

Product Description

- Designed to adhere to low surface energy (LSE) plastics
- For solvent, UV, and latex inkjet printing and cut graphics
- 2-mil, white (-10) or clear (-114) vinyl film

Product Features

- Specifically formulated for use on LSE plastics
- High tack, pressure-activated adhesive for easy sliding, tacking, snap-up, and repositioning
- Features non-visible air release channels for fast and easy bubble-free graphic installations
- Flexible; conforms to moderate curves
- IJ180mC-10LSE provides excellent hiding power
- Non-removable film
- Many finished graphic constructions can be stretched up to 130% (i.e., a 10 in. [25 cm] piece of film can stretch to 13 in. [33 cm]) without primer or relief cuts and maintain lift resistance. See [“Stretchability” on page 4](#).
- Expected performance life of 10 years (unwarranted period for unprinted film with no graphic protection, applied to a flat, vertical, outdoor surface in a non-abusive environment)

Recommended Types of Graphics and End Uses

- Multicolor graphics including labels, emblems, and striping
- Small format original equipment manufacturer’s (OEM) decorative and identification graphics, cautionary, safety, and vandal-resistant labeling

When constructed and used as described in this bulletin, these types of graphics and end uses may be warranted by the 3M™ MCS™ Warranty or the 3M Performance Guarantee. Please read the entire bulletin for details.

Recommended Compatible Products

Visit [3Mgraphics.com/warranties](https://www.3Mgraphics.com/warranties) for a complete list of compatible products approved by 3M for use with the base film covered in this bulletin and used for the creation of graphics that may be eligible for the 3M™ MCS™ Warranty or 3M Performance Guarantee.

OEM Inkjet Inks and Printers for the 3M Performance Guarantee

See the [3M Performance Guarantee Matrix](#) for a complete list of compatible OEM inkjet inks and printers that are approved by 3M for use with the base film described in this bulletin and for the creation of completed graphics that may be eligible for the 3M Performance Guarantee.

Graphic Protection

- [3M™ Scotchcal™ Gloss Overlaminate 8518](#)
- [3M™ Scotchcal™ Luster Overlaminate 8519](#)
- [3M™ Scotchcal™ Matte Overlaminate 8520](#)
- [3M™ Scotchcal™ Gloss Overlaminate 8528](#)
- [3M™ Envision™ Gloss Wrap Overlaminate 8548G](#)
- [3M™ Envision™ Luster Wrap Overlaminate 8549L](#)
- [3M™ Envision™ Matte Wrap Overlaminate 8550M](#)
- [3M™ Scotchcal™ Ultra Matte Overlaminate 8915](#)
- [3M™ Screen Print Gloss Clear 1920DR](#)
- [3M™ Screen Print UV Gloss Clear 9740i](#)
- [3M™ Screen Print UV Gloss Clear 9760LX](#)

Other Products

- [3M™ Edge Sealer 3950](#)
- [3M™ Edge Sealer Tape 8914](#)

Certificate of 3M™ MCS™ Warranty

Graphic manufacturers who produce digitally printed graphics made entirely with branded 3M Graphics products, including 3M ink purchased through a qualified 3M distributor or 3M printing partner, may register to be recognized with a Certificate of 3M™ MCS™ Warranty. Only graphic manufacturers having a current Certificate of 3M™ MCS™ Warranty are eligible to extend this warranty to their customers.

NOTE

For non-digitally printed finished graphics, check your eligibility for the 3M™ MCS™ Warranty by viewing the warranty period found within this product bulletin or by using the warranty selector at www.3mgraphics.com/warranties.

Characteristics

These are the typical values for unprocessed product. Processing may change the values.

