

# CONSTRUCTION METAL PRODUCTS INC.

Metal Roofing | Metal Walls | Custom Fabrication

INSTALLATION GUIDE &  
MAINTENANCE MANUAL

**STANDING SEAM -  
TEE, 1000, 1500, 2000,  
2500, 2750, 3000**



**CMP**

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## 2.1 GENERAL

This manual provides instructions for the installation of CMP's metal roof systems. Reference to the technical specifications may be necessary to ensure that the finished roof system is installed in compliance with CMP's warranty requirements.

CMP Metal Roof Systems require special considerations with regards to fasteners, insulations, underlayment, and attachment requirements. These requirements are provided as a part of this application guide.

### APPLICABILITY

A. Parameters of this manual outline the minimum requirements for a CMP water-tightness warranty. Local code and insurance requirements may require specific enhancements for a given performance level.

B. Statements in this Application Guide are provided in good faith with the expectation that a design professional be consulted before any job decisions are made.

C. The metal roof system shall consist of CMP: S3000, S2750, S2500, S2500C or S-2000 Metal Roof Systems, all with in seam sealant over full I&W Underlayment on roofs with a pitch of 3/12 or less. Roofs with a pitch of 3.5/12 or greater require 30lb felt for the field and I&W underlayment at all details and penetrations.

D. CMP warranted metal roof systems may or may not be applicable, without special consideration, if subject to local, regional, or national building code, testing agencies, or insurance companies' requirements.

E. It is the building owner's or the design professional's responsibility to consult with the controlling code agency official(s) and others to determine the specific requirements of each project and each system.

F. The following conditions require special consideration and may not be warrantable.

## Contact our QA department if any of the following conditions are present:

1. Roofs that do not meet the minimum slope and/or exceed the maximum height limits for the CMP Metal Roof system assembly.
2. Projects that require special wind or severe weather coverage.
3. Roofs located where localized wind phenomena may occur. Reference ASCE7 wind maps and local building officials.
4. Roofs located down slope, foothills, mountain ranges, or escarpments.
5. Buildings with large openings in a wall (greater than 10% of the wall surface).
6. Roofs are subject to positive pressure situations such as pressurized buildings, distribution centers, laboratories, etc.
7. Buildings with high interior humidity such as swimming pools, paper mills or textile mills.
8. Roof decks that do not provide adequate fastener pullout resistance.
9. Roofs with domes, barrels or swales, or other unusual shapes.
10. Cold storage and freezer facilities.

## 2.2 JOBSITE CONSIDERATIONS

- A. Keep all adhesives, sealants, and cleaning materials away from ALL ignition sources (e.g. a flame, fire, sparks and static, etc.).
- B. Consult container labels, MSDS, and Product Information Sheets for specific safety instructions for all products used on the project.
- C. Care must be used when installing fasteners to avoid possible conduits and other piping in or under the deck.
- D. Do not use oil base or roof cement with the CMP Metal Roof Systems.
- E. Insulation must be properly stored and protected from ignition sources, moisture, and damage.
- F. Store all materials and accessories above ground on supported platforms that provide a minimum of 1/4:12 slope.
- G. Keep materials under waterproof covering or indoors and provide proper ventilation of the metal roofing system to prevent condensation buildup between each panel, trim, or flashing component.



H. Do not allow other incompatible metals to interact with the Metal Roof System components.

## 2.3 SAFETY

A. Serious injury or death can result if the proper safety equipment is not provided.

B. Safety is the top priority. Walking on any roof system can be dangerous. Always use a method of fall protection that will meet the approved Occupational Safety and Health Administration (OSHA) standards or any regulatory agency responsible for your building.

C. It is your responsibility as an owner or employer to make sure that proper training of your maintenance personnel and other employees is adequate for safety procedures and that safety equipment is in proper working condition.

D. During roof inspections, take the following precautions and any others deemed appropriate by the governing authority:

1. Use fall protection and all appropriate safety equipment as agencies and/or job sites require.
2. Assure proper footwear usage and keep treads and soles clean.
3. Never walk on ribs, eaves, rake, valley, hip, or ridge flashings.
4. Never walk or stand on any skylight, fiberglass-type panel or any other component not designed to support the weight of a person.
5. Rope off open areas or assign a person to guard these locations during the inspection process to prevent accidental injury, both on the roof and the perimeter of any openings within the roof area.
6. Never go on a roof with any moisture or any other substance present that may cause unsure footing.

## 2.4 PREPARATION

### A. Preparatory Requirements



1. Most of our roof systems require field seaming. Electric seamers for our systems are available from a qualified distributor (contact CMP). Other types of similar styles of field seaming machines may NOT properly seam the panels, and CMP cannot be responsible for any damage caused by using another type of field seamer.
2. The substrate must be no more than ¼" in 10' out of a plane in any direction. Adjacent decking shall not be more than 1/8" out of the plane. Out of specified plane areas will need corrective action before proceeding.
3. The building must be checked for "squareness" within acceptable standard practices. Out-of-square roofing areas will require adjustments in the installation of the system to accommodate irregularities or the structure will need corrective action.
4. Verify that the purlins under the decks at the ridge and end laps are installed as detailed and that they are straight from rafter to rafter. Misplacement or swaying of the members will cause the fasteners to fail at the ridge or end laps as the panels expand, contract, and possibly deform the roof panel itself.

## **B. Cautions**

1. Be aware of roof panel fixity and don't restrict the thermal expansion and contraction of the roof panels.
2. Do not rigidly attach panels to the substrate at both ends or restrict panel movement. Refer to specifications, construction details, design professionals, and CMP as needed for verification of requirements.
3. Adjust panel length to account for the movement range of system components and flashing details.
4. On clear span and open frame type structures, do not fasten roof panels through the insulation to primary decking. Conversely, install a deck board, and fasten roofing to it to minimize sound transmission. Large clear span areas with steel decking systems that require fastening panels to decking may result in clattering sounds due to the transmission of thermal movement of the roof system acting on the diaphragm.

## **C. Substrate Defects**

1. Defects that need to be corrected before work can commence should be brought to the attention of the General Contractor or Owner in writing and addressed by them.



2. Roof reconstruction projects shall require the complete removal of the existing roof system. Recover applications are not acceptable for warranted CMP roof systems.

## **D. Moisture & Matter Removal**

1. Water, snow, frost, dew, ice, dust, dirt, or other foreign materials must be removed before installing the CMP Roof System.

## **E. Substrate Preparation**

1. Acceptable substrates to which the CMP Roof System is installed must be properly prepared before accepting underlayment or roof system installation. The surface must be relatively even (no more than 1/4" (6.4 mm) in 10' (3.05 m) out of a plane in any direction or more than 1/8" (3 mm) out of the plane of adjacent substrates), clean, dry, smooth and free of sharp edges, fins, loose or foreign materials, oil, grease and other materials that may damage the metal roof system. Rough or irregular surfaces that could cause damage to the roof panel must be overlaid with insulation or a deck board.

