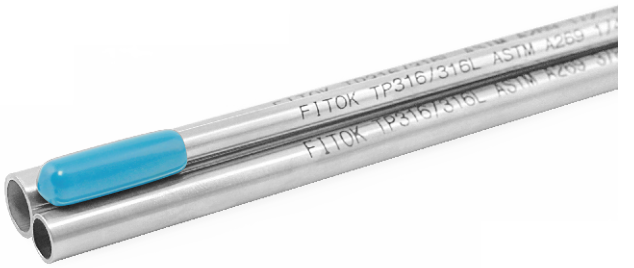
Instrumentation Tubing

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)
- ◎ Pickled, or bright annealed or cold worked followed by bright annealing, machined finished external surface
- ◎ For use with FITOK 6D 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: 40 in, 80 in, 10 ft, 20 ft, 1 m, 2 m, 3 m and 6 m
  Customized length as per customer requirement is also available



Materials

UNS	Grade	ASTM Standard	FITOK Designator	Composition %					Mechanical Properties			
				C	Cr	Ni	Mo	Others	Yield Strength MPa	Tensile Strength MPa	Elongation %	Hardness
S31600/ S31603①	316/316L	A269	SS	≤0.035③	16-18	10-14	2.0-3.0	-	≥205	≥515	≥35	≤80 HRB
Enhanced-S31600/① S31603	Enhanced-316/316L②		SH	≤0.03	17-18	12-14	2.6-3.0					
S30400/ S30403①	304/304L		S4	≤0.035③	18-20	8-11	-					
N08904	904L	A269	904L	≤0.02	19-23	23-28	4.0-5.0	Cu, N	≥490	≥215	≥35	≤80 HRB
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
S32750①	2507	A789	D7	≤0.03	24-26	6-8	3.0-5.0	Cu, N	≥550	≥800	≥15	≤32 HRC
N04400①	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	≥276	≥690	≥30	≤25 HRC
N08825	Alloy 825	B423	A85	≤0.05	19.5-23.5	38-46	2.5-3.5	Cu, Ti	≥241	≥586	≥30	≤201 HV
N10276①	Alloy C-276	B622	HC	≤0.01	14.5-16.5	BAL	15.0-17.0	W	≥283	≥690	≥40	≤100 HRB

① Materials are compliant with NACE MR0175 by default. For additional requirements, please contact FITOK.

② Enhanced-316/316L complying with GB50516-2021 Technical Code for Hydrogen Fuelling Station is available, in which Ni_{eq} is not less than 28.5%. Contact FITOK Group for more information.

③ 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 904L	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 2507	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≤2/5 (10)	+/-0.004 (0.10)	+/-15
	2/5 (10)＜D＜5/8 (16)	+/-0.005 (0.13)	
Alloy C-276	D≤2/5 (10)	+/-0.004 (0.10)	
	2/5 (10)＜D＜5/8 (16)	+/-0.005 (0.13)	

Working Pressure at Ambient Temperature

Figures and tables are for reference only. No implication is made that these values can be used for design work. Applicable codes and practices in industry should be considered. ASME Codes are the successor to and replacement of ASA Piping Codes.

◎ All pressures are calculated from equations in ASME B31.3, Process Piping. See factors for calculating working pressures in accordance with ASME B31.1, Power Piping.

◎ Calculations are based on maximum O.D. and minimum wall thickness, except as noted in individual tables.
Example: ″ in. O.D.×0.035 in. wall thickness stainless steel tubing according to ASTM A269:
O.D. Tolerance ±0.005 in. / Wall Thickness Tolerance ±10%
Calculations are based on 0.505 in.O.D.×0.0315 in. wall thickness tubing.

◎ No allowance is made for corrosion or erosion.

Enhanced-316/316L, 316/316L and 304/304L Stainless Steel Tubing

Table 1 — Fractional Seamless Tubing

Allowable working pressures are calculated from an S value of 20 000 psig (137.8 MPa) for ASTM A269 tubing at -20 to 100°F (-28 to 37°C), as listed in ASME B31.3 and ASME B31.1.

