

# RELIANCE UNIT WALL ASSEMBLY & GLAZING INSTRUCTIONS

## NOTE:

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

FOLLOW STRUCTURAL GLAZING TAPE AND SEALANT MANUFACTURER'S RECOMMENDATIONS FOR USE AND APPLICATION OF THE STRUCTURAL GLAZING TAPE AND WEATHER SEAL.

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

Phone: 1-866-OLDCASTLE (653-2278) Web Address: www.OBE.com

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#### **GENERAL INFORMATION**

#### PRODUCT USE

Reliance Unit Wall Curtain Wall system is intended for assembly and installation by glazing professionals with appropriate experience. Subcontractors must be qualified to provide field instruction and project management.

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

It is critical to involve 3M<sup>™</sup> at the earliest stage of the project as possible. Building loads and glass sizes may be restricted based on structural capabilities of the tape used on project. Supplier must review shop drawings and make recommendations prior to ordering materials.

When using 3M<sup>™</sup> VHB<sup>™</sup> SGT you must involve 3M's<sup>™</sup> technical services to obtain approval, and have SOP written for project specific materials, order materials and schedule training prior to assembling any window frames. (3M VHB must be purchased directly from distributor and is **NOT** provided by or sold through O.B.E.)

The air and water performance of the unitized curtain wall is directly related to the completeness and integrity of the assembly/glazing and installation process. Care must be taken when applying the seal at the horizontal to vertical connections as well as at the glazing tape installed on the interior side of the glass.

- 1. Surface to be sealed should be cleaned with isopropyl alcohol or solvent and dried as recommended by tape/sealant manufacturer to remove dirt and cutting oils. No gap should be visible in the sealant. Exposed surfaces should be cleaned of excess sealant after installing the horizontal. Inspect joint for complete sealant contact, especially where the horizontal meets the face of the vertical member.
- 2. The glazing tape should be installed so as to avoid stretching, buckles or tears. Cut the tape at corners (As shown on sheet 34). The glazing tape should be installed in one continuous piece per side, with seams/joints only at corners.

Variations on details shown may occur, but are not the responsibility of Oldcastle BuildingEnvelope.

## 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 unitized curtain wall system is designed to accommodate glass or panels measuring 1" 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 assembly and installation instructions are of a general nature and cover the most common conditions

Due to varying job conditions all sealant must be approved by the sealant manufacturer to ensure it will perform per 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 expiration and 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 rich, bituminous paint or non-metallic material unless otherwise specified. After sealant is set and a representative amount of the wall has been glazed (250 sq. ft. or more), perform a water hose test in accordance with AAMA 501.2 "Field Check of Metal Storefront, Curtain Wall and Slope Glazing Systems for Water Leakage". On large projects the hose test must be repeated during the glazing operation. Review anchors or embeds in structure as early as possible to confirm that 'as built' building structure can accommodate anticipated anchor tolerances.

#### 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.

#### **EXPANSION JOINTS**

Expansion joints and perimeter joints shown in these instructions and in the shop drawings are shown at nominal size. Actual dimensions may vary due to perimeter conditions and/or differences in metal temperature between the time of fabrication and the time of assembly/installation. For example, a 12' unrestrained length of aluminum can expand or contract 3/32" over a temperature change of 50° F. Any movement potential should be accounted for at the time of the assembly and installation.

#### **MEASURING & CUTTING MATERIAL**

Unless otherwise noted, the details shown in these instructions reflect 1 " glazing, and are representative of typical non corner conditions.

- 1.1 Measure ROUGH OPENING to determine FRAME WIDTH and FRAME HEIGHT dimensions. Allow 3/4" minimum clearance at jamb vertical & 1 1/4" at head frame installation.
- 1.2 Cut material to size.

#### Frame Members

Verticals

Vertical Pressure Plates

**Vertical Face Covers** 

Vertical Pocket Filler (Non Capt.)

Vertical Pocket Filler Trim (Non Capt.)

Horizontals

Horizontal Interior Trim

Horizontal Stack

#### Horizontal Pocket Filler

Horizontal Pressure Plates

Horizontal Face Covers

Horizontal Pocket Filler (Non Capt.)

Horizontal Pocket Filler (Non Capt.)

Starter Sill

2"

Reference Project Shop Drawings.

See Page 4 for Cut Lengths

See Page 4 for Cut Lengths

Mull Height

Mull Height

D.L.O.

D.L.O. minus 1/16"

D.L.O. plus 3 5/8" (jamb unit)

D.L.O. plus 2 1/4" (typ. unit)

D.L.O. plus 3 5/8" (jamb unit)

D.L.O. plus 2" (typ. unit)

D.L.O. minus 1/4"

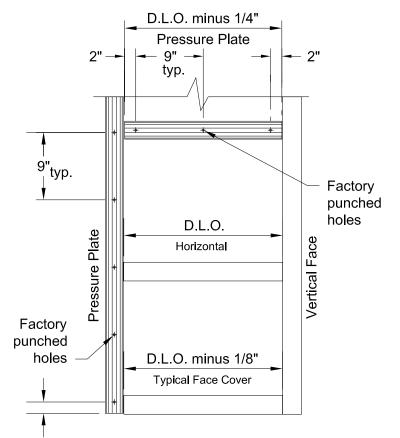
D.L.O. minus 1/8"

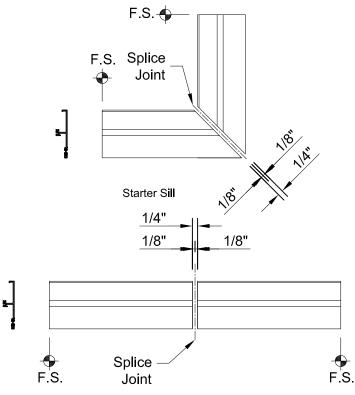
D.L.O. plus 3 1/4" (jamb unit)

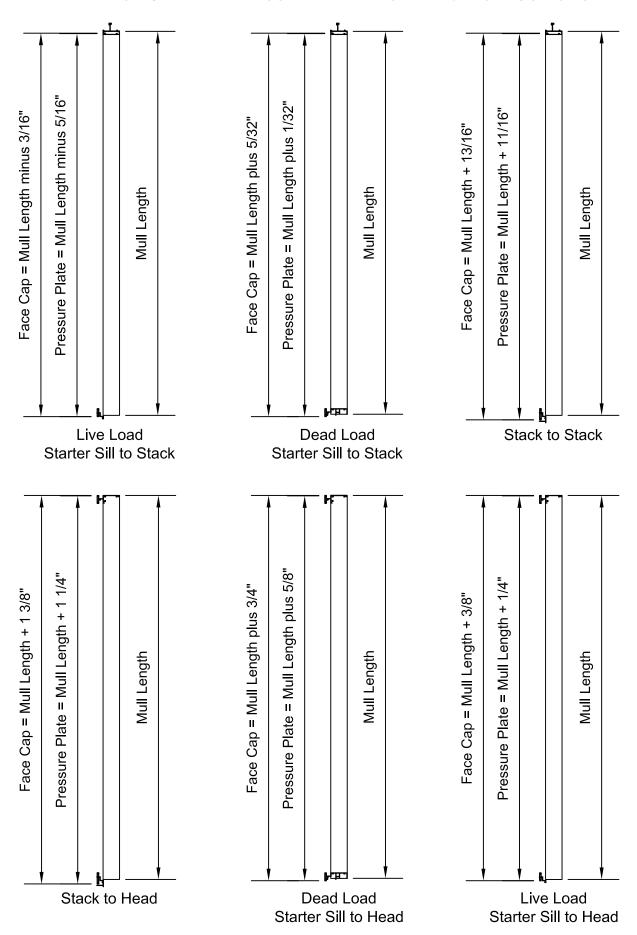
D.L.O. plus 1 1/2" (typ. unit)

