. 12) | | Ordinary Uses, Light Support, etc. |
| Cold Rolled Products (Circular, Square & Rectangular) | Cold Rolled Products | SPIM B 103 (Pg. 13) SPIM A 100 (Pg. 14) | | Furniture, Construction, Engineering, Electrical Appliances, etc. |
| Square and Rectangular Hollow Section | Carbon Steel Tubes For General Structural Purposes | ASTM A 500 (Pg. 15, 16, 17) | Grade A | Buildings, Bridges, Bicycles, Vehicles, Machineries, Lamp Posts, Hand Rails, Furniture Pipes, Escalators, Elevators, Containers Structures & all other supports, etc. |
| | | | Grade B | |

We provide Slitting, Tubing & Hot-Dip Galvanizing Services, We also customize tubing products.

NOTE: All the tables shown are for reference only.

Carbon Steel Circular Hollow Section

For General Structural Purposes And Scaffolding
JIS G 3444 : 1988

| NOMINAL SIZE (O/D) | OUTSIDE DIAMETER | | WALL THICKNESS | WEIGHT | REFERENCE | | | | BUNDLING |
|--------------------|------------------|---------|----------------|--------|----------------------|-------------------------------|--------------------|----------------------------|----------|
| | MAXIMUM | MINIMUM | | | CROSS SECTIONAL AREA | GEOMETRICAL MOMENT OF INERTIA | MODULUS OF SECTION | RADIUS OF GYRATION OF AREA | |
| | mm | mm | | | | | | | |
| 21.7 | 21.95 | 21.45 | 1.2 | 0.607 | 0.773 | 0.407 | 0.375 | 0.726 | 217 |
| | | | 1.5 | 0.747 | 0.952 | 0.488 | 0.450 | 0.716 | 217 |
| | | | 1.6 | 0.793 | 1.010 | 0.513 | 0.473 | 0.713 | 217 |
| | | | 2.0 | 0.972 | 1.238 | 0.607 | 0.560 | 0.700 | 217 |
| 34.0 | 34.25 | 33.75 | 2.0 | 0.947 | 2.011 | 2.58 | 1.52 | 1.13 | 91 |
| 35.0 | 35.25 | 34.75 | 1.6 | 1.32 | 1.679 | 2.35 | 1.34 | 1.40 | 127 |
| 36.0 | 36.25 | 35.75 | 1.6 | 1.36 | 1.729 | 2.56 | 1.42 | 1.48 | 127 |
| | | | 2.0 | 1.68 | 2.136 | 3.10 | 1.72 | 1.45 | 127 |
| | | | 2.4 | 1.99 | 2.533 | 3.59 | 2.00 | 1.42 | 127 |
| 42.7 | 42.95 | 42.45 | 2.0 | 2.01 | 2.557 | 5.31 | 2.49 | 1.44 | 91 |
| | | | 2.3 | 2.29 | 2.919 | 5.97 | 2.80 | 1.43 | 91 |
| | | | 2.5 | 2.49 | 3.157 | 6.40 | 3.00 | 1.42 | 91 |
| | | | 2.8 | 2.76 | 3.510 | 7.02 | 3.29 | 1.41 | 91 |
| 48.6 | 48.85 | 48.35 | 2.3 | 2.63 | 3.345 | 8.99 | 3.70 | 1.64 | 91 |
| | | | 2.5 | 2.84 | 3.621 | 9.65 | 3.97 | 1.63 | 91 |
| | | | 2.8 | 3.16 | 4.029 | 10.6 | 4.36 | 1.62 | 91 |
| | | | 3.2 | 3.58 | 4.564 | 11.8 | 4.86 | 1.61 | 91 |

SUPPLY CONDITIONS:

Designation of Grade

- STK 290
- STK 400
- STK 490
- STK 500
- STK 540

Pipe Length

- : Standard Length is 6 meter
- : Cut-to-length is available upon request

Surface Finishing

- : Black
- : Galvanized

Pipe End

- : Plain End

Carbon Steel Circular Hollow Section

For General Structural Purposes And Scaffolding
JIS G 3444 : 1988

TECHNICAL SPECIFICATIONS:

Mechanical Properties:

| MECHANICAL PROPERTIES | | | | | | | | |
|-----------------------|-------------------|-----------------------------|--------------------------------------|------------------|---------------------|---|------------|--|
| DESIGNATION OF GRADE | TENSILE STRENGTH | YIELD POINT OR PROOF STRESS | ELONGATION % (over 40mm Diameter) | | FLATTENING STRENGTH | BENDING STRENGTH | | |
| | | | No. 11, No 12 test pieces | No 5 test pieces | | DISTANCE BETWEEN FLAT PLATES (H) (D is outside diameter of the tube) | BEND ANGLE | INSIDE RADIUS (D is outside diameter of the tube) |
| | | | Longitudinal | Transverse | | | | |
| | N/mm ² | N/mm ² | | | | | | |
| STK 290 | 290 (min) | - | 30 (min) | 25 (min) | D | 90° | 6D | |
| STK 400 | 400 (min) | 235 (min) | 23 (min) | 18 (min) | D | 90° | 6D | |
| STK 490 | 490 (min) | 315 (min) | 23 (min) | 18 (min) | D | 90° | 6D | |
| STK 500 | 500 (min) | 355 (min) | 15 (min) | 10 (min) | D | 90° | 6D | |
| STK 540 | 540 (min) | 390 (min) | 20 (min) | 16 (min) | D | 90° | 6D | |

Chemical Composition:

| CHEMICAL COMPOSITION % | | | | | |
|------------------------|-------|--------|--------------|-------|-------|
| DESIGNATION OF GRADE | C max | Si max | Mn max | P max | S max |
| STK 290 | - | - | - | 0.050 | 0.050 |
| STK 400 | 0.25 | - | - | 0.040 | 0.040 |
| STK 490 | 0.18 | 0.55 | 1.50 | 0.040 | 0.040 |
| STK 500 | 0.30 | 0.35 | 0.30 to 1.00 | 0.040 | 0.040 |
| STK 540 | 0.23 | 0.55 | 1.50 | 0.040 | 0.040 |

Tolerances:

| PERMISSIBLE VARIATION | |
|-----------------------|---|
| Wall Thickness | : ± 0.3mm (Wall Thickness < 3mm) ± 10% (3mm ≤ Wall Thickness < 12mm) |

Carbon Steel Circular Hollow Section

For Machine Structural Purposes
JIS G 3445 : 1988 / STKM 11A

| NOMINAL SIZE (O/D) | | OUTSIDE DIAMETER | | | | WALL THICKNESS | | WEIGHT | | | BUNDLING (Hexagonal) |
|--------------------|----|------------------|------|---------|------|----------------|-----|--------|-------|-------|----------------------|
| | | MAXIMUM | | MINIMUM | | | | | | | |
| in | mm | in | mm | in | mm | in | mm | kg/m | kg/ft | lb/ft | Pieces |
| 3/8 | 9 | 0.382 | 9.7 | 0.366 | 9.3 | 0.024 | 0.6 | 0.132 | 0.040 | 0.088 | 271 |
| | | | | | | 0.031 | 0.8 | 0.172 | 0.052 | 0.115 | 271 |
| | | | | | | 0.035 | 0.9 | 0.191 | 0.058 | 0.128 | 271 |
| | | | | | | 0.039 | 1.0 | 0.210 | 0.064 | 0.141 | 271 |
| 1/2 | 12 | 0.508 | 12.9 | 0.492 | 12.5 | 0.031 | 0.8 | 0.235 | 0.072 | 0.158 | 271 |
| | | | | | | 0.035 | 0.9 | 0.262 | 0.080 | 0.176 | 271 |
| | | | | | | 0.039 | 1.0 | 0.289 | 0.088 | 0.194 | 271 |
| 5/8 | 16 | 0.634 | 16.1 | 0.618 | 15.7 | 0.039 | 1.0 | 0.368 | 0.112 | 0.247 | 271 |
| | | | | | | 0.047 | 1.2 | 0.435 | 0.133 | 0.293 | 271 |
| 3/4 | 19 | 0.760 | 19.3 | 0.740 | 18.8 | 0.039 | 1.0 | 0.447 | 0.136 | 0.300 | 271 |
| | | | | | | 0.047 | 1.2 | 0.530 | 0.162 | 0.357 | 271 |
| 7/8 | 22 | 0.882 | 22.4 | 0.866 | 22.0 | 0.039 | 1.0 | 0.523 | 0.159 | 0.351 | 217 |
| | | | | | | 0.047 | 1.2 | 0.622 | 0.189 | 0.417 | 217 |
| 1 | 25 | 1.008 | 25.6 | 0.992 | 25.2 | 0.039 | 1.0 | 0.602 | 0.183 | 0.404 | 169 |
| | | | | | | 0.047 | 1.2 | 0.716 | 0.218 | 0.481 | 169 |
| | | | | | | 0.063 | 1.6 | 0.939 | 0.286 | 0.631 | 169 |
| 1 1/4 | 32 | 1.260 | 32.0 | 1.240 | 31.5 | 0.039 | 1.0 | 0.758 | 0.232 | 0.512 | 127 |
| | | | | | | 0.047 | 1.2 | 0.906 | 0.276 | 0.609 | 127 |
| | | | | | | 0.063 | 1.6 | 1.192 | 0.363 | 0.800 | 127 |
| 1 1/2 | 38 | 1.508 | 38.3 | 1.492 | 37.9 | 0.047 | 1.2 | 1.092 | 0.333 | 0.734 | 127 |
| | | | | | | 0.063 | 1.6 | 1.440 | 0.439 | 0.968 | 127 |
| 2 | 50 | 2.012 | 51.1 | 1.988 | 50.5 | 0.039 | 1.0 | 1.228 | 0.374 | 0.825 | 61 |
| | | | | | | 0.047 | 1.2 | 1.468 | 0.447 | 0.986 | 61 |

