



BIOPHARMACEUTICAL

Tubing Selection Guide

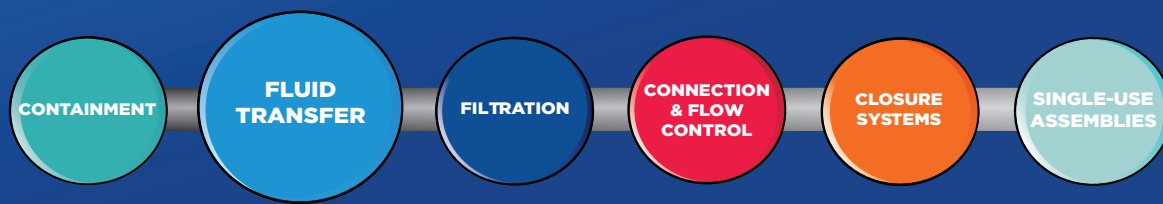
C-Flex®

Sani-Tech®

PharMed®

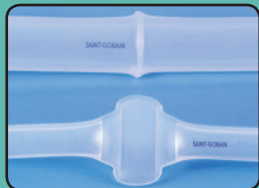
PharmaPure®

PharmaFluor®



Your Trusted Partner in fluid management solutions

Saint-Gobain Bioprocess Solutions combines material expertise and application knowledge to offer a wide array of custom and configurable fluid management solutions. Place your trust in our industry-leading quality systems, technical support and validation services to find the optimum answers to your most complex fluid management challenges.



C-Flex® 374
C-Flex® 082

C-Flex® 374 and 082 are specifically designed for aseptic welding connections and sealing disconnections. These translucent TPE formulations allow fluid visibility in biopharmaceutical applications. C-Flex tubing has a secure global supply chain with redundant validated manufacturing sites in the United States and Europe. C-Flex is moldable, bondable, formable and ideal for single-use assemblies, overmolds and manifolds.



C-Flex® 072

C-Flex® 072 TPE tubing is recommended for peristaltic pumping applications. Also designed for aseptic welding connections and sealing disconnections, its opacity protects light-sensitive fluids in biopharmaceutical manufacturing. C-Flex is moldable, bondable, formable and ideal for single-use assemblies, overmolds and manifolds.



C-Flex® Braided

C-Flex® Braided is constructed of C-Flex 082 translucent resin, a commonly validated TPE material in biopharmaceutical applications, and reinforced with polyester yarn. C-Flex Braided is specially constructed to meet the critical demands of high pressure fluid processing in pharmaceutical and biopharmaceutical applications.



Sani-Tech®
STHT®-C
STHT®-65

Sani-Tech® STHT-C and STHT-65 are widely validated platinum-cured silicone tubing. Ideal for bioprocessing applications, Sani-Tech STHT-C and STHT-65 tubing may be sterilized via gamma irradiation or autoclave. Laser-marked part numbers and lot codes provide product traceability. Sani-Tech STHT-C has a nominal hardness of 50-Shore A and Sani-Tech STHT-65 has a nominal hardness of 65 Shore A.



Sani-Tech®
Ultra-C
Ultra-65

Sani-Tech® Ultra-C and Ultra-65 are the next generation in ultra-pure platinum-cured silicone tubing. Ultra-low extractables and longer peristaltic pump life make this tubing ideal for the biopharmaceutical industry. Laser-marked part numbers and lot codes provide product traceability. Sani-Tech STHT-C has a nominal hardness of 50-Shore A and Sani-Tech STHT-65 has a nominal hardness of 65 Shore A.



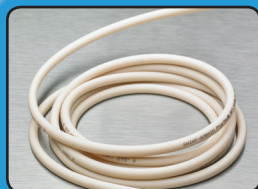
Sani-Tech®
STHT®-R

Sani-Tech® STHT-R is a braid-reinforced, platinum-cured silicone tubing developed for high-pressure fluid transfer applications. Sani-Tech STHT-R withstands repeated autoclaving and is manufactured with Sani-Tech 65 resin, a high purity and commonly validated material in the biopharmaceutical industry.



