

# Rigid Tube and Couplings

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#### General Information

##### Steel Tube - Din 2931 and BS 3602

High precision seamless tube is used in special applications with high demands to precision of sizes, small thickness of walls, good quality of surface finish and predefined mechanical properties. The tubes are manufactured from materials ST35.0 and ST52.0.

Available in 3 and 6 metre lengths, natural or yellow zinc passivated finish.

##### Stainless Steel Tube - ASTM A269/A213 - 316/316L

###### Dual Grade

Seamless Metric and Imperial instrumentation tube is cold drawn and bright annealed. Stainless steel tube is used in a variety of applications such as offshore, chemical, petro-chemical and aggressive environments where corrosion resistance is paramount.

Available in 3 and 6 metre lengths.

##### Soft Coiled Copper Tube - BS 2871 Part 2


High quality coils of copper tube for general engineering purposes. This tube is suitable for hydraulic and lubrication circuits, compressed air lines, oil, water, gas, machine coolant and instrumentation lines and other applications.

Available in 10, 20, and 30 metre coils.

##### Composite Tube

Manufactured from polyethylene/aluminium composite tube, this unique stay-put tube can be used to replace flexible tubing in pneumatic instrument control lines.

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Section 9

*Hydraulic Steel Tube Metric Tube  
(DIN 2931)*



| Part Number       | Tube O.D. | Wall Thickness | Working Pressure (Bar) |
|-------------------|-----------|----------------|------------------------|
| <b>MET - 0610</b> | 6         | 1              | 470                    |
| <b>MET - 0615</b> | 6         | 1.5            | 710                    |
| <b>MET - 0815</b> | 8         | 1.5            | 530                    |
| <b>MET - 1015</b> | 10        | 1.5            | 420                    |
| <b>MET - 1020</b> | 10        | 2              | 560                    |
| <b>MET - 1215</b> | 12        | 1.5            | 350                    |
| <b>MET - 1220</b> | 12        | 2              | 470                    |
| <b>MET - 1420</b> | 14        | 2              | 410                    |
| <b>MET - 1515</b> | 15        | 1.5            | 280                    |
| <b>MET - 1520</b> | 15        | 2              | 315                    |
| <b>MET - 1615</b> | 16        | 1.5            | 225                    |
| <b>MET - 1620</b> | 16        | 2              | 350                    |
| <b>MET - 1630</b> | 16        | 3              | 530                    |
| <b>MET - 1815</b> | 18        | 1.5            | 230                    |
| <b>MET - 2015</b> | 20        | 1.5            | 160                    |
| <b>MET - 2020</b> | 20        | 2              | 280                    |
| <b>MET - 2025</b> | 20        | 2.5            | 250                    |
| <b>MET - 2030</b> | 20        | 3              | 420                    |
| <b>MET - 2220</b> | 22        | 2              | 250                    |
| <b>MET - 2520</b> | 25        | 2              | 220                    |
| <b>MET - 2530</b> | 25        | 3              | 340                    |
| <b>MET - 2820</b> | 28        | 2              | 200                    |
| <b>MET - 3030</b> | 30        | 3              | 280                    |
| <b>MET - 3040</b> | 30        | 4              | 370                    |
| <b>MET - 3520</b> | 35        | 2              | 150                    |
| <b>MET - 3530</b> | 35        | 3              | 160                    |
| <b>MET - 3830</b> | 38        | 3              | 220                    |
| <b>MET - 3840</b> | 38        | 4              | 300                    |
| <b>MET - 3850</b> | 38        | 5              | 370                    |
| <b>MET - 4230</b> | 42        | 3              | 200                    |

