Victrex® PEEK 90HMF40 Polyetheretherketone (PEEK), 40% Carbon Fiber Reinforced

Category : Polymer , Thermoplastic , Polyketone , Polyetheretherketone (PEEK) , Polyetheretherketone, PEEK, Carbon Fiber Filled

Material Notes:

Product Description: High performance thermoplastic material, 40% carbon fiber reinforced PolyEtherEtherKetone (PEEK), semi crystalline, granules for injection molding, easy flow, color black.Typical Application Areas: Complex geometries with thinner cross sections or longer flow length where superior strength in a static or dynamic system is required. Excellent wear resistance, low coefficient of friction, low coefficient of thermal expansion. Chemically resistant to aggressive environments.All information provided by Victrex.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Victrex-PEEK-90HMF40-Polyetheretherketone-PEEK-40-Carbon-Fiber-Reinforced.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.45 g/cc @Temperature 23.0 °C	1.45 g/cc @Temperature 73.4 °F	Crystalline; ISO 1183
Water Absorption at Saturation	0.30 % @Temperature 23.0 °C	0.30 % @Temperature 73.4 °F	immersion; ISO 62-1
	0.40 % @Temperature 100 °C	0.40 % @Temperature 212 °F	immersion; ISO 62-1
Viscosity	300000 cP @Temperature 400 °C	300000 cP @Temperature 752 °F	melt; ISO 11443
Linear Mold Shrinkage, Flow	0.00 cm/cm	0.00 in/in	380°C nozzle, 190°C tool; ISO 294-4
Linear Mold Shrinkage, Transverse	0.0040 cm/cm	0.0040 in/in	380°C nozzle, 190°C tool; ISO 294-4
Spiral Flow	10.0 cm @Thickness 1.00 mm	3.94 in @Thickness 0.0394 in	380°C nozzle, 190°C tool

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	88.5	88.5	ISO 868
Tensile Strength at Break	85.0 MPa @Temperature 275 °C	12300 psi @Temperature 527 °F	ISO 527
	145 MPa @Temperature 180 °C	21000 psi @Temperature 356 °F	ISO 527
	220 MPa @Temperature 120 °C	31900 psi @Temperature 248 °F	ISO 527

Mechanical Properties	Metric	English	Comments
	330 MPa @Temperature 23.0 °C	47900 psi @Temperature 73.4 °F	ISO 527
Elongation at Yield	1.2 % @Temperature 23.0 °C	1.2 % @Temperature 73.4 °F	ISO 527
Tensile Modulus	43.0 GPa @Temperature 23.0 °C	6240 ksi @Temperature 73.4 °F	ISO 527
Flexural Strength	120 MPa @Temperature 275 °C	17400 psi @Temperature 527 °F	ISO 178
	220 MPa @Temperature 180 °C	31900 psi @Temperature 356 °F	ISO 178
	350 MPa @Temperature 120 °C	50800 psi @Temperature 248 °F	ISO 178
	475 MPa @Temperature 23.0 °C	68900 psi @Temperature 73.4 °F	ISO 178
Flexural Modulus	37.0 GPa @Temperature 23.0 °C	5370 ksi @Temperature 73.4 °F	ISO 178
Compressive Strength	120 MPa @Temperature 200 °C	17400 psi @Temperature 392 °F	ISO 604
	250 MPa @Temperature 120 °C	36300 psi @Temperature 248 °F	ISO 604
	310 MPa @Temperature 23.0 °C	45000 psi @Temperature 73.4 °F	ISO 604
Izod Impact, Notched (ISO)	10.5 kJ/m² @Temperature 23.0 °C	5.00 ft-lb/in² @Temperature 73.4 °F	ISO 180
Izod Impact, Unnotched (ISO)	60.0 kJ/m² @Temperature 23.0 °C	28.6 ft-lb/in² @Temperature 73.4 °F	ISO 180
Charpy Impact Unnotched	6.00 J/cm² @Temperature 23.0 °C	28.6 ft-lb/in² @Temperature 73.4 °F	ISO 179/1U
Charpy Impact, Notched	0.800 J/cm² @Temperature 23.0 °C	3.81 ft-lb/in² @Temperature 73.4 °F	ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear	35.0 µm/m-°C @Temperature <=143 °C	19.4 µin/in-°F @Temperature <=289 °F	Average below Tg; ISO 11359
	80.0 µm/m-°C @Temperature >=143 °C	44.4 µin/in-°F @Temperature >=289 °F	Average above Tg; ISO 11359
CTE, linear, Parallel to Flow	1.00 µm/m-°C @Temperature >=143 °C	0.556 µin/in-°F @Temperature >=289 °F	Above Tg; ISO 11359
	3.00 µm/m-°C @Temperature <=143 °C	1.67 µin/in-°F @Temperature <=289 °F	Below Tg; ISO 11359
Thermal Conductivity	2.00 W/m-K	13.9 BTU-in/hr-ft²-°F	Average; ISO 22007-4
	4.30 W/m-K	29.8 BTU-in/hr-ft²-°F	Along flow; ISO 22007-4
Melting Point	343 °C	649 °F	ISO 11357
Deflection Temperature at 1.8 MPa (264 psi)	349 °C	660 °F	ISO 75A-f
Glass Transition Temp, Tg	143 °C	289 °F	Onset; ISO 11357

Electrical Properties	Metric	English	Comments
Volume Resistivity	1e+05	1e+05	1V; ASTM D4496

Processing Properties	Metric	English	Comments
Processing Temperature	<= 100 °C	<= 212 °F	Hopper Temperature
Nozzle Temperature	385 °C	725 °F	
Mold Temperature	190 - 200 °C	374 - 392 °F	
Drying Temperature	>= 150 °C @Time 10800 sec	>= 302 °F @Time 3.00 hour	
	>= 160 °C @Time 7200 sec	>= 320 °F @Time 2.00 hour	

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