

Material Properties

Virgin PTFE

Material code: 1001

Virgin PTFE has outstanding resistance to almost all chemicals. Its high heat resistance allows for continuous operating temperatures of 500°F (260°C). It has excellent insulating capabilities and high dielectric properties. Its low coefficient of friction and non-stick properties make it suitable for many industrial applications. Use of unfilled PTFE material in dynamic applications such as loaded sleeve bearings is not recommended.

Physical Properties	ASTM Method	Typical Values
Specific Gravity	D792	2.17 gr/cm ³
Water Absorption (24 hrs. @ 74°F)	D570	0.01 %
Color	N/A	White
Mechanical Properties		
Tensile Strength	D1708	3500 psi
Elongation	D1708	
• At Break		300%
Flexural Strength @ 102 psi	D790	No Break
Flexural Modulus	D790	72,000 psi
Compressive Strength	D695	1200 psi
Compressive Modulus	D695	57,000 psi
Hardness	Shore D	50
Tribological Properties		
Coefficient of friction	D3702	
• Static		0.15
• Dynamic		0.11
Wear rate (PV: 20,000 psi-fpm)	D3702	10 uin/min
Thermal Properties		
Coefficient of Linear Thermal Expansion (78-400°F)	D696	5.5
Heat Deflection Temperature (F/C @ 264 psi)	D648	150°F
Glass Transition Temperature (T _g)	D3418	266°F
Melting Point		621°F
Continuous Service Temperature (Max @ no load)		500°F
Electrical Properties		
Volume Resistivity (ohm-cm) @ 50% RH	D257	10 ¹⁸ ohm-cm
Dielectric Strength	D149	1285 KV/mm
Dielectric Constant	D150	50 Hz, 200°F

Note: Property values should be interpreted as typical rather than minimum value. All technical information and recommendations are presented in good faith, and based upon laboratory and real-world tests believe to be reliable and practical. However, K.C. Seals, Inc. cannot guarantee the accuracy or completeness of this information, and it is the customers' responsibility to determine product suitability to any given application.

