APTIV® 2000

Polyetheretherketone

Victrex plc

Message:

APTIV® 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 films are a comprehensive range of versatile, high-performance films, the use of which can facilitate reduced systems costs, improved performance and enhanced design freedom.
APTIV 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.
Please note - APTIV 2000 will crystallize if taken above the Tg (143°C, 289°F) in either secondary processes or end use application. The crystallization is not reversible back to the amorphous phase without re-melting the material. Consideration of the temperature range during processing and end use application needs to be included if selecting APTIV 2000.

General Information	
UL YellowCard	E161131-100057816
Features	Amorphous
	Barrier Resin
	Clean/High Purity
	Durable
	Electrically Insulating
	Excellent Printability
	Flame Retardant
	Good Abrasion Resistance
	Good Chemical Resistance
	Good Processability
	Good Toughness
	Good Wear Resistance
	Halogen Free
	Heat Sealable
	High Heat Resistance
	High Strength
	Hydrolysis Resistant
	Low Moisture Absorption
	Low Smoke Emission
	Low Toxicity
	Metallizable
	Radiation (Gamma) Resistant
	Recyclable Material
	Weldable

Uses	Aerospace Applications Compounding Diaphragms Electrical Parts Film Insulation Laminates Printed Circuit Boards
Agency Ratings	EU 2002/72/EC EU 2004/19/EC FDA 21 CFR 177.2415
RoHS Compliance	RoHS Compliant
Forms	Film
Processing Method	Coating Laminating Thermoforming

Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.26	g/cm³	ISO 1183
Water Absorption [1] (Equilibrium, 23°C, 0.0500 mm, 50% RH)	0.21	%	ISO 62
Shrinkage [2]			
MD : 200°C, 50.0 µm	< 10	%	
TD : 200°C, 50.0 µm	< 5.0	%	
Dielectric Breakdown			ASTM D149
23°C, 25.0 µm	6750	V	
23°C, 50.0 µm	9500	V	
23°C, 125.0 µm	15000	V	
Puncture Resistance (23°C, 50.0 µm)	40.0	kJ/m²	Internal Method
Films	**Nominal Value**	**Unit**	**Test Method**
Film Thickness - Recommended / Available	6 to 300 µm		
Tensile Modulus			ISO 527-3
MD : 23°C, 25 µm	1800	MPa	
TD : 23°C, 25 µm	1800	MPa	
MD : 23°C, 50 µm	1800	MPa	
TD : 23°C, 50 µm	1800	MPa	
MD : 23°C, 100 µm	1600	MPa	
TD : 23°C, 100 µm	1600	MPa	
Tensile Stress			ISO 527-3
MD : Break, 23°C, 25 µm	130	MPa	

TD : Break, 23°C, 25 µm	130	MPa	
MD : Break, 23°C, 50 µm	120	MPa	
TD : Break, 23°C, 50 µm	120	MPa	
MD : Break, 23°C, 100 µm	120	MPa	
TD : Break, 23°C, 100 µm	120	MPa	
Tensile Elongation			ISO 527-3
MD : Break, 23°C, 25 µm	> 200	%	
TD : Break, 23°C, 25 µm	> 200	%	
MD : Break, 23°C, 50 µm	> 200	%	
TD : Break, 23°C, 50 µm	> 200	%	
MD : Break, 23°C, 100 µm	> 200	%	
TD : Break, 23°C, 100 µm	> 200	%	
Trouser Tear Resistance [3]			ISO 6383-1
MD : 50 µm	6.00	N/mm	
TD : 50 µm	6.00	N/mm	
Thermal	**Nominal Value**	**Unit**	**Test Method**
Peak Crystallization Temperature (DSC)	143	°C	
CLTE - Flow [4] (0.0500 mm)	6.0E-5	cm/cm/°C	ASTM D696
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity [5] (23°C, 0.0500 mm)	2.0E+16	ohms·cm	ASTM D257
Dielectric Strength			ASTM D149
23°C, 0.0250 mm	270	kV/mm	
23°C, 0.0500 mm [6]	190	kV/mm	
23°C, 0.100 mm	120	kV/mm	
Dielectric Constant (23°C, 0.0500 mm, 10 MHz)	3.30		ASTM D150
Dissipation Factor (23°C, 0.0500 mm, 10 MHz)	3.0E-3		ASTM D150
NOTE			
1.	24 hrs		
2.	TM-VX-84		
3.	23°C		
4.	below Tg		
5.	100 V		
6.	6.35 mm electrode		

Recommended distributors for this material

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