

# General Window Installation Instructions

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These recommendations are for general erection and installation procedures only. Refer to approved Shop Drawings for actual job conditions. For perimeter anchor types and spacing consult structural design professional. Verify caulking and sealants are compatible with substrates and application. Apply sealants per manufacturers' instructions.



## General Overview

### 1. General Notes

#### A. Check Material

1. Check material upon delivery for damage and discrepancies. Any visible damage must be noted on the freight bill at time of receipt. If a claim is required, the receiving party must process a claim with the freight carrier. If the delivery is by a Manko truck, any damage or variance in the quantity of window units or boxes must be reported to the Manko driver during the unloading process. Any concealed damage must be reported to Manko Window Systems Inc. within 3 business days.

#### B. Protection and Storage

1. Handle all material in a safe and careful manner.
2. Do not drag or drop material when handling.
3. Use dollies, carts or other appropriate devices to properly support windows during handling to avoid racking, bowing, twisting, bending or other types of damage to windows.
4. Store/Stack windows in the upright position with adequate separation to insure windows and hardware will not rub or scratch. Never store windows flat, or on their side.
5. Do not store windows on ground. Insure adequate ground separation with pallets, or other suitable planking materials.
6. Protect against the weather and other trades by using an appropriate well ventilated covering.
7. If windows, accessories, or packaging material get wet, immediately remove from contact with water soluble products (ie. cardboard, paper, etc.). Wash and dry effected areas and move to a dry location.

#### C. Cleaning Windows Units

1. Cement, plaster, terrazzo, alkaline, and acid based materials used to clean masonry are very harmful to finishes and should be removed with water and mild soap immediately; otherwise, permanent staining will occur. A spot test is recommended before any cleaning agent is used.



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2. For cleaning of anodized aluminum surfaces, refer to AAMA 609.1-85 Voluntary Guide Specification for Cleaning and Maintenance of Architectural Anodized Aluminum.
3. For cleaning of painted aluminum surfaces, refer to AAMA 610.79 Voluntary Guide Specification for Cleaning and Maintenance of Painted Aluminum Extrusions and Curtain Wall Panels.

## 2. **Construction Notes**

### A. **Reference Shop Drawings**

1. Check the shop drawings and installation instructions to become thoroughly familiar with the project. Job specific, Manko prepared, approved shop drawings take precedence over other literature, and include only project specific details. Manko does not recommend or endorse shop drawings or details drawn by others without Manko's specific consent and written review. These installation instructions are generic in nature and cover the most common conditions with minimal procedures and detail.

### B. **Check Openings**

1. Check opening conditions and verify that openings are in accordance with the contract documents and approved shop drawings. If not, notify the General Contractor of discrepancies in writing and resolve the situation before proceeding.

### C. **Plumb/Level/True**

1. All materials must be installed plumb, level, true, and in proper alignment. All products are to be installed maintaining maximum tolerances of 1/8" in 144" of length.

### D. **Aluminum Isolation**

1. Isolate aluminum that contacts masonry, steel, treated lumber, or other non-compatible material with a heavy coat of zinc chromate, plastic isolators, bituminous paint, or other approved bond breaking material.

### E. **Poured and Debridged or Thermal Strut Sections**

1. Do not drill. Punch, penetrate, or alter thermal break material in any manner.



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## **F. Fastening**

1. Fastening refers to any method of securing one part to another or to adjacent materials. Due to varying opening conditions, window configurations, design pressures, and methods of anchorage (subframe, "F" anchors, etc.), perimeter fasteners are not specified in these instructions. For anchor fastening, consult the project design professional.

## **G. Blocking and Shims**

1. All blocking and shims will be high strength plastic or non-corrosive materials. All blocking is by others. Blocking must be of sufficient size and shape to support the frame at all anchorage locations. The blocking must prevent the anchorage fasteners from bowing, racking, twisting, or distorting the window frames and accessories in any manner.

## **H. Sealants**

1. All caulking and sealants must be compatible with all materials they contact, including substrates and other caulking or sealants. Any caulking or sealant details shown, unless specifically called out to be by Manko, are by others. Manko will not assume any liability or responsibility for the selection, compatibility, or application of sealant, or caulking types not specifically furnished and applied by Manko. Consult the caulking or sealant supplier for recommendations relative to compatibility, adhesion, priming, tooling, shelf life, and joint design. It is the sole responsibility of the customer to perform all caulking and sealant adhesion and compatibility testing that is required by the caulking or sealant manufacturer of choice.

## **3. Building Codes**

Glass and glazing codes governing the design and use of products vary widely. Manko does not control the selection of product configurations, operating hardware, or glazing materials; therefore, we assume no responsibility in these areas. It is the responsibility of the owner, architect, and the installer to make these selections in strict conformity to all applicable codes.

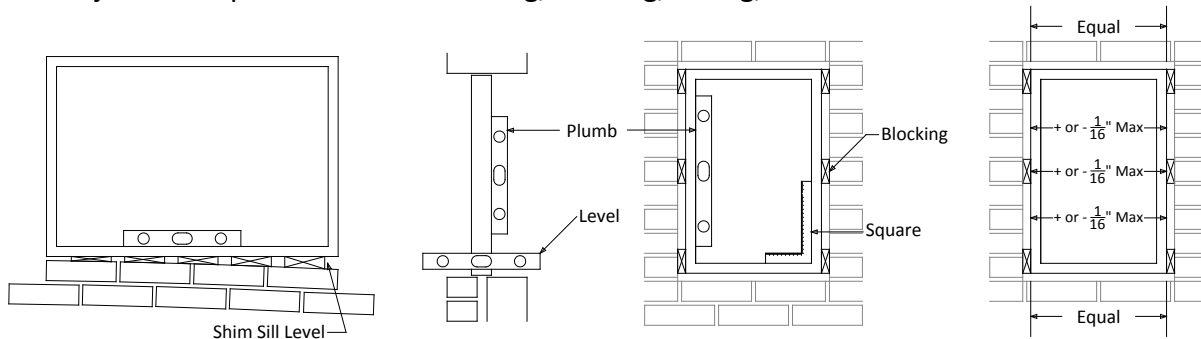
## **4. Window Installation**

- A. Check the opening for correct conditions and sizing as determined by the approved shop drawings and tolerances as listed in the architectural specifications.
- B. Establish the proper exterior plane of the window at the head, jambs, and sill. Consult approved shop drawings.



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- C.** Determine the highest point of the opening at the sill using string line, level, transit or other appropriate method. Shim the rest of the opening up to this point. Erect the frame plumb, level, square, and true. It is critical for proper window operation that the jambs are parallel without bowing, twisting, rolling, or other distortions.



- D.** Do not attach window treatments, ceiling supports, HVAC accessories, or any other items to window frames without written permission. Failure to comply will invalidate manufacturer's warranty.
- E.** Seal all perimeter joints between structure and window perimeters with a skinning, non-hardening type of caulking or sealant. Seal all window and window to accessory joints with compatible silicone sealant.
- F.** Seal all anchor heads at sill condition and within 6" of sill condition.

## 5. Perimeter Anchorage

- A.** Check the opening for correct conditions and sizing as determined by the approved shop drawings. Determine the appropriate size, type, and quantity of perimeter fasteners. Manko Window Systems Inc. does not furnish perimeter fasteners. All perimeter fasteners are by others.

Due to varying opening conditions, window configurations, design pressures, and methods of anchorage (subframe, snap trim, panning, anchors, etc.), perimeter fasteners are not specified in these instructions. For perimeter anchor type and spacing, refer to the project design professional. The design professional should analyze the anchorage system, and take into account the following information.

1. Frame dimensions and configuration of the as-installed window.
2. Material properties of the window frame.
3. Allowable tension, shear, and bending properties of the perimeter fastener.



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4. Design pressure.
5. Details of the surrounding condition for the head, sill, and jambs.
6. Relative building movement and window thermal movement.

- B.** Perimeter anchors should never penetrate a tubular shape or water tank at a window sill. Any penetration of the frame must be visible for sealing purposes. Absolutely no blind seals are allowed.
- C.** Blocking must be of sufficient size and shape to support the frame at all anchorage locations. The blocking must prevent the anchorage fasteners from bowing, racking, twisting, or distorting the window frames and accessories in any manner. Excessive shim heights could increase the prying tension and/or bending forces on the perimeter fasteners. Refer to the approved shop drawings and/or design professional for project specific applications.
- D.** After structural anchor installation, all framing must be made weather tight. Perimeter caulking and sealants are the responsibility of the erector/installer. Minimal caulking details are shown in these installation instructions as field conditions vary too much to anticipate actual requirements. Caulking and sealant details shown in these instructions are in no way to be considered sufficient. All details shown are referring to known critical locations and show the minimum amount of sealants that might be sufficient.

