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THERMAL PERFORMANCE TIPS

Tubelite’s thermal systems are designed to provide optimum thermal performance within the guidelines for which the product was designed. However, it is recommended to choose the best installation method of our framing systems and how they interact with the building surround to achieve optimal performance. A thorough review of shop drawings is recommended prior to installation.

The following are among the more common installation practices that can increase the possibility of unwanted condensation forming on interior surfaces:

1. Bridging the thermal break designed into the framing system by a number of items such as metal flashing that is exposed to the exterior.

2. Excessively high interior relative humidity levels

3. Lack of proper air movement or ‘washing’ over the interior of the framing system.
   For example, the use of window blinds or drapes can limit air movement.

4. Improper separation of building components from the framing system around the perimeter of the frame

5. Incorrect product usage during the development of shop drawings
GENERAL CONSTRUCTION NOTES

1. These instructions cover typical product application, fabrication, installation and standard conditions and are
general in nature. They provide useful guidelines, but the final distribution drawings may include additional
details specific to this project. Any conflict or discrepancies must be clarified prior to execution.

2. Materials stored at the job site must be kept in a safe place protected from possible damage by other trades.
Stack with adequate separation so materials will not rub together, and store off the ground. Cardboard or
paper wrapped materials must be kept dry. Check arriving materials for quantity and keep record of where
various materials are stored.

3. All field welding must be done in accordance with AISC guidelines. All aluminum and glass should be
shielded from field welding to avoid damage from weld splatter. Results will be unsightly and may be
structurally unsound. Advise general contractor and other trades accordingly.

4. Coordinate protection of installed work with general contractor and/or other trades.

5. Coordinate sequence of other trades which affect framing installation with the general contractor (e.g. fire
proofing, back up walls, partitions, ceiling, mechanical ducts, convectors, etc.).

6. General contractor should furnish and guarantee bench marks, offset lines and opening dimensions. These
items should be checked for accuracy before proceeding with erection. Make certain that all adjacent
substrate construction is in accordance with the contract documents and/or approved shop drawings. If not,
notify the general contractor in writing before proceeding with installation because this could constitute
acceptance of adjacent substrate construction by others.

7. Isolate all aluminum to be placed directly in contact with masonry or other incompatible materials with a
heavy coat of zinc chromate or bituminous paint.

8. Sealant selection is the responsibility and option of the erector, installer and/or glazing contractor and must
be approved by the sealant manufacturer with regard to application and compatibility for its intended use. All
sealants must be used in strict accordance with the manufacturer’s instructions and applied only by trained
personnel to surfaces that have been properly prepared.

9. Sealant must be compatible with all materials with which they have contact, including other sealant surfaces.
Consult sealant manufacturer for recommendations relative to shelf life, compatibility, cleaning of substrate,
priming, tooling adhesion, etc.

10. Drainage gutters and weep holes must be kept clean at all times. Tubelite cannot accept responsibility for
improper drainage as a result of clogged gutters and weep holes.

11. This product requires clearances at head, sill and jambs to allow for thermal expansion and contraction.
Refer to final distribution drawings for joint sizes. Joints smaller than ¼” may be subject to failure. Consult
your sealant supplier for proper sizing and joint design.

12. All materials are to be installed plumb, level and true with regard to established bench marks and column
center lines established by the general contractor and checked by the erector, installer and/or glazing
contractor.

13. Cleaning of exposed aluminum surfaces should be done per AAMA recommendations.

14. Due to varying perimeter conditions and job performance requirements, anchor fasteners are not specified in
these instructions. For anchor fastening, refer to the shop drawings or consult the fastener supplier.

