



Scotchcal™ Translucent Graphic Film Series 3630 Envision™ Translucent Film Series 3730

For Screen Printing, Cut Graphics and Thermoforming

1. Product Description

A. Product Features

- 2-mil, long-term vinyl translucent films available in crisp, clear colors (many with simulated PANTONE® color references)
- Matte surface finish eliminates glare and provides uniform color in reflected and transmitted light
- Pressure sensitive adhesive adheres to rigid and flexible substrates
- Synthetic layflat liner that is not affected by water or humidity
- Electronically cut or thermoform
- Use with fluorescent bulbs or LEDs. Typically for best results, 3M recommends using:
 - film series 3630 for fluorescent lighting applications.
 - films series 3730 for LED applications.

B. Recommended Types of Graphics and End Uses

When constructed and used as described in this Bulletin, these types of graphics and end uses may be warranted by the [3M™ MCS™ Warranty](#). Please read the entire Bulletin for details.

- For indoor or outdoor use on internally-illuminated vertical sign faces
- For indoor or outdoor flat and thermoformed signs and flexible or rigid sign facings
- First and second surface applications
- Thermoforming on rigid plastic surfaces

C. Performance Overview

3M tests the performance of both individual products and finished graphic constructions. This table shows the best performance expected from this product without a Warranty Period and with a Warranty Period.

For detailed graphic construction and application options along with specific Warranty Periods, please see the Warranty Information, Section 5.

| | |
|---|-------------------------------|
| Expected Performance Life. This is the estimated period of time the product should perform satisfactorily. | |
| Unprinted film with no graphic protection, applied to a flat vertical outdoor surface. | 7 years Unwarranted Period |
| 3M™ MCS™ Warranty. This is the maximum period of time 3M will warrant the finished graphic performance. | |
| Unprinted film with the best graphic protection option, applied to a flat, vertical outdoor surface. | 9 years Warranty Period |

D. Limitations of End Uses

This 3M product is not designed or recommended for the following uses. Please contact us to discuss other options.

- Not suitable for fleet graphics
- Not suitable for graphic constructions with more than two layers of film, including the overlamine, except as described in **Three Film Layer Constructions**
- Graphics applied to:
 - surfaces with rivets or corrugations.
 - non-3M flexible substrates.
 - substrates with coatings such as silicone.

E. Special Considerations

We recommend weeding before thermoforming when using film with red pigments. The red pigments available to film manufacturers today can stain plastic when thermoformed.

3M is very successful at helping you match day/night colors when the same color density is required in front lit and backlit graphics to maximize the effectiveness of your sign. Please contact us for assistance when this is a concern.

2. Compatible Products

This section provides a list of products that are approved by 3M for use with the base film covered in this Bulletin, and used for the creation of a graphic that is covered by the 3M™ MCS™ Warranty. Refer to the Product and Instruction Bulletins listed in 3M Related Literature at the end of this Bulletin for more information about the compatible products.

A. Screen Printing Inks

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

B. Graphic Protection

- 3M™ Screen Print UV Gloss Clear 9740i
- 3M™ Scotchcal™ Gloss Overlamine 3640GPS
- 3M™ Scotchcal™ Matte Overlamine 3642GPS

C. Films

- 3M™ Day/Night Film 3635-91
- 3M™ Day/Night Film 3635-0171
- 3M™ Diffuser Film 3635-30
- 3M™ Diffuser Film 3635-70
- 3M™ Envision™ Diffuser Film 3735-50
- 3M™ Envision™ Diffuser Film 3735-60
- 3M™ Blockout Film 3635-20B
- 3M™ Blockout Film 3635-22B
- 3M™ Dual-Color Film Series 3635-200

D. Substrates

- 3M™ Panaflex™ Awning and Sign Facing 945GPS
- 3M™ Panagraphics™ III Wide-Width Flexible Substrate
- Flat, rigid substrates (see Application Characteristics on page 3)

E. Other Products

- 3M™ Prespacing Tape SCPS-2
- 3M™ Prespacing Tape SCPS-53X
- 3M™ Premasking Tape SCPM-3
- 3M™ Premasking Tape SCPM-44X

