PTFE

PolyTetraFluoroEthylene

PTFE is a fluorocarbon-based polymer, PolyTetraFluoroEthylene. The flouroplastic family offers plastics with high chemical resistance, low and high temperature capability, resistance to weathering, low friction, electrical thermal insulation, and “slipperiness”.

PRODUCT COLORS:

- ● Black (PTFE 25% Carbon-Filled)
- ○ White (PTFE, 25% Glass-Filled)

GENERAL PROPERTIES	ASTM or UL Test	(Unfilled) Typical Values	(25% Glass Filled) Typical Values	(25% Carbon Filled) Typical Values
PHYSICAL				
Density (g/cm^3)	D792	2.16	2.25	2.08
Water Absorption, 24 hrs (%)	D570	< 0.01	0.02	0.05
MECHANICAL				
Tensile Strength (psi)	D638	3,900	2,100	1,900
Tensile Modulus (psi)	D638	80,000	–	–
Tensile Elongation at Break (%)	D638	300	270	75
Flexural Strength (psi)	D790	No Break	1,950	2,300
Flexural Modulus (psi)	D790	72,000	190,000	160,000
Compressive Strength (psi)	D695	3,500	1,000	1,700
Compressive Modulus (psi)	D695	70,000	110,000	87,000
Hardness, Shore D	D785	D50	D60	D62
IZOD Notched Impact (ft-lb/in)	D256	3.5	–	–
THERMAL				
Coeff. of Thermal Expansion (x 10^{-5} in./in./°F)	D696	7.5	6.4	6
Heat Deflection Temp (°F / °C) at 264 psi	D648	132 / 55	150 / 65	150 / 65
Melting Temp (°F / °C)	D3418	635 / 335	635 / 335	635 / 335
Max Operating Temp (°F / °C)	–	500 / 260	500 / 260	500 / 260
Thermal Conductivity (BTU-in/ft^2-hr-°F)	C177	1.7	3.1	4.5
Flammability Rating	UL94	V-O	V-O	V-O
ELECTRICAL				
Dielectric Strength (V/mil) short time, 1/8" thk	D149	285	–	–
Dielectric Constant at 1 MHz	D150	2.1	2.4	–
Dissipation Factor at 1 MHz	D150	< 0.0002	0.05	–
Volume Resistivity (ohm-cm) at 50% RH	D257	> 10^{18}	> 10^{15}	10^4

NOTE: The information contained here in is typical values intended for reference only. They should NOT be used as a basis for design specifications or quality control.