15. Check our website, www.tubeliteinc.com, for the latest installation manual prior to commencing work.
## Extrusions

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<tr>
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<td>90 Degree Corner (Thermally improved, not thermally broken)</td>
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<td>(Use at perimeter anchor locations)</td>
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<td><img src="image10.png" alt="SSG Water Dam (use with T/E14340 sill)" /></td>
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<td>#10-24 X 1&quot; Hex IND Type F Screw (Frame assembly screw at screw splines)</td>
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<tr>
<td><img src="image3.png" alt="Shape" /></td>
<td>#10 X 1¾&quot; Type F Phillips Pan Head (Shear block to vertical fastener)</td>
<td>S009</td>
</tr>
<tr>
<td><img src="image4.png" alt="Shape" /></td>
<td>#8 X ⅜&quot; Type A Phillips Pan Head (End dam to sill flashing fastener)</td>
<td>S196</td>
</tr>
</tbody>
</table>
QUICK REFERENCE CHECKLIST

1. Make sure the opening is square and the caulk joints are 1/4" minimum around the frame.  
   Note: Frames that utilize the T14259 or E14059 sill flashing must have a minimum of 3/8" caulk joint at head.

2. Ensure surfaces that will be sealed are free of contaminants that can lead to adhesion issues.

3. Sill flashing must be properly shimmed and level from left to right and front to back for proper drainage.

4. A continuous line of sealant must be applied between the sill and the top interior leg of the sill flashing.

5. Check that all weeps and baffles (if required) conform to the locations and sizes called out in these instructions.

6. Ensure that sill flashing weep holes are not plugged by the perimeter seal.

7. A sill flashing splice is needed in openings larger than 24 feet. Follow instructions for installing and sealing.

8. End dams must be installed and sealed onto the sill flashing. Fasteners used must also be sealed.

9. Where the sill flashing abuts a door jamb, the jamb pocket cavity must be completely sealed to dam this area.

10. Cap seal any exposed anchor or screw.

11. Butter seal ends of horizontal frame members that are joined to vertical members.

12. Water diverter installation and sealing is critical. Check installation against instructions to ensure conformity.

13. Apply sealant between all corner gasket joints.

14. Glass bites must be equal on all sides.

15. Double check anchor size and location against installation instructions or approved shop drawings.

16. Insure that interior seal is married to sill flashing interior leg.

---

GLASS SIZE CALCULATION

Width tolerance = + 0", − 1/16"

Typical Framing:

Glass Width = D.L.O. plus 3/4"
Glass Height = D.L.O. plus 3/4"

Transoms with Sash:

Glass Width = D.L.O. plus 3/4"
Glass Height = D.L.O. plus 3/4" (Ref. Fig.17.1)

---

Fig. 17.1
TYPICAL ELEVATION WITH DETAILS
OUTBOARD PLANE - OUTSIDE GLAZE

SCREW SPLINE ASSEMBLY
OUTBOARD PLANE - OUTSIDE GLAZE

SHEAR CLIP ASSEMBLY
OUTBOARD PLANE - OUTSIDE GLAZE

Shown with shear clips.
Screw spline assembly similar without clip.
OUTBOARD PLANE - OUTSIDE GLAZE
TYPICAL ELEVATION WITH DETAILS
OUTBOARD PLANE - INSIDE GLAZE

SCREW SPLINE
ASSEMBLY
OUTBOARD PLANE - INSIDE GLAZE

SHEAR CLIP
ASSEMBLY
OUTBOARD PLANE - INSIDE GLAZE
NOTE:
1. Narrow Stile door are shown. Refer to entrance section for other door types and stiles.
2. Doors are available with single pane glazing.
DOOR FRAME ELEVATION
WITH HORIZONTAL DETAILS - OUTBOARD PLANE

NOTE:
1. Narrow Stile door are shown. Refer to entrance section for other door types and stiles.
2. Doors are available with singel pane glazing.
TYPICAL ELEVATION WITH DETAILS
INBOARD PLANE - INSIDE GLAZE

SCREW SPLINE ASSEMBLY
INBOARD PLANE - INSIDE GLAZE

SHEAR CLIP ASSEMBLY
INBOARD PLANE - INSIDE GLAZE
FRAME FABRICATION

Note: Non-thermal extrusions are shown in these instructions for clarity. Fabrication and installation of thermal members are the same.

