

# PFA GC430

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EVERFLON<sup>Ultra</sup>  
Advanced Fluoropolymers



Everflon™ PFA GC430 is a special purpose fluoroplastic resin available in pellet form. This resin has a higher melt flow rate (typical MFR of 35) than most other PFA fluoroplastic resins, which permits higher extrusion speed and easier processing, making Everflon™ PFA GC430 a cost-effective alternative for producing thin-wall and complicated articles.

Unlike other high melt flow rate polymers, Everflon™ PFA GC430 is specially formulated to provide a high melt flow rate for processing ease, while still providing good flexural properties and stress-crack resistance. These unique properties, coupled with the resin's high thermal stability, enable thin coatings of ultra-fine wires and injection molding of complex parts.

The enhanced purity of Everflon™ PFA GC430 makes it suitable for applications that require improved color, lower extractable fluorides, and freedom from other foreign materials. Everflon™ PFA GC430 contains no additives and is designed for hostile chemical environments where purity in the parts-per-billion range is needed. Everflon™ PFA GC430 combines the processing ease of conventional thermoplastics with many properties similar to those of polytetrafluoroethylene.

Compared to other thermoplastics, the high melt strength and thermal stability of Everflon™ PFA GC430 can be used to improve processing rates, and allows intricate electronics to be insulated with an extremely thin coating and still withstand soldering.

Properly processed products made from neat Everflon™ PFA GC430 resin provide the superior properties characteristic of fluoroplastic resins: chemical inertness, exceptional dielectric properties, heat resistance, toughness and flexibility, low coefficient of friction, nonstick characteristics, negligible moisture absorption, low flammability, performance at temperature extremes, and excellent weather resistance.

In a flame situation, products of Everflon™ PFA GC430 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

## General Property Data for Everflon™ PFA 430 Fluoroplastic Resin

Property	Test Method		Unit	Typical Value
<b>GENERAL</b>				
MFI	—	ASTM D3307	g/10min/5kg	30~40
Melt Point	—	ASTM D4591	°C (°F)	305(581)
Specific Gravity	—	ASTM D792	—	2.15
Critical Shear Rate, 372 °C (702 °F)	—	—	1/s	100
<b>MECHANICAL</b>				
Tensile Strength	ISO 12086	ASTM D3307	MPa (psi)	
23 °C (73 °F)				25 (3,600)
Ultimate Elongation	ISO 12086	ASTM D3307	%	
23 °C (73 °F)				300
Flexural Modulus	ISO 178	ASTM D790	MPa (psi)	
23 °C (73 °F)				590 (85,000)
MIT Folding Endurance (0.20 mm, 8 mil film)	—	ASTM D2176	Cycles	4,000
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

## TYPICAL APPLICATIONS

Applications for Everflon™ PFA GC430 include high performance thinwall wire coatings; intricate injection molded parts for production of chemicals where purity in the parts-per-billion range is needed; semiconductor components and electronic parts; and fluid handling systems for high performance chemical filters. With a typical melt flow rate (MFR) of 35, Everflon™ PFA GC430 resin is ideally suited for applications requiring a high processing speed and very low viscosity.

## PROCESSING GUIDE

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Everflon™ PFA GC430 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)

## HANDLING & 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.

## FOOD CONTACT COMPLIANCE

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Properly processed products made from Everflon™ PFA GC420 resin can qualify for use in contact with food in compliance with FDA 21 CFR177.1550 and European Regulation (EU) No. 10/2011.

# 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.everflonultra.com](http://www.everflonultra.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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