Tubing

TMP, TCT, TBA, TEP, T15, T20, T60, TJT, TIT and TST Series

OM
TUBES &
FITTINGS
INDUSTRIES

Om tubes Full Technical Catalog for Tubing

Content

General Information

Types of Tubing

Instrumentation Tubing

Available in TMP series and TCT series.
TMP series seamless straight-length tubing, pickled or bright annealed, 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.
Sizes: TMP series: 1/16" to 2", 2 mm to 50 mm.
TCT series: 1/4" to 1/2", 6 mm to 12 mm.
Standard length: TMP series: 10 ft, 20 ft, 3 m and 6 m in straight lengths.
TCT series: up to 2130 ft or 650 m in coils.

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, T20 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).
T20 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.
Sizes: T15 series: 1/8", 1/4", 3/8 ", 1/2", 9/16" and 3/4".
T20 series: 1/4", 3/8", 9/16", 3/4" and 1".
T60 series: 1/4", 3/8"and 9/16".
Standard length: T15 series: 20 ft and 6 m.
T20/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	T20	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	C10200								√	√	√

Note:

1. √ means materials are provided as standard.
2. Except for the 316L in compliance with JIS standard, other materials listed comply with ASTM standard.
3. Other materials are available subject to confirmation from OM Tubes.

Connections

√ Recommended application
○ Applicable but not optimal
☐ Limited application subject to confirmation from Om tubes
× Not applicable

Connection \ Series	TMP	TCT	TBA	TEP	T15	T20	T60	TJT	TIT	TST
6 Series Double-ferrule Tube Fittings	√	√	○	☐	☐	×	×	√	√	√
6 Series Single-ferrule Tube Fittings	√	√	○	☐	☐	×	×	√	√	√
37° Flared Fittings	☐	○	○	×	×	×	×	○	○	○
Orbital Welding	☐	○	√	√	×	×	×	○	○	○
15D Series Double-ferrule Tube Fittings	☐	×	×	×	√	×	×	×	×	×
15S Series Single-ferrule Tube Fittings	☐	×	×	×	√①	×	×	×	×	×
20 Series Medium Pressure Fittings	×	×	×	×	×	√	☐	×	×	×
60 Series High Pressure Fittings	×	×	×	×	×	×	√	×	×	×

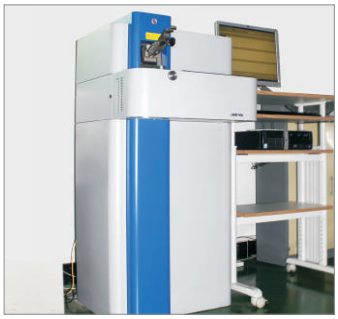
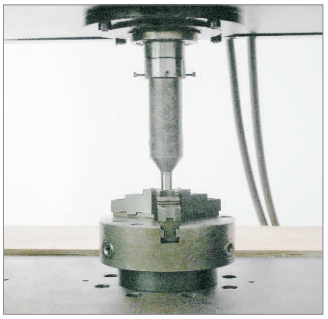
① T15 series cold-drawn 1/8-hard tubing is not for use with 15S series single-ferrule tube fittings.

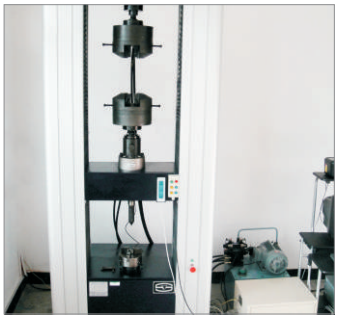
Working Pressure

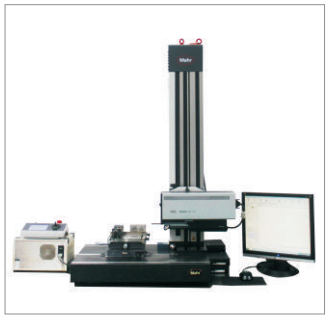
Working pressures are calculated based on ASME B31.3. To determine working pressures at elevated temperatures, multiply the working pressures at ambient temperature by the elevated temperature factors.
For more details, refer to applicable sections below.

Inspection Items

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





Packaging

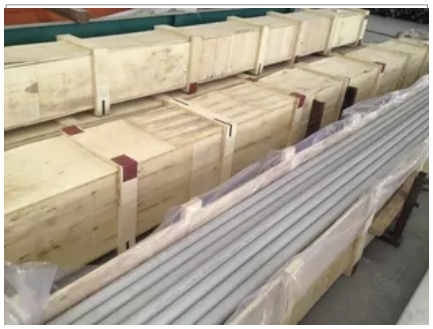
Seamless Straight-length Tubing

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 Om tubes Group or our authorized distributors.