3. Characteristics

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

A. Physical Characteristics

| Characteristic | Value |
|---|--|
| Film material | Vinyl |
| Colors | 3630: Translucent, 57 colors 3730: Translucent, 20 colors <i>See Color Chart in Section C.</i> |
| Thickness | Without adhesive: 2 mils (0.05 mm) With adhesive: 3 to 4 mils (0.08 to 0.1 mm) |
| Adhesive type | Pressure sensitive |
| Adhesive color | Clear |
| Liner | Translucent, synthetic layflat liner |
| Adhesion <i>24 hours after application</i> | Acrylic and uncoated, clear polycarbonate: 4 pounds/inch (0.7 kg/cm) |
| Chemical resistance | Resists mild alkalis, mild acids, and salt Excellent resistance to water (<i>not immersion</i>) |

B. Application Characteristics

| Characteristic | Value |
|--|---|
| Finished graphic application recommendation | Surface type: Flat, without rivets Substrate type: 3M flexible substrates; rigid substrates such as flat acrylic, polycarbonate, high temperature copolyester sheet, glass <ul style="list-style-type: none"> - These films typically adhere to solar-grade polycarbonate substrate. However, some lots of this substrate may inhibit film adhesion. Contact Technical Service if you are having difficulty. See Instruction Bulletin 5.7 for additional information. - Polycarbonate substrates may require oven drying before use because outgassing of moisture from the polycarbonate may cause the film to bubble. Refer to the manufacturers' instructions. Application method: Wet, typical Application temperature: 60°F (16°C) <i>minimum air, substrate</i> |
| Temperature range after application | -50° to +170°F (-45° to +77°C) Impact at low temperatures of film applied to flexible substrates may result in cracking of the film and/or substrate. |
| Recommended light source <i>for best results</i> | 3630: Fluorescent bulbs 3730: LEDs |
| Graphic removal | None, permanent |

C. Color Chart

Selected 3M product colors are a simulation of a PANTONE®-identified color standard. You can view these colors at 3Mgraphics.com. Go to Tools & Support, then [Pantone® Color Reference](#). Use current PANTONE Color Publications for accurate color. PANTONE® is the property of Pantone LLC. ©Pantone LLC, 2012. Produced under License Agreement No. 813R between 3M and Pantone LLC.

Special colors are available by request. Pigment durability and manufacturing limitations do not permit exact color matching of all color shades.

(1) Film Series 3630

| Product Color | PANTONE Color | Product Color | PANTONE Color |
|------------------------|-----------------------|----------------------------|----------------|
| 3630-005 Ivory | PANTONE 7500 C | 3630-97 Bristol Blue | n/a |
| 3630-015 Yellow | PANTONE 116 C | 3630-106 Brilliant Green | PANTONE 376 C |
| 3630-20 White | n/a | 3630-108 Pink | PANTONE 224 C |
| 3630-22 Black ♦ | PANTONE Black C | 3630-109 Light Rust Brown | PANTONE 7594 C |
| 3630-25 Sunflower | PANTONE 130 C | 3630-115 Lt. Lemon Yellow | PANTONE 3995 C |
| 3630-26 Green | PANTONE 7727 C | 3630-116 Bright Jade Green | n/a |
| 3630-33 Red | n/a | 3630-118 Intense Magenta | PANTONE 241 C |
| 3630-36 Blue | PANTONE 281 C | 3630-121 Silver | PANTONE 877 C |
| 3630-43 Lt. Tomato Red | n/a | 3630-125 Golden Yellow | PANTONE 1235 C |
| 3630-44 Orange | PANTONE 1655 C | 3630-126 Dk Emerald Green | PANTONE 3435 C |
| 3630-49 Burgundy | PANTONE 188 C | 3630-127 Intense Blue | PANTONE 300 C |
| 3630-51 Silver Gray | PANTONE 439 C | 3630-128 Plum Purple | PANTONE 525 C |
| 3630-53 Cardinal Red | PANTONE 187 C | 3630-129 Bronze | PANTONE 471 C |
| 3630-57 Olympic Blue | n/a | 3630-131 Gold Metallic | PANTONE 872 C |
| 3630-59 Dark Brown | PANTONE 4625 C | 3630-133 Raspberry | PANTONE 220 C |
| 3630-61 Slate Gray | n/a | 3630-136 Lime Green | PANTONE 360 C |
| 3630-63 Rust Brown | PANTONE 7610 C | 3630-137 European Blue | PANTONE 2757 C |
| 3630-68 Rose Mauve | PANTONE 190 C | 3630-141 Gold Nugget | n/a |
| 3630-69 Duranodic ♦ | PANTONE Black 7 C | 3630-143 Poppy Red | PANTONE 485 C |
| | PANTONE Warm Gray 7 C | 3630-146 Light Kelly Green | PANTONE 340 C |
| 3630-71 Shadow Gray | | 3630-147 Lt. European Blue | PANTONE 7690 C |
| | | 3630-149 Light Beige | PANTONE 468 C |
| 3630-73 Dark Red | PANTONE 7621 C | 3630-156 Vivid Green | PANTONE 355 C |
| 3630-74 Kumquat Orange | PANTONE 151 C | 3630-157 Sultan Blue | PANTONE 287 C |
| 3630-75 Marigold | PANTONE 7549 | 3630-167 Bright Blue | PANTONE 2945 C |
| 3630-76 Holly Green | PANTONE 7734 C | 3630-236 Turquoise | PANTONE 3282 C |
| 3630-78 Vivid Rose | PANTONE 206 C | 3630-246 Teal Green | PANTONE 322 C |
| 3630-83 Regal Red | PANTONE 187 C | 3630-317 Evening Blue | PANTONE 658 C |
| 3630-84 Tangerine | PANTONE 1575 C | 3630-337 Process Blue | n/a |
| 3630-87 Royal Blue | PANTONE 274 C | | |

