

TECHNICAL DATA SHEET

PTFE (Polytetrafluoroethylene)

Also known as Teflon® — high-performance engineering plastic

Stock Colors	Chemical Name	Grade
White / Black	Polytetrafluoroethylene	Unfilled (Virgin)

PHYSICAL PROPERTIES

Property	Test Method	PTFE (Unfilled)
Density	ASTM D792	2.17 g/cm ³
Water Absorption, 24 hrs	ASTM D570	< 0.01 %

MECHANICAL PROPERTIES

Property	Test Method	PTFE (Unfilled)
Tensile Strength	ASTM D638	3,850 psi
Tensile Modulus	ASTM D638	79,600 psi
Tensile Elongation at Break	ASTM D638	310 %
Flexural Modulus	ASTM D790	71,500 psi
Compressive Strength	ASTM D695	3,480 psi
Compressive Modulus	ASTM D695	70,200 psi
Static Coefficient of Friction	GB 10006 / ISO 8295	0.09
Dynamic Coefficient of Friction	GB 10006 / ISO 8295	0.03
Static Coefficient of Friction	ASTM D1894	0.15
Dynamic Coefficient of Friction	ASTM D1894	0.09

THERMAL PROPERTIES

Property	Test Method	PTFE (Unfilled)
Coeff. of Thermal Expansion	ASTM D696	7.4 × 10 ⁻⁵ in./in./°F
Heat Deflection Temp. @ 264 psi	ASTM D648	134°C (54°F ref.)
Melting Point	ASTM D3418	334°C (634°F)
Max. Continuous Operating Temp.	—	265°C (508°F)
Thermal Conductivity	ASTM C177	1.72 BTU·in/ft ² ·hr·°F
Flammability Rating	UL94	V-0

ELECTRICAL PROPERTIES

Property	Test Method	PTFE (Unfilled)
Dielectric Strength (1/8" thk, short time)	ASTM D149	286 V/mil
Dielectric Constant @ 1 MHz	ASTM D150	2.1
Dissipation Factor @ 1 MHz	ASTM D150	< 0.0002
Volume Resistivity @ 50% RH	ASTM D257	> 10 ¹⁸ ohm·cm

Note: Data reflects typical sample testing and is not a guaranteed specification for all product batches. Values are subject to standard manufacturing tolerances.

Applications

Seals, gaskets, bearings, bushings, valve seats, insulation components, chemical processing linings, and low-friction wear parts requiring high chemical resistance and thermal stability.

For quotations and technical support, contact Diode Trading EST — diode.sa