

### PELLA<sup>®</sup> IMPERVIA<sup>®</sup> JOINING MULLION (STRUCTURAL MULL) **ASSEMBLY INSTRUCTIONS FOR 2-WAY, 3-WAY, AND 4-WAY** JOINTS FOR SLIDING DOOR, WINDOW BESIDE, AND TRANSOM ABOVE



### For additional mullion assembly information; visit www.installpella.com/mullions, call (877) 473-5527 to find a local retailer, or scan barcode in upper right corner.

Be sure to thoroughly read and understand all the steps before beginning the mullion assembly process. Window combinations assembled using this instruction have limited structural performance. Consult the Pella Architectural Design Manual or your Pella representative for more information. Subsill systems that weep incidental moisture to the exterior are recommended for water management in openings where the potential for water infiltration is increased and may not be adequately managed by the building weather barrier, flashings and drainage system. Sample conditions include, but are not limited to: increased level of exposure due to multi-story construction, high weather exposure, recaulking would be difficult or unlikely, non-standard installation methods, or when there are multiple units joined within the opening.

### THE FOLLOWING ITEMS ARE NEEDED (not included):

- Pella Window and Door Installation Sealant or equivalent high quality, multi-purpose sealant
- Pella<sup>®</sup> SmartFlash<sup>™</sup> 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)
- \* Order Head Drip Cap separately for Vertical Mullion Joints Ending Through the Head

### **Tools For Special Shape Units Only:**

- Drill with #20 drill bit (.161")
- Rivet Gun
- 5/32" dia. Aluminum Peel type rivet

### **MULLION KIT, PARTS INCLUDED (PER PQM CONFIGURATION):**

- Strike Backer Plate
- #8-32 x 1.250", T20 Screws (for strike backer plate)
- 3M 06396 Surface Preparation Primer Wipes (3)
- 1/16" x 1/2" Roll of Foam Tape
- Aluminum Structural Mullion
  #8 x 1/2" Self Drilling Screw (2)
- Steel Reinforcement (1/4" x 2 1/2")
- Sill Splice Sill Splice Key Foam Plugs
- Structural Mullion End Anchors
- #6 x 3/4" Flat Head Screws (for end anchors)
- Mullion Covers (interior and exterior)
- Mullion Reinforcement Plates (with butyl applied)
- #6 x 1/2" Flat Head Screws (for mullion plates)

### **TOOLS REQUIRED:**

- Tape measure
- Hammer
- Hack saw (metal-cutting saw)
- Phillips screwdriver
- Sealant gun
- Powered driver with Phillips bit T20 bit, 1/4" Nut Driver, #20 bit
- Green Nitrile gloves
- Variable speed rotary tool (optional)
- Utility Knife

#### The kit is configured to length, tools to trim if needed:

- Miter Saw (cut aluminum)
- Chop Saw (cut steel)

### **INSTALLATION ANCHORS**

	SUBSTRATE	HEAD TYPE	SCREW TYPE	SIZE	MIN. EMBEDMENT
Through Frame OR Clip Installation	Concrete	Pan	Masonry	3/16"	2"
	Masonry (Block/CMU)	Pan	Masonry	3/16"	1-1/2"
	Wood	Pan	Wood	#10	1-1/4"
	1/8" Thk. Aluminum	Pan	Sheet Metal	#10	Fully Penetrate substrate with 3 threads protruding internally
	1/8" Thk. Steel	Pan	Sheet Metal	#10	
	20 Ga. Steel (including steel studs)	Pan	Sheet Metal	#10	
Nailing Fin Installation	Wood	Pan	Wood	#10	1-1/2"
	1/8" Thk. Aluminum	Pan	Sheet Metal	#10	Fully Penetrate substrate with 3 threads protruding internally
	1/8" Thk. Steel	Pan	Sheet Metal	#10	
	20 Ga. Steel (including steel studs)	Pan	Sheet Metal	#10	

### **REMEMBER TO USE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT**



Interior Covers



### Identify the joints of the mull (exterior side shown):

Note: Not all possible combinations are shown. Find the joint type needed and apply it. For example, a Radius Joint can also be on a 3-Way unit with a half circle transom.

Note: For 3-way or 4-way combinations, the Through Mullion is required to be  $\frac{1}{2}$ " or 1" structural mulled. The Intermediate Mullions are typically direct mulled but can be structural mulled.



