

## Maximum Allowable Working Pressure Tables

Tables 2, 3 and 4 list the maximum working pressure of various tubing sizes, according to material. Acceptable tubing diameters and wall thicknesses are those for which a rating is listed. O.D./I.D. combinations which do not have a pressure rating are not recommended for use with MPI™ Fittings.

### MPI™ 316/317 Cold Drawn Stainless Steel Tubing

MPI™ tubing is marked “MPI” and is designed to provide optimum performance for MPI™ fittings. MPI™ tubing is nominal OD (±.003”) 316 seamless stainless steel, cold drawn – 1/8 hard (cold drawn) tubing. Tensile strength is approximately 40% higher than annealed tubing.

**Table 2 – 316 or 317 Stainless Steel (Seamless / Cold Drawn – 1/8 Hard for 15,000 psi MAWP applications)**

Tube Size (in.)	Nominal OD (in.)	Nominal ID (in.)	Working Pressure (psi)	MPI™ Tube Part No.*
1/4	.250	.125	15,000	4-240 MPITube-SS-15K
3/8	.375	.219	15,000	6-240 MPITube-SS-15K
9/16	.562	.344	15,000	9-240 MPITube-SS-15K
3/4	.750	.469	15,000	12-240 MPITube-SS-15K
1	1.000	.656	12,500	16-240 MPITube-SS-12K

**NOTES:**

Sizes 3/4" & 1" MPI™ tubing require hydraulic presetting when used with MPI™ fittings.

Working pressures are calculated using an allowable stress of 35,000 psi for 1/8 hard 316 and 317 tubing with a minimum tensile strength of 105,000 psi.

Dimensions in inches are for reference only, subject to change.

\* To order 317 tube replace SS with 317

### 316/316L Cold Drawn Stainless Steel Cone & Thread Tubing

Medium Pressure Cone & Thread (C&T) tubing is available as 1/8 hard 316 seamless stainless steel tubing and MPI™ is designed to work with existing C&T albeit to a pressure lower than marked on the tubing as C&T tubing is undersized by as much as .010" to fit the threading dies. MPI™ fittings work effectively with C&T tubing as listed below but **require hydraulic presetting** for optimum performance.

**Table 3 – 316 Stainless Steel (Undersized OD, Seamless /Cold Drawn – 1/8 Hard)**

Tube Size (in.)	Maximum OD (in.)	Nominal ID (in.)	Working Pressure (psi)	Parker Autoclave Part Number
1/4	.250	.109	12,500	MS15-092
3/8	.375	.203	12,500	MS15-093
9/16 (1)	.562	.312	12,500	MS15-085
9/16 (2)	.562	.359	10,000	MS15-097
3/4	.750	.516	10,000	MS15-098
1	1.000	.688	10,000	MS15-099

<sup>1</sup> Medium Pressure Tubing with .312" ID will be marked with 20,000 psi working pressure. Working pressure used with MPI fittings or valves is limited to pressure max in chart above.

<sup>2</sup> Medium Pressure Tubing with .359" ID will be marked with 15,000 psi working pressure. Working pressure used with MPI fittings or valves is limited to pressure max in chart above.

### Instrumentation Grade Heavy Wall Tubing

**Table 4 – 316 or 317 Stainless Steel (Seamless / Annealed)**

Tube Size (in.)	Tube Wall Thickness (in.)								
	.065	.083	.095	.109	.120	.134	.156	.188	.220
Working Pressure (psi)									
1/4	10,300	13,300	-	-	-	-	-	-	-
3/8	6,600	8,600	10,000	11,700	-	-	-	-	-
1/2	-	6,700	7,800	9,100	10,000	11,400	-	-	-
3/4	-	-	-	5,800	6,400	7,300	8,600	10,600	-
1	-	-	-	-	4,700	5,300	6,200	7,700	9,200

**NOTE:** Working pressures calculated using an allowable stress of 20,000 psi for annealed 316 stainless steel tubing with a nominal O.D. tolerance of ±.005".

Dimensions in inches are for reference only, subject to change.

**Ordering Suggestion:**

Fully annealed, high-quality type 316/316L stainless steel tubing ASTM A269 or A213, or equivalent. Hardness not to exceed 90 HRB. Tubing to be free of scratches, suitable for bending and flaring.