

INSTALLATION INSTRUCTIONS

SERIES 8000 **SINGLE HUNG WINDOW** **BLOCK OR FIN FRAME**



Phone: (800) 262-5151 • Fax: (866) 262-3299
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HANDLING, STORAGE, AND PROTECTION OF ALUMINUM

The following precautions are recommended to protect the material against damage. Following these precautions will help ensure early acceptance of your products and workmanship.

A. HANDLE CAREFULLY.

All aluminum materials at job site must be stored in a safe place, well removed from possible damage by other trades. Cardboard wrapped or paper interleaved materials must be kept dry.

B. CHECK ARRIVING MATERIALS.

Check for quantity counts and keep records of where various materials are stored.

C. KEEP MATERIALS AWAY FROM WATER, MUD, AND SPRAY.

Prevent cement, plaster, or other materials from damaging the finish.

D. PROTECT THE MATERIALS AFTER ERECTION.

Protect erected frame with polyethylene or canvas splatter screen. Cement, plaster, terrazzo, other alkaline solutions, and acid based materials used to clean masonry are harmful to the finish. ***If any of these materials come in contact with the aluminum, immediately remove with water and mild soap.***

The rapidly changing technology within the architectural aluminum products industry demands that U.S. Aluminum reserve the right to revise, discontinue or change any product line, specification or electronic media without prior written notice.

NOTE: Dimensions in parentheses () are millimeters unless otherwise noted.

GENERAL INSTALLATION NOTES

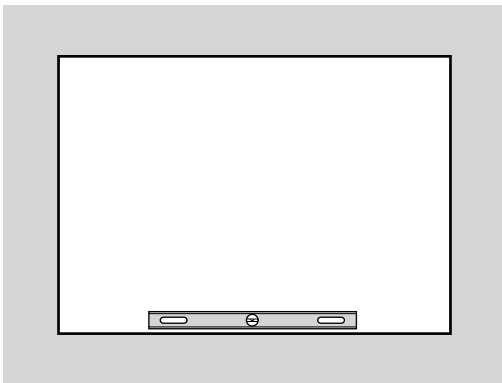
Recommended guidelines for all installations:

- 1. REVIEW CONTRACT DOCUMENTS.** Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Note any field verified notes on the shop drawings prior to installing. The installation instructions are of a general nature and cover most conditions.
- 2. INSTALLATION.** All materials are to be installed plumb, level, and true.
- 3. BENCH MARKS.** All work should start from bench marks and/or column lines as established by the architectural drawings and the general contractor with guaranteed accuracy. Working from these datum points and lines determine:
 - a) The plane of the wall in reference to offset lines provided on each floor.
 - b) The finish floor lines in reference to bench marks on the outer building columns.
 - c) Mullion spacing from both ends of masonry opening to prevent dimensional build-up of daylight opening.
- 4. FIELD WELDING.** All field welding must be adequately shielded to avoid any splatter on glass or aluminum. Results will be unsightly and/or structurally unsound. Advise general contractor and other trades accordingly. All field welds of steel anchors must receive touch-up paint (zinc chromate) to avoid rust.
- 5. SURROUNDING CONDITIONS.** Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.
- 6. ISOLATION OF ALUMINUM.** Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of zinc chromate or bituminous paint.
- 7. SEALANTS.** Sealants must be compatible with all materials with which they have contact with (full or incidental), including other sealant surfaces. It is the sole responsibility of the glass company to consult the sealant manufacturer for recommendations regarding joint size, shelf life, compatibility, cleaning, priming, tooling, adhesion, etc. It is the responsibility of the **Glazing Contractor** to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants, and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established. ***This is required on every project.***
- 8. FASTENING.** Within the body of these instructions "fastening" means any method of securing one part to another or to adjacent materials. Only those fasteners used within the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements, perimeter and anchor fasteners are not specified in these instructions. For perimeter and anchor fasteners refer to the shop drawings or consult the fastener supplier.
- 9. BUILDING CODES.** Due to the diversity in state/provincial, local, and federal laws and codes that govern the design and application of architectural products, it is the responsibility of the individual architect, owner, and installer to assure that products selected for use on projects comply with all the applicable building codes and laws. U.S. Aluminum exercises no control over the use or application of its products, glazing materials, and operating hardware, and assumes no responsibility thereof.
- 10. EXPANSION JOINTS.** Expansion joints and perimeter seals shown in these instructions and in the shop drawings are shown at normal size. Actual dimensions may vary due to perimeter conditions and/or difference in metal temperature between the time of fabrication and the time of installation. Gaps between expansion members should be based on temperature at time of installation.
- 11. RACK TEST.** As soon as a representative amount of the wall has been glazed (500 square feet or 46.5 m²) a rack test should be conducted in accordance with AAMA 502-08 specifications to check the installation. On all jobs the rack test should be repeated every 500 square feet (46.5 m²) during the glazing operation.
- 12. COORDINATION WITH OTHER TRADES.** Coordinate with the general contractor any sequence with other trades which offset curtain wall installation (i.e. fire proofing, back-up walls, partitions, ceilings, mechanical ducts, converters, etc.).
- 13. CARE AND MAINTENANCE.** Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA 609.1 for anodized aluminum and 610.1 for painted aluminum.
- 14. JOB SITE ESSENTIALS.** See page 16.

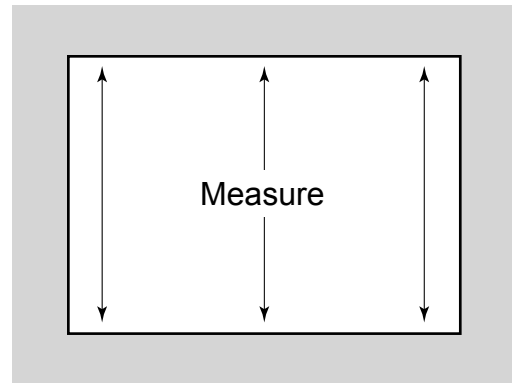
SITE PREPARATATION

BEFORE INSTALLATION

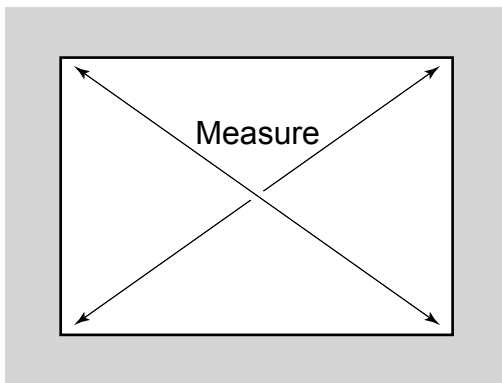
1. Review and measure the opening.
2. Verify rough window opening size 1/2" (12.7) clearance in both width and height to the window. Verify framing is plumb, straight, and true around window opening. Measure opening at each end and at center vertically and horizontally. Make corrections to openings as required. Measure opening diagonally to check squareness. Chip concrete high points to flush and rounded corners to square.