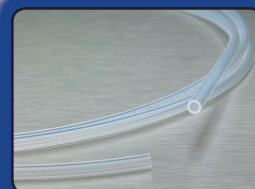
PharmaPure®

PharmPure® is the next generation peristaltic pump tubing for the biopharmaceutical industry. Designed with multiple layers, its low spallation properties reduce downstream particle contamination.



PharMed®
BPT

PharMed® BPT is the trusted standard for peristaltic pump applications. With a long history of success in biopharmaceutical applications, PharMed BPT will withstand the most aggressive peristaltic pump conditions.



PharmaFluor®
FEP

PharmaFluor® FEP is an ideal choice for applications requiring high purity or contact with aggressive chemicals. The low absorption characteristics and low extractables of PharmaFluor FEP make it especially suitable for highly sensitive fluid transfer during purification and aseptic filling operations.

Biopharmaceutical tubing to meet any application need

Saint-Gobain's tubing portfolio encompasses a range of material types to meet the needs of the bioprocessing industries. Offered in standard and custom sizes, our biocompatible tubes are supported by Validation Guides and technical expertise. Combine these tubing solutions with Pure-Fit® fittings, Saint-Gobain single-use bags and Saint-Gobain filters to create single-use systems that protect your most critical bioprocessing fluids.

NR Not Recommended

+ Good

++ Very Good

+++ Excellent

	C-Flex® 374 C-Flex® 082	C-Flex® 072	C-Flex® Braided	Sani-Tech® STHT®-C Sani-Tech® STHT-65®	Sani-Tech® Ultra-C Sani-Tech® Ultra-65®	Sani-Tech® STHT®-R	PharmaPure®	PharMed® BPT	PharmaFluor® FEP
Material Type	TPE	TPE	Braided TPE	Silicone	Silicone	Braided Silicone	TPE	TPE	Fluoropolymer
Hardness (typical)	60 Shore A	60 Shore A	60 Shore A	50 Shore A 65 Shore A	50 Shore A 65 Shore A	65 Shore A	65 Shore A	64 Shore A	55 Shore D*
Appearance	Translucent	Opaque	Translucent, reinforced	Translucent	Translucent	Translucent	Opaque	Opaque	Translucent
Aseptic Sealing and Welding	Yes	Yes	No	No	No	No	No	No	No
Peristaltic Pump Life	+	++	NR	+	++	NR	+++	+++	NR
Extraction Profile	+	+	+	++	+++	++	+	+	+++
Working Pressure >90psi (690 kPa)	No	No	Yes	No	No	Yes	No	No	Yes
Autoclave Sterilization	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Gamma Sterilization	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	NR
Max Temp	135°C (275°F)	135°C (275°F)	135°C (275°F)	260°C (500°F)	260°C (500°F)	260°C (500°F)	135°C (275°F)	135°C (275°F)	204°C (400°F)
Minimum Temp	-45°C (-50°F)	-45°C (-50°F)	-45°C (-50°F)	-62°C (-80°F)	-62°C (-80°F)	-62°C (-80°F)	-40°C (-40°F)	-40°C (-40°F)	-73°C (-100°F)
Chemical Compatibility	See Chemical Compatibility Chart								
Can be included in molded assemblies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No

* Shore D is a higher (harder) scale of hardness than Shore A.

Saint-Gobain Life Sciences

Saint-Gobain Life Sciences has worldwide production and sales capabilities in 70 countries across the globe. This includes 19 manufacturing sites with wide-ranging production capabilities and manufacturing redundancy.



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Saint-Gobain Life Sciences

www.biopharm.saint-gobain.com

IMPORTANT: It is the user's responsibility to ensure the suitability and safety of Saint-Gobain Life Sciences products for all intended uses and that the materials to be used comply with all applicable medical regulatory requirements. Saint-Gobain Life Sciences assumes no responsibility for any product failures that occur due to misuse of the materials it provides arising out of the design, fabrication or application of the products into which the materials are incorporated.

WARRANTY: For a period of 12 months from the date of first sale, Saint-Gobain Life Sciences warrants this product to be free of 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.

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