



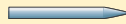
JOINING MULLION (DIRECT MULL) ASSEMBLY INSTRUCTION FOR 2-WAY JOINTS FOR IMPERVIA WINDOWS AND/OR FOR JOINING IMPERVIA WINDOW TO PELLA SPECIAL SHAPE WINDOW



For Additional Mullion Assembly Information; Visit www.installpella.com/mullions, or Call (877) 473-5527 to find a local retailer, or Scan barcode in upper right corner.

YOU WILL NEED THE FOLLOWING ITEMS:

- Pella Window and Door Installation Sealant or equivalent high quality, multi-purpose sealant
- Pella® SmartFlash™ foil backed butyl window and door flashing tape or equivalent
- 12" x 3" x 1" Wood Block with rounded ends
- Pencil or Center Punch
- Clamps
- Installation Fins (4)
- Shims
- Installation Fin Corners (when vinyl installation fins are used)



TOOLS REQUIRED:

- Tape measure
- Hammer
- Hack saw (metal-cutting saw)
- Phillips screwdriver
- Sealant gun
- Drill with 1/8" bit
- Rivet Gun
- Green Nitrile gloves

MULLION PLATES:

- For DH/SH/SW/FW & Fixed Direct Set

8" x 5/16"

- For Awning/Casement/Large Awning

8" x 1-1/8"

8" x 1/2"

- Strips of Butyl for mullion plates

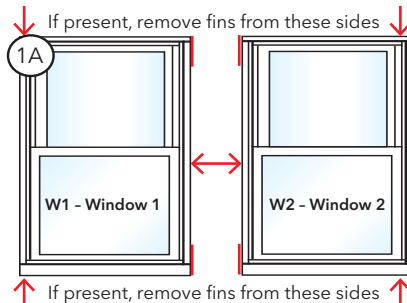
MULLION KIT, PARTS INCLUDED:

- Primer - Three (3) Surface Preparation Primer Wipes 3M 06396
- Mullion Reinforcement plates:
 - 8" x 1-1/8" Plate (2 per mull)
 - 8" x 1/2" Plate (2 per mull)
- #6 x 3/4" Self-drilling Screws (16 for each mull)
- Mullion Cover 80" (1 flanged & 1 non-flanged))
- 3/32" x .5" strips of foam tape
- 5/32" dia. Aluminum Peel type rivet

REMEMBER TO USE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT

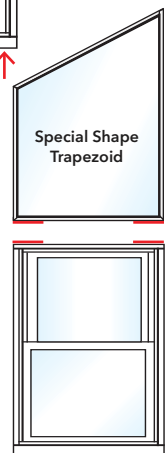
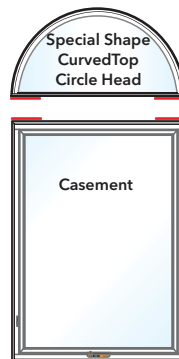
1 Prepare The Windows:

- A. Lay windows on a smooth clean flat surface interior side up. If removable fins are installed on the windows, remove fins from the sides of windows being joined together and the sides perpendicular to the sides being joined.



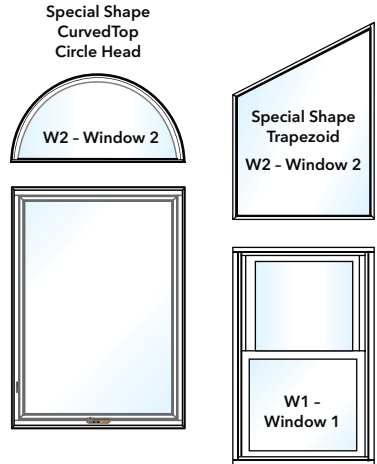
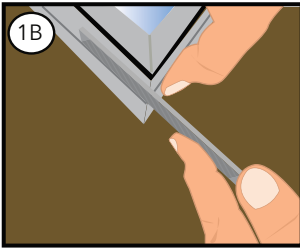
or — = locations to apply primer

Note: When mulling Pella Special Shape windows to an Impervia AW/CM/DH/SH/SW/Fixed or Fixed Frame Direct Set, the special shape may or may not come with the installation fins factory pre-assembled to the window. If the fin is pre-assembled, DO NOT remove this fin!



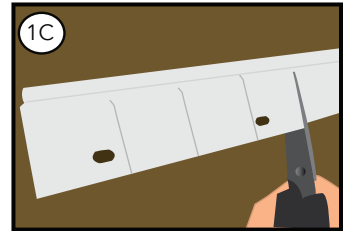
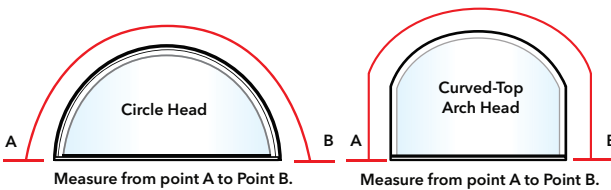
1 Prepare The Windows (Continued):

- B. Align the windows (W1 - (CM, DH,SH,SW/ Fixed or Fixed Frame Direct Set) with W2 - Special Shape Window) so they are in the correct orientation as to complete the mullion joint and check to ensure the units come together correctly and the mullion cover will fit into the grooves of both windows. If necessary, file the corner edges of the special shape unit.

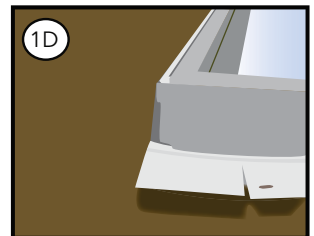
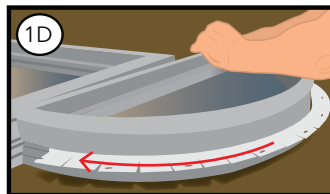
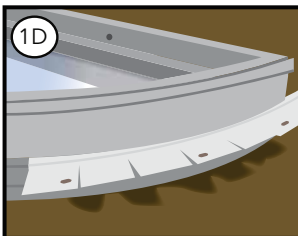


Note: If mulling special shape angled-top to a casement, single-hung, sliding window, fixed window or fixed frame direct set or if no fin is required (Clip or Frame Screw Installations); proceed to Step 1E.

