Field Grille Application for Impervia Direct Set Units

Installation Instruction

These instructions apply to:

Impervia Direct Set Units 2006 - Current

Supplies Needed:

- Masking tape
- 3M VHB tape #4941 (1-3/8" wide)
- Ammonia-free glass cleaner
- Silane coupling agent:
  Gap - 11: 11 oz aerosol:
  Custom-Pak Products, Inc.
  N118W18981 Bunsen Drive
  Germantown, WI 53022
- Clean soft lint-free fabric or paper cloths
- Pella Corporation supplied aluminum grilles

Tools Needed:

- Miter saw with a metal cutting blade
- Measuring tape
- Scissors
- Small 1-1/2" wide rubber or wooden roller
- Safety glasses

Read all instruction steps thoroughly before beginning grille application.

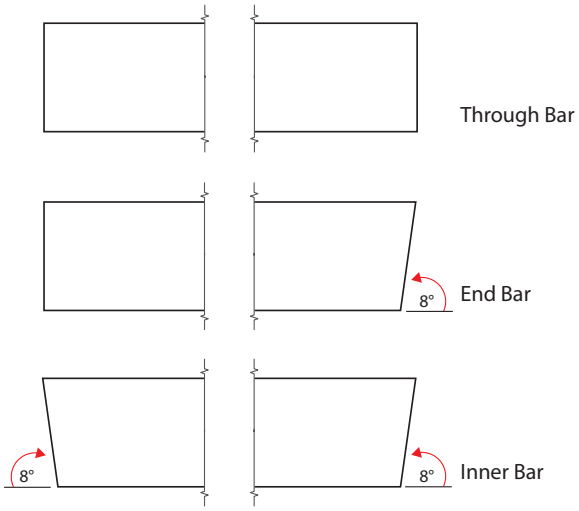
- Read and observe all safety instructions from the equipment, cleaners and pre-treatment solutions manufacturers.
- Wear appropriate personal protective equipment as recommended by the equipment and chemical manufacturers.

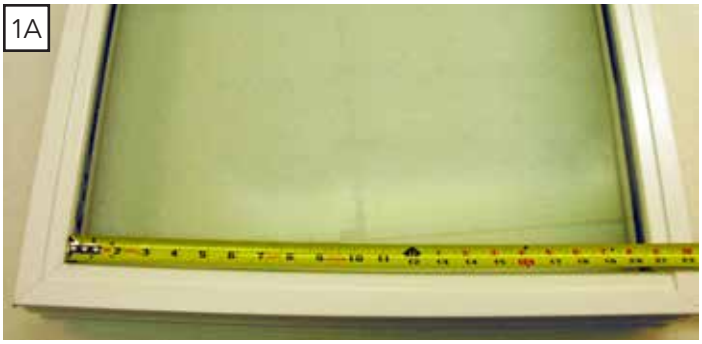
1 Grille Preparation:

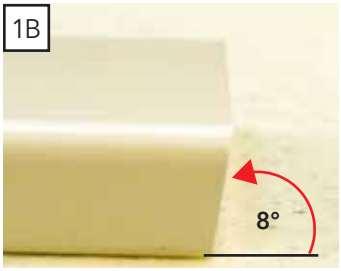
Note: Grilles are typically applied in a manner to provide for equally divided lites in the glass. Grilles provided are to be trimmed to correct length before application to the window glass. Depending on the desired pattern, at least one grille will be cut to length to fit completely across the width or height of the unit glass (frame to frame) and the other bars will be trimmed to be placed from the frame to the grille bar (frame to grille).

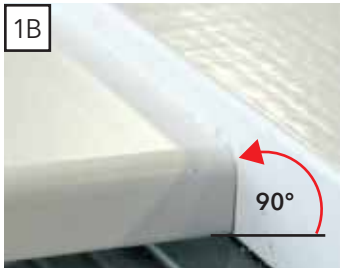
A. Beginning on either the interior or exterior: Measure the glass area across the unit in the direction the full grille bar is to be applied frame to frame.

B. Using a miter saw, cut the grille bar to length being sure to cut a bevel @ 8° on each end where the grille meets another grille and cut the end at 90° for the end which meets the frame.









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1 Grille Preparation (Continued):

C. Test fit the grille to the glass lite, make sure the grille bar has approximately 0.020" (1/64" – 1/32") of clearance for expansion.

D. Place a piece of masking tape on each edge of the frame at the approximate location the end of the grille will align with the frame. Measure to find the location to place the center of the bar against the frame and make a pencil mark on the tape.



