NUCOR BUILDING SYSTEMS

CLASSIC ROOF

ERECTION MANUAL

FOR FIELD USE

PLEASE DISTRIBUTE TO THE ERECTION CREW

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DUE TO THE PROCESS OF CONTINUOUS IMPROVEMENT, THE PRODUCTS AND PROCEDURES IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE

ERECTION MANUAL REVISION INFORMATION			
ACTIVITY	ADDENDUM RELEASE #	PAGES REVISED	RELEASE DATE
Most Recent	#14	2,24,28 & 31	07/27/2017
Previous Revisions	#13	39	10/07/2016
	#12	3, 22, 32	07/22/2016
	#11	12,13	13/30/2015
	#10	17,42,43	9/26/2014

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1.0 GENERAL INFORMATION

1.1 RECEIVING MATERIALS & FILING CLAIMS

- Check shipment against delivery tickets during unloading.
- Note any damage or discrepancies on the delivery tickets before signing as receiver.
- Nucor Building Systems is not responsible for carrier damage or discrepancies not noted on the delivery tickets.
- Nucor Building Systems is not responsible for items accepted in questionable condition.
- Upon acceptance of shipment(s), the contractor is responsible for the proper storage and handling of materials as described in this manual.
- Nucor Building Systems is not responsible for injury, damage, or loss as a result of improper storage and/or handling.
- **All claims must be filed with Nucor's Quality Services Representative prior to any field modifications or purchases that may result in a charge to Nucor Building Systems.** Contact our Service Representative at:

WATERLOO, IN
305 Industrial Parkway
Waterloo, IN 46793
Phone: 260-837-7891
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SWANSEA, SC
200 Whetstone Road
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- This building is designed, manufactured, and delivered in accordance with most recent addition of the **M.B.M.A. METAL BUILDING SYSTEMS MANUAL. CONSULT THE INFORMATION IN THE "COMMON INDUSTRY PRACTICES" SECTION.**

1.2 HANDLING MATERIALS

Nucor Classic Roof panels are rolled and banded flat with a cover panel placed top and bottom.

Panel bundle weight can be found on the i.d. tag at low end of each bundle. Maximum weight is 4300# or 100 panels.

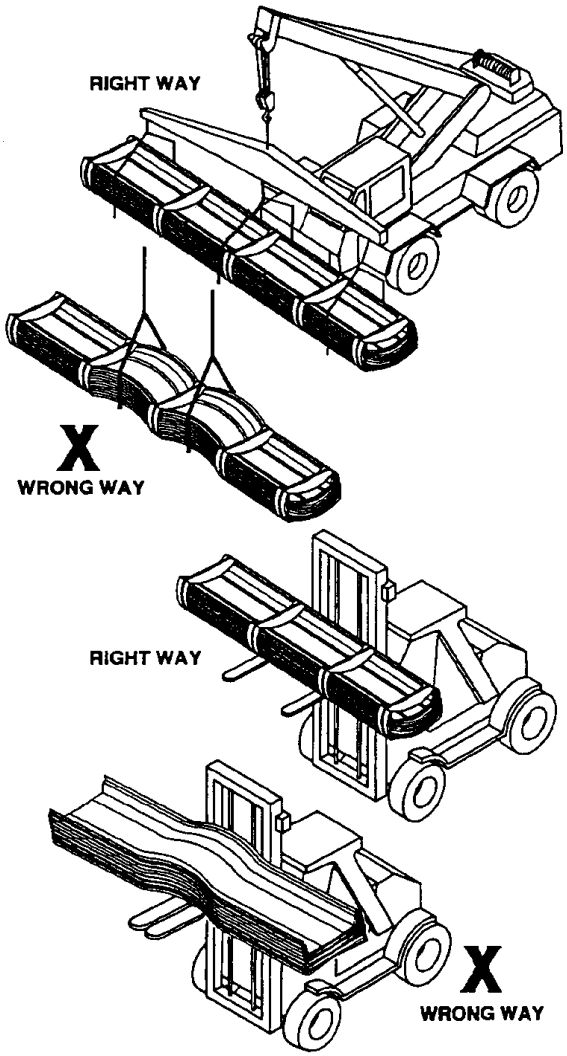
Bundles up to 25 feet can be handled using a forklift. Forks must be spaced a minimum of five feet apart.

Bundles over 25 feet should be handled with a crane using a spreader bar and nylon slings. Lifting should occur at center of gravity.

Locate slings at 1/4 of the length of the panel from each end of the bundle.

Trim crates/boxes are to be handled the same as panel bundles.

STEEL CHOKERS/SLINGS, CABLES OR CHAINS SHALL NOT BE USED.



1.3 STORING MATERIALS

Panel and trim bundles / crates should be blocked 12 inches above grade.

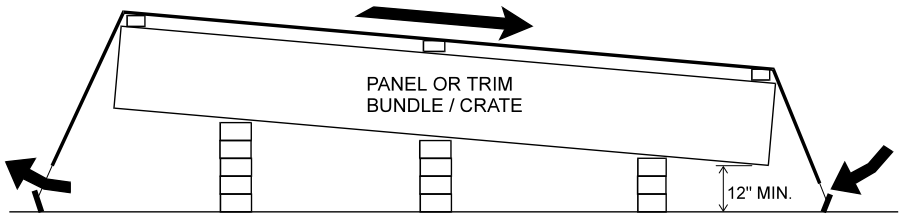
Elevate one end to allow moisture to drain.

Loosely cover with waterproof tarp to allow proper air circulation.

Inspect daily and dry if necessary.

Accessories must be kept dry and free of contamination. Store indoors if possible.

IMPORTANT NOTE: The finish on these panels may not perform as intended if not erected within **90 days** from receipt at the job site. The finish is also subject to severe damage if moisture, debris, or dust is allowed to get between the panels; therefore, panels **MUST BE STORED UNDER COVER** with one end elevated to allow for drainage and protection against moisture, dust, or debris until erected. The manufacturer will not accept claims for non-performing panels if not properly stored at the jobsite. The customer assumes full responsibility for the condition of this material after deliver by the trucking company.

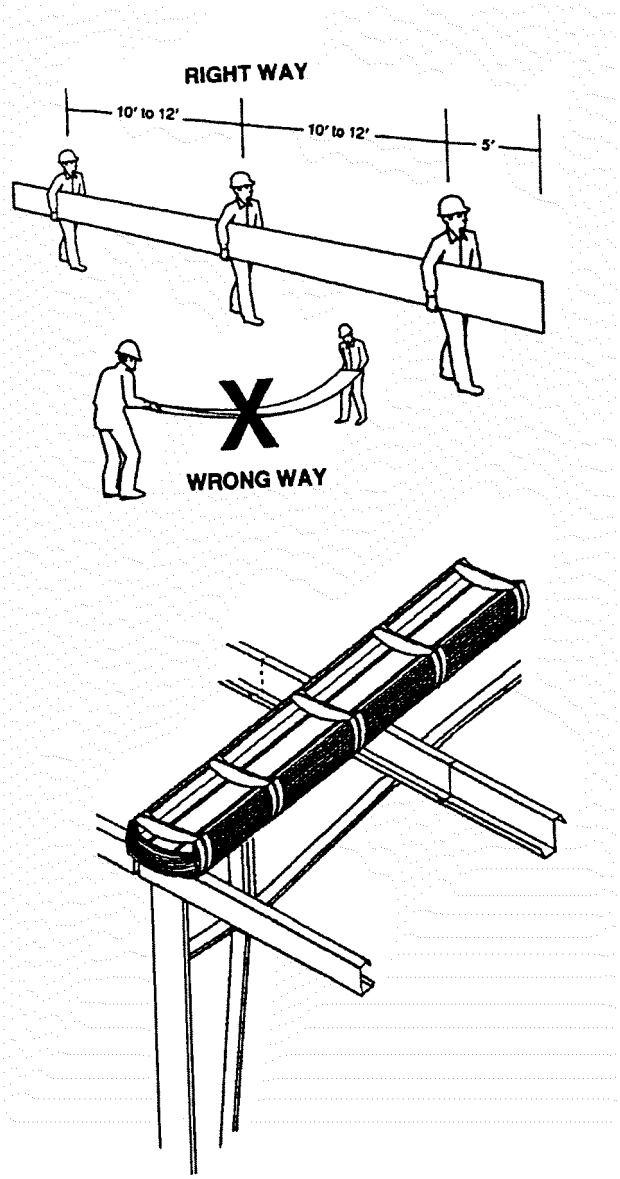


1.4 LIFTING/HANDLING PANELS

Lift and handle bundles as described earlier. Do not use any type of steel or cable slings.

Lift or carry single panels in a vertical position so as not to damage the seams.

Lift the panels at 1/4 points.

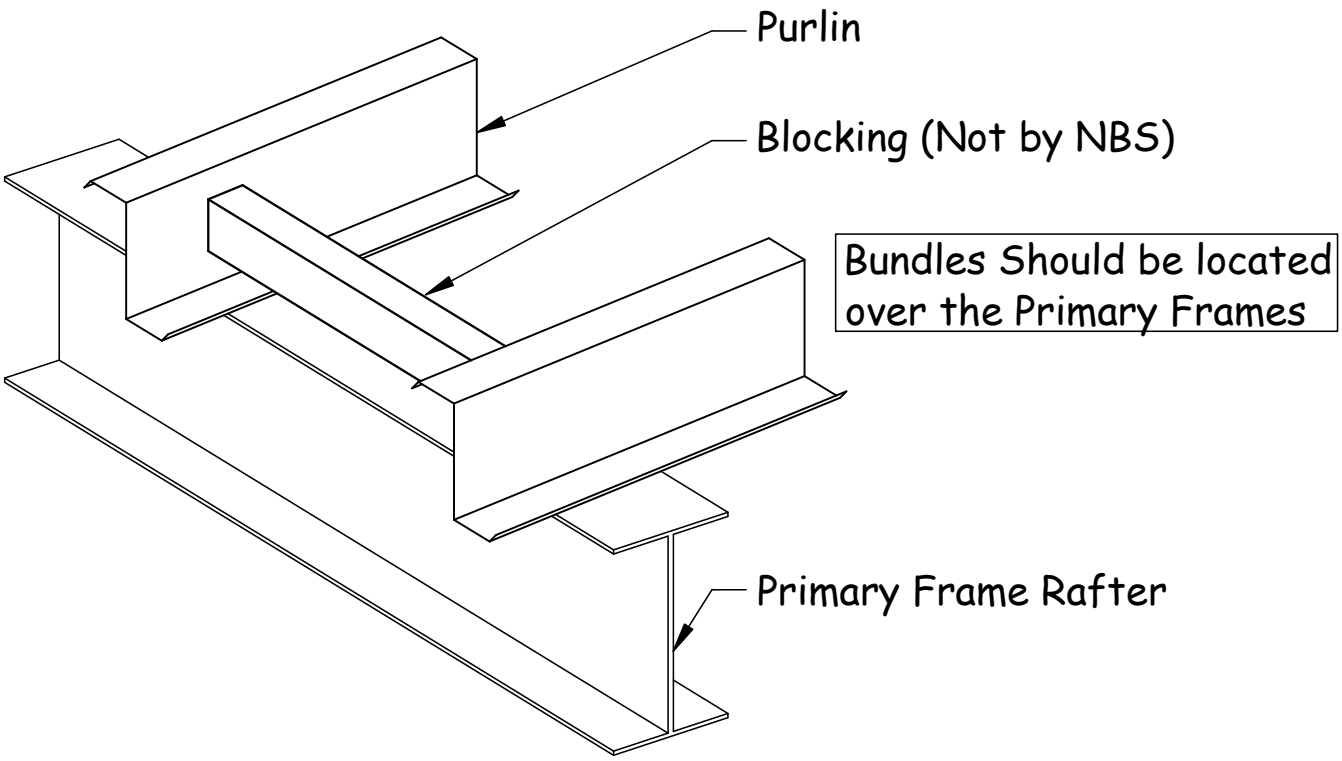


1.5 PLACING PANEL BUNDLES ON THE ROOF

Locate bundles on roof according to erection sequence.

Bundles should be located over primary structural frame lines, not in the middle of the bay.

Blocking shall be used, as shown, at panel bundle locations.



1.6 HOW TO USE THIS MANUAL?

This erection manual is provided to Nucor Builders and their erectors as the recommended procedure for the correct assembly of the Nucor Building Systems (NBS) Classic Roof System.

This manual is intended to be used in conjunction with the project's erection drawings to help plan and organize the installation of the NBS Classic Roof System. The erection drawings identify the applicable roof conditions and govern specific part arrangements. The instructions will help you identify parts, establish the installation sequence, demonstrate correct assembly, and point out any areas or procedures requiring special emphasis or attention. Before beginning erection, thoroughly familiarize yourself with this manual and project erection drawings.

The procedures contained in this manual are based upon standard conditions. If your project contains other than standard conditions, refer to your project erection drawings. **In the case of conflict between this installation manual and the erection drawings, the erection drawings will take precedence.**

The procedures contained in this manual are believed to be reliable however, Nucor Building Systems is not responsible for injury, damage, or failure due to the misapplication of these procedures, improper erection techniques, or negligence.

DUE TO THE PROCESS OF CONTINUOUS IMPROVEMENT, THE PRODUCTS AND PROCEDURES CONTAINED IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE.

"COMMON SENSE RULES" NEED TO BE APPLIED DURING THE INSTALLATION OF THIS ROOF SYSTEM TO INSURE THAT WEATHER-TIGHT CONDITIONS HAVE BEEN ACHIEVED.

The NBS Classic Roof System can be erected on many different types of construction. However, for this manual we have assumed this roof system will be erected on a new pre-engineered metal building.

1.7 PROPER FASTENER INSTALLATION

Refer to section **2.0** or the project erection drawings for fastener schedule

RECOMMENDED TOOL TYPES:

- 2000 - 2500 rpm screw gun with torque adjustable clutch
- Manual or electric rivet tool
- 6-7 amp or higher rated tools

DO NOT USE IMPACTING TOOLS

To assure proper voltage to the tool, extension cords should be checked for proper wire size/chord length.

- **16 gage wire**, maximum chord length = **100'**

- **14 gage wire**, maximum chord length = **200'**

- **12 gage wire**, maximum chord length = **300'**

Drive fasteners perpendicular to panel surface.

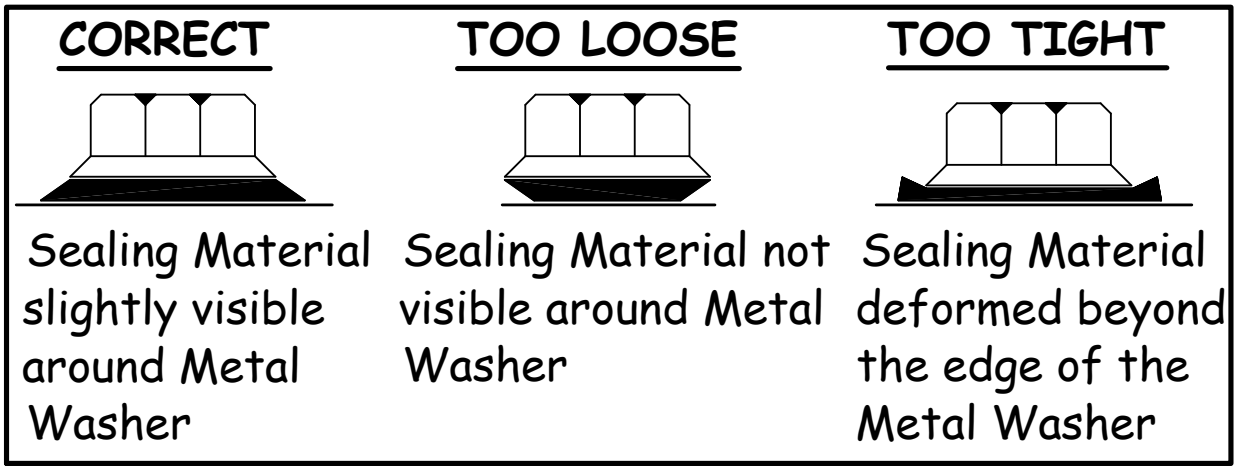
Compress the insulation at fastener locations with one hand while driving the fastener with the other. This will help keep the panel flat and prevent the fastener from "walking".

Excessive pressure can cause drill point failure. Let the fastener do the work.

FIELD CUTTING OF PANELS:

When field cutting or mitering "Classic" roof panels, non-abrasive cutting tools such as nibblers or tin-snips shall be used. Abrasive cutting tools such as mechanical grinders or power saws, can damage the galvalume finish and create excess metal shavings that can corrode the panels. The use of non-approved cutting devices may void the factory warranty.

