

## Technical Data Sheet

### Polytetrafluoroethylene (PTFE) [Teflon™]

Chemical Name(s): Polytetrafluoroethylene  
Common Abbreviation(s): PTFE, Teflon™  
Available Profiles: Sheet, Rod

PTFE is a high-performance thermoplastic known for its exceptional chemical resistance, low friction, and high-temperature stability. It is widely used in chemical processing, electrical, and mechanical applications that demand a high degree of inertness, dielectric strength, and thermal resistance..

#### Benefits:

- Excellent chemical resistance to nearly all chemicals
- Very low coefficient of friction (self-lubricating)
- High-temperature resistance
- Non-stick and non-reactive surface
- Outstanding electrical insulating properties
- Low moisture absorption

#### Common Applications:

- Chemical processing equipment (seals, gaskets, linings)
- Electrical insulation components
- Bearings and bushings
- Non-stick coatings and liners
- Valve and pump components
- Food processing equipment

#### TYPICAL PROPERTIES of POLYTETRAFLUOROETHYLENE (PTFE) [TEFLON™]

	Property	Test Method	Value
Physical Properties	Density (g/cm <sup>3</sup> )	ATSM D792	2.16
	Water Absorption (%)	ASTM D570	<0.01
Mechanical Properties	Tensile Strength at 23°C (MPa)	ASTM D638	23
	Tensile Modulus (MPa)	ASTM D638	500
	Tensile Elongation at Break (%)	ASTM D638	300
	Flexural Strength (MPa)	ASTM D790	14
	Flexural Modulus (MPa)	ASTM D790	600
	Compressive Strength (MPa)	ASTM D695	24
	Hardness (Shore D)	ASTM D785	D55
Thermal Properties	Impact Strength (kJ/m <sup>2</sup> )	ASTM D256	No Break
	Coefficient of Linear Thermal Expansion (mm/mm/°C)	ASTM D696	10 x 10 <sup>-5</sup>
	Heat Deflection Temperature at 0.45 MPa (°C)	ASTM D648	121
	Approx. Melting Temperature (°C)	ASTM D3418	327
Electrical Properties	Max Operating Temperature (°C)	-	260
	Dielectric Strength (kV/mm)	ASTM D149	60
	Dielectric Constant at 1 MHz	ASTM D150	2.1
	Dissipation Factor at 1 kHz	ASTM D150	0.0002
	Surface Resistivity (ohm/sq)	ASTM D257	>10 <sup>16</sup>
Flammability	Arc Resistance (sec)	ASTM D495	300+
	Flammability Rating	UL94	V-0
Standards Compliance	FDA compliant for food contact ASTM D638, D790, D695, D257 compliant ISO 12086 compliant for PTFE materials		
Environmental Considerations	Recyclability: PTFE is difficult to recycle but is durable and long-lasting, which extends its service life in many applications. Environmental Impact: PTFE is chemically inert and does not degrade easily in most environments, making it stable over long periods.		

