POLYVANTIS

PRODUCT DATASHEET

LEXAN™ MARGARD™ MRX1 SHEET

DESCRIPTION

High abrasion resistant, LEXAN™ MARGARD™ MRX1 sheet is a one-side hard coated polycarbonate sheet, used for flat applications only, offering excellent abrasion resistance at the coated side, excellent dimensional stability, impact resistance, optical clarity. Typical applications can be flat glazing systems that are exposed on just one side, needing impact resistance combined with chemical and abrasion resistance. Product cannot be used for cold line bending.

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	ASTM D1044	%	2 - 4
Taber haze - 500 cycles, 500-gram, CS-10F	ASTM D1044	%	6-9
THERMAL			
Vicat softening temperature, 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
PROPERTY	**TEST METHOD**	**UNITS**	**VALUE**
OPTICAL			
Light transmission 3 mm	ASTM D 1003	%	90
Light transmission 4 mm	ASTM D 1003	%	89
Light transmission 5 mm	ASTM D 1003	%	89
Light transmission 6 mm	ASTM D 1003	%	88
Light transmission 8 mm	ASTM D 1003	%	87
Light transmission 9.5 mm	ASTM D 1003	%	86
Light transmission 12 mm	ASTM D 1003	%	84
Light transmission 15 mm	ASTM D 1003	%	82

*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.

CHEMICAL RESISTANCE

LEXAN™ MARGARD™ MRX1 sheet has high resistance at the coated side to many chemicals. In applications where it will come into contact with aggressive chemicals, specific (application related) testing of the material is strongly recommended.

ASSEMBLING

Parts made from LEXAN MARGARD MRX1 sheet can be assembled with plastics, metals, glass, rubber, and other materials using many types of adhesive bonding, welding, and mechanical fastening techniques. Since some of these techniques can cause environmental stress cracking, please ensure that you have carried out tests regarding its suitability for your applications or end use.

RIPPLE ORIENTATION

Ripple direction may play an important role in the application regarding the optical performance of the sheet. For this purpose, the ripple direction is indicated on the sheet masking.

CLEANING

For cleaning instructions consult guidelines. Do not use abrasive or highly alkaline cleaners, never scrape the sheet with squeegees, razor blades or other sharp instruments. Do not clean LEXAN MARGARD sheet products in hot sun or at elevated temperatures. For removal of paints, marking pen, inks, lipstick etc. use Butyl Cellusolve. To remove labels, stickers etc. the use of kerosene, naphta, or white spirits is generally effective. Afterwards, a warm final wash should be made, using a mild soap solution, and ending with a thorough rinsing with cold water.

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.

PRODUCT AVAILABILITY

Product code:	**LEXAN™ MARGARD™ MRX1**
Gauges:	3-15mm
Standard size:	2000 x 3000mm
Color:	Clear 112

POLYVANTIS

Polycarbonate products are sold globally under the trademark LEXAN™ Film & Sheet, owned by SABIC or its subsidiaries or affiliates.

www.polyvantis.com

LEXAN™ POLYCARBONATE FILM & SHEET Tough, Virtually Unbreakable

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