

# Tubing and Pipe

FT, MT, and PI Series



- ❖ 1/8 to 1 in. and 3 to 25 mm outside diameter seamless tubing
- ❖ 316/316L stainless steel
- ❖ ASTM A213/A269

## Tubing and Pipe

### Tubing Standards

Grade	Standard specification
TP316L TP316 TP304L TP304	A269, A213, SA213

### Pipe Standards

Grade	Standard specification
TP316L TP316 TP304L TP304	A312, SA312

### Suggested Allowable Working Pressure for Stainless Steel Pipe

NPS	Schedule Number (ASME B36.19M)			
	5S	10S	40S	80S
Working Pressure, psig (bar)				
1/8		3940 (272)	5750 (397)	8700 (600)
1/4		3960 (273)	5620 (387)	8130 (560)
3/8		3110 (215)	4540 (313)	6660 (459)
1/2	2470 (170)	3220 (222)	4370 (301)	6190 (427)
3/4	1960 (135)	2540 (175)	3550 (245)	5040 (348)
1	1550 (107)	2680 (185)	3330 (229)	4650 (320)
1 1/4	1230 (85)	2110 (146)	2760 (190)	3890 (268)
1 1/2	1070 (74)	1830 (126)	2460 (170)	3520 (243)
2	840 (58)	1430 (99)	2060 (142)	2990 (206)

## Dimensions

### Metric Sizes

Nominal OD mm	Nominal Wall Thickness mm	Ordering Number	Nominal Length m	Weight kg/m	Allowable Working Pressure bar
3	0.5	MT-3-0.5-6M-TP316	6	0.021	340
	0.7	MT-3-0.7-6M-TP316		0.027	560
6	1.0	MT-6-1.0-6M-TP316		0.125	420
	1.5	MT-6-1.5-6M-TP316		0.169	710
8	1.0	MT-8-1.0-6M-TP316		0.175	310
	1.5	MT-8-1.5-6M-TP316		0.244	520
10	1.0	MT-10-1.0-6M-TP316		0.225	240
	1.5	MT-10-1.5-6M-TP316		0.319	400
12	1.0	MT-12-1.0-6M-TP316		0.275	200
	1.5	MT-12-1.5-6M-TP316		0.394	330
	2.0	MT-12-2.0-6M-TP316		0.500	470
16	1.0	MT-16-1.0-6M-TP316		0.375	140
	1.5	MT-16-1.5-6M-TP316		0.507	230
	2.0	MT-16-2.0-6M-TP316		0.651	330
18	1.0	MT-18-1.0-6M-TP316		0.425	120
	1.5	MT-18-1.5-6M-TP316		0.619	200
	2.0	MT-18-2.0-6M-TP316		0.801	290
20	2.0	MT-20-2.0-6M-TP316		0.901	260
22	2.0	MT-22-2.0-6M-TP316		1.00	230
25	2.0	MT-25-2.0-6M-TP316		1.15	200
	2.5	MT-25-2.5-6M-TP316	1.41	260	

### Fractional Sizes

Tube OD in.	Nominal Wall Thickness in.	Ordering Number	Nominal Length ft	Weight lb/ft
1/16	0.012	FT-1-0.012-20-316	20	0.010
1/8	0.028	FT-2-0.028-20-316		0.029
1/4	0.035	FT-4-0.035-20-316		0.080
	0.049	FT-4-0.049-20-316		0.105
	0.065	FT-4-0.065-20-316		0.128
3/8	0.035	FT-6-0.035-20-316		0.127
	0.049	FT-6-0.049-20-316		0.171
	0.065	FT-6-0.065-20-316		0.215
1/2	0.035	FT-8-0.035-20-316		0.174
	0.049	FT-8-0.049-20-316		0.236
	0.065	FT-8-0.065-20-316		0.302
5/8	0.065	FT-10-0.065-20-316		0.389
3/4	0.065	FT-12-0.065-20-316		0.476
1	0.083	FT-16-0.083-20-316		0.813

## Suggested Allowable Working Pressure for Stainless Steel Tubing

### Fractional Stainless Steel Seamless Tubing

Tube O.D. in.	Nominal 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															
Note: For gas service, select a tube thickness outside of the shaded area																
1/16	5600	6800	8100	9400	12000											
1/8						8500	10900									
3/16						5400	7090	10200								
1/4						4000	5190	7500	10200							
5/16							4090	5800	8000							
3/8							3390	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

### Metric Stainless Steel Seamless Tubing

Tube O.D. (mm)	Nominal 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															
Note: For gas service, select a tube thickness outside of the shaded area																
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			120	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		

