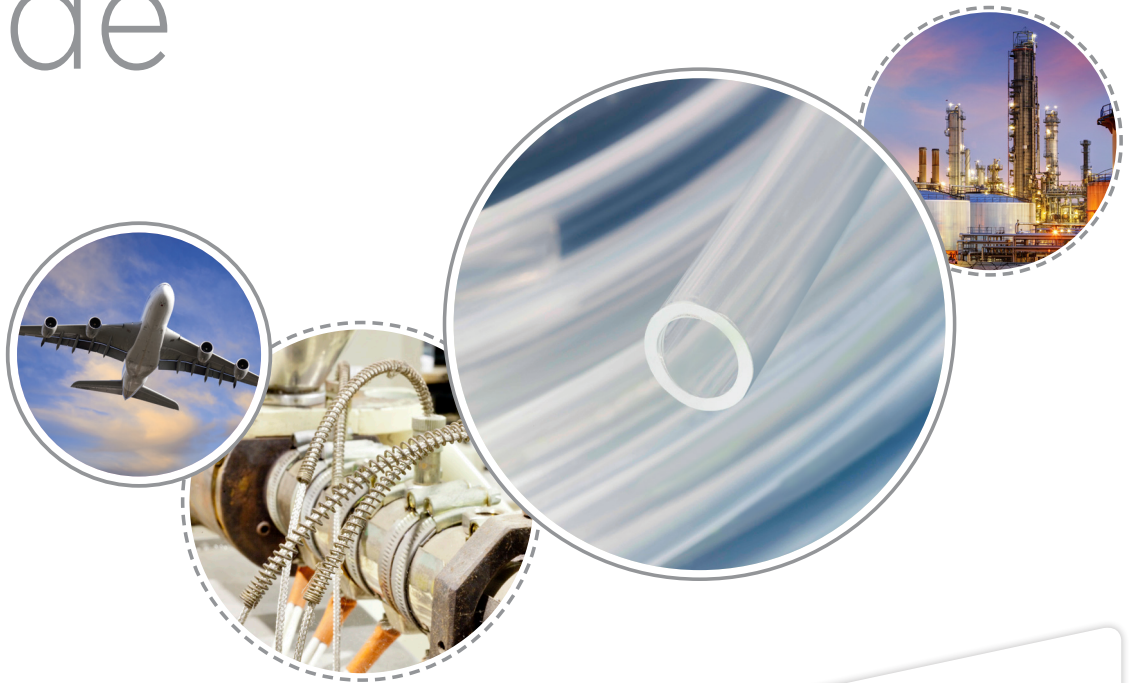


Versilon™ Fluoropolymer Tubing Selection Guide



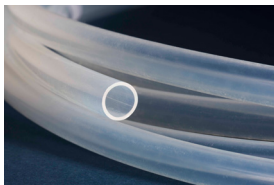
High Performance Fluoropolymer Tubing for Demanding Applications

Saint-Gobain Versilon™ fluoropolymer tubing is designed to meet the most demanding fluid transfer requirements. Versilon™ fluoropolymer tubing is resistant to an expansive list of aggressive chemicals and may be used at a wide range of operating temperatures. In addition to the expansive offering of single-layer products, Saint-Gobain also offers helically convoluted and corrugated configurations as well as composite products which combine flexibility with the chemical resistance of fluoropolymers.

Experts in Polymer Processing and Material Selection

Saint-Gobain provides fluid transfer solutions to meet a variety of applications. In addition to a comprehensive portfolio of standard products, Saint-Gobain offers the ability to design and manufacture custom products for unique and demanding applications. Distinctive material processing capabilities and a global manufacturing footprint allows Saint-Gobain to engineer solutions which meet challenging application requirements, worldwide.

Contact us today to receive a customized quote for your fluoropolymer tubing needs, or purchase standard Versilon™ FEP, Versilon™ PFA and Versilon™ PTFE tubing products on our webstore.



VERSILON™ PFA & VERSILON™ PFA-F Versilon™ PFA tubing offers enhanced burst strength, clarity and superior chemical resistance. For additional flexibility, this material is available for use in **Versilon™ Convoflex** convoluted tubing and **Versilon™ CT-Flex** corrugated tubing. Versilon™ PFA-F offers all of the benefits of Versilon™ PFA tubing with the added benefit of United States and European Union food contact compliance. **Versilon™ HP PFA 400** is also available for high purity applications such as semiconductor manufacturing.



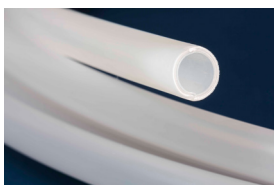
VERSILON™ FEP & VERSILON™ FEP-F Versilon™ FEP tubing combines flexibility and clarity with a high level of chemical resistance. Versilon™ FEP also has the ability to withstand cryogenic temperatures. Versilon™ FEP-F offers all of the benefits of Versilon™ FEP tubing with the added benefit of United States and European Union food contact compliance. For additional flexibility, this material is available to be used in **Versilon™ Convoflex** helically convoluted tubing and **Versilon™ CT-Flex** corrugated tubing.



