



Oldcastle BuildingEnvelope®

Reliance™ Unit Wall Structural Silicone Glazed

site re-glaze instructions

NOTE

THE INSTALLATION DETAILS FOUND IN THIS PACKAGE ARE GENERIC AND ARE FOR REPRESENTATION ONLY WITH THE INTENT OF GIVING THE INSTALLATION TEAM A VISUAL REPRESENTATION AS TO HOW THE ASSEMBLIES TYPICALLY INSTALL. THE SHOP SUBMISSION DRAWINGS AND DETAILS ARE THE GOVERNING DOCUMENTS AND AS SUCH THIS PACKAGE IS TO BE USED ONLY AS A RESOURCE.

FOLLOW SEALANT MANUFACTURERS' RECOMMENDATIONS FOR USE AND APPLICATION OF ALL STRUCTURAL SILICONE SEALANT AND WEATHER SEAL SILICONE SEALANT.

CUSTOMER / PROJECT QUALITY ASSURANCE PROCEDURES ARE SEPARATE DOCUMENTS AND ARE TO BE FOLLOWED IN CONJUNCTION WITH THIS MANUAL.

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GENERAL NOTES

PRODUCT USE

Read the following labeled instructions and corresponding details carefully prior to attempting reglaze operation.

The **Reliance™ Unit Wall** curtain wall system is intended for fabrication, assembly, sealing, installation and glazing by professionals with appropriate knowledge and experience of the system(s) and their incorporation into various building conditions.

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

Contact your silicone manufacturer's representative for specific guidelines, testing and materials used on project. Submit reglazing procedure to structural silicone sealant manufacturer for review, approval, and acceptance. Procedure to be as required by sealant manufacturer. Follow sealant manufacturer's recommendations and literature for proper cleaning procedures, testing and application of silicone sealant. Complete all necessary sealant adhesion and compatibility tests prior to reglaze. Please reference the Dow Corning Technical Manual of the Americas and ASTM C1401.

This document does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this document to establish appropriate occupational safety and health practices and determine the applicability of regulatory limitations prior to use.

Customer / Project quality assurance procedures are separate documents and are to be followed in conjunction with this manual.

Contact Oldcastle Building Envelope® if you need further clarification.

BUILDING CODES

Oldcastle BuildingEnvelope® does not control the application nor selection of its product configurations, sealant, or glazing materials, 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.

STRUCTURAL SILICONE

The fabrication and installation of a structural silicone-glazed (SSG) or wet glazed system requires more technical knowledge and experience than is required for a conventional pressure-glazed or dry glazed system. The glazing contractor should take all steps as outlined and required by the structural silicone sealant manufacturer, glass fabricator, framing manufacturer, and the project professional engineer of record as well as follow local building code requirements and industry best practices to ensure the proper installation and safe performance of the SSG system.

The glazing contractor for each project needs to ensure compliance with each step, including, but not limited to, design reviews, formal adhesion testing, formal compatibility testing, project specification compliance, validating procedures, field testing, and quality control validation of installed product and surrounding conditions.

Testing of component materials for use in a SSG or wet glazed system is mandatory to fulfill project specifications and warranty requirements and must be submitted by the glazing contractor to the structural silicone manufacturer. All materials that comprise the structural silicone joint, such as the framing system (with the job-specific finish) and job-specific glass must be tested by the structural silicone manufacturer for compatibility and adhesion. All other accessory materials in contact with the structural silicone, such as setting blocks, spacers, gaskets, sweeps, air seals and expansion joints, must also be submitted to the silicone sealant manufacturer for compatibility testing.

To ensure that nothing has changed in formulation or chemistry since the initial tests, subsequent testing during periodic time frames of the project is to be conducted to confirm continued acceptance of the material for use on the project. To

ensure the structural performance and integrity of the insulating glass unit (IGU), the glazing contractor must submit the project shop drawings to the glass fabricator to obtain approval for use of their product(s) in any 2, 3 or 4-sided SSG applications.

Quality control procedures for field glazing are to be increased beyond those required for shop glazing. Job conditions will normally have dust, dirt, and other construction debris on the surfaces where structural silicone is to be applied. Great care should be exercised in cleaning and preparing these surfaces for silicone application. The recommendations of the silicone sealant manufacturer are to be strictly enforced and followed. The fabrication and installation of the SSG system and its components, whether shop or field glazed, should be governed by a quality control program, and all steps, procedures, and test reports should be documented throughout the project.

Prior to installation of any SSG system, refer to industry documents (e.g., AAMA Curtain Wall Design Guide Manual, ASTM C1401-14, and AAMA SSGDG-17) for detailed instructions and recommendations.

THE GLAZING CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR ENSURING COMPLIANCE WITH THE ABOVE AND ASSUMES FULL LIABILITY FOR ANY ISSUES ARISING FROM NONCOMPLIANCE.

GLAZING PRACTICES

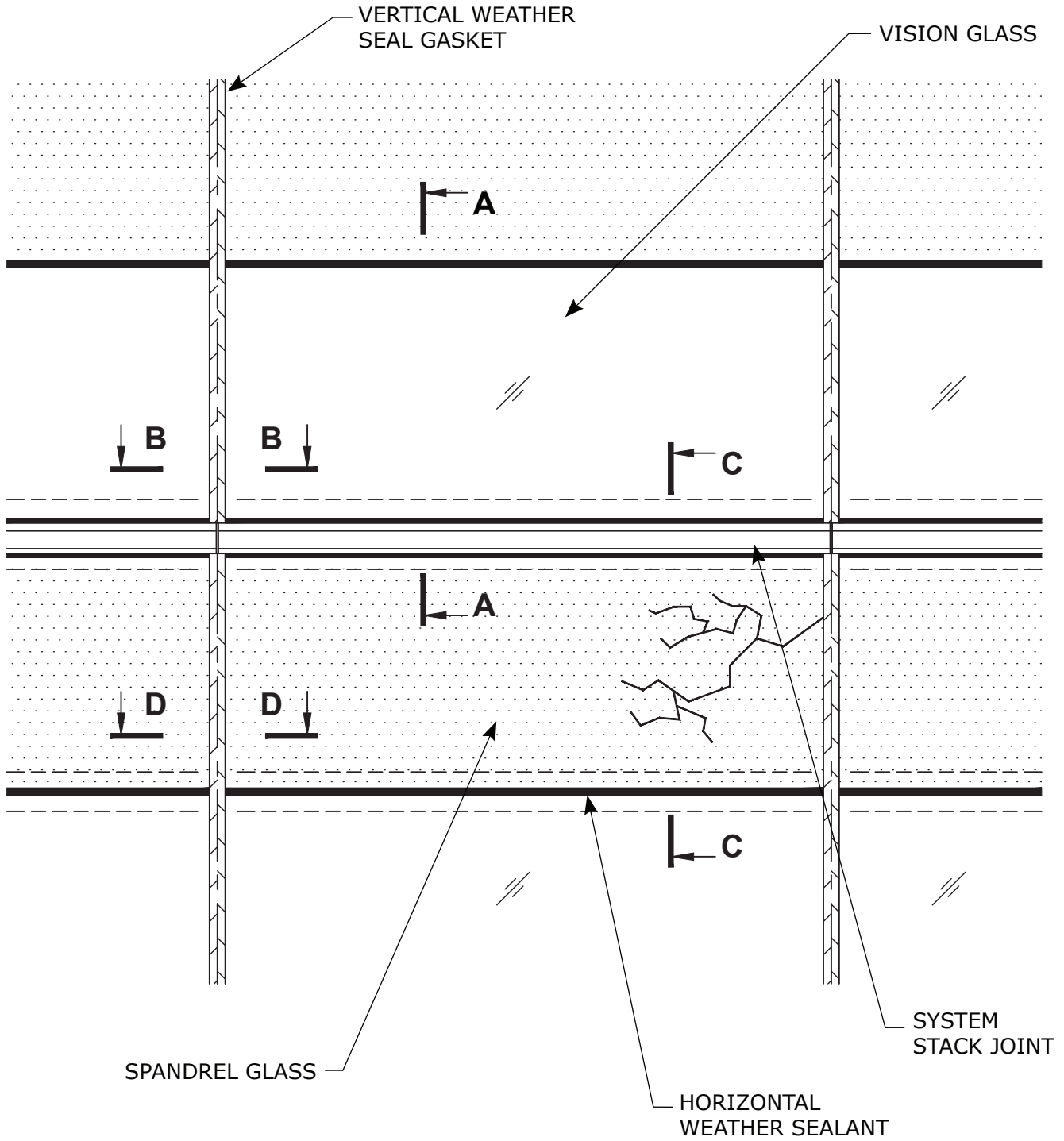
The air and water performance of the Reliance™ Unit Wall system is directly related to the completeness and integrity of the installation process, including but not limited to the assembly seals of the framing joinery, the installed glazing gaskets, and the alignment of the framing joinery glazing plane. Before glazing, verify the glazing pocket width and glazing infill thickness, as both must be in tolerance to assure adequate edge pressure and to achieve the desired air and water performance levels. (In general, framing systems utilizing 1" insulating glass are designed to accommodate a thickness variance of +/- 1/32"). Note: Excessive pressure can cause glass breakage and/or IGU failure. Consult the glass manufacturer for their recommended edge pressure per lineal inch.

