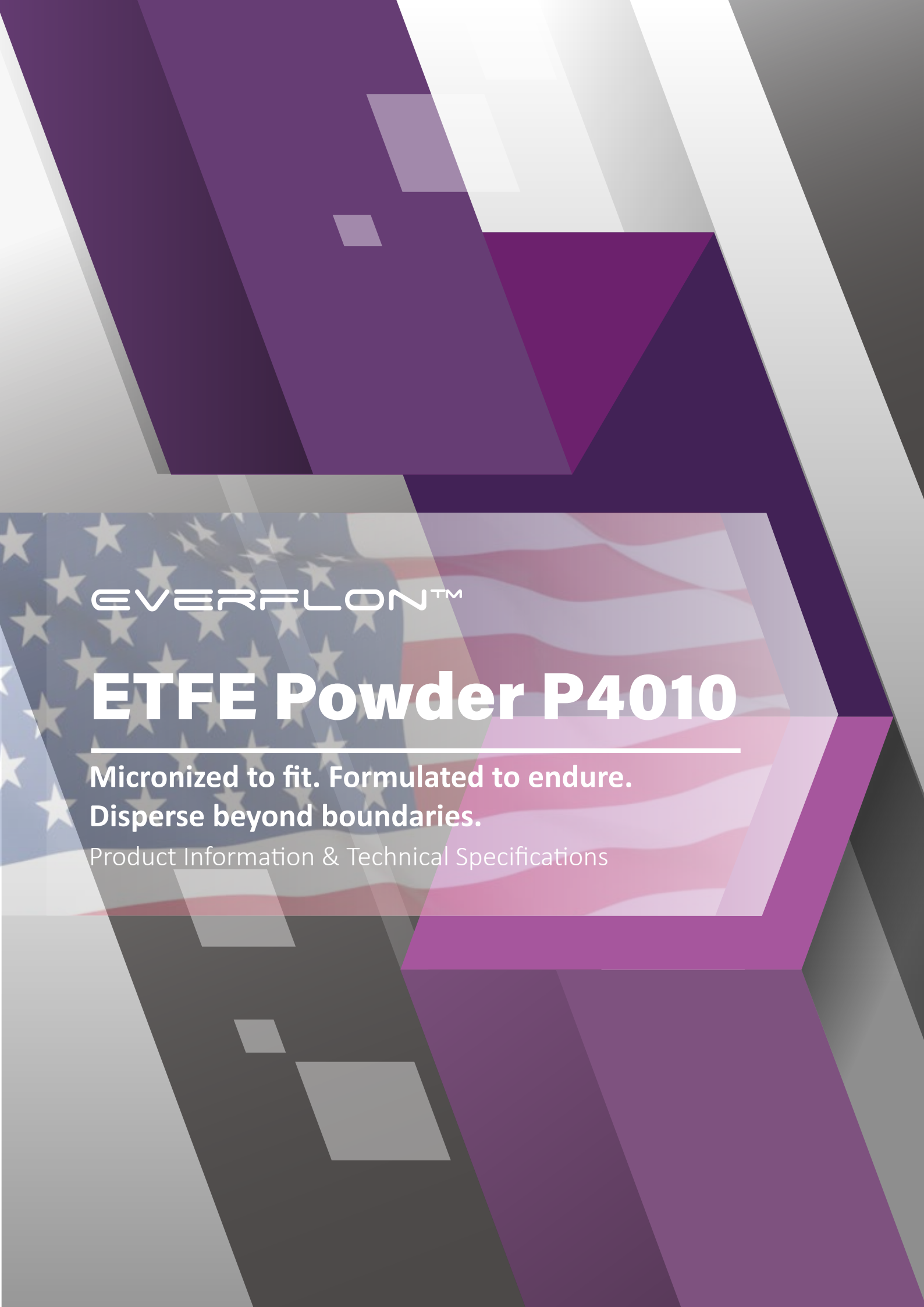




EVERFLON™

ETFE Powder P4010

**Micronized to fit. Formulated to endure.
Disperse beyond boundaries.**

Product Information & Technical Specifications

01 | Product Description

Micro-level defense. Macroscopic performance.

Everflon™ ETFE Powder P4010 is a premium fluoropolymer resin engineered in powder form for high-stakes manufacturing. It delivers the superior properties typical of high-end fluoropolymer resins, such as excellent retention of properties after service, radical chemical inertness, and extreme mechanical toughness.

At its core, ETFE P4010 and the other Everflon™ fluoropolymers are melt-processible, modified copolymers of ethylene and tetrafluoroethylene. They are high-performance resins that can be processed at relatively high rates compared with other traditional fluorocarbon resins (like PTFE). They are mechanically rugged, intensely tough, and offer an excellent balance of engineering properties.

The breakthrough is in the micro-geometry. Everflon™ ETFE Powder P4010 is preferred for applications where materials, fillers, or pigments must be flawlessly dispersed within an ETFE matrix. Materials can be thoroughly and evenly dispersed in this premium powder and then either compression molded or melt mixed for additional downstream processing. Properly processed products made from neat Everflon™ ETFE Powder P4010 are inert to most solvents and chemicals, hydrolytically stable, and weather-resistant. The recommended upper service temperature is 155 °C (311 °F); useful properties are retained seamlessly at cryogenic ranges. The level and stability of dielectric properties are excellent, and the flame rating is V-0 by the UL94 method. They are highly resistant to environmental stress cracking and have outstanding impact strength, cut-through, and abrasion resistance.



02 | Melt Processing

Slow down to step up. Controlled flow for intricate demands.

