

VICTREX® PEEK 151G

Polyetheretherketone

Victrex plc

Message:

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

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 sterilization for medical and food contact applications.

General Information			
UL YellowCard	E161131-224301		
Features	Semicrystallization		
	Rigidity, high		
	High strength		
	Good disinfection		
	Good liquidity		
	Good chemical resistance		
	Compliance of Food Exposure ductility		
Uses	Non-specific food applications		
	Medical/nursing supplies		
Agency Ratings	FDA Food Exposure, Not Rated		
Appearance	Beige		
	Natural color		
Forms	Particles		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density			ISO 1183
-- 1	1.26	g/cm ³	ISO 1183
-- 2	1.30	g/cm ³	ISO 1183
Spiral Flow ³			Internal method
-- 4	22.0	cm	Internal method
-- 5	25.0	cm	Internal method
-- 6	30.0	cm	Internal method
Molding Shrinkage ⁷			ISO 294-4
Vertical flow direction: 160°C	1.3	%	ISO 294-4
Flow direction: 160°C	1.0	%	ISO 294-4
Water Absorption			ISO 62

23°C, 24 hr, 3.20 mm	0.070	%	ISO 62
Equilibrium, 23°C, 50% RH	0.40	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D, 23°C)	85		ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	3700	MPa	ISO 527-2
Tensile Stress (Yield, 23°C)	110	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	25	%	ISO 527-2
Flexural Modulus (23°C)	4300	MPa	ISO 178
Flexural Stress			ISO 178
3.5% strain, 23°C	130	MPa	ISO 178
23°C	175	MPa	ISO 178
125°C	90.0	MPa	ISO 178
175°C	19.0	MPa	ISO 178
275°C	13.0	MPa	ISO 178
Compressive Stress			ISO 604
23°C	130	MPa	ISO 604
120°C	80.0	MPa	ISO 604
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	4.0	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	No Break		ISO 179
Notched Izod Impact (23°C)	5.0	kJ/m ²	ISO 180/A
Unnotched Izod Impact Strength (23°C)	No Break		ISO 180
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	156	°C	ISO 75-2/Af
Glass Transition Temperature	143	°C	ISO 11357-2
Melting Temperature	343	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow: < 143°C	5.0E-5	cm/cm/°C	ISO 11359-2
Flow: > 143°C	1.2E-4	cm/cm/°C	ISO 11359-2
Lateral: < 143°C	5.5E-5	cm/cm/°C	ISO 11359-2
Lateral: > 143°C	1.4E-4	cm/cm/°C	ISO 11359-2
Specific Heat (23°C)	2200	J/kg/°C	DSC
Thermal Conductivity (23°C)	0.29	W/m/K	Internal method
RTI Elec	260	°C	UL 746
RTI Imp	180	°C	UL 746
RTI	240	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity			IEC 60093
23°C	1.0E+16	ohms · cm	IEC 60093
125°C	1.0E+15	ohms · cm	IEC 60093

275°C	1.0E+9	ohms·cm	IEC 60093
Dielectric Strength (2.00 mm)	23	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 (2.00 mm)	960	°C	IEC 60695-2-12
Oxygen Index			ISO 4589-2
-- 8	24	%	ISO 4589-2
-- 9	35	%	ISO 4589-2
Toxicity			NES 713
CO Content	0.0740		NES 713
CO2 Content	0.150		NES 713
Total Gases	0.220		NES 713
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (400°C)	130	Pa·s	ISO 11443
Injection	Nominal Value	Unit	
Drying Temperature	120 - 150	°C	
Drying Time	3.0 - 5.0	hr	
Hopper Temperature	< 100	°C	
Rear Temperature	350	°C	
Middle Temperature	355	°C	
Front Temperature	360	°C	
Nozzle Temperature	365	°C	
Mold Temperature	170 - 200	°C	
Injection instructions			
Runner: Die / nozzle >3mm, manifold >3.5mmGate: >1mm or 0.5 x part thickness			
NOTE			
1.	Amorphous		
2.	Crystalline		
3.	1 mm		
4.	Mold temperature: 160°C, melt temperature: 365°C		
5.	Mold temperature: 180°C, melt temperature: 375°C		
6.	Mold temperature: 200°C, melt temperature: 400°C		
7.	365°C nozzle		
8.	0.4 mm		
9.	3.2 mm		

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