To achieve the designed and tested air and water performance, best practices include:

- Glazing gaskets should be cut ¼" longer per foot, and lay flat, preferably for 24 hours.
- Gaskets should be cut as single monolithic pieces and "crowded" during their installation to avoid corner gaps caused by post-installation relaxation.
- The interior glazing gasket should be installed so as to avoid stretching, buckles, or tears.
- Corners must be cut square, and at a slight angle when required to conform to the bevel on the intersecting gasket; sealed and butted together.
- Gasket corner joinery must also be crowded, and sealant applied onto the gasket contact frame surface and into gasket reglet raceway where applicable.
- Gasket corner seals are to be done just prior to installing glass, while the sealant is still wet and uncured, and ensure exterior gaskets are installed so as to place the glass into its final in service condition and allow the sealant to conform to optimum configuration. Note: If the sealant cures prior to glazing, the cured sealant could create excessive edge pressure onto the glass and has the potential to cause glass breakage.
- The glass must be checked for squareness, size dimension, and thickness along the edges paying attention to any variances from center edge to corner edge.
- Check the placement of the installed glass and verify there is proper edge bite into the pocket, and proper edge clearance from framing elements.

After sealant has set and a representative amount of the wall has been installed and 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. Consult and follow NGA's GANA Manual and FGMA Glazing Manual for proper glazing technique and procedure.

Typical Elevation



Vision Glazing Procedure

1.0 Vision Glazing (See details on pages 7-11)

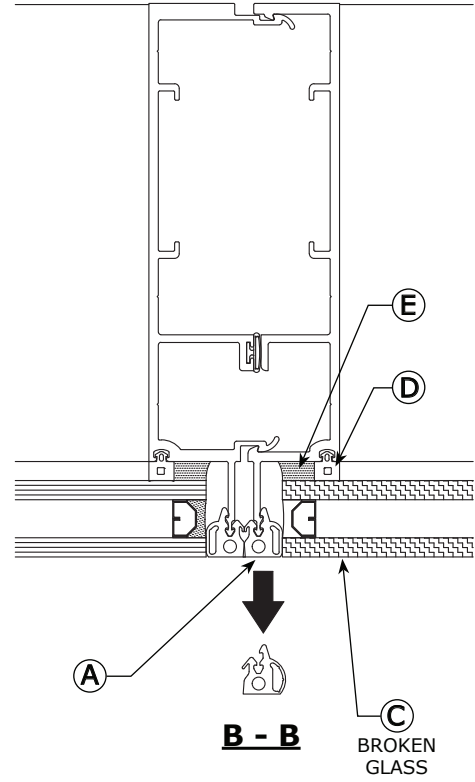
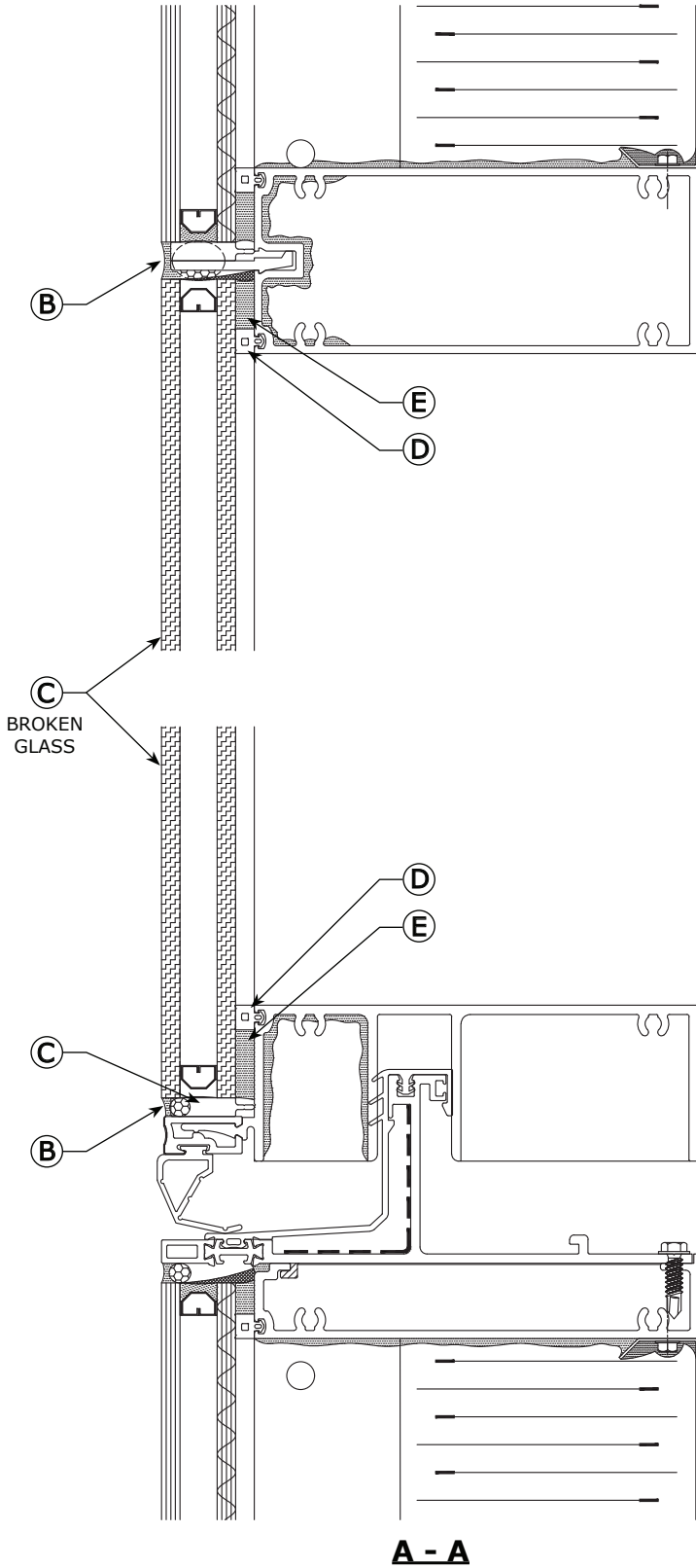
- (A) Remove left and right vertical weather seal gaskets.
- (B) Cut out existing lower and upper horizontal weather seal and backer rod.
- (C) Before attempting to remove broken glass, establish and follow a suitable safety procedure, including but not limited to, the prevention of injury to pedestrians and damage to property. Carefully remove loose broken glass and setting blocks. If needed, secure broken glass with a protective film on the damaged surface.
- (D) Remove interior horizontal and vertical silicone spacer gaskets.
- (E) Use an appropriate tool designed to cut through silicone around the broken glass. Hold cutting blade/wire near glass surface, leaving factory applied silicone on framing surface. Carefully remove balance of glass. Some cutting tool examples are:
 - CRL E.Z.D. Glazer Deglazing Tool
 - Piano wire
 - Putty knife or spatula milled with a sharp, fine blade
- (F) Clean glass and frame surfaces that will contact structural silicone with isopropyl alcohol or solvent as recommended by sealant manufacturer. Allow cleaning materials to evaporate completely before proceeding. Trim down the factory applied structural silicone bead, leaving a skin coat approximately 1/32" thick on the frame. Refer to the silicone manufacturer's guidelines to verify adhesion to (freshly cut) silicone skin coat or applied primer. Use masking tape to keep primer and excess sealant from contacting unintended adjacent surfaces.
- (G) Apply Norton V2108 1/4" foam spacer tape (dual side adhesion) at horizontal and vertical mullions. Locate for minimum Structural Bite (S.B.) per project design.
- (H) When gasket reglet is part of structural bite, clean and prime the reglet per sealant manufacturer's guidelines. Fill gasket reglet with structural sealant and tool as a separate procedure prior to the remainder of the structural sealant being completely back filled in SSG cavity.
- (I) Insert setting blocks. Position cleaned replacement glass, centered evenly in the opening. Push glass against Norton foam spacer around perimeter.
- (J) Securely hold the glass in position, and attach temporary retaining clips with (14-10 x 3" slotted HWH A/AB PT. 18-8 S.S.) screws at the vertical mullions. Locate retaining clips 3" from glass end of corners and intermediate retaining clips at 24" intervals.
- (K) If the unit is wider than 24", fasten a horizontal tube across the lowest retainer clips. Secure foam spacers at 3" then 24" intervals along length of tube, (see B-B on Page 8). Horizontal tube and spacer take the place of retainer clips at the bottom horizontal glass edge. Use the same tube and spacers across the highest retainer clips for the top horizontal glass edge. (NOTE: Coordinate temporary retaining of glass with sealant manufacturer requirements per predicted environmental conditions.)

