



EVERFLON™

PTFE Fine Powder F500

Engineered to Flow. Built to Perform

01 | Product Description

A New Standard for Precision Paste Extrusion

Everflon™ PTFE Fine Powder F500 is a high-performance polytetrafluoroethylene fine powder engineered for demanding paste extrusion applications where processing consistency, surface quality, dimensional control, and long-term reliability matter.

Designed for precision extrusion and advanced downstream processing, F500 combines the inherent advantages of PTFE with carefully controlled powder characteristics to support stable processing across a wide range of high-performance applications.

From ultra-clean tubing to sophisticated wire and cable insulation, F500 is developed to deliver the consistency manufacturers expect—and the performance demanding applications require.



02 | **Pure PTFE. Precisely Controlled.**

Exceptional material performance starts with exceptional control.

Everflon™ F500 is designed around the fundamental strengths of PTFE, delivering a balanced combination of thermal stability, chemical resistance, electrical insulation, low friction, weatherability, and flexibility.

Key Material Advantages

Outstanding Chemical Resistance

Designed to maintain integrity in contact with a broad range of aggressive chemicals, fuels, solvents, and process media.

Exceptional Electrical Performance

Stable dielectric behavior makes PTFE an ideal material for high-performance electrical insulation and signal-critical applications.

Low Surface Energy

Naturally low friction and non-stick characteristics support clean surfaces, smooth movement, and reduced adhesion.

Extreme Temperature Capability

PTFE maintains useful performance across an exceptionally broad operating temperature range.

Negligible Moisture Absorption

Helps maintain stable electrical and dimensional performance in humid and demanding environments.

Long-Term Weather Resistance

Excellent resistance to UV, oxidation, and outdoor exposure supports extended service life.

Flexibility with Strength

A distinctive combination of flexibility, toughness, and elongation enables demanding tube, hose, wire, and formed-part applications.

03 | **Designed for the Extrusion Window**

Stable Processing. Clean Surfaces. Consistent Output.

F500 is engineered for paste extrusion applications requiring controlled powder handling, uniform lubricant distribution, predictable preforming behavior, and stable extrusion response.

Its fine powder morphology is designed to support controlled fibrillation during extrusion, helping manufacturers achieve consistent profiles, smooth surfaces, and reliable downstream processing.

Depending on extrusion geometry, lubricant system, reduction ratio, tooling design, and process conditions, F500 can be considered for applications ranging from precision tubing to wire and cable insulation.

04 | Made for Demanding Geometry

From Fine Tubing to Complex Profiles.

F500 is intended for high-quality paste-extruded PTFE products where uniformity and reliability are essential.

Typical Applications

Precision Tubing

For fluid handling, instrumentation, analytical systems, industrial equipment, and demanding chemical-service applications.

Thin-Wall Tubing

For applications requiring dimensional consistency, flexibility, and controlled wall thickness.

Wire & Cable Insulation

For electrical systems where heat resistance, dielectric performance, and long-term stability are critical.

Multi-Lumen & Specialty Profiles

For advanced extrusion geometries requiring precise material distribution and processing control.

Braided Hose Liners

For reinforced hose structures used in chemical handling, transportation systems, industrial equipment, and fluid-transfer assemblies.

Formed PTFE Components

Suitable for selected downstream operations such as flaring, forming, welding, convoluting, and other secondary processing techniques, subject to application validation.

05 | Process with Confidence

A Controlled Path from Powder to Performance.

Paste extrusion performance depends on the interaction between resin, lubricant, temperature, preform conditions, extrusion ratio, die geometry, and thermal processing.

A typical processing sequence may include:

1. Resin Conditioning

Maintain controlled material temperature and minimize unnecessary mechanical shear before blending.

2. Lubricant Addition

Uniformly distribute a compatible hydrocarbon-based processing aid throughout the powder.

3. Preforming

Compress the lubricated powder under controlled pressure to form a coherent preform.

4. Paste Extrusion

Extrude through the selected tooling under controlled pressure and speed.

5. Lubricant Removal

Gradually remove the processing aid under controlled thermal conditions.

6. Sintering

Heat the extrudate above the PTFE crystalline melting region to consolidate the fibrillated structure into a dense final product.

7. Cooling & Dimensional Stabilization

Control cooling conditions to achieve the desired dimensions and final performance.

06

Protect the Powder. Protect the Surface.

Careful Handling Starts Before Extrusion.

PTFE fine powder is sensitive to mechanical shear before processing. Excessive handling, compression, or uncontrolled movement may initiate premature fibrillation and negatively affect extrusion performance or finished-part appearance.

