

## 3470 3475

### Product Description

- For solvent and UV screen printing only
- 4-mil opaque white and black vinyl film
- Matte finish

### Product Features

- Pressure-sensitive adhesive
- Excellent hiding power
- Removable with heat from most surfaces within the warranty period
- Expected performance life of seven 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

### 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.

- [3M™ Screen Printing Ink Series 1900 \(Solvent\)](#), line color and four color
- [3M™ Screen Printing UV Ink Series 9800](#), line color and four color

### Graphic Protection

- [3M™ Screen Print Gloss Clear 1920DR](#)
- [3M™ Screen Print UV Gloss Clear 9730i](#)
- [3M™ Screen Print UV Gloss Clear 9740i](#)
- [3M™ Screen Print UV Gloss Clear 9800CL](#)

### Other Products

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

#### Quick Links

- [3M Graphics Warranties](#)
- [Technical Information Selector](#)
- [Safety Data Sheets \(SDS\)](#)
- [Flammability](#)
- [Videos](#)

Some of these links lead to web-based resources that are not product-specific.

## Characteristics

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

### Physical Characteristics

Characteristic	Value
<b>Material</b>	Calendered vinyl
<b>Film Color</b>	<b>3470:</b> White <b>3475:</b> Black
<b>Thickness</b>	<b>Without adhesive:</b> 4 mil (0.1 mm) <b>With adhesive:</b> 5 mil (0.13 mm)
<b>Adhesive</b>	Pressure-sensitive
<b>Adhesive Color</b>	Gray
<b>Liner</b>	Polyethylene-coated layflat paper
<b>Typical Adhesion 24 Hours After Application</b>	<b>Aluminum, anodized:</b> 4-5 lbs/in. (0.72-0.89 kg/cm) <b>Fruehauf pre-painted panels:</b> 1.5-2.5 lbs/in. (0.27-0.45 kg/cm)
<b>Chemical Resistance</b>	Resists mild alkalis, mild acids, and salt Excellent resistance to water (does not include immersion)
<b>Flammability</b>	Refer to the online product catalog at <a href="http://3M.com/graphics">3M.com/graphics</a> or call 1-800-328-3908.

### Application Characteristics

Characteristic	Value
<b>Finished Graphic Application Recommendation</b>	<b>Surface type:</b> Flat, without rivets <b>Surface type:</b> Acrylic, aluminum, glass (uncoated), painted metal, painted wood (smooth) <b>Application method:</b> Dry <b>Application temperature:</b> 40°F to 90°F (4°C to 32°C) air, substrate
<b>Temperature Range After Application</b>	-65°F to +200°F (-54°C to +93°C) (Though not for extended periods of time at the extremes.)
<b>Graphic Removal</b>	Removable with heat from most surfaces within the warranty period.

## Factors Affecting Graphic Performance Life

The actual performance life of a graphic is affected by:

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

## Graphics Manufacturing



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

### Cutting

See [3M Instruction Bulletin 4.1](#) 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 product bulletin or see the [3M Graphics Materials Product Catalog](#), for more information.

### IMPORTANT NOTE

Scratches may occur on films without graphic protection during installation.

## Application Tapes

There are two types of application tapes. See [3M Instruction Bulletin AT-1](#) to determine what application tape is recommended for your film or finished graphic.

### 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 4.3](#) 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 4.3](#) for complete details.

## Application and Installation

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

- [3M Instruction Bulletin 2.1](#) Design of Graphics
- [3M Instruction Bulletin 4.22](#) Lamination Basics for Inkjet Printed Graphics
- [3M Instruction Bulletin 5.1](#) Select and Prepare Substrates for Graphic Application
- [3M Instruction Bulletin 5.5](#) Application, General Procedures for Interior and Exterior Dry Application
- [3M Instruction Bulletin 6.5](#) Storage, Handling, Maintenance and Removal of Films and Sheetings

## Stretchability

Many finished graphic constructions can be stretched without primer or relief cuts and maintain lift resistance.

- For straight trucks, semi-trucks, and semi-trailers, see [3M Instruction Bulletin 5.4](#) for details and exceptions.

## 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 6.5](#) for details.

## Removal

These films are removable with heat from most surfaces within the warranty period. See [3M Instruction Bulletin 6.5](#) for 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 later 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.

## Health and Safety

### CAUTION

When handling any chemical products, read the manufacturers' container labels and the safety data sheets (SDS) for important health, safety, and environmental information. To obtain SDS for 3M products go to [3M.com/SDS](https://www.3m.com/SDS). To request SDS by mail, or in case of an urgent situation, call 1-800-364-3577 or 1-651-737-6501.

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

## 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 vertical warranty period by product type, ink type, film name, and/or ink/printer platform.
- [U.S. Desert Southwest Region Map](#)
  - Use this map of hot, arid desert areas to determine if you are subject to reduced warranted durabilities.

### Technical Information

The technical information, guidance, and other statements contained in this document or otherwise 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 under any 3M or third party intellectual property rights is granted or implied with this 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.

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### Commercial Solutions

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3M.com/Graphics

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