EVERFLON ACADEMIC

PTFE BROCHURE

Everflon™ PTFE Fluoropolymer Resins at a Glance

Products made with Everflon™ PTFE fluoropolymer resins have exceptional resistance to high temperature, chemical reaction, corrosion, and stress-cracking.

The mechanical toughness, electrical, and low-friction properties of Everflon™ PTFE make it the preferred plastic for a host of applications and processing techniques.

Typical Properties of Everflon™ PTFE Granular Molding Powders

Resin Type	Grade	Typical Properties: Average Particle Size (µm)	Bulk Density (g/L)	Standard Specific Gravity	Tensile Strength Mpa	Elongation %	Melting Temperature (°C)	Features	Applications
Everflon™ PTFE Granular	M40	40	460	2.2	>38	>360	327	A resin designed to be molded into shapes	High-performance mechanical/electrical applications requiring excellent end-use performance Skived tapes, films, sheets Machined gaskets, packings, mechanical seals
	M30	30	260	2.2	>38	>360	327	A resin used in molding applications requiring excellent flex life Recommended for compounding with fillers	Expansion joints Bellows Piston rings Diaphragms Skived films and sheets
	G401	500	700	2.2	>35	>330	327	A free-flow resin ideal for isostatic molding Designed for low preform pressure Improved surface smoothness	Shallow molds Ball valve seats Pipe linings Seals Valves Valve plugs

Typical Properties of Everflon™ PTFE Fine Powders

Resin Type	Grade	Typical Properties: Average Particle Size (µm)	Bulk Density (g/L)	Standard Specific Gravity	Extrusion Pressure (MPa)	Reduction Ratio Range	Melting Temperature (°C)	Features	Applications
Everflon™ PTFE Fine Powder	F100	500	500	2.2	9.0 at 100:1	10–300	327	High molecular weight Low-reduction ratio Excellent thermal	High molecular weight resin for unsintered stretched products and sintered products with high mechanical properties. Examples include small pore size filter membranes and gaskets
	F500	500	500	2.2	23.0 at 400:1	10–500	327	Highest thermal stability, stress crack resistance, flex life, and clarity	Increased thermal stability, superior flex life, superior stress crack resistance, low permeability, and high clarity compared with other grades of PTFE fine powder
	F1000	500	500	2.2	53.0 at 1600:1	250–2000	327	General-purpose resin Medium-reduction ratio Excellent color and clarity Accepts filter exceptionally well	Designed for processing at medium to high reduction ratios (250–2000). Particularly suitable for production of wire coating, wire jacketing, and tubing at fast sintering rates

Typical Properties of Everflon™ PTFE Aqueous Dispersions

Resin Type	Grade	Typical Properties: Solids Content (% PTFE by Weight)	Density of Dispersion (at 60% Solids) (g/cm3)	Surfactant Content on PTFE Solids (%)	Dispersion Particle Size (µm)	Brookfield Viscosity at 25 °C (MPa·s)	pH of Dispersion	Features	Applications
Everflon™ PTFE Dispersion	D60P	60	1.5	6	0.22	15–25	9	General-purpose dispersion; preferred for coating and impregnating woven goods	Glass cloth coating Metal coatings Powder binder
	D60C	60	1.5	6	0.28	15–25	9	Enhanced shear stability; can be used in coating and additive applications	Glass cloth coating Metal coatings Powder binder
	D60F	60	1.5	6	0.23	15–25	9	Improved tensile strength for cast film applications	Cast film Glass cloth coating

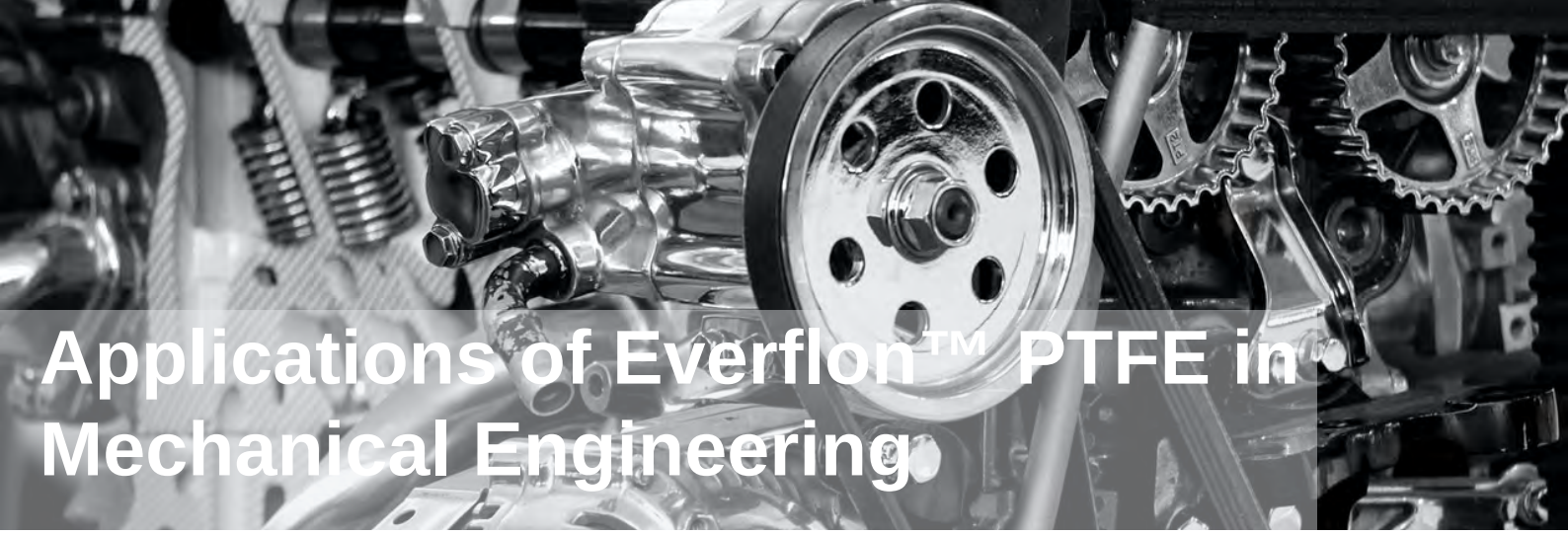
Typical Properties of Everflon™ PTFE Micropowders