- Ⓛ Completely back fill the SSG cavity with structural silicone from inside. Around the joint, tool the sealant against the foam spacer and joint surfaces before the sealant begins to skin. Apply shed bead across top side of the glass unit. Remove excess silicone at joint to maintain drainage passages of system.
- Ⓜ Inspect the silicone bead for continuity and aesthetics. Remove masking tape before the sealant skins over.
(NOTE: In clear glass the shade of Norton foam spacer may appear to be different than the sealant. Also the pressure on the Norton foam spacer may not be uniform around the glass and may give the false appearance that silicone seal is missing at these points. Coordinate spacer and sealant colors.)
- Ⓝ Allow the silicone to fully cure and adhere per sealant manufacturer's guidelines.
- Ⓞ Remove retaining clips and horizontal tubes.
- Ⓟ Install new vertical weather seal gasket.
- Ⓠ Install backer rod at horizontal mullions, apply sealant for weather seal and tool. Marry seal to vertical weather seal gasket. Inspect seals' application for continuity and aesthetics.

NOTE: See details on page 18 for other examples of retaining clips.

Vision Glazing - Broken Glass Removal

(NOTE: Reference alpha instructions A through E on Page 5)



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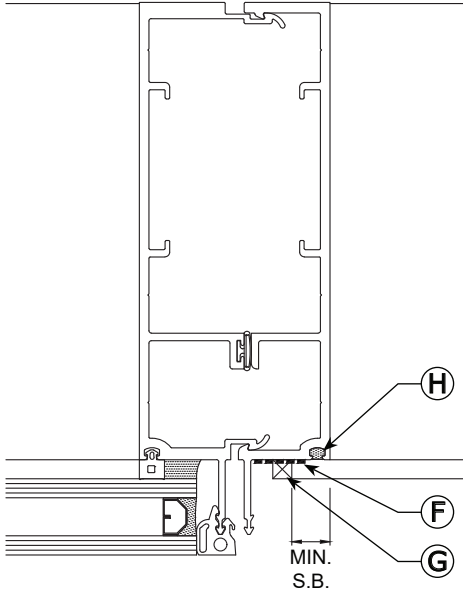
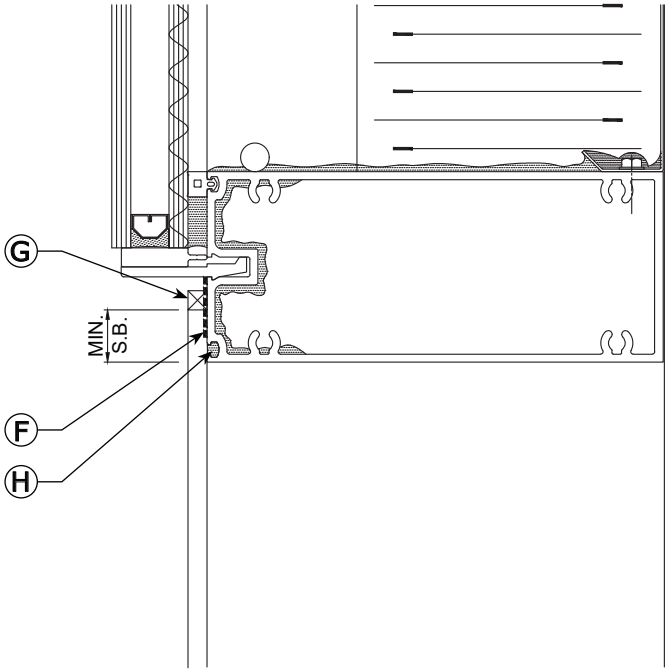
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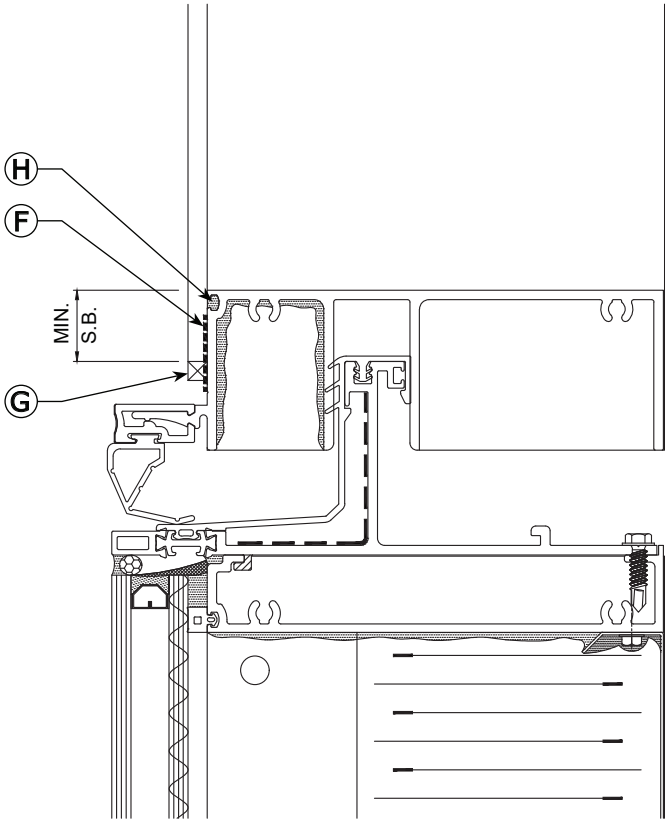
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Vision Glazing - Preparing for New Glass

(NOTE: Reference alpha instructions F through H on Page 5)