### Identify the joints of the mull (exterior side shown) - CONTINUED:



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### **Mullion Cross-Sections:**

Note: Steel Reinforcement(s) are as required for structural rating.



End Anchor Orientation Examples (exterior side shown):



(STRUCTURAL MULLION) Standard Fin and Offset Fin (STRUCTURAL MULLION) Block Frame

End Anchor Orientation Examples (exterior side shown) (continued):



(STRUCTURAL MULLION) Standard Fin and Offset Fin **2-WAY UNIT** (STRUCTURAL MULLION) Block Frame

### PREPARE THE DOORS:

A strike backer plate is required when mulling a unit to the lock jamb side of a door. This is because the strike screws won't be able to tie into the rough opening.

On the side of the backer plate marked by "X", apply small amount of sealant. Place the "X" side against the backside of the lock jamb and aligned with the 8 strike pilot holes.

Drive Torx T20 head screws through the strikes, lock jamb, and into the backer plate. Screws will form threads when driven into the plate. Tighten screws with the strike adjusted to its center location.

Note: Tighten the screws snug against the lock strikes but <u>DO NOT OVERTIGHTEN</u> to avoid deforming the jamb profile.



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## PREPARE THE DOORS (continued):

Note: Mullion plates are shown for reference and applied in later steps.

### 2-WAY JOINTS:

No notching of the frame accessory grooves are needed for the mulling process.

### **3-WAY JOINTS:**

Identify the frame corners of each of L1 & L2 where the 3-way joint will come together.

### 4-WAY JOINTS:

Identify the frame corners of each of L1 & L2 and each of U1 & U2 where the 4-way joint will come together.



Notch the Accessory Groove at the identified frame corner: Use a hacksaw or variable speed rotary tool to cut a small notch in the accessory groove of each frame on the exterior and interior sides. This will provide clearance for the through mullion covers.







## PREPARE THE DOORS (continued):

#### WHEN MULLING A SPECIAL SHAPE WINDOW:

If necessary, file the corners of the special shape window on the sides that will be mulled together to ensure there is no weld flash interference.



On all curved-top units that will be fin installed but without a fin installed from the factory, install a nail fin prior to mullion assembly. 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.



Measure from point A to Point B.



Measure from point A to Point B.



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



### WHEN MULLING A SPECIAL SHAPE CURVED TOP WINDOW OVER A DOOR:

**For Fin Install:** The installation fin must be installed into door jamb prior to mullion assembly. There is no access to the installation fin slot after mulling the curved transom above the door. If the door came with an installation fin in the jamb, do not remove it.



### WHEN MULLING A DOOR TO WINDOW BESIDE:

**For Fin Install:** The installation fin must be installed into door jamb on the side the window will be mulled, prior to mullion assembly. There is no access to the installation fin slot after mulling the window to the door jamb.

## Note: Pre-installing the installation fin is required when OFFSET DIMENSION is 3.5" or greater. Below 3.5" the installation fin is too short and is not used on the door jamb side that is mulled to the window.

Cut the installation fin for the door jamb to length.

- Fin Length = OFFSET DIMENSION 1/2"
- Example: If OFFSET DIMENSION = 3.5", cut fin length to 3".

**The head end of the installation fin** should be notch 1-1/2" as shown.

From the head of the door, slide the installation fin into the installation fin slot and all the way down to the sill.





### WHEN A FACTORY MULLED COMBINATION IS BEING ADDED TO A FIELD MULL, (APPLIES TO TIGHT OR SPREAD):

**On only the side of the factory combination to be placed against the field mull unit;** remove the existing flashing tape from the mullion joint so sealant can be applied across the mullion joint.

Apply a 3/8" bead of sealant 4" long on the exterior side of the mullion reinforcement plate, centered on the mullion joint.



A. Lay units on a smooth clean flat surface exterior side up. Be sure to place them in the same orientation as they will be assembled into the combination. If units have differing frame depths, use 1-3/4" spacers under the narrower (3.25") frame depth windows to ensure exterior surfaces of units are flush. If removable fins are installed, remove fins from the sides to be joined and the sides perpendicular to the sides to be joined. If previously instructed to pre-install the fin based on mull combination, DO NOT remove it.

