

## Description

Lexan Exell D Solar Control IR Solid sheet is a member of the Lexan Exell D Clear sheet family. Lexan Exell D Solar Control IR solid sheet is a transparent polycarbonate sheet with proprietary UV protection on both sides offering excellent weathering properties and IR absorption with a light to solar gain ratio of 1.24 for the color GN9A047T and 1.18 for the color GN8A081T, resulting in outstanding heat management properties. With its excellent impact resistance it is ideally suited to a wide variety of building and construction applications. Lexan Exell D SC IR sheet can be easily cold formed into gentle curves which make it ideal for skylights, covered walkways, barrel vaults etc. Lexan Exell D SC IR sheets are thermo-formable and can be thermoformed into the desired geometry whilst retaining the UV resistant properties specially developed for weather resistant applications.

## Typical Property Values ♦

Property	Test Method	Unit	Value
<b>Physical</b>			
Density	ISO 1183	g/cm <sup>3</sup>	1.22
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> GN8A081T [at 3.00mm]	ASTM-D1003	%	74
Light transmission <sup>1)</sup> GN9A047T [at 3.00mm]	ASTM-D1003	%	63
<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	7.00E-05
<b>Flammability</b>			
Oxygen Index <sup>2)</sup>	ISO 4589	%	25
Glow Wire Test, 850°C, passes at	IEC695-2-1	mm	1

♦ 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, 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.

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

<sup>2)</sup> This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

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## Product Availability

Lexan Exell D SC IR sheet is normally manufactured in the standard sizes listed below. Deliveries from stock or cut to size can be ordered via our customer service organization.

### Standard gauge :

3.00 mm , 6.00mm and 8.00mm ( other gauges possible upon request with a max. of 12.00mm )

### Standard sizes

2050 x 3050 mm  
2050 x 6050 mm

### Masking:

Top side: Co-ex opal white PE/ purple print  
Bottom side: Co-ex transparent PE clear

## Light Transmission

Transparent Lexan Exell D SC IR sheets have an excellent light transmission and solar-transmission

### Color : Natural GN8A081T at 3.00mm

LT value : 74 % ( +/- 4% )      Solar transmission 61%  
(max.68%)\*)

### Color : Natural GN9A047T at 3.00mm

LT value : 63 % ( +/-4% )      Solar transmission 50%  
(max. 55%)\*)

## UV protection

Lexan Exell D SC IR sheet has proprietary UV protected surfaces, giving excellent durability to outdoor weathering. Lexan ExellD SC IR sheet is essential opaque to all wave lengths below 385 nanometers. This useful shielding property can prevent discoloration of sensitive materials placed under or behind Lexan Exell D SC IR sheet.

\*) see tolerances



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