

TECHNICAL BULLETIN

Avery Dennison® Interior Safety Films Installation Guide

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Introduction

The following illustrated instructions are a generic guide to the internal installation of Safety and Security Films.

PRODUCT DESCRIPTION

Avery Dennison® Interior Clear Safety Films are polyester based multi-laminates with a removable clear PET release liner, with Pressure Sensitive adhesive for glass substrates. Films are available in 4-12 Mil thickness.

Avery Dennison® Interior Clear Safety Films are recommended for internal use on vertical, sloped or horizontal architectural glass, for public, commercial, governmental and military projects, ensuring the perfect solution for different threats and hazards.

Safety and Handling

The use of any chemicals for cleaning should be done with caution. Refer to the manufacturers Material Safety Data Sheet and follow all instructions and guidelines.

Tools

- Squeegees: Use a 15 cm heavy-duty safety film squeegee in perfect condition.
- Remember replacement rubbers.
- Spray tank: Cleaned and rinsed; undamaged spray head.
- Mounting/cleaning solution: Distilled water, detergent-free soap (e.g. Baby Shampoo)
- Knives: New, break-off stainless steel blade. Replacement blades.

Glass Preparation

- Be extra diligent in the cleaning and preparation of the window and frame to minimize dirt and blemishes under the film.
- Use wetting solution based on water and detergent-free soap (such as Baby Shampoo).
- Use only non-abrasive cloth and soft squeegees to clean the glass.
- Use a new scraper blade to clean the glass surface from dirt, dust or any other small particles.

Film Installation

Do not install film on double pane windows when the outside temperature is lower than -18° C, or for single pane, 0°C. If the slightest trace of ice is trapped between glass and film, serious quality problems can result.

At the site

- Wipe frame, and wash window. Pay attention to thorough cleaning and preparation of the window and frame.
- Open the box in a clean place with as little dust or surrounding contamination as possible.
- Keep film tightly wound around the core when opening the roll in order to cut off the required sheet. If the film opens up (releases itself), it should be wound up again and

tightly attached to the roll. Use adhesive tape to attach the edge to the roll, to prevent re-release.

- For 8 and 12 mil films, we advise whenever possible to avoid precutting before arrival at the site. In any case, avoid bending the film, specifically when the liner is on the inside. Keep the sheets loosely wound (minimum outside diameter of 10"/25cm), and roll the sheets against the film direction "memory" with the liner outside.

Tip:

These Security films are wound on 3" cores. Once opened, rolls of Security film have a strong tendency to spring open and uncoil, which may cause tunneling of the film. After opening and use, the film remaining on the roll must always be firmly sealed shut with adhesive tape. We also advise securing the film by inserting a roll of paper towel between the film and the box, as illustrated below.



Wetting Solution

The wetting solution should contain water with detergent-free soap (such as Baby Shampoo). Use 6cc (~6 drops) soap per liter of water for slip solution. Any soap-free soap used should not contain additives such as lanolin or silicone that may affect adhesive bond strength.

Installation



Recommended Tools:

- 0,5 liter spray bottle with distilled water and 6 drops of detergent-free soap, 15 cm heavy-duty rubber squeegee; Stainless steel knife; ruler; two pieces of adhesive tape; scraper, lint-free paper towels.



Step 1 :

- Clean the window and frame thoroughly with soapy water (slip solution) and scraper. Dry. Repeat. Rewet.



Step 2:

- Measure the window and cut film to dimensions + 4 cm each side, and place it on the wet window,
- Cut the film to the size of the window, leaving 2 cm overlapping edge all around.
- Remove the film from the window, and thoroughly clean window once more
- Wet the window again, using lots of slip solution.



Step 3:

- Using two pieces of adhesive tape, separate the backing liner from the film.
- Spray the exposed adhesive with plenty of slip solution.



Step 4:

- Place wet adhesive side of the film on to the glass.



Step 5:

- Spray the filmic surface and then start wiping the film using the squeegee. Wipe out from the center with firm downward and outward movements, removing water and air bubbles trapped between the film and the glass. See below for detailed explanation of squeegee technique.



Step 6:

- Trim the edges of the film adjacent to the window frame, using the ruler and Stainless steel knife.



Step 7:

- Wet the film surface again, and pressing hard with the squeegee, wipe out from the center until all the air bubbles and remaining water have been removed from the edges.
- Wipe dry the edges of the film and the window using the paper towels.

