



EVERFLON™

PFA 420

Pure Velocity. Uncompromising Precision.

High-flow fluoropolymer engineering optimized for high-speed extrusion, intricate molding, and flawless thin-wall execution.

High-Flow Perfluoroalkoxy (PFA) Molding & Extrusion Resin | Direct Benchmark to Industry-Standard High-Flow PFA Resins (

Overview & Core Philosophy

The Speed of Flow. The Power of Fluoropolymers.

Where effortless high-speed melt processing meets the uncompromising thermal and chemical resistance of PTFE.

Everflon™ PFA 420 is a general-purpose, high melt-flow rate (typical MFR of 20 g/10 min) fluoroplastic resin supplied in pellet form, specifically designed to maximize production throughput in thin-wall extrusion and precision multi-cavity injection molding. Engineered with a high critical shear rate (50 1/s at 372°C), it allows processors to achieve rapid line speeds and flawless mold filling without melt fracture or surface irregularities.

Combining excellent thermal stability at 260°C, universal chemical inertness, and superior dielectric performance, Everflon™ PFA 420 delivers an optimal balance between exceptional manufacturing yield and rigorous end-use reliability.



Key Feature Pillars

Engineered for Speed. Defined by Precision.

Four breakthrough advantages that unleash new productivity limits in fluoropolymer fabrication.

High-Flow Efficiency & Rapid Molding | Effortless Flow. Zero Hesitation.

Optimized MFR (20g/10min) and high shear capability for complex geometries and thin-wall parts.

- The higher melt flow characteristics allow Everflon™ PFA 420 to fill intricate mold details, ultra-thin cross-sections, and micro-conduits with lower injection pressures and shorter cycle times. It drastically reduces internal stress while providing smooth, glossy surface finishes.

High Draw-Down Extrusion Speed | Accelerate the Line. Eliminate Defects.

High critical shear rate tailored for rapid wire coating and high-speed tube extrusion.

- Superior melt strength combined with high shear tolerance allows high draw-down ratios during continuous extrusion. Processors can utilize larger die openings and run at accelerated line speeds without experiencing melt fracture, diameter fluctuations, or wall thickness variations

High-Temperature & Chemical Shield | Inert Under Pressure. Stable Under Heat.

Continuous 260°C rating with universal acid, base, and solvent resistance.

- Even with its higher fluidity, Everflon™ PFA 420 maintains 12Mpa tensile strength and 480% ultimate elongation at elevated temperatures of 250°C . With a non-flammable UL 94 V-0 rating and Limiting Oxygen Index (LOI) exceeding 95%, it ensures robust performance in extreme thermal environments.

Ultra-Low Loss Dielectric Performance | Instantaneous Transmission. Flawless Clarity.

Dielectric constant of 2.03 and dissipation factor <0.0002 across high-frequency bands.

- Boasting frequency-independent dielectric characteristics and a volume resistivity of $10^{18}\Omega\cdot\text{cm}$, it is the gold standard for high-speed transmission cables, miniaturized coaxial assemblies, and mil-spec aircraft wire coatings where lightweight and thin walls are mandatory.

Typical Applications

Engineered for High-Throughput, Precision Realities.

From high-speed telecom cabling to intricate chemical and fluid components.

Wire & Cable Insulation and Jacketing: High-speed extrusion coating for aerospace wiring, miniature coaxial cables, thermocouple leads, and high-frequency communication signal lines.

Extruded Thin-Wall Tubing & Sleeving: Small-diameter chemical tubing, medical catheter liners, and protective heat-shrinkable sleeving for electrical components.

Precision Multi-Cavity Injection Molding: Thin-walled wafer baskets, semiconductor chemical valve fittings, electrical connectors, and complex fluid-handling seals.

Industrial Specialty Film: Extruded high-clarity release films, non-stick membrane barriers, and dielectric substrate films for flexible circuits.

Processing & Handling Guidelines

Formed for Throughput. Calibrated for Scale.

High-speed melt processing recommendations for high-flow fluoroplastics.

Machinery & Corrosion-Resistant Tooling: Everflon™ PFA 420 can be processed using conventional melt extrusion, transfer molding, compression molding, and reciprocating screw injection/blow molding machines. Due to the high processing temperatures and acidic nature of the molten polymer, all barrels, screws, dies, and tooling contact areas must be made from high-nickel, corrosion-resistant alloys (such as Hastelloy® or Inconel®).

Melt Temperature & Extrusion Barrel Profile: The recommended melt temperature ranges up to approximately 390°C. An extruder barrel with a high length-to-diameter (L/D) ratio is recommended to provide sufficient residence time for homogeneous melting of the low-MFR resin. High melt strength allows the use of relatively large die openings and high-temperature draw-down techniques to boost throughput.

Industrial Safety & Storage: Hot processing zones must be equipped with local exhaust ventilation (LEV) to exhaust vapors and thermal decomposition fumes completely. Resin properties are unaffected by storage time under ambient, clean, and dry conditions that prevent moisture condensation and particulate contamination.

Technical
Profile

The Architecture of Performance.

Standardized testing according to ASTM and ISO international protocols.

Parameter	Test Method	Unit	Typical Value
Melt flow rate	ASTM D3307 / ISO 12086	g/10 min	20~30g/10 min
Melting point	ASTM D4591	°C	305 °C
Specific gravity	ASTM D792	—	2.15
Tensile strength at 23 °C	ASTM D3307 / ISO 12086	MPa	>25
Elongation at break at 23 °C	ASTM D3307 / ISO 12086	%	>330
Flexural modulus at 23 °C	ASTM D790 / ISO 178	MPa	550
MIT Folding Endurance (8 mil)	ASTM D2176	Cycles	15,000
Shore D hardness	ASTM D2240 / ISO 868	Shore D	D55
Continuous Service Temp.	Heat Aging Criteria	°C	260
Limiting Oxygen Index (LOI)	ASTM D2863 / ISO 4589	%	>95
Flammability Rating	UL 94	Rating	V-0
Dielectric Constant (1MHz)	ASTM D150 / IEC 250	—	2.03
Dissipation Factor(1MHz)	ASTM D150 / IEC 250	—	<0.0002
Dielectric Strength (0.25mm)	ASTM D149 / IEC 243	kV/mm	80
Volume Resistivity	ASTM D257 / ISO 1325	Ω·cm	10 ¹⁸
Water absorption	ASTM D570	%	<0.03



In modern precision manufacturing, compromise is no longer an option. You should never have to choose between flawless high-speed throughput and the ultimate environmental protection of fluoropolymers.

It is the confidence that an ultra-thin wire insulation can be extruded at maximum speed without pinholes.

It is the certainty that an intricate miniature valve fitting can be molded with razor-sharp precision and zero flash.

Everflon™ PFA 420 is where exceptional fluidity meets extreme resilience.

It is the acceleration your production line has been waiting for.

The invisible, lightning-fast foundation empowering high-volume industrial excellence.

Accelerate without compromise. Master precision with Everflon.

The Speed of Future Innovation.

Precision at high velocity. Endurance without boundaries.

- Explore the future: www.everflon.com www.everflonultra.com
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