

# LEXAN™ 8B45x FILM

## PRODUCT DATASHEET

### DESCRIPTION

LEXAN™ 8B45x polycarbonate film complies with FDA/NSF regulations and meets USP-VI criteria. It offers high heat and ultra-low temperature resistance, radiation stability, clarity, thermoformability, and autoclave stability to meet sterile medical packaging requirements. Application includes packaging material that can survive low temperatures of -70°C for up to 6 months and maintain mechanical integrity. These materials are easily processed with typical forming and die-cutting equipment.

### 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	%	100-154	ISO 527	%	100-154
Gardner Impact Strength at 0.03" (0.75 mm)	ASTM D3029	ft-lb	23	ISO 6603-1	J	31
<b>Tear Strength</b>						
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
<b>Fold Endurance (MIT)</b>						
0.010" (0.25 mm)	ASTM D2176-69	double folds	60			
0.020" (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	(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	312		°C	155
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
<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	microns	See chart			
Surface Energy (1 <sup>st</sup> /2 <sup>nd</sup> surface)	Dyne Pens	Dyne	37/31			
Surface Tension (1 <sup>st</sup> /2 <sup>nd</sup> surface)	ASTM D3363	-	>44/38-40			
Pencil Hardness	ASTM D3363	-	B-HB			

PROPERTY	ASTM TEST METHOD	UNITS (USCS)	VALUE	ISO TEST METHOD	UNITS (SI)	VALUE
<b>OPTICAL</b>						
Refractive Index @77°F (25°C)	ASTM D542A	-	1.6			
Light Transmission	ASTM D1003	%	80			
Yellowness Index	ASTM D1925	%	0.35-0.70			
Haze	ASTM D1003	%	102			
Gloss over Flat Black @ 60°	ASTM D523-60	-	See Chart			

**GLOSS 60° (ASTM 523-60)**

NOMINAL GAUGE	Velvet/Matte	
0.003" (0.075 mm)	Minimum	3/5
	Maximum	8/15
0.005-0.020" (0.125-0.500 mm)	Minimum	3/5
	Maximum	4.5/15

**SURFACE ROUGHNESS (RMS)**

NOMINAL GAUGE	Matte	
0.003" (0.075 mm)	Minimum	45 microns
	Maximum	165 microns
0.005-0.020" (0.125-0.500 mm)	Minimum	10 microns
	Maximum	55 microns

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

™ Trademark of SABIC.

**STERILIZATION PERFORMANCE**

TECHNIQUE	CONDITIONS
Autoclave	265°F (129°C) Single Cycle
Gamma Radiation	5 Mrads Exposure
E-Beam Radiation	3.3 Mrads at 175 kV
Ethylene Oxide	All Common Concentrations

**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%
.010-0.015" (0.250-0.375mm)	± 5%
0.020 " (0.500 mm)	± 3%

## CONTACT US:

### Middle East and Africa

SABIC Global Headquarters  
PO Box 5101  
Riyadh 11422  
Saudi Arabia  
T +966 (0) 1 225 8000  
F +966 (0) 1 225 9000  
E [info@sabic.com](mailto:info@sabic.com)

### Americas

Functional Forms  
2500 City West  
Boulevard Suite 100  
Houston, TX 77042  
USA  
Toll-free (800) 323 3783  
F (888) 443 2033  
E [spinside.sales@sabic.com](mailto:spinside.sales@sabic.com)

### Europe

Functional Forms  
Plasticslaan 1  
4612 PX  
Bergen op Zoom  
The Netherlands  
T +31 (0)164 293678  
F +31 (0)164 293272  
E [ff.info@sabic.com](mailto:ff.info@sabic.com)

### Asia Pacific

Functional Forms  
2550 Xiupu Road  
Pudong  
201319 Shanghai  
China  
T +86 21 2037 8188  
F +86 21 2037 8288  
E [ff.info@sabic.com](mailto:ff.info@sabic.com)



---

DISCLAIMER: THE MATERIALS, PRODUCTS AND SERVICES OF SAUDI BASIC INDUSTRIES CORPORATION (SABIC) OR ITS SUBSIDIARIES OR AFFILIATES ("SELLER") ARE SOLD SUBJECT TO SELLER'S STANDARD CONDITIONS OF SALE, WHICH ARE AVAILABLE UPON REQUEST. INFORMATION AND RECOMMENDATIONS CONTAINED IN THIS DOCUMENT ARE GIVEN IN GOOD FAITH. HOWEVER, SELLER MAKES NO EXPRESS OR IMPLIED REPRESENTATION, WARRANTY OR GUARANTEE (i) THAT ANY RESULTS DESCRIBED IN THIS DOCUMENT WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN OR APPLICATION INCORPORATING SELLER'S MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS. UNLESS OTHERWISE PROVIDED IN SELLER'S STANDARD CONDITIONS OF SALE, SELLER SHALL NOT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS DESCRIBED IN THIS DOCUMENT. Each user is responsible for making its own determination as to the suitability of Seller's materials, products, services or recommendations for the user's particular use through appropriate end-use and other 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. Statements by Seller concerning a possible use of any material, product, service or design do not, are not intended to, and should not be construed to grant any license under any patent or other intellectual property right of Seller or as a recommendation for the use of any material, product, service or design in a manner that infringes any patent or other intellectual property right. SABIC and brands marked with ™ are trademarks of SABIC or its subsidiaries or affiliates, unless otherwise noted.

© 2021 Saudi Basic Industries Corporation (SABIC). All Rights Reserved.

Any brands, products or services of other companies referenced in this document are the trademarks, service marks and/or trade names of their respective holders.

---