



Fluoropolymer Linings and Coatings

Technical Data

FluoroGrip® – PF (PFA)

Industrial Uses

Type

FluoroGrip® – PF fluoropolymer film is a transparent, thermoplastic film that can be heat sealed, thermoformed, vacuum formed, heat bonded, welded, metallized, laminated (combined with dozens of other materials), and used as an excellent hot-melt weld adhesive. This wide variety of fabrication possibilities combines with the following important properties to offer a unique balance of capabilities not available in any other plastic film. It is the highest temperature and chemical resistant film available.

FluoroGrip® – PF film offers a combination of excellent dielectric properties across a wide temperature and frequency range, high chemical and stress crack resistance similar to MFA, a continuous service temperature of 500°F (depending upon adhesive used). FluoroGrip® – PF is ideal for service conditions that demand the highest degree of temperature and chemical resistance.

FluoroGrip® – PF is available standard with an advanced pressure sensitive adhesive (PSA) of acrylic or high temperature resistant silicone PSA. Special chemical resistant adhesives are available. Consult Integument Technologies for specific material recommendations.

FluoroGrip® – PF is available with either a single-sided or double-sided surface plasma modification treatment.

Uses

The combination of high chemical resistance over a wide range of environments and high temperature resistance make FluoroGrip® – PF film an ideal component for weldable tank linings, secondary containment and splash-and-spill environments where the most aggressive chemicals and highest temperature capabilities are demanded.

FluoroGrip® provides excellent performance in applications such as exterior ultra-high-performance paint replacement, secondary containment and immersion service.

Technical Data

Physical Properties

General

	ASTM Method	Metric Value	Metric Units	English Value	English Units
Specific Gravity	D-792	2.12-2.17		2.12-2.17	
Yield Point	D-882	12	MPa	1700	Psi
Flammability	UL-94	V-0		V-0	
Water Absorption	D-570	0.03	%	0.03	%

Available Thicknesses (Film Only; Not Including Adhesive)	2 mil, 5 mil, 10 mil, 20 mil
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Mechanical

	ASTM Method	Metric Value	Metric Units	English Value	English Units
Tensile Strength @ Break	D-882	21	N/mm ²	3000	Psi
Elongation @ Break	D-882	300	%	300	%
Fold Endurance (M.I.T.)	D-2176	100000	cycles	100000	cycles

Integument

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FluoroGrip® – PF (PFA)

Industrial Uses

Uses (cont.)

The high temperature resistance and non-wetting surface of FluoroGrip® – PF make an ideal component material for use as a high temperature film and lining for OEM composite manufacturing.

Single-side modification makes the material suitable as a weldable lining when low surface energy is demanded.

Double-sided treatment is especially useful when installations require seams, overlaps or the application of chemical resistant coatings or top toppings. The double-sided modification makes it an ideal material for pipe wraps and tapes and immersion linings. The modification also creates a superior surface for use as a chemical and temperature resistant underlayment or membrane where the application of chemical resistant toppings or acid brick permits its use in traffic and secondary containment lining applications.

Note

Refer to FluoroGrip® installation manual and instruction guide for the use and installation of FluoroGrip® films, membranes and lining systems.

Certifications

- FluoroGrip® – PF is designed to meet the requirements to comply with the FDA's Register of Food Additive Regulations.

Technical Data

Physical Properties

Electrical

	ASTM Method	Metric Value	Metric Units	English Value	English Units
Dielectric Strength, 1 mil	D-149	260	kV/mm	6500	V/mil
Dielectric Constant, 1 kHz	D-150	2.00		2.00	
Dissipation Factor 1 kHz	D-150	0.0002-0.0007		0.0002-0.0007	

Thermal

	ASTM Method	Metric Value	Metric Units	English Value	English Units
Melt Point	D-3418	302-310	°C	575-590	°F
Continuous Service Temp.*		A 175 S 260	°C	A 350 S 500	°F
Limiting Oxygen Index	D-2863	95	%	95	%
Degradation Temp.*		A >200 S >320		A 390 S 550	°F

Optical

	ASTM Method	Metric Value	Metric Units	English Value	English Units
Haze	D-1003	>95	%	>95	%

* **A** = Acrylic Adhesive **S** = Silicone Adhesive

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