



Scotchlite™ Removable Reflective Graphic Film with Comply™ Adhesive

Series 680CR

For Screen Printing and Electrostatic Printing Only

Product Description

These are 7-mil, flexible, enclosed lens, removable, retroreflective films that offer great versatility along with slideable, pressure-activated adhesive. Air release channels in the adhesive allow for fast and easy, bubble-free graphic installation. These long-term durable films are designed for commercial vehicle, railroad and sign graphics, and striping on vertical, flat, curved or corrugated surfaces, with or without rivets. Use these films for screen printing or electrostatic printing.

Advantages

- Similar daytime and nighttime appearance
- Excellent angularity
- Retains 90% of its retroreflectivity when totally wet
- Unprocessed film resists fuel vapors or occasional spills
- White film meets ASTM D 4956-07, Type 1

Limitations of End Uses

3M specifically does not recommend or warrant the following uses, but please contact us to discuss your needs or recommend other products.

Unsuitable End Uses for This Film

- Wall graphics
- Application to FRP without a Tedlar® coating
- Stainless steel
- Graphics made for automotive Original Equipment Manufacturers (OEM); contact 3M Automotive Division at 1-800-328-1684 for alternatives.
- Also see limitations of graphic removal, page 4.

Compatible Products

3M Graphic Materials

This Bulletin provides details about the base film and construction options and warranty. Additional specific information about compatible products can be found in the Product and Instruction Bulletins listed in **3M Related Literature** at the end of this bulletin.

Screen Printing

- 3M™ Screen Printing Ink Series 1900
- 3M™ Screen Printing UV Ink Series 9800
- 3M™ Scotchlite™ Screen Printing Ink Series 2900

Electrostatic Printing

- Scotchprint® Toner Series 8700/8800
- 3M™ Trident Transfer Paper

Graphic Protection Options

- 3M™ Scotchlite™ Screen Printing Gloss Clear 4430R
- 3M™ Screen Printing Gloss Clear 9800CL
- 3M™ Scotchcal™ Luster Overlamine 8908
- 3M™ High Gloss Graffiti Resistant Overlamine 8912 ES *not for use on rivets*
- 3M™ Scotchcal™ Luster Overlamine 8519
- 3M™ Screen Print Clear 8920 ES *not for use on corrugations*

Other Products

- 3M™ Scotchlite™ Edge Sealer 4433
- 3M™ Prespacing Tape SCPS-55
- 3M™ Premasking Tape SCPM-3
- 3M™ Premasking Tape SCPM-44X

Characteristics

These are typical values for unprocessed product; processing may change the values. Contact your 3M representative for a custom specification.

