VICTREX CT™ POLYMER 100

General Information

Product Description

High performance thermoplastic material, unreinforced PolyEtherEtherKetone (PEEK), semi crystalline, granules for injection moulding and extrusion, colour natural.

Applications at very low temperatures. Wear and erosion resistant and chemically resistant to aggressive environments

Material Properties

Physical	Nominal Value	Unit	Test Method
Density (Crystalline)	1.30	g/cm³	ISO 1183
Spiral Flow			Internal Method
-- [1]	19.0	cm	
-- [2]	63.0	cm	
-- [3]	70.0	cm	
Molding Shrinkage [4]			ISO 294-4
Across Flow	1.3	%	
Flow	0.90	%	
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress			ISO 527-2
Yield, 23°C	95.0	MPa	
Break, -196°C	200	MPa	
Tensile Strain			ISO 527-2
Break, -196°C	8.0	%	
Break, 23°C	70	%	
Flexural Modulus			ISO 178
-196°C	5400	MPa	
23°C	3500	MPa	
Flexural Stress			ISO 178
-196°C	435	MPa	
23°C	150	MPa	
Compressive Stress			ISO 604
-196°C	305	MPa	
23°C	120	MPa	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Shore Hardness (Shore D, 23°C)	84.0		ISO 868

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Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature (Onset)	143	°C	ISO 11357-2
Melting Temperature	343	°C	ISO 11357-3
CLTE - Flow			
-165°C	42	ppm/K	DIN 51909
< 143°C	45	ppm/K	ISO 11359-2
CLTE - Average			ISO 11359-2
< 143°C	65	ppm/K	
> 143°C	160	ppm/K	
Thermal Conductivity			
-165°C [5]	0.15	W/m/K	Internal Method
23°C [6]	0.32	W/m/K	ISO 22007-4

Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (400°C)	550	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
Hopper Temperature	< 100	°C
Rear Temperature	375	°C
Middle Temperature	380 to 385	°C
Front Temperature	390	°C
Nozzle Temperature	395	°C
Mould Temperature	170 to 200	°C

Injection Notes

Runner: Die / nozzle >3mm, manifold >3.5mm
Gate: >1mm 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: 180°C, Melt Temperature: 395°C, 1.00 mm

[2] Mould Temperature: 180°C, Melt Temperature: 395°C, 3.00 mm

[3] Mould Temperature: 180°C, Melt Temperature: 415°C, 3.00 mm

[4] 375°C nozzle, 180°C tool

[5] Average

[6] Along flow

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