*NP/MET Steel Tube Nickel Plated Metric  
(DIN 2931)*



| Part Number        | Tube O.D. | Wall Thickness | Working Pressure (Bar) |
|--------------------|-----------|----------------|------------------------|
| <b>NP/MET-0610</b> | 6         | 1              | 470                    |
| <b>NP/MET-0615</b> | 6         | 1.5            | 710                    |
| <b>NP/MET-0815</b> | 8         | 1.5            | 530                    |
| <b>NP/MET-1015</b> | 10        | 1.5            | 420                    |
| <b>NP/MET-1020</b> | 10        | 2              | 560                    |
| <b>NP/MET-1215</b> | 12        | 1.5            | 350                    |
| <b>NP/MET-1220</b> | 12        | 2              | 470                    |
| <b>NP/MET-1420</b> | 14        | 2              | 410                    |
| <b>NP/MET-1515</b> | 15        | 1.5            | 280                    |
| <b>NP/MET-1520</b> | 15        | 2              | 315                    |
| <b>NP/MET-1615</b> | 16        | 1.5            | 216                    |
| <b>NP/MET-1620</b> | 16        | 2              | 350                    |
| <b>NP/MET-1630</b> | 16        | 3              | 530                    |
| <b>NP/MET-1815</b> | 18        | 1.5            | 230                    |
| <b>NP/MET-2015</b> | 20        | 1.5            | 160                    |
| <b>NP/MET-2020</b> | 20        | 2              | 280                    |
| <b>NP/MET-2025</b> | 20        | 2.5            | 250                    |
| <b>NP/MET-2030</b> | 20        | 3              | 420                    |
| <b>NP/MET-2220</b> | 22        | 2              | 250                    |
| <b>NP/MET-2520</b> | 25        | 2              | 220                    |
| <b>NP/MET-2530</b> | 25        | 3              | 340                    |
| <b>NP/MET-2820</b> | 28        | 2              | 200                    |
| <b>NP/MET-3030</b> | 30        | 3              | 280                    |
| <b>NP/MET-3040</b> | 30        | 4              | 370                    |
| <b>NP/MET-3520</b> | 35        | 2              | 150                    |
| <b>NP/MET-3530</b> | 35        | 3              | 160                    |
| <b>NP/MET-3830</b> | 38        | 3              | 220                    |
| <b>NP/MET-3840</b> | 38        | 4              | 300                    |
| <b>NP/MET-3850</b> | 38        | 5              | 370                    |
| <b>NP/MET-4230</b> | 42        | 3              | 200                    |

*Stainless Steel Metric Tube  
ASTM A296/A213 316/316L Dual Grade*



| Part Number          | Tube O.D. | Wall Thickness | Working Pressure (Bar) |
|----------------------|-----------|----------------|------------------------|
| <b>SS/MET - 0610</b> | 6         | 1              | 515                    |
| <b>SS/MET - 0615</b> | 6         | 1.5            | 725                    |
| <b>SS/MET - 0810</b> | 8         | 1              | 410                    |
| <b>SS/MET - 1010</b> | 10        | 1              | 310                    |
| <b>SS/MET - 1015</b> | 10        | 1.5            | 490                    |
| <b>SS/MET - 1020</b> | 10        | 2              | 640                    |
| <b>SS/MET - 1210</b> | 12        | 1              | 245                    |
| <b>SS/MET - 1215</b> | 12        | 1.5            | 375                    |
| <b>SS/MET - 1220</b> | 12        | 2              | 480                    |
| <b>SS/MET - 1615</b> | 16        | 1.5            | 245                    |
| <b>SS/MET - 1620</b> | 16        | 2              | 350                    |
| <b>SS/MET - 2020</b> | 20        | 2              | 290                    |
| <b>SS/MET - 2520</b> | 25        | 2              | 230                    |