SUPPLY CONDITIONS:

Pipe Length

- : Standard Length is 6 meter
- : Cut-to-length is available upon request

Surface Finishing

- : Black
- : Bright/Semi Bright
- : Galvanized

Pipe End

- : Plain End

Mechanical Properties:

| MECHANICAL PROPERTIES | | | | | |
|-----------------------|----------------------------------|-------------------------|---------------------|--|------------|
| TENSILE STRENGTH | ELONGATION % | | FLATTENING STRENGTH | BENDING STRENGTH | |
| | No. 4, No 11, No. 12 test pieces | No. 4, No 5 test pieces | | DISTANCE BETWEEN FLAT PLATES (H) (D is outside diameter of the tube) | BEND ANGLE |
| N/mm ² | Longitudinal | Transverse | | | |
| 290 (min) | 35 (min) | 30 (min) | 1/2D | 180° | 4D |

Chemical Composition:

| CHEMICAL COMPOSITION % | | | | |
|------------------------|--------|--------|-------|-------|
| C max | Si max | Mn max | P max | S max |
| 0.12 | 0.35 | 0.60 | 0.040 | 0.040 |

Tolerances:

| PERMISSIBLE VARIATION | |
|-----------------------|----------------------------------|
| Wall Thickness | : ± 0.3mm (Wall Thickness > 3mm) |

Carbon Steel Circular Hollow Section

For Ordinary Uses, Water Piping And Structural Purposes
JIS G 3452 : 1988

| NOMINAL SIZE | | OUTSIDE DIAMETER | | | | WALL THICKNESS | | WEIGHT | | | BUNDLING |
|--------------|-----|------------------|--------|---------|--------|----------------|------|--------|-------|-------|----------|
| | | MAXIMUM | | MINIMUM | | in | mm | kg/m | kg/ft | lb/ft | Pieces |
| in | mm | in | mm | in | mm | | | | | | |
| 7 | 175 | 7.571 | 192.30 | 7.445 | 189.10 | 0.209 | 5.30 | 24.2 | 7.38 | 16.27 | 7 |
| 8 | 200 | 8.584 | 218.03 | 8.448 | 214.57 | 0.228 | 5.80 | 30.1 | 9.17 | 20.20 | 5 |

SUPPLY CONDITIONS:

Letter Symbol of Grade

: SGP

Pipe Length

: Standard Length is 6 meter

: Cut-to-length is available upon request

Surface Finishing

: Black

: Galvanized

Pipe End

: Plain End

TECHNICAL SPECIFICATIONS:

Leak Tightness Test

: Each tube is 100% leak tightness - Hydraulic/Hydrostatic tested at a pressure of 25 bar (360 psi) or Eddy Current test.

Mechanical Properties:

| MECHANICAL PROPERTIES | | |
|-----------------------|-------------------------------|------------------|
| TENSILE STRENGTH | ELONGATION % | |
| | No. 11 and No. 12 test pieces | No. 5 test piece |
| N/mm ² | Longitudinal | Transverse |
| 290 (min) | 30 (min) | 25 (min) |

Chemical Composition:

| CHEMICAL COMPOSITION % | |
|------------------------|-------|
| P max | S max |
| 0.040 | 0.040 |

Tolerances:

| PERMISSIBLE VARIATION | |
|-----------------------|----------------------------|
| Wall Thickness | : - 12.5%, + not specified |

Carbon Steel Circular Hollow Section

For Ordinary Uses, Water Piping And Structural Purposes

BS 1387 : 1985

SS 17 : 1996

| CLASS | NOMINAL SIZE | | OUTSIDE DIAMETER | | | | WALL THICKNESS | | MASS OF BLACK TUBE | | | | | | NUMBER OF THREADS PER INCH | BUNDLING Pieces |
|--------|--------------|-------|------------------|-------|---------|-------|----------------|------|--------------------|--------|--------|--------------------|--------|--------|----------------------------|--------------------|
| | | | MAXIMUM | | MINIMUM | | | | PLAIN ENDS | | | THREADS & COUPLING | | | | |
| | in | mm | in | mm | in | mm | in | mm | kg/m | kg/ft | lb/ft | kg/m | kg/ft | lb/ft | | |
| LIGHT | ½ | 15 | 0.843 | 21.4 | 0.827 | 21.0 | 0.079 | 2.0 | 0.947 | 0.289 | 0.636 | 0.956 | 0.291 | 0.642 | 14 | 91 |
| | ¾ | 20 | 1.059 | 26.9 | 1.039 | 26.4 | 0.091 | 2.3 | 1.38 | 0.421 | 0.927 | 1.39 | 0.424 | 0.934 | 14 | 91 |
| | 1 | 25 | 1.331 | 33.8 | 1.307 | 33.2 | 0.102 | 2.6 | 1.98 | 0.603 | 1.331 | 2.00 | 0.610 | 1.344 | 11 | 91 |
| | 1¼ | 32 | 1.673 | 42.5 | 1.650 | 41.9 | 0.102 | 2.6 | 2.54 | 0.774 | 1.707 | 2.57 | 0.783 | 1.727 | 11 | 44 |
| | 1½ | 40 | 1.906 | 48.4 | 1.882 | 47.8 | 0.114 | 2.9 | 3.23 | 0.984 | 2.171 | 3.27 | 0.997 | 2.198 | 11 | 44 |
| | 2 | 50 | 2.370 | 60.2 | 2.346 | 59.6 | 0.114 | 2.9 | 4.08 | 1.244 | 2.742 | 4.15 | 1.265 | 2.789 | 11 | 44 |
| | 2½ | 65 | 2.992 | 76.0 | 2.961 | 75.2 | 0.126 | 3.2 | 5.71 | 1.740 | 3.837 | 5.83 | 1.777 | 3.918 | 11 | 19 |
| | 3 | 80 | 3.492 | 88.7 | 3.461 | 87.9 | 0.126 | 3.2 | 6.72 | 2.048 | 4.516 | 6.89 | 2.100 | 4.630 | 11 | 19 |
| MEDIUM | 4 | 100 | 4.484 | 113.9 | 4.449 | 113.0 | 0.142 | 3.6 | 9.75 | 2.972 | 6.552 | 10.0 | 3.048 | 6.721 | 11 | 10 |
| | ½ | 15 | 0.854 | 21.7 | 0.831 | 21.1 | 0.102 | 2.6 | 1.21 | 0.369 | 0.813 | 1.22 | 0.372 | 0.820 | 14 | 91 |
| | ¾ | 20 | 1.071 | 27.2 | 1.047 | 26.6 | 0.102 | 2.6 | 1.56 | 0.475 | 1.048 | 1.57 | 0.479 | 1.055 | 14 | 91 |
| | 1 | 25 | 1.346 | 34.2 | 1.315 | 33.4 | 0.126 | 3.2 | 2.41 | 0.735 | 1.620 | 2.43 | 0.741 | 1.633 | 11 | 91 |
| | 1¼ | 32 | 1.689 | 42.9 | 1.657 | 42.1 | 0.126 | 3.2 | 3.10 | 0.945 | 2.083 | 3.13 | 0.954 | 2.104 | 11 | 44 |
| | 1½ | 40 | 1.921 | 48.8 | 1.890 | 48.0 | 0.126 | 3.2 | 3.57 | 1.088 | 2.399 | 3.61 | 1.100 | 2.426 | 11 | 44 |
| | 2 | 50 | 2.394 | 60.8 | 2.354 | 59.8 | 0.142 | 3.6 | 5.03 | 1.533 | 3.380 | 5.10 | 1.554 | 3.427 | 11 | 44 |
| | 2½ | 65 | 3.016 | 76.6 | 2.969 | 75.4 | 0.142 | 3.6 | 6.43 | 1.963 | 4.328 | 6.55 | 1.996 | 4.402 | 11 | 19 |
| | 3 | 80 | 3.524 | 89.5 | 3.469 | 88.1 | 0.157 | 4.0 | 8.37 | 2.551 | 5.625 | 8.54 | 2.603 | 5.739 | 11 | 19 |
| | 4 | 100 | 4.524 | 114.9 | 4.461 | 113.3 | 0.177 | 4.5 | 12.2 | 3.718 | 8.199 | 12.5 | 3.810 | 8.401 | 11 | 10 |
| HEAVY | 5 | 125 | 5.535 | 140.6 | 5.461 | 138.7 | 0.197 | 5.0 | 16.6 | 5.095 | 11.156 | 17.1 | 5.212 | 11.492 | 11 | 10 |
| | 6 | 150 | 6.539 | 166.1 | 6.461 | 164.1 | 0.197 | 5.0 | 19.7 | 6.004 | 13.239 | 20.3 | 6.187 | 13.643 | 11 | 10 |
| | ½ | 15 | 0.854 | 21.7 | 0.831 | 21.1 | 0.126 | 3.2 | 1.44 | 0.439 | 0.968 | 1.45 | 0.442 | 0.974 | 14 | 91 |
| | ¾ | 20 | 1.071 | 27.2 | 1.047 | 26.6 | 0.126 | 3.2 | 1.87 | 0.570 | 1.257 | 1.88 | 0.573 | 1.263 | 14 | 91 |
| | 1 | 25 | 1.346 | 34.2 | 1.315 | 33.4 | 0.157 | 4.0 | 2.94 | 0.896 | 1.976 | 2.96 | 0.902 | 1.989 | 11 | 91 |
| | 1¼ | 32 | 1.689 | 42.9 | 1.657 | 42.1 | 0.157 | 4.0 | 3.80 | 1.158 | 2.554 | 3.83 | 1.167 | 2.574 | 11 | 44 |
| | 1½ | 40 | 1.921 | 48.8 | 1.890 | 48.0 | 0.157 | 4.0 | 4.38 | 1.335 | 2.944 | 4.42 | 1.347 | 2.970 | 11 | 44 |
| | 2 | 50 | 2.394 | 60.8 | 2.354 | 59.8 | 0.177 | 4.5 | 6.19 | 1.887 | 4.160 | 6.26 | 1.908 | 4.207 | 11 | 44 |
| | 2½ | 65 | 3.016 | 76.6 | 2.969 | 75.4 | 0.177 | 4.5 | 7.93 | 2.417 | 5.329 | 8.05 | 2.454 | 5.410 | 11 | 19 |
| | 3 | 80 | 3.524 | 89.5 | 3.469 | 88.1 | 0.197 | 5.0 | 10.3 | 3.139 | 6.922 | 10.5 | 3.200 | 7.057 | 11 | 19 |
| 4 | 100 | 4.524 | 114.9 | 4.461 | 113.3 | 0.213 | 5.4 | 14.5 | 4.419 | 9.745 | 14.8 | 4.511 | 9.946 | 11 | 10 | |
| 5 | 125 | 5.535 | 140.6 | 5.461 | 138.7 | 0.213 | 5.4 | 17.9 | 5.456 | 12.030 | 18.4 | 5.608 | 12.366 | 11 | 10 | |
| 6 | 150 | 6.539 | 166.1 | 6.461 | 164.1 | 0.213 | 5.4 | 21.3 | 6.492 | 14.315 | 21.9 | 6.675 | 14.718 | 11 | 10 | |