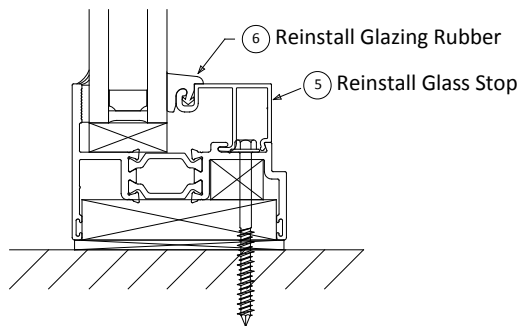
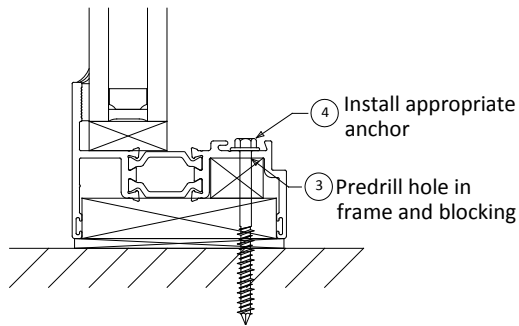
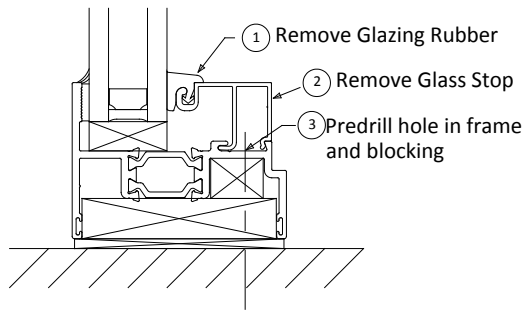
## **6. Operable Window Sections**

- A.** If operable sections are removed during installation, great care must be taken to ensure the sections are reinstalled into the same opening they were removed from. Readjust hinges, keepers, stops, balances, friction adjusters and all relevant hardware.
- B.** Upon completion of the window installation, all operating sections must be checked for proper alignment and operation. All hardware must be regularly cleaned and lubricated as per care and maintenance documents to maintain smooth operation over the lifetime of the window.



## Basic Installation Without Subframes or Panning

### 1. Installation of Fixed Windows with Removable Stops



1. Remove glazing rubber if top load removable push in type rubber is used. If other rubber type is used, then skip this step.

2. To remove the glass stop, apply pressure to the inside lower edge and apply pressure. While maintaining pressure, give a slight upward movement. If the stop is really tight, it may be necessary to insert a putty knife in the crevice between the stop and frame giving a slight twisting motion as pressure is applied to the stop. Care must be exercised to avoid damaging the glass stops. (Manko will not be held liable or accept responsibility for damage to the glass stop, window finish, or broken glass, which is a result of this type of installation.)

3. Drilling of frame and blocking by erector. Anchor spacing and hole size to be determine by project design professional.

4. Install appropriate anchor. Seal anchors heads to insure water tight anchor with compatible sealant.

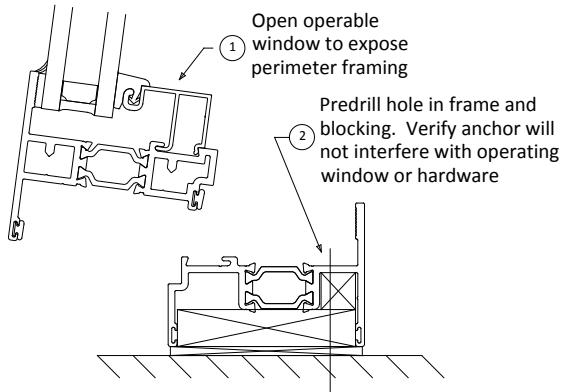
5. Reinstall glass stop. Field notching of glass stops may be required to clear fastener heads before reinstallation.

6. Reinstall top load glazing rubber (if applicable).



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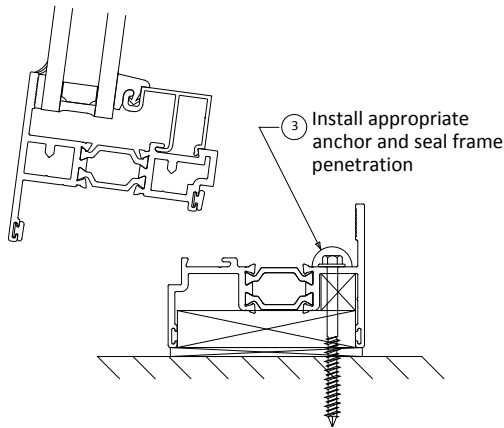
## 2. Installation of Operable Windows



1. Open operable section of window to expose perimeter framing.

2. Drilling of frame and blocking by erector. Anchor spacing and hole size to be as determined by project design professional.

3. Install appropriate anchor. Seal anchor heads with compatible sealant to insure water tightness.

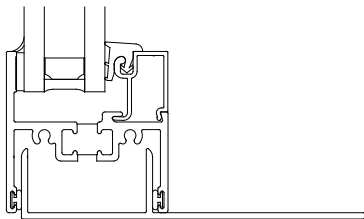




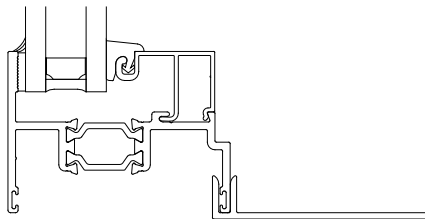
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## 3. Installation of Frames with "F" Anchor Clips

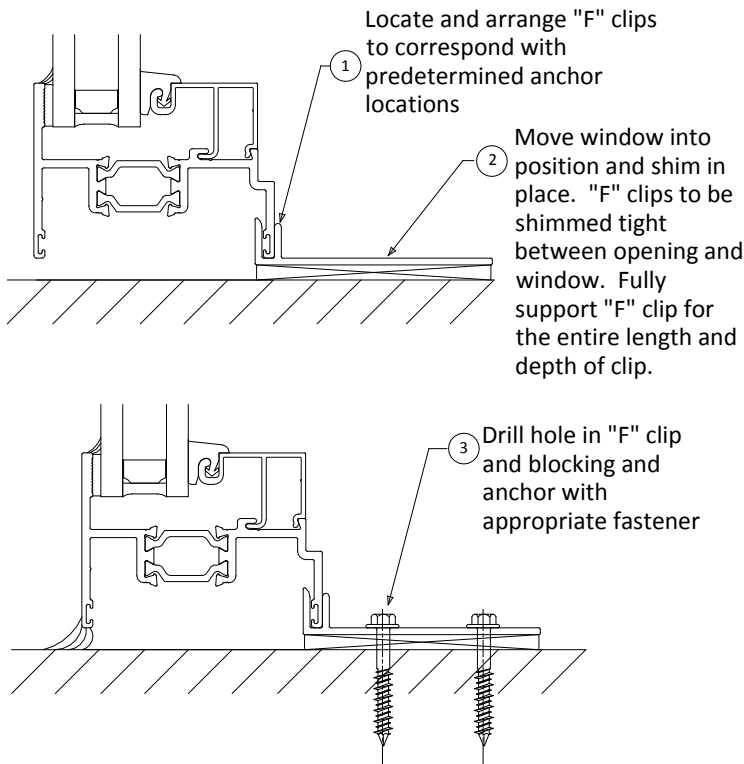
There are two separate styles of "F" anchor clips (see below elevation). Both styles are installed using the same installation and anchorage methods.



Full Depth "F" Anchor



Single Leg "F" Anchor



1. Locate and arrange "F" clips around window frame to correspond with anchor locations as predetermined by the project design professional.

2. Move window into opening and shim in place so that window is plumb, level, and square. Shim "F" clips so that they are fully supported for the entire width and depth of the clip.

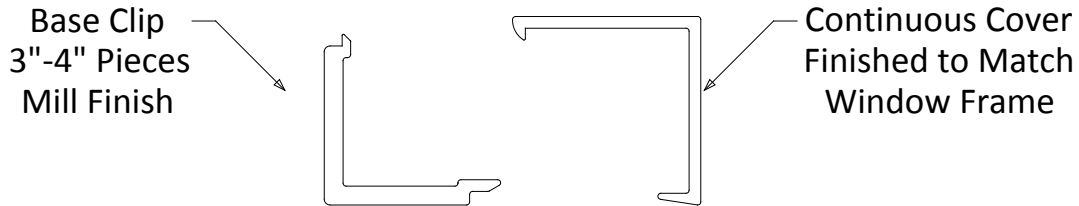
3. Drill hole in "F" clip and blocking and install anchors. Hole size, anchor size, anchor type, and anchor quantity as per the project design professional.



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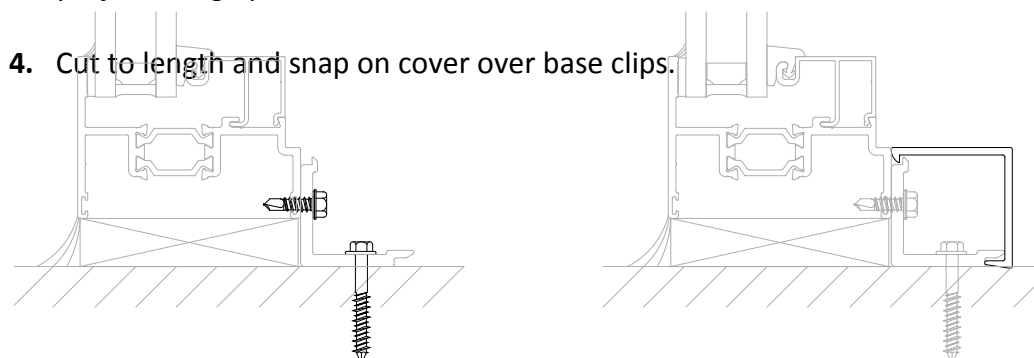
## 4. Installation of Frames with Interior 2-piece “Snap Trim Clip”

- A. Snap trim is made up of two pieces, the “Base”, and the “Cover”. The Base is typically Mill Aluminum with no finish and comes in pieces approximately 3” to 4” long. The Cover is continuous and finished to match the window.