DRIVING TIPS:



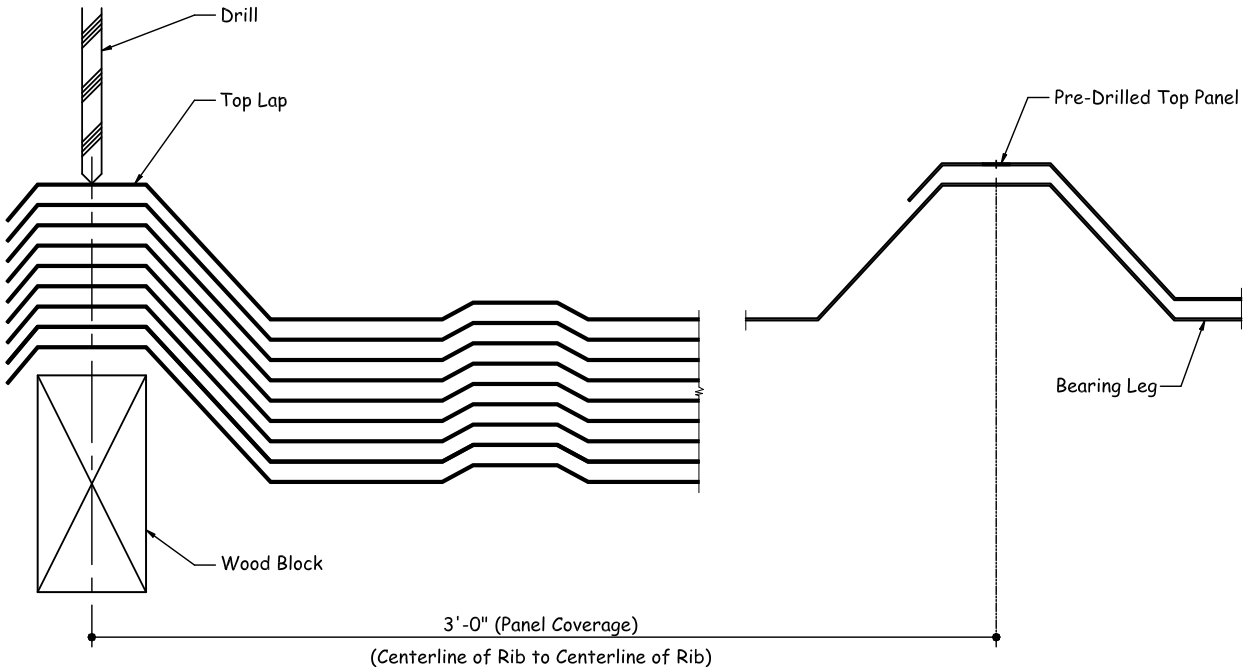
1.8 PANEL PREPARATION

NBS RECOMMENDEDS PRE-DRILLING SIDELAP JOINTS, WHICH IN MANY CASES, WILL SPEED ERECTION AND MAKE A TIGHT JOINT.

STEP 1: Stack the panels with the ends flush on a level place on the ground in piles not exceeding 10 panels. Then place small wooden blocks under the side lapping edge of the stack of the panels to hold them at the correct height and position while drilling the screw holes. Hold the panels tightly together at each end with "Vise Grip Pliers". Carefully mark the positions for sidelap fasteners on the top of the **HIGH** rib. Fasteners should be located **"ON CENTER"** of the high rib as shown below.

STEP 2: Drill holes for "Stitch" screws (Use #1,-7/32"-15/64" drill-bit) on the top sheet of the sidelap. Be sure that the panels are well nested before drilling.

WHEN USING OTHER TYPE FASTENERS, SIZE OF DRILL-BIT MAY CHANGE!



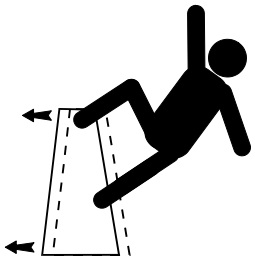
1.9 SAFETY FIRST

REGULATIONS SET FORTH BY THE OCCUPATIONAL SAFETY AND HEALTH ACT, LOCAL, STATE, AND/OR FEDERAL AGENCIES SHOULD BE ADHERED TO AT ALL TIMES. NUCOR BUILDING SYSTEMS IS NOT RESPONSIBLE FOR INJURY, DAMAGE, OR FAILURE, WHICH MAY BE THE RESULT FROM FAILING TO MEET ANY OF THESE REGULATIONS.

EXTREME CAUTION SHOULD BE EXERCISED WHEN WALKING ON ROOF PANELS:

OILS USED DURING THE ROLL FORMING PROCESS AND/OR NATURAL MOISTURE MAY CAUSE THE PANELS TO BECOME SLIPPERY

DO NOT STEP ON PANELS WITH CREASED EDGES
DO NOT STEP ON OR NEAR EDGE OF PANEL
DO NOT STEP WITHIN 5 FEET OF PANEL END



DO NOT USE LOOSE PANELS AS WORK PLATFORMS
DO NOT WALK ON UNSECURED PANELS
SECURE ALL LOOSE PANELS AT END OF DAY

USE EXTRA CARE WHEN WORKING ON STEEP SLOPES

IN COMPLIANCE WITH THE HAZARD COMMUNICATION RULE 1910:1200, MATERIAL SAFETY DATA SHEETS HAVE BEEN PROVIDED FOR YOUR USE AND SAFETY. THESE DATA SHEETS SHOULD BE MADE AVAILABLE TO ALL PERSONNEL THAT COME IN CONTACT WITH THESE PRODUCTS. THESE DATA SHEETS WILL GIVE YOU THE NECESSARY INFORMATION TO PROPERLY HANDLE SUCH MATERIALS AND WHAT TO DO IN CASE OF EMERGENCY.

1.95 TRANSLUCENT PANEL NOTE

NBS 5'-4" translucent panels are to be used strictly in vertical wall applications. This panel is not to be installed in a roof application where fall hazards could occur. NBS assumes **no** responsibility for the misuse of this panel.

2.0 FASTENERS AND MASTICS REQ'D FOR INSTALLATION

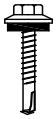
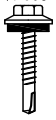
2.1 GENERAL

This page and the following page show the fasteners, mastics, and tube caulks required for installation of the NBS Classic Roof System.

Because of the many variations in job conditions, it is important that you review the job conditions to identify the required parts for your job.

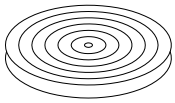
Review the erection drawings for any special parts, or parts that are different from what is shown in this section. If there are discrepancies, the erection drawings will take precedence.

For proper sealing and fastening, and to help ensure proper roof performance, the correct parts must be used. Do not use parts other than those specified in this manual or on the erection drawings.

FASTENER	SPECIFICATIONS	USAGE
H1020 	SELF-DRILLING SCREW No. 1/4-14x1 1/4" TCP3 W/O Washer 5/16" HEAD Recommended Tool Types: -2000 RPM; Torque Adjustable Clutch -4 Amp or Higher Rated Tools -DO NOT use Impacting Tools	Used to attach panel clips, end dams, rake angle clips, and rake angle to purlins.
H1030 	SELF-DRILLING SCREW No. 12-14x1 1/4" TCP2 W/ Sealing Washer LONG LIFE FASTENER - 5/16" HEAD Recommended Tool Types: -2000-2500 RPM; Torque Adjustable Clutch -DO NOT use Impacting Tools	Used to attach roof panel, roof flashing and light gauge parts. Maximum insulation thickness is < 6".
H1035 	SELF-DRILLING SCREW No. 12-14x1 1/2" TCP2 W/ Sealing Washer LONG LIFE FASTENER - 5/16" HEAD Recommended Tool Types: -2000-2500 RPM; Torque Adjustable Clutch -DO NOT use Impacting Tools	Used to attach roof panel, roof flashing and light gauge parts. Maximum insulation thickness is =/> 6".
H1050 	SELF-DRILLING SCREW No. 1/4-14x 7/8" TCP1 W/ Sealing Washer LONG LIFE FASTENER - 5/16" HEAD Recommended Tool Types: -2000 RPM; Torque Adjustable Clutch -DO NOT use Impacting Tools	Used to attach light gauge roof trim end laps and trim to roof panels.
H1060 	SELF-DRILLING SCREW No. 1/4-14x 7/8" TCP1 W/O Washer 5/16" HEAD Recommended Tool Types: -2000 RPM; Torque Adjustable Clutch -DO NOT use Impacting Tools	Used to attach light gauge wall trim end laps and trim to wall panels.
H1061 	SELF-DRILLING SCREW No. 1/4-14x 7/8" TCP1 W/ Washer 5/16" HEAD Recommended Tool Types: -2000 RPM; Torque Adjustable Clutch -DO NOT use Impacting Tools	Used to attach light gauge wall trim end laps and trim to wall panels.
H1100 	POP RIVET 1/8" x 3/16" Stainless Steel Blind Pop Rivet Recommended Tool Types: -Manual or Electric Rivet Tool -DO NOT use Impacting Tools	Used at trim laps, corner caps and attaching light gauge material to siding where screws can't be used.
H2200 	INSULATION RETAINER WASHER 1 1/4" Steel Flat Washer with 5/16" diameter hole	Used with self-drilling screws to attach insulation at the building eave.

TAPE MASTIC

Isobutylene Tripolymer 50'-0" Roll

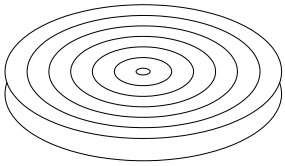


Width = 3/4"
Thickness = 1/8"

Part No. H3000

TAPE MASTIC

Isobutylene Tripolymer 20'-0" Roll

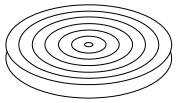


Width = 2 1/4"
Thickness = 3/16"

Part No. H3020

TAPE MASTIC

Isobutylene Tripolymer 50'-0" Roll



Width = 1/2"
Thickness = 3/32"

Part No. H3010

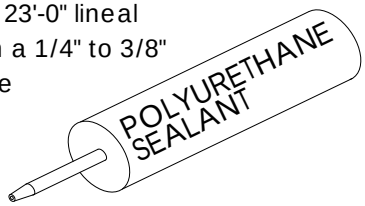
BUTYL TUBE CAULK

Roof Applications
Provides 23'-0" lineal feet with a 1/4" to 3/8" bead size

Part No. H3151

POLYURETHANE TUBE CAULK

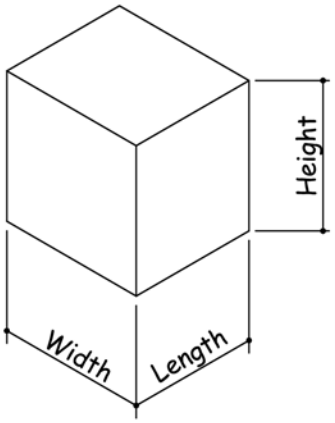
For Use At Trim Laps
Provides 23'-0" lineal feet with a 1/4" to 3/8" bead size



Part No. H3152

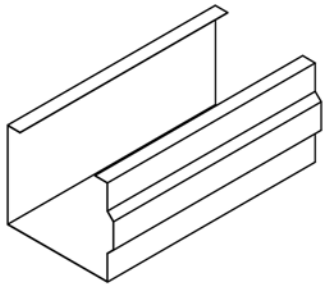
DIMENSION INFORMATION

The detail at right shows how the standard parts are dimensioned. Note that the dimensions given are nominal. Some parts do not have all 3 (length, width, height) dimensions given, as they may not be relevant.



GUTTER

26 Gauge Steel
Painted

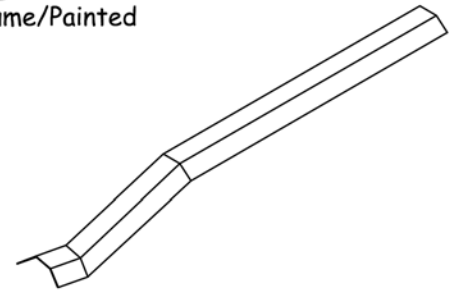


Length = 10'-1," 20'-2"
Width = 8 1/8"
Height = 7"

Part No.
GTA01=10'-1"
GTA02=20'-2"

GUTTER BRACKET

16 Gauge Steel
Galvalume/Painted

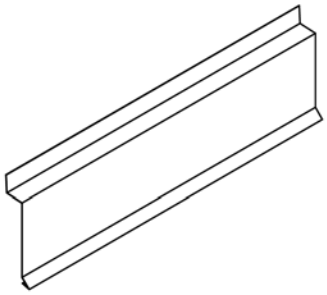


Length = 20"
Off Set Height = 1 3/8"

Part No. H2190

LOW EAVE TRIM

26 Gauge Steel
Painted



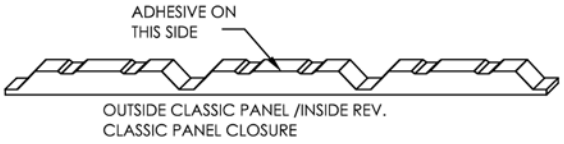
Length = 10'-2"
Width = 1 1/2"
Height = 7""

Part No. LEA01

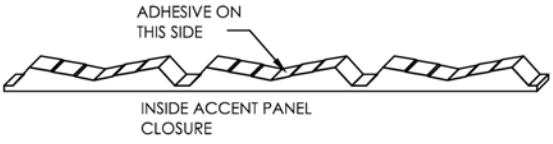
OPTIONAL FOAM WALL PANEL CLOSURES

OPTIONAL STRAIGHT AND BEVELED FOAM CLOSURES ARE AVAILABLE IN THESE PROFILES. Beveled Closures are available from 2:12 to 9:12 roof slope.

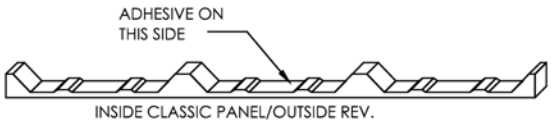
(See Construction Drawing Set for more Info & Part Marks)



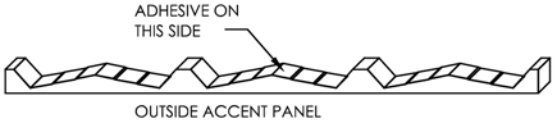
OUTSIDE CLASSIC PANEL /INSIDE REV.
CLASSIC PANEL CLOSURE



INSIDE ACCENT PANEL
CLOSURE



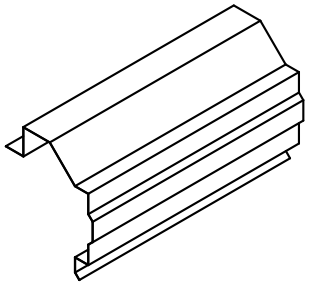
INSIDE CLASSIC PANEL/OUTSIDE REV.
CLASSIC PANEL CLOSURE



OUTSIDE ACCENT PANEL
CLOSURE

SCULPTURED RAKE TRIM

26 Gauge Steel
Painted

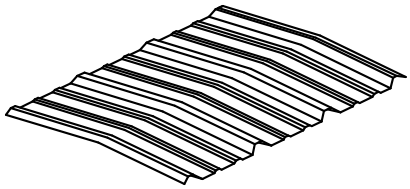


Length = 10'-1", 20'-2"
Width = 9 3/8"
Height = 12"

Part No.
RTA01 - 10'-1"
RTA02 - 20'-2"

DIE-FORMED RIDGE CAP

26/24 Gauge
Painted Available

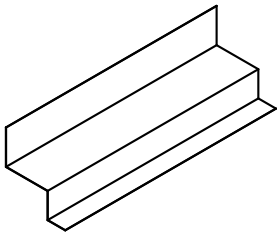


Length = 3'-2"
Width = 3'- 6 3/4"

Part No. RGA__
Varies with roof slope, see erection dwgs

RAKE PARAPET TRIM

26 Gauge Galvalume (Std.)
Painted Available

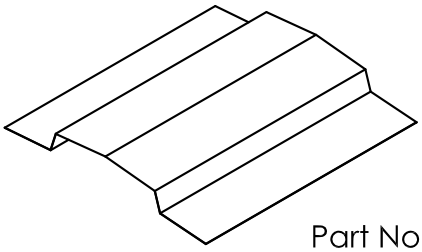


Length = 10'-1"
Width = 6 3/4"
Height = 6 3/4"

Part No. RPA01

PRESS-BROKE RIDGE CAP

26 Gauge Galvalume (Std.)
Painted Available

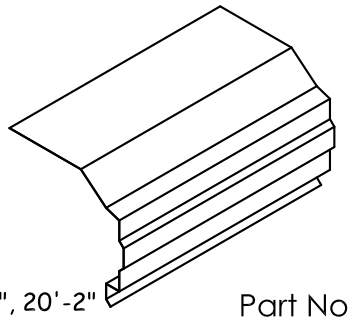


Length = 10'-1"
Width = 22 3/4"

Part No. RGG__
Varies with roof slope, see erection dwgs

SCULPTURED HIGH EAVE TRIM

26 Gauge Steel
Painted

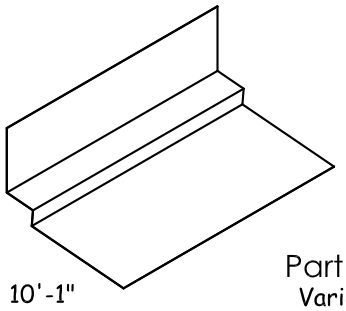


Length = 10'-1", 20'-2"
Width = 12 1/2"
Height = 12"

Part No.
HEB01 - 10'-1"
HEB02 - 20'-2"

HIGH EAVE PARAPET TRIM

26 Gauge Galvalume (Std.)
Painted Available

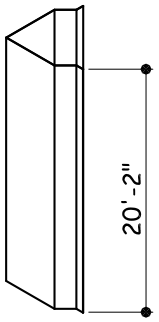


Length = 10'-1"
Width = 11 1/2"
Height = 8"

Part No. HP_01
Varies with roof slope, see erection dwgs

WALL OUTSIDE CORNER TRIM

26 Gauge Steel
Painted

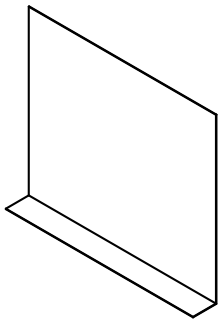


Length = 20'-2"
Width = 7 1/2"
Height = 7 1/2"

Part No. OCA01

GUTTER/RAKE TRIM

26 Gauge Steel
Painted

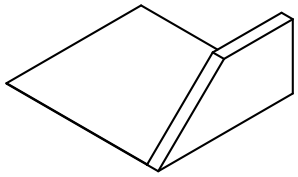


Length = 8"
Width = 1"
Height = 7"

Part No. GRA01

RAKE END CAP - LEFT

26 Gauge Steel
Painted

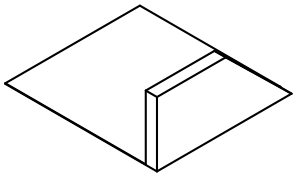


Length = 6"
Width = 6"
Height = 2 3/4"

Part No. RCA01

RAKE END CAP - RIGHT

26 Gauge Steel
Painted

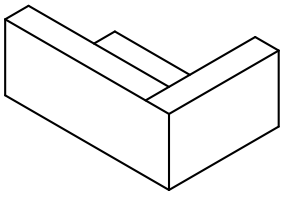


Length = 6"
Width = 6"
Height = 2 3/4"

Part No. RCA02

RAKE PARAPET END CAP - LEFT

26 Gauge Steel
Painted

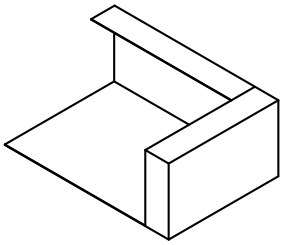


Length = 4 3/4"
Width = 7"
Height = 2 3/4"

Part No. RCB01

RAKE PARAPET END CAP - RIGHT

26 Gauge Steel
Painted

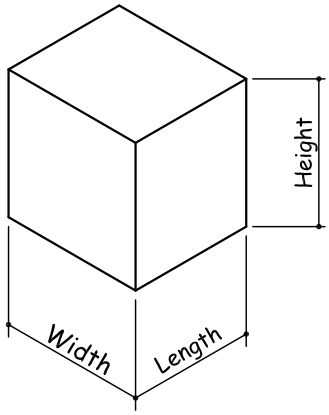


Length = 4 3/4"
Width = 7"
Height = 2 3/4"

Part No. RCB02

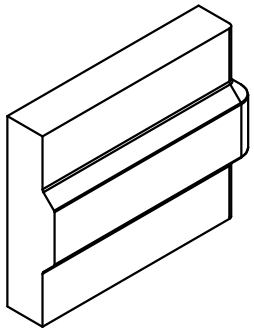
DIMENSIONAL INFORMATION

The detail at right shows how the standard parts are dimensioned. Note that the dimensions given are nominal. Some parts do not have all 3 (length, width, height) dimensions given, as they may not be relevant.



