

# 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
<b>Mechanical Data</b>				
Tensile Strength	Break, 23 °C	ISO 527	MPa	180
	Break, 125 °C			120
	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 <sup>-2</sup>	8.0
	Unnotched, 23 °C	ISO 179/1U	kJ m <sup>-2</sup>	55
Izod Impact Strength	Notched, 23 °C	ISO 180/A	kJ m <sup>-2</sup>	10
	Unnotched, 23 °C	ISO 180/U		60
<b>Thermal Data</b>				
Melting Point		ISO 3146	°C	343
Glass Transition (Tg)		ISO 3146	°C	143
Specific Heat Capacity	23 °C	DSC	kJ kg <sup>-1</sup> °C <sup>-1</sup>	1.7
Coefficient of Thermal Expansion	Along flow below Tg	ISO 11359	ppm °C <sup>-1</sup>	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 <sup>-1</sup> °C <sup>-1</sup>	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 <sup>-3</sup>	1.51
Shore D hardness	23 °C	ISO 868		89
Water Absorption (3.2mm thick Tensile bar)	24 h, 23 °C	ISO 62-1	%	0.04
(by immersion)	Equilibrium, 23 °C			0.3
Electrical Properties				
Dielectric Strength	2.5mm thickness	IEC 248	kV mm <sup>-1</sup>	20
Loss Tangent	23 °C, 1 MHz	IEC 112	n/a	0.005
Dielectric Constant	23 °C, 1 kHz	IEC 250	n/a	3.2
Volume Resistivity		IEC 93	Ωcm	10 <sup>16</sup>
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	365 / 370 / 380 / 385 °C (Nozzle)			
Hopper Temperature	Not greater than 100 °C			
Mould Temperature	180 °C - 200 °C (max 250 °C)			
Mould Shrinkage	Along Flow, 3 mm, 170 °C mould, 0.4%			
	Across flow, 3 mm, 170 °C mould, 0.8%			
Runner	Die / nozzle >3mm, manifold >3.5mm			
Gate	>2mm or 0.5 x part thickness			

Detailed data available on our website [www.victrex.com](http://www.victrex.com) or upon request

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