

## Overview

This bulletin provides general installation techniques for both dry and wet applications of films and sheetings with either pressure-sensitive or pressure-activated adhesives, to flexible and relatively flat rigid substrates. Material covered in this bulletin includes specific considerations for certain films, application techniques based on a graphic’s size, specific instructions for applying pump skirts and striping, and installation finishing techniques. Installers should read and follow all the information in this instruction bulletin, other instruction bulletins referenced in this bulletin, and the product bulletins of all materials they use for a given project.

For wall surface applications, see [3M Instruction Bulletin Application: Walls](#).

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## Film Overview

Understanding the unique characteristics of the film and its adhesive helps installers use the film properly. Refer to the base film’s product bulletin and the following comparison of adhesive features.

- Pressure-activated adhesive allows installers to slide the film across an approved substrate to position it.
- Apply light finger pressure to temporarily tack film to the substrate and check for proper positioning. Lift and slide to reposition.
- The film can be lifted and repositioned if it sticks prematurely without any firm pressure having been applied.
- The film immediately loses all slideability and repositionability if firm pressure is applied with a hand, squeegee, or other application tool, as doing so bonds the adhesive to the substrate.
- The film loses much of its slideability and repositionability if it is applied to a substrate in excess of 100°F (38°C) or if any part of the film is removed from the original liner and reapplied to the same or a different liner.
- Attempting to lift applied film typically stretches it beyond reuse. Some skilled installers may be able to successfully lift small sections to work out air bubbles, but 3M does not guarantee success.
- Installers should refer to their film’s product bulletin to determine if the film they are using is removable.

### 3M™ Scotchcal™ Graphic Films, Most 3M™ Scotchlite™ Reflective Graphic Films and Sheetings, and 3M™ Graphic Films

- Pressure-sensitive adhesive adheres to the substrate upon contact even with only light finger pressure.
- These films are NOT repositionable. Lifting the film typically causes it to stretch beyond use. Some skilled installers may be able to successfully lift small sections to work out air bubbles, but 3M does NOT guarantee success when doing so.
- Installers should refer to their film’s product bulletin to determine if the film they are using is removable.

### Any 3M Graphic Film with 3M™ Comply™ Adhesive

These features apply to any 3M graphic film which uses the 3M™ Comply™ adhesive technology.

- A unique microstructure pattern in the adhesive allows trapped air to escape via special air release channels for faster and easier installations with few or no bubbles.
- Any bubbles that do occur can usually be pushed out or removed with an air release tool when the air release channels are sealed.
- Refer to the film’s product bulletin to determine if the chosen film has Comply™ features.

## Any 3M Graphic Film with 3M™ Controltac™ Adhesive

- Controltac™ Micro posts minimizes the initial contact area of the adhesive for easy sliding, tacking, snap-up and repositioning.
- Controltac™ Pressure Activated technology allows for repositioning until firm pressure is applied.
- Refer to the film's product bulletin to determine if the chosen film has Controltac™ features.

## 3M™ Scotchlite™ Reflective Graphic Films

- The pressure-activated adhesive allows installers to slide and position the film on approved substrates.
- Avoid applying even light finger pressure while sliding the film into position. Any pressure can damage the reflective properties of the film.
- This film is NOT repositionable. Repositioning can damage the retro-reflective properties.
- This film is NOT removable.

## Tools

- Scotch™ Masking Tape, 1 in. (2.5 cm) or wider,
- Wrap magnets
- 3M™ Plastic Applicator PA-1 or equivalent with buffer
  - The gold applicator is most commonly used. It is stiffer than the blue applicator, allowing for maximum application pressure.
  - The blue applicator is used when more flexibility is required. It is softer, and can conform to contours and corrugations.
- 3M™ Rivet Brush RBA-1
- 3M™ Power Grip Rivet Brush Applicator RBA-3
- Pin or 3M™ Air Release Tool 391X
- 3M™ Power Grip Multi-Pin Rivet Air Release Tool MPP-1
- 3M™ Power Grip Applicator CPA-1 (flat surface only) for films with Comply™ adhesive
- 3M™ Power Grip Magic Pad Rivet Applicator CMP-1 for films with Comply™ adhesive
- A 3M™ Edge Sealer (as recommended in the base film's product bulletin), OR 3M™ Edge Sealer Tape 8914
- Hand-held rivet cutting tools such as 3M™ Film Cutting Tool FT-13/32 or FT-1/2
- Cutting tools, such as a razor blade with a safety holder, or equivalent retractable blade.
- Industrial heat gun capable of attaining 500°F to 750°F (260°C to 399°C), or equivalent
- 1/4 in. (0.6 cm) paint brush for applying edge sealer
- Liner cutter

## Pre-Application Information

### General

- Replace the plastic applicator if the edges are damaged. Damaged edges leave bubbles and scratch the graphic.
- If the graphic does not have an application tape, use a low friction buffer on the plastic applicator to minimize scratching of the graphic.
- Smooth and non-porous substrates are ideal. However, many surfaces that appear smooth may actually be irregular or uneven, such as speckled or textured plaster surfaces. These surfaces are generally used for interior walls but may be found elsewhere. Additional information on walls is included in [3M Instruction Bulletin Application: Walls](#).

