

## Lexan\* 8A13F Film

## Product Datasheet

### Description

Lexan 8A13F is a one side matte, one side polished transparent polycarbonate film and is specifically designed to help eliminate pinholes in demanding backlit applications. The next generation of our proven polish/matte polycarbonate film, Lexan 8A13F films offer the same excellent clarity, heat resistance, and dimensional stability with an even a smoother surface. 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 Values ♦

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	%	100-157	ISO 527	%	100-154
Gardner Impact Strength at 0.03" (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		kN/m	10-20
Puncture Resistance (Dynatup)	ASTM D3763	ft-lb	9		J	12
Fold Endurance (MIT)						
0.010" (0.25 mm)	ASTM D2176-69	double folds	130			
0.020" (0.50 mm)	ASTM D2176-69	double folds	35			
<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	(x10 <sup>-5</sup> /°F)	3.2	ISO 11359	(x10 <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	290	ISO 75 Modified	°C	145
Shrinkage at 302°F (150°C)	ASTM D1204	%	1.40		%	0.014
Brittleness Temperature	ASTM D746	°F	-211		°C	-135
<b>Physical</b>						
Density	ASTM D792	slug/ft <sup>3</sup>	2.3	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)	ASME B46-1	μ	55			
Surface Energy(1 <sup>st</sup> surface/ 2 <sup>nd</sup> surface)	ASTM D5946-01	-	34/36			
Surface Tension(1 <sup>st</sup> surface/ 2 <sup>nd</sup> surface)	Dyne Pens	Dyne	>44/38-40			
<b>Optical</b>						
Refractive Index @77°F (25°C)	ASTM D542A	-	1.6			
Light Transmission	ASTM D1003	%	87			
Yellowness Index	ASTM D1925	%	1.4			
Haze	ASTM D1003	%	90			
Gloss over Flat Black min/max @ 60°	ASTM D523-60	-	14	ISO 2813	-	14

### Manufacturing Specifications

Nominal Gauge Ranges	Min./Max Limit of Nominal
0.008" (0.200 mm)	-/+ 10%
0.010-0.015" (0.250-0.375 mm)	-/+5%
0.020" (0.500 mm)	-/+3%

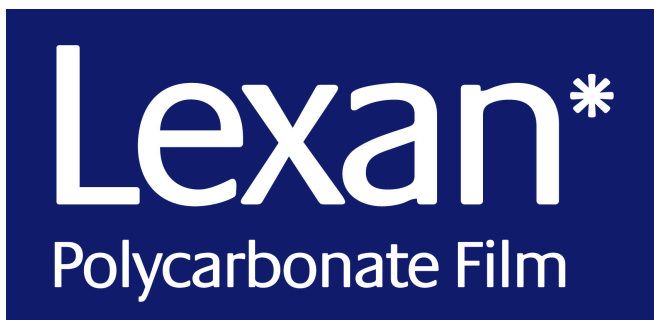
- These are typical properties and are not intended for specification purposes. If minimum certifiable properties are required, please contact your local SABIC Innovative Plastics, Specialty Film & Sheet representative or the Quality Services Department. Reported values are based on 0.250 mm (0.010")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

\* Trademark of SABIC Innovative Plastics IP BV

Lexan\*

**Gloss by Gauge: (ASTMD 523-85)**

8A13F	Gauge	Angle	Matte	
	0.008" (0.200mm)	85°	Minimum	3
Maximum			9	
0.010" (0.250mm)	85°	Minimum	5	
		Maximum	11	
0.015" (0.375mm)	85°	Minimum	6	
		Maximum	15	
0.020" (0.500mm)	85°	Minimum	9	
		Maximum	15	



\* Trademark of SABIC Innovative Plastics IP BV

Americas:  
SABIC Innovative Plastics  
Specialty Film & Sheet  
One Plastics Avenue  
Pittsfield, MA 01201  
USA  
Tel. (1) (413) 448 7110  
Fax. (1) (413) 448 5573

Europe:  
SABIC Innovative Plastics  
Specialty Film & Sheet  
Plasticslaan 1  
NL - 4612 PX Bergen op Zoom  
The Netherlands  
Tel. (31) (164) 292911  
Fax. (31) (164) 292940

Pacific:  
SABIC Innovative Plastics  
Specialty Film & Sheet  
1468 Nanjin Road (W)  
26<sup>th</sup> Floor, United Plaza  
200040 Shanghai, China  
Tel. (86) 21 3222 4500  
Fax. (86) 21 6289 8998

THE MATERIALS, PRODUCTS AND SERVICES OF SABIC INNOVATIVE PLASTICS HOLDING BV, ITS SUBSIDIARIES AND AFFILIATES ("SELLER"), ARE SOLD SUBJECT TO SELLER'S STANDARD CONDITIONS OF SALE, WHICH CAN BE FOUND AT <http://www.sabic-ip.com> AND ARE AVAILABLE UPON REQUEST. ALTHOUGH ANY INFORMATION OR RECOMMENDATION CONTAINED HEREIN IS GIVEN IN GOOD FAITH, SELLER MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (i) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING SELLER'S PRODUCTS, SERVICES OR RECOMMENDATIONS. EXCEPT AS PROVIDED IN SELLER'S STANDARD CONDITIONS OF SALE, SELLER SHALL NOT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS PRODUCTS OR SERVICES DESCRIBED HEREIN. Each user is responsible for making its own determination as to the suitability of Seller's products, services or recommendations for the user's particular use through appropriate end-use testing and analysis. Nothing in any document or oral statement shall be deemed to alter or waive any provision of Seller's Standard Conditions of Sale or this Disclaimer, unless it is specifically agreed to in a writing signed by Seller. No statement by Seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Seller or as a recommendation for the use of such product, service or design in a manner that infringes any patent or other intellectual property right.

SABIC Innovative Plastics is a trademark of Sabic Holding Europe BV

\* Trademark of SABIC Innovative Plastics IP BV