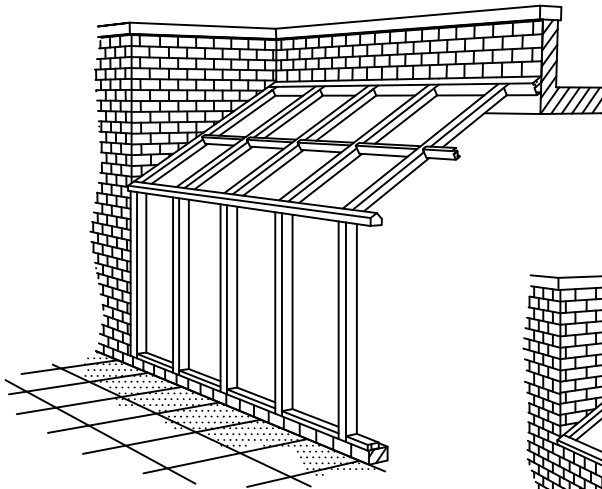
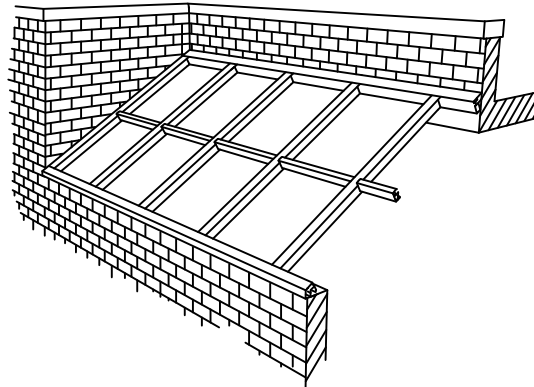


# INSTALLATION

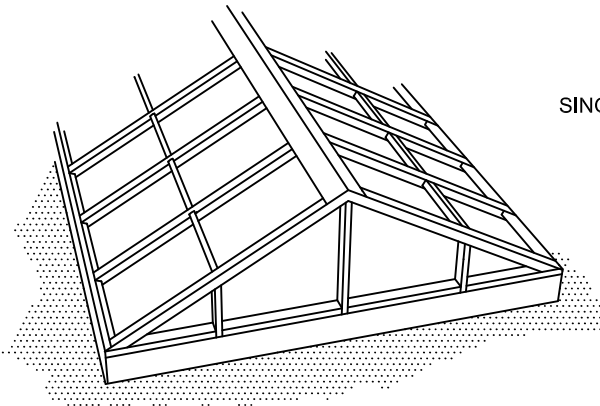
## 2000 SKYLIGHT



VERTICAL WITH SLOPE



SINGLE SLOPE SKYLIGHT



RIDGE SKYLIGHT WITH VERTICAL GABLE

# INSTRUCTIONS

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# GENERAL INFORMATION

## GENERAL NOTES

These installation instructions are a supplement to the approved shop drawings.  
Use in conjunction with those drawings.

### HANDLING - STORING - PROTECTING ALUMINUM

- A. HANDLE CAREFULLY - Don't drop from the truck. Stack with adequate separation so material will not rub together. Store off the ground. Protect against elements and other construction trades.
- B. KEEP MATERIAL AWAY FROM WATER, MUD AND SPRAY - Prevent cement, plaster and other materials from damaging the finish.
- C. PROTECT THE MATERIALS AFTER ERECTION - by wrapping with kraft paper or by erecting visqueen or canvas splatter screens. Cement, plaster, terrazzo and other alkaline materials are very harmful to the finish and should be removed with water and mild soap before setting occurs. Under no circumstances allow these materials to dry or permanent staining will occur.

GENERAL RULES. . . The following practices are recommended for all installations:

- A. Read complete instructions before ordering glass, fabricating or assembling metal.
- B. CHECK SHOP DRAWINGS to become thoroughly familiar with job. In any case where there is a difference between approved shop drawings and these instructions, the shop drawings should be followed.
- C. All materials are to be INSTALLED PLUMB, LEVEL AND TRUE.
- D. All work should start from established bench marks and column centre lines established by the architectural drawings and the general contractor.
- E. The sequence of erection should be coordinated with the job superintendent so delays are prevented and risk of material damage is minimized. IF PRE-SETTING OF ANCHORAGE IS REQUIRED, COORDINATE WITH GENERAL CONTRACTOR AND SUPERVISE LOCATION.
- F. Make certain construction which will receive your materials is according to the contract documents. If not, notify the general contractor IN WRITING, AND RESOLVE DIFFERENCES BEFORE PROCEEDING WITH YOUR WORK.
- G. Insulate all aluminum to be placed directly in contact with the masonry or incompatible materials with a heavy coat of zinc chromate or bituminous paint.
- H. Follow Kawneer Installation and Glazing Instructions.
- J. Check all material on arrival for quantity.
- K. Be sure you have all the materials and tools needed to begin the installation:
  - (1) Approved Shop Drawings or Layout from Installation Instructions.
  - (2) Level and Plumb (Transit).
  - (3) Fasteners and Drivers as required.
  - (4) Perimeters and Accessories such as Anchors, Fasteners, Sleeves or Splice Caps.
  - (5) Sealing Materials
  - (6) Glazing Materials.
- L. Follow sealant manufacturer's recommendations for proper sealant and application. All sealants and mastics must be compatible with all surfaces including other sealant surfaces. Where required all sealants must adhere to all surfaces including other sealant surfaces.

## 2000 SKYLIGHT SYSTEM NOTES

2000 Skylight is available with 1" infill framing members.

Glass bite for captured members is 5/8" at rafters and 1/2" at purlins. Glass bite for SSG purlins is 7/8". Glass sizes must be calculated from approved shop drawings.

Unless otherwise specified, it is recommended that silicone sealant be used for all internal seals.

Sealant must be applied per the sealant manufacturer's recommendations and pass all adhesion and compatibility testing. At all joint seals, sealant must adhere to metal, gaskets, thermal separator and joint plug materials. Clean all surfaces prior to application of sealant and prime where necessary to achieve proper adhesion.

## STRUCTURAL SEAL NOTES

Structural silicone seal - The glazing installer is responsible for selecting and contacting the silicone manufacturer to determine which type of silicone is to be used and what samples are required to be submitted for adhesion and compatibility testing.

The silicone sealant shall not be applied to Kawneer products without the approval of the silicone manufacturer and until all required testing is completed and detailed application instructions have been delivered to the installer by the silicone manufacturer.

If you find the silicone manufacturer's installation instructions are not in accordance with Kawneer's installation instructions, it is your responsibility to notify Kawneer of this conflict prior to glazing.

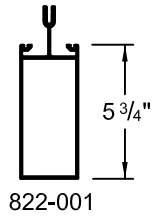
Your glass supplier must be made aware that their glass will be used in a SSG application. The application must be approved by the glass supplier prior to glazing.

Any structural silicone glazed product application that is not shown in Kawneer's standard product literature must be pre-approved by Kawneer.

Exterior glass weather seal - Sealant to be a type as recommended by the manufacturer of the structural sealant being used for this project.

Sealant must be applied per the sealant manufacturer's recommendations. Weather seal sealant must adhere to exterior gasket material.

# COMPONENTS



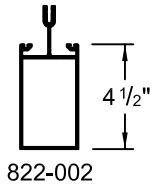
5-3/4" Rafter

822-001



Hip Adapter  
(For 20° to 30° slope)

822-017



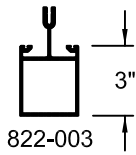
4-1/2" Rafter

822-002



Hip Adapter  
(For 25° to 35° slope)

822-018



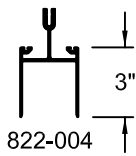
3" Rafter

822-003



Hip Adapter  
(For 35° to 45° slope)

822-019



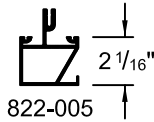
Veneer Rafter

822-004



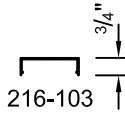
Condensation Gutter  
(Optional)

822-010



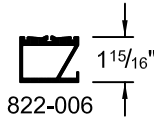
Purlin

822-005



Rafter Snap-on Cover

216-103



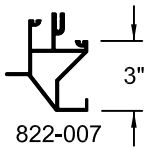
S.S.G. Purlin

822-006



Rafter Pressure Plate  
(Prepunched)

216-051



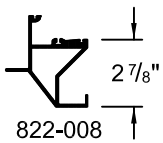
Sill Purlin

822-007



Purlin Pressure Bar

822-034



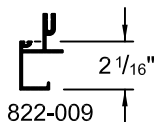
S.S.G. Sill Purlin

822-008



Purlin Snap-on Cover  
(Optional)

822-031



Head / Ridge Purlin

822-009



Purlin Pressure Plate  
(Prepunched)  
(Optional)



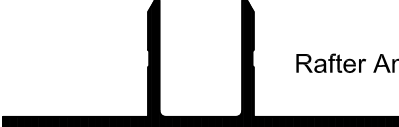









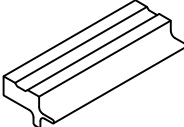

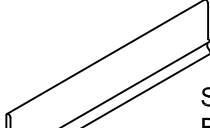

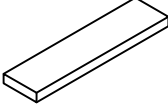
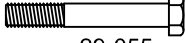
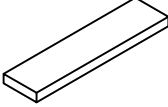



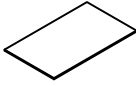

822-120



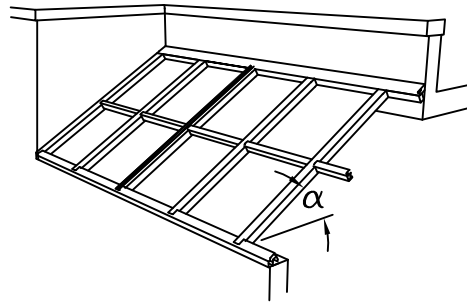
Head / Ridge Pressure Plate  
(Prepunched)

822-121

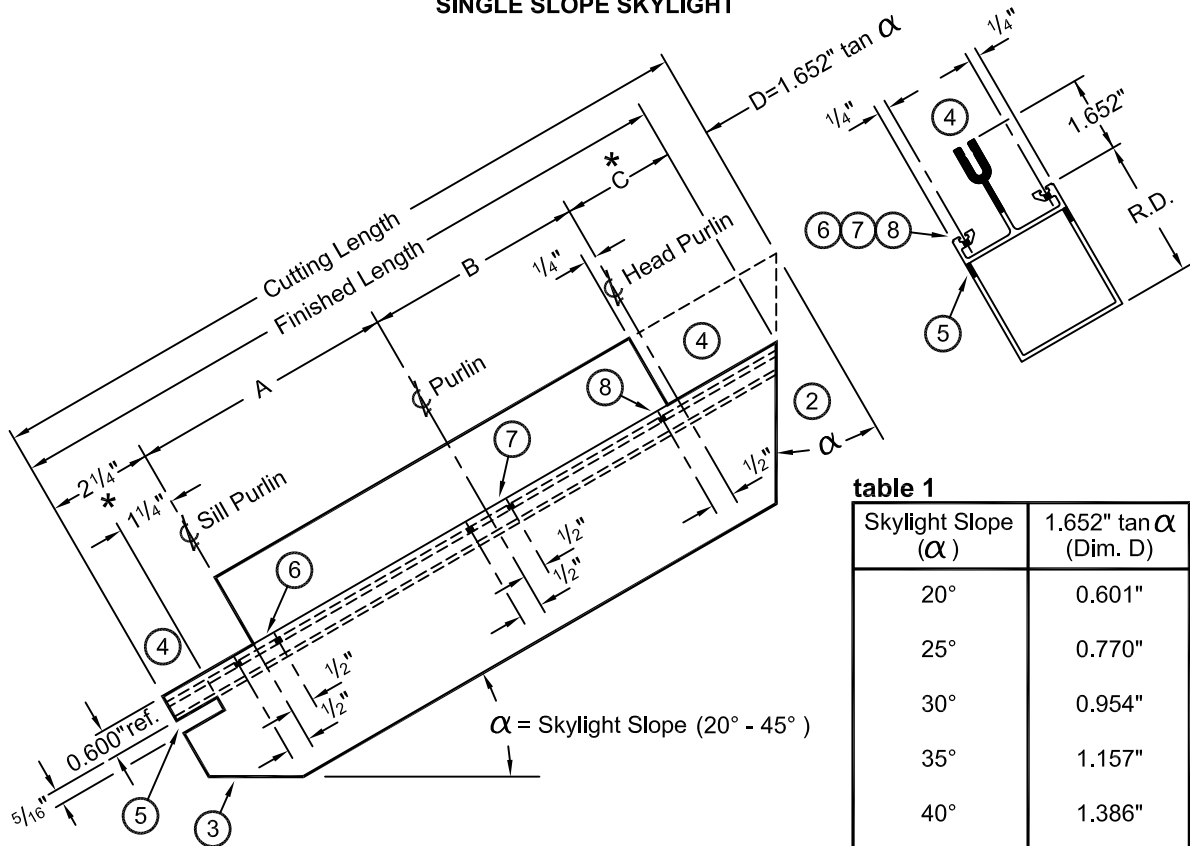
# COMPONENTS

 822-013	Veneer Rafter Anchor Extrusion	 29-031	#14 x 7/8" R.H., Robertson Type AB, 300 SS, Self Tapping (Pressure plate screw)
 822-014	Rafter Anchor Extrusion	 29-032	#12 x 1/2" P.H., Robertson Type B, 300 SS, Self Tapping (Purlin screw)
 27-591	3/16" Tremco VISIONstrip® (Exterior)	 29-054	#12 x 3/4" F.H., Robertson Type B, 300 SS, Self Tapping (S.S.G. Purlin screw)
 822-020	Interior E.P.D.M. Rafter Gasket	 28-316	#8 x 3/8" F.H., Phillips Type B, 300 SS, Self Tapping (Condensation gutter / cover screw)
 822-021	Interior E.P.D.M. Purlin Gasket	 28-337	#10 x 3/4" F.H., Phillips Type B, 300 SS, Self Tapping (S.S.G. transition cover screw)
 821-111	S.S.G. Purlin Silicone Spacer	 28-354	#10 x 1/2" F.H., Phillips Type B, 430 SS, Self Tapping (Gusset plate screw)
 822-025	Purlin Setting Block 4" Long	 28-978	#12 - 24 x 1-3/4" P.H., Phillips Zinc Plated, Machine Screw (S.S.G. temporary glazing screw)
 822-102	S.S.G. Setting Block Support 6" Long	 29-163	#10 - 16 x 5/8" P.H., Robertson 400 SS, Self Drilling (Air seal flashing screw)
 976-840	S.S.G. Setting Block 1/4" x 1" x 4" Long	 29-055	1/2" - 13 x 3-1/2" Hex Head Bolt, 300 SS (Anchor)
 976-840	S.S.G. Setting Block 1/4" x 1" x 4" Long	 29-198	1/2" -13 Hex Head Nut, 300 SS (Anchor)
 216-631	1/8" Thermal Break	 29-199	1/2" Flat Washer, 300 SS (Anchor)
 822-105	1-1/2" x 2-1/2" x .031" Joint Plate	 29-200	1/2" Lock Washer 300 SS (Anchor)

# FABRICATION - SINGLE SLOPE RAFTER

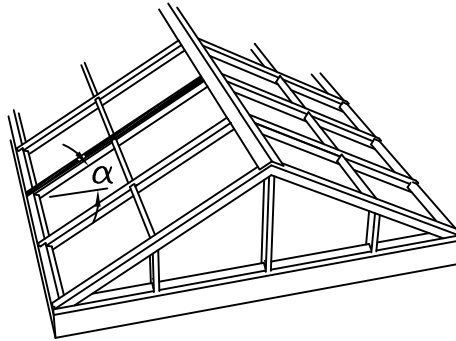


SINGLE SLOPE SKYLIGHT



- ① Cut to length.
- ② Mitre top end. Typical angle and location shown, varies with anchor and building interface detail.
- ③ Mitre bottom end. Typical angle and location shown, varies with anchor and building interface detail.
- ④ Remove neck both ends. \*Dimension can vary depending on detail. Typical dimension shown.
- ⑤ Notch bottom end for air seal flashing.
- ⑥ Drill (4) #14 holes bottom end for sill purlin.
- ⑦ Drill (4) #14 holes for intermediate purlins, if required.
- ⑧ Drill (2) #14 holes top end for head purlin.
- ⑨ Fabricate both ends for anchors as required on shop drawings. At sill anchors it may be necessary to notch bottom wall of rafter for anchor clearance, depending on rafter depth, angle and building interface detail.