Physical Characteristics

| Characteristic | Value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------------|---|--|------------|--|-----------|-------|-----|----------|--------|----|----------|------|----|----------|--------|----|----------|-----|----|----------|------|----|----------|------------|----|----------|-------|----|----------|--------------|----|----------|----------|----|----------|-------|----|
| Material | Vinyl | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Film colors & typical retroreflection | <p>At -4° entrance angle and 0.2° observation angle.</p> <table border="1"> <thead> <tr> <th>Color Number</th> <th>Color Name</th> <th>Typical Coefficient of Retroreflection</th> </tr> </thead> <tbody> <tr> <td>680CR-10*</td> <td>White</td> <td>100</td> </tr> <tr> <td>680CR-14</td> <td>Orange</td> <td>20</td> </tr> <tr> <td>680CR-64</td> <td>Gold</td> <td>70</td> </tr> <tr> <td>680CR-71</td> <td>Yellow</td> <td>65</td> </tr> <tr> <td>680CR-72</td> <td>Red</td> <td>20</td> </tr> <tr> <td>680CR-75</td> <td>Blue</td> <td>10</td> </tr> <tr> <td>680CR-76</td> <td>Light blue</td> <td>10</td> </tr> <tr> <td>680CR-77</td> <td>Green</td> <td>20</td> </tr> <tr> <td>680CR-81</td> <td>Lemon yellow</td> <td>75</td> </tr> <tr> <td>680CR-82</td> <td>Ruby red</td> <td>15</td> </tr> <tr> <td>680CR-85</td> <td>Black</td> <td>30</td> </tr> </tbody> </table> <p>*Meets ASTM D 4956-07, Type 1</p> | Color Number | Color Name | Typical Coefficient of Retroreflection | 680CR-10* | White | 100 | 680CR-14 | Orange | 20 | 680CR-64 | Gold | 70 | 680CR-71 | Yellow | 65 | 680CR-72 | Red | 20 | 680CR-75 | Blue | 10 | 680CR-76 | Light blue | 10 | 680CR-77 | Green | 20 | 680CR-81 | Lemon yellow | 75 | 680CR-82 | Ruby red | 15 | 680CR-85 | Black | 30 |
| Color Number | Color Name | Typical Coefficient of Retroreflection | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 680CR-10* | White | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 680CR-14 | Orange | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 680CR-64 | Gold | 70 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 680CR-71 | Yellow | 65 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 680CR-72 | Red | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 680CR-75 | Blue | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 680CR-76 | Light blue | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 680CR-77 | Green | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 680CR-81 | Lemon yellow | 75 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 680CR-82 | Ruby red | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 680CR-85 | Black | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Retroreflection Definition | <p>The typical coefficient of retroreflection defined is measured at a -4° entrance angle and a 0.2° observation angle. It is expressed in candlepower per foot-candle per square foot (candela/lux/square meter) per ASTM E 810.</p> <p>The entrance angle is formed by a light beam striking the surface at a point and at a line that is perpendicular to the surface at the same point.</p> <p>An observation angle is formed by the light beam striking the reflective surface and returning to the observer. From 800 feet (249 meters), a motorist normally views a graphic at a 0.2° angle.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thickness | With adhesive: 7 to 8 mils (0.18 to 0.20 mm) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adhesive type | Pressure-activated, slideable, with air release channels | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adhesive color | White | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Liner | Polyethylene-coated paper | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Chemical resistance | <ul style="list-style-type: none"> • Resists mild alkalis, mild acids, and salt • Excellent resistance to water (<i>not immersion</i>) • Resists occasional fuel spills | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Flammability | Call 1-800-328-3908 for information | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Application Characteristics

| Characteristic | Value |
|---|---|
| Finished graphic application recommendation | <p>Surface type: Flat, with and without rivets; moderate curves; corrugations</p> <p>Substrate type: Aluminum, FRP, paint</p> <p>Graphic orientation: Vertical only</p> <p>Application temperature:</p> <ul style="list-style-type: none"> 40° to 100°F (4° to 38°C) flat surfaces without rivets 45° to 100°F (7° to 38°C) flat, curved or corrugated surfaces with rivets <p>Application method: Dry</p> |
| Adhesion 24 hours after application | <p>Aluminum: 4.8 lb/in (0.86 kg/cm)</p> <p>Painted aluminum panels: 2.6 lb/in (0.46 kg/cm)</p> <p>FRP (Fiberglass Reinforced Plywood): 3.7 lb/in (0.66 kg/cm)</p> |
| In use temperature range | -30° to +200°F (-34° to +93°C) |
| Graphic removal | Easily removable with heat from most substrates within warranty period |

Warranty Information

The warranted durability given in the Product Bulletin that is current at the time you purchased the film is the one that 3M will honor. **The warranties in the following table(s), given in years, are for finished graphics exposed in a vertical exposure in the United States except the Desert Southwest.** See the warranty sections following this table for additional information.

