Scotchgard™ Protective Film 1004

Application & Removal Instructions

Technical Bulletin **April 2016**

Scotchgard™ Protective Film Application Kit (3M Part No. 70-0710-4666-1) includes: (clockwise) Heavy Duty Squeegee and ten Slick Surface Squeegee Replacement Tape Strips (3M™ Squeak Reduction Tape 5430), two film removal tools and holders and 3M™ Hand Applicator PA-1 Wipe. Pieces contained in Kit are also sold separately. Ask 3M representative for information.

Other tools and solutions suggested for application of Scotchgard™ Protective Film include:

Tools

- **4" wide blade scraper**
- **32 fl. oz. spray bottle**
- **Lint free paper towels/clean rags**
- **Rubber tipped squeegee**
- **3M™ Masking Tape**

Solutions

- **Johnson's® Baby Shampoo** (by Johnson & Johnson) **or Joy® Dishwashing Detergent**
- **3M™ Glass Cleaner**
- **70% Isopropyl Alcohol, 30% Water**

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Step 1: Solution Preparation

Preparing the Alcohol Solution

- Isopropyl Alcohol can be purchased in a concentration of 70% Alcohol, 30% water. If this cannot be obtained, the solution can be mixed.
- Open alcohol bottle and replace cap by attaching spray nozzle.

Preparing the Application Solution

A solution of soap (baby shampoo or Joy®) and water to aid with **positioning** the Scotchgard™ Protective Film shield during the installation procedure.

- Label one 32 oz. spray bottle with the words "Application Solution (soap in water)".
- Open the 32 oz. spray bottle and fill with water, preferably purified water.
- Add 3 drops of soap. The soap is added last to prevent foaming.
  Important Note: Foaming will reduce the amount of solution in the container and increase the concentration of soap in the water. If the concentration of soap in the water is too high, the Scotchgard™ Protective Film shields may slide around on the surface which makes installation more difficult.
- Close the spray bottle by attaching the spray nozzle and shake well.
- The spray bottle should be rinsed before preparation of each solution.

Step 2: Film Removal from Surface

Note: If the surface does not have an existing protective film, skip to Step 3.

a. Use removal tool to lift edge of film.

⚠ **Point is very sharp. Take precautions to prevent injury and store removal tool in plastic tube when not in use.**

b. Remove existing film by peeling back against itself.

c. This film may be cut or torn and may not remove in one piece. Use removal tool to lift edge of torn pieces.

Surface preparation is a very important step in the process of applying Scotchgard™ Protective Film.

Step 3: Surface Preparation – New Glass Installation

Glass Separating Powder on the Glass Surface

- If a glass is being replaced, the glass fabricator may have applied a glass separating powder.
- The separating powder is used to help remove individual sheets of packaged glass at a customer site.
- The separating powder can be removed by:
  - Applying a soap and water solution (for example, the application solution as outlined in Step 1).
  - Next, use lint free paper towels to remove soap and water solution and glass separating powder from the surface.

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Step 3: Surface Preparation – New Glass Installation *(continued)*

Silicone and contaminants on the Glass Surface

- If glass is being replaced, silicone may have been used during the installation process.
- We suggest that silicone lubricants not be used for glass installations.
- Silicone on the glass surface will prevent a bond from being formed between the Scotchgard™ Protective Film shield and the glass surface.
- A suitable alternative lubricant would be a soap and water solution.
- If the glass has silicone contamination on the surface, the following procedure has improved surface adhesion properties between the Scotchgard™ Protective Film shield and glass substrates:
  - The glass should be thoroughly cleaned with a concentrated cleaner that is permitted in the facility.
  - Wipe with a lint free towel.
  - Apply three passes of 70/30 isopropyl alcohol/water solution, wiping dry between each pass with a lint free towel. It is suggested to check compatibility of the alcohol with the gaskets. Alcohol can stain some rubber gaskets.
  - If glass is heavily contaminated with silicone it may be necessary to repeat these steps.
  - Proceed to Step 4.