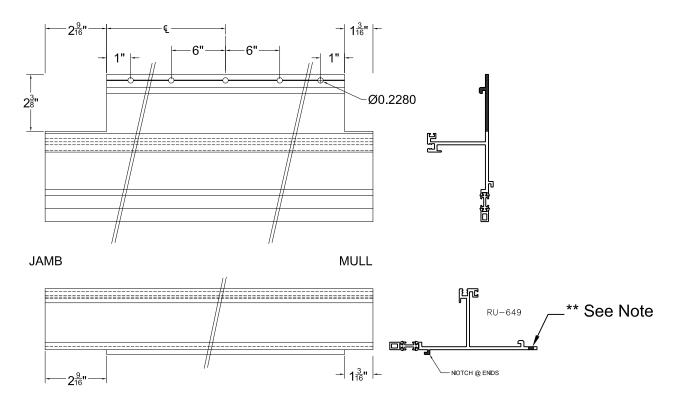
Frame size w/ 1/4" splice joints

as requried

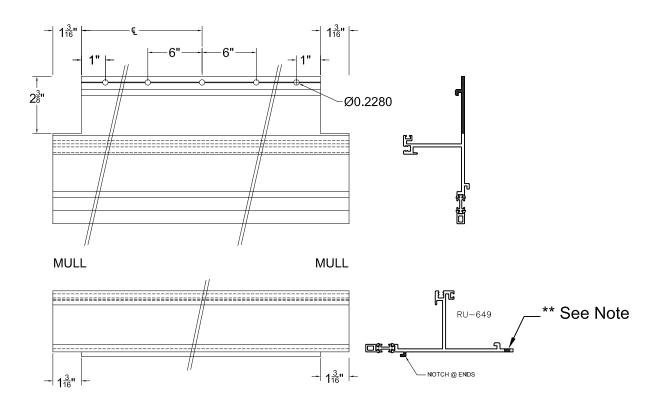


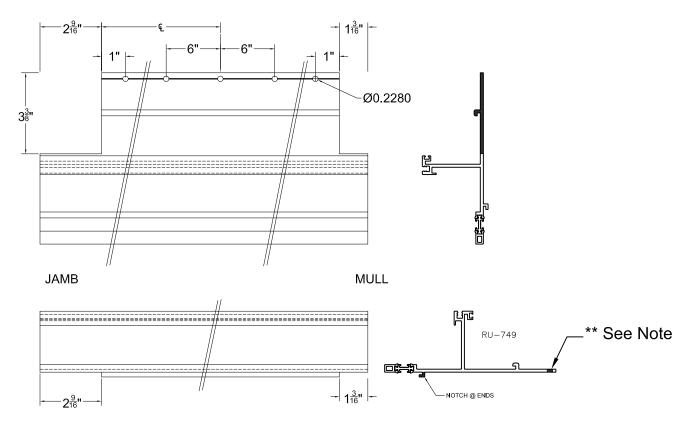




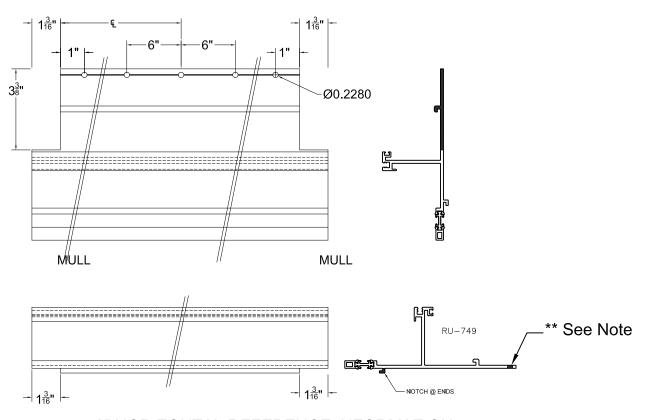


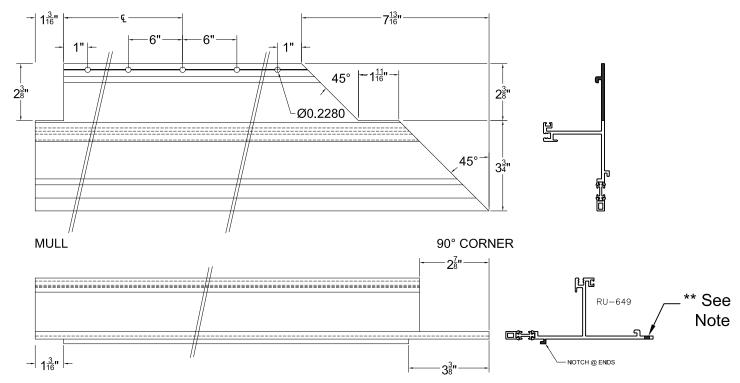
\*\*Additional fasteners may be required to meet project specific structural requirements.





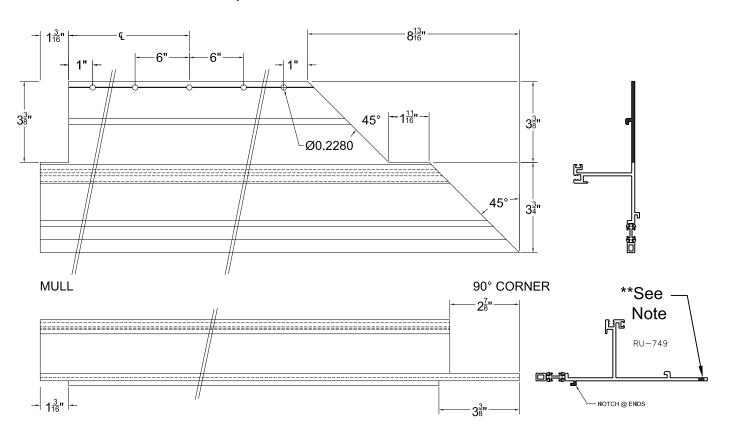
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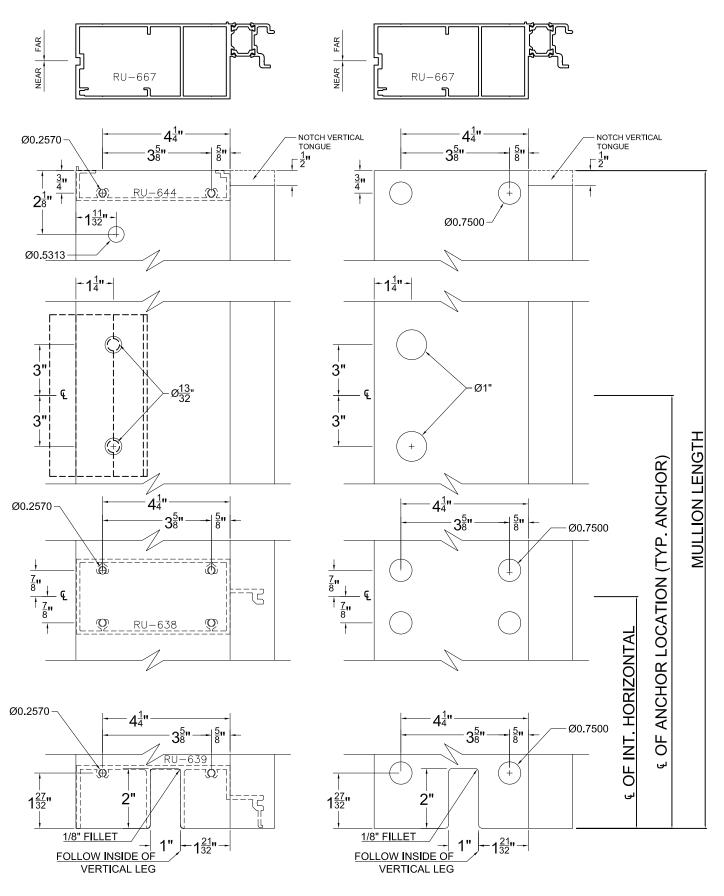




7 1/4" HORIZONTAL REFERENCE INFORMATION

\*\*Additional fasteners may be required to meet project specific structural requirements.

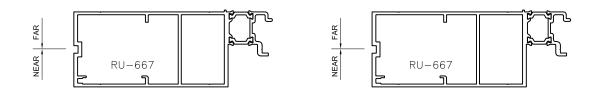


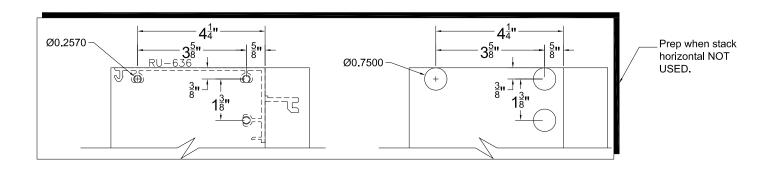


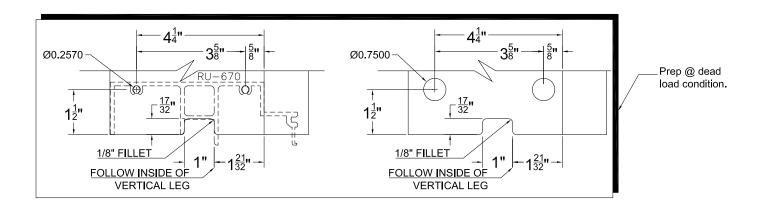
**NEAR SIDE PREPS** 

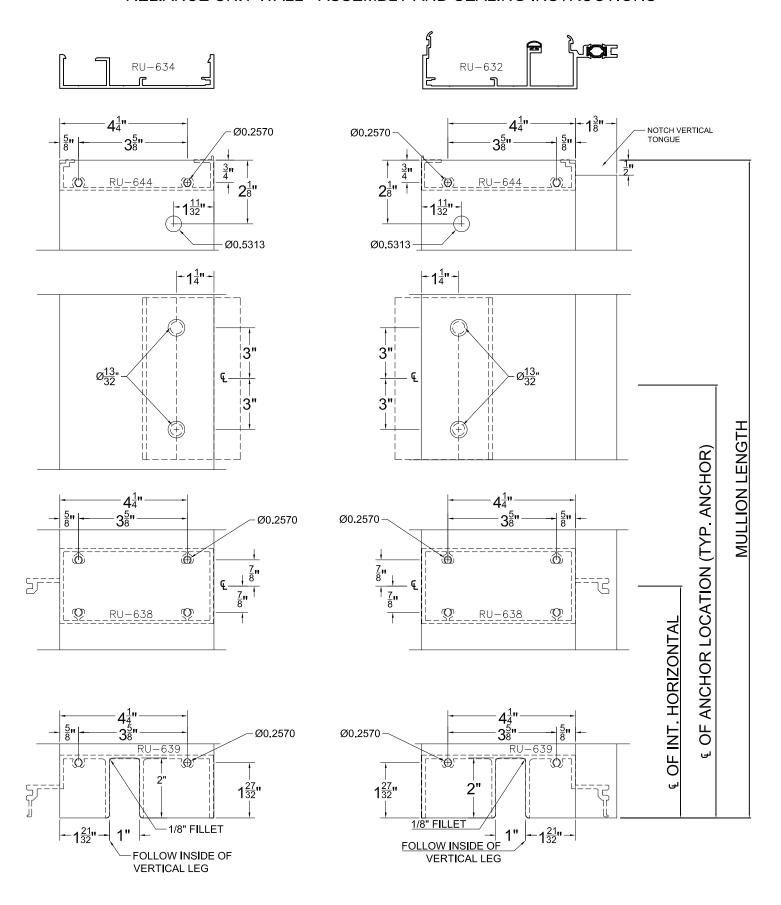
FAR SIDE PREPS

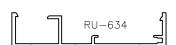
7" VERTICAL REFERENCE INFORMATION (CAPTURED JAMB) 08

