

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
Physical			
Density	ISO 1183	g/cm ³	1.24
Water absorption, Equilibrium	ISO 62	%	0.35
Mechanical			
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
Thermal			
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
Electrical			
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 ¹⁵
Surface Resistivity	IEC 93	Ohm	>10 ¹⁵
Flammability			
Limited Oxygen Index	ISO 4589	%	34
Glow Wire Test, 960 °C	IEC 695-2-1		Pass
Optical			
Light Transmission	ASTM D1003	%	90
Taber Abrasion, CS10F, 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





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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

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

Other colors/sizes are available by special request.

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