



HOW TO CALCULATE WORKING PRESSURES FOR TYGON TUBING

Maximum working pressure of Tygon tubing varies with different formulations. In addition, the working pressure is affected by temperature and three other factors:

1. **SIZE AND WALL THICKNESS.** Working pressure increases as wall thickness increases relative to bore size.
2. **TIME.** If pressure exceeding the maximum working pressure is maintained over a period of time, tubing will gradually swell, and eventually rupture.
3. **MATERIAL TRANSMITTED.** Tygon tubing can handle almost any material over short periods of time. However, prolonged exposure to these substances tends to cause swelling and loss of normal tensile strength.

The "Working Pressures" chart below contains maximum pressures, at room temperature, for various sizes of Tygon tubing formulations. Multiply "Maximum Suggested Working Pressure" shown in the chart by the appropriate factor:

PRESSURE FACTOR CHART

S-50-HL value x 0.90	R-1000 value x 0.30
B-44-4X value x 1.00	R-3603 value x 0.70
R-3400 value x 1.05	Fluran® F-5500-A value x 0.30
F-4040-A value x 0.80	

TYGON TUBING WORKING PRESSURES

Tygon Formulation B-44-3 Shown, use "Pressure Factor" Chart above to determine maximum pressures for other formulations.

Inside Diameter (in.)	Outside Diameter (in.)	Wall Thk. (in.)	Max. Suggested Working Pressure @73°F (psi)
1/16	3/16	1/16	106
3/32	7/32	1/16	78
1/8	1/4	1/16	62
5/32	9/32	1/16	52
3/16	5/16	1/16	45
1/4	3/8	1/16	36
5/16	7/16	1/16	30
3/8	1/2	1/16	26
7/16	9/16	1/16	23
1/2	5/8	1/16	20
3/16	3/8	3/32	62
1/4	7/16	3/32	49
5/16	1/2	3/32	41
3/8	9/16	3/32	36
7/16	5/8	3/32	31
1/2	11/16	3/32	28
9/16	3/4	3/32	26
5/8	13/16	3/32	24
11/16	7/8	3/32	22

Inside Diameter (in.)	Outside Diameter (in.)	Wall Thk. (in.)	Max. Suggested Working Pressure @73°F (psi)
3/16	7/16	1/8	78
1/4	1/2	1/8	62
5/16	9/16	1/8	52
3/8	5/8	1/8	45
7/16	11/16	1/8	39
1/2	3/4	1/8	36
9/16	13/16	1/8	32
5/8	7/8	1/8	30
11/16	15/16	1/8	28
3/4	1	1/8	26
7/8	1-1/8	1/8	23
1	1-1/4	1/8	20
1-1/8	1-3/8	1/8	19
1-1/4	1-1/2	1/8	17
1/2	13/16	5/32	42
9/16	7/8	5/32	39
5/8	15/16	5/32	36
11/16	1	5/32	33
3/4	1-1/16	5/32	31
7/8	1-3/16	5/32	27
1	1-5/16	5/32	24

Inside Diameter (in.)	Outside Diameter (in.)	Wall Thk. (in.)	Max. Suggested Working Pressure @73°F (psi)
3/4	1-1/8	3/16	36
1	1-3/8	3/16	28
1-1/8	1-1/2	3/16	26
1-1/4	1-5/8	3/16	24
1-1/2	1-7/8	3/16	20
3/4	1-1/4	1/4	45
1	1-1/2	1/4	36
1-1/4	1-3/4	1/4	30
1-1/2	2	1/4	26
1-3/4	2-1/4	1/4	23
2	2-1/2	1/4	20
2-1/4	2-3/4	1/4	19
2-1/2	3	1/4	17
3	3-1/2	1/4	15
2	2-3/4	3/8	28
2-1/2	3-1/4	3/8	24
3	3-3/4	3/8	20
2	3	1/2	36
3	4	1/2	26
4	5	1/2	20