

TECHNICAL BULLETIN

Avery Dennison® XTRM PRO Film Series Installation Guide

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Introduction

Exterior XTRM PRO film series (R Silver 20 XTRM PRO, DR Grey 10 XTRM PRO, DR Grey 20 XTRM PRO, DR Grey 35 XTRM PRO) for glass substrate herald a new generation of extended life exterior window films, based on novel films and chemicals, and innovative coating technologies. These robust metallized polymeric based films deliver the exceptional solar quality of exterior reflective films, with the lifetime durability you'd expect from an interior film. With outstanding energy-saving performance and up to 15 year warranty, the XTRM PRO films are ideal for energy efficiency projects where a long-term service period is critical to payback. The films are compatible with high-end glazing systems, enhancing the performance of even the most sophisticated glass units.

With the new XP durable exterior product line, the products developed for vertical applications are 3-ply designs based on a new proprietary protection layer preventing metal fading, along with our new XP UV-durable surface coating and a weatherable exterior SR topcoat extending the product's longevity in harsh outdoor conditions.

Product description

- **Enhanced durability** - long-term warranty of up to 15 years* su R Silver 20 XTRM PRO (including hot & humid areas) supported by a unique anti-oxidation (fading) protection layer and exceptional UV-durable XP coating.
- **Easier to install** - more robust handling and easier application than XTRM films - no need for prior certification.
- High performance XTRM PRO film for exterior vertical applications, rejects solar energy, and provides 99.9% UV block.
- Total product thickness: 5 Mil, including scratch resistance coating and glossy release liner; net thickness on glass: 4 Mil (100 µm).
- Pressure sensitive adhesive for glass substrates
- Extremely durable polymeric base film laminate
- Newly developed scratch resistance hardcoat and UV-durable surface coating to increase the film's longevity and prevent surface damage during installation and cleaning

** Please refer to Avery Dennison warranty document for more details*

Application

Exterior XTRM PRO film series (R Silver 20 XTRM PRO, DR Grey 10 XTRM PRO, DR Grey 20 XTRM PRO and DR Grey 35 XTRM PRO) are recommended for external use for commercial projects, on vertical architectural glass. For a complementary solution for horizontal and sloped glazing, use SkyLite 20 XTRM PRO.

Instructions for Installation and Maintenance

Tools



- Spray bottle
- Detergent-free Soap
- Non-abrasive cloth and soft squeegees
- Scraper
- OLFA knife (or equivalent)
- 6" (15 cm) heavy-duty safety film squeegee
- Edge tool
- Paper towels and a non-abrasive scrub pad

A. Glass Preparation

- Surrounding air temperature during installation should be between 10°C-40°C
- Do not install in extremely windy or rainy weather!
- Use a wetting solution based on water and detergent-free soap (such as Johnson's 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.

B. Film Installation

Correct installation procedures are vital for maximum longevity!

Before performing trial applications, please thoroughly study this installation manual.

C. Highlights

Follow standard installation procedures, but pay particular attention to the following:

- Handling is improved now with XTRM PRO, resulting in a minimum chance of creases/cracks – yet you should avoid folding the film towards the release liner to avoid potential cracks.
- The Edge Tool is recommended to cut the edges accurately with a 2-3mm gap from the window frame.
- Use a good cutter blade to cut the film edges without hesitation. Any fringes or edges you leave on the film may cause the film to start to separate.
- Use a 6" heavy-duty safety film squeegee, applying firm pressure to work out the water from top to bottom, center to outside, similar to the installation of SF Clear 12 mil Safety film.
- Make sure to wipe dry excess water from the edges.
- Edge sealant must be used on all four edges and applied 24-72 hours after installation

D. Wetting Solution

The wetting solution should contain water with detergent-free soap (such as Johnson's Baby Shampoo). Use 4ml (~4 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.

E. Edge Sealing

External application of Exterior XTRM PRO film series (R Silver 20 XTRM PRO, DR Grey 10 XTRM PRO, DR Grey 20 XTRM PRO and DR Grey 35 XTRM PRO) metallized Exterior film requires a neutral silicone edge sealant for external use such as Dow Corning 995 or 885, GE Max 5000, or an equivalent neutral silicone sealing agent for extremely long-term (12-15 years) external application on all four sides of the film. Make sure that the silicone sealant is applied according to the sealant manufacturer instructions.

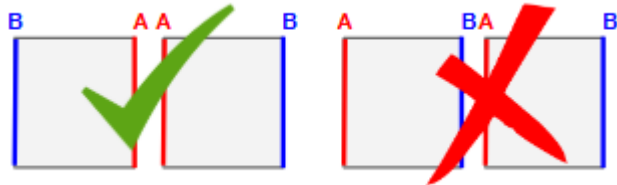
Profiles must be clean of paint, emulsions, etc prior installation and edge sealing process.

F. Joint seaming

If joint seaming is required, please use clear neutral edge sealant Dow Corning 791.

