VICTREX HPG™ 140 GRA

Product Description

High performance thermoplastic material, unreinforced **P**oly**E**ther**E**ther**K**etone (PEEK), semi crystalline, granules for injection moulding, standard flow, colour natural. Chemically resistant to aggressive environments

MATERIAL PROPERTIES				
	CONDITIONS	TEST METHOD	UNITS	TYPICAL VALUE
Mechanical Data				
Tensile Strength	At yield, 23°C	ISO 527	MPa	95
	At yield, 80°C			70
	At yield, 120°C			50
Tensile Elongation	At break, 23°C	ISO 527	%	30
Tensile Modulus	23°C	ISO 527	GPa	3.7
	80°C			3.5
	120°C			3.3
	160°C			0.6
Flexural Strength	At yield, 23°C	ISO 178	MPa	150
	At 3.5% strain, 23°C			120
	At yield, 80°C			110
	At yield, 120°C			85
	At yield, 160°C			25
Flexural Modulus	23°C	ISO 178	GPa	3.7
	80°C			3.3
	120°C			3.2
	160°C			0.5
Compressive Strength	23°C	ISO 604	MPa	120
	80°C			100
	120°C			80
Compressive Modulus	23°C	ISO 604	GPa	3.7
	80°C			3.4
	120°C			3.3
	160°C			0.6
Charpy Impact Strength	Notched, 23°C	ISO 179/A	kJ m^{-2}	7.0
Thermal Data				
Melting Point		ISO 11357	°C	343
Glass Transition (Tg)	Onset	ISO 11357	°C	143
Flow				
Melt Viscosity	400°C	ISO 11443	Pa.s	450
Miscellaneous				
Density	Crystalline	ISO 1183	g cm^{-3}	1.30

Typical Processing Conditions	
Drying Temperature / Time	150°C / 3h or 120°C / 5h (residual moisture <0.02%)
Temperature settings	375 / 380 / 385 / 390 / 395°C (Nozzle)
Hopper Temperature	Not greater than 100°C
Mould Temperature	170°C - 200°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, 180°C tool	1mm thick section	Victrex	mm	120
Mould Shrinkage	395°C nozzle, 180°C tool	Along Flow	ISO 294-4	%	0.9
		Across Flow			1.3

Important notes:

1. 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.
2. 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.

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 (0)1253 897700
FAX +44 (0)1253 897701
MAIL victrexplc@victrex.com