Step 4: Surface Cleaning

Surface Cleaning Procedure

- Apply 3M™ Glass Cleaner to the surface.
- Use a rigid scraper to remove any particulate or residual adhesive that may have attached to the surface. If particles remain on the surface, the Scotchgard™ Protective Film shield will form a "tent" over the particle which will be a visible defect once lamination is performed.
- Wipe the surface with a lint free paper towel. Concentrate on wiping the edges of the surface where dirt can collect.
- Apply alcohol/water solution to the surface using a spray bottle.
- Use a rubber tipped squeegee to dry the surface. The rubber tipped squeegee is the preferred method to dry the surface as it will not leave any residual lint or paper particles on the surface before film application.
- Proceed to Step 5.

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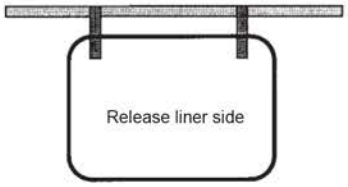
Step 5: Prepare Film for Application

Film application should be done at temperatures above 50°F (10°C). Attention to film positioning and applying adequate squeegee pressure for complete water removal are most important.

Scotchgard™ Protective Film Shield Preparation Procedure

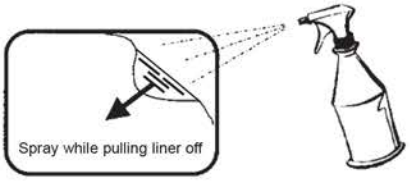


- A horizontal rail is suggested for use in preparing the Scotchgard™ Protective Film shield for application with the following procedure:
  - Remove one precut Scotchgard™ Protective Film shield from storage, packaging or cut to size if using single layer film.
  - Apply masking tape to the rail in preparation for hanging the shield. Fold the masking tape so adhesive side is facing out.
  - Hang the Scotchgard™ Protective Film shield from the rail by pressing the shield against the masking tape with the release liner of the product facing out. (For precut shields, this will be the **label side**). If hanging single layer film, it is important to position the masking tape directly at the two upper corners as to avoid shield fold over during liner removal.
  - Apply one strip of masking tape to an upper corner of the Scotchgard™ Protective Film shield, to be used as a tab to more easily remove the release liner before installation to the surface.
  - Proceed to Step 6.

Step 6: Apply Film to Surface

Scotchgard™ Protective Film Shield Application Procedure

- Apply application solution to the surface being protected.
- Spray application solution to the outside facing surface of the Scotchgard™ Protective Film shield to cut down on static in the area.
- Remove the release liner to the Scotchgard™ Protective Film shield by pulling on the masking tape tab, while spraying application solution to the exposed adhesive of the shield, as the release liner is removed to minimize the generation of static charge.
- Next, spray finger tips with application solution and grab the Scotchgard™ Protective Film shield by the edges, turn it around and apply to the surface.
- During this process, be careful not to brush up against anything with the adhesive of the Scotchgard™ Protective Film shield as to avoid debris contamination.
- Position the Scotchgard™ Protective Film shield by centering it within the area to be protected.
- The Scotchgard™ Protective Film shield is usually cut 1/16 inch to 1/8 inch smaller than the glass to create a gap between the film edge and the surface edge to allow for water removal.



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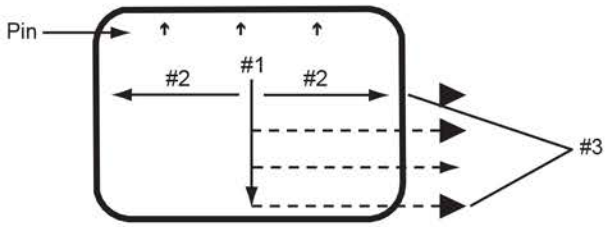
Step 6: Apply Film to Surface *(continued)*

