POLYVANTIS

PRODUCT DATASHEET

LEXAN™ MARGARD™ FLG5 XT SHEET

DESCRIPTION

LEXAN™ MARGARD™ FLG5 XT (formable) sheet is one side coated, a transparent UV and abrasion resistant glazing material. It has an extremely high impact strength, with the capacity to be cold curved, drape formed or laminated. With one side formable coating, it offers resistance against wear and tear.

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	%	4 - 8
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
OPTICAL - SHEET			
Light transmission 3 mm	ASTM D 1003	%	90
Light transmission 4 mm	ASTM D 1003	%	89
Light transmission 5 mm	ASTM D 1003	%	88
Light transmission 6 mm	ASTM D 1003	%	88

*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.

PROCESSING

LEXAN MARGARD FLG5 XT sheet may be cold curved into radii of > 300 times the thickness. It can also be drape-formed at a maximum temperature of 155°C, normally without pre-drying. For glass-polycarbonate laminates one should follow the instructions for the laminations process issued by the polyurethane interlayer producers not exceeding 120°C.

CURVED APPLICATIONS

Design freedom, light weight and optical clarity combined with its excellent mechanical properties makes LEXAN™ MARGARD™ FLG5 XT sheet an excellent candidate glazing material for shaped applications in need of a single side formable coating, such as for example “No spall“ glass / LEXAN laminates which need to be formed.

OPTICAL PERFORMANCE

Clear LEXAN MARGARD FLG5XT sheet offers excellent clarity and transmission in the visible light and near infrared region of the spectrum. As it is essentially opaque to all wavelengths below 385 nanometers, it is an excellent candidate to help protect art, antiques, retail displays and fabrics from damaging effects of UV rays. LEXAN MARGARD FLG5 XT sheet is based on High Optical LEXAN sheet measured according to the DIN 52305 A AZ for gauges in the range of 3.00mm – 8.00mm.

UV PROTECTION

LEXAN MARGARD FLG5 XT sheet has a proprietary UV protected surface, giving excellent durability to outdoor weathering and comes with a 5-year limited written warranty against yellowing (see warranty for details).

CHEMICAL RESISTANCE

The mar-resistant coating of LEXAN MARGARD FLG5 XT sheet has sufficient resistance to common chemicals encountered in everyday use. Considering the complexity of chemical compatibility, we strongly recommend that you liaise with POLYVANTIS for testing of chemicals which come into contact with LEXAN sheet products. It is your responsibility to carry out the necessary tests to determine its suitability for your process, application and 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.

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™ FLG5 XT**
Standard gauges:	3-6mm (Other gauges upon request)
Standard size:	2000 x 2920mm (Other sizes upon request)
Color:	Clear 112
Masking	
Top Side:	Co-ex opal white PE (matrix dot-printed grade- name)
Bottom Side:	Co-ex opal white PE
Storage:	Do not store LEXAN MARGARD FLG5 XT sheet outside or at elevated temperatures.

POLYVANTIS

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LEXAN™ POLYCARBONATE FILM & SHEET Tough, Virtually Unbreakable

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