## **F. Underlayment Installation**

1. Install CMP approved underlayment, appropriate to the substrate and warranty term. Refer to the "Approved Accessories Section" for product listing. Follow the underlayment manufacturer's directions and installation instructions.

## **2.5 MATERIAL HANDLING**

### **A. Shipping & Delivery**

1. Metal panels are shipped with the panels stacked vertically, on edge, up to 60', and braced as needed for stability.
2. Board and Band: 2 x 4s are strapped under the bundles to allow access for straps or a forklift. Bundles less than 30' long may be handled by a single forklift. The forklift should have at least 5' between forks. Bundles longer than 30' should be lifted utilizing a spreader bar with appropriate straps evenly spaced & attached roughly 25% from each end of the bundle.

## B. Staging of Materials

1. Materials should be placed at jobsite in such a way as to minimize handling.
2. Position crates or bundles with the panels in the correct position to be loaded directly on the roof without any additional turning or flipping.
3. Space materials out to limit having to shift on the ground or roof. Check load limits of the structure to distribute the load evenly and not exceed building limits.
4. Assure all accessory items are conveniently located, so crewmembers will not have to leave the area or cross over the newly installed work.

## C. Handling

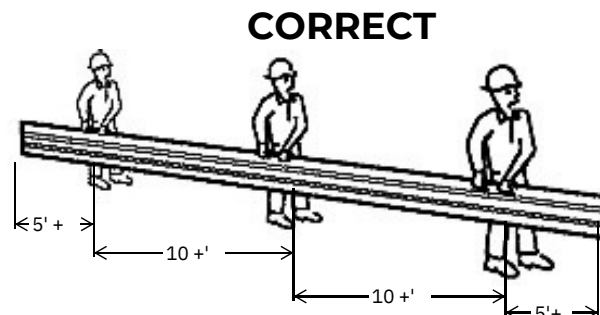
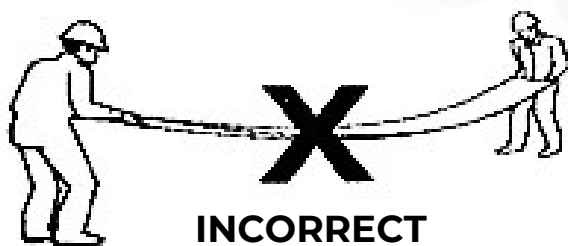
To safely and correctly handle roof panels, please follow to the procedures outlined in Fig. 2.5.2.

**Figure 2.5.2**  
**PANEL HANDLING**

Panel Length	6' or Less	6' to 15'	15' to 30'	31' to 45'	45' +
Crewmen	1	2 - 3	3 - 4	4 - 5	4 +

Handling of panels and the number of crewmen required are a function of panel length and width, combined with the experience of the crew.

Ensure metal panel does not bend in any direction, up, down or torque, from its shipped or formed shape and maintains it throughout the transportation and installation process.

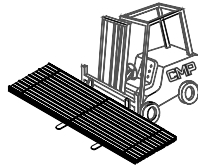




## D. Unloading, Moving & Hauling

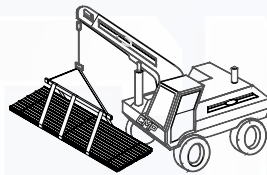
To safely and correctly haul and move roof panels, please follow to these procedures. Figure 2.5.1

- Forklift Method



Before attempting unloading and the subsequent transporting of the Roof and wall Panels, carefully inspect and select all taxi and staging areas that are reasonably level with firm compacted surfaces without ruts and excavations. When loading/unloading bundles or crates of lengths up to 30' use a single forklift with wide-spaced forks equally positioned under the center of the crate/bundle. Crates/ bundles in excess of 30' can be handled with two forklifts spaced at equal intervals for the crate/bundle. Handle the crate/bundles one at a time to avoid product damage and maintain safety.

- Crane Method



When loading/unloading using a crane or other overhead lift devices use nylon lift straps equally positioned under the center of the crate/bundle. Spreader bars suitable to maintain the strap positions are to be used and should be positioned on both the top and underside of the crate/bundles with care to protect the panel edges. Experienced crane operation is critical and care must be taken to avoid jerking and snatching the crate/bundles. When lifting crates/bundles in excess of 30' with crane-type lift devices, three lift strap support points shall be required and include the use of spreaders as noted above.

### CAUTION:

- Workers must wear appropriate protective gear at all times when handling panels. Failure to do so may cause injury.
- Carry individual panels in the on-edge position. Never move panels in a flat position as excessive flexing may result and may create permanent distortions.
- When moving a solitary panel, it must be turned on its edge first and equally supported to each end with a compliment of handlers to transport the panel safely.
- Lift panels when removing from crate/bundle. Do not drag panels out of the crate/bundle or across each other or any other surfaces.

## 2.6 INSULATION & DECKBOARD INSTALLATION

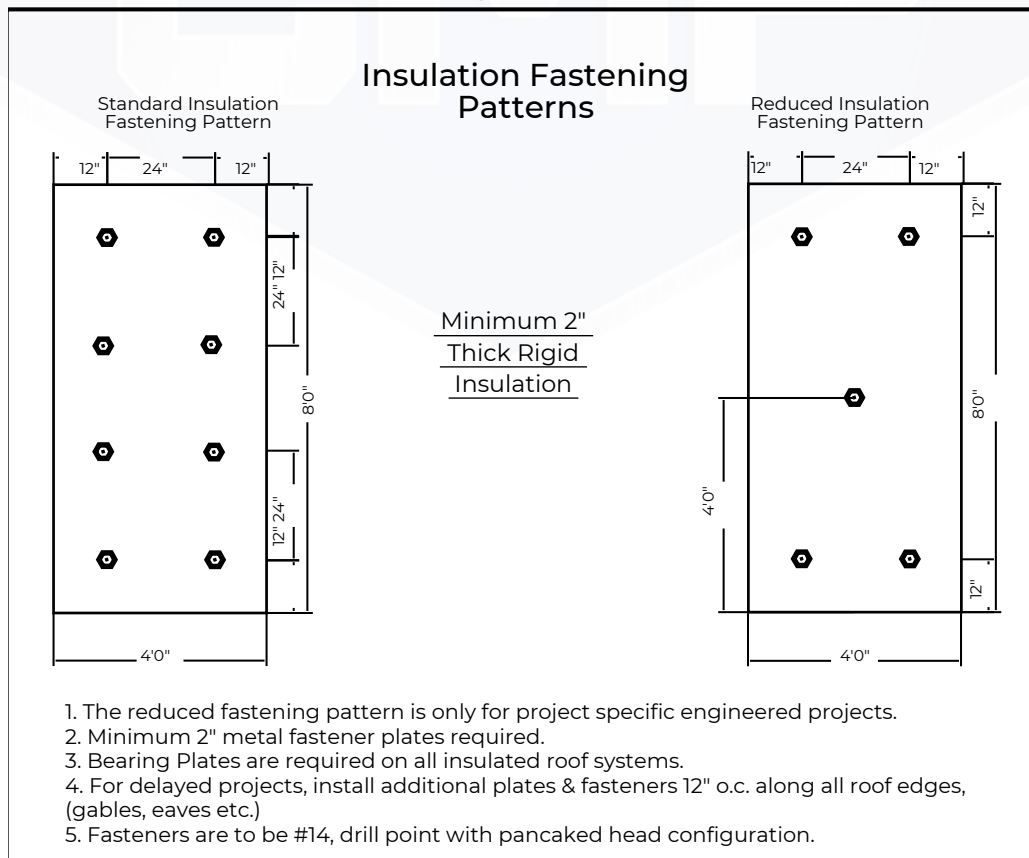
A. Install only as much insulation and/or deck board as can be covered with underlayment prior to the end of the workday or as dictated by weather conditions.

