

Sundance Supply[®], LLC

LEXAN[®]
Corrugated Sheet
Technical
and
Installation Guide

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**Structured
Products**

LEXAN® Corrugated Sheet – An Economical, High-Performance Glazing Material

LEXAN Corrugated sheet is the product of choice for cost-effective, high light-transmitting, long-lasting glazing applications.

LEXAN Corrugated sheet is inexpensive and easy to install with simple woodworking tools. Light-weight and tough, it can be cold-formed to gentle curves or rolled up for easy handling.

Made from LEXAN polycarbonate – a high-performance engineering thermoplastic – LEXAN Corrugated sheet offers the clarity of glass, transmitting up to 90% of visible light while filtering out harmful ultraviolet light. Its proprietary integral UV resistance is backed by a 10-year limited warranty* against yellowing and loss of light transmission.

Its durability and high impact resistance reduce risk of breakage before, during, and after installation.

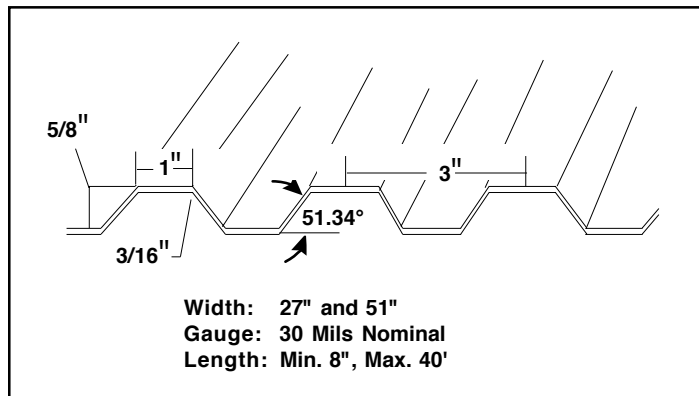


Fig. 1. LEXAN Corrugated Sheet Profile and Dimensions



LEXAN Corrugated sheet provides the crystal clarity you associate with glass – without the heavy weight, high cost and risk of breakage.

*Details upon request.

Excellent UV Resistance

LEXAN Corrugated sheet is exceptionally resistant to weathering, as shown in Figure 2. Using proprietary technology, LEXAN Corrugated sheet is manufactured with an integral layer protecting the sheet from the damaging effects of sunlight. It will remain clear and non-yellowing for many years with minimal deterioration. Light transmittance for clear LEXAN Corrugated sheet remains at 90% even through accelerated Q.U.V. tests.

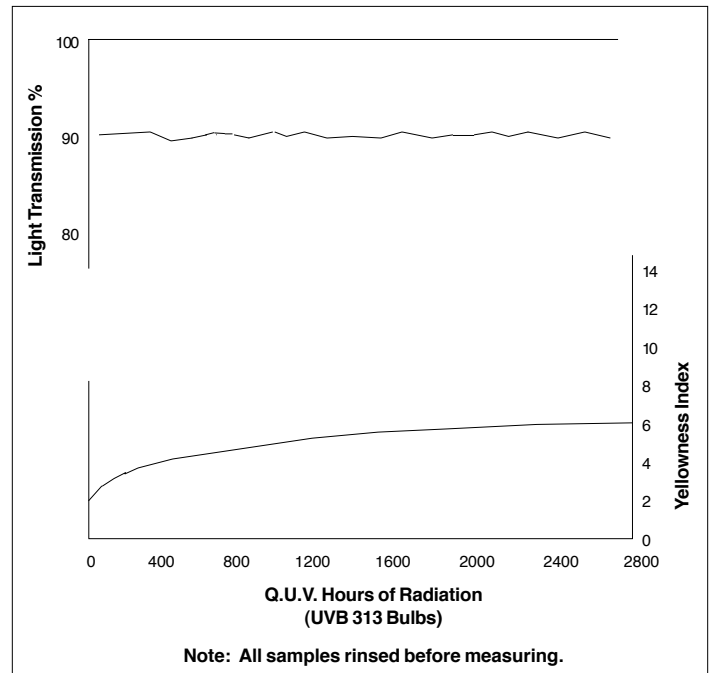


Fig. 2. LEXAN Corrugated Sheet Accelerated Weathering

Reduced Ultraviolet Transmission

LEXAN Corrugated sheet transmits a high portion of visible light. It is essentially opaque to ultraviolet light at wavelengths below 385 nanometers. LEXAN Corrugated sheet blocks out the harmful UV light.

High Light Transmission

Clear LEXAN Corrugated sheet transmits visible light as well as glass. Up to 90% of visible light (as measured by ASTM standards and demonstrated in Figure 3) is transmitted through clear LEXAN Corrugated sheet.

