POLYVANTIS

PRODUCT DATASHEET

LEXAN™ F6000 SHEET

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/cm³	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 23°C, 3.0 mm	ISO 179/1eA	kJ/m²	75
Izod impact, unnotched 23°C, 3.0 mm	ISO 180/1U	kJ/m²	NB
Izod impact, notched 23°C, 3.0 mm	ISO 180/1A	kJ/m²	70
THERMAL			
Vicat softening temperature, B/120	ISO 306	°C	145
Temperature of deflection under load (type A), 1.8 MPa, flat	ISO 75-2	°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

*These are typical properties and are not intended for specification purposes. If minimum certifiable properties are required, please contact your local POLYVANTIS representative or the POLYVANTIS Quality Services Department.

PROPERTY- SHEET	TEST METHOD	UNITS	VALUE
FIRE RATINGS			
Aircraft			
Vertical burn, 60 s	FAR 25.853(a)+App.F	-	Pass (1-3.2mm)
Smoke density	ABD0031	-	Pass,
Smoke toxicity	ABD0031,BSS 7239	-	Pass (1-3.2mm)
Rail			
Europe	EN 45545-2 R19	-	HL3 (3-4mm)
Europe	EN 45545-2 R24	-	HL3 (3mm)
Electrical			
Limited Oxygen Index	ISO 4589-2	%	35
UL LISTING			
UL FILE# E539252			

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 / 365-401°F. 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 / 248°F 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. Further information and advice is available on request.

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.

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.

PRODUCT AVAILABILITY

Product code:	LEXAN™ F6000 Sheet
Gauge range:	1mm-3.2mm / 0.039”- 0.125”
Standard width:	1300mm / 51.18”
Textures:	F6000 series is available in a variety of textures: F6005 sheet -Velvet / Smooth, No masking F6006 sheet -Suede/ Smooth, No masking F600641 sheet -Suede/ Smooth, Poly stick masking on textured side F60025 sheet -Polish / Polish, Cling stick masking top and bottom F60025N sheet -Polish / Polish, No masking F60029 sheet -Deep Velvet / Smooth, No masking

Please check with your local inside sales rep for available gauges, sizes and colors.

POLYVANTIS

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LEXAN™ POLYCARBONATE FILM & SHEET Tough, Virtually Unbreakable

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