# FABRICATION - RIDGE RAFTER



RIDGE SKYLIGHT

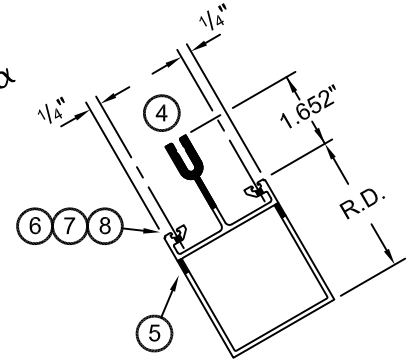
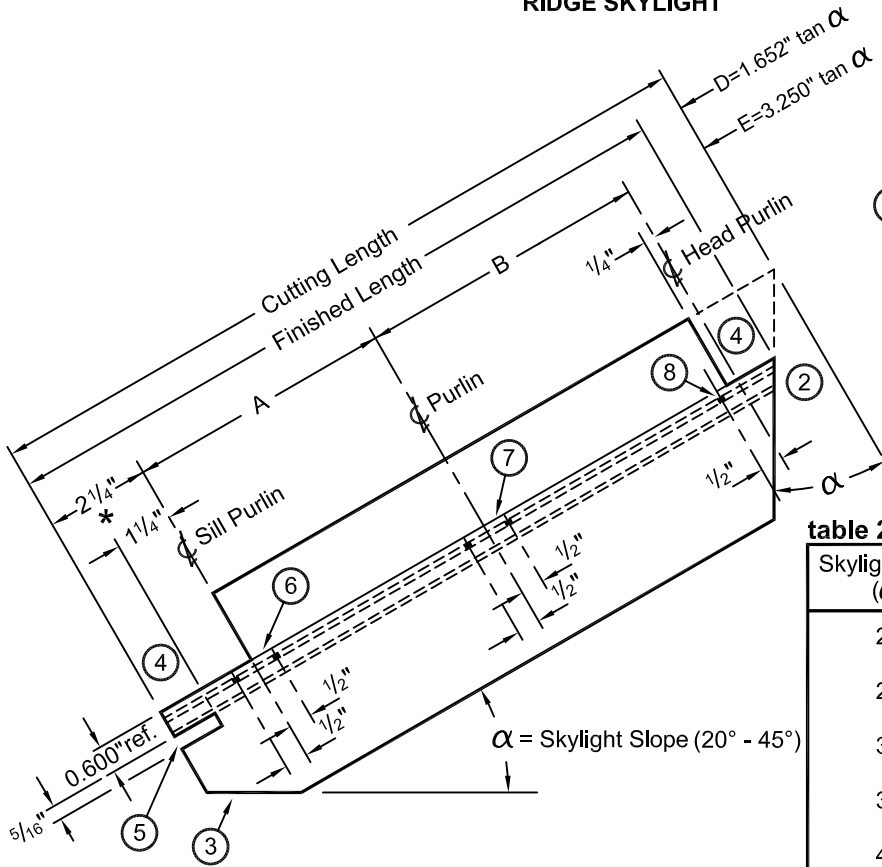


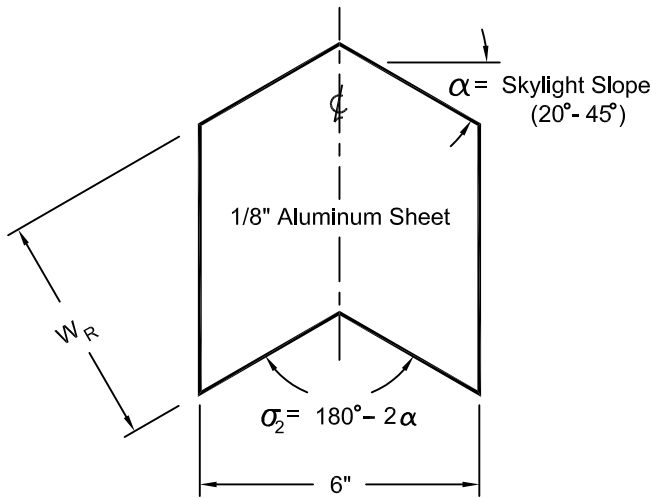
table 2

Skylight Slope ( $\alpha$ )	1.652" tan $\alpha$ (Dim D)	3.250" tan $\alpha$ (Dim E)
20°	0.601"	1.183"
25°	0.770"	1.515"
30°	0.954"	1.876"
35°	1.157"	2.276"
40°	1.386"	2.727"
45°	1.652"	3.250"

For angles not shown in table, Dims. D & E must be calculated.

- ① Cut to length.
- ② Mitre top end.
- ③ Mitre bottom end. Typical angle and location shown, varies with anchor and building interface detail.
- ④ Remove neck both ends. \*Dimension can vary depending on detail, typical dimension shown.
- ⑤ Notch bottom end for air seal flashing.
- ⑥ Drill (4) #14 holes bottom end for sill purlin.
- ⑦ Drill (4) #14 holes for intermediate purlins, if required.
- ⑧ Drill (2) #14 holes top end for head purlin.
- ⑨ Fabricate bottom for anchor as required on shop drawings. At sill anchor it may be necessary to notch bottom wall of rafter for anchor clearance, depending on rafter depth, angle and building interface detail.
- ⑩ Fabricate top end for gusset plate as shown on page 8.

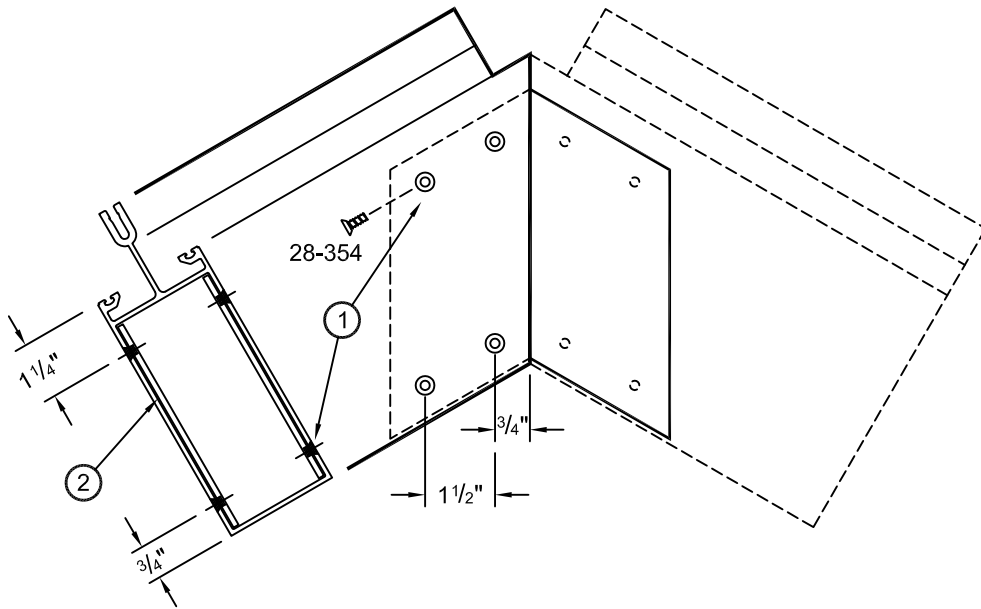
# FABRICATION AND ASSEMBLY - RIDGE RAFTER GUSSET PLATE



**table 3**

Rafter	$W_R$
822-001	5"
822-002	3-3/4"
822-003	2-1/4"

Layout gusset plate on 1/8" aluminum sheet and cut required number for job (2 per joint).



- ① Countersink (4) #7 holes for 28-354 #10 x 1/2" flat head screws as shown, both sides.
- ② Insert and clamp gusset plates to one end and drill (4) #29 holes in each plate using rafter as template, fasten each plate with (4) 28-354 #10 x 1/2" flat head screws and repeat for other rafter.

**NOTE:** It is the Dealer's responsibility to verify that the gusset connection is adequate to withstand project loading.



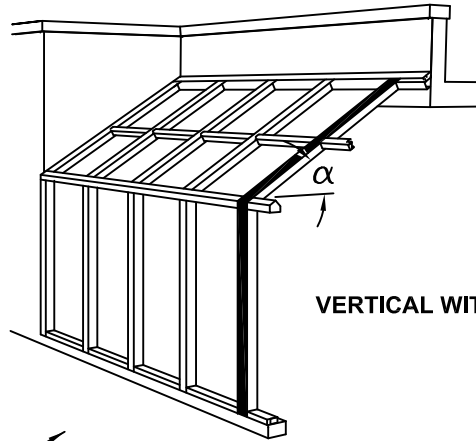
# FABRICATION - VERTICAL WITH SLOPE MITRE CALCULATION

NOTE: The rafter and mullion mitres can be calculated mathematically, as shown below, or by layout as shown on page 11.

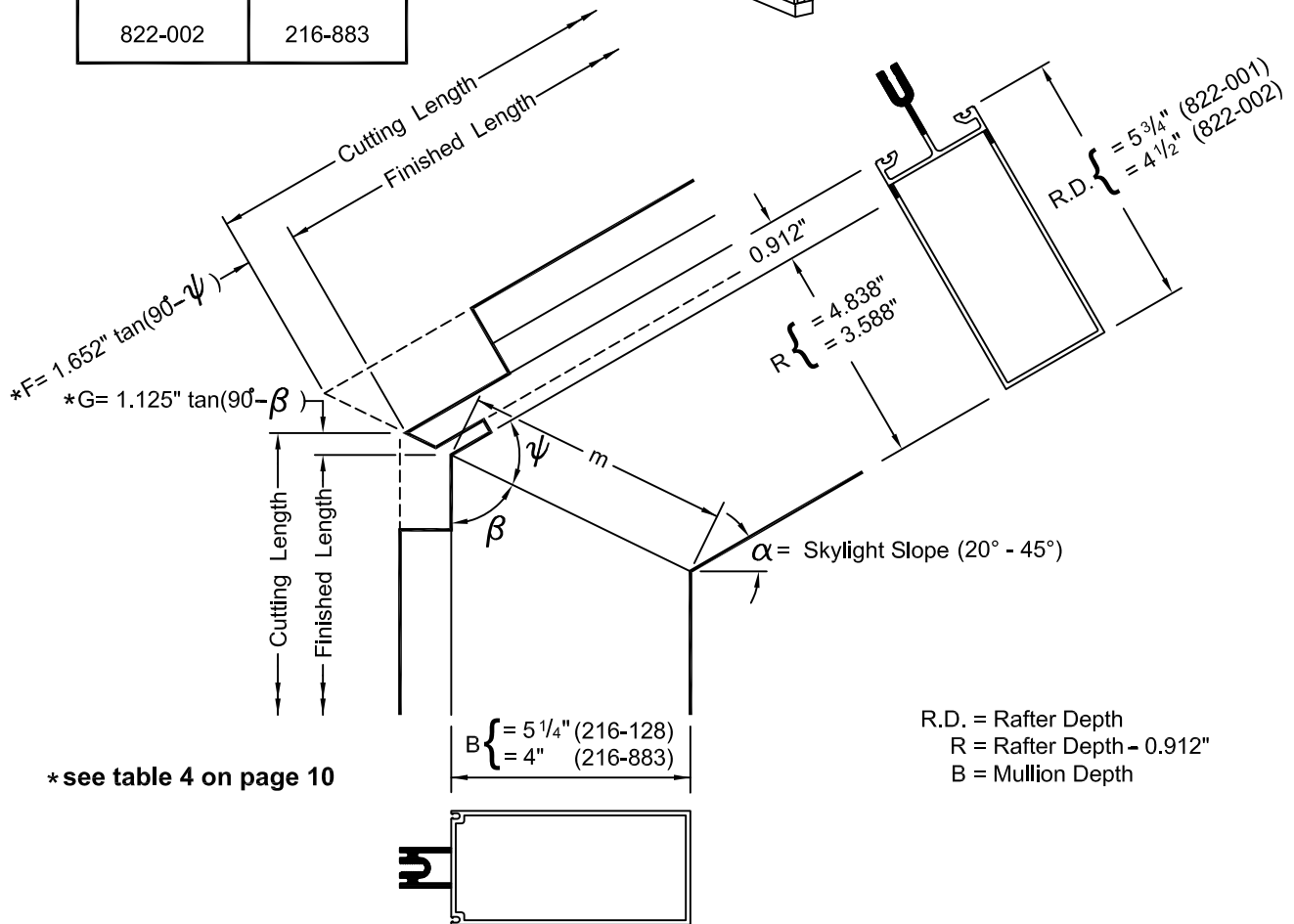
Values for some specific slope angles are listed in table 4 on page 10.

The 2000 Skylight sloped rafter is joined to the 1600 vertical mullion with a mitred gusset connection. Following are the standard rafter and mullion combinations:

Rafter	Mullion
822-001	216-128
822-002	216-883



VERTICAL WITH SLOPE



## Given:

$\alpha$  = Skylight Slope  
 B = Mullion Depth  
 R = Rafter Depth - 0.912

## Mitre Calculation:

$$\psi = \arctan \left\{ \frac{R \cos \alpha}{(B - R \sin \alpha)} \right\}$$

$$\beta = \arctan \left\{ \frac{B \cos \alpha}{(R - B \sin \alpha)} \right\}$$

## To verify:

$$\beta + \psi - \alpha = 90^\circ$$

and:

$$m = \frac{R}{\sin \psi} = \frac{B}{\sin \beta}$$

# FABRICATION - VERTICAL WITH SLOPE MITRE CALCULATION

## Example:

822-002 Rafter  $\longrightarrow$   $R = R.D. - 0.912" = 4.500" - 0.912" = 3.588"$   
 216-883 Mullion  $\longrightarrow$   $B = 4.000"$   
 30° Slope  $\longrightarrow$   $\alpha = 30^\circ$

## Calculation:

$$\psi = \arctan \left\{ \frac{R \cos \alpha}{(B - R \sin \alpha)} \right\}$$

$$= \arctan \left\{ \frac{3.588 \cos 30^\circ}{(4.000 - 3.588 \sin 30^\circ)} \right\} = 54.627^\circ$$

$$\beta = \arctan \left\{ \frac{B \cos \alpha}{(R - B \sin \alpha)} \right\}$$

$$= \arctan \left\{ \frac{4.000 \cos 30^\circ}{(3.588 - 4.000 \sin 30^\circ)} \right\} = 65.373^\circ$$

## To verify:

$$\beta + \psi - \alpha = 65.373^\circ + 54.627^\circ - 30^\circ = 90^\circ$$

$$m = \frac{R}{\sin \psi} = \frac{3.588}{\sin 54.627^\circ} = 4.400"$$

$$m = \frac{B}{\sin \beta} = \frac{4.500}{\sin 65.373^\circ} = 4.400"$$

} Checks

table 4

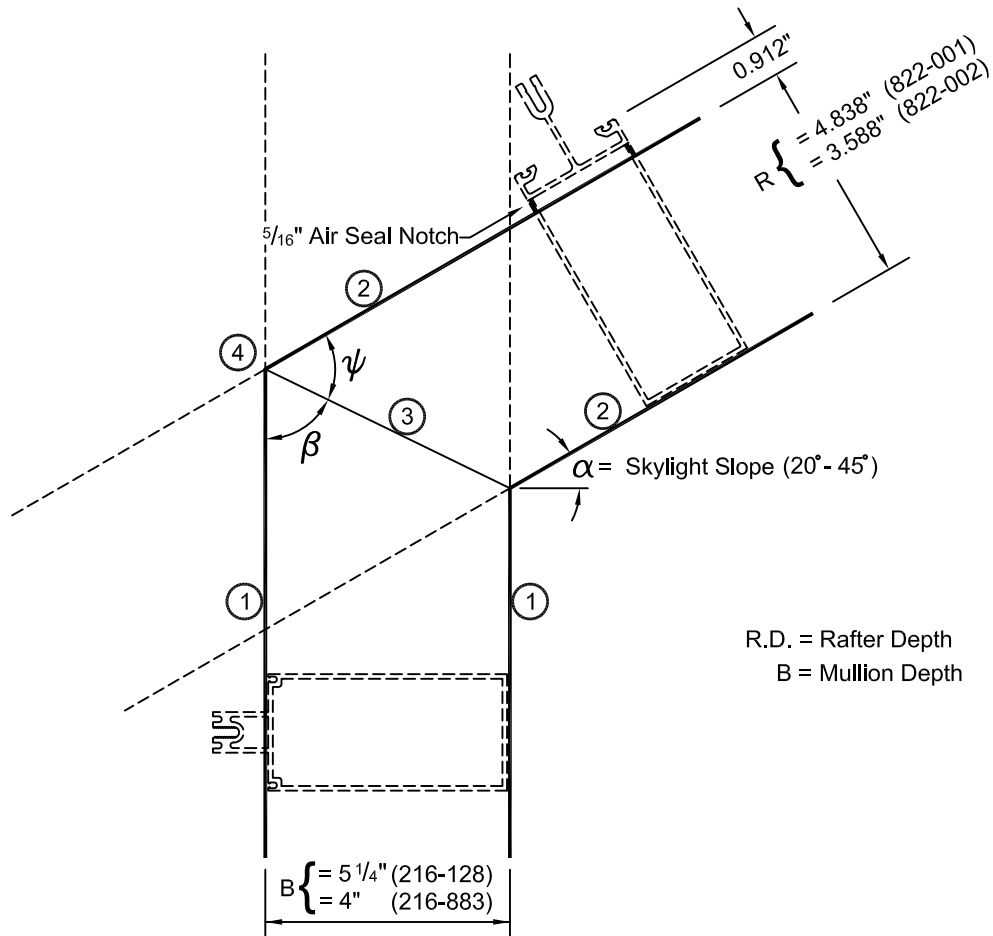
Rafter/Mullion	Skylight Slope ( $\alpha$ )	Rafter Mitre ( $\psi$ )	Mullion Mitre ( $\beta$ )	Dim F *	Dim G *
822-001/216-128	20°	51.675°	58.350°	1.306"	0.693"
	25°	53.833°	61.183°	1.208"	0.619"
	30°	55.955°	64.048°	1.116"	0.548"
	35°	67.014°	58.028°	0.701"	0.702"
	40°	61.856°	70.024°	0.884"	0.409"
	45°	61.849°	73.125°	0.884"	0.341"
822-002/216-883	20°	50.576°	59.441°	1.358"	0.664"
	25°	52.640°	62.382°	1.261"	0.589"
	30°	54.627°	65.373°	1.173"	0.516"
	35°	56.572°	68.628°	1.090"	0.440"
	40°	58.363°	71.655°	1.018"	0.373"
	45°	60.029°	74.958°	0.953"	0.302"