B. Neatly fit insulation to all penetrations and nailers. Insulation should be loosely fitted, with gaps greater than 1/4" (6.3 mm) filled with acceptable insulation. Depending on the thickness, insulation board edges running parallel with the deck should be supported by the top deck flute flange.

C. When installing multiple layers of insulation, all joints should be offset by half a board width, and layers must be staggered a minimum of 6" (152 mm) in both directions.

D. Using CMP approved fasteners & plates attach the insulation and/or deckboard at a rate of no less than 8 fasteners per 4' x 8' (1.2 m x 2.4 m) board. See Figure 2.6.1 for the specific insulation field attachment patterns.

**Figure 2.6.1**





## 2.7 UNDERLAYMENT INSTALLATION

A. Install CMP approved underlayment as required for the selected warranty as based on the panel selection, roof slope, and other requirements.

Start at the lowest part of the roof deck, and install the valleys first. Allow for the membrane to lay completely flat. Cut the underlayment in lengths that can easily be managed. Along the sides of the sheet, overlap the seams a minimum of 3" (76 mm). At the ends of the sheet, overlap the seams a minimum of 6" (152 mm). Peel half of the release liner off the roll diagonally and apply with heavy, even hand pressure or brooming from the center of the sheet to the outer edges. Remove the remaining release liner from the other half of the roll, and apply pressure in the same manner. For very steep slope applications, back nailing is recommended. When back nailing, be sure that all fasteners are covered by the next overlapping sheet.

B. Warranted roof systems have specific underlayment & leak Barrier requirements. Refer to the "Roof Panel Selector Guide" for field and system detail underlayment and leak barrier requirements.

## 2.8 ROOF SYSTEM INSTALLATION PROCEDURES

The following guidelines are for installing the Roof System Panels. Refer to system details for additional information. Confirm all the necessary roof components and accessories are available before the commencement of installation.




### A. Installation Procedures & Maintaining Panel Aesthetics

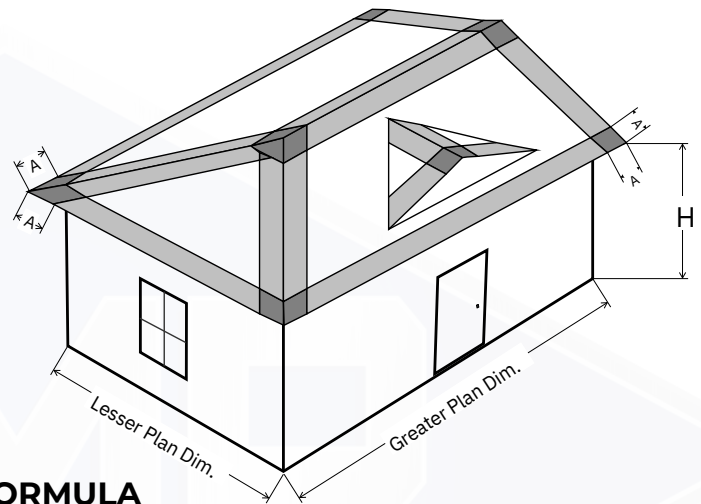
1. Assure that all substrates are within the roofing manufacturer's required or approved designs and tolerances before the commencement of work.
2. Verify that all supplied materials are as specified, approved, and ordered for the project.
3. Maintain proper care and handling methods of all materials at all times.
4. Use only approved powered installation tools (screw guns, drills etc.).
5. All materials shall be installed with proper clearance for thermal movements, both expansion and contraction, with the manufacturer's supplied accessories and details. These installation guidelines are not in order of application.

## DO NOT USE STANDARD DRILLS OR DRYWALL DRILLS TO INSTALL ROOF CLIP FASTENERS

Typically there can be multiple steps that require mixing the order of these instructions and details.

### B. Metal Roof Areas, Corners, Perimeter & Field

-  = FIELD AREA
-  = CORNER AREA
-  = PERIMETER AREA
- H = BUILDING HEIGHT



#### THE FORMULA

"A" is equal to the lesser value of:  
10% of the "Lesser Plan Dim."  
or  
40% of "H" the Building Height.

NOTE: "A" is never less than (40% of the "Lesser Plan Dim." or (4' minimum)

Example:

Assume the building above is 80'W x 120'L x 16'H.

The "Lesser Plan Dim." would be 80' and 10% of that would equal 8'

The Building Height "H" is 16' and 40% of that would equal 6.4'

Given that 6.4' is less than 8' and is greater than the Absolute Minimum of 4',

"A" then would be 6.4'.

## 2.9 FLASHING ELEMENTS

### A. General

1. Remove any existing flashing (i.e., metal, bituminous materials, mastic, sealants, etc.).
2. Flash all penetrations that pass through the roof panel.
3. Relocate any penetration that will be within 3" (77 mm) of a roof panel side seam.
4. The flashing seal must be made directly to the metal roof penetration.

### B. Pipes, Round Supports, Steel Tubing, etc.

1. Flash penetrations with pre molded pipe boots wherever possible.
2. Refer to the "Accessories Section" for minimum and maximum pipe diameters that can be flashed with pre molded pipe boots and flashings.
3. Steel Tubing: Field fabricated pipe flashing details are acceptable when the corner radius is greater than 1/4" (6.4 mm) and the sides of the tube is less than 4" (101.6 mm). When the tube exceeds 4" (101.6 mm), use a diamond platform or a standard curb detail.
4. Additional flashing elements may be required for pipes and tubes based on the warranty requirements.

### C. Expansion Joints

1. Install expansion joints in accordance with CMP details and where indicated.
2. If an E/J intersects a valley and fails to continue through the roof ridge and eave, do not continue and contact CMP's QA department immediately.

### D. Fastener, Clip & Bearing Plate Installation (if applicable)

1. Install roof panel retainer clips as required to accommodate the wind uplift specifications and warranty requirements.
2. Verify the clip is appropriate for the roof panel selected. Install the clip onto the seam of the roof panel and position the base snugly against the side seam.
3. Verify fasteners are of the correct type to penetrate the roofing substrate. Verify the fastener length is sufficient to penetrate the substrate as required.
  - a. Steel roof decks: Fasteners must have a minimum of three (3) complete threads exposed below the substrate.



