

## Description

Lexan\* Thermoclear\* 2UV coex Softlite sheet grades are members of the Lexan Thermoclear sheet range of high quality, multi-wall polycarbonate glazing sheets extruded from Lexan resin. The complete range offers next to remarkable impact strength, light weight, long term weather resistance, outstanding thermal insulation properties, 2 sides UV protected and more than **excellent light transmission at 100% light diffusion and it reduces significantly the "rainbow" effect** with direct sunlight.

## Typical Property Values ♦

Grade-Color	Gauge (mm)	Weight (kg/m <sup>2</sup> )	Sound Red. value <sup>‡</sup> (dB)	U-Value <sup>‡</sup> (W/m <sup>2</sup> K)	Impact Test <sup>¶</sup> Gardner	LT* D65 (%LT)	DST <sup>#</sup> (%DST)	TST <sup>#</sup> (%TST)	SHGC <sup>#</sup>	LSGR <sup>#</sup>	SC <sup>#</sup>
<b>LTT2R45</b> Clear Softlite	4.5 <b>4.5</b>	1.0 <b>1.0</b>	16 <b>16</b>	3.86 <b>3.86</b>	>72 <b>&gt;72</b>	83 <b>78</b>	<b>72</b>	83 <b>79</b>	0.83 <b>0.79</b>	1.00 <b>0.99</b>	0.95 <b>0.91</b>
<b>LTT2R6</b> Clear Softlite	6 <b>6</b>	1.3 <b>1.3</b>	17 <b>17</b>	3.56 <b>3.56</b>	>72 <b>&gt;72</b>	82 <b>79</b>	76 <b>73</b>	82 <b>77</b>	0.82 <b>0.77</b>	1.00 <b>1.03</b>	0.94 <b>0.89</b>
<b>LTT2R8</b> Clear Softlite	8 <b>8</b>	1.5 <b>1.5</b>	18 <b>18</b>	3.26 <b>3.26</b>	>72 <b>&gt;72</b>	81 <b>79</b>	77 <b>73</b>	82 <b>77</b>	0.82 <b>0.77</b>	0.99 <b>1.03</b>	0.94 <b>0.89</b>
<b>LTT2R10</b> Clear Softlite	10 <b>10</b>	1.7 <b>1.7</b>	19 <b>19</b>	3.02 <b>3.02</b>	>72 <b>&gt;72</b>	81 <b>78</b>	76 <b>72</b>	80 <b>76</b>	0.80 <b>0.76</b>	1.01 <b>1.03</b>	0.92 <b>0.87</b>
<b>LTT3T16</b> Clear Softlite	16 <b>16</b>	2.7 <b>2.7</b>	21 <b>21</b>	2.27 <b>2.27</b>	>72 <b>&gt;72</b>	74 <b>72</b>	70 <b>67</b>	78 <b>73</b>	0.78 <b>0.73</b>	0.95 <b>0.99</b>	0.90 <b>0.84</b>

Color number reference table:

Color	Color number
Clear	112
<b>Softlite</b>	<b>NA9D110X</b>

♦ These property values have been derived from Lexan\* resin data for the material used to produce this sheet product

‡ Sound reduction values based on Sabic calculated values according DIN 52210-75

‡ U-values based on Sabic calculated values according ISO 10077 (EN673)

¶ Impact test using Gardner Impact method ASTM D4226, D5420, D5628, A2LA Accredited

• LT (Light Transmission) and TST (Total Solar Transmission) measurements according ISO 9050 (EN 410) on 600x600 mm samples

# TST (Total Solar Transmission) divided by 100 equals Solar Heat Gain Coefficient (SHGC) or g-value.

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Lexan\* Thermoclear\*

## Definitions

**Light Transmission D65 (% LT):**

Percentage of the incident visible light that passes through the sheet.

**Direct Solar Transmission (%DST):**

Percentage of incident solar radiation that passes directly through the sheet.

