

TYGON® R-1000 Ultra-Soft Tubing



Tygon® Ultra-Soft Tubing provides unmatched flexibility and drapeability – characteristics beneficial to numerous laboratory set-ups.

A Flexible Alternative to Complex Laboratory Set-ups

Extremely flexible, Tygon® Ultra-Soft Tubing is the solution to applications requiring maximum drapeability and kink resistance. Even under laboratory set-ups with abrupt radius curves and multiple directional changes, Tygon® Ultra-Soft Tubing resists twisting and collapse — common problems when using other tubing products. Tygon® Ultra-Soft Tubing stays flexible at temperatures as low as -100°F (-73°C). Its smooth bore facilitates easy cleaning and helps prevent possible buildup.

The Preferred Tubing in Low-Torque Peristaltic Pumps

The extremely low durometer of Tygon® Ultra-Soft Tubing provides minimal resistance to compression. This feature is ideal when using low-torque or battery-driven peristaltic pumps and provides an excellent alternative to silicone tubing where corrosive chemicals are used. Tygon® Ultra-Soft Tubing will typically outlast silicone tubing in peristaltic pump applications by a margin of 2 to 1.

An extremely soft and flexible tubing that offers minimal resistance to compression

Features/Benefits

- Ultra-soft and flexible
- Performs well at low temperatures (to -100°F)
- Excellent for use in low-torque pump applications
- Resistant to a broad range of corrosive chemicals
- Meets FDA CFR part 175.3000

Typical Applications

- General laboratory
- Analytical instruments
- Peristaltic pumps
- Vent and drain lines

Saint-Gobain Part Number	I.D. (inches)	O.D. (inches)	Wall Thickness (inches)	Length (feet)	Minimum Bend Radius (inches)	Maximum Working Pressure at 73°F (psi)*	Vacuum Rating, In. of Mercury at 73°F
AAU00003	1/16	3/16	1/16	50	1/8	55	29.9
AAU00007	1/8	1/4	1/16	50	3/8	30	29.9
AAU00012	3/16	5/16	1/16	50	5/8	20	25.0
AAU00017	1/4	3/8	1/16	50	1	15	13.0
AAU00019	1/4	1/2	1/8	50	5/8	30	29.9
AAU00022	5/16	7/16	1/16	50	1-3/8	15	9.0
AAU00027	3/8	1/2	1/16	50	1-3/4	10	6.0
AAU00029	3/8	5/8	1/8	50	1-1/8	20	25.0
AAU00036	1/2	5/8	1/16	50	2-7/8	10	3.0
AAU00038	1/2	3/4	1/8	50	1-3/4	15	13.0

*Working pressures are calculated at a 1.5 ratio relative to burst pressure using ASTM D1599.

The values listed for working and burst pressures are derived from tests conducted under controlled laboratory conditions. Many factors will reduce the tubing's ability to withstand pressures including temperature, chemical attack, stress, pulsation and the attachment to fittings. It is imperative that the user conduct tests simulating the conditions of the application prior to specifying the tubing for use.

TYGON® R-1000 Typical Physical Properties

Property	ASTM Method	Value or Rating
Durometer Hardness Shore A, 15 Sec	D2240-02	40
Color	—	Clear
Tensile Strength, psi (MPa)	D412-98	1,200 (8.3)
Ultimate Elongation, %	D412-98	375
Tear Resistance, lb-f/inch (kN/m)	D1004-94	52 (9)
Specific Gravity	D792-00	1.12
Water Absorption, % 24 hours at 23°C	D570-98	0.30
Compression Set Constant Deflection, % @ 158°F (70°C) for 22 hours	D395-01 Method B	57
Brittleness By Impact Temp., °F (°C)	D746-98	-103 (-75)
Maximum Recommended Operating Temperature °F (°C)	—	125 (52)
Dielectric Strength v/mil (kV/mm)	D149-97	500 (19.7)
Tensile Modulus, @ 100% Elongation, psi (MPa)	D412-98	330 (2.2)
Tensile Set, %	D412-98	73

TYGON® R-1000 Tubing is not intended for use as an implant material.

Unless otherwise noted, all tests were conducted at room temperature (73°F). Values shown were determined on 0.075" thick extruded strip or 0.075" thick molded ASTM plaques or molded ASTM durometer buttons.

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