### Application Temperature and Environment

Apply graphics when the air, film, and substrate temperatures are within the ranges specified in the product bulletin of each film or sheeting used. Incorrect temperatures can prevent the film or graphic from performing as expected.

- Graphics applied above the maximum recommended application temperature may pre-adhere.
- Graphics constructed of Controltac™ brand films may lose their positionability feature at temperatures above the specified maximum.
- Below the minimum recommended application temperatures, films and sheeting become stiff and brittle. The adhesive may not bond adequately to the substrate. In addition, air may be trapped more easily.
- Substrates may be heated with an appropriate portable heater or heat lamps in order to raise the surface temperature above the specified minimum.
- The temperature of the substrate must be above the dew point to prevent moisture from condensing on the surface.
- In very humid conditions, it may be difficult to keep the substrate dry.

## Substrate Preparation

See [3M Instruction Bulletin Application: Substrate Selection and Preparation](#) for details on cleaning specific substrates prior to application.

- If the substrate has dirt or loose paint on it, the film will adhere to those contaminants instead of the substrate itself. If the film does not make enough contact with a clean dry substrate, it will not stick well, leading to premature graphic failure.
- Complete the final substrate cleaning immediately before applying film. Dust and other contaminants can collect quickly on the substrate and prevent the film from adhering properly.
- Ensure the substrate, rivets, and seams are thoroughly dry. Film adheres poorly even to properly cleaned substrates if there is any remaining liquid around rivets and seams.

## When to Use Wet Application Methods

Only use the wet application method if it is specifically recommended in the film's product bulletin. See [3M Instruction Bulletin Application: Backlit Signage](#) for details on the wet application method.

## When to Use Dry Application Methods

Any liquid remaining under the graphic prevents it from adhering properly. Certain substrates are very difficult to dry. 3M typically recommends only using dry application methods for the following situations:

- Graphics made with Controltac™ and Scotchlite™ brand films
- Graphics made with film with Comply™ brand adhesive
- Scotchcal™ brand films, unless a film's product bulletin specifically recommends wet application
- Perforated window graphic film with an overlamine
- Uneven, textured, or non-flat application surfaces
- Graphics subjected to freezing conditions within several days of application.

## Graphic Placement

Proper placement of the graphic can make the job easier. To minimize application problems, follow these guidelines for positioning the graphic.

### NOTE

Do NOT lay the graphic on the floor. It will pick up dirt and transfer it to the substrate.

- Test your layout by temporarily positioning the graphic on the substrate. Use masking tape or magnets to hold it in place. This ensures the graphic fits and that all pieces are aligned.
- Position the graphic to minimize the number of obstructions, such as electrical and thermostat covers, rivets, etc. Moving the graphic just 1 to 2 in. (2.5 to 5 cm) may avoid multiple obstructions.
- Whenever any obstructions cannot be avoided, position the graphic so the film extends at least 1/2 in. (1.3 cm) past the edge of the obstructions and covers as many of obstructions as possible.
- Do NOT allow the edge of a graphic to fall on obstructions.
- If the film covers seams in the substrate, installers will need to cut through the film as described in [“Slitting Substrate at Seams” section on page 11](#).
- Touching the adhesive may transfer body oils and dirt to the adhesive, which can be especially problematic at the edges of the film. To minimize with adhesion, grasp the film as far into the graphic as possible without wrinkling the film.
- Avoid overstretching the film during liner release as this will make alignment of panels difficult. Use a center hinge method or premask to reduce overstretching of the film.

## Making Film Overlaps

### Exterior Application Overlaps

Exterior applications require film panels to have an overlap of 1/4 in. to 1/2 in. (6.4 mm to 12.7 mm).

Environmental conditions such as wind, rain, and blowing debris stress overlapped graphic edges. Use careful planning for both vertical and horizontal film overlaps to reduce stress and damage.

#### NOTE

Overlaps greater than 1 in. (2.5 cm) can result in graphic lifting and failure.

### Interior Application Overlaps

Indoor wall applications require an overlap of 1/4 in. to 1/2 in. (6.4 mm to 12.7 mm).

### Horizontal Film Overlaps

Apply the lower piece of film first. Work toward the top, overlapping each subsequent piece by 1/4 in. to 1/2 in. (6 mm to 13 mm), and no more than that.

### Vertical Vehicle Application Overlaps

Any overlaps on films applied vertically must face away from the front of the vehicle. Apply the first piece of film at the rear of the vehicle and work toward the front, overlapping each piece over the previous panel by 1/4 in. to 1/2 in. (6.4 mm to 12.7 mm). Repeat for the other side, again starting from the back.

