

# Application Instructions for Avery Dennison™ SPF Series Paint Protection Films

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This technical bulletin describes a general technique for the application of Avery Dennison SPF Series, a range of different paint protection films. The following application guidelines should be followed when applying:

- Avery Dennison SPF-XI (Avery Dennison product code BM9370001 and BM9370002)
- Avery Dennison SPF Matte (Avery Dennison product code BU7250001)
- Avery Dennison SPF Gloss Black (Avery Dennison product code BU7230001)

## 1.0 Consult Product Data Sheet

- Before applying the product, consult the appropriate product data sheet for information regarding appropriate substrates and product performance. Once assured that all factors are understood with respect to the product, and all factors comply with the product specifications, you can decide to apply the Paint Protection Film in Avery Dennison SPF Series.

## 2.0 Application Tools

- Tool belt – to hold all application tools (Avery Dennison product code CB0650001)
- Microfiber Felt Edge Squeegee, like the following:
  - Squeegee Pro (Avery Dennison product code CA3480002)
  - Squeegee Pro Flexible (Avery Dennison product code CA9080002)
  - Squeegee Pro Rigid (Avery Dennison product code AP8270002)
- Avery Dennison squeegee for wet application
  - Squeegee Orange (Flexible) (Avery Dennison product code BO7850001)
  - Squeegee Yellow (Rigid) (Avery Dennison product code BO7840001)
- Cutter with break off blades (Avery Dennison product code CA8140001)
- Stainless steel blades (Avery Dennison product code BM3290001)
- Lint-free cleaning cloth
- Spray Bottle (Avery Dennison product code CA8140001)
- Avery Dennison Surface Cleaner (Avery Dennison product code CA3750001)
- Avery Dennison Application Gel (Avery Dennison product code BP6340001 / BP6330001)
- A professional heat gun or a steamer
- Baby Shampoo and Water
- Ethanol (>96% purity)

### 3.0 Storage conditions

Avery Dennison SPF-XI, SPF Matte and SPF Gloss Black Paint Protection Films should be stored at a Temperature of 20 °C ( $\pm 2$  °C) with 50 %RH ( $\pm 5\%$ ), in the original package and in a vertical position. Proper storage allows the film to keep its maximum performance and also enables a hassle-free application. SPF-XI and SPF Gloss Black have a protective PET sheet and require additional extra care, when stored. After unwinding and using these products, ensure to store by applying high tension and tightly closing the roll with 3 pieces of tape, to avoid formation of tunnelling between PET protective sheet and facefilm. User assumes all risk and liability for the loss of performance, when the film is stored improperly by user. Improper shall mean that the user did not store the film in accordance with the aforementioned instructions.

### 4.0 Recommended substrates

Avery Dennison SPF-XI, SPF Matte and SPF Gloss Black Paint Protection Films are designed for vehicle paint protection purposes and recommended for application on:

- OEM painted vehicles
- On top of already applied Avery Dennison Supreme Wrapping Film

Note for application of SPF-XI, SPF Matte and SPF Gloss Black on top of Supreme Wrapping Film:

- SPF paint protection films cannot be used as a lamination film and must be applied manually on top of Avery Dennison Supreme Wrapping Film with a second application step, following the guidelines provided in this technical bulletin.
- When applied on top of Supreme Wrapping Film, the film acts as a protecting layer versus ageing and sun exposure. Over time, this can result in visible colour difference between parts that are covered by the film and parts that are unprotected.
- If applied on top of Supreme Wrapping Film, the removal of the film may damage the original wrap underneath.

### 5.0 Preparation and cleaning of the surface

To prepare the application surface, wash it with a mild detergent solution, after which the surface should be rinsed and dried with a lint free cloth.

After the surface has completely dried, the surface should be further cleaned and degreased using Avery Dennison Surface Cleaner and a lint free cloth. Depending upon the level of contamination, this process may need to be repeated to ensure that the surface is fully prepared for application.

It is recommended to clean the application surface with Avery Dennison Surface Cleaner. Many other commercially available cleaning/degreasing products may be suitable for cleaning and degreasing but need to be tested prior to use. In addition, the following factors should be included in the preparation before application:

- Car wax and polish residues must be completely removed.

- Paint surfaces must be completely dry, hardened and free of scratches. On most baked paints films can be applied immediately after cooling down. Air dried and car repair paints require at least one week to dry before films should be applied. Solvent residues in painted substrates may adversely affect film adhesion and might cause excessive shrinkage or blistering.
- Painted substrates should be dried according to the paint manufacturer's instructions to avoid solvent retention. Paint system components which are not compatible or do not adhere properly to each other may cause paint to be lifted when films have to be removed after use.
- Special attention should be given to critical areas as edges, corners, welding seams, rivets and the like. These should be thoroughly cleaned and dried before application.

For extra information on preparation and cleaning of application surface, additional instructions are provided in technical bulletin 1.1.

## 6.0 Installation of the film

Avery Dennison SPF series has been designed to protect the car's body surface and can be applied to car fronts, wheel arches, rocker panels, door edges, pillars etc.