**Total Solar Transmission (%TST):**

The percentage of incident Solar radiation transmitted by an object which includes the direct Solar Transmission plus the part of the Solar Absorption reradiated inward.

**Solar Heat Gain Coefficient (SHGC):**

or g-value is the total solar energy that enters the interior of a building, divided by 100.

**Shading Coefficient (SC):**

The ratio of the total solar radiation transmitted by a given material to that transmitted by normal 3 mm glass, whose light transmission is 87%.  $SC = \%TST / 87$ .

**Light to Solar Gain Ratio (LSGR):**

The ratio between total light transmission (LT) and the total solar transmission (TST).

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In addition to the standard 2UV coex grade-color combinations we have other optional sheet configurations available in Lexan Thermoclear 2UV coex Softlite Sheet. Different inside surface treatment is developed to give specific added value properties to the sheet.

**Inner surface: Anti-Drip**

**•Lexan\* Thermoclear\* Drippard Sheet**

Lexan Thermoclear Drippard sheet is suitable for any roof glazing application in which water droplets are unacceptable, such as commercial greenhouses where they could cause crop spoilage. This innovative product has UV protection on the outer surface and a specially developed hydrophilic coating on the inner surface. This coating reduces the formation of condensation droplets by increasing the surface tension of the sheet and decreasing the contact angle. As a consequence, a thin mist of water will form on the inner surface of the sheet, which will not drip and will not affect the excellent light transmission of the material.

## Solar Transmission

Transparent grades of Lexan Thermoclear 2UV coex Softlite sheet have excellent light transmission. Although Lexan Thermoclear 2UV coex Softlite Sheet has less solar transmission versus traditional glass, we advise for buildings in hot climates or facing south, Lexan Thermoclear in IR version (absorbing infra red) which will reduce the solar transmission substantially up to 70%.

## UV Resistance

Despite transmitting visible light very well, Lexan Thermoclear 2UV coex Softlite sheet is almost opaque to radiation in the UV and far infra-red region. This useful shielding property can prevent discoloration of sensitive materials such as fabrics or other organic materials placed under or behind Lexan Thermoclear 2UV coex Softlite sheet glazing in, for example, a factory warehouse, museum or shopping centre.

The complete Lexan Thermoclear 2UV coex Softlite sheet range features a proprietary two sides surface treatment designed to protect the sheet against the degrading effects of ultra-violet radiation in natural sunlight. It has superior resistance to outdoor weathering.

## Warranty

SABIC Innovative Plastics offers a Ten (10) Year Limited Written Warranty on Lexan Thermoclear 2UV coex Softlite sheet covering discoloration, loss of light transmission and loss of strength due to weathering.

## Thermal insulation

The multi-wall structure of Lexan Thermoclear 2UV coex Softlite sheet offers significant advantages where thermal insulation is a major consideration. The hollow form provides excellent insulation characteristics with heat losses significantly lower than mono-wall glazing materials.

## Fire Test Performance

Lexan Thermoclear 2UV coex Softlite sheet has good fire behavior characteristics, and receives high ratings in several major European fire performance tests. More detailed information is available from your local SABIC Innovative Plastics' Service Center or authorized dealer.

## Sound insulation

The sound insulation characteristics of a material are largely pre-determined by its stiffness, mass and physical construction. According to DIN 52210-75, the maximum obtainable sound is 24dB.

## Impact Strength

Lexan Thermoclear 2UV Softlite coex sheet has outstanding impact performance over a wide temperature range, -40°C to 120°C, and also after prolonged outdoor exposure.

## Hail Simulation

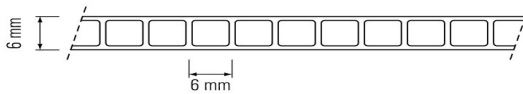
As roofing material Lexan Thermoclear 2UV coex Softlite sheet is subjected to the extremes of weather; like storms, hail, wind, snowfall and ice formation. Under these conditions, the product is virtually unbreakable and is able to accommodate the subsequent temperature change to sunny conditions without breaking or buckling. It should be noted that when glass and acrylic are tested their failure characteristics are typical brittle, whilst Lexan Thermoclear 2UV coex Softlite sheet shows a ductile deformation one, e.g. small indentations. SABIC Innovative Plastics offers a Ten Year (10) Limited Written Warranty on Lexan Thermoclear 2UV coex Softlite sheet covering loss of strength or impact due to weathering.