**Exception Note:** When mulling Pella Special Shape windows, 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!

Note: For 3-way or 4-way combinations, mull the Intermediate (non thru) Mullions first, and Through Mullion last. Note: For 3-way or 4-way combinations, the Through Mullion is required to be ½" or 1" structural mulled. The Intermediate Mullions are typically direct mulled but can be structural mulled.

Note: If mulling a window into the mulled combination, use care to not damage the roto operator stud(s) on the interior side of vent casement and awning windows.

**Examples** of potential mullion configurations:



B. Once the sides of the frames to be joined together are identified; Using one of the two primer\* application method options shown; use two of the primer wipes and apply primer to the sides of the unit frames to be mulled.

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

### \* MSDS available at 3M.com

**Method 1:** 3M<sup>™</sup> 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.



Allow primer to dry before proceeding to the next step.

C. **The aluminum structural mullion is cut to size from the factory.** Verify the mullion length by measuring or dry fitting the structural mullion bar between the two units. If necessary, cut to the proper size.

### Verify by Measuring:

- <u>Door to Door Mull</u> (5" frame depth): Length = Door Frame Height 2"
- <u>Door to Transom Mull</u> (5" to 3-1/4" frame depth): Length = Window Frame Width 1-1/2"
- Door to Window Beside Mull (5" to 3-1/4" frame depth): Length = Window Frame Height 1-1/2"

### Verify by Dry Fitting:

- Door to Door Mull (5" frame depth): 3/4" inset at the head, 1-1/4" at the sill.
- <u>Door to Transom Mull</u> or <u>Door to Window Beside Mull</u> and (5" to 3-1/4" frame depth): 3/4" inset from each end of window.



- D. The Steel Reinforcement is cut to size from the factory. Verify the structural steel bar is 3.5" shorter than the frame dimension of the units being mulled. If necessary, cut to the proper size.
- E. Insert and inset the structural steel bar into the aluminum structural mullion as follows:
  - Door to Door Mull (5" frame depth): Inset = 1" at the head, 1/2" at the sill.
  - Door to Transom Mull (5" to 3-1/4" frame depth): Inset = 1" at each end
  - Door to Window Beside Mull (5" to 3-1/4" frame depth): Inset = 1" at each end

# Note: 1" mullions may require 1 or 2 structural steel reinforcements. If mullion requires 1 reinforcement, the reinforcement can be installed into either cavity.

F. Door to Door Mulls at Sill End: If the aluminum structural mullion contains steel, the sill end must have the steel retained using #8 x 1/2" self drilling screws at dimensions shown. The screw head should protrude less than 5/32" from the surface of the aluminum so it doesn't interfere during assembly. Remove the plastisol washer from under the screw head if needed to seat head lower.

# Note: 1" mullions require a screw from each side that contains steel. As shown would require a screw from the bottom side at the same dimensions.



G. Identify the sides of the frames to be joined together. Apply one strip of 1/16" thick x 1/2" wide foam tape running full length along the legs of both units to be mulled (at locations shown).

Note: For Door to Window Beside, tape on the door frame runs from the head end and down the door jamb to the OFFSET DIMENSION.



Note: 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.

### MULLION ASSEMBLY (EXTERIOR SIDE UP):

A. **SILL JOINT:** At the sill, pull the blue release liner up off the jamb's foam tapes. Place a piece of foam tape on interior sill leg, over-lapping the foam tape coming down the jamb. Remove the release liner from foam tape. Then apply 3/8" thick bead of sealant 1.5" up and connecting the interior and exterior foam tape coming down the jamb. Then repeat these steps on the other door in the mulled combination.





- B. Completely remove release liner from all the foam tape.
- C. END JOINT, INTERMEDIATE JOINT, OFFSET JOINT on window side, or RADIUS JOINT:

Starting 1/4" from the frame edge, apply multiple 3/8" beads of sealant to achieve a 1" wide strip, connecting the interior and exterior tape, stop 1/4" from the other frame edge as shown. Apply sealant in the same pattern on the other unit in the mulled combination.



**OFFSET JOINT on door side:** The applied sealant starts up from the door sill at OFFSET DIMENSION and continues 1" wide towards the head of the door. **Starting 1/4" from the frame edge,** apply multiple 3/8" beads of sealant to achieve a 1" wide strip, connecting the interior and exterior tape, stop 1/4" from the other frame edge as shown.



