Avery Dennison
Graphics Solutions
Instructional Bulletin

Asia Pacific
June 2024

Avery Dennison® Instructional Bulletin 1.15 Application Instructions for Supreme™ PPF Films

Revision 4

Introduction

Avery Dennison Supreme™ PPF Material is a new generation conformable top coated Polyurethane (PU) film, designed to provide excellent protection for automotive, transport, marine and OEM applications. Supreme PPF is available in X3, Enduro, Optima and Xtreme, which are clear high gloss films, Supreme PPF neo Black is a high gloss black film and Supreme PPF Matte and Supreme PPF Xtreme Satin are clear smooth matte and stain films. These films can resist light scratches to the specially designed topcoat, these scratches will disappear at normal room temperature, the application of heat can aid in scratch removal. Scratches that penetrate deeper than the topcoat cannot be removed, this is a normal characteristic of a PPF film and not deemed a failure of the material. This instructional bulletin provides information and recommendations for the successful installation of the product.

Important Note: As with all graphics films, it is important to avoid using any hard solvents (i.e. IPA (Isopropyl Alcohol) or Avery Dennison Surface Cleaner) directly on the surface of Avery Dennison Supreme PPF during the application process or afterwards when cleaning. Use of these products directly on the surface may cause matting, loss of gloss and prematurely degrade the film. For cleaning and maintenance consult Avery Dennison Instructional Bulletin 1.8 for further information.

1.0 Consult Product Data Sheet

Before applying the product, consult the appropriate product data sheet and instructional bulletins for information regarding suitable substrates, application and product performance.

2.0 Handling and Storage Conditions

Avery Dennison Supreme PPF comes in a variety of constructions and finishes and requires special handling when converting to smaller lengths from larger rolls when compared to traditional graphics films. The Supreme PPF X3, Enduro, Optima, Xtreme and neo Black are supplied with a protective cap sheet, this sheet should be removed after receiving the roll, it is recommended to use a laminator or similar to remove the entire cap sheet from the whole roll before conversion or installation. Supreme PPF Matte and Supreme PPF Xtreme Satin are not supplied with a protective cap sheet.

Avery Dennison Supreme PPF should be stored at a temperature of 20°C (± 2°C) with 50 %RH (± 5%), vertically in the original packaging, ensuring the material is tightly wound around the core and fastened with tape. If stored loosely on the roll without the leading edge taped down the material can separate from the protective cap sheet and cause imperfections in the adhesive. Proper storage allows the film to keep its maximum performance and also enables a hassle-free application. The user assumes all risk and liability for the loss of performance when the film is stored improperly. Improper shall mean that the user did not store the Avery Dennison Supreme PPF in accordance with the aforementioned instructions.

3.0 Application Tools

- Tool belt – to hold all application tools
- Avery Dennison PPF Squeegee Pro Blue (Semi-Rigid)
- Avery Dennison PPF Squeegee Pro Red (Flexible)
- Avery Dennison 30 degree Application Knife
- 30 Degree stainless steel replacement blades
- Avery Dennison Magnets
- Avery Dennison Surface Prep Pro
- Steamer with on demand steam - For conforming the film and tacking edges if required
- Fusion All Type Mounting Fluid
- Avery Dennison Application Gel - For vertical surfaces and can be used as a tack solution
- Slip Solution: 5-20L Pump Spray Bottle or pressurised tank (with spray handle) containing water and Fusion All Type Mounting Fluid (2 ml of Fusion concentrate per 1 litre of water)
- Lint-free microfiber cleaning cloths for surface preparation and cleaning
- Clay bar or eraser pad and recommended lubricant for removing hard bonded contaminants

Important Information

To avoid damaging the film, always ensure the application tools are in good condition and test the suitability prior to commencing the application.

It is the responsibility of the end-user/applicator to ensure all painted substrates have been processed and cured per the paint manufacturer's requirements. Failure to follow paint manufacturer requirements can lead to adhesion failure and/or removal problems.

The use of any chemicals recommended in this bulletin should be done with caution, and ALL manufacturer’s safety guidelines and warnings should be followed, including use of the appropriate personal protection equipment. When using Avery Dennison Surface Cleaner or Adhesive Remover, the use of chemical resistant Nitrile Gloves and Safety Glasses in a well ventilated area is required. Always read the instructions on the container, MSDS, or contact the manufacturer for usage guidelines.

4.0 Substrate Preparation and Cleaning

Note: Some new vehicles may have co-polymer paint protection coatings. These coatings make it difficult for pressure-sensitive adhesive films to achieve a functional bond. You should check with the vehicle manufacturer first, but it has been recommended to pre-clean with Autoglym Multiwash (previously Power Max 3). Ensure you follow the manufacturer's instructions: For removal of co-polymer paint protection coatings, a solution of 1 part Autoglym Multiwash, to 4 parts clean water is used in a spray bottle. Spray solution evenly on all areas of the vehicle (especially deep recess and 3D sections) agitate with a sponge, allow 5 min reaction time and do not allow to dry. If it dries, re-apply and re-work with a sponge, then rinse systematically with high-pressure water, preferably hot, removing all of the solution.