CORNER CAP

26 Gauge Steel
Painted

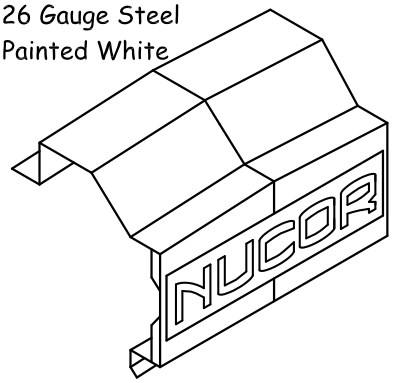


Length = 8"
Width = 1"
Height = 7"

Part No. H4000

PEAK BOX

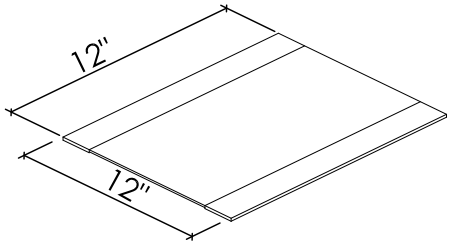
26 Gauge Steel
Painted White



Part No.
SEE ROOF TRIM INSTALLATION SECTION FOR PART NUMBERS

PEAK TRANSITION (RAKE PARAPET)

Expandable Edged Flash



Length = 12"
Width = 12"
Material = Grey TPE

Part No.
RPT12

3.0 INSTALLATION OF CLASSIC ROOF

3.1 STARTING LAYOUT

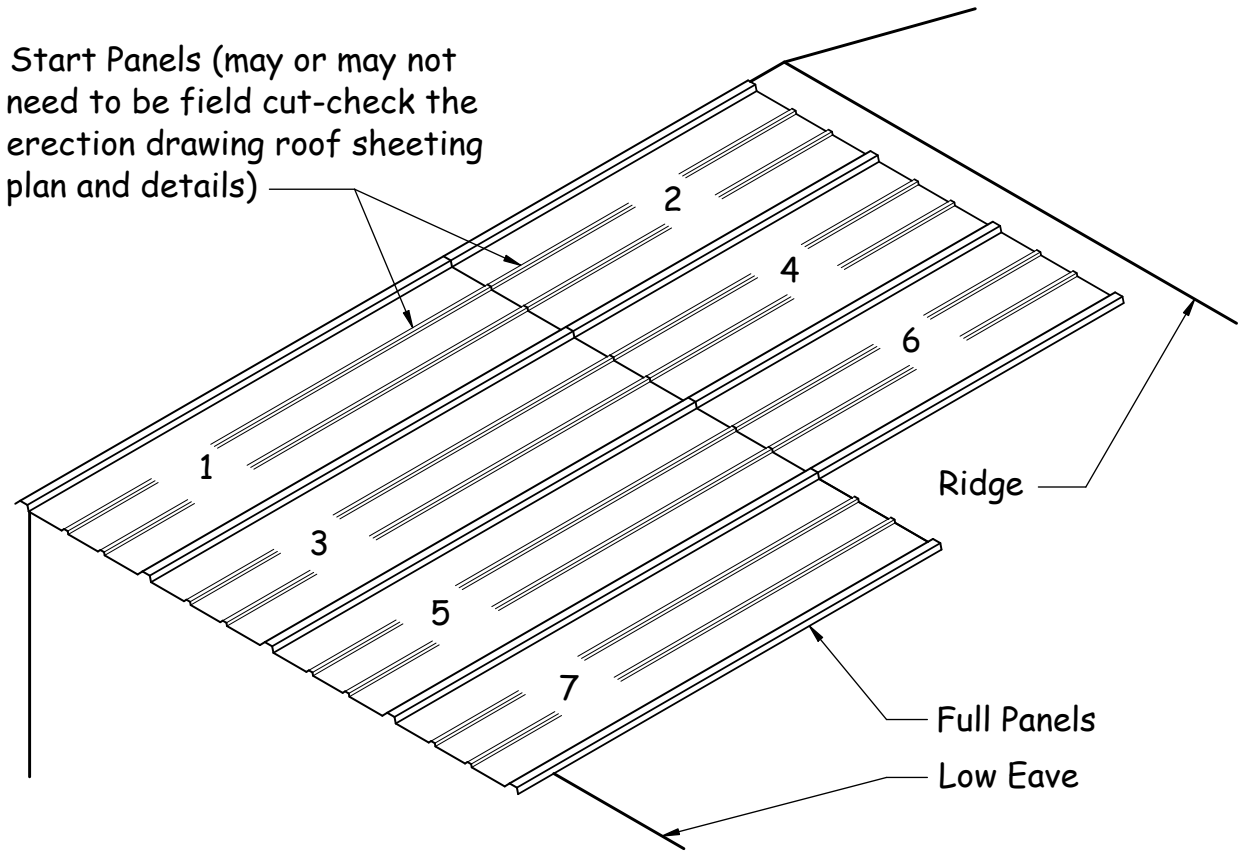
The roof panels are designed to, and will lay left to right or right to left.

Panel installation must begin at the low eave corner and be sequenced as shown.

Both sides of the ridge should be erected simultaneously to ensure proper alignment of panel ribs and positioning of the die-formed ridge cap.

ERECTOR NOTE: SOME DETAILS CONTAINED WITHIN THIS MANUAL SHOW CONDITION AS THOUGH THE PANELS ARE BEING ERECTED FROM LEFT-TO–RIGHT. THE PANELS CAN ALSO BE ERECTED FROM RIGHT-TO-LEFT, AND THE CONDITIONS ARE SIMILAR TO THE POINT THAT THE SAME DETAILS CAN BE UTILIZED WITHOUT ANY PROBLEMS.

WARNING: PENCIL LEAD AND MARKER WILL CAUSE GALVALUME PANELS AND TRIM PIECES TO RUST. DO NOT USE THESE TO MARK ON PARTS.



NOTE: Both sides of the ridge should be erected simutaneously to ensure both proper alignment of panels and positioning of the DIE-FORMED ridge cap.

3.2 MASTIC INSTALLATION TIPS

Apply the tape mastic only to clean dry surfaces.

Roll the mastic out to arm length.

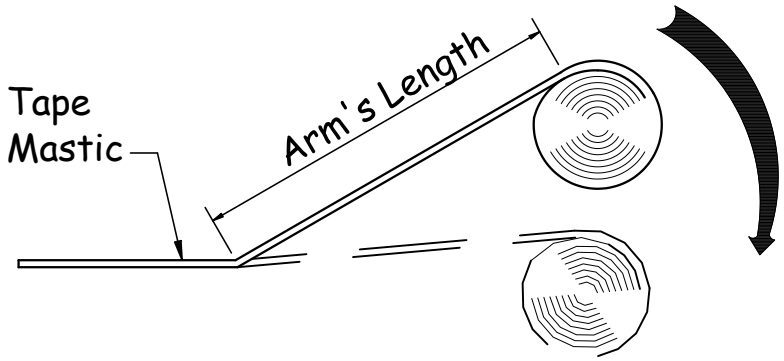
Press the mastic firmly in place making sure it is tightly formed to all bends.

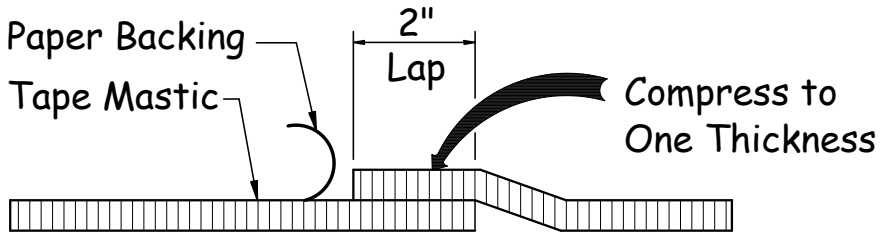
Remove the paper backing only when ready to install the top component.

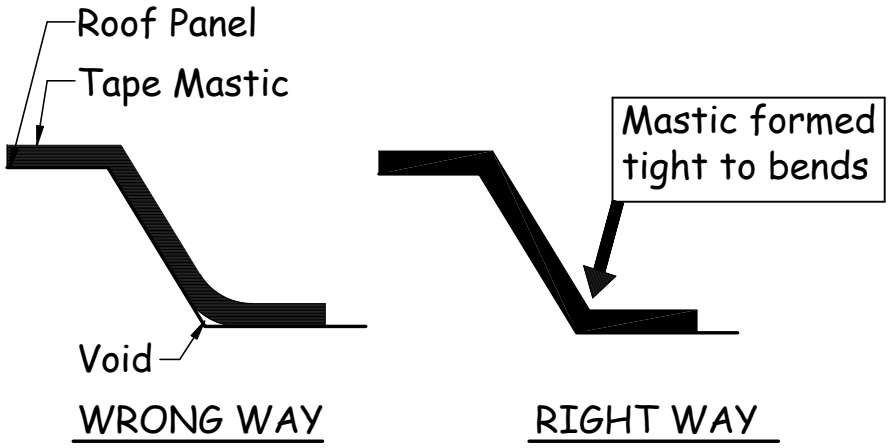
Splice the mastic with a 2" lap.

Press the lapped pieces of mastic firmly together to form a single thickness.

DO NOT STRETCH TAPE MASTIC ACROSS THE CORNERS. THIS WILL DECREASE THE THICKNESS WHERE IT IS NEEDED THE MOST.







3.3 INSULATION

Install the (optional) insulation pan at the ridge, if required, prior to any roof panel installation. Do not attach at this time, the insulation screws will make the attachment. **DO NOT USE INSULATION PAN AS A WORK PLATFORM.**

NOTE: Leave a *minimum* space of 1" from the back of the insulation to the low eave steel line for the panel closure.

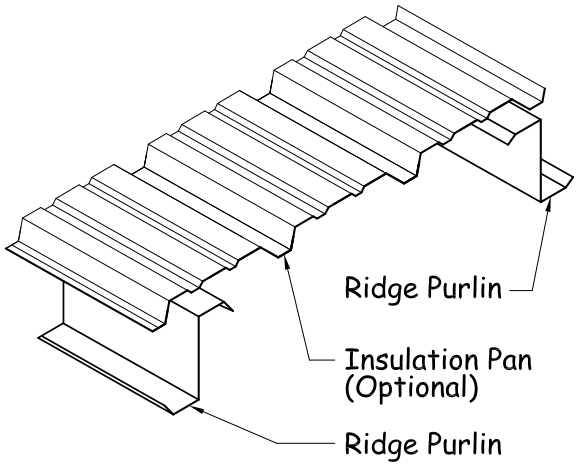
Pull the insulation toward the ridge / high eave so as to create a smooth appearance of the backing.

Consult the insulation manufacturer installation instructions for proper seaming and taping methods.

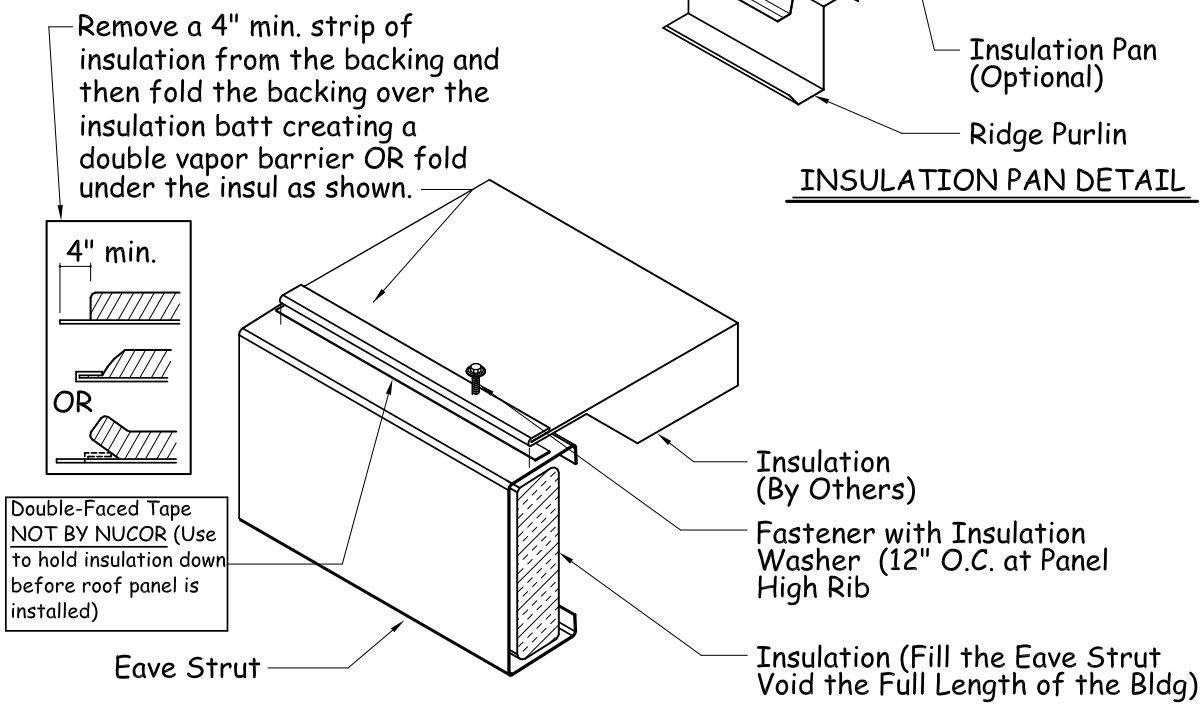
At the low eave, remove a 4" strip of insulation from the backing leaving a 4" strip of backing exposed.

Fold this strip of backing over the insulation batt creating a double vapor barrier.

Fasten insulation with **(1) H1020** fastener and **(1) H2200** insulation washer 12" O.C.. Coincide fastening at the high rib of each panel.



INSULATION PAN DETAIL



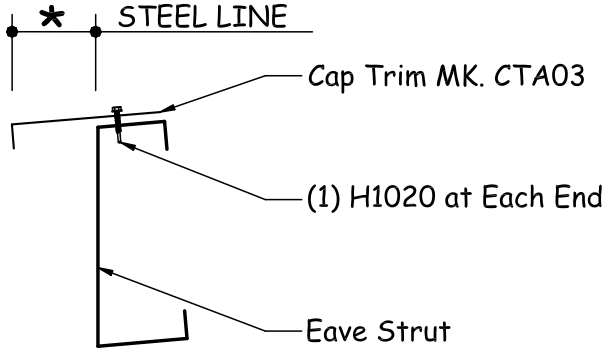
LOW EAVE DETAIL

3.4 SCULPTURED EAVE TRIM

If your building has sculptured eave trim, the cap trim **must** be installed prior to the installation of roof insulation and roof panels.

After the eave member has been installed, place the cap trim **(CTA__)** flush with the end of the eave member. Use the overhang dimensions per the roof slope noted in the following detail, then fasten with (1) **self-drilling screw (H1020)** at each end.

