



EVERFLON™ M40 PTFE Granular Resin

Fine particles. Grand potential.

A PTFE molding platform for the shapes that move industry forward.

Explore Everflon™ M40 PTFE granular resin for compression molding, sintering, and conversion into molded billets, skived film, and machined industrial components.

Product Introduction

Small particles. Big possibilities.

Everflon™ M40 PTFE granular resin for compression molding, sintering, and precision machining.

Everflon™ M40 is positioned as a fine-particle polytetrafluoroethylene (PTFE) granular resin for molded billets, skived films, sheets, and machined industrial components.

The proposed grade profile combines a white powder form with a molding-focused processing route. After compaction and controlled sintering, PTFE stock shapes can be converted into seals, bearing components, electrical insulators, and chemical-service parts.

Item	Catalog description
Brand	Everflon™
Grade	M40
Material	Polytetrafluoroethylene (PTFE)
Product category	PTFE granular molding resin
Proposed form	White, fine-particle powder
Processing route	Compression preforming, sintering, and controlled cooling
Conversion options	Machining and skiving of consolidated stock shapes



Resin Architecture

Performance begins within.

A fine-particle PTFE platform for consolidated molded shapes.

Particle characteristics influence how PTFE powder fills a mold and compacts into a preform. A fine-particle resin can help reduce void formation when powder preparation and molding conditions are well controlled.

Bulk density also influences the amount of resin that can be loaded into a given mold volume. For large billets and molded shapes, these powder characteristics work together with compaction pressure and the thermal cycle to determine the finished result.

Material Benefits

More capability. Less compromise.

The characteristic benefits of PTFE, brought into industrial component design.

Particle characteristics influence how PTFE powder fills a mold and compacts into a preform. A fine-particle resin can help reduce void formation when powder preparation and molding conditions are well controlled.

Bulk density also influences the amount of resin that can be loaded into a given mold volume. For large billets and molded shapes, these powder characteristics work together with compaction pressure and the thermal cycle to determine the finished result.

PTFE characteristic	Design relevance
Broad chemical resistance	Supports evaluation for seals, linings, and components exposed to chemicals
Electrical insulating properties	Supports dielectric component and insulation design
Heat resistance	Supports evaluation for elevated-temperature applications
Low friction	Supports sliding interfaces and bearing component design
Low surface adhesion	Helps reduce sticking at suitable contact surfaces
Low water absorption	Limits moisture uptake by the polymer
Weather resistance	Supports evaluation for outdoor exposure
Toughness and flexibility	Supports a range of molded and skived component formats

Molded Stock Shapes

Think beyond the part.

Start with a molded shape. Create a family of finished components.

A molded PTFE billet is a starting point for multiple manufacturing routes. It can be machined into rings, seals, and insulating parts, or skived into thin film and sheet.

For larger stock shapes, powder loading, compaction uniformity, and thermal control deserve particular attention. Establish the molding process around the actual billet dimensions and the capabilities of the press and furnace.

Conversion routes: Molded billets → Machined components / Skived film / Skived sheet

Industrial Uses

One material. Many essential roles.
PTFE molded and skived components across sealing, mechanical, electrical, and chemical applications.

Application area	Candidate components	Evaluation priorities
Sealing	Gaskets, packing elements, mechanical seal components, piston rings	Leakage, creep, pressure, temperature, and media compatibility
Mechanical interfaces	Shaft bearing components and sliding pads	Load, wear, friction, clearance, and deformation
Electrical insulation	Machined insulators and skived insulation film	Dielectric performance, thickness uniformity, and voids
Chemical equipment	Linings, diaphragms, and bellows	Chemical compatibility, flexing, permeability, and part integrity
Infrastructure	Engineered bearing-pad components for bridge or pipeline systems	Load capacity, creep, assembly design, and project requirements
Semi-finished materials	Billets, skived sheets, and films	Machinability, surface condition, thickness, and internal quality

Molding and Sintering

Shape. Consolidate. Refine.
A controlled processing route from powder to finished PTFE component.

Stage	Process focus	Quality objective
Resin preparation	Condition the powder uniformly and protect it from contamination	Consistent handling and mold filling
Mold loading	Condition the powder uniformly and protect it from contamination	Uniform preform geometry
Compression preforming	Establish pressure and dwell conditions for the part	A cohesive preform with controlled density
Sintering	Apply a validated cycle above the resin's crystalline melting region	Consolidation of the molded shape
Controlled cooling	Set the cooling profile for the billet dimensions and required properties	Control of structure, stress, and dimensional behavior
Machining or skiving	Convert the consolidated shape with suitable tooling and inspection	Finished geometry, surface, and thickness

Preforming pressure, sintering temperature, heating time, and cooling rate all influence finished properties. Establish these conditions through trials for the specific part.

Fine-particle PTFE powder may require manual loading or equipment designed for its flow behavior. Confirm feeding performance before selecting an automatic system.

Technical Data

Clear data. Confident decisions.
Define the grade with traceable tests and confirmed values.

Property Matrix	Test Method	Unit	Typical Value
Average particle diameter	ISO 13320 / ASTM D4894	µm	40
Standard specific gravity	ISO 13320 / ASTM D4894	—	2.2
Bulk density	ISO 13320 / ASTM D4894	g/L	460
Tensile strength	ISO 13320 / ASTM D4894	MPa	< 30
Elongation at break	ISO 13320 / ASTM D4894	%	< 350
Initial melting peak	ISO 13320 / ASTM D4894	°C	341
Second melting peak	ISO 13320 / ASTM D4894	°C	322
Thermal instability index	ISO 13320 / ASTM D4894	—	3
Water content	ISO 13320 / ASTM D4894	%	0.03

Filled PTFE Development

Adapt the material to the mission.
Explore filled PTFE formulations around the component's operating needs.

Where a neat PTFE formulation does not meet the complete design requirement, fillers can change mechanical behavior. Evaluate a filled formulation around the required balance of wear, deformation, friction, electrical properties, and chemical compatibility.

Begin with the application: load, motion, temperature, media, and dimensional limits. Then confirm whether M40 is an appropriate base resin for the proposed compound.

Storage and Handling

Keep every particle ready.
Consistent powder condition supports consistent processing.

Store the resin in clean, closed containers and protect it from moisture and foreign particles. Allow the powder to reach a uniform processing-room temperature before preforming.

Avoid condensation when transferring cold containers into a warmer environment. Minimize conditions that promote powder lumping, and maintain clean tools, molds, and handling areas.

Documentation and Qualification

Confidence comes with clarity.
Match material documentation to the application.

Review the current M40 technical data sheet and safety data sheet before processing or specification. Confirm any grade-specific declarations needed for the intended application and destination market.

Food-contact status, medical suitability, and other regulated-use claims require documentation applicable to M40 and the finished article. Qualification must also consider additives, manufacturing conditions, and the actual conditions of use.

Use suitable ventilation and follow the applicable safety instructions during thermal processing.



Your next component starts here.

Let's define the material and process around your application.

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

Everflon Fluoropolymers co.,ltd

Fuqiao Industrial Park,C&F Ave,Chaidian,Wuhan, China. 43100

Tel:+86-185-7168-9228