

## Description

Lexan\*Exell\*D-OB sheet is an optical bright opal white polycarbonate sheet with unique light diffusing properties. This both sides UV protected extruded polycarbonate sheet offers significant advantages over many other materials in terms of impact resistance, weathering properties, design freedom and aesthetics. Lexan Exell\*D-OB sheet is available in an optical bright opal white color with diffusion properties for uniform illumination and has a matt finish on the outside surface for reduced reflection and glare.

Lexan Exell D-OB sheet is an excellent candidate for a variety of industry applications like:

- Back lighted signs
- Channel letters
- Lamp diffusers
- Projection screens
- Roller shutters with advertising features

## Typical Property Values ♦

Property	Test Method	Unit	Value
<b>Physical</b>			
Density	ISO 1183	g/cm <sup>3</sup>	1.20
Water absorption, 24 hours	ISO 62	mg	10
Water absorption, saturation /23°C	ISO 62	%	0.35
<b>Optical</b>			
Light transmission <sup>1)</sup> WH7D1360 [at 3.00mm]	ASTM-D1003	%	47
Light diffusion factor [at 3.00mm]	DIN 5036		0.86
<b>Mechanical</b>			
Tensile stress at yield 50 mm/min	ISO 527	MPa	60
Tensile stress at break 50 mm/min	ISO 527	MPa	70
Tensile strain at yield 50 mm/min	ISO 527	%	6
Tensile strain at break 50 mm/min	ISO 527	%	120
Tensile Modulus 1 mm/min	ISO 527	MPa	2300
Flexural stress at yield 2 mm/min	ISO 178	MPa	90
Flexural Modulus 2 mm/min	ISO 178	MPa	2300
<b>Impact</b>			
Charpy impact, notched	ISO 179/2C	kJ/m <sup>2</sup>	35
Izod impact, unnotched 23°C	ISO 180/4U	kJ/m <sup>2</sup>	NB
Izod impact, unnotched -30°C	ISO 180/4U	kJ/m <sup>2</sup>	NB
Izod impact, notched 23°C	ISO 180/4A	kJ/m <sup>2</sup>	65
Izod impact, notched -30°C	ISO 180/4A	kJ/m <sup>2</sup>	10
<b>Thermal</b>			
Vicat Softening Temperature, Rate B/120	ISO 306	°C	145
HDT/ Ae, 1.8 MPa edgew. 120*1*04/sp=100	ISO 75/Be	°C	138
Thermal Conductivity	ISO 8302	W/m °C	0.2
Coeff. of Thermal Expansion extr. 23-80°C	ISO 11359-2	1/ °C	7.10 <sup>-5</sup>
<b>Flammability</b>			
Glow Wire Test, 850°C,	IEC695-2-1	passes at	3 mm

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

<sup>1)</sup> Light transmission value and light diffusion may vary by + or -4 %.

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## Optical properties

Gauge / color grade	Light Transmission (%)	Diffusion Factor
2 mm/ WH7D136O	55 ± 4%	0.80
3 mm/ WH7D136O	47 ± 4%	0.86
4 mm/ WH7D136O	41 ± 4%	0.86
5 mm/ WH7D136O	36 ± 4%	0.87
6 mm/ WH7D136O	31	0.87
8 mm/ WH7D136O	pending	pending
9.5 mm/ WH7D136O	21 ± 4%	0.87
12 mm/ WH7D136O	pending	pending

## UV protection

Lexan Exell D-OB sheet has proprietary UV protected surfaces, giving excellent durability to outdoor weathering. The superior UV protected surface treatment is not affected by forming and fabricating and Lexan Exell D-OB sheets are therefore backed by a 10 years warranty# against yellowing, loss of light transmission and breakage.

# ) see warranty for details.

## Product availability

Lexan\* Exell D-OB sheet is normally manufactured in the standard sizes listed below;

**Standard gauge:** 2, 3, 4, 5, 6, 8, 9.5, 12 mm

**Size:** 2050 x 3050, 2050 x 6050 mm

**Masking:** Top side: co-ex opal white PE with print Bottom side: co-ex transparent PE



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