- b. Steel roof decks with Insulation: Fasteners must have a minimum of 3/4" exposed below the substrate.
- c. Wooden roof decks: Fasteners must have a minimum of 3/4" exposed below the substrate.
- 4. Install the first row of clips within 6" of the Eave, Ridge, High Eave & Valley conditions.
- 5. Bearing Plates: Install CMP bearing plates beneath clips on all insulated systems.
- 6. Install 2 fasteners with a torque limiting, clutch type screw guns,

## **E. Snow Guards**

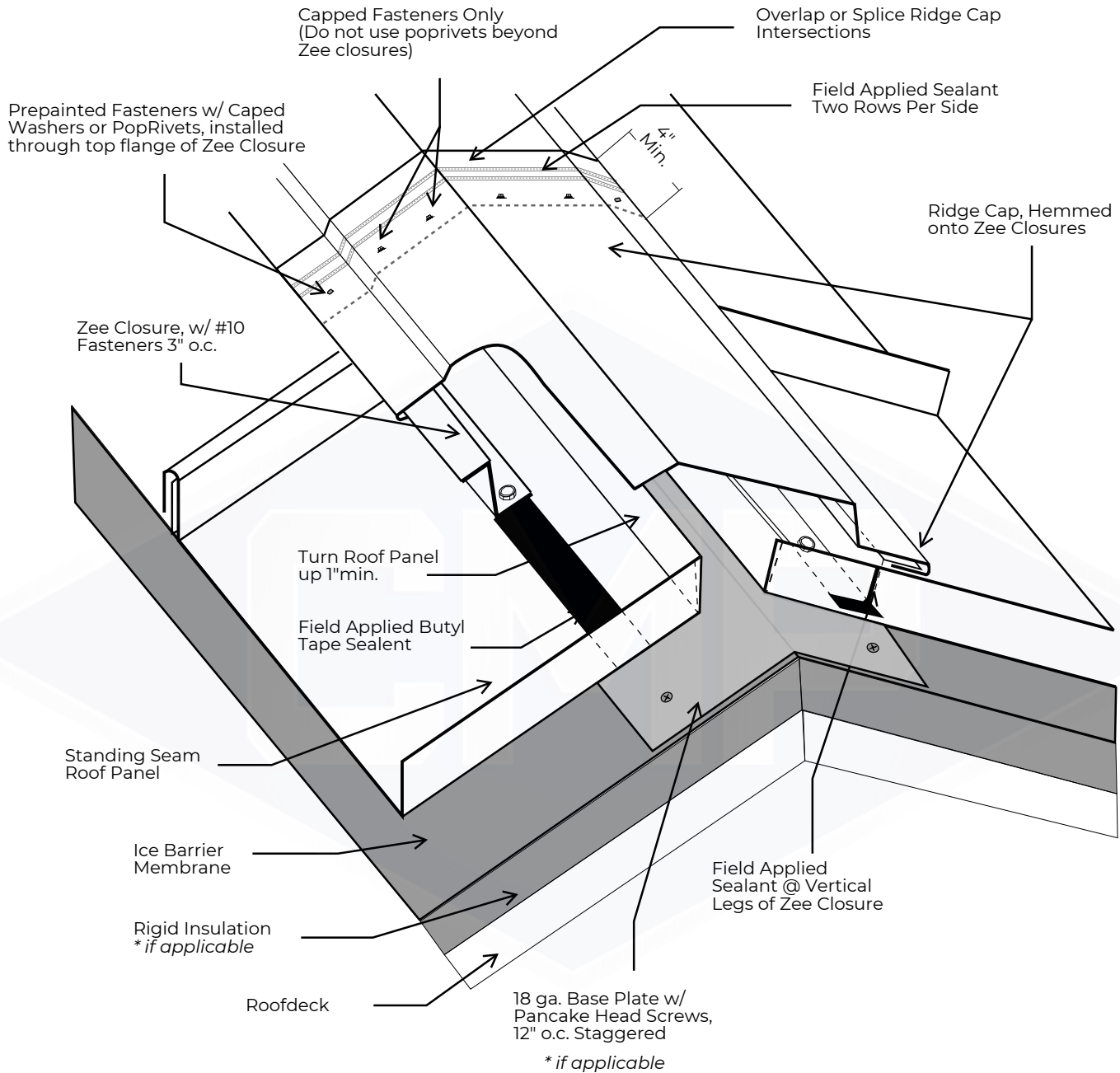
- 1. Snow Guards with mechanical fastening elements must be of a non-penetrating type and one that does not penetrate the roof panel itself or the panel side seams.
- 2. Mechanically attached snow guard systems that fasten through the panel are unacceptable and may void the warranty.
- 3. Adhesive attachment of snow guards to roof panels is acceptable but are not covered under any CMP roof system warranty or paint/finish warranty.

Drywall screw guns & drills without torque limiters & auto stop are strictly prohibited

- 1. Do not over torque clip fasteners. Overdriving clip fasteners can crimp and compromise the panel side seam, causing the roof panels to bind, deform and create undulations or field effect oil canning. Slowly drive fasteners and tighten only enough to allow the clip top to contact the panel side seam.
- 2. Note, Follow all local building code and/or agency listings. CMP recommends that all projects be specifically engineered to determine the appropriate clip/fastener spacing for your area wind zone.