Instrumentation Tubing

TMP and TCT Series

TMP Series

Features

- Materials: stainless steel, duplex stainless steel or Nickel-based alloy
- Sizes: 1/16" to 2" and 2 mm to 50 mm
- Working temperature: -325°F to 1000°F (-198°C to 537°C)
- Bright annealed or pickled with mechanically polished external surface
- For use with Om tubes 6 series tube fittings, 4:1 safety factor for the tubing and connection part of fitting and tubing
  - Marked with brand, material grade, standard, specification and heat number
- Standard length: 10 ft, 20 ft, 3 m and 6 m

Materials

UNS	Grade	ASTM Standard	OM Tubes Designator	Composition %					Mechanical Properties			
				C ⩽	Cr	Ni	Mo	Others	Yield Strength MPa ⩾	Tensile Strength MPa ⩾	Elongation % ⩾	Hardness ⩽
S31600/ S31603	316/316L	A269	SS	0.035①	16-18	10-14	2.0-3.0	-	205	515	35	80 HRB
Enhanced-S31600/ S31603	Enhanced-316/316L		SH		17-18	12-14	2.6-3.0					
S30400/ S30403	304/304L		S4		18-20	8-11	-	-				
S31254	6Mo	A269	S12	0.02	19.5-20.5	17.5-18.5	6.0-6.5	-	310	675	35	96 HRB
S31803	2205	A789	D5	0.03	21-23	4.5-6.5	2.5-3.5	-	450	620	25	30 HRC
S32750	2507	A789	D7	0.03	24-26	6-8	3.0-5.0	Cu,N	550	800	15	32 HRC
N04400	Alloy 400	B165	M	0.30	-	⩾63	-	Cu 28-34	195	480	35	75 HRB
N08020	Alloy 20	B729	A20	0.07	19-21	32-38	2.0-3.0	Cu,Nb,Ta	240	550	30	95 HRB
N06600	Alloy 600	B167	INC	0.15	14-17	⩾72	-	Cu	205	550	35	92 HRB
N06625	Alloy 625	B444	A65	0.10	20-23	⩾58	8.0-10.0	Cb,Ta	414	827	30	25 HRC
N08825	Alloy 825	B163	A85	0.05	19.5-23.5	38-46	2.5-3.5	Cu,Ti	241	586	30	201 HV
N10276	Alloy C-276	B622	HC	0.01	14.5-16.5	BAL	15.0-17.0	W	283	690	40	100 HRB

① The carbon content of tubing with outside diameter smaller than 1/2" or wall thickness smaller than 0.049" is allowed up to 0.04%.

Dimensional Tolerance

Materials	Tube O.D. (D) in. (mm)	O.D. Tolerance in. (mm)	Wall Thickness Tolerance %
316/316L Enhanced-316/316L 304/304L 6Mo	D＜3/32 (2.38)	+0.002 (0.05)/-0	+/-10
	3/32 (2.38)≤D＜3/16 (4.76)	+0.003 (0.08)/-0	
	3/16 (4.76)≤D≤1 (25.4)	+/-0.004 (0.10)	
	1 (25.4)＜D＜1 1/2 (38.1)	+/-0.005 (0.13)	
	1 1/2 (38.1)≤D＜2 (50.8)	+/-0.008 (0.2)	
	D≥2 (50.8)	+/-0.010 (0.25)	
2205 2505	D＜1/2 (12.7)	+/-0.005 (0.13)	+/-15
	1/2 (12.7)≤D≤3/4 (19.05)		+/-10
Alloy 400 Alloy 20	D＜5/8 (16)	+/-0.005 (0.13)	+/-15
	5/8 (16)≤D＜1 (25)		+/-10
Alloy 600	D＜5/8 (16)	+/-0.005 (0.13)	+/-12.5
Alloy 625	3/16 (4.8)≤D＜1/2 (12.7)	+0.004 (0.10)/-0	+/-10
	D≥1/2 (12.7)	+0.005 (0.13)/-0	
Alloy 825	D≤1/2 (12.7)	+/-0.005 (0.13)/-0	+/-12.5
Alloy C-276		+/-0.005 (0.13)	

Working Pressure at Ambient Temperature

Working pressures in the table below apply only to 316/316L, enhanced-316/316L and 304/304L. For working pressures of other materials, please contact Om tubes Group or our authorized distributors.

Fractional

Tube O.D. in.	Wall Thickness in.															
	0.010	0.012	0.014	0.016	0.020	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120	0.134	0.156	0.188
	Working Pressure psig															
1/16	5600	6800	8100	9400	12000											
1/8						8500	10900									
3/16						5400	7000	10200								
1/4						4000	5100	7500	10200							
5/16							4000	5800	8000							
3/8							3300	4800	6500							
1/2							2600	3700	5100	6700						
5/8								2900	4000	5200	6000					
3/4								2400	3300	4200	4900	5800				
7/8								2000	2800	3600	4200	4800				
1									2400	3100	3600	4200	4700			
1 1/4										2400	2800	3300	3600	4100	4900	
1 1/2											2300	2700	3000	3400	4000	4900
2												2000	2200	2500	2900	3600

Note: For gas service, select a tube thickness outside of the shaded area when the tube is used with 6 series tube fittings.

Metric

Tube O.D. mm	Wall Thickness mm													
	0.8	1.0	1.2	1.5	1.8	2.0	2.2	2.5	2.8	3.0	3.5	4.0	4.5	5.0
	Working Pressure bar													
3	670													
6	310	420	540	710										
8		310	390	520										
10		240	300	400	510	580								
12		200	250	330	410	470								
14		160	200	270	340	380	430	490						
15		150	190	250	310	360	400	450						
16			170	230	290	330	370	400						
18			150	200	260	290	320	370						
20			140	180	230	260	290	330	380					
22			140	160	200	230	260	300	340					
25					180	200	230	260	290	320				
28						180	200	230	260	280	330			
30						170	180	210	240	260	310			
32						160	170	200	220	240	290	330		
38							140	160	190	200	240	270	310	
50										150	180	210	240	270

Note: For gas service, select a tube thickness outside of the shaded area when the tube is used with 6 series tube fittings.

