

## Victrex® PEEK 450G903 Black Polyetheretherketone, Unreinforced

Category : Polymer , Thermoplastic , Polyketone , Polyetheretherketone (PEEK) , Polyetheretherketone, PEEK, Unreinforced

### Material Notes:

**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 high strength and stiffness as well as high ductility. Chemically resistant to aggressive environments, suitable for sterilization for medical and food contact applications.  
 Information Provided by VICTREX®

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Victrex-PEEK-450G903-Black-Polyetheretherketone-Unreinforced.php](http://www.lookpolymers.com/polymer_Victrex-PEEK-450G903-Black-Polyetheretherketone-Unreinforced.php)

Physical Properties	Metric	English	Comments
Density	1.30 g/cc	0.0470 lb/in <sup>3</sup>	Crystalline; ISO 1183
Water Absorption at Saturation	0.40 %	0.40 %	Equilibrium; by immersion; ISO 62-1
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.56 %	0.56 %	immersion; ISO 62-1
	@Temperature 100 °C	@Temperature 212 °F	
Viscosity	350000 cP	350000 cP	melt; ISO 11443
	@Temperature 400 °C	@Temperature 752 °F	
Linear Mold Shrinkage, Flow	0.010 cm/cm	0.010 in/in	360°C nozzle, 160°C tool; ISO 294-4
Linear Mold Shrinkage, Transverse	0.013 cm/cm	0.013 in/in	375°C nozzle, 180°C tool; ISO 294-4
Spiral Flow	11.0 cm	4.33 in	375°C nozzle, 180°C tool
	@Thickness 1.00 mm	@Thickness 0.0394 in	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	85	85	ISO 868
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Strength, Yield	98.0 MPa	14200 psi	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Break	30 %	30 %	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Modulus	3.80 GPa	551 ksi	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	12.5 MPa	1810 psi	

Flexural Strength Mechanical Properties	Metric @ Temperature 275 °C	English @ Temperature 527 °F	ISO 178 Comments
	19.0 MPa @Temperature 175 °C	2760 psi @Temperature 347 °F	ISO 178
	85.0 MPa @Temperature 125 °C	12300 psi @Temperature 257 °F	ISO 178
	165 MPa @Temperature 23.0 °C	23900 psi @Temperature 73.4 °F	ISO 178
	125 MPa @Strain 3.50 %, Temperature 23.0 °C	18100 psi @Strain 3.50 %, Temperature 73.4 °F	ISO 178
Flexural Modulus	3.80 GPa @Temperature 23.0 °C	551 ksi @Temperature 73.4 °F	ISO 178
Compressive Strength	70.0 MPa @Temperature 120 °C	10200 psi @Temperature 248 °F	ISO 604
	125 MPa @Temperature 23.0 °C	18100 psi @Temperature 73.4 °F	ISO 604
Izod Impact, Notched (ISO)	7.00 kJ/m <sup>2</sup> @Temperature 23.0 °C	3.33 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	ISO 180/A
Izod Impact, Unnotched (ISO)	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ISO 180/U

Thermal Properties	Metric	English	Comments
CTE, linear	55.0 µm/m-°C @Temperature <=143 °C	30.6 µin/in-°F @Temperature <=289 °F	Average below Tg; ISO 11359
	140 µm/m-°C @Temperature >=143 °C	77.8 µin/in-°F @Temperature >=289 °F	Average above Tg; ISO 11359
CTE, linear, Parallel to Flow	45.0 µm/m-°C @Temperature <=143 °C	25.0 µin/in-°F @Temperature <=289 °F	Below Tg; ISO 11359
	120 µm/m-°C @Temperature >=143 °C	66.7 µin/in-°F @Temperature >=289 °F	Above Tg; ISO 11359

Thermal Properties	Metric W/m-K	English U-in/hr-ft <sup>2</sup> -°F	Comments ISO 22007-4
	0.290 W/m-K	2.01 BTU-in/hr-ft <sup>2</sup> -°F	Average; ISO/CD 22007-4
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Melting Point	343 °C	649 °F	ISO 11357
Deflection Temperature at 1.8 MPa (264 psi)	152 °C	306 °F	ISO 75-f
Glass Transition Temp, Tg	143 °C	289 °F	Onset; ISO 11357
	150 °C	302 °F	Midpoint; ISO 11357
UL RTI, Electrical	260 °C	500 °F	UL 746B
UL RTI, Mechanical with Impact	180 °C	356 °F	UL 746B
UL RTI, Mechanical without Impact	240 °C	464 °F	UL 746B
Oxygen Index	24 %	24 %	ISO 4239
	@Thickness 0.400 mm	@Thickness 0.0157 in	
	35 %	35 %	ISO 4239
	@Thickness 3.20 mm	@Thickness 0.126 in	
Glow Wire Test	960 °C	1760 °F	IEC 60695-2-12
	@Thickness 2.00 mm	@Thickness 0.0787 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+9 ohm-cm	1.00e+9 ohm-cm	IEC 60093
	@Temperature 275 °C	@Temperature 527 °F	
	1.00e+15 ohm-cm	1.00e+15 ohm-cm	IEC 60093
	@Temperature 125 °C	@Temperature 257 °F	
	1.00e+16 ohm-cm	1.00e+16 ohm-cm	IEC 60093
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Dielectric Constant	2.9	2.9	IEC 60250
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	24.0 kV/mm	610 kV/in	IEC 60243-1
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Dielectric Loss Index	0.0040	0.0040	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	150 V	150 V	IEC 60112

Processing Properties	Metric	English	Comments
Processing Temperature	<= 100 °C	<= 212 °F	Hopper Temperature
Nozzle Temperature	375 °C	707 °F	
Mold Temperature	170 - 200 °C	338 - 392 °F	
Drying Temperature	120 °C	248 °F	
	@Time 18000 sec	@Time 5.00 hour	
	150 °C	302 °F	
	@Time 10800 sec	@Time 3.00 hour	

Descriptive Properties	Value	Comments
Toxicity Index	0.074	NES 713; CO content
	0.15	NES 713; CO<sub>2</sub> content
	0.22	NES 713; Total gases

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China