Avery Dennison Instructional Bulletin

AWF 1500 Series Paint Protection Film

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Introduction

Avery Dennison AWF 1500 Series Paint Protection Films have been developed for vehicle application. These films are intended to protect car exteriors and are available in either gloss or matt finish. Avery Dennison AWF 1500 Series films are polyurethane films which can be applied to all car exterior places where the risk of damage as a result of stone impact is very high. These films are thicker than traditional graphic films, therefore conformability to car body's surface irregularities is limited, but not impossible. Applicators should test the performance of the films prior to commercial use.

Application Tools & Equipment

- Squeegee
- Application fluid solution: 25% isopropyl alcohol / 75% water
- Spray bottle
- Sharp craft knife
- Lint free cloth wipes

Temperature

The film can be applied if the ambient air and vehicle surface temperatures are between 10°C and 35°C. If the vehicle surface temperature is below minimum requirements, the surface must be heated until minimum application temperature is achieved. During cold temperature months, it is recommended to use a heat gun or hair dryer on the surface of the substrate before and after application. This will increase the surface temperature of the substrate and accelerate the ultimate adhesion of the film.
Ambient Air Temperature - Air temperature of environment.
Surface Temperature - Substrate temperature of vehicle or surface .

1. Surface preparation

All application surfaces must be considered contaminated and must be cleaned according to Instructional Bulletin #1.10 Surface Cleaning and Preparation. Failure to adhere to the above can result in poor decal performance and difficult removal characteristics.
It is recommended to clean the application surface with Avery Dennison Surface Cleaner.
Many other commercially available cleaning/degreasing products may also be suitable for cleaning and degreasing. Always test before using any solvent, degreaser or chemical cleaner for suitability. The following factors should be included in the preparation before application:

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Surface preparation cont.

- Car wax, polish and after market paint protection coatings must be completely removed.
- Paint surfaces must be completely cured, and free of scratches. On most baked paints, films can be applied immediately after cooling down. Air dried car repair paints require at least one week to cure before paint protection 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 instruction to avoid solvent retention.
- Special cleaning attention should be given to critical areas such as edges, corners, seams, rivets and the like. These should be thoroughly cleaned before application.

2. Application

Avery Dennison AWF 1500 Series Films have been designed to protect the car body surface.
Their conformability is limited because of the thickness and the nature of the material. This must be taken into account when the applicator has to decide how the application is to be executed. Some parts may be slightly stretched over the surface, other parts may have to be cut to smaller sizes to conform easier to surface structures. When applying the film to the vehicle body, keep stretching the film to a minimum, do not stretch the film more than 20%.

Key Application Tips Before Proceeding

Surfaces must be completely clean and prepared according to Avery Dennison Instructional Bulletin #1.10. This is a critical first step toward successful decal application.

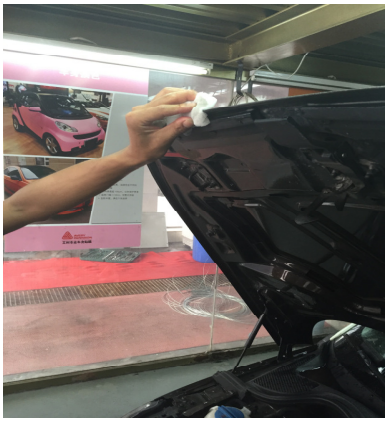
- Use the "wet method" during installation. A solution of (25% isopropyl/75% water) will allow for easier part placement and repositioning. Use as much application fluid as necessary to keep the adhesive and vehicle surface wet during application.
- The film must be thoroughly squeegeed to remove any entrapped application fluid or air bubbles. Continually wet the surface of film while squeegeeing. Use an Avery Dennison felt edge squeegee to prevent potential damage to and scratching of the film.

