

Lexan^{*} 8A13 Film

Product Datasheet

DESCRIPTION

Lexan[®] 8A13 Film is a one side matte, one side polished transparent polycarbonate film. It offers high temperature resistance, excellent dimensional stability, as well as good printability without pre- treatment making it an excellent candidate 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 matte texture offers mar resistance, and can be used over light-emitting devices (LEDs). It's low gloss level reduces glare in automobile interiors and office environments. Recent technology improvements now in effect reduce texture variation by 50% and allow improved gauge control (see below).

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	%	100-155	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	60			
0.020 inch (0.50 mm)	ASTM D2176-69	double folds	20			
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

Manufacturing Specifications

Nominal Gauge Ranges	Min./Max Limit of Nominal
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
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	-	55			
Surface Energy (1st surface / 2nd surface)	ASTM D5946-01	-	34/32			
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	%	89			
Yellowness Index	ASTM D1925	%	0.7			
Haze	ASTM D1003	%	99			
Gloss over Flat Black min/max @ 60°	ASTM D523-60	-	10	ISO 2813	-	10

Gloss by Gauge: (ASTMD 523-85)

	Gauge	Angle	Matte
8A13	0.005" (0.125 mm)	85°	Minimum 4
			Maximum 15
0.006-0.025" (0.150-0.625 mm)	85°	Minimum 4	Maximum 10

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

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