(2) Film Series 3730

| Product Color | Product Color | Product Color |
|---------------------|-------------------------|-------------------------|
| 3730-015L Yellow | 3730-36L Blue | 3730-137L European Blue |
| 3730-20L White | 3730-43L Lt. Tomato Red | 3730-156L Vivid Green |
| 3730-22L Black ♦ | 3730-44L Orange | 3730-157L Sultan Blue |
| 3730-26L Green | 3730-97L Bristol Blue | 3730-167L Bright Blue |
| 3730-33L Red | 3730-127L Intense Blue | 3730-337L Process Blue |
| 3730-35L Light Gold | | |

♦ Films 3630-22, 3630-69 and 3730-22L are effectively opaque for most sign uses.

(3) Color Matching

- Film series 3730 is not available in simulated PANTONE®-identified colors at this time.
- Because film series 3630 and 3730 are optimized for different light sources, an exact color match between these two films may not be possible.

D. 3M Flexible Substrates

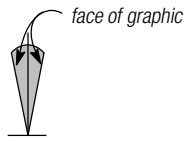
Important Note!

The user is responsible for determining and complying with all applicable building codes that affect the use of materials in interior and exterior awning, banner and sign face applications, including flammability standards. For information on flammability requirements, contact your local building code officials. For information on the results of flammability testing on 3M flexible substrates, including the product covered in this Product Bulletin from 3M Commercial Graphics, call 1-800-328-3908.

4. Definitions

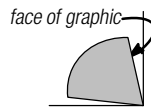
A. Exposure Types

U.S. Vertical Exposure



The face of the graphic is +/- 10° from vertical

U.S. Non-vertical Exposure



The face of the graphic is greater than 10° from vertical and greater than 5° from horizontal.

U.S. Desert Southwest Exposure

Any outdoor graphic exposed to solar energy more than half of the daylight hours in Arizona, New Mexico and the desert areas of California, Nevada, Utah and Texas is subject to reduced warranties. A detailed map is available at 3Mgraphics.com.

B. Graphic Types

Indoor Signs

Stationary graphics applied indoors and *not* exposed to the elements

Outdoor Signs

Stationary graphics applied outdoors and exposed to the elements

C. Graphic Construction

The products used to make a graphic, which may include film and/or flexible substrate, graphic protection, ink, printer and application tape

D. Graphic Protection

Overlaminated films or clear coats used to protect the graphic and/or change gloss

5. Warranty Information

A. Warranty Coverage Overview

The warranty coverage for each graphic is based on the user(s) both reading and following all applicable and current 3M Product and Instruction Bulletins. 3M will honor the Warranty Period stated in the base film's Product Bulletin that is current when the film was purchased. The Warranty Period may be reduced and stipulations may apply for certain constructions and applications, as covered in this Bulletin.

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.

B. 3M Basic Product Warranty

This product is 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 and as further set forth in the [3M Commercial Graphics Warranty Brochure](#).

C. Limited Remedy

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.