Carbon Steel Circular Hollow Section

For Ordinary Uses, Water Piping And Structural Purposes

BS 1387 : 1985

SS 17 : 1996

SUPPLY CONDITIONS:

Identification Marking

- : Light tubes are marked by brown color band ●
- : Medium tubes are marked by blue color band ●
- : Heavy tubes are marked by red color band ●

Pipe Length

- : Standard Length is 6 meter
- : Cut-to-length is available upon request

Surface Finishing

- : Black
- : Galvanized

Pipe End

- : Plain End
- : Thread Cut with Coupler

TECHNICAL SPECIFICATIONS:

Leak Tightness Test

- : Each tube is 100% leak tightness - Hydraulic/Hydrostatic tested at a pressure of 50 bar (720 psi) or Eddy Current test.

Mechanical Properties:

| MECHANICAL PROPERTIES | | |
|---------------------------|-------------------------|---|
| TENSILE STRENGTH R_m | YIELD STRENGTH R_e | ELONGATION ON GAUGE LENGTH $L_o = 5.65/S_o$ A |
| N/mm ² | N/mm ² | % |
| 320 to 460 | 195 (min) | 20 (min) |

Chemical Composition:

| CHEMICAL COMPOSITION (Ladle)% | | | |
|-------------------------------|--------|-------|-------|
| C max | Mn max | P max | S max |
| 0.20 | 1.20 | 0.045 | 0.045 |

Tolerances:

| PERMISSIBLE VARIATION | |
|-----------------------|---|
| Wall Thickness | : - 8 %, + not specified (Light Tubes) - 10 %, + not specified (Medium & Heavy Tubes) |
| Weight | : The mean consignment weight for quantities of 150m (500ft) and over of one size: ± 4% of the standard weight. : The mean consignment weight for any single tube : +10%, -8% of the standard weight. |
| Length | : - 0mm, + 30mm |

Carbon Steel Circular Hollow Section

For Ordinary Uses, Water Piping And Structural Purposes
ASTM A53 GRADE A

| NOMINAL SIZE | OUTSIDE DIAMETER | | WALL THICKNESS | | SCHEDULE NO | WEIGHT CLASS | WEIGHT | | | TEST PRESSURE (GRADE A) | |
|--------------|------------------|-------|----------------|------|-------------|--------------|--------|-------|-------|-------------------------|-----|
| | NPS | in | mm | in | | | mm | kg/m | kg/ft | lb/ft | psi |
| 1/2 | 0.840 | 21.3 | 0.109 | 2.77 | 40 | STD | 1.27 | 0.39 | 0.85 | 700 | 49 |
| 3/4 | 1.050 | 26.7 | 0.113 | 2.87 | 40 | STD | 1.69 | 0.52 | 1.13 | 700 | 49 |
| 1 | 1.315 | 33.4 | 0.113 | 3.38 | 40 | STD | 2.50 | 0.76 | 1.68 | 700 | 49 |
| | | | 0.179 | 4.55 | 80 | XS | 3.24 | 0.99 | 2.17 | 850 | 60 |
| 1 1/4 | 1.660 | 42.2 | 0.140 | 3.56 | 40 | STD | 3.39 | 1.03 | 2.27 | 1200 | 84 |
| 1 1/2 | 1.900 | 48.3 | 0.145 | 3.68 | 40 | STD | 4.05 | 1.23 | 2.72 | 1200 | 84 |
| 2 | 2.375 | 60.3 | 0.154 | 3.91 | 40 | STD | 5.44 | 1.66 | 3.65 | 2300 | 162 |
| | | | 0.218 | 5.54 | 80 | XS | 7.48 | 2.28 | 5.02 | 2500 | 176 |
| 2 1/2 | 2.875 | 73.0 | 0.203 | 5.16 | 40 | STD | 8.63 | 2.63 | 5.79 | 2500 | 176 |
| 3 | 3.500 | 88.9 | 0.216 | 5.49 | 40 | STD | 11.29 | 3.44 | 7.58 | 2220 | 156 |
| | | | 0.300 | 7.62 | 80 | XS | 15.27 | 4.65 | 10.25 | 2500 | 176 |
| 3 1/2 | 4.000 | 101.6 | 0.226 | 5.74 | 40 | STD | 13.57 | 4.14 | 9.11 | 2030 | 143 |
| | | | 0.318 | 8.08 | 80 | XS | 18.63 | 5.68 | 12.51 | 2800 | 197 |
| 4 | 4.500 | 114.3 | 0.237 | 6.02 | 40 | STD | 16.07 | 4.90 | 10.79 | 1900 | 134 |
| | | | 0.337 | 8.56 | 80 | XS | 22.32 | 6.80 | 14.98 | 2700 | 190 |
| 5 | 5.563 | 141.3 | 0.258 | 6.55 | 40 | STD | 21.77 | 6.64 | 14.62 | 1670 | 117 |
| 6 | 6.625 | 168.3 | 0.280 | 7.11 | 40 | STD | 28.26 | 8.61 | 18.97 | 1520 | 107 |
| 8 | 8.625 | 219.1 | 0.322 | 8.18 | 40 | STD | 42.55 | 12.97 | 28.55 | 1340 | 94 |

SUPPLY CONDITIONS:

Designation of Grade

: Electric-Resistance Welded, Grade A

Pipe Length

: Standard Length is 6 meter
: Cut-to-length is available upon request

Surface Finishing

: Black
: Galvanized

Pipe End

: Plain End

TECHNICAL SPECIFICATIONS:

Leak Tightness Test

: Each tube is 100% leak tightness - Hydraulic/Hydrostatic tested or Eddy current test

Mechanical Properties:

| MECHANICAL PROPERTIES | |
|-----------------------|-------------------|
| TENSILE STRENGTH | YIELD STRENGTH |
| N/mm ² | N/mm ² |
| 330 (min) | 205 (min) |

Chemical Composition:

| CHEMICAL COMPOSITION (Ladle)% | | | | | | | | |
|-------------------------------|--------|-------|-------|--------|--------|--------|--------|-------|
| C max | Mn max | P max | S max | Cu max | Ni max | Cr max | Mo max | V max |
| 0.25 | 0.95 | 0.05 | 0.045 | 0.40 | 0.40 | 0.40 | 0.15 | 0.08 |

Tolerances:

| PERMISSIBLE VARIATION | |
|-----------------------|--------------------------------------|
| Wall Thickness | : - 12.5%, + not specified |
| Weight | : ± 10% |
| Outside Diameter | : ± 0.40mm, < NPS 2 ± 1%, ≥ NPS 2 |
| Length | : - 0mm, + 30mm |

Carbon Steel Circular Hollow Section

For Water And Sewage Purposes
BS 534 / MWA

| NOMINAL SIZE (O/D) | OUTSIDE DIAMETER | | WALL THICKNESS | WEIGHT | | | BUNDLING |
|--------------------|------------------|---------|----------------|--------|-------|--------|----------|
| | MAXIMUM | MINIMUM | MINIMUM | kg/m | kg/ft | lb/ft | |
| mm | mm | mm | mm | | | | Pieces |
| 177.3 | 177.8 | 176.8 | 3.7* | 17.762 | 5.414 | 11.925 | 7 |
| | | | 4.1 | 20.005 | 6.097 | 13.431 | 7 |

*Customized Thickness

SUPPLY CONDITIONS:

Pipe Length

- : Standard Length is 6 meter
- : Cut-to-length is available upon request

Surface Finishing

- : Black

Pipe End

- : Plain End

TECHNICAL SPECIFICATIONS:

Leak Tightness Test

- : Each tube is 100% for leak tightness - Hydraulic/Hydrostatic tested or Eddy Current test.