Resin Type	Grade	Typical Properties: Average Particle Size (µm)	Specific Surface Area (m^2/g)	Melting Temperature (°C)	Features	Applications
Everflon™ PTFE Micropowder	MV1	1-2	1.5-3	260	Improves Corrosion Inhibition Reduces Wettability Reduces “Blocking” in Ink Improves Gloss and Surface Smallest Primary Particle Size	Lubricants
	MV3	3-5	1.5-3	260	Improves Corrosion Inhibition Reduces Wettability Reduces “Blocking” in Ink	Inks Coatings
	MVP	14-17	1.5-3	260	Provides Anti-Stick Surfaces Reduces Surface Abrasion Reduces Friction and Wear in Parts Increases Lubrication	Plastic Molded Parts Elastomer Molded Parts Lubricants

Applications of Everflon™ PTFE in Fluid Handling

Everflon™ PTFE Products are used in Fluid Handling applications in Chemical, Pharmaceuticals, Petrochemical, and Petroleum Industries mainly due to extraordinary chemical resistance to almost any service condition along with high thermal resistance. The major application include:

- PTFE Gasketing material: Gaskets, O/D/V/U Rings, Universal Rope, Crescent Rings for Glass Pipelines.
- PTFE Expansion Joints : Bellows
- PTFE Ball Valves Seats - Seals
- PTFE Diaphragms of Diaphragms Valves and Pumps.
- PTFE Laboratory Ware: Beakers, Plug Cock.
- PTFE Sleeves of Plug Valves.
- PTFE Mechanical Seals of Pumps
- PTFE Impellers / Body of Pumps.
- PTFE Tubing and Hoses.
- PTFE Liners of Reactors, Storage Vessels / Pipes and Flanges.
- PTFE Thread Seal Tapes.
- PTFE Liners / Disc of Butterfly Valves.



Applications of Everflon™ PTFE in Mechanical Engineering

Everflon™ PTFE Products find many applications in mechanical & civil engineering industries such as Machine Tools, Air Compressor, Bridge Bearing, and Hydraulic & Pneumatic Seals due to its unique surface – friction/wear properties.service condition along with high thermal resistance. The major application include:

- PTFE Low Friction Liners for machine tools guide ways and slide ways.
- PTFE Piston Rings for dry running air compressor.
- PTFE Low load high speed bush bearings.
- PTFE Guide bands & Piston Seals for hydraulic and pneumatic actuators.
- PTFE Hysteresis- Friction Washers for automobile clutches.
- PTFE Bridge Support bearing pads.
- PTFE Bearing / pads for sprinklers.
- PTFE Pipeline Support Bearing Pads.
- PTFE Railway bogie bearings.
- PTFE Bearings for Conveyor belts
- PTFE Gear Case wiper Rings.
- PTFE Bearings / Pads for Actuators.
- PTFE Support pads/ Wear strips / bearing pads in Railway bogies.
- PTFE Support pads/ Wear strips / bearing pads in machine tools & equipments

Applications of Everflon™ PTFE in Electrical & Electronics Engineering

Everflon™ PTFE Products are mainly used in Electrical & Electronics Engineering Industries such as Electric Switch Gears, Capacitor, Traction Motors, and Traction Generators mainly due to its outstanding Electrical Insulation characteristics.

- PTFE Nozzles for SF6 circuit breakers.
- PTFE Ultra thin sintered insulation tapes for traction machine.
- PTFE Capacitors film.
- PTFE Brush Holders.
- PTFE Thin walled spaghetti tubing for insulation in aircraft and space vehicles
- PTFE Ultra thin tape for failsafe applications.
- PTFE Barb Insulators.
- PTFE Heat Shrinkable sleeving for insulation.
- PTFE Connectors.

For more information about our company, products and service, please visit our website at www.everflon.com or www.everflonultra.com

Everflon Academic Center

Tel: +86-185-7168-9228

info@everflon.com

www.everflon.com