- C. On all curved-top units, (Circle- Head or Arch Head) without an integral fin; the installation fin must be installed prior to mullion assembly. If there is no factory installed fin: measure the length around the curved portion of the unit (Point A to Point B). Cut the fin to the distance measured. To allow the fin to fit over the curved portion of the frame, make a cut in the fin every 2" across the entire length of the fin as shown.



- D. Insert the fin in the fin groove and slide it around the window.



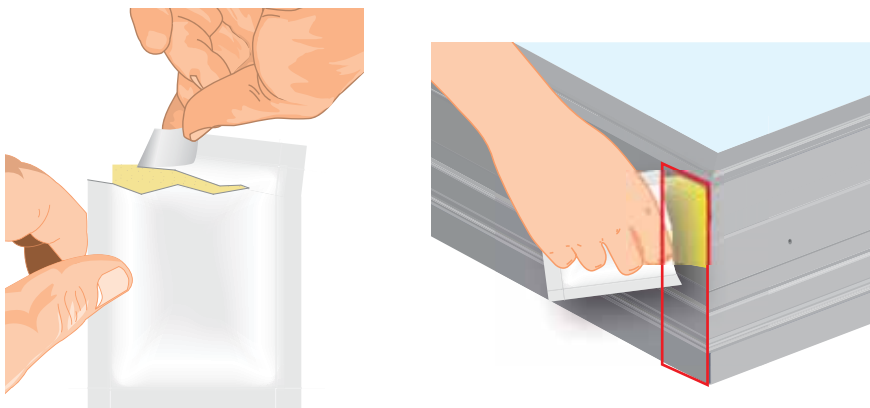
1 Prepare The Windows (Continued):

- E. **Identify the sides of the frames to be joined together.** Using one of the two primer* application method options shown; use two of the primer wipes and apply primer to the top and bottom edge of the sides of the window frames to be mullled.

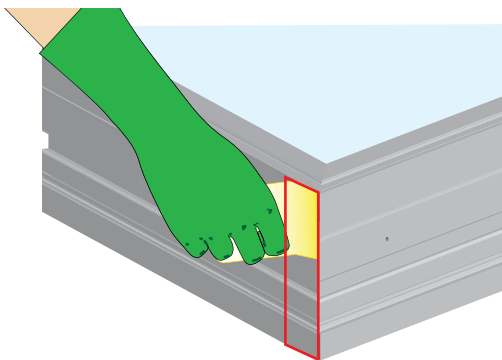
Note: DO NOT apply primer to the face of any window unit or in any location on the unit which will be exposed.

* **MSDS available @ 3M.com**

Method 1: 3M™ Adhesion Promoter 06396 is supplied in an easy-to-use sponge applicator packet. The liquid contents of the packet should be completely used as soon as possible after opening. Hold packet upright and avoid squeezing an opened packet to prevent spillage of liquid contents. The packet can be opened by tearing across the top of the packet at the notches. This will expose the sponge applicator. **DO NOT** remove the sponge or squeeze a freshly opened packet. Handling the bottom section of the packet should enable application of 3M adhesion promoter 06396 with no mess.



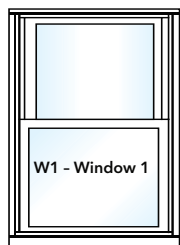
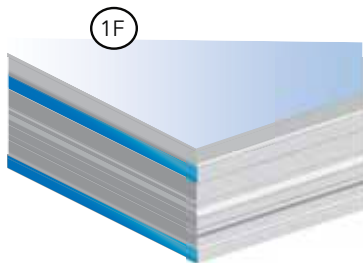
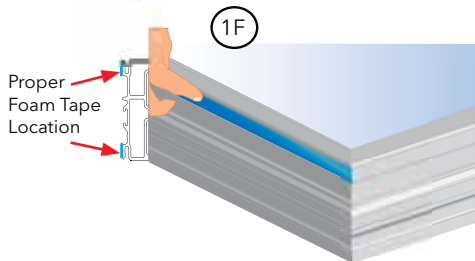
Method 2: Wear Green Nitrile gloves and tear open foil pack and remove the primer sponge applicator and apply primer.



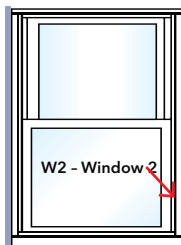
Note: DO NOT touch unit with gloves after using primer.

1 Prepare The Windows (Continued):

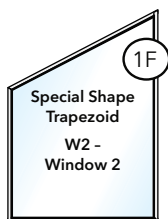
F. On the sides of the frames to be joined together, apply two strips of 3/32" x 1/2" foam tape along the side of one window to be mullled as shown.



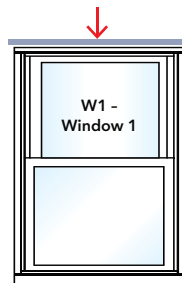
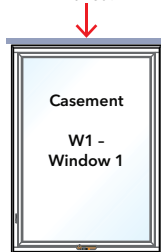
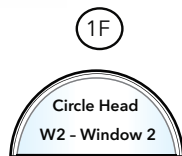
Apply two strips of foam tape to one frame side of the windows to be mullled.



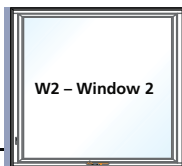
1F



Apply two strips of butyl tape to each frame side of the windows to be mullled.

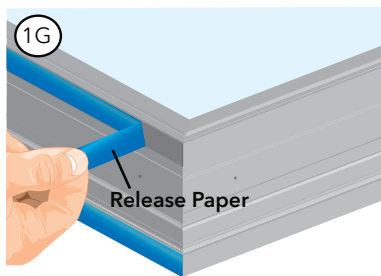


Apply two strips of foam tape to one frame side of the windows to be mullled.



foam tape

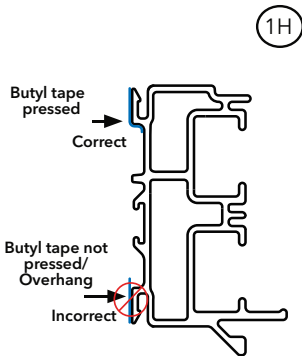
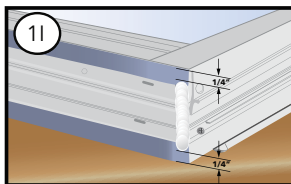
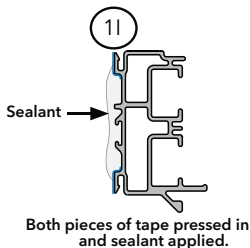
G. Remove release paper from the foam tape on the side of the window with the tape.