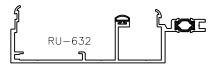


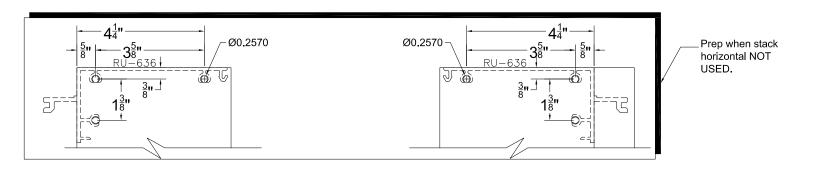


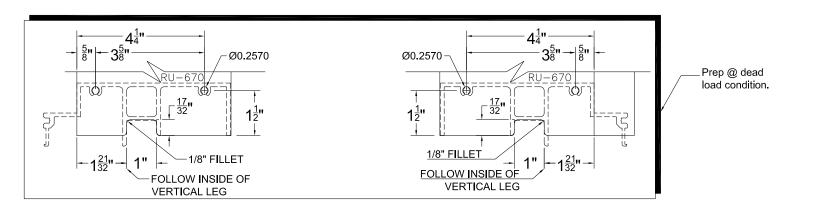




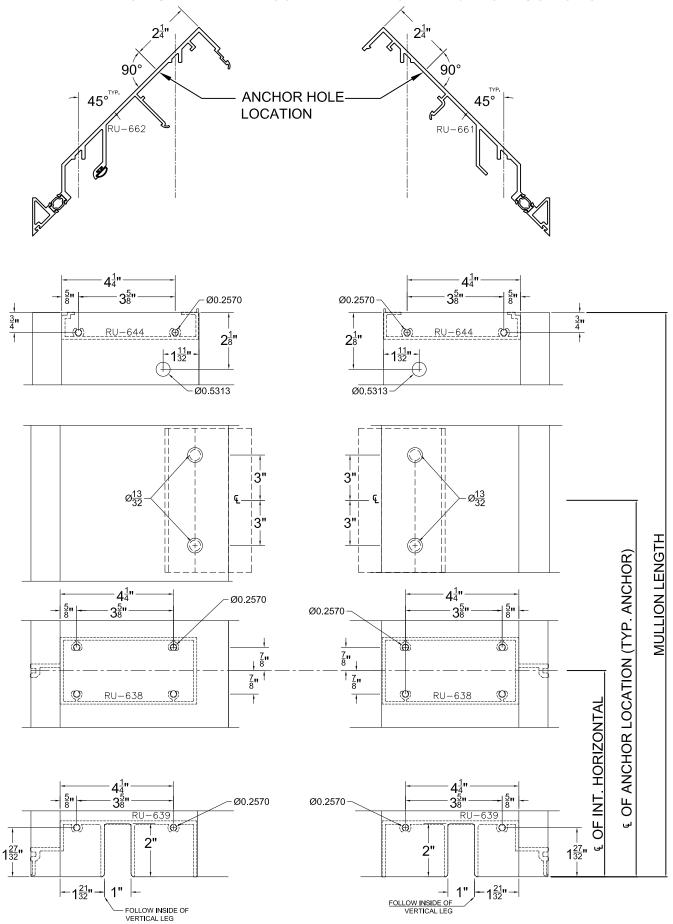




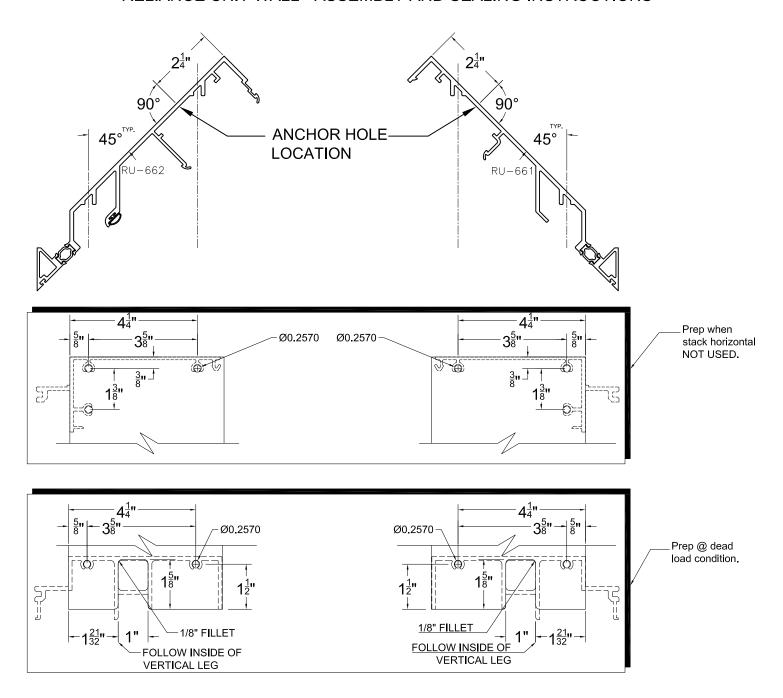


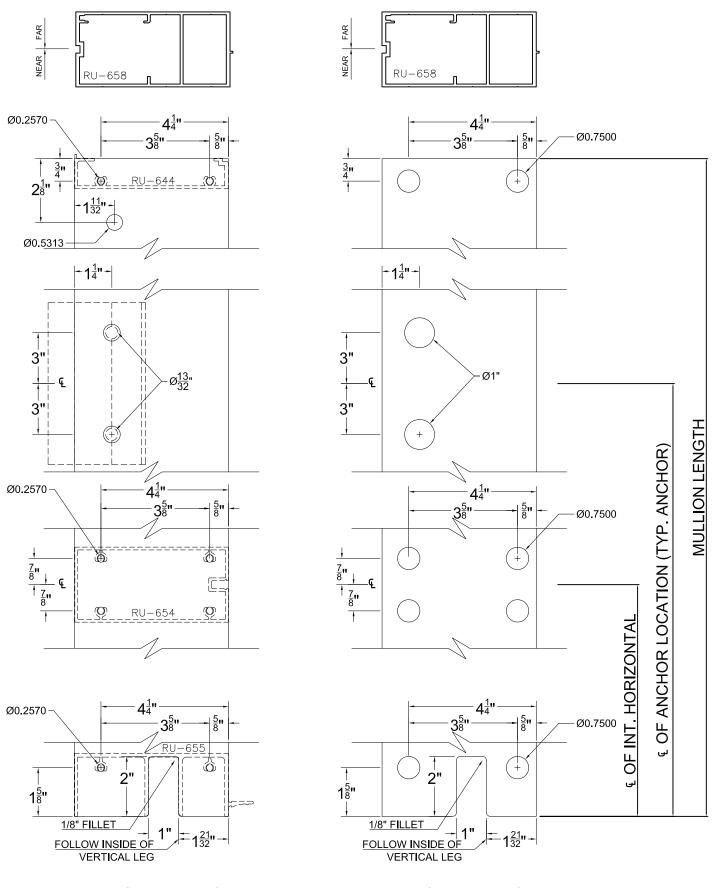


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7" VERTICAL REFERENCE INFORMATION (CAPTURED O.S.  $90^{\circ}$  MULL) 12



