

Description

Lexan Exell D WH7D2870 sheet is a transparent polycarbonate sheet with proprietary UV protection on both sides offering excellent weathering properties. With its excellent impact resistance it is an excellent candidate for a wide variety of building and construction applications. Lexan Exell D WH7D2870 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 WH7D2870 sheet is thermoformable and can be thermoformed into the desired geometry whilst retaining the UV resistant coating specially developed for weather resistant applications.

Typical Property Values ♦

| Property | Test Method | Unit | 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 |
| Mould shrinkage | SABIC-Method | % | 0.6-0.8 |
| Poison's ratio | ASTM-D638 | - | 0.38 |
| Mechanical | | | |
| 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 |
| Hardness H358/30 95 | ISO 2039/1 | MPa | 95 |
| Impact | | | |
| Charpy impact, notched | ISO 179/1C | kJ/m ² | 35 |
| Izod impact, unnotched 23°C | ISO 180/4U | kJ/m ² | NB |
| Izod impact, unnotched -30°C | ISO 180/4U | kJ/m ² | NB |
| Izod impact, notched 23°C | ISO 180/4A | kJ/m ² | 65 |
| Izod impact, notched -30°C | ISO 180/4A | kJ/m ² | 10 |
| Thermal | | | |
| Vicat Softening Temperature, rate B/120 | ISO 306 | °C | 145 |
| HDT/Ae, 1.8 MPa edgew. 120*1*04/sp=100 | ISO 75 | °C | 127 |
| Thermal conductivity | ISO 8302 | W/m.°C | 0.2 |
| Coeff.of Lin.Therm.Exp.extr. 23-80°C | ISO 11359-2 | 1/°C | 7.00 E-05 |
| Ball pressure test 125 ±2°C | IEC 60695-10-2 | - | Passes |
| Relative Thermal Index. Electri. prop. | UL746B | °C | 130 |
| Relative Thermal Index. Mech. prop. with impact | UL746B | °C | 125 |
| Relative Thermal Index. Mech.prop. w/o impact | UL746B | °C | 125 |

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- ♦ 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 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.

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Typical Property Values ♦ (continued)

| Property | Test Method | Unit | Value |
|--|-------------|--------|--------|
| Electrical | | | |
| Volume Resistivity | IEC 60093 | Ohm.cm | 10 E15 |
| Relative Permittivity 50/60Hz | IEC 60250 | - | 2.7 |
| Relative Permittivity 1Mhz | IEC 60250 | - | 2.7 |
| Dissipation Factor 50/60 Hz | IEC 60250 | - | 0.001 |
| Dissipation Factor 1 Mhz | IEC 60250 | - | 0.01 |
| Arc Resistance Tungsten | ASTM-D495 | sec. | 119 |
| Optical | | | |
| Light transmission [¶]) 3 mm | ASTM-D1003 | % | 50 |

Optical properties

Lexan Exell D WH7D2870 sheet is excellent for buildings in hot climates or with south facing aspects, Lexan Exell D WH7D2870 sheet is available in opal white. Lexan Exell D WH7D2870 is essential opaque to all wave lengths below 385 nanometers.

Lexan Exell D WH7D2870 has a light transmission of 50% at the thickness range 2-5 mm as well as it reflects 25% of IR radiation responsible for heat built up.

| Thickness (mm) | LT% [¶] |
|----------------|------------------|
| 2 | 50 |
| 3 | 50 |
| 4 | 50 |
| 5 | 50 |
| 6 | 47 |
| 8 | 37 |

UV Protection

Lexan Exell D WH7D2870 sheet has proprietary UV protected surfaces, giving excellent durability to outdoor weathering. This superior UV resistance and toughness of Lexan Exell D WH7D2870 sheet is backed by a 10 years limited written warranty against yellowing, loss of light transmission and breakage.

Product Availability

Lexan Exell D WH7D2870 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

Standard sizes:

2050 x 3050 mm, 2050 x 6050 mm

Masking:

Top side: Coex. opal white PE/purple print, Bottom side: Coex. transparent PE

Standard colors:

opal white code WH7D2870

[¶] Light transmission value may vary by + or - 5%



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