

VICTREX™ PEEK POLYMER AS110

General Information

Product Description

High performance thermoplastic material, reinforced PolyEtherEtherKetone (PEEK), semi crystalline, granules for injection moulding, easy flow, colour natural/beige.

VICTREX™ AS110 is typically used in applications that operate across a wide temperature range and require a combination of strength and ductility, good creep resistance and chemical resistance in aggressive fluid environments. Less abrasive on low-hardened light alloys compared to stiffer wear grades.

Material Properties

Physical	Nominal Value	Unit	Test Method
Density (Crystalline)	1.41	g/cm ³	ISO 1183
Spiral Flow ¹	16.0	cm	Internal Method
Molding Shrinkage ²			ISO 294-4
Across Flow	1.1	%	
Flow	0.90	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	4700	MPa	ISO 527-1
Tensile Stress (Break, 23°C)	72.0	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	8.9	%	ISO 527-2
Flexural Modulus (23°C)	4100	MPa	ISO 178
Flexural Stress (23°C)	140	MPa	ISO 178
Compressive Stress (23°C)	130	MPa	ISO 604
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact Strength (23°C)	4.5	kJ/m ²	ISO 180/A
Unnotched Izod Impact Strength (23°C)	20.0	kJ/m ²	ISO 180
Hardness	Nominal Value	Unit	Test Method
Shore Hardness (Shore D, 23°C)	85.0		ISO 868
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load 1.8 MPa, Unannealed	155	°C	ISO 75-2/Af
Glass Transition Temperature			ISO 11357-2
Onset	143	°C	
Midpoint	147	°C	
Melting Temperature	343	°C	ISO 11357-3
CLTE - Flow			ISO 11359-2
< 143°C	45	ppm/K	
> 143°C	120	ppm/K	
CLTE - Average			ISO 11359-2
< 143°C	50	ppm/K	
> 143°C	120	ppm/K	
Thermal Conductivity			ISO 22007-4
23°C ³	0.30	W/m/K	
23°C ⁴	0.32	W/m/K	

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Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (400°C)	225	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	360	°C
Middle Temperature	360 to 365	°C
Front Temperature	370	°C
Nozzle Temperature	375	°C
Mould Temperature	170 to 200	°C

Injection Notes

Drying Temperature / Time: 150°C / 3h or 120°C / 5h (residual moisture <0.02%)

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: 180°C, Melt Temperature: 375°C, 1.00 mm

² 375°C nozzle, 180°C tool

³ Along flow

⁴ Average

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