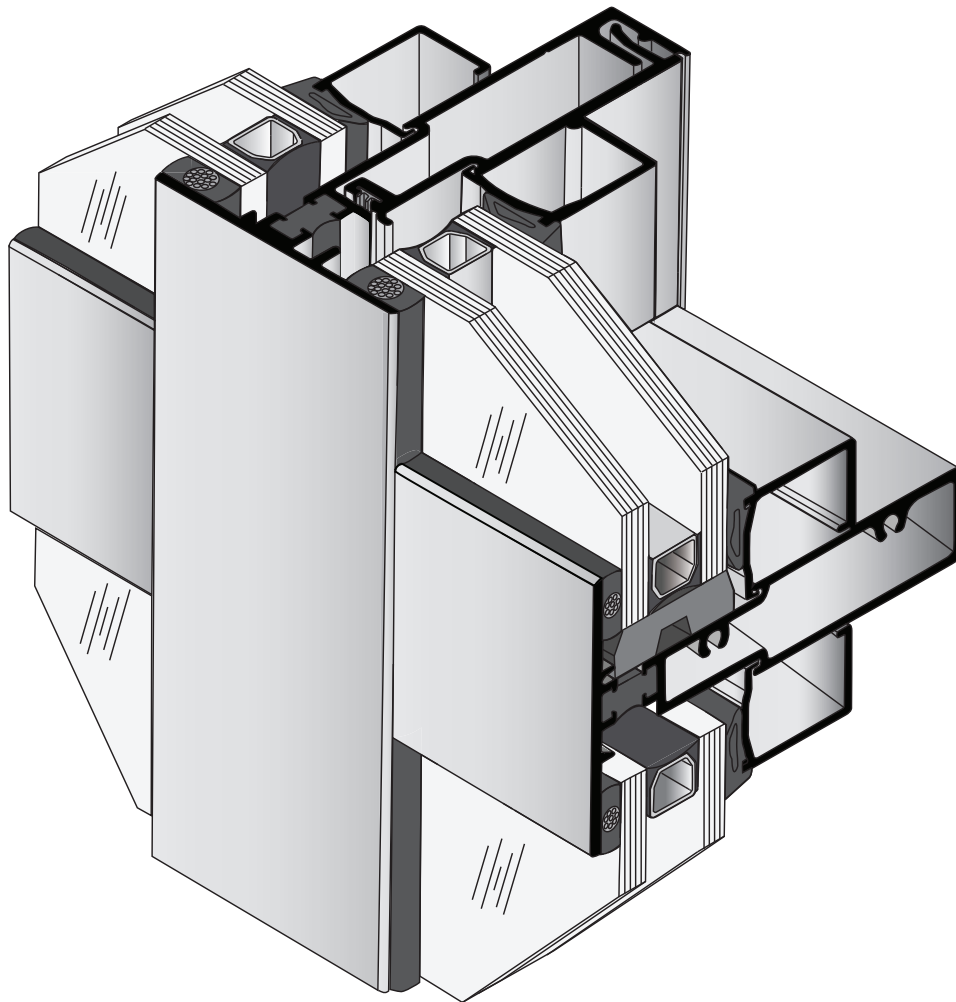


# INSTALLATION INSTRUCTIONS

## SERIES ET350 STRIP WINDOW SYSTEM



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Phone: (800) 262-5151 • Fax: (866) 262-3299  
crlaurence.com • usalum.com • crl-arch.com

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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 quantities 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 C.R. Laurence/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, including other sealant surfaces. Consult with sealant manufacturer for recommendations relative to 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. Gap between expansion members should be based on temperature at time of installation.
- 11. WATER HOSE TEST.** As soon as a representative amount of the wall has been glazed (500 square feet or 46.5 m<sup>2</sup>) a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. On all jobs the hose test should be repeated every 500 square feet (46.5 m<sup>2</sup>) 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.)

## SERIES ET350 STRIP WINDOW SYSTEM

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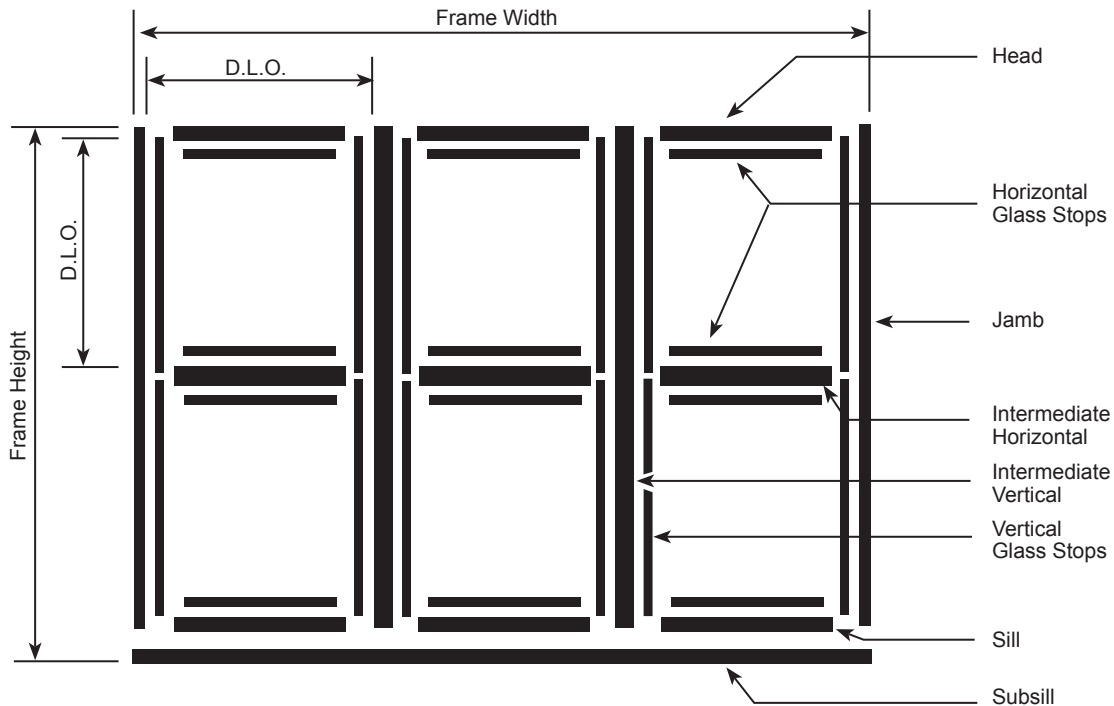
13. **CARE AND MAINTENANCE.** Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA 609.1 for anodized aluminum and 610.1 for painted aluminum.
14. **SEALANTS.** Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with all sealants referenced in these instructions, which must be a one part elastomeric silicone and must be applied according to the silicone manufacturer's recommendations.
15. **APPLICATION.** Structural silicone must be applied from the interior and weatherseal from the exterior after the interior structural silicone has fully cured.
16. **MAXIMUM ALLOWABLE STRESS ON SILICONE.** The maximum allowable size of the glass light is controlled by the width and depth of the silicone joint combined with the specified design windload (PSF or Pa). The stress on the structural silicone must not exceed 20 PSI (137 KPa) for a 6:1 safety factor. Check Structural Silicone Chart in the Architectural Design Manual for this product series.
17. **ARCHITECT.** It is the responsibility of the architect to secure approval of the system and request from the glazing contractor the compatibility and adhesion test reports described below.
18. **GLAZING CONTRACTOR.** 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.***
19. **U.S. ALUMINUM.** It is the responsibility of U.S. Aluminum to supply a system to meet the architect's specifications.

