

Lexan[®] 8B35FV Film

Product Datasheet

DESCRIPTION

Lexan[®] 8B35FV Film is a one side velvet, one side fine-matte transparent polycarbonate film for applications which require UL94 flammability performance. It is specifically designed to help eliminate pinholes in demanding backlit applications.

The velvet/fine-matte film offers excellent clarity, heat resistance and dimensional stability with a smooth surface. It is provided with improved gauge control and reduced texture variations.

Typical Property Values¹

Property	ASTM Test Method	Units (USCS)	Value	ISO Test Method	Units (SI)	Value
Mechanical						
Tensile Strength						
@ Yield	ASTM D882	psi	8500	ISO 527	MPa	62
Ultimate	ASTM D882	psi	9000	ISO 527	MPa	65
Tensile Modulus	ASTM D882	psi	300000	ISO 527	MPa	2506
Tensile Elongation at Break	ASTM D882	%	100-160	ISO 527	%	100-154
Gardner Impact Strength at 0.03 in. (0.75 mm)	ASTM D3029	ft-lb	23	ISO 6603-1	J	31
Tear Strength						
Initiation	ASTM D1004	lb/mil	1.4-1.8		kN/m	245
Propagation	ASTM D1922	g/mil	30-55		kN/m	10-20
Puncture Resistance (Dynatup)	ASTM D3763	ft-lb	9		J	12
Fold Endurance (MIT)						
0.010 inch (0.25 mm)	ASTM D2176-69	double folds	130			
0.020 inch (0.50 mm)	ASTM D2176-69	double folds	35			
Thermal						
Coefficient of Thermal Conductivity	ASTM D5470	Btu/hr/ft ² /°F/in	1.35		W/m ² K	0.2
Coefficient of Thermal Expansion	ASTM E831	(x 10 ⁻⁵ /°F)	3.2	ISO 11359	(x 10 ⁻⁵ /°C)	5.8
Specific Heat @ 40 °F (4 °C)	ASTM E1269	Btu/lb/°F	0.3		KJ/Kg-°C	1.25
Glass Transition Temperature	ASTM D3417/D3418	°F	307	ISO 11357	°C	153
Vicat Softening Temperature, B	ASTM 1525-00 Modified	°F	323		°C	160
Heat Deflection Temp. by TMA at 1.8 MPa		°F	290	ISO 75 Modified	°C	145
Shrinkage at 302 °F (150 °C)	ASTM D1204	%	1.40%		%	1.40%
Brittleness Temperature	ASTM D746	°F	-211		°C	-135

UL Flammability Rating / Performance Levels

Thickness	Rating
> 0.007" (0.175 mm) and < 0.015" (0.375 mm)	UL94V-2
0.015" (0.375 mm) and greater	UL94V-2
File Number	E61257

Manufacturing Specifications

Nominal Gauge Ranges	Min./Max Limit of Nominal
0.007" (0.175 mm)	± 10%
0.010-0.015" (0.250-0.375 mm)	± 5%
0.020-0.030" (0.500-0.750 mm)	± 3%

1 These are typical properties and are not intended for specification purposes. If minimum certifiable properties are required, please contact your local GE Advanced Materials, Specialty Film & Sheet representative or the GE Advanced Materials, Specialty Film & Sheet Quality Services Department. Reported values are based on 0.010" (0.250 mm) thickness unless otherwise noted.

* Lexan is a trademark of General Electric Company.



GE Advanced Materials Specialty Film & Sheet

Property	ASTM Test Method	Units	Value	ISO Test Method	Units	Value
Physical						
Density	ASTM D792	slug/ft ³	2.3	ISO 1183	kg/m ³	1200
Water Absorption, 24 hrs.	ASTM D570	% change	0.35	ISO 62	% change	0.35
Surface Roughness (RMS)	ASME B46-1	-	see chart			
Surface Energy (1st surface / 2nd surface)	ASTM D5946-01	-	38/34			
Surface Tension (1st surface / 2nd surface)	Dyne Pens	Dyne	>44 / 38-40			
Optical						
Refractive Index @ 77 °F (25 °C)	ASTM D542A	-	1.6			
Light Transmission	ASTM D1003	%	88			
Yellowness Index	ASTM D1925	%	1.2			
Haze	ASTM D1003	%	92			
Gloss over Flat Black min/max @ 60°	ASTM D523-60	-	see chart	ISO 2813	-	see chart

Gloss by Gauge: (ASTMD 523-60)

	Gauge	Angle	Velvet			
	0.007" (0.175 mm)	60°	Minimum	2	Maximum	4
8B35FV	0.010-0.020" (0.250-0.500 mm)	60°	Minimum	2.5	Maximum	5.5
			0.025-0.030" (0.625-0.750 mm)	60°	Minimum	5.5

Gloss by Gauge: (ASTMD 523-60)

	Gauge	Angle	Matte			
	0.007-0.010" (0.175-0.250 mm)	60°	Minimum	10	Maximum	40
8B35FV	0.015-0.020" (0.375-0.500 mm)	60°	Minimum	35	Maximum	70
			0.025-0.030" (0.625-0.750 mm)	60°	Minimum	45

RMS by Gauge

	Gauge	Matte			
	0.007-0.020" (0.175-0.500 mm)	Minimum	10	Maximum	40
8B35FV	0.025-0.030" (0.125-0.500 mm)	Minimum	15	Maximum	30

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