Note: Vehicle surface must be OEM paint in good condition and must be cleaned thoroughly to remove all dirt, grime, grease, oil, wax, polish, co-polymer or ceramic coatings and other contaminants. For ceramic coatings, review with the manufacturer on the best process for removal.

4.1 Pre Cleaning Wash

- Remove all dirt and grime with water and detergent solution
- Remove any co-polymer paint protection coatings with the use of Autoglym Multiwash, as per manufacturer instructions
- Do not use any polishes, waxes or tyre shining agents post wash
- Allow the vehicle to dry ensuring no water remains in areas such as seals and behind door handles. A compressed air gun can be used to aid in drying hard to get to areas
- For any hard to remove grease, oil and wax, use a rag soaked in solvent, such as Isopropyl Alcohol (IPA), or Avery Dennison Surface Cleaner

4.2 Clay Surface

- Using either a professional clay bar or eraser pad and the recommended lubricant
- Clay the surface of the vehicle as per the clay bar or eraser pad manufacturers recommendations

Note: The surface must be completely clean, smooth, and dry before final preparation.

Caution: Prior to cleaning with solvents, test the solvent on an inconspicuous area of the surface to check for potential damage from solvent usage.

4.3 Final Surface Cleaning and Preparation

- After following the pre-cleaning instructions above, the substrate should be thoroughly cleaned with Avery Dennison Surface Cleaner.
- Spray Avery Dennison Surface Cleaner onto the substrate and allow it to dwell, remove using a clean, soft, lint-free cloth, remembering to rotate the cloth for each new area you clean.

or alternatively

- The substrate can be cleaned with an IPA and water solution (70% IPA and 30% water), using a lint free cloth or microfiber towel soaked with the solution and then wiped off with a clean dry lint free cloth or microfiber towel, before the solution has time to evaporate, remembering to rotate the cloth for each new area you clean.
- Take special care with recesses, corners, returns of panels, behind rubbers (e.g. inside edge of door) and any hard to reach areas
- It may be necessary to clean some areas more than once until the desired result is achieved

4.4 Final Check

- Check all critical areas using the 'nail test'. Feel the surface with the back of your fingernail. If the surface feels slippery and your nail slides easily, then it should be cleaned again. If it is difficult to slide your nail across the surface and it grips heavily, then the surface is clean.

Important Note: There must be no dirt, grime, grease, oil, wax, polish, copolymer or ceramic coatings or solvent residue remaining on the substrate prior to application.

5.0 Installation Requirements and Preparation

- Avery Dennison Supreme PPF has been designed to protect the surface of the car's body and can be applied to bonnets, bumpers, guards, rocker panels, door edges, pillars and most OEM painted substrates.
- Avery Dennison Supreme PPF can be hand cut on the substrate after installation or plotter cut using general plotters, specialised software and templates prior to installation.
- Before starting the application, wash your hands, to avoid fingerprints on the adhesive and ensure the Avery Dennison Supreme PPF is applied in a clean, dust-free and well lit environment.
- Avery Dennison Supreme PPF film needs to be applied using the wet application method, being a water and Fusion All Type Mounting Fluid solution. This is your "Slip" solution.
- For optimal application performance, the recommended slip solution is a mixture of 1 Liter of water per 2ml of Fusion All Type Mounting Fluid. Eg. For 5L of water add 10ml of Fusion All Type Mounting Fluid.

Important Note: Do not add any alcohol (e.g. Isopropyl Alcohol) to the slip solution.

- It is ideal to prepare and mix the Fusion All Type Mounting Fluid solution in a large pump bottle or pressurised tank with trigger spray.
- The use of Avery Dennison Application Gel is also recommended on non-vertical and vertical surfaces, the Application Gel has a thicker consistency and will not easily run off the surface. The Avery Dennison Application Gel comes ready to use and should not be diluted or adjusted in any way.
- Avery Dennison Application Gel can also be an alternative to tack solution when needed.

5.1 Starting Installation

- Measure and cut the material from the roll ensuring it is at least 100mm larger than the panel it is being applied to, make sure to remove the transparent protective cap sheet from the face of the film before beginning application if you have not done already.
- If plotter cutting the film, ensure the transparent protective cap sheet is removed prior to cutting.
- Spray slip solution or Avery Dennison Application Gel onto the substrate before applying the film, ensuring the surface has an even and generous covering.
- Spray fingers with the slip solution to avoid any fingerprints in the adhesive.
- Remove the PET backing liner and spray the exposed adhesive side with a generous covering of the slip solution or Avery Dennison Application Gel.
- Position the material on the substrate, if necessary, slide the film until you have reached the correct positioning.
- The surface of the film should also be sprayed with slip solution throughout application to allow the squeegee to slide easily across the film and to avoid scratching or damaging the surface.
- If the film starts to prematurely tack to the substrate, additional slip solution can be introduced underneath the film to keep it from tacking.

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Once the material has been positioned, gently start to squeegee the film.

