

## Product Description

PEEK is Polyether Ether Ketone. Perfect for the highest demands for temperature resistance and strength. PEEK is a high performance material with the unusual combination of high temperature resistance, excellent chemical resistance, and superb mechanical characteristics. The top operating temperature in air is about +250°C and brief peaks of up to +310°C are possible.

## Applications

- High Precision Gears
- Insulators
- Motor Elements
- Printed Circuitry Board Holders
- Chemical and Impact Resistance Bearings

## Other Material Properties

- High mechanical strength
- Very high dimensional stability
- Good electrical insulating properties
- Resistance to high energy radiation
- Excellent chemical resistance
- Hydrolysis resistant

## Key Features and Benefits

- Good Sliding Friction Properties
- Suitable for use with Medical Equipment
- Self Extinguishing
- Suitable for use with Food
- Very High Strength Values
- Can be Hot Steam Sterilized

## Supply Requirements Note

Please be advised that due to international embargo laws and PEEK material being used in nuclear, military and specialty applications, a special disclaimer letter will need to be signed by all current and new customers before supply can take place.

## Physical Properties

	Value	Unit	Test Method
Water Absorption (Saturation)	0.4	%	ASTM D570
Humidity Absorption (Saturation)	0.07	%	ASTM D570
Maximum Permissible Service Temp.	500	°F	UL 746B
Lower Permissible Service Temp.	-40	°F	UL 746B

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# Peek-N (PolyEtherEtherKetone) Technical Data Sheet

## Mechanical Properties

	Value	Unit	Verification
Tensile Stress at Yield	13,900	psi	ASTM D638
Tensile Modulus	522,000	psi	ASTM D638
Elongation at Yield	-	%	ASTM D638
Tensile Strength at Break	26,800	psi	ASTM D638
Elongation at Break	45	%	ASTM D638
Impact Strength	n.b.	ft-lb/in	ASTM D256
Notch Impact Strength	1.3	ft-lb/in	ASTM D256
Rockwell Hardness	-	R-Scale	ASTM D785
Shore-D	-	-	ASTM D2240
Flexural Strength	22,000	psi	ASTM D790
Flexural Modulus	566,000	psi	ASTM D790

## Electrical Properties

	Value	Unit	Verification
Volume Resistivity	$\geq 10^{13}$	$\Omega \times \text{cm}$	ASTM D257
Surface Resistivity	$\geq 10^{13}$	$\Omega$	
Dielectric Constant (at 1 MHz)	3.2	-	ASTM D150
Dielectric Loss Factor (at 1 MHz)	0.0040	-	
Dielectric Strength	580	V/mil	ASTM D149
Tracking Resistance	CTI 150	Grade	IEC 60112

## Thermal Properties

	Value	Unit	Verification
Vicat-Softening Point $V_{ST/B/50}$	-	$^{\circ}\text{F}$	ASTM D1525
Vicat-Softening Point $V_{ST/A/50}$	-	$^{\circ}\text{F}$	ASTM D1525
Heat Deflection Temperature $HDT/B$ (66 psi)	-	$^{\circ}\text{F}$	ASTM D648
Heat Deflection Temperature $HDT/B$ (264 psi)	324	$^{\circ}\text{F}$	ASTM D648
Coefficient of Linear Thermal Expansion	3.2	$\text{In}/\text{in}/^{\circ}\text{F} \times 10^{-5}$	ASTM D696
Thermal Conductivity (at $+73^{\circ}\text{F}$ )	2.0	$\text{BTU}/\text{hr}\cdot\text{ft}\cdot^{\circ}\text{F}$	ASTM C177
Glass Transition Temperature	302	$^{\circ}\text{F}$	ASTM D3418
Melting Temperature	644	$^{\circ}\text{F}$	ASTM D3418

## Additional Data

	Value	Unit	Verification
Bondability	Yes	-	-
Compliances	Yes	-	FDA
	No	-	NSF
Flammability	V-0	-	UL 94
Limited Oxygen Index (LOI)	35	%	ASTM D2863
UV Stabilization	Limited	-	-

All values are attributes of the used raw materials.

The physical data contained in this table are typical values. They are obtained on test specimens under specific conditions and represent average values of a large number of tests. The results obtained on this tests specimens cannot be applied to finished parts without reservations, as behavior is influenced by processing and shaping. Reproduction only with our definite permission.