

APTIV® 1000

Polyetheretherketone

Victrex plc

Message:

APTIV® 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 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 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.

General Information	
UL YellowCard	E161131-100054955
Features	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
Uses	Radiation (Gamma) Resistant
	Recyclable Material
	Semi Crystalline
	Weldable
	Aerospace Applications
	Compounding

Diaphragms
Electrical/Electronic Applications
Film
Insulation
Labels
Laminates
Membranes
Printed Circuit Boards
Tape
Washer

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)	1.30	g/cm ³	ISO 1183
Water Absorption ¹ (Equilibrium, 23°C, 0.0500 mm, 50% RH)	0.040	%	ISO 62
Shrinkage (200°C, 50.0 µm) ²	< 2.0	%	
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	
23°C, 250.0 µm	17500	V	
Puncture Resistance (23°C, 50.0 µm)	26.0	kJ/m ²	Internal Method
Films	Nominal Value	Unit	Test Method
Film Thickness - Recommended / Available	8 to 750 µm		
Tensile Modulus			ISO 527-3
23°C, 25 µm	3000	MPa	
23°C, 50 µm	2800	MPa	
23°C, 130 µm	2400	MPa	
23°C, 250 µm	2200	MPa	
Tensile Stress			ISO 527-3
Break, 23°C, 25 µm	130	MPa	
Break, 23°C, 50 µm	120	MPa	

Break, 23°C, 130 μm	110	MPa	
Break, 23°C, 250 μm	100	MPa	
Tensile Elongation			ISO 527-3
Break, 23°C, 25 μm	> 150	%	
Break, 23°C, 50 μm	> 150	%	
Break, 23°C, 130 μm	> 150	%	
Break, 23°C, 250 μm	> 150	%	
Trouser Tear Resistance ³ (50 μm)	6.70	N/mm	ISO 6383-1
Thermal	Nominal Value	Unit	Test Method
CLTE - Flow ⁴ (0.0500 mm)	4.7E-5	cm/cm/°C	ASTM D696
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity ⁵ (23°C, 0.0500 mm)	4.0E+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, 0.125 mm	120	kV/mm	
23°C, 0.250 mm	70	kV/mm	
Dielectric Constant (23°C, 0.0500 mm, 10 MHz)	3.50		ASTM D150
Dissipation Factor (23°C, 0.0500 mm, 10 MHz)	2.0E-3		ASTM D150
NOTE			
1.	24 hrs		
2.	TM-VX-84		
3.	23°C		
4.	below Tg		
5.	100 V		
6.	0.25 inch electrode		

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China



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