3M™ MCS™ Warranty for Finished Graphics

Veh - Vehicle Graphics
Rail = Railroad Graphics
Sign = General Signage

Screen Printing, All Film Colors

| 3M Ink | Series 2900 | | | | | Series 1900 | | | Series 9800 | | | | |
|--------------------|-------------------|------|------|----------------|------|-------------------|------|------|-------------------|------|------|----------------|------|
| | <i>line color</i> | | | <i>4-color</i> | | <i>line color</i> | | | <i>line color</i> | | | <i>4-color</i> | |
| Graphic Protection | Veh | Rail | Sign | Veh | Sign | Veh | Rail | Sign | Veh | Rail | Sign | Veh | Sign |
| 2920DR | 7 | 5 | 5 | 5 | 5 | — | — | — | — | — | — | — | — |
| 4430R | 7 | 5 | 5 | 5 | 5 | 7 | 5 | 5 | — | — | — | — | — |
| 9720i | 7 | 5 | 5 | 5 | 5 | 7 | 5 | 5 | 7 | 5 | 5 | 5 | 5 |
| 9720UV | 7 | 5 | 5 | 5 | 5 | 7 | 5 | 5 | 7 | 5 | 5 | 5 | 5 |
| 1920DR | — | — | — | — | — | 7 | 5 | 5 | — | — | — | — | — |
| 9800CL | — | — | — | — | — | — | — | — | 5 | 5 | 5 | 5 | 5 |

No Printing

| No Printing | | | |
|--------------------|-----|------|------|
| Graphic Protection | Veh | Rail | Sign |
| None | 8 | 5 | 5 |

| | | | |
|---|--------------------|------|------|
| Electrostatic Printing, White Film Only | 3M Toner | 8700 | |
| | Graphic Protection | Veh | Sign |
| | 8908 | — | 1 |
| | 8519 | 5 | 5 |
| | 8912 | 4 | 5 |
| | 8920 | 5 | 4 |

3M™ MCS™ Warranty
for Graphics in a Vertical Desert
Southwest Location

Use the years of warranted durability indicated in the tables above for your graphic construction and the following formulas to determine other durabilities.

| Exposure | Percentage of U.S. Vertical Exposure | Example |
|-----------------------------|--------------------------------------|--------------------------|
| Desert Southwest - Vertical | 70% (0.7) | 0.7 x 5 years= 3.5 years |

Removal Warranty
Removal Labor Reimbursement
Remedy for
Removable Films

If the film cannot be successfully removed using heat or an excessive amount of adhesive residue remains on a recommended substrate, 3M will reimburse a portion of extra removal costs.

| Exposure | Remedy |
|---------------------------------|---|
| Vertical, Most of U.S. | Same as Warranted Durability |
| Vertical, Desert Southwest U.S. | 50% of the U.S. vertical warranted durability |

**Graphic Removal From These
Surfaces is Not Warranted**

- Railroad applications
- Stainless steel substrates
- Bare aluminum substrates
- Painted substrates that have poor paint-to-substrate adhesion
- Painted substrates where the paint was not properly cured before graphic application
- Existing graphics that must remain intact; damage may occur during graphic removal
- Painted wallboard; removal may cause damage to wallboard
- Aged paint and metals; test to ensure removability; surface oxidation or chalking may result in adhesive residue upon removal

**Removal
Factors**

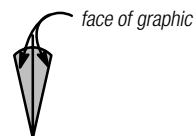
The ease and rate of removal using heat depends on several factors. Also see Instruction Bulletin 6.5.

- Substrate type and condition
- Graphic age and weathering conditions
- Removal is performed when the air and surface temperature is above 60°F (15°C)
- Angle of removal, which should be less than 90 degrees

**Warranty Details and
General Exceptions**

Definitions

Vertical Exposure



The face of the graphic is $\pm 10^\circ$ from vertical.

Desert Southwest

Graphics exposed to solar energy more than half of the time in Arizona, New Mexico and the desert areas of California, Nevada, Utah and Texas. A detailed map is available at www.3Mgraphics.com under Warranties.

Vehicles

Refers to commercial fleet, buses, vans and automobiles unless otherwise noted.

Railroad Refers to railroad cars but not railroad engines unless otherwise noted.

Removable with Heat Film is removable when heat is used within the specified time period.
Adhesive residue on flat and simple curves without rivets: 10% maximum.
Adhesive residue on rivets and corrugations: 30% maximum.

Factors that Affect Graphic Performance Life The actual performance life of a graphic is affected by all of the following.

- Correct combination of 3M-recommended graphics products
- Selection and preparation of the substrate.
- Surface texture.
- Application methods.
- Angle and direction of sun exposure.
- Environmental conditions.
- Cleaning or maintenance methods.

