



**Product Data Sheet**

## **Lexan® FR 700 Film**

### **Description**

Lexan FR700 is a black one fine side matt, one side velvet flame retardant polycarbonate film with a UL94-V0 listing at 0.250 mm.

Lexan FR700 can be thermoformed, hydroformed, easily die-cut, embossed and remains in place after bending.

Its excellent mechanical properties, good dimensional stability at high temperatures and high flammability rating make FR 700 very suitable for applications such as:

- power supply insulation
- disc drive insulation
- bus bar insulation
- TV/monitor insulation
- PC board insulation
- business equipment insulation
- insulation and EMI/RFI-shielding when laminated with metal foil

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### **Configuration**

<b>Finish</b>	<b>Standard gauges (mm)</b>	<b>Color</b>
velvet/fine matt	250	black
	430	
	750	

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Property	Test Method	Unit	Value+
<b>Physical</b>			
Specific Gravity	ISO 1183	g/cm <sup>3</sup>	1.32
Water Absorption, saturation/ @23°C	ISO 62	%	0.28
<b>Mechanical</b>			
Tensile stress at yield	ISO R527	MPa	65
at break			60
Tensile Modulus	ISO R527	MPa	2100
Tensile Strain, break	ISO R527	%	25
Gardner Impact Strength	Gardner	J	6.2 (0.75 mm film)
Tear Strength			
Initiation	ASTM D1004	kN/m	298
Propagation	ASTM D1922	kN/m	6
<b>Thermal</b>			
Tensile Heat Distortion at 0.35 N/mm <sup>2</sup>	ASTM D1637	°C	150
Thermal Conductivity	DIN 52612	W/m.°C	0.19
Glass Transition	DSC	°C	156
<b>Electrical</b>			
Dielectric Strength, 23°C, in oil, 0.25 mm	IEC 243-1	Volts	17,000
Relative permittivity	IEC 250		
@ 50 Hz		-	2.9
@ 1,000 Hz		-	2.8
@ 1,000,000 Hz		-	2.8
Dissipation Factor	IEC 250		
@ 50 Hz			0.0026
@ 1,000 Hz			0.0028
@ 1,000,000 Hz			0.0117
Volume Resistivity	IEC 93	ohm.m	10 <sup>16</sup>
Surface Resistivity	IEC 93	ohm	10 <sup>15</sup>
<b>Flammability</b>			
UL Flammability*	Bulletin 94	-	V0, 0.250 mm
Oxygen Index	ISO 4589	%	33
Flash Point		°C	440
Self-Ignition Temperature		°C	605
FMVSS 302	ASTM D618	-	All Pass
NFPA 258-NBS	ASTM E662	-	D(4) = 6
Smoke Chamber Test, 0.25 mm		-	D(max) = 36

+ Typical values only

\* This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

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### Agency Summary

Lexan FR700 film has been tested under a number of agency testing protocols including UL746A and UL 746B, IEC publication 85 and CSA 22.2 Class 905230. The tables below summarize our UL and CSA listings for Lexan FR700.

### UL Listing Summary

File #E61257(R)										
Material	Colour	Thickness mm	UL-94 Flame Rating*	Elect.	Mechanical		Performance			
					With Elong. (tensile)	Without Elong.	Level Categories (PLCs)			
							H	H	V	D
							W	A	T	C
							I	I	R	I
Lexan	bk	0.25-0.35	V0	130	125	130	1	0	-	3
FR700	bk	0.375-0.74	V0	130	125	130	0	0	-	3
	bk	>= 0.750	V0	130	125	130	0	0	-	3

### CSA Listing Summary

File #LR84942										
Material Type	Minimum Thickness mm	Temp. Class	Requirements in standard							
			CSA C22.2 No.							IEC No.
			1-M1990	6-M1984	66-1988	223-1987	234	950	65	950
Lexan FR700	0.25	130°C	A	A	A	A	A	A	A	A

Note: 'A' indicates compliance with all of the requirements of the indicated agency standard.

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