

TUBES

Dimensions, and Pressure Ratings

METRIC SIZES:

Allowable working pressures are based on equations from ASME B31 .3 and ASME B31 .1 for EN ISO 1127 tubing (D4, T4 tolerance for 3 to 12 mm; D4, T3 tolerance 14 to 50 mm), using a stress value of 137 .8 MPa (20 000 psi) and tensile strength of 516 .4 MPa (74 900 psi).

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

IMPERIAL SIZES

Allowable working pressures are calculated from an S value of 20 000 psi (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.

Tube OD in .	Tube Wall in .	Weight kg/m	Working Pressure psig
1/16	0.014	0.01	8 100
	0.020	0.01	12 000
1/8	0.028	0.04	8 500
	0.035	0.05	10 900
1/4	0.035	0.12	5 100
	0.049	0.16	7 500
	0.065	0.19	10 200
3/8	0.035	0.19	3 300
	0.049	0.25	4 800
	0.065	0.32	6 500
1/2	0.035	0.26	2 600
	0.049	0.35	3 700
	0.065	0.45	5 100
	0.083	0.55	6 700
5/8	0.049	0.45	2 900
	0.065	0.58	4 000
3/4	0.049	0.56	2 400
	0.065	0.71	3 300
1	0.083	1.2	3 100

PRESSURE RATINGS AT ELEVATED TEMPERATURES

To determine elevated-temperature pressure ratings in accordance with B31 .3 and B31 .1, multiply the pressure ratings provided in the tables above by the factors in the table below .

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

Dual-certified grades 304 / 304L and 316 / 316L meet the requirements for the lower maximum carbon content of the L grades and for the higher minimum yield and tensile strength of the non-L grades .