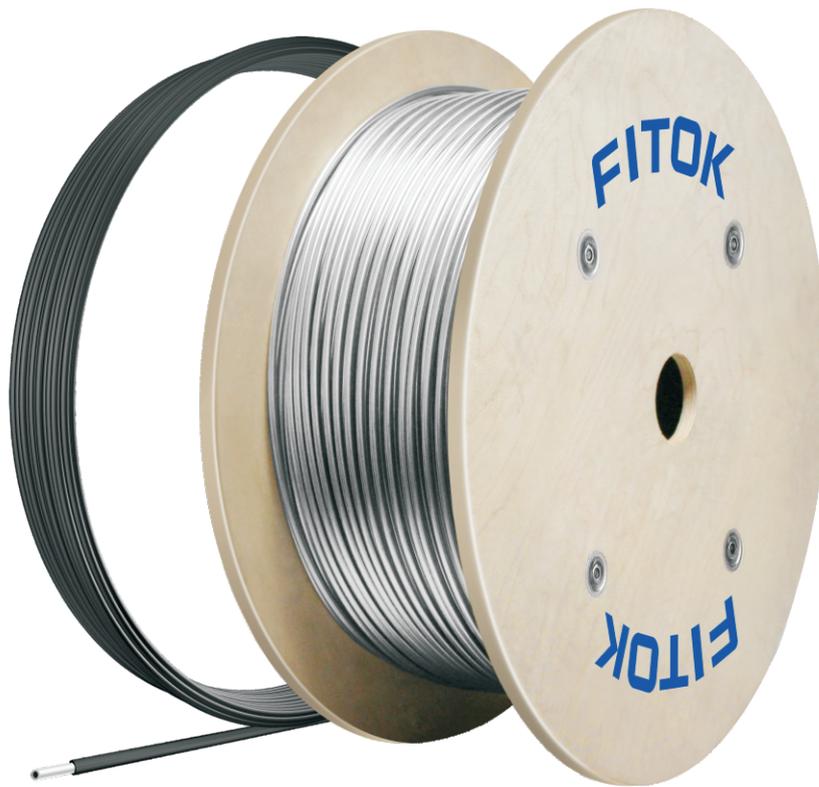


Tubing

TMP, TCT, TBA, TEP, T15, T20D, T20M, T60,
TJT, TIT and TST Series



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FITOK Full Technical Catalog for Tubing

Content

General Information	01
Instrumentation Tubing	
TMP Series and TCT Series	04
High Purity Tubing	
TBA Series and TEP Series	09
Medium and High Pressure Tubing	
T15 Series, T20D Series, T20M Series and T60 Series	12
Jacketed Tubing and Insulated Tubing	
TJT Series and TIT Series	22
Heat Trace Tubing	
TST Series	25
Related Products	28

General Information

Types of Tubing

Instrumentation Tubing

Available in TMP series and TCT series.

TMP series seamless straight-length tubing, pickled, or bright annealed or cold rolled followed by bright annealing, external surface mechanically polished.

TCT series seamless coiled tubing, bright annealed, external surface mechanically polished.

Materials: stainless steel, duplex stainless steel or Nickel-based alloy. Enhanced-316/316L, with Ni, Cr and Mo contents in close approximation to upper values in ASTM standard, are available, Enhanced-316/316L complying with GB50516-2010 Technical Code for Hydrogen Fuelling Station (2021 version) is available.

Sizes: TMP series: 1/16" to 2", 2 mm to 50 mm. TCT series: 1/16" to 1/2", 1.5 mm to 12 mm.

Standard length: TMP series: 10 ft, 20 ft, 1 m, 2 m, 3 m and 6 m. TCT series: up to 2130 ft or 650 m in coils.

Customized tube length as per customer requirement is also available

High Purity Tubing

Available in TBA and TEP series.

TBA series straight-length tubing, specially rolled and bright annealed, inner roughness of Ra 20 µin. (0.51 µm) max.; ultrasonically cleaned and dried; suitable for high-purity gas systems.

