

# 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

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

## Thermal Properties

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

## Mechanical Properties

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

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