TECHNICAL DATA SHEET

PTFE

Polytetrafluoroethylene

Property	Unit	Value
MECHANICAL PROPERTIES		
Density	g/cm^3	2.13–2.30
Tensile strength	MPa	14–35
Elongation	%	200–400
Compressive strength	MPa	12
Impact strength	J/m	157
Hardness	—	56
Dynamic coefficient of friction	—	0.11
Static coefficient of friction	—	0.05
Compression set (13.7 MPa · 24 h · 24 °C)	%	14 / 8
THERMAL PROPERTIES		
Melting point	°C	327
Heat deflection temperature (HDT) at 1.83 MPa	°C	55
Heat deflection temperature (HDT) at 0.46 MPa	°C	122
Maximum service temperature	°C	260
Minimum service temperature	°C	–180
Thermal conductivity	W/(cm·°C)	25.1
Linear expansion coefficient (30 °C → 80 °C)	10^{-5} /°C	12.3 → 11.6
ELECTRICAL PROPERTIES		
Dielectric strength	kV/mm	17
Volume resistivity	Ω·cm	10^{18}
Surface resistivity	Ω	10^{17}
Dielectric constant (50 Hz – 10^6 Hz)	—	2.1
Dielectric loss (50 Hz – 10^6 Hz)	—	$< 3 \times 10^{-4}$
Arc resistance	s	> 300
CHEMICAL AND OTHER PROPERTIES		
Acid and base resistance	—	Good
Flammability	—	Resistant
Water absorption	%	< 0.01

PTFE COMPOUNDS

Filled PTFE	Characteristics
Glass-filled PTFE (40%)	Improved wear resistance, compressive strength and creep resistance; good chemical resistance and good performance in oxidizing environments.
Carbon-filled PTFE (30%)	Improved electrical and thermal conductivity, low coefficient of friction (in water, steam or dry), good chemical resistance and superior wear resistance.
Graphite-filled PTFE (20%)	Improved wear resistance and lower friction.
Bronze-filled PTFE (30%)	Improved compressive strength and wear resistance, high thermal conductivity; may be abrasive and has reduced chemical resistance.
Molybdenum disulfide-filled PTFE (20%)	Wear resistant, lower friction.

Typical reference values provided by the manufacturer, obtained on standard test specimens. Values may vary with batch, thickness, processing and service conditions and must not be used as specifications. Validation in the final application is recommended.