TEP series tubing, machined from TBA series tubing, electropolished inner surface finish of Ra 10 µin. (0.25 µm) max.; ultrasonically cleaned in clean room and purged with filtered hot Nitrogen; suitable for ultra-high purity systems.

Material: 316L stainless steel.

Sizes: 1/4" to 2 1/2", 6A to 50A.

Standard length: 20 ft, 4 m and 6 m.

Medium and High Pressure Tubing

Available in T15, T20D, T20M and T60 series.

T15 series tubing, seamless in straight lengths, annealed or 1/8-hard, with working pressure up to 15,000 psig (1034 bar).

T20D series tubing, seamless in straight lengths, 1/8-hard, with working pressure up to 20,000 psig (1379 bar).

T20M series medium pressure tubing, seamless in straight lengths, cold-drawn and full hard, with working pressure up to 20,000 psig (1379 bar), for coned and threaded connections.

T60 series high pressure tubing, seamless in straight lengths, cold-drawn and full hard, with working pressure up to 60,000 psig (4137 bar), for coned and threaded connections.

Material: 316/316L stainless steel, enhanced-316/316L.

Sizes: T15 series: 1/8", 1/4", 3/8", 1/2", 9/16" and 3/4".

T20D series: 1/4", 3/8", 1/2", 9/16" and 3/4".

T20M series: 1/4", 3/8", 9/16", 3/4" and 1".

T60 series: 1/4", 3/8" and 9/16".

Standard length:

T15, T20D series: 20 ft and 6 m.

T20M, T60 series: supplied in fractional sizes up to 20 ft and metric sizes up to 6 m.

Nipples in custom length available.

Jacketed Tubing and Insulated Tubing

Available in TJT and TIT series.

TJT series jacketed tubing, seamless, corrosion and abrasion resistant, available in straight lengths or coils.

TIT series insulated tubing, seamless, thermal insulating, corrosion and abrasion resistant, supplied in coils.

Materials: stainless steel or copper.

Sizes: 1/4" to 1/2", 6 mm to 12 mm.

Standard length: TJT series: 20 ft and 6 m in straight lengths, or up to 2130 ft and 650 m in coils.

TIT series: up to 1100 ft or 330 m in coils.

Heat Trace Tubing

TST series steam trace tubing, seamless, maintains process temperature 50°F to 200°F (10°C to 93°C) and 200°F to 355°F (93°C to 179°C), light heat trace and heavy heat trace available, supplied in coils.

Materials: stainless steel or copper

Sizes: 3/8", 1/2", 6 mm, 8 mm and 10 mm.

Standard length: up to 1050 ft or 300 m in coils.

Materials

Material	Series	TMP	TCT	TBA	TEP	T15	T20D	T20M	T60	TJT	TIT	TST
Stainless Steel	316/316L	✓	✓			✓	✓	✓	✓	✓	✓	✓
	Enhanced-316/316L (higher Cr, Ni and Mo content)	✓	✓			✓	✓	✓	✓			
	316L			✓	✓							
	316L (JIS standard)			✓	✓							
	304/304L	✓	✓									
	6Mo (S31254)	✓										
Duplex Stainless Steel	2205	✓										
	2507	✓										
Nickel-based Alloy	400	✓										
	20	✓										
	600	✓										
	625	✓										
	825	✓										
	C-276	✓										
Copper	C12200	✓								✓	✓	✓

Note:

- ✓ means materials are provided as standard.
- Except for the 316L in compliance with JIS standard, other materials listed comply with ASTM standard.
- Other materials are available subject to confirmation from FITOK.

