Reliance™ StormMax® Curtain Wall
INSTALLATION AND GLAZING MANUAL

Note: Installation and Glazing Manuals are product specific. FOR REVIEW ONLY!
TABLE OF CONTENTS

General Information
Product Use 1
Protection and Storage 2
Check Material 2
Field Conditions 2
Cleaning Materials 2

Section 1: 1.0 Cutting Guide 3
1.1 Material Fabrication Guide 4
1.2 Shear Block Hole Guide 5
1.3 Jamb Fabrication 6
1.4 Vertical Mullion Fabrication 7
1.5 Alternative Reinforcement Steel Channel 8
1.6 Alternative Reinforcement Steel Bar 9
1.7 9/16" Optional Glazing Adaptor Fabrication 10
1.8 Horizontal Member Fabrication 11
1.9 Pressure Plate Fabrication 12

Section 2: Frame Installation 13-20
2.0 Jamb & Mullion Installation 13
2.1 Horizontal Member Installation 14-15
2.2 9/16" Glazing Adaptor Installation 16
2.3 Horizontal Filler Installation 17
2.4 Perimeter Sealant Application 18
2.5 Zone Plug Installation 19
2.6 Zone Bridge Installation for SSG Mullion 20

Section 3: Glazing Instructions 21
3.0 Isolator Gasket Installation
3.1 Dry Glazed Gasket Installation 22
3.2 Glass Sizing & Installation 23
3.3 Pressure Plate Sealing 24
3.4 Pressure Plate Splice 25
3.5 Sealing Top of Verticals 26
3.5b Horizontal Face Cap Install 27
3.6 Interior Sealing for Wet Glazed Applications 28
3.7 Entrance Subframe Installation 29
TABLE OF CONTENTS
continued

Section 4: Mid Point Anchor Installation
  4.0 Mid Point Anchor at Jamb Panel Frame 30
  4.1 Mid Point Anchor At Mullion 31

Section 5: Stacked Horizontal Installation
  5.0 Assembly 32
  5.1 Zone Plug Installation 33
  5.2 Sealant Application 34
  5.3 Pressure Plate Installation 35

Section 6: Corner Instructions
  6.0 OS 90 Degree Corner Glass Sizing 36
  6.1 OS 90 Degree Capture Assembly 37
  6.2 OS 90 Degree SSG Corner Assembly 38

Parts List 39-41
PRODUCT USE

The StormMax™ Reliance® curtain wall system is intended for installation by glazing professionals with appropriate experience. Subcontractors without experience should employ a qualified person to provide field instruction and project management.

Oldcastle BuildingEnvelope® does not control the application or selection of its product configurations, sealant or glazing material and assumes no responsibility thereof. It is the responsibility of the owner, architect and installer to make these selections in strict compliance with applicable laws and building codes.

Consult sealant manufacturer for review and recommendation of sealant application. Follow sealant manufacturer's recommendations and literature for proper installation.

The air and water performance of the StormMax™ Reliance® curtain wall system is directly related to the completeness and integrity of the installation process both the seal installed at the shear blocks and the glazing gasket installed at the interior side of the glass. All pressure plates must also be installed properly. To insure top performance for this system, particular attention should be given the following procedures:

1. Surfaces to be sealed should be cleaned with isopropyl alcohol or solvent and dried as recommended by sealant manufacturer to remove all dirt and cutting oils. Sealant at shear blocks should be a minimum 3/16" diameter nominal placed completely around the top, face and bottom of the shear block without gaps in the sealant. Exposed surfaces should be cleaned after installing the horizontal. Inspect joint for complete sealant contact, especially where the horizontal meets the face of the vertical member. Repair joint as required.

2. The exterior glazing gasket should be installed so as to avoid stretching, buckles or tears.

Variations on the details shown are inevitable and are not the responsibility of Oldcastle BuildingEnvelope® when drawn by others. Oldcastle BuildingEnvelope® strongly encourages its customers to use its Engineering department for calculations and shop drawings.
GENERAL INFORMATION

PROTECTION AND STORAGE
Handle all material carefully. Do not drop from the truck. Stack with adequate separation so the material will not rub together. Store material off the ground, protecting against the elements and other construction hazards by using a well ventilated covering. Remove material from package if wet or located in a damp area. For further guidelines consult AAMA publication Care and Handling of Architectural Aluminum From Shop to Site.

CHECK MATERIAL

Check glass dimensions for overall size as well as thickness. Oldcastle BuildingEnvelope cannot be held responsible for gaskets that are not water tight due to extreme glass tolerances. The Reliance curtain wall system is designed to accommodate glass or panels measuring 1-5/16" and 9/16" in thickness. (+/- 1/32")

Check all material upon arrival at job site for quality and to determine any shipping damage.

Using the contract documents, completely check the surrounding conditions that will receive your materials. Notify the general contractor by letter of any discrepancies before proceeding with the work. Failure to do so constitutes acceptance of work by other trades.

