

SUSTAINABLE GREENHOUSE DESIGNS

As today's horticulture industry is increasingly focused on sustainable production and higher profit margins, SABIC answers this call with its lightweight, durable polycarbonate (PC) LEXAN™ THERMOCLEAR™ sheet portfolio for greenhouse roofing and cladding.

ENHANCED PERFORMANCE TO REDUCE COST

SABIC's LEXAN™ THERMOCLEAR™ sheet portfolio can help deliver better performance around critical challenges such as total cost reduction, energy saving, sustainability and improved yield of crops. Of the total energy consumed in the greenhouses, roughly 65% to 85 % is for heating, and the remainder is for lighting, transportation and other necessities. SABIC's LEXAN THERMOCLEAR sheet products not only offer durability, high thermal insulation and long-term light transmission to increase energy efficiency but also provide unique solutions such as EASY CLEAN and DRIPGARD coatings that enables our customers to reduce maintenance costs by making cleaning of roof and cladding easy and help improve the yield of the greenhouses by preventing condensation damages of crops. SABIC's LEXAN THERMOCLEAR sheet materials provide potential alternatives to glass, acrylic (PMMA) and other commercial materials commonly used in the greenhouse construction.

POTENTIAL BENEFITS:

- > Outstanding balance of light transmission, lightweight, high impact strength and stiffness
- > Delivers up to 250 times the impact resistance of glass and reduce the risk of breakage from wind, hail and other extreme weather, as well as vandalism
- > High light transmission, enhancing sunlight coming from roof
- > Excellent UV- and flame resistance
- > Excellent thermal insulation due to its multiwall configuration , retaining 50% more heat than single glass, contributing substantial savings ranging from 20% to 45% on energy demand
- > 50% lighter than glass and virtually unbreakable, making it resistant to hail and easy and safe to work with
- > Requires less and thinner profiles compared to heavy glass panes which increase surface area that light comes into the greenhouse
- > Reducing transport and labor costs, facilitating easy and fast installation



WIDE CHOICE OF SPECIAL PROPERTIES

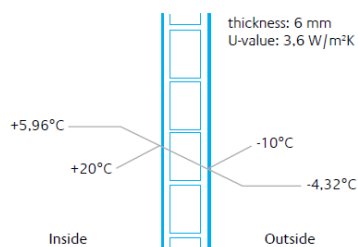
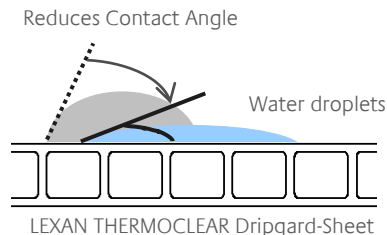
EASY CLEAN coating on the outside surface of LEXAN sheet reduces the surface tension of the material and forms larger water or rain droplets to wash away dirt; leaving the sheet almost spotless. Furthermore, it stays clean for longer period of time, thereby reducing the frequency and the associated cleaning cost.

DRIPGARD coating on the inner surface of the LEXAN sheet reduces the formation of condensation, ensuring continued high light transmission.

Special SOFTLITE grade offers up to 79% light transmission combined with 100% light diffusion which reduces the “arc” or “rainbow” effect of the direct sunlight in the greenhouse, helping prevent strong light reflection and the shadow forming which may interfere with crop growth.

LEXAN THERMOCLEAR sheet is available in two or three wall rectangular multiwall structure and in 8-10 mm gauges, comes in clear, opal white and green (solar control) colors. These materials carry a 10-year limited written warranty against discoloration, loss of light transmission and loss of impact strength due to weathering. LEXAN THERMOCLEAR sheets are used worldwide for roofing, cladding and glazing greenhouses as well as conservatories, shopping centers, stadiums, office buildings, and factories.

How does DRIPGARD coating works



Temperature process through LEXAN THERMOCLEAR sheet at low outside temperature

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