For Welded Tubing

For welded and drawn tubing, a derating factor must be applied for weld integrity:

- For double-welded tubing, multiply working pressure by 0.85.
- For single-welded tubing, multiply working pressure by 0.80.

Tube O.D. (in.)	Tube 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	7500						
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 wall thickness outside of the shaded area.

Table 2—Metric Seamless Tubing

Tube O.D. (mm)	Tube 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							
15		150	190	250	310	360	400							
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 wall thickness outside of the shaded area.

904L Tubing

Allowable working pressures are calculated from an S value of 20,700 psi (143 MPa) for ASTM A269 annealed seamless tubing at -20 to 100°F (-28 to 37°C), as listed in ASME B31.3 and ASME B31.1.

Table 3 — Fractional

Tube O.D. (in.)	Tube Wall Thickness, in.			
	0.035	0.049	0.065	0.083
	Working Pressure, psig			
1/4	5200	7600	10500	
3/8		4800	6600	
1/2		3700	5100	6700

Table 4 — Metric

Tube O.D. (mm)	Tube Wall Thickness, mm		
	1.0	1.2	1.5
	Working Pressure, bar		
10	250	300	380
12	200	240	310

6 Mo Tubing

Allowable working pressures are calculated from an S value of 27100 psig (186.8 MPa) for ASTM A269 tubing at -20 to 100°F (-28 to 37°C), as listed in ASME B 31.3 and ASME B31.1.

Table 5 — Fractional

Tube O.D. (in.)	Tube Wall Thickness, in.			
	0.028	0.035	0.049	0.065
	Working Pressure, psig			
1/4	5400	6900	10100	13900
3/8		4500	6500	8900
1/2		3500	5000	6900

Note: For gas service, select a tube wall thickness outside of the shaded area.

Table 6 — Metric

Tube O.D. (mm)	Tube Wall Thickness, mm				
	0.8	1	1.2	1.5	1.8
	Working Pressure, bar				
6	430	580	740	980	
8		420	530	710	
10		330	420	550	700
12		270	340	450	570

Note: For gas service, select a tube wall thickness outside of the shaded area.

Super Duplex 2507 Tubing

Allowable working pressures are calculated from an S value of 38 700 psig (266.8 MPa) for ASTM A789 tubing at -20 to 100°F (-28 to 37°C), as listed in ASME B31.3.

Table 7 — Fractional

Tube O.D. (in.)	Tube Wall Thickness, in.				
	0.035	0.049	0.065	0.083	0.095
	Working Pressure, psig				
1/4	10000	15000			
3/8	6500	10100	12700		
1/2	5000	7200	10100	12900	
5/8		5800	7600	10100	
3/4		4700	6300	8500	10000

Note: For gas service, select a tube wall thickness outside of the shaded area.

Alloy 400 Tubing

Allowable working pressures are calculated from an S value of 18 700 psig (128.9 MPa) for ASTM B165 tubing at -20 to 100°F (-28 to 37°C), as listed in ASME B31.3 and ASME B31.1.

Table 8 — Fractional

Tube O.D. (in.)	Tube Wall Thickness, in.							
	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120
	Working Pressure, psig							
1/8	7900	10100						
1/4	3700	4800	7000	9500				
5/16		3700	5400	7300				
3/8		3100	4400	6100				
1/2		2300	3200	4400				
3/4			2200	3000	4000	4600		
1				2200	2900	3400	3900	4300

Note: For gas service, select a tube wall thickness outside of the shaded area.

Table 9 — Metric

Tube O.D. (mm)	Tube Wall Thickness, mm									
	0.8	1.0	1.2	1.5	1.8	2.0	2.2	2.5	2.8	3.0
	Working Pressure, bar									
6	310	390	490	620						
8		290	350	450						
10		220	280	350						
12		180	230	290						
14		160	190	240	270					
18			150	200	240	270	300			
20				180	210	240	270	290		
25					170	190	210	240	270	290

Note: For gas service, select a tube wall thickness outside of the shaded area.