Step 1: Determine Frame Size

Frame Width

A. Make sure the opening is square and plumb. Measure each diagonal of the opening. Units must be installed in a true rectangle. See Fig. 24.1

B. Measure the width of the opening at the top, middle, and bottom. Select the smallest of these dimensions and subtract the left and right caulk joint width per approved shop drawings. (1/4" minimum caulk joint at each jamb) See Fig. 24.2

Frame Height

C. Measure the height of the opening at several points along the entire width of the opening. Select the smallest of these dimensions and subtract the top and bottom caulk joint height per approved shop drawings (1/4" minimum caulk joint at sill. At head, caulk joint can be 1/4" when using T14055 or similar flashing. When using T14259 or E14059 sill flashing, head caulk joint must be 3/8"). See Fig. 24.3
Step 2: Cut Material to Size

Note: Door framing material comes cut to size from the factory. In cases of door frames with transoms, the door jambs must be cut down in the field to size and head member attached per standard instructions shown within this manual.

Framing Members:

Sill Flashing with Entrance (Door Jamb to end of frame see Fig. 25.1) = Frame width + 1/8”
Sill Flashing without Entrance = Frame width + 1/4”

Sill Flashing Note:
For openings wider than 24’, the sill flashing must be spliced at the center line of a D.L.O. every 12 to 15 feet. Splice joint should be 3/8” wide. See Step 10, Page 37 & 38 for sill flashing splice details.

Verticals = See Fig. 25.1
Head Receptor = Frame width + 1/4”
Head Receptor Snap Stop = Frame width + 1/4”
Head, Horizontal & Sill = D.L.O.
Horizontal & Sill Glass Stops = D.L.O. - 1/32”
Closure Pockets at Verticals = See Fig. 25.1
Horizontal Glazing Adaptors = D.L.O. - 1/32”
Vertical Glazing Adaptors = D.L.O. + 1/32”
Snap-In Fillers = Refer to approved shop drawings

Accessories:

Exterior Gasket = D.L.O. + Allowance*
Interior Gasket = D.L.O. + Allowance*

*Allowance = 1/8” extra length per foot of D.L.O.
FRAME FABRICATION

Step 3: Fabricate Sill Flashing

A. When using T14259 or E14059, drill two 7/32" dia. weep holes at 2” and 6” from each side of the verticals. See Fig 26.1

B. Drill clearance holes for perimeter anchors. Size and quantity vary per job. Refer to approved shop drawings. See Fig 26.2 Note: If head receptors are used, follow the same procedure as on the sill flashing.

C. Optional: Install a weep baffle (PTB42) in the gutter of sill flashing behind each weep hole. See Fig 26.3

![Fig. 26.1](image1)

![Fig. 26.2](image2)

![Fig. 26.3](image3)

Optional: Install weep baffle (PTB42) located in gutter of sill flashing behind each weep hole

![Fig. 26.4](image4)

Typical Sill Flashing Anchor Hole Patterns (Head channel similar) (Refer to approved shop drawings for project requirements)
FRAME FABRICATION VERTICALS
OUTBOARD PLANE - OUTSIDE GLAZE

Step 4: Fabricate Verticals Framing Members

A. Drill frame assembly holes in verticals, jambs & closure pockets with drill fixture. See Fig. 27.1 & Fig. 27.2

   a. For screw spline assembly, use drill guide P2405.
   b. For shear block assembly, use drill guide P2406.

B. Per approved shop drawings, drill hole to accommodate for P2401 Roll Pin. See Fig. 27.1 & Fig. 27.2
Step 4: **Fabricate Verticals Framing Members** (Continued)

A. Drill frame assembly holes in verticals, jambs & closure pockets with drill fixture. See **Fig. 28.1** & **Fig. 28.2**
   
a. For screw spline assembly, use drill guide P2405.
   b. For shear block assembly, use drill guide P2406.

B. Per approved shop drawings, drill hole to accommodate for P2401 Roll Pin. See **Fig. 28.1** & **Fig. 28.2**
**FRAME FABRICATION - HORIZONTALS**

**Step 5: Fabricate Horizontal Members for Shear Blocks**

A. For shear block assembly, drill .201” dia holes in the head, horizontal and sill members as shown in **Fig. 29.1 & Fig. 29.2**

---

**Fig. 29.2**

---

**Fig. 29.1**

---
**FRAME ASSEMBLY**

**Step 6: Install Sill Flashing End Dams**

A. Install P2455 end dam at each end of sill flashing with (2) S196 #8 x ¾" PH screws. Seal end dam and cap seal fastener heads. Set aside and allow sealant to cure. For T14259 flashing see **Fig. 30.1**, For T14055 flashing see **Fig. 30.2**

**NOTE:** If sill flashing is spliced, install end dams on jamb-end only. Refer to **Step 10, page 37-38** for splicing instructions.

