

Ensinger Tecapeek® Polyetheretherketone (PEEK)

Category : Polymer , Thermoplastic , Polyketone , Polyetheretherketone (PEEK)

Material Notes:

TECAPEEK™ high performance polymer, made from Victrex PEEK polymer, has successfully replaced glass, stainless steel and titanium in a growing range of medical applications. The material's exceptional combination of properties allow engineers and designers the ability to create cost-effective, innovative parts that exhibit outstanding wear, heat, electrical and chemical resistance. The TECAPEEK™ family is made up of materials for medical applications. TECAPEEK™ MT, unfilled pigmented medical grade PEEKTECAPEEK™ XP98, compression molded 30% carbon fiber filled PEEK™ (isotropic properties)TECAPEEK™ MT CF30, extruded 30% carbon fiber filled PEEK™TECAPEEK™ Classic™, ISO 10993 certification by resin and extrusion lot of 30 days contactTECAPEEK™ Classix™ XRO-20 radio opaque grade with 20% BaSO4 addedThe TECAPEEK™ family of high performance plastics are high effective in the creation and manufacture of high quality medical instruments. Five separate grades, each with qualities to meet a wide range of requirements for the engineer and product designer. Information Provided by Ensinger Industries, Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Ensinger-Tecapeek-Polyetheretherketone-PEEK.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.30 g/cc	1.30 g/cc	ASTM D792
Density	1.32 g/cc	0.0477 lb/in ³	ASTM D792
Water Absorption at Saturation	0.10 % @Temperature 22.8 °C, Time 86400 sec	0.10 % @Temperature 73.0 °F, Time 24.0 hour	ASTM D570

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	99	99	ASTM D785
Tensile Strength, Yield	96.5 MPa @Temperature 22.8 °C	14000 psi @Temperature 73.0 °F	ASTM D638
Elongation at Break	50 %	50 %	ASTM D638
Elongation at Yield	4.9 %	4.9 %	ASTM D638
Tensile Modulus	3.600 GPa @Temperature 22.8 °C	522.1 ksi @Temperature 73.0 °F	1% Secant; ASTM D638
Flexural Strength	191 MPa @Temperature 22.8 °C	27700 psi @Temperature 73.0 °F	ASTM D790
Flexural Modulus	3.65 GPa @Temperature 22.8 °C	530 ksi @Temperature 73.0 °F	ASTM D790

Mechanical Properties	118 MPa Metric	17100 psi English	Comments
	@Temperature 22.8 °C	@Temperature 73.0 °F	
Shear Strength	52.4 MPa	7600 psi	Ultimate; ASTM D3846
	@Temperature 22.8 °C	@Temperature 73.0 °F	
Izod Impact, Notched	0.828 J/cm	1.55 ft-lb/in	ASTM D256
	@Temperature 22.8 °C	@Temperature 73.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	46.8 µm/m-°C	26.0 µin/in-°F	ASTM D696
Thermal Conductivity	0.245 W/m-K	1.70 BTU-in/hr-ft ² -°F	ASTM C177
Melting Point	340 °C	644 °F	
Maximum Service Temperature, Air	260 °C	500 °F	continuous
Deflection Temperature at 1.8 MPa (264 psi)	160 °C	320 °F	ASTM D648
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Volume Resistivity	4.90e+16 ohm-cm	4.90e+16 ohm-cm	ASTM D149
Surface Resistivity per Square	1.00e+16 ohm	1.00e+16 ohm	ASTM D257
Dielectric Strength	7.48 kV/mm	190 kV/in	ASTM D257

Descriptive Properties	Value	Comments
Limiting PV 2	170000	psi fpm, 68°F, 1200 in/min

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