

Description

Mar/UV-resistant Lexan MR10 sheet combines the impact strength of Lexan polycarbonate sheet with a proprietary abrasion/UV resistant surface that approaches glass in performance. Lexan MR10 Sheet with Margard coating backed by a ten-year limited warranty against yellowing, abrasion resistance, breakage, loss of light transmission, and coating failure[£].) Lexan MR10 sheet's unique coating is graffiti-resistant enabling restoration to a like-new condition. In addition, Lexan MR10 sheet offers improved resistance to weathering as well as forced-entry protection. It is an excellent candidate for use in stores, public buildings, schools, bus shelters and other high traffic areas. Lexan MR10 sheet is for transparent applications only. Because of its high mar-resistant surface, paint, adhesives and other materials will not adhere to its surface. The coating is applied to both sides, therefore helps eliminate second-surface decoration. Also due to its mar-resistant coating, Lexan MR10 sheet cannot be cold-formed.

Typical Property Values ♦

| Property | Test Method | Unit | Value |
|--------------------------------------------------------|-------------|----------|-------------------------|
| Physical | | | |
| Specific Gravity (color dependent) | ASTM D792 | - | 1.20 |
| Light Transmission (Average), 1/8" Thick | ASTM D1003 | % | 88 |
| Chemical Resistance | ANSI Z26.1 | - | Passes [#] |
| Mechanical | | | |
| Tensile Strength, Ultimate | ASTM D638 | psi | 9,500 |
| Flexural Strength | ASTM D790 | psi | 13,500 |
| Flexural Endurance @ 1,800 Cycles/Min, 73°F, 50% RH | ASTM D671 | psi | 1,000 |
| Compressive Strength | ASTM D696 | psi | 12,500 |
| Modulus of Elasticity | ASTM D638 | psi | 340,000 |
| Drop Ball Impact Strength [‡] | SABIC Test | ft-lbs | |
| @ 73°F | | | >200 |
| @ 32°F | | | >200 |
| @ 0°F | | | >200 |
| Thermal | | | |
| Coefficient of Thermal Expansion | ASTM D696 | in/in/°F | 3.75 x 10 ⁻⁵ |
| Heat Deflection Temperature @ 264 psi | ASTM D648 | °F | 270 |
| Flammability | | | |
| Horizontal Burn (Flame Spread) AEB | ASTM D635 | in | <1 |
| Ignition Temperature Flash Self | ASTM D1929 | °F | 873 1,076 |

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

‡ 5-lb steel ball dropped from a height of 40 feet

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£ Request details of limited ten-year warranty plus cleaning and maintenance instructions.

Gasoline and kerosene - no tackiness, crazing or loss of transparency for a minimum of 48 hours.

Abrasion Resistance Comparison

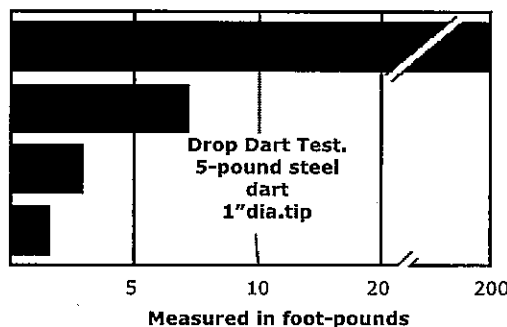
Lexan MR101 sheet exhibits significantly less hazing than uncoated polycarbonate sheet as shown in the abrasion resistance chart.

| | | % Haze | | |
|-------------------------------------|----------------------|------------------------|------------------|-------|
| | Test Method | Uncoated Polycarbonate | Lexan MR10 Sheet | Glass |
| Taber Abrasion 100 Cycles CS 10F | ASTM D 1044 Z26.1 | 35.0 | 1-3 | 0.5 |

* The Taber Abrader test measures the percent of change in haze that results from the grinding action of two abrasive impregnated wheels on the test samples. A constant load of 500 grams is maintained as the samples rotate on a turntable for a predetermined number of revolutions.

Impact Resistance

¼" Lexan MR10 sheet
¼" Acrylic
¼" Tempered Glass
¼" Laminated Glass



Code Compliance

Lexan MR10 sheet meets the requirements of all major model building codes

- Model Building Code Organizations The Approved Light Transmitting Plastics requirements set by the three major Model Building Code organizations (BOCA, ICBO, and SBCCI) and Dade County. Lexan MR10 sheet meets the highest rating—Class CC1 Approved Plastic.
- Underwriters Laboratories Lexan MR10 sheet is listed as a Burglary-Resisting Glazing Material according to UL Standard 972.
- CPSC: 16 CFR 1201, I, II Lexan MR10 sheet complies with the Consumer Product Safety Commission's Safety Standard for architectural glazing materials for both Category I and Category II applications.