## Registering the Graphic

Mark the exact location of the top and sides of the graphic on the substrate with masking tape, a lead pencil, or a marking pen. Do NOT use a chalk line, china marker, or grease pencil as these will contaminate the adhesive and cause edge failure.

## Removing the Adhesive's Liner

To remove part or all of the liner, pull the liner away from the graphic at an 180 degree angle with a smooth continuous motion. See Figure 1. Always remove the liner from the graphic rather than the graphic from the liner. This helps minimize stretching or wrinkling of the graphic.

1. Lay the graphic liner side up against a flat, clean surface.
2. Flick a corner of the film with a finger or bend the corner to separate the liner from the adhesive. If the liner is scored, bend the film at the score.
3. Remove only as much liner as is required for a given application method. Keep fingers away from the edge of the adhesive as much as possible during liner removal. Contaminated adhesive edges may cause film edges to lift after application. See Figure 1.

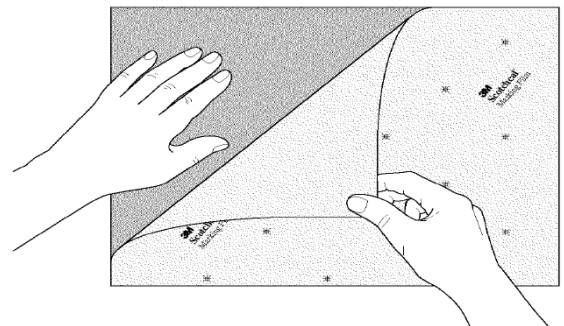
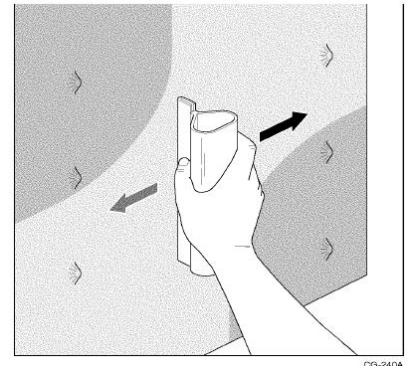


Figure 1. Pulling Off a Liner

## Alternate Squeegee Technique - 3M™ Power Grip Applicator CPA-1

The 3M™ Power Grip Applicator CPA-1 is ONLY for use with:

- 3M graphic films with Comply™ adhesive
  - Flat surfaces with or without rivets (no corrugations or highly contoured surfaces)
1. Grip the tool as shown in Figure 2.
  2. Work from the center of the graphic out toward the edges.
  3. Apply even pressure.
  4. Use overlapping strokes to adhere the film to the substrate.



**Figure 2.** Alternate Squeegee Technique

## Applying a Small Graphic

A graphic is considered small if:

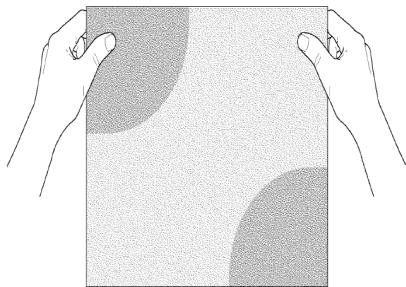
- It has positionable, pressure-activated adhesive and is less than 9 ft<sup>2</sup> (0.8 m<sup>2</sup>).
- It has pressure-sensitive adhesive and is less than 4 ft<sup>2</sup> (0.4 m<sup>2</sup>).

1. Remove the entire liner.
2. Gently tack the top edge of the graphic in place with a thumb. See Figure 3.
3. Start in the center of the graphic (when possible) and use firm pressure and overlapping strokes from the plastic applicator to apply the graphic to the substrate. Always squeegee the shortest distance from the center out to the edge of the graphic. See Figure 4. Hold the remaining film away from the surface as the graphic is applied.

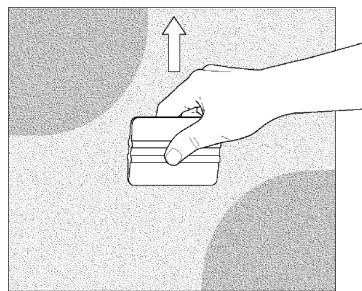
### NOTE

Pull the squeegee, as shown in Figure 4, rather than pushing it. Pushing can stretch the graphic.