## FRAME FABRICATION

Measure ROUGH OPENING to determine FRAME DIMENSION allowing 1/4" (6.4) minimum for shimming and caulking around perimeter.

1. Measure rough opening to determine frame width and height dimension.
2. Cut members to size:

<b>Head and Sills</b>	: D.L.O. plus 1-1/2" (38.1)
<b>Intermediate Horizontals</b>	: D.L.O. plus 1-1/2" (38.1)
<b>Jams and Verticals</b>	: R.O. minus Head and Sill caulk space
<b>Horizontal Glass Stops</b>	: D.L.O. plus 1/16" (1.6)
<b>Vertical Glass Stops</b>	: D.L.O. plus 1-7/16" (36.5)
<b>Subsill Flashing</b>	: Horizontal Frame Dimension plus 1/16" (1.6)



DETAIL A

# SERIES ET350 STRIP WINDOW SYSTEM

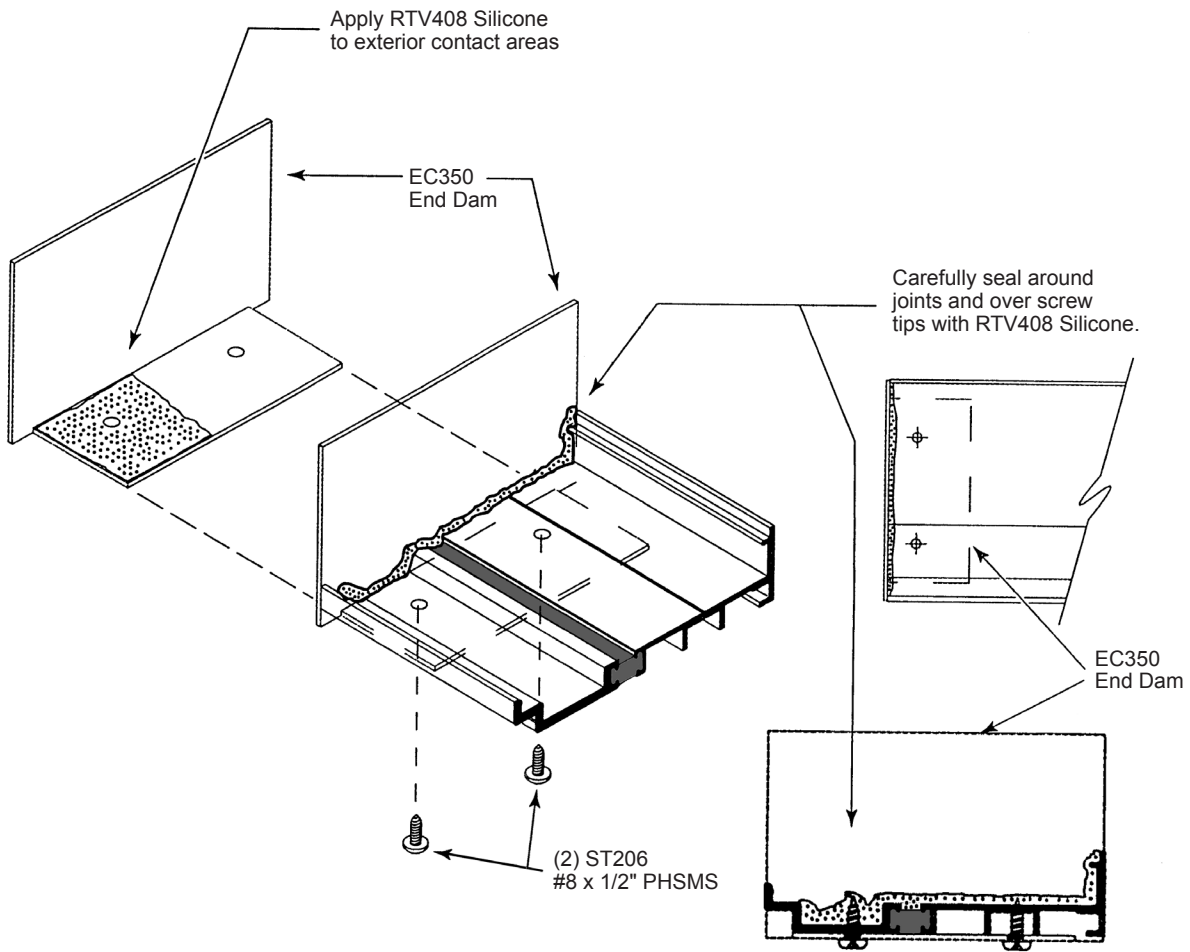
## SUBSILL PREPARATION

3. Apply End Dam to end of subsill. (See **DETAIL B**)

**NOTE:**

Clean all surfaces prior to applying sealants.  
See sealant manufacturer requirements.

