

LEXAN™ FR765 FILM

PRODUCT DATASHEET

DESCRIPTION

LEXAN™ FR765 flame-retardant film is a black polycarbonate film with a velvet finish on one side and a matt finish on the other, and a UL94 V-0 listing at 0.25mm to meet the stringent requirements in a wide range of electrical, electronic and transportation applications. LEXAN FR765 film offers 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	10800	ISO 527	MPa	70
Ultimate	ASTM D882	psi	11000	ISO 527	MPa	60
Tensile Modulus (0.43mm)	ASTM D882	psi	317000	ISO 527	MPa	2200
Tensile Elongation at Break (0.43mm)	ASTM D882	%	100-160	ISO 527	%	100-155
Gardner Impact Strength at 0.03" (0.75 mm) Tear Strength	ASTM D3029	ft-lb	11	ISO 6603-1	J	28
Initiation	ASTM D1004	lb/mil	1.43		kN/m	298
Propagation	ASTM D1922	g/mil	18.8		kN/m	2
Puncture Resistance (Dynatup)	ASTM D3763	ft-lb	9		J	12
Fold Endurance (MIT)						
0.010" (0.25 mm)	ASTM D2176-69	double folds	27			
0.020" (0.50 mm)	ASTM D2176-69	double folds	12			
THERMAL						
Coefficient of Thermal Conductivity	ASTM D5470	Btu/hr/ft ² /°F/in	1.35		W/m°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	153
Vicat Softening Temperature, B	ASTM 1525-00 modified	°F	347		°C	175
Heat Deflection Temp. by TMA at 1.8 Mpa		°F	290	ISO 75 Modified	°C	145
Shrinkage at 302°F (150°C/0.5h)	ASTM D1204	%	0.02		%	0.02
Brittleness Temperature	ASTM D746	°F	-211		°C	-135
PHYSICAL						
Density	ASTM D792	slug/ft ³	2.6	ISO 1183	kg/m ³	1344
Water Absorption, 24 hrs.	ASTM D570	% change	0.28	ISO 62	% change	0.28
Surface Energy	ASTM D5946-01	-	35/35			
Surface Tension	Dyne Pens	Dyne	36-38/36-38			

PROPERTY	ASTM TEST METHOD	UNITS (USCS)	VALUE	ISO TEST METHOD	UNITS (SI)	VALUE
ELECTRICAL						
Dielectric Strength in oil, short time @ 72°F (23°C), 17 mils (0.43 mm)	ASTM D149-97A Method A	Kv/mil	1.5	IEC 60243	kv/mm	59
Dielectric Constant				IEC 60250	-	2.9
@ 60 Hz	ASTM D150	-	2.9			2.8
@ 1 MHz	ASTM D150	-	2.8	IEC 60250	-	0.0026
Dissipation Factor				IEC 60250	-	0.0117
@ 60 Hz	ASTM D150	-	0.0026	IEC 60093	Ω-cm	1.00E+17
@ 1 MHz	ASTM D150	-	0.0117	IEC 60093	Ω/square	1.00E+16
Volume Resistivity	ASTM D257	Ω-cm	1.00E+17			
Surface Resistivity	ASTM D257	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 film unless otherwise noted.

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UL FLAMMABILITY RATING / PERFORMANCE LEVELS

THICKNESS	RATING	HWI	HAI
> 0.010" (0.250 mm) and < 0.015" (0.375 mm)	UL94 V-0	1	0
0.015" (0.375 mm)	UL94 V-0	0	0
CTI: 3			
File number	E121562, E205960		

MANUFACTURING SPECIFICATIONS

NOMINAL GAUGE RANGES	MIN./MAX LIMIT OF NOMINAL
0.010" ~ 0.020 (0.25 mm ~ 0.50 mm)	± "5%"

CONTACT US:

Middle East and Africa

SABIC Global Headquarters
PO Box 5101
Riyadh 11422
Saudi Arabia
T +966 (0) 1 225 8000
T +966 (0) 1 225 9000
E info@sabic.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 sales.spinside@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

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