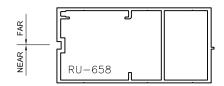


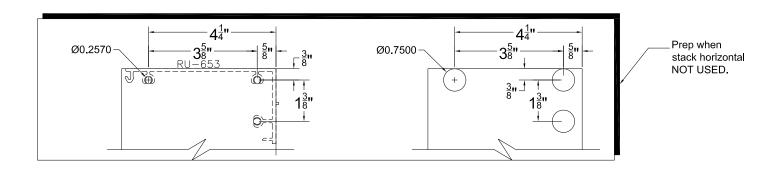
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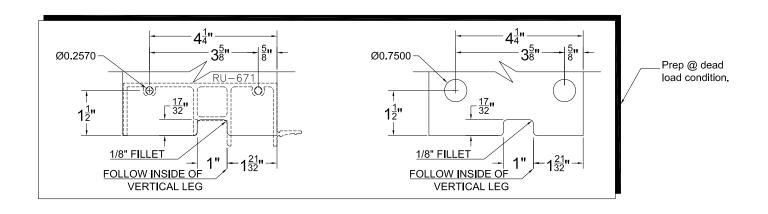
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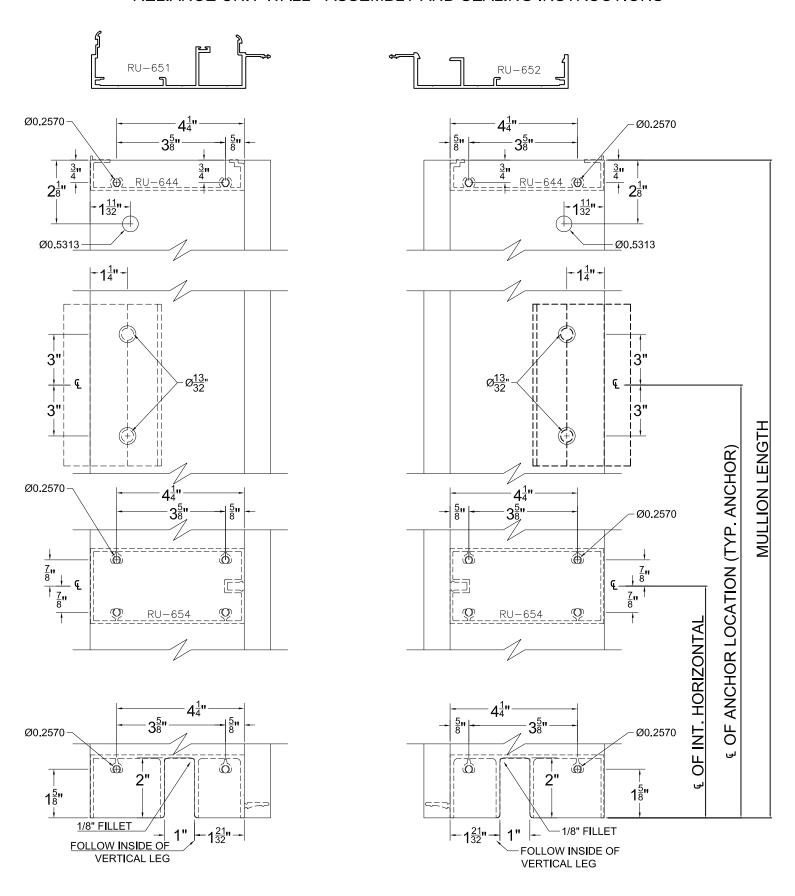
14



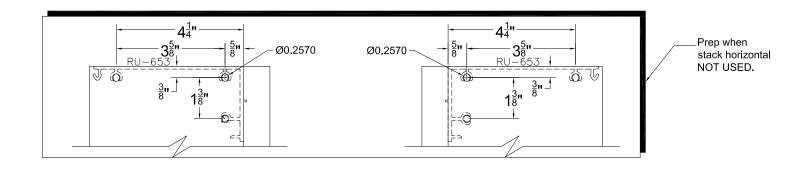


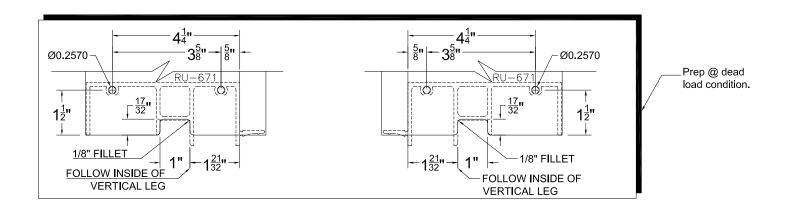




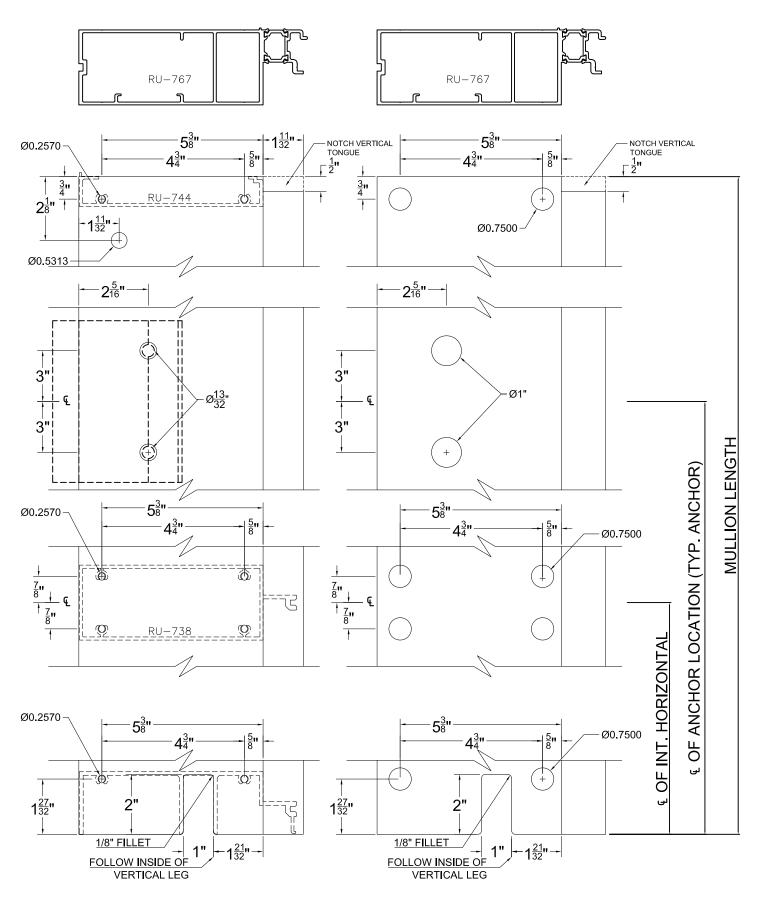








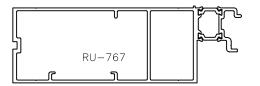
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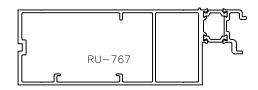


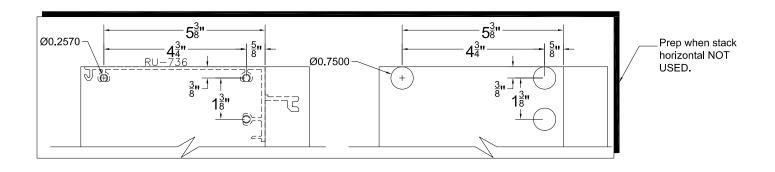
**NEAR SIDE PREPS** 

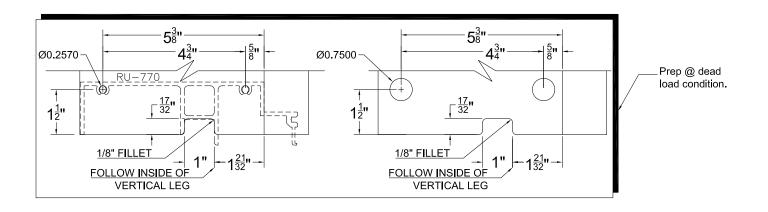
FAR SIDE PREPS

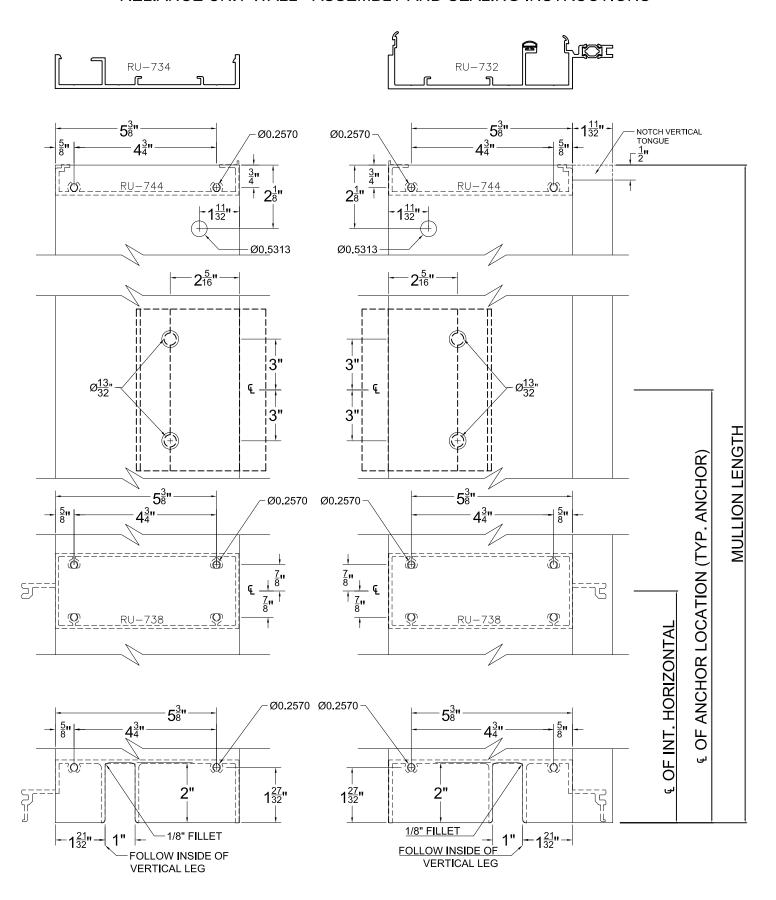
8" VERTICAL REFERENCE INFORMATION (CAPTURED JAMB) 18