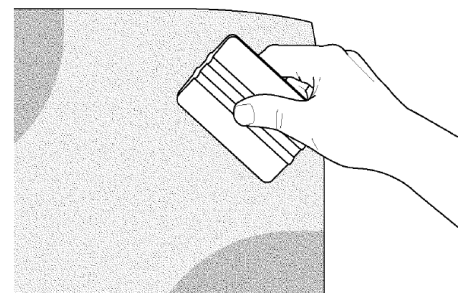
4. Pull the film away from the substrate where it was originally tacked down and then squeegee that area. This prevents wrinkles. See Figure 5.
5. Complete the application according to the instructions in the [“Finishing” section on page 10.](#)



**Figure 3.** Tack One Edge of the Graphic



**Figure 4.** Squeegee Across the Shortest Distance



**Figure 5.** Squeegee the Previously Lightly Tacked Areas

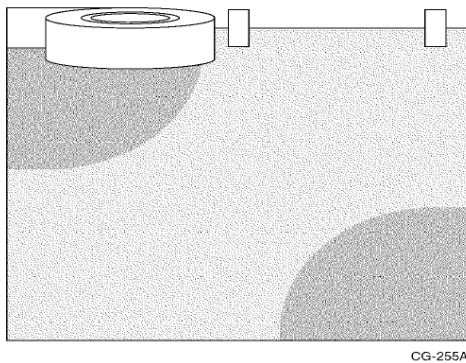
## Applying a Large Graphic

A graphic is considered large if it has:

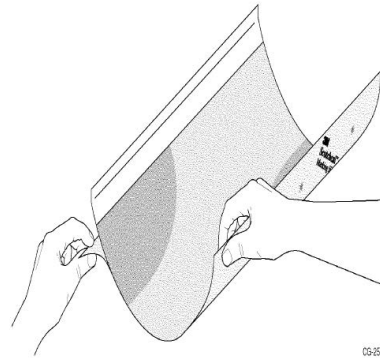
- Positionable, pressure-activated adhesive and is larger than 9 ft<sup>2</sup> (0.8 m<sup>2</sup>).
- Pressure-sensitive adhesive and is larger than 4 ft<sup>2</sup> (0.4 m<sup>2</sup>).

### Top Hinge Method

1. Position the graphic on the substrate using strips of Scotch™ Masking Tape to hold the graphic in place. Then, apply 2 in. to 3 in. (5.1 cm to 7.5 cm) wide strips of masking tape horizontally across the top of the graphic. See Figure 6.
2. Raise the graphic over the top of the hinge and peel the liner back a few inches. See Figure 6.



**Figure 6.** Make a Top Hinge



**Figure 7.** Lift Graphic and Peel Back Liner

#### NOTE

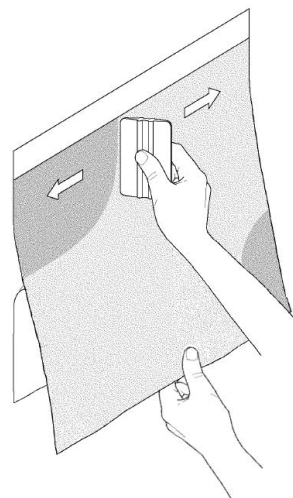
The entire liner may be removed at this time, if desired. However, for very large graphics, especially those with a pressure-sensitive adhesive, leaving the liner in place until just prior to squeegeeing makes the graphic more controllable, keeps the adhesive clean, and reduces the possibility of stretching the film.

3. Without stretching the graphic, hold the center of the bottom of the graphic and begin squeegeeing the top of the graphic. Squeegee from the center and work out toward the edges. Use firm pressure from the plastic applicator and work in overlapping strokes. See Figure 8.

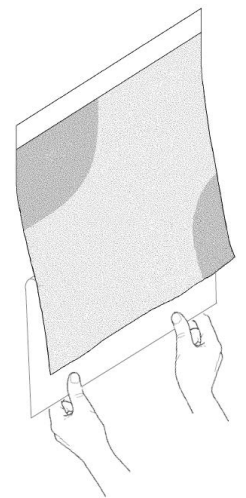
#### NOTE

Pull the squeegee, as shown in Figure 8 rather than pushing it. Pushing can stretch the graphic.

4. Keep the graphic away from the surface and use two hands to peel back the liner a few more inches. See Figure 9.
5. Continue squeegeeing the graphic using the technique described in Step 3.
6. Repeat Steps 4 and 5 until the entire graphic is applied.
7. Remove the tape hinge.
8. Squeegee the top edge of the graphic.
9. To complete the application, refer to [“Finishing” on page 7.](#)



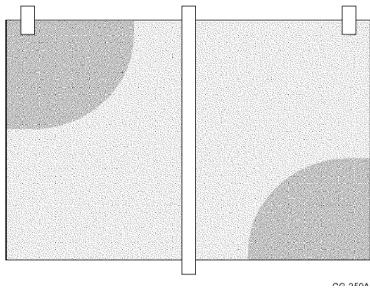
**Figure 8.** Squeegeeing a Top Hinged Graphic



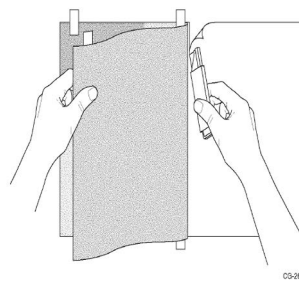
**Figure 9.** Use two hands to remove the liner.