\* see page 9 for definition

## FABRICATION - VERTICAL WITH SLOPE MITRE LAYOUT

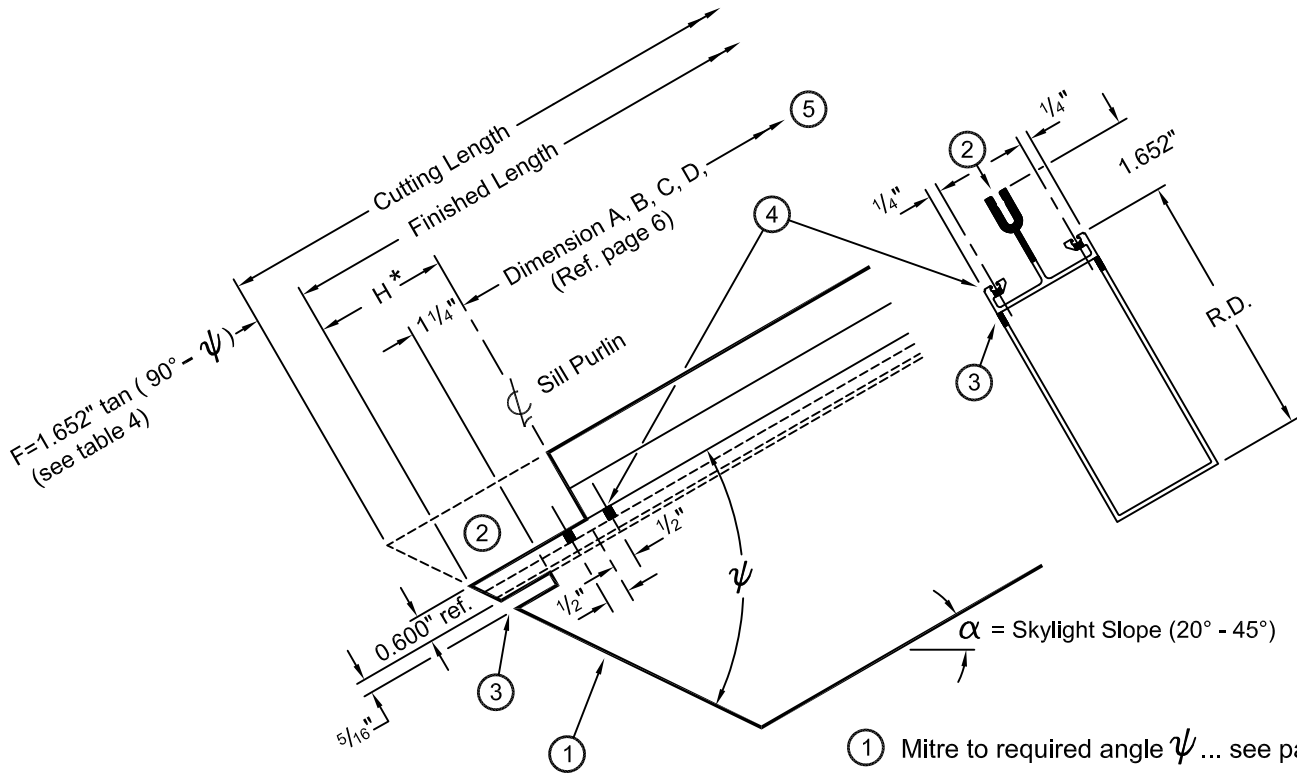
The rafter and mullion mitres can be determined by drawing a full scale layout as shown below.

**Draw accurately  
to scale at full size**



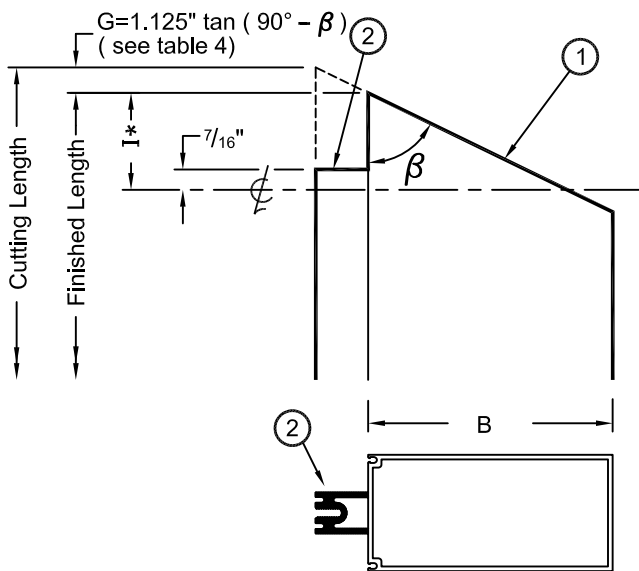
- ① Draw (2) parallel vertical lines to represent the outside walls of the 1600 vertical mullion.
- ② Draw (2) parallel lines at the skylight slope  $\alpha$ , R" (Rafter Depth - 0.912") apart to represent the underside of the rafter tube and the underside of the rafter air seal notch.
- ③ Draw a line connecting the (2) intersection points of lines ① and ②.
- ④ Measure the required rafter mitre angle  $\psi$ , and mullion mitre angle  $\beta$ .

## FABRICATION - VERTICAL WITH SLOPE RAFTER



- ① Mitre to required angle  $\psi$  ... see page 9-11.
- ② Remove neck as shown.
- ③ Notch for air seal flashing.
- ④ Drill (4) #14 holes for sill purlin fastening.
- ⑤ Fabricate for intermediate purlin(s), head purlin, and head as shown on page 6.

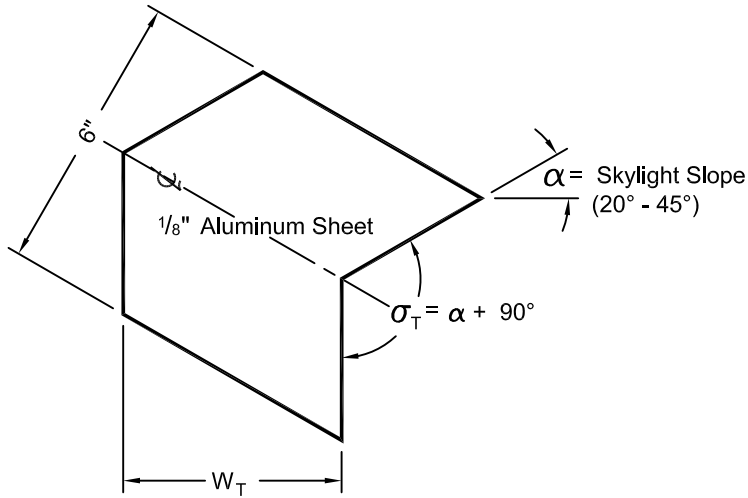
## FABRICATION - VERTICAL MULLION



- ① Mitre to required angle  $\beta$  ... see page 9-11.
- ② Remove neck as shown.
- ③ Fabricate for intermediate and sill horizontal shear blocks as shown in the 1600 Wall Fabrication Instructions. Holes for the head horizontal shearblock should be drilled after the rafter and mullion are assembled, see page 13.

\* NOTE : Fabrication is dimensioned from the sill purlin centreline and the 1600 horizontal centreline which vary with rafter slope. Details must be drawn to locate the sill purlin (Dim H) and the 1600 horizontal (Dim I).

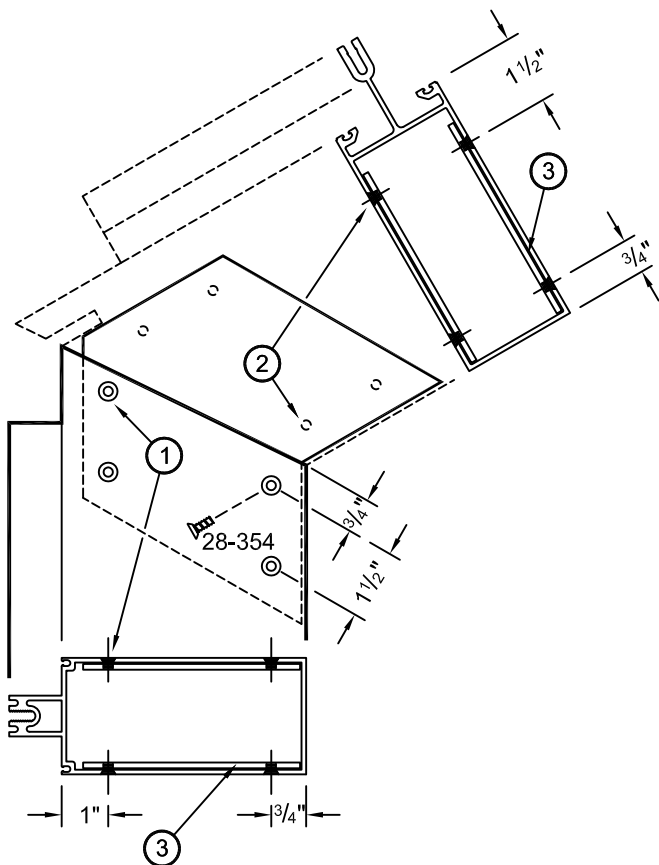
# FABRICATION AND ASSEMBLY - VERTICAL WITH SLOPE GUSSET PLATE



**table 5**

Rafter/Mullion	$W_T$
822-001/216-128	4-11/16"
822-002/216-883	3-7/16"

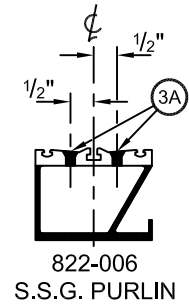
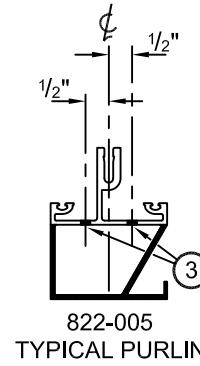
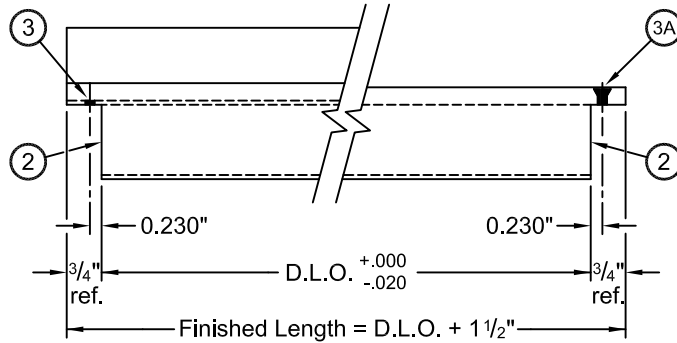
Lay out gusset plate on 1/8" aluminum sheet and cut required number for job (2 per joint).



- ① Countersink (4) #7 holes for 28-354 #10 x 1/2" flat head screws as shown both sides of vertical mullion
- ② Countersink (4) #7 holes for 28-354 #10 x 1/2" flat head screws as shown, both sides of rafter.
- ③ Insert and clamp gusset plates to vertical mullion, lining up back surface of gusset plate with back wall of mullion. Note gusset plate is not symmetrical about mullion mitre. Drill (4) #29 holes in plate using mullion as template, fasten with (4) 28-354 #10 x 1/2" flat head screws. Repeat for rafter.
- ④ Fabricate the rafter/mullion assembly for horizontal shear block as shown in the 1600 Wall Fabrication Instructions. If a gusset plate screw interferes with a shear block fastening screw, drill and fasten shear block fastening screw in an alternate location.

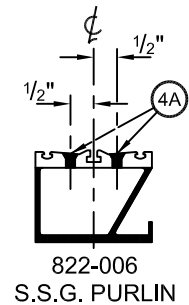
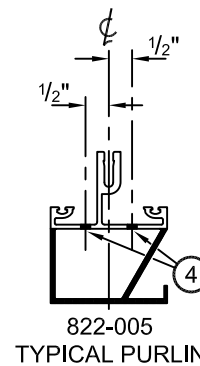
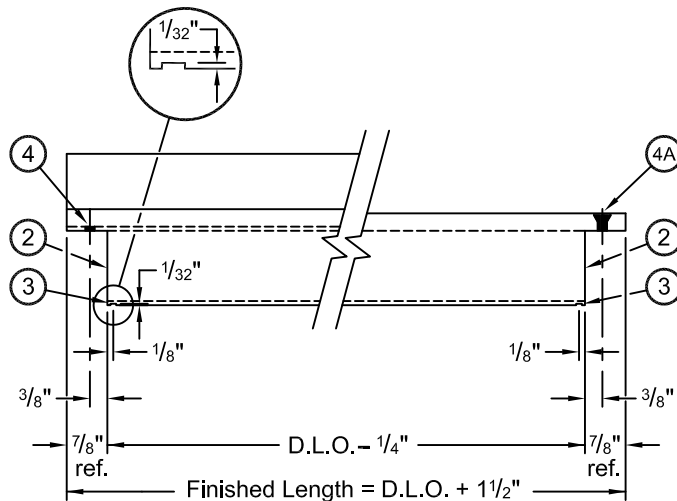
**NOTE:** It is the Dealer's responsibility to verify that the gusset connection is adequate to withstand project loading.