Mechanical Properties:

| MECHANICAL PROPERTIES | | |
|-----------------------|-------------------|------------|
| TENSILE STRENGTH | YIELD STRENGTH | ELONGATION |
| N/mm ² | N/mm ² | % |
| 430 - 580 | 275 (min) | 23 (min) |

Chemical Composition:

| CHEMICAL COMPOSITION (%) | | | | |
|--------------------------|--------|--------|-------|-------|
| C max | Si max | Mn max | P max | S max |
| 0.25 | 0.50 | 1.60 | 0.050 | 0.050 |

Carbon Steel Circular Hollow Section

For Scaffolding
BS 1139 : 1990

| NOMINAL SIZE (O/D) | OUTSIDE DIAMETER | | WALL THICKNESS | WEIGHT | | | BUNDLING |
|--------------------|------------------|---------|----------------|--------|-------|-------|----------|
| | MAXIMUM | MINIMUM | | kg/m | kg/ft | lb/ft | |
| mm | mm | mm | mm | | | | Pieces |
| 48.3 | 48.8 | 47.8 | 4.0 | 4.37 | 1.33 | 2.94 | 91 |

SUPPLY CONDITIONS:

Pipe Length

- : Standard Length is 6 meter
- : Cut-to-length is available upon request

Surface Finishing

- : Black
- : Galvanized

Pipe End

- : Plain End

TECHNICAL SPECIFICATIONS:

Mechanical Properties:

| MECHANICAL PROPERTIES | | |
|---------------------------|----------------------------|---|
| TENSILE STRENGTH R_m | YIELD STRENGTH R_{eH} | ELONGATION ON GAUGE LENGTH $L_0 = 5.65 / S_0$ A |
| N/mm ² | N/mm ² | % |
| 340 - 480 | 235 (min) | 24 (min) |

Chemical Composition:

| CHEMICAL COMPOSITION (%) | | | | |
|--------------------------|--------|--------|-------|-------|
| C max | Si max | Mn max | P max | S max |
| 0.25 | 0.30 | 0.05 | 0.05 | 0.009 |

Tolerances:

| PERMISSIBLE VARIATION | |
|-----------------------|-------------------------|
| Wall Thickness | : - 10% + not specified |
| Weight | : - 8.0% + 12.0% |

Carbon Steel Circular Hollow Section

For General Structural Purposes (AA Pipes)
SPIM B 100

| NOMINAL SIZE | | OUTSIDE DIAMETER | | WALL THICKNESS | | WEIGHT | | | BUNDLING (Hexagonal) |
|--------------|-----|------------------|---------|----------------|-----|---------|--------|---------|----------------------|
| | | MAXIMUM | MINIMUM | | | | | | |
| NPS | mm | mm | mm | inch | mm | kg/m | kg/ft | lb/ft | Pieces |
| ½ | 15 | 21.4 | 21.0 | 0.063 | 1.6 | 0.7734 | 0.2357 | 0.5197 | 91 |
| ¾ | 20 | 26.9 | 26.4 | 0.063 | 1.6 | 0.9904 | 0.3019 | 0.6655 | 91 |
| | | 33.8 | 33.2 | 0.071 | 1.8 | 1.4072 | 0.4289 | 0.9456 | 91 |
| 1 | 25 | 33.8 | 33.2 | 0.063 | 1.6 | 1.2587 | 0.3837 | 0.8458 | 91 |
| | | 42.5 | 41.9 | 0.071 | 1.8 | 1.6020 | 0.4883 | 1.0765 | 44 |
| 1¼ | 32 | 42.5 | 41.9 | 0.063 | 1.6 | 1.6020 | 0.4883 | 1.0765 | 44 |
| | | 48.4 | 47.8 | 0.071 | 1.8 | 1.7934 | 0.5466 | 1.2051 | 44 |
| 1½ | 40 | 48.4 | 47.8 | 0.063 | 1.6 | 1.8348 | 0.5593 | 1.2329 | 44 |
| | | 60.2 | 59.6 | 0.071 | 1.8 | 2.0553 | 0.6265 | 1.3811 | 44 |
| 2 | 50 | 60.2 | 59.6 | 0.063 | 1.6 | 2.3004 | 0.7012 | 1.5458 | 44 |
| | | 76.0 | 75.2 | 0.071 | 1.8 | 2.5791 | 0.7861 | 1.7331 | 44 |
| 2½ | 65 | 76.0 | 75.2 | 0.063 | 1.6 | 2.9199 | 0.8900 | 1.9621 | 19 |
| | | 88.7 | 87.9 | 0.071 | 1.8 | 3.2760 | 0.9985 | 2.2014 | 19 |
| 3 | 80 | 88.7 | 87.9 | 0.071 | 1.8 | 3.8398 | 1.1704 | 2.5802 | 19 |
| | | 113.9 | 113.0 | 0.083 | 2.1 | 4.4642 | 1.3607 | 2.9998 | 19 |
| 4 | 100 | 113.9 | 113.0 | 0.087 | 2.2 | 6.0386 | 1.8406 | 4.0577 | 10 |
| | | 140.6 | 138.7 | 0.126 | 3.2 | 10.7248 | 3.2690 | 7.2067 | 10 |
| 5 | 125 | 140.6 | 138.7 | 0.157 | 4.0 | 13.3271 | 4.0621 | 8.9553 | 10 |
| | | 166.1 | 164.1 | 0.126 | 3.2 | 12.7766 | 3.8944 | 8.5854 | 10 |
| 6 | 150 | 166.1 | 164.1 | 0.157 | 4.0 | 15.8919 | 4.8439 | 10.6788 | 10 |
| | | | | | | | | | |

SUPPLY CONDITIONS:

Pipe Length

- : Standard Length is 6 meter
- : Cut-to-length is available upon request

Surface Finishing

- : Black
- : Galvanized

Pipe End

- : Plain End
- : Thread Cut with Coupler (for 5" & 6" only)

TECHNICAL SPECIFICATIONS:

Mechanical Properties:

| MECHANICAL PROPERTIES | | |
|-----------------------|-------------------|------------|
| TENSILE STRENGTH | YIELD STRENGTH | ELONGATION |
| N/mm ² | N/mm ² | % |
| 320 (min) | 195 (min) | 20 (min) |

Chemical Composition:

| CHEMICAL COMPOSITION (%) | | | |
|--------------------------|--------|-------|-------|
| C max | Mn max | P max | S max |
| 0.20 | 1.20 | 0.045 | 0.045 |

Tolerances:

| PERMISSIBLE VARIATION | |
|-----------------------|---------|
| Wall Thickness | : ± 10% |

Carbon Steel Circular Hollow Section

Cold Rolled
SPIM B 103

| NOMINAL SIZE (O/D) | | OUTSIDE DIAMETER | | | | WALL THICKNESS | | WEIGHT | | | BUNDLING |
|--------------------|----|------------------|------|---------|------|----------------|-----|--------|-------|-------|----------|
| | | MAXIMUM | | MINIMUM | | | | | | | |
| in | mm | in | mm | in | mm | in | mm | kg/m | kg/ft | lb/ft | Pieces |
| ¾ | 9 | 0.382 | 9.7 | 0.366 | 9.3 | 0.024 | 0.6 | 0.132 | 0.040 | 0.088 | 271 |
| | | | | | | 0.031 | 0.8 | 0.172 | 0.052 | 0.115 | 271 |
| | | | | | | 0.035 | 0.9 | 0.191 | 0.058 | 0.128 | 271 |
| | | | | | | 0.039 | 1.0 | 0.210 | 0.064 | 0.141 | 271 |
| ½ | 12 | 0.508 | 12.9 | 0.492 | 12.5 | 0.031 | 0.8 | 0.235 | 0.072 | 0.158 | 271 |
| | | | | | | 0.035 | 0.9 | 0.262 | 0.080 | 0.176 | 271 |
| | | | | | | 0.039 | 1.0 | 0.289 | 0.088 | 0.194 | 271 |
| ¾ | 16 | 0.634 | 16.1 | 0.618 | 15.7 | 0.039 | 1.0 | 0.368 | 0.112 | 0.247 | 271 |
| | | | | | | 0.047 | 1.2 | 0.435 | 0.133 | 0.293 | 271 |
| | 18 | 0.717 | 18.2 | 0.701 | 17.8 | 0.039 | 1.0 | 0.419 | 0.128 | 0.281 | 271 |
| | | | | | | 0.047 | 1.2 | 0.497 | 0.152 | 0.334 | 271 |
| ¾ | 19 | 0.760 | 19.3 | 0.744 | 18.9 | 0.039 | 1.0 | 0.447 | 0.136 | 0.300 | 271 |
| | | | | | | 0.047 | 1.2 | 0.530 | 0.162 | 0.357 | 271 |
| | 20 | 0.795 | 20.2 | 0.780 | 19.8 | 0.039 | 1.0 | 0.468 | 0.143 | 0.314 | 271 |
| | | | | | | 0.047 | 1.2 | 0.556 | 0.170 | 0.374 | 271 |
| ¾ | 22 | 0.882 | 22.4 | 0.866 | 22.0 | 0.039 | 1.0 | 0.523 | 0.159 | 0.351 | 217 |
| | | | | | | 0.047 | 1.2 | 0.622 | 0.189 | 0.417 | 217 |
| 1 | 25 | 1.008 | 25.6 | 0.992 | 25.2 | 0.039 | 1.0 | 0.602 | 0.183 | 0.404 | 169 |
| | | | | | | 0.047 | 1.2 | 0.716 | 0.218 | 0.481 | 169 |
| | 28 | 1.110 | 28.2 | 1.094 | 27.8 | 0.039 | 1.0 | 0.666 | 0.203 | 0.447 | 127 |
| | | | | | | 0.047 | 1.2 | 0.793 | 0.242 | 0.533 | 127 |
| 1¼ | 32 | 1.260 | 32.0 | 1.244 | 31.6 | 0.039 | 1.0 | 0.758 | 0.232 | 0.512 | 127 |
| | | | | | | 0.047 | 1.2 | 0.906 | 0.276 | 0.609 | 127 |
| 1½ | 38 | 1.508 | 38.3 | 1.492 | 37.9 | 0.039 | 1.0 | 0.915 | 0.279 | 0.615 | 127 |
| | | | | | | 0.047 | 1.2 | 1.092 | 0.333 | 0.734 | 127 |
| 2 | 50 | 2.008 | 51.0 | 1.922 | 50.6 | 0.039 | 1.0 | 1.228 | 0.374 | 0.825 | 61 |
| | | | | | | 0.047 | 1.2 | 1.468 | 0.447 | 0.986 | 61 |