Before starting the application, wash your hands, to avoid fingerprints on the adhesive and ensure that the the SPF film is applied in a clean, dust-free and well lit environment.

The film needs to be applied using the wet application method, installing the film either with Avery Dennison Application Gel or with a water and soap solution.

Avery Dennison Application Gel is a pre-mixed optimized solution, specifically designed to facilitate the application of SPF series. The gel can be sprayed directly from its own spray bottle or used in combination with the Avery Dennison spray bottle 1.2L.

In case of using water and soap, the recommended soap solution for application is 1 Liter of water mixed with 2 mL of baby soap. Prepare and mix this solution into the Avery Dennison spray bottle.

As a first step in application, cut the material from the roll to approximate needed size and make sure to remove the transparent protection sheet applied on the face of the film.

Spray the Avery Dennison Application Gel or soap solution on the painted surface before applying the film.

Remove the PET liner and spray the exposed adhesive side with the Avery Dennison Application Gel or soap solution. Then position the material on the selected application area. If necessary, slide the film until you have reached the correct positioning. The surface of the film should also be sprayed wet with the Avery Dennison Application Gel or soap solution throughout the application to allow the squeegee to slide across the film.



Once the material has been positioned, gently start to squeegee the film. Use an Avery Dennison Squeegee Pro with felt cover or Avery Dennison Yellow and Orange Squeegees and gradually increase the pressure in order to remove all the air, water and gel from under the film. Overlap the squeegee strokes by about 50% to avoid remaining air/water or gel entrapments. During this phase, make sure to keep the felt cover of the squeegee and the face of the film wet with the Avery Dennison Application Gel or soap solution to facilitate sliding of the squeegee on the film surface. For applying extra pressure in removing gel or water, it is also possible to use the hard/back part of the squeegee, paying attention not to damage the film. User assumes all risk and liability for any damage to the film that may be caused by the use of the hard/back part of the squeegee.

Please note that re-positioning of the film is only possible in the stage of positioning and low squeegee pressure. If done in a later stage small marks or lines might remain visible in the film surfaces.



For curved areas, it is necessary to firmly pull and stretch the film in order to conform the film around the surfaces. It is recommended to stretch the material without applying any heat, making use of the intrinsic flexibility of the film. It is also possible to gently heat the material to a



temperature of 40-50 °C using a heat gun or a steamer. Make sure not to overstretch the material to the point of creating white lines and/or other visible marks into the face film.

If higher tack/faster adhesion is needed when stretching the film into a compound/curved part, it is possible to spray the substrate with a solution of water and ethanol (1 part ethanol 4 parts water, as for example 250 ml ethanol, 1 L water).



Conventional convex and compound shapes on car fronts are mostly suitable to be covered with all the paint protection films in the Avery Dennison SPF series, but in some deeper corrugated shapes it may be necessary to make an incision in order to avoid any form of air/water entrapment in the deep recesses. This incision does not jeopardize the functionality or durability of the product.

Once the film has been applied and effectively squeegeed on the selected application areas, proceed to the finishing step by trimming the excess film off the edges. To facilitate cutting, make sure to use a new and very sharp knives for cutting: dull knives will result in blurred cutting edges. When applying SPF series, it is recommended to use stainless steel blades with your knife. The use of stainless steel blade will delay rusting and deterioration of the blades, due to contact with water.

As final application step, re-squeegee the most critical areas (e.g. deep corrugation and edges) with a wet squeegee to ensure secure adhesion to the substrate. To facilitate and speed-up adhesion on edges, spray the edges using a solution of water and ethanol (1 part ethanol 4 part water, as for example 250 ml ethanol, 1 L water).

In case any residue of Avery Dennison Application Gel remains after application, it can be easily cleaned using Avery Dennison Surface Cleaner.

## 7.0 Self-Healing Property

Self-healing is intended as the capability of repairing the surface of the film from slight abrasion and small/medium scratches, resulting from daily usage of the film.

Large and deep scratches or damages cannot be recovered.

The surface of Avery Dennison SPF-XI and Avery Dennison SPF Matte is able to heal small and medium scratches **at room temperature**, without need for any external trigger.

The surface of Avery Dennison SPF Gloss Black is able to heal small and medium scratches if exposed to an external source of heat (>40 °C), such as hot water, heat gun or warm sunlight.

## 8.0 Cleaning, Maintenance and Removal

Avery Dennison SPF series Paint Protection Films feature a long-term protection of the car body during the lifetime of the product. In order to maintain and clean 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.

Within the limit of its expected lifetime and if applied on properly cured car paint, Avery Dennison SPF series Paint Protection Film can be easily removed. Easy removability is not warranted if the film is applied on an existing graphics, not properly cured car paint or other type of surface rather than car paint. Avery Dennison SPF Series Paint Protection Films need to be removed applying heat (approx. 40-50 °C), using a steamer or a professional heat-gun, and ensuring to keep a low removal angle between the surface and the film (< 30 degrees). In case some adhesive residue is present after removal, use Avery Dennison adhesive remover. The general instructions for removal of self-adhesive films are described in Technical Bulletin 1.2.

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