



Product Data Sheet

Lexan® Margard® Sheet MR5E

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 year warranty against breakage and five year limited warranty against yellowing, loss of light transmission and coating failure

Flat applications only

Due to its mar-resistant coating, Lexan® Margard® MR5E sheet can not be cold-formed. The sheet is intended for flat applications only.

Abrasion resistance

Tested for abrasion resistance, Lexan® Margard® MR5E sheet exhibits significantly less hazing than uncoated polycarbonate sheet.

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.

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 4mm and upwards it complies with DIN 52290 part 4 and BS 5544.

BS 5544

Level 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 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

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)	ASTM D 1003	%	84-90
Imperfections*	DIN 52305/AS	-	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	2350
Flexural Strength, max	ISO 178	MPa	90
Flexural Modulus	ISO 178	MPa	2300
Hardness	ISO 2039/1	Mpa	95
Taber Abrasion, CS-10F, 500 cycles, 500 g	ASTM 1044	% Haze	<12
Thermal			
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 ⁻⁵
Thermal Index	UL 746B	°C	100
Flame Characteristics			
Limited Oxygen Index	ISO 4589	%	25

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

Fire Test Performance

Lexan® Margard® MR5E has good fire performance against many national fire codes dependent on thickness and colour; 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.

Availability

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

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

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