### 2-WAY UNIT (STRUCTURAL MULLION)

**Apply sealant to both ends of the unit** per its joint type. Then apply sealant in the same pattern on the other unit in the mulled combination.

Note: Foam tape pressed on and sealant applied. Window frame shown, but also applies to doors.



D. Align the aluminum structural mullion as instructed in "Verify by Dry Fitting". Place the legs on the side of the bar into the fin groove on the side of the frame. Press the bar into the foam tape.

Caution: Aluminum structural mullion must be correctly located before pressing into foam tape as the adhesion will limit adjustment.





### E. SILL JOINT - No End Anchor (5" TO 5"):

Apply sealant by tracing the aluminum structural mullion profile.Insert 1st exterior foam plug over the end of the aluminum structural mullion.Apply small amount of sealant to the 1st plug and add a 2nd exterior foam plug.Insert 1 interior foam plug.



Cover the foam plugs with sealant.

**Press the sill splice into the sealant** and align sill splice profile with the sill profile. With profiles aligned, press the sill splice into the foam tape on the side of the door sill.

Remove the interior most sill screw from both doors.

Insert the sill splice key and then drive the screw back into the sill and tighten.



In the following steps, assemble all Lower units (i.e., L1 to L2) and Upper units (i.e., U1 to U2) first. Then mull the Upper combination to the Lower combination.

F. Slide the second unit of the assembly against the aluminum structural mullion bar, making sure to align the unit's frames. The legs on the side of the aluminum bar must align with the fin groove on the side of the frame.

Note: For <u>SILL JOINT</u>, the sill splice key also needs to slide into mating door's sill.

**Press the units together.** Use clamps (do not overtighten) to draw the units together and compress the mullion joint.

**To ensure adhesion to foam tape,** loosen clamp and move it across the length of the mullion joint, tightening the clamp about every 12"-18".



For Special Shape Transom Mulls that required the installation fin to be pre-installed in the door jamb, trim the jambs installation fin so it has 1/16" clearance with the transom installation fin.

## Note: The installation fin clearance is so it can be bent out of the way when installing the foam and end anchored detailed in later steps.



### G. **<u>SILL JOINT:</u>** No End Anchor (5" TO 5"):

**Clamp near the sill.** Use clamps (do not overtighten) to draw the units together and compress the mullion joint. **Replace the interior sill screw** on the second unit.

Apply sealant on each side of sill splice 2" long, filling the 3 grooves on the sill.

While holding the sill splice in plane with the two door sills, tape over the sealants.



Insert second interior sill screw

## Note: Apply these instructions as applicable in the following steps by joint type. 1" mullion has 2 slots. End anchor tab to be inserted in the slot closest to the frame joint.

**If structural mullion contains steel, for 1" mullion,** use a large screwdriver to bend the tab in the center of the structural mullion on the side of the extrusion opposite where the end anchor will be installed to keep structural steel bar from sliding out of the assembly during handling. End anchor can be used to set depth of structural steel bar in the structural mullion. Fill the ends with sealant to prevent the steel from rattling in the assembly.





H. **INTERMEDIATE JOINT:** No End Anchor (3.25" TO 3.25", 5" TO 5"):

**Insert 1 exterior foam plug** over the end of mullion bar. For 5" frames, insert 1 interior foam plug.

**Fully cover the foam plugs with sealant.** Sealant must fully fill cavity between foam plug and ends of frame. Cover exterior side of foam plug with sealant.

Intermediate Joint - No End Anchor





When joining additional units into a 3-way or 4-way joint, apply sealant as shown. On the exterior side of the INTERMEDIATE JOINT, apply a 3/8" bead of sealant 4" long centered on the mullion joint.

Note. This step should be done after completing the Intermediate Mullion and just prior mulling the transom or transom composite to the doors.



I. **END JOINT:** No End Anchor (5" to 5" and block frame installed):

Insert 1 exterior foam plug over the end of mullion bar.

Insert 1 interior foam plug over the end of mullion bar.

**Fully cover the foam plugs with sealant.** Sealant must fully fill cavity between foam plug and ends of frame. Cover exterior side of foam plug with sealant.



### J. END JOINT or RADIUS JOINT: With End Anchor (5" to 3.25", 5" to 5"):

Insert end anchor through the slot in the foam plug. Add sealant between the foam and end anchor as shown.