Everflon™ ETFE Powder P4010 can be processed by conventional melt-extrusion techniques and injection, compression (compression molding), transfer, and blow-molding processes.

- **Controlled Extrusion Stability:** Compared with other high-flow granule grades of Everflon™, thermal processing of this powder grade runs at a more deliberate, slower rate; thus, permitting the use of pressure extrusions through narrow dies without requiring risky or aggressive drawdown.
- **Machine Recommendation:** Reciprocating screw injection molding machines are strongly preferred. Because molten fluoropolymers release trace corrosive elements at extreme temperatures, all parts in direct contact with the melt must be built from premium corrosion-resistant alloys (e.g., Hastelloy® or Inconel®).
- **Thermal Residence:** Extruder barrels should feature a high length-to-diameter (L/D) ratio to ensure uniform thermal residence, soaking the resin smoothly up to its target melt temperature of approximately 340 °C (640 °F).

03 | Typical End Products

The silent shield. Hidden deep within heavy industry.

Everflon™ ETFE Powder P4010 is the premium choice inside North America's most demanding chemical, aerospace, and advanced material supply chains:

- **Severe Chemical Service:** Ideal for critical fluid infrastructure, including lined valves and fittings, chemical pump housings and impellers, corrosive column packings, and other heavy-duty abrasion-resistant linings.
- **High-Temperature Insulation:** Premium high-temperature electrical components, cable jacket layers, and critical electronics insulation.
- **Industrial Infrastructure:** High-tensile fasteners, industrial corrugated tubing, severe-duty duct work, and high-purity cast film.

04 | Storage & Handling

Pure by design. Protected from the elements.

- **Ultra-Long Stability:** The physical and chemical properties of Everflon™ ETFE Powder P4010 are completely unaffected by storage time.
- **Airborne Cross-Contamination Guard:** Ambient toolroom storage conditions should be engineered specifically to avoid airborne dust contamination and the violent formation of water condensation on the raw powder when it is removed from packaging containers.
- **The Condensation Rule:** Due to the massive specific surface area of micro-powders, if cold bags are brought into a warm shop floor during winter, moisture will aggressively condense on the powder surfaces. Never open a sealed bag until the resin has fully acclimated to the ambient shop floor temperature. Trapped moisture triggers severe internal processing.
- **Packaging Specifications:** Everflon™ fluoropolymer resins are packaged in standard contaminant-free 20-kg (44-lb) plastic bags.

05

Typical Property Data

Performance by the numbers. Raw metrics, refined.

Property Matrix	Test Method	Unit	Typical Value
Thermal Dynamics			
Nominal Melting Point	ASTM D3159 / D3418	°F (°C)	491 – 536 (250 – 280)
Melt Flow Rate (MFR @300°C)	ASTM D3159	g/10 min	6~14
Continuous Service Temperature	UL 746 / LV 112	°F (°C)	302 (150) (Peaks to 347-392°F)
Mechanical Integrity			
Tensile Strength, 73 °F (23 °C)	ASTM D3159 / D638	psi (MPa)	6,000 (40)
Ultimate Elongation, 73 °F (23 °C)	ASTM D3159 / D638	%	300
Specific Gravity	ASTM D792	g/cm³	1.7
Electrical Insulation			
Dielectric Strength, 10-mil (0.25 mm)	ASTM D149	V/mil (KV/mm)	1,700 (65)
Dielectric Constant, 1 MHz	ASTM D150	—	2.6 – 2.8
Dissipation Factor, 1 MHz	ASTM D150	—	0.009
Volume Resistivity	ASTM D257	ohm·cm	1 x 10 ¹⁷
Environmental Compliance			
Water Absorption, 24 hr	ASTM D570	%	0.007 (Non-hygroscopic)
Bulk Density	Everflon Method	g/L	1300
Flammability Rating	UL 94 Standard	—	V-0
Weather & Chemical Resistance	—	—	Excellent

Data represents typical property values measured under standard ASTM methodologies and should not be used as rigid, absolute specification limits. Everflon™ ETFE P4010 fully complies with ASTM D3159, Type I, Grade 3 standards.

06 | Safety & Disclaimers

Unyielding protocols. Absolute safety.

- **OSHA & Workplace Exhaust:** Open and use powder containers only in well-ventilated areas using high-efficiency Local Exhaust Ventilation (LEV). Vapors and fumes liberated during hot processing, or from smoking tobacco or cigarettes contaminated with Everflon™ ETFE P4010 powder dust, may cause "Polymer Fume Fever"—a temporary, flu-like condition (chills, fever, sore throat). This condition typically targets operators several hours after exposure and passes within 24 hours. Fully exhaust hot-processing zones and strictly ban tobacco products on the production floor.
- **Powder Explosion Hazard:** Under specific high-temperature or static conditions, mixing this fine resin powder with finely divided active metals (such as magnesium or aluminum powder) can be flammable or create a critical explosion hazard due to the immense powder contact surface. Prevent cross-contamination in the blending room.
- **Strict Medical Restriction:** This is an industrial-grade resin. Do not use or resell Everflon™ materials in medical applications involving permanent implantation in the human body or direct contact with internal bodily fluids or tissues, unless explicitly agreed upon by the Seller in a formal, separate written legal contract. The processor assumes sole responsibility for verifying end-use compliance.

Empowering Next-Gen Industrial Solutions.

Don't let extreme environments limit your breakthrough. We deliver high-performance fluoropolymer tech that drives global manufacturing forward.

- Explore the future: www.everflon.com www.everflonultra.com
- Partner with us: info@everflon.com

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