- B. Move window into opening and shim in place so that window is plumb, level, and square. Install the interior base clips.  
(Please note that these base clips provide the structural support for the window unit. Each clip must be anchored to both the window and the substrate to hold the window in the opening.)

1. Start by drilling holes in base clip. Hole size and quantity as per the project design professional.
2. Attach base clips approximately 6” from each corner. Install anchors of the appropriate size and type as determined by the project design professional.
3. Install additional base clips and anchors on 16” centers, or as determined by the project design professional.



4. Cut to length and snap on cover over base clips.



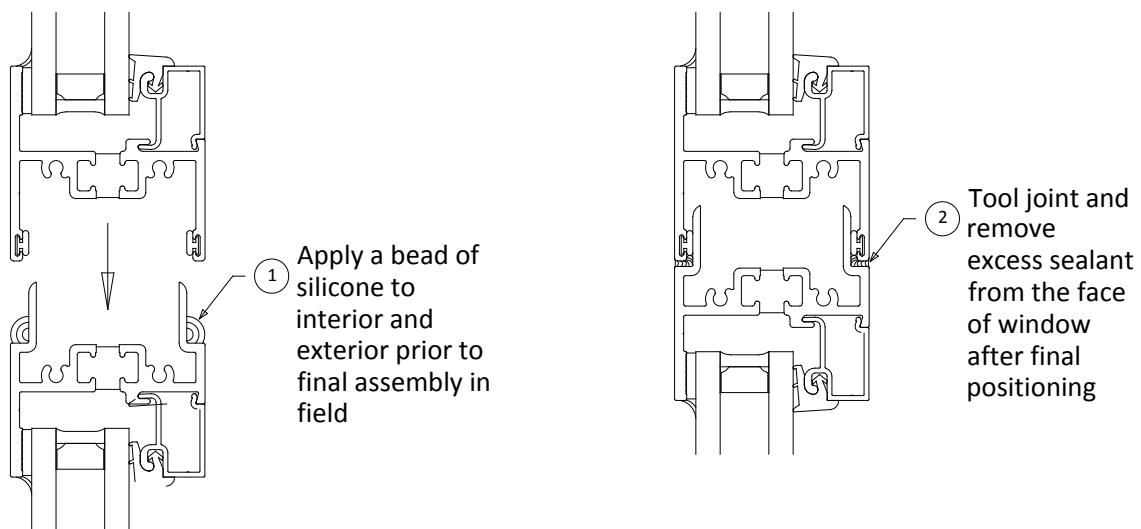
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## 5. Installation of Self Mulling Window System Mullions

In some instances this mulling technique will be used to accommodate thermal expansion. When used to accommodate thermal expansion, see approved shop drawings for clearance size requirements at mullions.

### A. Horizontally stacking mullions.



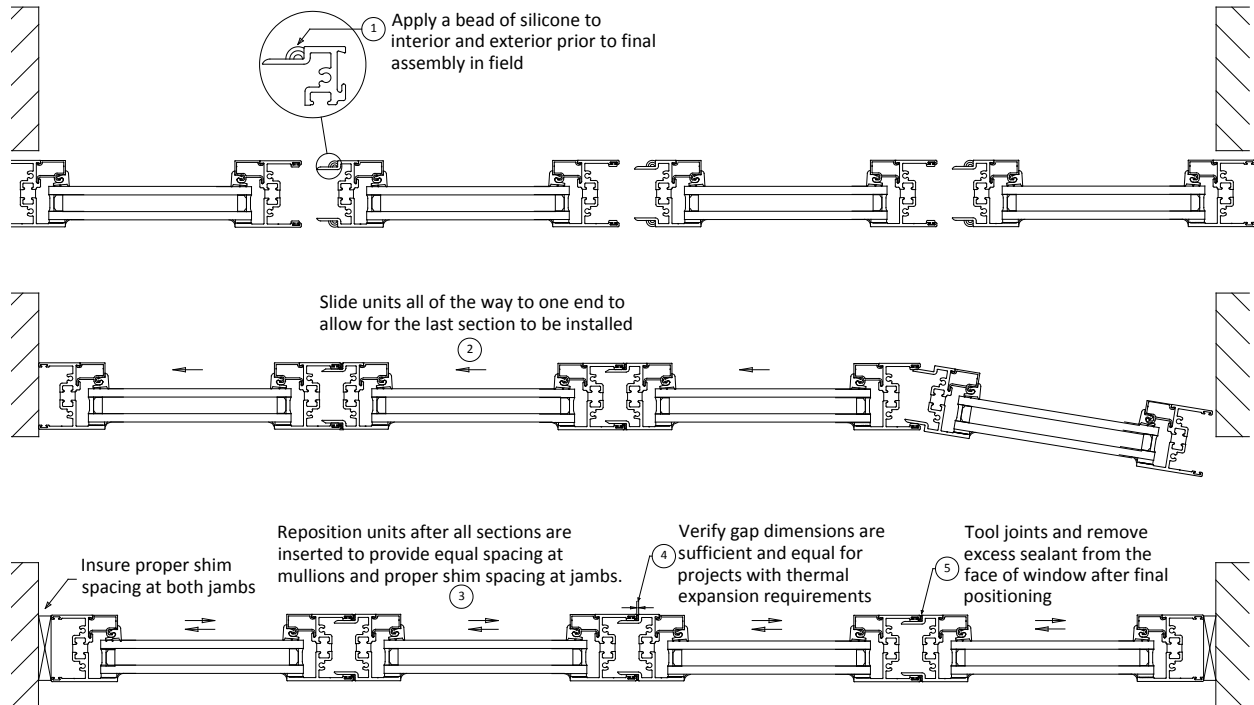
1. Apply silicone sealant to interior and exterior legs of male stack member before final assembly in field.
2. After final positioning of the window, tool joint and clean off excess sealant from windows. If the joint has voids, apply additional sealant until joint is completely filled.



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## B. Vertically stacking mullions (Side Stack).

If side stacking is utilized, it will be necessary to either stack the units together prior to placing them in the opening, or placing them in the opening and sliding all units to one side, allowing for the last unit to be installed as shown below.



1. Layout and align all frame sections horizontally. Apply silicone sealant to interior and exterior legs of male stack member before final assembly.
2. Insert sections into opening and slide all frames tight to one side to allow for last section to be inserted.
3. Reposition sections after they are all inserted into the opening, provide equal spacing at mullions and verify proper clearance for shims at jambs.
4. Verify gap dimensions at mullions are sufficient for thermal expansion requirements on job.

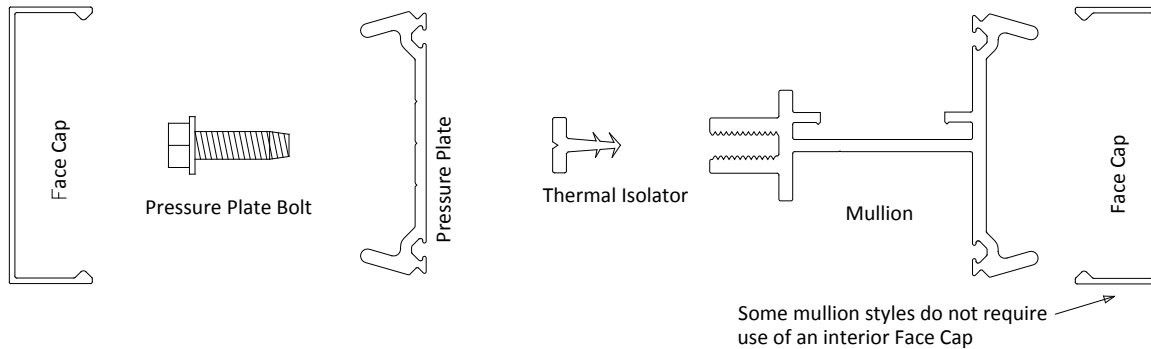


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5. After frames are in their final position, tool sealant at joints and clean off excess sealant from windows. If the joint has voids, apply additional sealant until joint is completely filled.