## Center Hinge Method

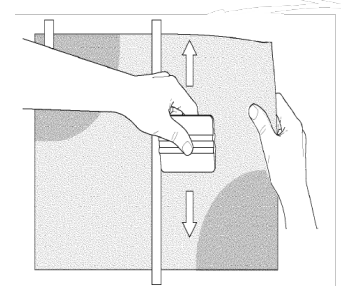
1. Position the graphic and hold it in place with 1 or 2 in. (2.5 or 5 cm) wide strips of masking tape.
2. Apply two layers of 1 or 2 in. (2.5 or 5 cm) wide masking tape through the center of the graphic, either vertically or horizontally depending on which length is shorter, to make a hinge. See Figure 10.
3. Fold half of the graphic back over the hinge.
4. Peel off the liner all the way to the tape hinge.
5. Then cut just the liner along the hinge. See Figure 11.



**Figure 10.** Center Hinge



**Figure 11.** Removing Liner on a Center Hinged Graphic



**Figure 12.** Squeegeeing a Center Hinged Graphic

6. Discard the liner
7. Fold the graphic back onto the substrate.
8. Gently hold the graphic away from the surface with one hand using care not to wrinkle or skew the graphic. Allow the adhesive to touch the substrate as pressure is applied during squeegeeing. Squeegee the graphic beginning at the center of the tape hinge and work out toward the edges. See Figure 12. Use firm pressure from the plastic applicator and work in overlapping strokes.
9. Remove the tape.
10. Apply the other half of the graphic in the same manner.
11. Complete the application according to the instructions in the [“Finishing” section on page 10.](#)

## Self Hinge Method

Ideal for smaller film panels a self hinge can be made at the top of the film or in the center of it (as shown here).

1. Lay the film graphic-side down on a clean work table.
2. Use a liner cutter to cut through just the liner across the shortest width of the film.
3. Make another liner cut about 4 in. (10.2 cm) away on either side of the first cut.
4. Remove the resulting strip of liner.
5. Position the film on the substrate and lightly adhere it in place with finger pressure where the exposed adhesive touches the substrate.
6. Squeegee the film along the exposed adhesive working toward the nearest edge.
7. Fold the graphic past the self hinge on one side of the graphic and peel the liner section back a few inches.



**Figure 13.** Creating a Self Hinge

### NOTE

The entire section of liner may be removed at this time, if desired. However, for very large graphics, especially those with a pressure-sensitive adhesive, leaving the liner in place until just prior to squeegeeing makes the graphic more controllable, keeps the adhesive clean, and reduces the possibility of stretching the film.

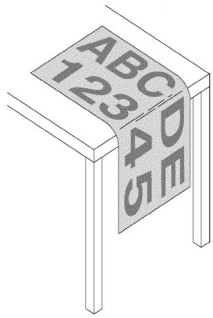
8. Squeegee the exposed film to the substrate, working from the center of the graphic up and down toward the film edges. Use firm pressure from the plastic applicator and work in overlapping strokes.
9. Keep the graphic away from the surface and use two hands to peel back the liner a few more inches.
10. Continue squeegeeing the graphic using the technique described in Step 8.
11. Repeat Steps 9 and 10 until the entire section of the graphic is applied.
12. Repeat Steps 7 through 11 on the film on the other side of the self hinge.
13. To complete the application, refer to [“Finishing” on page 7.](#)

## Applying Large, Pre-spaced Graphics

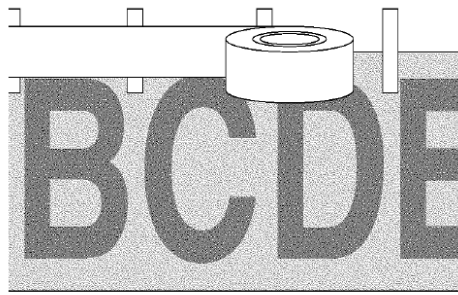
Pre-spaced graphics have cut areas with large amounts of exposed liner. Pre-spaced graphics should have an application tape already applied.

### NOTE

If the application tape does not easily remove all of the pre-spaced graphics from the liner, press the elements back onto the liner. Then gently pull the graphic liner-side down over the corner edge of a surface. See Figure 14.

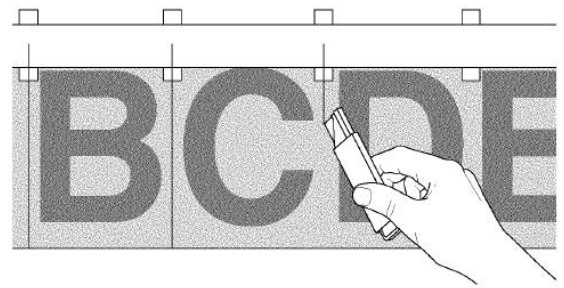


**Figure 14.** Loosening Prespaced Graphics From the Liner



CG-267A

**Figure 15.** Top Hinge on Prespaced Graphics



CG-268A

**Figure 16.** Cut between elements of prespaced graphics.

1. Apply a hinge. See Figure 15 and refer to the [“Top Hinge Method” on page 6](#).
2. Cut between each element, starting just above the top edge of the film. This makes independent hinges for each element. See Figure 16. To avoid cutting the substrate, lift the graphic away from the substrate when cutting the film.
3. Working one element at a time, remove the liner and squeegee each element in place. Use firm pressure and work in overlapping strokes. Always work from the center and squeegee out toward the closest edges of each individual element.