## Pipe Dimensions

NPS	Outside Diameter		Outside Diameter										Schedule Number									
	In.	mm	5S	5	10S	10	20	30	40S	40	STD	60	80S	80	XS	100	120	140	160	XXS		
			Nominal Wall Thickness, mm																			
1/8	0.405	10.3			1.2	1.2		1.448	1.7	1.7	1.7		2.4	2.413	2.413							
1/4	0.540	13.7			1.7	1.7		2.2	2.2	2.2	2.2		3.0	3.0	3.0							
3/8	0.675	17.1			1.7	1.7		1.845	2.3	2.3	2.3		3.2	3.2	3.2							
1/2	0.840	21.3	1.7	1.7	2.1	2.1		2.413	2.8	2.8	2.8		3.7	3.7	3.7				4.8	7.5		
3/4	1.050	26.7	1.7	1.7	2.1	2.1		2.413	2.9	2.9	2.9		3.9	3.9	3.9				5.6	7.8		
1	1.315	33.4	1.7	1.7	2.8	2.8		2.900	3.4	3.4	3.4		4.5	4.5	4.5				6.4	9.1		
	1.660	42.2	1.7	1.7	2.8	2.8		2.972	3.6	3.6	3.6		4.9	4.9	4.9				6.4	9.7		
1 1/2	1.900	48.3	1.7	1.7	2.8	2.8		3.175	3.7	3.7	3.7		5.1	5.1	5.1				7.1	10.2		
2	2.375	60.3	1.7	1.7	2.8	2.8		3.175	3.9	3.9	3.9		5.5	5.5	5.5				8.7	11.1		
2 1/2	2.875	73.0	2.1	2.1	3.1	3.0		4.775	5.2	5.2	5.2		7.0	7.0	7.0				9.5	14.0		
3	3.500	88.9	2.1	2.1	3.1	3.0		4.775	5.9	5.5	5.5		7.6	7.6	7.6				11.1	15.2		
3 1/2	4.000	101.6	2.1	2.1	3.1	3.0		4.775	5.7	5.7	5.7		8.1	8.1	8.1				13.5			
4	4.500	114.3	2.1	2.1	3.1	3.0		4.775	6.0	6.0	6.0		8.6	8.6	8.6		11.1		15.9	17.1		
5	5.563	141.3	2.8	2.8	3.4	3.4			6.6	6.6	6.6		9.5	9.5	9.5		12.7		18.3	19.1		
6	6.625	168.3	2.8	2.8	3.4	3.4			7.1	7.1	7.1		11.0	11.0	11.1		14.3		23.0	21.9		
8	8.625	219.1	2.8	2.8	3.8	3.8	6.4	7.0	8.2	8.2	8.2	10.3	12.7	12.7	12.7	15.1	18.3	20.6	28.6	22.2		
10	10.750	273.1	3.4	3.4	4.2	4.2	6.4	7.8	9.3	9.3	9.3	12.7	12.7	12.7	12.7	15.1	18.3	21.4	25.4	33.3		
12	12.750	323.9	4.0	4.0	4.6	4.6	6.4	8.4	9.5	10.3	9.5	14.3	12.7	12.7	12.7	15.1	18.3	21.4	25.4	35.7		
14	14.000	355.6	4.0	4.0	4.8	4.8	6.4	9.5	9.5	11.1	9.5	15.1	12.7	12.7	12.7	15.1	18.3	21.4	25.4	40.5		
16	16.000	406.4	4.2	4.2	4.8	4.8	6.4	9.5	9.5	12.7	9.5	16.7	12.7	12.7	12.7	15.1	18.3	21.4	25.4	45.2		
18	18.000	457.2	4.2	4.2	4.8	4.8	6.4	9.5	9.5	12.7	9.5	16.7	12.7	12.7	12.7	15.1	18.3	21.4	25.4	50.0		
20	20.000	508.0	4.8	4.8	5.5	6.4	9.5	12.7	9.5	14.3	9.5	19.1	12.7	12.7	12.7	15.1	18.3	21.4	25.4	54.0		
22	22.000	558.8	4.8	4.8	5.5	6.4	9.5	12.7			9.5	20.6	12.7	12.7	12.7	15.1	18.3	21.4	25.4	59.5		
24	24.000	609.6	5.5	5.5	6.4	6.4	9.5	14.3	9.5	17.5	9.5	24.6	12.7	12.7	12.7	15.1	18.3	21.4	25.4			
26	26.000	660.4					8.0	12.7			9.5											
28	28.000	711.2					8.0	12.7	15.9		9.5											
30	30.000	762.0	6.4	6.4	8.0	8.0	12.7	15.9			9.5											
32	32.000	812.8					8.0	12.7	15.9	17.5	9.5											
34	34.000	863.6					8.0	12.7	15.9	17.5	9.5											
36	36.000	914.400					8.0	12.7	15.9	19.1	9.5											

**How to Order**

**MT — 16 — 2.0 — 6M — TP316L — EP**

Tubing or Pipe	Tubing O.D. or Pipe NPS	Nominal Wall Thickness or Schedule Number	Nominal Length	Grade	Surface Condition
<b>FT</b> Fractional Tubing	<b>1</b> 1/16 in.	0.010	<b>20F</b> 20 feet	TP316L	Mechanically Polished
<b>MT</b> Metric Tubing	<b>2</b> 1/8 in.	0.012	<b>10F</b> 10 feet	TP316	<b>BA</b> Bright Annealed
<b>PI</b> Pipe	<b>4</b> 1/4 in.	0.014	<b>6M</b> 6 meter	TP304L	
	<b>6</b> 3/8 in. or 6 mm	0.016	<b>3M</b> 3 meter	TP304	<b>EP</b> Electropolishing
	<b>8</b> 1/2 in. or 8 mm	0.020			
	<b>10</b> 10 mm	0.028			
	<b>12</b> 3/4 in. or 12 mm	0.035			
	<b>14</b> 14 mm	0.049			
	<b>16</b> 1 in. or 16 mm	0.8			
	<b>18</b> 18 mm	1.0			
	<b>20</b> 1 1/4 in. or 20 mm	1.2			
	<b>22</b> 22 mm	5S			
	<b>25</b> 25mm	80			
	.	160			
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