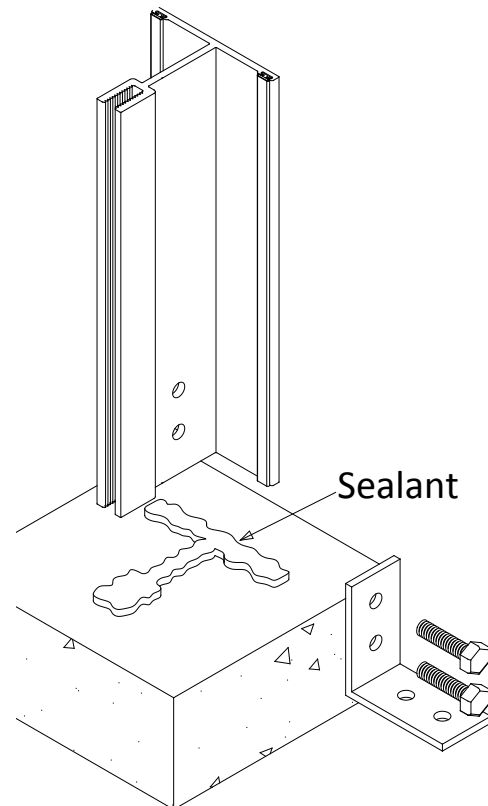
## 6. Installation of Structural/Auxillary/Multi Piece Mullion Systems

Typical Mullion Makeup



**A. Typical Installation of Mullions with no receptor or subsill.**

1. Locate correct center line location of Mullions.
2. Cut Mullions to the appropriate length.
3. Set Mullions into opening at appropriate location and plumb all Mullions.
4. Fasten Mullions into opening using two 2"x2"x.125 aluminum angles, or other anchor style and fasteners as determined by the project design professional.
5. Seal Mullion to substrate with compatible sealant at head and sill.
6. Install Windows into openings and install continuous Pressure Plate with Manko supplied bolts. Verify that a bolt is within 2" of Pressure

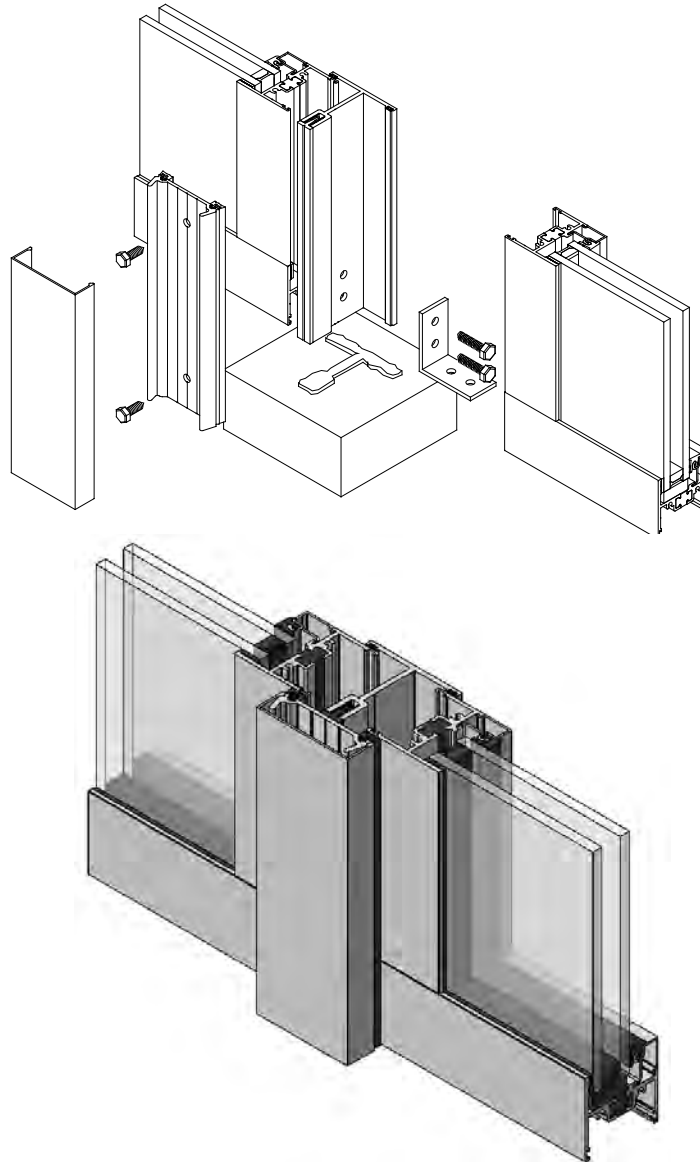


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Plate top and bottom. If not, drill additional hole in Pressure Plate and add bolts. Install bolts on minimum of 9" centers.

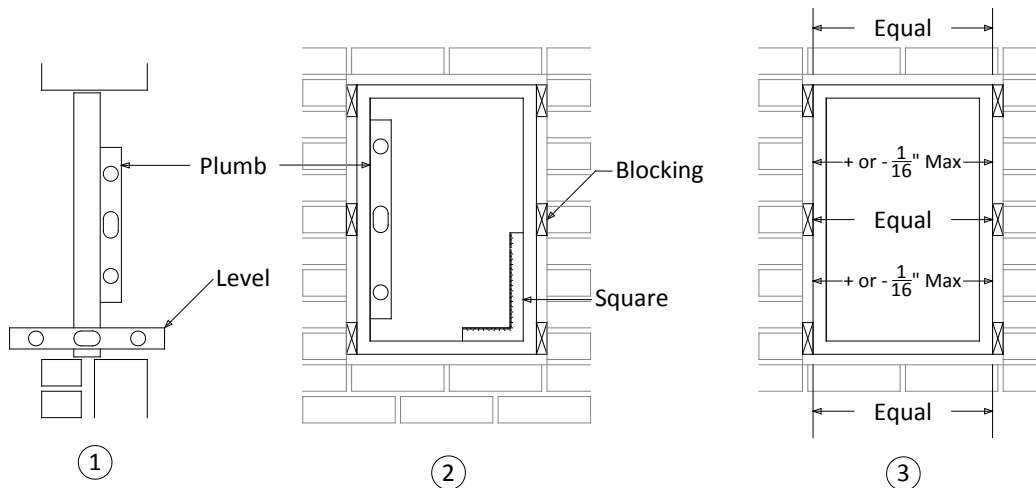
7. Seal Pressure Plate to substrate with compatible sealant at head and sill.
8. Snap on Face Caps and apply a cap bead between Window and Mullion, and Window and Pressure Plate using a compatible sealant.



# General Window Installation Instructions

## 7. Supplemental Instructions for Single and Double Hung Windows

- A. While loading, unloading, moving and handling Hung windows, it is critical that great care is taken to not “bow”, “twist”, “roll”, “spread”, or “distort” jambs in any fashion. Failure to do so may cause disengagement of the operating sash, or sash balances, and cause severe personal injury, and damage to the window.
- B. Operable Sash may be removed for easier and safer handling and installation of windows at the installer’s discretion. All sash removed must go back into the same frame from which it was removed.
- C. Erection and installation of Frames.
  - 1. Erect the frame plumb, level, square, and true. It is critical for proper window operation that the jambs are parallel without bowing, twisting, rolling, or other distortions.



- 2. All hung windows are to be blocked/shimmed and anchored at jamb midpoints to prevent the jambs from bowing, twisting, or distorting. Further block and anchor windows into opening as required to insure stability of window jambs. Under no circumstances should an anchor be used that is not backed up by blocking/shims. Use anchors as determined by the project design professional. Do not penetrate window sill with fasteners.



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3. Verify that window frame width dimension at the midpoint is equal to the window frame width dimension at head and sill. At no point should window frame width dimensions vary more than 1/16" from this dimension.

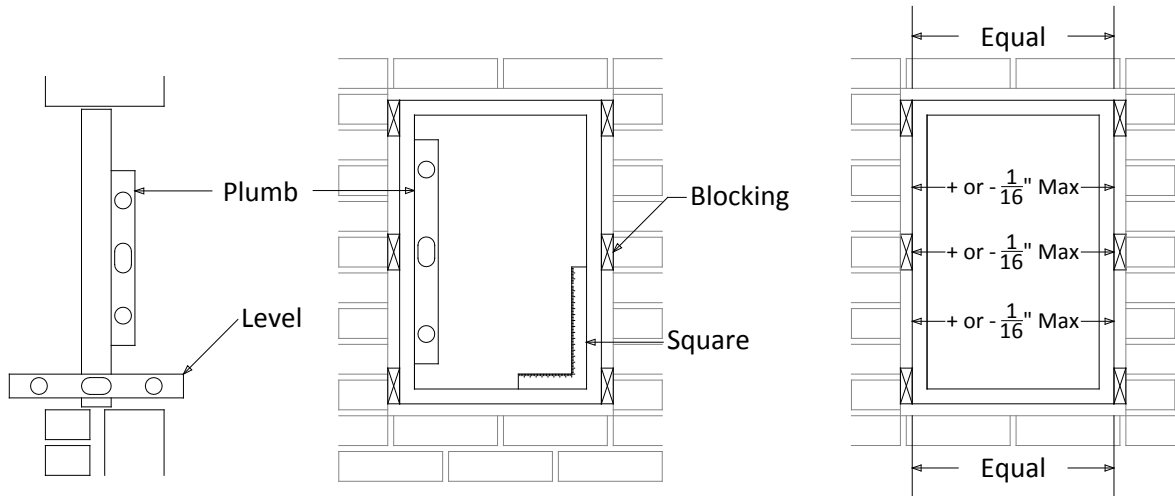
## 8. Supplemental Instructions for Casement Windows

- A. A casement window must be installed plumb, square, and secure for proper operation. All hinges must be securely blocked and anchored to the window opening or mullions through the hinge. Failure to do this could lead to improper sash alignment with air and water infiltration.
- B. Manko Window Systems Inc. strongly recommends all casement windows to be factory glazed.
- C. General Erection of casement windows
  1. Before installing the casement window, field drill through the window frame at the unused hole in the hinges for anchors.
  2. Set the window in position. Apply blocking at hinge locations and other anchorage locations to stabilize the frame in a plumb and level position. The weight of the vent must be supported during the installation process. Apply blocking prior to opening the vent. Opening the vent may cause the jambs to deflect or rack if they are not solidly blocked. Erect the frame plumb, level, square, and true. It is critical for proper window operation that the jambs are parallel without bowing, twisting, rolling, or other distortions.