**TYPICAL AT ALL CONDITIONS.**

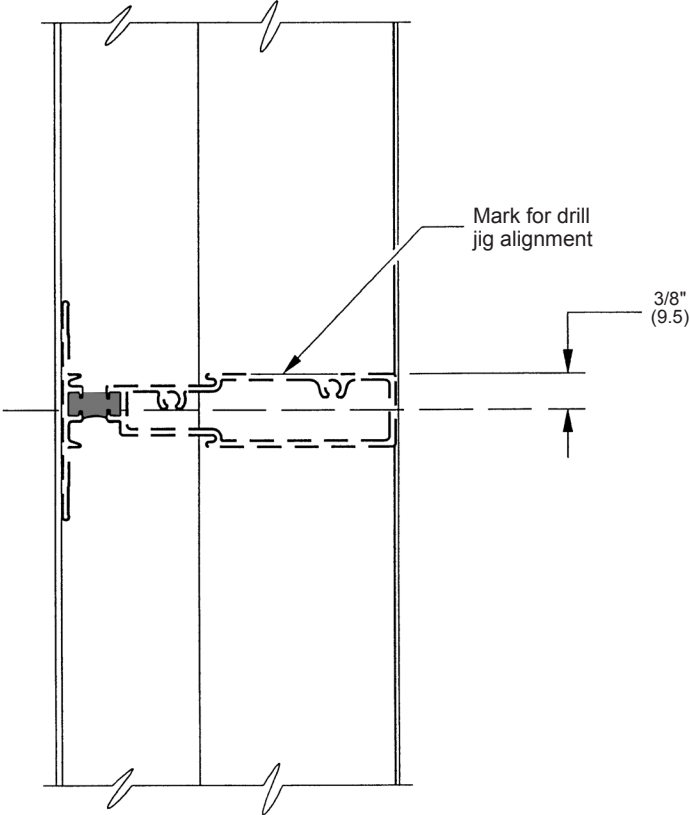
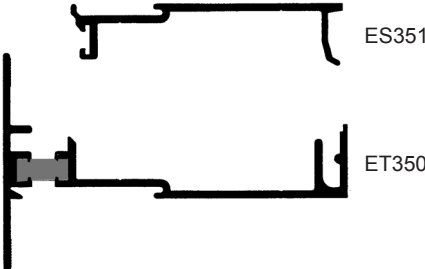


**DETAIL B**

NOT TO SCALE

INTERMEDIATE LOCATION

- 4. Mark intermediate horizontal centerlines. Place a mark 3/8" (9.5) above centerline mark for drill jig alignment. (See **DETAIL C**)



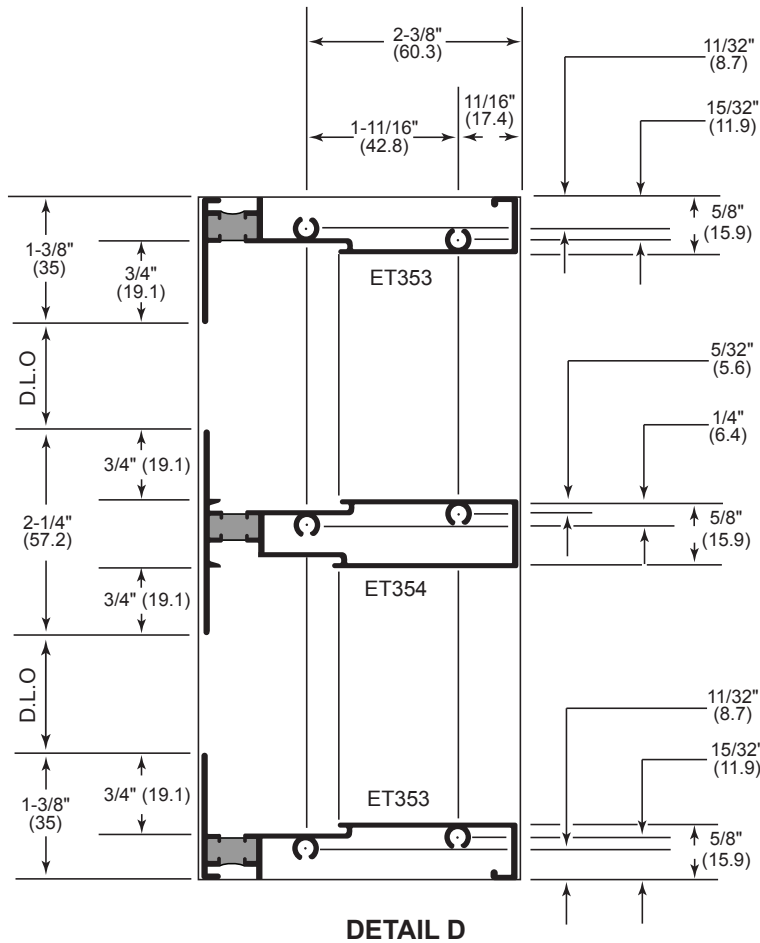
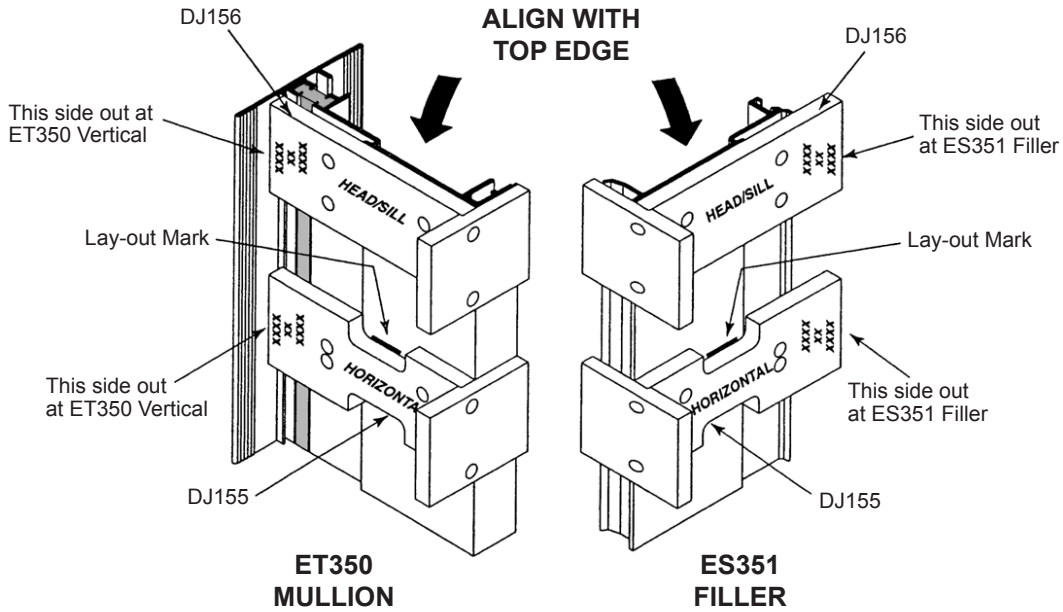
DETAIL C

