

PTFE

Polytetrafluoroethylene



PTFE, short for Polytetrafluoroethylene, is a versatile synthetic polymer known for its exceptional nonstick, heat-resistant, and chemical-resistant properties. PTFE is widely used in industries like automotive, electronics, aerospace, and manufacturing. Its unique characteristics include low friction, high-temperature tolerance, and resistance to corrosive substances, making it ideal for applications such as nonstick coatings, gaskets, seals, and electrical insulation.

Features

- Dielectric Strength = 34 kV/mm
- Volume Resistivity = $10^{17}\Omega\text{cm}$
- Shore Hardness D = 58

Availability

- Available in 1mm thickness
- Sheet sizes are 120cm x 120cm

Benefits and Applications

- Good Dielectric Strength
- Good Tensile Strength
- Good Volume Resistivity

Applications

- Automotive
- Home Appliances
- Electronics
- Building & Construction


Physical & Mechanical Properties

Property (unit)	Test Method	PTFE
Density (g/cm ³)	ASTM D 792	2.159
Tensile stress (MPa)	ASTM D 4894	25
Elongation at break (%)	ASTM D 4894	250
Shore Hardness D	ASTM D 2240	58
Deformation Under Load (%)	ASTM D 621	13
Permanent Deformation (%)	ASTM D 621	7
Static Friction Coefficient	ASTM D 1894	0.07
Dynamic Friction Coefficient	ASTM D 1894	0.05
Compressive Stress Deformation (N/mm ²) 1% Deformation	ASTM D 695	5

Thermal & Electrical Properties

Property (unit)	Test Method	PTFE
Working temperature (°C)	-	-200/+260
Coefficient of linear thermal expansion (°C ⁻¹)	ASTM 696	13.10^{-5}
Flame Behaviour	UL94	V0
Volume Resistivity (Ohm.cm)	ASTM D 257	10^{17}
Surface Resistivity (Ohm)	ASTM D 257	10^{16}



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This material is often used in these industries:



Industrial



LED



Automotive



PSU