

FEP 4610

Everflon™ Fluoropolymers
Extrusion Pellets



DESCRIPTION

Everflon™ FEP 4610 is a melt-processible copolymer of tetrafluoroethylene and hexafluoropropylene, without additives, that meets the requirements of ASTM D 2116 Type I.

It offers the excellent combination of properties characteristic of Everflon™ fluoroplastic resins:

- non-aging characteristics,
- chemical inertness,
- exceptional dielectric properties,
- heat resistance,
- toughness and flexibility,
- low coefficient of friction,
- non-stick characteristics,
- negligible moisture absorption,
- low flammability,
- performance at temperature extremes,
- excellent weather resistance.

Everflon™ FEP 4610 is a general-purpose grade and is used in many different applications. It can be melt-extruded, and is used for wire coating as primary insulation and, in certain cases, for cable jacketing. Cables insulated with Everflon™ FEP 4610 have met the requirements of Underwriters Laboratory UL910 Steiner Tunnel tests for installation in plenums without metal conduits.

Stress-crack resistance is an important element in establishing end-use performance. Extensive testing of wire and cable constructions is needed for definitive performance evaluation.

DATA LIST

Typical Property Data for Everflon™ FEP 4610 Fluoroplastic Resin

Melt Flow Rate

ASTM D2116

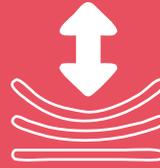


8 ~ 12

g/10 min 5kg

Tensile Strength

ASTM D638



> 24

Mpa

Elongation

ASTM D638



> 300

%

Melting Point

ASTM D4591



260

°C

General Property Data for Everflon™ FEP 4610

Property	Test Method		Unit	Typical Value	
PROCESSING					
Specific Gravity	—	ASTM D792	—	2.15	
Critical Shear Rate, 372 °C (702 °F)	—	—	1/s	20	
Guide DDR Range for Cable Extrusion				3-8	
Guide DDR Range for Jacket Extrusion				20-120	
MECHANICAL					
Impact Strength, Notched Izod, 23 °C (73 °F)			ASTM D256	kJ/m ²	No Break
MIT Folding Endurance (0.20 mm, 8 mil film)	—	ASTM D2176	Cycles	500,000	
Hardness Durometer	ISO 868	ASTM D2240	—	D56	
ELECTRICAL					
Dielectric Strength, Short Time, 0.25 mm (0.010 in)	IEC 243	ASTM D149	kV/mm	> 100	
Relative Permittivity, 1 kHz	IEC 250	ASTM D150	—	2.03	
Relative Permittivity, 1 GHz	IEC 250	ASTM D150	—	2.03	
Dissipation Factor, tg δ, 1 kHz	ISO 1325	ASTM D150		0.00005	
Dissipation Factor, tg δ, 1 GHz	ISO 1325	ASTM D150		0.0007	
OTHER					
Water Absorption, 24 hr	—	ASTM D570	%	<0.01	
Weather and Chemical Resistance	—	—	—	Excellent	
Limiting Oxygen Index	ISO 4589	ASTM D2863	%	>95	
Continuous Service Temperature	—	—	°C (°F)	205 (400)	
Flammability Classification	—	UL 94	—	V-0	

Note: For more information of FEP properties, please visit www.everflon.com or FEP TechBook. These results are based on laboratory tests, under controlled conditions, and do not reflect performance under actual fire conditions.

TYPICAL APPLICATIONS

Typical Applications for Everflon FEP 4610 is wire and cable insulation, small tubing, and injection molded parts.

PROCESSING GUIDE

Everflon™ FEP fluoroplastic resin can be processed by conventional melt extrusion, and by injection, compression, and blow molding processes.

For smooth feeding to extrusion equipment, it is supplied in 3 mm (0.12 in) pellets.

The extruders and molding machines used for Everflon™ FEP should be constructed of high nickel alloy corrosion-resistant materials and be capable of operating at temperatures up to 400 °C (750 °F)

HANDING & PACKAGE

Everflon™ FEP is packaged in 25-kg, single layer, plastic bags. For convenient shipment, orders of 1000-kg gallyary are recommended.

The properties of Everflon™ FEP resin are not affected by storage time. Ambient storage conditions should be designed to avoid airborne contamination and water condensation on the resin when it is removed from containers.

PRECAUTION

Equipment used to process at melt temperatures should be provided with local exhaust ventilation (LEV) to completely remove all fumes and vapors from the processing area. In addition, care should be exercised to avoid the contamination of cigarettes and other forms of smoking tobacco when using fluoroplastic resins. Before process-ing any fluoroplastics, read the Material Safety Data Sheet.



ABOUT EVERFLON+



Reap the benefits of excellent pigment dispersion in your final polymer mix with Everflon+™ masterbatch formulations for FEP polymers. Pigment concentration and viscosity can be tailored to your specific application, and formulations are suitable for end-products with wall thicknesses that are as thin as one millimeter or 25 microns.

Color Concentrate

Foamed Fluorinated Ethylene Propylene, also referred to as Foamed FEP, is a form of fluoropolymer insulation. As it sounds, the insulation is a form of foam. It has similar properties to FEP and is very resistant to chemicals, has a broad temperature range and exhibits excellent electrical properties. One difference between standard FEP and Foamed FEP is that Foamed FEP is typically only used as a wire insulation and not as an overall cable jacket. Foamed FEP is commonly used for plenum applications. Plenum rated cables can exhibit a fire resistance or a low smoke quality and is used in building construction. More information could visit www.everflon.com or

Everflon+Foam Fluoropolymers Book **Foam FEP Resin**



Reinforced Compounds

Reinforced compounds incorporate glass fibers, carbon fibers or mineral fillers for enhanced dimensional stability, toughness, abrasion resistance, shrinkage resistance and thermal conductivity characteristics.

More information could visit www.everflon.com or Everflon+Reinforced Fluoropolymers Book



ABOUT C&F AND EVERFLON FLUOROPOLYMERS

Everflon™ is brand of C&F Group dealing in fluoropolymers materials including PTFE.FEP.PFA.ETFE and PVDF. On the basis of Everflon, C&F also developing the fluoropolymer applications including tubing,coating and films.

More information could visit www.everflon.com or Everflon™ Fluoropolymers Introduction and C&F Chemicals Book



For more information, visit www.everflon.com
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