Alloy 20 Tubing

Allowable working pressures are calculated from an S value of 20 000 psi (137.8 MPa) for ASTM B729 tubing at 20 to 100°F (-28 to 37°C), as listed in ASME B31.3 and ASME B31.1.

Table 10 — Fractional

Tube O.D. (in.)	Tube Wall Thickness, in.			
	0.028	0.035	0.049	0.065
	Working Pressure, psig			
1/4	4000	5100	7500	10200
3/8		3300	4800	6500
1/2		2600	3700	5100

Note: For gas service, select a tube wall thickness outside of the shaded area.

Table 11 — Metric

Tube O.D. (mm)	Tube Wall Thickness, mm			
	0.8	1.0	1.2	1.5
	Working Pressure, bar			
6	310	420	520	670
10		240	300	380
12		200	240	310

Note: For gas service, select a tube wall thickness outside of the shaded area.

Alloy 600 Tubing

Allowable working pressures are calculated from an S value of 20 000 psi (137.8 MPa) for ASTM B167 tubing at 20 to 100°F (-28 to 37°C), as listed in ASME B31.3 and ASME B31.1.

Table 12 — Fractional

Tube O.D. (in.)	Tube Wall Thickness, in.			
	0.028	0.035	0.049	0.065
	Working Pressure, psig			
1/4	4000	5100	7500	10200
3/8		3300	4800	6500
1/2		2600	3700	5100

Note: For gas service, select a tube wall thickness outside of the shaded area.

Table 13 — Metric

Tube O.D. (mm)	Tube Wall Thickness, mm			
	0.8	1.0	1.2	1.5
	Working Pressure, bar			
6	310	420	520	670
10		240	300	380
12		200	240	310

Note: For gas service, select a tube wall thickness outside of the shaded area.

Alloy 625 Tubing

Allowable working pressures are calculated from an S value of 26 700 psig (184.1 MPa) for ASTM B444 Grade 2 tubing at -20 to 100°F (-28 to 37°C) in accordance with ASME BPV 2007 Section II, Part D, Table 1B, tubing outside diameter and wall thickness tolerances from ASTM B444 for small-diameter tube.

Table 14 — Fractional

Tube O.D. (in.)	Tube Wall Thickness, in.		
	0.035	0.049	0.065
	Working Pressure, psig		
1/4	7300	10700	14600
3/8	4700	6800	9400
1/2	3500	5000	6800

Table 15 — Metric

Tube O.D. (mm)	Tube Wall Thickness, mm				
	0.8	1.0	1.2	1.5	1.8
	Working Pressure, bar				
6	470	610	750		
10		350	430	550	
12		290	350	450	550

Alloy 825 Tubing

Allowable working pressures are calculated from an S value of 23 300 psi (160.6 MPa) for ASTM B704 tubing at 20 to 100°F (-28 to 37°C), as listed in ASME B31.3 or ASME BPV 2007 Section II, Part D, Table 1B.

Table 16 — Fractional

Tube O.D. (in.)	Tube Wall Thickness, in.		
	0.035	0.049	0.065
	Working Pressure, psig		
1/4	6400	9300	11600
3/8	4100	5900	8200
1/2	3000	4300	5900

Table 17 — Metric

Tube O.D. (in.)	Tube Wall Thickness, mm				
	0.8	1.0	1.2	1.5	1.8
	Working Pressure, bar				
6	410	530	660		
10		300	370	480	
12		250	300	390	480

Alloy C-276 Tubing

Allowable working pressures are calculated from an S value of 20 000 psi (137.8 MPa) for ASTM B622 tubing at 20 to 100°F (-28 to 37°C), as listed in ASME B31.3 and ASME B31.1.

Table 18 — Fractional

Tube O.D. (in.)	Tube Wall Thickness, in.			
	0.028	0.035	0.049	0.065
	Working Pressure, psig			
1/4	4000	5100	7500	10200
5/16		4000	5800	7800
3/8		3300	4800	6500
1/2		2600	3700	5100

Note: For gas service, select a tube wall thickness outside of the shaded area.

