



Fluoropolymer Linings and Coatings

# Technical Data

## FluoroGrip® – P (PTFE)

### Industrial Uses

#### Type

FluoroGrip® – P sheets and films are manufactured from virgin grade polytetrafluoroethylene (PTFE) resins modified to incorporate hydroxyl groups to create an oxy-fluoropolymer. The base polymers are molded, sintered and skived to the appropriate thickness. FluoroGrip® – P skived exhibits minimal skive lines and has high tensile and elongation strengths. Both sheet and film are widely used in a number of industries due to the material's outstanding characteristics, including heat and chemical resistance, dielectric strength, and anti-stick properties. The softness and flexibility properties create a versatile paint replacement film.

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

#### Uses

FluoroGrip® – P film is supplied either in sheet or continuous roll form. The excellent temperature and chemical resistance make it an ideal material for use in a variety of aggressive chemical and temperature environments.

The outstanding chemical and thermal resistance combined with superior elongation properties makes it an excellent candidate for secondary containment liners, and splash-and-spill ultra-high-performance paint replacement or as an underlayment to chemical resistant toppings, acid brick and coating systems. Fabricated shapes and contours can be produced via heat sealing and thermoforming.

### Technical Data

#### Generic Description

An oxy-fluoropolymer of polytetrafluoroethylene modified to incorporate hydroxyl groups with an acrylic or silicone pressure sensitive adhesive.

#### Physical Properties

##### General

	ASTM Method	Metric Value	Metric Units	English Value	English Units
Specific Gravity	D-4894/4895	2.16		2.16	
Flammability	UL-94	V-0		V-0	
Water Absorption, 24hr	D-570	<0.01	%	<0.01	%

Available Thicknesses (Film Only; Not Including Adhesive)	2 mil, 5 mil, 10 mil, 20 mil, 30 mil, 40 mil
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##### Mechanical

	ASTM Method	Metric Value	Metric Units	English Value	English Units
Tensile Strength	D-4894/4895	31.0	MPa	4500	Psi
Elongation	D-4894/4895	400	%	400	%
Fold Endurance (M.I.T.)	D-2176	Did not break @10°	cycles	Did not break @10°	cycles

## Integument

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## FluoroGrip® – P (PTFE)

### Industrial Uses

#### Uses (cont.)

The superior non-stick surface, chemical resistance, and 300-400°F (depending upon adhesive) usage temperature make FluoroGrip®– P an ideal release film for linings and exterior ultra-high performance anti-graffiti paint replacement where a “non-stick” surface is desirable or for equipment usage where a low coefficient of friction is desired. FluoroGrip®– P with silicone adhesive is the material of choice for lining tanks and process equipment in concentrated ozone environments.

Double-sided treatment is especially useful when installations require seams, overlaps or the application of chemical resistant coatings or 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 and 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® – P is designed to meet the requirements to comply with the FDA’s Register of Food Additive Regulations.

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### Technical Data

#### Physical Properties

##### Thermal

	ASTM Method	Metric Value	Metric Units	English Value	English Units
Continuous Service Temp.*		<b>A</b> 170 <b>S</b> 250	°C	<b>A</b> 338 <b>S</b> 482	°F
Specific Heat	D-4591	1.2-1.5	kJ/kg·K	0.29-0.37	Btu/lb·°F
Degradation Temp.*		<b>A</b> 180 <b>S</b> 270		<b>A</b> 356 <b>S</b> 518	°F
Coefficient of Linear Thermal Expansion	E-228	10 x 10 <sup>-5</sup>	mm/mm·°C	7 x 10 <sup>-5</sup>	in/in·°F
Thermal Conductivity	D-435	0.25	W/m·K	1.7	Btu·in/h·ft <sup>2</sup> ·°F

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

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