## RIDGE TRIM, HIGH PROFILE

## DETAIL #A

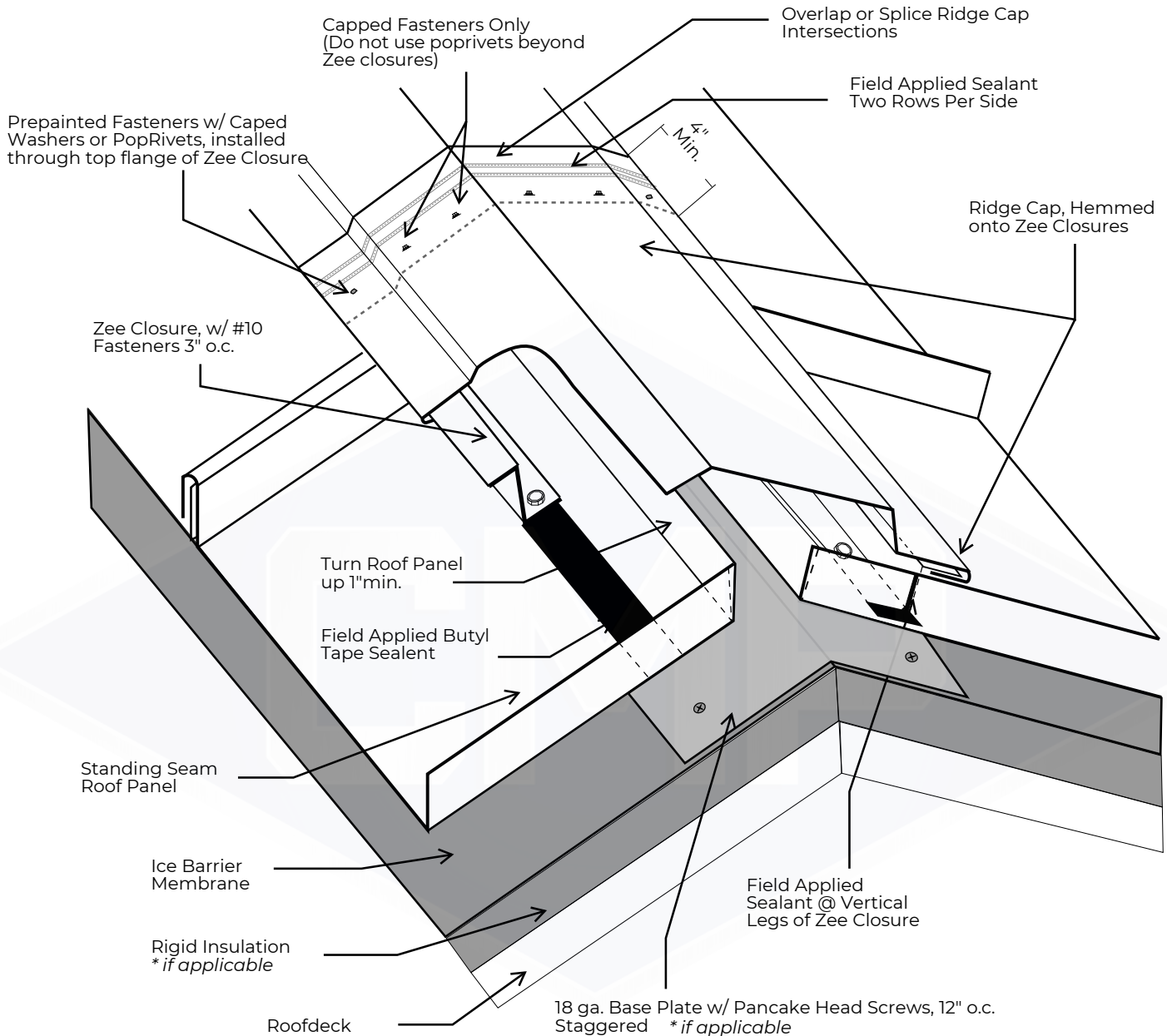


### A. Ridge Trim, "Fixed, NonVented"

1. Install 18ga min. Base Plate (required on insulated systems) centered over the roof ridge line. Fasten into roof deck with approved fasteners staggered on both sides at 12" (304.8 mm) o.c.
2. Install roof panels using appropriate specified panel clips and fasteners, noting that first clip is to be 6" (152.4 mm) max. from the centerline of hip/ridge.
3. Field hem roof panel end (breadpan) up 1" (25.4 mm) min.
4. Modify ZeeTrim to snugly fit between the roof panel side seams. Install modified ZeeTrim over double bead butyl tape, install field applied sealant at panel seam & zeetrim intersections and fasten into base plate or roof deck with approved fasteners 3" (76.2 mm) o.c.
5. Install adjacent roof panels, with field applied in seam sealant for 10" (254 mm) min. down each roof sideseam.
6. Install hip/ridge cap onto the modified zeetrim and close hem. Install 6" (152.4 mm) splice plates or lap ridge cap sections a minimum of 4", with two rows of field applied sealant. Fasten both sides of Ridge Cap with capped fasteners or rivets installed through top flange of zeetrim, at 12" o.c. or 1 per each panel.

## RIDGE TRIM, LOW PROFILE

## DETAIL #A1



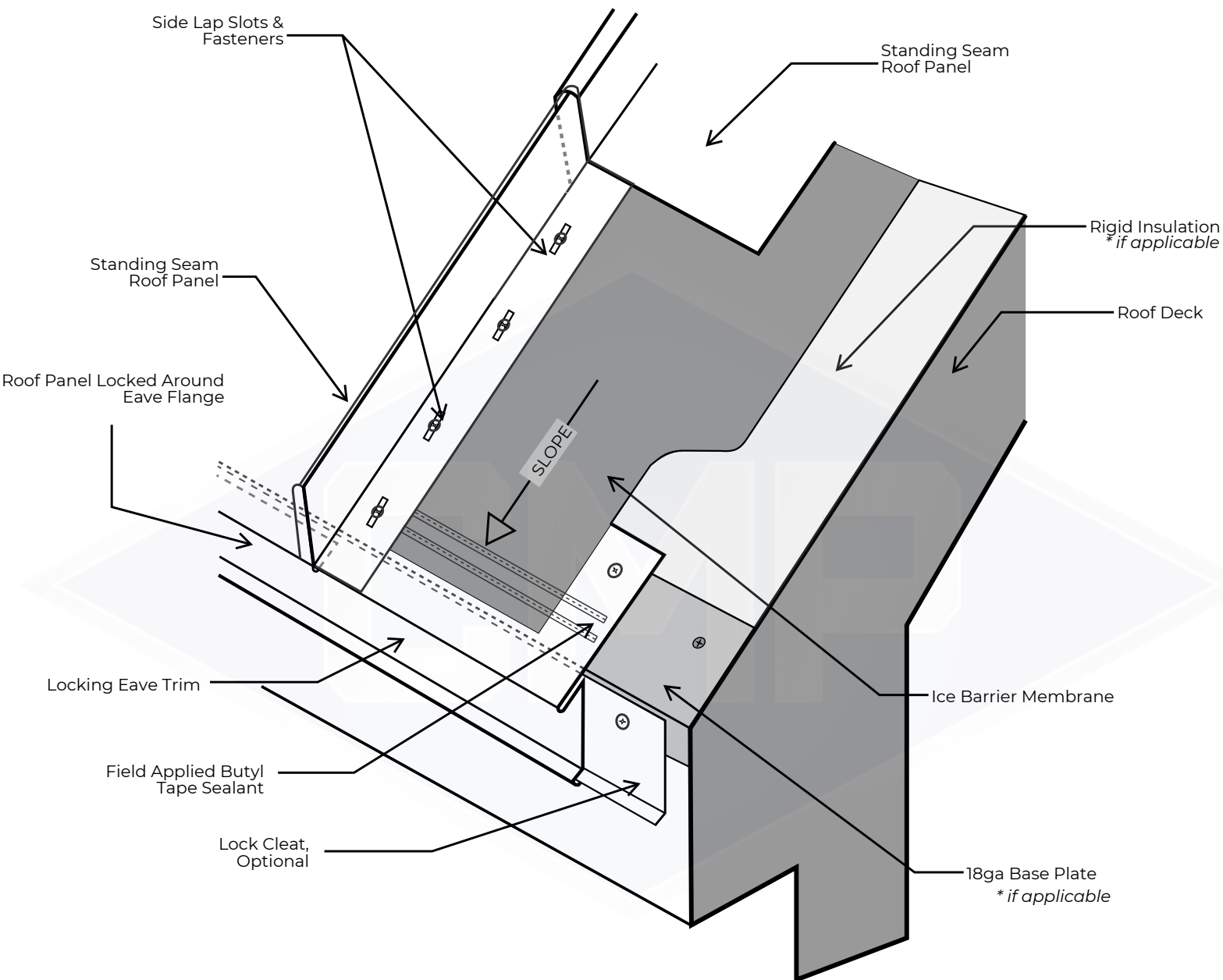
### A1. Low Profile Ridge & Hipped Ridge Trim, "Fixed, NonVented"

