



## LEXAN® FR 700–701 FILM

### Product Data Sheet

#### DESCRIPTION

**LEXAN® FR 700–701** is an opaque **black**, flame retardant polycarbonate film. With a UL 94V-0 listing at  $\geq .010$ ", this film meets stringent requirements for a wide range of electrical and electronic applications.

**UL File Number: E61257(R).**

Potential applications include:

- power supply insulation
- disc drive insulation
- bus bar insulation
- keyboard insulation
- TV/monitor insulation
- PC board insulation
- business equipment insulation
- foil laminated for insulation and shielding

#### CONFIGURATION

Finish: Velvet/fine matte

Standard Roll Width: 48"

Minimum Gauge: .010"

Standard Gauges: .010", .017"

Custom Gauges: .011" – .030"

#### TYPICAL PROPERTY VALUES\*

| Property                              | Test Method | Units                                             | FR 700 Value    |
|---------------------------------------|-------------|---------------------------------------------------|-----------------|
| <b>PHYSICAL</b>                       |             |                                                   |                 |
| Specific Gravity                      | ASTM D792   | —                                                 | 1.32            |
| Area Factor                           | Calculation | ft <sup>2</sup> /lb/mil<br>m <sup>2</sup> /lb/mil | 145.75<br>13.54 |
| Water Absorption, Equilibrium, 24 Hrs | ASTM D570   | %                                                 | 0.28            |
| <b>MECHANICAL</b>                     |             |                                                   |                 |
| Tensile Strength                      | ASTM D882   | psi                                               |                 |
| @ Yield                               |             |                                                   | 9,500           |
| Ultimate                              |             |                                                   | 8,800           |
| Tensile Modulus                       | ASTM D882   | psi                                               | 310,000         |
| Elongation                            | ASTM D882   | %                                                 | 25–50           |
| Tear Strength                         |             |                                                   |                 |
| Initiation                            | ASTM D1004  | g/mil                                             | 770–910         |
| Propagation                           | ASTM D1922  | g/mil                                             | 16–40           |
| Puncture Resistance                   | ASTM D1048  | lb/in                                             | 332             |
| <b>THERMAL</b>                        |             |                                                   |                 |
| Tensile Heat Distortion @ 50 psi      | ASTM D1637  | °C                                                | 150             |
| Heat Deflection Temperature @ 264 psi | ASTM D648   | °C                                                | 135             |
| Thermal Conductivity                  | ASTM C177   | Watt/M-°C                                         | 0.19            |
| Glass Transition                      | DSC         | °C                                                | 156             |

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(continued on reverse)

*\*These are typical properties and are not intended for specification purposes. If minimum certifiable properties are required, please contact your local GE Plastics Structured Products representative or the GE Plastics Structured Products Quality Services Department.*

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## AGENCY SUMMARY

LEXAN FR 700–701 film has been tested under a number of agency testing protocols including UL 746A and UL 746B, IEC Publication 85 and CSA C22.2 Class 9052 30. The tables to the right summarize our UL and CSA listings for LEXAN FR 700–701.

In addition to the significant breadth of CSA and UL listings that LEXAN FR 700–701 has received, GE Plastics is proud to state that our facility has been registered by The British Standards Institute to the International Organization for Standardization, ISO 9002 Standards for Quality.

**For more information  
call: (800) 451-3147 or  
(413) 448-5400.**

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## TYPICAL PROPERTY VALUES (continued)

| Property                           | Test Method    | Units  | FR 700 Value     |
|------------------------------------|----------------|--------|------------------|
| <b>ELECTRICAL</b>                  |                |        |                  |
| Dielectric Strength (@ 10 mils)    | ASTM D149      | Volts  | 17,000           |
| Dielectric Constant @ 25°C, 50% RH | ASTM D150      | —      | 2.9              |
| @ 60 Hz                            |                |        | 2.8              |
| @ 1,000 Hz                         |                |        | 2.8              |
| @ 1,000,000 Hz                     |                |        |                  |
| Dissipation Factor @ 25°C, 50% RH  | ASTM D150      | —      | 0.0026           |
| @ 60 Hz                            |                |        | 0.0028           |
| @ 1,000 Hz                         |                |        | 0.0117           |
| @ 1,000,000 Hz                     |                |        |                  |
| Volume Resistivity @ 25°C, 50% RH  | ASTM D257      | ohm-cm | 10 <sup>16</sup> |
| Surface Resistivity @ 25°C, 50% RH | ASTM D257      | Ω/□    | 10 <sup>15</sup> |
| <b>FLAMMABILITY</b>                |                |        |                  |
| UL Flammability*                   | UL Bulletin 94 | —      | V-0 ≥ .010"      |
| Oxygen Index                       | ASTM D2863     | —      | 33               |
| Flash Point                        |                | —      | 825°F(440°C)     |
| Self-Ignition Temperature          |                | —      | 1120°F(605°C)    |
| FMVSS 302                          | ASTM D618      | —      | All Pass         |
| NFPA 258–NBS                       | ASTM E662      | —      | D(4) = 6         |
| Smoke Chamber Test (10 mil)        |                | —      | D(max) = 36      |

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

## UL LISTING SUMMARY

File #E61257(R)

| Material                  | Color | Thickness |         | UL-94<br>Flame<br>Rating* | Relative Thermal Index |                |                                | Performance Level<br>Categories (PLCs) |             |                  |                  |             |
|---------------------------|-------|-----------|---------|---------------------------|------------------------|----------------|--------------------------------|----------------------------------------|-------------|------------------|------------------|-------------|
|                           |       | mils      | mm      |                           | Elect.                 | Mechanical     |                                | H<br>W<br>I                            | H<br>A<br>I | H<br>V<br>T<br>R | D<br>4<br>9<br>5 | C<br>T<br>I |
|                           |       |           |         |                           |                        | With<br>Elong. | Without<br>Elong.<br>(Tensile) |                                        |             |                  |                  |             |
| LEXAN<br>FR-700<br>(FR7+) | bk    | 10–14     | .25–.35 | V-0                       | 130                    | 125            | 130                            | 1                                      | 0           | —                | —                | 3           |
|                           | bk    | 15–29     | .38–.74 | V-0                       | 130                    | 125            | 130                            | 0                                      | 0           | —                | —                | 3           |
|                           | bk    | ≥30       | ≥.76    | V-0                       | 130                    | 125            | 130                            | 0                                      | 0           | —                | —                | 3           |

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

## CSA LISTING SUMMARY

File #LR84942

| Material Type | Minimum Thickness |        | Temp. Class | Requirements in Standard |         |         |          |     |     |         |     |
|---------------|-------------------|--------|-------------|--------------------------|---------|---------|----------|-----|-----|---------|-----|
|               |                   |        |             | CSA C22.2 No.            |         |         |          |     |     | IEC No. |     |
|               | mm                | inches |             | 1-M1990                  | 6-M1984 | 66-1988 | 223-1987 | 234 | 950 | 65      | 950 |
| LEXAN FR-700  | .25               | .010   | 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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\* Not connected with the English company of similar name.

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