NOT TO SCALE

# SERIES ET350 STRIP WINDOW SYSTEM

## DRILLING INSTALLATION HOLES

5. Drill for head, sill, and intermediate horizontals. Use of drill jig is recommended.  
Drill (4) .201 dia. holes for #7 drill (#10 screws). (See **DETAIL D**)



**NOTE:** Drill jigs are handed depending on which side of vertical mullion assembly is being prepped. Refer to instructions on drill jigs.

NOT TO SCALE

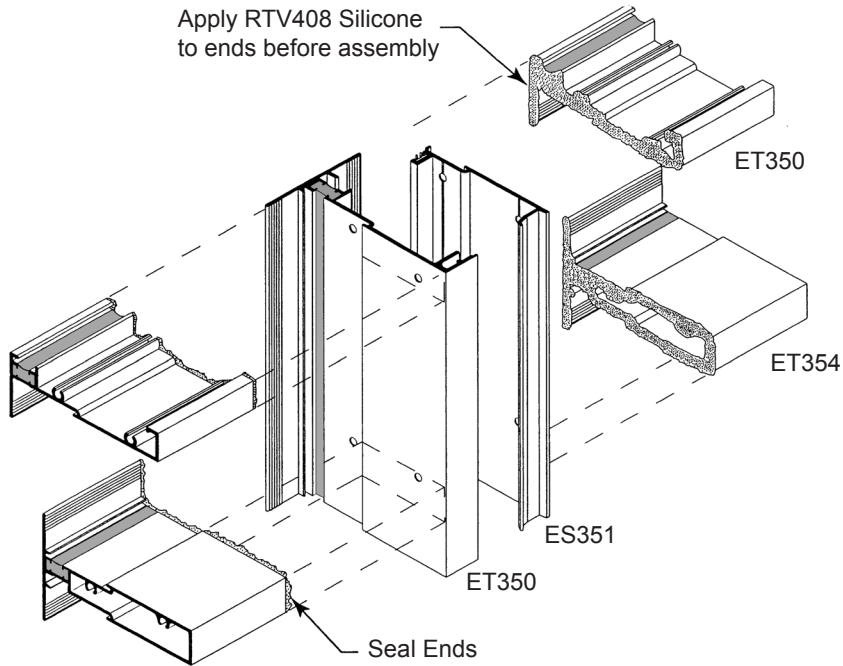


# SERIES ET350 STRIP WINDOW SYSTEM

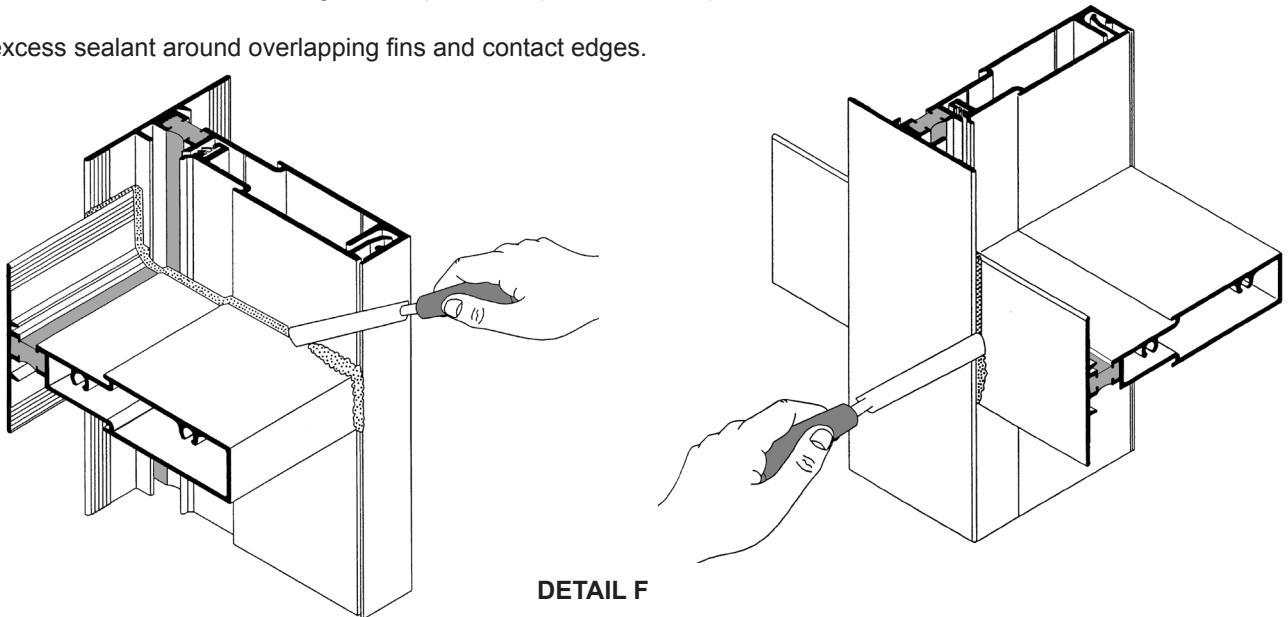
## FRAME ASSEMBLY

**NOTE:** Always check overall dimension every 3 to 4 bays to monitor cutting tolerances.

1. Frames are fabricated with one main mullion and one mullion filler per unit except for jamb units. Plan units accordingly.
2. Starting with the first bay of the elevation having a jamb member, clean and apply silicone to inside of vertical glazing fin where horizontal fins will overlap. Clean and apply silicone to ends of horizontal members. (See **DETAIL E**)



3. Attach horizontals to verticals using screws provided. (See **DETAIL F**)
4. Tool excess sealant around overlapping fins and contact edges.



