



Product Data Sheet

Lexan® Margard® Sheet FMR5E (Formable)

Description

Lexan® Margard® FMR5E is a transparent UV and abrasion resistant glazing material.

- Extremely high impact strength, with the capacity to be cold curved or drape formed.
- Dual hardcoated surface offers resistance against wear and tear.

Curved Applications

Design freedom, light weight and optical clarity combined with its superior mechanical properties make Lexan Margard FMR5E the ideal glazing material for shaped applications like: curved windows (e.g. revolving doors), partitions, skylights, barrel vaults, balcony glazing, stairglazing, shelters, machine safetyguards.

Optical performance

Clear Lexan Margard FMR5E glazing offers excellent clarity and has the highest 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 for protecting art, antiques, retail displays and fabrics from damaging effects of UV rays.

Processing

Lexan Margard FMR5E can be cold curved into shallow radii of 300 times the thickness. It can also be drape-formed at a maximum temperature of 155°C, normally without pre-drying.

Chemical Resistance

The mar-resistant coating of Lexan Margard FMR5E has sufficient resistance to common chemicals encountered in everyday use. Taking into account the complexity of chemical compatibility, we strongly recommend liaison with GE Plastics for testing of chemicals which come into contact with our Lexan sheet products

Impact Strength

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 and BS5544.

BS5544

Level of resistance	Striking kinetic energy (J)	Total kinetic energy (J)
Low energy	66	330
High energy	199	995

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, labels, stickers etc. the use of kerosene, naphtha or white spirit 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.

Typical properties

Property	Test Method	Unit	Value
Physical			
Density	ISO 1183	g/cm ³	1.20
Water Absorption, 24 hours	ISO 62	mg	10.0
Optical			
Light transmission (clear 112) Imperfections*	ASTM D 1003 DIN 52305/AS	% -	84-90 Pass
Mechanical			
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	2300
Flexural Strength, yield	ISO 178	MPa	90
Flexural Modulus	ISO 178	MPa	2500
Hardness	ISO 2039/1	Mpa	95
Taber Abrasion, CS-10F, 100 cycles, 500 g	ASTM 1044	% Haze	<12
Thermal			
Vicat Softening Temp, Rate B	ISO 306	°C	145
HDT, 0.45 MPa	ISO 75	°C	138
Thermal Conductivity	ASTM C 177	W/m°C	0.20
Coeff. of Linear Therm. Expansion	DIN53752	m/m°C	7x10 ⁻⁵
Thermal Index	UL 746B	°C	100

*passing DIN 52305/AS requirements for 3-8 mm gauge

Ripple orientation

Ripple direction may play an important role in the optical performance of the sheet. This direction is indicated on the sheet masking. The surface which is foreseen with the -2-strips-indicating grade and ripple direction, is hard coated.

Fire Test Performance

Lexan® Margard® FMR5E has good fire performance against many national fire codes dependent on thickness and colour; please check with the local sales office for details.

Availability

Product code : FMR5E
Standard Size : 2000 x 3000 mm
Thicknesses : 3, 4, 5, 6, 8, 9.5 and 12mm

Standard Colour: clear (112)

AMERICAS

United States

GE Plastics
1 Plastics Avenue
Pittsfield, MA 01201
Tel. (1) (413) 448 5400

Brazil

GE Plastics South America
Av. Das Nacoes Unidas, 12995 - 20 Andar
Edificio Plaza Centenario
04578 - 000 Sao Paulo, Sp
Brazil
Tel. (55) 11 5505 2800
Fax (55) 11 5505 1757

Argentina

GE Plastics South America
Av. L.N. Alem 619 9 Piso
1001 Buenos Aires
Argentina
Tel. (54) 1 317 8753
Fax (54) 1 313 9560

EUROPE

European Headquarters

General Electric Plastics B.V. SPE
Plasticslaan 1
PO Box 117
NL - 4600 AC Bergen op Zoom
The Netherlands
Tel. (31) (164) 29 27 42
Fax (31) (164) 29 19 86

United Kingdom

GE Plastics Ltd
Old Hall Road
Sale
Cheshire M33 2HG
United Kingdom
Tel. (44) (161) 905 50 01
Fax (44) (161) 905 50 04

Italy

General Electric Plastics Italia S.p.A.
Viale Brianza 181
I - 20092 Cinisello Balsamo (Mi)
Italy
Tel. (39) 02 61 83 42 61
Fax (39) 02 61 83 42 09