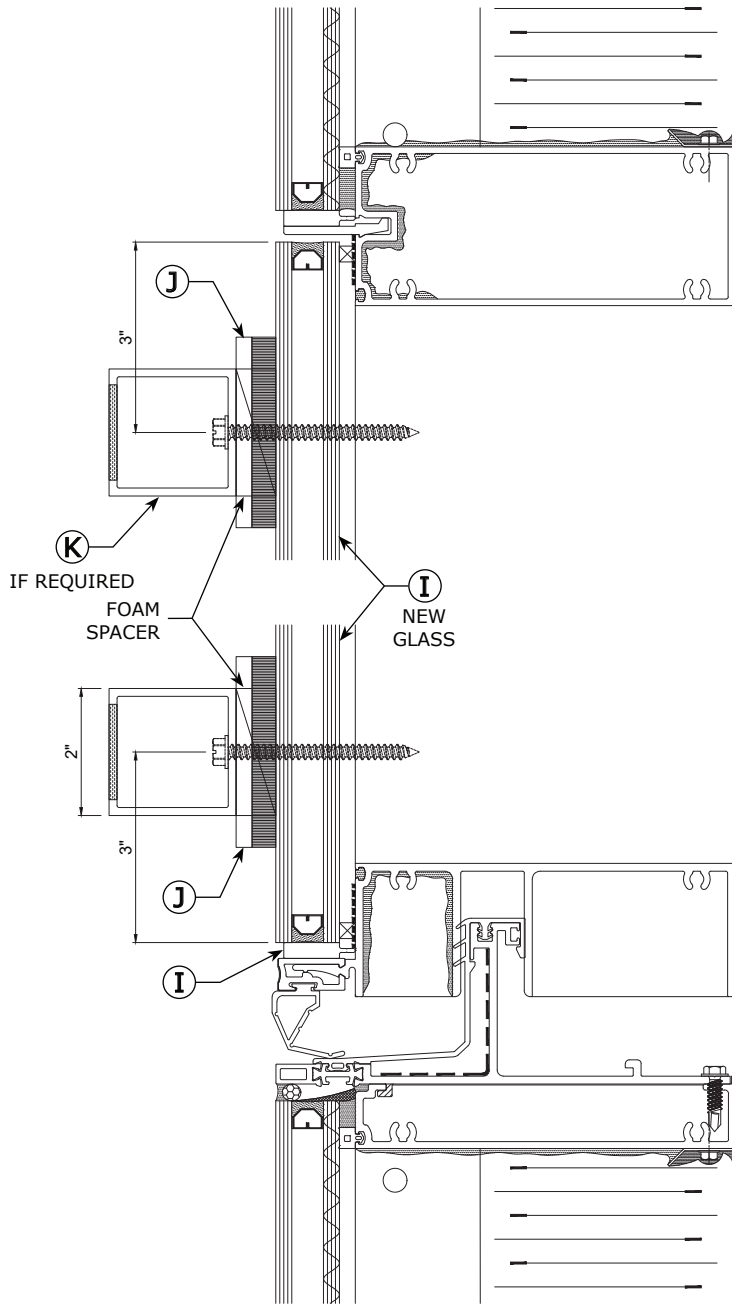
B - B



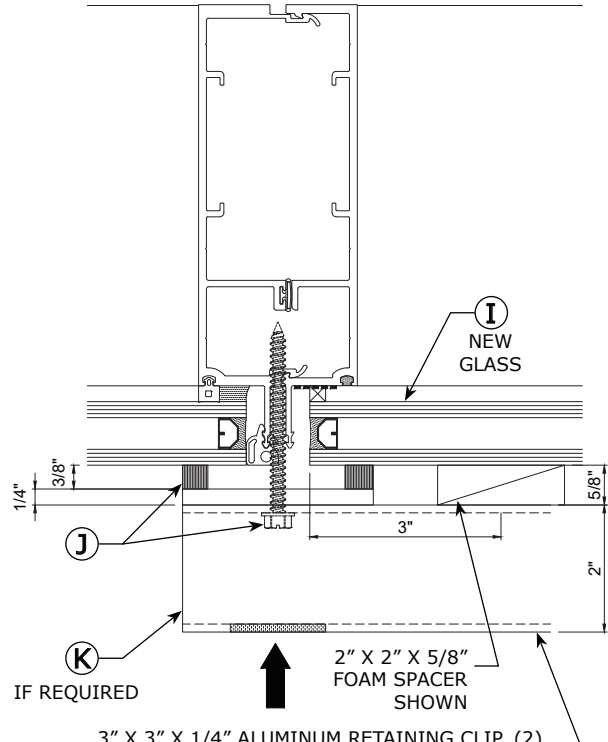
A - A

Vision Glazing - Installing New Glass

(NOTE: Reference alpha instructions I through K on Page 5)



A - A

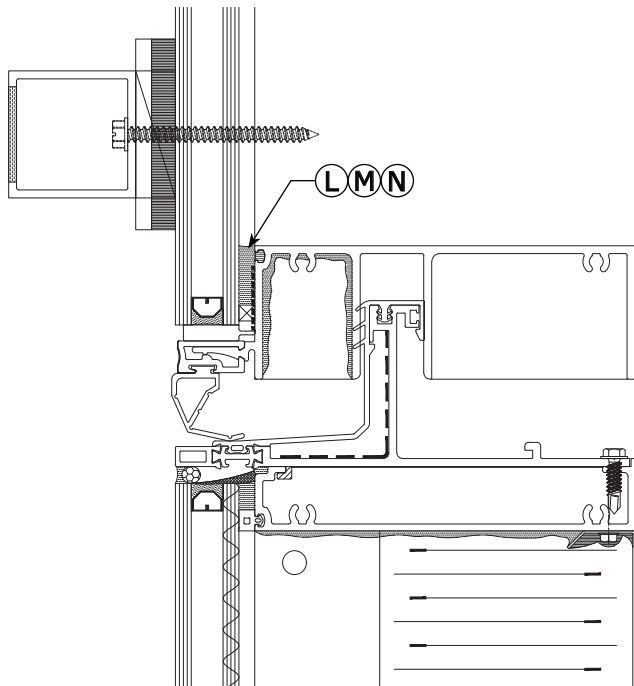
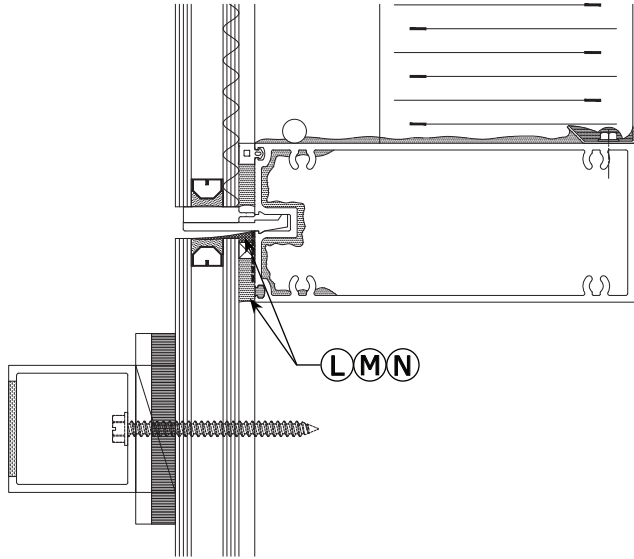


3" X 3" X 1/4" ALUMINUM RETAINING CLIP, (2)
 LINES OF 3/8" X 3/8" SSA FOAM SPACER TAPE
 AND 2" X 2" X 1/8" HORIZONTAL TUBE SHOWN.
 NOTE: TUBES ARE NOT USED AT VERTICAL
 INTERMEDIARY TEMPORARY RETAINING CLIPS.

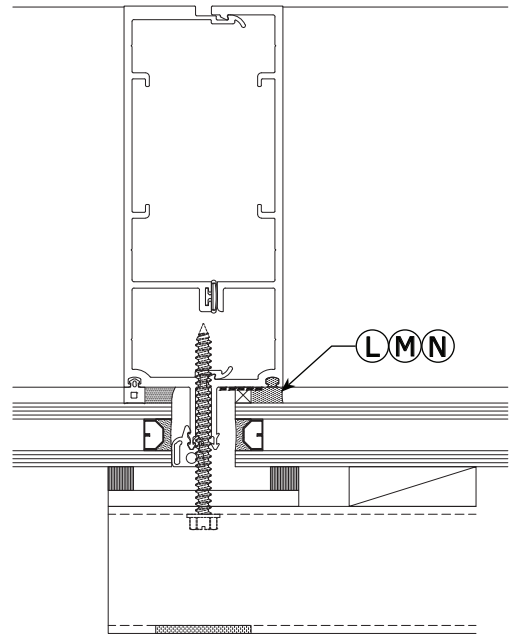
B - B

Vision Glazing - Sealing New Glass

(NOTE: Reference alpha instructions L through N on Page 6)