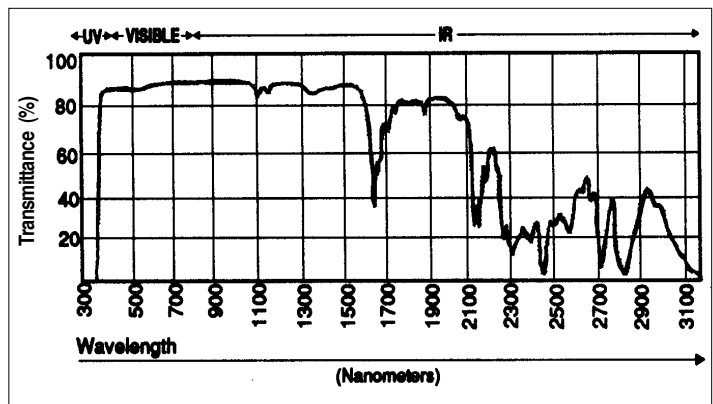


Fig. 3. LEXAN Corrugated Sheet Wavelength Transmission

Property	Eng. (SI) Units	Double-Layer Polyethylene	Fiberglass Panels	1/4" Single-Layer Glass	LEXAN Corrugated Sheet
Impact Strength		Good	Fair	Very Poor	Excellent
Heat Deflection Temperature per ASTM D648	°F (°C)	248 (120)	212 (100)	484 (240)	257 (125)
U Value	Btu/sq.ft./hr. (°F/in.)	.70	1.56	1.13	1.2 (.70 with curtain)
Visible Light Transmittance per ASTM D1003	%	77	86	90	90
Weathering (Light Transmission) After Aging		Fair	Poor	Excellent	Excellent
UV Transmission	%	<3%	20	80	<3%

Table 1. Comparison of Glazing Materials

High Impact Strength

With 20 times the impact resistance of fiberglass and over 40 times the impact resistance of glass or acrylic (Figure 4), LEXAN Corrugated sheet resists hail, wind, and vandalism. At a thickness of .033", LEXAN Corrugated sheet can withstand over 240 inch-pounds of impact. This equates to a 3/4" hailstone falling at 96 miles per hour! LEXAN Corrugated sheet maintains this superior impact resistance at temperatures ranging from -40°F to 250°F.

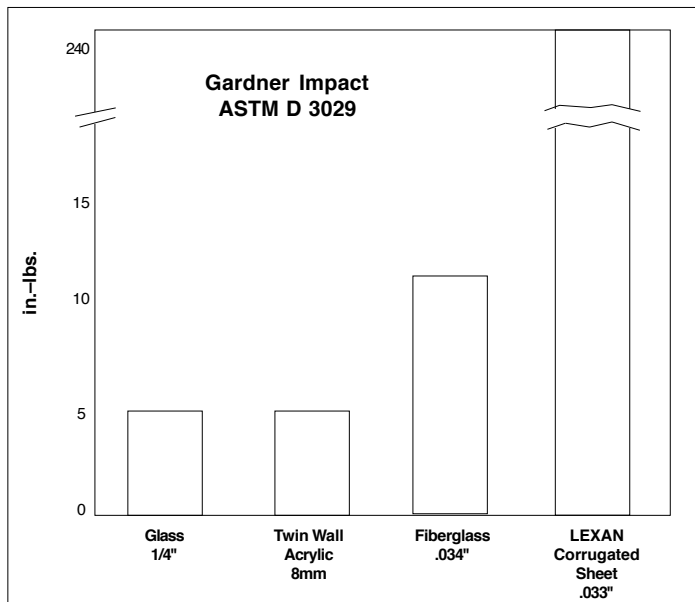


Fig. 4. Gardner Impact Comparison (ASTM D 3029)

Thermally Insulating

LEXAN Corrugated sheet can help save energy because of its thermal insulating capability. Compared to fiberglass, which has a U-value of 1.56, LEXAN Corrugated sheet insulates with a U-value of 1.2. As an example, this means that a greenhouse located in Denver, CO, would save an average of 300 gallons of oil annually for each 1000 sq.ft. of glazing with

LEXAN Corrugated sheet over fiberglass. Using an energy "curtain/blanket", the U value of LEXAN Corrugated sheet is .70 – equal to double polyethylene film.

	LEXAN Corrugated Sheet	Fiberglass Panels	1/8" Single Layer Glass	Double Layer Polyethylene
U-Value	1.14	1.56	1.13	0.70
U-Value with Energy Curtain	0.70	0.80	0.80	N/A

Table 2. Calculated U-Value Comparison [Btu/(hr)(sqft)(°F)]

Chemically Stable

Although LEXAN Corrugated sheet is unharmed by many chemical substances, it is important to avoid contact with adhesives, paints or solvents which are incompatible with polycarbonate. Chemicals to avoid include benzene, gasoline, acetone, and carbon tetrachloride, among others. Only recommended cleaners should be used to clean LEXAN Corrugated sheet.

Low Flammability

LEXAN Corrugated sheet meets the requirements of an approved light-transmitting plastic as described by all three model building codes (ICBO, BOCA, and SBCCI). These include ASTM D635, D1929, and D2843. LEXAN Corrugated sheet exhibits superior flammability performance when compared to typical fiber reinforced polyester (FRP) and acrylic sheet materials.

Light Weight

LEXAN Corrugated sheet reduces labor costs because its light weight simplifies handling, transportation, and installation – particularly of long spans in high places. LEXAN Corrugated sheet is only one-quarter the weight of glass on a square-foot basis.

See installation, cleaning, storage, and warranty information at [http://www.sundancesupply.com/...](http://www.sundancesupply.com/)