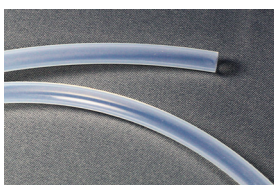
VERSILON™ PTFE & VERSILON™ PTFE-F For extreme temperature resistance and the best resistance to aggressive chemicals, choose Versilon™ PTFE tubing. For additional flexibility, this material is available to be used in **Versilon™ Con-T** helically convoluted tubing with wire reinforcement and **Versilon™ Convoflex** helically convoluted tubing. Versilon™ PTFE-F offers all of the benefits of Versilon™ PTFE tubing with the added benefit of United States and European Union food contact compliance.



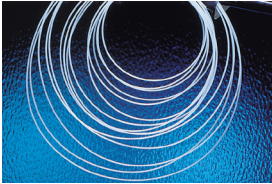
VERSILON™ SE-200 Versilon™ SE-200 is a multilayer product that combines excellent clarity with superior flexibility compared to other fluoropolymer products. Because the flow path is constructed of FEP, Versilon™ SE-200 is ideal where aggressive chemicals only contact the inner surface of the tube.



VERSILON™ DUALITY Versilon™ Duality is a multilayer product that exhibits superior flexibility compared to other fluoropolymer products. It offers a higher operating temperature and higher operating pressures compared to Versilon™ SE-200, but lower clarity and reduced flexibility. Versilon™ Duality is ideal where aggressive chemicals only contact the inner surface of the tube.



VERSILON™ 367 Versilon™ 367 tubing exhibits superior inner surface smoothness and reduced metal extractables in nitric acid compared to conventional PFA tubing.



VERSILON™ ETFE Versilon™ ETFE offers superior resistance to abrasion and radiation compared to other fluoropolymers. It is harder than Versilon™ PFA, has higher mechanical strength and can also be sterilized via gamma irradiation.



VERSILON™ PVDF Versilon™ PVDF offers increased flexibility and impact strength over conventional PVDF tubing. Because it is not fully fluorinated, it offers reduced chemical resistance compared to Versilon™ PTFE, Versilon™ PFA, and Versilon™ FEP.



OTHER VERSILON™ PRODUCT OFFERINGS Saint-Gobain has the ability to work with a variety of other fluoropolymer materials and high performance engineering plastics including Versilon™ PEEK, CTFE, and ECTFE. Each material offers unique benefits and can be extruded in custom shapes and colors. Contact us today for assistance with fluid transfer challenges.

**Versilon™
Fluoropolymer Tubing**

	PTFE PTFE-F	PFA PFA-F	FEP FEP-F	ETFE	PVDF	367	Duality	SE-200
Maximum Recommended Operating Temperature, °F (°C)	500 (260)	500 (260)	402 (206)	300 (150)	250 (121)	450 (232)	179 (82)	165 (74)
Minimum Recommended Operating Temperature, °F (°C)	-328 (-200)	-328 (-200)	-418 (-250)	-150 (-66)	—	-320 (-196)	-26 (-32)	-32 (-36)
Hardness (Shore D)	50-60	63-65	55-66	72	65	58	Composite	Composite
Tensile Strength, psi (MPa)	2470-4930 (17-34)	4060-4500 (28-31)	2100-3050 (14.5-21)	6800 (47)	2900 (20)	3750 (26)	Composite	Composite
Theoretical Burst Pressure 1/4" ID x 3/8" OD psi at 23°C	508	792	508	—	—	920	600	275
Appearance	Opaque/ Translucent	Clear	Clear	Opaque White	Opaque White	Clear	Translucent	Clear
Specific Gravity	2.13-2.22	2.12-2.17	2.12-2.17	1.7	1.77	2.15	0.92	1.21
Dielectric Strength kV/mm	15.7-19.7*	78.8*	13-100*	—	—	35-40	Composite	Composite
Food Contact Compliance US and EU**	Versilon PTFE-F US and EU	Versilon PFA-F US and EU	Versilon FEP-F US and EU	No	US	No	No	US

* Thickness from 0.025-2.5mm. Values decreasing with increasing thickness.

** For complete compliance information and appropriate use instructions, please refer to the detailed document of compliance.

Fluid Transfer Tubing

TYGON[®]
Excellence By Design

Precision-designed tubing for peak performance and regulatory compliance, across a range of specialized fluid transfer applications.

TYGON [™]
Safe Smart Sustainable

Phthalate-free, bio-based tubing product line for the food and beverage market.

VERSILON[™]
Fluid Performance

Premium quality tubing, hoses and fittings fulfilling a range of demanding certification, performance and safety standards.



IMPORTANT: It is the user's responsibility to ensure the suitability and safety of Saint-Gobain materials for all intended uses. Laboratory, field or clinical tests must be conducted in accordance with applicable requirements in order to determine the safety and effectiveness for use of materials in any particular application. If intended for medical use, it is the user's responsibility to ensure that the materials to be used comply with all applicable medical regulatory requirements.

Limitation of Liability

Except for products for which Saint-Gobain (SGPPL) has established a specific written warranty, the products described herein are sold by SGPPL without any guarantee and/or warranty, oral or written. User assumes all risk, if any, including the risk of injury, loss or damage, whether direct, consequential or incidental, arising out of the use, misuse or inability to use these products.

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NOTE: Saint-Gobain Corporation does not assume any responsibility or liability for any advice furnished by it, or for the performance or results of any installation or use of the product or of any final product into which the product may be incorporated by the purchaser and/or user.



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