

# Lexan\* F2000 Sheet

## Product Datasheet

### Description

Lexan\* F2000 sheet is a flame resistant transparent polycarbonate sheet. In addition to good flammability performance, it offers excellent impact resistance, high optical quality, good stiffness and strength, and ease of processing, making it an excellent candidate for a wide variety of applications in the electrical, electronic, transportation, building and construction industries.

### Typical Property Values ♦

| Property                                   | Test Method | Unit              | Value             |
|--|-------------|-------------------|-------------------|
| <b>Physical</b>                            |             |                   |                   |
| Density                                    | ISO 1183    | g/cm <sup>3</sup> | 1.24              |
| Water absorption, Equilibrium              | ISO 62      | %                 | 0.35              |
| <b>Mechanical</b>                          |             |                   |                   |
| Tensile strength,                          | ISO 527     | MPa               | 60                |
| Tensile modulus                            | ISO 527     | MPa               | 2300              |
| Tensile elongation, yield                  | ISO 527     | %                 | 7                 |
| Tensile elongation, break                  |             | %                 | 80                |
| Flexural strength, yield                   | ISO 178     | MPa               | 100               |
| Flexural modulus                           | ISO 178     | MPa               | 2300              |
| Izod Notched Impact 20 °C                  | ASTM D256   | J/m               | 600               |
| -20 °C                                     |             | J/m               | 100               |
| -Gardner Impact 20°C                       | GE Method   | J                 | >40               |
| -40°C                                      |             | J                 | >40               |
| <b>Thermal</b>                             |             |                   |                   |
| Vicat Softening Temp, Rate B/ 120          | ISO 306     | °C                | 145               |
| Heat Deflection temperature 0.45 MPa       | ISO 75/Be   | °C                | 138               |
| Thermal conductivity                       | ASTM C 177  | W/m°C             | 0.2               |
| Ball Pressure Test 75 °C                   | IEC 335-1   |                   | Pass              |
| Ball Pressure Test 125 °C                  | IEC 335-1   |                   | Pass              |
| Mold shrinkage                             | ISO 527     | %                 | 0.5-0.7           |
| Thermal expansion                          | ASTM D696   | 1/ °C             | 7.10-5            |
| <b>Electrical</b>                          |             |                   |                   |
| Hot Wire Ignition                          | UL 746A     | sec               | 44                |
| High Voltage Arc Tracking Rate             | UL 746A     | mm/s              | 5.2               |
| High Ampere Arc Ign. Surface               | UL 746A     |                   | 44                |
| Comparative Tracking Index,                | IEC 112/3   | V                 | 225               |
| Comparative Tracking Index,                | IEC 112/3   | V                 | 125               |
| Volume Resistivity                         | IEC 93      | Ohm.cm            | >10 <sup>15</sup> |
| Surface Resistivity                        | IEC 93      | Ohm               | >10 <sup>15</sup> |
| <b>Flammability</b>                        |             |                   |                   |
| Limited Oxygen Index                       | ISO 4589    | %                 | 34                |
| Glow Wire Test, 960 °C                     | IEC 695-2-1 |                   | Pass              |
| <b>Optical</b>                             |             |                   |                   |
| Light Transmission                         | ASTM D1003  | %                 | 90                |
| Taber Abrasion, CS10F,<br>500g, 100 cycles | ASTM D1044  | % Haze            | 36                |

♦ These property values have been derived from Lexan\* resin data for the material used to produce this sheet product.  
\* Lexan is a trademark of General Electric Company





theplasticshop.co.uk

at gilbert curry industrial plastics

telephone 0800 321 3085

# GE Plastics Specialty Film & Sheet

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### Processing

Lexan\* F2000 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 F2000 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 F2000 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 F2000 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 GE-Plastics for advice on specific applications.

### Painting

For either functional or decorative reasons it may be necessary to apply finish to Lexan F2000 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 F2000 sheet has sufficient resistance to most mineral oils, greases, aliphatic hydrocarbons and acids under low or moderate stress levels. In applications where the Lexan\*F2000 sheet will come into contact with aggressive chemicals, specific (application related) testing is always advised. Effective painting systems can improve chemical resistance

### Product Availability

|                       |   |
|-----------------------|---|
| <b>Product code:</b>  | Lexan F2000 Sheet                             |
| <b>Standard size:</b> | 1250 x 2050mm, 2050 x 3000mm                  |
| <b>Gauges:</b>        | 1.5 to 8.0 mm                                 |
| <b>Textures:</b>      | Polished/Polished                             |
| <b>Colors:</b>        | Clear 112 Bronze 5109 Opale 82103 Opale 82052 |

Other colors/sizes are available by special request.

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