

VICTREX® PEEK 90CA30

Polyetheretherketone

Victrex plc

Message:

High performance thermoplastic material, 30% carbon fibre reinforced PolyEtherEtherKetone (PEEK), semi crystalline, granules for injection moulding, very easy flow, FDA food contact compliant, colour black.

Complex geometries with thinner cross sections or longer flow length where higher strength in a static or dynamic system is required. Excellent wear resistance, low coefficient of friction, low coefficient of thermal expansion. Chemically resistant to aggressive environments.

General Information			
UL YellowCard	E161131-531781		
Filler / Reinforcement	Carbon fiber reinforced material, 30% filler by weight		
Features	Semicrystallization		
	Low friction coefficient		
	High strength		
	Good liquidity		
	Good chemical resistance		
	Good wear resistance		
	Compliance of Food Exposure		
Agency Ratings	FDA Food Exposure, Not Rated		
Appearance	Black		
Forms	Particles		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density ¹	1.40	g/cm³	ISO 1183
Spiral Flow	13.0	cm	Internal method
Molding Shrinkage ²			ISO 294-4
Vertical flow direction: 190°C	0.50	%	ISO 294-4
Flow direction: 190°C	0.10	%	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
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D, 23°C)	88		ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	27000	MPa	ISO 527-2
Tensile Stress			ISO 527-2
Fracture, 23°C	260	MPa	ISO 527-2
Fracture, 125°C	180	MPa	ISO 527-2
Fracture, 175°C	110	MPa	ISO 527-2

Fracture, 225°C	85.0	MPa	ISO 527-2
Fracture, 275°C	65.0	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	1.3	%	ISO 527-2
Flexural Modulus (23°C)	24000	MPa	ISO 178
Flexural Stress			ISO 178
23°C	360	MPa	ISO 178
125°C	250	MPa	ISO 178
175°C	120	MPa	ISO 178
225°C	60.0	MPa	ISO 178
Compressive Stress			ISO 604
23°C	300	MPa	ISO 604
120°C	200	MPa	ISO 604
200°C	70.0	MPa	ISO 604
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	6.0	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	45	kJ/m ²	ISO 179/1U
Notched Izod Impact (23°C)	6.5	kJ/m ²	ISO 180/A
Unnotched Izod Impact Strength (23°C)	40	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	343	°C	ISO 75-2/A
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	5.0E-6	cm/cm/°C	ISO 11359-2
Flow: < 143°C	5.0E-6	cm/cm/°C	ISO 11359-2
Lateral: < 143°C	4.0E-5	cm/cm/°C	ISO 11359-2
Lateral: > 143°C	9.0E-5	cm/cm/°C	ISO 11359-2
Specific Heat (23°C)	1800	J/kg/°C	DSC
Thermal Conductivity (23°C)	0.95	W/m/K	ISO 22007-4
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity ³ (23°C)	1.0E+5	ohms · cm	ASTM D4496
Flammability	Nominal Value	Unit	Test Method
Glow Wire Flammability Index (2.00 mm)	960	°C	IEC 60695-2-12
Toxicity			NES 713
CO Content	0.0500		NES 713
CO2 Content	0.120		NES 713
Total Gases	0.170		NES 713
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (400°C)	260	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

1. Crystalline
2. 380°C nozzle
3. 1V

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