### NOTE

Squeegee all areas of the pre-spaced graphics and application tape, not just the individual elements.



## Application to Pump Skirts

Each pump skirt is slightly different, especially at older service stations. The following are general guidelines for installation.

1. Remove the pump skirt.
2. Repair any dents, chipped paint, or damaged graphics as necessary.
3. Remove all hardware, locks, side shields, shoulder pads, rubber bumpers, etc.
4. Clean the pump skirt thoroughly, including the back side of the skirt where the film will wrap around it.
5. Cut away some of the film to allow it to wrap neatly around the pump skirt. In the example in Figure 17, installers would cut the film along the solid lines and remove the white sections.

Cut out areas approximately as shown in white

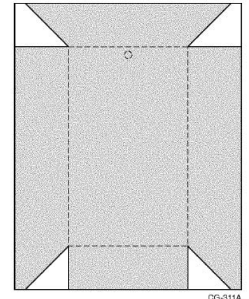


Figure 17. Cutting Diagram for Pump Skirts

### NOTE

Position overlaps facing downward when wrapping film edges to reduce the chance of moisture seeping under the film.

6. Apply and wrap the film around the pump skirt, following the steps below and referencing Figure 18.
  - a. Apply the film to the face.
  - b. Apply the film to the bottom.
  - c. Wrap or cut back the edge at a 45 degree angle.
  - d. Apply the film to the sides.
  - e. Wrap or cut back the edges at a 45 degree angle.
  - f. Apply the film to the top.
  - g. Wrap or cut back the edge at a 45 degree angle.
  - h. Wrap and apply the triangular film pieces, which now extend from the sides, around the corners.
  - i. Trim the triangular film pieces as needed.

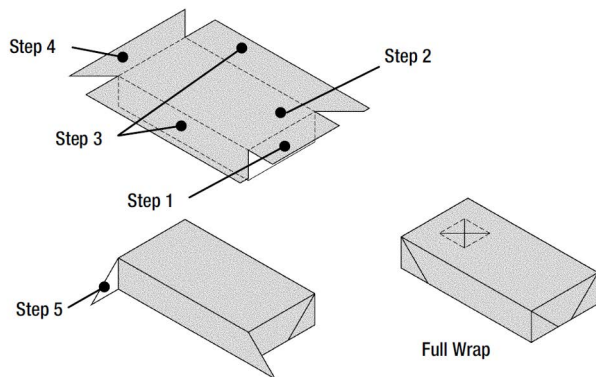


Figure 18. How to Wrap Pump Skirt Corners

Trim and fold

Cut an X in Openings

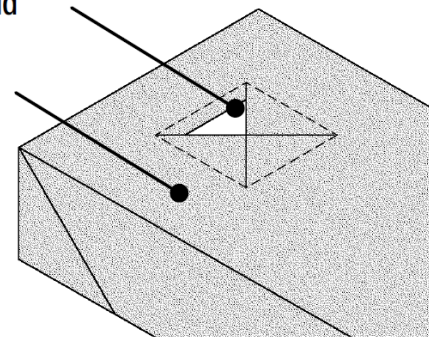
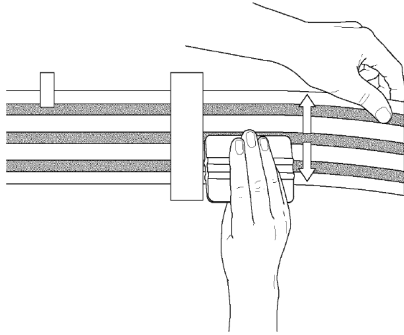


Figure 19. Cutting for Openings

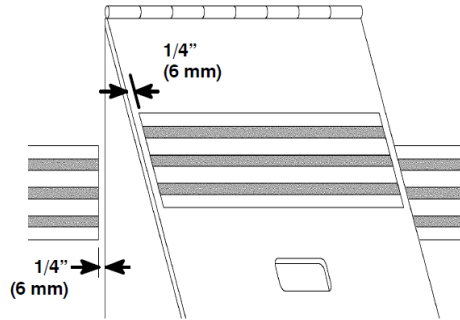
7. Carefully cut an **X** from corner to corner on all openings where hardware, gages, etc. are located. See Figure 19.
8. Trim and fold back the film at these cutouts.
9. Squeegee the film edges firmly.
10. When cutting inside corners, make sure they have appropriately sized radius

## Applying Striping

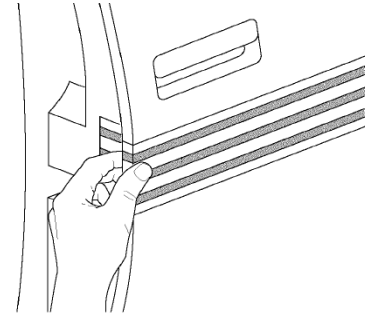
The preferred method for striping is to apply it so that it ends just before the edge of the substrate. An alternate method is to wrap the striping around the edge, such as on a door. However, this method subjects the film or sheeting to more abrasion. Both methods are described here.