Table 19 — Metric

Tube O.D. (mm)	Tube Wall Thickness, mm			
	0.8	1.0	1.2	1.5
	Working Pressure, bar			
6	310	420	520	670
8		310	390	500
10		240	300	380
12		200	240	310

Note: For gas service, select a tube wall thickness outside of the shaded area.

Copper Tubing

Allowable working pressures are calculated from an S value of 6000 psi (41.3 MPa) for ASTM B75 tubing at 20 to 100°F (-28 to 37°C), as listed in ASME B31.3 and ASME B31.1.

Table 20 —Fractional

Tube O.D. (in.)	Tube Wall Thickness, in.									
	0.028	0.030	0.035	0.049	0.065	0.083	0.095	0.109	0.120	0.134
	Working Pressure, psig									
1/8	2700	3000	3600							
3/16	1800	1900	2300	3400						
1/4	1300	1400	1600	2500	3500					
5/16			1300	1900	2700					
3/8			1000	1600	2200					
1/2			800	1100	1600	2100				
5/8				900	1200	1600	1900			
3/4				700	1000	1300	1500	1800		
7/8				600	800	1100	1300	1500		
1				500	700	900	1100	1300	1500	
1 1/8					600	800	1000	1100	1300	1400

Note: For gas service, select a tube wall thickness outside of the shaded area.

Table 21 —Metric

Tube O.D. (mm)	Tube Wall Thickness, mm									
	0.8	1.0	1.2	1.5	1.8	2.0	2.2	2.5	2.8	3.0
	Working Pressure, bar									
6	110	140	170	220						
8		100	120	160						
10		80	100	130						
12		60	80	100	130	140				
14		50	60	90	110	120	130			
15			60	80	100	110	120			
16				70	90	100	110	120		
18				60	80	90	100	110		
20				60	70	80	90	100	110	
22				50	60	70	80	90	100	
25				40	50	60	70	80	90	100
28					40	50	60	70	80	90

Note: For gas service, select a tube wall thickness outside of the shaded area.

Grade 2 Titanium Tubing

Allowable working pressures are calculated from an S value of 16 700 psi (115.1 MPa) for ASTM B338 tubing at 20 to 100°F (-28 to 37°C), as listed in ASME B31.3 and ASME B31.1. For working pressure in accordance with ASME B31.1, multiply by 0.85.

Table 22 — Fractional

Tube O.D. (in.)	Tube Wall Thickness, in.			
	0.028	0.035	0.049	0.065
	Working Pressure, psig			
1/4	3500	4500	6700	9100
3/8		2900	4200	5800
1/2		2100	3100	4200

Note: For gas service, select a tube wall thickness outside of the shaded area.

Table 23 — Metric

Tube O.D. (mm)	Tube Wall Thickness, mm			
	0.8	1.0	1.2	1.5
	Working Pressure, bar			
6	290	380	470	600
10		210	260	340
12		180	220	280

Note: For gas service, select a tube wall thickness outside of the shaded area.

Pressure Ratings at Elevated Temperatures

Table 24 — Elevated Temperature Factors

Temperature		Tubing Materials												
°F	°C	316/316L①	304/304L①	904L	6 Mo	Super Duplex 2507	Alloy 400	Alloy 20②	Alloy 600②	Alloy 625	Alloy 825	Alloy C-276②	Copper	Ti
200	93	1.00	1.00	1.00	0.90	0.99	0.87	1.00	1.00	0.93	1.00	1.00	0.80	0.86
400	204	0.96	0.93	0.91	0.74	0.91	0.79	0.96	0.96	0.85	0.90	0.96	0.50	0.61
600	315	0.85	0.82		0.67	0.89③	0.79	0.85	0.85	0.79	0.84	0.85		0.45
800	426	0.79	0.76				0.75	0.79	0.79	0.75	0.81	0.79		
1000	537	0.76	0.69						0.35	0.73		0.76		

① Dual-certified grades such as 304/304L and 316/316L meet the minimum chemistry and the mechanical properties of both alloy grades.
② Based on the lower derating factor for stainless steel, in accordance with ASME B31.3.
③ Using 2507 duplex stainless steel at temperatures above 482°F (250°C) may cause microstructural changes, resulting in embrittlement and reduced corrosion resistance. At 482°F (250°C), the rating reduction factor is 0.90.

