VICTREX HPG™ POLYMER 240 GRA

General Information

Product Description

High performance thermoplastic material, reinforced PolyEtherEtherKetone (PEEK), semi crystalline, granules for injection moulding, low flow, colour black. Chemically resistant to aggressive environments

Material Properties

Physical	Nominal Value	Unit	Test Method
Density (Crystalline)	1.40	g/cm³	ISO 1183
Spiral Flow			Internal Method
-- [1]	8.00	cm	
-- [2]	37.5	cm	
Molding Shrinkage [3]			ISO 294-4
Across Flow	0.50	%	
Flow	0.10	%	
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			ISO 527-1
23°C	25500	MPa	
80°C	25000	MPa	
120°C	24500	MPa	
160°C	10500	MPa	
Tensile Stress			ISO 527-2
Break, 23°C	240	MPa	
Break, 80°C	200	MPa	
Break, 120°C	150	MPa	
Break, 160°C	95.0	MPa	
Tensile Strain			ISO 527-2
Break, 23°C	1.7	%	
Break, 80°C	1.8	%	
Break, 120°C	2.2	%	
Break, 160°C	4.5	%	
Flexural Modulus			ISO 178
23°C	22000	MPa	
80°C	21500	MPa	
120°C	21000	MPa	
160°C	8500	MPa	
Flexural Stress [4]			ISO 178
23°C	360	MPa	
80°C	310	MPa	
120°C	260	MPa	
160°C	160	MPa	
Compressive Modulus			ISO 604
23°C	23000	MPa	
80°C	21000	MPa	
120°C	20000	MPa	
160°C	8000	MPa	

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Mechanical	Nominal Value	Unit	Test Method
Compressive Stress			ISO 604
23°C	280	MPa	
80°C	220	MPa	
120°C	180	MPa	
160°C	100	MPa	
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (23°C)	10.0	kJ/m^2	ISO 179/A
Thermal	**Nominal Value**	**Unit**	**Test Method**
Glass Transition Temperature (Onset)	143	°C	ISO 11357-2
Melting Temperature	343	°C	ISO 11357-3
Fill Analysis	**Nominal Value**	**Unit**	**Test Method**
Melt Viscosity (420°C)	800	Pa·s	ISO 11443

Typical Processing Information

Injection	Nominal Value	Unit
Drying Temperature	120 to 150	°C
Drying Time	3.0 to 5.0	hr
Suggested Max Moisture	0.020	%
Hopper Temperature	< 100	°C
Rear Temperature	390	°C
Middle Temperature	400 to 405	°C
Front Temperature	410	°C
Nozzle Temperature	415	°C
Mould Temperature	180 to 210	°C

Injection Notes

Runner: Die / nozzle >3mm, manifold >3.5mm
Gate: >2mm or 0.5 x part thickness

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.

Notes

[1] Mould Temperature: 200°C, Melt Temperature: 415°C, 1.00 mm

[2] Mould Temperature: 200°C, Melt Temperature: 415°C, 3.00 mm

[3] 415°C nozzle, 200°C tool

[4] At break

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Revision Date: 2024

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