D. Limitation of Liability

Except where prohibited by law, 3M SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE TO PURCHASER OR USER FOR ANY DIRECT (EXCEPT FOR THE LIMITED REMEDY PROVIDED ABOVE), INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, LABOR, NON-3M MATERIAL CHARGES, LOSS OF PROFITS, REVENUE, BUSINESS, OPPORTUNITY, OR GOODWILL) RESULTING FROM OR IN ANY WAY RELATED TO SELLER'S PRODUCTS, SERVICES or THIS BULLETIN. This limitation of liability applies regardless of the legal or equitable theory under which such losses or damages are sought including breach of contract, breach of warranty, negligence, strict liability, or any other legal or equitable theory.

E. Additional Limitations

See the [3M Commercial Graphics Warranty Brochure](#) at 3Mgraphics.com, which gives the terms, additional limitations of the warranty, if any, and limitations of liability.

F. 3M™ MCS™ Warranty

Subject to Stipulations set forth in Section G.

Finished graphics constructed with the materials specified and the exposure specified in the Warranty Period Table, Section F.(1), are eligible for the 3M™ MCS™ Warranty.

(1) **Warranty Period**
for Finished Graphics

Warranty Period for Finished Graphics

| Non-Thermoformed Signs | | | | | | | |
|--|---------------------|--------------------------|--------------------|--------------------------|--------------|---|--------------|
| Substrate | Application Surface | Decoration Method | Graphic Protection | U.S. Exposure (in Years) | | U.S. Desert Southwest Exposure (in Years) | |
| | | | | Vertical | Non-Vertical | Vertical | Non-Vertical |
| Panaflex, Rigid substrate | First | Unprinted film | None* | 6 | 0 | 4.2 | 0 |
| | First | Unprinted film | 3640GPS 3642GPS | 9 | 6 | 6.3 | 4.2 |
| Panaflex | First | Printed with ink 1900 | 1920DR | 5 | 4 | 3.5 | 2.8 |
| | First | Printed with UV ink 9800 | 9800CL 9740i | 5 | 4 | 3.5 | 2.8 |
| Panagraphics III | First | Unprinted film | None* | 6 | 0 | 4.2 | 0 |
| | First | Printed with ink 1900 | 1920DR | 5 | 0 | 3.5 | 0 |
| | First | Printed with UV ink 9800 | 9800CL 9740i | 5 | 0 | 3.5 | 0 |
| PETG, glass, Acrylic and Non-Solar grade polycarbonate | First | Printed with ink 1900 | 1920DR | 5 | 4 | 3.5 | 2.8 |
| | First | Printed with UV ink 9800 | 9800CL 9740i | 5 | 4 | 3.5 | 2.8 |
| Non-solar grade rigid substrate | Second | Unprinted film | None | 6 | 0 | 4.2 | 0 |
| Solar grade polycarbonate or PETG UV grade | Second | Unprinted film | None | 9 | 6 | 6.3 | 4.2 |

| Thermoformed Signs | | | | | | | |
|--|---------------------|----------------------|--------------------|--------------------------|----------------------|--|--|
| Substrate | Application Surface | Decoration Method*** | Graphic Protection | U.S. Exposure (in Years) | | | |
| | | | | Complete Sign Face** | Complete Sign Face** | | |
| Rigid Substrate | First | Unprinted film | None | 4 | 2.8 | | |
| Rigid Substrate | First | Unprinted film | 3640GPS 3642GPS | 6 | 4.2 | | |
| Acrylic or Non-solar grade polycarbonate | Second | Unprinted film | None | 4 | 2.8 | | |
| Solar grade polycarbonate | Second | Unprinted film | None | 6 | 4.2 | | |

* Although the durability of these constructions are warranted without graphic protection in a vertical orientation, 3M strongly recommends using graphic protection to keep the graphic looking good. See Section 5.G.(1).

** When the thermoformed sign is vertically mounted.

*** Thermoformed signs not warranted for metallic colors 3630-121, 3630-131, or 3630-141.

G. General Warranty Stipulations for 3M™ MCS™ Warranty

These stipulations apply to the 3M™ MCS™ Warranty. General provisions for these stipulations are covered in the [3M Commercial Graphics Warranty Brochure](#) at 3Mgraphics.com.

(1) Abrasion and Loss of Gloss

Abrasion damage and loss of gloss are not covered by any 3M warranty. This is considered normal wear and tear. However, to help maintain the appearance of your graphic, use the recommended graphic protection whenever:

- it is required for the construction and end use as shown in the Warranty Period tables.

