

VICTREX® PEEK 450CA30

Polyetheretherketone

Victrex plc

Message:

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

Applications for higher strength and stiffness in a static or dynamic system. Excellent wear resistance, low coefficient of friction, low coefficient of thermal expansion. Chemically resistant to aggressive environments.

General Information			
UL YellowCard	E161131-224304	E161131-531783	
Filler / Reinforcement	Carbon fiber reinforced material, 30% filler by weight		
Features	Semicrystallization		
	Low friction coefficient		
	Rigidity, high		
	High strength		
	Good liquidity		
	Good chemical resistance		
	Good wear resistance		
Agency Ratings	FDA Food Exposure, Not Rated		
	Rolls Royce #DMSRR 1018		
Appearance	Black		
Forms	Particles		
Processing Method	Extrusion		
	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	1.40	g/cm³	ISO 1183
Molding Shrinkage			
Vertical flow direction: 170°C, 3.00mm	0.50	%	
Flow direction: 170°C, 3.00mm	0.10	%	
Water Absorption			ISO 62
23°C, 24 hr, 3.20 mm	0.040	%	ISO 62
Balance, 23°C, 3.20mm, 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)	25000	MPa	ISO 527-2
Tensile Stress			ISO 527-2

Fracture, 23°C	260	MPa	ISO 527-2
Fracture, 125°C	160	MPa	ISO 527-2
Fracture, 175°C	85.0	MPa	ISO 527-2
Fracture, 275°C	50.0	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	1.7	%	ISO 527-2
Flexural Modulus (23°C)	23000	MPa	ISO 178
Flexural Stress			ISO 178
23°C	380	MPa	ISO 178
125°C	250	MPa	ISO 178
175°C	120	MPa	ISO 178
275°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)	7.0	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	45	kJ/m ²	ISO 179/1U
Notched Izod Impact (23°C)	9.5	kJ/m ²	ISO 180/A
Unnotched Izod Impact Strength (23°C)	45	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	336	°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	6.0E-6	cm/cm/°C	ISO 11359-2
Lateral: < 143°C	4.0E-5	cm/cm/°C	ISO 11359-2
Lateral: > 143°C	1.0E-4	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
RTI Imp	200	°C	UL 746
RTI	240	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity ¹ (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)	675	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	375	°C	
Middle Temperature	380 - 385	°C	
Front Temperature	390	°C	
Nozzle Temperature	395	°C	
Mold Temperature	180 - 210	°C	
Injection instructions			
Runner: Die / nozzle >3mm, manifold >3.5mmGate: >2mm or 0.5 x part thickness			
NOTE			
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