

VICTREX® PEEK 450GL15

Polyetheretherketone

Victrex plc

Message:

High performance thermoplastic material, 15% 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, 15% filler by weight		
Features	Semicrystallization		
	High strength		
	Good disinfection		
	Good liquidity		
	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	1.38	g/cm ³	ISO 1183
Spiral Flow	10.0	cm	Internal method
Molding Shrinkage ²			ISO 294-4
Vertical flow direction: 180°C	0.90	%	ISO 294-4
Flow direction: 180°C	0.50	%	ISO 294-4
Water Absorption			ISO 62
23°C, 24 hr, 3.20 mm	0.060	%	ISO 62
Balance, 23°C, 3.20mm, 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)	7500	MPa	ISO 527-2
Tensile Stress			ISO 527-2
Fracture, 23°C	140	MPa	ISO 527-2
Fracture, 125°C	80.0	MPa	ISO 527-2
Fracture, 175°C	45.0	MPa	ISO 527-2
Fracture, 275°C	25.0	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	4.0	%	ISO 527-2
Flexural Modulus (23°C)	7000	MPa	ISO 178
Flexural Stress (23°C)	240	MPa	ISO 178
Compressive Stress			ISO 604
23°C	200	MPa	ISO 604
120°C	130	MPa	ISO 604
200°C	40.0	MPa	ISO 604
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	5.5	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	60	kJ/m ²	ISO 179/1U
Notched Izod Impact (23°C)	6.0	kJ/m ²	ISO 180/A
Unnotched Izod Impact Strength (23°C)	55	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	298	°C	ISO 75-2/Af
Glass Transition Temperature ³	143	°C	ISO 11357-2
Melting Temperature	343	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow: < 143°C	2.5E-5	cm/cm/°C	ISO 11359-2
Flow: > 143°C	3.0E-5	cm/cm/°C	ISO 11359-2
Lateral: < 143°C	5.0E-5	cm/cm/°C	ISO 11359-2
Lateral: > 143°C	1.3E-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 kHz)	3.10		IEC 60250
Dissipation Factor (23°C, 1 MHz)	5.0E-3		IEC 60250
Comparative Tracking Index	150	V	IEC 60112
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (400°C)	450	Pa · s	ISO 11443
Injection	Nominal Value	Unit	
Drying Temperature	120 - 150	°C	
Drying Time	3.0 - 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

Injection instructions

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

NOTE

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| 1. | Crystalline |
| 2. | 380°C nozzle |
| 3. | Onset |

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