Elevated Temperature Factors

Temperature		Factor	
°F	°C	316/316L and Enhanced-316/316L	304/304L
200	93	1.00	1.00
400	204	0.96	0.93
600	315	0.85	0.82
800	426	0.79	0.76
1000	537	0.76	0.69

TCT Series

Features

- Materials: 316/316L, enhanced-316/316L or 304/304L
  - Sizes: 1/4" to 1/2" and 6 mm to 12 mm
- Working temperature: -325°F to 1000°F (-198°C to 537°C)
  - Bright annealed with mechanically polished external surface
- For use with Om tubes 6 series tube fittings, 4:1 safety factor for the tubing and connection part of fitting and tubing
  - Marked with brand, material grade, standard, specification and heat number

Materials

UNS	Grade	ASTM Standard	OM Tubes Designator	Composition %				Mechanical Properties			
				C	Cr	Ni	Mo	Yield Strength MPa	Tensile Strength MPa	Elongation %	Hardness
S31600/S31603	316/316L	A269	SS	≤0.035①	16-18	10-14	2.0-3.0	≥205	≥515	≥35	≤80 HRB
Enhanced-31600/31603	Enhanced-316/316L		SH		17-18	12-14	2.6-3.0				
S30400/S30403	304/304L		S4		18-20	8-11	-				

① The carbon content of tubing with outside diameter smaller than 1/2 " or wall thickness smaller than 0.049" is allowed up to 0.04%.

Working Pressure

Refer to the working pressure of TMP series tubing.

Scope of Supply

Fractional

Tube O.D. in.	Wall Thickness in.	Standard① Coil Length ft	Max. Coil② Length ft
1/4	0.035	400	2130
	0.049		2040
	0.065		1960
3/8	0.035	400	1380
	0.049		1260
	0.065		1190
1/2	0.035③	300	1000
	0.049		900
	0.065		850
	0.083		700

- Minimum guaranteed length.
- Custom shorter length available subject to confirmation from OM Tubes.
- Not recommended for use with 6 series tube fittings in gas service.

Metric

Tube O.D. mm	Wall Thickness mm	Standard① Coil Length m	Max. Coil② Length m
6	0.8	120	650
	1.0		540
	1.2		590
	1.5		600
8	1.0	120	380
	1.2		350
	1.5		400
10	1.0	120	300
	1.2		320
	1.5		300
12	1.0	100	240
	1.2		260
	1.5		250
	2.0		200

- Minimum guaranteed length.
- Custom shorter length available subject to confirmation from OM Tubes.

Ordering Number Description

SS - TMP - 6 - 049 - 20 - BA - F2

Material	
SS	316/316L
SH	Enhanced-316/316L
S4	304/304L
S12	6Mo
D5	2205 Duplex
D7	2507 Duplex
M	Alloy 400
A20	Alloy 20
INC	Alloy 600
A65	Alloy 625
A85	Alloy 825
HC	Alloy C-276

Series
TMP
TCT

Tube O.D.			
Fractional		Metric	
1	1/16"	2M	2 mm
2	1/8"	3M	3 mm
3	3/16"	6M	6 mm
4	1/4"	8M	8 mm
5	5/16"	10M	10 mm
6	3/8"	12M	12 mm
8	1/2"	14M	14 mm
10	5/8"	15M	15 mm
12	3/4"	16M	16 mm
14	7/8"	18M	18 mm
16	1"	20M	20 mm
20	1 1/4"	22M	22 mm
24	1 1/2"	25M	25 mm
32	2"	28M	28 mm
		30M	30 mm
		32M	32 mm
		38M	38 mm
		50M	50 mm

Wall Thickness			
Fractional		Metric	
028	0.028"	0.8	0.8 mm
035	0.035"	1.0	1.0 mm
049	0.049"	1.2	1.2 mm
065	0.065"	1.5	1.5 mm
083	0.083"	1.8	1.8 mm
095	0.095"	2.0	2.0 mm
109	0.109"	2.2	2.2 mm
120	0.120"	2.5	2.5 mm
134	0.134"	2.8	2.8 mm
156	0.156"	3.0	3.0 mm
188	0.188"	3.5	3.5 mm
		4.0	4.0 mm
		4.5	4.5 mm

Length/Unit			
Fractional		Metric	
10	10'	3M	3000 mm
20	20'	6M	6000 mm
FT	Coils	M	Coils

Process①	
	Pickling
BA	Bright annealing

Cleaning and Packaging	
	FC-01
F2	FC-02

Note: "Ordering Number Description" is a reference to understand the combination rules of Om tubes product part number. Not all combinations are available. For any questions, please contact Om tubes group or our authorized distributors.

① Applicable to 316/316L and 304/304L TMP series tubing.

High Purity Tubing

TBA Series and TEP Series

Features

◎ Material: 316L

◎ Standard: ASTM A269 or JIS G3459

◎ Sizes: 1/4" to 2 1/2" and 6A to 50A

◎ Process:

TBA series tubing: specially rolled and bright annealed, metallic inner surface finish of Ra 20 μin. (0.51 μm) max.

