

VICTREX™ PEEK POLYMER 151G

General Information

Product Description

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

Typical Application Areas

Complex geometries with thin cross sections or long flow lengths, for high strength and stiffness as well as good ductility. Chemically resistant to aggressive environments. Suitable for steam sterilisation. Further information is available on request.

Material Properties

Physical	Nominal Value	Unit	Test Method
Density (Crystalline)	1.30	g/cm ³	ISO 1183
Spiral Flow			Internal Method
-- 1	22.0	cm	
-- 2	25.0	cm	
-- 3	30.0	cm	
Molding Shrinkage ⁴			ISO 294-4
Across Flow	1.3	%	
Flow	1.0	%	
Water Absorption (Saturation, 23°C)	0.45	%	ISO 62
Water Absorption Saturation (100°C)	0.55	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	4100	MPa	ISO 527-1
Tensile Stress (Yield, 23°C)	105	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	30	%	ISO 527-2
Flexural Modulus (23°C)	3900	MPa	ISO 178
Flexural Stress			ISO 178
23°C ⁵	175	MPa	
3.5% Strain, 23°C	130	MPa	
125°C	90.0	MPa	
175°C	20.0	MPa	
275°C	13.5	MPa	
Compressive Stress			ISO 604
23°C	130	MPa	
120°C	80.0	MPa	
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	4.2	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	No Break		ISO 179/1U
Notched Izod Impact Strength (23°C)	4.2	kJ/m ²	ISO 180/A
Unnotched Izod Impact Strength (23°C)	No Break		ISO 180/1U
Hardness	Nominal Value	Unit	Test Method
Shore Hardness (Shore D, 23°C)	85.0		ISO 868

VICTREX™ PEEK POLYMER 151G

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ISO 75-2/Af
1.8 MPa, Unannealed	156	°C	
1.8 MPa, Annealed ⁶	167	°C	
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	50	ppm/K	
> 143°C	120	ppm/K	
CLTE - Average			ISO 11359-2
< 143°C	55	ppm/K	
> 143°C	140	ppm/K	
Thermal Conductivity			ISO 22007-4
23°C ⁷	0.29	W/m/K	
23°C ⁸	0.32	W/m/K	
RTI Elec	260	°C	UL 746B
RTI Imp	180	°C	UL 746B
RTI Str	240	°C	UL 746B
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity			IEC 60093
23°C	1.0E+16	ohms·cm	
125°C	1.0E+15	ohms·cm	
275°C	1.0E+9	ohms·cm	
Dielectric Strength (2.00 mm)	23.0	kV/mm	IEC 60243-1
Dielectric Constant (23°C, 1 kHz)	3.10		IEC 60250
Dissipation Factor (23°C, 1 MHz)	4.0E-3		IEC 60250
Comparative Tracking Index	150	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Glow Wire Flammability Index (2.0 mm)	960	°C	IEC 60695-2-12
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (400°C)	130	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	350	°C
Middle Temperature	355	°C
Front Temperature	360	°C
Nozzle Temperature	365	°C
Mould Temperature	160 to 200	°C

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Injection Notes

Runner: Die / nozzle >3mm, manifold >3.5mm

Gate: >1mm or 0.5 x part thickness

Notes

¹ Mould Temperature: 160°C, Melt Temperature: 365°C, 1.00 mm

² Mould Temperature: 180°C, Melt Temperature: 375°C, 1.00 mm

³ Mould Temperature: 200°C, Melt Temperature: 400°C, 1.00 mm

⁴ 365°C nozzle, 160°C tool

⁵ At yield

⁶ 200°C/4h

⁷ Average

⁸ Along flow