## FABRICATION - PURLIN WITHOUT CONDENSATION GUTTERS



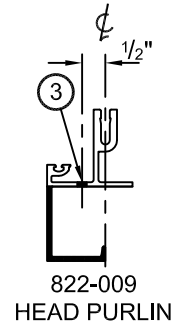
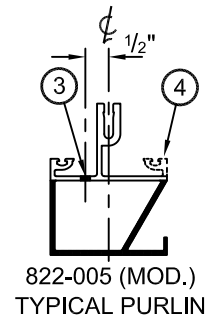
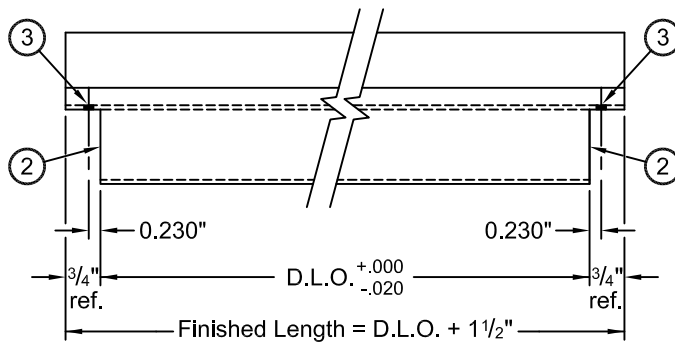
- ① Cut to length.
- ② Notch each end.
- ③ Drill (2) #1 clearance holes each end, for 29-032 #12 x 1/2" pan head screws. (Typical Purlin, 822-005)
- ③A Drill & countersink (2) #1 holes each end, for 29-054 #12 x 3/4" flat head screws. (S.S.G. Purlin, 822-006)

## FABRICATION - PURLIN WITH CONDENSATION GUTTERS



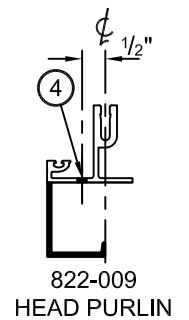
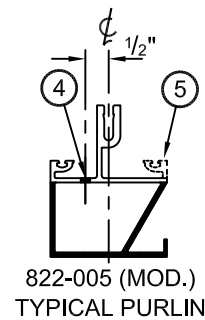
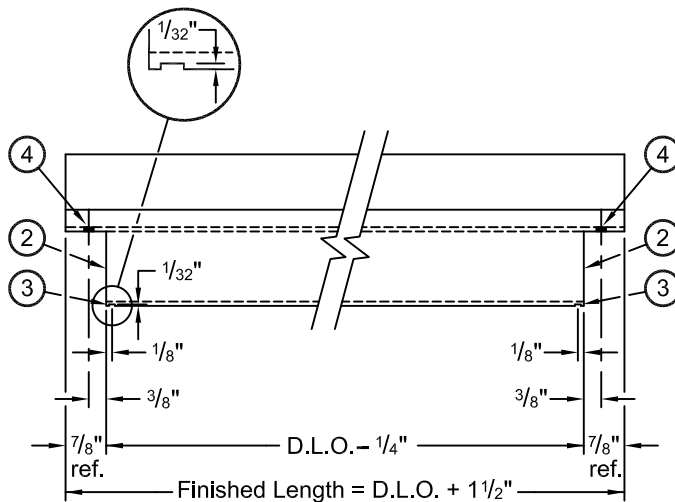
- ① Cut to length.
- ② Notch each end.
- ③ Saw cut 1/32" deep drip relief notch on underside of purlin as shown, both ends.
- ④ Drill (2) #1 clearance holes each end, for 29-032 #12 x 1/2" pan head screws. (Typical Purlin, 822-005)
- ④A Drill & countersink (2) #1 holes each end, for 29-054 #12 x 3/4" flat head screws. (S.S.G. Purlin, 822-006)

## FABRICATION - HEAD / RIDGE PURLIN WITHOUT CONDENSATION GUTTERS



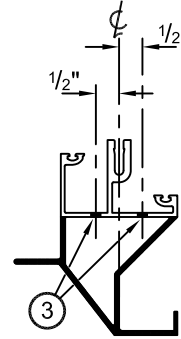
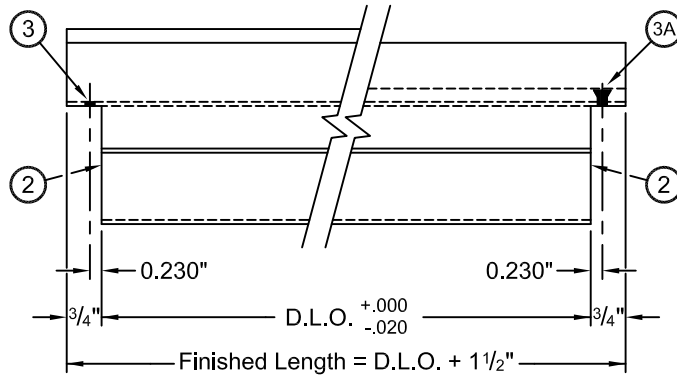
- ① Cut to length.
- ② Notch each end.
- ③ Drill (1) #1 clearance hole each end, for 29-032 #12 x 1/2" pan head screws.
- ④ Remove leg full length, 822-005 only.

## FABRICATION - HEAD / RIDGE PURLIN WITH CONDENSATION GUTTERS

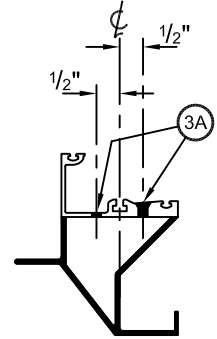


- ① Cut to length.
- ② Notch each end.
- ③ Saw cut 1/32" deep drip relief notch on underside of purlin as shown, both ends.
- ④ Drill (1) #1 clearance hole each end, for 29-032 #12 x 1/2" pan head screws.
- ⑤ Remove leg full length, 822-005 only.

## FABRICATION - SILL PURLIN WITH / WITHOUT CONDENSATION GUTTERS



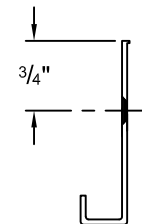
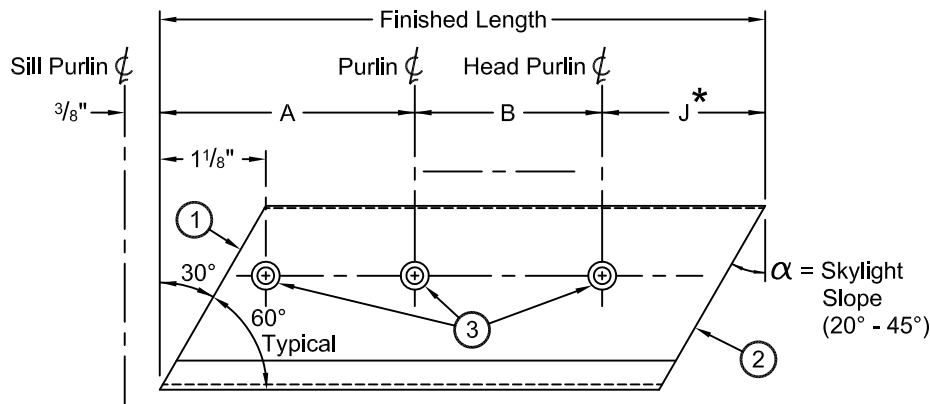
822-007  
SILL PURLIN



822-008  
S.S.G. SILL PURLIN

- ① Cut to length.
- ② Notch each end.
- ③ Drill (2) #1 clearance holes each end, for 29-032 #12 x 1/2" pan head screws.  
(Typical sill purlin, 822-007)
- ③A Drill & countersink (1) #1 hole each end, for 29-054 #12 x 3/4" flat head screws.  
Drill (1) #1 clearance hole each end.  
(S.S.G. sill purlin, 822-008)

## FABRICATION - RAFTER CONDENSATION GUTTER



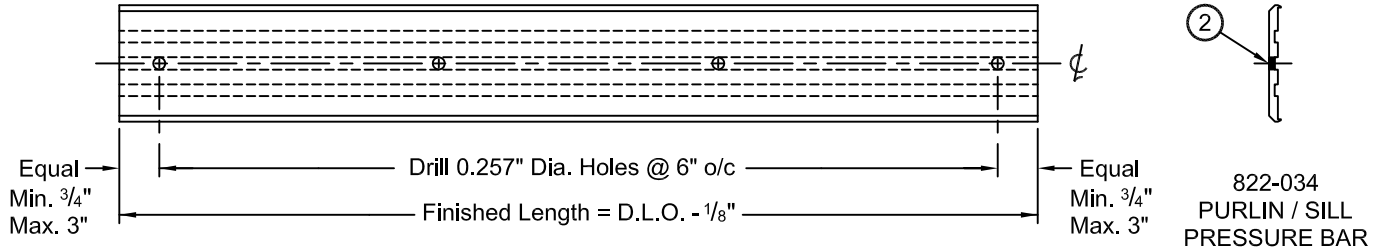
822-010

Right Hand Shown  
Left Hand Opposite

- ① Mitre bottom end.
- ② Mitre top end. \* Dimension can vary depending on detail.
- ③ Drill and countersink #15 holes as shown, for 28-316 #8 x 3/8" flat head screws.

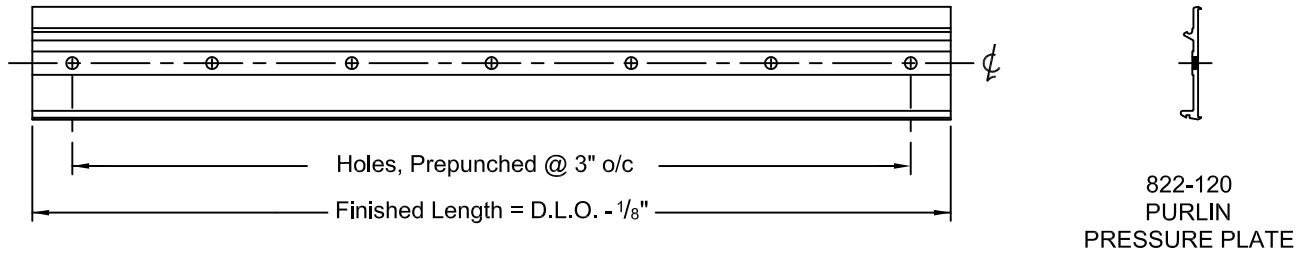


## FABRICATION - PURLIN PRESSURE BAR



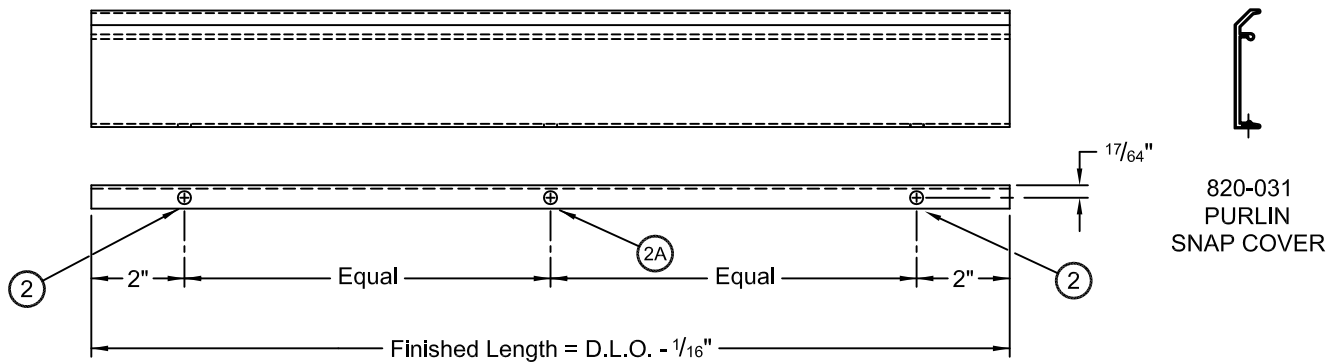
- ① Cut to length.
- ② Drill 0.257" holes as shown, for 29-031 #14 x 7/8" round head screws.

## FABRICATION - PURLIN PRESSURE PLATE



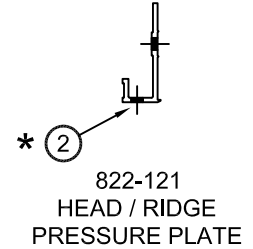
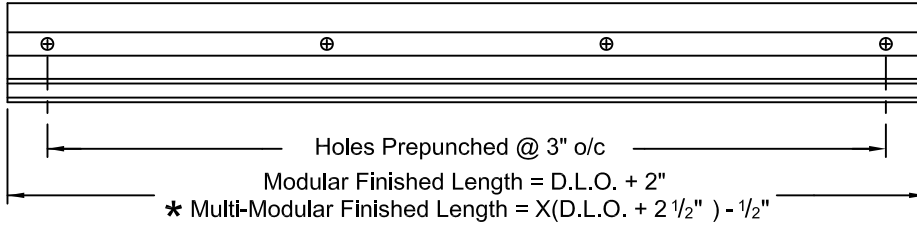
- ① Cut to length.

## FABRICATION - PURLIN CAP



- ① Cut to length.
- ② Drill (1)  $\frac{9}{32}$ " drain hole each end.
- ②A Drill (1)  $\frac{9}{32}$ " drain hole at center if cover is over 36".

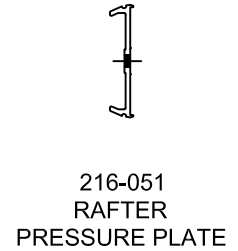
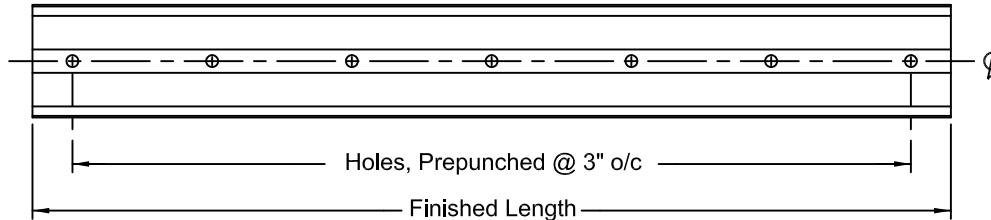
## FABRICATION - HEAD / RIDGE PRESSURE PLATE



Where X = Number of glass openings spanned by the pressure plate.  
(Assumes equal D.L.O.s)

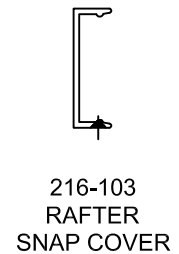
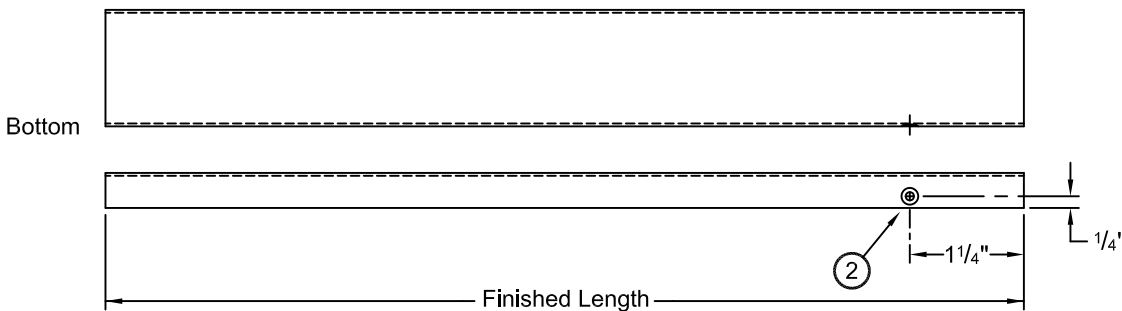
- ① Cut to length. \* Maximum length between joints 18 feet.
- \* ② For multi-modular pressure plates drill (1) 1/4" drain hole at each intermediate rafter  $\phi$ .

## FABRICATION - RAFTER PRESSURE PLATE



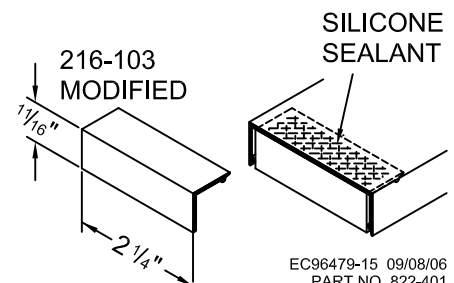
- ① Cut to length. See note below.

## FABRICATION - RAFTER CAP



- ① Cut to length.
- ② Drill (1) #15 hole and countersink for 28-316 #8 flat head screw.

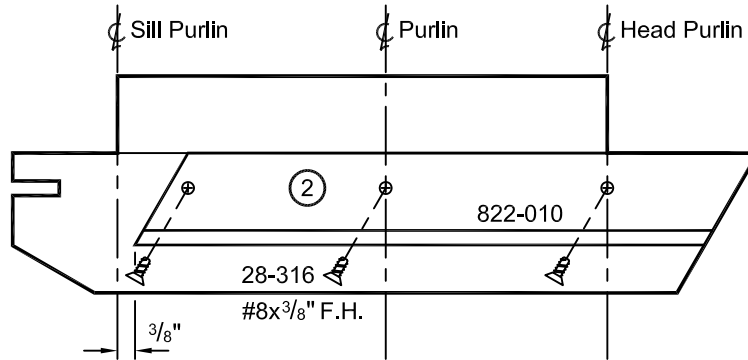
NOTE : When the bottom of the rafter cap is visible, finish as follows: Cut pressure plate 1/4" short at bottom. Adhere end cap (fabricated from 216-103 cap as shown) to the underside of the rafter cap at the bottom using silicone sealant. Adhesion surfaces must be clean and dry. Touch up finish as required.



