

VICTREX® HT™ G22

➤ **Product Description:**

High performance thermoplastic material, unreinforced PolyEtherKetone (PEK), semi crystalline, depth filtered granules for injection moulding, easy flow, FDA food contact compliant, colour natural/beige.

➤ **Typical Application Areas:**

Applications for high strength and stiffness as well as good ductility at higher temperatures. 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	Yield, 23 °C	ISO 527	MPa	115
Tensile Elongation	Break, 23 °C	ISO 527	%	20
Tensile Modulus	23 °C	ISO 527	GPa	3.7
Flexural Strength	23 °C	ISO 178	MPa	185
	125 °C			110
	175 °C			32
	275 °C			16
Flexural Modulus	23 °C	ISO 178	GPa	4.2
Compressive Strength	23 °C	ISO 604	MPa	140
	120 °C			90
	200 °C			30
Charpy Impact Strength	Notched, 23 °C	ISO 179/1eA	kJ m ⁻²	3.8
Izod Impact Strength	Notched, 23 °C	ISO 180/A	kJ m ⁻²	5.0
	Unnotched, 23 °C	ISO 180/U		n/b
Thermal Data				
Melting Point		ISO 11357	°C	373
Glass Transition (Tg)	Onset	ISO 11357	°C	152
Specific Heat Capacity	23 °C	DSC	kJ kg ⁻¹ °C ⁻¹	2.2
Coefficient of Thermal Expansion	Along flow below Tg	ISO 11359	ppm °C ⁻¹	45
	Average below Tg			55
	Along flow above Tg			75
	Average above Tg			130
Heat Deflection Temperature	1.8 MPa	ISO 75-f	°C	163
Thermal Conductivity	23 °C	ISO/CD 22007-4	W m ⁻¹ °C ⁻¹	0.29 *
Flow				
Melt Viscosity	400 °C	ISO 11443	Pa.s	190
Miscellaneous				
Density	Crystalline	ISO 1183	g cm ⁻³	1.30
	Amorphous			1.26
Shore D hardness	23 °C	ISO 868		87
Water Absorption (3.2mm thick Tensile bar)	24h, 23 °C	ISO 62-1	%	0.07
	Equilibrium, 23 °C			0.6

Electrical Properties				
Dielectric Strength	2.5mm thickness	IEC 60243-1	kV mm ⁻¹	17
Comparative Tracking Index		IEC 60112	V	150 *
Volume Resistivity	23°C	IEC 60093	Ωcm	10 ¹⁶
	125°C			10 ¹⁵
	275°C			10 ⁹
Fire Smoke Toxicity				
Flammability Rating		UL94	n/a	V-0 @ 1.5 mm
Glow Wire Test	2mm thickness	IEC 60695-2-12	°C	960 *
Limiting Oxygen Index	0.4mm thickness	ISO 4589	% O ₂	24 *
	3.2mm thickness			35 *
Toxicity Index	CO content	NES 713	n/a	0.074 *
	CO ₂ content			0.15 *
	Total gases			0.22 *

* Result based on 450G

Recommended Processing Conditions	
Drying Temperature / Time	150°C / 3h or 120°C / 5h
Temperature settings	375 / 380 / 385 / 390 / 395°C (Nozzle)
Hopper Temperature	Not greater than 100°C
Mould Temperature	190°C - 215°C (max 250°C)
Runner	Die / nozzle >3mm, manifold >3.5mm
Gate	>1mm or 0.5 x part thickness

Mould Shrinkage and Spiral Flow					
Spiral Flow	395°C nozzle, 200°C tool	1mm thick section	Victrex	mm	200
Mould Shrinkage	395°C nozzle, 200°C tool	Along flow	ISO 294-4	%	1.0
		Across flow			1.2

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



World Headquarters

Victrex plc, Hillhouse International, Thornton Cleveleys, Lancashire FY5 4QD United Kingdom
 Tel: + (44) 1253 897700 Fax: + (44) 1253 897701 Email: victrexplc@victrex.com

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