

## Description

3M™ Premium Protective Overlay Film Series 1160i.2 (the “Film”) is a transparent, UV-protective, graffiti-resistant overlay film designed for use with 3M retroreflective sheetings, as part of 3M’s system of matched components. Many types of defacement can be cleaned from the Film to substantially restore the function and appearance of a sign.

The Film fulfills the clear overlay requirement of the 3M™ MCS™ Warranty for Traffic and the 3M™ MCS™ Warranty. See the [3M™ Sign Warranty Bulletin](#) and imaging method specific warranty matrix listed at the end of this document for matched component requirements and warranty details.

## Compatible Products

The Film is compatible with the following 3M reflective sheetings:

- 3M™ Engineer Grade Prismatic Reflective Sheeting Series 3430\*
- 3M™ High Intensity Prismatic Reflective Sheeting Series 3930
- 3M™ High Intensity Prismatic Reflective Digital Sheeting Series 3930UDS
- 3M™ Diamond Grade™ DG3 Reflective Sheeting Series 4000
- 3M™ Diamond Grade™ DG3 Reflective Digital Sheeting Series 4000UDS
- 3M™ Advanced Flexible Engineer Grade Reflective Sheeting Series 7300\*

\* These products are NOT covered under the 3M™ MCS™ Warranty in the United States.

## Physical Properties

The Film is UV-protective, physically protects a sign’s imaged sheeting, and resists staining from common graffiti media including paints, permanent marker ink, lipstick, eggs, and stickers.

### UV Protection

This clear and colorless Film absorbs light in the UV spectrum. Applying the Film to a sign that has been fabricated using components identified in the 3M™ MCS™ Warranty will help maintain the colorfastness of printed colors and help preserve the initial and retained minimum retroreflectivity of the sign’s base sheeting.

When Film is applied according to 3M recommendations to a compatible microprismatic 3M retroreflective sheeting, as listed in the [“Compatible Products” section on page 1](#), the Film will conform to the specifications described in the 3M sheeting’s product bulletin.

### Graffiti Resistance

The Film provides a durable surface from which many types of graffiti can be cleaned using a variety of common techniques.

The Film, when used according to all applicable 3M procedures, can be expected to meet the same specifications as the sheeting to which it is applied. Refer to the relevant 3M product bulletins for performance specifications. The Film is designed to physically protect a sign’s imaged sheeting and enable removal of staining from the following common graffiti types.

- Paints
- Lipstick
- Permanent marker ink
- Eggs
- Stickers

The Film allows signs to be cleaned such that the function and appearance of the original signs are substantially restored when recommended or conventional cleaners are used. The Film does NOT prevent defacement.

### Adhesive and Liner

The Film utilizes a clear, transparent, pressure sensitive adhesive and has a removable liner.

## Application

### Use Conditions Before Overlaying Film

- Air and substrate temperatures must be 65°F (18°C) or higher.
- Sign must be clean, and any screen-printed inks on the sign must be completely dry.

### Equipment

- Mechanical squeeze roll applicator – See [3M Information Folder 1.4](#).
- Mechanical squeeze roll applicator with heated roller (required for UV-printed signs)
- Hand squeeze roll applicator – See [3M Information Folder 1.6](#).
- Flatbed applicator - See [3M Information Folder 1.6](#).

Use a laminating roller with a hardness of 35 durometer (Shore A) to help minimize tenting of the Film over direct apply copy or 3M™ ElectroCut™ Film Series 1170.

### Additional Processing

Do NOT apply any inks, films, or sheetings as copy or images over the Film.

### Splices

Apply Film to sign as a single piece. Do NOT overlap splice Film.

## Cleaning

To remove normal dirt accumulation from Film, use a soft cloth with a mild detergent and water solution, followed by a thorough water rinse.

To remove more stubborn contamination, such as graffiti, use commercially available cleaning systems recommended for this purpose. Before using any cleaning tools or compounds, read and carefully follow all applicable product use and safety instructions. Test the cleaner on a small and inconspicuous area of the sign to determine the cleaner's suitability and whether it will damage or affect the function of the sign.

Do NOT use cleaners containing strong polar solvents, such as ketones (acetone, methyl ethyl ketone), methylene chloride (dichloromethane), or other chlorinated solvents. Do NOT use paint strippers.