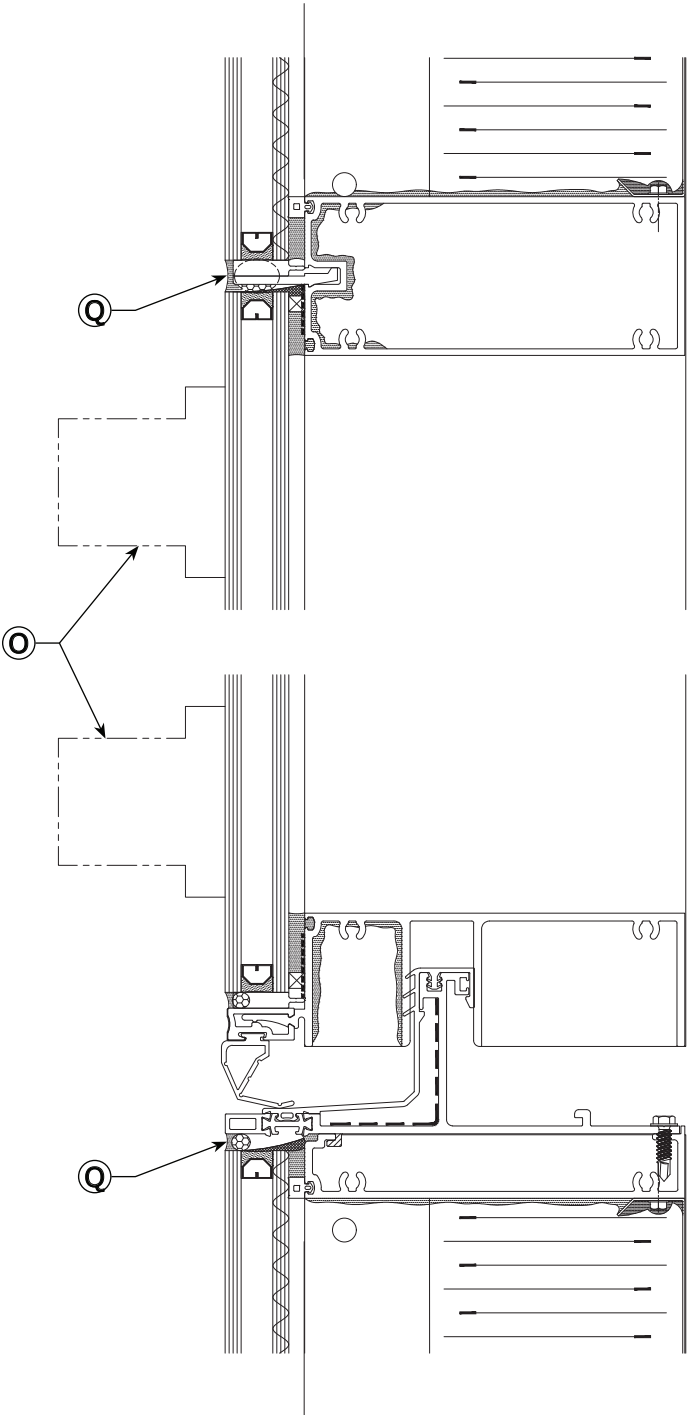
A - A



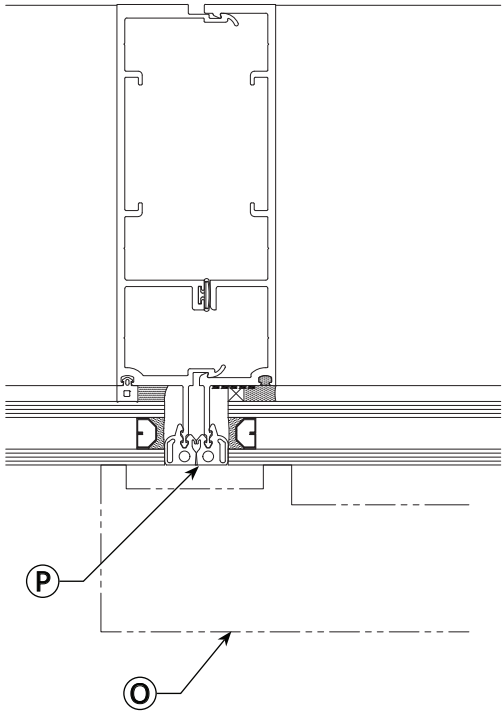
B - B

Vision Glazing - Final Steps

(NOTE: Reference alpha instructions O through Q on Page 6)



A - A



B - B

Spandrel Glazing Procedure

2.0 Spandrel Glass (See details on attached pages 14 to 17)

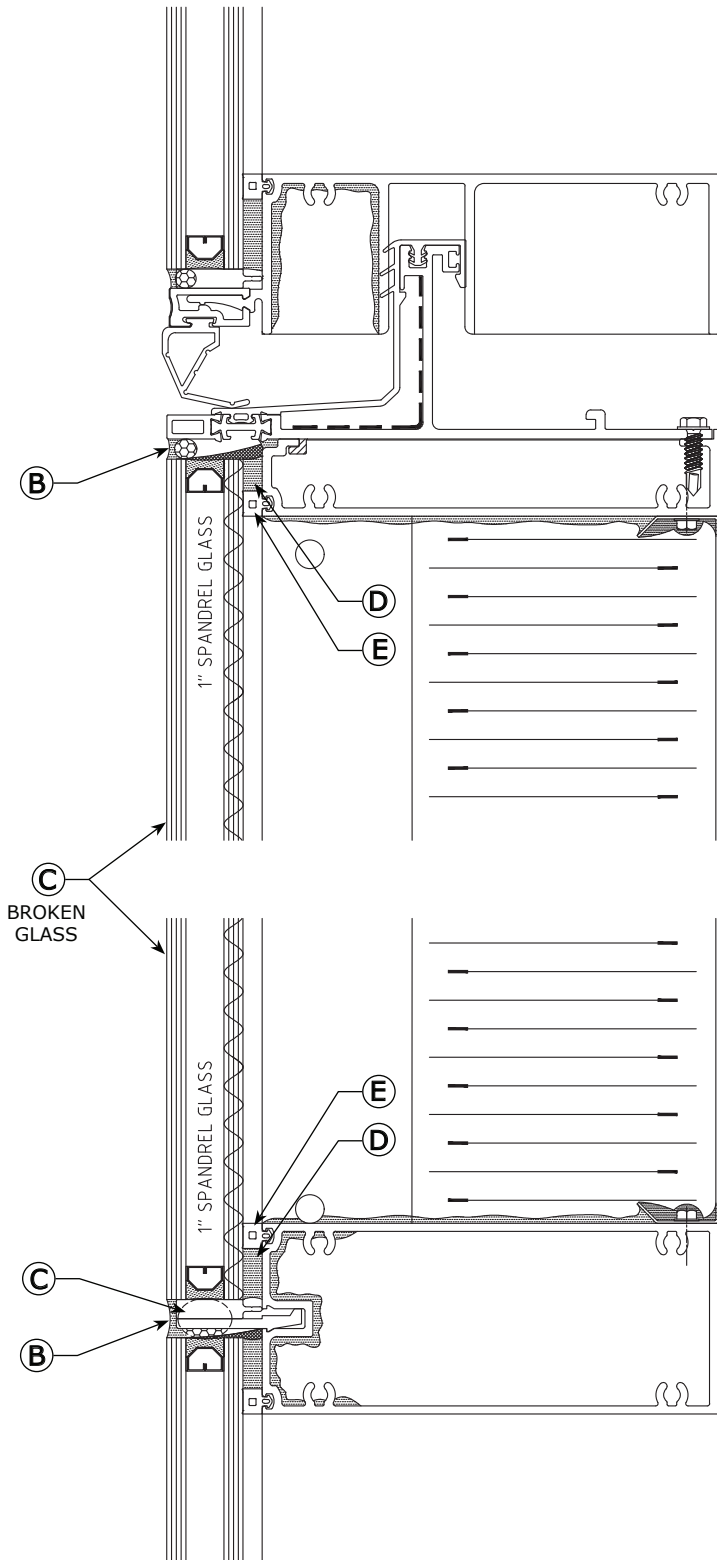
- (A) Remove left and right vertical weather seal gaskets.
- (B) Cut out existing lower and upper horizontal weather seal and backer rod.
- (C) Before attempting to remove broken glass, establish and follow a suitable safety procedure, including but not limited to, the prevention of injury to pedestrians and damage to property. Carefully remove loose broken glass and setting blocks. (If needed, secure broken glass with a protective film on the broken surface.)
- (D) Use an appropriate tool designed to cut through silicone around the broken glass. Hold cutting blade/wire near glass surface, leaving factory applied silicone on framing surface. Carefully remove balance of glass. Some cutting tool examples are:
 - CRL E.Z.D. Glazer Deglazing Tool
 - Piano wire
 - Putty knife or spatula milled with a sharp, fine blade
- (E) Remove interior horizontal and vertical silicone spacer gaskets.
- (F) Clean glass and frame surfaces that will contact structural silicone with isopropyl alcohol or solvent as recommended by sealant manufacturer. Allow cleaning materials to evaporate completely before proceeding. Trim down the factory applied structural silicone bead, leaving a skin coat approximately 1/32" thick on the frame. Refer to the silicone manufacturer's guidelines to verify adhesion to (freshly cut) silicone skin coat or applied primer.
- (G) Install new silicone spacer gasket per project gasket number. The interior spacer gasket should be installed so as to avoid stretching, buckling or tearing. The spacer gasket should run continuously around perimeter; cut the gasket at corners for design butt joint. Apply 3" wrap of silicone sealant in corner of gasket reglet just prior to installation of gasket at joinery. Gasket should be sealed and butted together at joint. Clean excess sealant from gasket exposed surface. Sealant should not intrude on structural seal area. To avoid damage to gasket during glazing, glass should be level and straight during installation. (Note: length and procedure per standard installation instructions, reference the Reliance™ Unit Wall SSG - Assembly & Sealing Instructions.)
- (H) Apply structural silicone directly to the frame, following the perimeter silicone spacer gasket. Silicone width must cover the project minimum Structural Bite (S.B.) and the thickness to be marginally beyond the spacer gasket's face. (NOTE: This glazing method may not be appropriate for shadow box/clear glass applications, since the procedure described above produces excess sealant that is visible and can produce a non-uniform sightline due to overage. In this case, an alternate structural sealant application method must be used, such as shooting through joinery with a custom applicator tip.)
- (I) Install setting blocks.