Application Outside the U.S. Contact the 3M organization for that country.

Graphics Made with Components Not Sold or Recommended by 3M The 3M™ MCS™ Warranty does not cover finished graphics made with other manufacturers' inks, film, graphic protection and/or application tapes. The user is solely responsible for the graphic appearance, performance and durability of graphic constructions that include non-3M graphic products.

Application to Glass 3M accepts no liability for glass breakage when using this film for window graphics. See Instruction Bulletin 5.1 for details.

Graphic Protection Any graphic exposed to abrasive conditions (including vehicles), harsh cleaners or chemicals must include graphic protection in order to be warranted. Abrasion damage and gloss loss are not covered.

Tenting Around Rivets This film may tent around rivets, which is not covered by any 3M warranty.

Warranty and Limited Remedy The following is made in lieu of all other express or implied warranties, including any implied warranty of **merchantability** or fitness for a particular purpose or implied warranty arising out of a course of dealing, custom or usage of trade: all 3M products are warranted to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in this Product Bulletin. 3M will replace or refund the price of any 3M materials that do not meet this warranty within the specified time periods. These remedies are exclusive. **In no case shall 3M be liable for any direct, indirect, or consequential damages, including any labor or non-3M materials charges.**

See the Graphics Market Center Warranty Brochure, which gives the terms, additional limitations of the warranty, if any, and limitations of liability.

Screen Printing Ink formulations and processing conditions can affect ink durability. Refer to the Product and Instruction Bulletins for your ink for limitations and proper usage.

- Ink series 1900 and some colors in ink series 9800 are opaque. Be aware that opaque ink can prevent the film from retroreflecting in the screen printed areas. Ink series 2900 and the transparent colors from ink series 9800 are good choices when retroreflection is important in the screen printed areas.
- For graphics subjected to fuel vapors or occasional spills, use screen printing ink series 2900 and clear 4430R.
- Oven dry the last color and the clear when using solvent-based inks on graphics needed for any corrugated application.

Electrostatic Printing Refer to the 3M Related Literature section for Instruction Bulletins that discuss digital printing methods.

An image is printed on electrostatic paper and transferred with heat and pressure to the film. Graphic protection is required.

Cutting

The following are common cutting methods for this film. See Instruction Bulletin 4.1 for details.

- Cold and hot steel-ruled die cutting
- Hot kiss cutting
- Drum-type electronic cutting
- Flat-bed electronic cutting
- Guillotine
- Hand cut

Design Considerations

- Use a minimum letter height of 1 inches (2.5 cm).
- Use a minimum stroke width of 3/8 inch (1.0 cm).
- Use a minimum radius for a point of 1/16 inch (1.6 mm).
- For uniform color and brightness when making a graphic with multiple pieces of the film together, be sure the pieces are properly color matched. See Instruction Bulletin 2.1 for details. Color-matched film is available by special order. Contact your 3M sales representative.
- Order "roll applicator splices" for roll striping. Butt splices may have a small gap.

Weeding Considerations

- Electronically-cut graphics may be difficult to cut and weed. The customer must assume responsibility for testing and approving this cutting method.
- Weed the film within 24 hours of cutting it. The adhesive may flow after cutting.
- Perform weeding carefully. Cut graphics do not re-adhere to the liner of film, if they are pulled off of it. For this same reason, do not attempt to exchange the liner.
- Refer to Instruction Bulletin 4.1 for more details.

Application Tapes

When to Use Premasking Tape

- As an application aid to increase stiffness, and prevent stretching and damage during application.
- Graphics larger than 4 square feet (0.4 m²).
- Striping greater than 4 inches (10 cm) wide.

When NOT to Use Premasking Tape

- Continuous rolls or striping wider than 12 inches (31 cm).
- Rolls wider than 12 inches (31 cm) that will be slit.

When to Use Prespacing Tape

- Hold cut and weeded letters or graphics in registration after removing the film liner.
- Protect cut graphic parts from scratching or damage during application.
- Use when large amounts of liner are exposed.

