

LEXAN™ EXELL™-D SHEET

PRODUCT DATASHEET

DESCRIPTION

LEXAN™ EXELL™-D sheet is a transparent polycarbonate sheet with proprietary UV protection on both sides offering excellent weathering properties. With its excellent impact resistance it is a good candidate for a wide variety of building and construction applications. LEXAN EXELL-D 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 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	TEST METHOD	UNITS	VALUE
PHYSICAL			
Density	ISO 1183	g/cm ³	1.20
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/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, 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	EN13501-1	-	b,s1,d0 (2-6mm)

◆ 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, Specialty Film & Sheet 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

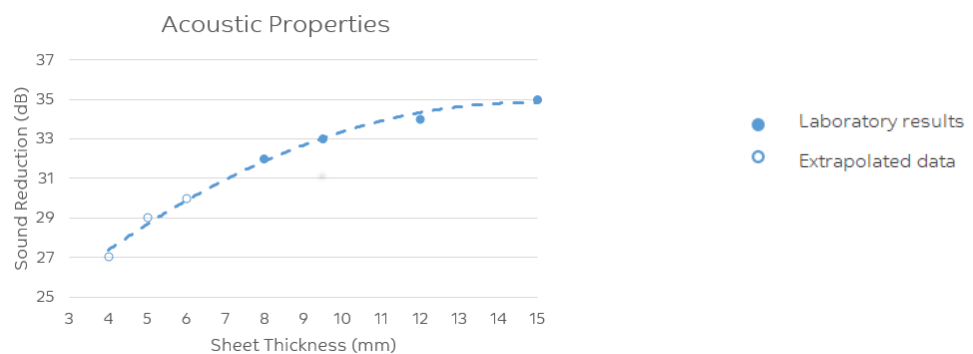
Transparent LEXAN™ EXELL™-D sheet have excellent light transmission, between 84 and 87%. However for buildings in hot climates or with south facing aspects, LEXAN EXELL-D sheet is available in translucent bronze, grey and opal white. LEXAN EXELL-D is essential opaque to all wave lengths below 385 nanometers.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

UV PROTECTION

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

SOUND REDUCTION

Below graph shows the acoustic properties for different thicknesses of the sheet:



SOUND INSULATION (noise reduction dB)

Thickness (mm)	ISO 717-1 (R _w)	EN 1793-2 (D _{Lr})
8	32	28
9.5	33	29
12	34	30
15	35	32

PERFORMANCE

LEXAN EXELL-D sheet has a good fire performance against many national fire codes dependant on thickness and color; please check with the local sales office for details.

PRODUCT AVAILABILITY

LEXAN EXELL-D 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 - 6 – 8 – 9.5 – 12- 15
Standard sizes:	2050 x 3050 mm (is max. size for 15mm), 2050 x 6100 mm
Masking:	Top side: Coex. opal white PE/purple print, Bottom side: Coex. transparent PE
Standard colors:	clear code 112, solar bronze code 5109, solar grey code 713, opal white code WH7D2870 and opal white code WH4D3480 (opal whites max. 8MM)

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