**Fig. 30.1**

**Fig. 30.2**
Step 7: **Assemble Frames**

**Screw Spline Assembly - Outboard Plane - Outside Glaze**

A. Clean all mating surfaces on horizontal & vertical.
B. Apply sealant to ends of the head, horizontal, and sill members prior to attaching to the vertical members. See **Fig. 31.1**
C. Attach head, horizontal, and sill members to the vertical and vertical filler members with S449 #10-24 x 1” HEX IND Type F frame assembly screw.
D. Tool sealant at each joint.

---

**Fig. 31.1**
FRAME ASSEMBLY

Step 7: **Assemble Frames** (Continued)

**Shear Block Assembly - Outboard Plane - Outside Glaze**

A. Install shear blocks onto verticals with S009 #10 x 1 3/4" PH screw as shown in **Fig. 32.1**.
B. Clean all mating surfaces on horizontal, vertical, and shear block.
C. Apply sealant to ends of the head, horizontal, and sill members and to perimeter of shear blocks prior to attaching the horizontal members to the vertical members.
D. Slide head, horizontal, and sill members over the shear blocks.
E. Match drill tap holes in head, horizontal, and sill shear blocks with drill for #10 screw.
F. Secure head, horizontal, and sill members with (1) S191 #10 x ½” truss head screw. See **Fig. 32.1**.
H. Cap seal heads of screws at horizontal and sill members.

**Fig. 32.1**
FRAME ASSEMBLY

Step 7: Assemble Frames

Screw Spline Assembly - Outboard Plane - Inside Glaze

A. Clean all mating surfaces on horizontal & vertical.
B. Apply sealant to ends of the head, horizontal, and sill members prior to attaching to the vertical members. See Fig 33.1
C. Attach head, horizontal, and sill members to the vertical and vertical filler members with S449 #10- 24 x 1” HEX IND Type F frame assembly screw.
D. Tool sealant at each joint.
**FRAME ASSEMBLY**

**Step 7: Assemble Frames (Continued)**

**Shear Block Assembly - Outboard Plane - Inside Glaze**

A. Install shear blocks onto vertical with S009 #10 x 1 3/4” PH screw as shown in Fig. 34.1.
B. Clean all mating surfaces on horizontal, vertical, and shear block.
C. Apply sealant to ends of the head, horizontal, and sill members and to perimeter of shear blocks prior to attaching the horizontal members to the vertical members.
D. Slide head, horizontal and sill members over the shear blocks.
E. Match drill tap holes in head, horizontal, and sill shear blocks with drill for #10 screw.
F. Secure head, horizontal, and sill members with (1) S191 #10 x ½” truss head screw. See Fig. 34.1.
G. Cap seal heads of screws at horizontal and sill members.

---

**Fig. 34.1**
**Frame Installation**

**Step 8: Install Gaskets**

A. Install glazing gasket on one side of the framing member, depending upon direction of glazing.

   a. For outside glazing, install gaskets on interior side of framing first.

   b. For inside glazing, install gaskets on exterior side of framing first.

DO NOT STRETCH GASKETS WHEN INSTALLING.
Start at the center of D.L.O. and work towards the ends.

Allowance = 1/8” extra length per foot of D.L.O.

**Important Note:** Clean ends of the gaskets with IPA prior to sealing the corners.
Step 9: **Install Sill Flashing** (If required)

A. Center the sill flashing in the opening. If sill flashing is spliced, be sure the joint at the jamb is per approved shop drawings (jamb caulk joint minus 1/8”). Sill Flashing longer than 24’ in length should be spliced. Splice joint to be 3/8” minimum.

If there is an entrance door in the opening, leave a gap in the sill flashing for the door frame to be installed and refer to Step 12, page 41 for sealing instructions.