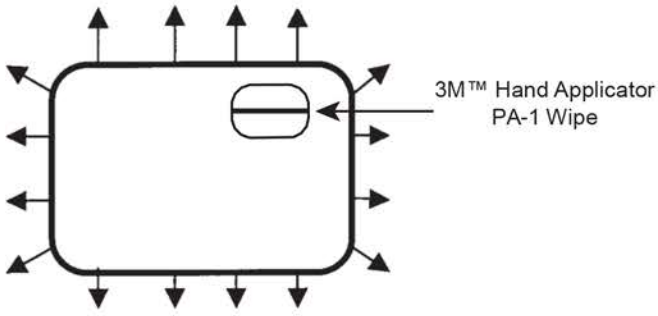
Scotchgard™ Protective Film Shield Lamination Procedure

- Inspect the edge of the Heavy Duty Squeegee and Hand Applicator for irregularities. These can cause scratches on the shields. If slick surface tape strip is damaged, replace. If yellow squeegee tip is damaged, replace squeegee. If PA-1 is damaged, replace.
- Hold the Scotchgard™ Protective Film shield in place with one hand, and with the other hand, use the heavy duty squeegee to "pin" the shield to the surface by moving the squeegee in an upward motion at the top center of the shield. Then follow the next 3 steps:
  1.) With two hands, apply firm pressure, starting at the top in the center of the shield, move the heavy duty squeegee down to remove application solution.
  2.) Starting at the center of the film at the top, push the heavy duty squeegee across the shield horizontally to continue removing application solution. Repeat that step on the other side. **IMPORTANT Note:** If applying shield to a flexible or curved surface, a pattern of vertical strokes may work better.
  3.) While performing the squeegee pattern above, it is important to overlap the prior stroke by 50%. Repeat this process until the solution is entirely removed from the Scotchgard™ Protective Film shield.



- Once the application solution is removed, use the 3M™ Hand Applicator PA-1 Wipe to complete the lamination process at the outside edges of the shield, approximately 1 inch along the entire perimeter, especially in difficult spots such as near window escape handles.
- Absorb final amounts of water at the edge of the shield with a paper towel.
- Make sure all air bubbles and pockets are removed during the lamination process. Trapped air or liquid under the shield during the lamination process will be a visual defect.

IMPORTANT Note: If at any time you observe unacceptably large air or water pockets trapped behind the film, the film may be lifted, application solution MUST be re-sprayed underneath the film, and the procedure repeated. If very large dirt/debris particles are observed, and they are unable to be dislodged using the spray, the film may have to be discarded and the surface must be re-cleaned.



- Proceed to Step 7.

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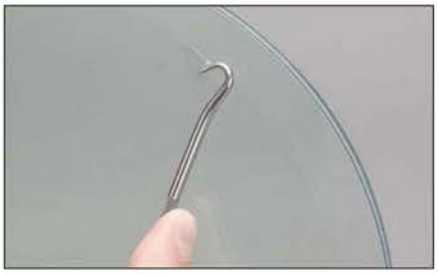
Step 7: Layer Removal

Scotchgard™ Protective Film Shield Layer Removal Technique

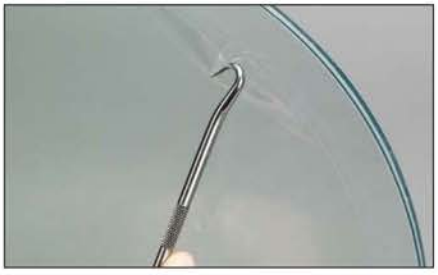
1.) For precut shields, locate the Scotchgard™ Protective Film shield radius corner with the stepped edge (often in the upper right corner).

2.) Take the Film Removal Tool and place it at the start of the arc for the top outer most layer of the Scotchgard™ Protective Film shield.

3.) Gently push the point of the Film Removal Tool between the top and next layer of the Scotchgard™ Protective Film and twist the tool to separate the two sheets. If working with single layer film without a stepped edge, near a corner, press the tip of removal tool against the film, pierce the film and twist the tool as to lift the film.



4.) Peel back about 1/2" to 1" of the top layer.



5.) Grab the top layer with fingers.

6.) Remove Scotchgard™ Protective Film at a 90 to 180 degree angle.

7.) Scotchgard™ Protective Film shield is renewed.

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