When using masonry wall or open wall conditions, use the following dimensions from face of masonry or steel line:

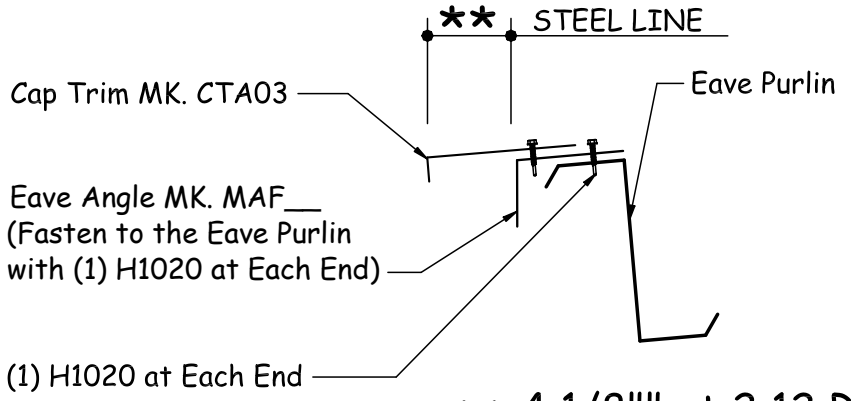


* 3" at .5:12 Roof Slope
* 3 1/2" at 1:12 Roof Slope

1 ¾" @ .5:12
2 ¼" @ 1:12
2 7/8" @ 2:12
3 5/16" @ 3:12
3 13/16" @ 4:12

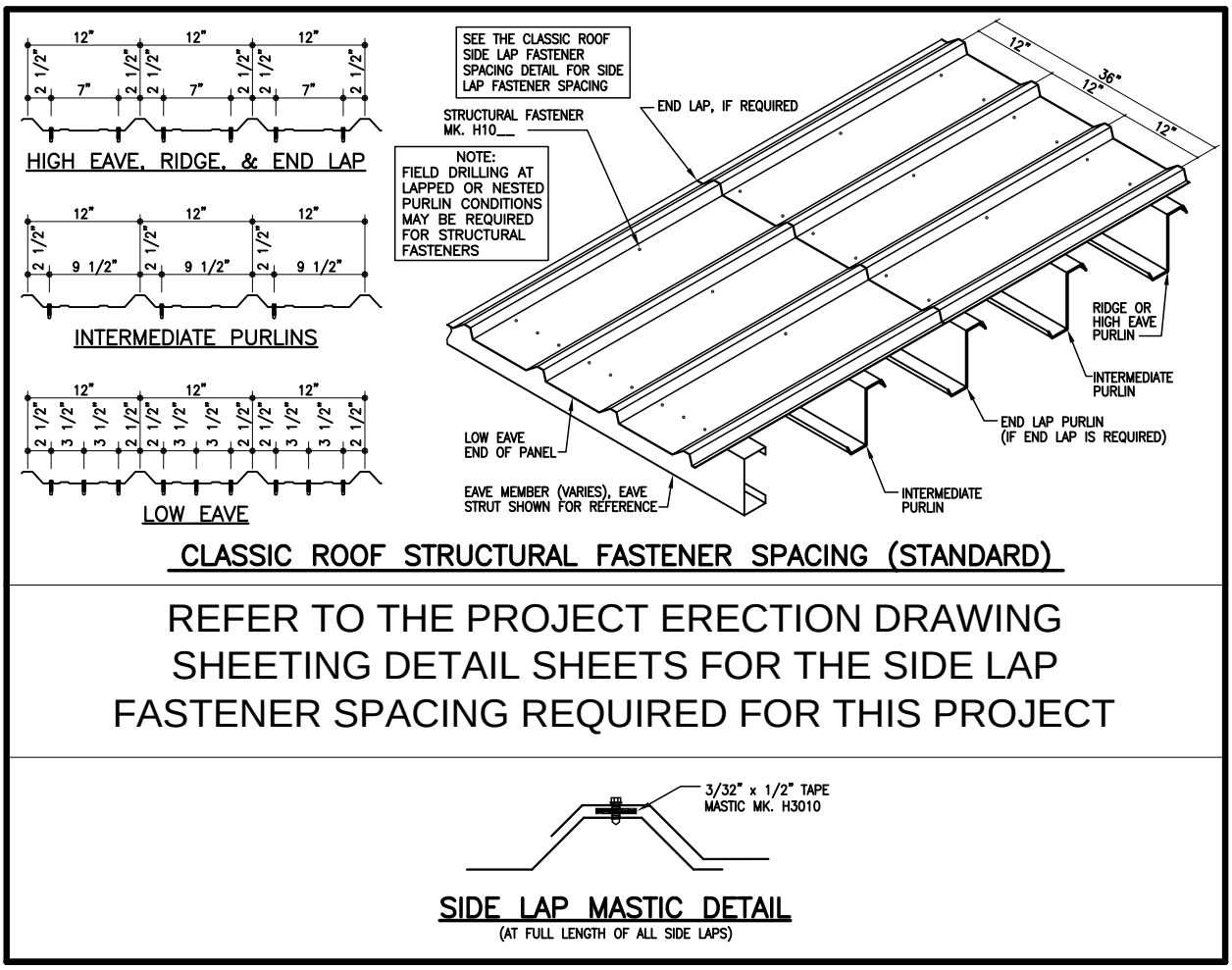
See the erection drawing details for sculptured eave trim installation instructions.

NOTE: See the Erection Drawing Roof Line Trim Details for Sculptured Eave Trim Installation Instructions



** 4 1/8"" at 2:12 Roof Slope
** 4 5/8" at 3:12 Roof Slope
** 5 1/8" at 4:12 Roof Slope

3.5 PANEL/FASTENER DIAGRAM



REFER TO THE PROJECT ERECTION DRAWING SHEETING DETAIL SHEETS FOR THE SIDE LAP FASTENER SPACING REQUIRED FOR THIS PROJECT

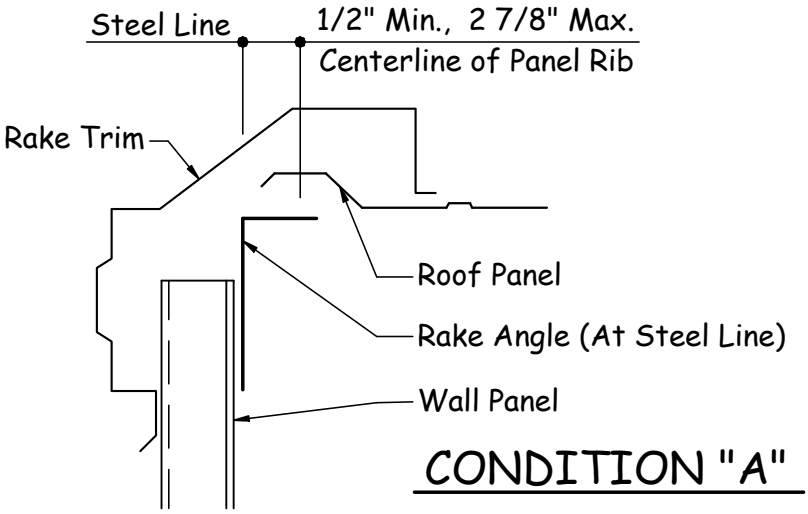
SIDE LAP MASTIC DETAIL
(AT FULL LENGTH OF ALL SIDE LAPS)

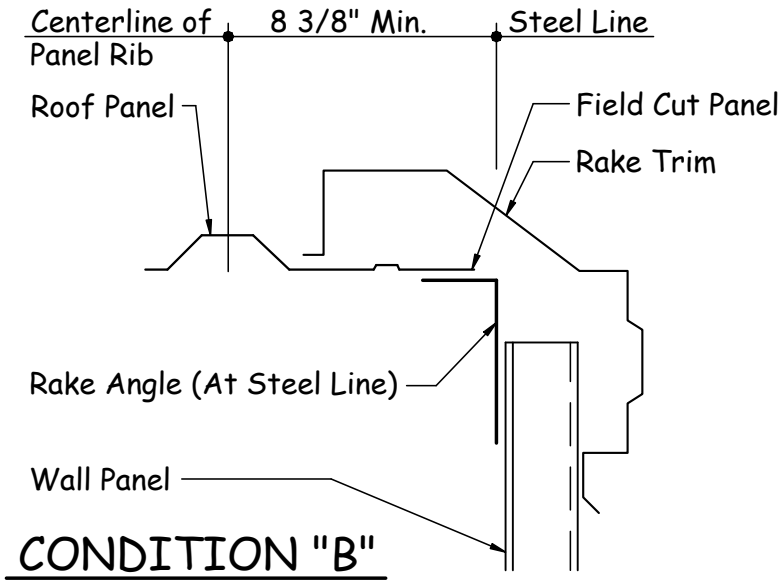
3.6 START/FINISH DIMENSIONS

IMPORTANT! Note the minimum and maximum panel rib locations from the steel line. (Condition **"A"** and condition **"B"**)

Condition **"A"** and **"B"** could occur at either the start or the finish end. These rib locations must be maintained for the rake trim to fit properly. Field cutting of panel(s) may be required.

Refer to your project erection drawings "**ROOF SHEETING PLAN**" for specific start and finish panel rib locations.





3.7 PANEL ERECTION AT LOW EAVE

Fold strip of backing over the insulation batt creating a double vapor barrier.

Fasten insulation with **(1) H1020** fastener and **(1) H2200** insulation washer 12" O.C.. Coincide fastening with the high rib of each panel.

NOTE: Leave a *minimum* space of 1" from the back of the insulation to the low eave steel line for the panel closure.

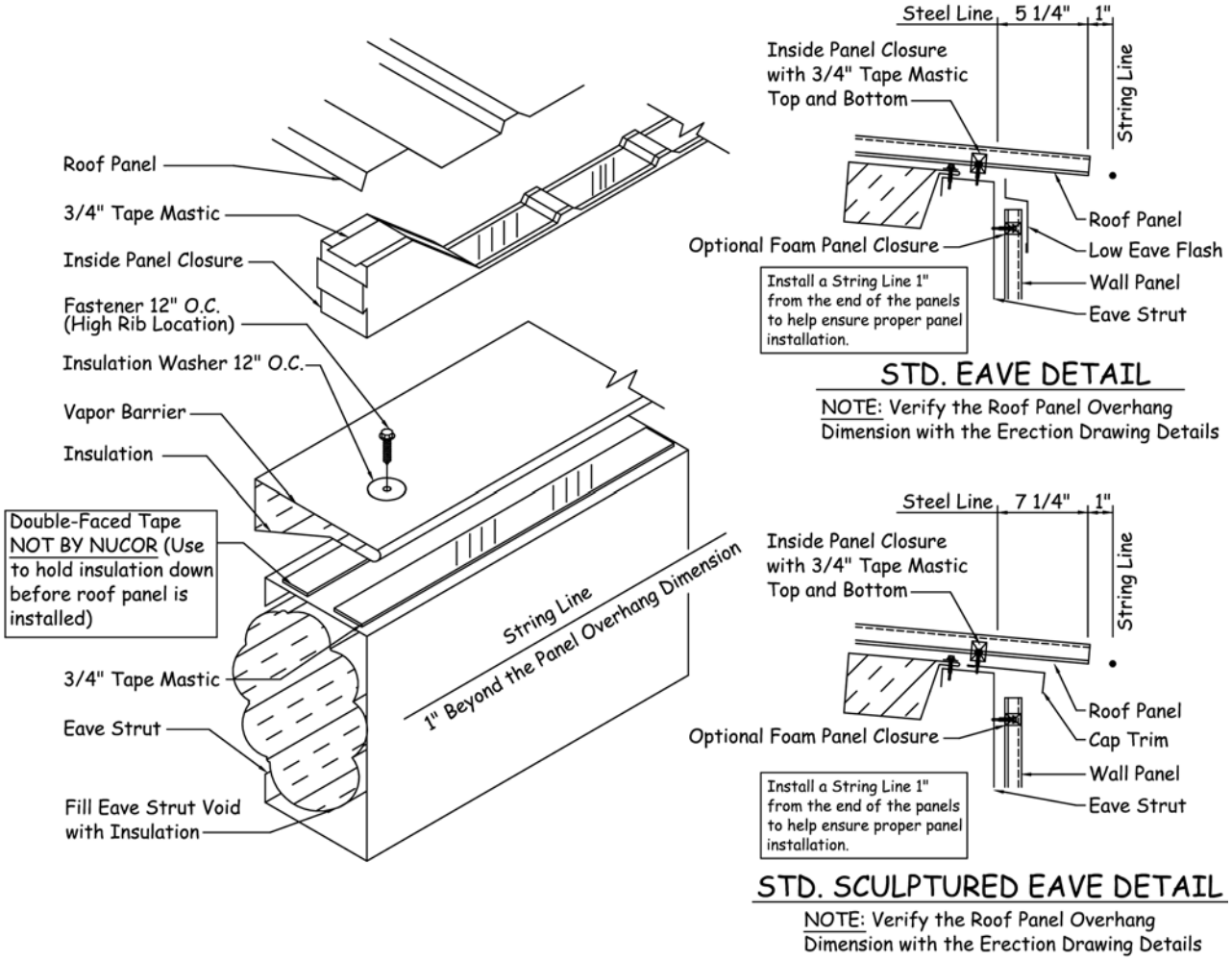
Apply **3/4" tape mastic (H3000)** to the top of the eave strut the full length of the roof.

Next position the **inside rubber closure (H3410)** directly over the mastic and apply **3/4" tape mastic (H3000)** to the top side of the closure.

Check your project erection drawings for proper roof panel start and overhang dimensions. Install a string line 1" from the end of the panel to help ensure proper panel installation.

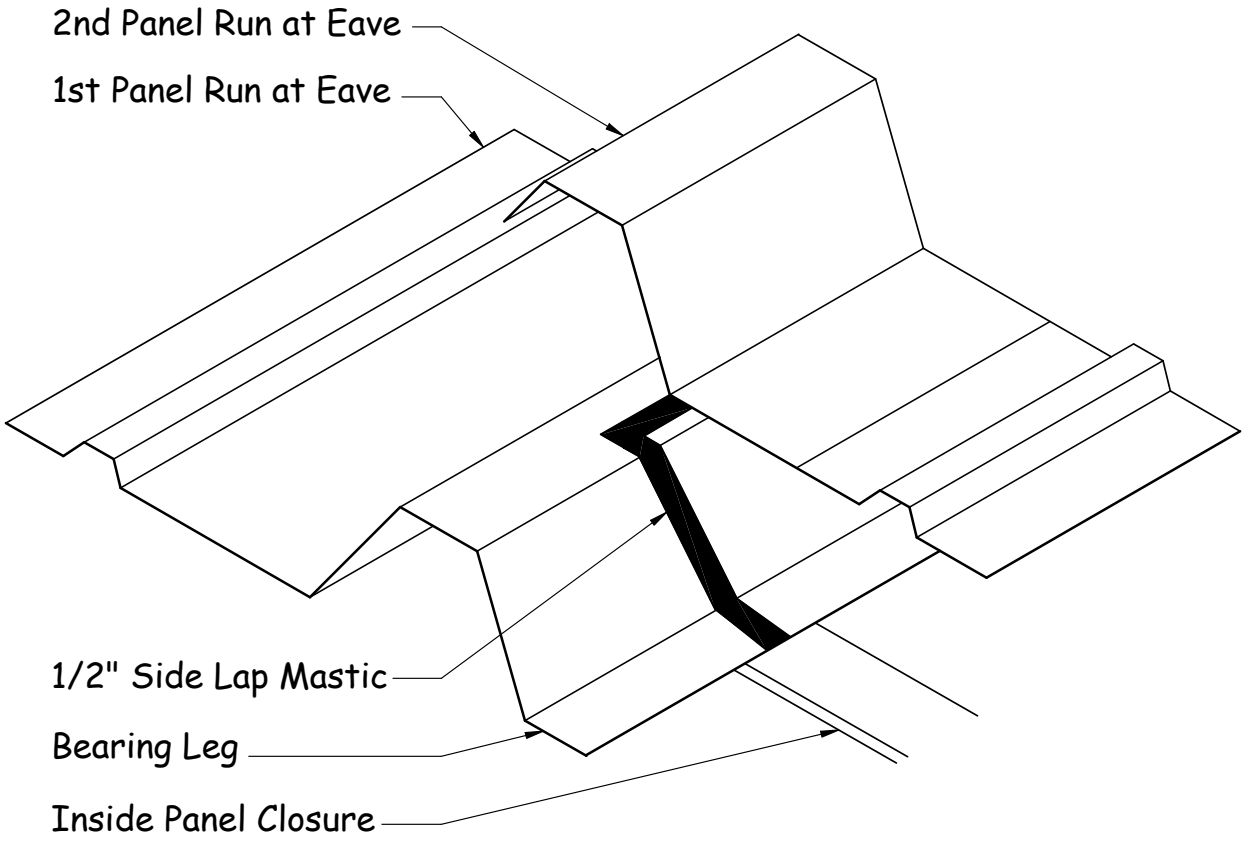
Position the roof panel over the closure and set in place.

NOTE: The panel must be properly positioned before touching the mastic. Mastic cannot be reused.

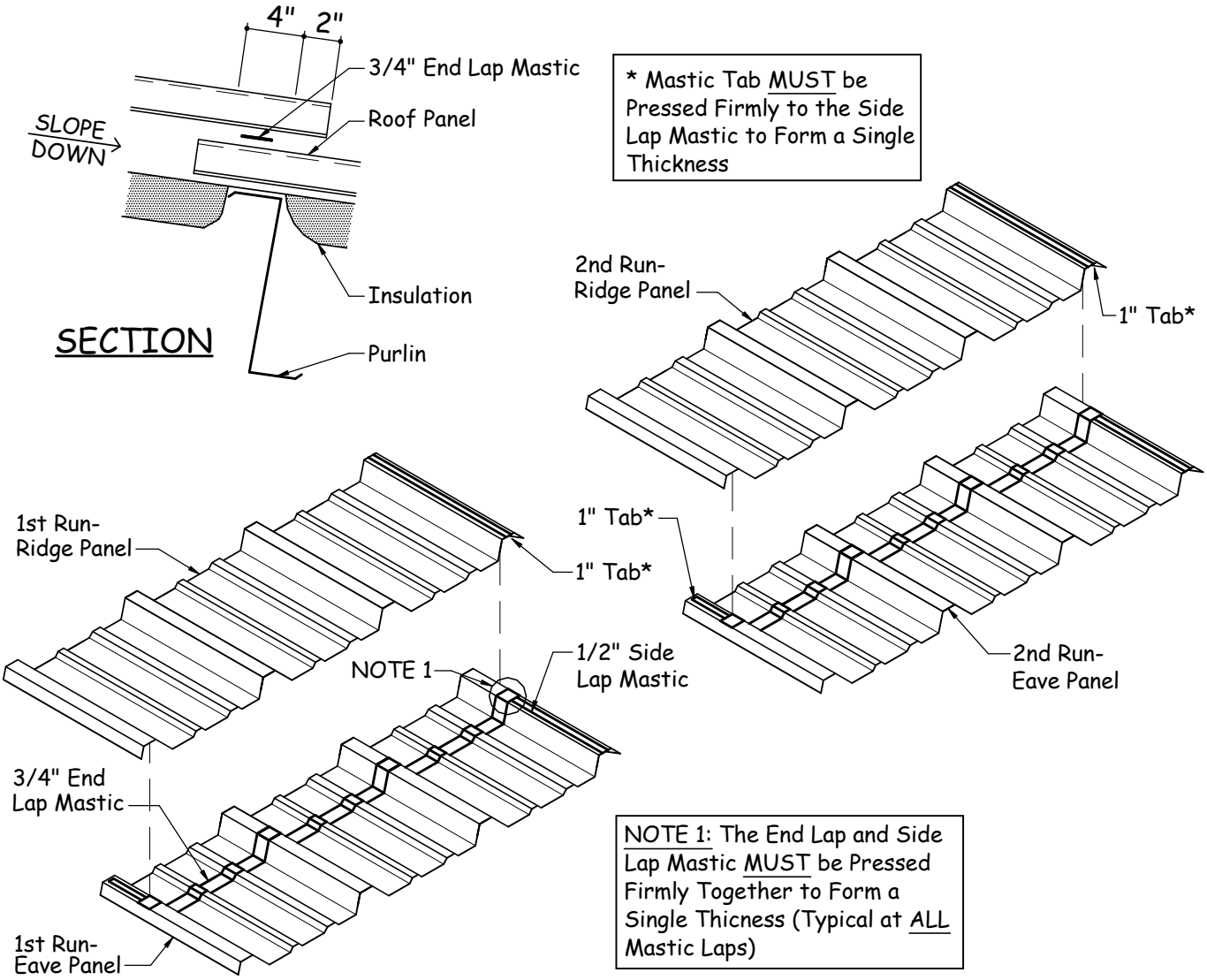


3.8 PANEL ERECTION AT SIDE LAP

1/2" sidelap tape mastic (H3010) must be applied to the bearing leg of the panel rib as shown to obtain a weathertight panel lap.



