

Lexan* 8A13FV Film

Product Datasheet

Description

Lexan* 8A13FV Film is a one side matte, one side polished transparent polycarbonate film and is specifically designed for applications which require UL94 flammability performance. It's smoother surface is designed to help eliminate pinholes in demanding backlit applications. The next generation of our proven polish/matte polycarbonate film, Lexan 8A13FV Film offers the same excellent clarity, heat resistance, and dimensional stability. The matte texture offers mar resistance, and can be used over light-emitting devices (LEDs). It's low gloss level reduces glare in automobile interiors and office environments. Recent technology improvements now in effect reduce texture variation by 50% and allow improved gauge control (see below).

Typical Property Values ♦

| Property | ASTM Test Method | Units (USCS) | Value | ISO Test Method | Units (SI) | Value |
|---|-----------------------|-------------------------------|-------------|-----------------|--------------------------|---------|
| Mechanical | | | | | | |
| Tensile Strength @ Yield | ASTM D882 | psi | 8500 | ISO 527 | MPa | 62 |
| Ultimate | ASTM D882 | psi | 9000 | ISO 527 | MPa | 65 |
| Tensile Modulus | ASTM D882 | psi | 300000 | ISO 527 | MPa | 2506 |
| Tensile Elongation at Break | ASTM D882 | % | 100-157 | ISO 527 | % | 100-154 |
| Gardner Impact Strength at 0.03 in. (0.75 mm) | ASTM D3029 | ft-lb | 23 | ISO 6603-1 | J | 31 |
| Tear Strength | | | | | | |
| Initiation | ASTM D1004 | lb/mil | 1.4-1.8 | | kN/m | 245 |
| Propagation | ASTM D1922 | g/mil | 30-55 | | kN/m | 10-20 |
| Puncture Resistance (Dynatup) | ASTM D3763 | ft-lb | 9 | | J | 12 |
| Fold Endurance (MIT) | | | | | | |
| 0.010 inch (0.25 mm) | ASTM D2176-69 | double folds | 130 | | | |
| 0.020 inch (0.50 mm) | ASTM D2176-69 | double folds | 35 | | | |
| Thermal | | | | | | |
| Coefficient of Thermal Conductivity | ASTM D5470 | Btu/hr/ft ² /°F/in | 1.35 | | W/m ² K | 0.2 |
| Coefficient of Thermal Expansion | ASTM E831 | (x10 ⁻⁵ /°F) | 3.2 | ISO 11359 | (x 10 ⁻⁵ /°C) | 5.8 |
| 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 |
| Vicat Softening Temperature, B | ASTM 1525-00 Modified | °F | 323 | | °C | 160 |
| Heat Deflection Temp. by TMA at 1.8 MPa | | °F | 290 | ISO 75 Modified | °C | 145 |
| Shrinkage at 302 °F (150 °C) | ASTM D1204 | % | 1.40% | | % | 1.40% |
| Brittleness Temperature | ASTM D746 | °F | -211 | | °C | -135 |
| Physical | | | | | | |
| Density | ASTM D792 | slug/ft ³ | 2.4 | ISO 1183 | kg/m ³ | 1230 |
| Water Absorption, 24 hrs. | ASTM D570 | % change | 0.35 | ISO 62 | % change | 0.35 |
| Surface Roughness (RMS) | ASME B46-1 | - | 55 | | | |
| Surface Energy (1st surface / 2nd surface) | ASTM D5946-01 | - | 34/36 | | | |
| Surface Tension (1st surface / 2nd surface) | Dyne Pens | Dyne | >44 / 38-40 | | | |
| Optical | | | | | | |
| Refractive Index @ 77 °F (25 °C) | ASTM D542A | - | 1.6 | | | |
| Light Transmission | ASTM D1003 | % | 87 | | | |
| Yellowness Index | ASTM D1925 | % | 1.4 | | | |
| Haze | ASTM D1003 | % | 90 | | | |
| Gloss over Flat Black min/max @ 60° | ASTM D523-60 | - | 14 | ISO 2813 | - | 14 |

UL Flammability Rating / Performance Levels

| Thickness | Rating |
|---|---------|
| > 0.008" (0.200 mm) and < 0.015" (0.375 mm) | UL94V-2 |
| 0.015" (0.375 mm) and greater | UL94V-2 |
| File Number | E61257 |

Manufacturing Specifications

| Nominal Gauge Ranges | Min./Max Limit of Nominal |
|-------------------------------|---------------------------|
| 0.008" (0.200 mm) | ± 10% |
| 0.010-0.015" (0.250-0.375 mm) | ± 5% |
| 0.020" (0.500 mm) | ± 3% |

♦ 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 0.250 mm (0.010") thickness film unless otherwise noted.

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Gloss by Gauge: (ASTMD 523-85)

| | Gauge | Angle | Matte | |
|---------------|-------------------|-------|---------|---------|
| | | | Minimum | Maximum |
| 8A13FV | 0.008" (0.200 mm) | 85° | 3 | 9 |
| | 0.010" (0.250 mm) | 85° | 5 | 11 |
| | 0.015" (0.375 mm) | 85° | 6 | 15 |
| | 0.020" (0.500 mm) | 85° | 9 | 15 |



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