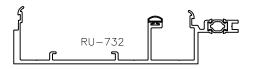


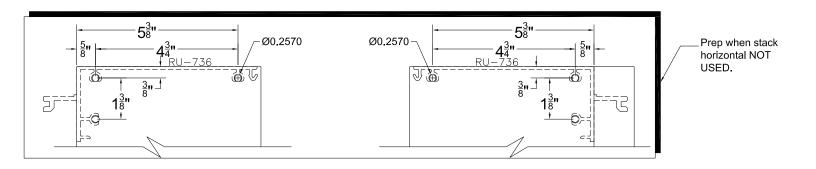


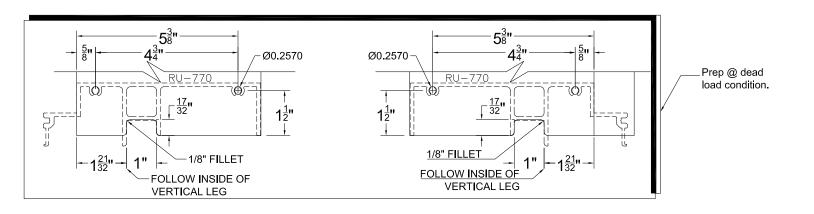


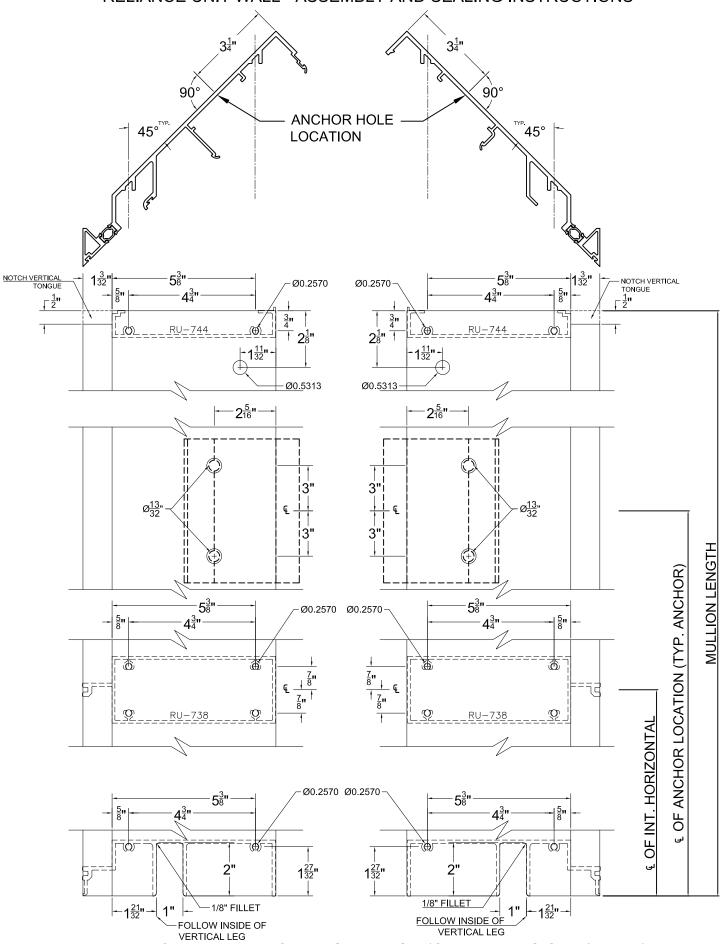




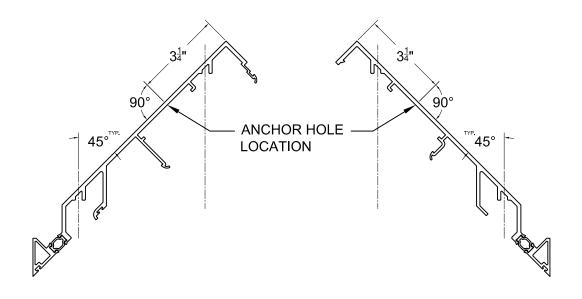


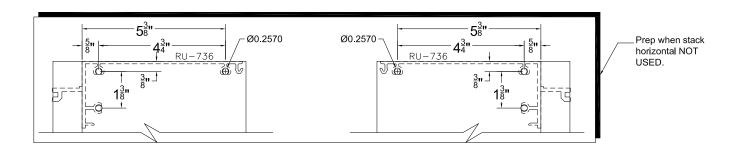


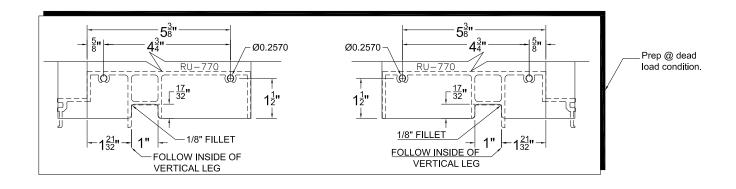


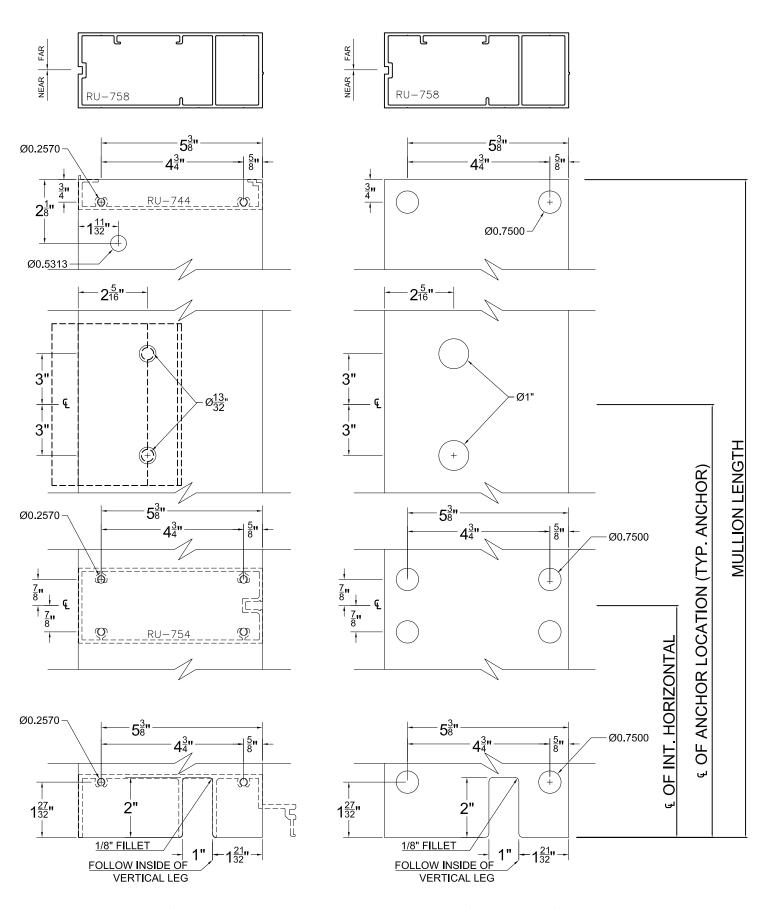


8" VERTICAL REFERENCE INFORMATION (CAPTURED O.S. 90° MULL)
22





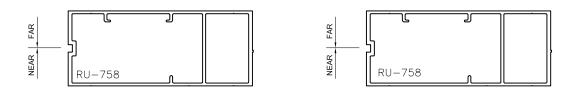


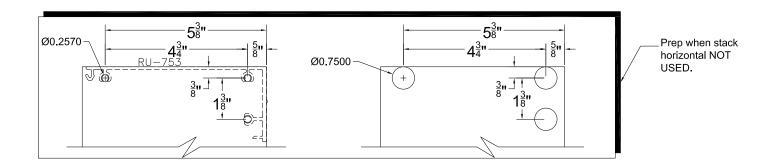


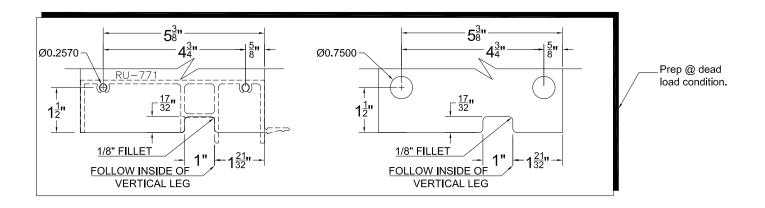
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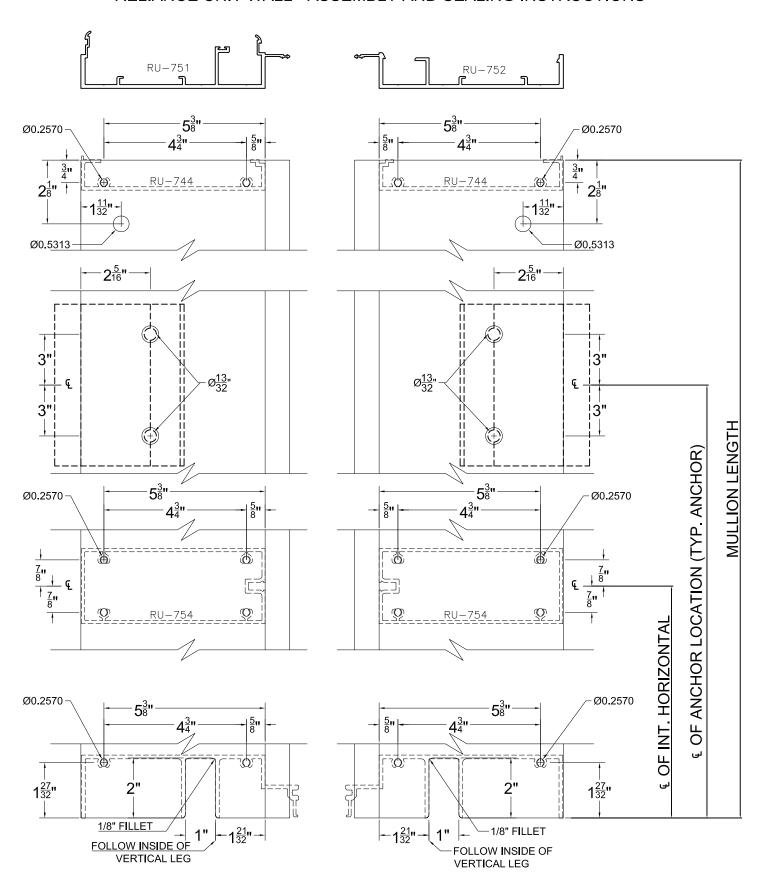
8" VERTICAL REFERENCE INFORMATION (NON CAPTURED JAMB)