1 Prepare The Windows (Continued)

H. Make sure the last 3" of the tape near the sill is completely pressed against the frame to remove any overhang the tape may have on the back side of the accessory groove.

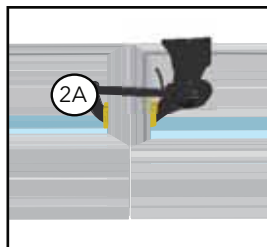
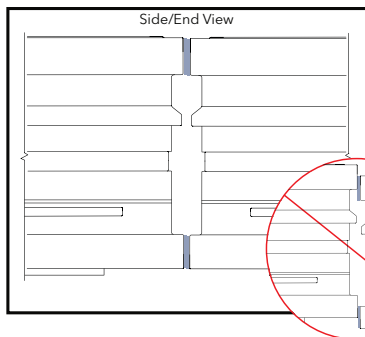
I. Starting 1/4" from the frame edge, apply a 3/8" diameter bead of sealant across the sloped sill joint and stop 1/4" from the other frame edge as shown.



2 Mullion Assembly

A. Position and align the two windows (W1 & W2) with the sides to be mullied facing each other and slowly slide the windows together. Use a straight edge on the ends to help ensure proper alignment of the units.

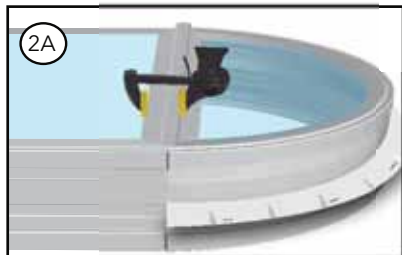
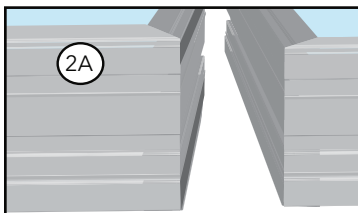
Caution: Units must be aligned before sliding together as butyl tape adhesion will limit adjustment.



Note: Make sure both pieces of tape are touching along the full length of the mullion joint.

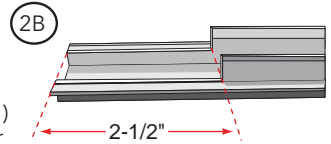
Note: If necessary, clamps may be used to help draw the mullion joint together.

Note: Frames must be aligned before attempting to install mull cover.



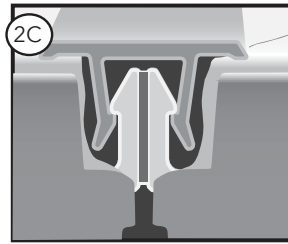
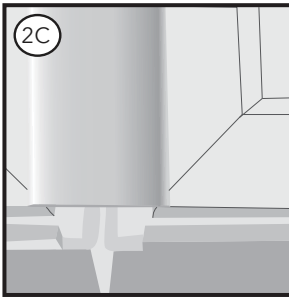
2 Mullion Assembly (Continued):

- B. **Measure the outside frame dimension at the mullion joint length.** Cut both the interior (flanged) and exterior (non-flanged) mullion covers $7/16$ " shorter than the frame dimension.

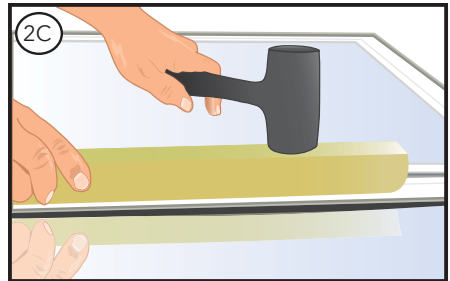


Double-Hung Only: Cut off 2-1/2" of the interior (flanged) mullion cover legs on the end which will be installed near the sill of the windows.

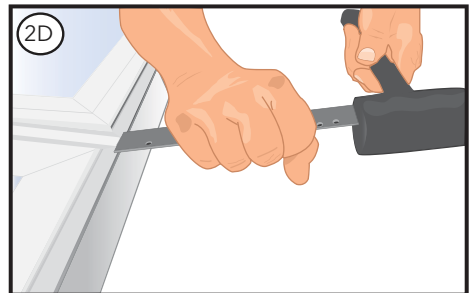
- C. **Insert the interior flanged mullion cover** into the accessory groove of both windows. Align one end of the mullion cover with edge of the frame accessory groove as shown. Tap the end of the mullion cover into the grooves with a hammer and wood block. Continue to drive the cover into the grooves moving slowly along the length of the cover using the hammer and wood block until it is completely seated into the grooves. Remove clamps.



Note: Tapping the cover slowly using a wood block with rounded edges will help prevent dents in the mull cover. For best results, make sure the wood block is the same width as the mullion covers.

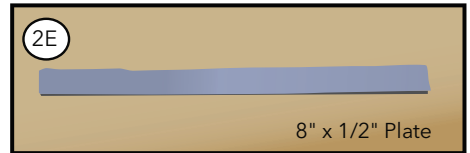
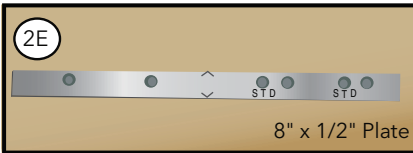
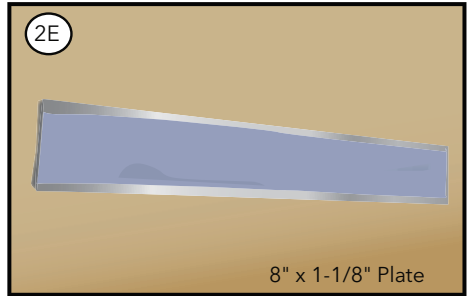
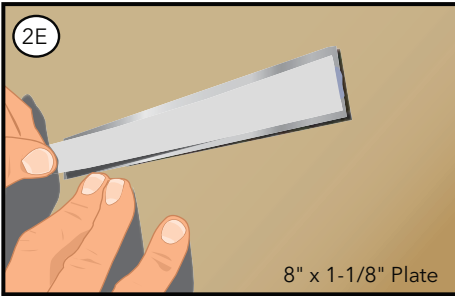


- D. If needed, mullion cover location can be adjusted slightly using a hammer and straight bar tool (such as one of the mullion plates).