SUPPLY CONDITIONS:

Pipe Length

- : Standard Length is 6 meter
- : Cut-to length is available upon request

Surface Finishing

- : Black

Pipe End

- : Plain End

TECHNICAL SPECIFICATIONS:

Mechanical Properties:

| MECHANICAL PROPERTIES | | |
|-----------------------|-------------------|------------|
| TENSILE STRENGTH | YIELD STRENGTH | ELONGATION |
| N/mm ² | N/mm ² | % |
| 270 (min) | - | 30 (min) |

Chemical Composition:

| CHEMICAL COMPOSITION (%) | | | | |
|--------------------------|--------|--------|-------|-------|
| C max | Si max | Mn max | P max | S max |
| 0.12 | 0.35 | 0.60 | 0.040 | 0.040 |

Tolerances:

| PERMISSIBLE VARIATION | |
|-----------------------|---------|
| Wall Thickness | : ± 20% |

Carbon Steel Square & Rectangular Hollow Section

Cold Rolled
Cold A 100
SPIM A 100

| NOMINAL SIZE (O/D) | | OUTSIDE DIAMETER | | | | WALL THICKNESS | | WEIGHT | | | BUNDLING |
|--------------------|---------|------------------|-------------|---------------|-------------|----------------|-----|--------|-------|-------|----------|
| | | MAXIMUM | | MINIMUM | | | | | | | |
| in | mm | in | mm | in | mm | in | mm | kg/m | kg/ft | lb/ft | Pieces |
| ½ x ½ | 12 x 12 | 0.508x0.508 | 12.9 x 12.9 | 0.492x0.492 | 12.5 x 12.5 | 0.039 | 1.0 | 0.357 | 0.109 | 0.240 | 225 |
| ¾ x ¾ | 16 x 16 | 0.634x0.634 | 16.1 x 16.1 | 0.618x0.618 | 15.7 x 15.7 | 0.039 | 1.0 | 0.456 | 0.139 | 0.306 | 225 |
| | | | | | | 0.047 | 1.2 | 0.540 | 0.165 | 0.363 | 225 |
| ¾ x ¾ | 19 x 19 | 0.760x0.760 | 19.3 x 19.3 | 0.744x0.744 | 18.9 x 18.9 | 0.039 | 1.0 | 0.555 | 0.169 | 0.373 | 225 |
| | | | | | | 0.047 | 1.2 | 0.659 | 0.201 | 0.443 | 225 |
| 1 x 1 | 25 x 25 | 1.008x1.008 | 25.6 x 25.6 | 0.992x0.992 | 25.2 x 25.2 | 0.039 | 1.0 | 0.752 | 0.229 | 0.505 | 150 |
| | | | | | | 0.047 | 1.2 | 0.897 | 0.273 | 0.603 | 150 |
| 1¼ x 1¼ | 32 x 32 | 1.260x1.260 | 32.0 x 32.0 | 1.244x1.244 | 31.6 x 31.6 | 0.039 | 1.0 | 0.967 | 0.295 | 0.650 | 100 |
| | | | | | | 0.047 | 1.2 | 1.153 | 0.351 | 0.774 | 100 |
| 1½ x 1½ | 38 x 38 | 1.508x1.508 | 38.3 x 38.3 | 1.492 x 1.492 | 37.9 x 37.9 | 0.039 | 1.0 | 1.165 | 0.355 | 0.783 | 100 |
| | | | | | | 0.047 | 1.2 | 1.390 | 0.424 | 0.935 | 100 |
| ½ x 1 | 12 x 25 | 0.508x1.008 | 12.9 x 25.6 | 0.492x0.992 | 12.5 x 25.2 | 0.039 | 1.0 | 0.555 | 0.169 | 0.373 | 200 |
| | | | | | | 0.047 | 1.2 | 0.659 | 0.201 | 0.443 | 200 |
| ¾ x 1½ | 19 x 38 | 0.760x1.508 | 19.3 x 38.3 | 0.744x1.492 | 18.9 x 37.9 | 0.039 | 1.0 | 0.783 | 0.239 | 0.526 | 120 |
| | | | | | | 0.047 | 1.2 | 1.014 | 0.309 | 0.681 | 120 |
| 1 x 2 | 25 x 50 | 1.008x2.008 | 25.6 x 51.0 | 0.992x1.992 | 25.2 x 50.6 | 0.039 | 1.0 | 1.150 | 0.351 | 0.773 | 96 |
| | | | | | | 0.047 | 1.2 | 1.370 | 0.418 | 0.921 | 96 |

SUPPLY CONDITIONS:

Pipe Length

- : Standard Length is 6 meter
- : Cut-to-length is available upon request

Surface Finishing

- : Black

Pipe End

- : Plain End

TECHNICAL SPECIFICATIONS:

Mechanical Properties:

| MECHANICAL PROPERTIES | | |
|-----------------------|-------------------|------------|
| TENSILE STRENGTH | YIELD STRENGTH | ELONGATION |
| N/mm ² | N/mm ² | % |
| 270 (min) | - | 30 (min) |

Chemical Composition:


| CHEMICAL COMPOSITION (%) | | | | |
|--------------------------|--------|--------|-------|-------|
| C max | Si max | Mn max | P max | S max |
| 0.12 | - | 0.50 | 0.040 | 0.045 |

Tolerances:

| PERMISSIBLE VARIATION | |
|-----------------------|---------|
| Wall Thickness | : ± 20% |