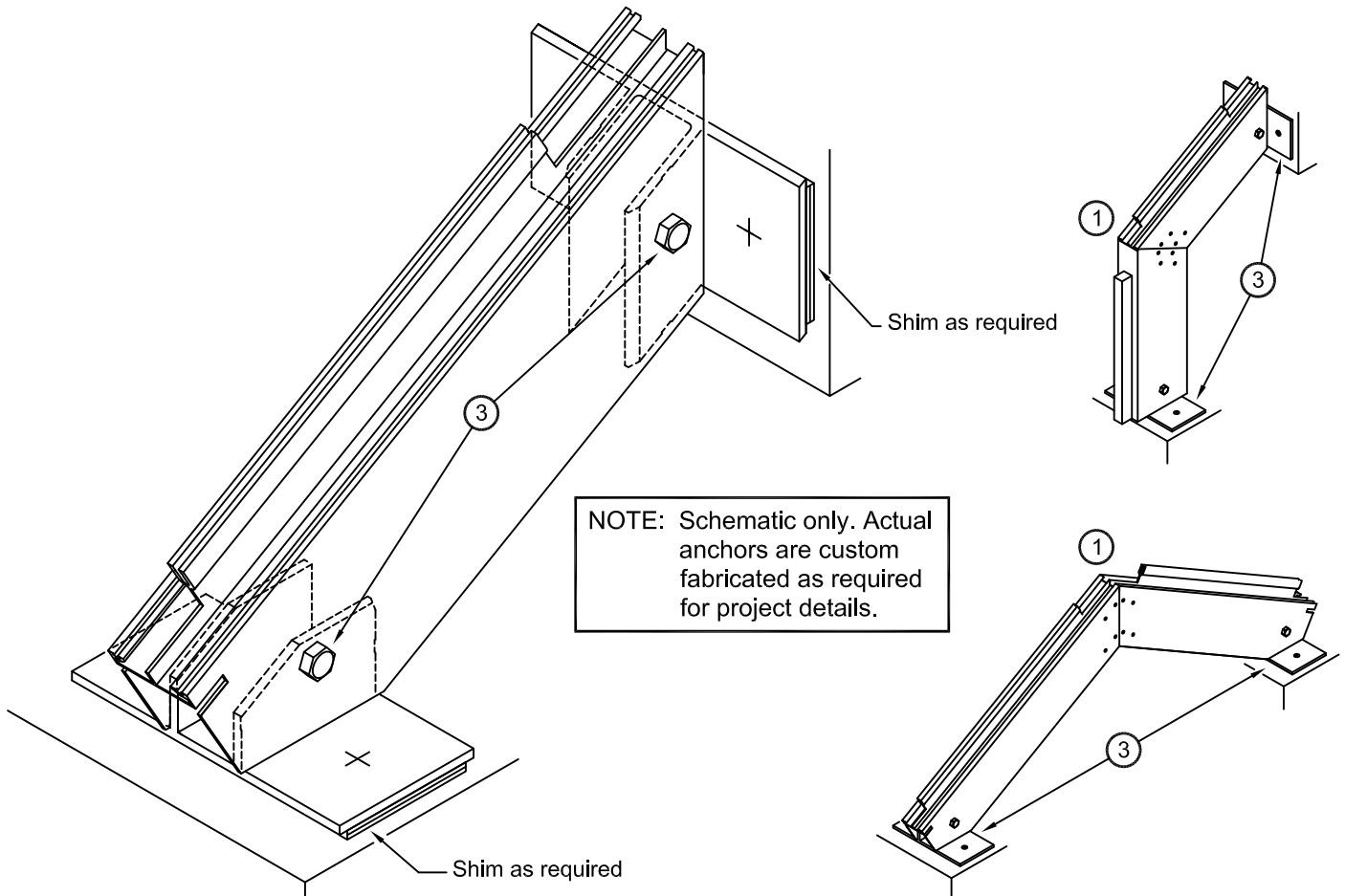
EC96479-15 09/08/06  
PART NO. 822-401

## ASSEMBLY AND INSTALLATION - RAFTER

- ① For ridge or vertical with slope applications, assemble the rafters or rafter and mullion together as shown on page 8 and 13.
- ② OPTIONAL Attach fabricated 822-010 condensation gutter ( ref. page 16 ) to each side of the rafter. Line up drilled and countersunk holes with typical and head purlin centerlines and use as template to drill #29 holes, (1) per purlin. Fasten together using 28-316 #8 x 3/8" flat head, 300 SS self tapping screws .



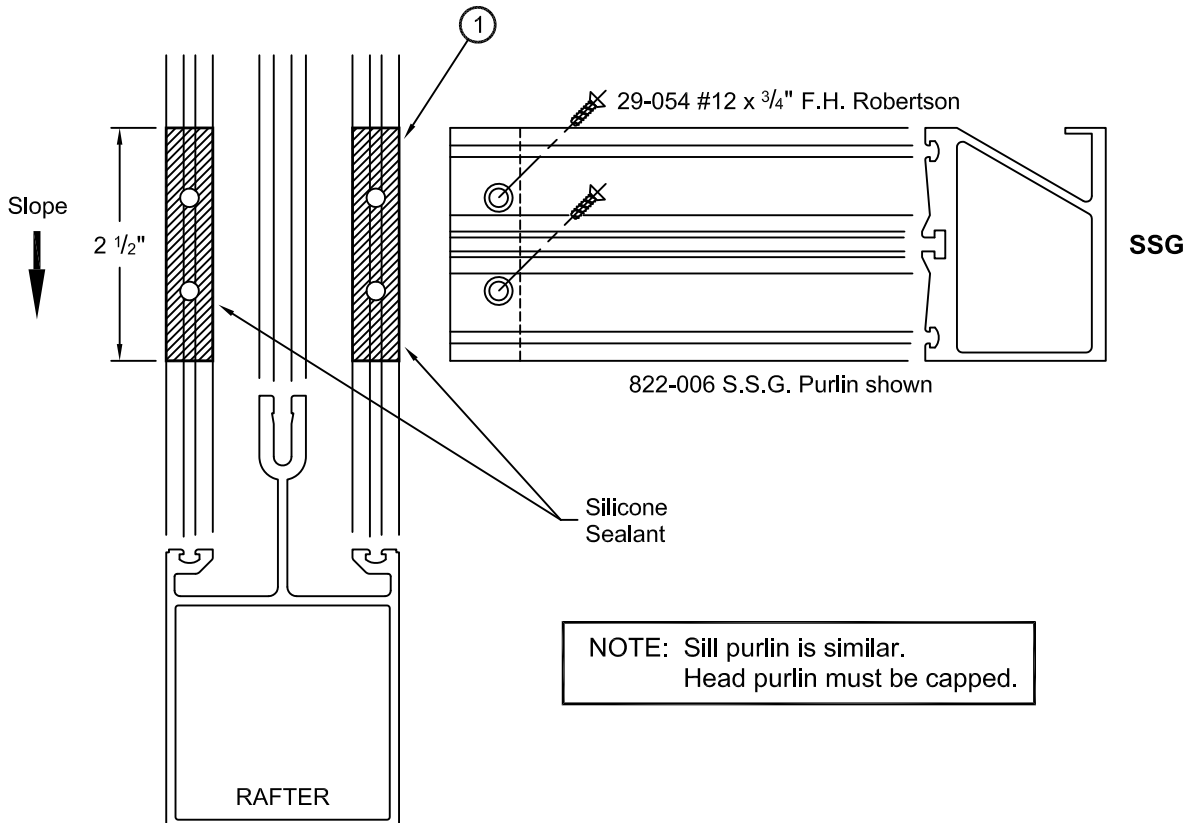
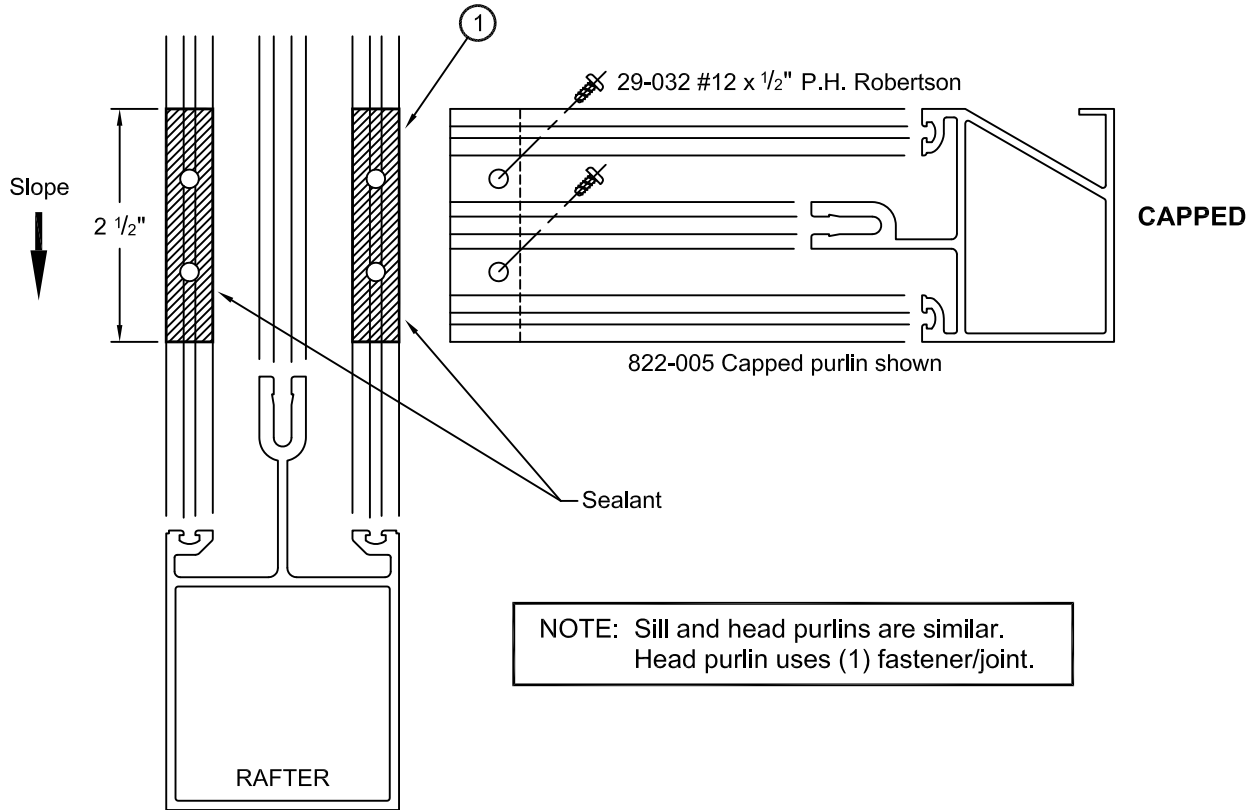
- ③ Pre-attach the anchor brackets to the rafters (simple slope), the rafter assemblies (ridges), or rafter/mullion assemblies (vertical with slope). Size, type, location, and quantity of anchor fasteners will vary depending on the anchor detail required for the project. Locate the rafters or rafter assemblies in position plumb and true and attach the anchor to structure as required.



**NOTE:** It is the Dealer's responsibility to verify that the anchor connections are adequate to withstand project loading.

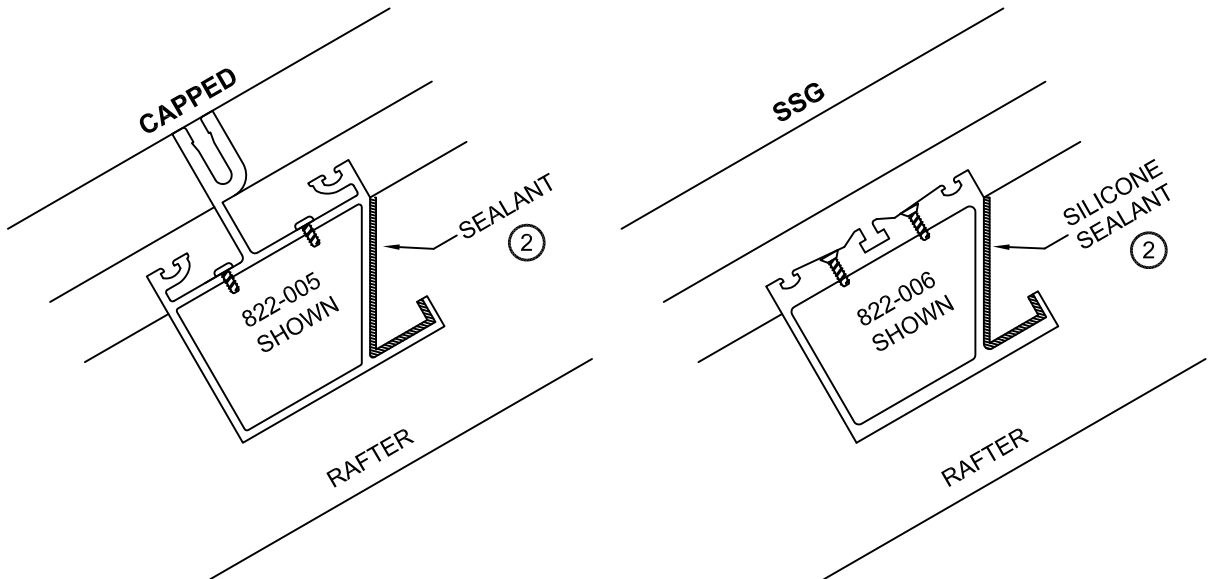
## ASSEMBLY AND INSTALLATION - PURLIN

- ① Immediately prior to assembling the purlins, butter the glazing leg at the purlin location liberally with sealant. Fasten purlins to rafters as shown below, making sure the purlins are resting squarely on the rafter glazing legs. Tool squeeze-out of sealant. To avoid problems installing the rafter gasket do not allow sealant to extend /cure beyond purlin width, typical.



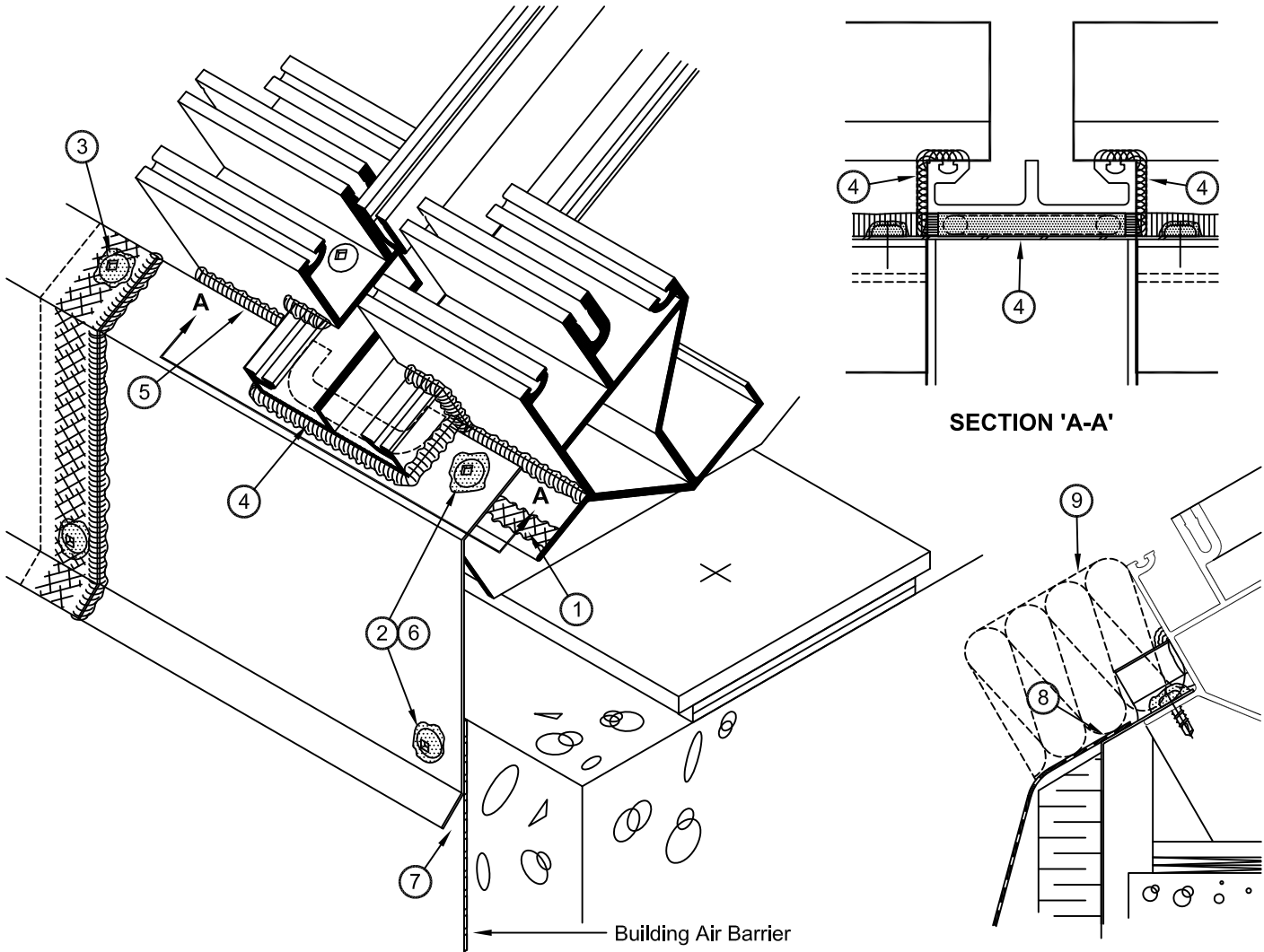
## ASSEMBLY AND INSTALLATION - PURLIN

- ② When 822-010 rafter condensation gutters are **NOT** used, seal all purlin condensation gutters to the rafter as shown. Gun sealant and tool to ensure good adhesion.



NOTE: The Sill Purlin Condensation Gutter must be sealed to the rafter as shown above for **ALL** installations. Seal is required with or without the optional Rafter Condensation Gutter.

