POLYVANTIS

PRODUCT DATASHEET

LEXAN™ EFR565 FILM

DESCRIPTION

LEXAN™ EFR565 Film is a one side fine matt, one side velvet Eco flame-retardant film with 60% post-consumer recycled polycarbonate and it has 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		
0.25mm		psi	8420		MPa	58.1
0.43mm		psi	6826		MPa	47.1
0.56mm		psi	7029		MPa	48.5
0.9mm		psi	7406		MPa	51.1
Ultimate	ASTM D638			ISO 527		
0.25mm		psi	8695		MPa	60
0.43mm		psi	6420		MPa	44.3
0.56mm		psi	6420		MPa	44.3
0.9mm		psi	6478		MPa	44.7
Tensile Modulus (0.43mm)	ASTM D638			ISO 527		
0.25mm		psi	359421		MPa	2480
0.43mm		psi	290435		MPa	2004
0.56mm		psi	290435		MPa	2004
0.9mm		psi	296232		MPa	2044
Tensile Elongation at Break (0.43mm)	ASTM D638			ISO 527		
0.25mm		%	86.6		%	86.6
0.43mm		%	84		%	84
0.56mm		%	95.4		%	95.4
0.9mm		%	96.4		%	96.4
Puncture Resistance (Dynatup)						
0.25mm		ft-lb/in	360		J/mm	18.92
0.43mm		ft-lb/in	314		J/mm	16.51
0.56mm		ft-lb/in	323		J/mm	17
0.9mm		ft-lb/in	353		J/mm	18.6

PROPERTY	ASTM TEST METHOD	UNITS (USCS)	VALUE	ISO TEST METHOD	UNITS (SI)	VALUE
THERMAL						
Coefficient of Thermal Conductivity	ASTM D5470	Btu-in/(hr-	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	°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 @		°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%
TD/MD 0.56mm			1% / 3%			1% / 3%
TD/MD 0.9mm			-1% / 3%			-1% / 3%
PHYSICAL						
Density	ASTM D792	slug/ft3	2.36	ISO 1183	kg/m3	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, mils (0.17mm)	ASTM D149-97a	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 POLYVANTIS representative or the POLYVANTIS 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: E539253

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