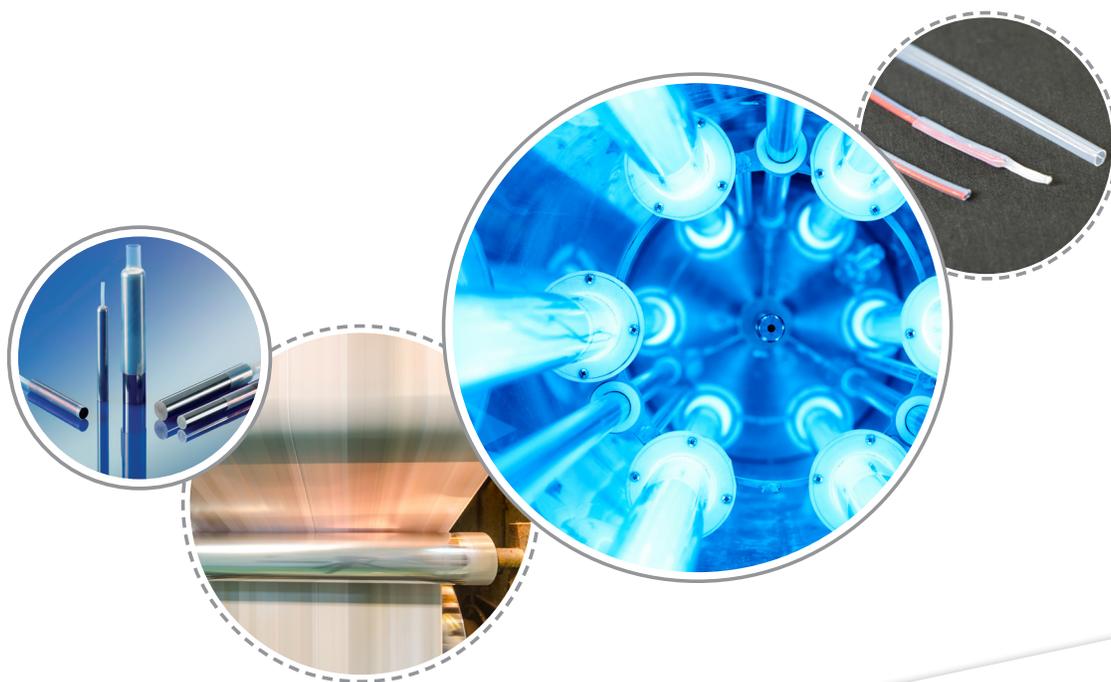


Selection Guide

Products for Protection Applications



High Performance Protection in Fluoropolymer Materials for Demanding Applications

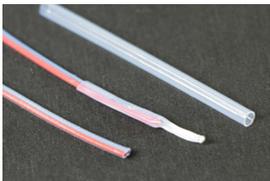
Saint-Gobain's Fluoropolymer Protection products are high performance solutions for applications that require protection of critical components and industrial parts. Made out of Fluoropolymer materials, Saint-Gobain's Protection products are designed to resist aggressive chemicals, shield from abrasion, and safeguard your components from corrosion and moisture at a wide range of operating temperatures. Saint-Gobain's Protection products are also excellent choices for electrical insulation.



PTFE Heat Shrink tubing is an ideal solution for applications that require protection against aggressive chemicals at high working temperatures. PTFE heat shrink tubing is also an excellent solution for electrical insulation of critical components. Sold in its expanded state, PTFE heat shrink tubing has a higher expansion ratio among the fluoropolymer heat shrink tubing. It shrinks to its original size when heat is applied, forming a tight jacket over the substrate material. Commonly used to protect sensors, rollers, and wires. PTFE heat shrink tubing is offered in a variety of standard and custom sizes and configurations.



Seamless **FEP and PFA Roll Covers** are easy to install thanks to strong hoop stress and shrink properties. They deliver best-in-class corrosion protection, process yield and release properties, with a non-stick surface treatment that dramatically decreases material build-up and helps reduce maintenance requirements. An etching process on the inside diameter of the Roll Covers is recommended to ensure maximum bonding to metal and rubber rolls.



PTFE/FEP Dual Heat Shrink Tubing is a bi-layer product of FEP and PTFE to combine the best properties of both materials, ideal for component encapsulation and wire splicing. When heated the FEP liner melts and forms a chemical-proof bond to the substrate while the PTFE jacket shrinks down. It protects temperature sensors, wires and connections against corrosive fluids and mechanical exposure even in immersed conditions.



