

POLYMAT PEEK

BASIC MATERIAL FOR ENGINEERING

PEEK (POLYETHER ETHER KETONE)

POLYETHER ETHER KETONE engineering plastic extruded stock shapes available in **PEEK NAT** and **PEEK CF** grades are part of a range of high performance engineering plastic products offered under trade name **POLYMAT** for machining into industrial components. These products are made using best raw material in modern production facility under strict quality confirming to international standards.

Poly Ether Ether Ketone known, as PEEK is a semi crystalline thermoplastic with high tensile strength, stiffness, good wear resistance, low coefficient of friction, excellent chemical resistance and very low moisture absorption. This broad range of useful properties in addition its ability to retain them over a long period under elevated temperature mechanical stresses and demanding environmental conditions make it a premium engineering plastic of choice for many applications.

PEEK is commonly specified for high temperature applications requiring combination of thermal, chemical and combustion properties. Electrical properties of Poly Ether Ether Ketone are not influenced by limited moisture uptake under working conditions. As a result, Poly Ether Ether Ketone exhibits excellent dimensional stability and dielectric properties. Filled grades of Poly Ether Ether Ketone offer enhanced tribological and other properties for demanding custom application.

PEEK is amenable to standard metal working machine tools and can be fabricated with ease to yield smooth surface finish. Information on technical properties for designers is provided on the back side. More specific data and engineering assistance is available upon request.

Peek™ is registered brand name for PEEK of Victrex plc.

ADVANTAGES

- Very High Service Temperature
- Good Chemical and Hydrolysis Resistance
- Excellent Dimensional Stability
- High Mechanical Properties at Elevated Temperatures
- Good Wear and Frictional Properties
- Good Insulating Properties
- Excellent Machinability

APPLICATIONS

- Automotive
- Electronics
- Chemical
- Aero - Space
- Medical
- Food
- Oil Exploration

MECHANICAL

<i>PROPERTY</i>	<i>TEST METHOD ASTM</i>	<i>UNITS</i>	<i>PEEK</i>
Tensile Strength	D 638	MPa	95
Elongation at Break	D 638	%	45
Modulus of Elasticity	D 638	MPa	3800
Compressive Strength	D 695	MPa	118
Hardness - Rockwell	-	-	M 99
Tensile Impact Strength	D 256	J/m	60

THERMAL

<i>PROPERTY</i>	<i>TEST METHOD ASTM</i>	<i>UNITS</i>	<i>PEEK</i>
Coefficient Of Linear Thermal Expansion	D 696	m/m° K	50 X 10 ⁻⁶
Melting Point	D 2117	°C	340
Heat Distortion Temperature	D 648 A	°C	150
Max. Service Temperature	-	°C	260

ELECTRICAL

<i>PROPERTY</i>	<i>TEST METHOD ASTM</i>	<i>UNITS</i>	<i>PEEK</i>
Dielectric Constant 10 KHz	D 150		3.30
Dielectric Strength	D 149 Dry	KV/mm	19
Volume Resistivity	D 257	Ohm.cm	> 10 ¹⁶

MISCELLANEOUS

<i>PROPERTY</i>	<i>TEST METHOD ASTM</i>	<i>UNITS</i>	<i>PEEK</i>
Specific Gravity			1.32
Moisture Absorption - 24 Hrs. / Saturation	D 150	%	0.12 / 0.5

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