

# LEXAN<sup>\*</sup> 8B35V Film

## Product Datasheet

### DESCRIPTION

LEXAN<sup>\*</sup> 8B35V is a one side velvet, one side matte transparent polycarbonate film for applications which require UL94 flammability performance. It offers high temperature resistance, excellent dimensional stability, as well as good printability without pre-treatment making it very suitable for multi-layer printing for applications such as overlays, floor graphics, high-performance labels and in-mould decoration. It can be screen printed using traditional solvent based or water based inks, as well as UV or infrared drying inks and offers ease of processing for thermoforming, embossing, die-cutting, hydro-forming and bending. The velvet texture offers mar resistance, and can be used over light-emitting devices (LEDs). Recent technology improvements now in effect reduce texture and color variation by 50% and allow improved gauge control (see below).

### Typical Property Values<sup>1</sup>

Property	ASTM Test Method	Units (USCS)	Value	ISO Test Method	Units (SI)	Value
<b>Mechanical</b>						
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	%	100-156	ISO 527	%	100-154
Gardner Impact Strenght 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
Propogation	ASTM D1922	g/mil	30-55		g/mil	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	60			
0.020 inch (0.50 mm)	ASTM D2176-69	double folds	20			
<b>Thermal</b>						
Coefficient of Thermal Conductivity	ASTM D5470	Btu/hr/ft <sup>2</sup> /°F/in	1.35		W/m <sup>2</sup> K	0.2
Coefficient of Thermal Expansion	ASTM E831	(x 10 <sup>-5</sup> /°F)	3.2	ISO 11359	(x 10 <sup>-5</sup> /°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	350	ISO 75 Modified	°C	175
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
> 0.003" (0.075 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
0.003" (0.075 mm)	± 10%
0.005-0.007" (0.125-0.175 mm)	± 8%
0.010-0.015" (0.250-0.375 mm)	± 5%
0.020" (0.500 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
<b>Physical</b>						
Density	ASTM D792	slug/ft <sup>3</sup>	75	ISO 1183	kg/m <sup>3</sup>	1200
Water Absorption, 24 hrs.	ASTM D570	% change	0.35	ISO 62	% change	0.35
Surface Roughness (RMS)	ASTM D5946-01	-	see chart			
Surface Energy (1st surface / 2nd surface)	Dyne Pens	Dyne	37/31			
Surface Tension (1st surface / 2nd surface)	ASTM D3363	-	>44 / 38-40			
Taber Abrasion	ASTM D1044	delta Haze	<1			
<b>Optical</b>						
Refractive Index @ 77 °F (25 °C)	ASTM D542A	-	1.6			
Light Transmission	ASTM D1003	%	80			
Yellowness Index	ASTM D1925	%	2.2			
Haze	ASTM D1003	%	102			
Gloss over Flat Black min/max @ 60°	ASTM D523-60	-	see chart	ISO 2813	-	see chart
UV cutout	UV/Visual Spectroscopy	%	0.3			

## Gloss by Gauge: (ASTMD 523-60)

	Gauge	Angle		Velvet	Matte
<b>8B35V</b>	0.003" (0.075 mm)	60°	Minimum	3	5
			Maximum	8	15
<b>8B35V</b>	0.005-0.020" (0.125-0.500 mm)	60°	Minimum	3	5
			Maximum	4.5	15

## RMS by Gauge

	Gauge		Matte
<b>8B35V</b>	0.003" (0.075 mm)	Minimum	45
		Maximum	165
<b>8B35V</b>	0.005-0.020" (0.125-0.500 mm)	Minimum	10
		Maximum	55

Europe:  
GE Advanced Materials  
Specialty Film & Sheet  
Plasticslaan 1  
PO Box 112  
NL - 4600 AC Bergen op Zoom  
The Netherlands  
Tel. +31 (164) 292742  
Fax. +31 (164) 291986

Americas:  
GE Advanced Materials  
Specialty Film & Sheet  
One Plastics Avenue  
Pittsfield, MA 01201  
USA  
Tel. +1 (413) 448 7110  
Fax. +1 (413) 448 7506

Pacific:  
GE Advanced Materials  
Specialty Film & Sheet  
1266 Nanjing Road (W)  
16th Floor, Plaza 66  
200040 Shanghai  
China  
Tel. +86 21 6288 1088  
Fax. +86 21 6288 0818

For more information call: (800) 451-3147

Visit us online at: [www.geadvancedmaterials.com](http://www.geadvancedmaterials.com)

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