(2) Application Outside the U.S.

Contact the 3M organization for that country.

(3) Application to Glass

3M accepts no liability for glass breakage when using this film for window graphics. See [Instruction Bulletin 5.1](#) for details.

(4) Graphics Made with Components Not Sold or Recommended by 3M

The **3M™ MCS™ Warranty** does not, under any circumstances, cover graphics made with inks, film, graphic protection and/or application tapes that are not sold or recommended by 3M.

The **3M Performance Guarantee** does not, under any circumstances, cover OEM inks, even those approved by 3M for this program, or any type of 3M product failure that results from their use.

The user is solely responsible for the graphic appearance, performance and durability of graphic constructions that include any non recommended or qualified products.

6. 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
- Ink formulation
- Adequate ink drying or curing
- Selection, condition and preparation of the substrate
- Surface texture
- Application methods
- Angle and direction of sun exposure
- Environmental conditions
- Cleaning or maintenance methods

7. Graphics Manufacturing



CAUTION

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

A. Illuminated Signs Require Special Consideration

Clear and translucent films tend to be more sensitive to shrinkage due to high total ink coverage. Film that is not sufficiently dried prior to creating an overlap may shrink and result in a light leak. Rather than increasing the total ink coverage to increase the density of the illuminated image, we recommend printing two layers of film at lower ink levels. Refer to [Instruction Bulletin 4.26](#) for details and construction options.

Backlighting any film, no matter how it is imaged, reduces the density of the colors on the image.

B. LED Light Transmission Comparison

For a general guideline when illuminating graphics using LEDs, this table shows a typical increase in light transmission that may be expected for graphics using film series 3730 on diffuser film 3735-50 compared to film series 3630 on diffuser film 3635-30.

Light Transmission Comparison

| Film | | Typical % Increase Light Transmission 3730 on 3735-50 compared to 3630 on 3635-30 |
|---------------------------------------|----------------|--|
| Product Number 3630-xxx / 3730-xxx | Color | |
| 015 / 015L | Yellow | 25 |
| 20 / 20L | White | 56 |
| 26 / 26L | Green | 20 |
| 33 / 33L | Red | 106 |
| 36 / 36L | Blue | 46 |
| 43 / 43L | Lt. Tomato Red | 66 |
| 44 / 44L | Orange | 55 |
| 97 / 97L | Bristol Blue | 32 |
| 127 / 127L | Intense Blue | 71 |
| 137 / 137L | European Blue | 33 |
| 156 / 156L | Vivid Green | 69 |
| 157 / 157L | Sultan Blue | 44 |
| 167 / 167L | Bright Blue | 96 |
| 337 / 337L | Process Blue | 80 |

Video



Watch a brief lightbox demonstration comparing film series 3730 to film series 3630.

C. Screen Printing

Refer to the 3M Related Literature section for a list of the Product and Instruction Bulletins that may be needed to make a graphic.

Formulations and processing conditions can affect ink durability. Refer to the Product and Instruction Bulletins for your ink for limitations and proper usage.

Graphic protection can improve the appearance, performance and durability of your graphic. A clear coat also prevents chalking on unprinted films.

Whether you apply screen print clears with traditional screening methods or roller coating, use equipment designed to handle high viscosity materials and make sure the coating is evenly applied to the specifications in the clear's Instruction Bulletin.

D. Construction Options

Important Note!

A third layer of film on any one surface is warranted *only* if the top layer is overlaminated 3640GPS/3642GPS and no more than two layers of any film are even with the edges of the substrate.

NEVER place an overlap over an existing overlap, which creates four layers.

