

# 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/cm <sup>3</sup>	ISO 1183
Spiral Flow			Internal Method
-- 1	19.0	cm	
-- 2	63.0	cm	
-- 3	70.0	cm	
Molding Shrinkage <sup>4</sup>			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	32	%	
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	
3.5% Strain, 23°C	120	MPa	
Compressive Stress			ISO 604
-196°C	305	MPa	
23°C	120	MPa	
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact Strength	7.2	kJ/m <sup>2</sup>	ISO 180
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 <sup>5</sup>	0.15	W/m/K	Internal Method
23°C <sup>6</sup>	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](http://www.victrex.com) or upon request.

## Notes

<sup>1</sup> Mould Temperature: 180°C, Melt Temperature: 395°C, 1.00 mm

<sup>2</sup> Mould Temperature: 180°C, Melt Temperature: 395°C, 3.00 mm

<sup>3</sup> Mould Temperature: 180°C, Melt Temperature: 415°C, 3.00 mm

<sup>4</sup> 375°C nozzle, 180°C tool

<sup>5</sup> Average

<sup>6</sup> Along flow

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This information is provided "as is". It is not intended to amount to advice. Use of the product is at the customer's/user's risk. It is the customer's/user's responsibility to thoroughly test the product in each specific application to determine its performance, efficacy and safety for each end-use product, device or other application and compliance with applicable laws, regulations and standards. Mention of a product is no guarantee of availability. Victrex reserves the right to modify products, data sheets, specifications and packaging. **Victrex makes no warranties, express or implied (including, without limitation, any warranty of fitness for a particular purpose or of intellectual property non-infringement) and will not be liable for any loss or damage of any nature (however arising) in connection with customer's/user's use or reliance on this information, except for any liability which cannot be excluded or limited by law.** This document may be modified or retracted at any time without notice to the customer/user.

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