

# LEXAN™ 8B35 FILM

## PRODUCT DATASHEET

### DESCRIPTION

LEXAN™ 8B35 is a one side velvet, one side matte transparent polycarbonate film. It offers high temperature resistance, excellent dimensional stability, as well as good printability without pretreatment making it very suitable for multi-layer printing for applications such as overlays, floor graphics, high-performance labels and in-mould decoration. It can be screen printed using traditional solvent based or water based inks, as well as UV or infrared drying inks and offers ease of processing for thermoforming, embossing, die-cutting, hydro-forming and bending. The velvet texture offers mar resistance, and can be used over light-emitting devices (LEDs).

### TYPICAL PROPERTY VALUES

| PROPERTY   | ASTM TEST METHOD      | UNITS (USCS)                  | VALUE     | ISO TEST METHOD | UNITS (SI)              | VALUE |
|--|-----------------------|-------------------------------|-----------|-----------------|-------------------------|-------|
| <b>MECHANICAL</b>  |                       |                               |           |                 |                         |       |
| 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                     | 2100  |
| Tensile Elongation at Break  | ASTM D882             | %                             | 100-156   | ISO 527         | %                       | 100   |
| Gardner Impact Strength at 0.03" (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" (0.25 mm)   | ASTM D2176-69         | double folds                  | 60        |                 |                         |       |
| 0.020" (0.50 mm)   | ASTM D2176-69         | double folds                  | 20        |                 |                         |       |
| <b>THERMAL</b>   |                       |                               |           |                 |                         |       |
| Coefficient of Thermal Conductivity                                  | ASTM D5470            | Btu/hr/ft <sup>2</sup> /°F/in | 1.35      |                 | W/m <sup>2</sup> K      | 0.2   |
| Coefficient of Thermal Expansion                                     | ASTM E831             | (x10 <sup>-5</sup> /°F)       | 3.2       | ISO 11359       | (x10 <sup>-5</sup> /°C) | 7     |
| 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                      | 150   |
| Heat Deflection Temp. by TMA at 1.8 Mpa                              |                       | °F                            | 290       | ISO 75 Modified | °C                      | 135   |
| Brittleness Temperature  | ASTM D746             | °F                            | -211      |                 | °C                      | -135  |
| <b>PHYSICAL</b>  |                       |                               |           |                 |                         |       |
| Density  | ASTM D792             | slug/ft <sup>3</sup>          | 2.3       | ISO 1183        | kg/m <sup>3</sup>       | 1200  |
| Water Absorption, 24 hrs.  | ASTM D570             | % change                      | 0.35      | ISO 62          | % change                | 0.35  |
| Surface Roughness (RMS)  | ASTM D5946-01         | μ                             | See chart |                 |                         |       |
| Surface Energy(1 <sup>st</sup> surface/<br>2 <sup>nd</sup> surface)  | Dyne Pens             | Dyne                          | 37/31     |                 |                         |       |
| Surface Tension(1 <sup>st</sup> surface/<br>2 <sup>nd</sup> surface) | ASTM D3363            | -                             | >44/38-40 |                 |                         |       |
| Taber Abrasion   | ASTM D1044            | delta Haze                    | <1        |                 |                         |       |

| PROPERTY                            | ASTM TEST METHOD       | UNITS (USCS) | VALUE     | ISO TEST METHOD | UNITS (SI) | VALUE     |
|-------------------------------------|------------------------|--------------|-----------|-----------------|------------|-----------|
| <b>OPTICAL</b>                      |                        |              |           |                 |            |           |
| Refractive Index @77°F (25°C)       | ASTM D542A             | -            | 1.6       |                 |            |           |
| Light Transmission                  | ASTM D1003             | %            | 80        |                 |            |           |
| Yellowness Index                    | ASTM D1925             | %            | 2.2       |                 |            |           |
| Haze                                | ASTM D1003             | %            | 102       |                 |            |           |
| Gloss over Flat Black min/max @ 60° | ASTM D523-60           | -            | See chart | ISO 2813        | -          | See chart |
| UV cutout                           | UV/Visual Spectroscopy | %            | 0.3       |                 |            |           |

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

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## MANUFACTURING SPECIFICATIONS

| NOMINAL GAUGE RANGES             | MIN./MAX LIMIT OF NOMINAL |
|----------------------------------|---------------------------|
| 0.003" (0.075 mm)                | ± 10%                     |
| 0.005 - 0.007" (0.125 - 0.175mm) | ± 8%                      |
| 0.010-0.015" (0.250-0.375 mm)    | ± 5%                      |
| 0.020" (0.500 mm)                | ± 3                       |

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