



EVERFLON™

PTFE Fine Powder F1000

Fine Powder. New Possibilities.

Explore PTFE paste extrusion for wire insulation,
cable jacketing, and thin-wall tubing.

01 | Small Particles. A Bigger Role.

PTFE fine powder for the details that define the finished component.

Everflon™ PTFE Fine Powder F1000 is a fluoropolymer resin supplied in fine powder form.

In a typical PTFE paste extrusion process, the resin is blended with a suitable processing lubricant, formed into a preform, and extruded through a die. Subsequent lubricant removal and sintering develop the finished PTFE structure.

For engineers evaluating wire coatings, cable jackets, and small-diameter tubing, material selection connects every stage: powder handling, extrusion behavior, thermal processing, and final part performance.

Evaluate F1000 against the requirements of the complete process.



02 | The Properties Behind the Possibilities.

The characteristic strengths of PTFE. A clear starting point for engineering evaluation.

Chemical Resistance

PTFE is known for broad resistance to industrial chemicals and solvents. Assess compatibility against the actual media, concentration, temperature, and exposure conditions of your application.

Electrical Insulation

PTFE offers dielectric characteristics useful in insulation design. Finished-part electrical performance depends on resin quality, wall thickness, processing, and test conditions.

Low Friction. Low Adhesion.

The characteristic low-friction, nonstick surface of PTFE is relevant to applications where sliding contact and surface release matter.

Low Moisture Absorption

PTFE absorbs very little moisture, a useful material characteristic when evaluating components for humid environments.

Weathering Resistance

PTFE is recognized for resistance to outdoor weathering. Assess the complete component—including its other materials—against its intended environment.

Flexibility in Thin Sections

PTFE can combine flexibility with toughness in suitable part geometries. Wall thickness, sintering conditions, and finished-part testing determine the result.

03 | Think Thin. Engineer Further.

Application paths for wire, cable, and tubing development.

Wire Insulation

Evaluate F1000 for paste-extruded PTFE insulation where electrical properties, chemical exposure, and space constraints shape the design. Establish suitable wall dimensions and verify insulation integrity on the finished wire.

Cable Jacketing

Consider PTFE jacketing where the outer surface must address chemical exposure and low-friction requirements. Confirm mechanical performance and compatibility with the full cable construction.

Thin-Wall PTFE Tubing

Explore thin-wall and small-diameter tubing, including spaghetti tubing, for insulating sleeves and protective coverings. Validate dimensions, concentricity, flexibility, and surface quality against the application specification.

04 | Every Step Shapes the Result.

From powder preparation to the finished PTFE component.

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.

05 | Care Begins Before Extrusion.

Protect powder condition. Control contamination. Prepare consistently.

PTFE fine powder is sensitive to mechanical shear before processing. Excessive handling can cause premature fibrillation and affect the quality of the finished product.

Keep containers closed and work areas clean. Use controlled handling practices to limit contamination, unnecessary compaction, and condensation during temperature changes.

Obtain the F1000 storage and conditioning recommendations before establishing production procedures.

06

Make the Specification Clear.

Grade-specific data for informed material selection.

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=1000:1	ASTM D4895 / ISO 12086	MPa	50
Initial Melt Peak Temperature	ASTM D4895 / ISO 12086	°C	341
Second Melt Peak Temperature	ASTM D4895 / ISO 12086	°C	322

Material qualification starts with documented properties and defined test conditions. Review the current F1000 technical data sheet alongside processing trials and finished-product testing.



Start With the Right Questions.

Bring your geometry, process, and performance targets into the conversation.

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