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

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>TEST METHOD</th>
<th>UNITS</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PHYSICAL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>ISO 1183</td>
<td>g/cm³</td>
<td>1.21</td>
</tr>
<tr>
<td>Water absorption, 50% RH, 23 °C</td>
<td>ISO 62</td>
<td>%</td>
<td>0.15</td>
</tr>
<tr>
<td>Water absorption, saturation, 23°C</td>
<td>ISO 62</td>
<td>%</td>
<td>0.35</td>
</tr>
<tr>
<td><strong>MECHANICAL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yield stress 50 mm/min</td>
<td>ISO 527</td>
<td>MPa</td>
<td>&gt;60</td>
</tr>
<tr>
<td>Yield strain 50 mm/min</td>
<td>ISO 527</td>
<td>%</td>
<td>6</td>
</tr>
<tr>
<td>Nominal strain at break 50 mm/min</td>
<td>ISO 527</td>
<td>%</td>
<td>&gt;100</td>
</tr>
<tr>
<td>Tensile modulus 1 mm/min</td>
<td>ISO 527</td>
<td>MPa</td>
<td>2300</td>
</tr>
<tr>
<td>Flexural strength 2 mm/min</td>
<td>ISO 178</td>
<td>MPa</td>
<td>90</td>
</tr>
<tr>
<td>Flexural modulus 2 mm/min</td>
<td>ISO 178</td>
<td>MPa</td>
<td>2300</td>
</tr>
<tr>
<td><strong>IMPACT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charpy impact, notched, 3.0 mm</td>
<td>ISO 179/1eA</td>
<td>kJ/m²</td>
<td>75</td>
</tr>
<tr>
<td>Izod impact, unnotched 23°C, 3.0 mm</td>
<td>ISO 180/1U</td>
<td>kJ/m²</td>
<td>NB</td>
</tr>
<tr>
<td>Izod impact, notched 23°C, 3.0 mm</td>
<td>ISO 180/1A</td>
<td>kJ/m²</td>
<td>70</td>
</tr>
<tr>
<td><strong>THERMAL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vicat softening temperature, rate B/120</td>
<td>ISO 306</td>
<td>°C</td>
<td>145</td>
</tr>
<tr>
<td>Temperature of deflection under load (type A), 1.8 MPa, flat</td>
<td>ISO 75</td>
<td>°C</td>
<td>127</td>
</tr>
<tr>
<td>Thermal conductivity</td>
<td>ISO 8302</td>
<td>W/m²°C</td>
<td>0.2</td>
</tr>
<tr>
<td>Coefficient of linear thermal expansion, 23-55°C</td>
<td>ISO 11359-2</td>
<td>1/°C</td>
<td>7x10⁻⁶</td>
</tr>
<tr>
<td>Ball pressure test 125 ±2°C</td>
<td>IEC 60695-10-2</td>
<td>-</td>
<td>Pass</td>
</tr>
<tr>
<td><strong>ELECTRICAL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volume resistivity</td>
<td>IEC 60093</td>
<td>Ohm.cm</td>
<td>&gt;10⁵</td>
</tr>
<tr>
<td>Dielectric strength, in oil, 3.2 mm</td>
<td>IEC 60243-1</td>
<td>kV/mm</td>
<td>18</td>
</tr>
<tr>
<td><strong>OPTICAL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light transmission 3 mm</td>
<td>ASTM D1003</td>
<td>%</td>
<td>89</td>
</tr>
</tbody>
</table>
### PROPERTY | TEST METHOD | UNITS | VALUE
--- | --- | --- | ---
**FIRE RATINGS**
Aircraft
Vertical burn, 60 s | FAR 25.583(a)+App.F | - | Pass (24mm)
Smoke density | ABD0031 | - | Pass, D(4min)<150 (2-4mm)
Smoke toxicity | ABD0031,855 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.

**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. Predrying 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.
CONTACT US:

Middle East and Africa
SABIC Global Headquarters
PO Box 5101
Riyadh 11422
Saudi Arabia
T +966 (0) 1 225 8000
F +966 (0) 1 225 9000
E info@sabic.com

Americas
Specialty Film & Sheet
1 Plastics Avenue
Pittsfield, MA 01201
USA
Toll-free 1 800 323 3783
T 1 413 448 6655
F (888) 443 2033
E Spinside.sales@sabic-ip.com

Europe
Specialty Film & Sheet
Plasticslaan 1
4612 PX Bergen op Zoom
The Netherlands
T +31 (0)164 293678
F +31 (0)164 293272
E sfs.info@sabic-ip.com

Asia Pacific
Specialty Film & Sheet
2550 Xiupu Road
Pudong
201319 Shanghai
China
T +86 21 2037 8188
F +86 21 2037 8288
E sfs.info@sabic-ip.com

Email
sfs.info@sabic-ip.com

DISCLAIMER: THE MATERIALS, PRODUCTS AND SERVICES OF SAUDI BASIC INDUSTRIES CORPORATION (SABIC) OR ITS SUBSIDIARIES OR AFFILIATES (“SELLER”) ARE SOLD SUBJECT TO SELLER’S STANDARD CONDITIONS OF SALE, WHICH ARE AVAILABLE UPON REQUEST. INFORMATION AND RECOMMENDATIONS CONTAINED IN THIS DOCUMENT ARE GIVEN IN GOOD FAITH. HOWEVER, SELLER MAKES NO EXPRESS OR IMPLIED REPRESENTATION, WARRANTY OR GUARANTEE (I) THAT ANY RESULTS DESCRIBED IN THIS DOCUMENT WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (II) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN OR APPLICATION INCORPORATING SELLER’S MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS. UNLESS OTHERWISE PROVIDED IN SELLER’S STANDARD CONDITIONS OF SALE, SELLER SHALL NOT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS DESCRIBED IN THIS DOCUMENT. EACH USER IS RESPONSIBLE FOR MAKING ITS OWN DETERMINATION AS TO THE SUITABILITY OF SELLER’S MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS FOR THE USER’S PARTICULAR USE THROUGH APPROPRIATE END-USE AND OTHER TESTING AND ANALYSIS. NOTHING IN ANY DOCUMENT OR ORAL STATEMENT SHALL BE DEEMED TO ALTER OR WAIVE ANY PROVISION OF SELLER’S STANDARD CONDITIONS OF SALE OR THIS DISCLAIMER, UNLESS IT IS SPECIFICALLY AGREED TO IN A WRITING SIGNED BY SELLER. STATEMENTS BY SELLER CONCERNING A POSSIBLE USE OF ANY MATERIAL, PRODUCT, SERVICE OR DESIGN DO NOT, ARE NOT INTENDED TO, AND SHOULD NOT BE CONSTRUED TO GRANT ANY LICENSE UNDER ANY PATENT OR OTHER INTELLECTUAL PROPERTY RIGHT OF SELLER OR AS A RECOMMENDATION FOR THE USE OF ANY MATERIAL, PRODUCT, SERVICE OR DESIGN IN A MANNER THAT INFRINGES ANY PATENT OR OTHER INTELLECTUAL PROPERTY RIGHT.

SABIC and brands marked with™ are trademarks of SABIC or its subsidiaries or affiliates.
© 2014 Saudi Basic Industries Corporation (SABIC). All Rights Reserved.

† Any brands, products or services of other companies referenced in this document are the trademarks, service marks and/or trade names of their respective holders.

www.sabic.com/sfs