

LEXAN™ F2000 SHEET

PRODUCT DATASHEET

DESCRIPTION

LEXAN™ F2000 sheet is a flame resistant transparent polycarbonate sheet. In addition to good flammability performance, it offers excellent impact resistance, high optical quality, good stiffness and strength and ease of processing, making it an excellent candidate for a wide variety of applications in the electrical, electronic, and transportation, building and construction industries.

TYPICAL PROPERTY VALUES

PROPERTY	TEST METHOD	UNITS	VALUE
PHYSICAL			
Density	ISO 1183	g/cm ³	1.23
Water absorption, 50% RH, 23 °C	ISO 62	%	0.15
Water absorption, saturation, 23 °C	ISO 62	%	0.35
MECHANICAL			
Yield stress 50 mm/min	ISO 527	MPa	>60
Yield strain 50 mm/min	ISO 527	%	6
Nominal strain at break 50 mm/min	ISO 527	%	>100
Tensile modulus 1 mm/min	ISO 527	MPa	2300
Flexural strength 2 mm/min	ISO 178	MPa	90
Flexural modulus 2 mm/min	ISO 178	MPa	2300
IMPACT			
Charpy impact, notched 23°C, 3.0 mm	ISO 179/1eA	kJ/m ²	12
Izod impact, unnotched 23°C, 3.0 mm	ISO 180/1U	kJ/m ²	NB
Izod impact, notched 23°C, 3.0 mm	ISO 180/1A	kJ/m ²	10
THERMAL			
Vicat softening temperature, rate B/120	ISO 306	°C	145
Temperature of deflection under load (type A), 1.8 MPa, flat	ISO 75	°C	127
Thermal conductivity	ISO 8302	W/m.°C	0.2
Coefficient of linear thermal expansion, 23-55°C	ISO 11359-2	1/°C	7x10 ⁻⁵
Ball pressure test 125 ±2°C	IEC 60695-10-2	-	Pass
ELECTRICAL			
Volume resistivity	IEC 60093	Ohm.cm	>10 ¹⁵
Dielectric strength, in oil, 3.2 mm	IEC 60243-1	kV/mm	18
OPTICAL			
Light transmission 3 mm	ASTM-D1003	%	89

PROPERTY	TEST METHOD	UNITS	VALUE
FIRE RATINGS			
Aircraft			
Vertical burn, 60 s	FAR 25.583(a)+App.F	-	Pass (2-3mm)
Smoke density	ABD0031	-	Pass, Ds(4min)<150 (2-3mm)
Smoke toxicity	ABD0031,BSS 7239	-	Pass (2-3mm)
Rail			
Europe	EN 45545	-	Pass R4, Ligthing (2-4mm)
France	NF P 92-501	-	M2 (2-8mm)
France	NF F 16-101	-	F1 (2mm), F2 (2-8mm)
Poland	PN-K-02512	-	R1 (3 mm)
Germany	DIN 5510-2	-	S4/SR2/ST2 (3-6mm)
Italy	UNI CEI 11170-3	-	Class 1A (2 & 4mm)
Electrical			
Vertical burn (50W)	UL94V	-	V0 (3-6mm)
Limited Oxygen Index	ISO 4589-2	%	34
Glow Wire Flammability Index	IEC-60695-2-12	°C	Pass 960°C (> 1 mm)

◆ These Typical values only. Variations within normal tolerances are possible for the various textures.
 ™ Trademark of SABIC.

PROCESSING

LEXAN™ F2000 sheet is ideally suited to thermoforming. It offers high, deep draw ratios, equal wall thickness distribution, and it can be formed into complex shapes using standard thermoforming equipment. Sandwich type heating systems give the best results. LEXAN F2000 sheet has a forming temperature range of 180 - 220°C. When forming, a draft angle of at least 3° should be allowed, and post mold shrinkage of 0.5 – 0.9% taken into account.

PRE-DRYING

It is important to ensure that LEXAN F2000 sheets are free of moisture prior to thermoforming. A hot air circulating oven set at 120°C is recommended. 2 hours per mm thickness.

ASSEMBLING

Parts made from LEXAN F2000 sheet can be assembled with plastics, metals, rubber and other materials using many types of adhesive bonding, welding and mechanical fastening techniques. Since some of these materials can cause environmental stress cracking, please consult SABIC for advice on specific applications.

PAINTING

For either functional or decorative reasons it may be necessary to apply finish to LEXAN F2000 sheets or vacuum formed parts. The product is ideally suited for use with a wide variety of modern decoration techniques. A list of approved paint systems and suppliers is available upon request.

CHEMICAL RESISTANCE

LEXAN F2000 sheet has sufficient resistance to most mineral oils, greases, aliphatic hydrocarbons and acids under low or moderate stress levels. In applications where the LEXAN F2000 sheet will come into contact with aggressive chemicals, specific (application related) testing is always advised. Effective painting systems can improve chemical resistance.

PRODUCT AVAILABILITY

Product code: LEXAN F2000 Sheet
Standard size: 1250 x 2050mm, 2050 x 3000mm
Gauges: 1.5 to 8.0 mm
Textures: Polished/Polished, polished/ Matt F2005
Colors: Clear 112 Bronze 5109, Opal WH6D060X
 Other colors/sizes are available by special request.

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

Email

sfs.info@sabic-ip.com

Americas

Specialty Film & Sheet
1 Plastics Avenue
Pittsfield, MA 01201
USA
Toll-free 1 800 323 3783
T 1 413 448 6655
F (888) 443 2033
E Spinside.sales@sabic-ip.com

Europe

Specialty Film & Sheet
Plasticslaan 1
4612 PX
Bergen op Zoom
The Netherlands
T +31 (0)164 293678
F +31 (0)164 293272
E sfs.info@sabic-ip.com

Asia Pacific

Specialty Film & Sheet
2550 Xiupu Road
Pudong
201319 Shanghai
China
T +86 21 2037 8188
F +86 21 2037 8288
E sfs.info@sabic-ip.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 TM are trademarks of SABIC or its subsidiaries or affiliates.
© 2014 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.

www.sabic.com/sfs