- Ⓝ Position the cleaned replacement glass evenly in the opening. Push glass against silicone spacer gasket around perimeter.
- Ⓞ Securely hold the glass in that position, and attach temporary retaining clips with (14-10 x 3" Slotted HWH A/AB PT. 18-8 S.S.) screws at the vertical mullions. Locate retaining clips 3" from glass end of corners and intermediate retaining clips at 24" intervals.
- Ⓟ If unit is wider than 24", fasten a horizontal tube across the lowest retaining clips. Secure foam spacers at 3" then 24" intervals along length of tube, (see D-D on page 15). Horizontal tube and spacers take the place of retaining clips at the bottom horizontal glass edge. Use the same tube and spacers across the highest retaining clips for the top horizontal glass edge. (NOTE: Coordinate temporary retaining of glass with sealant manufacturer requirements per predicted environmental conditions.)
- Ⓠ Tool the sealant against silicone spacer gasket and joint surfaces before the sealant begins to skin. Apply shed bead across top side of the glass unit. Remove excess silicone at joint to maintain drainage passages of system.
- Ⓡ Inspect the silicone bead for continuity and aesthetics.
- Ⓢ Allow the silicone to fully cure and adhere per sealant manufacturer's guidelines.
- Ⓣ Remove horizontal tubes and retaining clips.
- Ⓤ Install new vertical weather seal gaskets.
- Ⓥ Install backer rod at horizontal mullions, apply sealant for weather seal and tool. Marry seal to vertical weather seal gasket. Inspect seals' application for continuity and aesthetics.

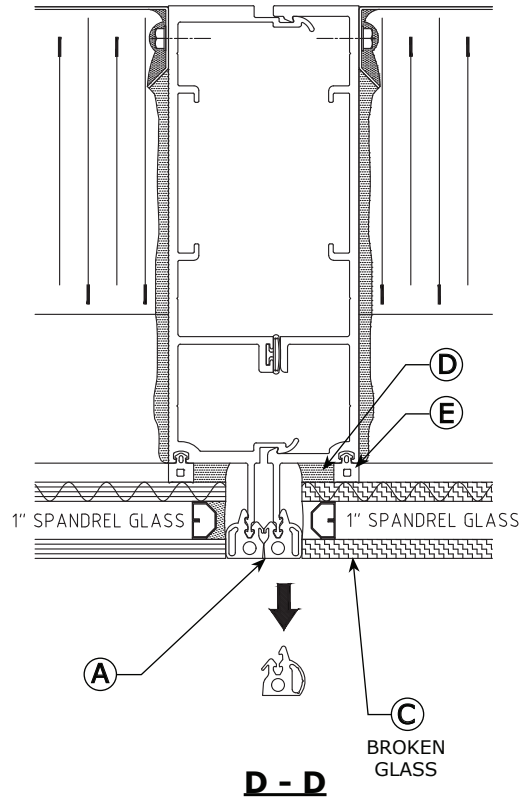
NOTE: See details on page 18 for other examples of retaining clips.

Spandrel Glazing - Broken Glass Removal

(NOTE: Reference alpha instructions A through E on Page 12)



C - C



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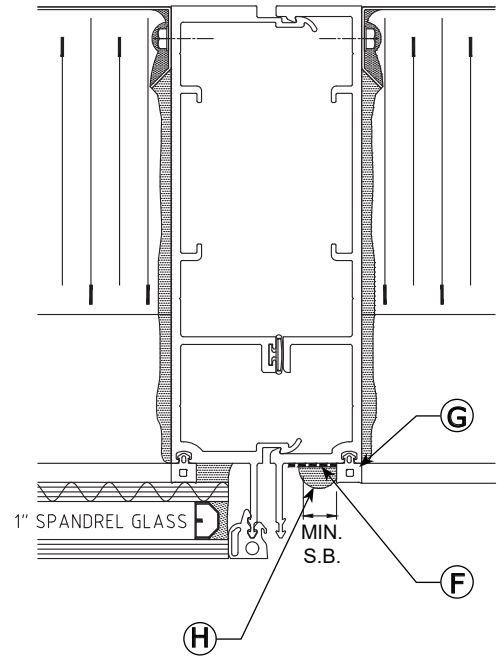
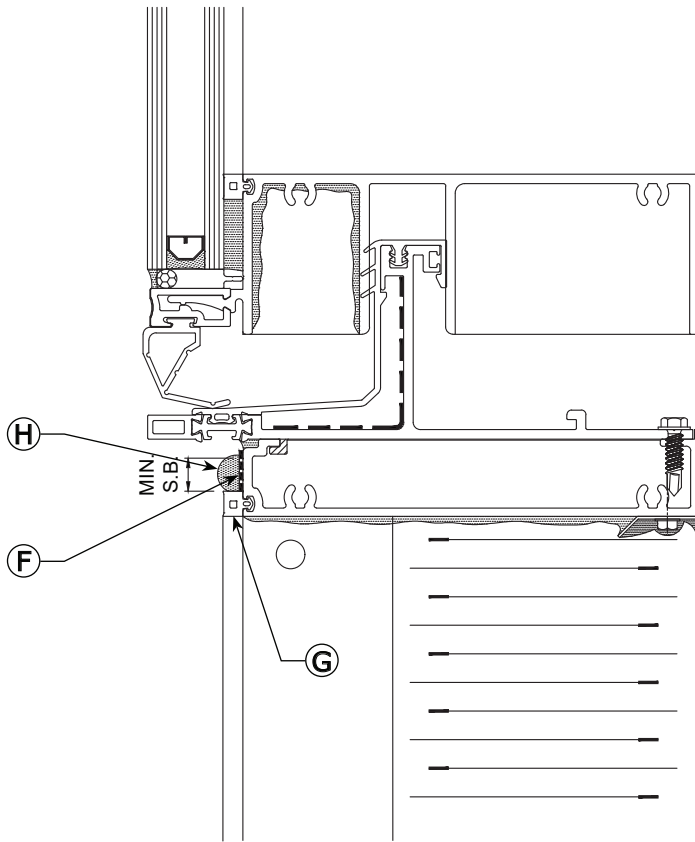
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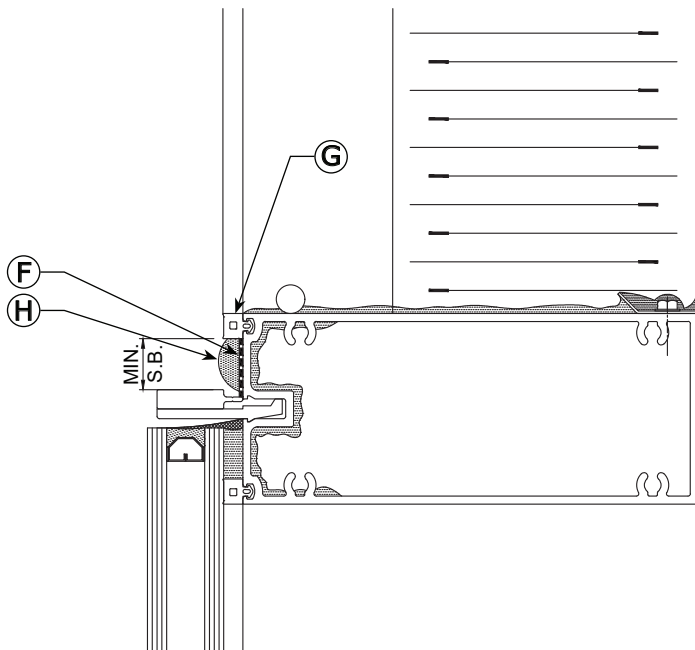
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Spandrel Glazing - Preparing for New Glass

