

PRODUCT DATASHEET

Lexan* Thermoclear* 16mm 5X Multiwall Sheet

DESCRIPTION

Lexan* Thermoclear* LT2UV165X27 sheet is a unique sheet which combines a high thermal insulation, high light transmission and an outstanding balance of low weight and high stiffness. LT2UV165X27 is a member of the Lexan Thermoclear sheet range of high quality, multiwall polycarbonate glazing sheets extruded from Lexan resin. Lexan Thermoclear 16 mm 5 wall X-structure sheet has two sides proprietary UV protected surface, giving superior resistance to outdoor weathering. Lexan Thermoclear LT2UV165X27 available in sheet widths (w) are: 980, 1250mm.

PRODUCT AVAILABILITY

Grade	std widths ETS-closed edges	available in lengths in mm	std packaging stock items **
LT2UV165X27	980-1250	3000-13000	25

COATING AVAILABILITY

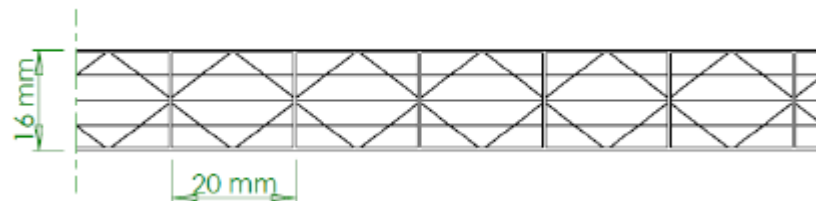
Thermoclear 2UV plus sheet:

Thermoclear 2UV plus sheet is the standard coating applied to both sides of the SABIC multiwall sheet and gives the product an excellent UV weathering performance.

Thermoclear SunXP sheet:

Thermoclear SunXP sheet is a coating which even enhances the weathering performance to the extent that SABIC offers a fifteen year written limited warranty with this product.

LT2UV165X27



BASIC PROPERTY VALUE'S

weight kg/m ²	U value W/m ²	Rib distance in mm	LT 112	LT WH7A092X	* LT IR Green
2.700	1.88	20	59%	53%	42%

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SOLAR TRANSMISSION

Lexan Thermoclear sheet is essential opaque to all wavelengths below 385 nanometers. This useful shielding property can prevent discoloration of sensitive materials placed under or behind. Solar heat gain within a building is caused by heat input from radiation emitted from the sun. The near infrared component of sunlight heats the air both directly and through absorption by the framework, furniture, etc. and is released as infrared energy. In combination with the insulation properties of Lexan Thermoclear sheet, this prevents heat escaping faster than it is created causing a temperature increase, the so-called 'greenhouse effect'. The temperature can be controlled by venting, often in combination with special tinted opal white or Lexan Thermoclear SC IR which contains a proprietary additive which selectively absorbs the near infrared region of the light. Lexan Thermoclear is available in different colors or with IR additives, which both cuts down the brightness of sunlight to a pleasing level and reduces heat buildup inside the building. Calculations for solar heat input through glazing are normally based on data published in 'The Institution of Heating and Ventilating Engineers Guide Book'. These calculations are based on clear glass and correction factors or shading coefficients are then applied when alternative glazing materials are used.

UV RESISTANCE

The complete Lexan Thermoclear sheet range features a proprietary both sides surface treatment designed to protect the sheet against the degrading effects of ultra-violet radiation in natural sunlight. Both sides UV protected surfaces offers advantage in economically cutting the sheet in desired shapes, and installation mistakes are minimized since both sheet surfaces may be faced outwards.

WARRANTY

SABIC Innovative Plastics offers a Ten (10) Year Limited Written Warranty on Lexan Thermoclear sheet covering discoloration, loss of light transmission and loss of strength due weathering. See warranty for exact details.

FIRE TEST PERFORMANCE

Lexan Thermoclear sheet has good fire performance against many national and international fire codes dependent on thickness and color; please check with the local sales office for details.

IMPACT STRENGTH

Lexan Thermoclear sheet has outstanding impact performance over a wide temperature range, -40°C to +120°C, and also after prolonged outdoor exposure. As a roof glazing material Lexan Thermoclear 2UV sheet is subjected to the extremes of weather; storms, hail stones, wind, snowfalls and ice formation. Under these conditions, the product is virtually unbreakable and is able to accommodate the subsequent temperature change to sunny conditions without breaking or buckling. Please refer to the warranty for details.

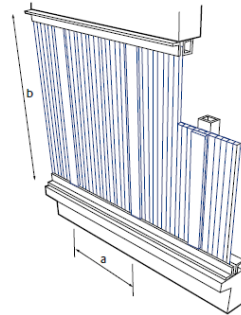
HAIL SIMULATION

It should be noted that when the glass and Acrylic are tested their failure characteristics are typical brittle, whilst Lexan Thermoclear 16 mm 5 wall X-structure sheet shows a ductile deformation one, e.g. small indentations. SABIC Innovative Plastics offers a Ten Year (10) Limited Written Warranty on Lexan Thermoclear sheet covering loss of strength or impact due to weathering.

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DEFLECTION CHARACTERISTICS

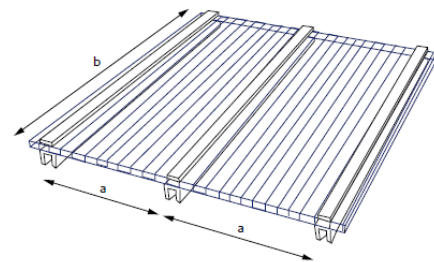


Four sides clamped:

The deflection characteristics in this particular configuration are dependent upon the ratio of the support bar spacing a/b . In practice, "a" represents the center-to-center distance of glazing profiles on the width of the sheet. "b" represents the centre to centre distance of glazing profiles on the length of the sheet.

Ratio	600	800	1000	1200	1400	1600	1800	2000
1 : 1	1250*	1250*	1250*	1250*	1250*	1250*	1250*	1250*
1 : <1.5	1250*	1250*	1250*	1250*	1250*	1250*	1250*	1250*
1 : >1.5	1200	1150	1100	1050	1000	950	900	850

*center to center distance = maximum sheet width



Two sides clamped:

The major factor determining the sheet deflection behavior is the distance "a" between the center points of two adjacent supports. Since any length can be selected, the measurement "b" does not influence the overall deflection performance.

Pressure N/m ²	600	800	1000	1200	1400	1600	1800	2000
	1250	1250	1200	1125	1050	1000	950	850

Cold curved glazing:

Lexan Thermoclear sheet can be successfully cold curved over curved support glazing profiles, to suit many glazing applications, e.g. domes,

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roof-lights, etc. Providing the radius is not below the minimum recommended value of 2400mm, then the introduced stress by cold-curving will not have any adverse effect upon the mechanical performance of the sheet. Sheets must always be bent longitudinally, never across the width of the sheet.

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