

# LEXAN™ FR700NV FILM

## PRODUCT DATASHEET

### DESCRIPTION

Lexan™ FR700NV is a black, one side fine matte, one side velvet flame-retardant polycarbonate film with a UL94 V-0 listing at 0.430 mm. As a non-aesthetic version of FR700, this film provides good value for internal insulation components while maintaining temperature and flame performance. This film has excellent mechanical properties, good dimensional stability at high temperatures and a high flammability rating, making it good for applications such as power supply flat insulation, disc drive insulation, key board insulation, 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
<b>MECHANICAL</b>						
Tensile Strength @ Yield (0.43mm)	ASTM D882	Psi	10300	ISO 527	MPa	67
Ultimate	ASTM D882	psi	9000	ISO 527	MPa	62
Tensile Modulus (0.43mm)	ASTM D882	psi	35800	ISO 527	MPa	2485
Tensile Elongation at Break (0.43mm)	ASTM D882	%	68	ISO 527	%	68
Puncture Resistance (Dynatup)	ASTM D3763	ft-lb	8		J	10
Tear Strength – Initiation	ASTM D1004	lb/mil	1.24		kN/m	218
Tear Strength – Propagation	ASTM D1922	g/mil	40		kN/m	15.5
<b>THERMAL</b>						
Coefficient of Thermal Conductivity	ASTM D5470	Btu/hr/ft <sup>2</sup> /°F/in	1.35		W/m <sup>2</sup> K	0.2
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
Shrinkage at 302°F (150°C) Transverse Direction	ASTM D1204	%	0.03		%	0.03
Shrinkage at 302°F (150°C) Machine Direction	ASTM D1204	%	0.4		%	0.4
Heat Deflection Temp. TMA at 1.8 Mpa	ASTM D1204	°F	290	ISO 75 Modified	°C	145
<b>PHYSICAL</b>						
Density	ASTM D792	slug/ft <sup>3</sup>	2.5	ISO 1183	kg/m <sup>3</sup>	1300
Water Absorption, 24 hrs.	ASTM D570	% change	0.35	ISO 62	% change	0.35

## 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 Innovative Plastics, Specialty Film & Sheet representative or the Quality Services Department. Reported values are based on 0.430 mm (0.017") thickness film unless otherwise noted.

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UL file numbers: [E121562](#), [E207780](#), [E45329](#)

## MANUFACTURING SPECIFICATIONS

NOMINAL GAUGE RANGES	MIN./MAX LIMIT OF NOMINAL
0.017 - 0.030" (0.43 - 0.750mm)	-/+ 5%

COLORS STANDARD: Black Color – 701 (BK)

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