B. At the highest point of the sill (smallest rough opening height), shim the sill flashing with a minimum 1/4” shim space. Sill flashing must be installed level side to side and front to back.

C. Shim tight between the sill flashing end dam and building condition to ensure end dam is not dislodged during frame installation. Remove shim after frames are set in place.

D. Anchor sill flashing to building substrate per approved shop drawings. Cap seal anchors after installation. Where the sill flashing abuts a door jamb, the sill flashing anchor must be located within 6” of the door jamb.

---

**Fig. 36.1**
Step 10: **Sill Flashing Splice**

**Standard Silicone Splice - Fig. 37.1**

A. Continue installing sill flashing per Step 9 across the opening.
B. Lay P3444 silicone sheet into sill flashing at splice location (center of D.L.O.) and cut to length.
C. Install backer rod under the sill flashing at the splice joint.
D. Clean surfaces where splice will be applied. Apply sealant as shown in Fig. 37.1.
E. Set silicone splice sleeve in place and tool sealant. Seal front and back joints.
F. Do not locate a splice directly below a vertical mullion. Center line of D.L.O. is preferred.

---

**Fig. 37.1**

- **Allowing for contours**
  - Cut splice material to length

- **Press splice into silicone sealant conforming to flashing shape**

- **Tool sealant at front gap**

- **Apply silicone sealant into joint at interior leg**

**NOTE:**
Consult sealant manufacturer for compatibility of sealant with silicone splice.
Step 10:  **Sill Flashing Splice** (Optional)

Optional Aluminum Splice - **Fig. 38.1**

A. Continue installing sill flashing per Step 9 across the opening.
B. Set P1144 splice sleeve in a bed of sealant under the sill flashing at the splice location as shown in **Fig. 38.1**.
C. Maintain 3/8” minimum splice joint gap at the sill flashing prior to anchoring.
D. Apply sealant at the sill flashing splice joint.
E. Do not locate a splice directly below a vertical mullion. Center line of D.L.O. is preferred.

**Fig. 38.1**
Step 11: **Assemble Frames**

A. Starting on one side of the opening, apply a bead of silicone to the back leg of the sill flashing and the end dam prior to installing each frame. Apply a sealant bead on the back leg of the flashing only for the frame to be installed.

B. Lift the first frame onto the sill flashing, snug against the end dam.

**NOTE:** Use PVC fillers as required between aluminum fillers. Aluminum fillers are used at anchor locations.

C. Lift each frame onto the sill flashing and engage with the previous frame.

D. Check to ensure frame is plumb, level, and jamb caulk joint is per approved shop drawings.

E. Shim head and jamb at anchor points and attach to the building structure. Size, quantity and location of anchors are per approved shop drawings. Remove shims between sill flashing end dams and secure before proceeding.

F. When the frame is anchored to the structure, apply the exterior perimeter seal at the head, sill and jambs. Interior perimeter seal must be applied to the head, sill and jambs.
Frame installation when using the optional T14055 sill flashing.
(Note: Avoid drilling through the thermal break of T14055 as this could void the warranty)

G. Install frame units as directed in steps A and B on page 39.
H. Push frame tight to vertical fin of sill flashing and match drill through sill anchor holes into sill flashing. Do not drill through the thermal barrier. See **Fig. 40.1**. Sill anchor not by Tubelite and is to be sized according to project loading requirements.
I. Shim between sill and flashing centered on anchor. See **Fig. 40.2**
J. Inject sealant into anchor hole to cover hole in flashing. See **Fig. 40.2**
K. Apply sealant to threads of fastener and secure frame to sill flashing. See **Fig. 40.3**
L. Cap seal all fastener heads. See **Fig. 40.4**

---

**Fig. 40.1**
Frame should be tight against vertical leg of flashing when drilling.

**Fig. 40.2**
Inject sealant through anchor hole in sill to cover hole in sill flashing below.

**Fig. 40.3**
Cover threads of fastener with sealant and tighten in place.

**Fig. 40.4**
Cap seal over fastener head.
Step 12: Sealing Sill Flashing at Door Jamb

A. Install door frame into the opening where sill flashing is discontinued.
B. Seal the bottom of the door jamb mullion to the building substrate and to the sill flashing.
C. Fill the door jamb cavity completely and marry to the sill flashing.