3.9 PANEL SPLICE DETAIL



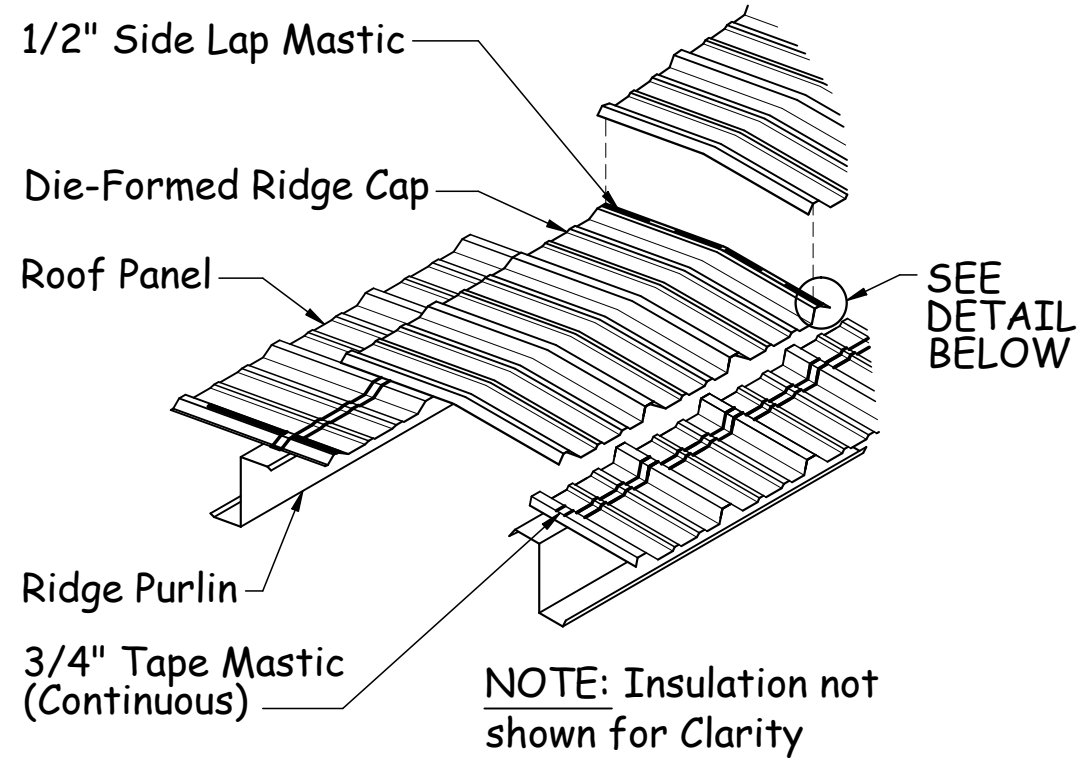
3.10 DIE-FORMED RIDGE CAP INSTALLATION

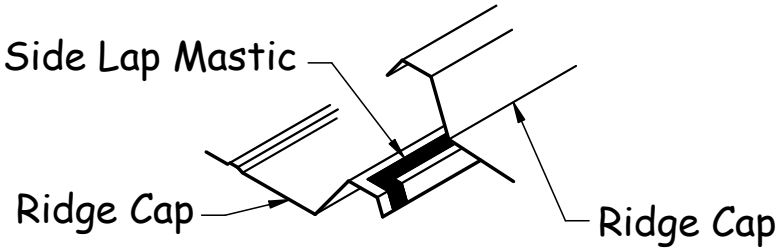
IMPORTANT NOTE: The panel ribs **MUST** be aligned across the ridge for proper fit-up of the die-formed ridge cap.

Fasten the ridge cap side laps with (6) **self-drilling screws (H1050)**.

See the fastener diagram in section 3.5, or your project erection drawings for proper fastener placement.

If your roof has press-broke ridge cap, go to section **4.11** for installation instructions





RIDGE CAP LAP MASTIC DETAIL

4.0 TRIM INSTALLATION

4.1 WALL PANEL/TRIM FOAM CLOSURES

Per the order contract, your job could have foam wall panel closures. **Prior** to installing any roof line trims, review the construction drawing set for your job's panel closure requirements, part marks & locations.

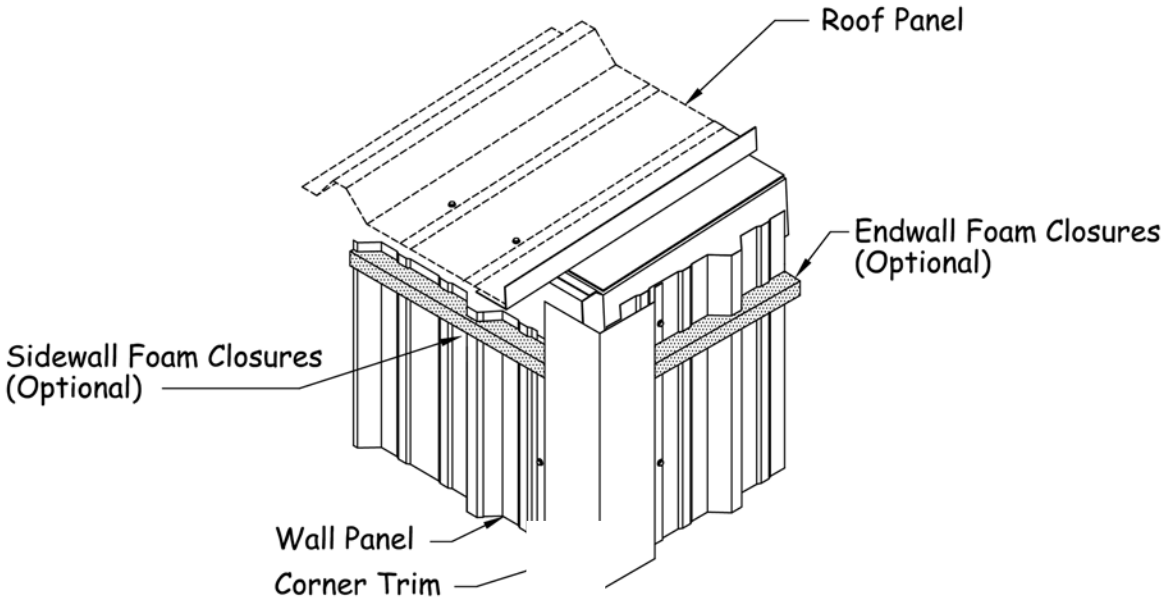
Begin installing trim at the back of the building working toward the front. This will "hide" the trim laps from direct view.

When lapping rake trim and rake parapet trim, the upper piece should overlap the lower piece. This will help prevent water from entering the building.

Some field cutting, trimming, and bending is required. Extreme care must be taken while performing any fieldwork so as to produce an attractive, weathertight condition.

NOTE: The wall panel (or whatever material is being on the walls) will need to be installed before the roof line trim can be installed.

The parts shown in the following sections are the "standard" trim profiles. It is a good idea to compare the part numbers in this manual with the erection drawing roof line trim details to verify the correct part numbers. In the case of conflict, the erection drawings will take precedence.



WALL PANEL CLOSURE NOTE:
See Construction Drawing set for your Specific Wall Panel Closure Requirements, Part Marks & Locations.

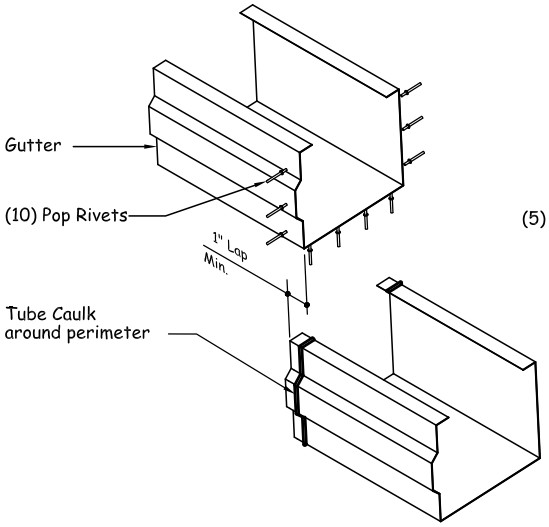
4.2 TRIM LAP DETAILS FOR GUTTER, RAKE, AND RAKE PARAPET TRIM

GUTTER: Apply a continuous bead of **polyurethane tube caulk (H3152)** to the end of adjoining trim piece, lap 1", and fasten with 10 **pop rivets (H1100)**.

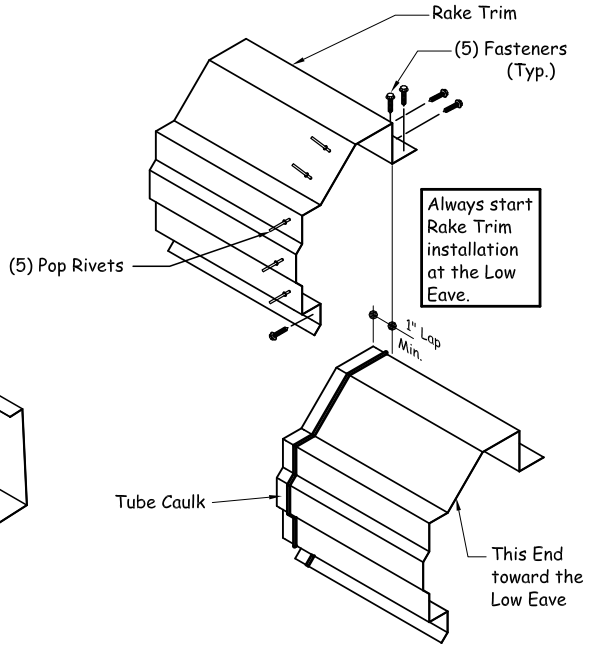
RAKE TRIM: Apply a continuous bead of **polyurethane tube caulk (H3152)** to the end of the adjoining trim piece and lap 1". Fasten with (5) trim-colored **self-drilling screws (H1050)** and (5) **pop rivets (H1100)**. Always begin trim installation at the low eave working toward the high eave.

RAKE PARAPET TRIM: Apply (2) continuous beads of **polyurethane tube caulk (H3152)** to the end of the adjoining trim piece, lap 1" and fasten with (6) **self-drilling screws (H1050)**.

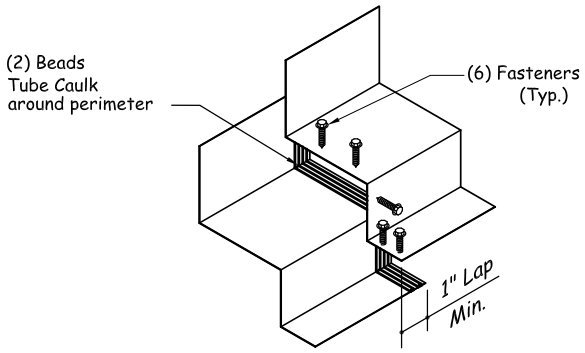
.



GUTTER LAP DETAIL



RAKE TRIM LAP DETAIL

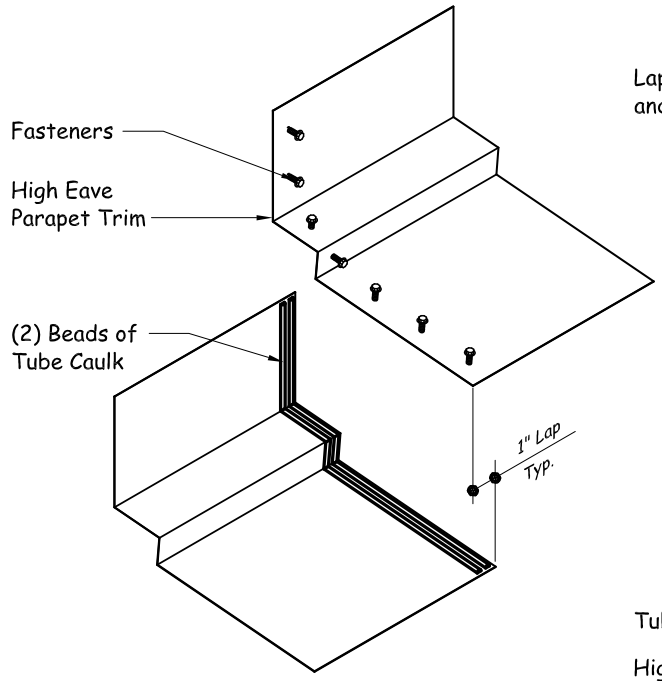


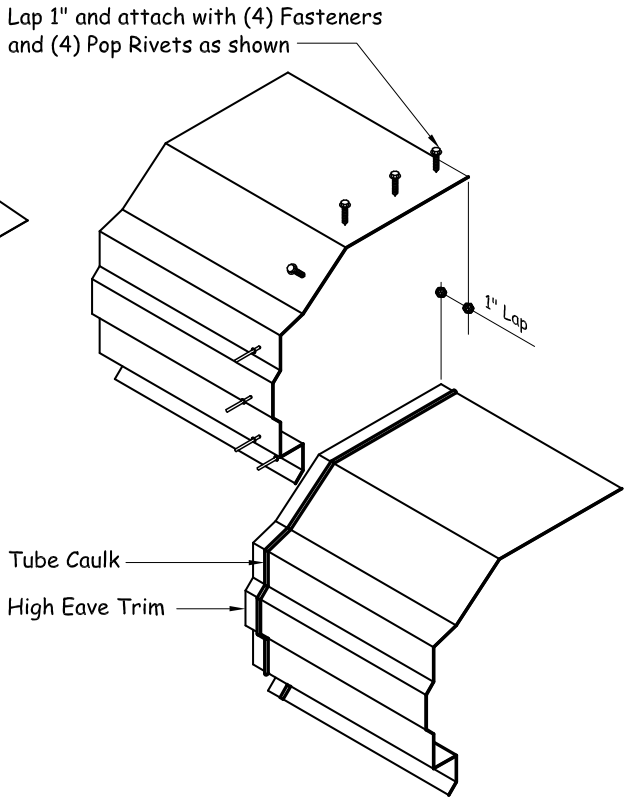
RAKE PARAPET TRIM LAP DETAIL

4.3 TRIM LAP DETAILS FOR HIGH EAVE & HIGH EAVE PARAPET TRIM

HIGH EAVE TRIM: Apply a continuous bead of **polyurethane tube caulk (H3152)** to the end of adjoining trim piece, lap 1" and fasten with (4) self-drilling screws **(H1050)** and (4) pop rivets.

HIGH EAVE PARAPET TRIM: Apply (2) continuous beads of polyurethane tube caulk at the end of the installed trim piece. Position the adjoining trim piece on the top of the caulk and fasten with (7) **self-drilling screws (H1050)**.





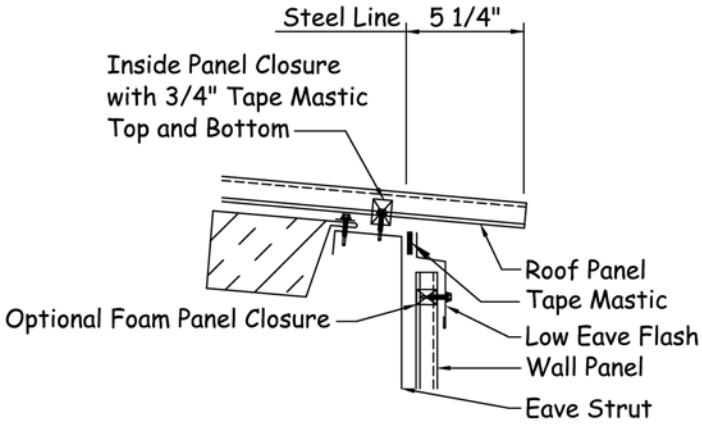
4.4 LOW EAVE TRIM

- **LOW EAVE TRIM PART NUMBERS**
- **LEA01 x 10'-2"**

Apply **¾" tape mastic (H3000)** to the upper leg of the eave flash. Align the edge of the eave flash with the edge of the wall corner trim. Position the top leg tight to the bottom of the roof panel.

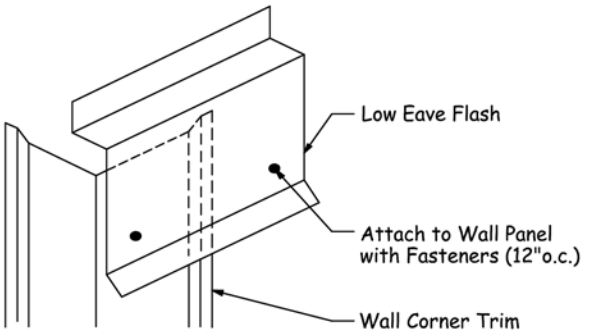
Fasten at ends and 12" on center with trim-colored **self-drilling screws (H1060)**.

