

PFA FILMS

**PFA
FLUOROPOLYMER FILM**

VERSIV™ PFA fluoropolymer film is manufactured by Saint-Gobain Composite Solutions from perfluoroalkoxy (PFA) polymer resin. This film offers the highest continuous use temperature (260°C/500°F) of any melt-processable fluoropolymer film. PFA film offers many of the performance properties of PTFE in a clear, transparent form and can be heat sealed, thermoformed, welded, metallized, or laminated to a wide variety of materials.

PFA TYPE PG (general purpose film) offers a combination of excellent dielectric properties across a wide temperature and frequency range, the highest level of chemical and stress crack resistance, excellent clarity, and weatherability. The chemical resistance of PFA provides excellent tank-lining performance.

PFA TYPE WF (mechanical welding grade) is an ideal economical solution for applications that don't require high aesthetic standards, such as hot melt adhesive (welding tape) application. PFA WF grade possesses all physical, mechanical, and thermal properties of PFA film while offering cost savings.

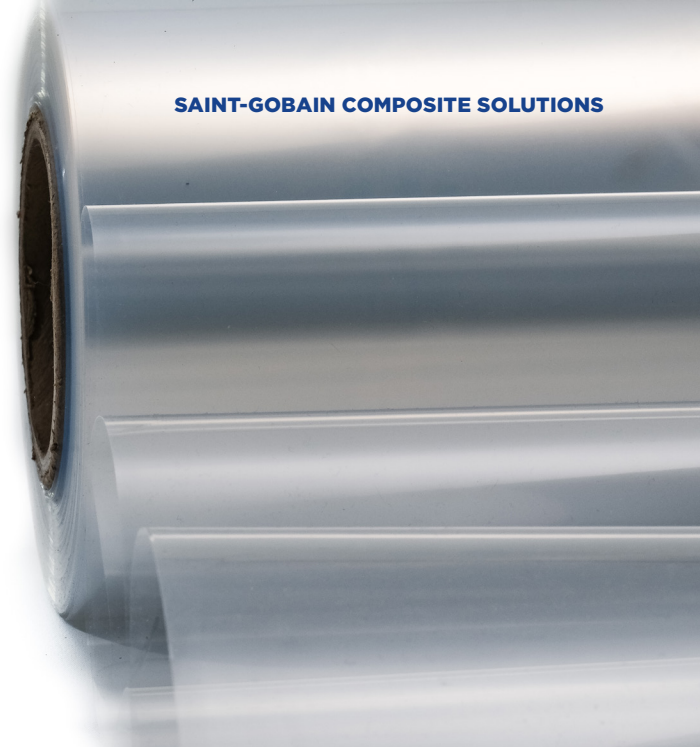
Previously known as **CHEMFILM® PFA*



FEATURES AND BENEFITS

- Outstanding flex life and stress crack resistance
- Performance from -254°C (-425°F) to 260°C (500°F)
- Outstanding anti-stick release properties
- Excellent electrical properties
- Excellent weatherability

*Pictures shown are for illustration purpose only.



AVAILABILITY

- Product thickness from 0.0005" (0.0127 mm) to 0.010" (0.76 mm)
- Width up to 60" (1,524 mm) for 0.0005" to 0.010"
- Available in cementable (surface treated) form

APPLICATIONS

The combination of chemical resistance and high temperature resistance over a wide frequency range make PFA film an ideal component for circuit board fabricators, flat cable, and electrical insulation applications. Product thickness availability from 12.7µm (0.0005") through 250 µm (0.010") at widths up to 1,524mm (60") offers circuit board designers flexibility in structure design.

The high temperature resistance and non-wetting surface of PFA make it an ideal material for use as a high temperature release film or bagging film for composite manufactures. The continuous use temperature of 260°C (500°F) and a melting point of 310°C (590°F) meet the needs of new resin systems requiring a 230°C (446°F) cure temperature.

TYPICAL PROPERTIES

General	Value	Unit	Test Method
Standard Widths	1524	mm	-
	60	inches	
Specific Gravity	2.12 - 2.18	-	ASTM D-792
Yield (1 mil)	18	m ² /kg	-
	90	ft ² /lb	
Water Absorption, 24 hr.	<0.01	%	-

Mechanical	Value	Unit	Test Method
Tensile Strength @ Break (RT)	15.5	MPa	ASTM D-882
	2,250	psi	
Elongation @ Break (RT)	300	%	ASTM D-882
Tensile Modulus (RT)	480	MPa	ASTM D-882
	70,000	psi	
Initial Tear Strength, 2 mil	4.9 - 5.3	N	ASTM D-1004
	1.1 - 1.2	lb _f	
Propagating Tear Strength, 2 mi	2.4 - 2.7	N	-
	0.55 - 0.60	lb _f	
Fold Endurance (M.I.T)	>600,000	cycles	ASTM D-2176

Electrical	Value	Unit	Test Method
Dielectric Strength, 1 mil	185	kV/mm	ASTM D-149
	4,700	V/mil	
Dielectric Constant, 1kHz	2.1	-	ASTM D-150
Dissipation Factor, 1 kHz	0.0005	-	ASTM D-150

Thermal	Value	Unit	Test Method
Melting Point	302 - 310	°C	ASTM D-3418
	575 - 590	°F	
Continuous Service Temperature	260	°C	-
	500	°F	
Specific Heat	1172	J/(kg·°K)	-
	0.28	BTU/(lb·°F)	
Coefficient of Thermal Conductivity	0.195	W/(m·°K)	-
	1.35	BTU-in/(hr·ft ² ·°F)	
Coefficient of Linear Thermal Expansion	9.9x10 ⁻⁵	Mm/(mm·°C)	ASTM D-696
	5.5x10 ⁻⁵	in/(in·°F)	
Flammability	V-0	-	UL-94
Limiting Oxygen Index	95	%	ASTM D-2863

Optical	Value	Unit	Test Method
Refractive Index	1.35	-	ASTM D-542
Solar Transmission	96	%	ASTM E-424

The values presented are typical values and should not be used for specification purposes. Contact your Saint-Gobain Composite Solutions representative for more information.

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