Connections

- ✓ Recommended application
- Applicable but not optimal
- Limited application subject to confirmation from FITOK
- × Not applicable

Connection	Series	TMP	TCT	TBA	TEP	T15	T20D	T20M	T60	TJT	TIT	TST
6 Series Tube Fittings		✓	✓	○	□	□	×	×	×	✓	✓	✓
6 Series Single-ferrule Tube Fittings		✓	✓	○	□	□	×	×	×	✓	✓	✓
37° Flared Fittings		□	○	○	×	×	×	×	×	○	○	○
Orbital Welding		□	○	✓	✓	×	×	×	×	○	○	○
15S Series Single-ferrule Tube Fittings		□	×	×	×	✓ ^①	×	×	×	×	×	×
20D Series Tube Fittings ^②		□	×	×	×	✓	✓	×	×	×	×	×
20M Series Medium Pressure Fittings ^②		×	×	×	×	×	×	✓	□	×	×	×
60 Series High Pressure Fittings		×	×	×	×	×	×	×	✓	×	×	×

① T15 series cold-drawn 1/8-hard tubing is not for use with 15S series single-ferrule tube fittings.

② 20D series Tube Fittings are formerly known as DHL series Tube Fittings, and 20M series Medium Pressure Fittings are formerly known as 20 series Medium Pressure Fittings.

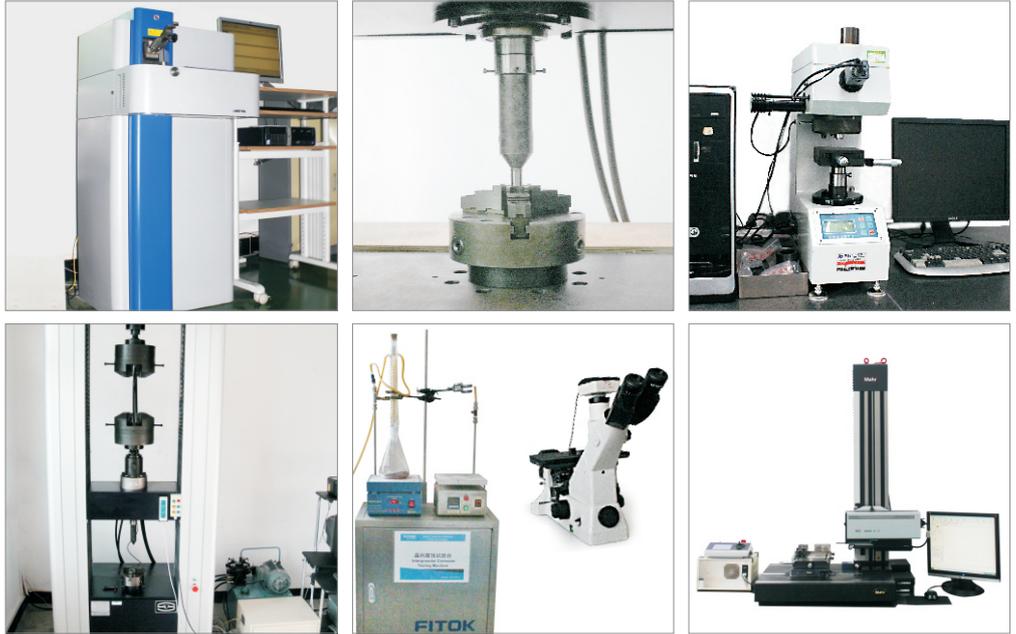
Working Pressure

Working pressures are calculated based on ASME B31.3. To determine working pressures at elevated temperatures, multiply the working pressures at ambient temperature by the elevated temperature factors.

For more details, refer to applicable sections below.

Inspection Items

- ⦿ Chemical analysis
- ⦿ Eddy current test
- ⦿ Pressure test
- ⦿ Hardness test
- ⦿ Tensile test
- ⦿ Flaring test
- ⦿ Corrosion test
- ⦿ Grain size
- ⦿ Surface roughness



Packaging

Seamless Straight-length Tubing

Tubing ends polyethylene capped; tubing bulk packed in cardboard tubes or wooden cases.

However, in between the two processes, TBA series tubing should be additionally packed in a single polyethylene bag, and TEP series tubing in double polyethylene bags.



Seamless Coiled Tubing

Two kinds of packaging methods:

Tubing ends polyethylene capped; tubing packed in coils and wrapped with a polyethylene film.

Tubing ends polyethylene capped; tubing packed in coils on wooden reel and firmly anchored by a polyethylene plate.

The first packaging method is standard, if packaging with wooden reel is needed, please contact FITOK Group or our authorized distributors.



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