

Suggested Allowable Working Pressure for Stainless Steel Tubing

Table 1 — Fractional Stainless Steel Seamless Tubing

Allowable working pressures are calculated from an S value of 20 000 psi (137.8 MPa) for ASTM A269 tubing at -20°F to 100°F (-28°C to 37°C), as listed in ASME B31.3, except as noted. Multiply stainless steel rating by 0.94 for working pressure in accordance with 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.

Suggested Ordering Information

High-quality, fully annealed (Type 304, 304/304L, 316, 316/316L, 317, 317/317L) (seamless or welded and drawn) stainless steel hydraulic tubing, ASTM A269 or A213, or equivalent. Hardness not to exceed 90 HRB or 200 HV. Tubing to be free of scratches, suitable for bending and flaring. O.D. tolerances not to exceed ±0.003 in. for 1/16 in. O.D. tubing.

Note: Certain austenitic stainless tubing has an allowable ovality tolerance double the O.D. tolerance and may not fit into FITOK precision tube fittings. Dual-certified grades such as 304/304L, 316/316L, and 317/317L meet the minimum chemistry and the mechanical properties of both alloy grades.

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															
1/16	5600	6800	8100	9400	12000	8500	10900									
1/8						5400	7000	10200								
3/16						4000	5100	7500	10200							
1/4							4000	5800	8000							
5/16							3300	4800	6500							
3/8							2600	3700	5100	6700						
1/2								2900	4000	5200	6000					
5/8								2400	3300	4200	4900	5800				
3/4								2000	2800	3600	4200	4800				
7/8									2400	3100	3600	4200	4700			
1										2400	2800	3300	3600	4100	4900	
1 1/4												2300	2700	3000	3400	4000
1 1/2																4900

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