Product Data Sheet

Lexan® F2000

Description
Lexan® F2000 sheet is a flame retardant transparent polycarbonate sheet. In addition to good flammability performance, it offers excellent impact resistance, good stiffness and strength, and ease of processing, making it suitable for a wide variety of applications in the electrical, electronic, transportation, building and construction industries. Lexan® F2000 sheets provide:

- High impact resistance
- Excellent flammability performance
- High optical quality
- Excellent formability

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 - 205ºC. When forming, a draft angle of at least 3º should be allowed, and post mold shrinkage of 0.5 - 1.0% taken into account.

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.

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 120ºC 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 Structured Products 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.

Property	Test Method	SI Units	Value
Mechanical			
Tensile Strength, yield	ISO 527	MPa	60
Tensile Modulus	ISO 527	MPa	2300
Tensile Elongation	ISO 527		
yield		%	7
break		%	80
Flexural Strength, yield	ISO 178	MPa	100
Flexural Modulus	ISO 178	MPa	2300
Izod Notched Impact	ASTM D256		
20ºC		J/m	600
-20ºC		J/m	100
Gardner Impact	GE method		
20ºC		J	>40
-40ºC		J	>40
Physical			
Density	ISO 1183	g/cm^3	1.24
Water Absorption,	ISO 62		
equilibrium		%	0.35
Thermal			
Vicat Softening Temperature, Rate B/120	ISO 306	ºC	145
Heat deflection temperature 0.45 MPa	ISO 75/Be	ºC	138
Thermal Conductivity	ASTM C177	W/m ºC	0.2
Ball Pressure Test 75ºC	IEC 335-1		Pass
Ball Pressure Test 125ºC	IEC 335-1		Pass
Mold Shrinkage	ISO 527	%	0.5 - 0.7
Coeff.of Thermal Expansion	ASTM D696	1/ ºC	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, M	IEC 112/3	V	125
Volume Resistivity	IEC 93	Ohm.cm	$>10^{15}$
Surface Resistivity	IEC 93	Ohm	$>10^{15}$
Optical			
Light Transmission	ASTM D1003	%	90
Taber Abrasion, CS10F,	ASTM D1044		
500g, 100 cycles		% Haze	36
Flammability			
Limited Oxygen Index	ISO 4589	%	34
Glow Wire Test, 960 ºC	IEC 695-2-1		Pass

Availability

Product code:	Lexan F2000	
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.

***GE** Structured Products*

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