

Victrex® PEEK 450CA30 30% Carbon Fiber Reinforced

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

Material Notes:

General purpose, 30% carbon fiber reinforced, pelletized grade for injection molding. Information provided by Victrex.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Victrex-PEEK-450CA30-30-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	675000 cP	675000 cP	melt; ISO 11443
	@Temperature 400 °C	@Temperature 752 °F	
Linear Mold Shrinkage	0.0010 cm/cm	0.0010 in/in	395°C nozzle, 200°C tool; ISO 294-4
Linear Mold Shrinkage, Transverse	0.0050 cm/cm	0.0050 in/in	395°C nozzle, 200°C tool; ISO 294-4
Spiral Flow	7.50 cm	2.95 in	395°C nozzle, 200°C tool
	@Thickness 1.00 mm	@Thickness 0.0394 in	
	33.0 cm	13.0 in	395°C nozzle, 200°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	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	
	160 MPa	23200 psi	ISO 527
	@Temperature 125 °C	@Temperature 257 °F	
	265 MPa	38400 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		
380 MPa	55100 psi	ISO 178	
@Temperature 23.0 °C	@Temperature 73.4 °F		
Flexural Modulus	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	
300 MPa	43500 psi	ISO 604	
@Temperature 23.0 °C	@Temperature 73.4 °F		
Izod Impact, Notched (ISO)	10.5 kJ/m ²	5.00 ft-lb/in ²	ISO 180/A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	50.0 kJ/m ²	23.8 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
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.700 J/cm ²	3.33 ft-lb/in ²	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	40.0 µm/m-°C	22.2 µin/in-°F	Average below Tg; ISO 11359
	@Temperature <=143 °C	@Temperature <=289 °F	
	100 µm/m-°C	55.6 µin/in-°F	Average above Tg; ISO 11359
	@Temperature >=143 °C	@Temperature >=289 °F	

Thermal Properties	°C Metric	°F English	Comments
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	
	6.00 $\mu\text{m}/\text{m}\cdot\text{°C}$	3.33 $\mu\text{in}/\text{in}\cdot\text{°F}$	Above Tg; ISO 11359
	@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)	336 °C	637 °F	ISO 75-f
Glass Transition Temp, Tg	143 °C	289 °F	Onset; ISO 11357
	150 °C	302 °F	Midpoint; ISO 11357
UL RTI, Mechanical with Impact	200 °C	392 °F	
UL RTI, Mechanical without Impact	240 °C	464 °F	
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	395 °C	743 °F	
Mold Temperature	180 - 210 °C	356 - 410 °F	
Dry Time	2.00 hour	2.00 hour	
	@Temperature 120 °C	@Temperature 248 °F	
	3.00 hour	3.00 hour	
	@Temperature 150 °C	@Temperature 302 °F	

Descriptive Properties	Value	Comments
Toxicity Index	0.05	CO content

Descriptive Properties	Value	Comments
	0.17	Total gases

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