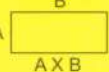
Carbon Steel Square Hollow Section

For General Structural Purposes
ASTM A 500

| NOMINAL SIZE | | WALL THICKNESS | WEIGHT | | | AREA | Moment Of Inertia | Section Modulus | Radius Of Gyration | BUNDLING A  B A X B |
|--------------|-----------|----------------|--------|-------|-------|-----------------|-------------------|-----------------|--------------------|--|
| in | mm | | kg/m | kg/ft | lb/ft | | lx, ly | Zx, Zy | ix, iy | |
| | | mm | kg/m | kg/ft | lb/ft | in ² | in ⁴ | in ³ | in | Pieces |
| ½ x ½ | 12 x 12 | 1.0 | 0.357 | 0.109 | 0.240 | 0.0706 | 0.00249 | 0.00996 | 0.188 | 15 x 15 = 225 |
| | | 1.2 | 0.421 | 0.128 | 0.283 | 0.0833 | 0.00284 | 0.0113 | 0.185 | 15 x 15 = 225 |
| | | 1.6 | 0.540 | 0.165 | 0.363 | 0.107 | 0.00339 | 0.0136 | 0.178 | 15 x 15 = 225 |
| 5/8 x 5/8 | 16 x 16 | 1.0 | 0.456 | 0.139 | 0.306 | 0.0901 | 0.00513 | 0.0164 | 0.239 | 15 x 15 = 225 |
| | | 1.2 | 0.540 | 0.165 | 0.363 | 0.107 | 0.00592 | 0.189 | 0.235 | 15 x 15 = 225 |
| | | 1.6 | 0.699 | 0.213 | 0.470 | 0.138 | 0.00724 | 0.0232 | 0.229 | 15 x 15 = 225 |
| ¾ x ¾ | 19 x 19 | 1.0 | 0.555 | 0.169 | 0.373 | 0.110 | 0.00920 | 0.0245 | 0.290 | 15 x 15 = 225 |
| | | 1.2 | 0.659 | 0.201 | 0.443 | 0.130 | 0.0107 | 0.0285 | 0.286 | 15 x 15 = 225 |
| | | 1.6 | 0.859 | 0.262 | 0.577 | 0.170 | 0.0133 | 0.0354 | 0.280 | 15 x 15 = 225 |
| 1 x 1 | 25 x 25 | 1.0 | 0.752 | 0.229 | 0.505 | 0.149 | 0.0228 | 0.456 | 0.392 | 10 x 15 = 150 |
| | | 1.2 | 0.897 | 0.273 | 0.603 | 0.177 | 0.0267 | 0.0535 | 0.388 | 10 x 15 = 150 |
| | | 1.6 | 1.18 | 0.359 | 0.791 | 0.233 | 0.0339 | 0.0678 | 0.382 | 10 x 15 = 150 |
| | | 2.3 | 1.54 | 0.470 | 1.05 | 0.331 | 0.0443 | 0.089 | 0.371 | 10 x 15 = 150 |
| | | 3.0 | 2.07 | 0.632 | 1.39 | 0.410 | 0.0528 | 0.106 | 0.359 | 10 x 15 = 150 |
| 1¼ x 1¼ | 32 x 32 | 1.2 | 1.13 | 0.346 | 0.762 | 0.224 | 0.0539 | 0.0863 | 0.490 | 10 x 10 = 100 |
| | | 1.6 | 1.50 | 0.456 | 1.01 | 0.296 | 0.0692 | 0.111 | 0.484 | 10 x 10 = 100 |
| | | 2.3 | 2.02 | 0.616 | 1.36 | 0.414 | 0.0922 | 0.148 | 0.472 | 10 x 10 = 100 |
| | | 3.0 | 2.68 | 0.817 | 1.80 | 0.530 | 0.112 | 0.180 | 0.460 | 10 x 10 = 100 |
| | | 3.2 | 2.78 | 0.847 | 1.87 | 0.549 | 0.115 | 0.185 | 0.458 | 10 x 10 = 100 |
| 1½ x ½ | 38 x 38 | 1.2 | 1.37 | 0.418 | 0.922 | 0.271 | 0.0952 | 0.127 | 0.592 | 10 x 10 = 100 |
| | | 1.6 | 1.81 | 0.553 | 1.22 | 0.359 | 0.123 | 0.164 | 0.586 | 10 x 10 = 100 |
| | | 2.3 | 2.48 | 0.756 | 1.67 | 0.505 | 0.166 | 0.221 | 0.573 | 10 x 10 = 100 |
| | | 3.0 | 3.29 | 1.000 | 2.21 | 0.650 | 0.205 | 0.274 | 0.562 | 10 x 10 = 100 |
| | | 3.2 | 3.41 | 1.040 | 2.29 | 0.674 | 0.211 | 0.282 | 0.560 | 10 x 10 = 100 |
| 2 x 2 | 50 x 50 | 1.6 | 2.45 | 0.747 | 1.65 | 0.485 | 0.302 | 0.302 | 0.790 | 8 x 8 = 64 |
| | | 2.3 | 3.40 | 1.04 | 2.28 | 0.689 | 0.416 | 0.416 | 0.777 | 8 x 8 = 64 |
| | | 3.0 | 4.38 | 1.33 | 2.94 | 0.865 | 0.498 | 0.498 | 0.759 | 8 x 8 = 64 |
| | | 3.2 | 4.54 | 1.38 | 3.05 | 0.897 | 0.513 | 0.513 | 0.756 | 8 x 8 = 64 |
| | | 4.0 | 5.50 | 1.68 | 3.70 | 1.09 | 0.598 | 0.598 | 0.741 | 8 x 8 = 64 |
| 2½ x 2½ | 65 x 65 | 4.5 | 6.11 | 1.86 | 4.10 | 1.21 | 0.644 | 0.644 | 0.730 | 8 x 8 = 64 |
| | | 2.3 | 4.31 | 1.32 | 2.90 | 0.86 | 0.82 | 0.656 | 0.976 | 7 x 7 = 49 |
| | | 3.0 | 5.59 | 1.70 | 3.76 | 1.11 | 1.03 | 0.820 | 0.963 | 7 x 7 = 49 |
| | | 3.2 | 5.80 | 1.77 | 3.90 | 1.15 | 1.06 | 0.847 | 0.961 | 7 x 7 = 49 |
| | | 4.0 | 7.08 | 2.16 | 4.76 | 1.40 | 1.25 | 1.00 | 0.946 | 7 x 7 = 49 |
| 3 x 3 | 75 x 75 | 4.5 | 7.88 | 2.40 | 5.30 | 1.56 | 1.36 | 1.09 | 0.935 | 7 x 7 = 49 |
| | | 6.0 | 10.10 | 3.08 | 6.77 | 1.99 | 1.72 | 1.37 | 0.928 | 7 x 7 = 49 |
| | | 2.3 | 5.231 | 1.594 | 3.52 | 1.03 | 1.44 | 0.96 | 1.19 | 5 x 5 = 25 |
| | | 3.0 | 6.81 | 2.07 | 4.57 | 1.35 | 1.83 | 1.22 | 1.17 | 5 x 5 = 25 |
| | | 3.2 | 7.07 | 2.15 | 4.75 | 1.40 | 1.90 | 1.26 | 1.16 | 5 x 5 = 25 |
| 3½ x 3½ | 90 x 90 | 4.0 | 8.66 | 2.64 | 5.82 | 1.71 | 2.26 | 1.51 | 1.15 | 5 x 5 = 25 |
| | | 4.5 | 9.70 | 2.95 | 6.52 | 1.92 | 2.48 | 1.65 | 1.14 | 5 x 5 = 25 |
| | | 5.0 | 10.76 | 3.26 | 7.21 | 2.13 | 2.72 | 1.81 | 1.13 | 5 x 5 = 25 |
| | | 6.0 | 12.78 | 3.87 | 8.56 | 2.53 | 3.12 | 2.08 | 1.11 | 5 x 5 = 25 |
| | | 3.0 | 8.02 | 2.44 | 5.39 | 1.59 | 2.98 | 1.70 | 1.37 | 4 x 5 = 20 |
| 4 x 4 | 100 x 100 | 3.2 | 8.33 | 2.54 | 5.60 | 1.65 | 3.09 | 1.76 | 1.37 | 4 x 5 = 20 |
| | | 4.0 | 10.2 | 3.12 | 6.88 | 2.02 | 3.71 | 2.12 | 1.35 | 4 x 5 = 20 |
| | | 4.5 | 11.50 | 3.50 | 7.70 | 2.27 | 4.10 | 2.34 | 1.34 | 4 x 5 = 20 |
| | | 5.0 | 12.76 | 3.88 | 8.55 | 2.52 | 4.51 | 2.58 | 1.34 | 4 x 5 = 20 |
| | | 6.0 | 14.88 | 4.54 | 9.98 | 2.94 | 5.12 | 2.92 | 1.32 | 4 x 5 = 20 |
| 5 x 5 | 125 x 125 | 3.0 | 9.23 | 2.81 | 6.21 | 1.83 | 4.53 | 2.27 | 1.58 | 4 x 4 = 16 |
| | | 3.2 | 9.60 | 2.93 | 6.45 | 1.90 | 4.70 | 2.35 | 1.57 | 4 x 4 = 16 |
| | | 4.0 | 11.8 | 3.60 | 7.94 | 2.34 | 5.67 | 2.84 | 1.56 | 4 x 4 = 16 |
| | | 4.5 | 13.3 | 4.06 | 8.95 | 2.63 | 6.28 | 3.14 | 1.55 | 4 x 4 = 16 |
| | | 5.0 | 14.7 | 4.48 | 9.89 | 2.91 | 6.89 | 3.44 | 1.54 | 4 x 4 = 16 |
| 6 x 6 | 150 x 150 | 6.0 | 17.2 | 5.22 | 11.5 | 3.39 | 7.82 | 3.91 | 1.52 | 4 x 4 = 16 |
| | | 4.5 | 16.9 | 5.151 | 11.4 | 3.33 | 12.7 | 5.08 | 1.97 | 3 x 4 = 12 |
| | | 5.0 | 18.7 | 5.71 | 12.6 | 3.70 | 14.0 | 5.61 | 1.95 | 3 x 4 = 12 |
| 6 x 6 | 150 x 150 | 6.0 | 22.1 | 6.73 | 14.8 | 4.34 | 16.0 | 6.42 | 1.92 | 3 x 4 = 12 |
| | | 4.5 | 20.5 | 6.25 | 13.8 | 4.04 | 22.5 | 7.50 | 2.36 | 3 x 3 = 9 |
| | | 5.0 | 22.7 | 6.90 | 15.21 | 4.48 | 24.9 | 8.30 | 2.36 | 3 x 3 = 9 |
| 6 x 6 | 150 x 150 | 6.0 | 26.9 | 8.19 | 18.0 | 5.28 | 28.7 | 9.58 | 2.33 | 3 x 3 = 9 |

