

LEXAN™ EFR63 FILM

PRODUCT DATASHEET

DESCRIPTION

LEXAN™ EFR63-NC is a clear, one side fine matt, one side polished environmental friendly flame-retardant polycarbonate film with a UL94 VTM-0 listing at 0.125 mm. This film has formability, excellent mechanical properties, good dimensional stability at high temperatures and a high flammability rating, making it good for applications such as power supply insulation, disc drive insulation, bus-bar insulation, TV/monitor insulation, PC board insulation, and business equipment insulation and has insulation and EMI/RFI shielding when laminated with metal foil.

TYPICAL PROPERTY VALUES

PROPERTY	ASTM TEST METHOD	UNITS (USCS)	VALUE	ISO TEST METHOD	UNITS (SI)	VALUE
MECHANICAL						
Tensile Strength @ Yield	ASTM D882	psi	8441	ISO 527	MPa	58.2
Ultimate	ASTM D882	psi	9674	ISO 527	MPa	66.7
Tensile Modulus	ASTM D882	psi	320000	ISO 527	MPa	2205
Tensile Elongation at Break	ASTM D882	%	>100	ISO 527	%	>100
Tear Strength						
Initiation	ASTM D1004	lb/mil	1.28		kN/m	224
Propagation	ASTM D1338	g/mil	27.2		kN/m	10.5
Puncture Resistance (Dynatup)	ASTM D3763	ft-lb/in	468		J/mm	25.0
Fold Endurance (MIT)						
0.010" (0.254 mm)	ASTM D2176-97a	double folds	57 (MD) 45 (TD)			
THERMAL						
Coefficient of Thermal Conductivity @25°C	ASTM E1530	Btu-in/(hr-ft ² -°F)	1.66		W/m-K	0.24
Coefficient of Thermal Expansion	ASTM E831	(x10 ⁻⁵ /°F)	3.6	ISO 11359	(x10 ⁻⁵ /°C)	6.4
Specific Heat @ 25°C	ASTM E1269-05	Btu/(lb-°F)	0.29		KJ/Kg-°C	1.23
Glass Transition Temperature	ASTM D3418	°F	307	ISO 11357	°C	153
Vicat Softening Temperature, B @ 50N, 120°C/h	ASTM 1525	°F	303		°C	151
Heat Deflection Temp. by TMA at 1.8 Mpa	ASTM D648	°F	267	ISO 75 Modified	°C	131
Shrinkage at 302°F (150°C/0.5h)	ASTM D1204					
MD		%	2.27		%	2.27
TD		%	0.34		%	0.34
PHYSICAL						
Density	ASTM D792	slug/ft ³	2.33	ISO 1183	kg/m ³	1200
Water Absorption, 24 hrs.	ASTM D570	% change	0.14	ISO 62	% change	0.14
Surface Tension	Dyne Pens	Dyne	36			

PROPERTY	ASTM TEST METHOD	UNITS (USCS)	VALUE	ISO TEST METHOD	UNITS (SI)	VALUE
OPTICAL						
Refractive Index @ 25°C	ASTM D542-00		1.6			
Light Transmission	ASTM D1003	%	92.1			
Yellowness Index	ASTM E313	%	<1.0			
Haze	ASTM D1003	%	94.7			
Gloss over Flat Black min/max @ 60° (Matte/Polished)	ASTM D523-60	-	6.7/104	ISO 2813	-	6.7/104

ELECTRICAL						
Dielectric Strength in oil, short time @ 77°F (25°C)	ASTM D 149-97a Method A	kV/mil	1.65	IEC 60243	kV/mm	65.0
Dielectric Constant @ 60 Hz	ASTM D150	-	2.45	IEC 60250		2.45
@1,000,000 Hz		-	2.98			2.98
Dissipation Factor @ 60 Hz	ASTM D150	-	0.001	IEC 60250	-	0.001
@1,000,000 Hz		-	0.007		-	0.007
Volume Resistivity	ASTM D257	Ω-cm	>1.0E+17	IEC 60093	Ω-cm	>1.0E+17
Surface Resistivity	ASTM D257	Ω/square	>1.0E+16	IEC 60093	Ω/square	>1.0E+16
Arc Resistance, Tungsten Electrodes	ASTM D495	s	121			

- ◆ 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
0.005 - 0.007" (0.125 - 0.178mm)	± 10%
0.010 - 0.022" (0.254 - 0.550mm)	± 5%

Color Code:
Natural Color - NC

UL File Number: E207780

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](mailto:sfs.info@sabic-ip.com)
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 ™ 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