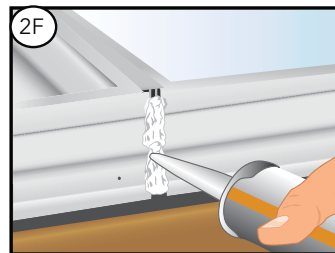
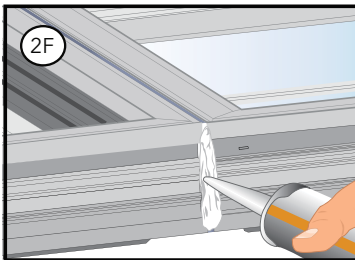
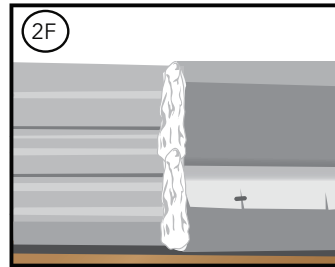
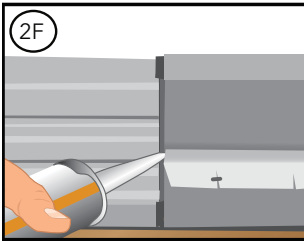


2 Mullion Assembly (Continued):

- E. Apply one strip of .040" x 1" butyl tape to the back side of each of the 8" x 1-1/8" mullion plates and one .040" x .5" strip to the back of the 8" x 1/2" plates.



- F. Fill any voids in the space between the frames at the end of the mullion.




2 Mullion Assembly (Continued):

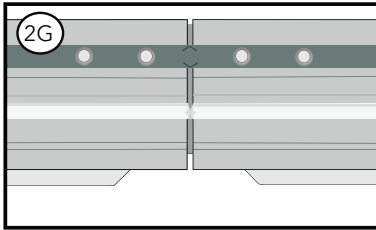
Mullion Plate Attachment

Unit Type	Frame Type	Location	Plate Width	QTY
DH/SH/FW/SW	All	Head/Jambos	.375"	2
SH/FW/SW	All	Sill	.375"	2
DH	All	Sill	.375"	1
CM	Fin	All	.5" (EXT) & 1.125" (INT)	1 & 1
CM	No Fin	All	1-1/8"	1

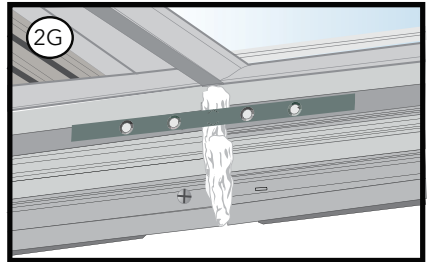
Note: Frame corner screws may need to be removed from the sill of the window prior to attaching mullion plates. If frame corner screws were removed, fill holes with sealant.

G. **Position the mullion plate** between the two windows by aligning the  of the plate at the point where the two windows come together.

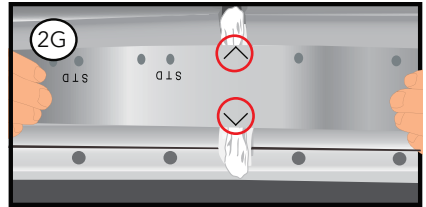
Note: The double-hung sill end will have only one mullion plate located on the interior side.



Double-Hung to Double-Hung Sill

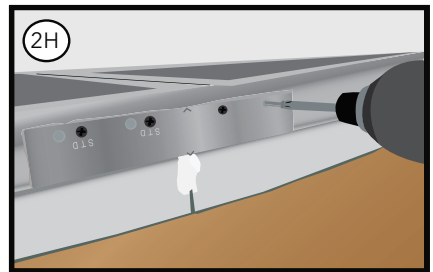
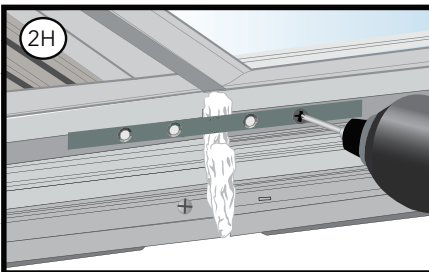


Double-Hung to Double-Hung Head and
Double-Hung to Single-Hung Head



Casement to Casement

H. **Attach the mullion plate** using #6 x 3/4" flat head self-drilling screws. On the end of the plate with 4 holes, insert the screws in the holes marked "STD."

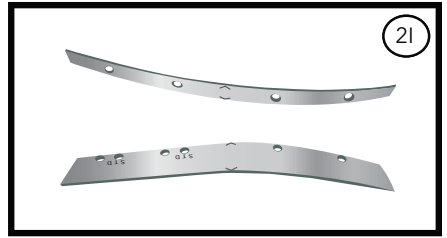



Repeat 2G-2H on the other end of the mullion joint and then go to Step 3.

2 Mullion Assembly (Continued):

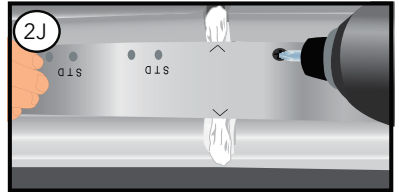
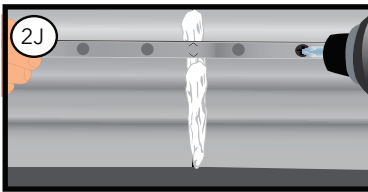
Mulling curved top or direct set to rectangular windows:

- I. When mulling true Circle head curved-top windows to a casement, double-hung, single-hung, sliding window, fixed window or fixed frame direct set; pre-bend the mullion plate to conform to the shape of each side of the curved-top unit. Make sure each plate is in the correct orientation before bending the plate.

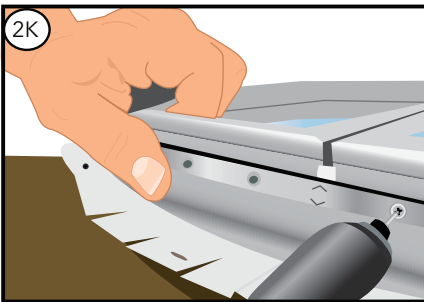


- J. Position an interior side mullion plate between the two windows by aligning the  of the plate at the point where the two windows come together.

