

Industrial Uses

TYPE

FluoroGrip® - E fluoropolymer films and linings are manufactured from ethylene-chlorotrifluoroethylene (Halar®*). This material offers the outstanding performance of a fluoropolymer film over a temperature range from cryogenic -200°C (-328°F) to 164°C (325°F), depending upon adhesive used.

FluoroGrip® - E film provides the highest abrasion resistance of any fluoropolymer film available. This film has superior chemical resistance and very high tensile strength and flexural modulus.

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

INTENDED USE

FluoroGrip® - E film and lining offers low surface energy, making it an excellent choice for release applications such tanks and hoppers where abrasion resistance and low surface energy is desirable. Variety of thicknesses and abrasion resistance make it an excellent material for coil coating applications.

The combination of heat stability, abrasion resistance, low surface energy and barrier properties provides physical performance especially suited for handling dry goods and service conditions where abrasion and chemical and temperature resistance is required.

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

Technical Data

PHYSICAL PROPERTIES

General

	ASTM Method	Metric Value	Metric Units	English Value	English Units
Specific Gravity	D-792	1.68		1.68	
Yield (1mil film)		22	m ² /kg	115	ft ² /lb
Flammability	UL-94	V-0		V-0	
Water Absorption (24 hrs)		<0.01	%	<0.01	%

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

	ASTM Method	Metric Value	Metric Units	English Value	English Units
Tensile Strength	D-882	55	MPa	8000	psi
Elongation, Ultimate	D-882	250	%	250	%
Tensile Modulus	D-882	1375	MPa	200000	psi
Initial Tear Strength, 1mil	D-1004	4.4	N	450	gm/mil
Propagating Tear Strength, 1mil	D-1922	11.6	N	>1200	gm/mil
Fold Endurance (M.I.T.)	D-2176	>250000	cycles	>250000	cycles

INTENDED USE (cont...)

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 permits its use in traffic and secondary containment lining applications.

PERFORMANCE

FluoroGrip® - E film has outstanding resistance to chemicals, abrasives, weathering and high-energy radiation. This material is suitable for pipe wraps, splash and spill protection and exterior corrosion protection of steel, concrete, fiberglass and other plastic structures and equipment.

FluoroGrip® - E film offers a UL V-0 rating for flammability. This provides performance suitable for enclosed areas and buildings and ducts and as a high performance paint replacement.

NOTE

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

* Halar® is a registered trademark of Ausimont, USA, Inc.

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PHYSICAL PROPERTIES (cont...)

Electrical

	ASTM Method	Metric Value	Metric Units	English Value	English Units
Dielectric Strength, 1mil	D-149	216	kV/mm	5500	V/mil
Dielectric Constant, 1kHz	D-150	2.55-2.63	m ² /kg	2.55-2.63	
Dissipation Factor, 1kHz	D-150	<0.005		<0.005	

Thermal

	ASTM Method	Metric Value	Metric Units	English Value	English Units
Melt Point	D-3418	240	°C	465	°F
Continuous Service Temp. *		A	S	A	S
		150	164	300	350
Heat Sealing Temp.		245-260	°C	475-500	°F
Degradation Temp. *		A	S	A	S
		164	178	325	350

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