

Description

Lexan 8040 polycarbonate film complies with FDA regulations and meets USP-V1 criteria. It offers high heat resistance, radiation stability, clarity, thermoformability, and autoclave stability to meet sterile medical packaging requirements. Compatible lid stock – TYVEK2 or medical grade paper is available from approved suppliers.

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 | % | 100-154 | 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 |
| Propogation | 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 | | | 130 |
| 0.020 inch (0.50 mm) | ASTM D2176-69 | double folds | 35 | | | 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 | 312 | | °C | 155 |
| 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 | 2.3 | ISO 1183 | kg/m ³ | 1200 |
| Water Absorption, 24 hrs. | ASTM D570 | % change | 0.35 | ISO 62 | % change | 0.35 |
| Surface Roughness (RMS) | ASME B46-01 | - | NA | | | |
| Surface Energy | ASTM D5946-01 | - | 34 | | | |
| Surface Tension | Dyne Pens | Dyne | 38-40 | | | |
| Pencil Hardness | ASTM D3363 | - | b-hb | | | |
| Taber Abrasion | ASTM D1044 | delta Haze | | | | |
| Bayer Abrasion | | | | | | |
| Steel Wool abrasion | | | | | | |
| Optical | | | | | | |
| Refractive Index @ 77 °F (25 °C) | ASTM D542A | - | 1.6 | | | |
| Light Transmission | ASTM D1003 | % | 91 | | | |
| Yellowness Index | ASTM D1925 | % | 0.35-0.70 | | | |
| Haze | ASTM D1003 | % | 0.4 | | | |
| Gloss over Flat Black min/max @ 60° | ASTM D523-60 | - | 170 | ISO 2813 | - | 170 |

Sterilization Performance

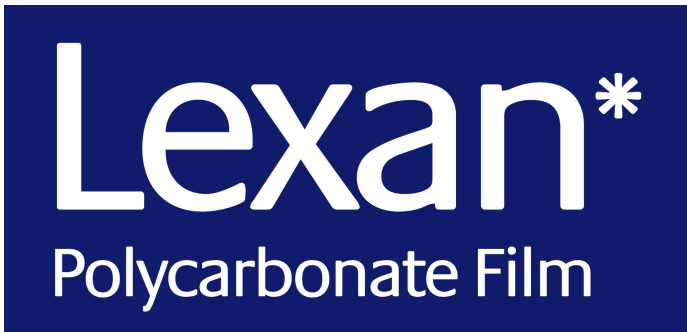
| Technique | Conditions |
|------------------|----------------------------|
| Autoclave | 265°F (129°C) Single Cycle |
| Gamma Radiation | 5 Mrads Exposure |
| E-Beam Radiation | 3.3 Mrads at 175 kV |
| Ethylene Oxide | All Common Concentrations |

Manufacturing Specifications

| Nominal Gauge Ranges | Min./Max Limit of Nominal |
|-------------------------------|---------------------------|
| 0.007" (0.175 mm) | ± 10% |
| 0.010-0.015" (0.250-0.375 mm) | ± 5% |
| 0.020-0.030" (0.500-0.750 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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