POLYVANTIS

PRODUCT DATASHEET

LEXAN™ EXELL™ D

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*

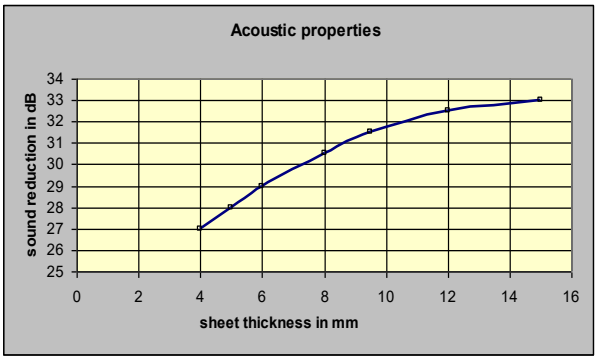
PROPERTY	TEST METHOD	UNITS	VALUE
PHYSICAL			
Density	ISO 1183	g/cm³	1.20
Water absorption, 50% RH, 23 °C	ISO 62	%	0.15
Water absorption, saturation, 23°C	ISO 62	%	0.35
MECHANICAL			
Yield stress 50 mm/min	ISO 527	MPa	>60
Yield strain 50 mm/min	ISO 527	MPa	6
Nominal strain at break 50 mm/min	ISO 527	%	>100
Tensile modulus 1 mm/min	ISO 527	%	2300
Flexural strength 2 mm/min	ISO 527	MPa	90
Flexural modulus 2 mm/min	ISO 178	MPa	2300
IMPACT			
Vicat softening temperature, B/120	ISO 306	°C	145
HTD/Ae, 1.8 MPa edgew. 120*1*04/sp=100	ISO 75-2	°C	127
Thermal conductivity	ISO 8302	W/m.°C	0.2
Coefficient of linear thermal expansion, 23-80°C	ISO 11359-2	1/°C	$7x10^{-5}$
ELECTRICAL			
Volume resistivity	IEC 60093	Ohm.cm	$>10^{15}$

*These are typical properties of polycarbonate resin 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	TEST METHOD	UNITS	VALUE
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# E539252 – Flammability & Thermal properties			
UL File# E539252 – 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_W)	EN 1793-3 (DL_R)
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.

Colour - τv (%)*	3mm	4mm	5mm	6mm	8mm	9.5mm	12mm	15mm
112 – Clear	89	88	88	87	85	85	85	80
5109 – Bronze	50	49	49	49	50	50	NPD	n/a
713 – Grey	50	49	49	49	50	50	NPD	n/a
GY6E575T – Grey	61	55	49	45	38	n/a	n/a	n/a
WH8284X	24	21	19	15	n/a	n/a	n/a	n/a
WH4D348O	27	26	26	23	19	n/a	n/a	n/a
WH7D287O	50	50	50	47	47	n/a	n/a	n/a

* Light transmission measurements acc. ASTM D1003 - Tolerance of ± 5%

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 good fire performance in accordance with many national fire codes dependent on thickness and color; please check with the local sales office for details.

PRODUCT AVAILABILITY

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

POLYVANTIS

Polycarbonate products are sold globally under the trademark LEXAN™ Film & Sheet, owned by SABIC or its subsidiaries or affiliates.

www.polyvantis.com

LEXAN™ POLYCARBONATE FILM & SHEET Tough, Virtually Unbreakable

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