Scotchgard™ Paint Protection Film Pro Series 200
3M™ Paint Protection Film Series 150
3M™ Paint Protection Film Series 100
3M™ Paint Protection Film Series 50*

*Not available in all areas.

Overview

This installation guide provides details on the proper installation of 3M™ Paint Protection Films (PPF). Included in this document are instructions on the creation of proper installation solutions, installation guidelines, and recommendations for the maintenance and cleaning of paint protection film after installation.

Application Characteristics

Table A. Application Characteristics

Characteristic	Value
Application Method	Wet only
Substrate Types	OEM painted surfaces*
Application Temperatures	60°F to 85° (16°C to 30°C)

* Check adhesive bond to powder-coated or water-based paints.

NOTE

Films are NOT recommended for use on stainless steel substrates, and are NOT warranted for stainless steel applications. Contact your local 3M sales representative for information on appropriate product for such applications.

Installation Solutions

Slip Solution

Slip solution must be prepared freshly every day. Do NOT store them overnight.

Slip solution can be made with either Johnson's® Baby Shampoo *or* Dawn® dish soap. Suggested starting shampoo and soap ratios for different paint protection films are provided in Table B.*

Table B. Slip Solution Formulas

Paint Protection Film	Johnson's® Baby Shampoo	Dawn® Dish Soap
Scotchgard™ Paint Protection Film Pro Series 200 **3M™ Paint Protection Film Series 150**	2 ml to 4 ml per 32 oz (1 liter) of DI or filtered water	1 to 2 ml per 32 oz (1 liter) of DI or filtered water
3M™ Paint Protection Film Series 100 **3M™ Paint Protection Film Series 50**	1 to 2 ml per 32 oz (1 liter) of DI or filtered water	0.5 ml to 1 ml per 32 oz (1 liter) of DI or filtered water

*The suggested slip solution ratios are only starting points. The appropriate level of shampoo or soap for a slip solution depends on the parts to be installed and the installation environment. Always keep the paint protection film wet when working in hot environments, and installers may need to increase the non-detergent soap content in the slip solution.

3M™ Paint Protection Film Installation Gel



3M™ Paint Protection Film Installation gel is a slip foundation alternative to water and shampoo/soap solutions that can be utilized with all 3M™ Paint Protection Films to provide additional working time. It is a high viscosity water-based gel that arrives ready-to-use.

Tack Solution

NOTE

Most installers will use just distilled water as their tack solution. 3M provides the recommendations in Table C only for usage as needed in very difficult recessed areas.

Table C. Tack Solution Formulas

Isopropyl Alcohol (IPA) Strength	Tack Solution Formula
99% Isopropyl Alcohol	150 ml IPA to 850 ml DI or filtered water
70% Isopropyl Alcohol	250 ml IPA to 750 ml DI or filtered water

Hybrid Solution

Hybrid solution is made with *both* Johnson's® Baby Shampoo *and* IPA. Suggested starting shampoo and IPA ratios are provided in Table D.*

Table D. Hybrid Solution Formulas

Isopropyl Alcohol (IPA) Strength	Hybrid Solution Formula
99% Isopropyl Alcohol	• 2 ml Johnson • 150 ml IPA • 850 ml DI or filtered water
70% Isopropyl Alcohol	• 2 ml Johnson • 250 ml IPA • 750 ml DI or filtered water

* The suggested slip solution ratios are only starting points. The appropriate level of shampoo or soap for a slip solution depends on the parts to be installed and the installation environment. Always keep the paint protection film wet when working in hot environments, and installers may need to increase the non-detergent soap content in the slip solution.

Installation Tools

- Disposable 5 ml syringes
- Isopropyl alcohol
- Johnson's® Baby Shampoo *or* Dawn® dish soap
- DI or filtered water
- Three one liter spray bottles
- 3M™ General Purpose Adhesive Cleaner
- Heat gun
- Scotch-Brite® Microfiber Cloths
- 3M™ Perfect-It™ Cleaner Clay *or* Meguiar's® C2000 Pro Detailing Clay (Mild)
- 3M™ Surface Preparation System (EU only)
- *Optional:* 3M™ Paint Protection Film Installation Gel
- Fusion Tools® Turbo Squeegees
- Cutting Knife with 30-degree blades

Cap Sheet Removal

3M™ Paint Protection Films may come with cap sheet depending on the region. The cap sheet layer helps protect the film and is easily removed. Cap sheets are removable by hand and must be removed prior to installation and plotter cutting.

NOTE

Roll up the film firmly, ensuring no slack to prevent possible tunneling or buckling. After cutting any film for bulk parts or plotter cutting, add tape within six inches of each roll edge and in middle of the roll to prevent the film from unwinding. Stand partial rolls straight up and down on rack or similar.

Vehicle Preparation Instructions

1. Ensure there is no ceramic coating applied to the vehicle paint. If there is, work with an authorized paint correction specialist or automotive detailer to remove the coating.
2. Use 3M™ General Purpose Adhesive Cleaner and clean Scotch-Brite® Microfiber Cloths to remove any surface residue (e.g. wax, tar, paint sealant).
3. Use a non-ammonia foaming glass cleaner and clean Scotch-Brite® Microfiber Cloths to remove any excess adhesive cleaner.
4. Use 3M™ Perfect-It™ Clay Bar or Meguiar's® C2000 pro detailing clay to remove surface contaminants on the painted surface.
5. Wipe down the vehicle with clean Scotch-Brite® Microfiber Cloths and do final inspection prior to installation.