Carbon Steel Rectangular Hollow Section

For General Structural Purposes
ASTM A 500

| NOMINAL SIZE | | WALL THICKNESS | WEIGHT | | | AREA | Moment Of Inertia | | Section Modulus | | Radius Of Gyration | | BUNDLING |
|---------------|-----------|----------------|--------|-------|-------|-----------------|-------------------|-----------------|-----------------|-----------------|--------------------|--------|--|
| in | mm | mm | kg/m | kg/ft | lb/ft | in ² | in ⁴ | in ⁴ | in ³ | in ³ | in | in | A  B A X B |
| | | | | | | | | | | | | | Pieces |
| 1 x 1/2 | 25 x 12 | 1.0 | 0.555 | 0.169 | 0.373 | 0.110 | 0.0138 | 0.00457 | 0.0276 | 0.0183 | 0.355 | 0.204 | 20 x 10 = 200 |
| | | 1.2 | 0.659 | 0.201 | 0.443 | 0.130 | 0.0161 | 0.00526 | 0.0321 | 0.0210 | 0.351 | 0.201 | 20 x 10 = 200 |
| | | 1.6 | 0.859 | 0.262 | 0.577 | 0.170 | 0.0201 | 0.00642 | 0.0401 | 0.0257 | 0.344 | 0.194 | 20 x 10 = 200 |
| 1 1/2 x 3/4 | 38 x 19 | 1.0 | 0.858 | 0.261 | 0.577 | 0.170 | 0.4990 | 0.0168 | 0.0665 | 0.0448 | 0.5418 | 0.3143 | 15 x 8 = 120 |
| | | 1.2 | 1.014 | 0.309 | 0.682 | 0.201 | 0.0560 | 0.0197 | 0.0474 | 0.0525 | 0.5278 | 0.3131 | 15 x 8 = 120 |
| | | 1.6 | 1.340 | 0.408 | 0.900 | 0.265 | 0.0761 | 0.0249 | 0.1015 | 0.0664 | 0.5201 | 0.3065 | 15 x 8 = 120 |
| 2 x 1 | 50 x 25 | 1.0 | 1.15 | 0.349 | 0.770 | 0.227 | 0.120 | 0.0408 | 0.120 | 0.0816 | 0.727 | 0.424 | 12 x 8 = 96 |
| | | 1.2 | 1.37 | 0.418 | 0.922 | 0.271 | 0.142 | 0.0481 | 0.142 | 0.0962 | 0.724 | 0.421 | 12 x 8 = 96 |
| | | 1.6 | 1.81 | 0.553 | 1.22 | 0.359 | 0.184 | 0.0616 | 0.184 | 0.123 | 0.716 | 0.414 | 12 x 8 = 96 |
| | | 2.3 | 2.48 | 0.756 | 1.67 | 0.505 | 0.257 | 0.0837 | 0.257 | 0.167 | 0.713 | 0.407 | 12 x 8 = 96 |
| | | 3.0 | 3.29 | 1.00 | 2.21 | 0.650 | 0.310 | 0.0995 | 0.310 | 0.199 | 0.690 | 0.391 | 12 x 8 = 96 |
| 2 1/2 x 1 1/2 | 65 x 38 | 1.6 | 2.45 | 0.747 | 1.65 | 0.485 | 0.416 | 0.189 | 0.333 | 0.252 | 0.920 | 0.620 | 8 x 5 = 40 |
| | | 2.3 | 3.40 | 1.035 | 2.282 | 0.692 | 0.550 | 0.248 | 0.439 | 0.331 | 0.912 | 0.611 | 8 x 5 = 40 |
| | | 3.0 | 4.38 | 1.33 | 2.94 | 0.865 | 0.685 | 0.307 | 0.548 | 0.409 | 0.890 | 0.495 | 8 x 5 = 40 |
| | | 3.2 | 4.54 | 1.38 | 3.05 | 0.897 | 0.706 | 0.316 | 0.565 | 0.421 | 0.887 | 0.593 | 8 x 5 = 40 |
| 3 x 1 1/2 | 75 x 38 | 1.6 | 2.70 | 0.82 | 1.86 | 0.527 | 0.60 | 0.209 | 0.400 | 0.279 | 1.07 | 0.630 | 8 x 5 = 40 |
| | | 1.9 | 3.22 | 0.98 | 2.17 | 0.629 | 0.72 | 0.246 | 0.480 | 0.328 | 1.06 | 0.623 | 8 x 5 = 40 |
| | | 2.3 | 3.86 | 1.18 | 2.60 | 0.762 | 0.86 | 0.293 | 0.573 | 0.391 | 1.06 | 0.620 | 8 x 5 = 40 |
| | | 3.0 | 4.99 | 1.52 | 3.35 | 0.985 | 1.09 | 0.364 | 0.724 | 0.485 | 1.05 | 0.608 | 8 x 5 = 40 |
| 3 x 2 | 75 x 50 | 3.2 | 5.17 | 1.58 | 3.48 | 1.02 | 1.12 | 0.375 | 0.747 | 0.500 | 1.05 | 0.606 | 8 x 5 = 40 |
| | | 1.9 | 3.60 | 1.10 | 2.42 | 0.714 | 0.88 | 0.486 | 0.587 | 0.486 | 1.12 | 0.825 | 6 x 5 = 30 |
| | | 2.3 | 4.31 | 1.32 | 2.90 | 0.863 | 1.06 | 0.578 | 0.707 | 0.578 | 1.11 | 0.818 | 6 x 5 = 30 |
| | | 3.0 | 2.59 | 1.70 | 3.76 | 1.11 | 1.34 | 0.711 | 0.890 | 0.711 | 1.10 | 0.802 | 6 x 5 = 30 |
| | | 3.2 | 5.80 | 1.77 | 3.90 | 1.15 | 1.38 | 0.733 | 0.920 | 0.733 | 1.10 | 0.800 | 6 x 5 = 30 |
| | | 4.0 | 7.08 | 2.16 | 4.76 | 1.40 | 1.63 | 0.864 | 1.09 | 0.864 | 1.08 | 0.785 | 6 x 5 = 30 |
| 4 x 2 | 100 x 50 | 4.5 | 7.88 | 2.40 | 5.30 | 1.58 | 1.82 | 0.958 | 1.21 | 0.958 | 1.07 | 0.778 | 6 x 5 = 30 |
| | | 6.0 | 10.10 | 3.04 | 6.77 | 1.99 | 2.27 | 1.162 | 1.52 | 1.162 | 1.07 | 0.763 | 6 x 5 = 30 |
| | | 1.9 | 4.36 | 1.33 | 2.93 | 0.85 | 1.77 | 0.612 | 0.885 | 0.612 | 1.44 | 0.848 | 6 x 5 = 30 |
| | | 2.3 | 5.23 | 1.60 | 3.52 | 1.03 | 2.14 | 0.732 | 1.070 | 0.732 | 1.44 | 0.843 | 6 x 5 = 30 |
| | | 3.0 | 6.81 | 2.07 | 4.57 | 1.35 | 2.73 | 0.932 | 1.36 | 0.923 | 1.42 | 0.828 | 6 x 5 = 30 |
| | | 3.2 | 7.07 | 2.15 | 4.75 | 1.40 | 2.82 | 0.954 | 1.41 | 0.954 | 1.42 | 0.826 | 6 x 5 = 30 |
| 4 x 3 | 100 x 75 | 4.0 | 8.66 | 2.64 | 5.82 | 1.71 | 3.37 | 1.13 | 1.68 | 1.13 | 1.40 | 0.812 | 6 x 5 = 30 |
| | | 4.5 | 9.70 | 2.95 | 6.52 | 1.92 | 3.64 | 1.23 | 1.84 | 1.23 | 1.39 | 0.803 | 6 x 5 = 30 |
| | | 5.0 | 10.76 | 3.26 | 7.21 | 2.13 | 4.06 | 1.34 | 2.03 | 1.34 | 1.38 | 0.793 | 6 x 5 = 30 |
| | | 6.0 | 12.78 | 3.87 | 8.56 | 2.52 | 4.75 | 1.54 | 2.38 | 1.54 | 1.37 | 0.781 | 6 x 5 = 30 |
| | | 3.0 | 8.02 | 2.44 | 5.39 | 1.59 | 3.63 | 2.33 | 1.81 | 1.55 | 1.51 | 1.21 | 5 x 4 = 20 |
| | | 3.2 | 8.33 | 2.54 | 5.60 | 1.65 | 3.76 | 2.41 | 1.88 | 1.61 | 1.51 | 1.21 | 5 x 4 = 20 |
| 5 x 2 | 125 x 50 | 4.0 | 10.2 | 3.12 | 6.88 | 2.02 | 4.52 | 2.90 | 2.26 | 1.93 | 1.49 | 1.20 | 5 x 4 = 20 |
| | | 4.5 | 11.5 | 3.51 | 7.74 | 2.27 | 4.99 | 3.19 | 2.50 | 2.13 | 1.48 | 1.19 | 5 x 4 = 20 |
| | | 5.0 | 12.8 | 3.88 | 8.55 | 2.52 | 5.50 | 3.50 | 2.75 | 2.33 | 1.477 | 1.18 | 5 x 4 = 20 |
| | | 6.0 | 14.88 | 4.54 | 9.98 | 2.94 | 6.28 | 3.96 | 3.14 | 2.64 | 1.463 | 1.16 | 5 x 4 = 20 |
| | | 3.0 | 8.02 | 2.44 | 5.39 | 1.59 | 4.79 | 1.14 | 1.92 | 1.14 | 1.74 | 0.846 | 3 x 6 = 18 |
| | | 3.2 | 8.33 | 2.54 | 5.60 | 1.65 | 4.96 | 1.17 | 1.98 | 1.17 | 1.73 | 0.844 | 3 x 6 = 18 |
| 5 x 3 | 125 x 75 | 4.0 | 10.2 | 3.12 | 6.88 | 2.02 | 5.96 | 1.40 | 2.38 | 1.40 | 1.72 | 0.830 | 3 x 6 = 18 |
| | | 4.5 | 11.5 | 3.51 | 7.74 | 2.27 | 6.57 | 1.52 | 2.63 | 1.52 | 1.70 | 0.820 | 3 x 6 = 18 |
| | | 5.0 | 12.8 | 3.88 | 8.55 | 2.52 | 7.24 | 1.67 | 2.90 | 1.67 | 1.69 | 0.814 | 3 x 6 = 18 |
| | | 6.0 | 14.88 | 4.54 | 9.98 | 2.94 | 8.39 | 1.85 | 3.35 | 1.85 | 1.69 | 0.793 | 3 x 6 = 18 |
| | | 3.0 | 9.23 | 2.81 | 6.21 | 1.83 | 6.22 | 2.83 | 2.49 | 1.89 | 1.85 | 1.25 | 5 x 4 = 20 |
| | | 3.2 | 9.60 | 2.93 | 6.45 | 1.90 | 6.44 | 2.93 | 2.58 | 1.95 | 1.84 | 1.24 | 5 x 4 = 20 |
| 6 x 2 | 150 x 50 | 4.0 | 11.8 | 3.60 | 7.94 | 2.34 | 7.79 | 3.53 | 3.12 | 2.35 | 1.83 | 1.23 | 5 x 4 = 20 |
| | | 4.5 | 13.3 | 4.06 | 8.95 | 2.63 | 8.63 | 3.90 | 3.45 | 2.60 | 1.81 | 1.22 | 5 x 4 = 20 |
| | | 5.0 | 14.7 | 4.48 | 9.89 | 2.92 | 9.53 | 4.28 | 3.81 | 2.85 | 1.80 | 1.21 | 5 x 4 = 20 |
| | | 6.0 | 17.2 | 5.22 | 11.5 | 3.47 | 11.2 | 4.98 | 4.48 | 3.32 | 1.79 | 1.19 | 5 x 4 = 20 |
| | | 9.0 | 24.5 | 7.47 | 16.4 | 4.84 | 15.03 | 6.46 | 6.01 | 4.31 | 1.76 | 1.16 | 5 x 4 = 20 |
| | | 3.0 | 9.23 | 2.81 | 6.21 | 1.83 | 7.64 | 1.35 | 2.55 | 1.35 | 2.05 | 0.859 | 3 x 6 = 18 |
| 6 x 3 | 150 x 75 | 3.2 | 9.60 | 2.93 | 6.45 | 1.90 | 7.92 | 1.39 | 2.64 | 1.39 | 2.04 | 0.857 | 3 x 6 = 18 |
| | | 4.0 | 11.8 | 3.60 | 7.94 | 2.34 | 9.56 | 1.66 | 3.19 | 1.66 | 2.02 | 0.843 | 3 x 6 = 18 |
| | | 4.5 | 13.3 | 4.06 | 8.95 | 2.63 | 10.5 | 1.82 | 3.50 | 1.82 | 2.01 | 0.838 | 3 x 6 = 18 |
| | | 5.0 | 14.7 | 4.48 | 9.89 | 2.92 | 11.6 | 1.99 | 3.88 | 1.99 | 1.99 | 0.826 | 3 x 6 = 18 |
| | | 6.0 | 17.3 | 5.23 | 11.6 | 3.47 | 13.1 | 2.21 | 4.36 | 2.21 | 1.96 | 0.818 | 3 x 6 = 18 |
| | | 3.2 | 10.9 | 3.32 | 7.32 | 2.13 | 10.1 | 3.44 | 3.35 | 2.30 | 2.17 | 1.27 | 5 x 3 = 15 |
| 6 x 4 | 150 x 100 | 4.0 | 13.4 | 4.09 | 9.02 | 2.65 | 12.2 | 4.15 | 4.07 | 2.76 | 2.15 | 1.25 | 5 x 3 = 15 |
| | | 4.5 | 15.1 | 4.60 | 10.2 | 2.98 | 13.6 | 4.6 | 4.53 | 3.07 | 2.13 | 1.24 | 5 x 3 = 15 |
| | | 5.0 | 16.7 | 5.10 | 11.3 | 3.31 | 15.0 | 5.05 | 5.00 | 3.37 | 2.13 | 1.24 | 5 x 3 = 15 |
| | | 6.0 | 19.7 | 6.00 | 13.2 | 3.87 | 17.0 | 5.72 | 5.67 | 3.81 | 2.10 | 1.22 | 5 x 3 = 15 |
| | | 9.0 | 28.1 | 8.56 | 18.8 | 5.55 | 23.9 | 7.62 | 7.97 | 5.08 | 2.07 | 1.17 | 5 x 3 = 15 |
| | | 3.0 | 11.05 | 3.36 | 7.4 | 2.17 | 10.5 | 5.55 | 3.5 | 2.77 | 2.25 | 1.65 | 4 x 3 = 12 |
| 8 x 4 | 200 x 100 | 4.0 | 15.0 | 4.57 | 10.1 | 2.96 | 14.9 | 7.96 | 4.96 | 3.98 | 2.24 | 1.64 | 4 x 3 = 12 |
| | | 4.5 | 16.9 | 5.15 | 11.4 | 3.33 | 16.5 | 8.87 | 5.50 | 4.44 | 2.23 | 1.63 | 4 x 3 = 12 |
| | | 5.0 | 18.7 | 5.71 | 12.6 | 3.70 | 18.3 | 9.77 | 6.10 | 4.89 | 2.22 | 1.62 | 4 x 3 = 12 |
| | | 6.0 | 22.1 | 6.73 | 14.8 | 4.34 | 21.0 | 11.1 | 7.00 | 5.55 | 2.20 | 1.60 | 4 x 3 = 12 |
| | | 9.0 | 31.7 | 9.67 | 21.3 | 6.26 | 29.2 | 15.1 | 9.72 | 7.57 | 2.16 | 1.55 | 4 x 3 = 12 |
| | | 12.0 | 40.8 | 12.3 | 27.1 | 7.98 | 36.4 | 18.6 | 12.1 | 9.3 | 2.14 | 1.53 | 4 x 3 = 12 |
| 8 x 4 | 200 x 100 | 4.5 | 20.5 | 6.25 | 13.8 | 4.04 | 32.0 | 10.9 | 8.12 | 5.55 | 2.89 | 1.69 | 5 x 2 = 10 |
| | | 5.0 | 22.7 | 6.90 | 15.2 | 4.48 | 37.0 | 12.6 | 9.25 | 6.28 | 2.87 | 1.67 | 5 x 2 = 10 |
| | | 6.0 | 26.9 | 8.19 | 18 | 5.21 | 40.8 | 13.9 | 10.4 | 7.02 | 2.82 | 1.66 | 5 x 2 = 10 |

