

LEXAN^{*} 8B35E Film

Product Datasheet

DESCRIPTION

LEXAN^{*} 8B35E is a transparent polycarbonate film, velvet on one side and fine matte on the other, that offers excellent clarity, high heat resistance, and superior dimensional stability in all thicknesses. LEXAN 8B35E can be printed using traditional solvent-based inks as well as IR and UV curing inks. It offers ease of processing for thermoforming, hydroforming, embossing, die-cutting and bending. Since the surface of LEXAN 8B38 is low gloss, it is ideal for overlays, back-lit dials and clusters, second surface printed applications, dead-front graphics, display protection and poster protection.

Typical Property Values¹

| 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 | % | 100-160 | ISO 527 | % | 100-154 |
| Gardner Impact Strenght 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 | ISO 34 | kN/m | 245 |
| Propogation | ASTM D1922 | g/mil | 30-55 | NA | kN/m | 10-20 |
| Puncture Resistance (Dynatup) | ASTM D3763 | ft-lb | 9 | ISO | J | 12 |
| Fold Endurance (MIT) | | | | | | |
| 0.010 inch (0.25 mm) | ASTM D2176-69 | double folds | 60 | | | |
| 0.020 inch (0.50 mm) | ASTM D2176-69 | double folds | 20 | | | |
| Thermal | | | | | | |
| Coefficient of Thermal Conductivity | ASTM D5470 | Btu/hr/ft ² /°F/in | 1.35 | DIN 52612 | W/m°C | 0.2 |
| Coefficient of Thermal Expansion | ASTM E831 | (x 10 ⁻⁵ /°F) | 3.2 | ISO 11359 | 1/°C) | 5.8 |
| Specific Heat @ 40 °F (4 °C) | ASTM E1269 | Btu/lb/°F | 0.3 | ISO | 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 | 312 | ISO 306 | °C | 156 |
| Heat Deflection Temp. by TMA at 1.8 MPa | | °F | 350 | ISO 75-1.2:2004 | °C | 175 |
| Shrinkage at 302 °F (150 °C) | ASTM D1204 | % | 0.80% | ISO | % | 0.80% |
| Brittleness Temperature | ASTM D746 | °F | -211 | | °C | -135 |

Manufacturing Specifications

| Nominal Gauge Ranges | Min./Max Limit of Nominal |
|-------------------------------|---------------------------|
| 0.005-0.010" (0.125-0.250 mm) | ± 8% |
| 0.015-0.020" (0.375-0.500 mm) | ± 5% |

1 These are typical properties and are not intended for specification purposes. If minimum certifiable properties are required, please contact your local GE Advanced Materials, Specialty Film & Sheet representative or the GE Advanced Materials, Specialty Film & Sheet Quality Services Department. Reported values are based on 0.010" (0.250 mm) thickness unless otherwise noted.

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GE Advanced Materials Specialty Film & Sheet

| Property | ASTM Test Method | Units | Value | ISO Test Method | Units | Value |
|---|------------------|----------------------|------------------|-----------------|-------------------|-----------|
| Physical | | | | | | |
| Density | ASTM D792 | slug/ft ³ | 75 | ISO 1183 | kg/m ³ | 1200 |
| Water Absorption, 24 hrs. | ASTM D570 | % change | 0.35 | ISO 62 | % change | 0.35 |
| Surface Roughness (RMS) | ASME B46-1 | - | 6.3 (V) / 34 (M) | | | |
| Surface Energy (1st surface / 2nd surface) | ASTM D5946-01 | - | 38/32 | | | |
| Surface Tension (1st surface / 2nd surface) | Dyne Pens | Dyne | >44 / >44 | | | |
| Optical | | | | | | |
| Refractive Index @ 77 °F (25 °C) | ASTM D542A | - | 1.6 | | | |
| Light Transmission | ASTM D1003 | % | 86 | | | |
| Yellowness Index | ASTM D1925 | % | 1.9 | | | |
| Haze | ASTM D1003 | % | 100 | | | |
| Gloss over Flat Black min/max @ 60° | ASTM D523-60 | - | see chart | ISO 2813 | - | see chart |

Gloss by Gauge: (ASTMD 523-60)

| | Gauge | Angle | Velvet | | Matte |
|-------------------|-------------------|---------|---------|---------|-------|
| | | | Minimum | Maximum | |
| 8B35E | 0.005" (0.125 mm) | 60° | Minimum | 2 | 3.6 |
| | | | Maximum | 3.1 | 7 |
| | 0.007" (0.175 mm) | 60° | Minimum | 2.1 | 3.4 |
| | | | Maximum | 4.9 | 7.8 |
| | 0.010" (0.250 mm) | 60° | Minimum | 2.4 | 3.5 |
| | | | Maximum | 5.1 | 7.5 |
| 0.015" (0.375 mm) | 60° | Minimum | 3.5 | 4.2 | |
| | | Maximum | 6 | 7.7 | |
| 0.020" (0.500 mm) | 60° | Minimum | 3.6 | 2 | |
| | | Maximum | 8.1 | 8 | |



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