FEP/PFA Coating can be directly applied onto a substrate like light bulbs, steel pipes, and cables. A homogeneous thin film of fluoropolymer is directly extruded onto the substrate by a continuous process and avoids an additional shrinking step in the process. The fluoropolymer coating provides shatter protection for the light bulbs, shields pipes and cables from corrosion and weathering while providing transparency and anti-stick properties.



FEP Heat Shrink Tubing is a transparent protection that can be applied at a temperature between 140 and 180°C (284 and 356°F), much lower than PTFE and PFA. Our FEP heat shrink tubing is weather and UV resistant. The tubing is easy to clean thanks to its anti-stick property.



UV-1000 Coating is a highly transparent coating used to protect UVC quartz lamp sleeves in water treatment, air disinfection and organic produce treatment applications. The fluoropolymer construction of Saint-Gobain's UV-1000 Coating makes it highly resistant to aggressive cleaners and chemicals. In addition, fouling or scaling due to mineral deposits is significantly reduced when in contact with water, lessening cleaning frequency and increasing operational uptime. UV-1000 Coating may be purchased either as a clear tube or as a coating directly applied over quartz tubes.

Protection Selection Guide

Properties	PTFE Heat Shrink Tubing	FEP Roll Cover	PFA Roll Cover	FEP Heat Shrink Tubing	PTFE/ FEP Dual Heat Shrink Tubing	FEP Coating	PFA Coating	UV-1000 Coating	UV-1000 Heat Shrink Tubing
Shrink Temperature °C (°F)	300-320 (570-610)	120-200 (250-400)	120-200 (250-400)	140-180 (284-356)	300-320 (570-610)	-	-	-	300 (570)
Working Temperature °C (°F)	260 (500)	205 (400)	260 (500)	205 (400)	210 (410)	205 (400)	260 (500)	260 (500)	260 (500)
Expansion Ratio Max.	2:1 ; 4:1	up to 1.5:1	up to 1.5:1	up to 1.5:1	4:1	N/A	N/A	N/A	up to 1.5:1
Expanded ID. Max. mm (inch)	100 (3.9)	400 (15.75)	400 (15.75)	50 (1.96)	25.4 (1)	50 (1.95)	50 (1.95)	50 (1.95)	50 (1.96)
Wall Thickness After Shrinking mm (inch)	0.15-1 (0.005-0.039)	0.30-0.60 (0.012-0.023)	0.30-0.60 (0.012-0.023)	0.20-0.50 (0.007-0.019)	0-1.65 (0-0.065)	0.20-1 (0.007-0.039)	0.20-1 (0.007-0.039)	0.20-1 (0.007-0.039)	0.20-0.50 (0.007-0.019)
Shrink Length Tolerance	+/- 10%	N/A	N/A	+/- 10%	+/- 10%	N/A	N/A	N/A	+/- 10%
Dielectric Strength kV/mm	15.7-19.7*	13-100*	78.8*	13-100*	>15	13-100*	78.8*	-	-
Transparency to Visible Light	Medium	High	High	High	Medium	High	High	High	High
UV Transmittance @ 254mm**	N/A	N/A	N/A	90% Standard wall 0.30 mm	N/A	85% Standard wall 0.20 mm	N/A	90% Standard wall 0.20 mm	94% Standard wall 0.30 mm
Packaging	Long length and cut pieces Standard length of 4 ft (1.22 m)	up to 10 m	up to 10 m	Long length and cut pieces Standard length of 4 ft (1.22 m)	Cut length up to 10 m Standard length of 4 ft (1.22 m)	Depends on the parts to coat	Depends on the parts to coat	Depends on the parts to coat	Long length and cut pieces Standard length of 4 ft (1.22 m)
Applications	Electrical insulation, wire protection	Rolls protection in pulp and paper industry, printers and textile		Electrical insulation, wire protection, light bulbs covering	Components encapsulation, temperature sensor protection, wire splicing	Light bulbs covering, steel pipes covering for heat exchangers		Protection of UVC lamps and quartz tubes for water treatment, air & surface disinfection	

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

Experts in Polymer Processing and Material Selection

Saint-Gobain provides 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 protection needs.



Saint-Gobain's Fluid Transfer business helps customers achieve safety, performance and brand assurance through a broad range of capabilities that rely on superior engineering and customer support. Our products include tubing for fluid transfer and heat shrink tubing for covering products exposed to extreme heat, corrosion, shock, moisture and other critical conditions. We help customers in a variety of industries achieve their goals in innovation, efficiency, sustainability and product integrity through customized solutions such as flexible tubing, heat shrink tubing, hoses, fittings, and manifolds.



Performance Plastics

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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.

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