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Latest update SABIC (02/08)

Ten (10) Year Limited Written Warranty

If Lexan MR10 sheet (i) breaks, (ii) incurs coating failure, (iii) exhibits excessive increased haze, or (iv) exhibits excessive yellowing or loss of light transmission, in each case within ten (10) years from the date of sale due to manufacturing defect and subject to the definitions and conditions set forth herein, then the purchaser will receive a free replacement sheet, provided the failed sheet, original sales receipt and this warranty are returned to the original dealer. If a replacement sheet cannot be provided within fourteen (14) days, SABIC Innovative Plastics may opt to refund the original sheet purchase price.

This limited written warranty is subject to the following conditions:

This warranty applies only when Lexan MR10 sheet is used in flat vertical architectural glazing, **excluding specifically transportation, outdoor recreational, and off-road vehicle applications**, cleaned and installed in a sash according to SABIC Innovative Plastics' recommendations (see reverse side for cleaning recommendations). This warranty does not cover (re)installation expenses or any other direct or indirect loss(es) which may result from the sheet failure.

Breakage: The warranty against breakage applies only to sheet fabricated, installed, and cleaned according to SABIC Innovative Plastics' recommendations. Lexan MR10 sheet is substantially stronger than acrylic and resists impact, abuse and vandalism. However, no material can be described as unbreakable, for it is impossible to account for all types of usage.

Coating Failure: The warranty against coating failure applies when the abrasion-resistant surface treatment exhibits flaking of the surface treatment or loss of adhesion between the surface treatment and the substrate sheet, either of which is visibly detectable without the aid of instruments.

Abrasion Resistance: The sheet will not exhibit an increase in haze of more than 15%. Criteria: The sample as manufactured shall be abraded according to Test No. 17 of ANSI Z26.1 (Taber Abrader) for 100 cycles with a 500 gram load.

Yellowing and Light Transmission: The warranty against loss of light transmission applies only to Clear Transparent (112) Lexan MR10 sheet with the Margard* surface treatment. The Yellowness Index (YI) of Lexan MR10 sheet (CLEAR ONLY) cleaned according to the recommendations of SABIC Innovative Plastics shall be less than 5.0 during a five-year period from the date of sale, and shall be less than 10 during a ten-year period from the date of sale as determined according to ASTM D1925 (1977) modified by SABIC Innovative Plastics as measured with a Gardner Colorimeter. The light transmission characteristics of Lexan MR10 sheet, cleaned according to the recommendations of SABIC Innovative Plastics shall not decrease (from its initial manufactured value) by more than 5% during a five-year period from the date of sale nor by more than 7% during a ten-year period from the date of sale when tested by the procedure specified in ASTM D1003 modified by SABIC Innovative Plastics. This warranty is limited to excessive yellowing and light transmission losses due to the degradation of Lexan MR10 sheet and does not cover yellowing or light transmission losses due to dirt, atmospheric deposits, abrasion, or changes in the physical structure of the Lexan MR10 sheet. You should be aware that all glazing and outdoor sign materials are subject to irreversible depositions of atmospheric elements and can be expected to show signs of hazing eventually. Regular proper cleaning will significantly reduce, but not eliminate, that process (see reverse side for cleaning and maintenance instructions). **This warranty does not cover hazing caused by physical abuse including failure to clean according to the instructions on the reverse side.**

THE WARRANTIES STATED IN THIS PUBLICATION ARE THE ONLY WARRANTIES MADE BY SABIC INNOVATIVE PLASTICS WITH RESPECT TO LEXAN MR10 SHEET AND ARE IN LIEU OF ALL WARRANTIES, WRITTEN OR ORAL, STATUTORY, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE. SABIC INNOVATIVE PLASTICS SHALL NOT BE LIABLE FOR ANY SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES ARISING OUT OF THE USE OR APPLICATION OF LEXAN MR10 SHEET WHETHER A CLAIM FOR DAMAGES IS BASED UPON WARRANTY, CONTRACT, TORT OR ANY OTHER LEGAL THEORY. UNDER NO CIRCUMSTANCE SHALL SABIC INNOVATIVE PLASTICS BE LIABLE FOR ANY AMOUNT GREATER THAN THE ORIGINAL PRICE PURCHASER PAID FOR THE LEXAN MR10 SHEET. THE REMEDIES PROVIDED HEREIN ARE PURCHASER'S SOLE AND EXCLUSIVE REMEDIES.

