

LEXAN™ FR60 FILM

PRODUCT DATASHEET

DESCRIPTION

LEXAN™ FR60 flame-retardant film is a clear, thin-gauge polycarbonate film with polished surfaces on both sides, and a UL94 V-0 listing to meet the stringent requirements in a wide range of electrical, electronic and transportation applications. LEXAN FR60 film offers ease of thermoforming, hydroforming, embossing, die-cutting, folding and bending and is very suitable for applications such as printed circuit board insulation, backlit aircraft in-flight panels and displays, business equipment insulation, computer rack partition and TV and monitor insulation.

TYPICAL PROPERTY VALUES

PROPERTY	ASTM TEST METHOD	UNITS (USCS)	VALUE	ISO TEST METHOD	UNITS (SI)	VALUE
MECHANICAL						
Tensile Strength @ Yield	ASTM D882	psi	10000	ISO 527	MPa	65
Ultimate	ASTM D882	psi	8700	ISO 527	MPa	70
Tensile Modulus	ASTM D882	psi	319000	ISO 527	MPa	>2200
Tensile Elongation at Break	ASTM D882	%	100-160	ISO 527	%	>100
Gardner Impact Strength at 0.03" (0.75 mm)	ASTM D3029	ft-lb	21	ISO 6603-1	J	28
Tear Strength						
Initiation	ASTM D1004	lb/mil	1.4-1.8		kN/m	298
Propagation	ASTM D1922	g/mil	30-55		kN/m	6
Puncture Resistance (Dynatup)	ASTM D3763	ft-lb	9		J	12
Fold Endurance (MIT)						
0.010" (0.25 mm)	ASTM D2176-69	double folds	45			
0.020" (0.50 mm)	ASTM D2176-69	double folds	30			
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	(x10 ⁻⁵ /°F)	3.2	ISO 11359	(x10 ⁻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	148
Vicat Softening Temperature, B	ASTM 1525-00 modified	°F	347			141
Heat Deflection Temp. by TMA at 1.8 Mpa		°F	290	ISO 75 Modified	°C	127
Shrinkage at 302°F (150°C)	ASTM D1204	%	0.09		%	0.09
Brittleness Temperature	ASTM D746	°F	-211		°C	-135
PHYSICAL						
Density	ASTM D792	slug/ft ³	2.647	ISO 1183	kg/m ³	1.344
Water Absorption, 24 hrs.	ASTM D570	% change	0.28	ISO 62	% change	0.28
Surface Energy	ASTM D5946-01	-	36			
Surface Tension	Dyne Pens	Dyne	38-40			
Pencil Hardness	ASTM D3363	-	b-hb			
Taber Abrasion	ASTM D1044	delta Haze	25			

PROPERTY	ASTM TEST METHOD	UNITS (USCS)	VALUE	ISO TEST METHOD	UNITS (SI)	VALUE
OPTICAL						
Refractive Index @77°F (25°C)	ASTM D542A	-	1.6			
Light Transmission	ASTM D1003	%	91			
Yellowness Index	ASTM D1925	%	0.9			
Haze	ASTM D1003	%	0.6			
Gloss over Flat Black min/max @ 60°	ASTM D523-60	-	171	ISO 2813	-	171
ELECTRICAL						
Dielectric Strength in oil, short time @ 72°F (23°C), 10 mils (0.25mm)	ASTM D149-97a Method A	kV/mil	1.5	IEC 60243	kV/mm	59
Dielectric Constant						
@ 60 Hz	ASTM D150	-	2.9	IEC 60250	-	2.9
@1,000,000 Hz	ASTM D150	-	2.8	IEC 60250	-	2.8
Dissipation Factor						
@ 60 Hz	ASTM D150	-	0.0026	IEC 60250	-	0.0026
@1,000,000 Hz	ASTM D150	-	0.0117	IEC 60250	-	0.0117
Volume Resistivity	ASTM D257	Ω-cm	1.00E+17	IEC 60093	Ω-cm	1.00E+17
Surface Resistivity	ASTM D257	Ω/square	1.00E+16	IEC 60093	Ω/square	1.00E+16
Arc Resistance, Tungsten						
Electrodes	ASTM D495	s	64			

◆ 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 unless otherwise noted.
 ™ Trademark of SABIC.

MANUFACTURING SPECIFICATIONS

NOMINAL GAUGE RANGES	MIN./MAX LIMIT OF NOMINAL
≤0.010" (0.250 mm)	-/+10%
0.015 - 0.030" (0.375 - 0.750mm)	-/+5%

Color Code:
 Clear – 116 (CL)

UL FILE NUMBERS: [E121562](#), [E207780](#), [E45329](#)

CONTACT US:

SABIC CORPORATE HQ
 PO Box 5101
 Riyadh 11422
 Saudi Arabia
 T +966 (0) 1 225 8000
 F +966 (0) 1 225 9000
 E info@sabic.com

AMERICAS
 SABIC
 Functional Forms
 2500 CityWest Boulevard
 Suite 100
 Houston, TX 77042
 USA
 Toll-free (800) 323 3783
 F (888) 443 2033
 E spinside.sales@sabic.com

EUROPE
 SABIC
 Functional Forms
 Plasticlaan 1
 4612 PX
 Bergen op Zoom
 The Netherlands
 T +31 (0)164 293684
 F +31 (0)164 292272
 E ff.info@sabic.com

PACIFIC
 SABIC
 Functional Forms
 2550 Xiupu Road
 Pudong
 201319 Shanghai
 China
 T +86 21 3222 4500
 F +86 21 6289 8998
 E 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 affiliates.
 © Copyright 2020 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.



LEXAN is a trademark of SABIC