Physical Characteristics

Characteristic	Value
Material	Cast vinyl
Film Color	-10: White, opaque -114: Clear
Thickness	Without adhesive: 2 mil (0.05 mm) With adhesive: 3 to 4 mil (0.08 to 0.10 mm)
Adhesive	Pressure-activated (slide, tack, snap-up, reposition) with air release channels
Adhesive Color	-10: Gray -114: Clear
Liner	-10: White polyethylene-coated paper liner -114: Brown polyethylene-coated paper liner
Typical Adhesion 24 Hours After Application	ABS: 4 to 6 lbf/in. (7 to 10.5 N/cm) Aluminum, anodized: 5 to 7 lbf/in. (8.8 to 12.3 kg/cm) Fiberglass: 4 to 6 lbf/in. (7 to 10.5 N/cm) Powder coat paint: 3 to 6 lbf/in. (5.3 to 10.5 N/cm)
Tensile Strength	5 lbs/in. at 73°F (8.8 N/cm at 23°C) minimum
Chemical Resistance	Resists mild alkalis, mild acids, and salt Excellent resistance to water (does not include immersion)
Flammability	Go to the online product catalog at 3M.com/graphics or call 1-800-328-3908.

Application Characteristics

Characteristic	Value
Finished Graphic Application Recommendation	Surface type: Flat or moderate compound curves, with or without rivets, sand-cast, moderately rough Substrate type: Rigid LSE surfaces such as plastics (polyethylene and polypropylene), powder-coated paints Application Method: Dry Application temperature (air and substrate): 60°F to 90°F (16°C to 32°C) flat, curved or corrugated surfaces with rivets
Temperature Range After Application	-40°F to 225°F (-40°C to 107°C) (Though not for extended periods of time at the extremes.)
Graphic Removal	Not removable

Factors Affecting Graphic Performance Life

The actual performance of a graphic is affected by:

- Complete ink drying or curing
- The combination of graphic materials used
- Selection, condition, and preparation of the substrate
- Surface texture
- Application methods
- Environmental conditions
- Angle and direction of sun exposure
- Cleaning and maintenance methods
- Removal methods and conditions

Graphics Manufacturing



CAUTION

Before using any equipment, always read the manufacturer's instructions for safe operation.

Inkjet Printing

Always read and follow the ink manufacturer's written instructions on usage.

Total Ink Coverage

The maximum recommended total ink coverage for this film is:

- **270%** when printed entirely with 3M approved solvent inkjet inks.
- **280%** when printed entirely with 3M approved UV inkjet inks.
- **280%** when printed entirely with 3M approved latex inkjet inks.

Do NOT exceed the recommended total ink coverage for this product. Having too much total physical ink on the product results in media characteristic changes, incomplete drying, overlamine lifting, and/or poor graphic performance. For additional details about total ink coverage, refer to the 3M product and instruction bulletins for 3M inks, available on [3Mgraphics.com](https://www.3mgraphics.com).

Completely Dry Graphics

NOTE

Incomplete drying or curing can result in graphic failure including curling, increased shrinkage, and adhesion failure, which are not covered under any 3M Graphics warranty.

See the ink's 3M product and instruction bulletins for more details.

Cutting

See [3M Instruction Bulletin Production: Cutting](#) for sheeting, scoring, and film cutting details.

Graphic Protection

Graphic protection may improve the appearance, performance, and durability of the graphic. Click on the graphic protection options listed in this product bulletin or see the [3M Graphics Materials Product Catalog](#), for more information.

NOTE

During installation, scratches may occur on films without graphic protection.

Application Tapes

There are two types of application tapes. See [3M Instruction Bulletin Application: 3M™ Application Tapes for Graphic Films](#) to determine what application tape is recommended for your 3M Graphics Products. Finished graphics eligible for any 3M warranty must be constructed using approved 3M Graphics Products. See the [3M Graphics Warranty Bulletin](#) for more details.

Premasking Tape

Premasking tape increases stiffness during application while preventing stretching and damage. Use when little or no liner is exposed. See [3M Instruction Bulletin Application: 3M™ Application Tapes for Graphic Films](#) for complete details.

Prespacing Tape

Prespacing tape holds cut and weeded letters or graphics in place during application and after removal of the film liner, while preventing stretching and damage. Use when large amounts of liner are exposed. See [3M Instruction Bulletin Application: 3M™ Application Tapes for Graphic Films](#) for complete details.

Application and Installation

Pressure-activated Adhesive

The pressure activated adhesive on this film offers:

- smooth sliding into position on a substrate;
- fast finger tacking to check positioning; and
- easy snap-up and repositioning when you need it.