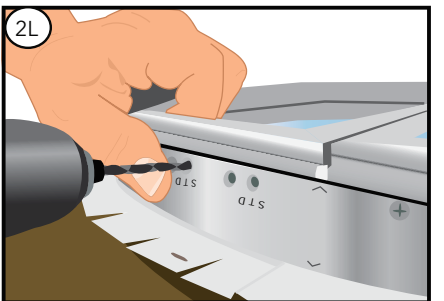
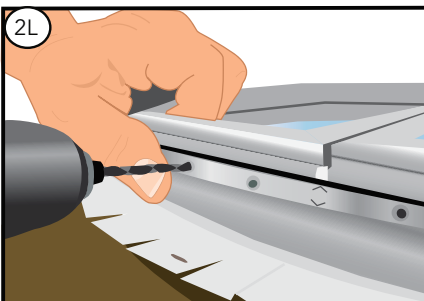
Note: Frame corner screws may need to be removed from the sill of the window prior to attaching mullion plates.



- K. Attach the 8" x 5/16" mullion plate to the DH/SH/SW/Fixed or Fixed Frame Direct Set unit of the combination or attach the 8" x 1-1/8" mullion plate to the casement of the combination using 2 - #6 x 3/42" flat head self-tapping screws.

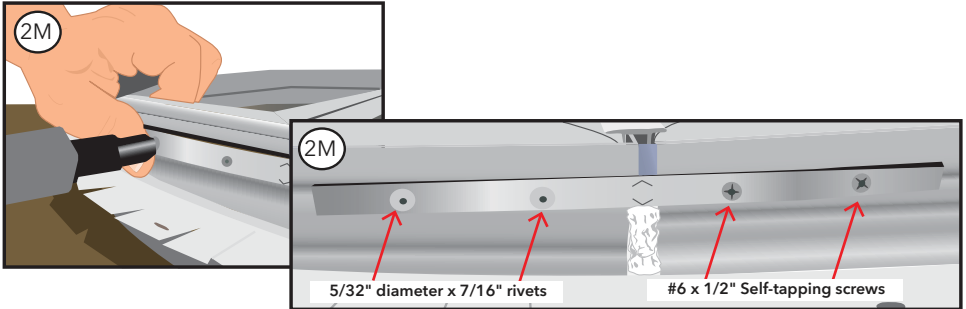


- L. On the side of the mullion plate positioned over the special shaped unit, drill two 1/8" diameter pilot holes approximately 1/8" deep into the unit. If the side of the plate over the special shaped unit has four holes drill the two holes through the holes marked "STD".



2 Mullion Assembly (Continued):

M. **Finish attaching the plate** to the special shape or direct set window using two (2) 5/32" diameter x 7/16" Aluminum Peel type rivets.

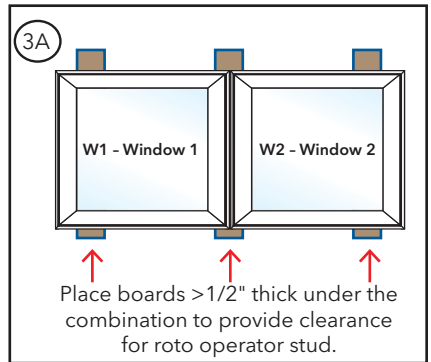


Repeat 2I-2M on the other end of the mullion joint.

3 Fin Prep and Installation

A. Turn the combination over so the exterior side is up. Use care to make sure the products are held together as they are being turned over.

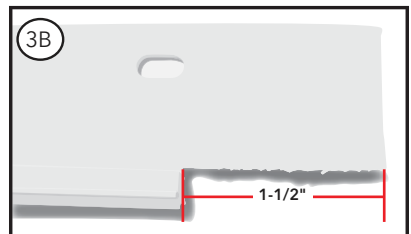
Note: Casement Units; when the interior side is down, use care to not damage the roto operator stud(s) when sliding the unit on the table (flat surface). Place boards under the units to provide clearance between the operator stud(s) and table.



Note: If installing with Installation Clips or Frame Screws, proceed to step 4F.



B. Measure and cut the installation fins for each jamb side and the sill of the combination. Cut each fin 2-1/2" longer than both the width and height of the combination. Trim 1-1/2" off each end of the fin to form a notch as shown.

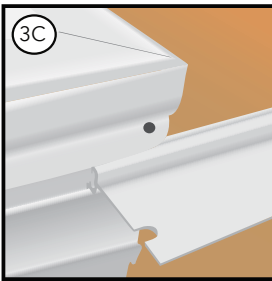
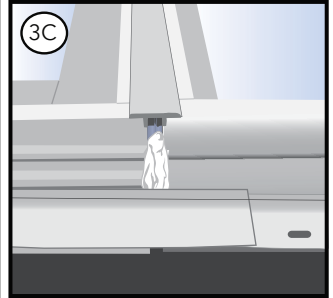
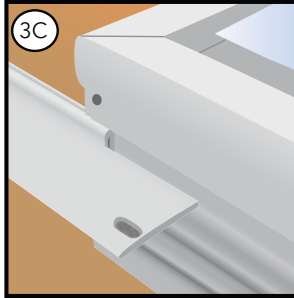


Note: After the fin ends are trimmed; cut each fin that will be installed over a perimeter mullion joint in half so the fins can be spliced at the mullion joint after being inserted into the fin grooves on the combinations.

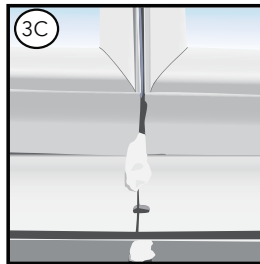
3 Fin Prep and Installation (Continued):

C. **Fins are to be installed in a watershed pattern** with the side fins overlapping the bottom fin and the top fin overlapping the side fins. On noncut fins; At one jamb of the casement, singlehung, sliding window, fixed window or fixed frame direct set unit, Insert one fin end into the fin groove and slide it to the opposite end of the groove. Repeat on the other side of the casement, single-hung, sliding window, fixed window unit or fixed frame direct set unit.

