APTIV® 1103

Polyetheretherketone

Victrex plc

Message:

APTIV® 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 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 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 1100 series provides a higher modulus and lower coefficient of linear thermal expansion over the APTIV 1000 series.

General Information	
Filler / Reinforcement	Mineral,30% Filler by Weight
Features	Barrier Resin
	Clean/High Purity
	Durable
	Electrically Insulating
	Excellent Printability
	Flame Retardant
	Good Adhesion
	Good Chemical Resistance
	Good Processability
	Good Toughness
	Halogen Free
	Heat Sealable
	High Heat Resistance
	High Strength
	Hydrolysis Resistant
	Laser Markable
	Low Moisture Absorption
	Low Smoke Emission
	Low Toxicity
	Machinable
	Metallizable
	Radiation (Gamma) Resistant
	Recyclable Material
	Semi Crystalline
	Weldable
Uses	Diaphragms

	Electrical/Electronic Applications
	Film
	Insulation
	Labels
	Laminates
	Membranes
	Printed Circuit Boards
Agency Ratings	EU 2002/72/EC
	EU 2004/19/EC
	FDA 21 CFR 177.2415
RoHS Compliance	RoHS Compliant
Appearance	Matte Finish
Forms	Film
Processing Method	Coating
	Laminating
	Thermoforming

Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.54	g/cm³	ISO 1183
Water Absorption [1] (Equilibrium, 23°C, 0.0500 mm, 50% RH)	0.090	%	ISO 62
Shrinkage [2]			
MD : 200°C, 50.0 µm	< 0.50	%	
TD : 200°C, 50.0 µm	< 0.50	%	
Puncture Resistance (23°C, 50.0 µm)	4.00	kJ/m²	Internal Method
Films	**Nominal Value**	**Unit**	**Test Method**
Film Thickness - Recommended / Available	25 to 125 µm		
Tensile Modulus			ISO 527-3
MD : 23°C, 25 µm	5500	MPa	
TD : 23°C, 25 µm	4500	MPa	
MD : 23°C, 50 µm	5500	MPa	
TD : 23°C, 50 µm	4500	MPa	
MD : 23°C, 100 µm	5000	MPa	
TD : 23°C, 100 µm	4500	MPa	
Tensile Stress			ISO 527-3
MD : Break, 23°C, 25 µm	70.0	MPa	
TD : Break, 23°C, 25 µm	70.0	MPa	
MD : Break, 23°C, 50 µm	90.0	MPa	
TD : Break, 23°C, 50 µm	90.0	MPa	
MD : Break, 23°C, 100 µm	90.0	MPa	

TD : Break, 23°C, 100 µm	90.0	MPa	
Tensile Elongation			ISO 527-3
MD : Break, 23°C, 25 µm	> 10	%	
TD : Break, 23°C, 25 µm	< 10	%	
MD : Break, 23°C, 50 µm	> 10	%	
TD : Break, 23°C, 50 µm	< 10	%	
MD : Break, 23°C, 100 µm	> 5.0	%	
TD : Break, 23°C, 100 µm	< 10	%	
Trouser Tear Resistance [3]			ISO 6383-1
MD : 50 µm	5.00	N/mm	
TD : 50 µm	6.00	N/mm	
Thermal	**Nominal Value**	**Unit**	**Test Method**
CLTE - Flow [4] (0.0500 mm)	1.8E-5	cm/cm/°C	ASTM D696
Thermal Conductivity			ASTM E1461
-- [5]	0.61	W/m/K	
-- [6]	1.3	W/m/K	
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity [7] (23°C, 0.0500 mm)	1.0E+16	ohms·cm	ASTM D257
Dielectric Strength (23°C, 0.0500 mm)	200	kV/mm	ASTM D149
Dielectric Constant (23°C, 0.0500 mm, 10 MHz)	3.50		ASTM D150
Dissipation Factor (23°C, 0.0500 mm, 10 MHz)	1.0E-3		ASTM D150
NOTE			
1.	24 hrs, 23°C		
2.	TM-VX-84		
3.	23°C		
4.	below Tg		
5.	Through Plane		
6.	In-Plane		
7.	100 V		

Recommended distributors for this material

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