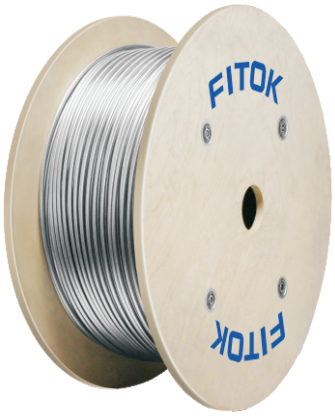
To determine allowable working pressure at elevated temperatures, multiply allowable working pressures from Tables 1 through 21 by a factor shown in Table 22.

Example: Type 316/316L stainless steel 1/2 in. O.D.×0.035 in. wall at 1000°F

1. The allowable working pressure at -20 to 100°F (-28 to 37°C) is 2600 psig (Table 1, page F-07).
2. The elevated temperature factor for 1000°F (537°C) is 0.76 (Table 22, above):
   2600 psig×0.76 = 1976 psig

The allowable working pressure for 316/316L 1/2 in. O.D.×0.035 in. wall tubing at 1000°F (537°C) is 1976 psig.

TCT Series



Features

◎ Materials: 316/316L, enhanced-316/316L or 304/304L
◎ Sizes: 1/32" to 1/2" and 0.8 mm to 12 mm
◎ Working temperature: -325°F to 1000°F (-198°C to 537°C)
◎ Bright annealed with machined finished external surface
◎ For use with FITOK 6D 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	FITOK Designator	Composition %				Mechanical Properties			
				C	Cr	Ni	Mo	Yield Strength MPa	Tensile Strength MPa	Elongation %	Hardness
S31600/S31603	316/316L	A269	SS	⩽0.035②	16-18	10-14	2.0-3.0	⩾205	⩾515	⩾35	⩽80 HRB
Enhanced-S31600/31603	Enhanced-316/316L①		SH	⩽0.030	17-18	12-14	2.6-3.0				
S30400/S30403	304/304L		S4	⩽0.035②	18-20	8-11	-				

① Enhanced-316/316L complying with GB50516-2021 Technical Code for Hydrogen Fuelling Station is available, in which Ni_{eq} is not less than 28.5%. Contact FITOK Group for more information.
② 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 and Elevated Temperature Factors

Refer to the working pressure of TMP series tubing.

Ordering Information and Dimensions

Random length example
Customer requirement: coiled tubing, 316/316L stainless steel , 12 mm O. D. x 1.5 mm wall thickness, about 150 m/coil length, total length 1500 m.
Recommended ordering number: SS-TCT-12MM-1.5-CL21M
Actual supply length is 135-166 m/coil, about 10 coils, total 1500 m.

