

LEXAN™ F2000A SHEET

PRODUCT DATASHEET

DESCRIPTION

LEXAN™ F2000A sheet is a flame resistant transparent polycarbonate sheet. In addition to good flammability and toxicity performance, it delivers a very robust smoke density performance combined with excellent impact resistance, high optical quality, good stiffness and strength and ease of processing, this makes it an excellent candidate particular for applications in the aircraft industry, as well as electronic, and building and construction industries.

TYPICAL PROPERTY VALUES

| PROPERTY | TEST METHOD | UNITS | VALUE |
|--|----------------|-------------------|--------------------|
| PHYSICAL | | | |
| Density | ISO 1183 | g/cm ³ | 1.21 |
| Water absorption, 50% RH, 23 °C | ISO 62 | % | 0.15 |
| Water absorption, saturation, 23°C | ISO 62 | % | 0.35 |
| MECHANICAL | | | |
| Yield stress 50 mm/min | ISO 527 | MPa | >60 |
| Yield strain 50 mm/min | ISO 527 | % | 6 |
| Nominal strain at break 50 mm/min | ISO 527 | % | >100 |
| Tensile modulus 1 mm/min | ISO 527 | MPa | 2300 |
| Flexural strength 2 mm/min | ISO 178 | MPa | 90 |
| Flexural modulus 2 mm/min | ISO 178 | MPa | 2300 |
| IMPACT | | | |
| Charpy impact, notched, 3.0 mm | ISO 179/1eA | kJ/m ² | 75 |
| Izod impact, unnotched 23°C, 3.0 mm | ISO 180/1U | kJ/m ² | NB |
| Izod impact, notched 23°C, 3.0 mm | ISO 180/1A | kJ/m ² | 70 |
| THERMAL | | | |
| Vicat softening temperature, rate B/120 | ISO 306 | °C | 145 |
| Temperature of deflection under load (type A), 1.8 MPa, flat | ISO 75 | °C | 127 |
| Thermal conductivity | ISO 8302 | W/m.°C | 0.2 |
| Coefficient of linear thermal expansion, 23-55°C | ISO 11359-2 | 1/°C | 7x10 ⁻⁵ |
| Ball pressure test 125 ±2°C | IEC 60695-10-2 | - | Pass |
| ELECTRICAL | | | |
| Volume resistivity | IEC 60093 | Ohm.cm | >10 ¹⁵ |
| Dielectric strength, in oil, 3.2 mm | IEC 60243-1 | kV/mm | 18 |
| OPTICAL | | | |
| Light transmission 3 mm | ASTM-D1003 | % | 89 |

| PROPERTY | TEST METHOD | UNITS | VALUE |
|------------------------------|---------------------|-------|----------------------------|
| FIRE RATINGS | | | |
| Aircraft | | | |
| Vertical burn, 60 s | FAR 25.583(a)+App.F | - | Pass (2-4mm) |
| Smoke density | ABD0031 | - | Pass, Ds(4min)<150 (2-4mm) |
| Smoke toxicity | ABD0031,BSS 7239 | - | Pass (2-4mm) |
| Electrical | | | |
| Vertical burn (50W) | UL94V | - | V0 (3mm) |
| Glow Wire Flammability Index | IEC-60695-2-12 | °C | Pass 960°C (1.5mm) |

◆ These property values have been derived from LEXAN™ resin data for the material used to produce this sheet product.
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PROCESSING

LEXAN™ F2000A sheet is ideally suited to thermoforming. It offers high, deep draw ratios, equal wall thickness distribution, and it can be formed into complex shapes using standard thermoforming equipment. Sandwich type heating systems give the best results. LEXAN F2000A sheet has a forming temperature range of 185 - 205°C. When forming, a draft angle of at least 3° should be allowed, and post mold shrinkage of 0.5 - 1.0% taken into account.

PRE-DRYING

It is important to ensure that LEXAN F2000A sheets are free of moisture prior to thermoforming. A hot air circulating oven set at 120°C is recommended. Pre-drying times vary from 3-24 hours, depending on sheet thickness.

ASSEMBLING

Parts made from LEXAN F2000A sheet can be assembled with plastics, metals, rubber and other materials using many types of adhesive bonding, welding and mechanical fastening techniques. Since some of these materials can cause environmental stress

cracking, please consult SABIC for advice on specific applications.

COMPLIANCE

Passes FAR25.853, ABD0031 in 3 mm. as well is eco labeled according to VDE.

PAINTING

For either functional or decorative reasons it may be necessary to apply finish to LEXAN F2000A sheets or vacuum formed parts. The product is ideally suited for use with a wide variety of modern decoration techniques. A list of approved paint systems and suppliers is available upon request.

CHEMICAL RESISTANCE

LEXAN F2000A sheet has sufficient resistance to most mineral oils, greases, aliphatic hydrocarbons and acids under low or moderate stress levels. In applications where the LEXAN F2000A sheet will come into contact with aggressive chemicals, specific (application related) testing is always advised. Effective painting systems can improve chemical resistance.

PRODUCT AVAILABILITY

Product code: LEXAN F2000A Sheet
Standard size: 1250 x 2050mm, 2050 x 3000mm
Gauges: 2.0 mm, 3.0 mm, 4.0 mm
Textures: Polished/Polished
Colors: Clear 11255
 Other colors/sizes are available by special request.

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