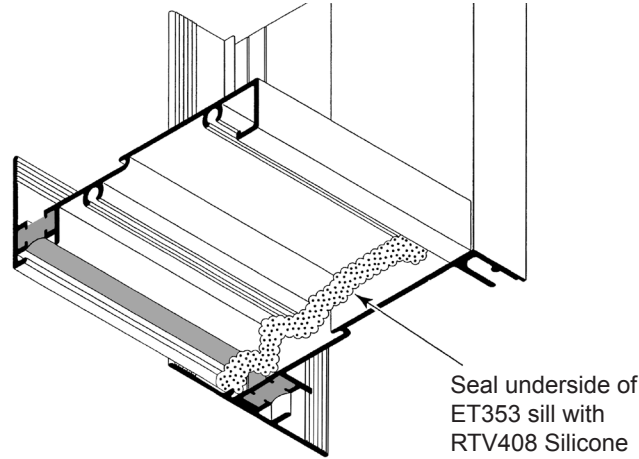
**NOTE:** Application and tooling of CRL RTV408 Silicone at end dams is **CRITICAL** to prevent water penetration.

NOT TO SCALE

**FRAME ASSEMBLY CONTINUED**

- After each bay is assembled, seal underside of sill member at intersections to vertical mullions along full depth of sill member. (See **DETAIL G**)

**NOTE:**  
This is a critical seal.



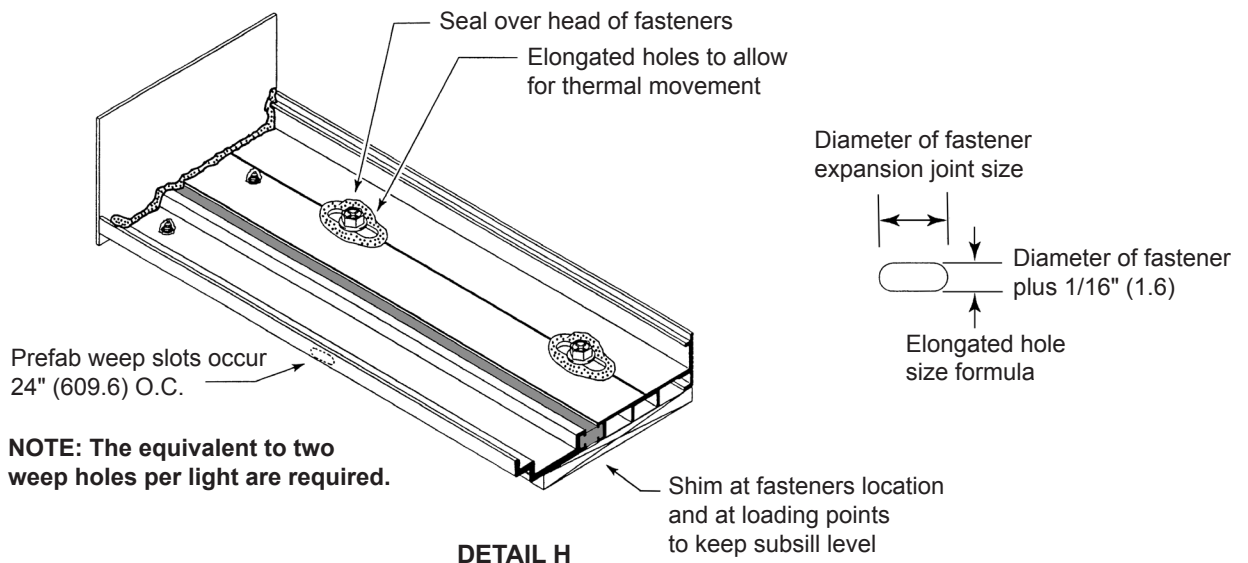
**DETAIL G**

- Continue frame assembly until last bay is complete. (See **DETAIL G**)  
**NOTE:** Care should be taken while transporting frames to ensure framing does not rack, which may break seals.

**FRAME INSTALLATION**

**NOTE:** When entrances occur, install Entrance Frame first.

- Set subsill in place, shimmed as required for leveling, and anchor it to structure. Locate fasteners 6" (152.4) to each side of verticals and 24" (609.6) O.C. or as required. Holes for fasteners should be elongated laterally to allow for thermal movement. Pin subsill to structure at one point only per cut length. (This hole is not elongated). Subsill should be shimmed at location of fasteners and underneath verticals. Seal around all joints and over head of fasteners. (See **DETAIL H**).



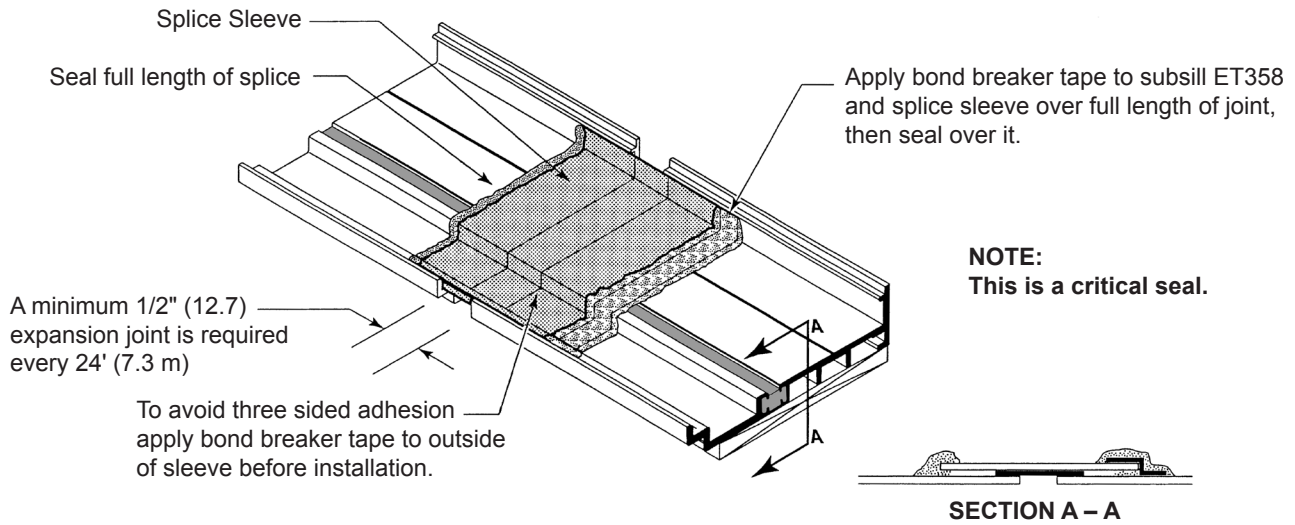
**NOTE:** The equivalent to two weep holes per light are required.