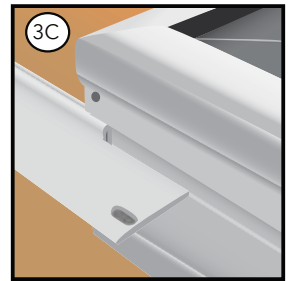
On cut fins, insert the non-trimmed end of one of the fin halves into the fin groove and slide it over to the mullion joint. Repeat on the other side so the fins halves meet at the mullion joint. Install the fins around the perimeter of the combination.



Inserting cut fin with end to be spliced on combination sides **with** mullion joints.

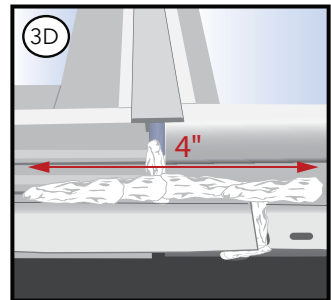
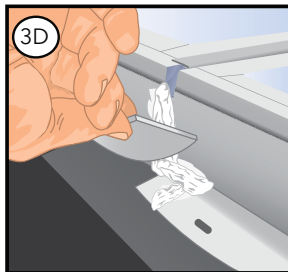


The two halves of the fin meet at the mullion joint.



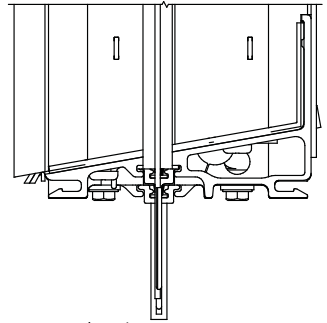
Inserting notched end of the non-cut fin on combination sides **without** mullion joints.

D. **On each side of the combination** with a curved-top or arch head where the fins overlap, apply a generous bead of sealant between the overlapped fins and squeeze to assure a good seal between the fins. Add a 4" bead of sealant on top of the fin centered across the mullion joint.

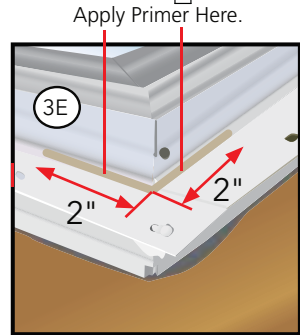


3 Fin Prep and Installation (Continued):

Note: When mulling a double-hung next to a fixed; splice the fins together at seam of units. The "T-slot" for the fin is higher up on a Double-Hung than any other windows so the fins will not align. Must splice the fins at the mullion joint and then cover the fin splice with flashing tape.

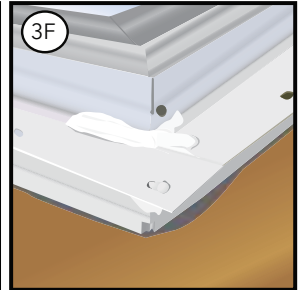
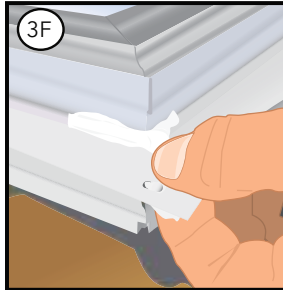
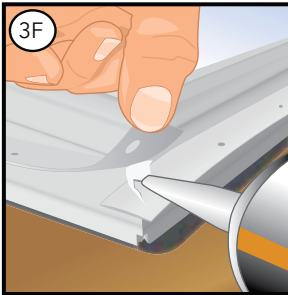


- E. Using one of the primer application methods covered in step 1E; Apply primer, using one (1) of the primer wipes across the top of the head where the fin and frame meet and on each end as shown.

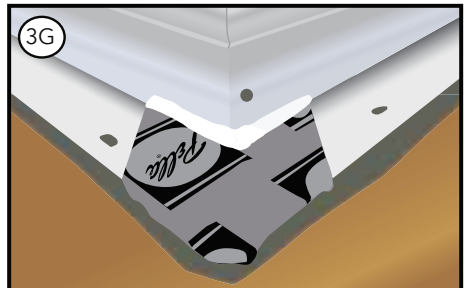


- F. At each corner where the fins overlap, apply a generous bead of sealant between overlapped fins and squeeze to assure a good seal between the fins. Place sealant on the exterior side of the fin for approximately 2" from the corner on each side. Tool sealant applied at the corners.


Note: Make sure there are no gaps in sealant between frame and vinyl fin.

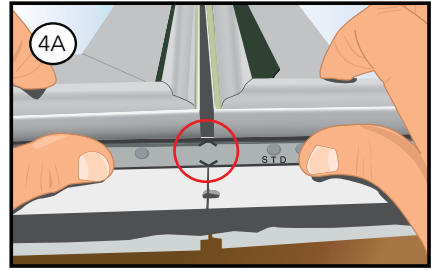
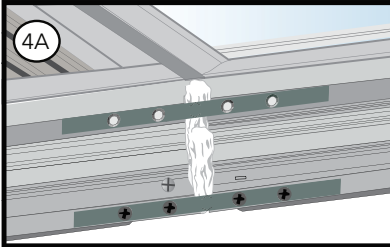


- G. At each corner, apply a fin corner over the overlapping fins.

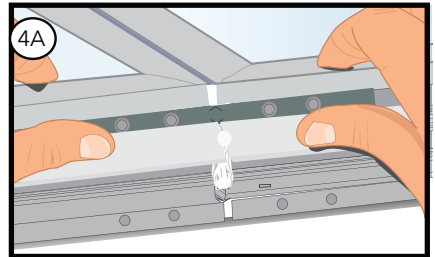


4 Second Mullion Plate Attachment:

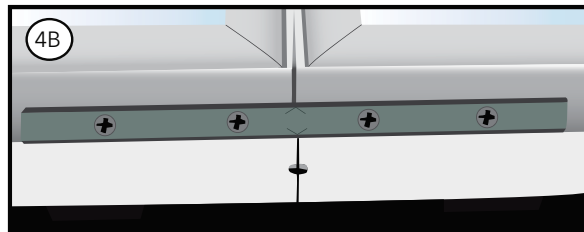
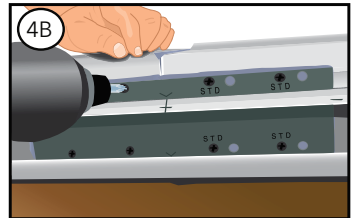
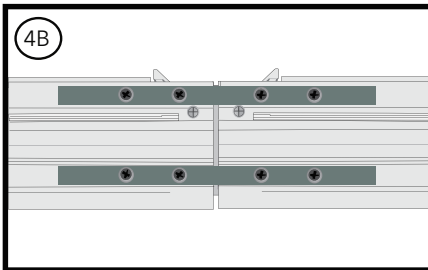
- A. **Position the mullion plate** between the two windows by aligning the  of the plate at the point where the two windows come together.



