

LEXAN™ 8010V FILM

PRODUCT DATASHEET

DESCRIPTION

LEXAN™ 8010V polycarbonate film offers excellent clarity in all thicknesses. It provides high heat resistance and superior dimensional stability for graphic art applications which require UL94 flammability performance. Derived from one of the world's toughest polymers, LEXAN 8010V film also provides high gloss surface finishes. Recent technology improvements now in effect reduce color variation by 50%. Additional enhancements 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 | 63 |
| Ultimate | ASTM D882 | psi | 9000 | ISO 527 | MPa | 65 |
| Tensile Modulus | ASTM D882 | psi | 300000 | ISO 527 | MPa | >2000 |
| Tensile Elongation at Break | ASTM D882 | % | 100-151 | 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 | 130 | | | |
| 0.020" (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 | (x10 ⁻⁵ /°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 | 148 |
| 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 | 127 |
| 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 | - | NA | | | |
| Surface Energy | ASTM D5946-01 | - | 34 | | | |
| Surface Tension | Dyne Pens | Dyne | 38-40 | | | |
| Pencil Hardness | ASTM D3363 | - | b-hb | | | |

| PROPERTY | ASTM TEST METHOD | UNITS (USCS) | VALUE | ISO TEST METHOD | UNITS (SI) | VALUE |
|-------------------------------------|------------------|--------------|-------|-----------------|------------|-------|
| OPTICAL | | | | | | |
| Refractive Index @77°F (25°C) | ASTM D542A | - | 1.6 | | | |
| Light Transmission | ASTM D1003 | % | 91 | | | |
| Yellowness Index | ASTM D1925 | % | 0.7 | | | |
| Haze | ASTM D1003 | % | 0.4 | | | |
| Gloss over Flat Black min/max @ 60° | ASTM D523-60 | - | 170 | ISO 2813 | - | 170 |

◆ 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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UL FLAMMABILITY RATING / PERFORMANCE LEVELS

| THICKNESS | RATING |
|---|-----------|
| > 0.005" (0.125 mm) and < 0.015" (0.381 mm) | UL94VTM-2 |
| 0.015" (0.381 mm) and greater | UL94V-2 |
| File number | E61257 |

MANUFACTURING SPECIFICATIONS

| NOMINAL GAUGE RANGES | MIN./MAX LIMIT OF NOMINAL |
|-------------------------------|---------------------------|
| 0.005" (0.125 mm) | ± 10% |
| 0.010-0.015" (0.250-0.375 mm) | ± 5% |
| 0.020-0.030" (0.500-0.750mm) | ± 3% |



CONTACT US:

SABIC CORPORATE HQ

PO Box 5101
Riyadh 11422
Saudi Arabia
T +966 (0) 1 225 8000
F +966 (0) 1 225 9000
E info@sabic.com

AMERICAS

SABIC
Functional Forms
2500 CityWest Boulevard
Suite 100
Houston, TX 77042
USA
Toll-free (800) 323 3783
F (888) 443 2033
E spinside.sales@sabic.com

EUROPE

SABIC
Functional Forms
Plasticslaan 1
4612 PX
Bergen op Zoom
The Netherlands
T +31 (0)164 293684
F +31 (0)164 292272
E ff.info@sabic.com

PACIFIC

SABIC
Functional Forms
2550 Xiupu Road
Pudong
201319 Shanghai
China
T +86 21 3222 4500
F +86 21 6289 8998
E ff.info@sabic.com

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