

## VICTREX<sup>®</sup> PEEK 90GL60

### ➤ Product Description:

High performance thermoplastic material, 60% glass fibre reinforced PolyEtherEtherKetone (PEEK), semi crystalline, granules for injection moulding, standard flow, FDA food contact compliant, colour natural/beige.

### ➤ Typical Application Areas:

Applications where higher strength in a static system is required. Low coefficient of thermal expansion. Chemically resistant to aggressive environments, suitable for sterilisation 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	240
	Break, 125°C			150
	Break, 175°C			90
	Break, 275°C			50
Tensile Elongation	Break, 23°C	ISO 527	%	1.5
Tensile Modulus	23°C	ISO 527	GPa	25
Flexural Strength	23°C	ISO 178	MPa	360
Flexural Modulus	23°C	ISO 178	GPa	23.5
Compressive Strength	23°C	ISO 604	MPa	230
	120°C			140
	200°C			65
Izod Impact Strength	Notched, 23°C	ISO 180/A	kJ m <sup>-2</sup>	11.5
	Unnotched, 23°C	ISO 180/U		50
<b>Thermal Data</b>				
Melting Point		ISO 11357	°C	343
Glass Transition (T <sub>g</sub> )	Onset	ISO 11357	°C	143
Coefficient of Thermal Expansion	Along flow below T <sub>g</sub>	ISO 11359	ppm K <sup>-1</sup>	13
	Average below T <sub>g</sub>			30
	Along flow above T <sub>g</sub>			15
	Average above T <sub>g</sub>			70
Heat Deflection Temperature	1.8 MPa	ISO 75A-f	°C	343
Thermal Conductivity	23°C	ISO 22007-4	W m <sup>-1</sup> K <sup>-1</sup>	0.55
				0.45
<b>Flow</b>				
Melt Viscosity	400°C	ISO 11443	Pa.s	525
<b>Miscellaneous</b>				
Density	Crystalline	ISO 1183	g cm <sup>-3</sup>	1.83
Shore D hardness	23°C	ISO 868		87 *
Water Absorption by immersion	Saturation, 23°C	ISO 62-1	%	0.4

Electrical Properties				
Dielectric Strength	2mm thickness	IEC 60243-1	kV mm <sup>-1</sup>	22
Comparative Tracking Index		IEC 60112	V	150 *
Loss Tangent	23°C, 1 MHz	IEC 60250	n/a	0.004
Dielectric Constant	23°C, 1 kHz	IEC 60250	n/a	3.8
Volume Resistivity	23°C	IEC 60093	Ω cm	10 <sup>16</sup> *

Fire Smoke Toxicity				
Glow Wire Test	2mm thickness	IEC 60695-2-12	°C	960

\* Result based on similar products

Typical Processing Conditions	
Drying Temperature / Time	150°C / 3h or 120°C / 5h (residual moisture <0.02%)
Temperature settings	360 / 365 / 370 / 375 / 380°C (Nozzle)
Hopper Temperature	Not greater than 100°C
Mould Temperature	180°C - 210°C
Runner	Die / nozzle >3mm, manifold >3.5mm
Gate	>2mm or 0.5 x part thickness

Mould Shrinkage and Spiral Flow					
Spiral Flow	380°C nozzle, 190°C tool	1mm thick section	Victrex	mm	100
Mould Shrinkage	380°C nozzle, 190°C tool	Along flow	ISO 294-4	%	0.3
		Across flow			0.6

#### Important notes:

- Processing conditions quoted in our datasheets are typical of those used in our processing laboratories  
*Data for mould shrinkage should be used for material comparison. Actual mould shrinkage values are highly dependent on part geometry, mould configuration, and processing conditions.*  
*Mould shrinkage differs for along flow and across flow directions. "Along flow" direction is taken as the direction the molten material is travelling when it exits the gate and enters the mould.*  
*Mould shrinkage is expressed as a percent change in dimension of a specimen in relation to mould dimensions.*
- Data are generated in accordance with prevailing national, international and internal standards, and should be used for material comparison. Actual property values are highly dependent on part geometry, mould configuration and processing conditions. Properties may also differ for along flow and across flow directions

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