Double-Hung to Double-Hung Head and
Double-Hung to Single-Hung Head.
Also for FW/SH/FF/SW



- B. **Attach the mullion plate** using #6 x 3/4" flat head self-drilling screws. On the end of the plate with 4 holes, insert the screws in the holes marked "STD."

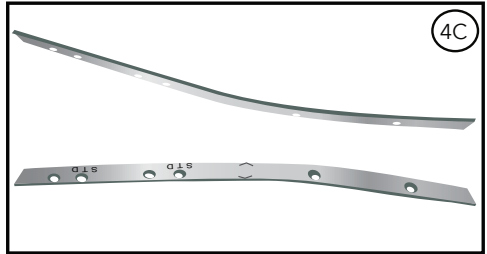



Repeat 4A-4B on the other end of the mullion joint, then go to step.

4 Second Mullion Plate Attachment (Continued):

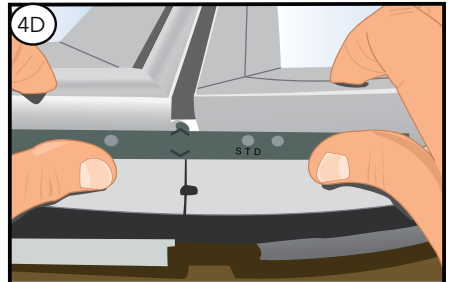
Mulling curved top or direct set to rectangular windows:

- C. When mulling true Circle head curve top windows to a casement, double-hung, single-hung, sliding window, fixed window or fixed frame direct set; pre-bend each of the mullion plate to conform to the shape of each side of the curved-top unit. Make sure each plate is in the correct orientation before bending the plate.

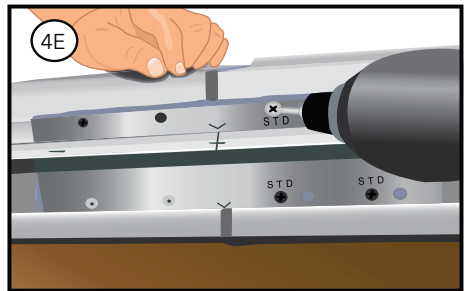


- D. Position the mullion plate between the two windows by aligning the  of the plate at the point where the two windows come together.

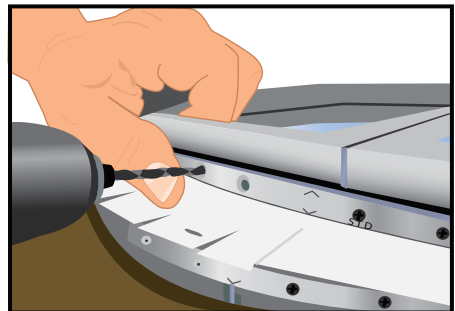
Note: Frame corner screws may need to be removed from the sill of the window prior to attaching mullion plates. If frame corner screws were removed, fill holes with sealant.



- E. Attach the mullion plate to the casement unit of the combination using 2 - #6 x 3/4" flat head self-drilling screws. If the end of the plate with the 4 holes is on the casement unit, insert the screws in the holes marked "STD."

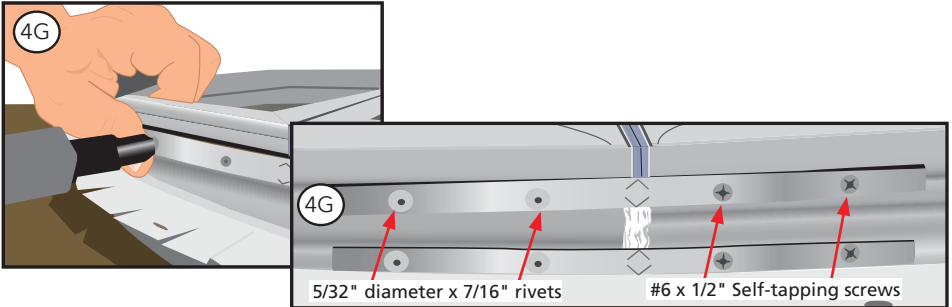


- F. On the side of the mullion plate positioned over the special shape window (Angled-Top or Curved-Top), drill two 1/8" diameter pilot holes approximately 1/8" deep into the unit.



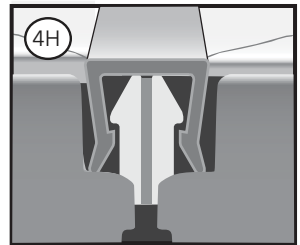
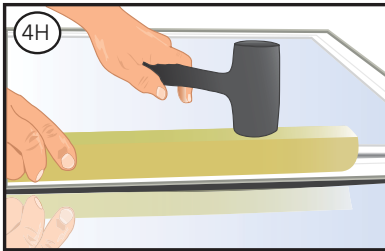
4 Second Mullion Plate Attachment (Continued):

- G. **Finish attaching the plate** to the special shape or direct set window using two (2) 5/32" diameter x 7/16" Aluminum Peel type rivets.

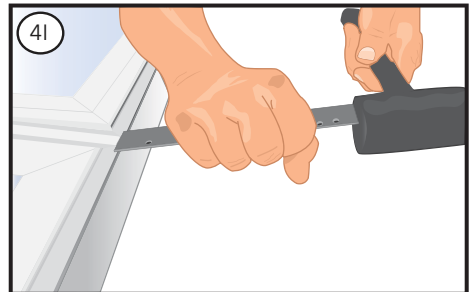


Repeat 4C-4G on the other end of the mullion joint.

