

SABIC Innovative Plastics Lexan® FR700 Polycarbonate Film, Flame Retardant

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

Material Notes:

Lexan FR700 is a black, one side fine matt, one side velvet flame-retardant polycarbonate film with a UL94 V-0 listing at 0.250 mm. This film has formability, excellent mechanical properties, good dimensional stability at high temperatures and a high flammability rating, making it good for applications such as power supply insulation, disc drive insulation, bus-bar insulation, TV/monitor insulation, PC board insulation, business equipment insulation and has insulation and EMI/RFI shielding when laminated with metal foil. Information provided by SABIC Innovative Plastics

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-FR700-Polycarbonate-Film-Flame-Retardant.php

Physical Properties	Metric	English	Comments
Density	1.34 g/cc	0.0484 lb/in ³	ASTM D792
Water Absorption	0.28 %	0.28 %	24 hrs; ASTM D570
Surface Tension	36 - 38 dynes/cm	36 - 38 dynes/cm	1st surface; units: Dyne; Dyne Pens
	36 - 38 dynes/cm	36 - 38 dynes/cm	2nd surface; units: Dyne; Dyne Pens

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	75.8 MPa	11000 psi	ASTM D882
Tensile Strength, Yield	74.5 MPa	10800 psi	ASTM D882
Elongation at Break	100 - 160 %	100 - 160 %	ASTM D882
Tensile Modulus	2.19 GPa	318 ksi	ASTM D882
Gardner Impact	14.9 J	11.0 ft-lb	ASTM D3029
	@Thickness 0.762 mm	@Thickness 0.0300 in	
Impact Test	12.2 J	9.00 ft-lb	Puncture Resistance, Dynatup; ASTM D3763
Tear Strength	7.27 kN/m	41.5 pli	propogation; ASTM D1922
	251 kN/m	1430 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	0.301 BTU/lb-°F	ASTM E1269
	@Temperature 4.00 °C	@Temperature 39.2 °F	

Thermal Properties	Metric	English	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	V-0	
	@Thickness 0.250 - 0.375 mm	@Thickness 0.00984 - 0.0148 in	
	V-0	V-0	
	@Thickness >=0.375 mm	@Thickness >=0.0148 in	
Shrinkage	0.020 %	0.020 %	ASTM D1204
	@Temperature 150 °C	@Temperature 302 °F	

Optical Properties	Metric	English	Comments
Gloss	10.5 %	10.5 %	over Flat Black min/max @ 60°; ASTM D523-60

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	2.8	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	2.9	2.9	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
Dielectric Strength	59.0 kV/mm	1500 kV/in	in oil, short time. 0.25mm; ASTM D149-97a Method A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Dissipation Factor	0.0026	0.0026	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
	0.0117	0.0117	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Arc Resistance	64 sec	64 sec	Tungsten; ASTM D495

Electrical Properties	Metric	English	Comments
Descriptive Properties	Value	Comments	
Fold Endurance (folds)	12	MIT; ASTM D2176-69; double, 0.50mm	
	27	MIT; ASTM D2176-69; double, 0.25mm	
Nominal Gauge Variation (%)	10	0.250 - 0.350mm	
	5	0.375 - 0.750mm	
Surface Energy	35	1st surface; ASTM D5946-01	
	35	2nd surface; ASTM D5946-01	

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