POLYVANTIS

# PRODUCT DATASHEET

# LEXAN™ 8A13CB FILM

## DESCRIPTION

LEXAN™ 8A13CB film is a transparent polished / fine matte polycarbonate film that offers excellent clarity, high heat resistance, and superior dimensional stability in all thicknesses. LEXAN 8A13CB Film can be printed using traditional solvent-based inks as well as IR and UV curing inks. It offers ease of processing for thermoforming, hydro forming, embossing, die cutting and bending.

## 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 | % | 100-160 | 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 | | | 130 |
| 0.020" (0.50 mm) | ASTM D2176-69 | double folds | 30 | | | 35 |
| **THERMAL** | | | | | | |
| Coefficient of Thermal Conductivity | ASTM D5470 | Btu/hr/ft²/°F/in | 1.35 | | W/m°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 | °F | 312 | | °C | 144 |
| 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/ft³ | 2.3 | ISO 1183 | kg/m³ | 1200 |
| Water Absorption, 24 hrs. | ASTM D570 | % change | 0.35 | ISO 62 | % change | 0.35 |
| Surface Roughness (RMS) | ASME B46-1 | micro-inch | 30 (FM) | | | |
| Surface Roughness, min/max (Ra) | - | | | ISO4288 | um | 0.5-.0(FM) |
| Surface Energy(1st surface/ 2nd surface) | Dyne Pens | Dyne | 38 FM/34 POL | | nm | 40 |
| Surface Tension | Dyne Pens | Dyne | >34 | | | |

| 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 | % | 88-91 | | | |
| Yellowness Index | ASTM D1925 | % | 0.6 | | | |
| Haze | ASTM D1003 | % | 90 | | | |
| Gloss over Flat Black min/max @ 85° | ASTM D523-60 | - | 12 (FM) | ISO 2813 | % | 12 (FM) |
| Gloss (Black backpaint), min/max @ 60° | ASTM D523-60 | % | 1.9-4.5 (FM) | ISO 2813 | % | 1.9-4.5 (FM) |

- These are typical properties and are not intended for specification purposes. If minimum certifiable properties are required, please contact your local POLYVANTIS representative or the POLYVANTIS Quality Services Department. Reported values are based on 0.250 mm (0.010") thickness film unless otherwise noted.

## MANUFACTURING SPECIFICATIONS

| NOMINAL GAUGE RANGES | MIN./MAX LIMIT OF NOMINAL |
|---|---|
| 0.010-0.015" (0.250-0.375 mm) | -/+ 5% |



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