

## Description

Lexan Margard MR5FR sheet is a translucent UV, flame retardant 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, excellent flame retardant, unique five (5) year limited written warranty against breakage, yellowing, loss of light transmission and coating failure (see limited written warranty).

## Typical Property Values ♦

| Property                                 | Test Method                | Unit              | Value              |
|--|----------------------------|-------------------|--------------------|
| <b>Physical</b>                          |                            |                   |                    |
| Density                                  | ISO 1183                   | g/cm <sup>3</sup> | 1.23               |
| Water absorption, 23 °C/Sat              | ISO 62                     | mg                | 10.0               |
| <b>Mechanical</b>                        |                            |                   |                    |
| Tensile strength, yield ##               | ISO 527                    | MPa               | 60                 |
| Tensile strength, break ##               | ISO 527                    | MPa               | 70                 |
| Tensile elongation, yield ##             | ISO 527                    | %                 | 6                  |
| Tensile elongation, break ##             | ISO 527                    | %                 | 120                |
| Tensile modulus ###                      | ISO 527                    | MPa               | 2350               |
| Flexural strength, max ###               | ISO 178                    | MPa               | 90                 |
| Flexural modulus ###                     | ISO 178                    | MPa               | 2300               |
| <b>Thermal</b>                           |                            |                   |                    |
| Vicat Softening Temp, Rate B / 120       | ISO 306                    | °C                | 145                |
| HDT, 0.45 MPa                            | ISO 75 /Be                 | °C                | 138                |
| Thermal Conductivity                     | ASTM C 177                 | W/m°C             | 0.20               |
| Coeff. of Linear Therm. Expansion        | ASTM D 696                 | 1/°C              | 7x10 <sup>-5</sup> |
| <b>Flammability</b>                      |                            |                   |                    |
| Limited Oxygen Index ####                | ISO 4589                   | %                 | 34                 |
| <b>Optical</b>                           |                            |                   |                    |
| Light transmission (clear 112)           | ASTM D 1003                | %                 | 90#                |
| Taber abrasion, CS-10F, 500 cycles,500g, | ASTM D 1044/<br>ASTM D1003 | % Haze            | <12                |

♦ These typical values are not intended for specification purposes. If minimum certifiable properties are required please contact your local SABIC Innovative Plastics, Specialty Film & Sheet representative.

- #) measured at 3.00 mm gauge
- ##) coating will crack before specified value
- ###) property of base sheet/uncoated sheet
- ####) measured on F-2000

\* Trademarks of SABIC Innovative Plastics IP BV

## Impact Strength

Virtually unbreakable, Lexan Margard MR5FR 112 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                                |

†) as tested on 112 color sheet

## Chemical Resistance

Lexan Margard MR5FR sheet's unique coating provides immunity to many chemicals. Surface contact tests on Lexan Margard MR5FR 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 MR5FR has good fire performance against many national fire codes dependent on thickness and color; please check with the local sales office for details.

## Product Availability

**Product Code :** MR5FR

**Standard Size :** 2000 x 3000 mm

**Thicknesses :** 3, 4, 5, 6, 8 and 9.5 mm

**Standard Colors :** clear (code 112)

For MR5FR different colors and dimensions can be made available by prior arrangement. Such arrangements may affect prices, warranty terms and/or conditions of sale.



\* Trademark of SABIC Innovative Plastics IP BV

Americas:  
SABIC Innovative Plastics  
Specialty Film & Sheet  
One Plastics Avenue  
Pittsfield, MA 01201  
USA  
Tel. (1) (413) 448 5400  
Fax. (1) (413) 448 7506  
Toll free: 1-800 451 3147

Europe:  
SABIC Innovative Plastics  
Specialty Film & Sheet  
Plasticslaan 1  
NL - 4612 PX Bergen op Zoom  
The Netherlands  
Tel. (31) (164) 292911  
Fax. (31) (164) 293272

Pacific:  
SABIC Innovative Plastics  
Specialty Film & Sheet  
1266 Nanjing Road (W)  
16th Floor, Plaza 66  
200040 Shanghai, China  
Tel. (86) 21 6288 1088  
Fax. (86) 21 6288 0818

THE MATERIALS, PRODUCTS AND SERVICES OF SABIC INNOVATIVE PLASTICS HOLDING BV, ITS SUBSIDIARIES AND AFFILIATES ("SELLER"), ARE SOLD SUBJECT TO SELLER'S STANDARD CONDITIONS OF SALE, WHICH CAN BE FOUND AT <http://www.sabic-ip.com> AND ARE AVAILABLE UPON REQUEST. ALTHOUGH ANY INFORMATION OR RECOMMENDATION CONTAINED HEREIN IS GIVEN IN GOOD FAITH, SELLER MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (i) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING SELLER'S PRODUCTS, SERVICES OR RECOMMENDATIONS. EXCEPT AS PROVIDED IN SELLER'S STANDARD CONDITIONS OF SALE, SELLER SHALL NOT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS PRODUCTS OR SERVICES DESCRIBED HEREIN. Each user is responsible for making its own determination as to the suitability of Seller's products, services or recommendations for the user's particular use through appropriate end-use 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. No statement by Seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Seller or as a recommendation for the use of such product, service or design in a manner that infringes any patent or other intellectual property right.

SABIC Innovative Plastics is a trademark of Sabic Holding Europe BV

\* Trademark of SABIC Innovative Plastics IP BV