

Guide to Perforated Window Graphics Films

Instructional Bulletin #6.10 (Revision 11)

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1.0 Introduction

Avery Dennison™ Perforated Window Films are designed for use on flat, transparent surfaces such as windows or doors. The film has a continuous hole pattern perforated into the film in order to provide a graphic visible from one side, but can be seen through from the other. This bulletin provides imaging and application techniques for these films. Testing should be performed prior to application to ensure proper adhesion of graphics to window substrates. If there are any low surface energy coatings present on the substrates (i.e. silicone), loss of adhesion may occur.

2.0 Product Description

Avery Dennison™ Perforated Window Film is comprised of a perforated calendered face film on a solid liner, or perforated white liner (the perforated liner has a continuous (non-perforated) clear film on the back side). After imaging the Perforated Window Film, the graphic should be overlaminated to protect the image, and to keep water and dirt from accumulating in the holes.

Avery Dennison offers two perforated window films. These films should be used only in the appropriate applications where considerations of viewing requirements, and meeting government guidelines are followed.

- MPI 2528 Perforated Window 50/50, original pattern
- MPI 2728 Perforated Window 65/35, larger print area, **NOT** for vehicle applications

3.0 Image Production for Solvent Inkjet Printing

- Reference Instructional Bulletin #5.91 for “Tips and Troubleshooting Guide for Printing with Solvent Inkjet Printers”.

4.0 Finishing

- The images must be overlaminated with Avery Dennison DOL 1360 Optically Clear laminate Film.

NOTE: The graphic will be difficult to remove without the DOL 1360 overlaminate.

CAUTION: Follow all instructions and safety precautions supplied by the edge sealer manufacturer. Health, safety, and handling instructions also available in the Material Safety Data Sheets.

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5.0 Application

To see a Justin Pate video demonstration go to this link on the Avery Dennison YouTube page:
<https://youtu.be/Cvs9ptUKYw4>

- The graphic can be applied to a window using a squeegee that is covered with a non-abrasive sleeve to prevent scratching.
- Clean the window thoroughly with Isopropyl Alcohol (IPA). Be sure no residue from the IPA is present during application. **CAUTION: Follow all warnings and safety instructions supplied by manufacturer of the solvents. See Material Safety Data Sheet for health, safety, and handling information.**
- **Do NOT use Windex, or ammonia based cleaners**
- Measure the decal to be applied and be sure the graphic fits into the window with a clearance around any rubber gasket. At no time should the graphic touch or overlay any window moldings. Loss of adhesion causing material failure can occur if material overlaps moldings.
- Use low tack tape (i.e. masking tape) at the top of the image to position into place on the window while the liner is still attached.
- Flip the graphic up using the low tack tape as a hinge and start removing the liner from the graphic. Flip the graphic back down and start applying squeegee pressure on the film creating adhesive contact to the window, removing the liner as you go. Start the squeegee action in the middle of the image and squeegee from one side to the other. Continue this process from the top of the decal down using overlapping strokes and removing the liner as you go. If needed, the graphic can be adjusted carefully after pressure to realign the material or take out wrinkles, material must be re-squeegeed after repositioning.
NOTE: Wet application methods are not recommended for perforated window film graphics. Water will be trapped in holes causing vision to be obscured when looking through graphics.
- If panels meet edge to edge in the window, trim edges carefully to form a butt seam. Do not overlap seams or edges. Trimming should be done prior to application. Cutting film on windows may permanently scratch the window.
- All exposed edges and seams of exterior decals must be sealed with edge sealer. This will prevent water and contaminants from getting under the film and obstructing viewing or contaminating the adhesive. Sealer should be applied carefully to completely seal the edges and also to minimize the distortion caused by the sealer from the viewing side of the graphic. Follow all directions of sealer manufacturer to prevent improper application of edge sealer. Use a 0.25 in. (6mm) brush to apply sealer in order to have greater control and make a neater application.

6.0 Removal Instructions

- In order to remove Perforated Window Film that has been overlaminated with minimum damage to substrates, the following methods are recommended. Surfaces treated with abrasion resistant or anti-reflection coatings may experience some degradation, and as a result, could be affected during removal.

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6.1 Heat Removal

- Heat one corner of the marking with a heat gun, lamp, or propane torch. Use caution to prevent material or window from becoming overheated. Follow all manufacturer's instructions for use of heat source equipment.
- Insert a razor blade, or knife under the corner to loosen the marking, be careful not to damage the substrate. Grasp the lifted edge and pull up and away from the substrate with a slow even rate at an angle less than 90°. Keep even pressure and heat the area of film immediately ahead of the area being remove.
- If adhesive residue or edge sealer is left on the substrate, follow the instructions below for additional removal tips.

6.2 Chemical Removal

- The use of chemical removal systems is possible to remove Perforated Window Film which has been clear coated. Such systems can be used on overlaminated material, but the process may not be as effective. Read all instructions as supplied by any chemical removal system manufacturer and pre-test any product with substrate and surrounding materials to ensure compatibility. Obey all safety, handling, and health precautions supplied by the chemical manufacturer.

NOTE: If adhesive or edge sealer remains after removal of the film, these may be removed by wiping with a rag saturated with Xylol (Xylene). Let the Xylol soak into the adhesive or edge sealer. Use a plastic squeegee to scrape off the residue. Repeat if necessary. Other non-flammable citrus based removers are available, and can be used. Follow all instructions from manufacturer.

CAUTION: Extreme caution should be used to avoid fracturing, shattering, or cracking of glass substrates. DO NOT overheat. Use caution with flammable products. Do not use heat gun, heat lamp, open flames or other electric equipment in close proximity to solvent mixtures, vapors, or residues. Follow all manufacturer's instructions and review health and safety information.

Manufactured and sold under license of patents: United States Patent 4,673,609; Canadian Patent 1,258,171; WO 9629840; WO 9725213; and other patent(s) pending.

REFER TO AVERY DENNISON'S BUSWRAP SYSTEM POLICY AND WARRANTY STATEMENT FOR MEDIA PRODUCTS FOR A COMPLETE DESCRIPTION OF THE WARRANTY COVERAGE BY AVERY DENNISON.

Revisions have been italicized.

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