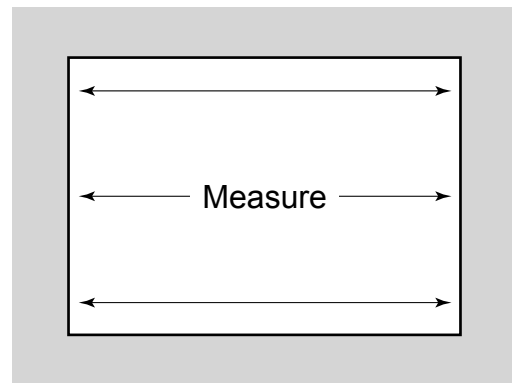
LEVEL



VERTICAL DIMENSION



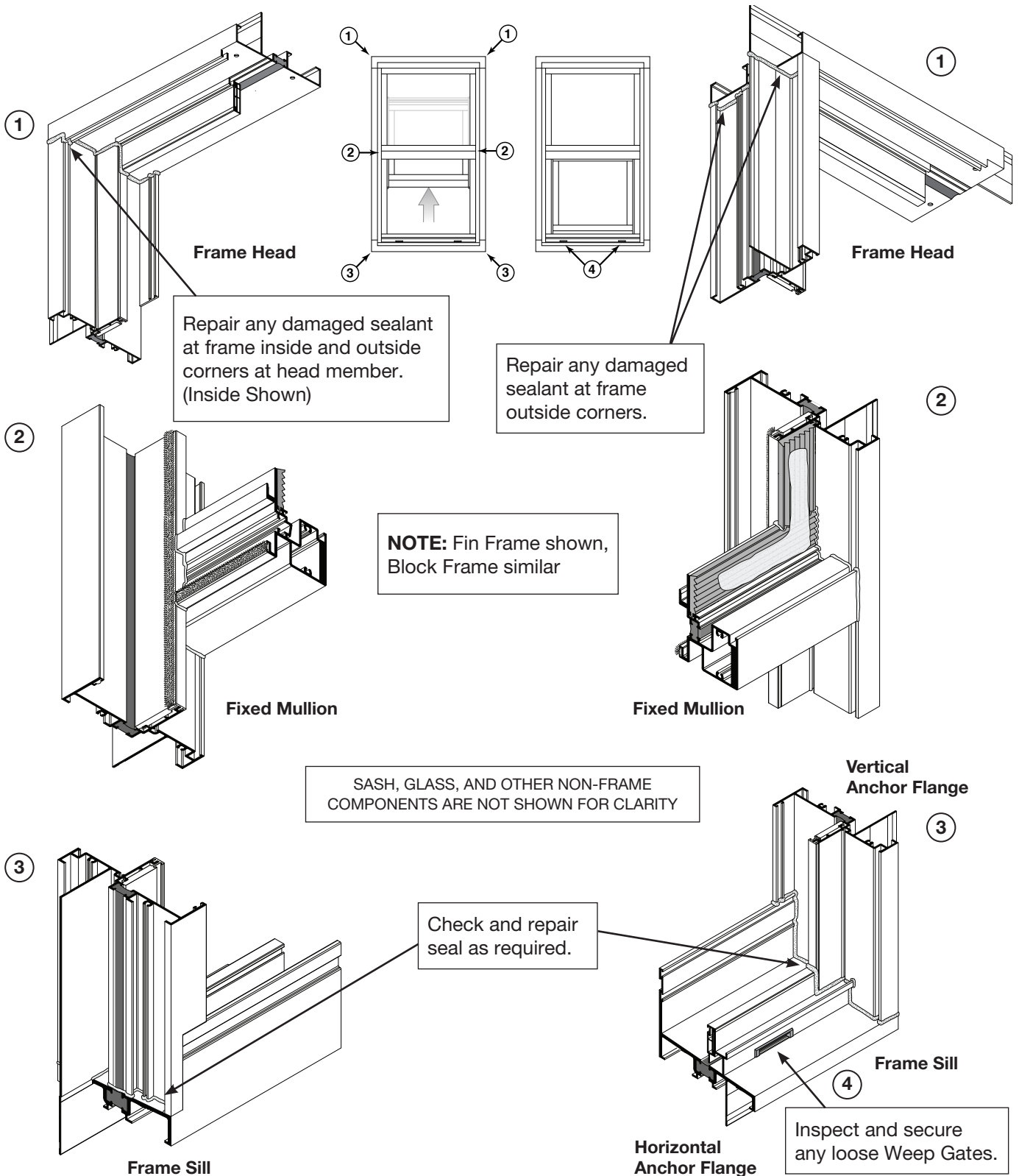
SQUARE



HORIZONTAL DIMENSION

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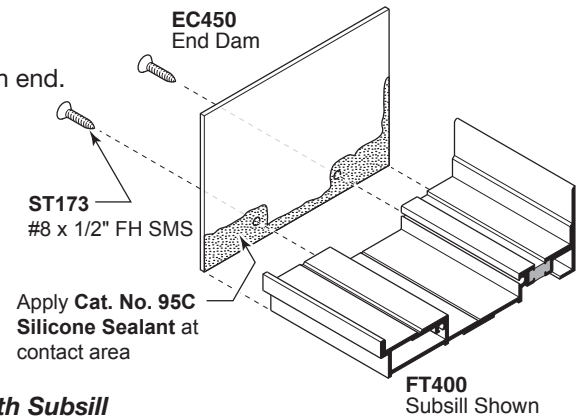
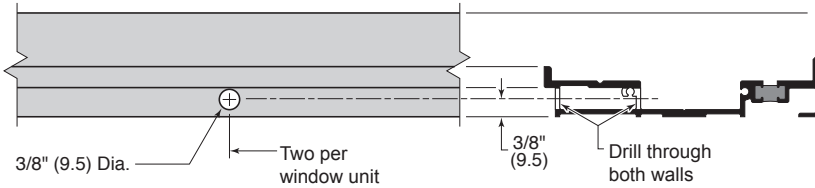
3. Visually inspect all frames upon receipt. Inspect frame corners for any sealant damages and re-apply **CRL RTV408 Silicone Sealant** where required. Check sealant at outside frame corners ①. Raise window sash and inspect seals at inside corners ② at jamb/sill intersection. Check and repair joint between vertical and horizontal anchor flanges ③ if applicable. Inspect baffles and Weep Gates ④ to assure they have not been jarred loose during shipment.



SERIES 8000 SINGLE HUNG WINDOW

1. Subsill for Block Frame Window

- Cut Subsill to length: = Total frame width plus 1/4" (6.4).
- Fabricate Weep Holes: Drill 3/8" Dia. at two per window unit.
- Attach End Dams: Seal contact surfaces and screw attach at each end.

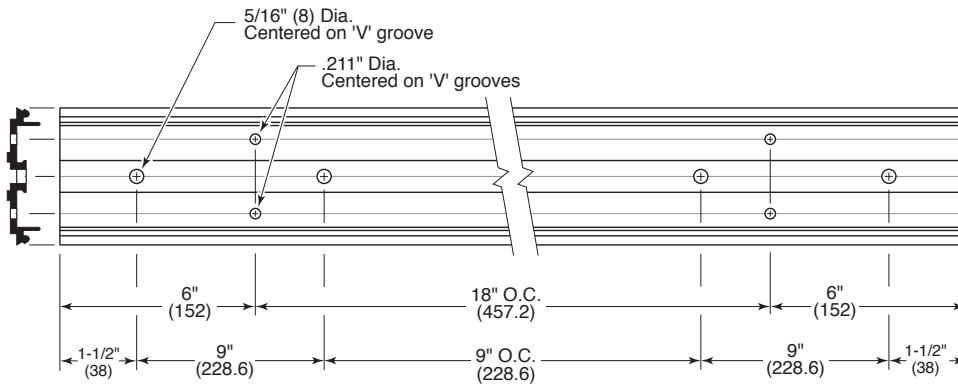


2. Stock length Components

- Cut Stock Length to length: = Window frame height minus 1/4" (6.4) **with Subsill**
= Window frame height **without Subsill**
- Cut Pressure Bar to length: = Window frame height minus 2" (50.8)
- Cut Snap Cover: = Field cut to size.
- Fabricate Pressure Bar: Drill 5/16" Dia. Holes centered on bar 9" (228.6) O.C.

