

Ensinger Tecapeek® Classix Polyaryletherketone (PAEK)

Category : Polymer , Thermoplastic , Polyketone , Polyaryletherketone (PAEK), Carbon Fiber Filled

Material Notes:

TECAPEEK™ high performance 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 PEEKTECAPEEK™ 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-Classix-Polyaryletherketone-PAEK.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.38 g/cc	1.38 g/cc	ASTM D792
Density	1.38 g/cc	0.0499 lb/in ³	ASTM D792, DIN 53 479

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	99	99	ASTM D785
Tensile Strength at Break	95.0 MPa	13800 psi	ASTM D638, DIN EN ISO 527
Tensile Strength, Yield	94.975 MPa @Temperature 22.8 °C	13775 psi @Temperature 73.0 °F	ASTM D638
Elongation at Break	25 %	25 %	ASTM D638
Elongation at Yield	>= 25 %	>= 25 %	ASTM D638, DIN EN ISO 527, ASTM D1708 (a)
Modulus of Elasticity	4.20 GPa	609 ksi	After flexural test; ASTM D790, DIN EN ISO 178
Tensile Modulus	2.96 GPa @Temperature 22.8 °C	430 ksi @Temperature 73.0 °F	1% Secant; ASTM D638
Flexural Strength	186 MPa	27000 psi	ASTM D730, DIN EN ISO 178
Flexural Modulus	4.20 GPa @Temperature 22.8 °C	609 ksi @Temperature 73.0 °F	ASTM D790
	117 MPa	16900 psi	

Compressive Strength Mechanical Properties	Metric @ Temperature 22.8 °C	English @ Temperature 73.0 °F	ASTM D695 Comments
Shear Strength	51.7 MPa @Temperature 22.8 °C	7500 psi @Temperature 73.0 °F	Ultimate; ASTM D3846
Izod Impact, Notched	0.641 J/cm @Temperature 22.8 °C	1.20 ft-lb/in @Temperature 73.0 °F	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	46.8 µm/m-°C	26.0 µin/in-°F	ASTM D696
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
Heat Distortion Temperature	143 °C	289 °F	DIN 53 461, ISO R 75 process A
Glass Transition Temp, Tg	343 °C	649 °F	DIN 53 736

Descriptive Properties	Value	Comments
DIN designation	PEEK	

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