Germany

General Electric Plastics GmbH
Eisenstraße 5
D - 65428 Rüsselsheim
Germany
Tel. (49) (61 42) 601 101
Fax (49) (61 42) 601 259

Spain

GET sl (Gestión y Especificaciones Técnicas)
Agente Oficial España y Portugal
C/Girona, 67, 3º-2a
08009 Barcelona
Spain
Tel. (34) (93) 488 03 18
Fax (34) (93) 487 32 36

France

General Electric Plastics France S.à.R.L.
Z.I. de St. Guénault B.P. 67
F - 91002 Evry-Cedex
France
Tel. (33) (1) 60 79 69 00
Fax (33) (1) 60 79 69 21

PACIFIC

Australia

GE Plastics (Australia) Pty. Ltd.
175 Hammond Road
Dandenong, Victoria 3175
Australia
Tel. (61) 39 794 4204
Fax (61) 39 794 8563

Beijing

GE Plastics
Citic Building, 3rd Floor
No. 19 Jian Guo Men Wai Avenue
Beijing 100004
China
Tel. (86) 10 6500 6538
Fax (86) 10 6500 6476

Guangzhou

GE Plastics Guangzhou
Room 1212, Yi An Plaza
No. 38, Jian She 6 Road
Guangzhou, 510060
China
Tel. (86) 20 8387 2818
Fax (86) 20 3128 or 3118

Hong Kong

GE Plastics Hong Kong Ltd.
Rm 1008, Tower 1, The Gateway
25 Canton Road
Kowloon
Hong Kong
Tel. (852) 26 29 0880
Fax (852) 26 29 0801

Indonesia

GE Plastics Indonesia
Menara Batavia 5th Floor,
JI KH Mas Manyur kav.126
Jakarta 10220
Indonesia
Tel. (62) 21 574 4980
Fax (62) 21 574 7101

Japan

SP Pacific Ltd.
Nihonbashi Hamacho Park Bldg. 5th Floor
2-35-4 Nihonbashi Hamacho
Chuo-ku, Tokyo 103
Japan
Tel. (81) 3 569 6301
Fax (81) 3 569 6306

Korea

GE Plastics Korea Co. Ltd.
#231-8 Nonhyun-Dong
Kangnam-Ku
Seoul 135-010
Korea
Tel. (822) 510 6273
Tel. (882) 510 6291
Fax (822) 510 6299

Shanghai

GE Plastics Shanghai
10th Floor, Shartex Center
88 Zunyi Road(s)
Shanghai 200335 China
Tel. (86) 21 6270 6789
Fax (86) 21 6270 9973
Fax (86) 21 6270 9974
Fax (86) 21 6270 9975

Singapore

GE Singapore
GE Tower, 240 Panjang Pagar Road
#500 Singapore 088540
Tel. (65) 326 3900
Fax (65) 326 3946

Taiwan

GE Plastics
13th Floor, #168
Tun Hua North Road
Taipei
Taiwan
Tel. (886) 2 514 9842
Fax (886) 2 514 9921

Thailand

GE Plastics Thailand
15th Floor, Thaniya Plaza Buiding
52 Silom Road, Bangkok 10500
Thailand
Tel. (662) 231 2918
Fax (662) 231 2322

All information, recommendation or advice contained in this document or given by General Electric Company, USA, or any of its subsidiaries, affiliates or authorised representatives, whether written or oral, is given in good faith, to the best of its knowledge and based on current procedures in effect. The products of General Electric Company or, if applicable, of its subsidiaries or affiliates are sold subject to Conditions of Sale, printed on the back of order acknowledgements, invoice or available upon request. Nothing in this or any other document shall alter, vary, supersede or operate to waive any of the Conditions of Sale. Each user of the products shall convince himself, through all available sources (including finished product testing in its appropriate environment) of the suitability of the products supplied for its own particular purpose. Because actual use of the products by the user is beyond the control of General Electric Company, its subsidiaries and affiliates, such use is within the exclusive responsibility of the user. General Electric Company, its subsidiaries and affiliates cannot be held responsible for any loss incurred through incorrect or faulty use of the products. Information, recommendation and/or advice are neither made to infringe on any patents, nor to grant a license under any patent or intellectual property right of General Electric Company or any of its subsidiaries or affiliated companies, nor to grant the right to file for any patent protection.

Lexan® and Margard® are Registered Trademarks of General Electric Co., USA.



GE Structured Products

www.GEStructuredProducts.com