

PEEK

PEEK is a unique semi-crystalline, high temperature engineering thermoplastic. Its material properties provide a wide range of applications where thermal, chemical, and combustion are critical to performance. PEEK can retain flexural and tensile properties at exceedingly high temperatures.

Applications

PEEK has a wide variety of applications and uses. Aerospace parts, medical devices, semiconductor machinery components, pumps, valves, and electrical components are some applications of PEEK.

Key Product Benefits

- Chemical and Heat Resistance
- Great Dimensional Stability
- Flame Retardant and Self-extinguishing
- Flexibility
- Good Slide and Wear Properties

Properties

Property	Test Method	Value
Density	ASTM D792	1.31-1.32 g/cm ³
Water Absorption @ 24 hours	ASTM D570	0.05-0.1%
Water Absorption @ Saturation	ASTM D570	0.45-0.5%
Dissipation Factor @ 1 MHz	ASTM D150	0.003
Shore Hardness (D Scale)	ASTM D2240	85-88
Tensile Strength @ Yield	ASTM D638	16,000 psi
Tensile Modulus	ASTM D638	500,000-650,000 psi
Elongation @ Yield	ASTM D638	4.9-5%
Elongation @ Break	ASTM D638	20-40%
Flexural Strength	ASTM D790	25,000-26,000 psi
Flexural Modulus	ASTM D790	600,000 psi
Compressive Strength	ASTM D695	18,000-20,000 psi

Property (Continued)	Test Method (Continued)	Value (Continued)
Rockwell Hardness (M Scale)	ASTM D785	100-105
Rockwell Hardness (R Scale)	ASTM D785	125-126
Shear Strength	ASTM D732	7,700-8,000
Izod Impact, Notched	ASTM D256	0.6-1.2 ft-lb/in
Thermal Conductivity		1.73-2.01 BTU-in/hr-ft ² -°F
Coefficient of Linear Thermal Expansion	ASTM D696/ASTM E831	2.6-2.8 × 10 ⁻⁵ in/in/°F
Melting Point	ASTM D789	630-644°F
Continuous Service Temperature, Air		480°F
Heat Deflection Temperature @ 264 psi	ASTM D648	320°F
Dielectric Constant @ 1 MHz	ASTM D150	2.8-3.3
Surface Resistivity	ASTM D257	>10 ¹³ ohm
Flammability	UL 94	V-0