Lap the trim 1", applying a bead of **polyurethane tube caulk (H3152)** between. Fasten with (1) trim-colored **self-drilling screw (H1060)**.

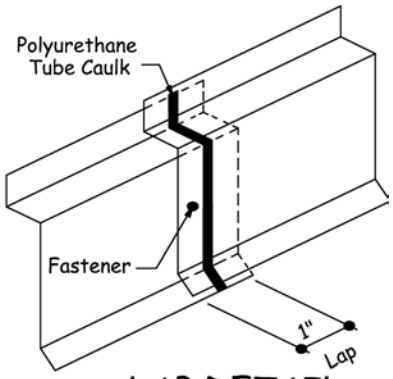


STD. EAVE DETAIL

NOTE: Verify the Roof Panel Overhang Dimension with the Erection Drawing Details



DETAIL AT WALL CORNER TRIM



LAP DETAIL

4.5 RAKE TRIM AT CORNER WITHOUT GUTTER

- **RAKE TRIM PART NUMBERS**
- **RTA01 x 10'-1" RTA02 x 20'-2"**

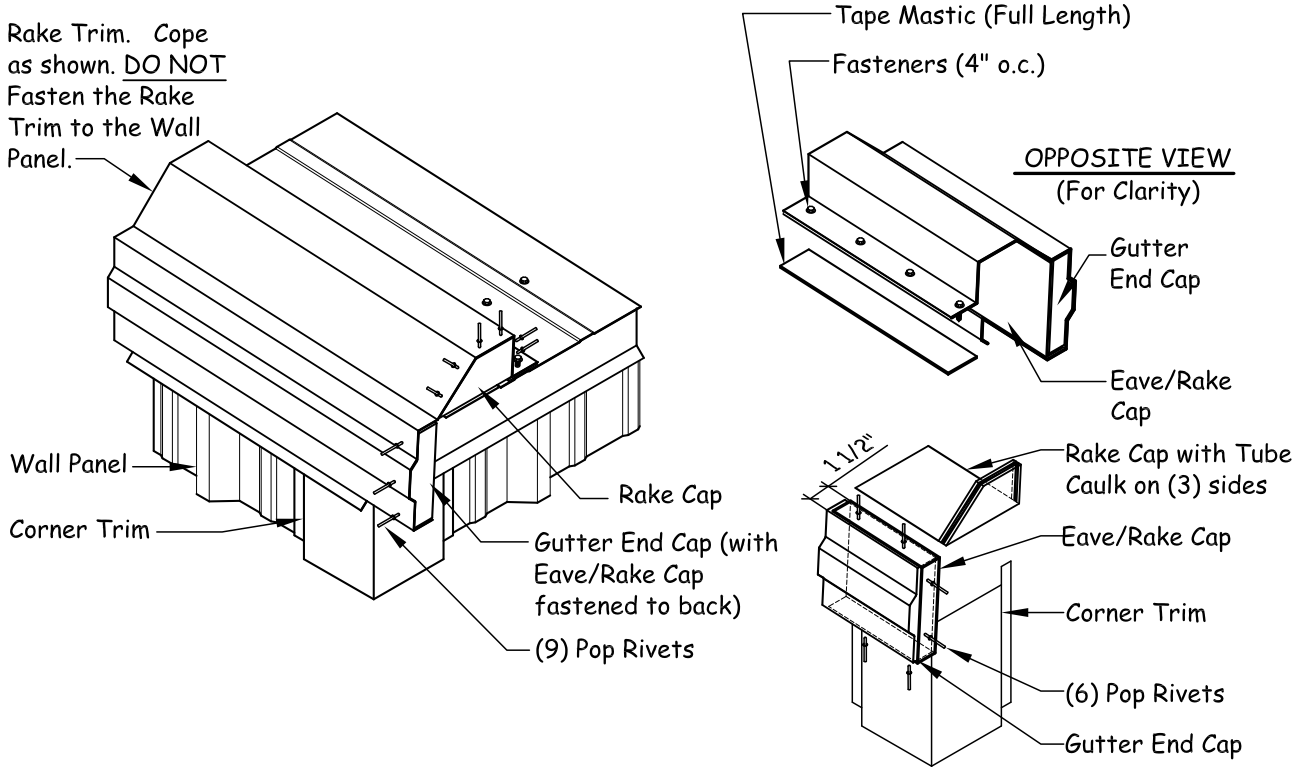
All parts must be positioned properly before touching the mastic to the roof panel. Mastic cannot be reused!

Before installing the rake trim, the **rake cap (RCA__)** must be installed and the **gutter end cap (H4000)** prepped. For the rake cap, apply **polyurethane tube caulk (H3152)** to the top and bottom surfaces and place it on the edge of the panel 1 ½" from the edge of the gutter end cap (no fasteners required). Field cope the flat of the rake cap as required. Prep the gutter end cap by placing the **eave/rake cap (ERA01)** onto the back of the cap and fasten with (6) **pop rivets (H1100)** as shown below.

Apply continuous **2 ¼" tape mastic (H3020)** to the bottom of the horizontal leg of the rake trim (the leg that attaches to the roof panel).

Extend the low eave end of the rake trim flush with the low eave end of the roof panel. Fasten the rake trim to the roof panel with trim colored self-drilling **screws (H1050)** 4" o.c. between supports and **(H1030/H1035)** at supports. Fasten the rake trim to the **rake cap** with (6) **pop rivets (H1100).** Cope the bottom vertical leg of the rake trim flush with the outside face of the wall corner trim.

For the installation of the prepped **gutter end cap (H4000)**, apply **polyurethane tube caulk (H3152)** to the outside perimeter (as shown below) and place it inside the rake trim with the flat edge of the gutter end cap flush with the end of the rake trim. Fasten the rake trim to the gutter end cap with (3) **pop rivets (H1100).**



4.6 GUTTER AND GUTTER BRACKET INSTALLATION

- **GUTTER PART NUMBERS**
- **GTA01 x 10'-1" GTA02 x 20'-2"**

Establish a string line 7" from end of the roof panel for proper gutter bracket alignment.

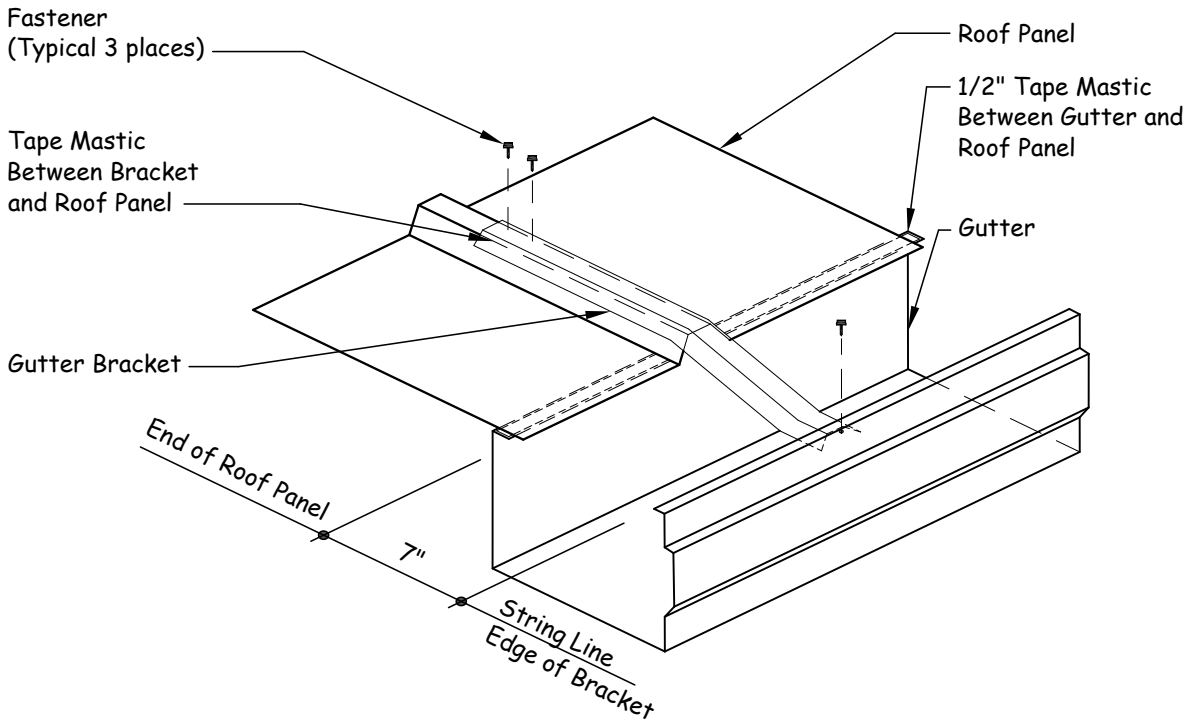
Apply **6" long tape mastic (H3000)** to the end of the **gutter bracket (H2190)** directly under the pre-punched holes.

Fasten the bracket to the panel **HIGH** rib with (2) gutter bracket-colored **self-drilling screws (H1050)**.

Apply **1/2" tape mastic (H3010)** to the back lip of the gutter and then fasten the gutter to the roof panel with roof-colored **self-drilling screws (H1050)** at 12" on center. **NOTE: Clamping the gutter to the roof panel will allow for easier gutter installation.**

Attach the gutter to the bracket with (1) trim-colored **self-drilling screw (H1050)**.

NOTE: The gutter bracket should be UNDER the lip of the gutter.



4.7 RAKE TRIM AT CORNER WITH GUTTER (OUTSIDE CORNER)

Extend the gutter 1" past the edge of the wall corner trim.
Apply a continuous bead of **polyurethane tube caulk (H3152)** around the perimeter of the **corner cap (H4000)** close to the inside edge.

Insert the corner cap into the gutter leaving 1/2" of the cap exposed on all sides.

Fasten with (6) **pop rivets (H1100)** at front and back only.

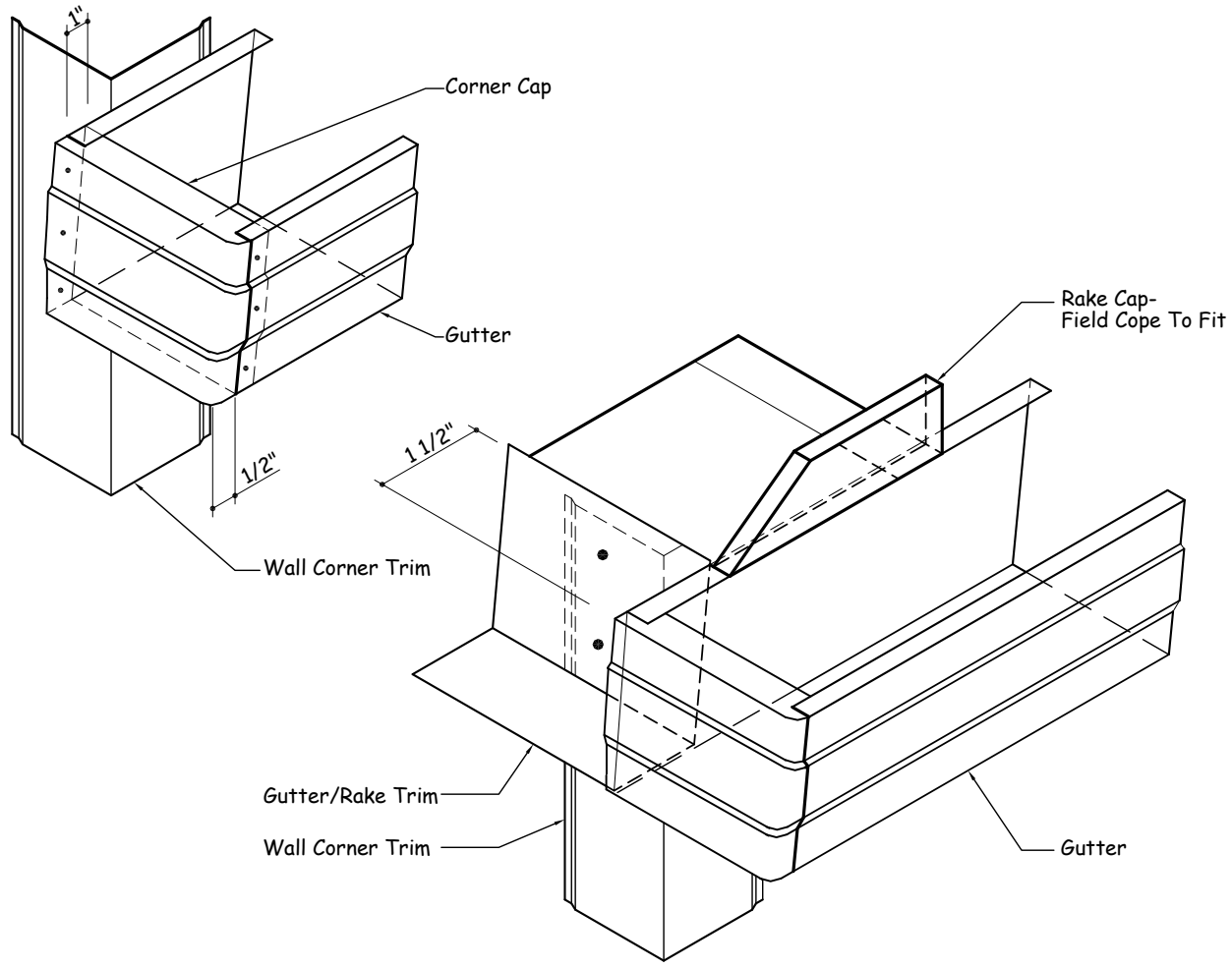
After the **corner cap (H4000)** has been installed, apply a continuous bead of **polyurethane tube caulk (H3152** around the inside bends of the cap.

Fasten the **gutter/rake trim (GRA01)** piece to the wall corner trim with (2) trim-colored **self-drilling screws (H1050)**. Hold the trim piece tight to the back of and flush with the bottom of the gutter.

Apply **polyurethane tube caulk (H3152)** to the bottom of the **rake cap (*)** and place it on the gutter 1 1/2" from the edge of the corner cap. **Fasteners are not required**.

(*) RAKE CAP PART NUMBERS:
RCA01-LEFT
RCA02-RIGHT

NOTE: The corner cap, gutter rake trim, and rake cap must be installed before the rake trim is installed.



4.8 RAKE TRIM INSTALLATION

Apply continuous **2 1/4" tape mastic (H3020)** to the bottom leg of the rake trim.

RAKE TRIM PART NUMBERS:
RTA01 X 20'-2"
RTA02 X 10'-1"

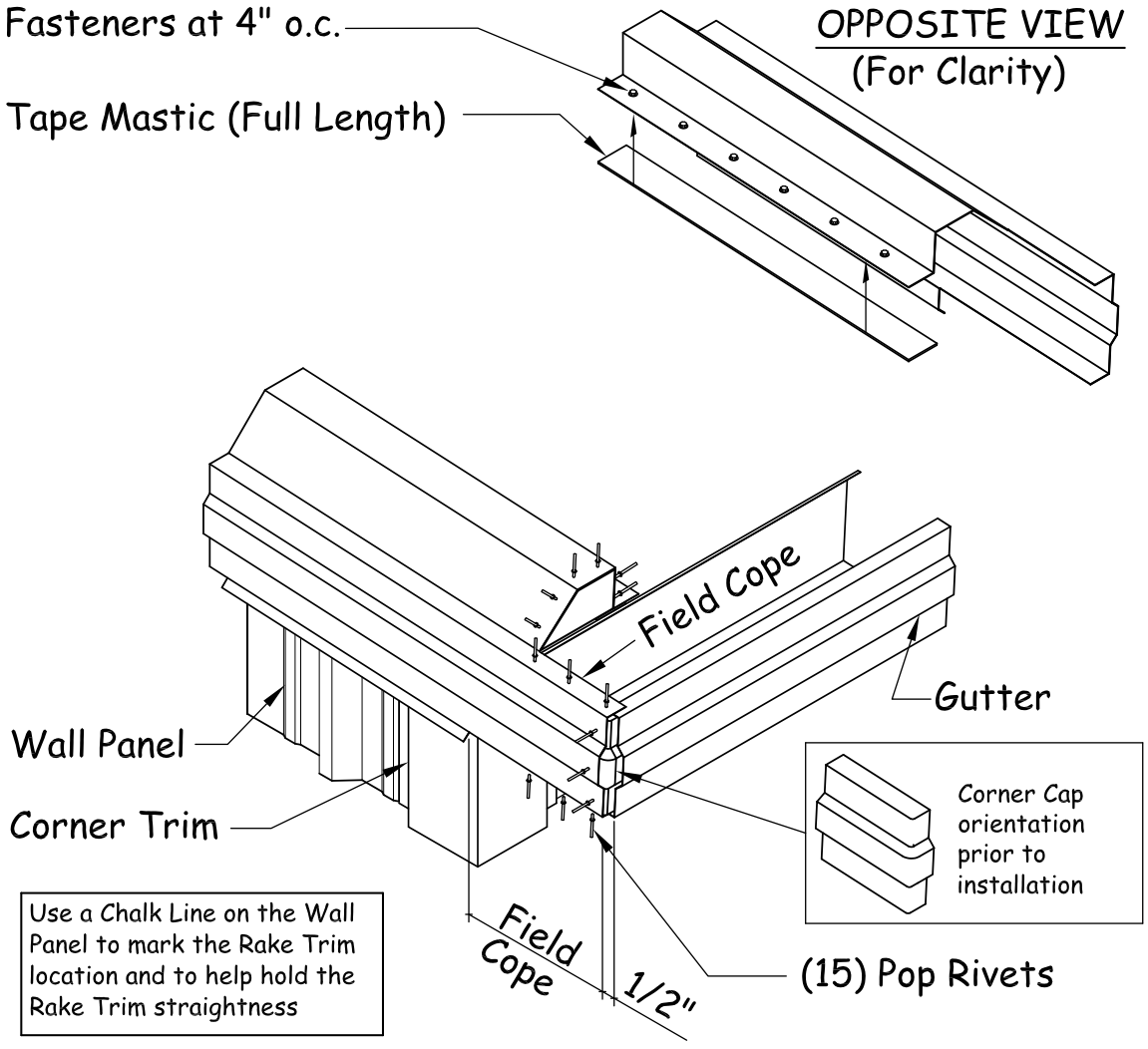
ALL PARTS MUST BE PROPERLY POSITIONED BEFORE TOUCHING MASTIC TO ROOF PANEL. MASTIC CANNOT BE REUSED!

