

Preparation and Application of Avery Dennison® PVC-free Wrapping Film for Architectural Applications

Application of Avery Dennison MPI Wall Films has to be done in the best possible manner to ensure that the product will perform as designed for successful application results in an adequate bond between adhesive and substrate.

Please read the instructions for surface preparation of the substrate prior to application.

Prior to application or lamination, prints must be sufficiently dried, in order to prevent negative influence on film properties or adhesion properties. In general a drying time of 24 hours (full solvent) or 48 hours (eco-/mild solvent) will be sufficient. In case a lot of ink is deposited, materials may need up to 72 hours in order to be sufficiently dry. When drying, material should **not** be tightly wound on a core, as the solvents are then unable to evaporate. The materials should be left drying loosely wound on a core, or stacked in racks as sheets. Properly dried images are always needed in order to benefit from each product's specific feature.

As with any application there are specific considerations necessary for wall graphics. Products or application materials not specifically addressed in this bulletin are NOT recommended or warranted by Avery Dennison.

Note: For best possible print results it is essential to use dedicated ICC profiles.

Surface preparation

Avery Dennison's PVC-free Wrapping Film MPI 1405 EA RS and DOL 6460 Gloss are polyurethane films, designed for applications where conformability is a necessity. This film combination can be used on moderately textured and unpainted surfaces such as plastered or brick walls.

Proper cleaning and preparation of substrate prior to graphic application is critical to the success of the graphic. These are general recommendation for unpainted surfaces. It is essential to follow manufacturer's directions for complete surface preparation and adequate drying/curing time prior to graphic or film application.

NOTE: Always test adhesion and substrate/adhesive compatibility prior to production use. Adhesion can be tested by applying a small strip of film in an inconspicuous area and allowed to dwell for at least 2-3 days. Before applying the test strip the wall should be properly prepared as outlined below.

Inspecting, Cleaning And Preparing the Substrate

The surface to which Avery Dennison PVC-free Wrapping Film is applied must be completely clean and dry before final preparation. Any contaminates such as dust or dirt on the substrate can cause adhesion loss and therefore reduce the durability and performance level of the graphic. It is essential that the surface is sufficiently dried for at least 24 hours before application.

Cleaning

- Clean the wall prior to applying the film. Water, high pressure water cleaning devices or special cleaning fluids may be used, depending on the condition of the surface.
- The surface should be allowed to thoroughly dry for at least 24 hours before graphics are applied.
- On plastered or brick walls remove all dirt or other contaminates by use of a brush. It is recommended to brush the surface immediately before application to remove any dust or dirt that may have collected during the drying period.

Note: It is essential to ensure the good condition of the application surface. If it is brittle or otherwise damaged or in poor condition, it may result in damage of the surface upon removing the film.

TECHNICAL BULLETIN 5.11

Application

Application Tools

- Masking tape – for positioning and/or to avoid edge folding
- Brush – for cleaning the substrate on flat parts and recesses
- Tape measure – for positioning
- Squeegee – for applying the graphic
- Roller/ Soft Roller – for working film into textured surfaces.
- Heat gun – for heating the film on complicated applications
- Surface Temperature Thermometer / IR Thermometer – for checking surface and ambient temperature

Temperature

Temperature plays an important role in how well a vinyl sticks to a substrate. Follow the guidelines toward minimum and maximum application temperatures and required service conditions before and after application. This information can be found in the Data Sheets for each film being used.

NOTE: It is important to monitor both the ambient and surface temperature as both can have an effect on the application.

Ambient Air Temperature - Air temperature of environment (i.e. the room where application is taking place).

Surface Temperature - Temperature of wall (i.e. the surface where graphics are being applied).

Application Steps

- Before starting the application, mark the placement of the graphic by using masking tape.
- When handling the graphics, be sure to hold the film as far into the graphic as possible, without wrinkling the film. This will help avoid transferring oil from fingers and dirt to the edges of the graphic, which could result in peeling edges or lifting, which can cause adhesion problems.
- Use two hands when pulling the liner from the film, using care not to stretch the film. Delaminate a few centimeter of the liner from the face film and fixate it at one corner of the application.

NOTE: Always remove the liner from the graphic rather than the graphic from the liner.

- Once fixated, pull the rest of the liner off the film and put the graphic into its final position. Apply light pressure with your hand or squeegee on the overall surface of the application, creating a light tack of the film onto the substrate.
- By use of a heat gun and a roller, start at the edge of the graphic. A temperature of up to 130°C with medium air flow setting may be used to soften the film. With the help of the roller, push the film into the textured surface of the wall. In case of application on a brick wall, start with the flat surface of the bricks first.

Note: Excessive temperature (above 80°C) applied to the applied film may result in a matt finish.

- Once the outline of the graphic has been properly applied, continue using the heat gun and the roller to apply the rest of the graphic, using firm overlapping strokes until the graphic is nicely applied onto the substrate. Do not overheat the film as otherwise the foam roller may leave unwanted residues behind on the surface of the overlaminated. In case of application on a brick wall, start with the flat surface of the bricks again. Once the flat part is applied, use a roller to conform the film into the recesses between the bricks.

For deep corrugations the profile depth and width must have an appropriate ratio of approximately 1:3 (e.g. 5 mm deep and 15 mm wide). For demanding profiles it is always recommended to test the application by use of a small sample to ensure the product is suitable for the specific profile.

- Double check the surface, if parts of the film are not fully corrugated onto the substrate, repeat the previous step until a uniform application is achieved.
- As a final step, repeat the re-heating and roller step on the outer lining of the graphic once again. This is to ensure that the edges are properly sealed and to avoid any unwanted delamination in time.
- In case of multi panel application it is recommended to apply an overlap of at least 13 mm.

TECHNICAL BULLETIN 5.11

Graphics removal

Removal of the Avery Dennison PVC-free Wrapping Film is done in a few simple steps and depends on the substrate on which it has been applied. The film has been designed to leave as little as possible adhesive residue on the substrates if the below removal steps are followed closely.

Removal Steps

- Use the heat gun to achieve medium to high heat for best possible removal results.
- For best results remove the films slowly.
- Start at the top of the graphic and pull it away from the wall at a 120-180 degree angle. Re-apply heat if required.

Note: It is essential to ensure the good condition of the application surface. If it is brittle or otherwise damaged or in poor condition, it may result in damage of the surface upon removing the film.