

VICTREX® PEEK 450G903 Black

Polyetheretherketone

Victrex plc

Message:

Product Description:

High performance thermoplastic material, unreinforced PolyEtherEtherKetone (PEEK), semi crystalline, granules for injection moulding and extrusion, standard flow, FDA food contact compliant, colour black.

Typical Application Areas:

Applications for higher strength and stiffness as well as high ductility. Chemically resistant to aggressive environments, suitable for sterilization for medical and food contact applications.

General Information	
UL YellowCard	E161131-224306
Features	Rigidity, high
	High strength
	Good disinfection
	Good liquidity
	Good chemical resistance
	Compliance of Food Exposure ductility
Uses	Medical devices
Agency Ratings	FDA Food Exposure, Not Rated
Appearance	Black
Forms	Powder
Processing Method	Extrusion
	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	11.0	cm	
Molding Shrinkage ³			ISO 294-4
Vertical flow direction	1.3	%	ISO 294-4
Flow direction	1.0	%	ISO 294-4
Water Absorption			ISO 62
23°C, 24 hr, 3.20 mm	0.070	%	ISO 62
Saturated, 23°C	0.40	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (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)	30	%	ISO 527-2
Flexural Modulus (23°C)	4100	MPa	ISO 178
Flexural Stress			ISO 178
3.5% strain, 23°C	120	MPa	ISO 178
23°C ⁴	160	MPa	ISO 178
125°C	85.0	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
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/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	4.5E-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
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	2200	J/kg/°C	
Toxicity			NES 713
-- ⁵	0.220		NES 713
-- ⁶	0.150		NES 713
-- ⁷	0.0740		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 (2.00 mm)	24	kV/mm	IEC 60243-1
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

Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (400°C)	350	Pa·s	Internal method

Injection	Nominal Value	Unit
Drying Temperature	120 - 150	°C
Drying Time	3.0 - 5.0	hr
Hopper Temperature	< 100	°C
Rear Temperature	370	°C
Middle Temperature	360 - 365	°C
Front Temperature	355	°C
Nozzle Temperature	375	°C
Mold Temperature	170 - 200	°C

Injection instructions

Runner: Die/nozzle >3mm, manifold >3.5mmGate: >1mm or .5 x part thickness

NOTE

1.	Amorphous
2.	Crystalline
3.	375°C Nozzle, 180°C tool
4.	at Yield
5.	Total gasses
6.	CO2 content
7.	CO content
8.	.4 mm
9.	3.2 mm

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