

Description

Lexan* F6000 sheet is a flame retardant opaque polycarbonate sheet range available in standard and custom colors. 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 industries such as electrical/electronics and transportation (e.g. aircraft, rail).

Typical Property Values ♦

Property	Test Method	Unit	Value
Physical			
Specific Gravity	DIN 53479	-	1.21
Water Absorption, 24hrs equilibrium	ASTM D570	%	0.15
		%	0.35
Mechanical			
Tensile Strength, yield	DIN 53455	MPa	62
Tensile Modulus	DIN 53457	MPa	2200
Elongation, Yield	DIN 53455	%	7
Break		%	95
Flexural Strength, Yield	DIN 53452	MPa	90
Flexural Modulus	DIN 53457	MPa	2240
Izod Notched Impact, 20°C	ASTM D256	J/m	640
-20°C		J/m	100
Gardner Impact, 20°C	SABIC Method	J	>40
-40°C		J	>40
Taber Abrasion, CS17, 1000g, 1000cycles	ASTM D1044	mg	10
Thermal			
Vicat Softening Temperature, Rate B/120	DIN53460	°C	145
DTUL, 1.82 MPa	DIN53461	°C	132
Thermal Conductivity	ASTM C177	°C	0.2W/m
Ball Pressure Test 75°C	IEC 335-1		Pass
Ball Pressure Test 125°C	IEC 335-1		Pass
Mold Shrinkage	ASTM D1299	%	0.5 - 1.0
Thermal Expansion	VDE 0304/1	°C	6.8x10 ⁻⁵ m/m
Electrical			
Hot Wire Ignition	UL 746A	sec	37
High Voltage Arc Tracking Rate	UL 746A	mm/s	6.2
High Ampere Arc Ign. Surface	UL 746A		20
Comparative Tracking Index	IEC 112/3	V	225.0
Comparative Tracking Index, M	IEC 112/3	V	125.0
Volume Resistivity	ASTM D257	Ohm.m	1015
Surface Resistivity	IEC 93	Ohm.m	1014
Flammability			
Oxygen Index	ASTM D2863	%	35
UL Flammability	UL94	mm	V0 (1.47)
Glow Wire Test, 960 °C	IEC 695-2-1	mm	Pass (2.0)
NBS Smoke, flaming mode, DS, 1.5min	ASTM E662		<50
DS, 4.0min			<100
FAA Flammability	FAR 25.853		
	(a), 1, (i) &(ii)&(iv)	mm	Pass (1-6)
ABD0031	AITM 3.0005		Pass
BS476, part 7 (1987)		mm	Class (1.5)
CSE RF2/75/A; RF3/77 (ceiling)		mm	Class 1 (1.5, 3)

♦ 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 F6000 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 F6000 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 F6000 sheets are free of moisture prior to thermoforming. A hot air circulating oven set at 120°C is recommended. Pre-drying times vary from 3-12 hours for 1.2 to 4.0mm thick sheets.

Assembling

Parts made from Lexan F6000 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 Innovative Plastics, Film & Sheet representative for advice on specific applications.

Painting

Lexan F6000 sheet 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 F6000 sheet has sufficient resistance to most mineral oils, greases, aliphatic hydrocarbons and acids under low or moderate stress levels. In applications where the Lexan F6000 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 F6000
Textures: Polished/Suede (F6006), Polished/Haircell (F60011N)

See product availability guide for available gauges, sizes, and colors



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