



EVERFLON™

PTFE Fine Powder F100

Fine powder. Greater possibilities.

PTFE fine powder for paste extrusion,
sealing materials, and electrical insulation tape.

01 | Performance begins with the material.

A PTFE foundation for functional tapes and profiles.

Everflon™ PTFE Fine Powder F100 is supplied in fine powder form for evaluation in paste extrusion processes. In this manufacturing route, PTFE powder is blended with a suitable processing aid, preformed, and extruded into a continuous shape.

Further processing—such as processing-aid removal, calendering, stretching, or sintering—is selected according to the intended product structure and end-use requirements.

PTFE brings a useful combination of chemical resistance, electrical insulation, low friction, and low moisture absorption. Finished-product performance depends on resin selection, processing conditions, geometry, and the operating environment.



02 | Essential properties. Working together.

The characteristics that make PTFE a versatile engineering material.

Chemical resistance

PTFE is known for resistance to a broad range of industrial chemicals and solvents. Suitability should be evaluated against the specific medium, concentration, temperature, and exposure conditions.

Electrical insulation

PTFE offers dielectric characteristics that make it relevant to electrical insulation applications. Finished insulation must be assessed at the required thickness and under the intended electrical and environmental conditions.

Low friction and release

PTFE's low-friction, non-stick surface characteristics support applications where sliding behavior or release performance matters.

Low moisture absorption

PTFE absorbs very little moisture, a useful characteristic when dimensional and electrical behavior in humid environments is part of the design brief.

Flexibility through structure

Tape thickness, density, orientation, and thermal treatment influence flexibility and conformability. Material selection and processing work together to define the final result.

03 | One material. Multiple directions.

Explore PTFE tape, sealing, and insulation applications.

Low-density PTFE tape

Evaluate F100 for tape structures where density, thickness, and conformability are central to product design. Extrusion and downstream processing should be developed around the required tape properties.

Conformable sealing materials

Explore PTFE-based sealing formats for applications requiring chemical resistance and flexibility. Sealing performance must be verified in the intended joint design and operating conditions.

Wire and cable insulation tape

Evaluate PTFE tape for wrapped insulation constructions. Tape uniformity, dielectric performance, wrapping conditions, and subsequent thermal treatment all contribute to the finished insulation system.

Beading and simple profiles

Assess paste extrusion of PTFE beading and simple profiles against the required dimensions, surface quality, and mechanical properties.

04 | Shape the powder. Define the result.

A process built around paste extrusion.

01 — Condition the resin

Prepare the powder under controlled conditions. Minimize unnecessary mechanical stress and protect the material from moisture condensation and contamination.

02 — Blend with a processing aid

Select a compatible processing aid and establish blending and conditioning procedures through controlled trials.

03 — Form the preform

Compact the lubricated powder into a preform suited to the extrusion equipment and intended product.

04 — Paste-extrude

Extrude through the selected die. Establish the reduction ratio, extrusion speed, pressure, and tooling conditions for the required geometry.

05 — Develop the final structure

Remove the processing aid and apply the appropriate downstream steps. Depending on the product, these may include calendaring, stretching, and sintering.

06 — Verify performance

Evaluate dimensions, density, surface quality, and the mechanical or electrical properties relevant to the application.

Processing conditions must be established specifically for Everflon™ F100 and the manufacturing equipment in use.

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

Care before processing.
Protect the powder before it becomes a product.

PTFE fine powder requires careful handling. Excessive shear can cause premature fibrillation and affect subsequent processing.

Keep containers closed when not in use. Maintain clean storage and handling areas, minimize unnecessary agitation, and prevent contamination by foreign particles.

Control conditioning temperatures and ambient moisture to avoid condensation. Follow the current F100 storage guidance for temperature limits, shelf life, and preparation before use.

07

Clear data. Informed decisions.
Evaluate the grade against your process requirements.

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=100:1	ASTM D4895 / ISO 12086	MPa	8
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 F100 technical data sheet alongside processing trials and finished-product testing.

08

Confidence through verification.
Match the documentation to the application.

Confirm material suitability using the current F100 technical data sheet, safety data sheet, and any application-specific documentation available for the grade.

Food-contact suitability, regulatory status, and conformance to material standards must be supported by documentation applicable to Everflon™ F100 and the intended conditions of use.

Review the safety data sheet before handling or processing. Establish appropriate ventilation and process controls for the resin and any processing aids used.



Your next product starts here.

Bring your application into focus with Everflon™ F100.

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

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