# General Window Installation Instructions

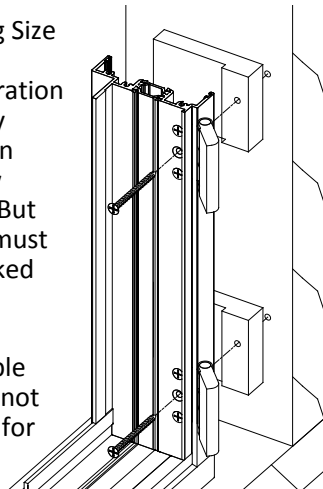


## D. Anchorage of casement windows in punched openings or terminal jamb conditions.

All Casement windows must be blocked or shimmed, and anchored through each butt hinge. Use the hole that was field drilled in step "C.1" for installation of anchor. Further anchor as required to prevent the frame from bowing, twisting, or distorting during operation. Anchor type and quantity as determined by project design professional. All frame penetrations must be sealed and made air and water tight with compatible sealant.

Blocking Size and configuration will vary based on window series. But hinges must be blocked solid.

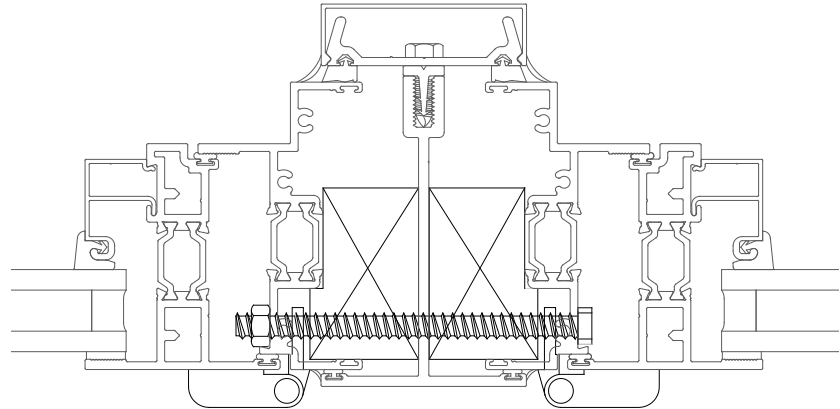
Operable sash is not shown for clarity



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## E. Anchorage of casement windows at structural mullion locations.

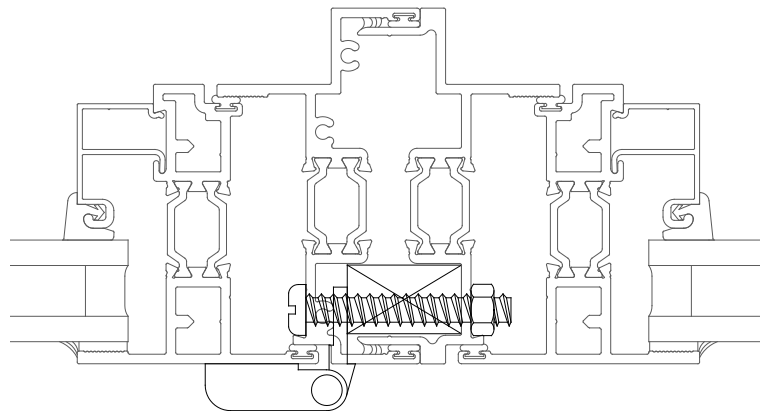
All casement windows must be blocked/shimmed and anchored through each butt hinge. Use the hole that was field drilled in step "C.1" for installation of anchor. Use  $\frac{1}{4}$ " (minimum)



Stainless Steel through bolt that penetrates both frame jamba and structural mullion. Further anchor as required to prevent the frame from bowing, twisting, or distorting during operation. Additional anchor type and quantity as determined by project design professional (if required). All frame penetrations must be sealed and made air and water tight with compatible sealant.

## F. Anchorage of casement windows at vertically stacking mullion locations.

All Casement windows must be blocked or shimmed, and anchored through each butt hinge. Use the hole that was field drilled in step "C.1" for installation of anchor. Use  $\frac{1}{4}$ " (minimum) Stainless Steel through bolt that penetrates both frame jamba.



Further anchor as required to prevent the frame from bowing, twisting, or distorting during operation. Additional anchor type and quantity as determined by project design professional (if required). All frame penetrations must be sealed and made air and water tight with compatible sealant.



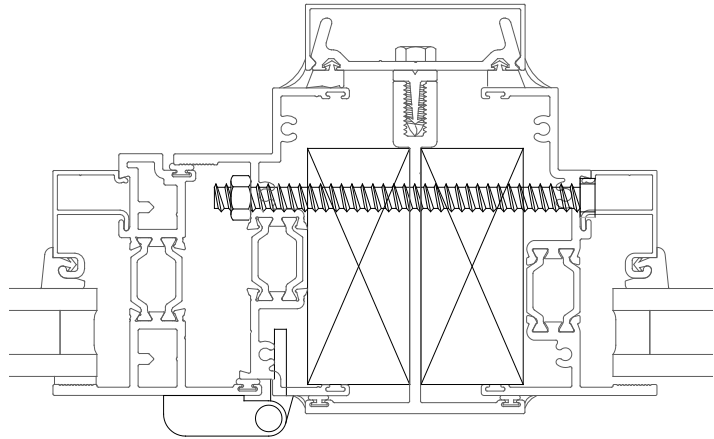
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### G. Anchorage of casement next to fixed lite at Structural mullion locations.

All Casement windows must be blocked or shimmed, and anchored next to each butt hinge as shown in picture.

Use ¼" (minimum) Stainless Steel through bolt that penetrates both frame jambs. Removal and notching of fixed lite glass stop to be done in field. Further anchor as required to prevent the frame from bowing, twisting, or

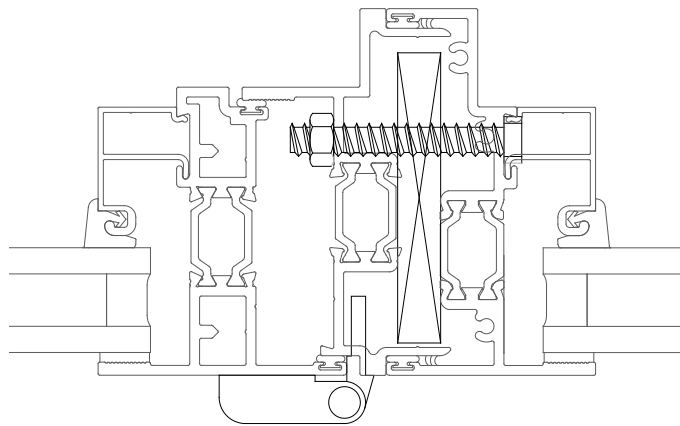
distorting during operation. Additional anchor type and quantity as determined by project design professional (if required). All frame penetrations must be sealed and made air and water tight with compatible sealant.



### F. Anchorage of casement next to fixed lite at vertically stacking mullion locations.

All Casement windows must be blocked or shimmed, and anchored next to each butt hinge as shown in picture. Use ¼" (minimum) Stainless Steel through bolt that penetrates both frame jambs. Removal and notching of fixed lite glass stop to be done in field.

Further anchor as required to prevent the frame from bowing, twisting, or distorting during operation. additional anchor type and quantity as determined by project design professional (if required). All frame penetrations must be sealed and made air and water tight with compatible sealant.

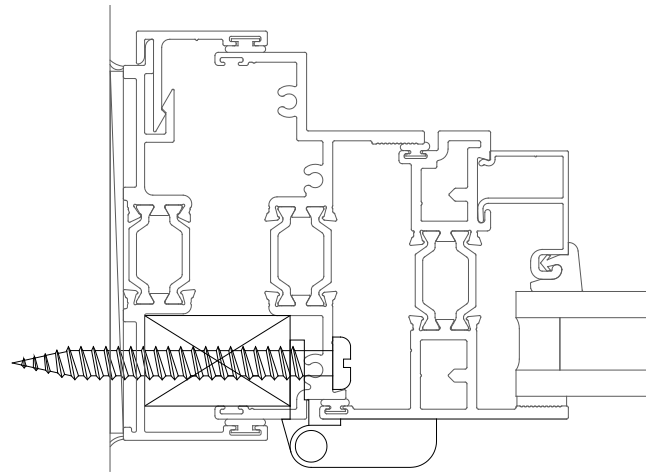


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### **G.** Anchorage of Casement window in two piece subframe condition.