(NOTE: Reference alpha instructions F through I on Page 12)



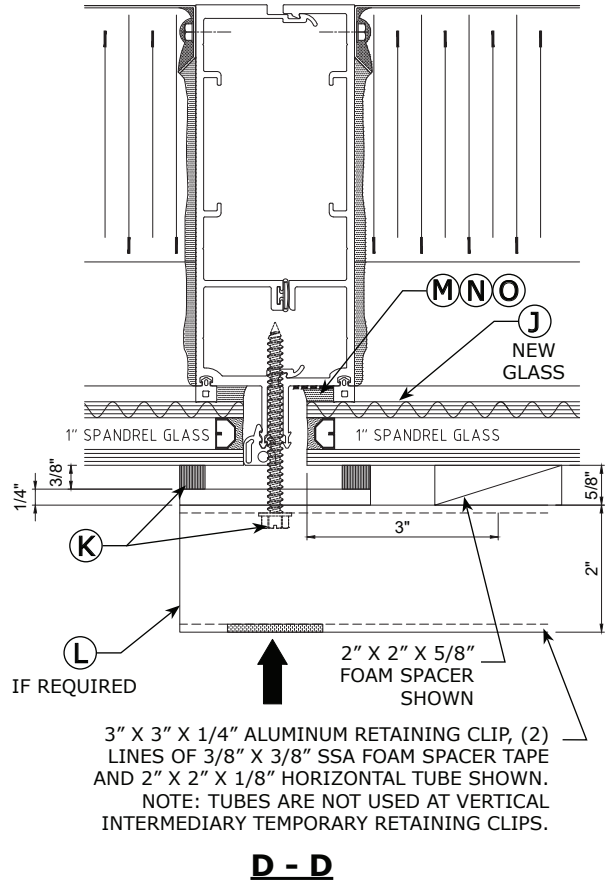
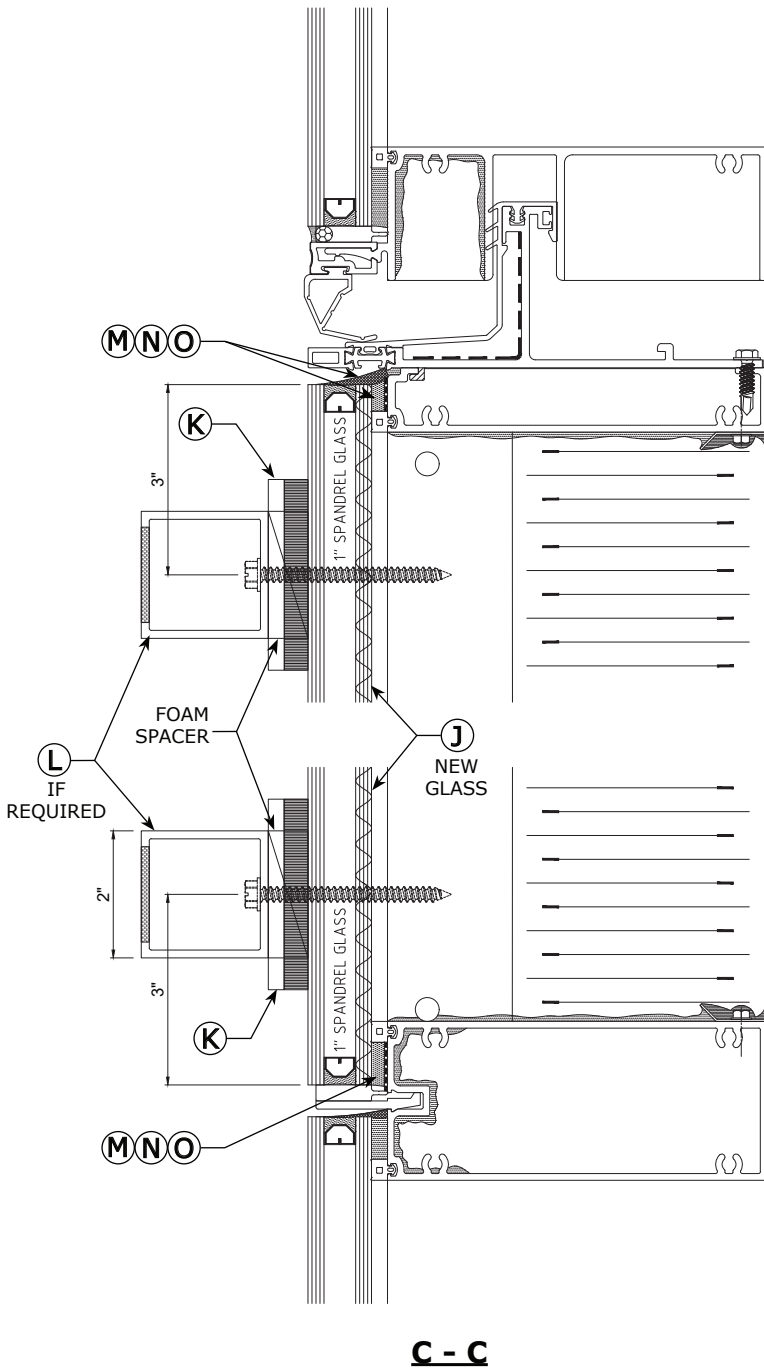
D - D



C - C

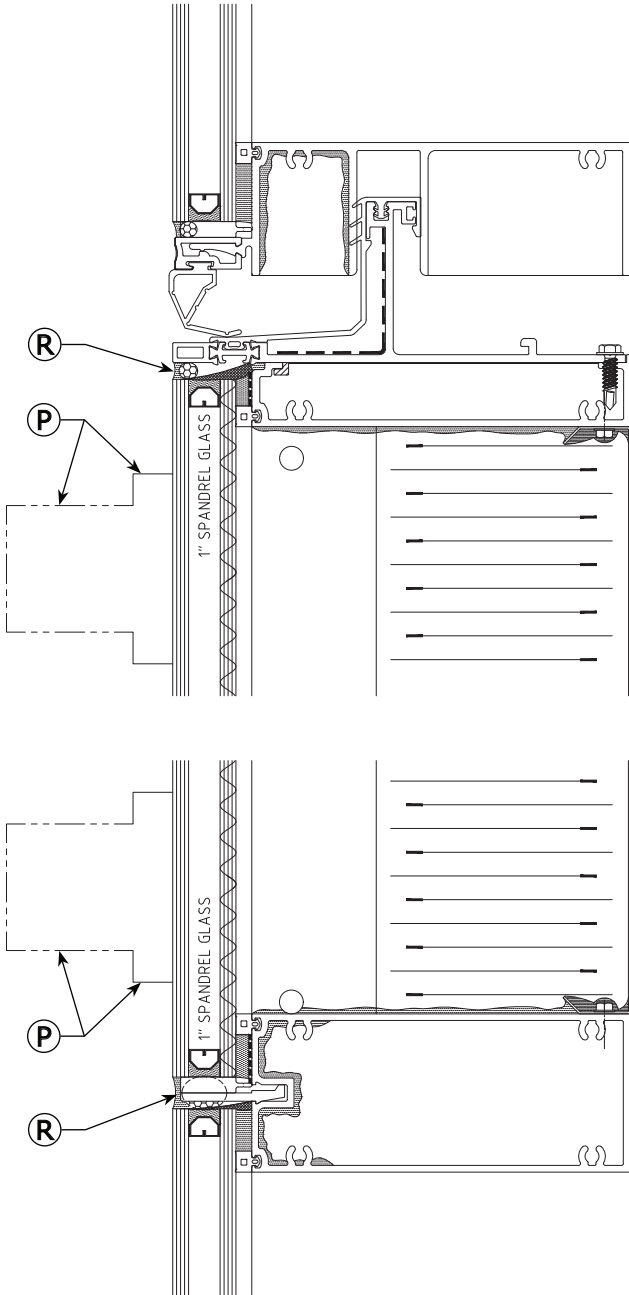
Spandrel Glazing - Installing New Glass

(NOTE: Reference alpha instructions J through O on Page 13)

