

LEXAN™ FR500 FILM

PRODUCT DATASHEET

DESCRIPTION

LEXAN™ FR500 is an opaque black color flame-retardant polycarbonate film with a UL94 V-0 listing at 0.254 mm. This film has good mechanical properties, thermal properties, dimensional stability at high temperatures and a high flammability rating, making it good for various FLAT insulation applications; such as TV/monitor insulation, PC board insulation, and business equipment insulation, consumer electronics devices insulation etc.

TYPICAL PROPERTY VALUES

| PROPERTY | ASTM TEST METHOD | UNITS (USCS) | VALUE | ISO TEST METHOD | UNITS (SI) | VALUE |
|--|------------------------|----------------------------------|----------|-----------------|-------------------|----------|
| MECHANICAL | | | | | | |
| Tensile Strength (0.43mm) | | | | | | |
| @ Yield | ASTM D882 | psi | 9920 | ISO 527 | MPa | 64 |
| Ultimate | ASTM D882 | psi | 12283 | ISO 527 | MPa | 67 |
| Tensile Modulus (0.43mm) | ASTM D882 | psi | 372187 | ISO 527 | MPa | 2583 |
| Puncture Resistance (Dynatup) | ASTM D3763 | ft-lb | 9 | | J | 12 |
| THERMAL | | | | | | |
| Coefficient of Thermal Conductivity | ASTM D5470 | Btu-in/(hr-ft ² · °F) | 1.35 | | W/m · °K | 0.2 |
| Specific Heat @ 25 °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 |
| At 50N, 120 °C | | | | | | |
| Heat Deflection Temp. by TMA | | °F | 290 | ISO 75 modified | °C | 145 |
| at 1.8 MPa | | | | | | |
| PHYSICAL | | | | | | |
| Density | ASTM D792 | slug/ft ³ | 2.6 | ISO 1183 | kg/m ³ | 1344 |
| ELECTRICAL | | | | | | |
| Dielectric Strength in oil, short time | | | | | | |
| @ 72 °F (23 °C), 17mils (0.43mm) | 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 MHz | ASTM D150 | - | 2.8 | IEC 60250 | - | 2.8 |
| Dissipation Factor | | | | | | |
| @ 60 Hz | ASTM D150 | - | 0.0026 | IEC 60250 | - | 0.0026 |
| @ 1 MHz | 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 representative or the SABIC Quality Services Department. Reported Values are based on 0.432 mm (0.017") thickness natural film. Custom colored film may show different properties than those listed above.

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MANUFACTURING SPECIFICATIONS

| NOMINAL GAUGE RANGES | MIN./MAX LIMIT OF NOMINAL |
|---------------------------------|---------------------------|
| 0.010-0.030" (0.254mm-0.762 mm) | -/+5% |

Color Code:

Black Color: 701 (BK)

UL FILE NUMBERS: E207780

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