Check shop drawings, installation instructions, architectural drawings and shipping lists to become familiar with the project. The shop drawings take precedence and include specific details for the project. The installation instructions are of a general nature and cover the most common conditions. Due to varying job conditions all sealant used must be approved by the sealant manufacturer to insure it will perform per the conditions shown on the instructions and shop drawings. The sealant must be compatible with all surfaces in which adhesion is required, including other sealant surfaces. Use primers where directed by sealant manufacturer. Properly store sealant at the recommended temperatures and check sealant for remainder of shelf life before using.

FIELD CONDITIONS

All material to be installed must be plumb, level and true. Aluminum to be placed in direct contact with masonry or incompatible material should be isolated with a heavy coat of zinc chromate, bituminous paint or non-metallic material.

After sealant is set and a representative amount of the wall has been glazed (250 square feet or more), run a water hose test in accordance with AAMA 501.2 specifications to check installation. On large projects the hose test should be repeated during the glazing operation.

CLEANING MATERIALS

Cement, plaster terrazzo, alkaline and acid based materials used to clean masonry are very harmful to finishes. Any residue should be removed with water and mild soap immediately or permanent staining will occur. A spot test is recommended before any cleaning agent is used. Refer to the Architectural Finish Guide in the Detail Catalog.
FRAME FABRICATION

1.0 Unless otherwise noted, the details shown in these instructions reflect the 7 1/2" system for 1-5/16" glazing. NOTE: Structural silicone glazed vertical mullion is referred to as SSG mullion.

a. Measure ROUGH OPENING to determine FRAME WIDTH and FRAME HEIGHT dimensions. Allow 1/2" minimum clearance for shimming and caulking around perimeter of frame.

b. Cut material to size. SEE FIGURE 1 for guide.

Frame Members

Verticals

- FRAME HEIGHT (ROUGH OPENING minus top & bottom joints)
  - Vertical pressure plates
  - Vertical face covers
  - Intermediate horizontals (tubular)
  - Intermediate horizontals (rollover)
  - Head and sill
  - Intermediate horizontals (rollover)

Intermediate horizontals (tubular)

- Daylight opening (D.L.O.)
- D.L.O. minus 1/16"

Intermediate horizontals (rollover)

- D.L.O. minus 1/16"

Head and sill

- D.L.O. minus 1/16"

Horizontal pressure plates

- D.L.O. minus 1/4"

Horizontal face covers

- D.L.O. minus 1/16"

Horizontal interior trim (for rollover)

- D.L.O. minus 1/16"

Accessories

Glazing gaskets (Wet Glazed)

- Exterior
  - Pressure plate length plus allowance*
- Interior at verticals
  - D.L.O. plus 1" plus allowance*
- Interior at horizontals
  - D.L.O. plus allowance*

Silicone spacer gaskets

- D.L.O. plus 1" plus allowance*

*Glazing gaskets should be cut 1/4" longer per foot. Set aside and lay flat until ready to glaze.

Glazing gaskets (Dry Glazed)

- Exterior
  - Pressure plate length plus allowance*
- Interior at verticals
  - D.L.O. plus 1-1/2"
- Interior at horizontals
  - D.L.O. plus 3/16"

Other Members (as required)

Glazing adaptors

- Horizontal
  - D.L.O. minus 1/32"
- Vertical
  - D.L.O. plus 1"

Door subframe

- Jamb
  - DOOR OPENING plus 1"
- Header
  - DOOR OPENING minus 1/32"

Flush door pressure plate

- Jamb
  - DOOR OPENING plus 3/4"
- Header
  - DOOR OPENING minus 1/16"

Flush door face cover

- Jamb
  - DOOR OPENING plus 2 1/2"
- Header
  - DOOR OPENING minus 1/16"
FRAME FABRICATION

**Figure 1.1**
Material Fabrication Guide

- **Pressure Plate:** FRAME HEIGHT minus 1/4"
- **Vertical & Vertical Face:** FRAME HEIGHT
- **Tubular Horizontal:** D.L.O.
- **Roll-Over Horizontal:** D.L.O. minus 1/16"
- **Midpoint:** 1 1/2"
- **Quarter points:** 1 1/2"
- **D.L.O. minus 1/4"**
- **5/16" dia. weep hole:** (bottom leg of face cover)
- **Factory punched holes**
1.2 Mullion hole locations for attachment of shear blocks as shown in FIGURE 1.2.

FIGURE 1.2
Shear Block Hole Guide

JAMBS WITH "F" ANCHORS

INTERMEDIATE VERTICALS
WITH "T" ANCHORS

Vertical & Vertical Face = FRAME HEIGHT

#11 (.191 dia.) holes for #14 fasteners

5/8" 1-1/4" 1-7/8"
JAMB FABRICATION

1.3 a. Prior to HW-183-01 shear block attachment insert HW-200-01 Anchor Sleeves at Jamb ends and match drill .191 dia. hole. (This step is only required for design pressures above 70 psf.)
b. Attach HW-183-01 shear block to HW-500 Jamb with FS-9 fastener.
c. Attach HW-122 Jamb Filler to HW-500 Jamb using FS-322 Fastener locate 12" O.C. (Drill #11 - .191" clear hole in HW-122 Jamb Filler and #25 - .1495" pilot hole in Jamb) HW-122 Filler should be bed in sealant. Tool sealant on gap space between HW-122 Filler and Jamb Mullion.
d. Install interior FG-5185 Spacer Gasket cut to 2" from ends and 2" gaps at horizontal to allow for zone plugs.
e. Install, seal and tool HW-338 End Caps to top and bottom of Jamb screw boss with (2) FS-320 #10 x 1/2" drive screws.

