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			
Density	ISO 1183	g/cm³	1.20
Water absorption, 50% RH, 23 °C	ISO 62	%	0.15
Water absorption, saturation, 23°C	ISO 62	%	0.35
MECHANICAL			
Yield stress 50 mm/min	ISO 527	MPa	>60
Yield strain 50 mm/min	ISO 527	%	6
Nominal strain at break 50 mm/min	ISO 527	%	>100
Tensile modulus 1 mm/min	ISO 527	MPa	2300
Flexural strength 2 mm/min	ISO 178	MPa	90
Flexural modulus 2 mm/min	ISO 178	MPa	2300
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			
Vicat softening temperature, rate B/120	ISO 306	°C	145
Temperature of deflection under load (type A), 1.8 MPa, flat	ISO 75-2	°C	127
Thermal conductivity	ISO 8302	W/m.°C	0.2
Coefficient of linear thermal expansion, 23-55°C	ISO 11359-2	1/°C	$7x10^{-5}$
Ball pressure test 125 ±2°C	IEC 60695-10-2	-	Pass
ELECTRICAL			
Volume resistivity	IEC 60093	Ohm.cm	$>10^{15}$
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	TEST METHOD	UNITS	VALUE
Building & Construction			
Fire rating – EXTRITE	EN 13501-1	-	B, s1, d0 (3-6mm)
Mechanical – Neutral Salt spray test	ISO9227-2017 ASTM B117-2019 DIN 50021	-	Pass (0 defects)
UL Listing E539252			

SURFACE PROTECTION

LEXAN™ EXTRITE™ sheet has two-sided UV protection and a one (EXTRITE1) or two (EXTRITE2) sided abrasion 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.

Colour - τv (%)*	3mm	4mm	5mm	6mm	8mm	9.5mm	12mm	15mm
112 – Clear	89	88	88	87	85	85	85	80
5109 – Bronze	50	49	49	49	50	50	NPD	n/a
GY6E575T – Grey	61	55	49	45	38	n/a	n/a	n/a
WH4D348O	27	26	26	23	19	n/a	n/a	n/a
WH7D287O	50	50	50	47	47	n/a	n/a	n/a

COLD BENDING / CURVING

LEXAN EXTRITE 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.

CHEMICAL RESISTANCE

Please check with the technical department for advice concerning chemical resistance.

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.

SOUND INSULATION (noise reduction dB)

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

GAUGE (mm)	ISO 717-1 (R_W)	EN 1793-3 (DL_R)
8	32	28
9.5	33	29
12	34	30
15	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 (kg)					
Gauge (mm)	Standard width (mm)	Availability Length (mm)	112 Clear	5109 Bronze	GY6E575T Grey	GY5E012T Grey	WH7D287O White	WH4D348O White
4	1250	1250-3050	1000	1000	1000	1000	1000	1000
5-6*	1250	1250-3050	1000	1000	1000	1000	1000	1000
4-6	1600	1250-6500	1000	1000	1000	1000	1000	1000
8	1600	1250-6500	1000	1000	1000	1000	1000	1000
9.5-12	1600	1250-6500	1000	1000	1000	1000	n/a	n/a
15	1600	1250-6500	1000	n/a	n/a	1000	n/a	n/a

* CTS production, with max. length of 3500MM

LEXAN EXTRITE2 SHEET			Color & Standard price volume (kg)					
Gauge (mm)	Standard width (mm)	Availability Length (mm)	112 Clear	5109 Bronze	GY6E575T Grey	GY5E012T Grey	WH7D287O White LT50%	WH4D348O White LT25%
3-6	1600	1250-6500	1000	1000	1000	1000	1000	1000
8	1600	1250-6500	1000	1000	1000	1000	1000	1000
9.5-12	1600	1250-6500	1000	1000	1000	1000	n/a	n/a
15	1600	1250-6500	1000	1000	1000	1000	n/a	n/a

Longer lengths on request

POLYVANTIS

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LEXAN™ POLYCARBONATE FILM & SHEET Tough, Virtually Unbreakable

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