Hold the edge of the rake flash 1/2" short of the face of the gutter as shown.

Fasten to the roof panel with trim-colored **self-drilling screws (H1050)** at 4" on center.

Cope the top of trim flush with the end of the roof panel. Cope the bottom vertical leg flush with the wall corner trim. Fasten to the end caps as shown using (15) **pop rivets (H1100)**.

Fasten to the wall panel with trim-colored **self-drilling screws (H1060)** at 12" on center.

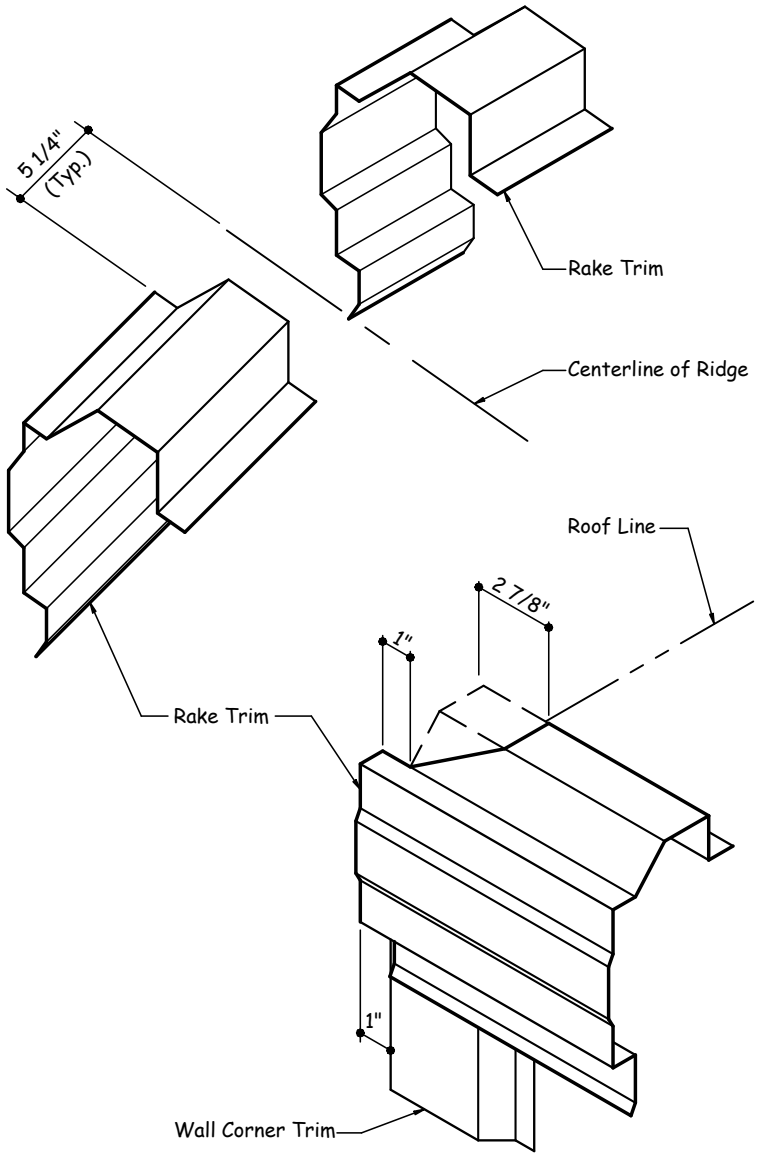


4.9 RAKE TRIM TERMINATION AT HIGH EAVE OR RIDGE

If your building has a ridge, stop the rake trim flush with the end of the roof panel (5 1/4" from ridge centerline).

If your building is a single slope, extend the rake trim 1" past the face of the wall corner trim. Field cope the vertical leg flush to the wall corner trim.

Field cope the upper section of the trim back 1". Additionally, cope the sloped face back 2 7/8", at an angle to match the 2 7/8" coped top and back legs.



4.10 METAL PEAK BOX INSTALLATION AT RIDGE CAP

Peak box installation instructions for **DIE-FORMED ridge cap (RGA__)** and **PRESS-BROKE ridge cap (RGG__):**

Die-formed ridge cap must be installed **prior** to installing metal peak box. Go to Section 3.10 for die-formed ridge cap installation.

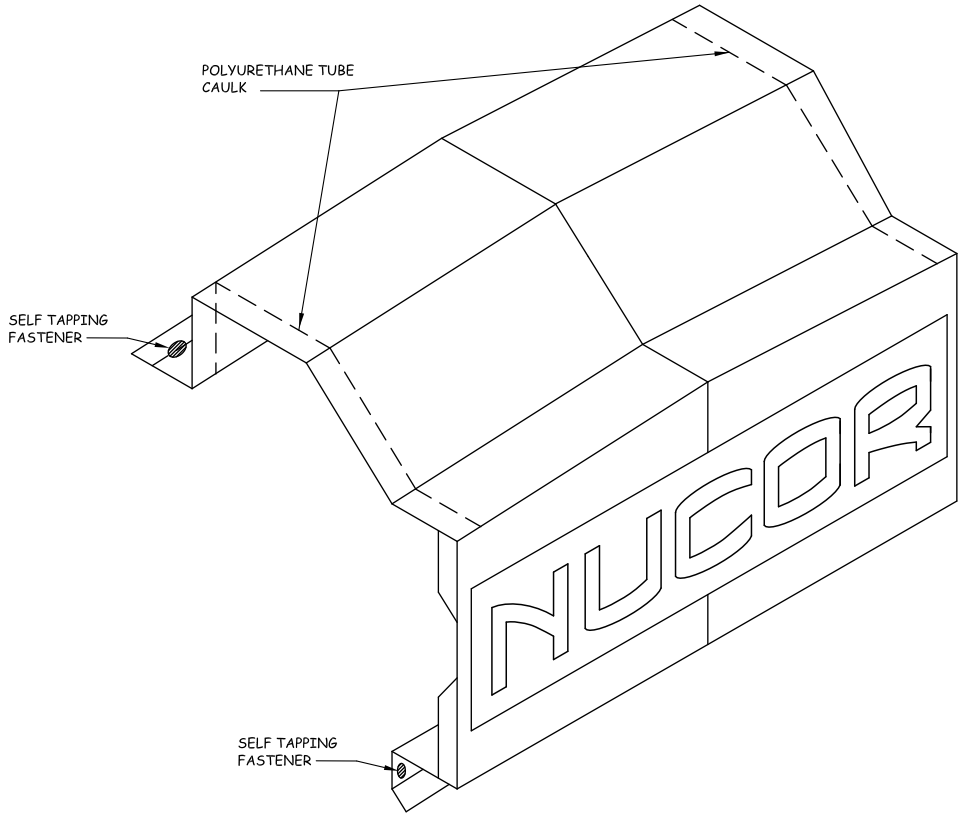
For press-broke ridge cap, the metal peak box must be installed **before** the press-broke ridge cap. After peak box has been installed refer to Section 4.10 and 4.11 to install the press-broke ridge cap.

Apply **polyurethane tube caulk (H3152)** as shown below and on the underside of the back lip of the **metal peak box**. Apply **polyurethane tube caulk (H3152)** to any gaps on the underside of the peak box in the mitered area.

Position the metal peak box over the rake trim and fasten to the die formed ridge cap and the rake trim with (8) trim colored **self-drilling screws (H1050**

PEAK BOX PART NUMBERS:

Roof Slope	Peak Box
.5:12	MPB50
1:12	MPB01
2:12	MPB02
3:12	MPB03
4:12	MPB04
5:12	MPB05
6:12	MPB06



4.11 PRESS-BROKE RIDGE CAP INSTALLATION AT PEAK BOX

See the Erection Drawings for the **press-broke ridge cap part number (RGG__).**

Start the ridge cap by field notching the first piece of ridge cap as shown in **FIG. A.** Bend all tabs 90°.

Before installing the ridge cap, apply **¾" tape mastic (H3000)** continuously across the top and bottom of the outside closures the full length of the roof. Place the tape mastic and closures 7" from the ridge centerline.

Place a bead of **polyurethane tube caulk (H3152)** on Tabs "B" and "C" (typical 4 places). Center the ridge cap over the closures and tightly against the back of the rake trim. Fasten Tab "B" to the back of the metal peak box /rake trim with (1) trim colored **self-drilling screw (H1050).** Place a bead of **polyurethane tube caulk (H3152)** between Tab "A" and Tab "B" and fasten through the tabs and into the metal peak box with (1) trim colored **self-drilling screw (H1050)**. Fasten Tab "C" into the metal peak box with (2) trim colored **self-drilling screws (H1050).** Repeat these steps for the other side of the ridge cap.

Fasten the ridge cap at the **HIGH** ribs with trim-colored **self-drilling screws (H1050)** at 12" on center.

NOTE: THE RIDGE CAP MUST BE PROPERLY POSITIONED BEFORE TOUCHING THE MASTIC. REMOVE THE PAPER BACKING ON THE TOP OF THE CLOSURES ONLY AS WORK PROGRESSES. MASTIC CANNOT BE RE-USED.

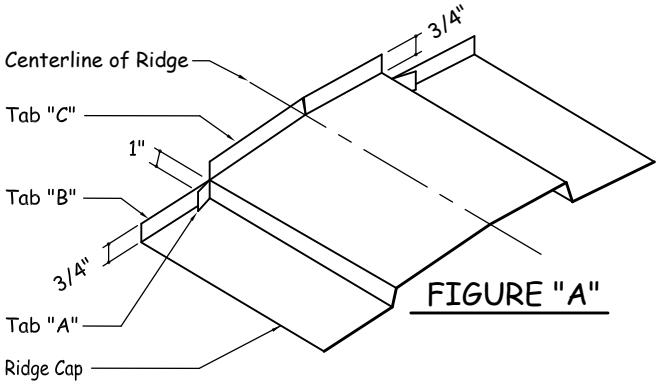
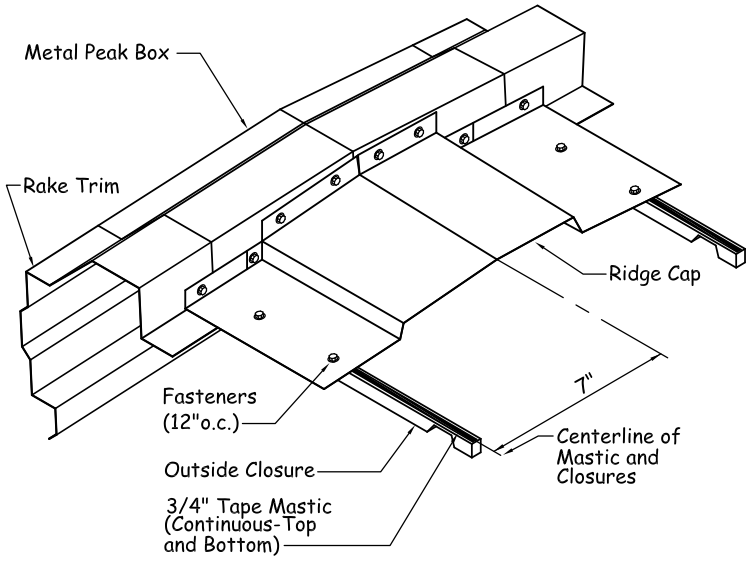


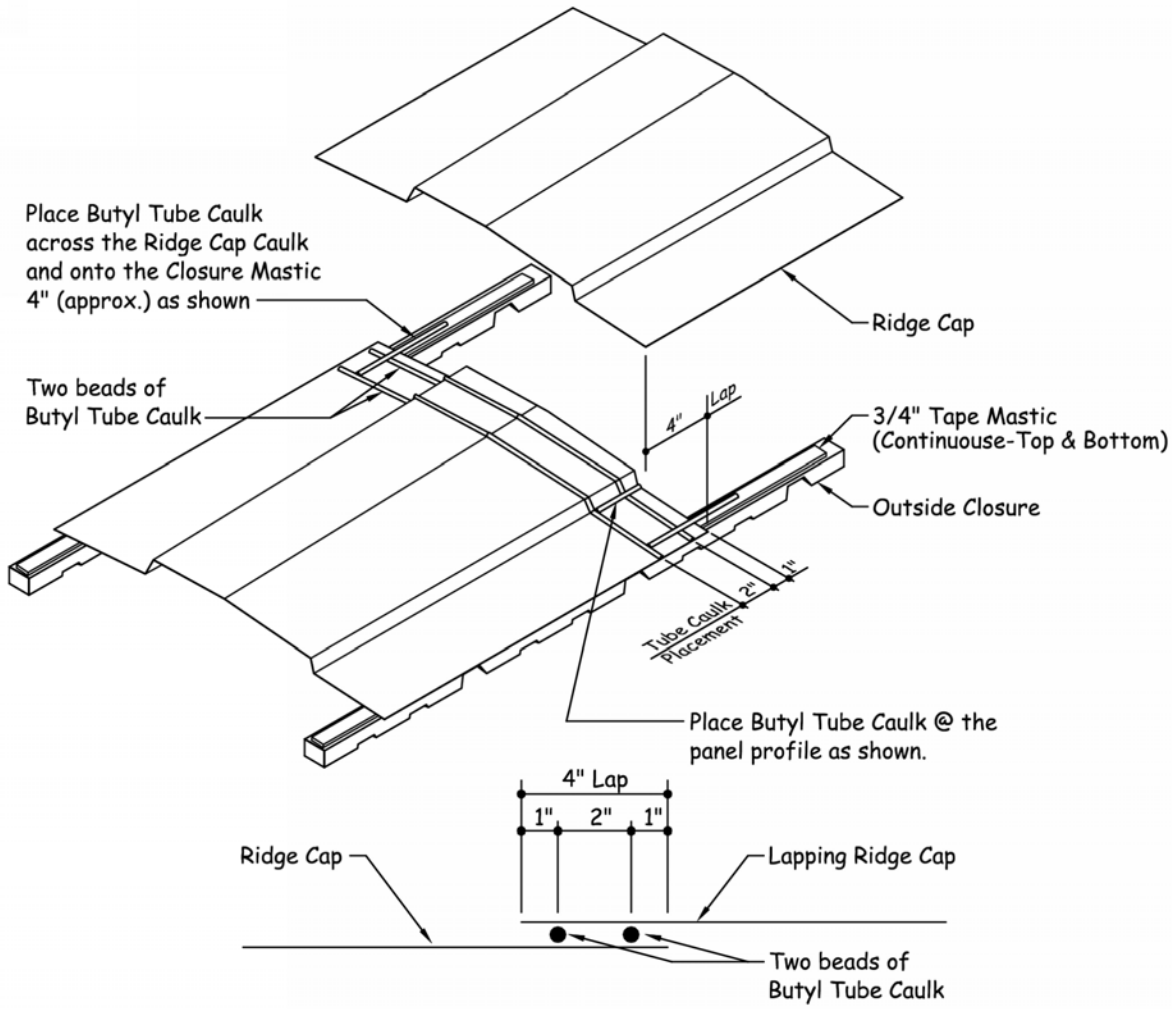
FIGURE "A"



4.12 PRESS-BROKE RIDGE CAP LAP DETAIL

The ridge cap is to be lapped 4", utilizing (2) beads of **butyl tube caulk (H3151)**. **Also apply butyl tube caulk on the tape mastic (as shown).**

DO NOT use fasteners at ridge cap laps. Also, DO NOT lap the ridge caps at the roof panel high ribs.



RIDGE CAP LAP TUBE CAULK PLACEMENT DETAIL

4.13 HIGH EAVE TRIM INSTALLATION

- **HIGH EAVE TRIM PART NUMBERS**
- **HEB01 x 10'-1" HEB02 x 20'-2"**

Before installing the **high eave trim** (see erection drawing roof line trim details for part numbers), apply **polyurethane tube caulk (H3152)** around the perimeter of the **corner cap (H4000)** and slide it into the end of the rake trim leaving 1/2" exposed.

Apply **3/4" tape mastic (H3000)** continuously across the top and bottom of the closures the full length of the roof. Remove the paper backing on the mastic that is on top of the closures only as work progresses.

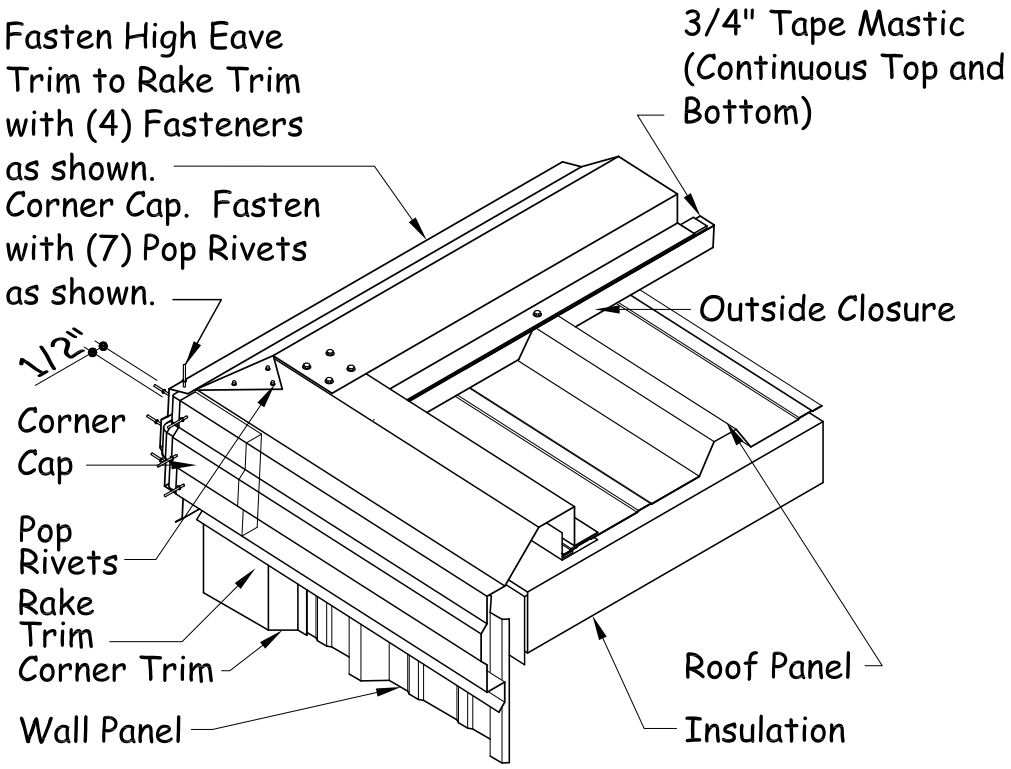
Lay the high eave trim over the mastic and closures and fasten at the panel **HIGH** ribs with trim-colored **self-drilling screws (H1050)** at 12" on center. **NOTE: The trim must be properly positioned before touching the mastic. Mastic cannot be reused.**

Field cope the high eave trim the same as the rake trim, with an additional cut to form tab **"A"**.