FIGURE 1.3
Apply sealant bed to front edge of mullion end prior to installation of HW-338 Mull Cap
Apply sealant bed to entire length of Jamb Mullion

Apply sealant bed to entire front edge of mullion end prior to installation of HW-338 Jamb Cap

Apply sealant bed to front edge of mullion end prior to installation of WW-352 Zone Plug

Gap dimension for WW-352 Zone Plug

Involved components include:
- HW-200-01 Anchor Sleeve (for design pressures above 70 psf)
- HW-500 Jamb Mullion
- HW-183-01 Shear Block
- (4) FS-9 Fasteners
- (2) FS-320 Drive Screw
- HW-338 Jamb End Cap
- HW-122 Jamb Filler
- FS-322 Fastener
- 2" Gap dimension for WW-352 Zone Plug
VERTICAL MULLION FABRICATION

1.4  a. Prior to HW-183-01 Shear Block attachment insert HW-200-01 Anchor Sleeves at HW-500 Vertical Mullion ends and match drill .191 dia. hole. (This step is only required for design pressures above 70 psf.)

b. Attach HW-183-01 Shear Block to HW-500 Vertical Mullion with FS-9 fastener.

c. Install FG-5185 interior spacer gasket cut to 2" from ends and 2" gaps at horizontal to allow for WW-352 Zone Plugs. (Not applicable on Dry Glazed applications)

d. Install and seal HW-325 End Caps to top and bottom of HW-500 Vertical Mullion screw boss with (2) FS-320 #10 x 1/2" drive screw.

FIGURE 1.4

Apply sealant bed to front edge of mullion end prior to installation of HW-325 Mull Cap

FG-5185 Interior Spacer Gasket (Not applicable on Dry Glazed applications)

Gap dimension for WW-352 Zone Plug

Seal and tool sealant on end caps

(2) FS-320 Drive Screw

HW-200-01 Anchor Sleeve (for design pressures above 70 psf)

HW-500 Intermediate Vertical Mullion

HW-183-01 Shear Block

(4) FS-9 Fasteners
ALTERNATIVE REINFORCEMENT STEEL CHANNEL

1.5  a. Insert RS-25 Reinforcement Steel into HW-500 Jamb or Mullion
    (Steel Height = Mullion Height Minus 6”)
b. Prior to HW-183-01 Shear Block attachment insert HW-200-01 Anchor Sleeves at
    HW-500 Vertical Mullion ends and match drill .191 dia. hole.
c. Attach HW-183-01 Shear Block to HW-500 Vertical Mullion with FS-9 fastener
d. Attach RS-25 Reinforcement Steel to HW-500 Jamb or Mullion with (2) FS-322
    fasteners to be located within the Intermediate Horizontal shear block as show in FIGURE 1.5a
  e. Install FG-5185 interior spacer gasket cut to 2” from ends and 2” gaps at
    horizontal to allow for WW-352 Zone Plugs.
f. Install and seal HW-325 End Caps to top and bottom of HW-500 Vertical Mullion
    screw boss with (2) FS-320 #10 x 1/2” drive screw.

FIGURE 1.5

Steel Height = Mullion Height Minus 6”

RS-25 Reinforcement Steel

FIGURE 1.5a

(2) FS-320 Drive Screw

HW-200-01 Anchor Sleeve
(for design pressures above 70 psf)

HW-500 Intermediate Vertical Mullion

RS-25 Reinforcement Steel

HW-183-01 Shear Block

Drill #25 - .1495” pilot hole
install (2) FS-322 Fasteners

 Seal and tool sealant on end caps
ALTERNATIVE REINFORCEMENT STEEL BAR

1.6  a. Insert and attach RS-15 Reinforcement Steel into HW-500 Jamb or Mullion
(Steel Height = Mullion Height) Attach RS-15 Steel to HW-200-01 Anchor Sleeve using FS-322
at Head and Sill. See Figures 1.6a & b
b. Prior to HW-183-01 Shear Block attachment insert HW-200-01 Anchor Sleeves at
HW-500 Vertical Mullion ends and match drill .191 dia. hole.
c. Attach HW-183-01 Shear Block to HW-500 Vertical Mullion with FS-9 fastener.
d. Install FG-5185 interior spacer gasket cut to 2" from ends and 2" gaps at horizontal to allow
for WW-352 Zone Plugs.
e. Install and seal HW-325 End Caps to top and bottom of HW-500 Vertical Mullion screw boss
with (2) FS-320 #10 x 1/2" drive screw.