## INSTALLATION - AIR SEAL AT SILL



Butter sill purlin flange with sealant. ...see ①

Fasten galvanized steel air seal flashing to purlin using 29-163 #10 x 5/8" self drilling screws at 9" o/c. Fasten to perimeter with suitable fasteners at 9" o/c. ENSURE CONTINUITY WITH THE BUILDING AIR/VAPOUR BARRIER AND ALL PERIMETER AIR BARRIERS. ...see ②

Lap joint these lengths of flashing as required, allowing approximately 2" overlap. Butter in sealant before assembling, fasten and seal as shown. ...see ③

Insert suitable diameter back-up rod into 5/16" slot between underside of rafter gutter and air seal flashing...see ④  
Seal over back-up, carrying seal through to the purlin. Seal purlin to the rafter upstand glazing leg.

Apply fillet bead of sealant between air seal flashing and sill purlin. ...see ⑤

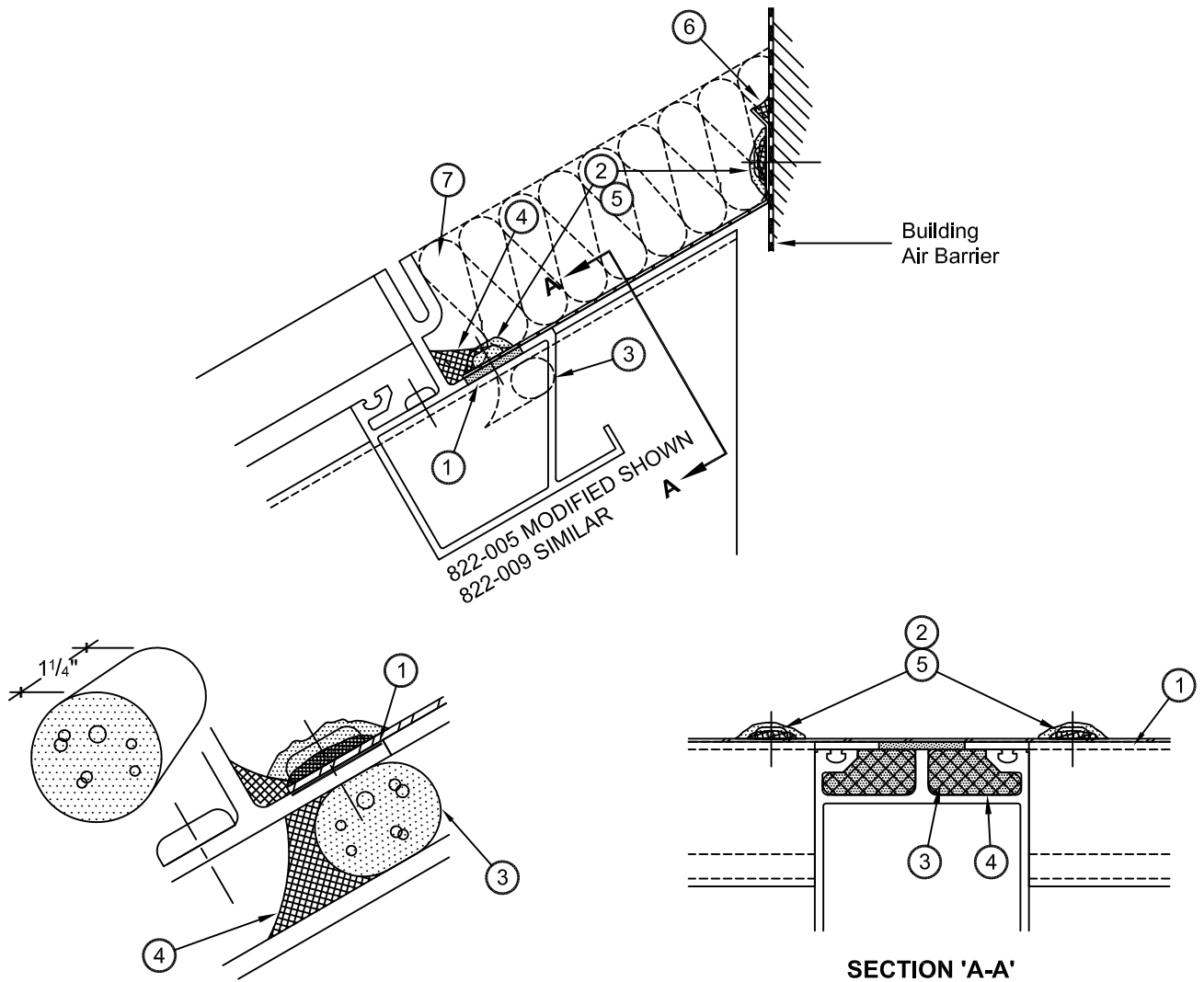
Seal over screw heads, typical. ...see ⑥

Seal air seal flashing to perimeter. ENSURE CONTINUITY WITH THE BUILDING AIR/VAPOUR BARRIER. ...see ⑦

Insulation should be protected from rafter gutter drainage by a flashing or membrane approximately 6" wide at rafter locations. Be sure insulation does not obstruct rafter gutter drainage. ...see ⑧

Insulate perimeter. Hold insulation back at rafter location to permit drainage. ...see ⑨

## INSTALLATION - AIR SEAL AT HEAD



Butter the sealing surface of the head purlin with sealant. ...see ①

Fasten galvanized steel air seal flashing to the head using 29-163 #10 x 5/8" self drilling screws at 9" o/c. Fasten to perimeter with suitable fasteners at 9" o/c. ENSURE CONTINUITY WITH THE BUILDING AIR/VAPOUR BARRIER AND ALL PERIMETER AIR BARRIERS. ...see ②

Lap joint the lengths of flashing as described on page 22.

Insert 1-1/4" long, suitable diameter back-up rod into rafter gutter and under the galvanized air seal. Total (2) locations per rafter. ...see ③

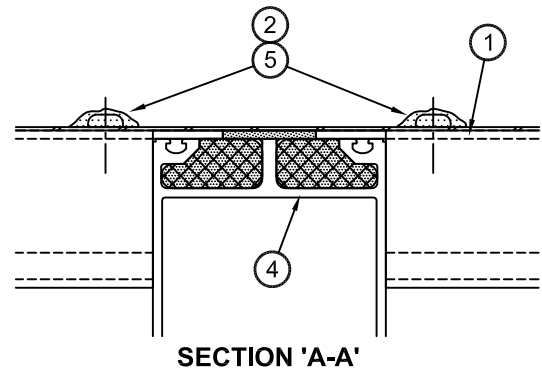
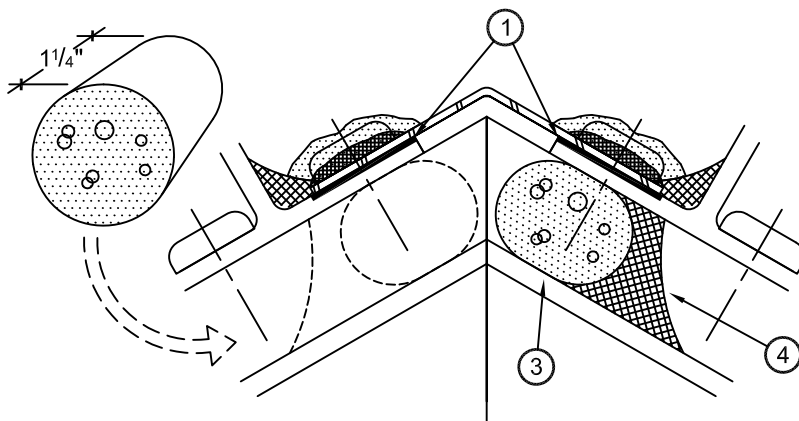
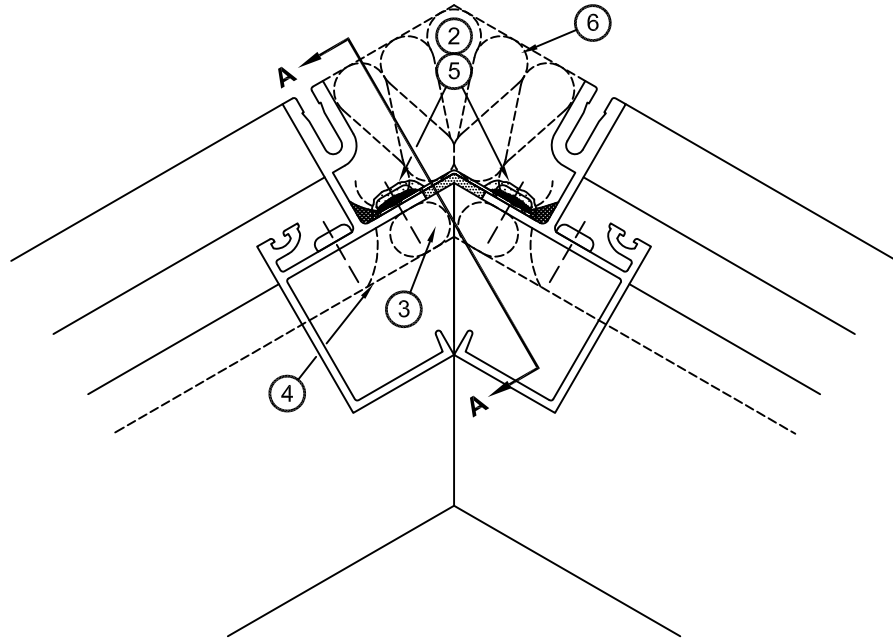
Apply fillet bead of sealant between air seal flashing and the head purlin neck. Carry the seal through at rafter locations. Pump sealant into the rafter gutter over the back-up, filling the space between the gutter and air seal flashing. Tool sealant with slope for drainage. ...see ④

Seal over screw heads, typical. ...see ⑤

Seal air seal flashing to perimeter. ENSURE CONTINUITY WITH THE BUILDING AIR/VAPOUR BARRIER. ...see ⑥

Insulate perimeter. ...see ⑦

## INSTALLATION - AIR SEAL AT RIDGE



Butter the sealing surface of the ridge purlins with sealant. ...see ①

Fasten galvanized steel air seal flashing to the purlins using 29-163 #10 x 5/8" self drilling screws ...see ②  
at 9" o/c. ENSURE CONTINUITY WITH THE BUILDING AIR/VAPOUR BARRIER AND ALL PERIMETER AIR BARRIERS.

Lap joint the lengths of flashing as described on page 22.

Insert 1-1/4" long, suitable diameter back-up rod into rafter gutter under the galvanized air seal. ...see ③  
Total (4) locations per joint.

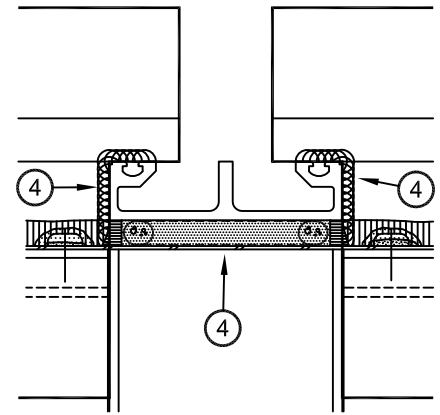
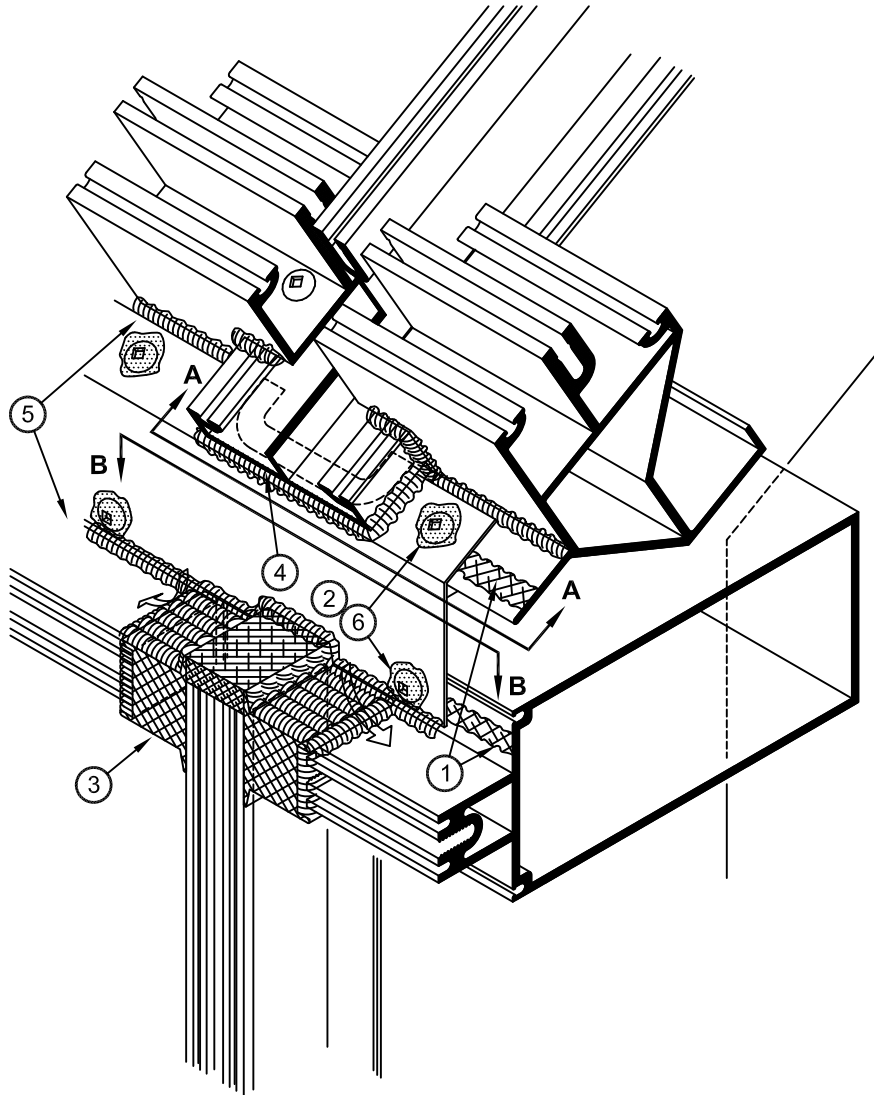
Apply fillet bead of sealant between air seal flashing and the ridge purlin neck. Carry the seal ...see ④  
through at rafter locations. Pump sealant into the rafter gutter over the back-up, filling the space  
between the gutter and air seal flashing. Tool sealant with slope for drainage.

Seal over screw heads, typical. ...see ⑤

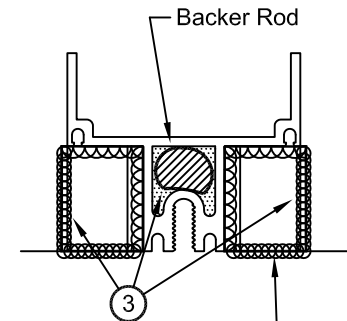
Insulate perimeter. ...see ⑥



## INSTALLATION - AIR SEAL AT VERTICAL WITH SLOPE TRANSITION



SECTION 'A-A'



SECTION 'B-B'

Butter sill purlin flange and 1600 horizontal with sealant. ...see ①

Fasten galvanized steel air seal flashing to purlin and 1600 horizontal using 29-163 #10 x 5/8" self drilling screws at 9" o/c. ENSURE CONTINUITY WITH THE BUILDING AIR/VAPOUR BARRIER AND ALL PERIMETER AIR BARRIERS. ...see ②

Lap joint the lengths of flashing as described on page 22.