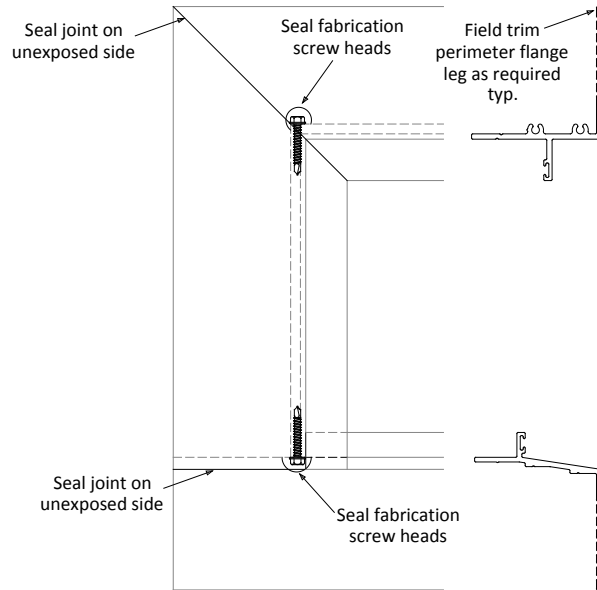
All Casement windows must be blocked or shimmed, and anchored through each butt hinge. Use the hole that was field drilled in step "C.1" for the installation of anchors. Anchors are to penetrate casement jamb, subframe, and be structurally anchored into substrate material. Further anchor as required to prevent the frame from bowing, twisting, or distorting during operation. Anchor type and quantity as determined by project design professional. All frame penetrations must be sealed and made air and water tight with compatible sealant.



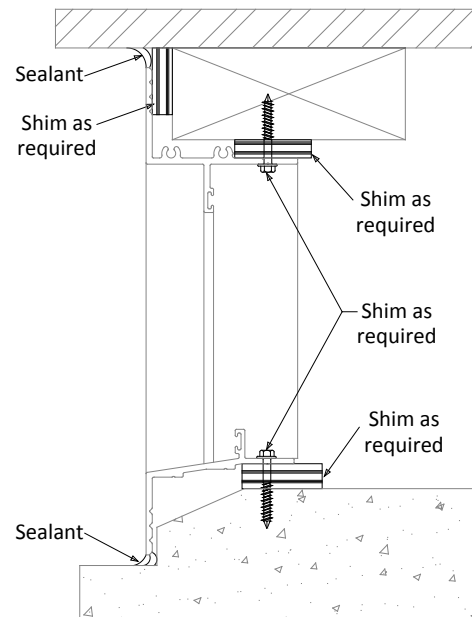
## Installation with Sub Frames or Panning Systems

### 1. General Installation with Panning Systems

- A.** Typical panning material is shipped factory prepped and cut to size to fit the window dimensions. The perimeter flange of the panning is to be field trimmed to fit the exterior opening as field verified. Final assembly of panning frame is to be done in the field with factory supplied screws. Use a compatible sealant to cover all screw heads and all panning frame joints on the unexposed side.



- B.** Installation of Panning
1. Pull the panning frame into the opening from the exterior. Make sure the interior trim will cover all exposed interior perimeter conditions before anchoring the panning.
  2. Erect the entire panning perimeter square, plumb, and level into the opening.
  3. Anchor the panning frame into the opening using anchors and spacing as determined by the project design professional.
  4. Caulk the perimeter of the panning frame to the surrounding substrate using a compatible sealant.



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## C. Installation of window into panning.

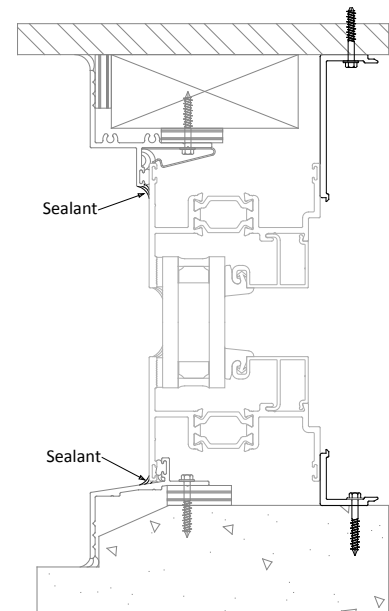
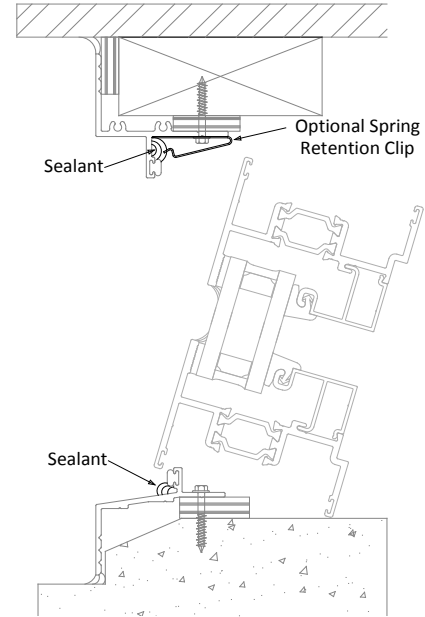
1. Back bed with a compatible sealant behind the vinyl gasketing in the panning frame before insertion of the window. The vinyl gasketing in the panning is not a sufficient seal.

2. Set the exterior sill leg of the window over the fin on the sill of the panning frame. Then rotate the frame up against the fins at the head and jambs. Then push the window head and jamb in against the panning head and jamb.

3. If utilizing the optional spring clips, make sure that the window head and jamb legs snap-in securely behind the spring clips. This is extremely important! The window must be pushed tight against the panning for the clips to snap-in.

4. Install the interior trim clips. Start by attaching the first clip approximately 6" from each corner, then every 16" on center around the entire window perimeter. Anchor the clips to the substrate first. Anchor type, quantity, and sizing as determined by the project design professional. Anchor spacing may be modified to accommodate specific job requirements as determined by the project design professional.

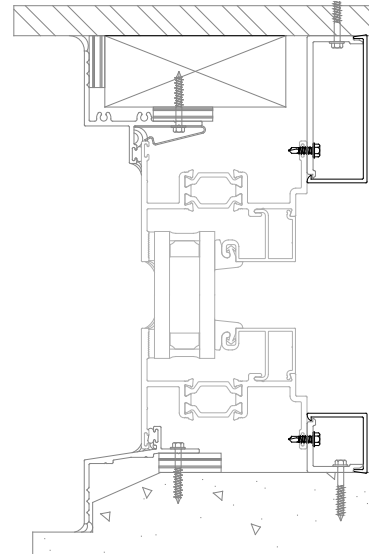
5. Apply a cap bead of a compatible sealant between the window frame and the panning. The vinyl gasketing in the panning is not a sufficient seal. Also note that the back bedded sealant from step #1 is a blind seal and is also not a sufficient weatherseal.



# General Window Installation Instructions

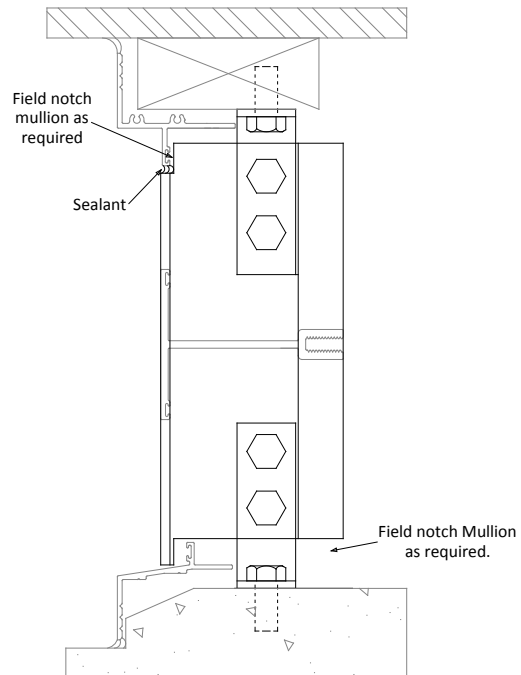
- The interior trim clips provide the structural support for the window unit. Each clip must be attached to both the window, and the substrate condition to hold the window in the opening. Use two #8-18 X 9/16 PH-SMS 18-8 TEK screws (or equal) per clip unless instructed otherwise by the factory or the project design professional.

- Interior trim covers will need to be cut to size in the field. Horizontal interior trim covers run through unless noted otherwise. To install, first measure the interior horizontal opening width and cut the horizontal trim covers accordingly, then snap-in place. Measure between the horizontal trim covers, then cut the vertical trim covers to the proper length. Snap the vertical trim covers into place.