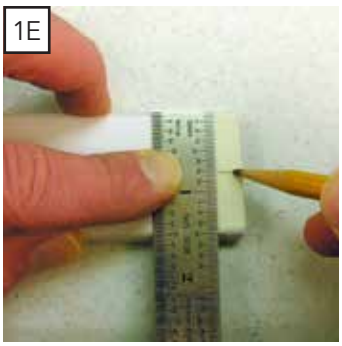


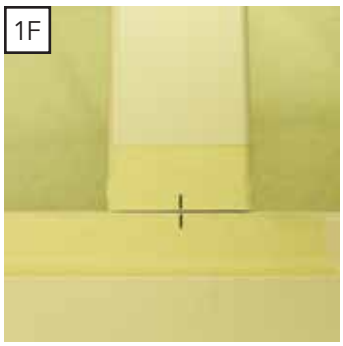
E. Place a piece of tape on each end of the grille bar and place a mark on the tape at the center of the bar.





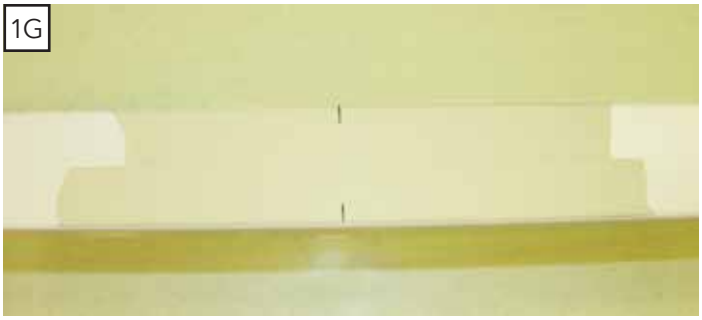
F. Align the mark on each grille bar end with the mark on the frame and place the bar on the glass. This places the first grille bar in its correct location so the length of the remaining grille bars which will be applied frame to grille may be measured.





G. On the grille bar just placed frame to frame in the unit (step 1F), place masking tape on the bar in the approximate location where the next bar(s) (frame to grille) will contact the bar. Measure and place a mark on the bar tape to align with the center end mark of the bar(s) to be placed frame to grille.



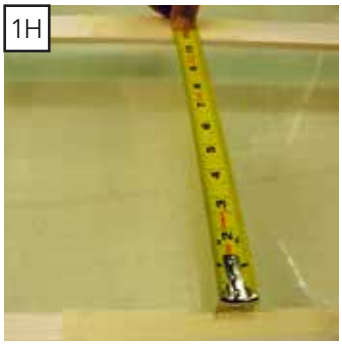


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1 Grille Preparation (Continued):

H. Measure the glass area across from the edge of the frame to the grille bar to obtain the length the bar needs to be cut to extend from the frame to the bar.

1H



I. Using a miter saw, cut the grille bar to length being sure to cut a bevel @ 8° on the end that meets the grille bar and a 90° cut on the end which meets the frame.

J. Test fit the grille to the glass lite, make sure the grille bar has approximately 0.020" (1/64" – 1/32") of clearance for expansion.

K. Repeat placing the masking tape, measuring, marking and cutting as needed for all grille bars in the pattern to be applied to the glass.

L. Using a clean soft fabric cloth, clean the bottom surface (side with the small upright ledges) of each grille to receive the application tape with Gap-11 Silane Coupling Agent. Apply agent and dry grille surface. Allow coupling agent to completely evaporate from the surface of the grille prior to applying application tape (drying time of at least 3 minutes).

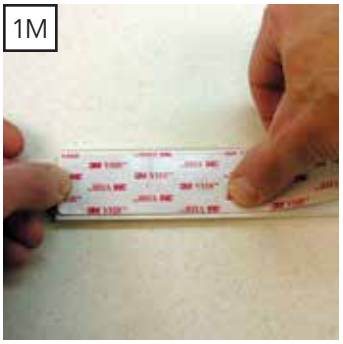
1L



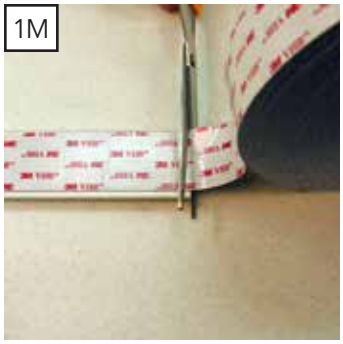
M. Start on one end of the bottom side of the grille, apply the tape and work to the opposite end of the grille while pressing the application tape into place. Cut the tape to length at the opposite end. Trim tape as needed to make sure the end of the tape aligns with each end of the grille bar. Repeat on each grille bar.

Note: DO NOT remove the release paper from the application tape at this time.

1M



1M



1M



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2 Glass Cleaning and Preparation:

Cleaning

The glass surface must be clean and free of all dirt, dust and contaminants before applying the grilles.

A. Apply a glass cleaner such as ammonia-free Windex® Glass & Surface cleaner or Sparkle® Glass Cleaner to the glass. **DO NOT** spray surrounding exterior finishes. Use a clean soft cloth to clean the glass surface. Be sure to wash the entire glass surface.

