

# VICTREX™ PEEK POLYMERS 150GL20

## General Information

### Product Description

High performance thermoplastic material, 20% glass fibre reinforced PolyEtherEtherKetone (PEEK), semi crystalline, granules for injection moulding, very easy flow, FDA food contact compliant, colour natural/beige.

Complex geometries with thin cross sections or long flow lengths where good strength in a static system is required. Low coefficient of thermal expansion. Chemically resistant to aggressive environments, suitable for sterilization for medical and food contact applications.

## Material Properties

Physical	Nominal Value	Unit	Test Method
Density (Crystalline)	1.43	g/cm <sup>3</sup>	ISO 1183
Spiral Flow <sup>1</sup>	16.0	cm	Internal Method
Molding Shrinkage <sup>2</sup>			ISO 294-4
Across Flow	0.90	%	
Flow	0.30	%	
Water Absorption (Saturation, 23°C)	0.40	%	ISO 62
Water Absorption - Saturation (100°C)	0.45	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	9000	MPa	ISO 527-1
Tensile Stress			ISO 527-2
Break, -55°C	170	MPa	
Break, 23°C	160	MPa	
Break, 125°C	115	MPa	
Break, 175°C	70.0	MPa	
Break, 225°C	50.0	MPa	
Break, 275°C	40.0	MPa	
Tensile Strain (Break, 23°C)	2.4	%	ISO 527-2
Flexural Modulus (23°C)	8500	MPa	ISO 178
Flexural Stress			ISO 178
-55°C	270	MPa	
23°C	250	MPa	
125°C	190	MPa	
175°C	100	MPa	
275°C	60.0	MPa	
Compressive Stress			ISO 604
23°C	250	MPa	
120°C	160	MPa	
200°C	60.0	MPa	
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	6.0	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	35	kJ/m <sup>2</sup>	ISO 179/1U
Notched Izod Impact Strength (23°C)	7.5	kJ/m <sup>2</sup>	ISO 180/A
Unnotched Izod Impact Strength (23°C)	35	kJ/m <sup>2</sup>	ISO 180
Hardness	Nominal Value	Unit	Test Method
Shore Hardness (Shore D, 23°C)	86		ISO 868

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Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load 1.8 MPa, Unannealed	323	°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			ISO 11359-2
Flow : < 143°C	2.5E-5	cm/cm/°C	
Flow : > 143°C	2.5E-5	cm/cm/°C	
Transverse : < 143°C	4.5E-5	cm/cm/°C	
Transverse : > 143°C	1.1E-4	cm/cm/°C	
Thermal Conductivity			ISO 22007-4
23°C <sup>3</sup>	0.30	W/m/K	
23°C <sup>4</sup>	0.35	W/m/K	
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity (23°C)	1.0E+16	ohms·cm	IEC 60093
Electric Strength (2.00 mm)	23	kV/mm	IEC 60243-1
Dielectric Constant (23°C, 1 kHz)	3.20		IEC 60250
Dissipation Factor (23°C, 1 MHz)	4.0E-3		IEC 60250
Comparative Tracking Index	150	V	IEC 60112
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (400°C)	225	Pa·s	ISO 11443

## 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	360	°C
Middle Temperature	365 to 370	°C
Front Temperature	375	°C
Nozzle Temperature	380	°C
Mold Temperature	170 to 200	°C

### Injection Notes

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

## Notes

- <sup>1</sup> Mold Temperature: 180°C, Melt Temperature: 380°C, 1.00 mm
- <sup>2</sup> 380°C nozzle, 180°C tool
- <sup>3</sup> Average
- <sup>4</sup> Along flow

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