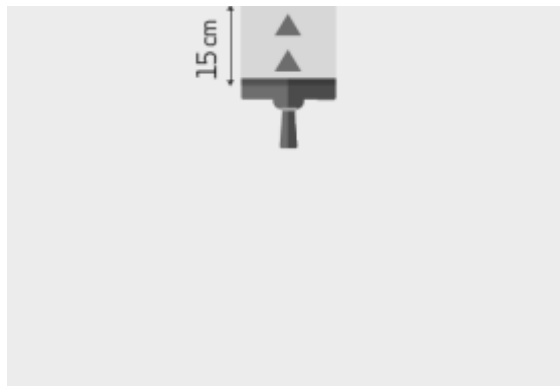
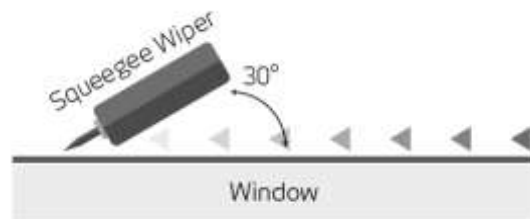
- See section below for precise method recommended.

Allow the film to dry for 24 hours before touching the window.

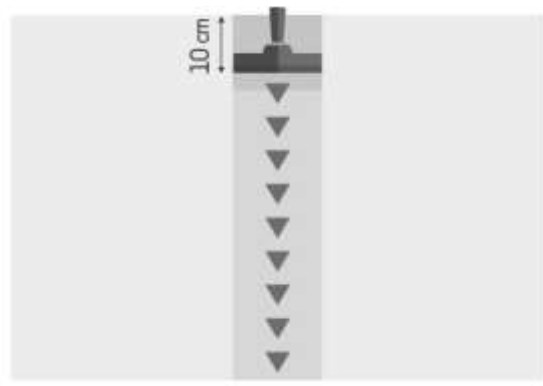
Recommended Squeegee Technique

Squeegee Angle & Movement

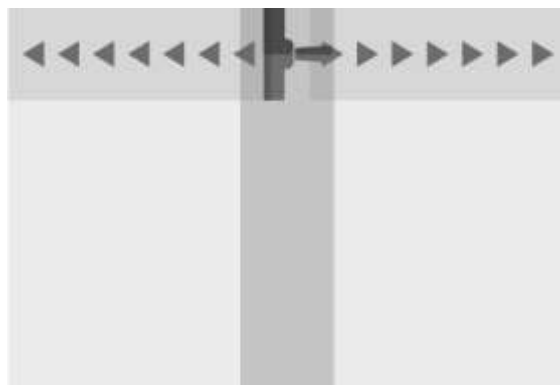
The angle between the squeegee wiper and the window is about 30°, and that the direction of movement is opposite to wiper inclination.



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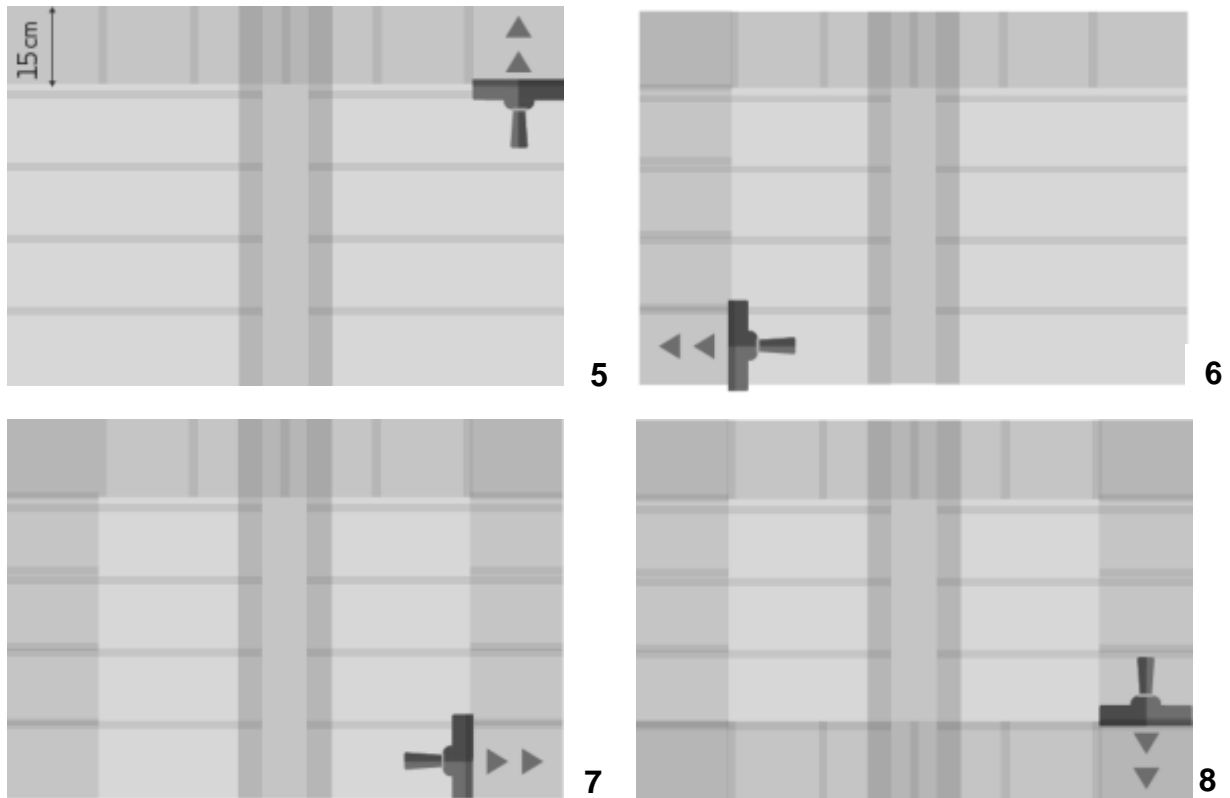
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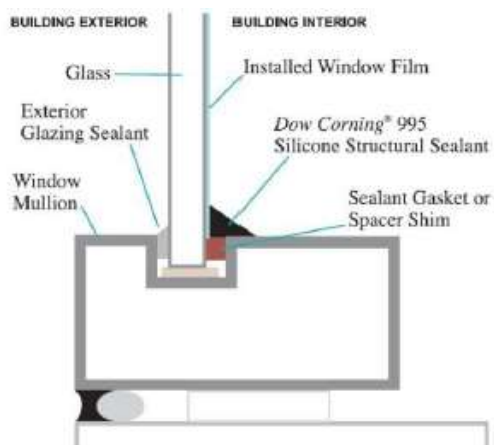


