



TYPICAL PROPERTIES of POLYETHERETHERKETONE (PEEK)

ASTM or UL test	Property	Unfilled	30% Glass Fibers	30% Carbon Fibers	Bearing Grade
PHYSICAL					
D792	Density (lb/in ³)	0.047	0.056	0.051	0.052
	(g/cm ³)	1.31	1.54	1.41	1.44
D570	Water Absorption, 24 hrs (%)	0.10	0.10	0.06	0.05
MECHANICAL					
D638	Tensile Strength (psi)	16,000	15,000	19,000	11,000
D638	Tensile Modulus (psi)	500,000	900,000	1,100,000	850,000
D638	Tensile Elongation at Break (%)	20	3	5	2
D790	Flexural Strength (psi)	25,000	28,000	25,750	27,500
D790	Flexural Modulus (psi)	600,000	1,000,000	1,250,000	1,100,000
D695	Compressive Strength (psi)	20,000	26,000	29,000	26,700
D695	Compressive Modulus (psi)	500,000	1,000,000	-	1,000,000
D785	Hardness, Rockwell	M100 (R126)	M103	M102	M85
D256	IZOD Impact Notched (ft-lb/in)	1.0	1.4	1.0	0.7
THERMAL					
D696	Coefficient of Linear Thermal Expansion (x 10 ⁻⁵ in./in./°F)	2.6	1.2	1.0	1.7
D648	Heat Deflection Temp (°F / °C) at 264 psi	320 / 160	600 / 315	550 / 288	383 / 195
D3418	Melting Temp (°F / °C)	644 / 340	644 / 340	644 / 340	-
-	Max Operating Temp (°F / °C)	480 / 249	480 / 249	500 / 260	482 / 250
C177	Thermal Conductivity (BTU-in/ft ² -hr-°F) (x 10 ⁻⁴ cal/cm-sec-°C)	1.75 6.03	2.98 10.3	6.4 22.0	1.7 5.9
UL94	Flammability Rating	V-0	V-0	V-0	V-0
ELECTRICAL					
D149	Dielectric Strength (V/mil) short time, 1/8" thick	480	500	32	-
D150	Dielectric Constant at 1 MHz	3.30	3.70	-	-
D150	Dissipation Factor at 1 MHz	0.003	-	-	-
D257	Volume Resistivity (ohm-cm) at 50% RH	4.9 x 10 ¹⁶	5 x 10 ¹⁶	10 ⁵	10 ³

Data provided is for reference purposes only. Additional testing may be required for design specifications or quality control. All values at 73°F unless otherwise stated.