How to Select a Tape

Determine whether you want to premask the graphic or prespace cut graphics. Then select the application tape that corresponds to the graphic protection used. See Instruction Bulletin 4.3 for complete details.

| Tape | No Printing | 1920DR 2920DR 4430R | 9720i 9720UV 9800CL | 8519 | 8912 | 8920 |
|---------------------|-------------|---------------------------|---------------------------|------|------|------|
| Premasking SCPM-3 | ■ | ■ | | ■ | ■ | |
| Premasking SCPM-44X | | | ■ | | NR | ■ |
| Prespacing SCPS-55 | ■ | ■ | ■ | | | ■ |

Handling Prespaced Graphics

For the best results when using prespacing tape SCPS-55, we recommend these practices:

- Store and ship prespaced film lying flat (do not roll it). This allows adhesion to build and minimizes the chance of the prespacing tape popping off of the liner or film.
- Handle the prespaced graphic as little as possible and keep it flat during processing.
- Remove as much liner as possible.

Application and Installation

Install the film using the dry application method.

Refer to the 3M Related Literature section, located at the end of this bulletin, for a list of the Instruction Bulletins that may be needed to apply or install this film.



Before using any equipment, always follow the manufacturers' instructions for safe operation.

Adhesive

These films have a pressure-activated adhesive that allows the film to slide easily on the substrate. Any pressure applied by hand, squeegee or application tool immediately bonds the film to the substrate and the slideability feature is lost. The film cannot be lifted and repositioned without damage.

These films have air release channels, a characteristic of Comply adhesive. Removing and attempting to change liners or reapply the same liner damages air release channels.

Always work from the center out to the edges of the graphic to allow trapped air to exit through the air release channels. If the channels are closed off by firm pressure and air is trapped, use an air release tool to aid in removing air bubbles. See Instruction Bulletin 5.4 for details.

Substrate Considerations

- Some substrates such as under-cured polyurethane paint, fiberglass and some paint systems may continue to outgas for some time. Two-part polyurethane paints and screen print clears may stop curing when the air and surface temperatures are lower than 75°F (24°C). This film shows an ability to minimize bubbles due to outgassing.
- This film can be applied over other recommended 3M graphic systems. Graphics printed with clear 2920DR must be weathered for at least one year before applying this film over it. See Instruction Bulletin 5.1 for details.

Finishing

- If needed, use edge sealer 4433.
- Most graphics made with these films do not require an edge sealer, although certain applications may benefit from its use.
- All processed and unprocessed graphics subjected to fuel vapors or occasional fuel spills do require edge sealer.
- Edge sealing in the following applications is not required, but it may help keep the edges adhered when subjected to external sources such as abrasion and/or high pressure washing.
 - graphics exposed to severe abrasion or high pressure washing
 - graphics applied to chrome substrates
 - graphics applied to locomotives and rolling railroad stock
 - graphics applied to truck rollup doors

Maintenance and Cleaning

Cleaning Graphics

Use a cleaner designed for high-quality painted surfaces. The cleaner must be wet, non-abrasive, without strong solvents, and have a pH value between 3 and 11 (neither strongly acidic nor strongly alkaline.)

Refer to Instruction Bulletin 6.5 for details on pressure cleaning. Exceeding 3M's recommendations will void the warranty whether or not an edge sealer was properly used.

Removal

These films are removable with heat from most substrates within the warranted durability period. See Instruction Bulletin 6.5 for details on how to remove graphics.

Shelf Life, Storage and Shipping

Shelf Life

Total shelf life: 2 years

Up to 2 years unprocessed, *OR* process within 1 year *and* apply within 1 year of processing

Storage Conditions
for Unprocessed Film or
Unapplied Finished Graphics

- 40° to 100°F (4° to 38°C)
- Out of sunlight
- Clean dry area
- Original container
- Cut sheets must lie flat
- Bring the film to print room temperature before using

Shipping Finished Graphics

Film with prespaced graphics using prespacing tape SCPS-55 applied: Flat only
All other constructions: Flat, or rolled printed side out on 6 inch (15 cm) or larger core. This helps prevent the application tape, if used, from popping off.
See Instruction Bulletin 6.5 for details.