FIGURE 1.6

Drill #25 - .1495" to drill a
pilot hole into steel
for (1) FS-322 Fastener
(Repeat at Sill)

Slide HW-200-01 Anchor Sleeve with
attached RS-15 Steel into the Mullion
and then attach
HW-183-01 Shear Block

Seal and tool sealant on end caps
9/16" OPTIONAL GLAZING ADAPTOR FABRICATION

1.7  
   a. Cut HW-130 Glazing Adaptor to D.L.O. plus 1 5/8".
   b. Drill #9 (.1960") fastener hole 12" O.C. 1" off ends.
   c. Bed glazing reglet with Dow Corning 795 Sealant.
   d. Drill a hole and attach HW-130 Glazing Adaptor with FS-119 fastener.
   e. Install FG-5185 interior spacer gasket cut to same length as HW-130 Glazing Adaptor.
   f. HW-130 Glazing Adaptors for Horizontal members are cut to D.L.O.
HORIZONTAL MEMBER FABRICATION

1.8  a. Cut all Horizontal members as follows:
   - HW-500 Horizontal to D.L.O.
   - HW-501 Head, HW-502 Sill, HW-532 Roll Over Horizontal, HW-533 Roll Under Horizontal, WW-237 Filler to D.L.O. minus 1/16"

b. Drill (2) #11 - .191" holes and counter sink locate 3/4" from each end at "V" grooves

c. Slide FG-5185 Spacer Gasket into reglet on all Horizontal members cut to D.L.O. size as shown in FIGURE 1.8b.

 HW-500 Horizontal Mullion, (HW-501 Head, HW-532 Roll Over Horizontal, HW-533 Roll Under Horizontal WW-237 Filler and HW-502 Sill will have the same fabrication except D.L.O minus 1/16")
PRESSURE PLATE FABRICATION

1.9  
   a. Cut WW-162 Pressure Plate to D.L.O. minus 1/4" for horizontal members.
   b. Drill (2) 5/16" weep holes at 1/4 points on "V" grooves of WW-162 Pressure Plate. See Figure 1.9a
   c. Cut WW-162 Pressure Plates vertical members to Frame Height minus 1/4".
   d. Cut GP-117 Gasket to D.L.O. plus 1/4" for relaxation on horizontal members. Vertical members
      are cut to frame height plus 1/4". Crowd gasket into riglet. See FIGURE 1.9b

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**FIGURE 1.9a**  
Horizontal Pressure Plate Fabrication

**FIGURE 1.9b**  
Gasket Installation
2.0 a. Insert "F", "T" or "L" Anchor into the top and bottom of the mullions before erecting them as shown in FIGURE 2.0a.
b. Erect and locate jamb and vertical mullions and temporarily attach them to structure. (Install plumb & true)
c. Field Drill holes in "F", "T" or "L" Anchor for appropriate fastener according to approved shop drawings.
d. Shim and Anchor into opening.
e. Apply Dow Corning 795 silicone sealant to face, top, bottom and screw tracks of shear block as shown in FIGURE 2.0b.
HORIZONTAL MEMBER INSTALLATION

2.1  a. Prior to attaching horizontal members follow sealant instructions given in Detail 2.0b.
b. Slide Horizontal Member into opening from back to front. This will force sealant through
the attachment holes on horizontal member as shown in FIGURE 2.1a
c. Install (2) FS-118 Fasteners on each side of horizontal through the horizontal member face.
Adequate sealant should be applied in track of shear block to allow sealant to force through holes in horizontal.

Sealant should form a seal around and beneath attachment fastener. If sealant does not form complete seal around screw head, the fastener should be cap sealed to insure a proper seal.

FS-118 (2) per Shear Block
2.2  a. Attach horizontal members as shown in 2.1.

  b. Cut HW-130 Glazing Adaptor to same size as horizontal member as shown in 1.8.

  c. Drill #9 (.1960") fastener holes 12" OC and 1" off ends and counter sink at "V" grooves.

  d. Drill a hole and dry fit HW-130 Glazing Adaptor to horizontal member.

  e. Install FG-5185 interior spacer gasket cut to same length as HW-130 Glazing Adaptor.

  f. Bed reglet with Dow Corning 795 Silicone Sealant.

  g. Fasten HW-130 with FS-119 fastener. Seal screw head with 795 Silicone Sealant
HORIZONTAL FILLER INSTALLATION

2.3  a. Insert WW-237 Filler front leg into receptor leg of HW-532 or HW-533 Horizontal

b. Rotate WW-237 Filler until it engages into rear snap.

c. Use a rubber mallet to fully engage WW-237 Filler.

