

VICTREX® PEEK 650GL30

Polyetheretherketone

Victrex plc

Message:

High performance thermoplastic material, 30% glass fibre reinforced PolyEtherEtherKetone (PEEK), semi crystalline, granules for injection moulding and extrusion, low flow, colour natural/beige.
Applications for higher strength in a static system. Low coefficient of thermal expansion. Chemically resistant to aggressive environments, suitable for sterilisation for medical and food contact applications.

General Information			
UL YellowCard	E161131-101136379		
Filler / Reinforcement	Glass fiber reinforced material, 30% filler by weight		
Features	Semicrystallization		
	Low friction coefficient		
	High strength		
	Good stretchability		
	Low liquidity		
	Good chemical resistance		
	Good wear resistance		
	Compliance of Food Exposure		
Uses	Medical/nursing supplies		
Appearance	Beige		
	Natural color		
Forms	Particles		
Processing Method	Extrusion		
	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density ¹	1.51	g/cm³	ISO 1183
Spiral Flow ²			Internal method
-- ³	9.00	cm	Internal method
-- ⁴	45.0	cm	Internal method
Molding Shrinkage ⁵			ISO 294-4
Vertical flow direction	0.80	%	ISO 294-4
Flow direction	0.30	%	ISO 294-4
Water Absorption			ISO 62
23°C, 24 hr, 3.20 mm	0.040	%	ISO 62
Equilibrium, 23°C, 50% RH	0.30	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method

Tensile Modulus (23°C)	11500	MPa	ISO 527-2
Tensile Stress			ISO 527-2
Fracture, 23°C	170	MPa	ISO 527-2
Fracture, 125°C	95.0	MPa	ISO 527-2
Fracture, 175°C	50.0	MPa	ISO 527-2
Fracture, 275°C	30.0	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	2.7	%	ISO 527-2
Flexural Modulus (23°C)	10000	MPa	ISO 178
Flexural Stress			ISO 178
23°C	260	MPa	ISO 178
125°C	170	MPa	ISO 178
175°C	75.0	MPa	ISO 178
275°C	45.0	MPa	ISO 178
Compressive Stress			ISO 604
23°C	190	MPa	ISO 604
120°C	120	MPa	ISO 604
200°C	35.0	MPa	ISO 604
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	12	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	70	kJ/m ²	ISO 179/1U
Notched Izod Impact (23°C)	12	kJ/m ²	ISO 180/A
Unnotched Izod Impact Strength (23°C)	65	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	320	°C	ISO 75-2/Af
Glass Transition Temperature	143	°C	ISO 11357-2
Melting Temperature	343	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow: < 143°C	1.8E-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)	20	kV/mm	IEC 60243-1
Dielectric Constant (23°C, 50 Hz)	3.50		IEC 60250
Dissipation Factor (23°C, 1 MHz)	4.0E-3		IEC 60250
Comparative Tracking Index	150	V	IEC 60112
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (420°C)	700	Pa · s	ISO 11443

Injection	Nominal Value	Unit
Drying Temperature	120 - 150	°C
Drying Time	3.0 - 5.0	hr
Hopper Temperature	< 100	°C
Mold Temperature	180 - 200	°C

Injection instructions

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

NOTE

1. Crystalline
2. Mold temperature: 190°C, melt temperature: 405°C
3. 1 mm
4. 3 mm
5. 405°C nozzle, 190°C tool

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