**DETAIL H**

NOT TO SCALE

## SEALING THE SUBSILL AND SPLICE SLEEVES

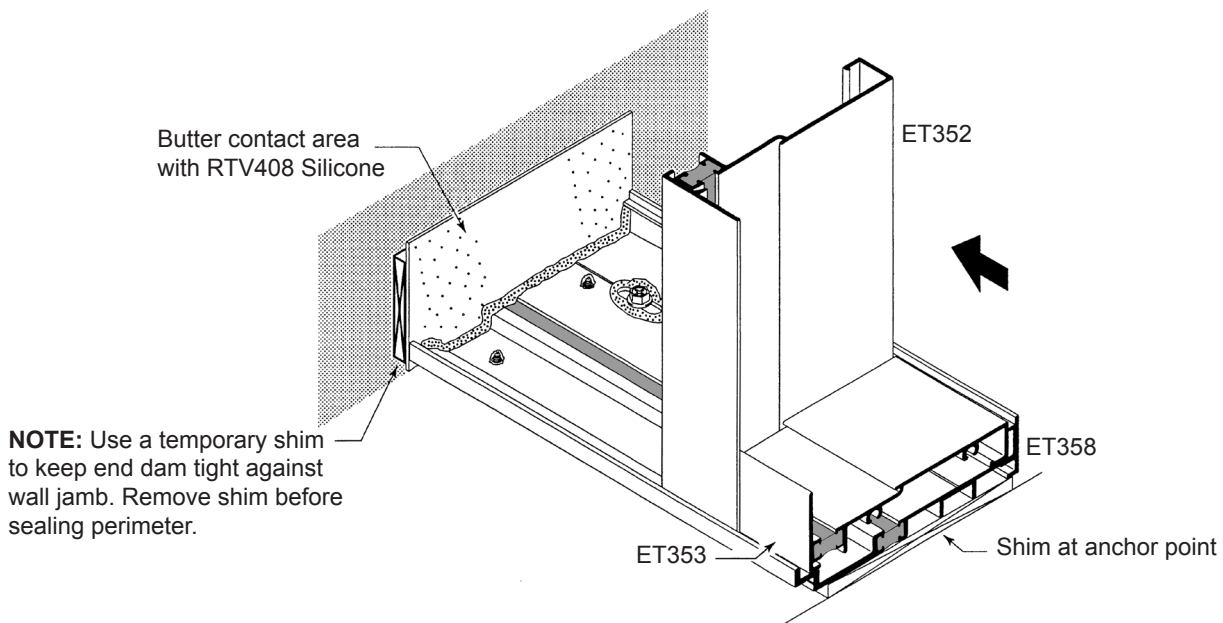
2. Splice subsill as required. Splice sleeves are required at splice joints. Locate splice sleeves near center of D.L.O. (See **DETAIL I**).



DETAIL I

3. Apply silicone to the end dam contact area. (See **DETAIL J**) Set first panel inside subsill and slide it into place.

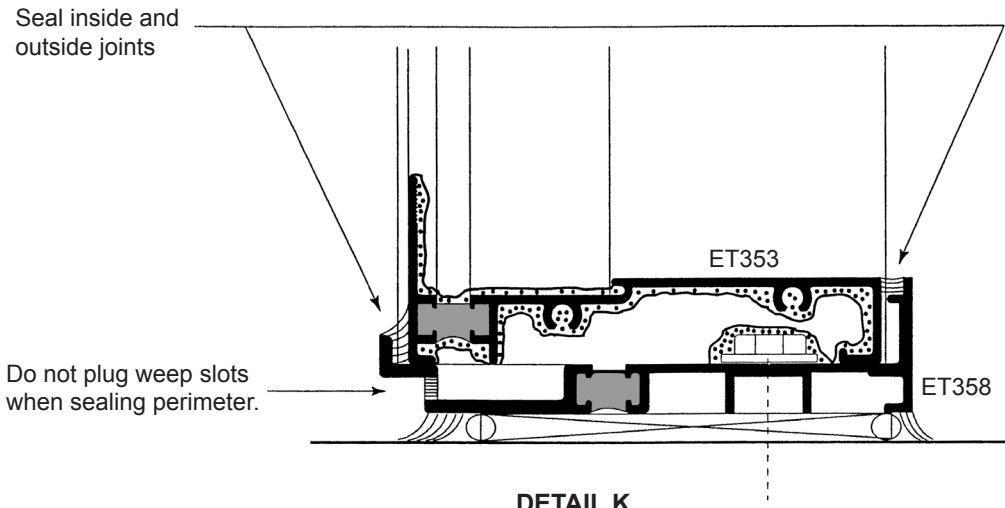
**NOTE:** Use a temporary shim to push end dam tight against wall jamb. Remove temporary shim after installation is completed and before sealing around perimeter.