NOTE:
When a “Knee Wall” occurs within an elevation, the sill flashing must be sealed to intersecting vertical member as shown in Fig. 41.2.

Fig. 41.1

Fig. 41.2
GLAZING

Step 13: Glazing Preparation

A. Remove any debris from the glazing pockets and clean all surfaces.

B. Trim excess silicone from edges of glazing units to allow for maximum glazing clearance. Glass dimensions should not exceed the daylight opening (D.L.O.) plus 3/4”.

Glazing pockets are designed to accept IGU’s up to and including 1-1/8” thick. Refer to our online System Glazing Chart for a full list of glazing size options for this system:

GLAZING

Step 14: Installing the Glazing Units

NOTE: Glazing must be done from bottom of frame up.

A. Seal the corners of the previously installed gaskets (refer to Step 8, page 35).

B. Set the glass by installing into the deep pocket of the vertical first, then carefully sliding into the shallow pocket. Set glass onto (2) setting blocks located at quarter points or per approved shop drawings. Consult glass manufacturer if glass size exceeds 40 sq. ft.

C. In applications where glass shifting is anticipated through seismic activity or other forces acting on the frame, install P1916 anti-walk blocks into both left and right glass pockets of the vertical per glazing manufacturer recommendations.

D. Install remaining gaskets on the vertical sides of the glass, holding back to allow for glass stop installation.

E. Install glass stop at the bottom of the lite.

F. Pump sealant into glazing reglet 1” away from each corner and the horizontal-to-vertical joint from the water diverter up to the glazing reglet.

G. Finish installing gaskets at top and bottom of D.L.O.

H. Repeat steps 14 A-G for the remaining row of lites.

I. Prior to glazing the next row of lites, install water diverter P1135 at ends of intermediate horizontals. See Fig. 43.1.

NOTE: Position water diverter to cover glass corner.
Seal diverter to horizontal, leaving the gap at the front and side open in the vertical glazing pocket. See Fig. 43.1 & 43.2.
(Also see isometric details on page 44)
Step 14: **Installing the Glazing Units (Continued)**

These seals are **CRITICAL** and must prevent water from draining into gasket reglets and into a gaskets of lower glass units.

Apply sealant in vertical interior and exterior gasket reglets.

Note: Water diveters and lower lite glazing not shown for detail clarity.

**Fig. 44.1**

Seal around edges of water diverter. Leave forward pocket portion open for drainage.

These seals are CRITICAL and must prevent water from draining into gasket reglets and into a gaskets of lower glass units.

**Fig. 44.2**

NOTE: Lower openings should be glazed prior to installing water diverters in upper openings.

P1135
Water diverter
Set in full bed of sealant
CORNTER CONDITIONS

Step 1: Corner Sill Flashing Fabrication

A. Miter ends of sill flashing as shown in Figs. 45.1, 45.2, 45.3 & 45.4. (One left hand and one right hand.)

B. Drill anchor holes as show.
CORNER CONDITIONS

Step 2: Corner Sill Flashing Installation

A. Install flashing corner members in place.
B. Apply sealant full length of mitered joint. See Fig. 46.2.
C. Splice corner flashing to sill flashing using procedures shown on page 37 and 38. See Fig. 37.1 & Fig 38.1

Fig. 46.1

Fig. 46.2
CORNER CONDITIONS

Step 3: Assemble Frames

A. Assemble corner bay frames as a unit and set onto the sill flashing. See Fig. 47.1
   Note: For Outboard Plane 135 degree inside corners, shallow pocket closures must be used (T14312).
   Note: For Inboard Plane 135 degree outside corners, shallow pocket closures must be used (T14312).
B. Complete the installation per standard instructions within this manual.