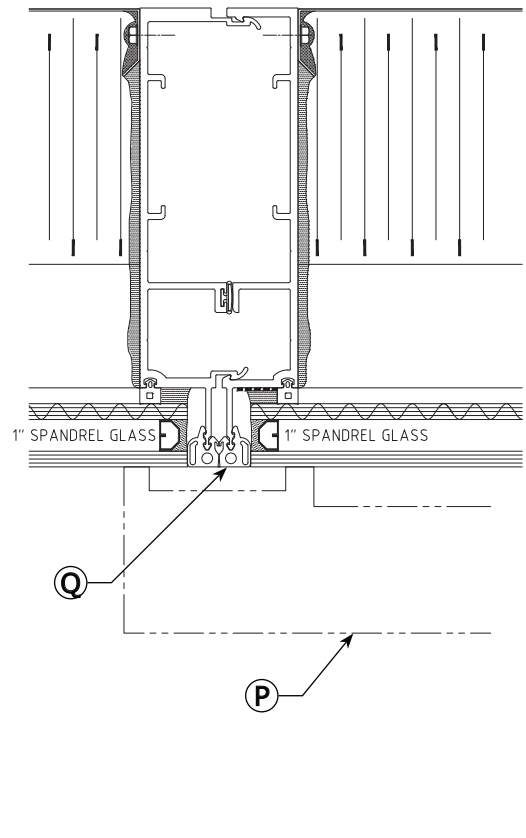


Spandrel Glazing - Final Steps

(NOTE: Reference alpha instructions P through R on Page 13)

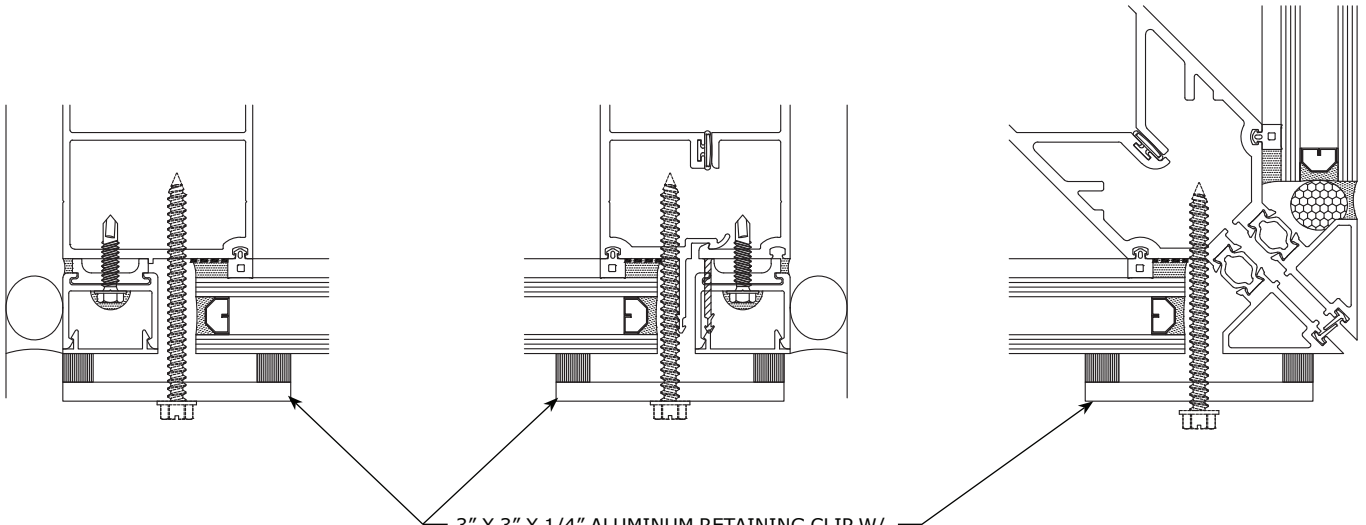


C - C

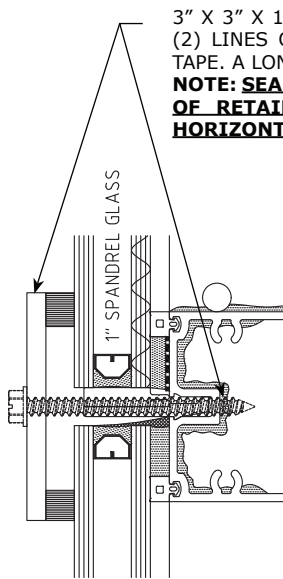


D - D

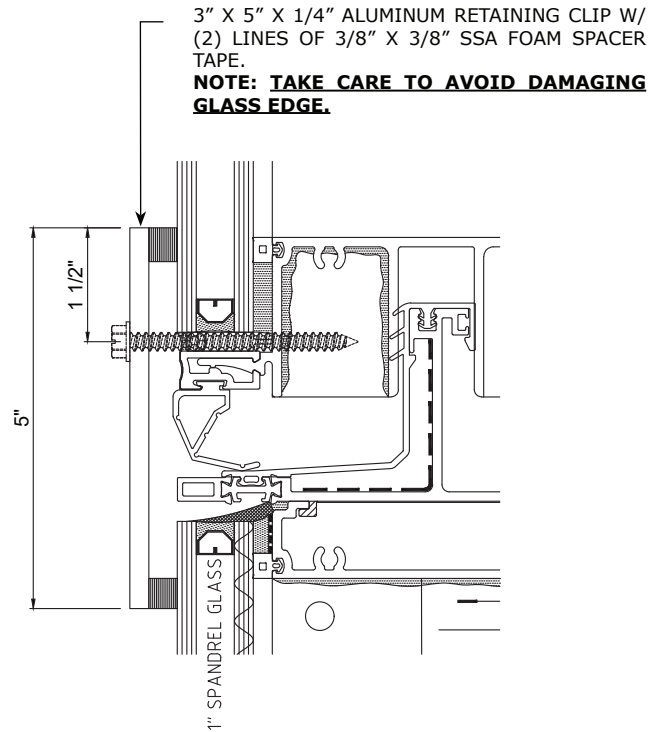
Other Temporary Retaining Clip Examples



3" X 3" X 1/4" ALUMINUM RETAINING CLIP W/
(2) LINES OF 3/8" X 3/8" SSA FOAM SPACER
TAPE.
**NOTE: TAKE CARE TO AVOID DAMAGING
GLASS EDGE.**



3" X 3" X 1/4" ALUMINUM RETAINING CLIP W/
(2) LINES OF 3/8" X 3/8" SSA FOAM SPACER
TAPE. A LONGER SCREW MAY BE REQUIRED.
**NOTE: SEAL SCREW HOLES AFTER REMOVAL
OF RETAINING CLIPS THAT PENETRATE
HORIZONTAL CAVITY.**



3" X 5" X 1/4" ALUMINUM RETAINING CLIP W/
(2) LINES OF 3/8" X 3/8" SSA FOAM SPACER
TAPE.
**NOTE: TAKE CARE TO AVOID DAMAGING
GLASS EDGE.**