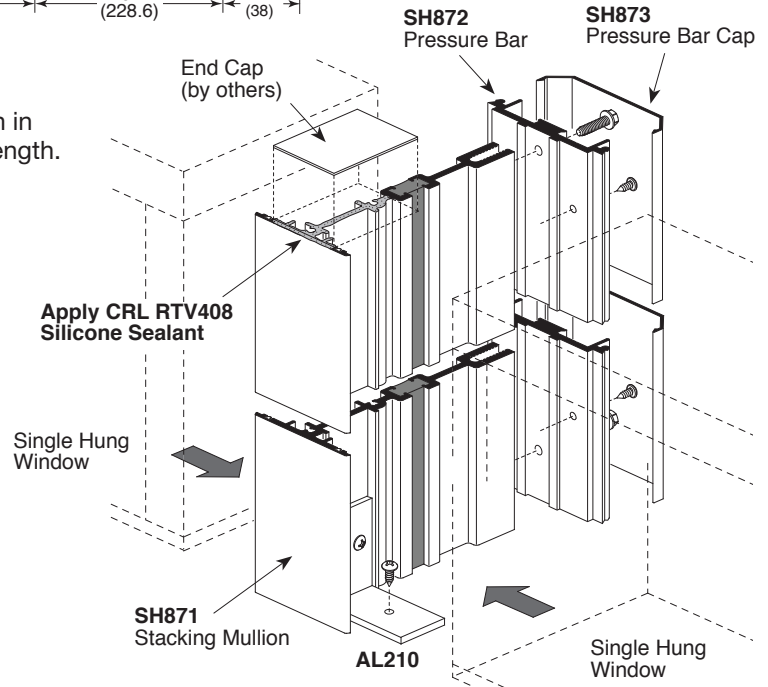
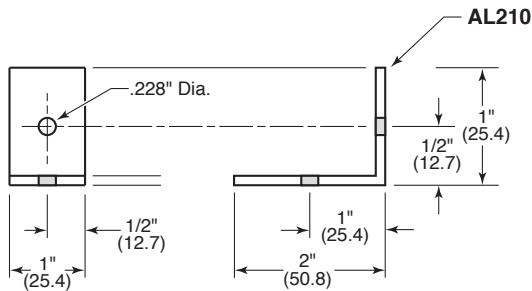
NOTE: Consult Sealant Manufacturer for Proper Cleaning and Priming Recommendations

Drill two rows of clearance holes for screw and spacing for attachment to window frames as shown in approved shop drawings. Lace bulb vinyl into two tracks (If not pre-laced). Attach end dam to top of mullion. Seal contact edges.



3. Mullion Anchor Clip Angle Fab for attachment screws:

- Drill clearance holes for attachment screw types shown in approved shop drawings at center of leg's width and length.
- NOTE:** Screw diameters may vary, coordinate fabrication accordingly.

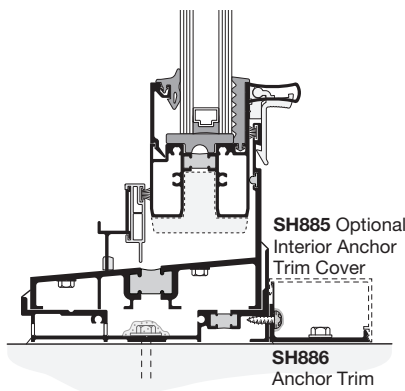
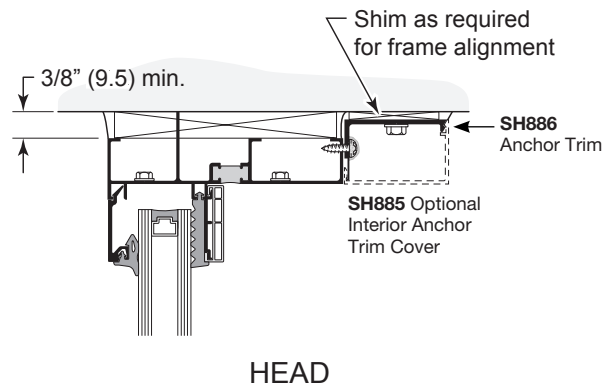
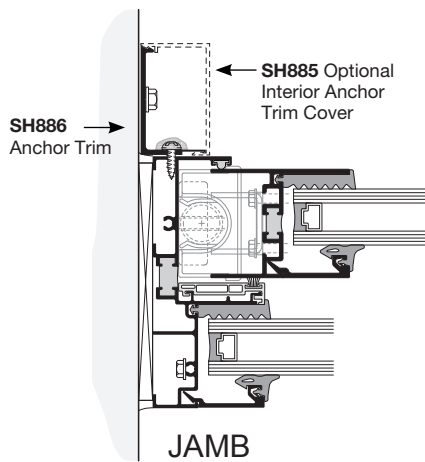
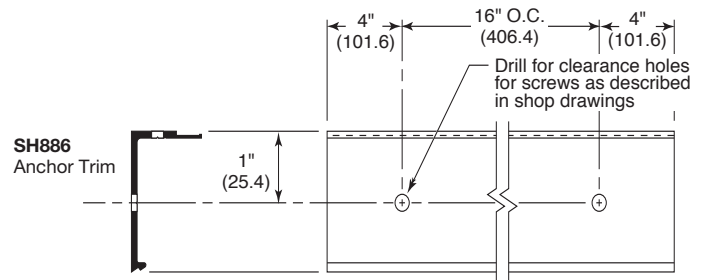
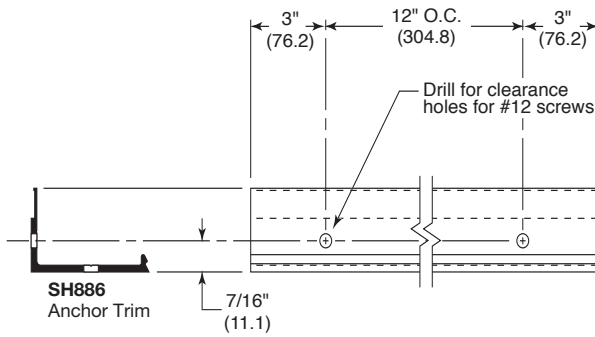


NOT TO SCALE

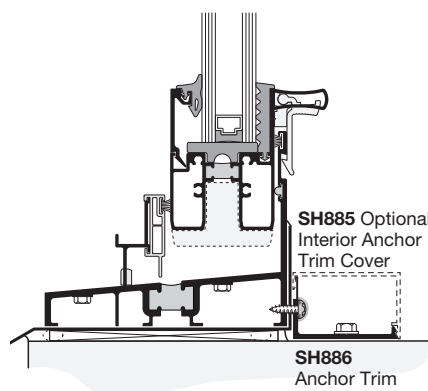
SERIES 8000 SINGLE HUNG WINDOW

4. Anchor Trim (Optional) for Block Frame Window

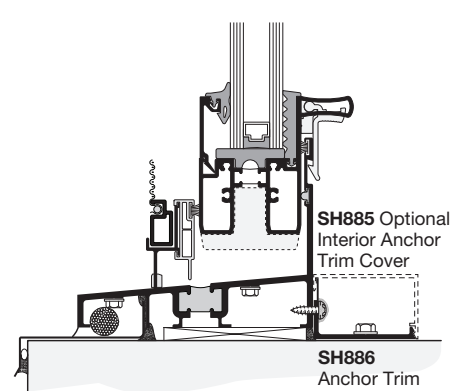
- Cut Horizontal Anchor Trim: = Total frame width minus 4" (101.6).
- Cut Horizontal Trim Cover: = Field cut to frame opening width.
- Cut Vertical Anchor Trim: = Total frame height minus 4" (101.6) Field cut cover.
- Cut Vertical Trim Cover: = Field cut cover to size. (Runs between horizontal trim covers)
- Fab Frame Attachment Holes: Drill for #12 FH screw (Trim to frame).
- Fab Anchor Holes: Drill for 1/4" FH screw or as shown in shop drawings.



