

Victrex® APTIV® 1102-050M Polyetheretherketone (PEEK) Polymer Film, Semi-Crystalline, 20% Mineral Filled

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

Material Notes:

APTIV PEEK 1100 series films are the mineral filled semi-crystalline films made from VICTREX® PEEK polymer. The film provides a material solution for engineers in ultra-high performance applications. APTIV PEEK 1100 has a unique combination of properties providing high temperature performance, mechanical strength, durability, excellent radiation, hydrolysis and chemical resistance, electrical insulation, 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. APTIV PEEK 1100 series provides a higher modulus and lower coefficient of linear thermal expansion over the APTIV 1000 series. Applications: Electrical Insulation Printed circuit substrates High temperature labels Flexible surface heaters Pressure sensor membranes Acoustic speaker diaphragms and voice coils Proven temperature resistance to use of lead free solders APTIV film is FDA and EU approved for food contact and is RoHS compliant. All information provided by Victrex. Property data reported herein was measured on 50 micron film. The films are available in thicknesses from 12 microns up to 125 microns.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Victrex-APTIV-1102-050M-Polyetheretherketone-PEEK-Polymer-Film-Semi-Crystalline-20-Mineral-Filled.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.45 g/cc	1.45 g/cc	ISO 1183
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Moisture Absorption at Equilibrium	0.080 %	0.080 %	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	>= 100 %	>= 100 %	ISO 527
	>= 100 %	>= 100 %	ISO 527
	@Thickness 0.0250 mm	@Thickness 0.000984 in	
Film Elongation at Break, TD	>= 100 %	>= 100 %	ISO 527
	>= 100 %	>= 100 %	ISO 527
	@Thickness 0.0250 mm	@Thickness 0.000984 in	
Film Elongation at Break, TD	>= 10 %	>= 10 %	ISO 527
	>= 10 %	>= 10 %	ISO 527
	@Thickness 0.100 mm	@Thickness 0.00394 in	
	>= 10 %	>= 10 %	

Mechanical Properties	Metric @ Thickness 0.100 mm	English @ Thickness 0.00394 in	ISO 527 Comments
Tensile Modulus	4.30 GPa	624 ksi	TD; ISO 527
	4.80 GPa	696 ksi	MD; ISO 527
	4.20 GPa	609 ksi	TD; ISO 527
	@Thickness 0.100 mm	@Thickness 0.00394 in	
	4.50 GPa	653 ksi	TD; ISO 527
	@Thickness 0.0250 mm	@Thickness 0.000984 in	
	4.50 GPa	653 ksi	MD; ISO 527
@Thickness 0.100 mm	@Thickness 0.00394 in		
Tear Strength	5.96 kN/m	34.0 pli	MD; ISO 6383-1
	6.84 kN/m	39.0 pli	TD; ISO 6383-1
Film Tensile Strength at Break, MD	100 MPa	14500 psi	ISO 527
	100 MPa	14500 psi	ISO 527
	@Thickness 0.0250 mm	@Thickness 0.000984 in	
Film Tensile Strength at Break, MD	100 MPa	14500 psi	ISO 527
	@Thickness 0.100 mm	@Thickness 0.00394 in	
Film Tensile Strength at Break, TD	80.0 MPa	11600 psi	ISO 527
	80.0 MPa	11600 psi	ISO 527
	@Thickness 0.0250 mm	@Thickness 0.000984 in	
Film Tensile Strength at Break, TD	80.0 MPa	11600 psi	ISO 527
	@Thickness 0.100 mm	@Thickness 0.00394 in	

Thermal Properties	Metric	English	Comments
CTE, linear	35.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	19.4 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	MD, below Tg; ASTM D696
Thermal Conductivity	0.430 W/m-K	2.98 BTU-in/hr-ft ² -°F	Through Plane; ASTM E1461
	0.910 W/m-K	6.32 BTU-in/hr-ft ² -°F	In-Plane; ASTM E1461

Thermal Properties	$\leq 0.50\%$ Metric	$\leq 0.50\%$ English	Comments
	@Temperature 200 °C	@Temperature 392 °F	
Shrinkage, TD	$\leq 0.50\%$ @Temperature 200 °C	$\leq 0.50\%$ @Temperature 392 °F	TM-XV-84

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+16 ohm-cm @Temperature 23.0 °C	1.00e+16 ohm-cm @Temperature 73.4 °F	100V; ASTM D257
Dielectric Constant	3.6 @Frequency 1e+7 Hz, Temperature 23.0 °C	3.6 @Frequency 1e+7 Hz, Temperature 73.4 °F	
Dielectric Strength	200 kV/mm @Temperature 23.0 °C	5080 kV/in @Temperature 73.4 °F	1/4 inch electrode; ASTM D149
Dissipation Factor	0.0010 @Frequency 1e+7 Hz, Temperature 23.0 °C	0.0010 @Frequency 1e+7 Hz, Temperature 73.4 °F	ASTM D150

Descriptive Properties	Value	Comments
Puncture Strength	5 kJ/m ²	MD/TD, Def Stan 81-75; 23°C

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