Structures and nomenclatures

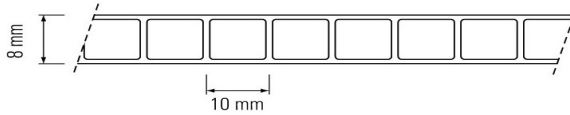
LTT2R45



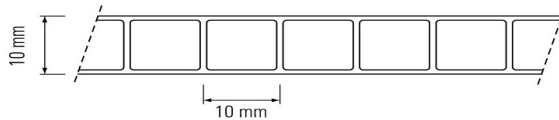
LTT2R6



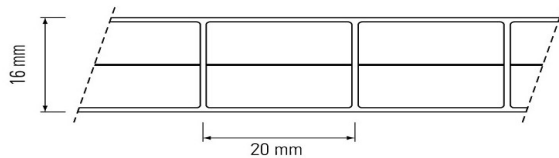
LTT2R8



LTT2R10



LTT3T16



Tolerances on Dimensions

	Weight	Gauge	Width	Length <6m	Length >6m
<b>4.5mm 2R 1000gr</b>	+/-50gr	+/-7%	+/-0.5%	+12mm	+30mm
<b>6mm 2R 1300gr</b>	+/-50gr	+/-5%	+/-0.5%	+12mm	+30mm
<b>8mm 2R 1700gr</b>	+/-50gr	+/-5%	+/-0.5%	+12mm	+30mm
<b>10mm 2R 2000gr</b>	+/-50gr	+/-5%	+/-0.5%	+12mm	+30mm
<b>16mm 3T 2800gr</b>	+/-50gr	+/-3%	+/-0.5%	+12mm	+30mm

## General Guidelines

### Storage

Lexan Thermoclear 2UV coex Softlite sheet should be stored and protected against atmospheric influences like sun, rain, etc. Care should be exercised when handling and transporting Lexan Thermoclear 2UV coex Softlite sheet in order to prevent scratches on the panel surface and damage to the panel edges.

### Cleaning

Periodic cleaning using correct procedure is recommended to prolong service life. For extensive cleaning recommendations please read our technical manual. Small surfaces; gently wash sheet with a solution of mild soap and lukewarm water, using a soft, grid-free cloth or sponge to loosen any dirt or grime.

Do not use any corrosive materials or chemicals to clean Lexan Thermoclear 2UV coex Softlite sheets.

### Chemical Resistance

Neoprene, EPT or EPDM rubbers with an approximate Shore Hardness of A65 are recommended. When using glazing compounds it is essential that the sealant system accepts a certain amount of movement to allow for thermal expansion, without loss of adhesion to the frame or sheet. Silicone sealants are generally recommended for use with Lexan Thermoclear 2UV coex Softlite sheet. It is strongly advised when using sealing to check before compatibility before use.

### Sawing

Lexan Thermoclear 2UV coex Softlite sheet can be cut easily and accurately with standard workshop equipment. This includes common circular, hand and hacksaws. Saw dust should be blown out of the channels using clean compressed air. Circular saw blade should be fine-toothed panel blades. When hand or power hacksaws are used, the sheet should be clamped to the worktable to avoid undesirable vibration.

### Thermal expansion allowance

Since Lexan Thermoclear 2UV coex Softlite sheet has a greater linear thermal expansion coefficient than that of traditional glazing materials, care should be taken to allow for free expansion of the sheet to prevent bowing and internal thermal stress. Thermal expansion allowance must be made for both the length and width of the Lexan Thermoclear 2UV coex Softlite sheet. In general, thermal expansion of the sheet is approximately 3 mm per linear meter.



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