

VICTREX® PEEK™ 450FC30

➤ **Product Description:**

High performance thermoplastic material, 30% reinforced with carbon fibre / graphite / PTFE PolyEtherEtherKetone (PEEK), semi crystalline, granules for injection moulding and extrusion, standard flow, colour black.

➤ **Typical Application Areas:**

Tribological applications for high strength. Excellent wear resistance, very 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	140
	Break, 125 °C			95
	Break, 175 °C			55
	Break, 225 °C			45
	Break, 275 °C			35
Tensile Elongation	Break, 23 °C	ISO 527	%	2.2
Tensile Modulus	23 °C	ISO 527	GPa	12.5
Flexural Strength	23 °C	ISO 178	MPa	230
Flexural Modulus	23 °C	ISO 178	GPa	11.5
Compressive Strength	23 °C	ISO 604	MPa	170
	120 °C			110
Charpy Impact Strength	Notched, 23 °C	ISO 179/1eA	kJ m ⁻²	5.0
	Unnotched, 23 °C	ISO 179/1U	kJ m ⁻²	35
Izod Impact Strength	Notched, 23 °C	ISO 180/A	kJ m ⁻²	6.0
	Unnotched, 23 °C	ISO 180/U		35
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	15
	Average below Tg			45
	Along flow above Tg			20
	Average above Tg			115
Heat Deflection Temperature	1.8 MPa	ISO 75-f	°C	315
Thermal Conductivity	23 °C	ISO/CD 22007-4	W m ⁻¹ °C ⁻¹	0.87
Continuous Use Temperature	Mechanical w/o impact	UL 746B	°C	240
	Mechanical w/impact			180
Flow				
Melt Viscosity	400 °C	ISO 11443	Pa.s	550

Miscellaneous				
Density	Crystalline	ISO 1183	g cm ⁻³	1.45
Shore D hardness	23 °C	ISO 868		85
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 @ 0.75 mm
Glow Wire Test	2mm thickness	IEC 60695-2-12	°C	960
Limiting Oxygen Index		ISO 4289	%O ₂	43

Recommended Processing Conditions	
Drying Temperature / Time	150 °C / 3h or 120 °C / 5h
Temperature settings	360 / 365 / 375 / 380 °C (Nozzle)
Hopper Temperature	Not greater than 100 °C
Mould Temperature	170 °C - 200 °C (max 250 °C)
Mould Shrinkage	Along Flow, 3 mm, 170 °C mould, 0.3% 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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