POLYVANTIS

PRODUCT DATASHEET

LEXAN™ XL102UV SHEET

DESCRIPTION

LEXAN™ XL102UV sheet combines the impact strength of LEXAN polycarbonate sheet with a proprietary UV-resistant surface treatment on both sides that protects it from weathering. LEXAN XL102UV sheet is the only polycarbonate glazing material backed by a ten-year limited warranty against yellowing, loss of light transmission and breakage#). Providing long-lasting clarity over a wide range of weather conditions and environments, Lexan XL102UV sheet improves service life and reduces life-cycle material costs. Lexan XL102UV sheet is well suited for all types of vertical glazing and overhead applications such as skylights, covered walkways and barrel vaults.

TYPICAL PROPERTY VALUES*

PROPERTIES	TEST METHOD	VALUE	UNIT
PHYSICAL			
Specific Gravity	ASTM D792	1.20	-
Sound Transmission			
STC Rating (36" x 84")			
@ 0.118"	ASTM E9070	25	
@ 0.177"		29	
@ 0.236"		31	
Light Transmission (Average)	ASTM D1003	88	%
Rockwell Hardness	ASTM D785	M70/ R118	-
Chemical Resistance	ANSI Z26.1	Passes	
MECHANICAL			
Tensile Strength @ Yield	ASTM D638	9,300	psi
Tensile Modulus	ASTM D638	345,000	psi
Flexural Strength	ASTM D790	14,000	psi
Flexural Modulus	ASTM D790	360,000	psi
Flexural Endurance @ 1,800 Cycles/Min, 73°F, 50%	ASTM D671	1,000	psi
Compression Strength @ yield	ASTM D695	10,400	psi
Elongation	ASTM D638	85	%
Izod Impact Strength, up to 125 mils, Notched Drop	ASTM D256A	12-18	ft-lbs-in
Dart Impact Strength, 1" dia. Dart @ 73°F	POLYVANTIS Method	>200	ft-lbs
@ 0°F		>200	
THERMAL			
Coefficient of Thermal Expansion	ASTM D696	3.75 x10^{-5}	in/in/°F
Thermal Shrinkage	POLYVANTIS Test	1	%
Heat Deflection Temperature @ 264 psi	ASTM D648		°F
@ 66 psi		270	°F
Shading Coefficient	ASHRAE	280	-

Clear		1.02	-
Grey/ Bronze		.79	-
PROPERTIES	**TEST METHOD**	**VALUE**	**UNIT**
FLAMMABILITY			
Horizontal Burn (Flame Spread), AEB	ASTM D635	<1	in
Ignition Temperature Flash	ASTM D1929	873	
Self		1,076	°F

- These typical values are not intended for specification purposes. If minimum certifiable properties are required please contact your local POLYVANTIS representative.

CODE COMPLIANCE

UL File Number: E539257

ENERGY EFFICIENCY

LEXAN™ XL102UV sheet provides up to 25% better thermal insulation than single-panel glass. Double glazing increases the advantage.

PRODUCT AVAILABILITY

Standard Gauges and Widths
0.118",0.150",0.177",0.236" in 4'X8', 6'X8' and 8'x8'
Product can be made within the gauge range of 0.093"-0.500'

Standard **Colors**: 112
Product can be made with other colors

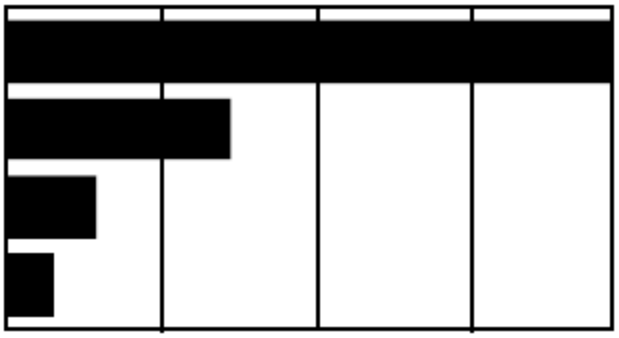
IMPACT RESISTANCE¶

¼" LEXAN™ XL102UV sheet

¼" Acrylic

¼" Tempered Glass

¼" Laminated Glass



5 10 20 200

Measured in foot-pounds

¶) Drop Dart Test with a 5-lb steel dart and a 1" diameter tip.

CHEMICAL RESISTANCE

LEXAN XL102UV sheet has sufficient resistance to most mineral oils, greases, aliphatic hydrocarbons and acids under low or moderate stress levels. Specific (application related) testing is always advised, especially in applications where the LEXAN XL102UV sheet will come into contact with aggressive chemicals.

PROCESSING

LEXAN XL102UV sheet can be used for thermoforming. It offers high, deep draw ratios, equal wall thickness distribution, and it can be formed into complex shapes using standard thermoforming equipment. Sandwich type heating systems give the best results. LEXAN XL102UV sheet has a forming temperature range of 350- 400°F. When forming, a draft angle of at least 3° should be allowed, and post mold shrinkage of 0.007- 0.009 in/in taken into account.

PRE-DRYING

It is important to ensure that LEXAN™ XL102UV sheet is free of moisture prior to thermoforming. A hot air circulating oven set at 250°F is recommended. Pre-drying times vary from 3-24 hours, depending on sheet thickness.

ASSEMBLING / PAINTING

Parts made from LEXAN™ XL102UV sheet can be assembled with plastics, metals, rubber and other materials using many types of adhesive bonding, welding and mechanical fastening techniques. Since some of these materials can cause environmental stress cracking, please consult POLYVANTIS, for advice on specific applications. A list of approved paint systems and suppliers is available upon request.

POLYVANTIS

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LEXAN™ POLYCARBONATE FILM & SHEET Tough, Virtually Unbreakable

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