Random Length Grade Table

Fractional

FITOK P/N	Tube O.D. in.	Wall① Thickness in.	Random Length Grade②				Cut Length③ Tolerance ft, (m)
			CL11F (CL11M)	CL21F (CL21M)	CL31F (CL31M)	CL41F (CL41M)	
			Length Range/ft, (m)				
-TCT-1-014-	1/16	0.014	1341-1714 (408-522)	2683-3280 (818-999)	4026-4921 (1226-1499)	5368-6561④ (1636-1999)	+1.640 (+0.50)
-TCT-1-016-		0.016	1230-1572 (374-478)	2460-3007 (749-916)	3690-4511 (1125-1375)	4921-6014④ (1499-1832)	
-TCT-1-020-		0.020	1077-1376 (327-418)	2154-2633 (656-801)	3232-3951 (984-1203)	4310-5267④ (1313-1604)	
-TCT-1.5-014-	3/32	0.014	815-1041 (248-317)	1630-1993 (496-607)	2447-2990 (745-910)	3262-3987④ (993-1214)	
-TCT-1.5-020-		0.020	617-788 (188-240)	1234-1509 (376-459)	1853-2264 (564-689)	2470-3019④ (752-919)	
-TCT-1.5-028-		0.028	495-632 (150-192)	990-1211 (301-368)	1485-1816 (452-553)	1981-2422④ (603-738)	
-TCT-2-016-	1/8	0.016	522-668 (159-203)	1046-1279 (318-389)	1570-1919 (477-584)	2093-2558④ (638-779)	
-TCT-2-020		0.020	433-554 (132-169)	868-1061 (264-323)	1302-1591 (396-485)	1737-2123④ (529-646)	
-TCT-2-028-		0.028	335-428 (101-129)	672-821 (204-249)	1008-1233 (306-375)	1344-1643④ (409-500)	
-TCT-2-035-		0.035	288-369 (88-112)	578-707 (176-215)	868-1061 (264-323)	1157-1414④ (352-431)	
-TCT-3-020-	3/16	0.020	271-347 (82-105)	544-665 (165-202)	817-998 (248-303)	1089-1331④ (332-405)	
-TCT-3-028-		0.028	204-261 (62-79)	408-499 (124-151)	612-749 (186-227)	817-998④ (249-304)	
-TCT-3-035-		0.035	171-218 (51-65)	342-418 (103-126)	513-627 (155-190)	684-836④ (207-254)	
-TCT-4-028-	1/4	0.028	738-943 (225-287)	1476-1804 (450-550)	2952-3609 (900-1100)	5905-7218 (1800-2200)	
-TCT-4-035-		0.035	605-773 (184-235)	1212-1481 (369-451)	2425-2964 (738-903)	4851-5930 (1478-1807)	
-TCT-4-049-		0.049	500-639 (152-194)	926-1131 (281-344)	1853-2264 (564-689)	3707-4530 (1129-1380)	
-TCT-4-065-		0.065	469-600 (143-182)	910-1113 (277-338)	1517-1854 (462-565)	3035-3710 (925-1130)	
-TCT-6-035-	3/8	0.035	382-488 (116-148)	765-936 (233-284)	1532-1873 (467-570)	3066-3747 (934-1141)	
-TCT-6-049-		0.049	307-393 (93-119)	570-697 (173-212)	1142-1395 (347-424)	2284-2791 (695-850)	
-TCT-6-065-		0.065	279-357 (85-109)	542-663 (164-201)	905-1106 (275-336)	1810-2213 (551-674)	
-TCT-8-035-	1/2	0.035	279-357 (84-108)	560-685 (170-207)	1121-1370 (341-416)	2243-2742 (683-834)	
-TCT-8-049-		0.049	222-284 (67-86)	413-504 (125-152)	826-1009 (251-306)	1652-2019 (503-614)	
-TCT-8-065-		0.065	199-255 (60-77)	387-473 (117-144)	645-788 (196-239)	1290-1577 (393-480)	
-TCT-8-083-		0.083	162-208 (49-63)	315-386 (96-117)	527-644 (160-195)	1054-1289 (321-392)	

Metric

FITOK P/N	Tube O.D. mm	Wall① Thickness mm	Random Length Grade②				Cut Length③ Tolerance m
			CL11M	CL21M	CL31M	CL41M	
			Length Range/m				
-TCT-3MM-0.5-	3	0.5	143-182	287-350	431-526	574-701④	+0.50
-TCT-3MM-0.8-		0.8	101-129	203-248	306-374	407-498④	
-TCT-6MM-0.8-	6	0.8	215-274	431-526	862-1053	1725-2108	
-TCT-6MM-1.0-		1.0	180-230	360-440	720-880	1440-1760	
-TCT-6MM-1.2-		1.2	167-213	311-380	622-761	1246-1523	
-TCT-6MM-1.5-		1.5	164-210	319-390	531-650	1064-1301	
-TCT-8MM-1.0-	8	1.0	127-163	256-313	513-628	1027-1256	
-TCT-8MM-1.2-		1.2	117-150	219-268	439-536	879-1074	
-TCT-8MM-1.5-		1.5	114-146	220-269	368-449	737-900	
-TCT-10MM-1.0-	10	1.0	99-126	198-243	398-487	797-974	
-TCT-10MM-1.2-		1.2	91-117	169-206	339-414	679-830	
-TCT-10MM-1.5-		1.5	86-110	168-205	280-343	562-687	
-TCT-12MM-1.0-	12	1.0	81-103	162-199	325-398	652-797	
-TCT-12MM-1.2-		1.2	74-95	137-168	276-337	553-676	
-TCT-12MM-1.5-		1.5	70-89	135-166	227-278	455-556	
-TCT-12MM-2.0-		2.0	54-70	107-130	179-218	358-437	