**Install into the end of the structural mullion,** working the foam plug into the joint and tight to the structural mullion. If applicable, bend the installation fin out of the way. For 5" to 5" frames, insert 1 interior foam plug.

### Note: 5" to 3.25" frames will get an interior foam plug, but not until after the interior mull cover is installed.

**Fully cover the foam plugs with sealant.** Sealant must fully fill cavity between foam plug and ends of frame. Cover exterior side of foam plug with sealant.

Press the end anchor down tight to the frame and attach with (2) #6 x 3/4" screws.

Note: For 3.25" to 3.25" joints follow the instructions that come with their field mull kit.



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### K. OFFSET JOINT: With End Anchor (5" to 3.25"):

Insert end anchor through the slot in the foam plug. Add sealant between the foam and end anchor as shown.

Install into the end of the structural mullion, if applicable bending the installation fin out of the way. Work the foam plug into the joint and tight to the structural mullion.

### Note: The interior foam plug is not inserted until after the interior mull cover is installed.

**Fully cover the foam plugs with sealant.** Sealant must fully fill cavity between foam plug and ends of frame. Cover exterior side of foam plug with sealant.

**Press the end anchor down** tight to the frame and attach with (2) #6 x ¾" screws.

For Fin Install: Cut to length and notch the installation fin for the bottom of the window.

- Fin Length = Window Frame Width + 1-1/4" + (1/2" or 1" Spread)
- Insert the installation fin at the bottom of the window, overlapping for watershed.



### L. END JOINT, INTERMEDIATE JOINT, OFFSET JOINT, or RADIUS JOINT:

**Insert end splice** on the exterior of the frame. Press end splice down into the sealant and align to edges of the frame. **Run a 4" to 6" long bead of sealant down the exterior accessory grooves** and ensure the exterior of the end splice is covered on both ends with sealant.



M. Use sealant to completely fill in at the 3-way or 4-way joint where the units come together.



Note: Verify the mull cover length before installing. The mull covers are difficult to remove. They need to be flush to just short of the Accessory Groove.

N. The mullion covers are cut to size from the factory. Verify the length by laying the cover on the mull joint. The cover should align with the Accessory Groove or with the Door Sill as shown. Cut covers to length if necessary.



O. **Install the exterior mullion cover into the accessory groove of both units.** Align one end of the mullion cover with 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 slowing along the length of the cover using the hammer and wood block until the cover 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.

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	-

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

P. **END JOINT, RADIUS JOINT:** Run a 1/4" diameter bead of sealant through the exterior frame groove approximately 4" on either side of mull joint.



### Q. END JOINT:

**Apply exterior mullion reinforcement plate.** Arrows on small mullion reinforcement plate indicate center of part. Align part such that it is approximately centered on the mull joint. Press small mullion reinforcement plate into the sealant.

Attach using (4) #6 x 1/2" screws.



### R. RADIUS JOINT:

**Pre-bend the mullion plate** to conform to the shape of each side of the curved-top unit.

**Apply exterior mullion reinforcement plate.** Arrows on small mullion reinforcement plate indicate center of part. Align part such that it is approximately centered on the mull joint. Press small mullion reinforcement plate into the sealant.

Attach to the door using (2) #6 x 1/2" screws.

**Attach to the curved unit** by pilot drilling #20 (0.161") holes and using (2) 5/32" diameter x 7/16" aluminum peel type rivets.



(5" to 3.25" Block Frame End Anchor Shown)

## **3** INSTALLATION NAIL FIN PREP (EXTERIOR SIDE UP):

- A. Measure and cut the installation fins for each jamb and the head of the combination.
  - Horizontal Length = Combination Width + 2-1/2"
  - Vertical Length = Combination Height + 1"

 Vertical Window Beside Length = Window Height + 2-1/2"

Where two fins meet at a combination corner, trim 1-1/2" off the end of the fin to form a notch as shown. DO NOT notch sill end of installation fin going into door jamb. Fins can be spliced if they are not long enough. Splice fins at the mullion joint.



B. Fins are to be installed in a watershed pattern with the top fins overlapping the side fins. If splicing, insert the nontrimmed 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. Install the fins around the perimeter of the combination.



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



C. Using one of the primer application methods covered, apply primer at each corner to the edge of the frame on top of the fin 2" each direction.