TEP series tubing: machined from TBA series tubing, electropolished inner surface finish of Ra 10 μin. (0.25 μm) max.

◎ Cleaning:

TBA series: ultrasonically cleaned and dried

TEP series: ultrasonically cleaned, washed, rinsed, purged with filtered hot Nitrogen and dried in clean room

◎ Packaging:

TBA series: tubing ends are capped and tubing is packed individually in a single polyethylene bag

TEP series: tubing ends are capped, and tubing is packed individually in double polyethylene bags

◎ Marking:

TBA series: tubing body is marked with brand, material grade, standard, specification, and heat number

TEP series: packing bags are marked with brand, material grade and specification

◎ Standard length: 20 ft, 4 m and 6 m

Materials

Grade	Standard	Om tubes Designator	Composition %							
			C	Mn	P	S	Si	Ni	Cr	Mo
316L	ASTM A269	6L	≤0.035①	≤2.00	≤0.045	≤0.03	≤1.00	10.0-15.0	16.0-18.0	2.0-3.0
	JIS G3459	6LJ	≤0.03					12.0-16.0		

① The carbon content of tubing with outside diameter smaller than 1/2" or wall thickness smaller than 0.049" is allowed up to 0.04%.

Surface Roughness

Tube O.D. (D) mm	Outer Surface μin. (μm)		Inner Surface μin. (μm)	
	TBA	TEP	TBA	TEP
6.35≤D≤48.6	Ra≤63 (1.6)		Ra≤15 (0.38)	Ra≤10 (0.25)
48.6<D≤63.5			Ra≤20 (0.51)	

Purity Values

Inspection Item	TBA	TEP
Oil Content	<0.1 mg/ft^2	<0.01 mg/ft^2
Particle	>4 μin. (0.1 μm), Max.5 PCS	>4 μin. (0.1 μm), Max.1 PC
Dew Point	-40°F (-40 °C)	-94°F (-70 °C)

Dimensional Tolerance and Scope of Supply

Tube O.D.			Wall Thickness			O.D. Tolerance	Wall Thickness Tolerance	Tubing Length	
in.	mm	A Size	in. (mm)	SCH5S	SCH10S	in. (mm)	%	m	ft
1/4	6.35		0.035 (0.89)			+/-0.004 (0.10)	+/-10	4 or 6	20
			0.039 (1.0)						
3/8	9.53		0.035 (0.89)						
			0.039 (1.0)						
1/2	12.7		0.039 (1.0)						
			0.049 (1.24)						
3/4	19.05		0.049 (1.24)						
			0.065 (1.65)						
1	25.4		0.049 (1.24)						
			0.065 (1.65)						
1 1/2	38.1		0.065 (1.65)			+/-0.008 (0.20)			
2	50.8		0.065 (1.65)			+/-0.010 (0.25)			
2 1/2	63.5		0.065 (1.65)						
	10.5	6A		1. 0	1.2	+/-0.004 (0.10)			/
	13.8	8A		1. 2	1.65				
	17.3	10A		1. 2	1.65				
	21.7	15A		1. 65	2.1				
	27.2	20A		1.65	2.1				
	34.0	25A		1.65	2.8				
	42.7	32A		1.65	2.8	+/-0.012 (0.30)			
	48.6	40A		1.65	2.8				
	60.5	50A		1.65	2.8	+/-0.020 (0.50)			

Ordering Information

To order, add designators for materials, series, and tubing length to get a complete ordering number.

Examples:

1. Tubing, 316L stainless steel, ASTM A269 compliant, TBA series, 1/4" O.D. x 0.035" wall thickness, 20 ft length, the ordering number is 6L-TBA-4-035-20.
2. Tubing, 316L stainless steel, ASTM A269 compliant, TEP series, 1/4" O.D. x 0.035" wall thickness, 4 m length, the ordering number is 6L-TEP-4-035-4M.
3. Tubing, 316L stainless steel, JIS G3459 compliant, TEP series, 8A O.D. x 1.2 mm wall thickness, 4 m length, the ordering number is 6LJ-TEP-8A-1.2-4M.

Tube O.D. in.	Wall Thickness in.	Basic Ordering Number
1/4	0.035	□□-□□-4-035-□□
	0.039	□□-□□-4-039-□□
3/8	0.035	□□-□□-6-035-□□
	0.039	□□-□□-6-039-□□
1/2	0.039	□□-□□-8-039-□□
	0.049	□□-□□-8-049-□□
3/4	0.049	□□-□□-12-049-□□
	0.065	□□-□□-12-065-□□
1	0.049	□□-□□-16-049-□□
	0.065	□□-□□-16-065-□□
1 1/2	0.065	□□-□□-24-065-□□
2		□□-□□-32-065-□□
2 1/2		□□-□□-40-065-□□