FIGURE 2.3
PERIMETER SEALANT APPLICATION

2.4  a. Position backer rod around the perimeter of the frame.
b. Clean gap area on frames with isopropyl alcohol (50%) and wipe clean.
c. Apply Dow Corning 795 silicone sealant to the perimeter of the frame.
   (Interior seal is optional)

**FIGURE 2.4a**
Jamb Condition

**FIGURE 2.4b**
Sill Condition
ZONE PLUG INSTALLATION

**STEP 1**
Force sealant into gasket race

**STEP 2**
Force sealant along top of zone plug to form a water tight seal.

**ZONE PLUG AT HEAD**
Seal along tongue of horizontal & across face and tongue of mullion before installing WW-352 zone plugs.
Seal between head, vertical mullion and mullion cap

**ZONE PLUG AT JAMB**
Seal jamb & sill zone plugs same as shown at left

**ZONE PLUG AT SILL**
Seal between sill, vertical & mullion cap
**ZONE BRIDGE INSTALLATION FOR SSG MULLIONS**

**FIGURE 2.6**
Zone Bridge Installation

**STEP 1**
Force sealant into all races on face of mullion.

**STEP 2**
Seal along tongue of horizontal and across face of mullion before installing zone bridge.

**STEP 3**
Tool sealant along top & sides of zone bridge to form a water tight seal.

Trim off nubs with needle nose pliers.

WW-350 Zone Bridge

Figure 2.6 Zone Bridge Installation

Zone Bridge at Sill (Head Similar)
ISOLATOR GASKET INSTALLATION

3.0  a. Install face gaskets into all pressure plates. Crowd all gaskets into members to avoid gaps caused by relaxation of gasket material.

b. Install thermal spacer into groove on face of mullion tongues. Cut short 1/8" from each end of the mullion. See FIGURE 3.0

c. Position setting blocks at correct location (two per lite). Refer to approved shop drawings. Lubricating the top of setting blocks will help insure proper setting of glass. Note: Consult glass manufacturer for correct setting block location and length for glass sizes.

FIGURE 3.0
Thermal Isolator Installation
DRY GLAZED GASKET INSTALLATION (OPTIONAL)

3.1  a. Cut vertical GP-1015 Gasket to D.L.O. plus 1 1/2".

b. Cut the horizontal GP-1015 Gasket to D.L.O. plus 3/16".

c. Bed 2" at horizontal vertical intersections including the gasket reglet with Dow Corning 795 sealant.

d. Install vertical GP-1015 Gasket into reglet using a vinyl roller. Begin at center work towards ends.

e. Install horizontal GP-1015 Gasket next. Apply silicone on ends. Begin at center of horizontal. Use a vinyl roller to ensure proper engagement.

Apply Dow Corning 795 sealant and push gasket in to reglet then use roller to properly engage the gasket.
3.2 a. Set glass in opening. Ensure that glass bite is equal on all sides. **CAUTION:** Be certain that glass is placed firmly against interior spacer gasket to ensure a proper seal and to avoid binding of the glass on the setting block.

b. Temporarily hold glass in the opening with WW-333 temporary glazing retainers & FS-325 screw. Torque the FS-325 screw to 90 in-lbs.

- WW-333 temporary glazing retainers must be applied at each glass edge 3" from the corner (minimum of 8 per lite). Glass edges greater than 4' in length but less than 8' require an additional retainer at the glass mid-span.
- Retainers are intended for short term use only. Additional retainers may be required to withstand full design wind load pressures.
- Full length pressure plates must be installed if severe weather or high wind loads are anticipated. See Figure 3.2a & 3.2b

**FIGURE 3.2a**
Glazing Instructions

**WW-333-01 temporary glazing retainer.**
Locate at 3" from edge of glass. Additional clips may be required based on field conditions and glass size.

**FIGURE 3.2b**
Typical Location of Temporary Glazing Retainers

SSG MULLION

FS-325 (1) per retainer

CW-2102 setting block
(2) per D.L.O, locate at 1/4 points

**CAPTURED** = D.L.O. PLUS 1.50" WIDTH & HEIGHT

SSG MULLION = D.L.O PLUS 2.00" (WIDTH ONLY)

SSG MULLION + CAPTURED JAMB = D.L.O PLUS 1.75" (WIDTH ONLY)
PRESSURE PLATE SEALING

3.3 Repeat steps 3.2 until all glass is set, working row by row up the elevation.

a. Prior to installing vertical pressure plates, apply sealant to the face of each horizontal zone plug. See Figure 3.3a. Vertical pressure plates must be installed before the horizontal pressure plates are applied.

b. FS-325 pressure plate fasteners must be located 1 1/2” from horizontal/vertical mullion intersections in order to maintain proper compression on the glass. Drill 7/32” holes in pressure plates as required.

c. After removing vertical temporary retainers, install vertical pressure plates with FS-325 screws, holding back 1/8” from the ends of the vertical mullion.

d. After removing horizontal temporary retainers, center horizontal pressure plates in opening, leaving 1/8” gap on each end. Make sure that weep holes are on the top side of the pressure plate. NOTE: Horizontal pressure plates and face covers run continuous over SSG mullions, not to exceed 3 lites in length. See Figure 3.4 for splicing and sealing instructions.
PRESSURE PLATE SPLICE INSTRUCTIONS

FIGURE 3.4a
Pressure Plate Splice

SEALING NOTES:
1. Prior to attaching face covers, seal between pressure plates.
2. Attach face covers and seal joint (a foam backer rod can be used to aid in sealing)

Attachment holes
Weep holes

Quarter points
1/8" min. face cover splice joint

SSG vertical

1 1/8"

1/4" splice joint
Quarter points

Face cover (dashed)