Carbon Steel Square & Rectangular Hollow Section

For General Structural Purposes
ASTM A 500

SUPPLY CONDITIONS:

Designation Of Grade

- : Grade A
- : Grade B

Pipe Length

- : Standard Length is 6 meter
- : Cut-to length is available upon request

Surface Finishing

- : Black

TECHNICAL SPECIFICATIONS:

Mechanical Properties:

| MECHANICAL PROPERTIES | | | |
|-----------------------|-------------------|-------------------|-------------------|
| GRADE | TENSILE STRENGTH | YIELD STRENGTH | ELONGATION |
| | N/mm ² | N/mm ² | N/mm ² |
| A | 310 (min) | 269 (min) | 25 (min) |
| B | 400 (min) | 317 (min) | 23 (min) |

Chemical Composition: Heat Analysis

| CHEMICAL COMPOSITION (%) | | | |
|--------------------------|-------|-------|-------|
| GRADE | C max | S max | P max |
| A | 0.26 | 0.05 | 0.04 |
| B | 0.26 | 0.05 | 0.04 |

Tolerances:

| PERMISSIBLE VARIATION | |
|-----------------------|--|
| Wall Thickness | ± 10% |
| Outside Dimensions | any side ≤ 2½ in (63.5mm) : ± 0.020 in (0.51mm) 2½ in (63.5mm) < any side ≤ 3½ in (88.9mm) : ± 0.025 in (0.64mm) 3½ in (88.9mm) < any side ≤ 5½ in (139.7mm) : ± 0.030 in (0.76mm) 5½ in (139.7mm) < any side : ± 0.030 in (0.76mm) Note: The dimension tolerance is increased by 50% if the ratio of external sides is between 1.5 to 3 inclusive, and 100% when ratio exceeds 3. |
| Length | length ≤ 22 ft (6.7m) : + ½ in (12.7mm) : - ¼ in (6.4mm) 22 ft (6.7m) < length ≤ 44 ft (13.4m) : + ¾ in (19.0mm) : - ¼ in (6.4mm) |
| Straightness | ⅛ in x Total length (ft) / 5 or 10.4mm x Total length (m) / 5 |
| Squareness Of Sides | Adjacent sides may deviate from 90° by a tolerance of ± 2° max |



UTSTANDING IN QUALITY AND PERFORMANCE

As technological development sweeps rapidly through the industries we service, it is critical that our steel products meet the highest demands of quality and performance. Southern Pipe Industry (Malaysia) Sdn Bhd employs advanced technology manufacturing quality pipes, all of which conform to stringent quality management system and worldwide quality assurance standards. Our efforts in this

direction were recognized in early 1982 when we earned the Certificate of Excellence by SIRIM. In 1993, Southern Pipe emerged as the first Malaysia steel pipe mill to meet the international requirements in quality management systems from the Bureau Veritas Quality International. In 1994, we again achieved the MS ISO 9002 Quality Systems Registration certificate by SIRIM.

Certificate of Approval



Certificate of Approval



Certificate of Approval



Product Certification Licence



Product Certification Licence



Product Certification Licence



南達



Southern Pipe