Tube O.D.	Wall Thickness		Basic Ordering Number
	SCH5S	SCH10S	
6A	1.0		□□-□□-6A-1.0-□□
		1.2	□□-□□-6A-1.2-□□
8A	1.2		□□-□□-8A-1.2-□□
		1.65	□□-□□-8A-1.65-□□
10A	1.2		□□-□□-10A-1.2-□□
		1.65	□□-□□-10A-1.65-□□
15A	1.65		□□-□□-15A-1.65-□□
		2.1	□□-□□-15A-2.1-□□
20A	1.65		□□-□□-20A-1.65-□□
		2.1	□□-□□-20A-2.1-□□
25A	1.65		□□-□□-25A-1.65-□□
		2.8	□□-□□-25A-2.8-□□
32A	1.65		□□-□□-32A-1.65-□□
		2.8	□□-□□-32A-2.8-□□
40A	1.65		□□-□□-40A-1.65-□□
		2.8	□□-□□-40A-2.8-□□
50A	1.65		□□-□□-50A-1.65-□□
		2.8	□□-□□-50A-2.8-□□

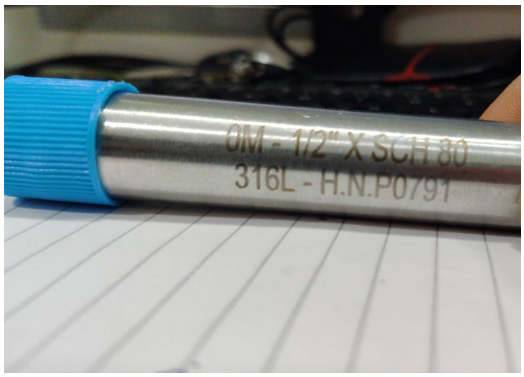
Medium and High Pressure Tubing

T15, T20 and T60 Series

T15 Series

Features

- Material: 316/316L
- Working pressure up to 15,000 psig (1034 bar)
- Working temperature: -325°F to 800°F (-198°C to 427°C)
- Annealed seamless or cold-drawn 1/8-hard seamless tubing
- For use with OM Tubes 15D series double-ferrule tube fittings
- Marked with brand, material grade, specification, pressure, annealing code and heat number
- Standard length: 20 ft and 6 m



Materials

UNS	Grade	Om tubes Designator	Composition %							
			C	Mn	P	S	Si	Cr	Ni	Mo
S31600/S31603	316/316L	SS	≤0.035	≤2.00	≤0.045	≤0.03	≤1.00	16-18	10-14	2.0-3.0

Mechanical Properties

Cold-drawn 1/8-hard Seamless Tubing

UNS	Grade	Yield Strength ksi	Tensile Strength ksi	Elongation %	Hardness
S31600/S31603	316/316L	75 to 110	105 to 140	≥20	≤26 HRC

Annealed Seamless Tubing

UNS	Grade	Yield Strength ksi	Tensile Strength ksi	Elongation %	Hardness
S31600/S31603	316/316L	≥30	≥75	≥30	≤90 HRB

Dimensional Tolerance

Tube O.D. in.	O.D. Tolerance in.	Wall Thickness Tolerance %
1/8	+/-0.003	+/-10
1/4	+/-0.005	
3/8		
1/2		
9/16		
3/4		

Working Pressure at Ambient Temperature

Cold-drawn 1/8-hard Seamless Tubing

Tube O.D. in.	Wall Thickness Tolerance in.	Working Pressure psig (bar)
1/4	0.065	15,000 (1034)
3/8	0.083	
1/2	0.109	
9/16	0.125	
3/4	0.165	

Annealed Seamless Tubing

Tube O.D. in.	Wall Thickness Tolerance in.	Working Pressure psig (bar)
1/8	0.037	15,000 (1034)
1/4	0.083	15,000 (1034)
	0.065	10,300 (710)
3/8	0.118	15,000 (1034)
	0.095	10,000 (690)
1/2	0.156	15,000 (1034)
	0.134	11,200 (772)
9/16	0.188	15,000 (1034)
3/4	0.240	15,000 (1034)
	0.188	10,000 (690)

Elevated Temperature Factors

Temperature		Factor
°F	°C	
100	38	1.00
200	93	
300	149	
400	204	0.96
500	260	0.89
600	316	0.85
700	371	0.81
800	427	0.79

Ordering Information

Cold-drawn 1/8-hard Seamless Tubing

Tube O.D. in.	Wall Thickness in.	Ordering Number ①②	
1/4	0.065	SS-T15-4-065-6M	SS-T15-4-065-20
3/8	0.083	SS-T15-6-083-6M	SS-T15-6-083-20
1/2	0.109	SS-T15-8-109-6M	SS-T15-8-109-20
9/16	0.125	SS-T15-9-125-6M	SS-T15-9-125-20
3/4	0.165	SS-T15-12-165-6M	SS-T15-12-165-20

① In the ordering number, "6M" designates tubing length of 6 meters; "20" designates tubing length of 20 feet.
② Custom shorter length available upon request.

Annealed Seamless Tubing

Tube O.D. in.	Wall Thickness in.	Ordering Number ①②	
1/8	0.037	SS-T15-A-2-037-6M	SS-T15-A-2-037-20
1/4	0.083	SS-T15-A-4-083-6M	SS-T15-A-4-083-20
	0.065	SS-T15-A-4-065-6M	SS-T15-A-4-065-20
3/8	0.118	SS-T15-A-6-118-6M	SS-T15-A-6-118-20
	0.095	SS-T15-A-6-095-6M	SS-T15-A-6-095-20
1/2	0.156	SS-T15-A-8-156-6M	SS-T15-A-8-156-20
	0.134	SS-T15-A-8-134-6M	SS-T15-A-8-134-20
9/16	0.188	SS-T15-A-9-188-6M	SS-T15-A-9-188-20
3/4	0.240	SS-T15-A-12-240-6M	SS-T15-A-12-240-20
	0.188	SS-T15-A-12-188-6M	SS-T15-A-12-188-20

① In the ordering number, "6M" designates tubing length of 6 meters; "20" designates tubing length of 20 feet.
② Custom shorter length available upon request.