**Figure 20.** Making Center Hinge for Striping



**Figure 21.** Applying Striping Without Wrapping



**Figure 22.** Applying Striping With Wrapping

1. Use the [“Center Hinge Method” on page 7](#). Make the hinge perpendicular to the long dimension of the stripe. See Figure 20.
2. If the film/sheeting will *not* be wrapped around an edge, apply the stripe to within 1/4 in. (6.4 mm) of the substrate edge. See Figure 21.
3. If the film *will* be wrapped around an edge:
  - a. Ensure the inside surface is clean.
  - b. Extend striping 1 in. (2.5 cm) or more beyond the edge.
  - c. Wrap the film firmly and squeegee it to the back of the substrate. Avoid trapping air in this area. See Figure 22.

## Finishing

### NOTE

Use a low friction buffer on the squeegee if the graphic does not have an application tape or if the tape has been removed.

### Removing the Application Tape

Application tape should not be left on the graphic. Prolonged exposure to sunlight will permanently adhere it to the graphic.

Remove the application tape from the graphic by pulling it back upon itself at an 180 degree angle. See Figure 23. Users can tear the premask into manageable sized pieces for removal.

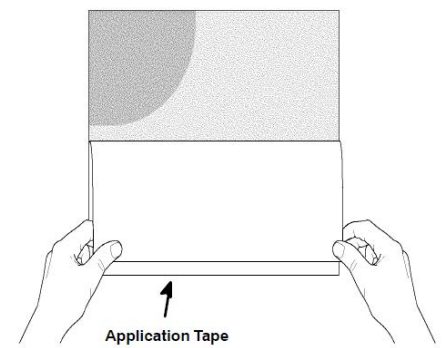
### Re-squeegeeing

### NOTE

ALWAYS re-squeegee the graphic after removing application tape, as removal may loosen the edges of the graphic. Re-squeegeeing is critical for all graphics, but especially if the film is thick or has pressure-activated adhesive, or if the substrate surface has *any* texture. Loose edges may lift and become damaged if this step is skipped.

1. Use firm pressure to re-squeegee all rivets, graphic edges, substrate seams, and film overlaps.
2. Pay special attention to graphics applied near the minimum application temperature.

Graphics may not reach their final adhesion if they are applied near the minimum application temperature and put immediately into service in winter weather. Use a heat gun along the rivets, film edges, substrate seams, and overlaps when re-squeegeeing to improve adhesion and reduce edge lifting.



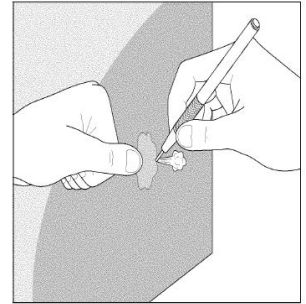
**Figure 23.** Removing Application Tape

**⚠ CAUTION**

Always provide adequate ventilation to remove emissions that may result from the use of heat. Failure to provide adequate ventilation can result in operator exposure.

**Removing Air Bubbles**

1. Inspect the graphic for bubbles. Applying heat from a heat gun or torch to the graphic will help identify areas that have trapped air.
2. Puncture bubbles at one end with a pin or the 3M™ Air Release Tool 391X. Do NOT use a razor blade or knife.
3. Remove trapped air by moving your thumb from the other end of the bubble toward the puncture. See Figure 24.



**Figure 24.** Puncturing an Air Bubble and Pushing Air Out

**Slitting Substrate at Seams**

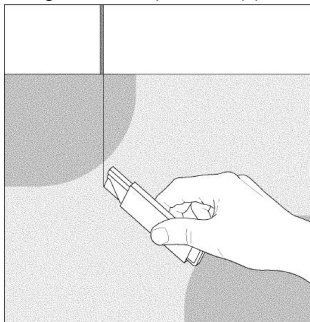
Seams in the substrate, whether or not they are caulked or filled, can retain moisture. They are also the point at which the substrate will flex under certain conditions. Graphics MUST be slit at these seams to ensure the film does not tear there.

**All Substrate Seams**

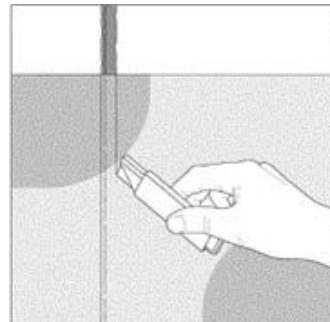
1. Slit the graphic along the entire length of all substrate seams with a sharp razor blade in a safety holder. See Figure 25.
2. Re-squeegee all seam edges with a plastic applicator or rivet brush.