FIGURE 3.4b
Pressure Plate/Face Cover Splicing & Sealing at SSG Mullions
(Intermediate Horizontal Shown; Head & Sill Similar)

1/8" min. face cover splice joint

Face cover
Pressure bar (dashed)

Face Cover Splice

Backer rod between face cover and pressure plate
GLAZING INSTRUCTIONS

3.5 a. After all pressure plates are installed on the frame, torque FS-325 screws to 90 in-lbs. The use of either a drill motor with a torque limiter or torque wrench can be used. If using a cordless drill, check torque periodically since battery usage will affect the torque setting.

b. Install vertical face covers. Using a wood block to protect the cover, apply with dead blow soft face hammer. Pin the vertical face covers once per length as required, concealing pin at a horizontal location.

c. Insert backer rod into cavity at the top of each vertical mullion. Seal off end of vertical, sloping sealant back to marry with the perimeter seal. See FIGURE 3.5a

d. Seal horizontal pressure plates against the vertical face covers. Tool sealant into the joint. See FIGURE 3.5b.

e. Install horizontal face covers, leaving an equal gap at each end. Make sure that the weep hole in the face cover is on the top.

FIGURE 3.5a
Sealing Top of Captured Verticals

Backer rod & sealant in cavity
Perimeter seal
Mullion end cap
Weep Hole
GLAZING INSTRUCTIONS

1. WW-110 face cap
Weep horizontal cap at mid-lite.
See detail below

2. 5/16" O weep holes locate at 1/4 points

3. FS-325 screw
(FS-322 at 1/4" system)

4. WW-162 cut length = D.L.O. minus 1/4"

Glazing Notes:
1. GP-117 Gasket used on exterior of system.
2. Remove gaskets from reels and allow to relax overnight before installing.
3. Cut gaskets to allow minimum 1/4" per foot for any relaxation of gasket that may occur after installation.
4. To ensure proper pressure on the glazing, 7/32" diameter holes may need to be drilled at the ends of each horizontal pressure plate as required. Locate at 1 1/2" maximum from the ends.

FIGURE 3.5b
Glazing Instructions
Horizontal Face Cap Fabrication
INTERIOR SEALING FOR WET GLAZED APPLICATIONS

3.6  a. Clean all silicone surfaces and joints with 50% isopropyl alcohol and wipe clean.
    b. Apply painter's tape to the mullion and glass as shown in FIGURE 3.6
    c. Apply Dow Corning 995 structural silicone sealant into pocket between the mullion and
       the glass starting from the bottom and work towards the top. Be sure to use positive
       pressure to completely fill the pocket and prevent voids in sealant.
    d. Use a proper implement to tool the silicone sealant smooth immediately after running the bead.
    e. Remove painter's tape after tooling and before silicone sealant skins over.

FIGURE 3.6
Glazing Instructions
9/16" Glazing Similar
3.7 All door framing components are shipped fabricated from the factory. The main curtain wall framing can be erected prior to installing the doors. Refer to FIGURE 3.7 for door header fabrication and installation instructions.

a. Curtain wall verticals and door subframes run through to finished floor. Bed adjacent curtain wall verticals in sealant and anchor to floor per approved shop drawings. See shop drawings for anchoring door jamb mullion.

b. **SUBFRAME INSTALLATION:**

b.1 Assemble Door Subframe including TH-57 Threshold.
b.2 Install subframe into curtain wall frame. Shim plumb and true.
b.3 Anchor subframe with FS-322 space 18” O.C. Anchor threshold per shop drawings
b.4 Install door stops in subframe. The vertical stops run through.
b.5 Mask off frame with painter’s tape and clean & seal perimeter of frame on exterior & interior
b.6 Install door per DOOR & FRAME INSTALLATION & GLAZING MANUAL.

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**FIGURE 3.7**
Attaching Subframes

- HW-500 Mullion
- 1/8” Shim Space
- D-226 Subframe
- FS-322 Fastener 18” O.C.
- FG-5163 Door Stop
- HW-122 Pocket Filler
- Put backer rod at top of jamb subframes and seal void
- Seal joint between vertical and horizontal subframes
MID POINT ANCHOR AT JAMB PANEL FRAME

4.0  a. Attach steel tap plate to HW-500 Jamb Mullion with FS-259 Fastener see Figure 4.0.

b. Install plumb and align vertical Jamb Mullion drill appropriate sized holes for anchor bolts as shown on approved shop drawings.

c. Insert a (minimum) 1/16" Koralath slip pad between the anchor and the tap plate prior to inserting fasteners.

NOTE: Details shown are to used as a guide only. See approved shop drawings for actual conditions.

![Figure 4.0 Diagram](image-url)
MID POINT ANCHOR AT MULLION

4.1  a. Install plumb and align vertical mullion drill appropriate sized holes for anchor bolts as shown on approved shop drawings.

b. Insert a (minimum) 1/16" Koralath slip pad between the anchor and the tap plate prior to inserting fasteners.

c. Insert anchor bolts through the mullion and install lock washers and nuts as required.