*Stainless Steel Imperial Tube  
ASTM A296/A213 316/316L Dual Grade*



| Part Number         | Tube O.D. | Gauge           | Working Pressure (Bar) |
|---------------------|-----------|-----------------|------------------------|
| <b>SS/TUBE-0414</b> | 1/4       | 14 SWG (2.03mm) | 825                    |
| <b>SS/TUBE-0416</b> | 1/4       | 16 SWG (1.63mm) | 715                    |
| <b>SS/TUBE-0418</b> | 1/4       | 18 SWG (1.22mm) | 520                    |
| <b>SS/TUBE-0420</b> | 1/4       | 20 SWG (0.90mm) | 355                    |
| <b>SS/TUBE-0612</b> | 3/8       | 12 SWG (2.64mm) | 715                    |
| <b>SS/TUBE-0614</b> | 3/8       | 14 SWG (2.03mm) | 610                    |
| <b>SS/TUBE-0616</b> | 3/8       | 16 SWG (1.63mm) | 460                    |
| <b>SS/TUBE-0618</b> | 3/8       | 18 SWG (1.22mm) | 335                    |
| <b>SS/TUBE-0620</b> | 3/8       | 20 SWG (0.90mm) | 230                    |
| <b>SS/TUBE-0814</b> | 1/2       | 14 SWG (2.03mm) | 440                    |
| <b>SS/TUBE-0816</b> | 1/2       | 16 SWG (1.63mm) | 335                    |
| <b>SS/TUBE-0818</b> | 1/2       | 18 SWG (1.22mm) | 245                    |
| <b>SS/TUBE-0820</b> | 1/2       | 20 SWG (0.90mm) | 175                    |
| <b>SS/TUBE-1212</b> | 3/4       | 12 SWG (2.64mm) | 355                    |
| <b>SS/TUBE-1214</b> | 3/4       | 14 SWG (2.03mm) | 300                    |
| <b>SS/TUBE-1216</b> | 3/4       | 16 SWG (1.63mm) | 230                    |
| <b>SS/TUBE-1218</b> | 3/4       | 18 SWG (1.22mm) | 165                    |
| <b>SS/TUBE-1614</b> | 1         | 14 SWG (2.03mm) | 220                    |

### Hydraulic Steel Tube Imperial Tube (BS 3602)

| Part Number      | Tube O.D. | Gauge           | Working Pressure (Bar) |
|------------------|-----------|-----------------|------------------------|
| <b>TUBE-0416</b> | ¼         | 16 SWG (1.63mm) | 615                    |
| <b>TUBE-0418</b> | ¼         | 18 SWG (1.22mm) | 460                    |
| <b>TUBE-0614</b> | ⅜         | 14 SWG (2.03mm) | 510                    |
| <b>TUBE-0616</b> | ⅜         | 16 SWG (1.63mm) | 410                    |
| <b>TUBE-0618</b> | ⅜         | 18 SWG (1.22mm) | 307                    |
| <b>TUBE-0812</b> | ½         | 12 SWG (2.64mm) | 498                    |
| <b>TUBE-0814</b> | ½         | 14 SWG (2.03mm) | 383                    |
| <b>TUBE-0816</b> | ½         | 16 SWG (1.63mm) | 308                    |
| <b>TUBE-1012</b> | ⅝         | 12 SWG (2.64mm) | 398                    |
| <b>TUBE-1014</b> | ⅝         | 14 SWG (2.03mm) | 306                    |
| <b>TUBE-1016</b> | ⅝         | 16 SWG (1.63mm) | 246                    |
| <b>TUBE-1210</b> | ¾         | 10 SWG (3.25mm) | 409                    |
| <b>TUBE-1212</b> | ¾         | 12 SWG (2.64mm) | 332                    |
| <b>TUBE-1214</b> | ¾         | 14 SWG (2.03mm) | 255                    |
| <b>TUBE-1216</b> | ¾         | 16 SWG (1.63mm) | 205                    |
| <b>TUBE-1608</b> | 1         | 08 SWG (4.06mm) | 383                    |
| <b>TUBE-1610</b> | 1         | 10 SWG (3.25mm) | 307                    |
| <b>TUBE-1612</b> | 1         | 12 SWG (2.64mm) | 249                    |
| <b>TUBE-1614</b> | 1         | 14 SWG (2.03mm) | 191                    |
| <b>TUBE-2006</b> | 1¼        | 06 SWG (4.88mm) | 368                    |
| <b>TUBE-2008</b> | 1¼        | 08 SWG (4.06mm) | 306                    |
| <b>TUBE-2010</b> | 1¼        | 10 SWG (3.25mm) | 245                    |
| <b>TUBE-2012</b> | 1¼        | 12 SWG (2.64mm) | 199                    |
| <b>TUBE-2014</b> | 1¼        | 14 SWG (2.03mm) | 153                    |
| <b>TUBE-2410</b> | 1½        | 10 SWG (3.25mm) | 204                    |
| <b>TUBE-2412</b> | 1½        | 12 SWG (2.64mm) | 166                    |
| <b>TUBE-3210</b> | 2         | 10 SWG (3.25mm) | 153                    |



### Metal/Composite Tubing

#### 10 bar (150 psi) working pressure

##### Features

- Tube material: Polyethylene/Aluminium composite: black, high-density polyethylene bonded to an overlapped aluminium tape having an ethylene copolymer coating
- Temperature range: -40°C to +80°C (- 40°F to +176°F)

##### Construction

- High density polyethylene cover
- Polyethylene/Aluminium core tube

##### Application

- 1300 is a unique composite-wall tubing designed for pneumatic instrument control systems.

