

PRODUCT DATASHEET

LEXAN EXELL™ D FR Sheet

DESCRIPTION

LEXAN EXELL™ D FR sheet is a transparent polycarbonate sheet with proprietary UV protection on both sides offering excellent weathering properties. With its excellent impact resistance it is an excellent candidate for a wide variety of building and construction applications. LEXAN EXELL D FR sheet can be easily cold formed into gentle curves which makes it a good material choice for skylights, covered walkways, barrel vaults etc. LEXAN EXELL D FR sheet is thermoformable and can be thermoformed into the desired geometry whilst retaining the UV resistant protection specially developed for weather resistant applications.

TYPICAL PROPERTY VALUES

Property	ASTM Test Method	Units (USCS)	Value
Physical			
Density	ISO 1183	g/cm ³	1.23
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 179/1C	kJ/m ²	12
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	10
Thermal			
Vicat softening temperature, rate 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	7x 10 ⁻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
Fire Ratings			
Building & Construction			
Europe	EN13823	-	b/2s/d0 (2-6mm)
Rail			
France	NF P 92-501	-	M2 (2-8mm)
Electrical			
Limited Oxygen Index	ISO 4589-2	-	35

◆ These property values have been derived from LEXAN™ resin data for the material used to produce this sheet product. Variation within normal tolerances are possible for various colors. These typical values are not intended for specification purposes. If minimum certifiable properties are required please contact your local SABIC- Innovative Plastics representative. All values are measured at least after 48 hours storage at 23°C/50% relative humidity. All properties are measured on injection molded samples. All samples are prepared according ISO 294.

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LIGHT TRANSMISSION

Transparent LEXAN EXELL D FR sheet have excellent light transmission, between 84 and 87%. However for buildings in hot climates or with south facing aspects, LEXAN EXELL D FR is available in translucent bronze, grey and opal white. LEXAN EXELL D FR is essential opaque to all wave lengths below 385 nanometers. This useful shielding property can help prevent discoloration of sensitive materials placed under or behind LEXAN EXELL D FR sheet.

UV PROTECTION

LEXAN EXELL D FR sheet has proprietary UV protected surfaces, giving excellent durability to outdoor weathering. This superior UV resistance and toughness of LEXAN EXELL D FR sheet is backed by a 10 years limited written warranty against yellowing, loss of light transmission and breakage.

FIRE PERFORMANCE

French Norm NF P92-505 M2 Classification are available for EXELL D FR sheet transparent grades with thickness 2, 3, 4, 5, 8mm.

PRODUCT AVAILABILITY

LEXAN EXELL D FR sheet is normally manufactured in the standard sizes listed below. Deliveries from stock or cut to size can be ordered via our customer service organisation.

Standard gauge in mm: 2 - 3 - 4 - 5 - 8
Standard sizes: 1250 x 2050 mm, 2050 x 3050 mm, 2050 x 6050 mm
Masking: Top side: Coex. opal white PE/purple print, Bottom side: Coex. transparent foil
Standard color: clear code 112

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