3M™ Industrial Cleaner Citrus Base can be used to effectively remove many common types of defacement, such as permanent marker, eggs, and stickers. Isopropyl alcohol (IPA), or a 50/50 blend of IPA and xylene, can effectively remove many paints. Commercially available cleaners can also be highly effective. Although the Film is resistant to strong solvents, prolonged exposure to solvents can result in permanent sign damage.

If necessary, 3M can help users interpret the ingredients in a selected commercially available cleaner.

Some cleaners may leave an oily residue, this residual residue can be removed with Citrus base, window cleaner or multipurpose cleaners.

3M recommends only using soft cleaning cloths and/or plastic scrapers to clean the film. We have found plastic razor blade scrapers to work well. Use smooth edge of the blade in a lateral motion, do not pick at graffiti with edge of blade.

Do NOT use abrasive brushes, scouring pads, or metal implements to scrape defacement materials from a sign. Abrasive methods are likely to cause permanent sign damage.

#### NOTE

Failure to adhere to the above cleaning recommendations will result in the voiding of the sign's 3M™ MCS™ Warranty.



#### CAUTION

The use of sharp implements, abrasive devices, or certain types of strong or corrosive chemicals to either deface or clean a sign can result in permanent damage to the Film and the underlying sign, severely reducing the sign's performance. The Film is NOT intended to protect signs from impact, cutting, gouging, strong chemicals, or removal of Film from signs. Use of a flame, other high-heat source, or other extreme abuse of the Film or signs is likely to severely and permanently reduce or destroy the sign's effectiveness.

## Shelf Life Storage, and Packaging

### Shelf Life

Use within two years of date of manufacture.

### Storage

Store film in a cool, dry area, preferably at a temperature of 65°F to 75°F (18°C to 24°C) and a relative humidity of 30% to 50%.

### Packaging

See [3M Information Folder 1.11](#) for recommendations regarding proper storage, packaging, handling, shipping, and installation of finished signs.

## 3M Related Literature

- [3M Information Folder 1.4](#) Instructions for Operation of the Interstate Squeeze Roll Applicator
- [3M Information Folder 1.5](#) Hand Application Instructions for Reflective Sheeting and Scotchcal™ Film with PSA
- [3M Information Folder 1.6](#) Hand Squeeze Roll Applicators
- [3M Information Folder 1.11](#) Sign Maintenance Management
- [3M Product Bulletin 3430](#) 3M™ Engineer Grade Prismatic Reflective Sheeting Series 3430
- [3M Product Bulletin 3930](#) 3M™ High Intensity Prismatic Reflective Sheeting Series 3930
- [3M Product Bulletin 3930UDS](#) 3M™ High Intensity Prismatic Reflective Digital Sheeting Series 3930UDS
- [3M Product Bulletin 4000](#) 3M™ Diamond Grade™ DG<sup>3</sup> Reflective Sheeting Series 4000
- [3M Product Bulletin 4000UDS](#) 3M™ Diamond Grade™ DG<sup>3</sup> Prismatic Digital Sheeting Series 4000UDS
- [3M Product Bulletin 7300](#) 3M™ Advanced Flexible Engineer Grade Reflective Sheeting Series 7300
- [3M Product Bulletin 3924SUDS](#) 3M™ Diamond Grade™ Fluorescent Work Zone Digital Sheeting Series 3924SUDS
- [3M™ Sign Warranty Bulletin](#)
- [3M™ MCS™ Warranty for Traffic Warranty Matrix Selector](#)

## Health and Safety

### Chemicals

When handling any chemical products, read the manufacturers' container labels and the Safety Data Sheets (SDS) for important health, safety, and environmental information.

[Follow this link to obtain SDS sheets for 3M products.](#)

[Follow this link to obtain information about substances of very high concern \(SVHC\) for EU products.](#)

### Tools and Equipment Usage

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

## Warranty Information

### Technical Information

Technical information, guidance, and other statements provided by 3M are based upon records, tests, or experience that 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license to any intellectual property rights is granted or implied with respect to this technical information.

### Product Selection and Use

Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment, reviewing all applicable regulations and standards, and reviewing the product label and use instructions. Failure to properly evaluate, select, and use a 3M product in accordance with instructions or to meet all applicable safety regulations may result in injury, sickness, death, and/or harm to property.

### Warranty, Limited Remedy, and Disclaimer

Unless a different warranty is specifically stated on the applicable 3M product packaging or product literature (in which case such warranty governs), 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. If a 3M product does not conform to this warranty, the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

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#### Commercial Branding and Transportation

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