T20 Series

Features

- Material: 316/316L
- Working pressure up to 20,000 psig (1379 bar)
- Working temperature: -423°F to 1200°F (-252°C to 649°C)
- Cold-drawn seamless tubing
- For use with Om tubes 20 series medium pressure fittings
- Marked with brand, material grade, specification, pressure, and heat number
- Supplied in fractional sizes up to 20 ft and metric sizes up to 6 m. Nipples in custom length available

Materials

UNS	Grade	Om tubes Designator	Composition %							
			C	Mn	P	S	Si	Cr	Ni	Mo
S31600/S31603	316/316L	SS	≤0.035	≤2.00	≤0.045	≤0.03	≤1.00	16-18	10-14	2.0-3.0

Dimensional Tolerance

Tube O.D. in.	O.D. Tolerance in.	Tube I.D. in.	I.D. Tolerance in.
1/4	-0.002/-0.007	0.109	0/-0.005
3/8	-0.005/-0.01	0.203	
9/16		0.312	
3/4		0.438	+/-0.005
1		0.562	

Pressure–Temperature Ratings

Working Pressure psig (bar)				
-423 to 100°F (-252 to 37.8°C)	200°F (93°C)	400°F (204°C)	600°F (316°C)	800°F (427°C)
20,000 (1379)	20,000 (1379)	19,250 (1327)	18,050 (1244)	16,800 (1158)

If tubing is used at temperatures above 800°F (427°C) or reused thereafter, working pressures for tubing in the following table shall apply.

Working Pressure psig (bar)					
-423 to 200°F (-252 to 93°C)	400°F (204°C)	600°F (316°C)	800°F (427°C)	1000°F (538°C)	1200°F (649°C)
8,050 (555)	7,400 (510)	6,800 (469)	6,300 (434)	6,200 (427)	2,900 (200)

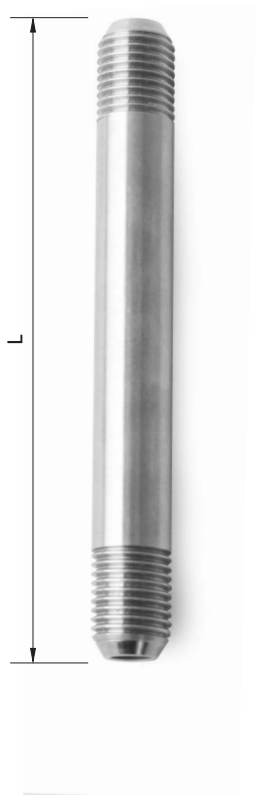
Ordering Information

Cold-drawn Seamless Tubing

Tube O.D. in.	Tube I.D. in.	Ordering Number①②	
1/4	0.109	SS-T20-4-6M	SS-T20-4-20
3/8	0.203	SS-T20-6-6M	SS-T20-6-20
9/16	0.312	SS-T20-9-6M	SS-T20-9-20
3/4	0.438	SS-T20-12-6M	SS-T20-12-20
1	0.562	SS-T20-16-6M	SS-T20-16-20

① In the ordering number, "6M" designates tubing length of 6 meters; "20" designates tubing length of 20 feet.
② Custom shorter length available upon request.

Coned and Threaded Nipples



Tube O.D. in.	Tube I.D. in.	Length L① in. (mm)	Ordering Number
1/4	0.109	3.00 (76.2)	SS-T20-4CT-3
		4.00 (101.6)	SS-T20-4CT-4
		6.00 (152.4)	SS-T20-4CT-6
		8.00 (203.2)	SS-T20-4CT-8
		10.0 (254.0)	SS-T20-4CT-10
		12.0 (304.8)	SS-T20-4CT-12
3/8	0.203	3.00 (76.2)	SS-T20-6CT-3
		4.00 (101.6)	SS-T20-6CT-4
		6.00 (152.4)	SS-T20-6CT-6
		8.00 (203.2)	SS-T20-6CT-8
		10.0 (254.0)	SS-T20-6CT-10
		12.0 (304.8)	SS-T20-6CT-12
9/16	0.312	4.00 (101.6)	SS-T20-9CT-4
		6.00 (152.4)	SS-T20-9CT-6
		8.00 (203.2)	SS-T20-9CT-8
		10.0 (254.0)	SS-T20-9CT-10
		12.00 (304.8)	SS-T20-9CT-12
3/4	0.438	4.00 (101.6)	SS-T20-12CT-4
		6.00 (152.4)	SS-T20-12CT-6
		8.00 (203.2)	SS-T20-12CT-8
		10.0 (254.0)	SS-T20-12CT-10
		12.0 (304.8)	SS-T20-12CT-12
1	0.562	6.00 (152.4)	SS-T20-16CT-6
		8.00 (203.2)	SS-T20-16CT-8
		10.0 (254.0)	SS-T20-16CT-10
		12.0 (304.8)	SS-T20-16CT-12

① Nipples in custom length available upon request.