1. Install 18ga min. Base Plate (required on insulated systems) centered over the roof ridge line. Fasten into roof deck with approved fasteners staggered on both sides at 12" (304.8 mm) o.c.
2. Install roof panels using appropriate specified panel clips and fasteners, noting that first clip is to be 6" (152.4 mm) max. from the centerline of hip/ridge.
3. Field hem roof panel end (breadpan) up 1" (25.4 mm) min.
4. Modify ZeeTrim to snugly fit between the roof panel side seams. Install modified ZeeTrim over double bead butyl tape, install field applied sealant at panel seam & zee trim intersections and fasten into base plate or roof deck with approved fasteners 3" (76.2 mm) o.c.
5. Install adjacent roof panels, with field applied inseam sealant for 10" (254 mm) min. down each roof side seam.
6. Install hip/ridge cap onto the modified zee trims and close hem. Install 6" (152.4 mm) splice plates or lap ridge cap sections a minimum of 4", with two rows of field applied sealant.
7. Fasten both sides of Ridge Cap with capped fasteners or rivets installed through top flange of zee trim, at 12" o.c. or 1 per each panel.
8. Fasten both sides of Hip Cap with capped fasteners or rivets installed through top flange of zee trim at 12" (304.8 mm) o.c.



## LOCKING EAVE TRIM

## DETAIL #B

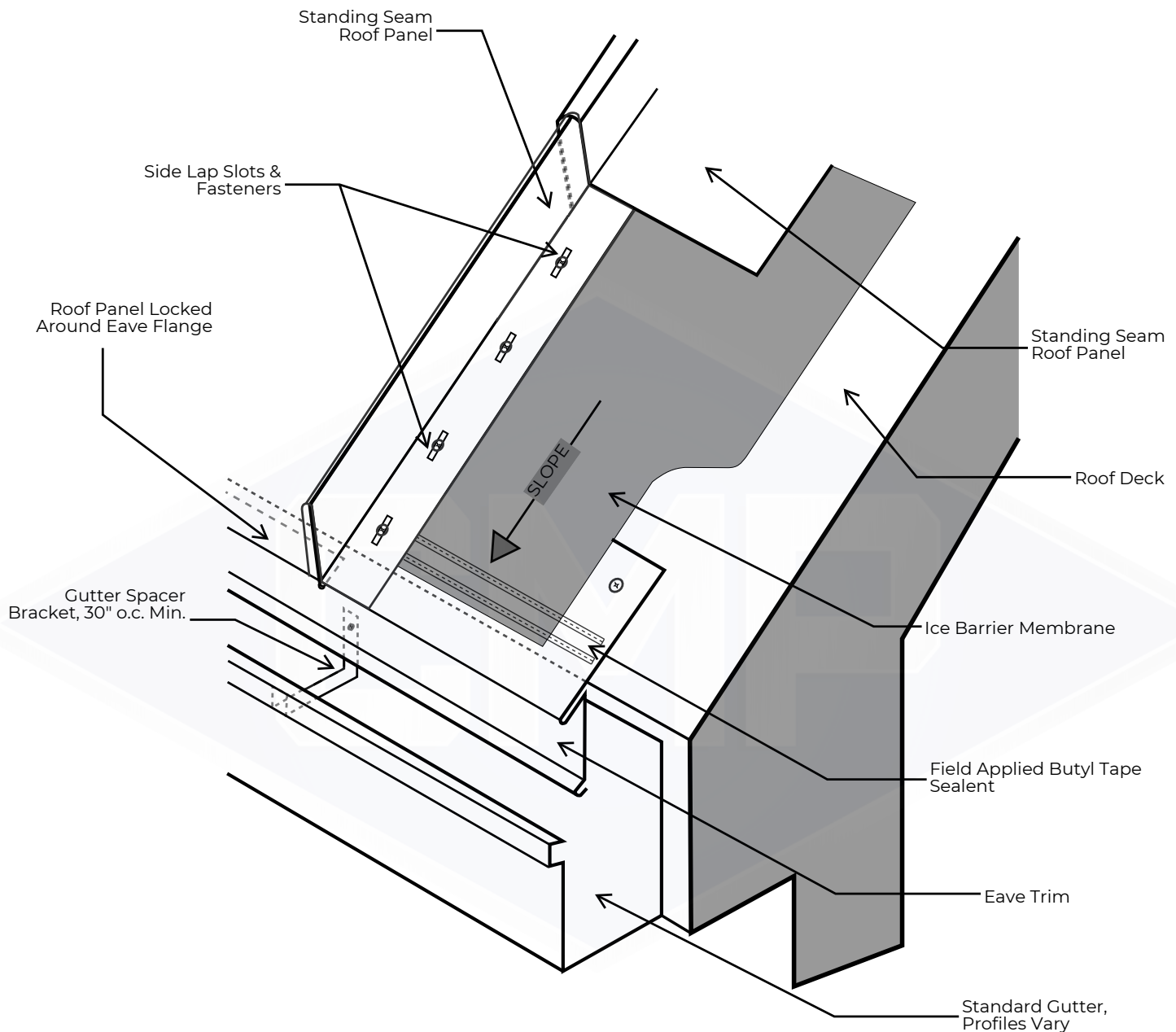


### B. Locking Eave Trim, (Fixed Ridge Systems)

1. Install optional lock cleat onto fascia and fasten with pancake head fasteners 8" (203.2 mm) o.c.
2. Install locking eave trim hemmed onto cleat (if present) and fasten with pancake head fasteners 8" (203.2 mm) o.c.
3. Install two beads of field applied noncuring sealant over top of eave trim.
4. Install panel using panel clips and fasteners, noting that the first clip is to be 6" (152.4 mm) max. from eave.
5. Hem panel over lip of eave trim flashing, with a gap to accommodate the anticipated expansion & contraction. (see Fig. ??)
6. Install adjacent roof panels, with field applied in-seam sealant for 10" (254 mm) min. up each roof panel side-seam.
7. Fold end tab of the female side-seam around end of the opposing male side-seam. Fold tabs to the inside of the side-seams.

