

VICTREX® PEEK™ 450CA30

➤ **Product Description:**

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.

➤ **Typical Application Areas:**

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.

➤ **Material Properties**

	CONDITIONS	TEST METHOD	UNITS	TYPICAL VALUE
Mechanical Data				
Tensile Strength	Break, 23°C	ISO 527	MPa	240
	Break, 125°C			150
	Break, 175°C			85
	Break, 275°C			50
Tensile Elongation	Break, 23°C	ISO 527	%	1.7
Tensile Modulus	23°C	ISO 527	GPa	25
Flexural Strength	23°C	ISO 178	MPa	350
	125°C			250
	175°C			120
	275°C			60
Flexural Modulus	23°C	ISO 178	GPa	23
Compressive Strength	23°C	ISO 604	MPa	300
	120°C			200
	200°C			70
Charpy Impact Strength	Notched, 23°C	ISO 179/1eA	kJ m ⁻²	7.0
	Unnotched, 23°C	ISO 179/1U	kJ m ⁻²	45
Izod Impact Strength	Notched, 23°C	ISO 180/A	kJ m ⁻²	8.0
	Unnotched, 23°C	ISO 180/U		45
Thermal Data				
Melting Point		ISO 3146	°C	343
Glass Transition (Tg)		ISO 3146	°C	143
Specific Heat Capacity	23°C	DSC	kJ kg ⁻¹ °C ⁻¹	1.8
Coefficient of Thermal Expansion	Along flow below Tg	ISO 11359	ppm °C ⁻¹	5
	Average below Tg			40
	Along flow above Tg			6
	Average above Tg			100
Heat Deflection Temperature	1.8 MPa	ISO 75-f	°C	336
Thermal Conductivity	23°C	ISO/CD 22007-4	W m ⁻¹ °C ⁻¹	0.95
Continuous Use Temperature	Mechanical w/o impact	UL 746B	°C	240
	Mechanical w/impact			200
Flow				
Melt Viscosity	400°C	ISO 11443	Pa.s	675

Miscellaneous				
Density	Crystalline	ISO 1183	g cm ⁻³	1.40
Shore D hardness	23 °C	ISO 868		90
Water Absorption (3.2mm thick Tensile bar)	24 h, 23 °C	ISO 62-1	%	0.04
(by immersion)	Equilibrium, 23 °C			0.3

Fire Smoke Toxicity				
Flammability Rating		UL94	n/a	V-0 @ 0.5 mm
Glow Wire Test	2mm thickness	IEC 60695-2-12	°C	960
Toxicity Index	CO content	NES 713	n/a	0.05
	CO ₂ content			0.12
	Total gases			0.17

Recommended Processing Conditions	
Drying Temperature / Time	150 °C / 3h or 120 °C / 5h
Temperature settings	375 / 380 / 390 / 395 °C (Nozzle)
Hopper Temperature	Not greater than 100 °C
Mould Temperature	180 °C - 210 °C (max 250 °C)
Mould Shrinkage	Along Flow, 3 mm, 170 °C mould, 0.0%
	Across flow, 3 mm, 170 °C mould, 0.5%
Runner	Die / nozzle >3mm, manifold >3.5mm
Gate	>2mm or 0.5 x part thickness

Detailed data available on our website www.victrex.com or upon request



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