Notice: This dealer is authorized to fulfill the above obligations of this warranty to the purchaser at the expense of: SABIC Innovative Plastics, One Plastics Avenue, Pittsfield, Massachusetts 01201 (1-800-451-3147).

This limited warranty must be completed by the dealer at the time of sale.

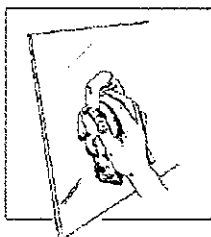
Customer Name: _____
Dealer Name: _____
Date of Sale: _____
SABIC Innovative Plastics Lot Number: _____

(continued on reverse)

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Cleaning and Maintenance Instructions

The proprietary UV-resistant surface treatment on Lexan MR10 sheet significantly improves long-term performance. Periodic cleaning using proper procedures and compatible cleaners is recommended to prolong service life. For general cleaning, it is recommended that the following instructions and cleaning agents be used.



For more information
call: (800) 451-3147

Cleaning Procedures

1. Wash sheet with a mild soap or detergent and lukewarm water.
2. Using a soft cloth or sponge, gently wash the sheet to loosen dirt and grime and rinse well with clean water.
3. To prevent water spotting, thoroughly dry with chamois or cellulose sponge.
4. Avoid the use of abrasive cleaners, squeegees and/or other cleaning implements that may mar or gouge the coating.

CLEANING AGENTS WHICH HAVE BEEN FOUND TO BE COMPATIBLE WITH LEXAN MR10 SHEET UNDER LABORATORY CONDITIONS

• Aqueous Solutions of Soaps and Detergents

| | |
|------------------------|--------------------------|
| Top Job ² | Mr. Clean ² |
| Joy ² | Formula 409 ⁴ |
| Fantastik ³ | |

² Registered Trademarks of Procter & Gamble.

³ Registered Trademark of Texize, Division of Norton Norwich Products Inc.

⁴ Registered Trademark of the Clorox Company.

• Organic Solvents

| | |
|----------------------|------------------|
| Butyl Cellosolve | Hexcel, F.O. 554 |
| Kerosene | Neleco-Placer |
| Naphtha (VM&P) grade | Turco 5042 |

• Alcohols

Methanol and Isopropyl Alcohol

All residual organic solvents should be removed with a secondary rinse.

Graffiti removal

(A) Butyl cellosolve (for removal of paints, marking pen inks, lipstick, etc.).
The use of masking tape, adhesive tape or lint removal tools works well for lifting off old weathered paints.

(B) To remove labels, stickers, etc., the use of kerosene or VM&P naphtha are generally effective.

When the solvent will not penetrate sticker material, apply heat (hair dryer) to soften the adhesive and promote removal.

Lexan* Tough
Polycarbonate Sheet Virtually
Unbreakable

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Latest update Sabic (04/08)



GE Structured Products

LEXAN® MR10 SHEET

Product Data Sheet

DESCRIPTION

Mar/U.V.-resistant **LEXAN® MR10 sheet** combines the impact strength of LEXAN polycarbonate sheet with a proprietary abrasion/UV-resistant surface that approaches glass in performance. LEXAN MR10 Sheet with MARGARD® II coating is the only polycarbonate glazing material backed by a ten-year limited warranty against yellowing, abrasion resistance, breakage, loss of light transmission, and coating failure.*

LEXAN MR10 sheet's unique coating is graffiti-resistant enabling restoration to a like-new condition. In addition, LEXAN MR10 sheet offers improved resistance to weathering as well as forced-entry protection. It is well-suited for use in stores, public buildings, schools, bus shelters and other high-traffic areas.

LEXAN MR10 sheet is for transparent applications only. Because of its high mar-resistant surface, paint, adhesives and other materials will not adhere to its surface. The coating is applied to both sides, therefore helps eliminate second-surface decoration. Also due to its mar-resistant coating, LEXAN MR10 sheet cannot be cold-formed. The sheet is intended for flat applications only.

ABRASION RESISTANCE

Tested for abrasion resistance, LEXAN MR10 sheet exhibits significantly less hazing than uncoated polycarbonate sheet as shown in the Abrasion Resistance Comparison chart herein.