FIGURE 1
Three Film Layer Constructions

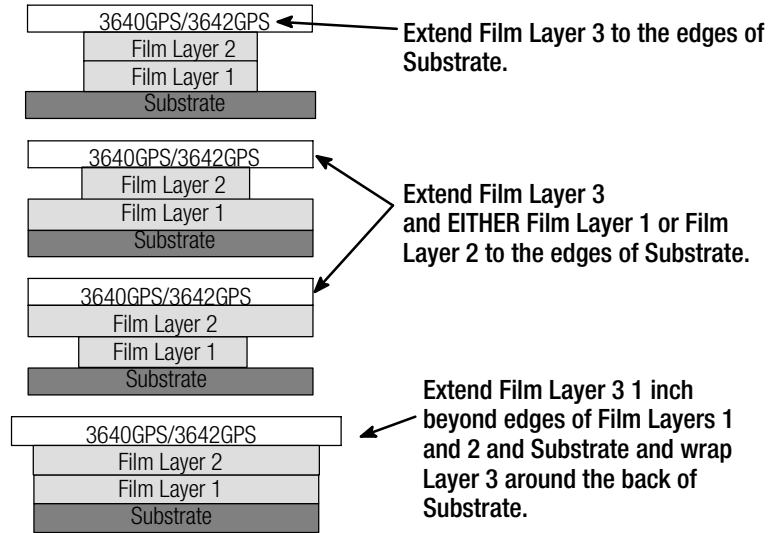
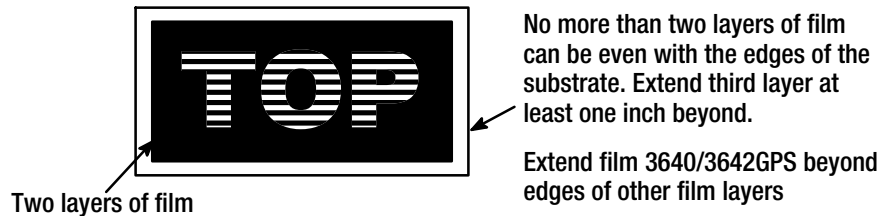


FIGURE 2
Color By Day/White By Night
Visual Example



FIGURE 3
Color By Day/White By Night
Construction

Three film layers



E. Thermoforming

Refer to [Instruction Bulletin 5.16](#) for detailed information.



Film series 3630 and 3730 emit vapors during the thermoforming process. Be sure to read and follow the information contained in the Material Safety Data Sheet (MSDS), the box label, and the Instruction Bulletin 5.16 before thermoforming.

F. Channel Letter Faces

When using film series 3630 or 3730 on rigid plastic channel letter faces, avoid contact with the adhesive used to attach the trim cap edge. These adhesives attack film and cause curling, lifting and premature failure of the film.

G. Spray Painting

Film series 3630 and 3730 can be spray painted with Grip-Flex™ or Lacryl™ diffuser paints with good performance. However, the performance or application of the paints is not warranted.

H. Cutting

The following are common cutting methods for this film. See [Instruction Bulletin 4.1](#) for details.

(1) Cutting Methods

For individual pieces, use one of these cutting methods.

- Hand cut
- Die cut
- Kiss cut
- Electronic cutter

For multiple pieces, use one of these cutting methods.

- Guillotine
- Die cut

(2) Minimum Cutting Heights

Based on cutting and weeding evaluations that used Helvetica medium upper case, the recommended minimum cutting height for text is 1 inch (2.54 cm). Because of the differences in electronically-controlled cutting equipment and font characteristics, users should determine their own cutting and weeding capability.

(3) Inside and Outside Corners

For inside and outside corners of cut out letters and symbols, and the pointed end of stripes, cut the largest radius consistent with an acceptable appearance. This technique helps avoid stress cracking due to age, and lifting of pointed ends during maintenance.

(4) Factors that Affect Cutting Quality and Ability

- Sharpness of the knife blade. Dull blades create a serrated look to the cut edge of the film scores the liner. Too little weight does not cut completely through the film and the adhesive. Excessive weight cuts the liner. It also causes the blade to drag, accelerating wear and eventually creating a serrated cut edge on the film.
- Temperature and relative humidity are minor considerations, but avoid extreme or rapidly fluctuating conditions.
- Store the film in the same environment as the cutting equipment.
- Consider the stroke width of characters, style of serifs or extensions, and small details of scanned or digitized artwork.
- The minimum recommended stroke width is 0.040 inch (1.0 mm) when film is exposed to cleaning or other physical stress.

I. Application Tapes

(1) When to Use Premasking Tape

- Use as an application aid to increase stiffness, and prevent stretching and damage during application.

(2) 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.

(3) How to Select a Tape

Determine whether you want to premask the graphic or prespace film elements. Then locate the graphic protection on your graphic in the table below, and use the corresponding tape. See [Instruction Bulletin 4.3](#) for complete details.

EXAMPLE: If the film has no graphic protection and you want to premask the film, use premasking tape SCPM-3.