Our recommendation to customers is to apply film with the same manufacturer edge side by side to minimize the visual difference. Install:

A-A or B-B but **NOT** A-B or B-A



G. Step by Step Installation Guide



Step 1 - Recommended tools:

Spray bottle with wetting solution (1 liter tap water and 4 drops of detergent- free soap);
Scraper; sharp knife; 6" heavy-duty safety film squeegee; Paper towels.



Step 2 - Glass preparation:

Clean the window thoroughly with soapy water and scraper. Be extra diligent in the cleaning and preparation of the window and frame to minimize dirt and blemishes under the film.



Step 3 - Precut film: Precut film to window size, leaving 2cm overlapping edge all around: prepare the film straight from the box, cutting from the hardcoat side with a sharp blade. Make sure the film is rolled with a release liner outside (SR coating inside).



Step 4 - Spray film: Spray film on both sides to avoid static (less dirt in installation) and flatten the film.



Step 5 - Window: Re-wet the window with a generous amount of wetting solution.



Step 6a - Using two pieces of adhesive tape, separate the release liner from the film.



Step 6b - Attention! Two installers are recommended to assure careful handling of film during installation.



Step 6 c - Make sure **NO FOLDING OF FILM TOWARDS RELEASE LINER** occurs, to avoid cracking!



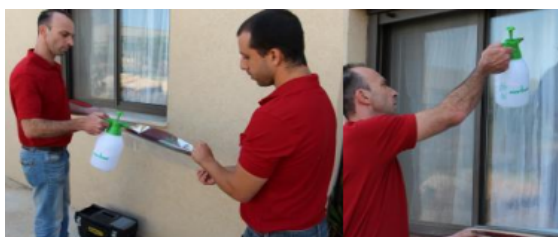
Step 7 - Remove the release liner from film and spray the exposed adhesive layer with plenty of wetting solution.



Step 8 - Position the film on the window with a wet adhesive side on the glass.

Hint

In slight windy conditions, the "reverse roll" method may be helpful to ensure that no folding of film occurs during installation, replacing steps 7-8 above. More soap might be needed for better positioning of film on glass in this method.



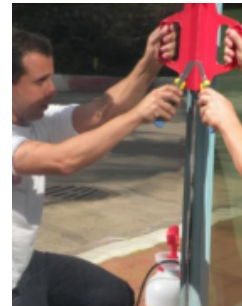
Step 7 alternative - Separate release liner from the precut film (rolled with liner outside) and spray the exposed adhesive layer generously with wetting solution. Make sure to wet the window with plenty of wetting solution!



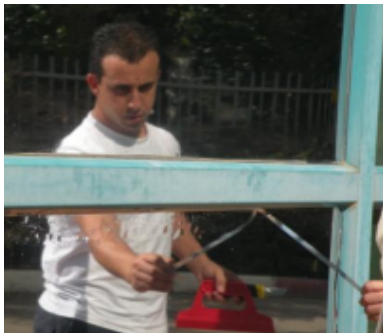
Step 8 alternative - The two installers position the film on the window with the wet adhesive side on the glass. While one installer supports the rolled film, the other pulls the release liner downwards from beneath.



Step 9 - Using a 6" heavy-duty safety film squeegee, wipe from the center with firm downward and outward movements, removing water and air bubbles trapped between the film and the glass.



Step 10 - Trim the edges of the film adjacent to the window frame, using the sharp knife and the Edge Tool.



Step 11 - Remove the cut-off trim.



Step 12- Wet the film surface again, and pressing hard with the squeegee, wipe out from the center until all the air bubbles and remaining water has been removed from the edges.



Step 13 - Wipe dry the edges of the film and the window using a card wrapped in paper towel.



Step 14 - Edge Sealing: Allow film to dry for 24 hours, then within 72 hours, complete by edge sealing on all four edges.

H. Maintenance

Outdoor films should be cleaned three times a year in order to maintain the appearance and clarity of the film. This is particularly important on all sloped or horizontal installations, since the accumulation of dirt and precipitation can cause problems. Films should be cleaned with a liquid, non-abrasive cleaner that contains neither solvents nor alcohol, and has a pH value between 5 to 9 (neither strongly acidic nor strongly alkaline). Recommended cleaning solution: water with a few drops of Johnson's Baby Shampoo. Installations in areas with heavy atmospheric pollution (such as in dense industrial zones) may require more frequent cleaning.

Warning: do not use cleaning solutions that contain ketones such as MEK or acetone. Avoid use of brushes and squeegees used in standard window washing.

I. Removal

Film removal will be easier and more effective if the surrounding air temperature is between 15°C -30°C. We recommend removing the film by delicately scoring the film (without touching the glass!) into strips of ~5 cm width with a Stanley knife, and carefully starting removal of the film at the edge using a window film scraper. Remove the film strip from the surface by peeling slowly and smoothly at a 90 degree angle, in a continuous movement. Some adhesive residue may remain on the glass after removing the film, and can be removed by gently wiping the adhesive traces (not the entire surface) with a non-abrasive cloth or pad dipped in IPA (iso-propanol) or denatured alcohol (ethanol).

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