

# PFA 420

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**Everflon™ Fluoropolymers**  
Extrusion&Injection Pellets

## DESCRIPTION

Everflon™ PFA 420 is a general-purpose fluoroplastic resin available in pellet form. Compared with other grades of Everflon™ PFA, its most unique features are a relatively high melt flow rate (typical MFR of 25) and properties that make it suitable for a variety of processes and demanding end uses.

Everflon™ PFA 420 is used when traditional extrusion and molding processes are required for producing products with the superior properties of a fluoroplastic resin. Compared to other thermoplastics, the high melt strength and thermal stability of Everflon™ PFA 420 can be used to improve processing rates.

Compared with other fluoroplastics, creep resistance at high service temperatures provides a superior balance and level of end-use properties. Everflon™ PFA 420 combines the processing ease of conventional thermoplastics with many properties similar to those of polytetrafluoroethylene.

Properly processed products made from neat Everflon™ PFA 420 resin provide the superior properties characteristic of fluoroplastic Resins: 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, and excellent weather resistance.

In a flame situation, products of Everflon™ PFA 420 resist ignition and do not promote flame spread. When ignited by flame from other sources, their contribution of heat is very small and added at a slow rate with very little smoke.



# DATA LIST

## Typical Property Data for Everflon™ PFA 420 Fluoroplastic Resin

### Melt Flow Rate

ASTM D3307



20 ~ 30

g/10 min 5kg

### Tensile Strength

ASTM D3307



> 25

Mpa

### Elongation

ASTM D3307



> 330

%

### Melting Point

ASTM D4591



310

°C

## General Property Data for Everflon™ PFA 420 Fluoroplastic Resin

Property	Test Method		Unit	Typical Value
<b>GENERAL</b>				
Specific Gravity	—	ASTM D792	—	2.15
Critical Shear Rate, 372 °C (702 °F)	—	—	1/s	120
<b>MECHANICAL</b>				
Flexural Modulus	ISO 178	ASTM D790	MPa (psi)	
23 °C (73 °F)				625 (90,000)
250 °C (482 °F)				69 (10,000)
MIT Folding Endurance (0.20 mm, 8 mil film)	—	ASTM D2176	Cycles	10,000
Hardness Durometer	ISO 868	ASTM D2240	—	D55
<b>ELECTRICAL</b>				
Dielectric Strength, Short Time, 0.25 mm (0.010 in)	IEC 243	ASTM D149	kV/mm (V/mil)	80 (2,000)
Dielectric Constant, 1 MHz (10 <sup>6</sup> Hz)	IEC 250	ASTM D150	—	2.03
Dissipation Factor, 1 MHz (10 <sup>6</sup> Hz)	IEC 250	ASTM D150	—	<0.0002
Volume Resistivity	ISO 1325	ASTM D257	ohm-cm	10 <sup>18</sup>
<b>OTHER</b>				
Water Absorption, 24 hr	—	ASTM D570	%	<0.03
Weather and Chemical Resistance	—	—	—	Outstanding
Limiting Oxygen Index	ISO 4589	ASTM D2863	%	>95
Continuous Service Temperature	—	—	°C (°F)	260 (500)
Flammability Classification	—	UL 94	—	V-0

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

## TYPICAL APPLICATIONS

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Applications for Everflon™ PFA 420 include extruded tubing and other profiles for hose, wire and cable insulation, and sleeving; industrial film; and injection or compression molded articles requiring superior electrical, chemical, and thermal properties.

## PROCESSING GUIDE

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Everflon™ PFA 420 can be processed by conventional melt extrusion, and by injection, compression, and transfer molding processes. High melt strength and heat stability permit the use of relatively large die openings and high temperature draw-down techniques that increase production rates. Reciprocating screw injection molding machines are preferred.

Corrosion-resistant metals should be used in contact with molten fluoroplastic resin. Extruder barrel should be long, relative to diameter, to provide residence time for heating the resin to approximately 390 °C (730 °F)

## HANDING & PACKAGE

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The properties of Everflon™ PFA 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.

Everflon™ PFA is supplied as pellets and is available in 25-kg multilayer bags with an integral polyethylene liner.

## PRECAUTION

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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 processing 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 PFA 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 25 microns.

## Color Concentrate

Conductive PFA Resins are manufactured as ready-to-use products and used in self-regulating or constant wattage heater cables, static dissipative fuel lines, and other applications where conductivity or static dissipation is required.

Everflon+ PFA Conductive compounds can also be customized for unique application requirements. Customization of products includes melt flow rate and physical properties of final compound as well as conductivity needed for the application.

Consistency and processability are the key factors in developing these compounds. In addition, Everflon+ PFA Conductive compounds show stable conductivity over a range of shear rates. **Conductive/anti-static**



## Reinforced Compounds

PFA 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](http://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](http://www.everflon.com) or Everflon™ Fluoropolymers Introduction and C&F Chemicals Book



For more information, visit [www.everflon.com](http://www.everflon.com)  
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