

LEXAN™ MARGARD™ MR5E SHEET

PRODUCT DATASHEET

DESCRIPTION

LEXAN™ MARGARD™ MR5E sheet is a transparent UV and mar resistant glazing material for flat applications only. The intrinsic properties of LEXAN polycarbonate combined with its dual hard coated surface provide: high impact strength and forced entry protection, graffiti resistance, excellent all weather performance, unique ten (10) year warranty against breakage and seven (7) year limited warranty against yellowing, loss of light transmission and coating failure.

TYPICAL PROPERTY VALUES

PROPERTY	TEST METHOD	UNITS	VALUE
PHYSICAL			
Density	ISO 1183	g/cm ³	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	%	1 - 3
Taber haze - 500 cycles, 500 gram, CS-10F	ASTM D1044	%	3 - 8
Taber haze - 1000 cycles, 500 gram, CS-10F	ASTM D1044	%	<10
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
FIRE RATINGS			
Electrical			
Horizontal burn E45329	UL94 HB	-	3 - 8 HB
Horizontal burn E45329	UL94 HB	-	9.5 - 12 V-0

FLAMMABILITY

Limited Oxygen Index (LOI)	ISO 4589	%	30
----------------------------	----------	---	----

TRANSPORTATION

Automotive - horizontal burn	95/28/EC annex IV	-	3 - 12 mm pass
------------------------------	-------------------	---	----------------

OPTICAL

Light transmission 2 mm	ASTM D1003	%	93
Light transmission 3 mm	ASTM D1003	%	92
Light transmission 4 mm	ASTM D1003	%	92
Light transmission 5 mm	ASTM D1003	%	91
Light transmission 6 mm	ASTM D1003	%	90
Light transmission 8 mm	ASTM D1003	%	88
Light transmission 9.5 mm	ASTM D1003	%	87
Light transmission 12 mm	ASTM D1003	%	85
Light transmission 15 mm	ASTM D1003	%	82
Diopter 2 - 8 mm	DIN52305/AZ		< 0.06

◆ Some of the property values have been derived from LEXAN™ resin data for the material used to produce this sheet product.
 ™ Trademark of SABIC.

FLAT APPLICATIONS

Due to its mar-resistant coating, LEXAN™ MARGARD™ MR5E sheet cannot be cold-formed. The sheet is intended for flat applications only.

IMPACT STRENGTH

Virtually unbreakable, LEXAN MARGARD MR5E sheet has up to 250 times the impact strength of glass and 30 times that of acrylic. LEXAN sheet offers outstanding impact strength and complies with the majority of international standards. With a thickness of 4 mm and upwards it complies with DIN 52290 part 4.

DIN 52290 PART 4

LEVEL OF RESISTANCE	DROP HEIGHT	STRIKING ENERGY PER DROP (J)	TOTAL STRIKING ENERGY PER LEVEL (J)
A1	3500 mm	141	423
A2	6500 mm	262	786
A3	9500 mm	383	1149

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.

CHEMICAL RESISTANCE

LEXAN MARGARD MR5E sheet's unique coating provides immunity to many chemicals. Surface contact tests on LEXAN MARGARD MR5E sheet with a wide range of chemicals have proven to have no effect on impact resistance during falling dart testing, proving the excellent fit for LEXAN MARGARD for industrial or aggressive environments. In applications where the product will come into contact with aggressive chemicals, specific testing of the material is always advised.

FIRE TEST PERFORMANCE

LEXAN MARGARD MR5E has good fire performance against many national fire codes dependent on thickness and color; please check with the local sales office for details.

RIPPLE ORIENTATION

For some applications the ripple orientation may play an important role in the optical performance of the sheet. This orientation is marked with a continuous ribbon applied to the sheet masking.

Product Availability

Product Code: MR5E
Standard Size: 2000 x 3000 mm
Thicknesses: 3, 4, 5, 6, 8, 9.5 and 12 mm
Standard Colors: clear (code 112), bronze (code 5109)

For MR5E different colors and dimensions can be made available by prior arrangement. Such arrangements may affect prices, warranty terms and/or conditions of sale.

CONTACT US:

SABIC CORPORATE HQ

PO Box 5101
Riyadh 11422
Saudi Arabia
T +966 (0) 1 225 8000
F +966 (0) 1 225 9000
E info@sabic.com

AMERICAS

SABIC
Functional Forms
2500 City West Boulevard
Suite 100
Houston, TX 77042
USA
Toll-free (800) 323 3783
F (888) 443 2033
E spinside.sales@sabic.com

EUROPE

SABIC
Functional Forms
Plasticslaan 1
4612 PX
Bergen op Zoom
The Netherlands
T +31 (0)164 293684
F +31 (0)164 292272
E ff.info@sabic.com

PACIFIC

SABIC
Functional Forms
1266 Nanjing Road (A)
16th Floor, Plaza 66
200040 Shanghai
China
T +86 21 3222 4500
F +86 21 6289 8998
E ff.info@sabic.com

DISCLAIMER: THE MATERIALS, PRODUCTS AND SERVICES OF SAUDI BASIC INDUSTRIES CORPORATION (SABIC) OR ITS SUBSIDIARIES OR AFFILIATES ("SELLER") ARE SOLD SUBJECT TO SELLER'S STANDARD CONDITIONS OF SALE, WHICH ARE AVAILABLE UPON REQUEST. INFORMATION AND RECOMMENDATIONS CONTAINED IN THIS DOCUMENT ARE GIVEN IN GOOD FAITH. HOWEVER, SELLER MAKES NO EXPRESS OR IMPLIED REPRESENTATION, WARRANTY OR GUARANTEE (i) THAT ANY RESULTS DESCRIBED IN THIS DOCUMENT WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN OR APPLICATION INCORPORATING SELLER'S MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS. UNLESS OTHERWISE PROVIDED IN SELLER'S STANDARD CONDITIONS OF SALE, SELLER SHALL NOT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS DESCRIBED IN THIS DOCUMENT. Each user is responsible for making its own determination as to the suitability of Seller's materials, products, services or recommendations for the user's particular use through appropriate end-use and other testing and analysis. Nothing in any document or oral statement shall be deemed to alter or waive any provision of Seller's Standard Conditions of Sale or this Disclaimer, unless it is specifically agreed to in a writing signed by Seller. Statements by Seller concerning a possible use of any material, product, service or design do not, are not intended to, and should not be construed to grant any license under any patent or other intellectual property right of Seller or as a recommendation for the use of any material, product, service or design in a manner that infringes any patent or other intellectual property right.

SABIC and brands marked with TM are trademarks of SABIC or affiliates.
© Copyright 2020. All rights reserved.

[†] Any brands, products or services of other companies referenced in this document are the trademarks, service marks and/or trade names of their respective holders.

