

LEXAN™ EFR535 FILM

PRODUCT PRELIMINARY DATASHEET

DESCRIPTION

LEXAN™ EFR535 Film is a one side fine matt, one side velvet Eco flame-retardant post-consumer recycled polycarbonate film with a UL94 V-0 listing at 0.38mm and VTM0 at 0.178mm. This film has formability, excellent mechanical and electrical 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 (0.43mm)	ASTM D638			ISO 527		
		psi	7884		MPa	54.4
		psi	8826		MPa	60.9
		psi	8927		MPa	61.6
		psi	8884		MPa	61.3
Ultimate	ASTM D638			ISO 527		
		psi	8464		MPa	58.4
		psi	9087		MPa	62.7
		psi	8681		MPa	59.9
		psi	8406		MPa	58.0
Tensile Modulus (0.43mm)	ASTM D638			ISO 527		
		psi	376522		MPa	2598
		psi	402029		MPa	2774
		psi	403334		MPa	2783
		psi	400435		MPa	2763
Tensile Elongation at Break (0.43mm)	ASTM D638			ISO 527		
		%	79.6		%	79.6
		%	92.5		%	92.5
		%	100.7		%	100.7
		%	123.5		%	123.5
Puncture Resistance (Dynatup)						
		ft-lb/in	371		J/mm	19.52
		ft-lb/in	352		J/mm	18.51
		ft-lb/in	340		J/mm	17.86
		ft-lb/in	355		J/mm	18.67
THERMAL						
Coefficient of Thermal Conductivity	ASTM D5470	Btu-in/(hr-ft ² -°F)	1.24		W/m-K	0.18
Coefficient of Thermal Expansion	ASTM E831	(x10 ⁻⁵ /°F)	3.7	ISO 11359-2	(x10 ⁻⁵ /°C)	6.6
Glass Transition Temperature	ASTM D3417/D3418	°F	300.2	ISO 11357	°C	149
Vicat Softening Temperature, B@ 50N, 120°C/h	ASTM 1525-00 modified	°F	303		°C	151
Heat Deflection Temp. by TMA @ 1.8Mpa		°F	267	ISO 75 Modified	°C	131
Shrinkage at 302°F (150°C/0.5h)	ASTM D1204	%			%	
TD/MD 0.25mm			-1% / 8%			-1% / 8%

PROPERTY	ASTM TEST METHOD	UNITS (USCS)	VALUE	ISO TEST METHOD	UNITS (SI)	VALUE
THERMAL						
TD/MD 0.56mm			1% / 3%			1% / 3%
TD/MD 0.9mm			-1% / 3%			-1% / 3%
PHYSICAL						
Density	ASTM D792	slug/ft ³	2.36	ISO 1183	kg/m ³	1230
Water Absorption, 24 hrs.	ASTM D570	% change	0.1	ISO 62	% change	0.1
Surface Tension (Polish surface)	Dyne Pens	Dyne	>34			
OPTICAL						
Gloss over Flat Black min/max @ 60°	ASTM D523-60	-	32/2.8	ISO 2813		32/2.8
Electrical						
Dielectric Strength in oil, short time @ 72°F (23°C) in UL lab, 17mils (0.18mm)	ASTM D149-97a Method A	kV/mil	1.77	IEC 60243	Kv/mm	67.55

◆ 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 0.43mm (0.017”) thickness film and are tested at machine direction unless otherwise noted.

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MANUFACTURING SPECIFICATIONS

NOMINAL GAUGE RANGES	MIN./MAX LIMIT OF NOMINAL
0.007 - 0.010” (0.178 - 0.25mm)	± 10%
0.017 - 0.035” (0.432 - 0.9mm)	± 5%

COLOR CODE

Black Color : 701 (BK)
 UL FILE NUMBER : E207780



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