Notes: ① Other wall thicknesses available subject to confirmation from FITOK.
② Custom length outside the Random Length Grade Table and within the max. length range available subject to confirmation from FITOK.
③ Custom shorter cut length available.
④ Custom longer length available subject to confirmation from FITOK.

Cut Length Example
Customer requirement: coiled tubing, 304/304L stainless steel, 8 mm O. D. x 1.2 mm wall thickness, 400 m/coil length, total length 2000 m.
Recommended ordering number: S4-TCT-8MM-1.2-400M
Actual supply length is 400-400.5 m, 5 coils, total 2000 m.

Ordering Number Description

SS - TMP - 6 - 049 - 20F - 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	
0.5	1/32"	0.8MM	0.8 mm
1	1/16"	1.5MM	1.5 mm
2	1/8"	3MM	3 mm
3	3/16"	6MM	6 mm
4	1/4"	8MM	8 mm
5	5/16"	10MM	10 mm
6	3/8"	12MM	12 mm
8	1/2"	14MM	14 mm
10	5/8"	15MM	15 mm
12	3/4"	16MM	16 mm
14	7/8"	18MM	18 mm
16	1"	20MM	20 mm
20	1 1/4"	22MM	22 mm
24	1 1/2"	25MM	25 mm
32	2"	28MM	28 mm
		30MM	30 mm
		32MM	32 mm
		38MM	38 mm
		50MM	50 mm

Wall Thickness

Fractional		Metric	
010	0.010"	0.3	0.3 mm
012	0.012"	0.4	0.4 mm
014	0.014"	0.5	0.5 mm
016	0.016"	0.8	0.8 mm
020	0.020"	1.0	1.0 mm
028	0.028"	1.2	1.2 mm
035	0.035"	1.5	1.5 mm
049	0.049"	1.8	1.8 mm
065	0.065"	2.0	2.0 mm
083	0.083"	2.2	2.2 mm
095	0.095"	2.5	2.5 mm
109	0.109"	2.8	2.8 mm
120	0.120"	3.0	3.0 mm
134	0.134"	3.5	3.5 mm
156	0.156"	4.0	4.0 mm
188	0.188"	4.5	4.5 mm
		5.0	5.0 mm

Length

40N	Length 40 in. (For Straight-Length Tubing Only)
80N	Length 80 in. (For Straight-Length Tubing Only)
xxM	Length xx m (Except For Random Length Coiled Tubing)
xxF	Length xx ft (Except For Random Length Coiled Tubing)
CL11F	Random Length Grade CL11F (For Coiled Tubing Only)
CL11M	Random Length Grade CL11M (For Coiled Tubing Only)
CL21F	Random Length Grade CL21F (For Coiled Tubing Only)
CL21M	Random Length Grade CL21M (For Coiled Tubing Only)
CL31F	Random Length Grade CL31F (For Coiled Tubing Only)
CL31M	Random Length Grade CL31M (For Coiled Tubing Only)
CL41F	Random Length Grade CL41F (For Coiled Tubing Only)
CL41M	Random Length Grade CL41M (For Coiled Tubing Only)

Internal Surface Condition

	Pickling
BA	Bright Annealing
CRBA	Cold Working Followed by Bright Annealing

CRBA Process Description: precision cold worked, degreased with special cleaning agent, and bright annealed. Internal surface roughness to Ra 0.8 μm Max.

Cleaning and Packaging

	FC-01
F2	FC-02

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