



# Tygon S3™ E-LFL

## Clear Peristaltic Pump Tubing

### Clear tubing ideal for peristaltic pumps

Tygon S3™ E-LFL clear peristaltic pump tubing is formulated specifically for use in peristaltic pump applications. It has superior pump life compared to other clear tubes not only at 0 psi but also at back pressures up to 25 psi. Its unrivaled performance reduces production downtime due to pump tubing failure in applications such as bioprocessing, food dispensing or laboratory analysis.

### Bio-based formulation for enhanced performance

Non-DEHP Tygon S3™ E-LFL is made with bio-based plasticizers which increase pump performance while simultaneously reducing environmental impact. In addition, Tygon S3™ E-LFL has higher resistance to gas permeation compared to silicone, protecting your sensitive fluids from oxidation or adulteration.

### Biocompatible and safe for food contact

Tygon S3™ E-LFL comes complete with biocompatibility testing which can be found in the Validation Guide Summary on the Saint-Gobain Bioprocess Solutions website. It is compliant with United States FDA food contact criteria as well as European Union Regulation EU 10/2011 food contact criteria.\* In addition, Tygon S3™ E-LFL carries NSF®-51 certification for use in commercial food processing applications.

\*For complete compliance information and appropriate use instructions, please refer to the detailed document of compliance which can be obtained by contacting Saint-Gobain.

### Features / Benefits

- Longest flex life of any clear Tygon® tubing, reduces downtime due to pump failure
- Excellent for laboratory applications
- Can be autoclaved — suitable for high purity applications
- Extremely low particle spallation — reliable for sensitive-fluid applications
- Meets USP Class VI, NSF-51, and FDA food additive regulation and EU 10/2011 for its intended use
- Suitable for laboratory analysis, diagnostics and food contact applications

### Single-Use Applications

- Wide range of liquid transfer in labs and bioprocess applications
- Production filtration and fermentation
- Food and cosmetic processing
- Surfactant delivery
- Flavor and vitamin concentrate dispensing
- Printing ink transfer
- Highly viscous fluid transfer
- Drum and tank drainage
- Shear-sensitive fluid transfer

## Typical Physical Properties

Property	ASTM Method	Value or Rating
Color	-	Clear
Durometer Hardness Shore A, 15 Sec	D2240	56
Maximum Service Temperature, °F (°C)	-	165 (74)
Brittleness by Impact Temp., °F (°C)	D746	-51 (-46)
Low Temp. Flexibility, °F (°C)	D380	-67 (-55)
Water Absorption, % 24 hrs. @ 23°C	D570	0.20

## Sterilization Methods

Autoclavable	30 min at 121 °C
Gas (Ethylene Oxide)	Yes

## Tygon S3™ E-LFL Standard Sizes

Saint-Gobain Part Number	I.D.	O.D.	Wall Thickness	Length	Minimum Bend Radius	Maximum Working Pressure		Vacuum Rating	
						psi at 73°F	bar at 23°C	in. Hg 73°F	mm Hg 23°C
						in. (mm)	in. (mm)	in. (mm)	ft. (m)
AVX42003	1/16 (1.6)	3/16 (4.8)	1/16 (1.6)	25 (7.6)	1/4 (6)	50	3.5	29.9	760
AVX42007	1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	25 (7.6)	1/2 (13)	34	2.3	29.9	760
AVX42012	3/16 (4.8)	5/16 (7.9)	1/16 (1.6)	25 (7.6)	3/4 (19)	25	1.7	29.9	760
AVX42017	1/4 (6.4)	3/8 (9.5)	1/16 (1.6)	25 (7.6)	1 (25)	20	1.4	15.0	381
AVX42019	1/4 (6.4)	1/2 (12.7)	1/8 (3.2)	25 (7.6)	3/4 (19)	35	2.4	29.9	760
AVX42022	5/16 (7.9)	7/16 (11.1)	1/16 (1.6)	25 (7.6)	1-1/4 (32)	16	1.1	10.0	254
AVX42029	3/8 (9.5)	5/8 (15.9)	1/8 (3.2)	25 (7.6)	1 (25)	25	1.7	29.9	760
AVX42038	1/2 (12.7)	3/4 (19.0)	1/8 (3.2)	25 (7.6)	1-1/2 (38)	20	1.4	20.0	508
AVX06057	3/4 (19.0)	1-1/4 (31.8)	1/4 (6.4)	10 (3.0)	1-3/4 (44)	24	1.7	29.9	760
AVX06064	1 (25.4)	1-3/8 (34.9)	3/16 (4.8)	10 (3.0)	3-1/4 (83)	15	1.0	5.0	127

Working pressures are calculated at a 1:5 ratio relative to burst pressure using ASTM D1599.

## Peristaltic Pump Tubing Life

The table below illustrates hours until tubing rupture of 1/4" (6.4 mm) ID x 3/8" (9.5 mm) OD tubing for 0, 10 and 15 psi and 1/4" (6.4 mm) ID x 7/16" (11.1 mm) OD tubing for 25 psi. In each case, a 3-roller pump head was utilized operating at 600 rpm under room temperature 73°F (23°C).

### Tygon® E-LFL

0 psi (0 bar)	1000 HOURS
10 psi (0.7 bar)	600 HOURS
15 psi (1 bar)	200 HOURS
25 psi (1.7 bar)	150 HOURS

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.



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