**Seams with Caulking or Gaskets**

1. Cut the film on both sides of the caulking and remove the strip of film covering the caulking or gasket. See Figure 26.
2. Re-squeegee all seam edges with a plastic applicator or rivet brush.



**Figure 25.** Cutting Overlapped Substrate Seams



**Figure 26.** Cutting at Caulked or Gasketed Substrate Seams

## Edge Sealing

The following applications do not require edge sealing, but doing so may help prevent edge lifting when graphics are subjected to external forces such as abrasion and/or pressure washing.

- Railroad rolling stock and locomotives
- Exposure to high-pressure washing
- Exposure to severe abrasion
- Chrome
- Truck roll-up doors

### NOTE

Pressure washing graphics may void the graphics' warranty, even if the edges are sealed, if users exceed the pressure washing recommendations in [3M Instruction Bulletin Maintenance](#).

### Edge Sealing for Sheeting

Edge sealing is required when sheeting is used in fuel spill areas.

### Types of Edge Sealer

Check the film's product bulletin for the appropriate edge sealer. These are general guidelines. Also refer to [3M Product & Instruction Bulletin Edge Sealers](#).

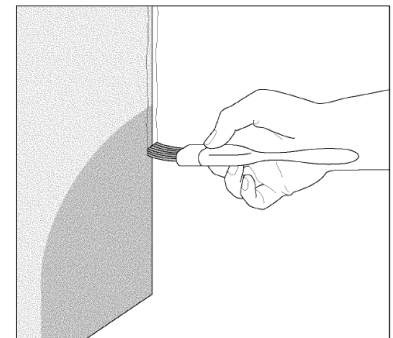
**Table A.** Edge Sealer Recommendations

Type of 3M Film	3M™ Edge Sealer	Application Temperature
Vinyl film	3950 or 4150S	50°F to 100°F (10°C to 38°C)
Polyester film	4150S	50°F to 100°F (10°C to 38°C)

### How to Apply Edge Sealer

Do NOT apply edge sealer unless the temperature is above the minimum recommended temperature for the edge sealer.

1. Remove the application tape and re-squeegee the film edges before applying the edge sealer.
2. For a better appearance, mask off both sides of the edge of the graphic to provide a straight line for the sealer
3. Use the felt dauber supplied with the edge sealer, or a 1/4 in. (6.4 mm) brush, and wipe excess sealer off on the edge sealer container.
4. Hold the brush or the flat edge of the dauber so it straddles the film and the substrate.
5. Pull the dauber or brush along the edge in a smooth, continuous motion. Ensure the entire edge of the film is covered. See Figure 27.



**Figure 27.** Applying Edge Sealer

## Irregular Surfaces and Shapes

### Rough, Textured, and Irregular Surfaces

Use a rivet brush to conform the film to these surfaces.

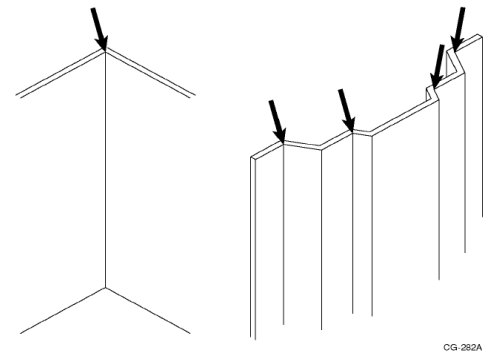
Most interior wall surfaces are textured to some degree. Refer to [3M Instruction Bulletin Application: Walls](#) for proper testing and application recommendations.

### Complex and Compound Contours

Refer to [3M Instruction Bulletin Application: Vehicles](#).

### Posts and Inside Corners

1. Use the desired hinge method as described earlier in this bulletin. Make the hinge parallel to the post.
2. For exterior applications only, all film applied to inside (concave) corners must be cut at the bottom of the radius. See Figure 28.
3. After cutting and removing the application tape, re-squeegee or use a rivet brush to ensure that film is securely applied.



**Figure 28.** Posts and Inside Corners

## 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.](#)

### Air Quality Regulations

Country, state, or regional volatile organic compound (VOC) regulations may prohibit the use of certain chemicals with VOCs in graphic arts coatings and printing operations. Check with local environmental authorities to determine whether use of this product may be restricted or prohibited.

### CAUTION

#### Ergonomics

Any activity performed for a long period of time in an awkward position or with a high amount of force is potentially a risk for causing musculoskeletal strain, pain or injury. When applying or removing graphics, follow these practices to improve comfort and avoid injury:

- Alternate your tasks during the application.
- Schedule regular breaks.
- Perform stretches or do exercises to improve circulation.
- Avoid awkward reaching.

## Warranty Information

### Technical Information

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3M Center, Building 223-3N-30  
St. Paul, MN 55144

1-800-328-3908  
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