

Product Description

- 2-mil, white vinyl film
- Use films 3635-30 and 3635-70 for fluorescent lighting applications
- Use films 3735-50 and 3735-60 for LED applications

Product Features

- Available in four light transmission levels
- Pressure sensitive, permanent adhesive adheres to flat, rigid substrates
- Create custom lighting effects for backlit applications
- Control brightness and light distribution within light boxes without hotspots
- Eliminate need to back-spray thermoformed applications
- Thermoformable under controlled conditions
- Expected performance life of seven years (unwarranted period for unprinted film with no graphic protection, applied to a flat, vertical, outdoor surface)

Recommended Types of Graphics and End Uses

- Internally-illuminated signs
- First surface applications using films 3635-30, 3735-50, and 3735-60 without being covered by another film
 - 3635-70 is NOT suitable for first surface applications
- Second surface applications without applying another film
- Backlit channel letters, signs, and displays

When constructed and used as described in this bulletin, these types of graphics and end uses may be warranted by the 3M™ MCS™ Warranty. Refer to the base film or flexible substrate's 3M product bulletin for details on specific constructions and any 3M warranty that may apply when using this product.

Recommended Compatible Products

See [3M.com/graphicswarranties](https://www.3m.com/graphicswarranties) 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 a graphic that may be eligible for the 3M™ MCS™ Warranty or 3M Performance Guarantee.

Films

- [3M™ Scotchcal™ Translucent Film Series 3630](#)
- [3M™ Scotchcal™ Translucent Film Series 3730](#)
- [3M™ Scotchcal™ Graphic Film IJ3650-114 Transparent](#)

Graphic Protection

- [3M™ Scotchcal™ Gloss Overlamine 3658G](#)
- [3M™ Scotchcal™ Matte Overlamine 3660M](#)

Substrates

- [3M™ Panagraphics™ III Wide-Width Flexible Substrate](#)
- [3M™ Envision™ Flexible Substrate FS-1](#)
- Flat, rigid substrates, see "Application Characteristics" on page 2

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.

3M™ Diffuser Films 3635-30, 3635-70 3M™ Envision™ Diffuser Films 3735-50, 3735-60

Certificate of 3M™ MCS™ Warranty

Graphic manufacturers who produce digitally printed graphics made with all 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	Vinyl	
Color	White color; uniform in both reflective and transmitted light	
Thickness	Without adhesive: 2 mil (0.05 mm) With adhesive: 3-4 mil (0.08-0.10 mm)	
Adhesive	Pressure-sensitive	
Adhesive Color	Clear	
Liner	78 pound, white kraft paper	
Tensile Strength	5 lbs/in. at 73°F (0.9 kg/cm at 23°C) minimum	
Chemical Resistance	<ul style="list-style-type: none"> Resists mild alkalis, mild acids, and salt Excellent resistance to water (<i>does not include immersion</i>) 	
Flammability	Refer to ASTM E84 reports 3635-30 , 3635-70 , 3735-50 , and 3735-60 , or the online product catalog at 3Mgraphics.com For all other test reports, call 1-800-328-3908.	
Typical Light Transmission	3635-30: 41% 3635-70: 63%	3735-50: 50% 3735-60: 62%

Application Characteristics

Characteristic	Value
Finished Graphic Application Recommendation	Surface type: Flat Surface type: Acrylic, polycarbonate, PETG (glycol-modified polyethylene terephthalate) Application method: Wet Application temperature: 60°F (16°C) minimum air, substrate
Typical Adhesion 24 Hours After Application	Acrylic panels: 3 lbs/in. (0.5 kg/cm)
Applied Film Shrinkage	0.015 in. (0.4 mm)
Finished Graphic Exposure Temperature	-20°F to +175°F (-29°C to +80°C) (Though not for extended periods of time at the extremes.)
Graphic Removal	Not removable

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
- Angle and direction of sun exposure
- Environmental conditions
- Cleaning and maintenance methods

Graphics Manufacturing

CAUTION

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

Screen Printing

This film series has perforations. The screen printer must periodically insert scrap paper to clear the screen of buildup.

Formulations and processing conditions can affect ink durability. Users should refer to their ink's product and instruction bulletins for limitations and proper usage.

Completely Dry Graphics

IMPORTANT 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 4.1](#) for Sheeting, Scoring and Film Cutting details.

IMPORTANT NOTE

For best results use a clear substrate and a diffuser with a dual-color film. If the dual-color film is applied to the substrate's first surface, then apply the diffuser film to the second surface. Applying a dual-color film directly to a white substrate may wash out the dual-color film's face color.

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.

IMPORTANT NOTE

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

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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 you may need to successfully apply a graphic.

- [3M Instruction Bulletin 2.1](#) Design of Graphics
- [3M Instruction Bulletin 2.4](#) Design of Cabinets for Light Boxes and Channel Letters
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- [3M Instruction Bulletin 5.7](#) Application, Wet Method for Translucent, Inkjet, Screen Printed and Cut Graphics
- [3M Instruction Bulletin 6.5](#) Storage, Handling, Maintenance and Removal of Films and Sheetings

Maintenance and Cleaning

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). See [3M Instruction Bulletin 6.1](#) for details.

Removal

These films are not removable. 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.

If you process the film, the shelf life is changed 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 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 that 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 and 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.

The warranties set forth in this Bulletin are made in lieu of all other express or implied warranties, including any implied warranty of merchantability, fitness for a particular purpose, or arising out of a course of dealing, custom, or usage of trade.

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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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 IMPLIED 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.

Limitation of Liability

Except for the limited remedy stated above, and except to the extent prohibited by law, 3M will not be liable for any loss or damage arising from or related to the 3M product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability.

Commercial Solutions

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