Health and Safety



When handling any chemical products, read the manufacturers' container labels and the Material Safety Data Sheets (MSDS) for important health, safety and environmental information. To obtain MSDS sheets for 3M products go to 3M.com/MSDS, or by mail or in case of an emergency, call 1-800-364-3577 or 1-651-737-6501.

When using any equipment, always follow the manufacturers' instructions for safe operation.

3M Related Literature

Before starting any job, be sure you have the most current Product and Instruction Bulletins.

The information in 3M Product and Instruction Bulletins is subject to change. Current Bulletins are available at 3Mgraphics.com. The following applicable Bulletins provide information and processes you need to properly make the graphics described in this Bulletin. Additional Bulletins may be needed as indicated in the 3M Related Literature section of other 3M components you use.

Bulletin types: PB = Product Bulletin; PB-IB = Product & Instruction Bulletin; IB = Instruction Bulletin

Screen Print Inks & Graphic Protection

Electrostatic Printing & Graphic Protection

General Instructions

| Subject | Type | Bulletin No. |
|--|----------------|----------------------|
| 3M™ Screen Printing Ink Series 1900 and Overprint Clear VI0402 - Screen printing with ink series 1900- line color | PB IB | 1900 3.12 |
| 3M™ Scotchlite™ Screen Printing Ink Series 2900 - Screen printing with ink series 2900 - line color - 4-color | PB IB IB | 2900 3.18 3.19 |
| 3M™ Screen Printing UV Ink Series 9800 - Screen printing with UV ink series 9800 - line color - 4-color | PB IB IB | 9800 3.20 3.21 |
| Scotchprint® Toner Series 8700/8800 - Using toner series 8700/8800 | PB IB | 8700 4.12 |
| 3M™ Trident Transfer Paper | PB | Trident |
| Transferring and laminating electrostatically printed images | IB | 4.7 |
| 3M™ Screen Print Clear 8920 ES - Screen printing with clear 8920 ES | PB IB | 8920 3.15 |
| 3M™ Scotchcal™ High Gloss Graffiti Resistant Overlamine 8912 ES | PB | 8912 |
| Cold roll lamination | IB | 4.22 |
| Design of graphics | IB | 2.1 |
| Scoring and cutting | IB | 4.1 |
| Using 3M application tapes; premasking and prespacing for films | IB | 4.3 |
| Application, substrate selection, preparation and substrate-specific application techniques | IB | 5.1 |
| Application, special applications and vehicles | IB | 5.4 |

| Subject | Type | Bulletin No. |
|--|---|--------------|
| Application, general procedures for indoor and outdoor dry applications | IB | 5.5 |
| Applicator's quick reference guide for vehicle film | IB | 5.35 |
| Application: special considerations for complex contours of automobiles, vans and buses and inspection forms | IB | 5.36 |
| Storage, handling, maintenance, removal | IB | 6.5 |
| 3M Graphics Center Warranty Brochure | go to www.3Mgraphics.com , Warranties | |

Warranty

3M, Controltac, Comply, MCS, Scotchcal and Scotchlite are trademarks of 3M Company.

Bulletin Change Summary

This bulletin has been updated in order to create separate Product Bulletins for films 680 and 680CR. Some retroreflective values have been changed: refer to the table on page 2.



Commercial Graphics Division
 3M Center, Building 220-12E-04
 PO Box 33220
 St. Paul, MN 55144-3220 USA
 General Info. 1-800-374-6772
 Technical Info. 1-800-328-3908
 Fax 1-651-736-4233

3M Canada
 P.O. Box 5757
 London, Ontario
 Canada N6A 4T1
 1-800-265-1840
 Fax 519-452-6245

3M México, S.A. de C.V
 Av. Santa Fe No. 55
 Col. Santa Fe, Del. Alvaro Obregón
 México, D.F. 01210
 52-55-52-70-04-00
 Fax 52-55-52-70-22-77

3M Puerto Rico, Inc.
 Puerto Rico Industrial Park
 P.O. Box 100
 Carolina, PR 00986-0100
 787-620-3000
 Fax 787-750-3035