NOTE: Details shown are to be used as a guide only. See approved shop drawings for actual conditions.
STACKED HORIZONTAL INSTALLATION

5.0  

a. Apply Bond Breaker Tape to HW-194-01 Splice

b. Insert HW-194-01 Splice into bottom half of HW-500 Mullion.

c. Attach splice to bottom half of HW-500 Mullion with FS-8 Fastener (2) per side.

d. Insert top half of HW-500 Mullion on to splice. Insert anchors on both ends and install into opening.  
Corner mullion has similar assembly.

FIGURE 5.0
5.1 a. Attach HW-536 Stack Horizontals to HW-500 Jamb with FS-118 Fasteners.

b. Shim 1.25" at Splice Sleeve. Remove shim once mid point anchor is installed.

c. Gaskets and Zone Plug installation are similar to the instructions given in standard horizontal installation given in Section 2.1.
STACKED HORIZONTAL INSTALLATION

5.2  a. Once all bays have been installed, anchored and zone plugs have been installed then begin to install backer rod and sealant as shown in FIGURE 5.2

b. At Jamb condition marry silicone sealant with perimeter sealant.

c. Remove Splice Stop fastener and seal hole.

FIGURE 5.2
STACKED HORIZONTAL VERTICAL PRESSURE PLATE INSTALLATION

5.3  a. Step 1 - After Glazing has been temped in, install WW-162 Vertical Pressure Plates.

b. Step 2 - Install WW-110 Face Cap and seal HW-102 Pressure Plate to WW-110 Face Cap.

c. Step 3 - Install vertical HW-100 Face Cap.
OS 90 DEGREE CORNER GLASS SIZE CALCULATION

6.0 FIGURE 6.0a shows the 90 Degree Captured Corner dimensions. FIGURE 6.0b shows the 90 Degree SSG Corner dimensions. These details are for general reference and do not necessarily reflect all conditions. For specific assembly, sealing and anchoring notes, refer to approved shop drawings.

FIGURE 6.0a
OS 90 Captured Corner glass sizing

FIGURE 6.0b
OS 90 SSG Corner glass sizing
6.1 FIGURE 6.1 shows the basic layout of the standard one-piece corner mullion assemblies. These details are for general reference and do not necessarily reflect all conditions. For specific assembly, sealing and anchoring notes, refer to approved shop drawings.

**Detail "A"**
Miter Cut at 1.50" Horizontal

- HW-115 face cover (continuous)
- GP-107 isolator (continuous)
- WW-162 pressure plate, attach with FS-325 at 9" O.C. (continuous)
- HW-132 mullion adaptor, attach with FS-325 at 9" O.C. (continuous)
- HW-240

**Detail "B"**
Captured OS 90 Corner Assembly Guide

- Work point
- WW-352 zone plug (typ. both sides)
- WW-162 pressure plate (D.L.O. minus 1/4")
- HW-180-01 shear block
- Match drill shear block with 5/32" dia. drill for #10 screw
- #11 (.191 dia.) tap hole for #14 fastener
- Straight cut at glass pocket (Refer to DETAIL "A")
- FS-118 (2)
- FS-9 (2)

**FIGURE 6.1**
Captured OS 90 Corner Assembly (Cut lengths in parentheses)
6.2  

**a. Step 1** - Install glazing and temp in using WW-333-01 Temporary Glazing Retainer and HW-132-01 Adaptor. (spaced at 36") Apply interior bead of structural silicone in glazing pocket. Allow for a full cure of structural silicone before removing temporary retainer.

**b. Step 2** - Remove temporary retainer and apply a bead of silicone in vertical race. Install F-64 SSG corner tube. Install and seal HW-214 zone plugs at horizontal members. Apply painter's tape to the edge of glazing and F-64 tube and apply silicone sealant. Remove tape once silicone skins over.

**c. Step 3** - Install WW-162 Pressure Plates and WW-110 Face Cap at horizontal members. Dimensions are to be in accordance with approved shop drawings.

---

**OS 90 DEGREE SSG CORNER ASSEMBLY**

**STEP 1**

- WW-333-01 Temporary Glazing Retainer
- FS-325 Fastener (1) per retainer
- HW-132-01 Temporary Adaptor
- Structural Silicone Sealant

**STEP 2**

- HW-214 Zone Plug (typ. both sides)
- Silicone Sealant Bedding
- F-64 Tube
- Silicone Sealant with Backer Rod

**STEP 3**

- WW-110 Face Cover (D.L.O. minus 1/16")
- 45 degree mitered corner
- WW-162 Pressure Plate
### Mullions / Horizontals / Fillers

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>HW-500</td>
<td>Mullion</td>
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<tr>
<td>HW-501</td>
<td>Head</td>
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<tr>
<td>HW-502</td>
<td>Sill</td>
</tr>
<tr>
<td>HW-504</td>
<td>SSG Mullion</td>
</tr>
<tr>
<td>HW-510</td>
<td>Heavy Mullion</td>
</tr>
<tr>
<td>HW-532</td>
<td>Roll Over Horizontal</td>
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<td>HW-533</td>
<td>Roll Under Horizontal</td>
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<tr>
<td>WW-237</td>
<td>Filler</td>
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### Miscellaneous Parts List