Install 1600 corner plugs and insert back-up rod into port on nose of 1600 vertical mullion. Seal corner plugs and top of mullion liberally as shown. Slope sealant for drainage. ...see ③

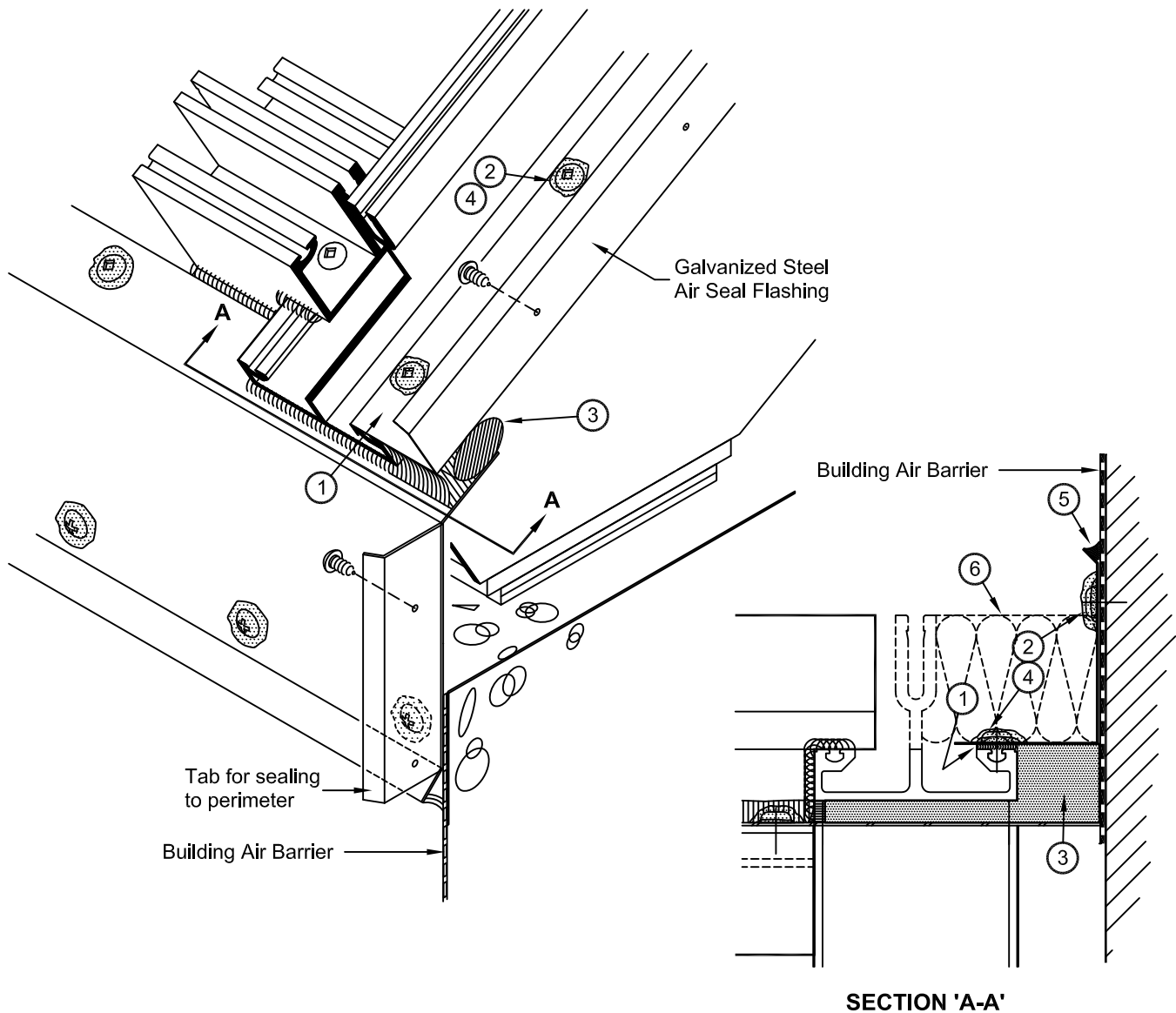
Insert suitable diameter back-up rod into 5/16" slot between underside of rafter gutter and air seal...see ④  
flashing. Seal over back-up, carrying seal through to the purlin. Seal purlin to the rafter upstand glazing leg.

Apply fillet bead of sealant between air seal flashing and sill purlin, and air seal flashing and the nose of the 1600 horizontal. ...see ⑤

Seal over screw heads, typical. ...see ⑥

Insulation should be protected from rafter gutter drainage by a flashing or membrane apron approximately 6" wide at rafter locations. Be sure insulation does not obstruct rafter gutter drainage. Refer to page 22, item 8.

## INSTALLATION - AIR SEAL AT JAMB



SECTION 'A-A'

Butter the jamb rafter glazing leg liberally with sealant. ...see ①

Fasten galvanized steel air seal flashing to the rafter glazing leg using 29-163 #10 x 5/8" self drilling screws at 9" o/c. Fasten to the perimeter with suitable fasteners at 9" o/c. ENSURE CONTINUITY WITH THE BUILDING AIR/VAPOUR BARRIER AND ALL PERIMETER AIR BARRIERS. ...see ②

Lap joint the lengths of flashing as described on page 22.

Insert suitable diameter back-up rod into space between the sill flashing (or vertical with slope flashing) and the jamb flashing. Pump in sealant, sealing over the back-up and tool, sloping sealant for drainage. ...see ③

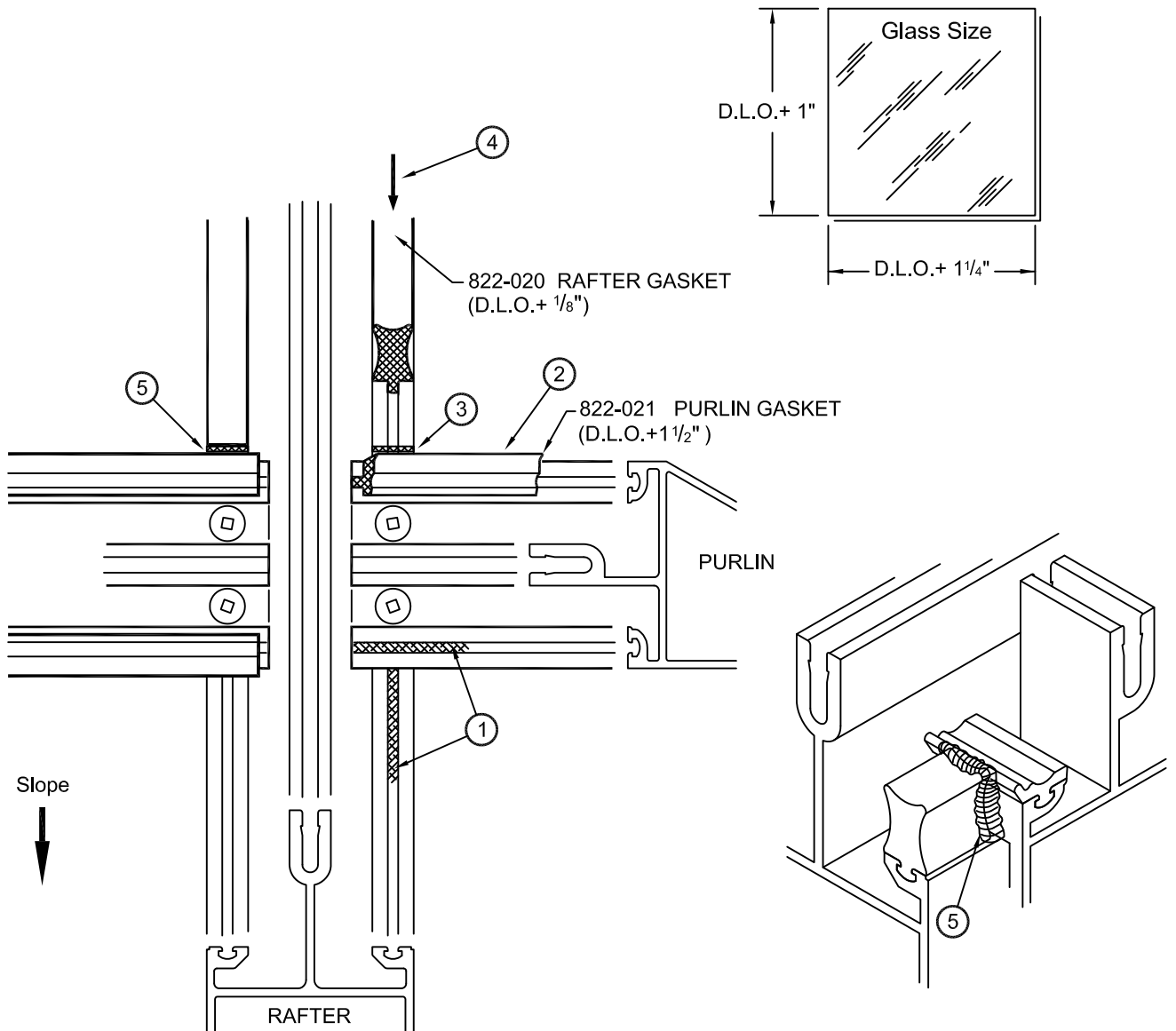
Seal over screw heads, typical. ...see ④

Seal air seal flashing to perimeter. Seal tab on sill flashing to perimeter. ENSURE CONTINUITY WITH THE BUILDING AIR/VAPOUR BARRIER. ...see ⑤

Insulate perimeter. ...see ⑥

## GLAZING - CAPPED

NOTE: Gasket combinations are based on 1"± 0.030" thick sealed units. Glass thickness should be checked prior to glazing. Contact factory for applications which require other glass thicknesses.



Apply sealant into the rafter and purlin gasket rebates for approximately 3" from the corners. ... see ①

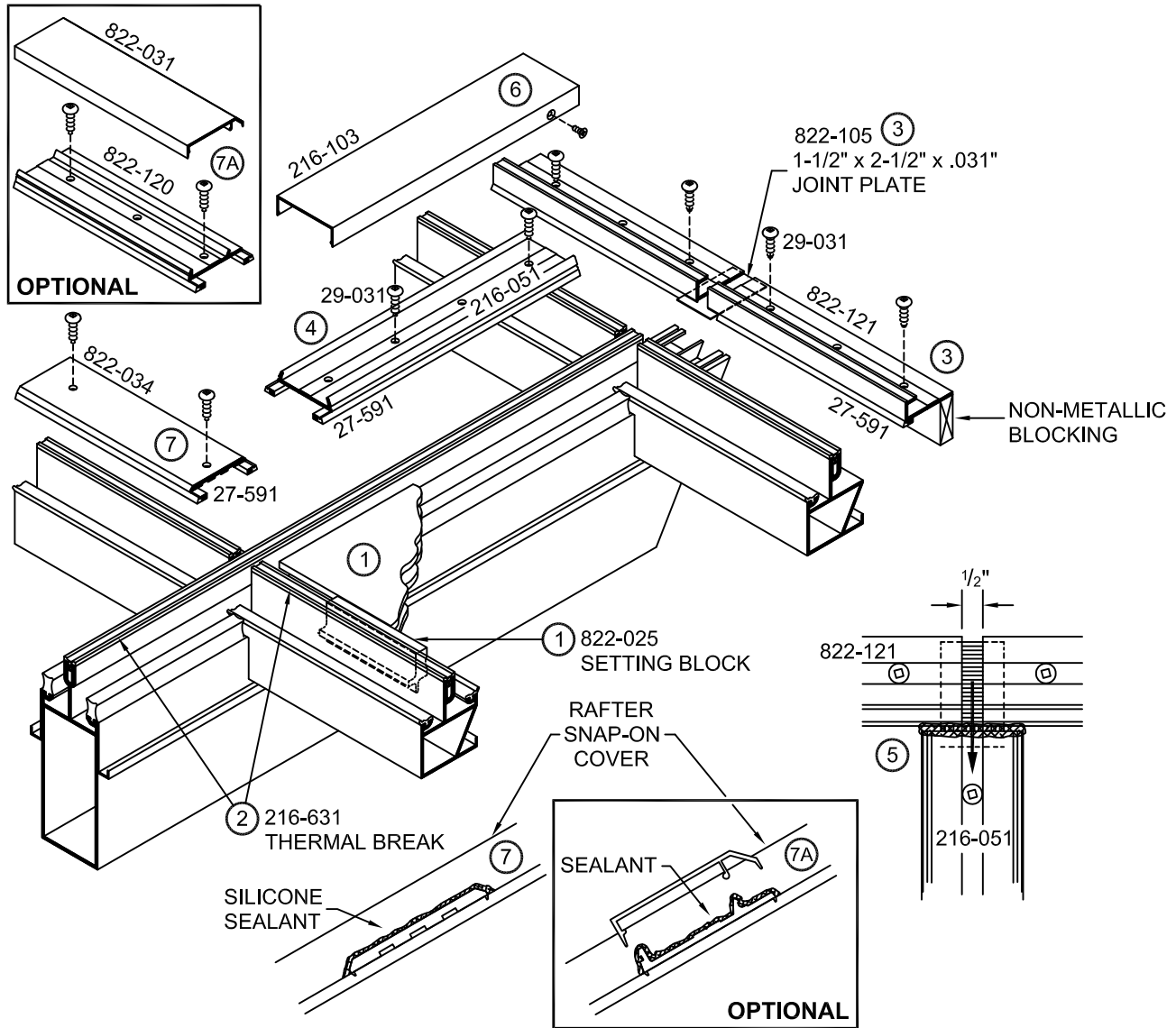
Cut 822-021 purlin interior gasket to D.L.O.+1-1/2" and push into purlin gasket rebate. Be sure to orient the gasket as shown. ... see ②

Apply sealant to purlin upstand leg and purlin gasket where it will contact rafter gasket. ... see ③

Cut 822-020 rafter interior gasket to D.L.O. + 1/8" and insert into the rafter gasket rebate pushing it tight against the purlin and purlin gasket. Be sure that the end of the rafter gasket is sealed to the surface of the purlin and purlin gasket. ... see ④

Tool squeeze-out of sealant at the rafter gasket to purlin gasket joint. If glass is to be set after sealant has cured, make sure there is no excess sealant on the gasket surfaces which will contact the glass. ... see ⑤

## GLAZING - CAPPED



Install 822-025 setting blocks at 1/4 points of the purlin D.L.O., and set the glass in place, centering it side to side. ...see ①

Push 216-631 P.V.C. thermal break into the neck of the rafters and purlins. ...see ②

Apply 27-591 VISIONstrip to 822-121 head pressure plate (both sides). Fasten to the head purlins using 29-031 #14 x 7/8" self tapping screws at 6" o/c. Insert 822-105 1-1/2" x 2-1/2" x .031" joint plate at joints as shown. Block as required to prevent tipping of pressure plate. ...see ③

Apply 27-591 VISIONstrip to 216-051 rafter pressure plate (both sides). Fasten to the rafter using 29-031 #14 x 7/8" self tapping screws at 6" o/c. NOTE: The sill rain screen flashing should be installed before the rafter and sill purlin pressure plates...refer to page 31. ...see ④

Seal over the joint plate between the head pressure plates and rafter pressure plate as shown. The head pressure plate will drain through the rafter cover. Slope and feather sealant to allow drainage. ...see ⑤

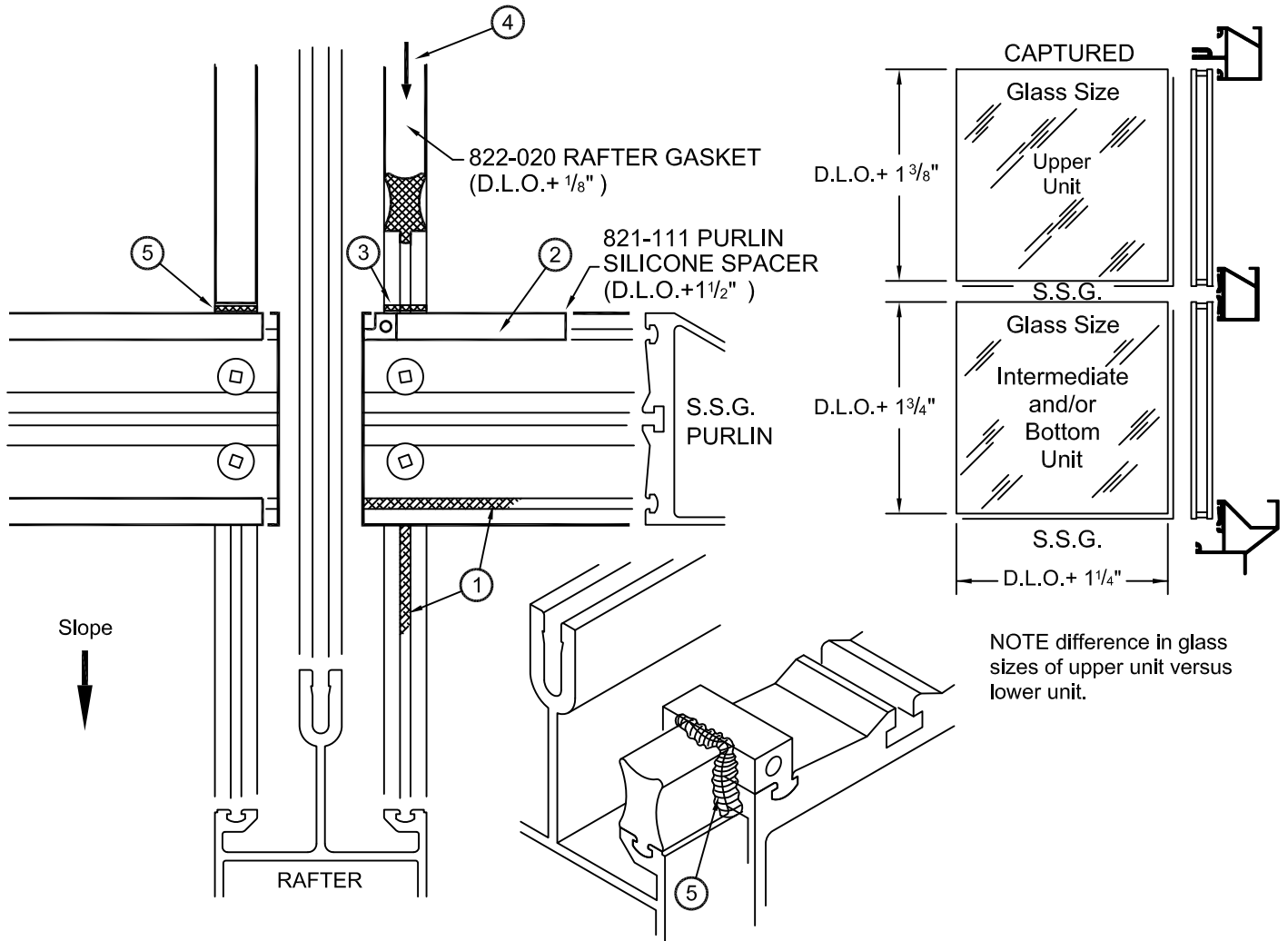
Install 216-103 rafter snap-on cover. Using the cover as a template, drill (1) #29 hole and fasten using (1) 28-316 #8 x 3/8" self tapping screw. ...see ⑥

Apply 27-591 VISIONstrip to 822-034 purlin pressure bar (both sides). Fasten to purlin using 29-031 #14 x 7/8" self tapping screws at 6" o/c. Seal purlin pressure bar to rafter cover with silicone. ...see ⑦

OPTIONAL Apply 27-591 VISIONstrip to 822-120 pressure plate (both sides). Fasten to purlin using 29-031 #14 x 7/8" self tapping screws at 6" o/c. Seal the purlin pressure plate to the rafter snap-on cover. Install 822-031 purlin snap-on cover. Be sure to orient the pressure plate and cap as shown. ...see ⑦A

## GLAZING - S.S.G.

NOTE: Gasket combinations are based on 1"± 0.030" thick sealed units. Glass thickness should be checked prior to glazing. Contact factory for applications which require other glass thicknesses.



