POLYVANTIS

PRODUCT DATASHEET

LEXAN™ ETFR SHEET

DESCRIPTION

LEXAN™ ETFR is a flame retardant opaque polycarbonate textured sheet available in standard and custom colors. In addition to good flammability performance, it offers excellent impact resistance, good stiffness, strength, and ease of processing, making it suitable for a wide variety of applications in industries such as electrical /electronics and transportation (e.g., rail).

TYPICAL PROPERTY VALUES*

PROPERTY	TEST METHOD	UNITS	VALUE
PHYSICAL			
Density	ASTM D792	g/cm³	1.217
Water absorption, 50% RH, 23 °C	ASTM D 570	%	0.15
Water absorption, saturation, 23°C	ASTM D570	%	0.35
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	ASTM D 638	MPa	62
Tensile Strain, yld, Type I, 50 mm/min	ASTM D 638	%	7
Flexural Stress, yld, 1.3 mm/min, 50 mm	ASTM D 790	MPa	91
Flexural Modulus, 1.3 mm/min, 50 mm	ASTM D 790	MPa	2240
IMPACT			
Izod Impact, unnotched, 23°C	ASTM D 4812	J/m	3204
Izod Impact, notched, 23°C	ASTM D 256	J/m	640
Tensile Impact Strength, Type S	ASTM D 1822	kJ/m²	525
THERMAL			
Vicat softening temperature, rate B/50	ASTM D 1525	°C	151
HDT, 1.82 MPa, 6.4 mm, unannealed	ASTM D 648	°C	137
Thermal conductivity	ASTM C177	W/m.°C	0.19
Coefficient of linear thermal expansion, -	ASTM E 831	1/°C	6.84×10^{-5}
ELECTRICAL			
Volume resistivity	ASTM D 257	Ohm.cm	$>10^{17}$
Dielectric strength, in oil, 3.2 mm	ASTM D 149	kV/mm	16.7

* These property values have been derived from resin data for the material used to produce this sheet product. Variations within normal tolerances are possible for the various textures.

PROPERTY	TEST METHOD	UNITS	VALUE
FIRE RATINGS⁺			
Electrical			
Vertical burn	UL94-V	-	VB (6.0-6.6mm)

⁺ These property values have been derived from Sheet product for GY (Grey) & BL (Blue) colors.

Processing

LEXAN™ ETFR 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™ ETFR 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™ ETFR sheets are free of moisture prior to process of thermoforming. A hot air circulating oven set at 80°C is recommended. Pre-drying times vary from 3-12 hours for 1.0-4.0mm thick sheet.

Assembling

Parts made from LEXAN™ ETFR 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 our India Sales office for advice on specific applications.

Chemical Resistance

LEXAN™ ETFR sheet has sufficient resistance to most mineral oils, greases, acids, and aliphatic hydrocarbons under low or moderate stress levels. In applications where the LEXAN™ ETFR 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™ ETFR Sheet
Standard size	: 1220 x 2440mm
Gauges	: 6 mm
Textures	: Polished/Texture (Montana texture)
Colors	: Blue 2001206, Grey GY2E383

For ETFR sheet, different colors, dimensions can be made available by prior arrangement. Such arrangements may affect prices, warranty terms and/or conditions of the sale. Please contact our India sales office commercial team member.

POLYVANTIS

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LEXAN™ POLYCARBONATE FILM & SHEET Tough, Virtually Unbreakable

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