



Material Datasheet —

PTFE (Polytetrafluoroethylene)

Extremely low-friction fluoropolymer with exceptional chemical resistance and a very wide service temperature range.

Physical

Property	Unit	Value
Density	g/cm^3	2.18
Water absorption (24 h, 23 °C)	%	≈ 0.00

Mechanical

Property	Unit	Value
Tensile strength (23 °C)	MPa	22
Tensile modulus (23 °C)	GPa	0.5
Elongation at break	%	250

Thermal

Property	Unit	Value
Melting temperature	°C	327
Continuous use temperature	°C	260
Thermal conductivity	W/(m·K)	0.25
CTE (linear)	$10^{-6}/K$	150
HDT (0.455 MPa)	°C	55

Electrical

Property	Unit	Value
Dielectric strength	kV/mm	60
Relative permittivity (1 MHz)	—	2.1
Dissipation factor (1 MHz)	—	≤ 0.0002

Tribology

Property	Unit	Value
Coefficient of friction (static-dynamic)	—	0.05–0.10

Moisture & Environment

Property	Unit	Value
Flammability (UL 94)	—	V-0
Chemical resistance	—	Resistant to almost all chemicals; avoid elemental fluorine & molten alkali metals at high T