For consistent processing:

- Minimize unnecessary mechanical shear.
- Keep containers securely closed.
- Protect the resin from contamination.
- Maintain clean handling and processing areas.
- Control temperature before preforming.
- Prevent condensation when processing below ambient temperature.
- Avoid prolonged compression of the powder during storage or internal transfer.

07

Performance, Measured.

Typical Property Data — Everflon™ PTFE Fine Powder F500

Property Matrix	Test Method	Unit	Typical Value
Average Particle Size	ASTM D4895 / ISO 12086	µm	480
Bulk Density	ASTM D4895 / ISO 12086	g/L	495
Standard Specific Gravity	ASTM D4895 / ISO 12086	—	2.15
Thermal Instability Index	ASTM D4895 / ISO 12086	—	< 7
Stretch Void Index	ASTM D4895 / ISO 12086	—	< 50
Extrusion Pressure at RR=400:1	ASTM D4895 / ISO 12086	MPa	23
Initial Melt Peak Temperature	ASTM D4895 / ISO 12086	°C	341
Second Melt Peak Temperature	ASTM D4895 / ISO 12086	°C	322

The values shown are typical data and should not be used as specification limits. Actual processing performance may vary depending on equipment design, lubricant system, extrusion ratio, tooling, temperature, and operating conditions.

08 | Consistency You Can Build Around

One Resin. More Process Confidence.

The value of a premium PTFE fine powder is not defined by a single number.

It is defined by how consistently the material performs—from drum to drum, preform to preform, and extrusion run to extrusion run.

Everflon™ F500 is developed around that principle:

- **Stable powder behavior.**
- **Predictable extrusion.**
- **Clean finished surfaces.**
- **Reliable downstream processing.**

09 | Engineered for What Comes Next.

Extrude. Form. Integrate.

A high-performance PTFE tube is rarely the end of the process.

F500 is designed with downstream manufacturing in mind, supporting applications that may involve:

Flaring

Convoluting

Welding

Forming

Braiding

Assembly

Secondary thermal processing

Material selection and process conditions should always be validated for the specific downstream operation and final application.

10 | Built for Global Manufacturing

One Material Platform. Multiple Industries.

Everflon™ F500 can support demanding fluoropolymer applications across:

Chemical Processing

Aggressive fluids, corrosive environments, and high-purity transfer systems.

Automotive & Transportation

Fluid lines, protective tubing, cable systems, and specialty hose constructions.

Electrical & Electronics

High-performance insulation for demanding thermal and electrical environments.

Industrial Equipment

Tubing, liners, sealing-related components, and low-friction applications.

Semiconductor & High-Purity Systems

Applications requiring chemically inert material systems and contamination control, subject to product purity requirements and application qualification.

Pharmaceutical & Life Science Equipment

Selected fluid-handling and processing applications subject to regulatory and application-specific qualification.

11 | Packaging

Protected from Production to Processing.

Everflon™ F500 should be supplied in sealed packaging designed to protect the fine powder from contamination, excessive compression, moisture exposure, and unnecessary mechanical disturbance during transportation and storage.

Recommended catalog format

Net Weight: 20kg / container

Packaging: Sealed PE container / drum

Pallet Configuration: 40 containers / pallet

Storage: Dry, clean, temperature-controlled environment

12 | Regulatory & Compliance

Designed for Global Supply.

Everflon™ F500 is manufactured under controlled quality systems. Regulatory status and compliance documentation may vary by market, application, and production lot. Please contact Everflon for the latest product-specific declarations, certificates, and regulatory information.

Where applicable, individual documentation may include:

ASTM / ISO product classification

REACH

RoHS

FDA food-contact status

EU food-contact status

SVHC declaration

PFAS-related regulatory statements

13 | Safety & Handling

Performance Starts with Responsible Processing.

Before processing Everflon™ PTFE Fine Powder F500, review the current Safety Data Sheet and applicable industrial hygiene guidance.

Fluoropolymer materials should be processed only with appropriate temperature control, ventilation, equipment safeguards, and personnel training.

Avoid contamination of fluoropolymer processing equipment and prevent overheating beyond recommended processing conditions.



13 | Clean by Nature. Precise by Design.

PTFE Performance Without Compromise.

Chemical resistance.

Electrical integrity.

Thermal endurance.

Low friction.

Processing consistency.

F500 brings these advantages together in one precision-engineered PTFE fine powder platform.

For manufacturers who need more than PTFE.

For manufacturers who need PTFE they can build around.

Precision in Every Particle.

Engineered for stable paste extrusion, exceptional surface quality, and reliable performance—run after run.

- Explore the future: www.everflon.com www.everflonultra.com
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Tubing. Wire. Hose. Profiles.

One powder. More possibilities.

EVERFLON™

Fluoropolymer Technology, Refined.