

Polyetheretherketone specification

Property		ASTM Test Method	Standard
Specific Gravity		D792	1.32
Tensile Strength [MPa]		D638	97
Tensile Elongation [%]		D638	80
Young's Modulus [10^3 MPa]		D638	2.8
Compressive Strength at 5% strain [MPa]		D695	127
Flexural Strength [MPa]		D790	142
Izod Notched Impact Strength (1/2in×1/2in notched, 23°C) [J/m]		D256	59
Rockwell Hardness		D785	M98
Thermal Conductivity [W/(m·K)]		C177	0.20
Specific Heat [J/(kg·K)]		—	1,330
Coefficient of Linear Expansion [$10^{-5}/^{\circ}\text{C}$]		D696	4.8
Continuous Use Temperature [°C]		—	240
Deflection Temperature [°C]	0.451MPa	D648	—
	1.813MPa		152
Volume Resistivity (23°C 50% RH) [$\Omega \cdot \text{m}$]		D257	$10^{14} \sim 10^{15}$
Dielectric Strength [kV/mm]	shorttime 3.2mm thickness step	D149	19
	3.2mm thickness		—
Dielectric Constant	60Hz	D150	—
	10^3 Hz		3.2~3.4
	10^6 Hz		—
Dissipation Factor	60Hz	D150	—
	10^3 Hz		0.003
	10^6 Hz		0.003
Arc resistance [sec]		D495	—
Water Absorption (24 hours 3.2mm Thickness) [%]		D570	0.14
Flammability or Rate of Burning		D635/UL94	V-0
sunlight resistances (color change)		—	—
Weak acid resistances		D543	resist
Strong acid resistances		D543	resist(except Concentrated sulfuric acid)
Weak alkali resistances		D543	resist
Strong alkali resistances		D543	resist
Organic solvent resistances		D543	resist
Transparency		—	opaque
Sand slurry Wear (SS400 =100)		(Original)	—
Thrust Wear (by S45C P=1,960kPa V=0.25m/sec [$\times 10^{-6} \text{cm}^3/(\text{P} \cdot \text{V} \cdot \text{h})$])		(Original)	—
Allowable PV [kPa·m/sec]		(Original)	—

The material properties in above table are only for reference, measured by each test methods, and do not guarantee minimum value. And these properties might be changed without notice, so it is recommended to refer the data in the newest catalogues.