## LOCKING EAVE TRIM WITH GUTTER

## DETAIL #B1

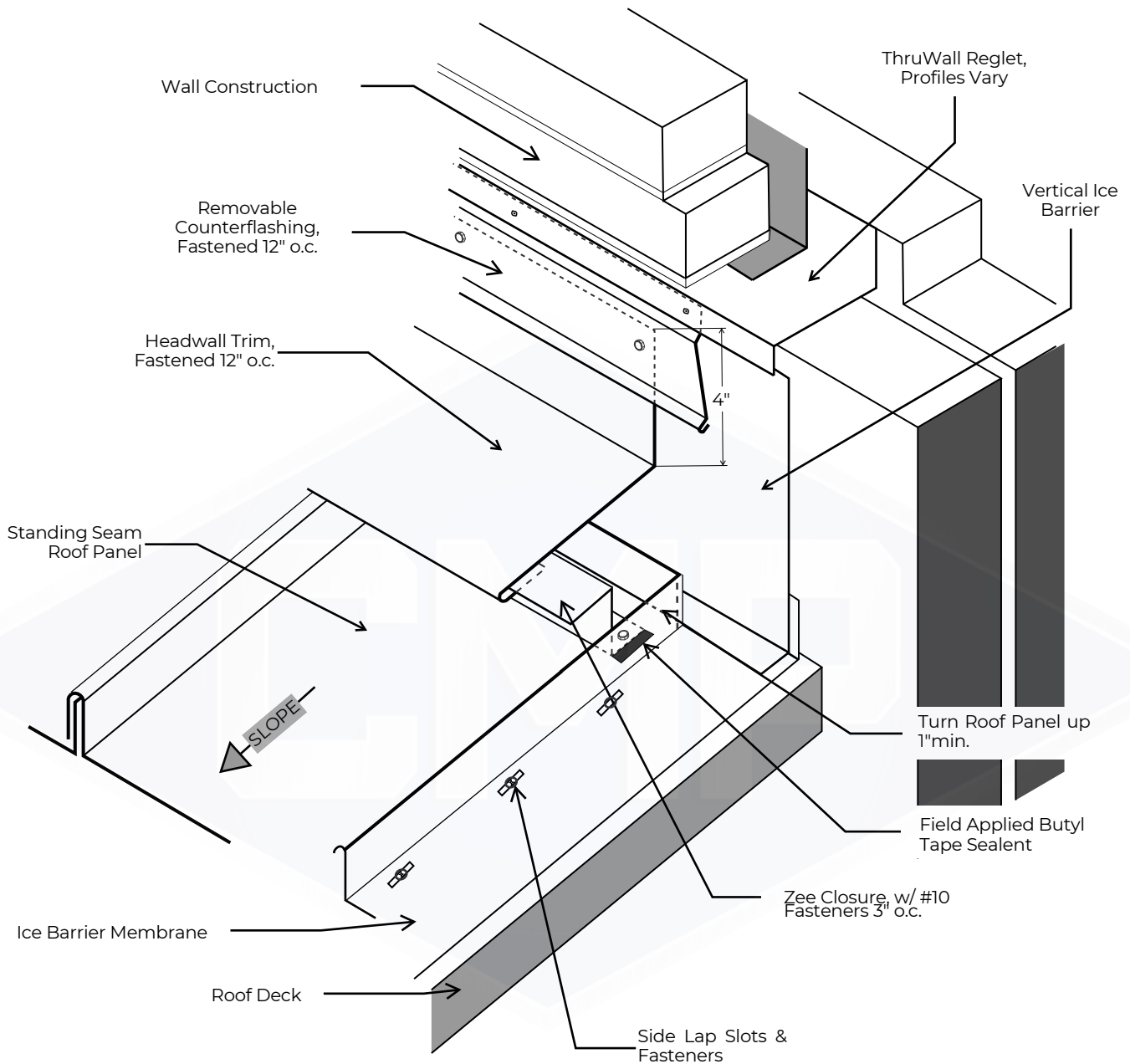


### B1. Locking Eave Trim with Gutter, (Fixed Ridge Systems)

1. Install gutter onto fascia and fasten with brackets/hangers @ 30" o.c.
2. Install locking eave trim and fasten with pancake head fasteners 8" (203.2 mm) o.c.
3. Install two beads of field applied non curring sealant over top of eave trim.
4. Install panel using panel clips and fasteners, noting that the first clip is to be 6" (152.4 mm) max. from eave.
5. Hem panel over lip of eave trim flashing, with a gap to accommodate the anticipated expansion & contraction.
6. Install adjacent roof panels, with field applied in seam sealant for 10" (254 mm) min. up each roof panel side seam.
7. Fold end tab of the female side seam around end of the opposing male side seam.