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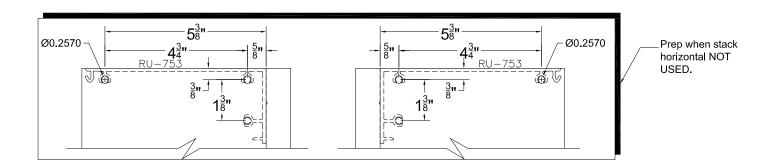


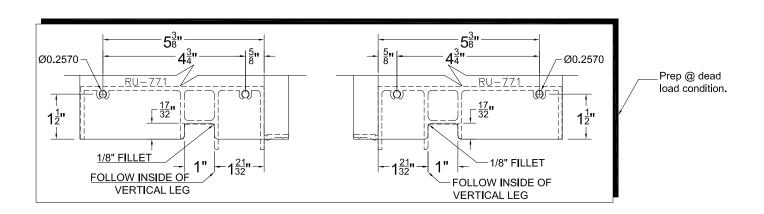


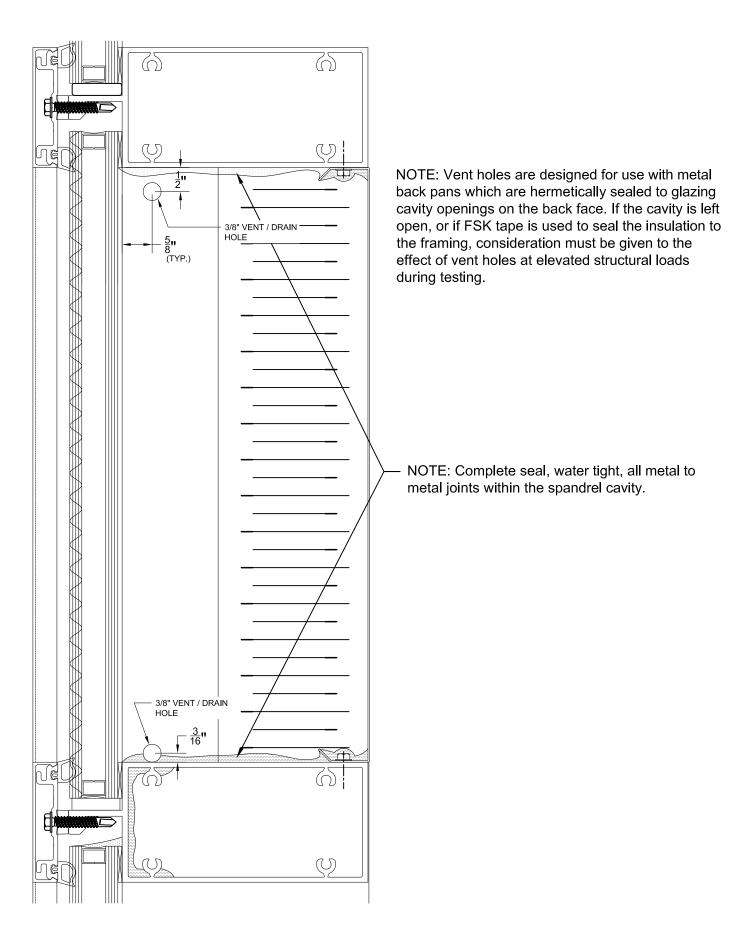












#### 1. LAYOUT PARTS

Typically units are to be assembled with Female Mullion Half on the left of the unit and with the Male Mullion Half on the right of the unit (viewed from exterior of the unit). Please refer to shop drawings for proper mullion half required at left and right jamb units.

Check that all preps have been applied and located in the proper position per approved shop drawings.

## 2. APPLY SILICONE SEALANT

Clean and butter top of the vertical mullions and both ends of horizontals with silicone sealant per approved shop drawings.

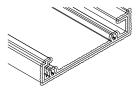
NOTE: ALL ASSEMBLY WORK MUST BE COMPLETED IMMEDIATELY AFTER SEALANT APPLICATION. BEFORE SEALANT SKINS.

Butter both ends of the head horizontal from the front leg continuously around the perimeter including screw chase.

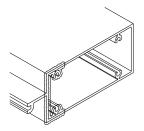
CAPTURED

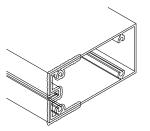


NON CAPTURED

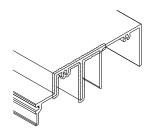


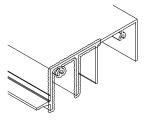
Butter both ends of the intermediate transom from the lower screw chase inboards to the upper screw chase. (NOTE: Spandrel & shadow box cavity areas are to be sealed full depth of horizontal.)

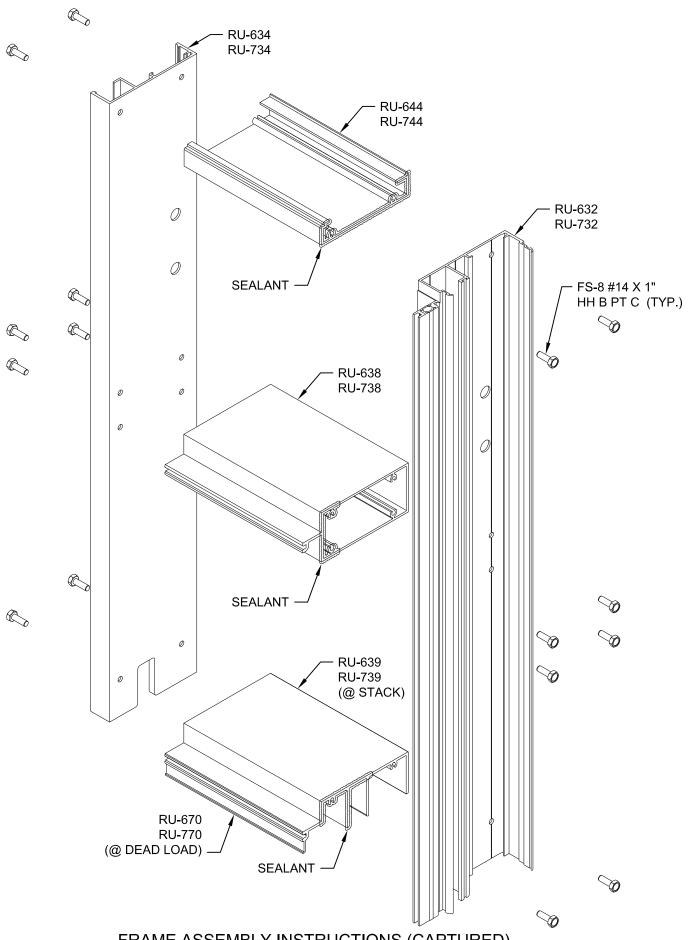




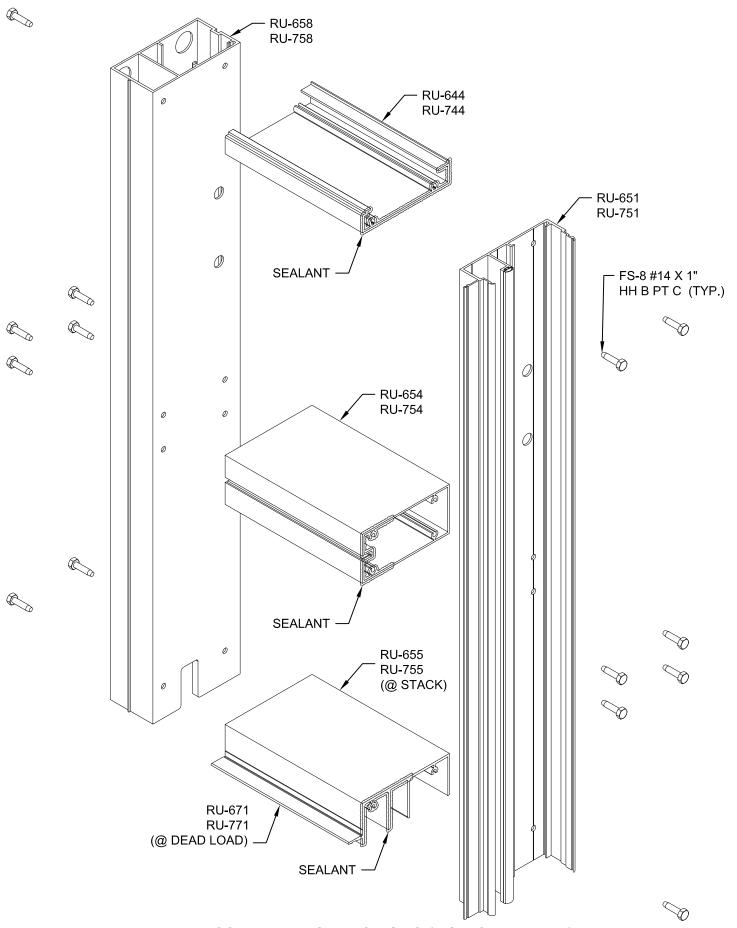
Butter both ends of the transom at the front wall up to the first screw chase. (NOTE: Spandrel & shadow box cavity areas are to be sealed full depth of horizontal.)



