

Victrex® APTIV® 2000-050 Polyetheretherketone (PEEK) Polymer Film, Amorphous

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

Material Notes:

APTIV PEEK 2000 series films are the unfilled amorphous films made from VICTREX® PEEK polymer. The film provides a material solution for engineers in ultra-high performance applications. APTIV PEEK 2000 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: Aerospace insulation Electrical Insulation Acoustic speaker diaphragms Thermoforming of thin wall parts Composites 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-2000-050-Polyetheretherketone-PEEK-Polymer-Film-Amorphous.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.26 g/cc	1.26 g/cc	ISO 1183
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Moisture Absorption at Equilibrium	0.21 %	0.21 %	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	>= 200 %	>= 200 %	ISO 527
	>= 200 %	>= 200 %	ISO 527
	@Thickness 0.0250 mm	@Thickness 0.000984 in	
Film Elongation at Break, TD	>= 200 %	>= 200 %	ISO 527
	>= 200 %	>= 200 %	ISO 527
	@Thickness 0.100 mm	@Thickness 0.00394 in	
Tensile Modulus	>= 200 %	>= 200 %	ISO 527
	>= 200 %	>= 200 %	
	@Thickness 0.100 mm	@Thickness 0.00394 in	
Tensile Modulus	1.80 GPa	261 ksi	MD; ISO 527

Mechanical Properties	1.80 GPa Metric	261 ksi English	TD; ISO 527 Comments
	1.60 GPa @Thickness 0.100 mm	232 ksi @Thickness 0.00394 in	MD; ISO 527
	1.60 GPa @Thickness 0.100 mm	232 ksi @Thickness 0.00394 in	TD; ISO 527
	1.80 GPa @Thickness 0.0250 mm	261 ksi @Thickness 0.000984 in	MD; ISO 527
	1.80 GPa @Thickness 0.0250 mm	261 ksi @Thickness 0.000984 in	TD; ISO 527
Tear Strength	5.96 kN/m	34.0 pli	MD; ISO 6383-1
	5.96 kN/m	34.0 pli	TD; ISO 6383-1
Film Tensile Strength at Break, MD	120 MPa	17400 psi	ISO 527
	120 MPa @Thickness 0.0250 mm	17400 psi @Thickness 0.000984 in	ISO 527
	130 MPa @Thickness 0.0250 mm	18900 psi @Thickness 0.000984 in	ISO 527
Film Tensile Strength at Break, TD	120 MPa	17400 psi	ISO 527
	120 MPa @Thickness 0.100 mm	17400 psi @Thickness 0.00394 in	ISO 527
	130 MPa @Thickness 0.100 mm	18900 psi @Thickness 0.00394 in	ISO 527

Thermal Properties	Metric	English	Comments
CTE, linear	60.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	33.3 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	MD, below Tg; ASTM D696
Shrinkage, MD	$\leq 10\%$ @Temperature 200 $^{\circ}\text{C}$	$\leq 10\%$ @Temperature 392 $^{\circ}\text{F}$	TM-VX-84
Shrinkage, TD	$\leq 5.0\%$ @Temperature 200 $^{\circ}\text{C}$	$\leq 5.0\%$ @Temperature 392 $^{\circ}\text{F}$	TM-VX-84

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.00e+16 ohm-cm	2.00e+16 ohm-cm	100V; ASTM D257
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Dielectric Constant	3.3	3.3	
	@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	
	120 kV/mm	3050 kV/in	ASTM D149
	@Thickness 0.100 mm	@Thickness 0.00394 in	
	270 kV/mm	6860 kV/in	ASTM D149
	@Thickness 0.0250 mm	@Thickness 0.000984 in	
Dielectric Breakdown	6750 V	6750 V	ASTM D149
	@Thickness 0.0250 mm	@Thickness 0.000984 in	
	9500 V	9500 V	ASTM D149
	@Thickness 0.0500 mm	@Thickness 0.00197 in	
	15000 V	15000 V	ASTM D149
	@Thickness 0.100 mm	@Thickness 0.00394 in	
Dissipation Factor	0.0030	0.0030	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)	40	Def Stan 81-75; 23°C

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