##### Benefits

- 1300 fully bonded polyethylene/Aluminium construction combines the advantages of both metal and plastic tubing. Tubing is manufactured in long, continuous lengths that can eliminate many fitting connections, yet it is light enough for an installer to carry to practically any location (approximately 5 times lighter than an instrument control tube of similar diameter) 1300 shape holding ability can provide neat looking bends without special bending tools, yet the metal reinforced tube wall gives 1300 greater pressure ratings than just plain plastic tubing. The tubing can be cut cleanly with a standard utility knife.

##### Greater strength

The outer high-density polyethylene layer is impervious to most chemical-containing atmospheres and enables 1300 to out perform practically all types of unprotected metal tubing. 1300 is also externally corrosion, water and steam resistant; it is very slightly permeable. The majority of thermoplastics, though having weak water absorption, are steam and gas permeable. 1300 inner aluminum sheet reduces this phenomenon to the bare minimum.

##### Easy to install

The inner aluminum layer adds tube wall strength that permits 1300 to span large distances without additional support. It also makes a perfect tubing choice for direct burial without additional protection, from concrete to earth installations. Welding projections do not damage the tubing nor 1300 performance level.

##### Connection

1300 tubes are sized to connect with standard compression and pneumatic push-in fittings without special tube preparation. Full plastic tubing implies the use of connections including plastic supports and ends. Sheathed metal tubes must usually be stripped before being connected. 1300 eliminates this operation.

### Soft Copper Metric Tube BS 2871 Part 2

| Part Number         | Tube O.D. | Wall Thickness | Working Pressure (Bar) |
|---------------------|-----------|----------------|------------------------|
| <b>C/MET - 0610</b> | 6         | 1              | 210                    |
| <b>C/MET - 0810</b> | 8         | 1              | 150                    |
| <b>C/MET - 1010</b> | 10        | 1              | 115                    |
| <b>C/MET - 1210</b> | 12        | 1              | 95                     |



### Soft Copper Imperial Tube BS 2871 Part 2

| Part Number        | Tube O.D. | Gauge            | Working Pressure (Bar) |
|--------------------|-----------|------------------|------------------------|
| <b>C/TUBE-0222</b> | ⅛         | 22 SWG (0.711mm) | 315                    |
| <b>C/TUBE-0220</b> | ⅛         | 20 SWG (0.90mm)  | 435                    |
| <b>C/TUBE-0320</b> | ⅜         | 20 SWG (0.90mm)  | 210                    |
| <b>C/TUBE-0420</b> | ¼         | 20 SWG (0.90mm)  | 175                    |
| <b>C/TUBE-0520</b> | ⅝         | 20 SWG (0.90mm)  | 130                    |
| <b>C/TUBE-0620</b> | ⅜         | 20 SWG (0.90mm)  | 110                    |
| <b>C/TUBE-0820</b> | ½         | 20 SWG (0.90mm)  | 75                     |
| <b>C/TUBE-1020</b> | ⅝         | 20 SWG (0.90mm)  | 70                     |
| <b>C/TUBE-1220</b> | ¾         | 20 SWG (0.90mm)  | 55                     |



### Tube Composite Metal/Plastic Metric

| Part Number     | Tube O.D. (inch) | Working Pressure (Bar) |
|-----------------|------------------|------------------------|
| <b>1300-M06</b> | 6                | 10                     |
| <b>1300-M08</b> | 8                | 10                     |
| <b>1300-M10</b> | 10               | 10                     |
| <b>1300-M12</b> | 12               | 10                     |
| <b>1300-M14</b> | 14               | 10                     |
| <b>1300-M15</b> | 15               | 10                     |
| <b>1300-M18</b> | 18               | 10                     |



### Tube Composite Metal/Plastic Imperial

| Part Number    | Tube O.D. (inch) | Working Pressure (Bar) |
|----------------|------------------|------------------------|
| <b>1300-04</b> | ¼                | 10                     |
| <b>1300-06</b> | ⅜                | 10                     |
| <b>1300-08</b> | ½                | 10                     |



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