

## PRODUCT DATASHEET

# LEXAN™ EXELL™ D SHEET

### 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
<b>PHYSICAL</b>			
Density	ISO 1183	g/cm <sup>3</sup>	1.20
Water absorption, 50% RH, 23 °C	ISO 62	%	0.15
Water absorption, saturation, 23°C	ISO 62	%	0.35
<b>MECHANICAL</b>			
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
<b>IMPACT</b>			
Charpy impact, notched 23°C, 3.0 mm	ISO 179/1eA	kJ/m <sup>2</sup>	75
Izod impact, unnotched 23°C, 3.0 mm	ISO 180/1U	kJ/m <sup>2</sup>	NB
Izod impact, notched 23°C, 3.0 mm	ISO 180/1A	kJ/m <sup>2</sup>	70
<b>THERMAL</b>			
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 <sup>-5</sup>
Ball pressure test 125 ±2°C	IEC 60695-10-2	-	Pass
<b>ELECTRICAL</b>			
Volume resistivity	IEC 60093	Ohm.cm	>10 <sup>15</sup>
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.

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PROPERTY	TEST METHOD	UNITS	VALUE
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## FIRE RATING

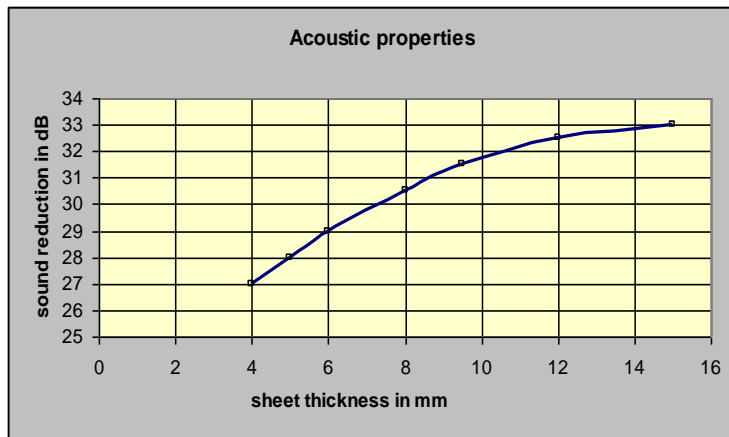
Building & Construction			
Europe	EN 13501-1	-	B, s1, d0 (2-6mm)
Europe	NF P 92-512:1986	-	M2 (8-12mm)

## UL LISTING SHEET

UL File# <a href="#">E539252</a> - Flammability & Thermal properties			
UL File# <a href="#">E539252</a> - UV Exposure & Water Immersion;	UL746C	-	f1

## SOUND REDUCTION

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



## SOUND INSULATION (noise reduction dB)

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

GAUGE (mm)	ISO 717-1 (R <sub>w</sub> )	EN 1793-3 (DL <sub>R</sub> )
8	32	28
9.5	33	29
12	34	30
15	35	32

## 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.

**POLYVANTIS**

[www.polyvantis.com](http://www.polyvantis.com)



**LEXAN™** Tough, Virtually Unbreakable  
POLYCARBONATE FILM & 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-year limited written warranty against yellowing, loss of light transmission and breakage.

### FIRE 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

Product code:	LEXAN™EXELL™ D Sheet
Gauges:	2-15 mm
Standard size:	2050 x 3050 mm
Masking:	Top side: Coex. opal white PE/purple print Bottom side: Coex transparent PE
Colors:	Clear 112, Bronze 5109, Grey 713, Opal White WH7D287O, WH4D348O, Opal colors max 8 mm

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