T60 Series

Features

- Material: 316/316L
- Working pressure up to 60,000 psig (4137 bar)
- Working temperature: -423°F to 1200°F (-252°C to 649°C)
- Cold-drawn seamless tubing
- For use with Om tubes 60 series high pressure fittings
- Marked with brand, material grade, specification, pressure, and heat number
- Supplied in fractional sizes up to 20 ft and metric sizes up to 6 m. Nipples in custom length available

Materials

UNS	Grade	Om tubes Designator	Composition %							
			C	Mn	P	S	Si	Cr	Ni	Mo
S31600/S31603	316/316L	SS	≤0.035	≤2.00	≤0.045	≤0.03	≤1.00	16-18	10-14	2.0-3.0

Dimensional Tolerance

Tube O.D. in.	O.D. Tolerance in.	Tube I.D. in.	I.D. Tolerance in.
1/4	-0.002/-0.007	0.083	0/-0.005
3/8	-0.005/-0.01	0.125	
9/16		0.188	

Pressure-Temperature Ratings

Working Pressure psig (bar)				
-423 to 100°F (-252 to 37.8°C)	200°F (93°C)	400°F (204°C)	600°F (316°C)	800°F (427°C)
60,000 (4137)	60,000 (4137)	57,750 (3982)	54,250 (3740)	50,700 (3496)

If tubing is used at temperatures above 800°F (427°C) or reused thereafter, working pressures for tubing in the following table shall apply.

Working Pressure psig (bar)					
-423 to 200°F (-252 to 93°C)	400°F (204°C)	600°F (316°C)	800°F (427°C)	1000°F (538°C)	1200°F (649°C)
24,200 (1669)	22,200 (1531)	20,500 (1413)	18,850 (1300)	18,600 (1282)	8,750 (603)

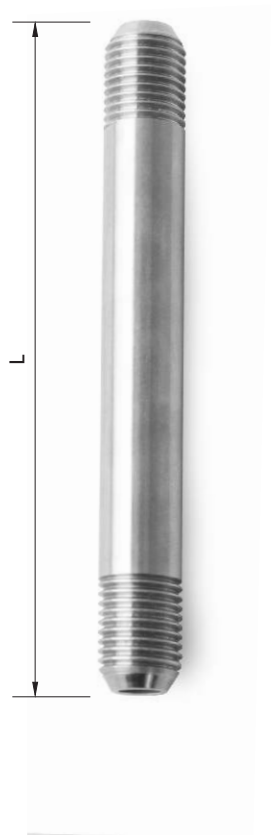
Ordering Information

Cold-drawn Seamless Tubing

Tube O.D. in.	Tube I.D. in.	Ordering Number ①②	
1/4	0.083	SS-T60-4-6M	SS-T60-4-20
3/8	0.125	SS-T60-6-6M	SS-T60-6-20
9/16	0.188	SS-T60-9-6M	SS-T60-9-20

① In the ordering number, "6M" designates tubing length of 6 meters; "20" designates tubing length of 20 feet.
② Custom shorter length available upon request.

Coned and Threaded Nipples



Tube O.D. in.	Tube I.D. in.	Length L ① in. (mm)	Ordering Number
1/4	0.083	2.75 (69.9)	SS-T60-4CT-2.75
		3.00 (76.2)	SS-T60-4CT-3
		4.00 (101.6)	SS-T60-4CT-4
		6.00 (152.4)	SS-T60-4CT-6
		8.00 (203.2)	SS-T60-4CT-8
		10.0 (254.0)	SS-T60-4CT-10
		12.0 (304.8)	SS-T60-4CT-12
3/8	0.125	3.00 (76.2)	SS-T60-6CT-3
		4.00 (101.6)	SS-T60-6CT-4
		6.00 (152.4)	SS-T60-6CT-6
		8.00 (203.2)	SS-T60-6CT-8
		10.0 (254.0)	SS-T60-6CT-10
		12.0 (304.8)	SS-T60-6CT-12
9/16	0.188	4.00 (101.6)	SS-T60-9CT-4
		6.00 (152.4)	SS-T60-9CT-6
		8.00 (203.2)	SS-T60-9CT-8
		10.0 (254.0)	SS-T60-9CT-10
		12.0 (304.8)	SS-T60-9CT-12

① Nipples in custom length available upon request.

Jacketed Tubing and Insulated Tubing

TJT Series and TIT Series

Features

◎ Materials:

TJT series: stainless steel or copper tubing, PVC jacket

TIT series: stainless steel or copper tubing, fibrous glass insulation, PVC jacket

◎ Sizes: 1/4" to 1/2", 6 mm to 12 mm

◎ Working temperature:

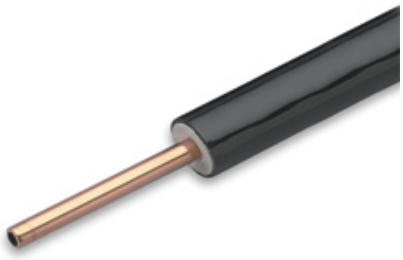
TJT series: -31°F to 194°F (-35°C to 90°C)

TIT series: -20°F to 400°F (-29°C to 204°C)