Using the PPF Squeegee Pro Rigid (Blue) or PPF Squeegee Pro Flex (Red), start in the middle of the panel and gradually increase the pressure in order to remove all the air and slip solution from under the film. Overlap the squeegee strokes by about 50% to avoid remaining air/water entrapment.

Work from the middle towards the outside edges of the panel, ensuring no slip solution or small air bubbles remain under the film.

Important Note: Re-positioning of the film is only possible during the initial positioning and after low squeegee pressure has been applied to the film. If done at a later stage small marks or lines might remain visible in the film surface.

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5.2 Conforming

- For curved areas, it is necessary to apply tension and firmly pull the film in order to conform the film around the surface.
- Whilst the film is under firm tension, squeegee the area, gradually increasing the pressure.
- The use of a small amount of heat from a steamer (30-50°C), or alternatively a heat gun can aid in conformability. A steamer is the preferred option as the steam provides uniform heat that dissipates a lot slower when compared to a heat gun.

Note: Although Avery Dennison Supreme PPF is top coated and is highly resistant to cracking, care should be taken to avoid overstretching or applying too much tension, fine cracks in the top coat can result from incorrect stretching or over tensioning of the film. It is recommended to experiment with the film prior to installation to find the elongation limit of the film compared to your installation technique.

Note: Conventional convex, concave and compound curves are mostly suitable to be covered with Avery Dennison Supreme PPF, but in some deeper corrugated shapes and recesses it may be necessary to make an incision or relief cut in order to avoid overstretching the film. Ensure any incisions or relief cuts are made with a rounded cut, not straight, this will avoid any unintentional tearing of the film. Incisions or relief cuts do not jeopardize the functionality or durability of the product.

5.3 Finishing Edges

- Where the film meets an edge of a panel such as a bonnet or door, water or warm water should be sprayed underneath the edges of the film to remove any residual soap solution, in order to achieve suitable adhesion.
- Once the edges have been washed with water, use firm squeegee pressure to ensure the edges adhere. It may be necessary to repeat the edge wash a second time due to residual soap solution re-entering underneath the edges of the film.
- Once the film has been applied, and all edges are firmly adhered, proceed to the finishing step by trimming any excess film.

5.4 Trimming

- In cooler climates (below 16°C) some additional drying time may be required before commencing trimming of the film. If you start trimming the film without sufficient drying, it may not have achieved suitable levels of adhesion, and it may move, therefore longer drying time is required.
- For optimal cutting of the film, make sure to use a new and very sharp blade: dull blades will result in rough cuts or insufficient cutting depth.
- Use light blade pressure and only score the top half of the film, an audible squeak can be heard when the correct trimming pressure is used.
- Do not apply too much pressure as you may cut through the entire film and damage the substrate.
- Once scored, break the film on an edge where cut and the excess material will easily come away from the applied material. If the film does not break away easily check your blade is new and sharp then re-trim with slightly more pressure.

Important Note: As a final application step, re-squeegee the most critical areas (e.g. corrugations and edges) to ensure optimal adhesion to the substrate.

6.0 Care and Maintenance

Avery Dennison Supreme PPF provides long-term protection of the car body during the lifetime of the product. Avery Dennison only recommends hand washing of the film. Additionally for periodic maintenance and cleaning of the film, it is recommended to use Avery Dennison Supreme Wrap Care products. Other commercially available cleaning products may be suitable but need to be tested prior to use on an inconspicuous area of the film. For further information on cleaning and maintenance of the film, please refer to Avery Dennison Instructional Bulletin 1.8 - Vehicle Wrap and Graphics Maintenance

Important Note: After initial installation, allow 24-48 hours before washing the film.

Important Note: As with all graphics films, it is important to avoid using any hard solvents (i.e. IPA (Isopropyl Alcohol) or Avery Dennison Surface Cleaner) directly on the surface of Avery Dennison Supreme PPF Material during the application process or afterwards when cleaning. Use of these products directly on the surface may cause matting, loss of gloss and prematurely degrade the film.

Within the limit of its expected lifetime and if applied on properly cured OEM automotive paint, Avery Dennison Supreme PPF can be removed cleanly. Clean removability is not warranted if the film is applied to existing graphics, improperly cured automotive paint or surface types other than OEM automotive paint. For further information on removal of pressure sensitive adhesive films, please refer to Avery Dennison Instructional Bulletin 1.07 - Removal of Decals.

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The above information provides basic information on how to apply pressure-sensitive graphics. The instructions are designed to help ensure success across a broad range of applications. Depending on the size and complexity of applications, a certain amount of expertise is needed.

Professional applicators can be hired to ensure proper application of finished graphics. When mounting graphics in remote geographic areas, professional applicators can offer the added benefit of local service.

Avery Dennison has a vast network of Certified Installers who have been specially trained and certified in accordance with our recommended techniques.

You can review the Certified Installer list here: Find a Graphics Installer

Consider hiring a professional whenever the application requires:

- Multiple panels to be registered
- Complex surfaces, such as rivet and corrugated trucks
- Harsh environmental conditions (i.e. outdoor applications in high heat climates)
- Remote geographic locations

For further information, contact your local Avery Dennison representative.

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