SILL with
EXTRUDED SUBSILL



SILL with
FULL DEPTH PAN FLASHING



SILL with
SHALLOW DEPTH PAN FLASHING
(Punched openings only)

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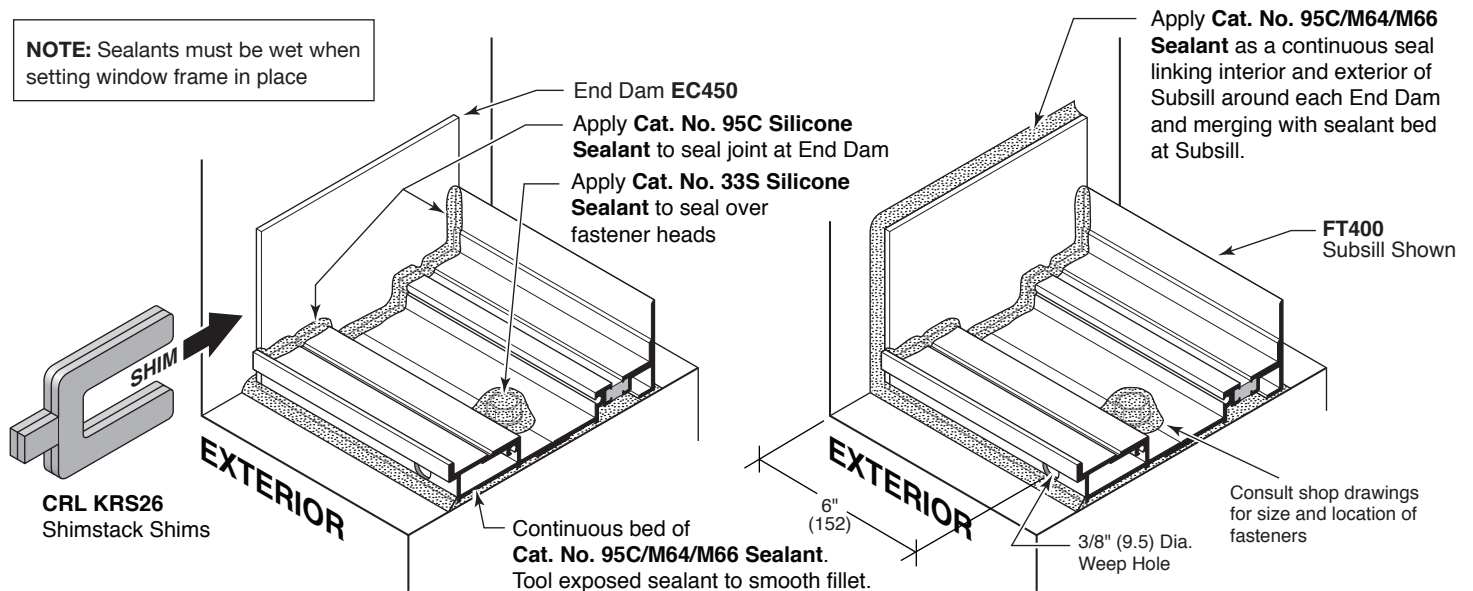
SUBSILL (OPTIONAL) FOR BLOCK FRAME WINDOW INSTALLATION:

NOTE: Window **MUST** be level and square to function properly.

1. Set Subsill in full bed of **Cat. No. 95C/M64/M66 Sealant**, centered in opening. Shim as required to level.
2. Anchor Subsill into position using fastener type as indicated in approved shop drawings.
3. Use **Cat. No. 95C Silicone Sealant** to seal around End Dam merging with sealant bed at Subsill and tool smooth.

NOTE: Consult Sealant Manufacturer for Proper Cleaning and Priming Recommendations

NOTE: Sealants must be wet when setting window frame in place

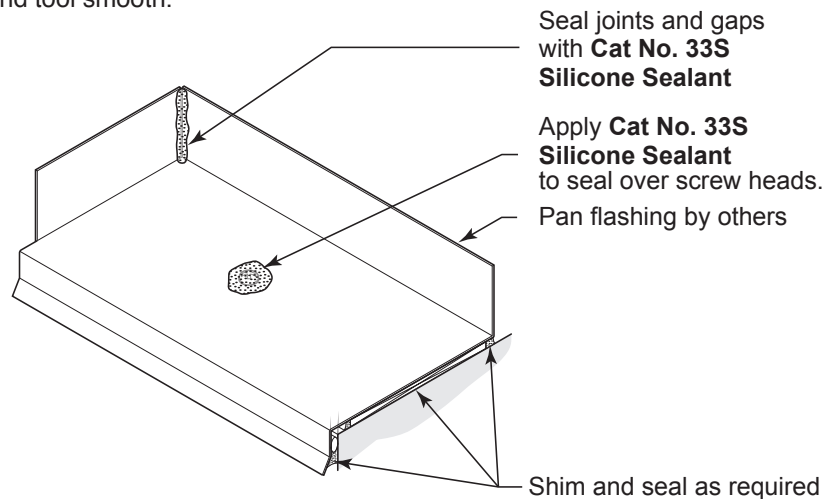


NOTE: If extruded Subsill is not used, it is recommended that a pan flashing be used. Pan flashing design and installation method is not determined by or warranted by U.S. Aluminum. Refer to approved project shop drawings for scope and intent of pan flashing requirements.

PAN FLASHING FOR FIN FRAME WINDOW INSTALLATION:

NOTE: Window **MUST** be level and square to function properly.

1. Set flashing in full bed of **Cat. No. 95C/M64/M66 Sealant**, centered in opening.
2. Anchor Subsill into position using fastener type as indicated in approved shop drawings.
3. Seal any joints or gaps and tool smooth.

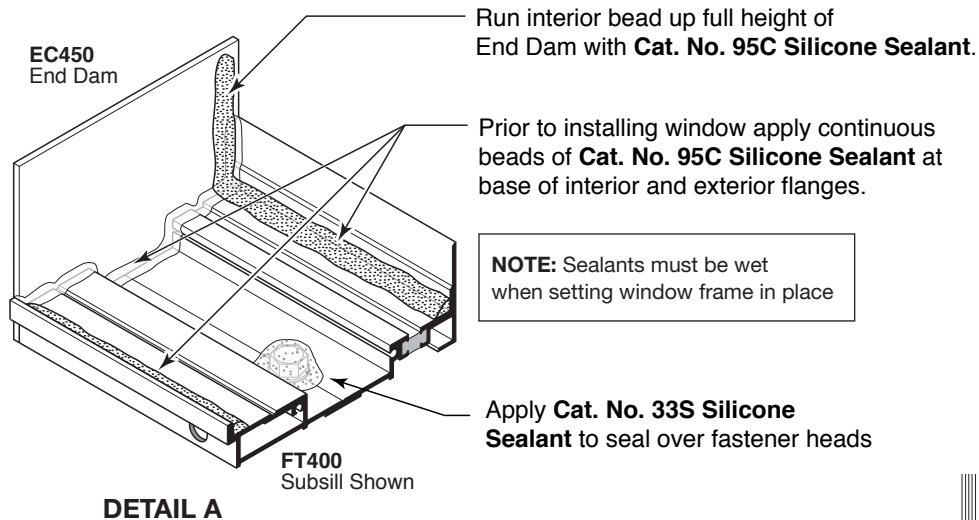


SERIES 8000 SINGLE HUNG WINDOW

PUNCHED OPENINGS FOR BLOCK FRAME WINDOW:

