

Victrex® PEEK 150GL20 Polyetheretherketone, 20% Glass Fibre Reinforced

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

Material Notes:

Product Description: High performance thermoplastic material, 20% glass fibre reinforced Polyetheretherketone (PEEK), semi crystalline, granules for injection moulding, very easy flow, FDA food contact compliant, colour natural/beige. Typical Application Areas: Complex geometries with thin cross sections or long flow lengths where good strength in a static system is required. Low coefficient of thermal expansion. Chemically resistant to aggressive environments, suitable for sterilization for medical and food contact applications. Information Provided by VICTREX®

Order this product through the following link:

http://www.lookpolymers.com/polymer_Victrex-PEEK-150GL20-Polyetheretherketone-20-Glass-Fibre-Reinforced.php

Physical Properties	Metric	English	Comments
Density	1.43 g/cc	0.0517 lb/in ³	Crystalline; ISO 1183
Water Absorption	0.050 %	0.050 %	3.2mm thick tensile bar; ISO 62-1
	@Temperature 23.0 °C, Time 86400 sec	@Temperature 73.4 °F, Time 24.0 hour	
Water Absorption at Saturation	0.40 %	0.40 %	Equilibrium; by immersion; ISO 62-1
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Viscosity	0.45 %	0.45 %	Immersion; ISO 62-1
	@Temperature 100 °C	@Temperature 212 °F	
Viscosity	230000 cP	230000 cP	melt; ISO 11443
	@Temperature 400 °C	@Temperature 752 °F	
Linear Mold Shrinkage, Flow	0.0030 cm/cm	0.0030 in/in	360°C nozzle, 160°C tool; ISO 294-4
Linear Mold Shrinkage, Transverse	0.0090 cm/cm	0.0090 in/in	380°C nozzle, 180°C tool; ISO 294-4
Spiral Flow	16.0 cm	6.30 in	380°C nozzle, 180°C tool
	@Thickness 1.00 mm	@Thickness 0.0394 in	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	86	86	ISO 868
Tensile Strength at Break	40.0 MPa	5800 psi	ISO 527
	@Temperature 275 °C	@Temperature 527 °F	
Tensile Strength at Break	50.0 MPa	7250 psi	ISO 527
	@Temperature 225 °C	@Temperature 437 °F	

Mechanical Properties	70.0 MPa Metric	10200 psi English	Comments
	@Temperature 175 °C	@Temperature 347 °F	
	115 MPa	16700 psi	ISO 527
	@Temperature 125 °C	@Temperature 257 °F	
	160 MPa	23200 psi	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	170 MPa	24700 psi	ISO 527
	@Temperature -55.0 °C	@Temperature -67.0 °F	
Elongation at Break	2.4 %	2.4 %	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Modulus	9.00 GPa	1310 ksi	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Strength	60.0 MPa	8700 psi	ISO 178
	@Temperature 275 °C	@Temperature 527 °F	
	100 MPa	14500 psi	ISO 178
	@Temperature 175 °C	@Temperature 347 °F	
	190 MPa	27600 psi	ISO 178
	@Temperature 125 °C	@Temperature 257 °F	
	250 MPa	36300 psi	ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	270 MPa	39200 psi	ISO 178
	@Temperature -55.0 °C	@Temperature -67.0 °F	
Flexural Modulus	8.50 GPa	1230 ksi	ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	0.750 kJ/m ²	0.357 ft-lb/in ²	ISO 180/A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	3.50 kJ/m ²	1.67 ft-lb/in ²	ISO 180/U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	3.50 J/cm ²	16.7 ft-lb/in ²	ISO 179/1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.600 J/cm ²	2.86 ft-lb/in ²	

Charpy Impact, Notched Mechanical Properties	Metric @ Temperature 23.0 °C	English @ Temperature 73.4 °F	ISO 179/1eA Comments
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Thermal Properties	Metric	English	Comments
CTE, linear	45.0 µm/m-°C	25.0 µin/in-°F	Average below Tg; ISO 11359
	@Temperature <=143 °C	@Temperature <=289 °F	
	130 µm/m-°C	72.2 µin/in-°F	Average above Tg; ISO 11359
	@Temperature >=143 °C	@Temperature >=289 °F	
CTE, linear, Parallel to Flow	25.0 µm/m-°C	13.9 µin/in-°F	Below Tg; ISO 11359
	@Temperature <=143 °C	@Temperature <=289 °F	
	25.0 µm/m-°C	13.9 µin/in-°F	Above Tg; ISO 11359
	@Temperature >=143 °C	@Temperature >=289 °F	
Thermal Conductivity	0.300 W/m-K	2.08 BTU-in/hr-ft²-°F	Average; ISO 22007-4
	0.350 W/m-K	2.43 BTU-in/hr-ft²-°F	
	@Temperature 23.0 °C	@Temperature 73.4 °F	Along flow; ISO/CD 22007-4
Melting Point	343 °C	649 °F	ISO 11357
Deflection Temperature at 1.8 MPa (264 psi)	323 °C	613 °F	ISO 75-f
Glass Transition Temp, Tg	143 °C	289 °F	Onset; ISO 11357
	147 °C	297 °F	Midpoint; ISO 11357

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	IEC 60093
Dielectric Constant	3.2	3.2	IEC 60250
	@Frequency 1000 Hz, Temperature 23.0 °C	@Frequency 1000 Hz, Temperature 73.4 °F	
Dielectric Strength	23.0 kV/mm	584 kV/in	IEC 60243-1
	@Thickness 2.50 mm	@Thickness 0.0984 in	
Dissipation Factor	0.0040	0.0040	IEC 60250
	@Frequency 1.00e+6 Hz, Temperature 23.0 °C	@Frequency 1.00e+6 Hz, Temperature 73.4 °F	

Comparative Tracking Index Electrical Properties	150 V Metric	150 V English	IEC 60112 Comments
Processing Properties	Metric	English	Comments
Processing Temperature	<= 100 °C	<= 212 °F	Hopper Temperature
Nozzle Temperature	380 °C	716 °F	
Mold Temperature	170 - 200 °C	338 - 392 °F	
Drying Temperature	120 °C	248 °F	
	@Time 18000 sec	@Time 5.00 hour	
	150 °C	302 °F	
	@Time 10800 sec	@Time 3.00 hour	

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