Select the tape based on what is on top of the graphic

| Tape | Unprinted | 3640GPS, 3642GPS 8519,8520, 3619,3620 | 1920DR, Ink Series 1900 | 9800CL 9740i Ink Series 9800 |
|---------------------|-----------|---|----------------------------|------------------------------------|
| Premasking SCPM-3 | ■ | ■ | ■ | — |
| Prespacing SCPS-2 | ■ | ■ | ■ | — |
| Premasking SCPM-44X | — | — | — | ■ |
| Prespacing SCPS-53X | — | — | — | ■ |

— = No application tape is recommended for this construction.

8. Application and Installation

- For application by hand, the detergent and water application method is recommended for this pressure-sensitive film. Dry application by hand may leave some dark streaks or bubbles that could be visible in transmitted light. Refer to [Instruction Bulletin 5.7](#).
- For roll application, the dry method is acceptable.

9. 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.)

Refer to [Instruction Bulletin 6.5](#) for general maintenance and cleaning information.

10. Shelf Life, Storage and Shipping

A. Shelf Life

Total shelf life: 3 years from the date of manufacture on the original box.

If you do process the film, do so within 2 years and apply within 1 year.

If you do not process the film, apply it within 3 years.

B. Storage Conditions

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

C. Shipping Finished Graphics

Flat (may be separated by paper), or rolled printed side out on 5 inch (13 cm) or larger core. This helps prevent the liner and, if used, the application tape from popping off.

11. Health and Safety



CAUTION

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.

12. 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

| Subject | Type | Bulletin No. |
|--|------|--------------|
| 3M™ Diffuser Films 3635-30 and 3636-70 3M™ Envision™ Diffuser Films 3735-50 and 3735-60 | PB | Diffuser |
| 3M™ Blockout Films 3635-20B, 3635-22B 3M™ Day/Night Films 3635-91, 3635-1070 | PB | 3635 |
| 3M™ Screen Printing Ink Series 1900 and Overprint Clear VI0402 | PB | 1900 |
| • Screen printing with ink series 1900 | IB | 3.12 |
| - line color | | 3.11 |
| - 4-color | | |
| 3M™ Screen Printing UV Ink Series 9800 | PB | 9800 |
| • Screen printing with UV ink series 9800 | IB | 3.20 |
| - line color | | 3.21 |
| - 4-color | | |

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

| Subject | Type | Bulletin No. |
|---|----------|--|
| 3M™ Dual-Color Film Series 3635-200 | PB | 3635-200 |
| 3M™ Scotchcal™ Graphic Film Series 3650 | PB | 3650 |
| 3M™ Panaflex™ Awning and Sign Facing 945GPS | PB | 945 |
| 3M™ Panagraphics™ III Wide-Width Flexible Substrate - Application of 3M pressure sensitive films to Panagraphics substrate | PB IB | P3 5.30 |
| 3M Graphic Protection Products | PB | GP-1 |
| 3M™ Screen Print Gloss Clear 1920DR - Applying screen printing clear 1920DR | PB IB | 1900 3.12 |
| 3M™ Screen Print UV Gloss Clear 9740i | PB-IB | UV Clears |
| Hot and cold roll lamination | IB | 4.22 |
| Scoring and cutting | IB | 4.1 |
| Using 3M application tapes; premasking and prespacing for films | IB | 4.3 |
| Making backlit signs with 3M digitally imaged graphics | IB | 4.26 |
| Application, substrate selection, preparation and application techniques | IB | 5.1 |
| Application, general procedures for indoor and outdoor dry applications | IB | 5.5 |
| Application, wet method for translucent screen printed and cut graphics | IB | 5.7 |
| Application, special applications and vehicles | IB | 5.4 |
| Storage, handling, maintenance, removal | IB | 6.5 |
| 3M Commercial Graphics Warranty Brochure | | go to www.3Mgraphics.com |

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13. Bulletin Change Summary

Modified and new content is marked with a black bar in the margin. Added the available standard colors for film series 3730. For a general guideline, included the typical increase in light transmission that may be expected for graphics using film 3730 with diffuser film 3735-50 compared to film series 3630 with diffuser film 3630-50. Removed flammability statement under Physical Characteristics. Reordered columns in Warranty Period tables to list the intended substrate first. Updated definitions of exposure types to align better with terms used in Warranty Information.



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