

Victrex® PEEK 450GL30 30% Glass Fiber Reinforced

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

Material Notes:

Product Description: High performance thermoplastic material, 30% glass fibre reinforced PolyEtherEtherKetone (PEEK), semi crystalline, granules for injection molding and extrusion, standard flow, FDA food contact compliant, color natural/beige. Typical Application Areas:

Applications for higher strength in a static system. 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-450GL30-30-Glass-Fiber-Reinforced.php

Physical Properties	Metric	English	Comments
Density	1.51 g/cc	0.0546 lb/in ³	Crystalline; ISO 1183
Water Absorption at Saturation	0.30 %	0.30 %	immersion; SO 62-1
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.45 %	0.45 %	immersion; SO 62-1
	@Temperature 100 °C	@Temperature 212 °F	
Viscosity	550000 cP	550000 cP	ISO 11443
	@Temperature 400 °C	@Temperature 752 °F	
Linear Mold Shrinkage	0.0030 cm/cm	0.0030 in/in	385°C nozzle, 190°C tool; ISO 294-4
Linear Mold Shrinkage, Transverse	0.0090 cm/cm	0.0090 in/in	385°C nozzle, 190°C tool; ISO 294-4
Spiral Flow	8.50 cm	3.35 in	385°C nozzle, 190°C tool
	@Thickness 1.00 mm	@Thickness 0.0394 in	
	41.0 cm	16.1 in	385°C nozzle, 190°C tool
	@Thickness 3.00 mm	@Thickness 0.118 in	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	87.5	87.5	ISO 868
Tensile Strength at Break	35.0 MPa	5080 psi	ISO 527
	@Temperature 275 °C	@Temperature 527 °F	
	60.0 MPa	8700 psi	ISO 527
	@Temperature 175 °C	@Temperature 347 °F	
	115 MPa	16700 psi	ISO 527
	@Temperature 125 °C	@Temperature 257 °F	

Mechanical Properties	Metric	English	Comments
	11.5 GPa	1670 ksi	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Break	2.8 %	2.8 %	ISO 527
Tensile Modulus	11.5 GPa	1670 ksi	ISO 527
Flexural Strength	50.0 MPa	7250 psi	ISO 178
	@Temperature 275 °C	@Temperature 527 °F	
	80.0 MPa	11600 psi	ISO 178
	@Temperature 175 °C	@Temperature 347 °F	
	190 MPa	27600 psi	ISO 178
	@Temperature 125 °C	@Temperature 257 °F	
	275 MPa	39900 psi	ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Modulus	11.0 GPa	1600 ksi	ISO 178
Compressive Strength	55.0 MPa	7980 psi	ISO 604
	@Temperature 200 °C	@Temperature 392 °F	
	160 MPa	23200 psi	ISO 604
	@Temperature 120 °C	@Temperature 248 °F	
	250 MPa	36300 psi	ISO 604
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	12.0 kJ/m ²	5.71 ft-lb/in ²	ISO 180/A
Izod Impact, Unnotched (ISO)	65.0 kJ/m ²	30.9 ft-lb/in ²	ISO 180/U
Charpy Impact Unnotched	5.50 J/cm ²	26.2 ft-lb/in ²	ISO 179/1U
Charpy Impact, Notched	0.800 J/cm ²	3.81 ft-lb/in ²	ISO 179/1eA

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	
	110 µm/m-°C	61.1 µin/in-°F	Average above Tg; ISO 11359
	@Temperature >=143 °C	@Temperature >=289 °F	

Thermal Properties CTE, linear, Parallel to Flow	18.0 µm/m-°C Metric	10.0 µin/in-°F English	Comments Below Tg; ISO 11359
	@Temperature <=143 °C	@Temperature <=289 °F	
	18.0 µm/m-°C	10.0 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	Along flow; ISO 22007-4
Melting Point	343 °C	649 °F	ISO 11357
Deflection Temperature at 1.8 MPa (264 psi)	328 °C	622 °F	ISO 75-f
Glass Transition Temp, Tg	143 °C	289 °F	Onset; ISO 11357
	150 °C	302 °F	Midpoint; ISO 11357
UL RTI, Electrical	240 °C	464 °F	UL 746B
UL RTI, Mechanical with Impact	220 °C	428 °F	UL 746B
UL RTI, Mechanical without Impact	240 °C	464 °F	UL 746B
Glow Wire Test	960 °C	1760 °F	IEC 60695-2-12
	@Thickness 2.00 mm	@Thickness 0.0787 in	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	
Dielectric Constant	3.2	3.2	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	3.7	3.7	
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dissipation Factor	0.0010	0.0010	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.0040	0.0040	
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

Processing Properties	Metric	English	Comments
Processing Temperature	<= 100 °C	<= 212 °F	Hopper Temperature

Nozzle Temperature Processing Properties	390 °C Metric	734 °F English	Comments
Mold Temperature	180 °C	356 °F	
Dry Time	3.00 hour	3.00 hour	
	@Temperature 150 °C	@Temperature 302 °F	
	5.00 hour	5.00 hour	
	@Temperature 120 °C	@Temperature 248 °F	

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