

TYGON S3™
Safe Smart Sustainable



Tygon S3™ E-3603



Phthalate-free Tubing for Food and Beverage Dispensing

Tygon S3™ E-3603 tubing from Saint-Gobain Performance Plastics is now phthalate-free. Saint-Gobain is proud to be among the first companies to offer sustainable flexible tubing products. The bio-based Tygon S3™ line combines the high performance standards customers demand with an eco-friendly tubing design. Crystal clear and flexible, long-lasting and crack-resistant, the new Tygon S3™ E-3603 tubing delivers the same superior performance you have come to expect, but now in a formulation that contains a phthalate-free plasticizer.

Tygon S3™ E-3603 tubing handles the most stringent foods and beverages. It is non-oxidizing and non-contaminating, and less permeable than rubber tubing. The glassy smooth inner bore helps prevent buildup to facilitate cleaning. Coils are marked at 30.4 cm intervals for easy measuring.

Engineered to Last

Tygon S3™ E-3603 tubing is specially formulated for resistance to flex-fatigue and abrasion. Tygon S3™ E-3603 tubing offers superior life, which minimizes the labor and expense of replacement.

Available in Vacuum Tubing Sizes

Tygon S3™ E-3603 vacuum tubing has extra-heavy walls that will withstand a full vacuum at room temperature (759 mm of mercury at 23˚C and up to 686 mm of mercury at 60˚C). Tygon S3™ E-3603 vacuum tubing resists most inorganic chemicals and can be used in corrosive atmospheres.

Regulatory Standards

Tygon S3™ E-3603 tubing complies with FDA, NSF, meets USP Class VI, Japan Food Sanitation Law # 370/1959, REACH, 1935/2004/EC and 10/2011/EU for many foods and beverages. Tygon S3™ tubing products do not contain chemicals listed in California's Proposition 65.

Features and Benefits

- Outstanding chemical resistance
- Lot-to-lot consistency for reproducible results
- Non-oxidizing and non-contaminating
- Smooth, polished inner wall
- Slips easily over fittings and grips securely for simple lab set-ups
- Contains no BPA or phthalates
- Standard sizes available to hold full vacuum at room temperature

Regulatory Compliance*

- FDA
- NSF
- USP Class VI
- REACH
- 1935/2004/EC and 10/2011/EU
- Japan Food Sanitation Law #370/1959
- Contains no chemicals listed in California's Proposition 65

* For complete compliance information and appropriate use instructions, please refer to the detailed document of compliance. The complete compliance information and use instructions can be found at www.TygonS3.com.

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www.processsystems.saint-gobain.com

Relative Chemical Resistance Properties*

Acids			Bases			Salts	Alcohols	Ketones	Hydrocarbons
Conc.	Med.	Weak	Conc.	Med.	Weak				
F	E	E	F	E	E	E	F	U	U

E = Excellent F = Fair U = Unsatisfactory

*All tests conducted at room temperature.

Product Characteristics**

Opacity	Clear
FDA Compliant for Food Contact	Yes
NSF 51 Standard	Yes

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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 S3™ E-3603 TUBING IS NOT INTENDED FOR USE AS AN IMPLANT MATERIAL.

Typical Physical Properties

Property	ASTM Method	Value or Rating
Durometer Hardness, Shore A, 15s	D2240	56
Tensile Strength, psi (MPa)	D412	1,750 (12.1)
Ultimate Elongation, %	D412	425
Tear Resistance, lb-f/in (kN/m)	D1004	173 (31.0)
Specific Gravity	D792	1.21
Water Absorption, % at 73°F (23°C) for 24 hrs.	D570	0.21
Compression Set Constant Deflection, % at 158°F (70°C) for 22 hrs.	D395 Method B	64
Brittleness by Impact Temp.,°F (°C)	D746	-51 (-46)
Maximum Recommended Operating Temp., °F (°C)	—	165 (74)
Tensile Stress @ 100% Elongation, psi (MPa)	D412	582 (4.0)
Tensile Set, at 75% Elongation	D412	95
Color	—	Clear

Unless otherwise noted, all tests were conducted at room temperature 73°F (23°C). Values shown were determined on 0.075" (1,905 mm) thick extruded strip or 0.075" (1,905 mm) thick molded ASTM plaques or molded ASTM durometer buttons.

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NOTE: The data and details given in this document are correct and up to date. This document is intended to provide information about the product and possible applications. This document is not the product specification and does not provide specific features, nor does it guarantee product performance in specific applications. Saint-Gobain cannot anticipate or control the conditions of the field and for this reason strongly recommends that practical tests are conducted to ensure that the product meets the requirements of a specific application.

Tygon S3™ is a trademark of Saint-Gobain Performance Plastics.

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