

LEXAN™ F6000 SHEET

PRODUCT DATASHEET

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	UNITS	VALUE
PHYSICAL			
Density	ISO 1183	g/cm ³	1.21
Water absorption, 50% RH, 23 °C	ISO 62	%	0.15
Water absorption, saturation, 23°C	ISO 62	%	0.35
MECHANICAL			
Yield stress 50 mm/min	ISO 527	MPa	>60
Yield strain 50 mm/min	ISO 527	%	6
Nominal strain at break 50 mm/min	ISO 527	%	>100
Tensile modulus 1 mm/min	ISO 527	MPa	2300
Flexural strength 2 mm/min	ISO 178	MPa	90
Flexural modulus 2 mm/min	ISO 178	MPa	2300
IMPACT			
Charpy impact, notched, 3.0 mm	ISO 179/1eA	kJ/m ²	75
Izod impact, unnotched 23°C, 3.0 mm	ISO 180/1U	kJ/m ²	NB
Izod impact, notched 23°C, 3.0 mm	ISO 180/1A	kJ/m ²	70
THERMAL			
Vicat softening temperature, B/120	ISO 306	°C	145
Temperature of deflection under load (type A), 1.8 MPa, flat	ISO 75	°C	127
Thermal conductivity	ISO 8302	W/m.°C	0.2
Coefficient of linear thermal expansion, 23-55°C	ISO 11359-2	1/°C	7x10 ⁻⁵
Ball pressure test 125 ±2°C	IEC 60695-10-2	-	Pass
ELECTRICAL			
Volume resistivity	IEC 60093	Ohm.cm	>10 ¹⁵
Dielectric strength, in oil, 3.2 mm	IEC 60243-1	kV/mm	18
OPTICAL			
Light transmission 3 mm	ASTM-D1003	%	n/a

PROPERTY	TEST METHOD	UNITS	VALUE
FIRE RATINGS			
Aircraft			
Vertical burn, 60 s	FAR 25.853(a)+App.F	-	Pass (1-6mm)
Smoke density	ABD0031	-	Pass, Ds(4min)<150 (1-6mm)
Smoke toxicity	ABD0031,BSS 7239	-	Pass (1-6mm)
Rail			
Europe	EN45545-2 R19	-	HL3 (3-4mm)
Europe	EN45545-2 R24	-	HL3 (3mm)
France	NF P 92-501	-	M2 (2mm)
France	NF F 16-101	-	F2 (2mm)
UK	BS 6853	-	Ao=0.125
Germany	DIN 5510-2	-	S4/ST2/SR2, FED<1 (1mm) S4/ST2/SR1, FED<1 (1.5-4mm)
Italy	UNI CEI 11170-3	-	Class 1B (1-3mm)
Electrical			
Limited Oxygen Index	ISO 4589-2	%	35
UL listing - E45329			

◆ Typical values only. Variations within normal tolerances are possible for the various textures.

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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 0.3 – 0.8% taken into account, depending on mold temperature.

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 of 2 hours/mm thickness.

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, 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)

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

SAFETY

The processing guidance given in this documentation is given in good faith and the trust that in all cases you wear the correct Personal Protective Equipment (PPE), e.g. helmet, proper gloves, safety goggles etc. to safely fabricate, e.g. (but not limited to) sawing, cutting, forming our sheets and films. In all cases you should follow local and national regulations around the wear of PPE's prescribed or mandatory to perform these tasks in a safely manor.

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