Installation Notes

NOTE

For a bulk installations, dry any areas that may have been exposed to excess slip solution when making anchor points on an install such as when stretching four corners for a bulk hood install.

1. Wipe off, flush out, and dry off any slip solution in non-active area anchor points on the bumper or fender as you stretch the PPF over the hood and lock it in place.
2. Hold the film in place for ten seconds to activate the firmer adhesive.
3. Stretch out any fingers.
4. Lock the four anchor points in place with warm water or tack solution.
5. Flush out slip solution on edges and hold down to activate and lock the edges.
6. Spray the film edges with tack solution.
7. Gently wipe down film, dry, and inspect.
8. Allow 15 minutes for adhesive to dry before putting pressure on film to avoid leaving marks.
9. Heat set all film edges with a heat gun at approximately 180°F (82°C) after completing the installation.

Complex Curves

For application over complex curves, activate the adhesive with "Tack Solution" and hold the film in place for 5 to 10 seconds. Warm water can be utilized in solutions to assist as needed with installation.

Application Temperature

Environmental and vehicle application temperatures of 60°F to 85°F (16°C to 30°C) can be used. However, 3M recommends 70°F to 79° (21°C to 26°C) as the optimal application temperature.

Maintenance, Cleaning, and Removal

- 3M recommends waiting at least 72 hours after film installation before washing the vehicle.
- Customers should inspect their vehicle after film installation, and return the vehicle to the installer if any lifting or peeling occurs.
- Touchless car wash and hand washing are the preferred methods for washing vehicles with PPF.
- Loose paint protection film could tear away from a moving vehicle. After washing, check all the entire installation films carefully for edge lifting. Repair, remove, or replace damaged film.
- Clean bird droppings, tar, and bugs off of the film as soon as possible to avoid staining or damage.
- If a pressure washer is to be used, then there are strict guidelines that need to be followed. Remember, aggressive washing can damage the film, with excessive pressure forcing water underneath the film and weakening the adhesion strength to the paint surface, causing the film to lift or curl. These problems are magnified by wind.
- To avoid edge lifting or other damage to the paint protection film, follow these important steps:
  - Use a spray nozzle with a minimum 40-degree wide spray pattern.
  - Ensure the spray nozzle includes a nozzle protector (tip guard).
  - Use a maximum pressure of 80 bar.
  - If the system is heated, limit the water temperature to 140°F (60°C) or less.
  - Hold the nozzle at least 12 in. (30 cm) away from and perpendicular (90 degrees +/- 10) to the paint protection film or a minimum of 39 in. (1 m) away from the graphic at a 30° angle, or higher.
  - Do NOT direct the water stream at between 0° to 60° relative to the edge of the paint protection film.
- The surface of the paint protection film is coated with a clear coat. This protects the surface to a high degree against environmental influences and mechanical stress.
- Wash the vehicle in a shaded and/or protected area with a neutral shampoo.
- Cleaning with strong alkaline, acidic, or alcoholic cleaning agents should be avoided, as permanent damage to the film may occur.
- Do NOT use abrasive cleaning pads, brushes, and similar products as doing so will permanently damage the film.
- 3M recommends drying the car quickly after cleaning to help prevent hard water spot/chlorine stains. Applying a coating of liquid wax after cleaning also helps prevent hard water spot/chlorine stains.

Waxing and Alternatives

Avoid using any wax that contains dyes, abrasive polishes, and/or rubbing compounds. The abrasive particles will damage the PPF surface and result in a loss of surface quality.

- **100 and 50:** Within three months of PPF installation apply 3M™ Perfect-it™ Show Car Paste Wax (PN39526). Users can also apply 3M™ Ceramic Coating (PN39901) or 3M™ Ceramic Boost Spray (PN39905) to add an additional hydrophobic coating for easy clean features and additional stain resistance.
- **150 and 200:** Within three to six months of PPF installation apply 3M™ Perfect-it™ Show Car Paste Wax (PN39526). Users can also apply 3M™ Ceramic Coating (PN39901) or 3M™ Ceramic Boost Spray (PN39905) to add an additional hydrophobic coating for easy clean features and additional stain resistance.

Use of waxes other than those described above is on a user test-and-approve basis only. Always test the coating in an inconspicuous area before applying to the surface of the paint protection film.

After waxing your car, you can remove any wax build-up along film edges with a lint-free cloth. Visit www.3M.com/automotive to order 3M's Car Wash Soap, Waxes, Polishes and High-Performance Detailing Cloths.

Removal

3M recommends using a steamer or heat gun to aid in removal of PPF. Remove the film at a 30 to 60 degree angle relative to the surface of the paint. 3M recommends hiring a PPF installation professional for this process.

Factors Affecting Paint Protection Film Performance Life

The actual performance life of a paint protection film is affected by:

- Selection, condition, and preparation of the substrate
- Surface texture
- Application methods
- Environmental conditions

Health and Safety

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.

Tools and Equipment Usage

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

Warranty Information

Technical Information

Technical information, guidance, and other statements 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 to any intellectual property rights is granted or implied with respect to this technical information.

Product Selection and Use

Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment, reviewing all applicable regulations and standards, and reviewing the product label and use instructions. Failure to properly evaluate, select, and use a 3M product in accordance with instructions or to meet all applicable safety regulations may result in injury, sickness, death, and/or harm to property.

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Commercial Branding and Transportation
3M Center, Building 223-3N-30
St. Paul, MN 55144

1-800-328-1684
3M.com/ppf

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