DETAIL J

NOT TO SCALE

PANEL INSTALLATION

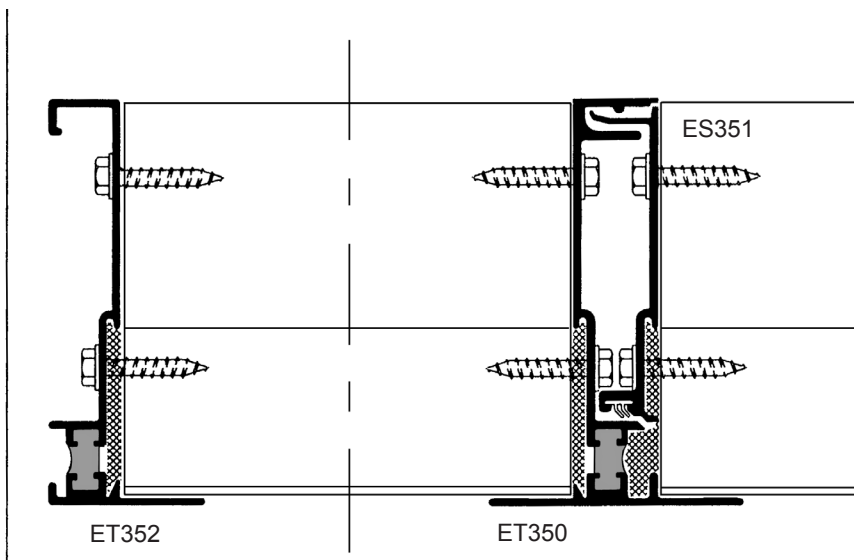


DETAIL K

Tremco 'SPECTREM 1', a low modulus, high performance, one part silicone (or similar), is recommended

**NOTE:** Panels must be pushed tight against subsill inside upturned leg before fastening head and caulking sill.

4. Panel must be pushed against the upturned back wall on the subsill. (See **DETAIL K**) Plumb and shim unit and fasten it to structure. Locate header fasteners 3" (76.2) to each side of verticals and no more than 24" (609.6) O.C. Secure wall jamb through glass pocket if required to limit deflection. Always shim at anchor points.
5. Place adjacent panel into opening. Anchor in place, making sure vertical halves are tightly joined. Repeat procedure until last bay is in place.
6. After frames are assembled, fill void in corner joints of glass pocket area as shown. (See **DETAIL L**)



DETAIL L

7. Apply and tool perimeter sealant around framing.

NOT TO SCALE

## GLAZING

### GLASS SIZES

ES350 SYSTEM = Daylight Opening (D.L.O.) + 1" (25.4).

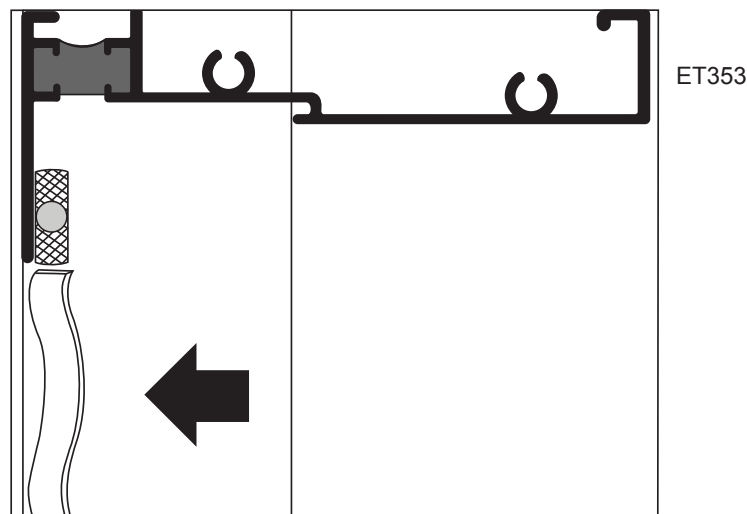
**NOTE:** This formula does not take into account glass tolerance.  
Consult glass manufacturer before ordering glass.

1. Cut interior wedge gasket to size. Gaskets should be 1/8" (3.2) longer per foot of aluminum member to allow for shrinkage.
2. Place setting blocks at quarter points or as instructed by shop drawings.
3. Clean glazing fins with solvent prior to applying glazing tape.

**NOTE:** Two thickness of glazing tape are used.  
GT304 = 3/16" (4.8) x 1/8" (3.2) at horizontals.  
GT407 = 1/4" (6.4) x 1/2" (12.7) at verticals.  
Glazing tape must be pre-shimmed to prevent over compression.

4. Apply horizontal tape to full length of horizontal members, flush with top of fin. Apply vertical tape, butting tight to horizontal tape, leaving an extra amount at each end to ensure a tight joint. (See **DETAIL M**)

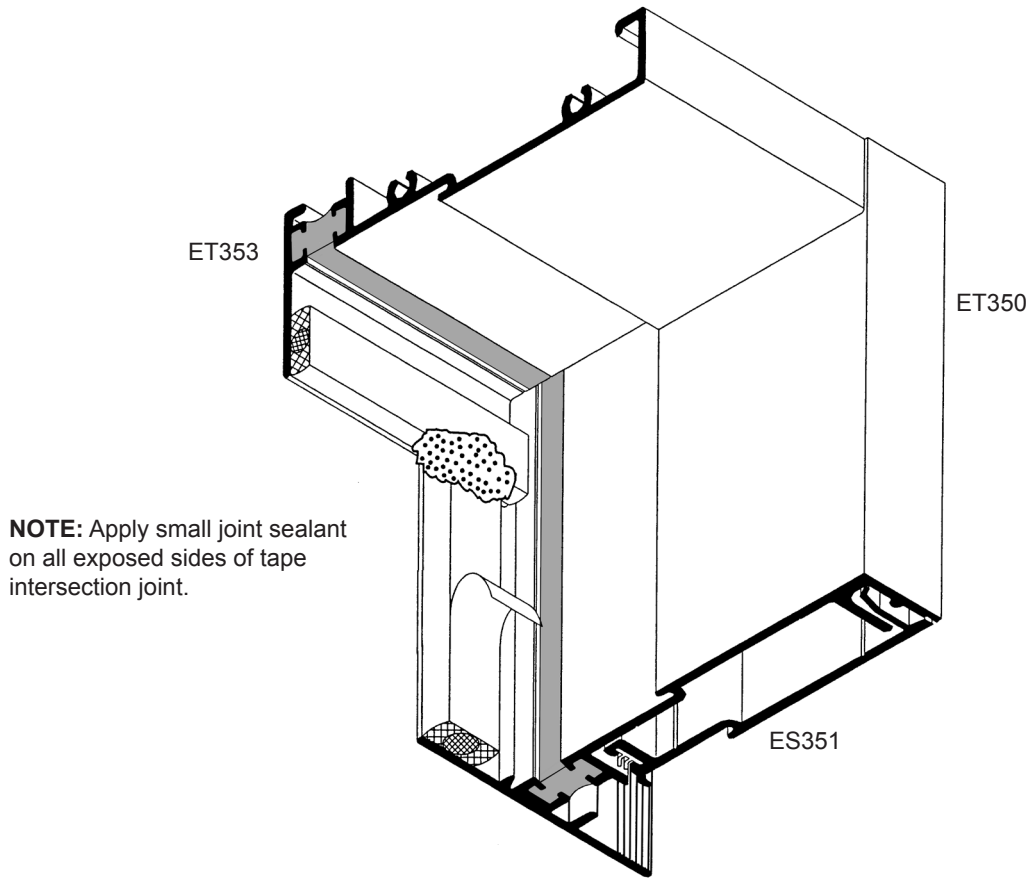
**NOTE:** With extra amount [approximately 1/8" (3.2)] of tape at each end, press end against horizontal tape leaving excess material as shown, then press excess into place.



