

Victrex® PEEK 650CA30 30% Carbon Fiber Filled, PolyEtherEtherKetone

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

Material Notes:

High performance thermoplastic material, 30% carbon fiber reinforced PolyEtherEtherKetone (PEEK), semi crystalline, granules for injection molding and extrusion, low flow, FDA food contact compliant, color black. Typical Application Areas: Applications for higher strength and stiffness in a static or dynamic system. Excellent wear resistance, low coefficient of friction, low coefficient of thermal expansion.

Chemically resistant to aggressive environments. Information Provided by VICTREX®

Order this product through the following link:

http://www.lookpolymers.com/polymer_Victrex-PEEK-650CA30-30-Carbon-Fiber-Filled-PolyEtherEtherKetone.php

Physical Properties	Metric	English	Comments
Density	1.40 g/cc	0.0506 lb/in ³	Crystalline; ISO 1183
Water Absorption at Saturation	0.30 %	0.30 %	immersion; ISO 62-1
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.45 %	0.45 %	immersion; ISO 62-1
	@Temperature 100 °C	@Temperature 212 °F	
Viscosity	800000 cP	800000 cP	melt; ISO 11443
	@Temperature 420 °C	@Temperature 788 °F	
Linear Mold Shrinkage, Flow	0.0010 cm/cm	0.0010 in/in	415°C nozzle, 200°C tool; ISO 294-4
Linear Mold Shrinkage, Transverse	0.0050 cm/cm	0.0050 in/in	415°C nozzle, 200°C tool; ISO 294-4
Spiral Flow	8.00 cm	3.15 in	415°C nozzle, 200°C tool
	@Thickness 1.00 mm	@Thickness 0.0394 in	
	37.5 cm	14.8 in	415°C nozzle, 200°C tool
	@Thickness 3.00 mm	@Thickness 0.118 in	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	50.0 MPa	7250 psi	ISO 527
	@Temperature 275 °C	@Temperature 527 °F	
	85.0 MPa	12300 psi	ISO 527
	@Temperature 175 °C	@Temperature 347 °F	
	150 MPa	21800 psi	ISO 527
	@Temperature 125 °C	@Temperature 257 °F	
	250 MPa	36300 psi	

Mechanical Properties	Metric @ Temperature 23.0 °C	English @ Temperature 73.4 °F	ISO 527 Comments
Elongation at Break	1.9 %	1.9 %	ISO 527
Tensile Modulus	25.0 GPa	3630 ksi	ISO 527
Flexural Strength	60.0 MPa @Temperature 275 °C	8700 psi @Temperature 527 °F	ISO 178
	120 MPa @Temperature 175 °C	17400 psi @Temperature 347 °F	ISO 178
	250 MPa @Temperature 125 °C	36300 psi @Temperature 257 °F	ISO 178
Flexural Modulus	370 MPa @Temperature 23.0 °C	53700 psi @Temperature 73.4 °F	ISO 178
	21.5 GPa	3120 ksi	ISO 178
Compressive Strength	60.0 MPa @Temperature 200 °C	8700 psi @Temperature 392 °F	ISO 604
	180 MPa @Temperature 120 °C	26100 psi @Temperature 248 °F	ISO 604
	280 MPa @Temperature 23.0 °C	40600 psi @Temperature 73.4 °F	ISO 604
Izod Impact, Notched (ISO)	12.0 kJ/m ²	5.71 ft-lb/in ²	ISO 180/A
Izod Impact, Unnotched (ISO)	60.0 kJ/m ²	28.6 ft-lb/in ²	ISO 180/U
Charpy Impact Unnotched	6.00 J/cm ²	28.6 ft-lb/in ²	ISO 179/1U
Charpy Impact, Notched	1.05 J/cm ²	5.00 ft-lb/in ²	ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear	50.0 μm/m-°C @Temperature <=143 °C	27.8 μin/in-°F @Temperature <=289 °F	Average below Tg; ASTM D696
	135 μm/m-°C @Temperature >=143 °C	75.0 μin/in-°F @Temperature >=289 °F	Average above Tg; ASTM D696
	6.00 μm/m-°C	3.33 μin/in-°F	

CTE linear, Parallel to Flow Thermal Properties	@Temperature <=143 Metric	@Temperature <=289 English	Below Tg; ASTM D696 Comments
	6.00 $\mu\text{m}/\text{m}\cdot\text{°C}$	3.33 $\mu\text{in}/\text{in}\cdot\text{°F}$	Above Tg; ASTM D696
	@Temperature >=143 °C	@Temperature >=289 °F	
Thermal Conductivity	0.950 W/m-K	6.59 BTU-in/hr-ft ² -°F	Average; ISO 22007-4
	2.00 W/m-K	13.9 BTU-in/hr-ft ² -°F	Along flow; ISO 22007-4
Melting Point	343 °C	649 °F	ISO 11357
Deflection Temperature at 1.8 MPa (264 psi)	333 °C	631 °F	ISO 75A-f
Glass Transition Temp, Tg	>= 143 °C	>= 289 °F	Onset; ISO 11357
	150 °C	302 °F	Midpoint; ISO 11357

Electrical Properties	Metric	English	Comments
Volume Resistivity	1e+05	1e+05	1V; IEC 60093

Processing Properties	Metric	English	Comments
Processing Temperature	<= 100 °C	<= 212 °F	Hopper Temperature
Nozzle Temperature	415 °C	779 °F	
Mold Temperature	180 - 210 °C	356 - 410 °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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