◎ Stainless steel tubing bright annealed with mechanically polished external surface

◎ For use with Om tubes 6 series tube fittings, 4:1 safety factor for the tubing and connection part of fitting and tubing

◎ Outer jacket marked with brand, tubing material grade, standard, specification, heat number, and jacket material



Materials

Tubing

UNS	Grade	ASTM Standard	Om tubes Designator	Composition %					Mechanical Properties			
				C	Cr	Ni	Mo	Cu	Yield Strength MPa	Tensile Strength MPa	Elongation %	Hardness
S31600/ S31603	316/ 316L	A269	SS	≤0.035①	16-18	10-14	2.0-3.0	-	≥205	≥515	≥35	≤80 HRB
C10200	-	B75	CU	-	-	-	-	99.95	≥62	≥205	-	-

① The carbon content of tubing with outside diameter smaller than 1/2" or wall thickness smaller than 0.049" is allowed up to 0.04%.

PVC Jacket

Min. Tensile Strength	1530 psig (105 bar)
Min. Elongation	300%
Shore Hardness	80 HA
Max. Working Temperature	194°F (90°C)
Min. Installation Temperature	-31°F (-35°C)
Min. Working Temperature	-31°F (-35°C)
Resistance to Chloride	Yes
Max. Water Absorption	0.06%

Technical Data

TJT Series

Fractional

Material Code	UNS	Tube O.D. in.	Wall Thickness in.	Max. Working Temperature °F (°C)	Min. Working Temperature °F (°C)	Working Pressure psig	Min. Bend Radius in.	Jacket O.D. mm	Coiled Tubing		Straight-length Tubing ft
									Standard① Coil Length ft	Max. ② Coil Length ft	
SS	S31600/ S31603	1/4	0.035	194 (90)	-31 (-35)	5100	8.00	0.32	400	2130	20
		3/8	0.035			3300		0.45		1380	
		1/2	0.035③			2600		0.57	300	1000	
			0.049			3700				900	
CU	C10200	1/4	0.035			1600		0.32	600	2130	
		3/8	0.035			1000		0.45		1240	
		1/2	0.035③			800		0.57		1082	
			0.049			1100				984	

Metric

Material Code	UNS	Tube O.D. mm	Wall Thickness mm	Max. Working Temperature °C (°F)	Min. Working Temperature °C (°F)	Working Pressure bar	Min. Bend Radius cm	Jacket O.D. mm	Coiled Tubing		Straight-length Tubing m
									Standard① Coil Length m	Max. ② Coil Length m	
SS	S31600/ S31603	6	1.0	90 (194)	-35 (-31)	420	20.3	7.9	120	650	6
		10	1.0			240		11.7		300	
		12	1.0			200		13.7	100	240	
CU	C10200	6	1.0			140		7.9	200	650	
		10	1.0			80		11.7		380	
		12	1.0③			60		13.7		300	

· Minimum guaranteed length.

· Custom shorter length available subject to confirmation from Om tubes.

③ Not recommended for use with 6 series tube fittings in gas service.

TIT Series

Fractional

Material Code	UNS	Tube O.D. in.	Wall Thickness in.	Max. Working Temperature °F (°C)	Min. Working Temperature °F (°C)	Working Pressure psig	Min. Bend Radius in.	Nominal Product O.D. in.	Standard① Coil Length ft	Max. ② Coil Length ft
SS	S31600/ S31603	1/4	0.035	400 (204)	-20 (-29)	4900	8.00	1.00	400	1100
		3/8	0.035			3200		1.13		1050
		1/2	0.035③			2500		1.25	300	1000
			0.049			3500				900
CU	C10200	1/4	0.035			800		1.00	600	1000
		3/8	0.035			500		1.13		980
		1/2	0.035③			400		1.25		
			0.049			550				

Metric

Material Code	UNS	Tube O.D. mm	Wall Thickness mm	Max. Working Temperature °C (°F)	Min. Working Temperature °C (°F)	Working Pressure bar	Min. Bend Radius cm	Nominal Product O.D. mm	Standard① Coil Length m	Max. ② Coil Length m
SS	S31600/ S31603	6	1.0	204 (400)	-29 (-20)	403	20.3	24.9	120	330
		10	1.0			230		28.7		300
		12	1.0			192		30.7	100	240
CU	C10200	6	1.0			70		24.9	200	330
		10	1.0			40		28.7		300
		12	1.0③			30		30.7		300

① Minimum guaranteed length.

② Custom shorter length available subject to confirmation from Om tubes.

③ Not recommended for use with 6 series tube fittings in gas service.

Ordering Number Description

SS - TJT - 6 - 035 - 20

Material	
SS	316/316L
CU	10200

Series
TJT
TIT

Tube O.D.	
Fractional	
4	1/4"
6	3/8"
8	1/2"
Metric	
6M	6 mm
10M	10 mm
12M	12 mm

Wall Thicknessa	
Fractional	
035	0.035"
049	0.049"
Metric	
1.0	1.0 mm

Length/Unit	
Fractional	
20	20'
FT	Coils
Metric	
6M	6000 mm
M	Coils

Note: "Ordering Number Description" is a reference to understand the combination rules of Om tubes product part number. Not all combinations are available. For any questions, please contact Om tubes group or our authorized distributors.