1. When using extruded Subsill, apply a continuous bead of **Cat. No. 95C Silicone Sealant** at base of interior vertical legs of Subsill as shown below. Sealant should be wet when window units are set into place. Perimeter seals must form a water tight barrier between window unit and building structure. **See Detail A.**
2. Place window unit into opening, shimming at jambs to plumb.
3. Anchor the Head and Jamb to substrate using method shown in shop drawings. When anchoring through Head, Jamb or Sill members, shims must be located at anchor points. Seal screw heads with **Cat. No. 33S Silicone Sealant**.
4. When anchoring frame members with an interior Anchor Trim, **Cat. No. SH886**, an interior perimeter seal must be applied prior to installing the trim. Refer to page 07. Shim Anchor Trim as required to align with window as shown in shop drawings and secure to substrate with fasteners. Seal screw heads with **Cat. No. 33S Silicone Sealant**.
5. Install **Cat. No. PW803** Jamb Filler and optional **Cat. No. SH885** Anchor Trim Cover. Cut covers to length as required and snap over Anchor Trim.
6. Add Backer Rod, if needed, to exterior perimeter around Head, Jambs, and Sill. Apply **Cat. No. 95C/M64/M66 Sealant** to perimeter.
7. Apply sealant to interior and exterior reveals at Subsill and Window Frame Joint as shown, using **Cat. No. 33S Silicone Sealant**.

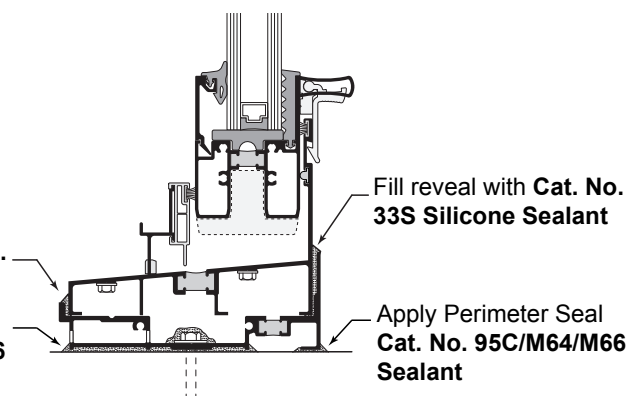
NOTE: Consult Sealant Manufacturer for Proper Cleaning and Priming Recommendations



Surrounding structure and sealants not shown for clarity

Fill reveal with **Cat. No. 33S Silicone Sealant**

Apply Perimeter Seal **Cat. No. 95C/M64/M66 Sealant**



MULTI-WINDOW OPENINGS FOR BLOCK FRAME WINDOW:

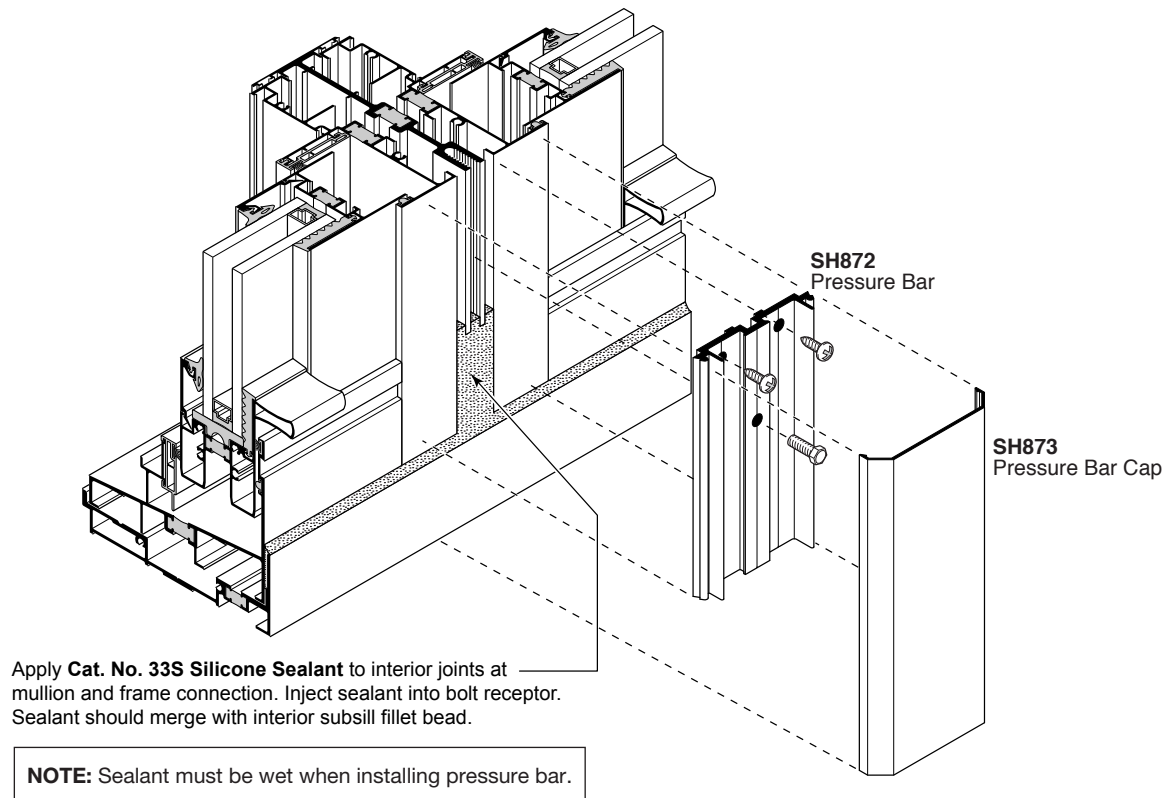
1. When using extruded Subsill, apply continuous bead of **Cat No. 95C Silicone Sealant** at base of interior and exterior vertical legs of Subsill as shown in punched opening section. Sealant should be wet when window units are set into place.
2. Starting at one end, place first window unit into opening, shimming at jamb to plumb.
3. Anchor jamb to substrate using method shown in shop drawings. When anchoring through head, jamb or sill members, shims must be located at anchor points. Seal screw heads with **Cat. No. 33S Silicone Sealant**.
When anchoring with interior anchor trim, interior perimeter seals must be applied prior to anchor trim.
Shim trim angle as required to align with window as shown in shop drawings and anchor to substrate with required fasteners.
NOTE: When using the internal anchor trim at head and sill (without Subsill), it is to be installed after all units are in place within opening and runs continuous. See Step 9 below.
4. Insert Mullion onto open jamb. With Mullion pressed firmly against frame jamb, match drill for appropriate screw types and attach bottom angle clips to Mullion and Subsill, Pan Flashing or building structure. Refer to approved shop drawing for screw types.
5. Match drill and attach top angle clip to Mullion flush with end just below Mullion End Plate. Shim between top clip and structure. Secure with screws as shown in approved shop drawings.
Use caution not to damage End Dam sealant.
6. Install next window unit positioning against Mullion. Attach to Mullion and sill structure as described above in previous steps.
7. Continue steps until all units are in place and last unit is secured at wall jamb in same manner as first window unit.
8. Apply **Cat. No. 95C/M64/M66 Sealant** to interior perimeter seal at head prior to installing Head Anchor Trim.
Also see note at Step 3 above.
9. Position Anchor Trim Angle at head and/or sill interior. Shim as required to align with window as shown in shop drawings and anchor to substrate with required fasteners.
10. Screw attach Anchor Trim to window frame. See shop drawings for fastener types and spacing. Seal screw heads with **Cat. No. 33S Silicone Sealant**.
11. Install Anchor Trim Covers. Cut covers to length as required and snap over Anchor Trim.
12. Apply **Cat. No. 95C/M64/M66 Sealant** to exterior perimeter at head and jambs. Merge jamb sealant with sealant at End Dam at Subsill.
13. Apply remaining interior perimeter seals to jambs.