The **snap-up and reposition feature is lost:**

- when firm pressure with a squeegee or other application tool is applied;
- at application temperatures above 100°F (38°C) even if only light finger pressure was used for tacking; or
- if any part of the film is removed from the original liner and reapplied to the same or another liner.

Working with Air Release Channels

Air release channels are a characteristic of films with Comply™ adhesive, allowing trapped air to exit through the edges of the graphic.

- The channels will be damaged if installers remove and attempt to change liners or reapply the same liner.
- For the best results, always work from the center of a graphic out to the edges to allow trapped air to escape. Use an air release tool to help remove any trapped air bubbles. See [3M Instruction Bulletin Application: Trailers](#) for details.

Stretchability

Many finished graphic constructions can be stretched without primer or relief cuts while maintaining lift resistance.

Maintenance and Cleaning

Use a cleaner designed for high-quality painted surfaces. The cleaner must be wet, non-abrasive, without solvents, and have a pH value between 3 and 11 (neither strongly acidic nor strongly alkaline). See [3M Instruction Bulletin Maintenance](#) for details.

Removal

This film is not removable. 3M makes no claims as to the speed of removal. See [3M Instruction Bulletin Removal](#) details.

Shelf Life, Storage, and Shipping

Shelf Life

The shelf life is **never more than three years** from the date of manufacture on the original box.

Processing the film changes its shelf life to **one year** from the processing date, but no more than three years from the manufacturing date.

Storage Conditions

- 40°F to 100°F (4°C to 38°C)
- Out of sunlight
- Clean, dry area
- Original container
- Bring the film to room temperature before use

Shipping Finished Graphics

Flat, or rolled printed side out on a 6 in. (15 cm) or larger core. This helps prevent the application tape, if used, from popping off.

3M Related Literature

In addition to other 3M bulletins specified in this document, the following bulletins provide details users may need to successfully apply a graphic.

- [3M Instruction Bulletin Production: Graphic Design, Handling, and Storage](#)
- [3M Instruction Bulletin Production: Lamination](#)
- [3M Instruction Bulletin Application: Vehicles](#)
 - Complete the 3M Pre-Installation Inspection Record found in this instruction bulletin prior to manufacturing or applying a graphic to an automobile, van, or bus.
- [3M Instruction Bulletin Application: Trailers](#)
- [3M Instruction Bulletin Application: Watercraft](#)
 - Complete the 3M Pre-Installation Inspection Record found in this instruction bulletin prior to manufacturing or applying a graphic to a watercraft.
- [3M Instruction Bulletin Application: General Installation Techniques](#)
- [3M Product and Instruction Bulletin V-Tools](#) 3M™ Vehicle Channel Applicator Tools

NOTE

UV inkjet inks may crack if too much heat is used during graphic application to complex curves and deep contours as well as around rivets. When using heat during application, make sure the film surface temperature does not exceed 212°F (100°C). For best results, **always do a test application** of a printed graphic to determine how much heat can be used without damaging the image.

Health and Safety

Tools and Equipment Usage

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

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.](#)

Warranty Information

Warranty Coverage Overview

The warranty coverage for eligible graphics is based on the user both reading and following all applicable and current 3M Graphics product and instruction bulletins. The warranty period for eligible graphics is as stated in the 3M Graphics Warranties Matrices at the time the film was purchased. Information found at [3M.com/graphicswarranties](https://www.3m.com/graphicswarranties) includes:

- [3M Graphics Warranties Bulletin](#)
 - This bulletin contains information on limitations, exceptions, and warranty period reductions for 3M Graphics warranties. The warranty period may be reduced and stipulations may apply for certain constructions, applications, and graphic exposures as covered in this bulletin.
- [3M Graphics Warranties Selector](#)
 - Use this selector to search for your warranty coverage by 3M Graphics Product(s), Inks, Printer, Application(s), and Exposure.
- [3M™ Global Geographical Zones](#)
 - Use this map to identify your warranty zone and determine if you are subject to reduced warranted durabilities.

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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