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<tr>
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<tbody>
<tr>
<td>HW-100</td>
<td>4.50&quot; Face Cap</td>
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<tr>
<td>HW-102</td>
<td>4.50&quot; Pressure Plate</td>
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<tr>
<td>HW-101</td>
<td>Corner Face Cap</td>
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<tr>
<td>HW-115</td>
<td>Pocket Filler (Use with Exterior Gasket)</td>
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<tr>
<td>HW-122</td>
<td>Adaptor for 9/16&quot; Glazing</td>
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<tr>
<td>HW-130</td>
<td>Corner Pressure Plate</td>
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<td>HW-240</td>
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<td>HW-536</td>
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<tr>
<td>WW-110</td>
<td>Typical Face Cap</td>
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<td>WW-162</td>
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<td>WW-224</td>
<td>Corner Cover</td>
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<td>F-64</td>
<td>SSG Corner</td>
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<tr>
<td>WW-162</td>
<td>Typical Pressure Plate</td>
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## Accessories List

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<tbody>
<tr>
<td>DJ-112</td>
<td>Typical Drill Jig for Mullions (Non-Corners)</td>
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<tr>
<td>CW-2101</td>
<td>4&quot; Setting Block</td>
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<tr>
<td>CW-2102</td>
<td>4&quot; Setting Block</td>
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<td>FG-5185</td>
<td>Spacer Gasket</td>
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<tr>
<td>GP-107</td>
<td>Thermal Isolator</td>
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<td>GP-117</td>
<td>Exterior Gasket</td>
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<tr>
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<td>Exterior Gasket Stacked Horizontal</td>
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<tr>
<td>GP-1015</td>
<td>Dry Glazed Gasket</td>
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<tr>
<td>HW-74-01</td>
<td>Splice for HW-504 &amp; HW-510</td>
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<tr>
<td>HW-103-01</td>
<td>&quot;F&quot; Anchor for sleeve</td>
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<tr>
<td>HW-103-02</td>
<td>&quot;F&quot; Anchor</td>
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<tr>
<td>HW-105-01</td>
<td>&quot;T&quot; Anchor for sleeve</td>
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<td>HW-105-02</td>
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<td>HW-174-01</td>
<td>&quot;L&quot; Anchor for Wood Substrates</td>
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<td>HW-180-01</td>
<td>Corner Shear Block</td>
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<td>HW-180-02</td>
<td>Shear Block for Stacked Horizontal Corner</td>
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<tr>
<td>HW-180-03</td>
<td>Shear Block for Stacked Horizontal Corner</td>
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<tr>
<td>HW-183-01</td>
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<tr>
<td>HW-184-01</td>
<td>Shear Block for Stacked Horizontal</td>
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<tr>
<td>HW-191-01</td>
<td>Splice for HW-240 Corner Mullion</td>
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<td>Anchor Sleeve for HW-500</td>
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<tr>
<td>HW-201-01</td>
<td>Anchor Sleeve for HW-510 &amp; HW-504</td>
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<tr>
<td>HW-312</td>
<td>Corner Mullion Bridge</td>
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<tr>
<td>HW-314</td>
<td>OS90 SSG Zone Plug</td>
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# Fastener List

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<th>DESCRIPTION</th>
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<tr>
<td>FS-9</td>
<td>#14 x 1 1/2&quot; Hex Shear Block Screw</td>
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<td>FS-118</td>
<td>#10 x 1&quot; Phillips Flat Head at Horizontal Members</td>
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<tr>
<td>FS-119</td>
<td>#10 x 1 1/2&quot; Phillips Flat Head at 9/16&quot; Glazing Adaptor</td>
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<tr>
<td>FS-259</td>
<td>1/4-20 Phillips Flat Head Type &quot;F&quot;</td>
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<td>FS-320</td>
<td>#10 x 1/2&quot; U-Drive, at End Caps</td>
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<td>FS-322</td>
<td>#12-14 x 1&quot; Hex Washer Head Drill Flex Jamb Filler</td>
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<tr>
<td>FS-325</td>
<td>#12-14 x 1 3/8&quot; Hex Washer Head Drill Flex at Pressure Plates</td>
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# Misc. Parts

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<th>ITEM</th>
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<td>HW-323</td>
<td>OS 90 Corner Mullion Cap</td>
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<tr>
<td>HW-325</td>
<td>Mullion Cap</td>
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<td>HW-338</td>
<td>Jamb Cap</td>
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<td>HW-358</td>
<td>SSG Mullion Cap</td>
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<td>RS-15</td>
<td>1/2&quot; x 4 &quot; Steel Bar 150&quot;</td>
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<td>RS-25</td>
<td>4 9/16&quot; x 1 1/4 &quot; Steel Channel 120&quot;</td>
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<td>WW-350</td>
<td>SSG Mullion Bridge</td>
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<tr>
<td>WW-352</td>
<td>Zone Plug at Captured Mullion &amp; O.S. 90 degree capt</td>
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