

Victrex® APTIV® 1000-050 Polyetheretherketone (PEEK) Polymer Film, Semi-Crystalline

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

Material Notes:

APTIV PEEK 1000 series films are the unfilled semi-crystalline films made from VICTREX® PEEK polymer. The film provides a material solution for engineers in ultra-high performance applications. APTIV PEEK 1000 has a unique combination of properties providing high temperature performance, light weight, mechanical strength, durability, excellent radiation, hydrolysis and chemical resistance, electrical insulation, wear and abrasion resistance, excellent barrier properties with high purity, good flammability without the use of flame retardants, low toxicity of combustion products, and low moisture absorption in a film format. Inherently halogen free and ease of processing makes APTIV films a technology enabler for our customers and end users. Applications: Electrical insulation Pressure sensitive tapes Printed circuit substrates High temperature labels Washers in high speed motors Washers in mobile phone hinges Flexible surface heaters Aerospace insulation Pressure sensor membranes Acoustic speaker diaphragms and voice coils Capacitors Composites Proven temperature resistance to use of lead free solders All information provided by Victrex. Properties measured on 50 micron film

Order this product through the following link:

http://www.lookpolymers.com/polymer_Victrex-APTIV-1000-050-Polyetheretherketone-PEEK-Polymer-Film-Semi-Crystalline.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.30 g/cc	1.30 g/cc	ISO 1183
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Moisture Absorption at Equilibrium	0.040 %	0.040 %	50% RH; ISO 62
	@Temperature 23.0 °C, Time 86400 sec	@Temperature 73.4 °F, Time 24.0 hour	

Mechanical Properties	Metric	English	Comments
Film Elongation at Break, MD	>= 150 %	>= 150 %	ISO 527
	>= 150 %	>= 150 %	ISO 527
	@Thickness 0.250 mm	@Thickness 0.00984 in	
	>= 150 %	>= 150 %	ISO 527
Film Elongation at Break, TD	>= 150 %	>= 150 %	ISO 527
	@Thickness 0.125 mm	@Thickness 0.00492 in	
	>= 150 %	>= 150 %	ISO 527
	@Thickness 0.0250 mm	@Thickness 0.000984 in	
Film Elongation at Break, TD	>= 150 %	>= 150 %	ISO 527
	>= 150 %	>= 150 %	ISO 527
	@Thickness 0.250 mm	@Thickness 0.00984 in	
	>= 150 %	>= 150 %	ISO 527

Mechanical Properties	$\geq 150\%$ Metric	$\geq 150\%$ English	Comments
	@Thickness 0.125 mm	@Thickness 0.00492 in	
	$\geq 150\%$	$\geq 150\%$	
	@Thickness 0.0250 mm	@Thickness 0.000984 in	ISO 527
Tensile Modulus	2.50 GPa	363 ksi	MD; ISO 527
	2.50 GPa	363 ksi	TD; ISO 527
	2.30 GPa	334 ksi	
	@Thickness 0.250 mm	@Thickness 0.00984 in	TD; ISO 527
	2.30 GPa	334 ksi	
	@Thickness 0.250 mm	@Thickness 0.00984 in	MD; ISO 527
	2.30 GPa	334 ksi	
	@Thickness 0.125 mm	@Thickness 0.00492 in	TD; ISO 527
	2.30 GPa	334 ksi	
	@Thickness 0.125 mm	@Thickness 0.00492 in	MD
	2.60 GPa	377 ksi	
	@Thickness 0.0250 mm	@Thickness 0.000984 in	MD; ISO 527
	2.80 GPa	406 ksi	
	@Thickness 0.0250 mm	@Thickness 0.000984 in	TD; ISO 527
Tear Strength	5.96 kN/m	34.0 pli	MD; ISO 6383-1
	7.89 kN/m	45.0 pli	TD; ISO 6383-1
Film Tensile Strength at Break, MD	130 MPa	18900 psi	ISO 527
	110 MPa	16000 psi	
	@Thickness 0.250 mm	@Thickness 0.00984 in	ISO 527
	120 MPa	17400 psi	
	@Thickness 0.125 mm	@Thickness 0.00492 in	ISO 527
	140 MPa	20300 psi	
	@Thickness 0.0250 mm	@Thickness 0.000984 in	ISO 527
Film Tensile Strength at Break, TD	120 MPa	17400 psi	ISO 527
	110 MPa	16000 psi	

Mechanical Properties	Metric @ Thickness 0.250 mm	English @ Thickness 0.00984 in	ISO 527 Comments
	120 MPa	17400 psi	ISO 527
	@Thickness 0.125 mm	@Thickness 0.00492 in	
	120 MPa	17400 psi	ISO 527
	@Thickness 0.0250 mm	@Thickness 0.000984 in	

Thermal Properties	Metric	English	Comments
CTE, linear	47.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	26.1 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	MD, below Tg; ASTM D696
Thermal Conductivity	0.290 W/m-K	2.01 BTU-in/hr-ft ² -°F	Through Plane; ASTM E1461
	0.320 W/m-K	2.22 BTU-in/hr-ft ² -°F	In-Plane; ASTM E1461
Shrinkage, MD	<= 0.50 %	<= 0.50 %	TM-VX-84
	@Temperature 200 °C	@Temperature 392 °F	
Shrinkage, TD	<= 0.50 %	<= 0.50 %	TM-VX-84
	@Temperature 200 °C	@Temperature 392 °F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	4.00e+16 ohm-cm	4.00e+16 ohm-cm	100V; ASTM D257
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Dielectric Constant	3.5	3.5	
	@Frequency 1e+7 Hz, Temperature 23.0 °C	@Frequency 1e+7 Hz, Temperature 73.4 °F	
Dielectric Strength	190 kV/mm	4830 kV/in	1/4 inch electrode; ASTM D149
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	2.76 kV/mm	70.0 kV/in	1/4 inch electrode; ASTM D149
	@Thickness 0.250 mm	@Thickness 0.00984 in	
	4.72 kV/mm	120 kV/in	1/4 inch electrode; ASTM D149
	@Thickness 0.125 mm	@Thickness 0.00492 in	
	270 kV/mm	6860 kV/in	1/4 inch electrode; ASTM D149
	@Thickness 0.0250 mm	@Thickness 0.000984 in	
Dielectric Breakdown	6750 V	6750 V	1/4 inch electrode; ASTM D149
	@Thickness 0.0250	@Thickness 0.000984	

Electrical Properties	^{mm} Metric	ⁱⁿ English	Comments
	9500 V	9500 V	
	@Thickness 0.0500 mm	@Thickness 0.00197 in	1/4 inch electrode; ASTM D149
	15000 V	15000 V	
	@Thickness 0.125 mm	@Thickness 0.00492 in	1/4 inch electrode; ASTM D149
	17500 V	17500 V	
	@Thickness 0.250 mm	@Thickness 0.00984 in	1/4 inch electrode; ASTM D149
Dissipation Factor	0.0020	0.0020	ASTM D150
	@Frequency 1e+7 Hz, Temperature 23.0 °C	@Frequency 1e+7 Hz, Temperature 73.4 °F	

Descriptive Properties	Value	Comments
Puncture Strength (kJ/m ²)	26	Def Stan 81-75; 23°C

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

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