

Victrex® PEEK 381G Medium Viscosity

Category : Polymer , Thermoplastic , Polyketone , Polyetheretherketone (PEEK) , Polyetheretherketone, PEEK, Unreinforced

Material Notes:

Product Description: High performance thermoplastic material, unreinforced PolyEtherEtherKetone (PEEK), semi crystalline, depth filtered granules for specialty extrusion processes, standard flow, FDA food contact compliant, color natural/beige. Typical Application Areas: Wire coating, extrusion of filaments, minitubes, films. Chemically resistant to aggressive environments, suitable for sterilisation for medical and food contact applications. Information provided by Victrex.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Victrex-PEEK-381G-Medium-Viscosity.php

Physical Properties	Metric	English	Comments
Density	1.30 g/cc	0.0470 lb/in ³	ASTM D792
Water Absorption at Saturation	0.45 %	0.45 %	immersion; ISO 62-1
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.55 %	0.55 %	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	0.010 cm/cm	0.010 in/in	370°C nozzle, 170°C tool; ISO 294-4
Linear Mold Shrinkage, Transverse	0.013 cm/cm	0.013 in/in	370°C nozzle, 170°C tool; ISO 294-4
Spiral Flow	12.0 cm	4.72 in	370°C nozzle, 170°C tool
	@Thickness 1.00 mm	@Thickness 0.0394 in	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	84.5	84.5	ISO 868
Tensile Strength, Yield	98.0 MPa	14200 psi	ISO 527
Elongation at Break	45 %	45 %	ISO 527
Tensile Modulus	4.00 GPa	580 ksi	ISO 527
Flexural Strength	12.5 MPa	1810 psi	ISO 178
	@Temperature 275 °C	@Temperature 527 °F	
	19.0 MPa	2760 psi	ISO 178
	@Temperature 175 °C	@Temperature 347 °F	

Mechanical Properties	85.0 MPa Metric	12300 psi English	Comments
	@Temperature 125 °C	@Temperature 257 °F	
	165 MPa	23900 psi	ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	125 MPa	18100 psi	ISO 178
	@Strain 3.50 %, Temperature 23.0 °C	@Strain 3.50 %, Temperature 73.4 °F	
Flexural Modulus	4.00 GPa	580 ksi	ISO 178
Izod Impact, Notched (ISO)	7.00 kJ/m²	3.33 ft-lb/in²	ISO 180/A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	NB	NB	ISO 180/U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	NB	NB	ISO 179/U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.600 J/cm²	2.86 ft-lb/in²	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Compression Set	70 %	70 %	ISO 604
	@Temperature 120 °C	@Temperature 248 °F	
	125 %	125 %	ISO 604
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	55.0 µm/m-°C	30.6 µin/in-°F	Average below Tg; ISO 11359
	@Temperature <=143 °C	@Temperature <=289 °F	
	140 µm/m-°C	77.8 µin/in-°F	ISO 11359
	@Temperature >=143 °C	@Temperature >=289 °F	
CTE, linear, Parallel to Flow	45.0 µm/m-°C	25.0 µin/in-°F	Below Tg; ISO 11359
	@Temperature <=143 °C	@Temperature <=289 °F	
	120 µm/m-°C	66.7 µin/in-°F	Above Tg; ISO 11359
	@Temperature >=143 °C	@Temperature >=289 °F	

Thermal Conductivity Thermal Properties	0.290 W/m-K Metric	2.01 BTU-in/hr-ft²-°F English	Average: ISO 22007-4 Comments
	0.320 W/m-K	2.22 BTU-in/hr-ft²-°F	Along flow; ISO 22007-4
Melting Point	343 °C	649 °F	ISO 11357
Deflection Temperature at 1.8 MPa (264 psi)	152 °C	306 °F	ISO 75-f
	160 °C	320 °F	ISO 75-f
	@Temperature 200 °C, Time 14400 sec	@Temperature 392 °F, Time 4.00 hour	
Glass Transition Temp, Tg	143 °C	289 °F	Onset; ISO 11357
	150 °C	302 °F	Midpoint; ISO 11357
UL RTI, Electrical	260 °C	500 °F	
UL RTI, Mechanical with Impact	180 °C	356 °F	
UL RTI, Mechanical without Impact	240 °C	464 °F	
Oxygen Index	24 %	24 %	ISO 4589
	@Thickness 0.400 mm	@Thickness 0.0157 in	
	35 %	35 %	ISO 4589
	@Thickness 3.20 mm	@Thickness 0.126 in	
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	1.00e+9 ohm-cm	1.00e+9 ohm-cm	IEC 60093
	@Temperature 275 °C	@Temperature 527 °F	
	1.00e+15 ohm-cm	1.00e+15 ohm-cm	IEC 60093
	@Temperature 125 °C	@Temperature 257 °F	
	1.00e+16 ohm-cm	1.00e+16 ohm-cm	IEC 60093
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Dielectric Constant	3.2	3.2	IEC 60250
	@Frequency 50000 Hz, Temperature 23.0 °C	@Frequency 50000 Hz, Temperature 73.4 °F	
	4.5	4.5	IEC 60250
	@Frequency 50.0 Hz, Temperature 200 °C	@Frequency 50.0 Hz, Temperature 392 °F	

Electrical Properties	Metric/mm	English/in	Comments
Dielectric Strength	@Thickness 2.00 mm	@Thickness 0.0787 in	IEC 60243-1
	190 kV/mm	4830 kV/in	IEC 60243-1
	@Thickness 0.0500 mm	@Thickness 0.00197 in	
Dissipation Factor	0.0030	0.0030	
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Comparative Tracking Index	150 V	150 V	ISO 60112

Processing Properties	Metric	English	Comments
Processing Temperature	<= 100 °C	<= 212 °F	Hopper Temperature
Nozzle Temperature	370 °C	698 °F	
Mold Temperature	170 - 200 °C	338 - 392 °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	

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