- H. **Insert the exterior non-flanged mullion cover** into the accessory groove of both windows. Align one end of the mullion cover with edge of the frame accessory groove as shown. Tap the end of the mullion cover into the grooves with a hammer and wood block. Continue to drive the cover into the grooves moving slowly along the length of the cover using the hammer and wood block until it is completely seated into the grooves. **DO NOT** block the accessory grooves at either end of the mullion cover. Remove clamps.

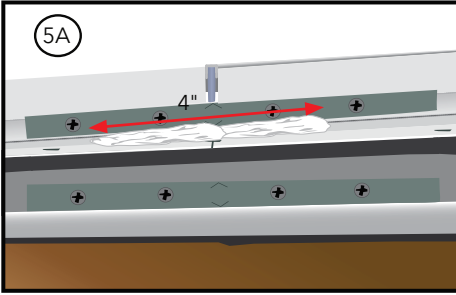


- I. **If needed, mullion cover location can be adjusted slightly** using a hammer and straight bar tool (such as one of the mullion plates).

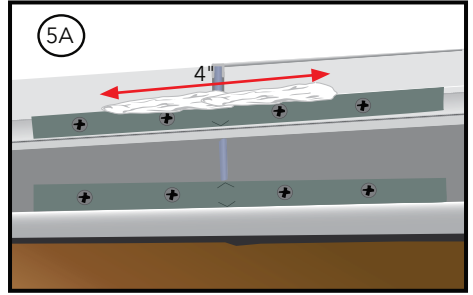


5 Flashing Tape Application Over Fin Splices:

A. **At each mullion joint and spliced fin;** Apply a 3/8" bead of sealant 4" long centered on the joint or spliced fin location.



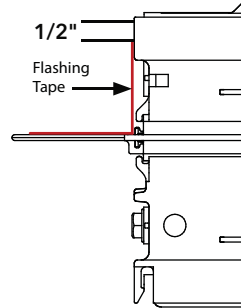
Nail Fin Unit



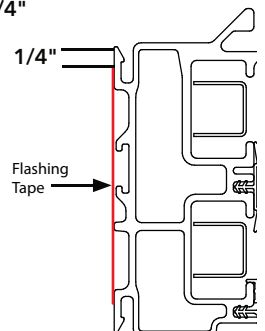
Block Frame Unit

B. **For each mullion joint and fin splice;** cut a piece of flashing tape 12" long.

C. **At each mullion joint and fin splice;** apply the flashing tape over the plate, fin and 8" bead of sealant so the tape extends 2" beyond either side of the plate and/or fin splice. Hold the tape back 1/2" from the frame edge. Fold the tape over the fin and press firmly to adhere to the frame edge and the fin.



D. **For Units without nail fin;** Apply flashing tape over the plate and sealant bead so the tape extends 2" beyond either side of the plate. Hold the tape back 1/4" from the frame edge. Press flashing firmly to adhere to the frame edge and plate.



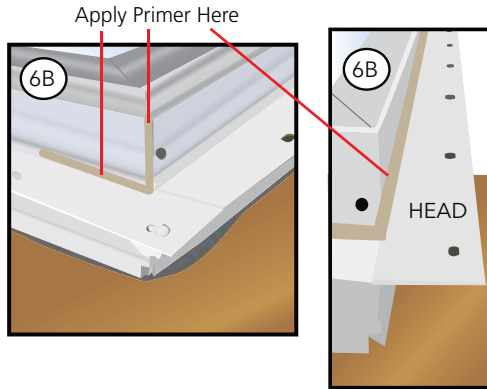
6 Head Drip Fin Installation:

Required on Nail Fin Mullions with Vertical Mullion Joints.

Note: These steps must be performed in immediate succession either in the shop or at the job site.

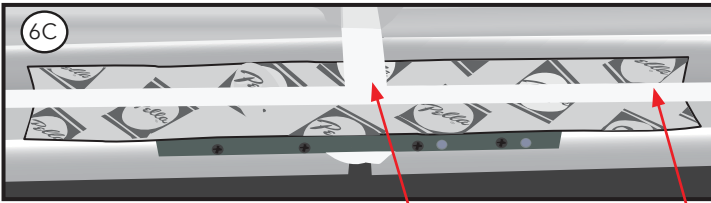
- A. **Cut the head drip fin to the overall width of the window combination.** Dry fit the head drip fin to make sure the fin does not extend beyond the ends of the combination and no more than 1/16" shorter than the combo on each end. Remove the drip fin before proceeding to 6B.
- B. **Using one of the primer application methods covered in step 1E; Apply primer,** using one (1) of the primer sponge wipes across the top of the head where the fin and frame meet and on each end as shown.

Note: Allow primer to dry at least 2 minutes before proceeding to next step.



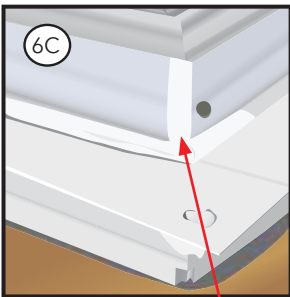
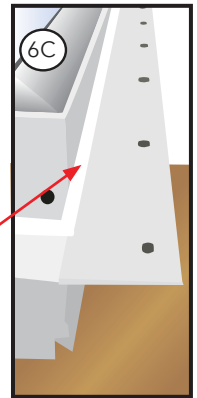
6 Head Drip Fin Installation (Continued):

- C. **Apply sealant at the top of the exterior mullion cover** to seal the space between the mullion cover and window frame heads. Also apply sealant at each end of the top of the combination and across the top of the entire combination at the joint where the fin and frame connect to prep for installation of the head drip fin. Install the drip fin immediately after applying sealant to the head either in the shop or at the job site when installing the combination unit in the opening. Apply a piece of flashing tape at each end overlapping the head drip fin and nailing fin to hold the fin in place while the sealant sets up.

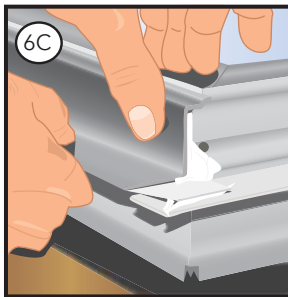


Sealant at mullion joint and across the top of the combination.

Sealant in corner across the top of the combination.



Sealant at each end and across the top of the combination.



- D. **If there are no installation holes in the head drip fin**, drill 5/32" clearance holes 1/2" from the top edge, 4" from each end and 6" on center. These will be used for Installation Activities in the Installation Instruction.