## D. Installation of 3-piece/structural mullions in openings with panning.

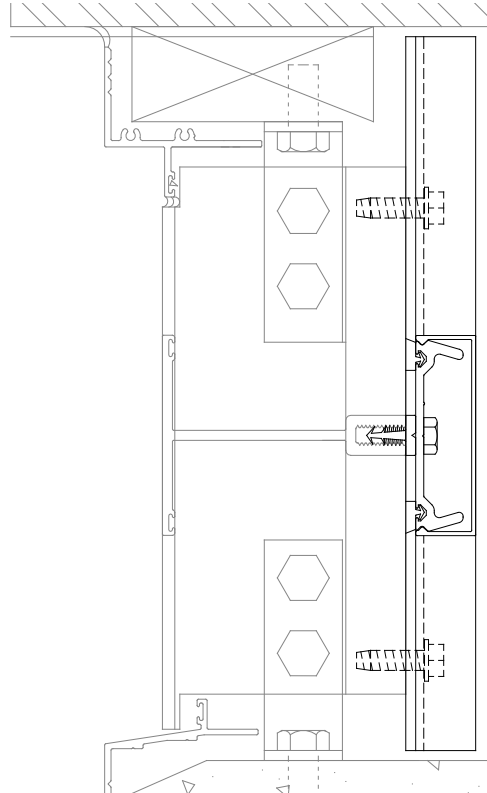
- Install mullions after installing panning frame as described in the previous section. But prior to installing window frames.
- Locate appropriate mullion locations.
- Notch mullions as per field conditions so that mullions fit into the panning as shown here.
- Set the mullions into the panning frame. Plumb the mullion to the opening. Fasten the mullion to the opening using "L" brackets or other appropriate attachment accessory. Anchor brackets to mullion and substrate using anchors and brackets as determined by the project design professional. Note that mullions must be anchored to the substrate. Anchoring to the panning system or "floating" mullions in the openings are not an acceptable anchorage method.



## General Window Installation Instructions

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5. Apply a bead of compatible sealant between the mullion top and the panning fin at the head intersection.
6. Install Windows into panning/mullion openings and install snap trim base clip as per general panning installation instructions.
7. Install continuous interior pressure plate with Manko supplied bolts. Verify that a bolt is within 2" of mullion top and bottom. If not, drill additional hole in pressure plate and add bolts. Install bolts on minimum of 9" centers.
8. Snap on pressure plate face cap and apply a cap bead of sealant between window and mullion, and window and pressure plate using a compatible sealant.
9. Cut and install interior snap trim cover as per installation instructions stated in general panning installation instructions. Note that varying sizes and styles of pressure plate caps and snap trim covers may require notching to interface. Properly. Notching of pressure plate cover and snap trim cover is to be field cut as conditions require.





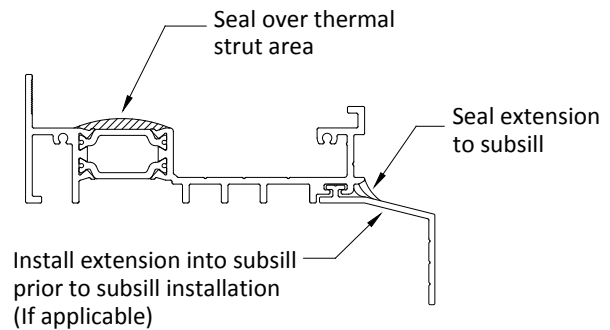
# General Window Installation Instructions

## 2. Subframe Preparation and Installation

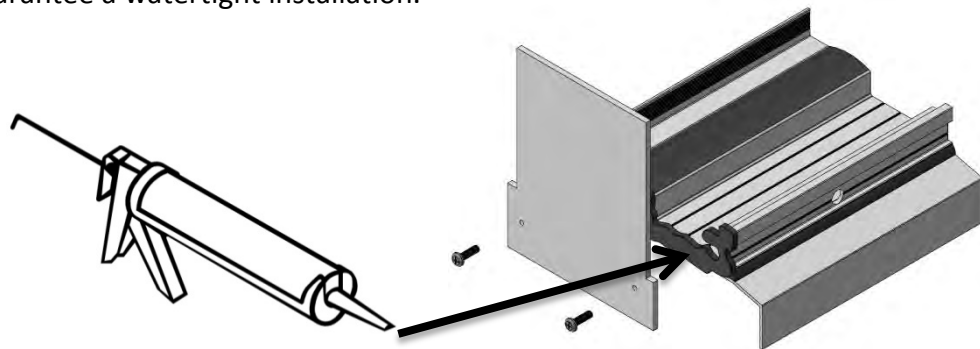
### A. Preparation prior to installation.

1. Measure the opening width and cut subsill to opening width minus 1/2".
2. Apply compatible sealant over the thermal strut area.
3. If subsill receives an extension.

- b. Cut the extension to the same width as the subsill.
- c. Check existing conditions and shop drawings for any required trimming, or notching of extension, and modify as required.



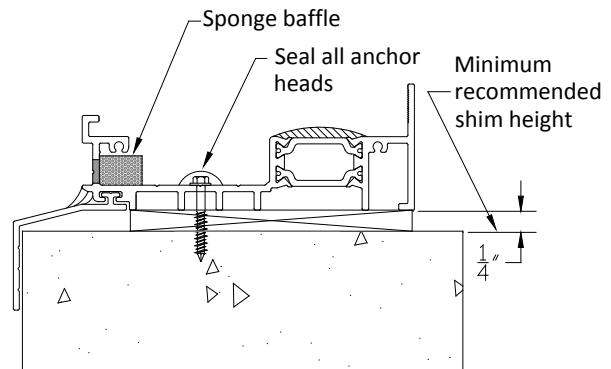
- d. Slide the extension into the subsill and flush ends.
  - e. Seal extension to the subsill as shown using a compatible sealant. Care must be taken to support the extension until the sealant has cured.
4. Field drill 5/16" (or 3/8") diameter weep holes into subsill as shown. Weep holes are to be drilled 6" from each end, and at each mullion (structural mulling and self mulling) location. However, weep hole spacing should not exceed 60" on center. Drilling of weep holes may also be performed after installation of subsill.
  5. Apply compatible sealant to the end profile of the subsill and attach end dam with the furnished screws. Tool excess sealant, or add sealant as required to guarantee a watertight installation.



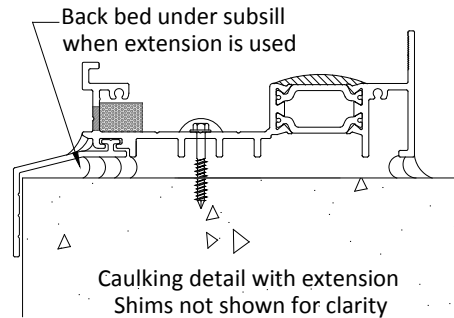
# General Window Installation Instructions

## B. Installation of subsill.

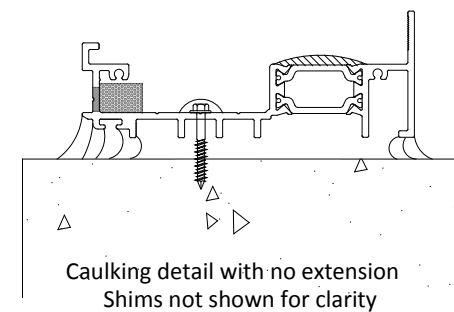
1. Locate and test fit the prepped subsill (and extension if applicable). Make sure that the opening conditions allow for a level and true installation.
2. If sill extension is used, backbed as shown prior to installation of subsill. Shim subsill level and true up  $\frac{1}{4}$ " from opening. Not shimming subsill up from substrate can severely degrade thermal performance of window.



3. Locate and drill for perimeter anchors. Anchor type and spacing as per the project design professional.
4. Seal and tool all anchor heads watertight with a compatible sealant.
5. Insert foam baffles at previously drilled weep holes.



6. Remove all debris from subsill and allow sealant to set up. Temporarily block off the weep holes on the exterior. Fill subsill with water and inspect for leaks. If leaks are observed, drain, repair leak, and repeat the test. Once the subsill is watertight, remove plugs and allow to drain normally. Verify that the subsill does not retain water due to not being level, plumb, or any other reason. A properly installed subsill that is sealed and draining properly is critical to overall window performance.



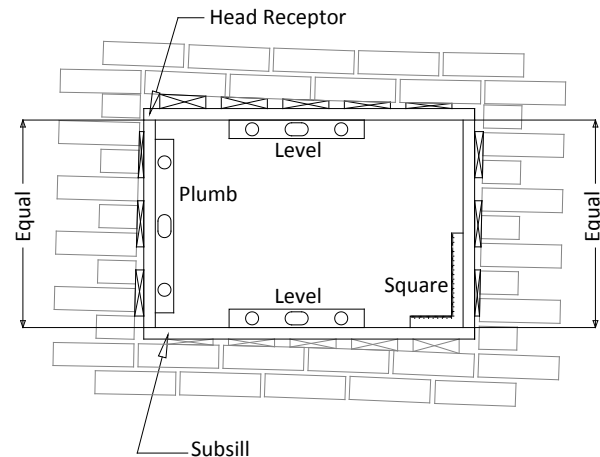
7. Seal interior and exterior of subsill as shown, or as field conditions warrant to guarantee a watertight seal.



# General Window Installation Instructions

## B. Installation of head receptor.

1. Square cut head receptor to the same length as subsill.
2. Shim head receptor level and true down  $\frac{1}{4}$ " from opening. Not shimming head receptor from substrate can severely degrade thermal performance of window. Head receptor should be plumb and parallel to the subsill.