**DETAIL M**

NOT TO SCALE

GLAZING (CONTINUED)



DETAIL N

5. Immediately prior to glazing unit, peel protective paper from glazing tape. **DO NOT TOUCH** exposed tape surfaces with fingers or any tool. Seal tape intersections with small joint sealant. (See **DETAIL N**).
6. Before setting glass, clean all areas of glass with solvent where contact with glazing tape will occur. It is important that these cleaned areas are not touched or contaminated by foreign matter to ensure a proper seal.
7. Install glass onto setting blocks. Before setting glass against tape, check for proper glass bite at vertical members. Push glass firmly onto glazing tape. Apply glazing stops and wedge gaskets.

**NOTE:** Glass must not be pulled away from tape once contact is made. If this occurs, tape must be replaced and glass must be re-cleaned.

NOT TO SCALE



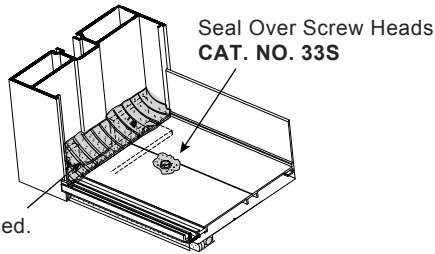
# GUIDE TO SEALANTS

NOTE: All sealants must be tooled to ensure proper adhesion.

## WATERPROOFING

- 33S ACETIC CURE SILICONE

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



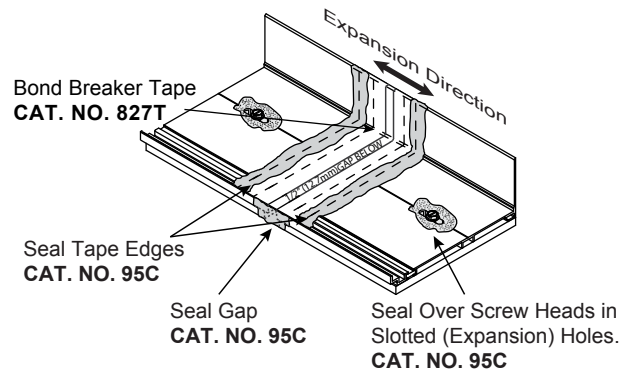
Fill with Sealant to Create a Water Shed.  
CAT. NO. 33S

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

## EXPANSION

- 95C SILICONE BUILDING SEALANT

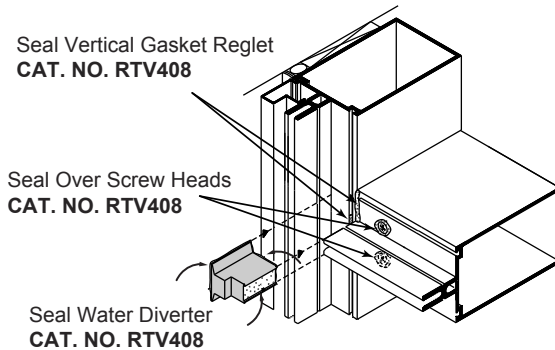
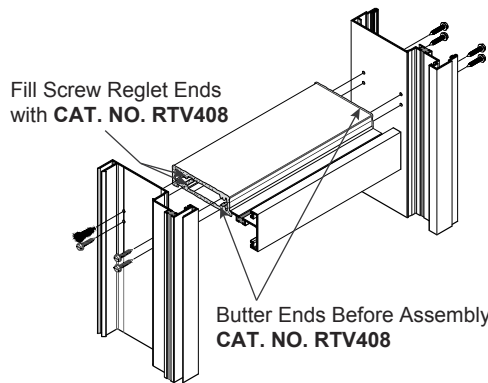
Expansion Joints.



## JOINT ADHESIVE

- RTV408 NEUTRAL CURE SILICONE

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

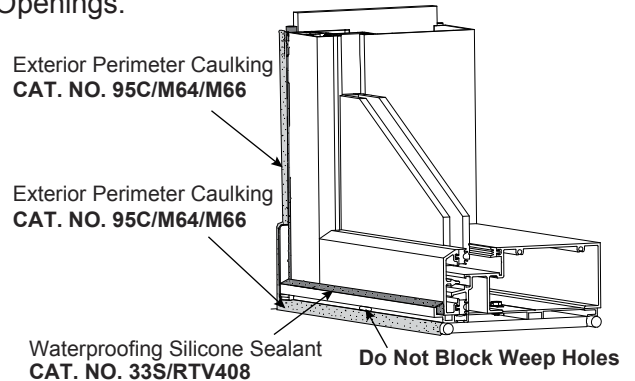


NOTE: I.G. butyl contact OK.

## PERIMETER

- 95C SILICONE BUILDING SEALANT (Preferred)
- M64 (SMOOTH) MODIFIED POLYURETHANE
- M66 (TEXTURED) MODIFIED POLYURETHANE

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



## STRUCTURAL

- ALL STRUCTURAL SEALANTS REQUIRE TESTING AND APPROVAL.

Glass-to-Glass or Glass-to-Metal