NOTE: All perimeter screw heads that penetrate frame members must be sealed with Cat. No. 33S Silicone Sealant.

MULTI-WINDOW OPENINGS:

14. Pay close attention to sealing area where Pressure Bar traps window frame sill member. Apply bed of **Cat. No. 33S Silicone Sealant** at bottom of Pressure Bar where it contacts with sill's interior vertical leg. **Perimeter seals will be critical and must form a water tight condition between window units.**

NOTE: Consult Sealant Manufacturer for Proper Cleaning and Priming Recommendations



15. Center Pressure Bar vertically on exposed window jambs. Attach Pressure Bar to Mullion with **Cat. No. MS222** 1/4 - 20 x 1" HWH Screw.
16. Connect Mullion assembly and window frame jambs together with screws indicated in shop drawings.
17. Fill interior and exterior reveals where window frame and Mullion join as shown using **CRL RTV408 Silicone Sealant**.
18. Snap interior Mullion Cap onto Pressure Bar. Use caution to avoid denting cap.

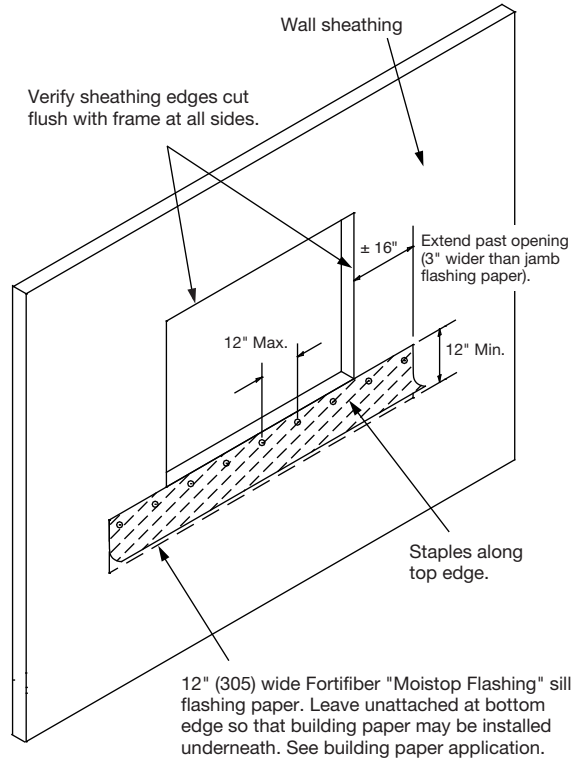
INTERIOR ANCHOR TRIM (OPTIONAL)

1. Apply interior perimeter seals prior to installing optional **Cat. No. SH886** Anchor Trim and **Cat. No. SH885** Anchor Trim Cover.
2. Position **Cat. No. SH886** Anchor Trim Angle around frame perimeter. Shim as required to align with frame. Attach to substrate with fasteners as shown in shop drawings.
3. Screw window frame to Anchor Trim, **Cat. No. SH886**. See shop drawings for fastener types and spacing. Apply **Cat. No. 33S Silicone Sealant** to seal screw heads.
4. Install Anchor Trim Snap Covers. Field cut covers to length as required and snap over Anchor Trim. **NOTE:** Horizontal covers run through and vertical covers run between.

NOTE: If optional interior Anchor Trim is used, it must be installed prior to installing Mullion Pressure Bar and Cap.

FLASHING FOR FIN FRAME WINDOW INSTALLATION

Step 1: (Methods A and B)



NOTE: Corrosion-resistant staples may be stainless steel or copper with 3/8" (9.5) leg for window flashing.

INSTALLATION INSTRUCTIONS

ERECTION: Add 1/2" (12.7) to height and width of opening for clearance. All window frames shall be set by others in a level, plumb, and square condition without distortion.

Do not let twin and triple units sag in center of sill during installation. Install shims at corners and center of sill before setting window in opening.

Units shall be properly caulked to prevent water leakage around the frame.

Units shall be properly caulked to prevent water leakage around the frame.

Fasteners must be driven straight into wall, not at an angle. Power nailers are not recommended since tool is sometimes held at an angle causing bowed frames.

After installation, the General Contractor shall be responsible for protecting the units during the balance of construction. Upon completion of construction, the General Contractor shall be responsible for cleaning the aluminum and glass without the use of abrasive agents.

CLEANING INSTRUCTIONS: Use household glass cleaner and/or a mild detergent. Steel wool, abrasive cleaner or wire brushes are harmful to the glass and finish of the aluminum. Semiannual cleaning of the wool pile weatherstrip and weep holes in sill will assure proper insulation and drainage.

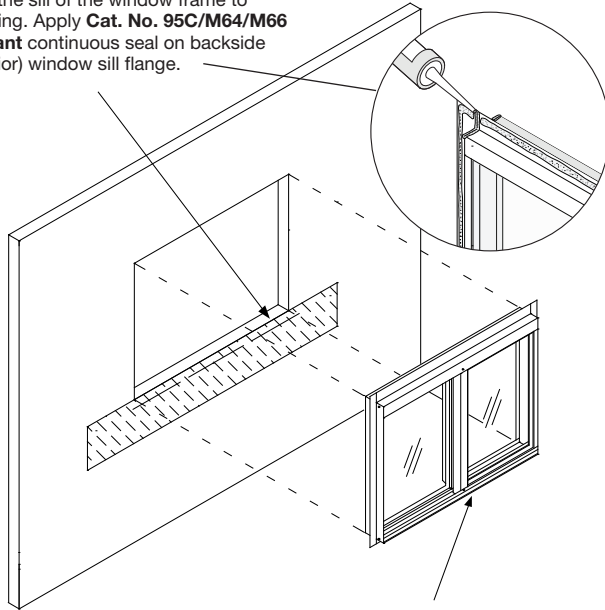
CAUTION: Spraying with petroleum base material may result in INSULATING GLASS failure and will void glass warranty.

SERIES 8000 SINGLE HUNG WINDOW

FLASHING FOR FIN FRAME WINDOW INSTALLATION

Step 2: (Method A)

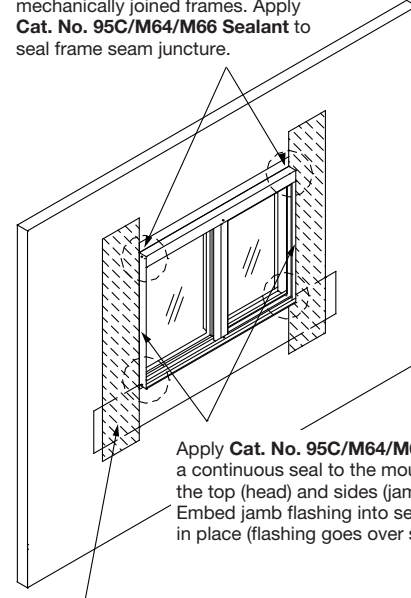
Seal the sill of the window frame to opening. Apply **Cat. No. 95C/M64/M66 Sealant** continuous seal on backside (interior) window sill flange.



