

Victrex® PEEK 150CA30 30% Carbon Fiber Reinforced

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

Material Notes:

Product Description: High performance thermoplastic material, 30% carbon fiber reinforced PolyEtherEtherKetone (PEEK), semi crystalline, granules for injection molding, easy flow, FDA food contact compliant, color black. **Typical Application Areas:** Complex geometries with thin cross sections or long flow length where higher 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. Information provided by Victrex.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Victrex-PEEK-150CA30-30-Carbon-Fiber-Reinforced.php

Physical Properties	Metric	English	Comments
Density	1.40 g/cc	0.0506 lb/in ³	ASTM D792
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	300000 cP	300000 cP	melt; ISO 11443
	@Temperature 400 °C	@Temperature 752 °F	
Linear Mold Shrinkage	0.0010 cm/cm	0.0010 in/in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.0050 cm/cm	0.0050 in/in	ISO 294-4
Spiral Flow	14.0 cm	5.51 in	recommended processing conditions
	@Thickness 1.00 mm	@Thickness 0.0394 in	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	87.5	87.5	ISO 868
Tensile Strength at Break	60.0 MPa	8700 psi	ISO 527
	@Temperature 275 °C	@Temperature 527 °F	
	105 MPa	15200 psi	ISO 527
	@Temperature 175 °C	@Temperature 347 °F	
	170 MPa	24700 psi	ISO 527
	@Temperature 125 °C	@Temperature 257 °F	
	270 MPa	39200 psi	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Tensile Modulus	28.0 GPa	4060 ksi	ISO 527
Flexural Strength	65.0 MPa	9430 psi	ISO 178
	@Temperature 275 °C	@Temperature 527 °F	
	130 MPa	18900 psi	ISO 178
	@Temperature 175 °C	@Temperature 347 °F	
	275 MPa	39900 psi	ISO 178
	@Temperature 125 °C	@Temperature 257 °F	
Flexural Modulus	380 MPa	55100 psi	ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	24.0 GPa	3480 ksi	ISO 178
Compressive Strength	70.0 MPa	10200 psi	ISO 604
	@Temperature 200 °C	@Temperature 392 °F	
	200 MPa	29000 psi	ISO 604
	@Temperature 120 °C	@Temperature 248 °F	
Izod Impact, Notched (ISO)	300 MPa	43500 psi	ISO 604
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	7.50 kJ/m ²	3.57 ft-lb/in ²	ISO 180/A
Charpy Impact Unnotched	40.0 kJ/m ²	19.0 ft-lb/in ²	ISO 180/U
Charpy Impact, Notched	4.50 J/cm ²	21.4 ft-lb/in ²	ISO 179/1U
	0.600 J/cm ²	2.86 ft-lb/in ²	ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear	40.0 µm/m-°C	22.2 µin/in-°F	Average below Tg; ISO 11359
	100 µm/m-°C	55.6 µin/in-°F	Average above Tg; ISO 11359
CTE, linear, Parallel to Flow	5.00 µm/m-°C	2.78 µin/in-°F	Below Tg; ISO 11359
	6.00 µm/m-°C	3.33 µin/in-°F	Above Tg; ISO 11359
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	344 °C	651 °F	ISO 11357

Thermal Properties	Metric	English	Comments
Deflection Temperature at 1.8 MPa (264 psi)	333 °C	642 °F	ISO 11357
Glass Transition Temp, Tg	143 °C	289 °F	Onset; ISO 11357
	147 °C	297 °F	Midpoint; ISO 11357
UL RTI, Mechanical with Impact	200 °C	392 °F	UL 746B
UL RTI, Mechanical without Impact	240 °C	464 °F	UL 746B
Glow Wire Test	960 °C @Thickness 2.00 mm	1760 °F @Thickness 0.0787 in	IEC 60695-2-12

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	180 - 210 °C	356 - 410 °F	
Dry Time	3.00 hour @Temperature 150 °C	3.00 hour @Temperature 302 °F	
	5.00 hour @Temperature 120 °C	5.00 hour @Temperature 248 °F	

Descriptive Properties	Value	Comments
Toxicity Index	0.05	CO content
	0.12	CO2 content
	0.17	Total gases

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