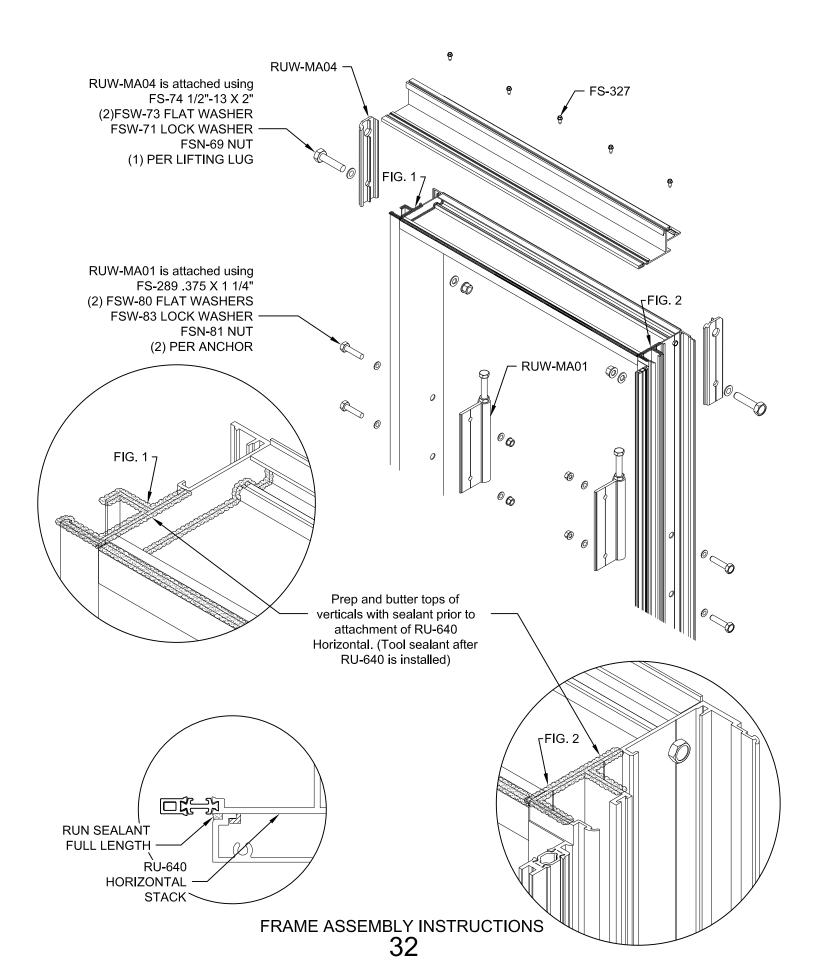




FRAME ASSEMBLY INSTRUCTIONS (CAPTURED) 30



FRAME ASSEMBLY INSTRUCTIONS (NON CAPTURED) 31



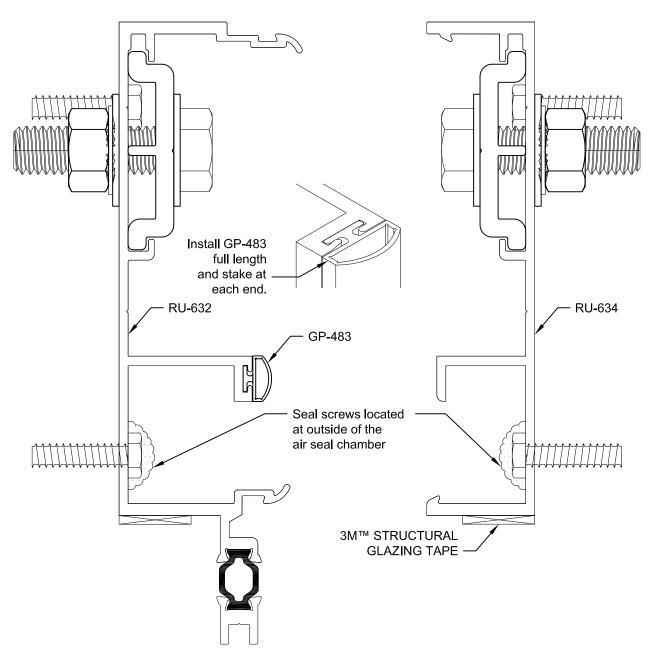
#### ASSEMBLING FRAME

Position horizontal members aligning with splines with screw holes and assemble with FS-8 #14 x 1" long hex washer head Type B pt assembly screws.

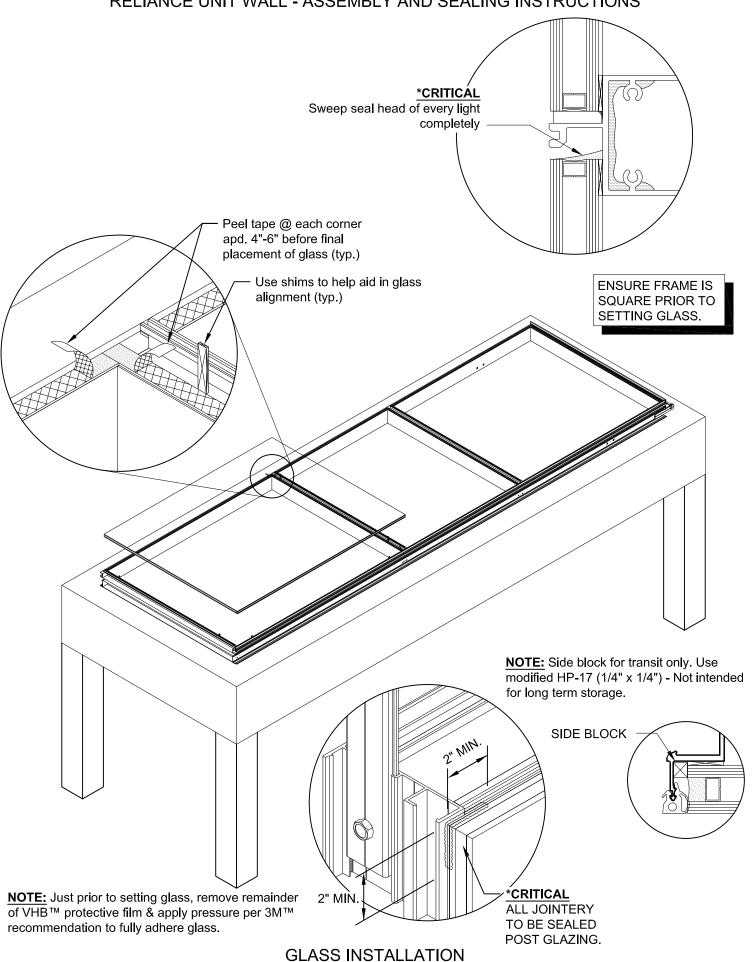
When applying opposite side of mullion half, do not tighten screws until all horizontals have been applied to keep from wiping off the sealant with mullion during installation.

A RING OF SEALANT SHOULD APPEAR AROUND EVERY SCREW HEAD LOCATED IN WET AREAS. (SEE FIGURE BELOW)

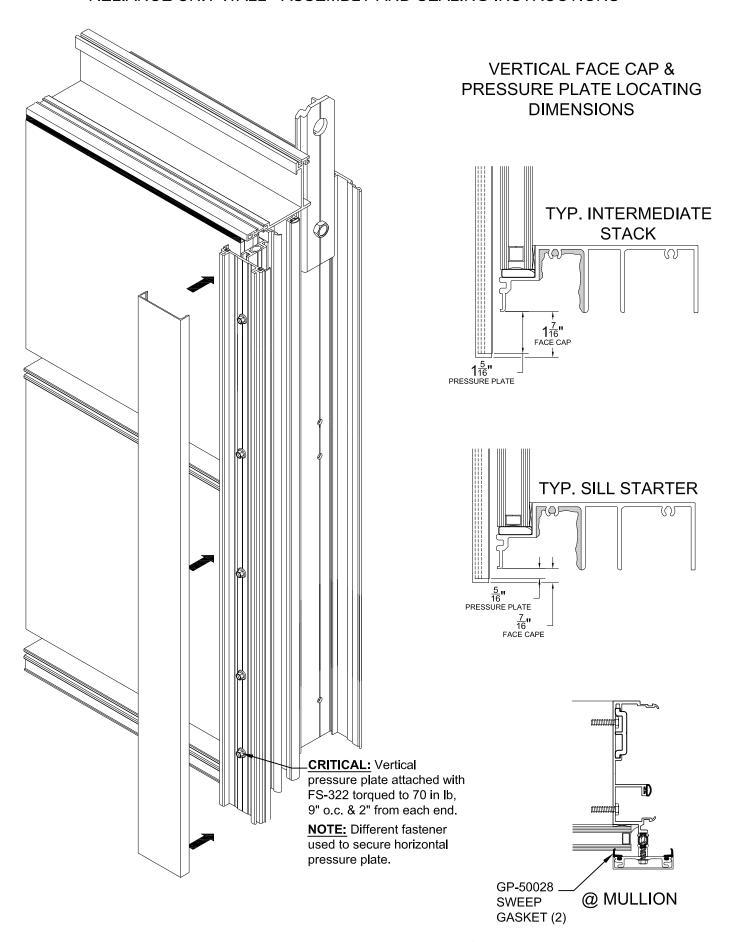
THOROUGHLY SEAL OVER SCREW HEADS WHICH ARE LOCATED OUTSIDE OF THE AIR SEAL CHAMBER.