TYPICAL PROPERTY VALUES

| Property | Test Method | Units | Value |
|------------------------------------------------------------------------------|-------------|----------|-------------------------|
| PHYSICAL | | | |
| Specific Gravity (Color Dependent) | ASTM D792 | -- | 1.2 |
| Light Transmission (Average), 1/8" Thick | ASTM D1003 | % | 88 |
| Chemical Resistance | ANSI Z26.1 | | Passes** |
| MECHANICAL | | | |
| Tensile Strength, Ultimate | ASTM D638 | psi | 9,500 |
| Flexural Strength | ASTM D790 | psi | 13,500 |
| Flexural Endurance @ 1,800 Cycles/Min, 73°F, 50% RH | ASTM D671 | psi | 1,000 |
| Compressive Strength | ASTM D695 | psi | 12,500 |
| Modulus of Elasticity | ASTM D638 | psi | 340,000 |
| Drop Ball Impact Strength (5-lb steel ball dropped from a height of 40 feet) | GE Test | ft-lbs | |
| @ 73°F | | | >200 |
| @ 32°F | | | >200 |
| @ 0°F | | | >200 |
| THERMAL | | | |
| Coefficient of Thermal Expansion | ASTM D696 | in/in/°F | 3.75 x 10 ⁻⁵ |
| Heat Deflection Temperature @ 264 psi | ASTM D648 | °F | 270 |
| FLAMMABILITY | | | |
| Horizontal Burn (Flame Spread) AEB | ASTM D635 | in | <1 |
| Ignition Temperature | ASTM D1929 | °F | |
| Flash | | | 873 |
| Self | | | 1,076 |

ABRASION RESISTANCE COMPARISON

| | % Haze | | | |
|------------------------------------|---------------------|------------------------|------------------|-------|
| | Test Method | Uncoated Polycarbonate | LEXAN MR10 Sheet | Glass |
| Taber Abrasion 100 Cycles CS10F | ASTM D1044 Z26.1 | 35.0 | 1-4 | 0.5 |

*Request details of limited ten-year warranty plus cleaning and maintenance instructions.

**Gasoline and kerosene - no tackiness, crazing or loss of transparency for a minimum of 48 hours.

***The Taber Abrader test measures the percent of change in haze that results from the grinding action of two abrasive-impregnated wheels on the test samples. A constant load of 500 grams is maintained as the samples rotate on a turntable for a predetermined number of revolutions.

LEXAN

IMPACT RESISTANCE

LEXAN MR10 sheet has up to 250 times the impact strength of glass and 30 times that of acrylic.

CODE COMPLIANCE

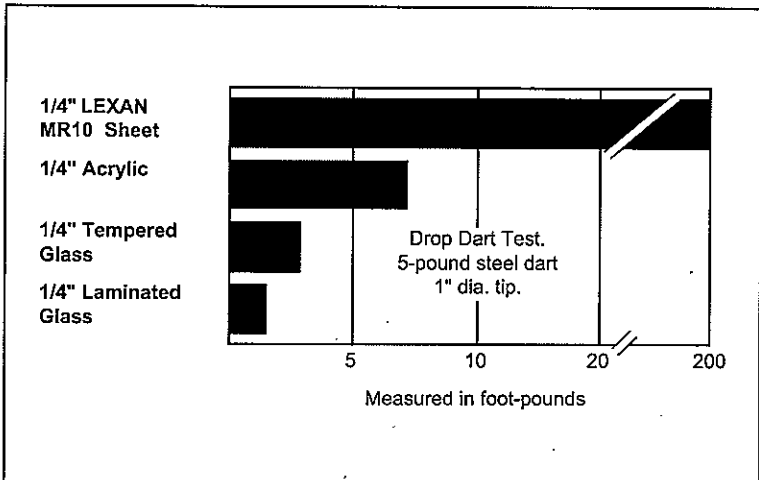
LEXAN MR10 sheet meets the requirements of all major model building codes.

- **Model Building Code Organizations**—LEXAN MR10 sheet meets the Approved Light Transmitting Plastics requirements set by the three major Model Building Code organizations (BOCA, ICBO, and SBCCI) and Dade County. LEXAN MR10 sheet meets the highest rating—Class CC1 Approved Plastic.
- **Underwriters Laboratories**—LEXAN MR10 sheet is listed as a Burglary-Resisting Glazing Material by Underwriters Laboratories according to UL Standard 972.
- **CPSC: 16 CFR 1201, I, II**—LEXAN MR10 sheet complies with the Consumer Product Safety Commission's Safety Standard for Architectural Glazing Materials for both Category I and Category II applications.

For more information call: (800) 451-3147.

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IMPACT RESISTANCE



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