

Victrex® PEEK 90CA30 Polyetheretherketone, 30% Carbon Fibre Reinforced

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

Material Notes:

Product Description:High performance thermoplastic material, 30% carbon fibre reinforced Polyetheretherketone (PEEK), semi crystalline, granules for injection moulding, very easy flow, FDA food contact compliant, colour black.
Typical Application Areas:Complex geometries with thinner cross sections or longer 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-90CA30-Polyetheretherketone-30-Carbon-Fibre-Reinforced.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 %	Equilibrium; by 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	250000 cP	250000 cP	melt; ISO 11443
	@Temperature 400 °C	@Temperature 752 °F	
Linear Mold Shrinkage, Flow	0.0010 cm/cm	0.0010 in/in	360°C nozzle, 160°C tool; ISO 294-4
Linear Mold Shrinkage, Transverse	0.0050 cm/cm	0.0050 in/in	380°C nozzle, 190°C tool; ISO 294-4
Spiral Flow	13.0 cm	5.12 in	380°C nozzle, 190°C tool
	@Thickness 1.00 mm	@Thickness 0.0394 in	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	88	88	ISO 868
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Strength at Break	65.0 MPa	9430 psi	ISO 527
	@Temperature 275 °C	@Temperature 527 °F	
	85.0 MPa	12300 psi	ISO 527
	@Temperature 225 °C	@Temperature 437 °F	
	110 MPa	16000 psi	ISO 527
	@Temperature 175 °C	@Temperature 347 °F	

Mechanical Properties	180 MPa Metric	26100 psi English	Comments ISO 527
	@Temperature 125 °C	@Temperature 257 °F	
	275 MPa	39900 psi	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Break	1.4 %	1.4 %	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Modulus	28.0 GPa	4060 ksi	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Strength	65.0 MPa	9430 psi	ISO 178
	@Temperature 225 °C	@Temperature 437 °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	
	380 MPa	55100 psi	ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Modulus	24.0 GPa	3480 ksi	ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
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	
	300 MPa	43500 psi	ISO 604
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	7.00 kJ/m ²	3.33 ft-lb/in ²	ISO 180/A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	40.0 kJ/m ²	19.0 ft-lb/in ²	ISO 180/U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	4.50 J/cm ²	21.4 ft-lb/in ²	ISO 179/1U
Charpy Impact, Notched	0.600 J/cm ²	2.86 ft-lb/in ²	ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear	40.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	22.2 $\mu\text{in}/\text{in}\cdot\text{°F}$	Average below Tg; ISO 11359
	@Temperature ≤ 143 °C	@Temperature ≤ 289 °F	
	90.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	50.0 $\mu\text{in}/\text{in}\cdot\text{°F}$	Average above Tg; ISO 11359
	@Temperature ≥ 143 °C	@Temperature ≥ 289 °F	
CTE, linear, Parallel to Flow	5.00 $\mu\text{m}/\text{m}\cdot\text{°C}$	2.78 $\mu\text{in}/\text{in}\cdot\text{°F}$	Below Tg; ISO 11359
	@Temperature ≤ 143 °C	@Temperature ≤ 289 °F	
	5.00 $\mu\text{m}/\text{m}\cdot\text{°C}$	2.78 $\mu\text{in}/\text{in}\cdot\text{°F}$	Above Tg; ISO 11359
	@Temperature ≥ 143 °C	@Temperature ≥ 289 °F	
Specific Heat Capacity	1.80 J/g- °C	0.430 BTU/lb- °F	DSC
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Thermal Conductivity	2.00 W/m-K	13.9 BTU-in/hr-ft ² - °F	Along flow; ISO 22007-4
	0.950 W/m-K	6.59 BTU-in/hr-ft ² - °F	
	@Temperature 23.0 °C	@Temperature 73.4 °F	Average; ISO/CD 22007-4
Melting Point	343 °C	649 °F	ISO 11357
Deflection Temperature at 1.8 MPa (264 psi)	342 °C	648 °F	ISO 75A-f
Glass Transition Temp, Tg	143 °C	289 °F	Onset; ISO 11357
Glow Wire Test	960 °C	1760 °F	IEC 60695-2-12
	@Thickness 2.00 mm	@Thickness 0.0787 in	

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	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	

Processing Properties	Metric	English	Comments
	@Time 10800 sec	@Time 3.00 hour	

Descriptive Properties	Value	Comments
Toxicity Index	0.05	NES 713; CO content
	0.12	NES 713; CO ₂ content
	0.17	NES 713; Total gases

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