Fig.47.1
STRUCTURAL SILICONE GLAZED - SSG
TYPICAL ELEVATION WITH DETAILS

SSG ASSEMBLY
OUTSIDE SET WITH HORIZONTAL

SSG ASSEMBLY
OUTSIDE SET WITHOUT HORIZONTAL

SSG ASSEMBLY
INSIDE SET WITHOUT HORIZONTAL
Step 1: Fabricate Sill Flashing
A. Refer to Step 3 of Frame Fabrication on page 26

Step 2: Fabricate Vertical Framing Members
A. Drill frame assembly holes in verticals & jambs with drill fixture. See Fig. 49.1

Step 3: Fabricate Horizontal Members for Shear Blocks
A. For SSG condition, shear block assembly must be used. Drill 0.201” dia holes in the horizontal members as shown in Fig. 49.2
Step 4: **Assemble Frames**

**Shear Block Assembly - SSG**

A. Install shear blocks onto vertical with S009 #10 x 1 3/4” PH screw as shown in **Fig. 50.1**.

B. Clean all mating surfaces on horizontal, vertical, and shear blocks.

C. Apply sealant to ends of the horizontal and shear blocks prior to attaching the horizontal members to the vertical members.

D. Slide horizontal over the shear blocks.

E. Match drill hole in horizontal shear blocks with drill for #10 screws.

F. Secure intermediate horizontal with (1) S191 #10 x ½” truss head screw. See **Fig. 50.1**.

G. Head and sill members run through between jambs.

---

**Fig.50.1**
Step 4: Assemble Frames

Shear Block Assembly - SSG Expansion Mullion

A. Clean all mating surfaces on horizontals & verticals.
B. Apply sealant to ends of the horizontal, prior to attaching to the vertical members.
C. Attach horizontal members to expansion verticals with (4) S449 screw. See Fig. 51.1.
D. Attach head & sill members to verticals with (4) S449 screws. Fig. 51.2.
E. Fabricate bond breaker splices at head and sill for both exterior and interior locations. Fig. 51.2.
F. Head and sill members run through between jambs.
Step 5: Install Water Diverter

A. Water diverters can only be installed once the frame is assembled.
B. Apply silicone to horizontal glazing pocket where the water diverter will be resting. See Fig. 52.1
C. Place P2407 water diverter evenly across the horizontal to cover the void between the horizontal members
D. Bend the water diverter 90 degrees
E. Seal around edges of water diverter. THIS IS A CRITICAL SEAL. Do not seal front of water diverter. See Fig 52.3
STRUCTURAL SILICONE GLAZED - SSG

Step 6: Install Glazing Gaskets

A. Remove any debris from the glazing pockets and reglets.
B. Install P2310 gasket onto reglets of the vertical mullion. See Fig 53.1
C. Install glazing gasket P2728 on head, horizontal, and sill members on interior side of framing first. See Fig 53.2

DO NOT STRETCH GASKETS WHEN INSTALLING
Start at the center of D.L.O. and work toward the ends.

NOTE: Allowance = 1/8” extra length per foot of D.L.O. to allow for gasket to relax after installation.
Step 7: Install Glazing Units

A. Set glass onto (2) setting blocks located at quarter points or per approved shop drawings.
B. Tape off side of SSG vertical and glass prior to applying structural sealant. Apply structural sealant as shown on interior. See **Fig 54.2**. Use P1108 temporary glazing clip to secure glass as interior seal cures.
C. Apply structural sealant as shown in **Fig 54.3**.
D. Install exterior gaskets (P2728) on head, horizontal, and sill. Install outside glass stop (E14324) on horizontal. See **Fig 54.4**.

---

**Fig.54.1**

- Set glass on setting blocks per approved shop drawings
- Lower openings should be glazed first

**Fig.54.2**

- Trim edges of structural sealant area with masking tape for clean lines. Apply sealant and tool
- Ensure sealant is injected into voids at horizontal and vertical intersection

**Fig.54.3**

- Apply sealant

**Fig.54.4**

- 3/16" Dia. Weep hole at intermediate vertical
- E14324 Glass Stop
- P2728 Gasket
Step 8: Install SSG Corner

A. Place the male SSG corner member (E14348) and female SSG corner member
B. Install P2310 glazing gaskets to corner members
C. Set glass. Tape off side of SSG vertical and glass prior to applying structural sealant. Apply structural sealant and backer rod as shown in Fig. 55.1 & Fig. 55.2