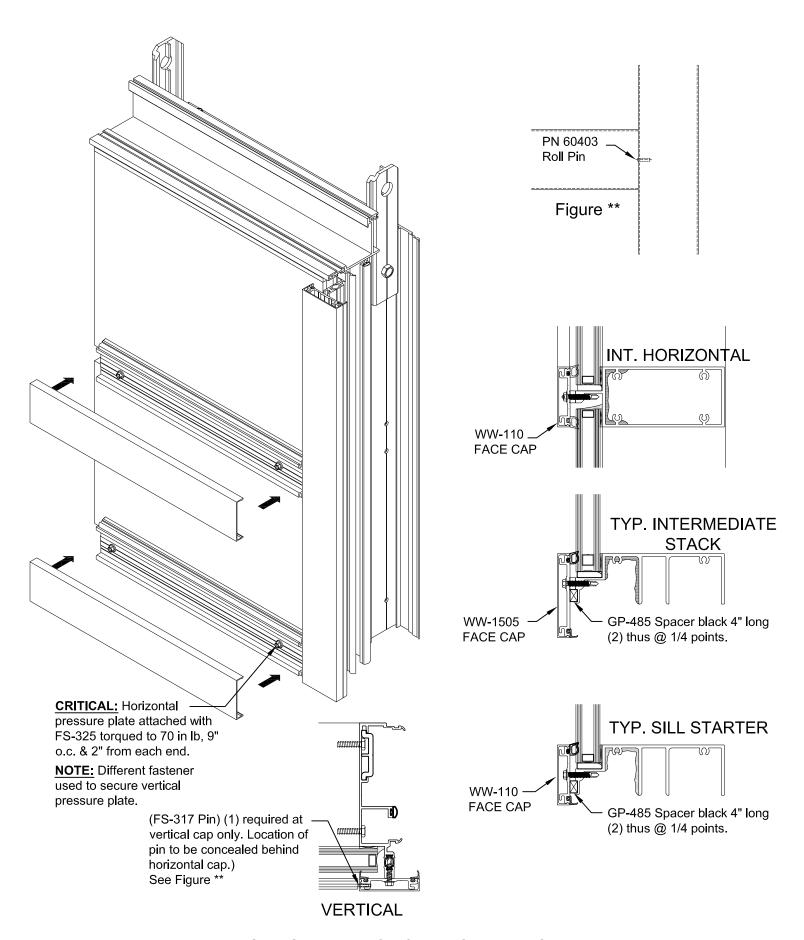


# RELIANCE UNIT WALL - ASSEMBLY AND SEALING INSTRUCTIONS APPLY 3M™<sup>-</sup> STRUCTURAL GLAZING TAPE IN ACCORDANCE WITH MANUFACTURER'S **INSTRUCTIONS** ଦ୍<u>ୱ</u>4 ယ်|4 | 3M™ STRUCTURÁL **GLAZING TAPE** 3M™ STRUCTURAL **GLAZING TAPE** TAPE LOCATION / APPLICATION 34



GLASS INSTALLATION 35





7" SYSTEM		
RU-662	Male Corner Mullion 90° Outside Captured	
RU-662	Female Corner Mullion 90° Outside Captured	
RU-632	Male Mullion Captured	
RU-634	Female Mullion Captured	
RU-667	Jamb Captured	
RU-658	Jamb Non Captured	
RU-651	Male Mullion Non Captured	
RU-652	Female Mullion Non Captured	
RU-653	Head Horizontal Non Captured	
RU-637	Filler Trim for Head Horizontal	
RU-650	Dead Load Sill Starter	
RU-649	Stack Horizontal @ Stack Condition	
<b>[]</b> RU-644	Head Horizontal @ Stack Condition	
<b>, "  " </b> RU-639	Sill 1" Infill, Captured	
<b>P</b> 8 RU-638	Standard Horizontal Captured	

RU-636	Head Horizontal Captured	
RU-673	Sill Non Captured	
RU-654	Standard Horizontal Non Captured	
<b>P" P "</b> RU-670	Dead Load Sill, Captured	
<b>TH</b> TRU-671	Dead Load Sill, Non Captured	
8" SYSTEM		
RU-762	Male Corner Mullion 90° Outside Captured	
RU-763	Female Corner Mullion 90° Outside Captured	
RU-732	Male Mullion Captured	
] <sub>RU-734</sub>	Female Mullion Captured	
RU-767	Jamb Captured	
RU-758	Jamb Non Captured	
RU-751	Male Mullion Non Captured	
RU-752	Female Mullion Non Captured	
RU-753	Head Horizontal Non Captured	
<b>N</b> RU-737	Filler Trim for Head Horizontal	

RU-750	Dead Load Sill Starter	
RU-749	Stack Horizontal @ Stack Condition	
<b>G</b> RU-744	Head Horizontal @ Stack Condition	
RU-739	Sill, Captured	
RU-738	Standard Horizontal Captured	
RU-736	Head Horizontal Captured	
RU-773	Sill Non Captured	
RU-754	Standard Horizontal Non Captured	
<b></b>	Dead Load Sill, Captured	
<b>1"H"</b> RU-771	Dead Load Sill, Non Captured	
COMMON EXTRUSIONS		
RU-642	Pressure Plate for 3 1/2" Face Cap @ Stack, Captured	
WW-1508	3 1/2" Face Cap @ Stack Condition, Captured	
<b>%</b> WW-162	Pressure Plate for 2 1/2" Face Cap (Typ.), Captured	
	2 1/2" Face Cap @ Typical Condition, Captured	
RU-641	Pocket Filler, Captured	

RU-657	Perimeter Filler, Non Captured	
SPW-1482	Perimeter Filler Cap, Non Captured	
RU-230	Pressure Plate for 90° Corner Face Cap Captured	
RU-231	Face Cap for 90° Corner Condition Captured	
ACCESSORIES		
FS-289	Hex Head Bolt 3/8" X 1 1/4"	
FSW-80	Flat Washer For 3/8" Bolt	
FSN-81	Nut For 3/8" Bolt	
FS-74	Hex Head Bolt 1/2"-13 X 2"	
FSW-73	Flat Washer For 1/2" Bolt	
FSW-71	Lock Washer For 1/2" Bolt	
FSN-69	Nut For 1/2"-13 Bolt	
[	Typical Assembly Fastener	
∄ասա⇒ FS-322	Vertical Pressure Plate, Pocket Filler / Chicken Head Fastener	
<b>‡&gt;</b> FS-325	Horizontal Pressure Plate Fastener	
rs-347	Adjustment Bolt 3/8"-16x5" Square Head Cup Point Bolt	

FS-346	Taplock Threaded Insert 3/8"-16x11/16"
FS-317	Attachment Pin
 UW-465	Silicone Splice 4"
 UW-466	Silicone Splice 2"
GP-492	Formed Silicone Boot for Sealing of 90° O.S. Corner
GP-483	Santoprene Weather Gasket
GP-142	EPDM Isolator
@ GP-50008	EPDM / Silicone Gasket
@ GP-50028	EPDM / Silicone Weatherseal Gasket
GP-185	Air Seal Gasket @ Stack
<b>377</b> GP-186	Air Seal Gasket @ Sill
GP-484	1" X 1/4" Setting Block
GP-485	5/16" X 1/2" Spacer Block
HP-17	Edge Block Modified as Needed
3M™ VHB™ SGT	3M Structural Glazing Tape (NOT Provided by O.B.E)
UCW-8759	Serrated Washer

UCW-387	Anchor Lug Typical
(U) RU-668	7" Mullion Anchor Typical
UCW-20050	7" Mullion Anchor 90° O.S. Corner
UCW-309	Anchor Plate Typical
UCW-200	Serrated Anchor Plate Washer
UCW-6006	Lifting Lug Typical
J UCW-6012	Lifting Lug 90° O.S. Corner
RU-647	Dead Load Block
(U) RU-768	8" Mullion Anchor Typical
ළ RU-237	8" Mullion Anchor 90° O.S. Corner
RU-201	7" Sill Shear Angle
RU-204	8" Sill Shear Angle
RU-645	Stack Shear Angle