Note: Discard soiled cloths and use a new cloth for each sash to avoid cross contamination of glass surfaces.

Dry the glass surface after washing with a lint free paper or cloth towel.

Pre-treatment

Application of a 'Silane Coupling Agent' to the glass surface is required to ensure proper adhesion of the tape to the glass prior to installing grilles.

B. Apply Gap-11 pre-treatment solution to the glass surface by spraying the solution following the grille pattern to be installed. Take care to not apply too much coupling agent to avoid run down off the glass onto any surrounding painted surfaces.

Note: Use the masking tape markers installed on the sash frame during the measurement as a location guide for applying the pre-treatment solution to the glass.

C. Dry the glass surface after applying pre-treatment using a lint-free paper or cloth towel. Allow the pre-treatment to completely evaporate from the glass surface before applying the grilles (3 minutes).



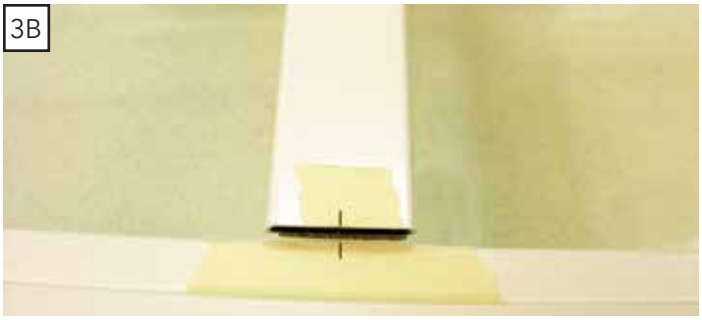
3 Grille Application:

A. Lay the grille on a clean flat surface with the tape side up and carefully remove the release paper from the grille application tape.



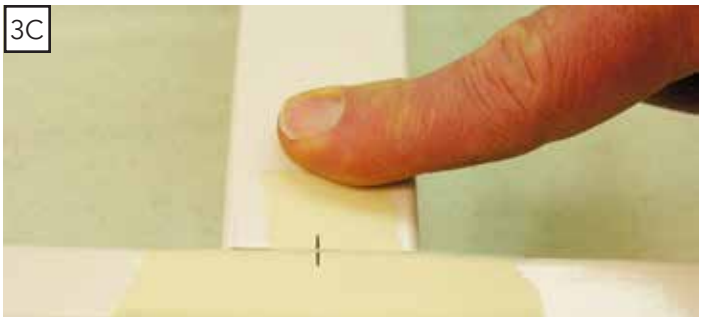
3 Grille Application (Continued):

B. Position the grille with the tape side down, over the glass without touching the glass surface. Align the mark on the taped ends of the grille bars with the marks on the masking tape on the frame. Carefully lower the grille onto the glass surface.

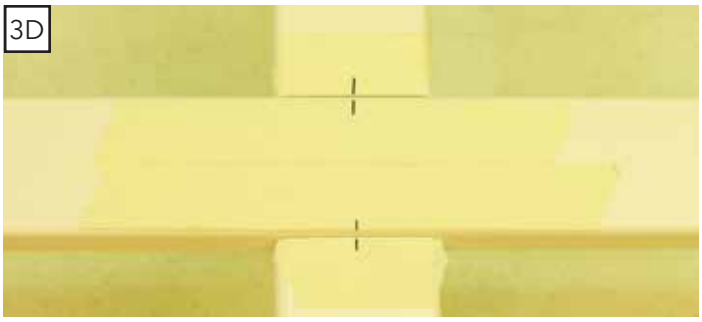


Note: Once the tape contacts the glass surface the grille **cannot** be repositioned. If repositioning is necessary, remove the grille from the glass, remove the application tape from the grille and discard it. Re-apply the tape as described in steps 1L - 1M.

C. Press the grille onto the glass.



D. Repeat steps 3A – 3C for all grille bars to be applied to the glass, aligning the marks on the grille bar ends with marks on the tape on the frame and grilles.



E. Firmly roll all surfaces of each grille bar using a 1-1/2" roller (or equivalent) to press grille bar tape to the glass and ensure complete tape contact and adhesion.



Note: Firm application pressure develops better adhesive contact and helps improve bond strength. Typically, good surface contact can be attained by applying enough roller pressure to ensure the tape experiences approximately 15 psi pressure. It may require 2 to 3 times of back-and-forth roller pressure for the tape to experience 15 psi pressure. Failure to ensure complete application tape contact may result in delamination of the grille from the glass surface.

F. Inspect each grille bar to ensure the application tape is fully contacting the glass, repeat rolling grille bars as needed.

G. Remove the masking tape markers from the grille bars and the frame.

H. Repeat steps 1 – 3 on the other side of the glass as needed.

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