NOTE difference in glass sizes of upper unit versus lower unit.

Apply SILICONE SEALANT into the rafter and purlin gasket rebate for approximately 3" from the corners. ... see ①

Cut 821-111 purlin silicone spacer to D.L.O. + 1-1/2" and push into purlin gasket rebate. Be sure to orient the gasket as shown. ... see ②

Apply silicone sealant to purlin upstand leg and purlin gasket where it will contact rafter gasket. ... see ③

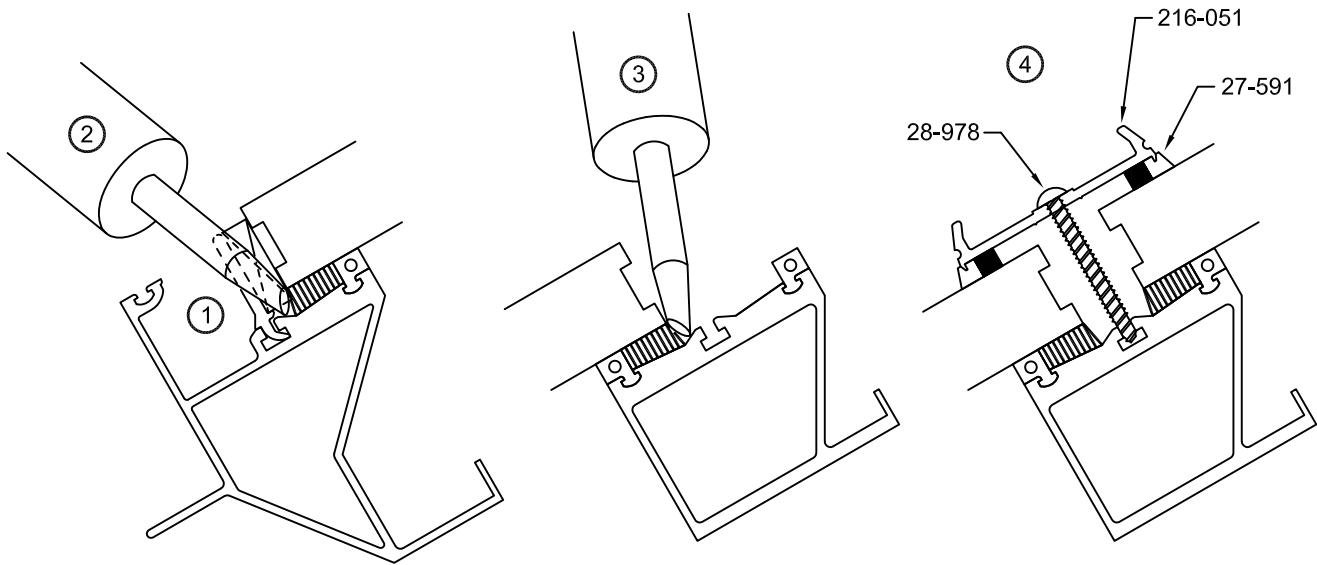
Cut 822-020 rafter interior gasket to D.L.O. + 1/8" and insert into rafter gasket rebate pushing tight against purlin and purlin gasket. Be sure that the end of the rafter gasket is sealed to the surface of the purlin and the purlin gasket. ... see ④

Tool squeeze-out of sealant at the rafter gasket to purlin gasket joint. If the glass is to be set after the the sealant has cured, make sure that there is no excess sealant on the gasket surfaces which will contact the glass. ... see ⑤

Push 216-631 P.V.C. thermal break onto neck of rafters and head purlins.

NOTE: Insulating glass edge seal must be of a construction suitable for structural glazing.

## GLAZING - S.S.G.



Thoroughly clean the surfaces of the purlins and the glass which will be in contact with the structural silicone sealant. CAREFULLY FOLLOW THE SILICONE SEALANT MANUFACTURER'S CLEANING INSTRUCTIONS FOR STRUCTURAL SILICONE GLAZING.

Install 822-102 setting block supports and 976-840 1/4" x 1" x 4" setting block at 1/4 points of the purlin D.L.O., and set the glass in place. ... see ①

Temporarily fix the glass to the rafters using short pieces of 216-051 pressure plate, 27-591 VISIONstrip, and 29-031 pressure plate screws.

Gun in structural silicone sealant at the bottom purlin and tool. Slide the setting block assembly as required for application of a continuous structural seal. CAREFULLY FOLLOW THE SILICONE SEALANT MANUFACTURER'S APPLICATION INSTRUCTIONS FOR STRUCTURAL SILICONE GLAZING. ... see ②

Gun in the structural sealant at the top of the glass and tool. ... see ③

Temporarily secure the bottom edge of the glass lite using short pieces of 216-051 pressure plate, 27-591 VISIONstrip and a #12 x 1-3/4" machine screw (28-978). Fasten into the purlin setting block support pocket as required (as shown). (NOTE: VISIONstrip backing paper may be left on for ease of removal of pressure plate). ... see ④

Repeat the above steps for each lite of glass.

After the structural silicone has fully cured the temporary fixing can be removed.

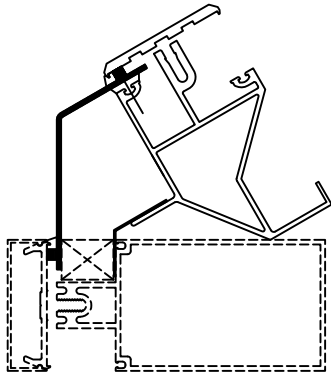
Install the head pressure plates, and rafter pressure plates and caps as shown on page 28.

Install suitable size silicone compatible back-up rod between the glass lights and mask the glass. Gun black silicone sealant weather seal into the space between glass units and tool smooth, feather sealant into rafter gasket. CAREFULLY FOLLOW THE SILICONE MANUFACTURER'S INSTRUCTIONS FOR APPLICATION OF SEALANT. NOTE : The sill rainscreen flashing should be installed before the sill purlin weather seal and the rafter pressure plates...see page 31.

# INSTALLATION - RAIN SCREEN FLASHINGS

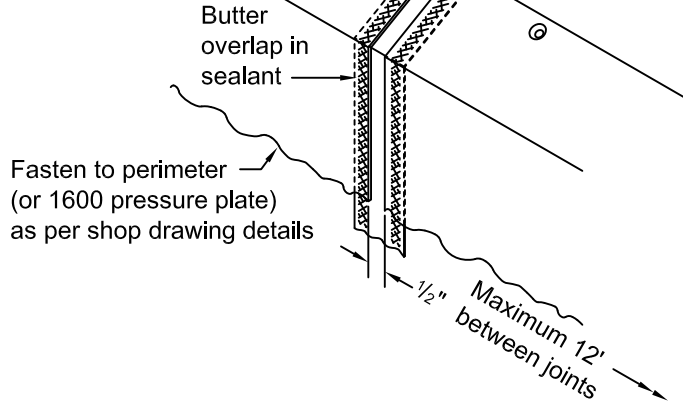
NOTE: Fabricate rain screen flashing from 1/8" or 0.081" aluminum sheet as shown on shop drawing details. Back-up splice joints with formed aluminum joint sleeves as shown.

## SILL (Vertical with slope similar)

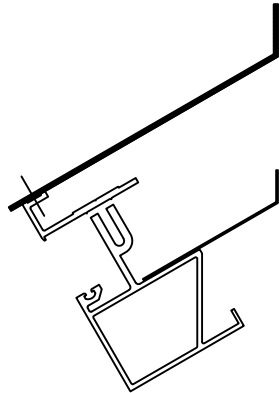


Install interior gasket to sill purlin

Fasten to sill purlin using 28-337, #10 x 3/4" flat head screw Located under each pressure plate, (refer to Engineering Details for flashing details).

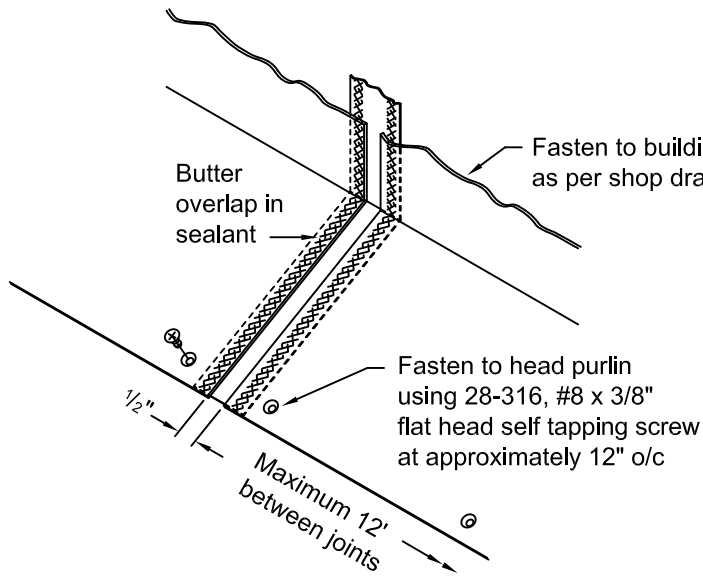


## HEAD

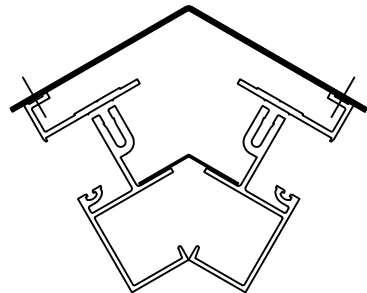


Butter overlap in sealant

Fasten to building rainscreen as per shop drawing details

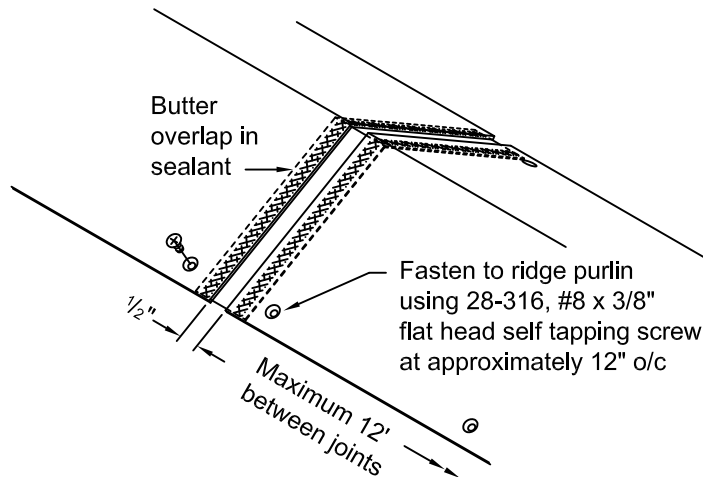


## RIDGE



Butter overlap in sealant

Fasten to ridge purlin using 28-316, #8 x 3/8" flat head self tapping screw at approximately 12" o/c

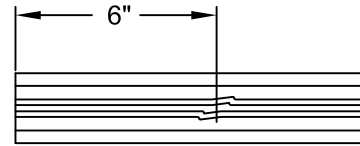
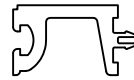
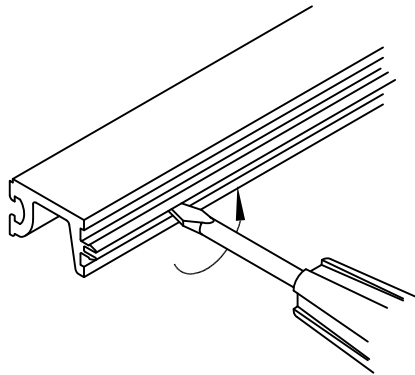


# FABRICATION AND INSTALLATION - SINGLE GLAZING ADAPTOR

Cutting sizes:

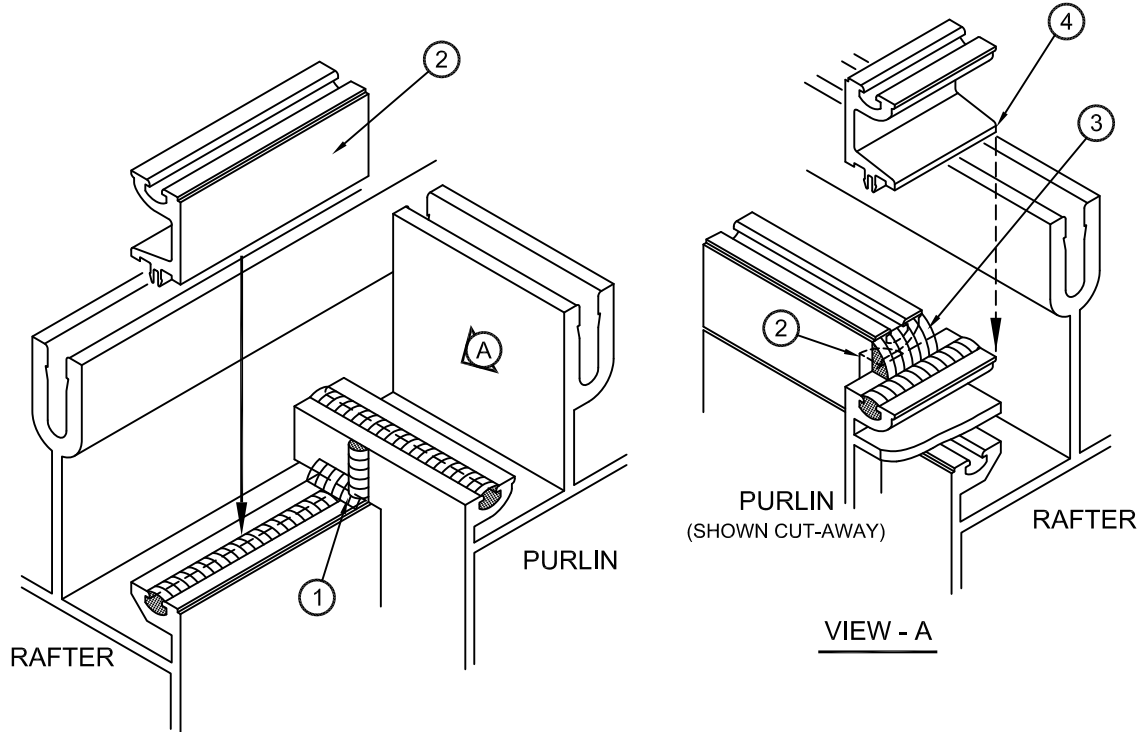
Rafter adaptors = vertical D.L.O. dimension less 1/32"

Purlin adaptors = horizontal D.L.O. dimension plus 1-1/2"



822-015  
SINGLE GLAZING ADAPTOR

Crimp adaptor at approximately 6" from each end by inserting a slot screw driver and rotating. Crimp should be enough to create snap fit into rafters and purlins.



Apply sealant into rafter and purlin gasket rebates for entire length, at corners ... see ①  
seal purlin to rafter.

Install rafter adaptor, ensuring that the adaptor sits flat against rafter, ... see ②  
tool excess sealant into back of adaptor at purlins.

Apply sealant at ends of rafter adaptors. ... see ③

Install purlin adaptor to purlin keeping ends flush with purlin ends, ... see ④  
ensure adaptor sits flat against purlin.

Glazing gaskets are installed per typical details.