Shim and adjust window to achieve square, plumb, and level condition use corrosion resistant fasteners. Fasten within 10" and no closer than 5" in each direction from every corner. Secure window around frame opening with equivalent of five fasteners at 15" O.C. maximum.

Step 3: (Method A)

After installation seal all corners of mechanically joined frames. Apply **Cat. No. 95C/M64/M66 Sealant** to seal frame seam juncture.

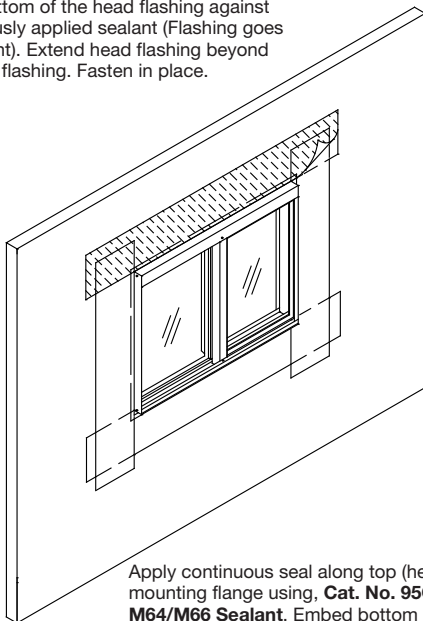


Apply **Cat. No. 95C/M64/M66 Sealant** as a continuous seal to the mounting flanges at the top (head) and sides (jamb) of window. Embed jamb flashing into sealant and fasten in place (flashing goes over sealant).

Extend jamb flashing beyond sill flashing and above where the flashing will intersect.

Step 4: (Method A)

Embed bottom of the head flashing against the previously applied sealant (Flashing goes over sealant). Extend head flashing beyond each jamb flashing. Fasten in place.



Apply continuous seal along top (head) mounting flange using, **Cat. No. 95C/M64/M66 Sealant**. Embed bottom of head flashing against sealant (flashing goes over sealant). Extend head flashing beyond each jamb flashing. Fasten in place.

Step 5: (Method A)

Where recommended as part of exterior wall finish system, install building paper. Apply weatherboard fasteners starting from bottom to top of wall.

Install building paper, insulation board or other material over head flashing and over top of nail-on head flange of window frame.

3rd course of building paper

2nd course of building paper

1st course of building paper

Minimum Vertical laps per code

Minimum horizontal laps per code

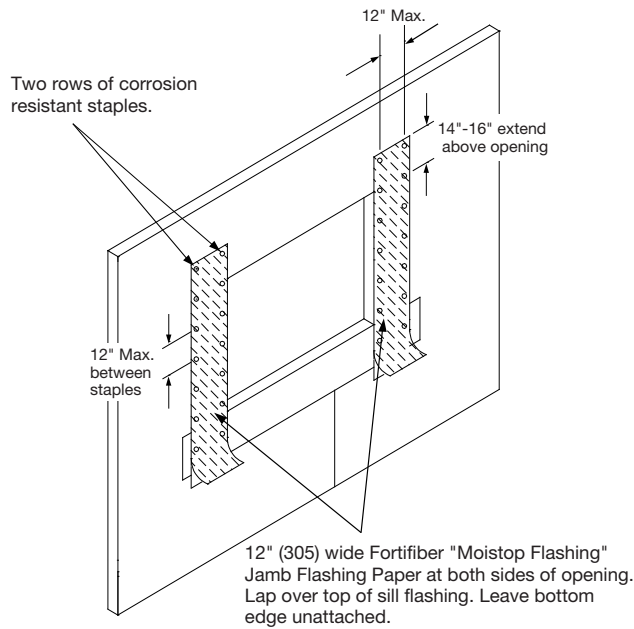
For high performance wind and water. Run a continuous bead of **Cat. No. 95C/M64/M66 Sealant** between the flashing and the window frame.

Exterior wall finish: Install per wall finish manufacturer's recommendation. Some exterior finishes may require sealing between the perimeter of the window frame and the exterior finish.

Slip bottom of jamb flashing and sill flashing over building paper and bottom of window sill.

FLASHING FOR FIN FRAME WINDOW INSTALLATION

Step 2: (Method B)



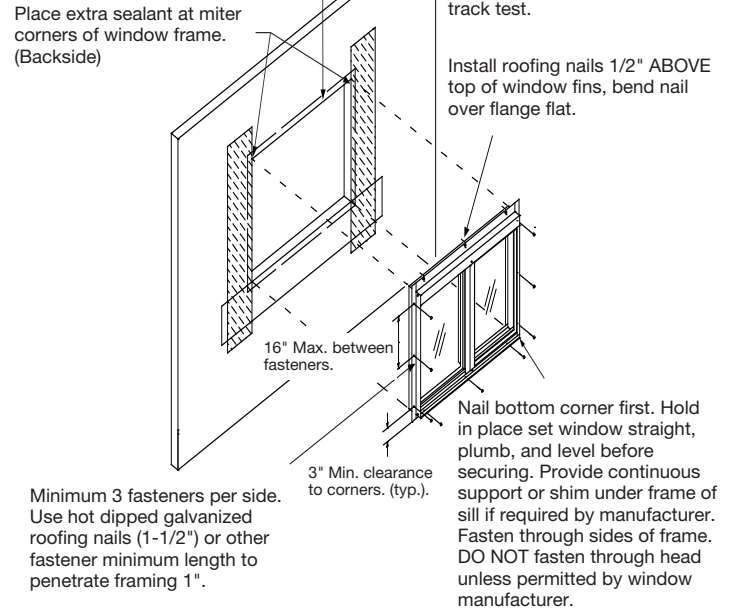
Step 3: (Method B)

Use **Cat. No. 95C/M64/M66** sealant to seal window frame to opening. Apply continuous bead of sealant within 1/2" of edge of opening or the preferred method: Apply continuous sealant on backside of window flanges at head, jamb and sill, then install frame to opening.

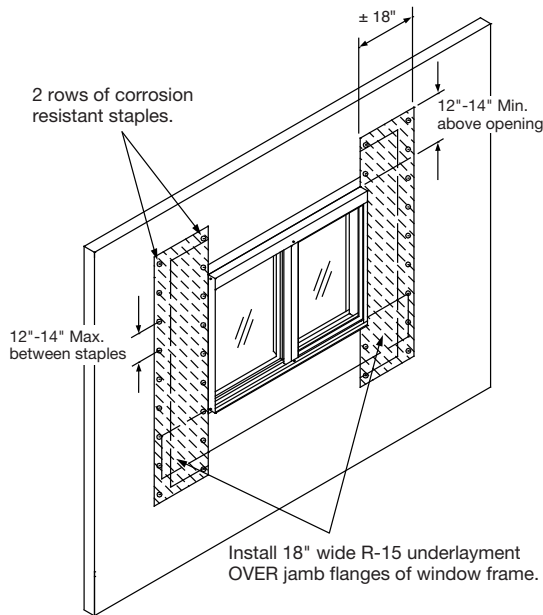
Place extra sealant at miter corners of window frame. (Backside)

NOTE: Check window fins for damage. Repair damaged fins and identify widow for later sill track test.