Fold the sloped face of the high eave trim over the sloped face of the rake trim. Caulk all around with **polyurethane tube caulk (H3152)** and then fasten with (3) pop rivets **(H1100)**.

Fasten the high eave trim and the rake trim to the metal corner cap with (7) **pop rivets (H1100)**. Fasten the top leg of trim with (6) trim-colored **self-drilling screws (H1060)**.

NOTE:
Field bend the top leg of the High Eave trim over the sloped leg of the Rake Trim and attach with (3) Pop Rivets.



4.14 RAKE PARAPET TRIM INSTALLATION, WITH AND WITHOUT GUTTER

Stop the gutter 1/2" short of the inside face of the parapet wall.

Apply **polyurethane tube caulk (H3152)** around the perimeter of the **corner cap (H4000)** and install it in the gutter, leaving 1/2" exposed at the end. Fasten with (10) **pop rivets (H1100)**.

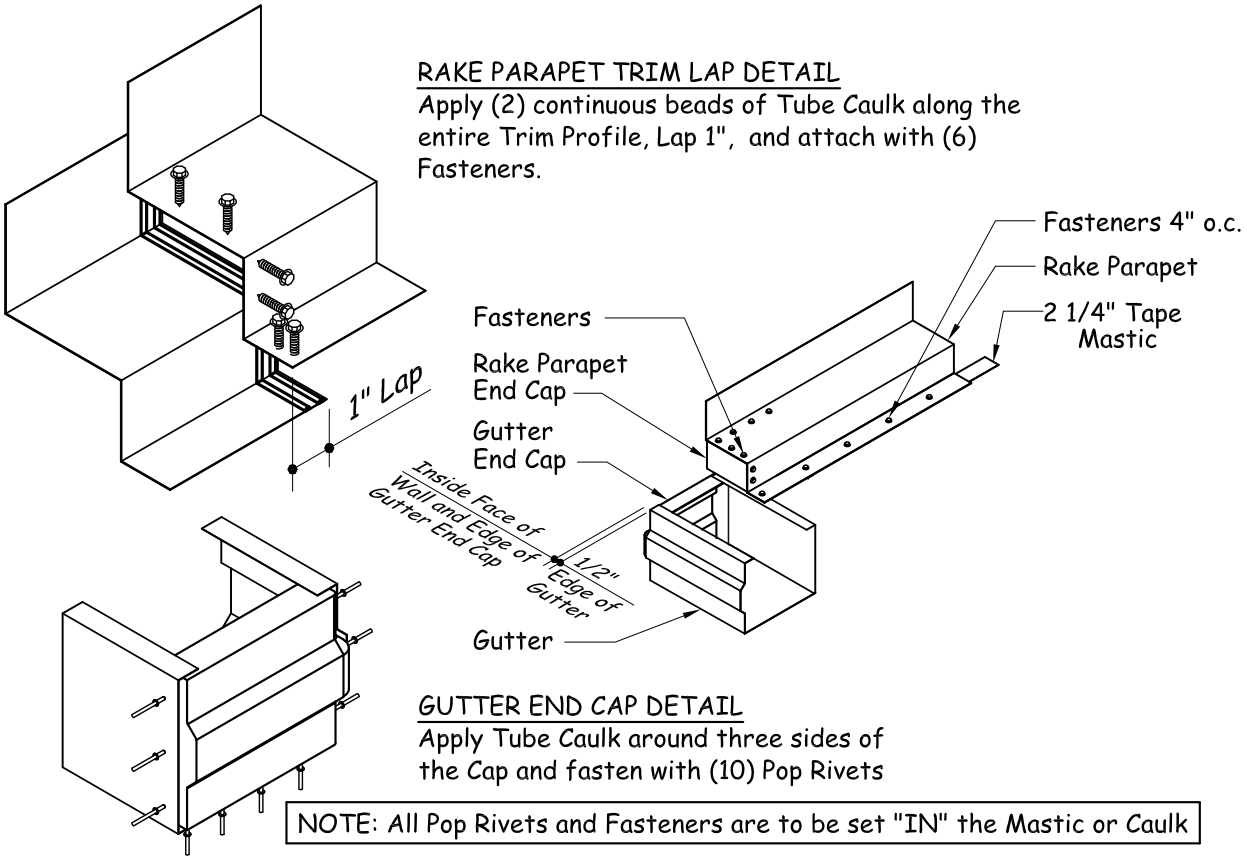
Apply continuous **2 1/4" tape mastic (H3020)** to the bottom leg of the **rake parapet trim (RPA01)** and position it flush with the end of the roof panel.

NOTE: The trim must be properly positioned before touching the mastic to the roof panel. Mastic cannot be reused!

Fasten to the roof panel with **self-drilling screws (H1050)** at 4" on center. Apply **polyurethane tube caulk (H3152)** around the perimeter of the **rake parapet cap (*)** and slide it into place. Fasten with (9) trim-colored **self-drilling screws (H1050)**.

(*) RAKE PARAPET CAP PART NUMBERS:
RCB01-LEFT
RCBO2-RIGHT

If your building does not have gutter, these same instructions apply. However, you will not need the gutter end cap (H4000).



4.15 RAKE PARAPET TRIM /RIDGE TRANSITION AT DIE-FORMED RIDGE CAP

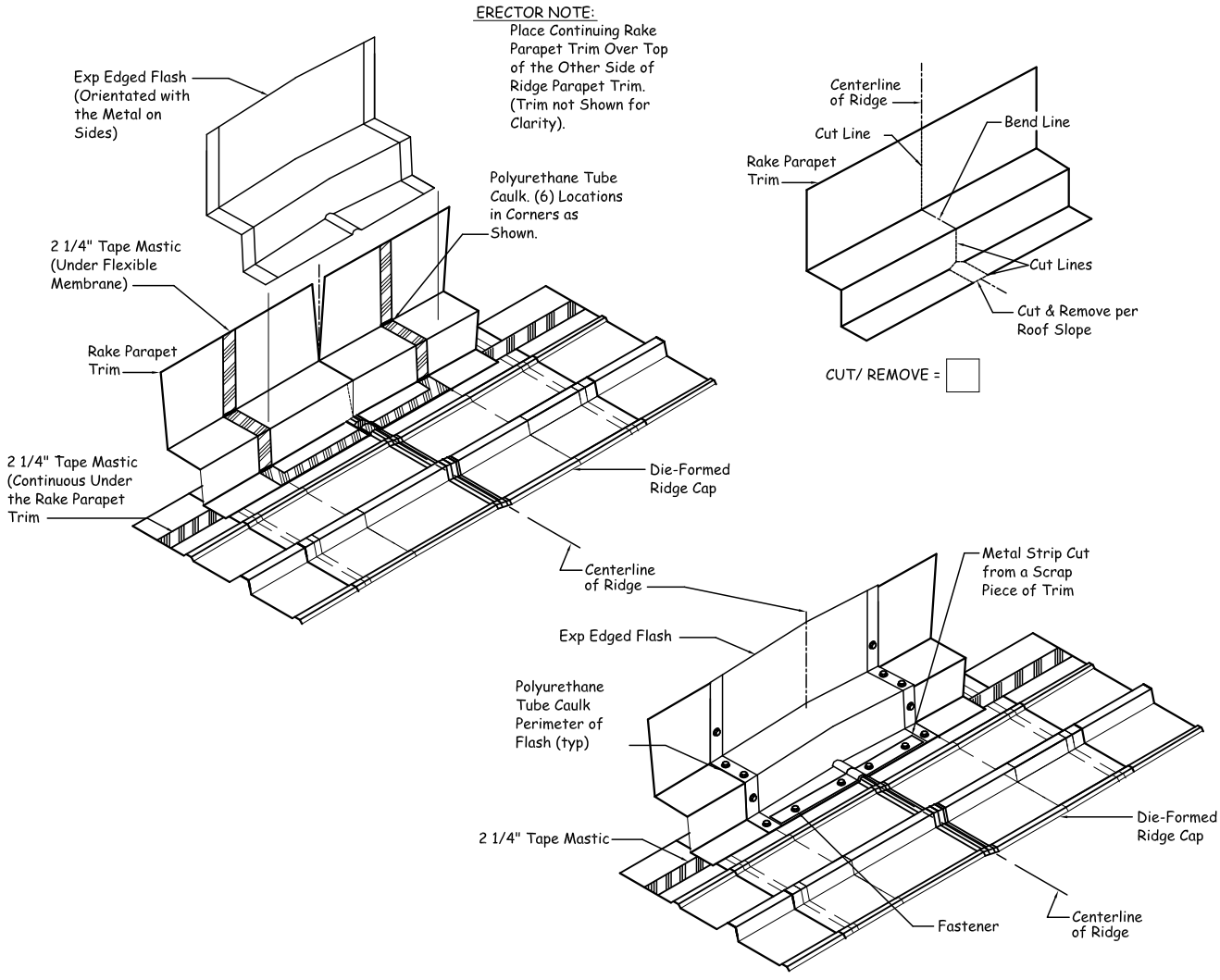
If your building has a ridge, run the **rake parapet trim (RPA01)** to the centerline of ridge. If running trim past ridge centerline, field notch (as shown) and place on top of other side of the ridge parapet trim. (Trim not shown for clarity)

If your building is single slope, stop the **rake parapet trim (RPA01)** flush with the inside face of the parapet wall.

To install the **expandable edged flash, (RPT12)** apply **2 ¼" tape mastic (H3020)** to rake parapet trim as shown. Next apply generous bead of **polyurethane tube caulk (H3152)** to the corners rake parapet trim. Form the Exp Edged Flash into the shape of the parapet trim & center the over the ridge. Fasten with (14) trim-colored **self-drilling screws (H1050)**.

Cut a metal strip piece from a piece of scrap and place on the end the membrane and fasten as shown.

Finish by caulking the perimeter of the membrane with **polyurethane tube caulk (H3152.)**



4.16 RAKE PARAPET TRIM TERMINATION AT PRESS-BROKE RIDGE CAP

Start by running the rake parapet angle **(MAP01)** to the centerline of ridge. (Low Slope)

On higher slope buildings, run parapet angle past ridge and cope bottom leg so that there is not a large gap on the back of the rake angle.

If your building has a ridge, extend the **rake parapet trim (RPA01)** to the centerline of ridge.

If your building is a **single slope**, stop the **rake parapet trim (RPA01)** flush with the inside face of the parapet wall.

Start the ridge cap by field notching the first piece of ridge cap as shown in **FIG. A**. Bend all tabs 90°.

Before installing the ridge cap, apply **¾" tape mastic (H3000)** continuously across the top and bottom of the outside closures the full length of the roof. Place the tape mastic and closures **7"** from the ridge centerline.

Place **¾" tape mastic (H3000)** between the face of the parapet trim and tab "B".

Center the ridge cap over the closures and tightly against the face of the rake parapet trim. Fasten Tab "B" to the face of the parapet rake trim with (1) trim colored **self-drilling screw (H1050).** Place a bead of **polyurethane tube caulk (H3152)** between Tab "A" and Tab "B" and fasten through the tabs and into the **rake parapet trim (RPA01)** with (1) trim colored **self-drilling screw (H1050)**. Repeat these steps for the other side of the ridge cap.

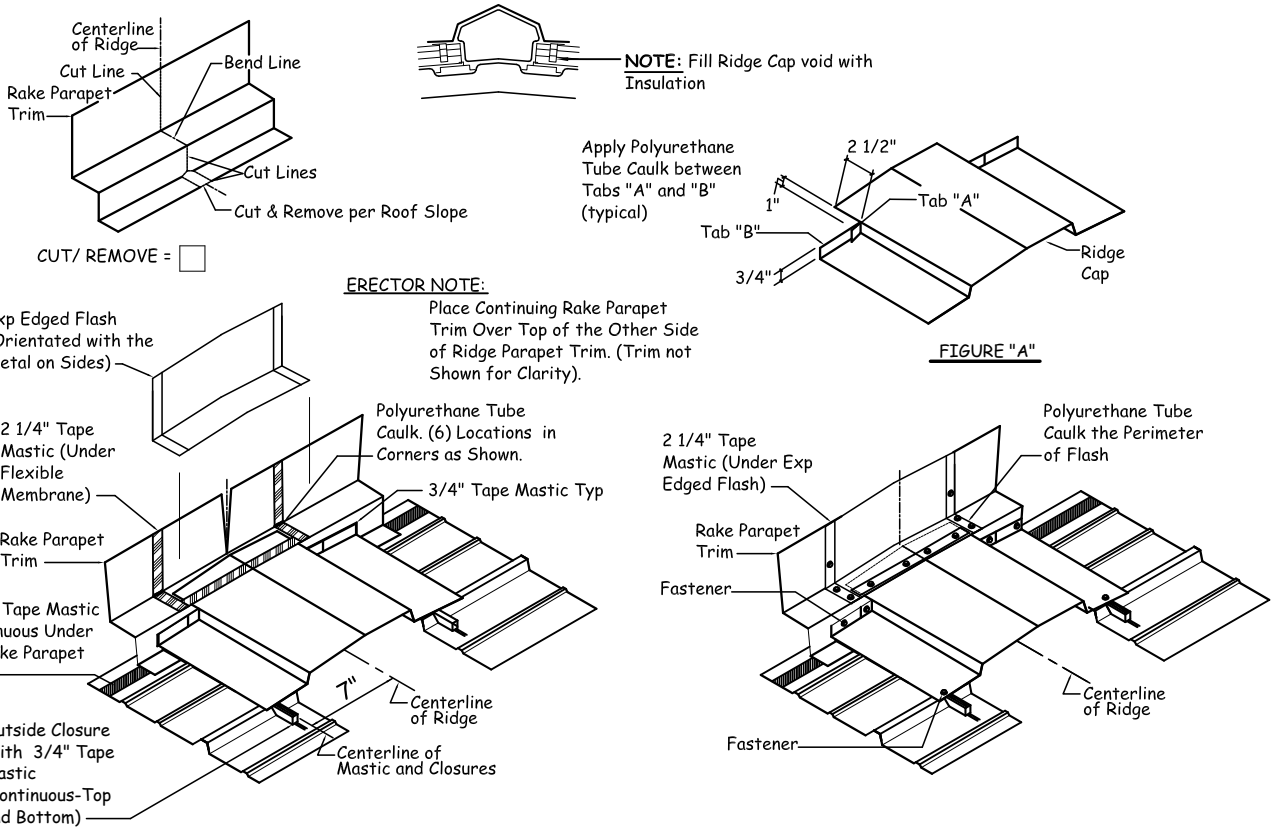
Continue fastening the ridge cap at the **HIGH** ribs with trim-colored **self-drilling screws (H1050)** at 12" on center.

NOTE: THE RIDGE CAP MUST BE PROPERLY POSITIONED BEFORE TOUCHING THE MASTIC. REMOVE THE PAPER BACKING ON THE TOP OF THE CLOSURES ONLY AS WORK PROGRESSES. MASTIC CANNOT BE RE-USED.

To install the **expandable edged flash, (RPT12)** apply 2 ¼" **tape mastic (H3020)** to rake parapet trim as shown. Next, apply generous bead of **polyurethane tube caulk (H3152)** to the corners rake parapet trim. Form the Exp Edged Flash into the shape of the upper part of parapet trim & center the over the ridge cap. Fasten with (10) trim-colored **self-drilling screws (H1050)**.

Cut a metal strip piece from a piece of scrap and place on the end the membrane and fasten as shown.

Caulk the perimeter of the **Exp Edged Flash (RPT12)** with **H3152** poly tube caulk.



4.17 HIGH EAVE PARAPET TRIM INSTALLATION

Temporarily place the high eave parapet trim in position to determine the correct location of the outside closures. The closures should be 2" away from the low end of the trim as shown below.

Apply **3/4" tape mastic (H3000)** continuously across the top and bottom of the closures the full length of the roof.

STOP! Field mitering of the high eave parapet trim is required before installing.

Field cut and form tabs **"A", "B","C",** and **"D"** as shown below.

Apply a piece of **2 ¼" tape mastic (H3020)** to the rake parapet trim as shown. Next, apply a bead of **polyurethane tube caulk (H3152)** on Tab "A". Place the **high eave parapet trim (HP_01)** over the closures and tightly against the rake parapet trim and fasten with (4) trim colored **self-drilling screws (H1050**).

Apply a bead of **polyurethane tube caulk (H3152)** between Tab "A" and Tab "B" and fasten Tab "B" with (1) trim colored **self-drilling screw (H1050**). Next, apply a bead of **polyurethane tube caulk (H3152)** between Tab "C" and Tab "D" and fasten Tab "D" with (1) trim colored **self-drilling screw (H1050).**

Fasten the high eave parapet trim at the panel **HIGH** ribs with trim colored **self-drilling screws (H1050)** at 12" on center.

NOTE: The trim must be properly positioned before touching the mastic. Remove paper backing only as work progresses. Mastic cannot be reused.