

VICTREX® PEEK 381G

Polyetheretherketone

Victrex plc

Message:

High performance thermoplastic material, unreinforced PolyEtherEtherKetone (PEEK), semi crystalline, depth filtered granules for specialty extrusion processes, standard flow, FDA food contact compliant, colour natural/beige.
Wire coating, extrusion of filaments, minitubes, films. Chemically resistant to aggressive environments, suitable for sterilization for medical and food contact applications.

General Information			
UL YellowCard	E161131-224303		
Features	Semicrystallization		
	Good disinfection		
	Good liquidity		
	Good chemical resistance		
	Compliance of Food Exposure		
Uses	Films		
	Non-specific food applications		
	Pipe fittings		
	Coating application		
	Filament		
	Medical/nursing supplies		
Agency Ratings	FDA Food Exposure, Not Rated		
Appearance	Beige		
	Natural color		
Forms	Particles		
Processing Method	Film extrusion		
	Extrusion		
	Coating		
	Filament extrusion		
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	12.0	cm	Internal method
Molding Shrinkage ³			ISO 294-4
Vertical flow direction: 170°C	1.3	%	ISO 294-4

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Water Absorption			ISO 62
23°C, 24 hr, 3.20 mm	0.070	%	ISO 62
Balance, 23°C, 3.20mm, 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)	100	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	40	%	ISO 527-2
Flexural Modulus (23°C)	4200	MPa	ISO 178
Flexural Stress			ISO 178
3.5% strain, 23°C	125	MPa	ISO 178
23°C	170	MPa	ISO 178
125°C	90.0	MPa	ISO 178
175°C	18.0	MPa	ISO 178
275°C	13.0	MPa	ISO 178
Compressive Stress			ISO 604
23°C	125	MPa	ISO 604
120°C	70.0	MPa	ISO 604
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	6.0	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	No Break		ISO 179
Notched Izod Impact (23°C)	6.5	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)	152	°C	ISO 75-2/A
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	4.5E-4	cm/cm/°C	ISO 11359-2
Flow: > 143°C	1.2E-3	cm/cm/°C	ISO 11359-2
Lateral: < 143°C	5.5E-4	cm/cm/°C	ISO 11359-2
Lateral: > 143°C	1.4E-3	cm/cm/°C	ISO 11359-2
Thermal Conductivity (23°C)	0.29	W/m/K	ISO 22007-4
RTI Elec	260	°C	UL 746
RTI Imp	180	°C	UL 746
RTI	240	°C	UL 746
Specific Heat Capacity (23°C)	2200	J/kg/°C	DSC
Toxicity			NES 713
CO content	0.0740		NES 713

CO2 content	0.150		NES 713
Total gases	0.220		NES 713
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			IEC 60243-1
0.0500 mm	190	kV/mm	IEC 60243-1
2.00 mm	23	kV/mm	IEC 60243-1
Dielectric Constant			IEC 60250
23°C, 50 Hz	3.20		IEC 60250
200°C, 50 Hz	4.50		IEC 60250
Dissipation Factor (23°C, 1 MHz)	3.0E-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
-- ⁴	24	%	ISO 4589-2
-- ⁵	35	%	ISO 4589-2
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (400°C)	300	Pa·s	ISO 11443
Extrusion	Nominal Value	Unit	
Drying Temperature	120 - 150	°C	
Drying Time	3.0 - 5.0	hr	
Hopper Temperature	< 100	°C	
Cylinder Zone 1 Temp.	350	°C	
Cylinder Zone 2 Temp.	355	°C	
Cylinder Zone 3 Temp.	360	°C	
Cylinder Zone 4 Temp.	365	°C	
Cylinder Zone 5 Temp.	370	°C	
Extrusion instructions			
Mould Temperature: 170°C to 200°C (max 250°C)Runner: Die / nozzle >3mm, manifold >3.5mmGate: >1mm or 0.5 x part thickness			
NOTE			
1.	Amorphous		
2.	Crystalline		
3.	370°C nozzle		
4.	0.4 mm		
5.	3.2 mm		

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