Install roofing nails 1/2" ABOVE top of window fins, bend nail over flange flat.



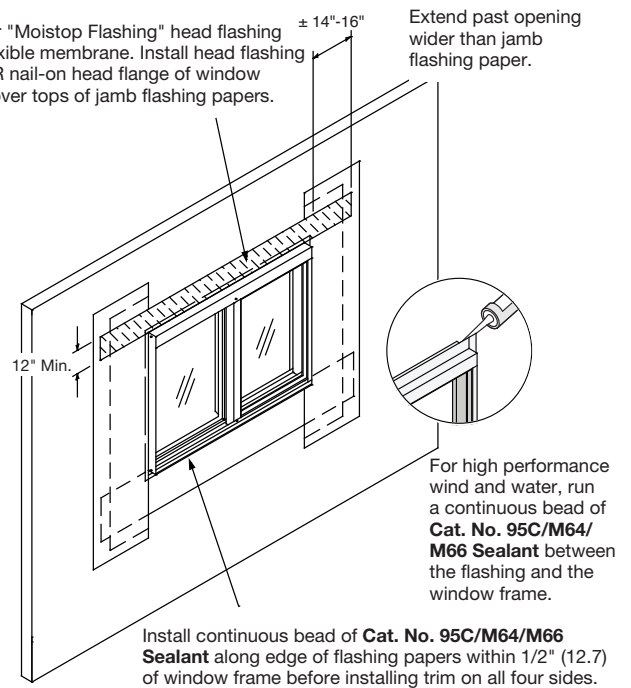
Step 4: (Method B)



Step 5: (Method B)

1st fortifiber "Moistop Flashing" head flashing paper of flexible membrane. Install head flashing paper OVER nail-on head flange of window frame and over tops of jamb flashing papers.

Extend past opening wider than jamb flashing paper.

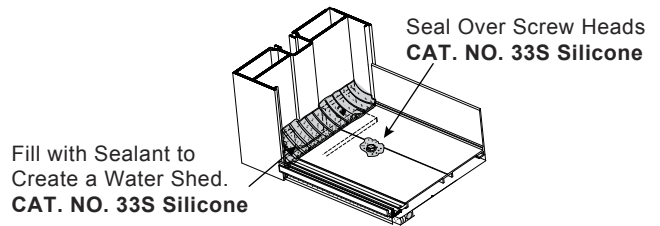


CAL
US ALUMINUM **GUIDE TO SEALANTS**

WATERPROOFING

- **CRL 33S ACETIC CURE SILICONE**

NOTE: Not for use near insulating glass units with butyl sealant.

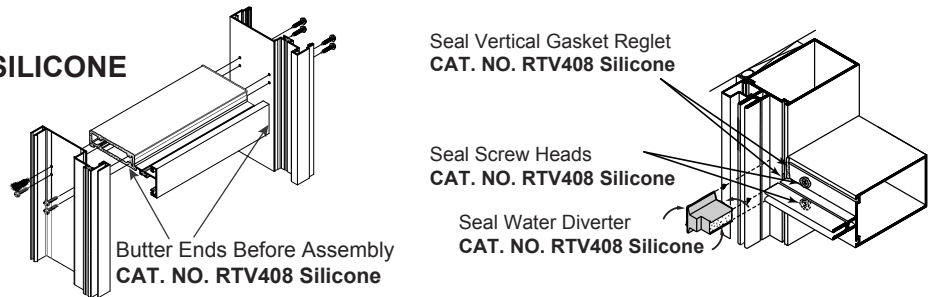


Sill to Subsill, End Dams, Screw Heads, and Threshold to Door Frame Sealing.

JOINT ADHESIVE

- **CRL RTV408 NEUTRAL CURE SILICONE**

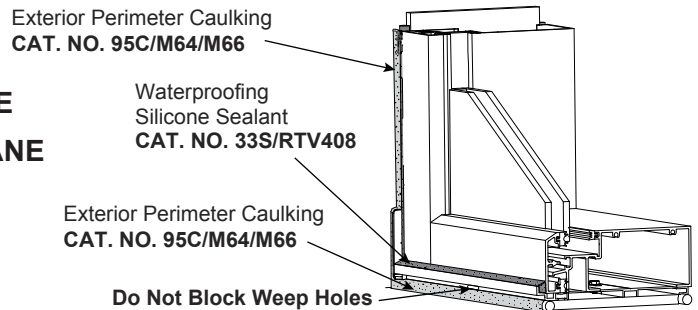
NOTE: I.G. butyl contact OK.



Small Joints, End Joints and Buttered Surfaces, Water Diverters and Reglet Fills.

PERIMETER

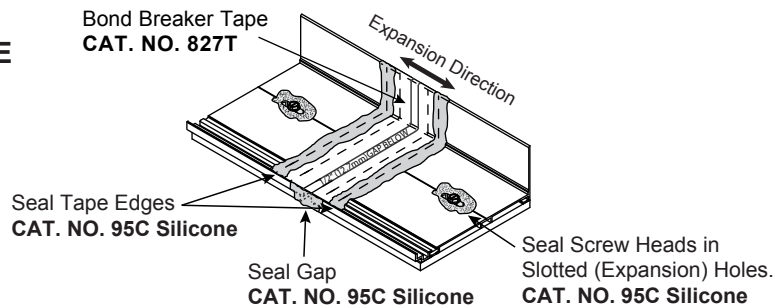
- **CRL 95C NEUTRAL CURE SILICONE**
- **CRL M64 (SMOOTH) MODIFIED POLYURETHANE**
- **CRL M66 (TEXTURED) MODIFIED POLYURETHANE**



Perimeter Seals, Expansion Joints, Sill and Threshold Beds, Concrete, Wood, and Steel Openings.

EXPANSION

- **CRL 95C NEUTRAL CURE SILICONE**



Expansion Joints.

STRUCTURAL

- **ALL STRUCTURAL SEALANTS REQUIRE TESTING AND APPROVAL.**

Glass-to-Glass or Glass-to-Metal.



JOB SITE ESSENTIALS

Helpful Tools and Supplies for Installing CRL U.S. Aluminum Entrances, Storefronts, Windows, and Curtain Wall Systems



CRL Dry Lubricant for Tracks and Rollers
CAT. NO. SP295



CRL RTV408 Neutral Cure Silicone
CAT. NO. RTV408



1/2" x 1/2" x 2"
Neoprene Setting Blocks for Glass Panel Installation
CAT. NO. SB565



Plastic Cleaner and Polish for Removing Fingerprints and Fine Scratches
CAT. NO. CRL10



10" 144-Tooth Carbide Blade for Cutting Delicate Aluminum Profiles.
Also available in 12"
CAT. NO. CSB10X144ATX



1/16" Rigid Plastic Bearing Shimstrips for Placing and Leveling the Extrusions
CAT. NO. PBS06



Unibit 3 Piece Step Drill Set Drills Sheet Metal and Thin Aluminum without Distortion
CAT. NO. UB123



Aerosol Glass Cleaner
CAT. NO. 1973



18:1 Ratio Caulking Gun
CAT. NO. WG41004XT



CRL Digital Laser Level Tool
CAT. NO. 406065



Metric Long-Arm and Ball End 9-Piece Allen Wrench Set
CAT. NO. 13609



Makita® 18 Volt Cordless Lithium Ion Combo Hammer Drill for Mounting to Concrete
CAT. NO. BHP454

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