POLYVANTIS

PRODUCT DATASHEET

LEXAN™ EXTRITE™ SHEET

DESCRIPTION

LEXAN™ EXTRITE™ sheet is a transparent UV and abrasion resistant sheet grade. This product is especially developed for extreme outdoor weather conditions. For example, sandstorms and high solar energy areas. The intrinsic properties of LEXAN polycarbonate combined with a one - (EXTRITE1) or two side (EXTRITE2) protected surface, result in improved abrasion, chemical and UV resistance. This is backed by a unique fifteen (15) year limited warranty against breakage, yellowing and loss of light transmission.

TYPICAL PROPERTY VALUES*

PROPERTY	TEST METHOD	UNITS	VALUE
PHYSICAL			
Specific Gravity	ASTM D792		1.20
Sound Transmission STC Rating (36"x 84")	ASTM E9070		
@0.118"			25
@0.177"			29
@0.236"			31
Light transmission	ASTM D1003	%	88
MECHANICAL			
Tensile Strength @Yield	ASTM D638	psi	9,300
Tensile Modulus	ASTM D638	psi	345,000
Flexural strength	ASTM D790	psi	14,500
Flexural modulus	ASTM D790	psi	360,000
Flexural endurance @1.800 cycles /Min. 73°F 50%RH	ASTM D671	psi	1,000
Compressive strength @Yield	ASTM D695	psi	10,400
Elongation	ASTM D638	%	85
Izod Impact Strength, up to 125mils, notched drop	ASTM D256A	Ft-lbs-in	12-18
Dart Impact Strength, 1" dia. Dart @ 73°F	In house	Ft-lbs	>200
@ 0°F			>200
Taber haze - 100 cycles, 500-gram, CS-10F Δhaze	ASTM D1044	%	2-3
Taber haze - 500 cycles, 500-gram, CS-10F Δhaze	ASTM D1044	%	6
Taber haze - 1000 cycles, 500-gram, CS-10F ΔHaze	ASTM D1044	%	<15
Metal wool test – 10 cycles ΔHaze	In house	%	1.3
Sandrieseltest – ΔHaze	DIN 52348:1985	%	1
THERMAL			
Coefficient of thermal expansion	ASTM D696	°in/in/°F	3.75×10^{-5}
Thermal Shrinkage	In house	%	1
Heat Deflection Temperature @264psi	ASTM D648	°F	
@66psi			270

PROPERTY	TEST METHOD	UNITS	VALUE
FLAMMABILITY			
Ignition Temperature Flash	ASTM D1929	°F	$>10^{15}$
Dielectric strength, in oil, 3.2 mm	IEC 60243-1	kV/mm	18

*These are typical properties and are not intended for specification purposes. If minimum certifiable properties are required, please contact your local POLYVANTIS representative or the POLYVANTIS Quality Services Department.

PROPERTY – SHEET			
Building & Construction			
EUROPEAN Fire rating – EXTRITE	EN 13501-1	-	B, s1, d0
Mechanical – Neutral Salt spray test	ISO9227-2017 ASTM B117-2019 DIN 50021	-	Pass (0 defects)
UL File# E45329			

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SURFACE PROTECTION

LEXAN™ EXTRITE™ sheet has two-sided UV protection and a one (EXTRITE1) or two (EXTRITE2) sided abrasion/chemical surface protection, giving excellent durability to sustain outdoor weathering. This superior protection and toughness of LEXAN EXTRITE sheet is backed by a 15-year limited written warranty against breakage, yellowing and loss of light transmission.

LIGHT TRANSMISSION

Transparent LEXAN EXTRITE sheet have excellent light transmission, between 87 and 90%. LEXAN EXTRITE sheet is available in translucent/clear version and in opal white, bronze and grey colour. LEXAN EXTRITE is essential opaque to all wavelengths below 385 nanometres. This useful shielding property can help prevent discoloration of sensitive materials placed under or behind LEXAN EXTRITE sheet.

FORMABLE SHEET

LEXAN EXTRITE1 sheet is thermoformable and can be formed into the desired geometry whilst retaining the UV resistant protection specially developed for weather resistant applications. This can be done under defined conditions. For more information, please contact your POLYVANTIS representative.

LEXAN EXTRITE2 can be cold formed into gentle curves of 175 times the sheet thickness. It can also be cold line bent under an angle of a maximum of 90° using ordinary workshop equipment.

CLEANING

For cleaning instructions, consult guidelines. Do not use abrasive or high alkaline cleaners; never scrape the sheet with squeegees, razor blades or other sharp instruments. Do not clean LEXAN EXTRITE sheet products in hot sun or at elevated temperatures. Afterwards, a warm final wash should be made, using a mild soap solution and ending with a thorough rinsing with cold water.

FIRE TEST PERFORMANCE

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

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CHEMICAL RESISTANCE

LEXAN™ EXTRITE™ sheets provide an improved chemical resistance compared to traditional polycarbonate sheet. Especially to chemicals like kerosene and xylene. In applications where the product will come into contact with aggressive chemicals, specific testing of the material will always be required.

SOUND INSULATION (noise reduction dB)

Below graph shows the acoustic properties for different thicknesses of the sheet:

GAUGE (inch)	ISO 717-1 (R_w)	EN 1793-3 (DL_R)
0.315	32	28
0.375	33	29
0.472	34	30
0.590	35	32

SAFETY

The processing guidance given in this documentation is given in good faith and the trust that in all cases you wear the correct Personal Protective Equipment (PPE), e.g. helmet, proper gloves, safety goggles etc. to safely fabricate, e.g. (but not limited to) sawing, cutting, forming our sheets and films. In all cases you should follow local and national regulations around the wear of PPE's prescribed or mandatory to perform these tasks in a safely manor.

LEXAN EXTRITE1 SHEET			Color & Standard price volume (lb)				
Gauge (inch)	Standard width (inch)	Availability Length (inch)	112 Clear	5109 Bronze	GY6E575T Grey	WH7D287O White LT50%	WH4D348O White LT25%
0.157	49.21	49.21-120	2200	2200	2200	2200	2200
0.177-0.236*	49.21	49.21-120	2200	2200	2200	2200	2200
0.157-0.236	80.71	49.21-256	2200	2200	2200	2200	2200
0.315	78.74	49.21-256	2200	2200	2200	2200	2200
0.374-0.472	78.74	49.21-256	2200	2200	2200	n/a	n/a
0.590	78.74	49.21-256	2200	n/a	n/a	n/a	n/a

* CTS production, with max. length of 138"

LEXAN EXTRITE2 SHEET			Color & Standard price volume (kg)				
Gauge (mm)	Standard width (inch)	Availability Length (inch)	112 Clear	5109 Bronze	GY6E575T Grey	WH7D287O White LT50%	WH4D348O White LT25%
0.080-0.236	80.71	49.21-256	2200	2200	2200	2200	2200
0.315	78.74	49.21-256	2200	2200	2200	2200	2200
0.374-0.472	78.74	49.21-256	2200	2200	2200	n/a	n/a
0.590	78.74	49.21-256	2200	2200	2200	n/a	n/a

Longer lengths on request

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