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General Instructions for Installing Sealed Safety/Security Films

For wet-glaze installations, the film is installed using the daylight installation method. After complete drying, (this may take several days), the installation is then sealed using a special silicone-based structural sealant, such as Dow Corning 995.



©Dow Corning

1. Adhere 2,5 cm wide strip of low-tack painters' masking tape to both filmed glass and frame 1,25 cm in from the edge of the film to all four sides of the window to form a sealant channel.
2. Using a standard caulking gun, and Dow Corning 995 or similar silicone sealant, and following

manufacturer's instructions, apply sealant bead into the channel formed by the masking tape. Make sure a minimum 1,25 cm of adhesive is in contact with the film and 1,25 cm of adhesive is in contact the window frame.

3. Smooth sealant band with plastic putty knife.
4. Carefully remove masking tape.

After Installation

Although most Avery Dennison® Safety Films dry within a few days, drying time can be increased due to ambient temperature, film thickness, and presence of sunlight. Do not clean your windows for 30 days after installation to allow mounting adhesives to adhere properly. Do not try to "pop" bubbles and release retained water as this could void your warranty.

CLEAN windows with a quality glass cleaner or a solution of one (1) tablespoon of liquid dish soap per quart of clean water. As with all window surfaces, use soft cloths to clean window film rather than paper towels which could scratch the surface over time.

Maintenance

The installation procedure used a special solution of detergent and water, followed by squeegeeing to remove the excess water. However, the drying process is still continuing, and it will take several weeks to complete. In the meantime, there will be some bubbling and smearing, which is normal, but these blemishes will disappear after about four weeks. Within this time, the adhesive will complete its polymeric bonding process, and the moisture will disappear, leaving the windows perfectly clear. Advise customer not to try to remove the bubbles by popping or pressing them; depending on the film type and local weather conditions; the bubbles will disappear by themselves within weeks. The warmer the weather, the shorter the drying period. Fogging and optical distortions may be present, but they too will disappear during the drying process.

Cleaning Instructions

- Although all Avery Dennison® films have excellent scratch resistance, it is preferable not to use abrasive products.
- Use 10% washing up liquid diluted in water to clean windows. Do not use ammonia solution. Wipe with synthetic sponge, very soft cloth or chamois leather.
- Rinse with clean water, and wipe off with a squeegee. Final traces of water can be removed with absorbent paper.
- **Remember:** Always tell client to inform window cleaners that film is installed, and to make sure they follow the above instructions. Use of a vapor cleaner is not recommended.

Removal of window film

1. Carefully and gently cut vertical stripes 15 cm apart on the entire film surface, without touching the glass.
2. Slowly peel each section individually, from top to bottom
3. Use a wide scraper or razor blade and plenty of soapy water to scrape any remaining adhesive from the window.