Note: Allow primer to flash dry 2 minutes before moving to next step to apply sealant.



# **3** INSTALLATION NAIL FIN PREP (EXTERIOR SIDE UP) (CONTINUED):

D. 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.







E. **At each corner**, apply a fin corner over the overlapping fins.



### FLASHING TAPE APPLICATION OVER SPLICES (EXTERIOR SIDE UP):

A. **Fin Install:** At each end anchor; use a utility knife to notch the vinyl installation fin to expose installation holes in end anchor.

### END JOINT or RADIUS JOINT:

Apply a 3/8" bead of sealant 4" long on the exterior side of the fin, centered on the joint or spliced fin location.

### END JOINT or RADIUS JOINT:

Apply flashing tape over the plate and fin so the tape extends 2" beyond either side of the plate. Hold the tape back 1/2" from the exterior frame edge. Fold the tape over the fin and press firmly to adhere to the frame edge and the fin. Multiple pieces of tape may be applied to get onto the fin face with a watershed overlap.





### FLASHING TAPE APPLICATION OVER SPLICES (EXTERIOR SIDE UP) (CONTINUED):

### B. END JOINT or RADIUS JOINT:

For Units without nail fin: At each mullion joint apply a 4" bead of 1/4" diameter sealant, centered on the splice, installed after the mullion plate but prior the Pella tape.

**Apply flashing tape** over the plate and sealant bead so the tape extends 2" beyond either side of the plate. Hold the tape back ¼" from the frame edge. Press flashing firmly to adhere to the frame edge and plate.



### C. OFFSET JOINT:

For Fin Install (shown), Apply sealant at the end of the installation fin, 1/4" diameter bead x 2" long.

Apply flashing tape over the joint, wrapping up the window and door frames. Hold the tape back ¼" from the frame edge. Press flashing firmly to adhere to the frame.

**For Block Frame Install, Apply flashing tape** over the joint, wrapping up the door frame. Hold the tape back 1/4" from the frame edge. Press flashing firmly to adhere to the frame.







## **5** MULLION ASSEMBLY (INTERIOR SIDE UP):

- A. **Flip units over.** Turn the combination over so the interior side is up. Use care to make sure the products are held together as they are being turned over.
- B. Run a 4" to 6" long bead of sealant down both ends of the interior accessory grooves and ensure each foam plug is completely covered with sealant.
- C. **Install interior mull covers.** Ends of mull covers should be aligned to the inside of the frame accessory groove so accessory groove is not obstructed by the mull cover. Use a mallet and wood block to prevent denting the mull cover. Clean up any sealant squeeze out.

### D. END JOINT, OFFSET JOINT, or RADIUS JOINT (5" to 3.25"):

Insert 1 interior foam plug over the end of mullion bar.

Fully cover the interior foam plug with sealant.

Cover the sealant with flashing tape, trimming flush with interior offset mull cover.



E. **END JOINT:** No End Anchor (5" to 5" when block frame installed):

**Apply interior mullion reinforcement plate.** Align part such that it is approximately centered on the mull joint. Press mullion reinforcement plate into the sealant.

Attach using (4)  $\#6 \times \frac{1}{2}$ " screws.

Cover the plate with flashing tape, trimming flush with interior offset mull cover.



# 6 HEAD DRIP CAP INSTALLATION:

Note: Head drip cap required for Vertical Mullion Joints Ending Through the Head.

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

- A. Cut the head drip cap to the overall width of the combination. Verify the length by laying the cover on the mull joint. Dry fit the head drip cap 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.
- B. **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.

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



### Apply primer here

C. Apply sealant at the top of the exterior mullion joint to seal the space between the mullion cover and combinations frame head. 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 cap. Install the drip cap 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 cap and nailing fin to hold the cap in place while the sealant sets up.





EXTERIOR

6A

Head

Sealant at mullion joint and across the top of the combination

Sealant in corner across the top of the combination







# **6** HEAD DRIP CAP INSTALLATION (EXTERIOR SIDE UP) (CONTINUED):



- D. If there are no installation holes in the head drip cap, drill #20 (0.161") clearance holes 1/2" from the top edge, 4" from each end and 6" on center. These will be used for installation.
- E. Using the end anchor holes as a template, drill #20 (0.161") pilot holes through the head drip cap by drilling through each end anchor bracket holes.





