

SABIC Innovative Plastics Lexan® FR83 Polycarbonate Film, Flame Retardant

Category : Polymer , Film , Thermoplastic , Polycarbonate (PC) , Polycarbonate, Unreinforced, Flame Retardant

Material Notes:

Lexan® FR83 flame-retardant film is a matt/polished, thin-gauge polycarbonate film with a UL94 VTM-0 listing to meet the stringent requirements in a wide range of electrical, electronic and transportation applications. Lexan FR83 film offers ease of thermoforming, hydroforming, embossing, die-cutting, folding, and bending and is very suitable for applications such as printed circuit board insulation, backlit aircraft in-flight panels and displays, business equipment insulation, computer rack partitions, TV and monitor insulation, PC Board insulation, and can be foil laminated for insulation and shielding. Information provided by SABIC Innovative Plastics

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-FR83-Polycarbonate-Film-Flame-Retardant.php

Physical Properties	Metric	English	Comments
Density	1.34 g/cc	0.0484 lb/in³	ASTM D792
Water Absorption	0.28 %	0.28 %	24 hrs; ASTM D570
Surface Tension	38 - 40 dynes/cm	38 - 40 dynes/cm	2nd surface; units: Dyne; Dyne Pens
	>= 44 dynes/cm	>= 44 dynes/cm	1st surface; units: Dyne; Dyne Pens

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	60.0 MPa	8700 psi	ASTM D882
Tensile Strength, Yield	68.9 MPa	9990 psi	ASTM D882
Elongation at Break	100 - 160 %	100 - 160 %	ASTM D882
Tensile Modulus	2.20 GPa	319 ksi	ASTM D882
Gardner Impact	28.5 J @Thickness 0.762 mm	21.0 ft-lb @Thickness 0.0300 in	ASTM D3029
Impact Test	12.2 J	9.00 ft-lb	Puncture Resistance, Dynatup; ASTM D3763
Tear Strength	11.6 - 21.2 kN/m	66.2 - 121 pli	propagation; ASTM D1922
	245 - 316 kN/m	1400 - 1800 pli	initiation; ASTM D1004

Thermal Properties	Metric	English	Comments
CTE, linear	57.6 µm/m-°C	32.0 µin/in-°F	ASTM E831
Specific Heat Capacity	1.26 J/g-°C @Temperature 4.00 °C	0.301 BTU/lb-°F @Temperature 39.2 °F	ASTM E1269

Thermal Properties	0.200 W/m-K Metric	1.39 BTU-in/hr-ft ² -°F English	ASTM D5470 Comments
Deflection Temperature at 1.8 MPa (264 psi)	143.3 °C	289.9 °F	TMA
Vicat Softening Point	175 °C	347 °F	ASTM 1525-00 modified
Brittleness Temperature	-135 °C	-211 °F	ASTM D746
Glass Transition Temp, Tg	153 °C	307 °F	ASTM D3417/D3418
Flammability, UL94	V-0 @Thickness 0.0500 - 0.250 mm	V-0 @Thickness 0.00197 - 0.00984 in	VTM
Shrinkage	0.020 % @Temperature 150 °C	0.020 % @Temperature 302 °F	ASTM D1204

Optical Properties	Metric	English	Comments
Refractive Index	1.60 @Temperature 25.0 °C	1.60 @Temperature 77.0 °F	ASTM D542A
Haze	88 %	88 %	ASTM D1003
Gloss	10 %	10 %	over Flat Black min/max @ 60°; ASTM D523-60
Yellow Index	1.1 %	1.1 %	ASTM D1925
Transmission, Visible	88 %	88 %	ASTM D1003

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+17 ohm-cm	1.00e+17 ohm-cm	ASTM D257
Surface Resistivity per Square	1.00e+16 ohm	1.00e+16 ohm	ASTM D257
Dielectric Constant	2.8 @Frequency 1.00e+6 Hz	2.8 @Frequency 1.00e+6 Hz	ASTM D150
	2.9 @Frequency 60.0 Hz	2.9 @Frequency 60.0 Hz	ASTM D150
Dielectric Strength	59.0 kV/mm @Temperature 23.0 °C	1500 kV/in @Temperature 73.4 °F	in oil, short time. 0.25mm; ASTM D149-97a Method A
Dissipation Factor	0.0026 @Frequency 60.0 Hz	0.0026 @Frequency 60.0 Hz	ASTM D150

Electrical Properties	0.0117 Metric	0.0117 English	Comments ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Arc Resistance	64 sec	64 sec	Tungsten; ASTM D495

Descriptive Properties	Value	Comments
Nominal Gauge Variation (%)	10	0.050 - 0.175mm
Surface Energy	34	1st surface; ASTM D5946-01
	36	2nd surface; ASTM D5946-01

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