

VICTREX® PEEK™ 450GL30

➤ **Product Description:**

High performance thermoplastic material, 30% glass fibre reinforced PolyEtherEtherKetone (PEEK), semi crystalline, granules for injection moulding and extrusion, standard viscosity, FDA food contact compliant, colour natural/beige.

➤ **Typical Application Areas:**

Applications for higher strength in a static system. Low coefficient of thermal expansion. Chemically resistant to aggressive environments, suitable for sterilization for medical and food contact applications.

➤ **Material Properties**

	CONDITIONS	TEST METHOD	UNITS	TYPICAL VALUE
Mechanical Data				
Tensile Strength	Break, 23°C	ISO 527	MPa	180
	Break, 125°C			115
	Break, 175°C			60
	Break, 275°C			35
Tensile Elongation	Break, 23°C	ISO 527	%	2.7
Tensile Modulus	23°C	ISO 527	GPa	11.8
Flexural Strength	23°C	ISO 178	MPa	270
	125°C			190
	175°C			80
	275°C			50
Flexural Modulus	23°C	ISO 178	GPa	11.3
Compressive Strength	23°C	ISO 604	MPa	250
	120°C			160
	200°C			55
Charpy Impact Strength	Notched, 23°C	ISO 179/1eA	kJ m ⁻²	8.0
	Unnotched, 23°C	ISO 179/1U	kJ m ⁻²	55
Izod Impact Strength	Notched, 23°C	ISO 180/A	kJ m ⁻²	10
	Unnotched, 23°C	ISO 180/U		60
Thermal Data				
Melting Point		ISO 11357	°C	343
Glass Transition (Tg)	Onset	ISO 11357	°C	143
Specific Heat Capacity	23°C	DSC	kJ kg ⁻¹ °C ⁻¹	1.7
Coefficient of Thermal Expansion	Along flow below Tg	ISO 11359	ppm °C ⁻¹	18
	Average below Tg			45
	Along flow above Tg			18
	Average above Tg			110
Heat Deflection Temperature	1.8 MPa	ISO 75-f	°C	328
Thermal Conductivity	23°C	ISO/CD 22007-4	W m ⁻¹ °C ⁻¹	0.30
Continuous Use Temperature	Electrical	UL 746B	°C	240
	Mechanical w/o impact			240
	Mechanical w/impact			220

Flow					
Melt Viscosity	400°C	ISO 11443	Pa.s	560	
Miscellaneous					
Density	Crystalline	ISO 1183	g cm ⁻³	1.51	
Shore D hardness	23°C	ISO 868			89
Water Absorption (3.2mm thick Tensile bar)	24h, 23°C	ISO 62-1	%	0.04	
(by immersion)	Equilibrium, 23°C			0.3	
Electrical Properties					
Dielectric Strength	2.5mm thickness	IEC 60243-1	kV mm ⁻¹	20	
Loss Tangent	23°C, 1 MHz	IEC 60250	n/a	0.005	
Dielectric Constant	23°C, 1 kHz	IEC 60250	n/a	3.2	
Volume Resistivity	IEC 60093		Ωcm	10 ¹⁶	
Fire Smoke Toxicity					
Flammability Rating	UL94		n/a	V-0 @ 0.5 mm	
Glow Wire Test	2mm thickness	IEC 60695-2-12	°C	960	
Recommended Processing Conditions					
Drying Temperature / Time	150°C / 3h or 120°C / 5h				
Temperature settings	360 / 370 / 375 / 380 / 385°C (Nozzle)				
Hopper Temperature	Not greater than 100°C				
Mould Temperature	180°C - 200°C (max 250°C)				
Runner	Die / nozzle >3mm, manifold >3.5mm				
Gate	>2mm or 0.5 x part thickness				
Mould Shrinkage and Spiral Flow					
Spiral Flow	385°C nozzle, 190°C tool	1mm thick section	Victrex	mm	85
		3mm thick section	410		
Mould Shrinkage	385°C nozzle, 190°C tool	Along flow	ISO 294-4	%	0.3
		Across flow	0.9		

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

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