

PEEK - Specifications

Description

This material offers chemical and hydrolysis resistance similar to PPS, but can operate at higher temperatures. It also offers good wear resistance and can be used in hot water or steam without permanent loss in physical properties. For hostile environments, it is a high strength alternative to fluoropolymers. It carries a V-0 flammability rating and exhibits very low smoke and toxic gas emission when exposed to flame.

Electrical Properties

Dielectric constant ASTM D-150 @1e+6 Hz	3.3
Dielectric strength ASTM D-149, Short term	480 kV/in.
Dielectric factor ASTM D-150 @1e+6 Hz	0.0030
Surface resistivity per square EOS/ESD S11.11	>= 1.00e+13 Ohm

Thermal Properties

Coefficient of thermal expansion ASTM E-381, @[-40 - 300°F]	26x10 ⁻⁶ in./in./°F
Coefficient of thermal conductivity ASTM F-433	1.75 BTU-in./ hr-ft.2-°F
Heat deflection temperature ASTM D-648 @264 psi	320°F
Melting point ASTM D-3418; Crystalline, Peak	644°F

Mechanical Properties

Tensile strength ASTM D-638	16,000 psi
Elongation at break ASTM D-638	40%
Tensile modulus ASTM D-638	630 ksi
Flexural strength ASTM D-790	25,000 psi
Flexural modulus ASTM D-790	600 ksi
Compressive strength ASTM D-695 @10% Def.	20,000 psi
Compressive modulus ASTM D-695	500 ksi
Shear strength ASTM D-732	8,000 psi
Izod impact strength, Notched ASTM D-256 Type A	0.600 ft.-lb./in.
Hardness ASTM D-2240	85 Shore D
Rockwell hardness ASTM D-785	M100/R126

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