

## Victrex® PEEK -HT™ 22CA30 PolyEtherKetone, 30% Carbon Fibre Reinforced

Category : Polymer , Thermoplastic , Polyketone

### Material Notes:

**Product Description:**High performance thermoplastic material, 30% carbon fibre reinforced PolyEtherKetone (PEK), semi crystalline, granules for injection moulding, standard flow, FDA food contact compliant, colour black.**Typical Application Areas:**Higher temperature 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-HT-22CA30-PolyEtherKetone-30-Carbon-Fibre-Reinforced.php](http://www.lookpolymers.com/polymer_Victrex-PEEK-HT-22CA30-PolyEtherKetone-30-Carbon-Fibre-Reinforced.php)

Physical Properties	Metric	English	Comments
Density	1.41 g/cc	0.0509 lb/in <sup>3</sup>	Crystalline; ISO 1183
Water Absorption at Saturation	0.50 %	0.50 %	Equilibrium; by immersion; ISO 62-1
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.60 %	0.60 %	immersion; ISO 62-1
	@Temperature 100 °C	@Temperature 212 °F	
Viscosity	525000 cP	525000 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	0.0070 cm/cm	0.0070 in/in	405°C nozzle, 200°C tool; ISO 294-4
Spiral Flow	8.00 cm	3.15 in	405°C nozzle, 200°C tool
	@Thickness 1.00 mm	@Thickness 0.0394 in	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	88	88	ISO 868
Tensile Strength at Break	70.0 MPa	10200 psi	ISO 527
	@Temperature 275 °C	@Temperature 527 °F	
	80.0 MPa	11600 psi	ISO 527
	@Temperature 225 °C	@Temperature 437 °F	
	110 MPa	16000 psi	ISO 527
	@Temperature 175 °C	@Temperature 347 °F	
	170 MPa	24700 psi	ISO 527
	@Temperature 125 °C	@Temperature 257 °F	

Mechanical Properties	Metric <sup>MPa</sup>	English <sup>psi</sup>	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	ISO 527
Elongation at Break	1.7 %	1.7 %	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	100 MPa	14500 psi	ISO 178
	@Temperature 275 °C	@Temperature 527 °F	
	185 MPa	26800 psi	ISO 178
	@Temperature 175 °C	@Temperature 347 °F	
	265 MPa	38400 psi	ISO 178
	@Temperature 125 °C	@Temperature 257 °F	
	400 MPa	58000 psi	ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Modulus	23.5 GPa	3410 ksi	ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Compressive Strength	65.0 MPa	9430 psi	ISO 604
	@Temperature 250 °C	@Temperature 482 °F	
	95.0 MPa	13800 psi	ISO 604
	@Temperature 200 °C	@Temperature 392 °F	
	210 MPa	30500 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)	9.00 kJ/m <sup>2</sup>	4.28 ft-lb/in <sup>2</sup>	ISO 180/A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	50.0 kJ/m <sup>2</sup>	23.8 ft-lb/in <sup>2</sup>	ISO 180/U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	4.50 J/cm <sup>2</sup>	21.4 ft-lb/in <sup>2</sup>	ISO 179/1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.650 J/cm <sup>2</sup>	3.09 ft-lb/in <sup>2</sup>	

Charpy Impact, Notched Mechanical Properties	Metric @ Temperature 23.0 °C	English @ Temperature 73.4 °F	ISO 179/1eA Comments
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Thermal Properties	Metric	English	Comments
CTE, linear	35.0 µm/m-°C	19.4 µin/in-°F	Average below Tg; ISO 11359
	@Temperature <=152 °C	@Temperature <=306 °F	
	90.0 µm/m-°C	50.0 µin/in-°F	Average above Tg; ISO 11359
	@Temperature >=152 °C	@Temperature >=306 °F	
CTE, linear, Parallel to Flow	5.00 µm/m-°C	2.78 µin/in-°F	Below Tg; ISO 11359
	@Temperature <=152 °C	@Temperature <=306 °F	
	5.00 µm/m-°C	2.78 µin/in-°F	Above Tg; ISO 11359
	@Temperature >=152 °C	@Temperature >=306 °F	
Thermal Conductivity	2.00 W/m-K	13.9 BTU-in/hr-ft²-°F	Along flow; ISO 22007-4
	0.950 W/m-K	6.59 BTU-in/hr-ft²-°F	
	@Temperature 23.0 °C	@Temperature 73.4 °F	Average; ISO/CD 22007-4
Melting Point	373 °C	703 °F	ISO 11357
Deflection Temperature at 1.8 MPa (264 psi)	368 °C	694 °F	ISO 75-f
Glass Transition Temp, Tg	152 °C	306 °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	405 °C	761 °F	
Mold Temperature	190 - 215 °C	374 - 419 °F	
Drying Temperature	120 °C	248 °F	
	@Time 18000 sec	@Time 5.00 hour	

Processing Properties	150 °C Metric	302 °F 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 <sub>2</sub> content
	0.17	NES 713; Total gases

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