Application Procedure

2.1. Make sure the surface protection film and substrate temperatures are between +10°C and 35°C for the best results.

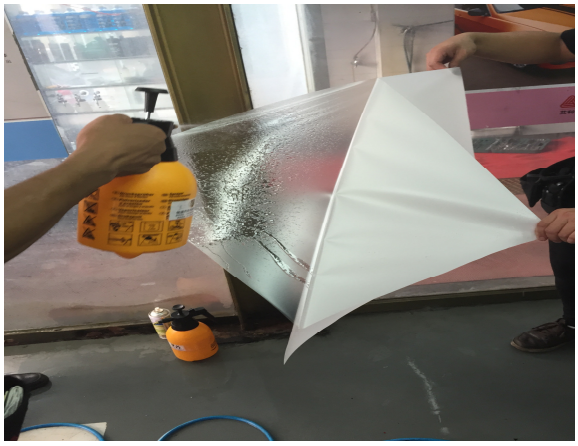
2.2. The vehicle surface must be clean and free of wax, grease, oil, dust, dirt and rust as well as any other contaminants. Clean along all the edges where the film will be placed.





2.3. Make sure you have clean wet hands when handling the adhesive side of the film to avoid any potential transfer of fingerprints, dirt, or oils, to the adhesive.

2.4. Remove the liner by pulling back directly upon itself at an angle of 180°. This will minimize stretching of the film. Be careful not to allow dirt or other contaminants to get on the adhesive. For large pieces of film, place film face down on clean surface and remove the liner. Wet the adhesive as the liner is being removed.



2.5. The wet application method is strongly recommended for the paint protection film. The recommended application solution is a mixture of 25% isopropyl alcohol and 75% water. Wet the entire adhesive surface of the film and the surface of the vehicle to which it is to be applied. Keep the adhesive wet during the application to aid repositioning of the film. You can never use too much application fluid. *(Be cautious of using other solutions and application methods for the installation of paint protection film. They may affect the adhesion performance as well as promote a hazy appearance of the film).*

2.6. Position the film onto the surface of the vehicle so that the film is aligned, ensuring it fits the entire area to be covered.



2.7. Spray the application fluid onto the surface of the film. This allows the squeegee to slide on the film surface.

2.8. Beginning in the centre of the film, squeegee the solution and air from underneath the surface of the film using overlapping strokes. Always squeegee the trapped air or application fluid to the nearest edge. The film may be removed and repositioned, but remember to keep the adhesive wet at all times and allow the film to relax back to original size and shape before reapplying. Take care to avoid over stretching the film (do not stretch more than 20%).



3.0 Application procedures for emblems, hood ornaments, etc.

Squeegee the film as close to the edges of the emblem as possible. Using a scalpel, or very sharp kraft knife, score the film (do not cut into the paint). Trim carefully around the emblem and remove the excess film.

3.1 Application procedures for contours

Each vehicle application will offer different challenges when trying to apply the paint protection film. The paint protection film may need to be trimmed in cases where there is excess film.



4.0 Maintenance

It is recommended to refrain from using any automated car wash or power wash for a minimum of 24 hours after application of the surface protection film. After that time frame, there are no special care requirements that need be taken for washing the car. Cleaning may be performed by using most commercial cleaners or protectants recommended for auto applications. However, for tough stains such as tar, bugs, etc., it recommended to use a mineral spirits based cleaner. Never use any Methyl Ethyl Ketone (MEK) – based cleaning solutions on these films. Surface protection film may be waxed by hand (it is not advisable to use a power buffer because it may cause damage to the film) with most commercial waxes or glazes. Wax may tend to build up along edges and can be easily removed with a soft brush.

5.0 Removal

This film may be removed from a vehicle at any time by picking up a corner and stretching the film somewhere between a 0°and 45°angle. As the film is being stretched it will start to pop off of the surface and should remove cleanly. As you increase the angle of removal beyond 45°the occurrence of leaving adhesive residue will also tend to increase. It may be difficult to remove film that has been applied for a long time, or if the film and vehicle are cold. For the best results, try removing when the temperature of the film and surface are above 20°C. If removing in colder temperatures, you can also try using a heat gun or hair dryer to aid removal.

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