

# TYGON® E-1000

## Let the Evolution Continue

### Features/Benefits

- Soft and flexible for lab set-ups
- Low-temperature resistant for low level cryogenic applications
- Resistant to corrosive chemicals for laboratory applications
- Low durometer for use in low-torque pump applications
- Meets FDA requirements for food contact

### Typical Applications

- Synthesis and research set ups
- Analytical instruments
- Buffer solutions
- Peristaltic pumps
- Vent and drain lines

Soft and flexible, new Tygon® E-1000 Non-DEHP Laboratory Tubing delivers the same superior performance you have come to expect from Tygon® tubing but now in a formulation that contains non-DEHP [Bis (2-ethylhexyl) phthalate] plasticizers. The market demand and certain global and regional requirements such as Europe's REACH, EU Food directives and California Prop 65 motivated Saint-Gobain Performance Plastics (SGPPL) to develop tubing products that contain a globally accepted substitute for DEHP. In addition SGPPL moving to non-DEHP tubing is part of our commitment to our customers for products' safety and quality. The new Tygon® E-1000 Non-DEHP Laboratory Tubing has been tested rigorously to ensure that it meets the same physical standards, including low temperature and corrosive chemicals resistance as the old Tygon® R-1000 tubing.

### Ideal Selection for Complex Laboratory Set-ups

Tygon® E-1000 tubing is an excellent solution to applications requiring complicated laboratory set-ups with sharp radius curves and multiple directional changes. Tygon® Ultra-Soft Tubing resists twisting and collapse, which are common problems when using other tubing products. Tygon® E-1000 tubing stays flexible at temperature as low as -67F (-55C).

### The Preferred Tubing in Low-Torque Peristaltic Pumps

The extremely low durometer (40) of Tygon® E-1000 provides minimal resistance to compression. This feature is ideal when using low-torque or battery-driven peristaltic pumps. Tygon® E-1000 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.



## Typical Physical Properties

Property	ASTM Method	Tygon® E-1000 Value or Rating
Durometer Hardness (Shore A), 15s	D2240	40
Tensile Strength, psi (MPa)	D412	1,075 (7.4)
Ultimate Elongation, %	D412	435
Tensile Stress @ 100 % elongation, psi (MPa)	D412	286 (2.0)
Tear Resistance, lb-f/inch (kN/m)	D1004	104 (18.2)
Compression Set Constant Deflection, % @ 158°F (70°C) for 22 hours	D395 Method B	55
Brittle Temperature, °F (°C)	D746	-67 (-55)
Specific Gravity	D792	1.10
Water Absorption, % 24 hrs at 73°F (23°C)	D570	0.29
Maximum Recommended Operating Temperature °F (°C)	-	125 (52)
Color	-	Clear

Unless otherwise noted, all tests were conducted at room temperature (73°F/23°C). Values shown were determined on 0.075"/1.9 mm thick extruded strip or 0.075"/1.9 mm thick molded ASTM plaques or molded ASTM durometer buttons.

## Product Characteristics

Opacity	Clear
FDA Approved for Food Contact	Yes
Contains REACH SVHC	No
NSF 51 Standard	PENDING
Sterilization Methods	Gas
USP Class VI	No

## Relative Chemical Resistance Properties For TYGON® E-1000\*

Acids			Bases			Salts	Alcohols	Ketones
conc.	med.	weak	conc.	med.	weak			
F	E	E	E	E	E	E	F	U

E = Excellent F = Fair U = Unsatisfactory \*All tests conducted at room temperature.

## TYGON® E-1000 Inventoried Sizes

Saint-Gobain Part Number	I.D.		O.D.		Wall Thickness		Length		Minimum Bend Radius		Maximum Working Pressure		Vacuum Rating of Mercury at	
	ln.	mm	ln.	mm	ln.	mm	Ft.	m	ln.	mm	psi at 73°F	bars at 23°C	inches at 73°F	mm at 23°C
	ADK00003	1/16	1.6	3/16	4.8	1/16	1.6	50	15	1/8	3.2	26	1.8	29.9
ADK00007	1/8	3.2	1/4	6.4	1/16	1.6	50	15	3/8	9.5	16	1.1	29.9	760
ADK00012	3/16	4.8	5/16	7.9	1/16	1.6	50	15	5/8	15.9	10	0.7	15	381
ADK00017	1/4	6.4	3/8	9.5	1/16	1.6	50	15	1	25.4	8	0.6	7	178
ADK00019	1/4	6.4	1/2	12.7	1/8	3.2	50	15	5/8	15.9	14	0.9	29.9	760
ADK00022	5/16	7.9	7/16	11.1	1/16	1.6	50	15	1 3/8	34.92	7	0.5	5	127
ADK00027	3/8	9.5	1/2	12.7	1/16	1.6	50	15	1 3/4	44.45	7	0.5	3	76
ADK00029	3/8	9.5	5/8	15.9	1/8	3.2	50	15	1 1/8	28.57	11	0.8	15	381
ADK00036	1/2	12.7	5/8	15.9	1/16	1.6	50	15	2 7/8	73.02	6	0.4	2	51
ADK00038	1/2	12.7	3/4	19.0	1/8	3.2	50	15	1 3/4	44.45	8	0.6	7	178

More sizes available upon request.

TYGON® is a trademark.



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**IMPORTANT:** It is the user's responsibility to ensure the suitability and safety of Saint-Gobain Performance Plastics tubing for all intended uses. Laboratory and clinical tests must be conducted in accordance with applicable regulatory requirements in order to determine the safety and effectiveness for use of tubing in any particular application.

For a period of 6 months from the date of first sale, Saint-Gobain Performance Plastics Corporation warrants this product to be free from defects in materials and workmanship. Our only obligation will be to replace any portion proving defective, or at our option, to refund the purchase price thereof. User assumes all other risk, if any, including the risk of injury, loss or damage, direct or consequential, arising out of the use, misuse, or inability to use, this product. THIS WARRANTY IS IN LIEU OF THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE, AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. No deviation is authorized.

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