

VICTREX® PEEK 450GL20

Polyetheretherketone

Victrex plc

Message:

High performance thermoplastic material, 20% glass fibre reinforced PolyEtherEtherKetone (PEEK), semi crystalline, granules for injection moulding and extrusion, standard flow, FDA food contact compliant, colour natural/beige.
Applications for higher strength in a static system. Low coefficient of thermal expansion. Chemically resistant to aggressive environments, suitable for sterilization for medical and food contact applications.

General Information			
UL YellowCard	E161131-100671691		
Filler / Reinforcement	Glass fiber reinforced material, 20% filler by weight		
Features	Semicrystallization		
	Low friction coefficient		
	High strength		
	Good disinfection		
	Good chemical resistance		
	Compliance of Food Exposure		
Uses	Non-specific food applications		
	Medical/nursing supplies		
Agency Ratings	FDA Food Exposure, Not Rated		
Appearance	Beige		
	Natural color		
Forms	Particles		
Processing Method	Extrusion		
	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	1.43	g/cm ³	ISO 1183
Molding Shrinkage			
Vertical flow direction: 190°C	0.90	%	
Flow direction: 190°C	0.30	%	
Water Absorption			ISO 62
23°C, 24 hr, 3.20 mm	0.050	%	ISO 62
Equilibrium, 23°C, 50% RH	0.40	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D, 23°C)	86		ISO 868
Mechanical	Nominal Value	Unit	Test Method

Tensile Modulus (23°C)	8800	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	160	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	3.3	%	ISO 527-2
Flexural Modulus (23°C)	8800	MPa	ISO 178
Flexural Stress (23°C)	250	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	7.5	kJ/m ²	ISO 180/A
Unnotched Izod Impact Strength (23°C)	60	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	315	°C	ISO 75-2/Af
Glass Transition Temperature	143	°C	ISO 3146
Melting Temperature (DSC)	343	°C	ISO 3146
Linear thermal expansion coefficient			ISO 11359-2
Flow: < 143°C	2.0E-5	cm/cm/°C	ISO 11359-2
Flow: > 143°C	2.2E-5	cm/cm/°C	ISO 11359-2
Lateral: < 143°C	4.5E-5	cm/cm/°C	ISO 11359-2
Lateral: > 143°C	1.2E-4	cm/cm/°C	ISO 11359-2
Specific Heat (23°C)	1700	J/kg/°C	DSC
Thermal Conductivity (23°C)	0.30	W/m/K	ISO 22007-4
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+16	ohms·cm	IEC 60093
Dielectric Strength (2.00 mm)	24	kV/mm	IEC 60243-1
Dielectric Constant (23°C, 1 MHz)	3.10		IEC 60250
Dissipation Factor (23°C, 1 MHz)	5.0E-3		IEC 60250
Comparative Tracking Index	150	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.500 mm)	V-0		UL 94
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (400°C)	480	Pa·s	ISO 11443
Injection	Nominal Value	Unit	
Drying Temperature			
A	150	°C	
B	120	°C	
Drying Time			
A	3.0	hr	
B	5.0	hr	
Hopper Temperature	< 100	°C	
Rear Temperature	360	°C	
Middle Temperature	365 - 370	°C	
Front Temperature	375	°C	
Nozzle Temperature	380	°C	

Mold Temperature	170 - 200	°C
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Injection instructions

Runner: Die / nozzle >3mm, manifold >3.5mmGate: >2mm or 0.5 x part thickness

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