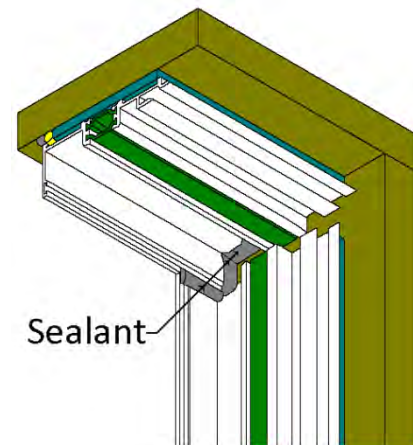


3. Locate and drill for perimeter anchors. Anchor type and spacing as per the project design professional.
4. Seal and tool all anchor heads watertight with a compatible sealant.

## C. Installation of jamb receptor.

1. Square cut jamb receptor to appropriate length.
2. Shim jamb receptor from substrate plumb, square, and true from substrate. Not shimming jamb receptor from substrate can severely degrade thermal performance of window. Head receptor and subsill should be square, and plumb with jamb receptor.

3. Locate and drill for perimeter anchors. Anchor type and spacing as per the project design professional.
4. Seal and tool all anchor heads watertight with a compatible sealant.
5. Apply sealant at butt joint where jamb and head receptor meet. Continue the sealant into the void between the head receptor and the substrate.



6. If there is a wall cavity in the void area between head and jamb receptor, then seal this area with silicone sheet, large joint sealant, or similar materials.



# General Window Installation Instructions

Failure to do this could cause air infiltration and serious reduction in thermal performance of system.

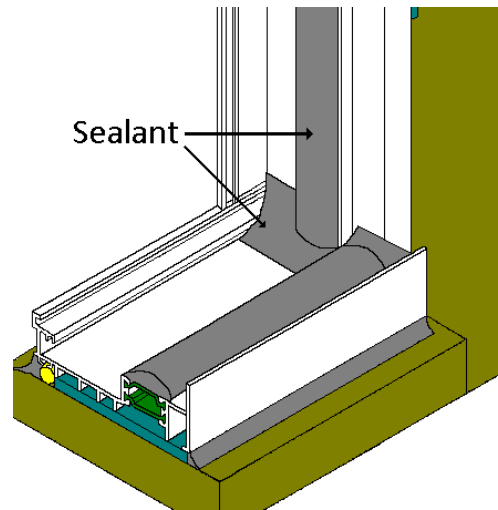
**7.** Where jamb receptor terminates at sill, apply sealant and cover entire void between subsill, end dam, and jamb receptor.

**8.** Seal thermal barrier on jamb receptor with sealant up a minimum of 6" from where jamb receptor terminates at sill.

**9.** Apply sealant between receptor and substrate and head and jambs. Verify compatibility of sealant and substrate. Priming of substrate may be required.

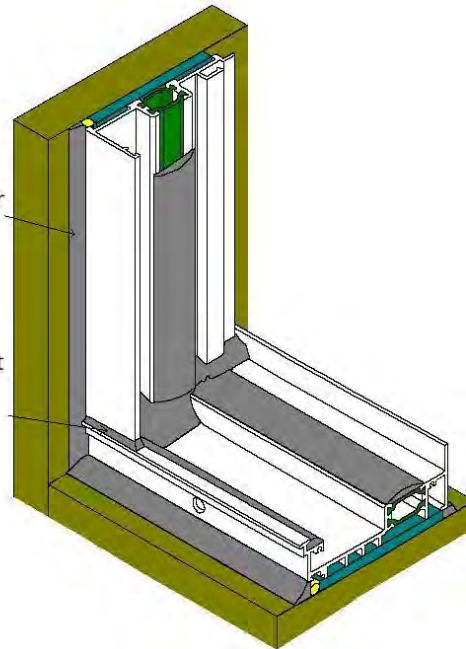
**10.** Seal butt joint where jamb receptor terminates at subsill. Tool this seal at both interior and exterior.

**11.** Verify that all sealant joints are watertight.



Continuous sealant bead between receptor and substrate at head and jambs

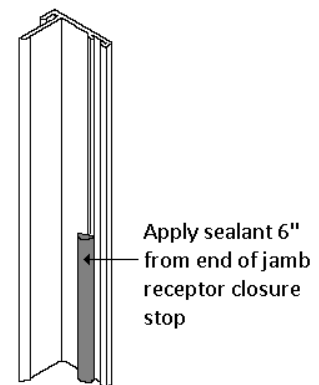
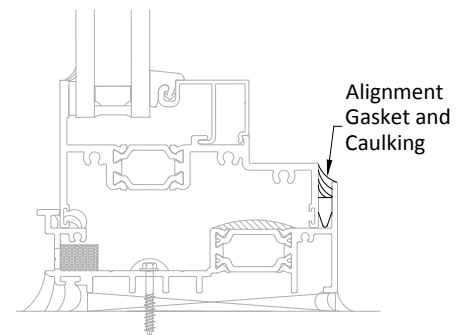
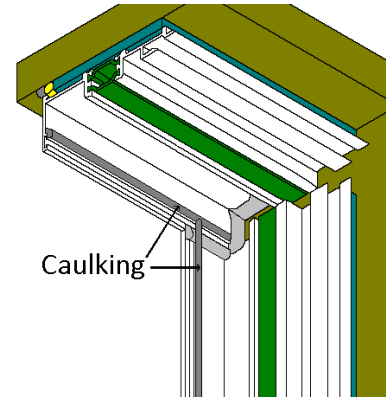
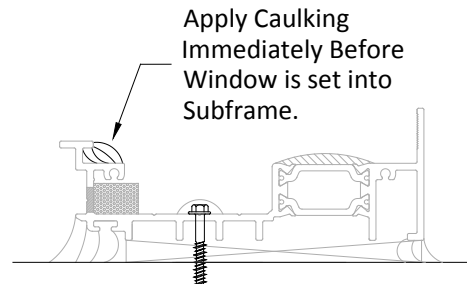
Apply and tool sealant at butt joint between jamb receptor and subsill



# General Window Installation Instructions

## D. Installation of window.

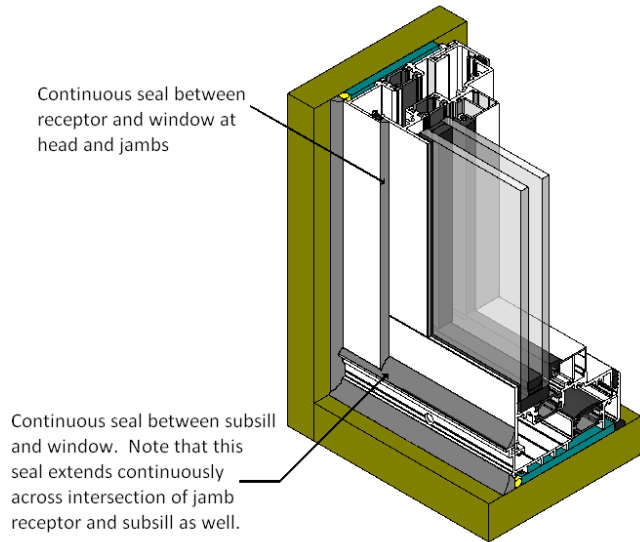
1. Immediately before the window is set into the subframe, run a bead of compatible sealant along the subsill where the exterior leg of the window will set. If step E.1 is to be omitted, special attention to steps D.1 and D.2 becomes critical. It is the installers' responsibility to verify that the window has been installed in a secure and weathertight manner.
2. Immediately following step one, but before the window is set into the subframe, run a bead of compatible sealant behind the gasket on the leg of the head and jamb receptor. Verify that this bead is taller than the gasket.
3. Insert the window into the subframe, being careful to avoid destroying the continuity of the sealant lines that were just created.
4. Square up window in subframing. Shim and anchor the window as required by window type and configuration. Windows are not meant to "float free" in subframing. (see supplemental instructions)
5. Cut and install the head receptor closure stop.
6. Push in alignment gasket between window and interior leg of subsill. Square up window in subframing. Shim and anchor the window as required by window type and configuration. Windows are not meant to "float free" in opening.
7. Seal and tool over alignment gasket. Join this seal to the seal that is joining jamb receptor and subsill.
8. Immediately before applying jamb receptor closure stops, apply a bead of sealant into jamb receptor receiver up at least 6" from bottom where closure stop snaps in.
9. Apply a bead of sealant behind gasket on closure stop up 6" from bottom.
10. Snap in closure stops at jamb receptors.



# General Window Installation Instructions

## E. Final caulking of opening.

1. Once window is installed into subframe, caulk entire exterior of system so that it is air and watertight. If field conditions do not allow reasonable access to exterior of window after installation into subframe, it is acceptable to omit this step. However, steps "C" and "D" of this section become critical. In particular, special attention must be given to steps D.2 and D.3. It is ultimately the installers' responsibility to verify that the window has been installed in a secure and weathertight manner.



2. Once exterior is sealed, caulk interior in a similar manner. See illustration for minimum required seals. Field conditions, and systems may vary, but it is the responsibility of the installer to insure a weathertight installation.