## HEADWALL FLASHING

## DETAIL #C

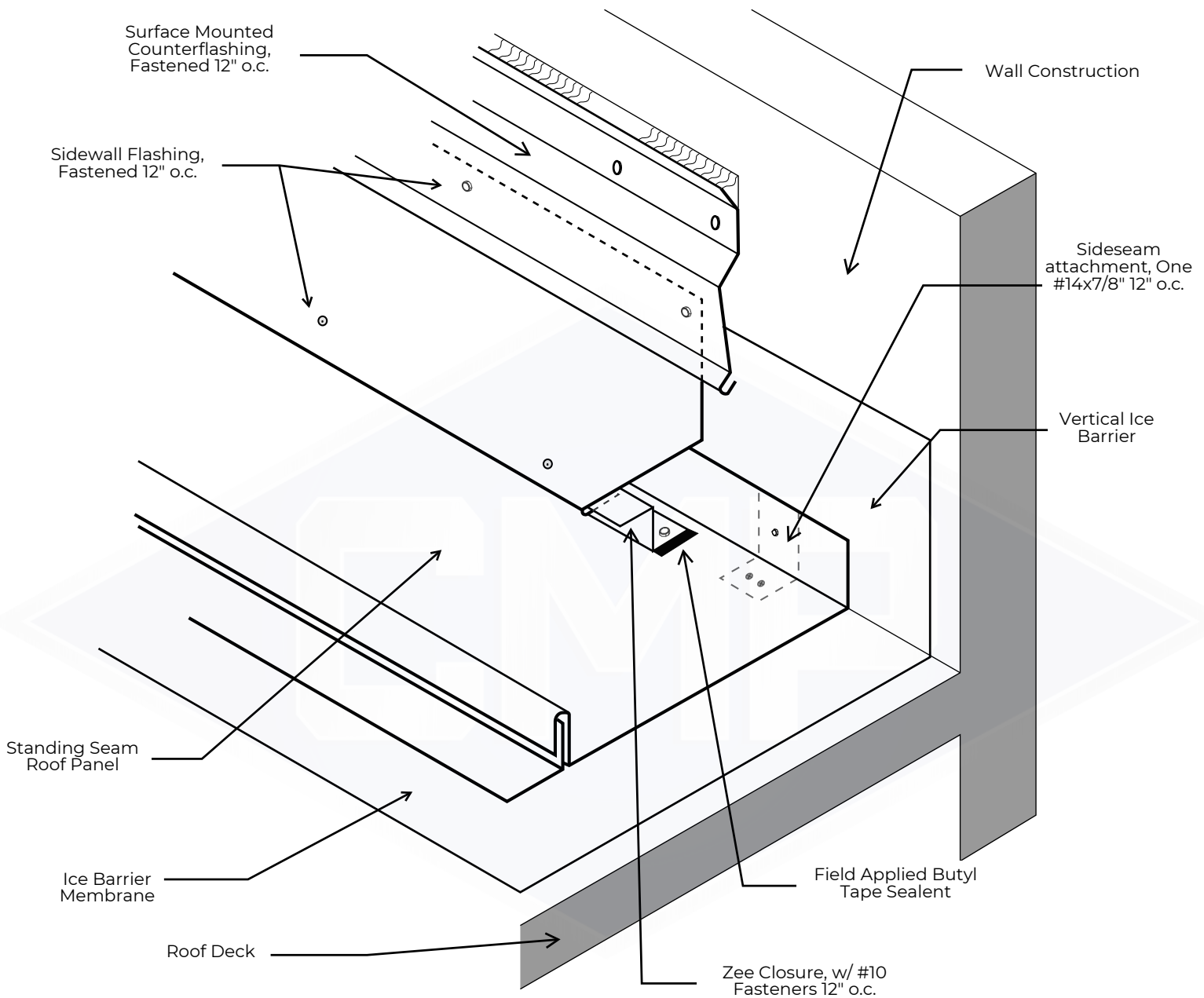


### C. Roof to Headwall Flashing (Fixed)

1. 1. Install 18ga min. Base Plate (required on insulated systems) at wall base. Fasten into roof deck with approved fasteners at 12" (304.8 mm) o.c.
2. Install roof panels using appropriate specified panel clips and fasteners, noting that first clip is to be 6" (152.4 mm) max. from the base of wall.
3. Field hem roof panel end (breadpan) up 1" (25.4 mm) min.
4. Modify ZeeTrim to snugly fit between the roof panel side seams. Install modified ZeeTrim over double bead butyl tape, install field applied sealant at panel seam & zeeTrim intersections and fasten into base plate or roof deck with approved fasteners 3" (76.2 mm) o.c.
5. Install adjacent roof panels, with field applied in-seam sealant for 10" (254 mm) min. down each roof side-seam.
6. Install baseflashing onto the modified zeeTrims and close hem. Install 6" (152.4 mm) splice plates or lap flashing sections a minimum of 4", with two rows of field applied sealant.
7. Fasten baseflashing to wall with approved fasteners 12" (304.8 mm) o.c.
8. Fasten baseflashing with rivets installed through top flange of zeeTrim 12" (304.8 mm) o.c.
9. Install counterflashing into sawnreglet and apply continuous field applied sealant.

## SIDEWALL FLASHING

## DETAIL #D

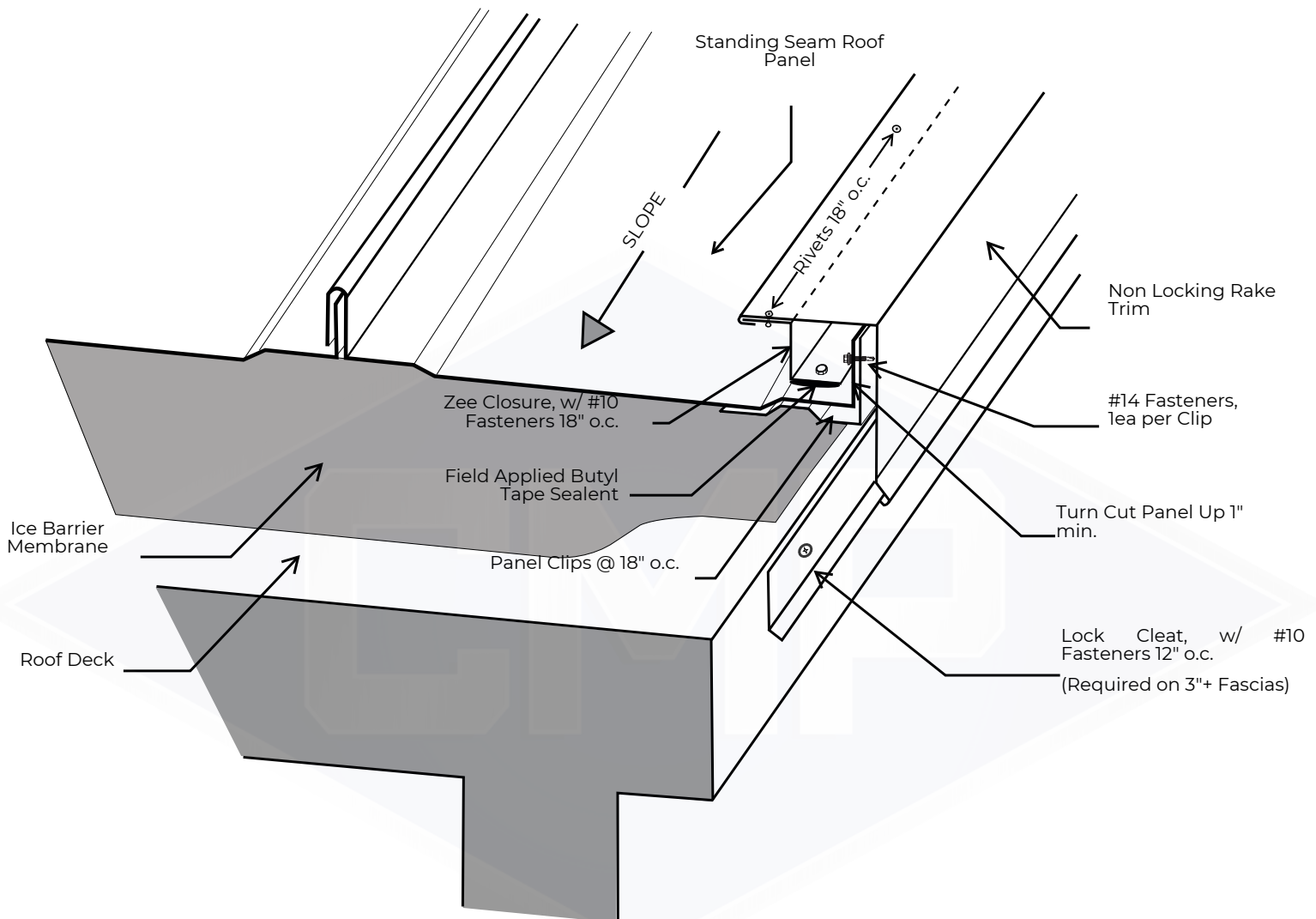


### D. Roof to Sidewall Flashing

1. Install roof panels using appropriate specified panel clips and fasteners, noting that first clip is to be 6" (152.4 mm) max. from the base of wall.
2. Field hem roof panel sideseam (as necessary) up 1" (25.4 mm) min.
3. Install ZeeTrim over double bead butyl tape and attach with #1013x1" fasteners @ 12" o.c.
4. Install sidewall flashing onto the zee trim and close hem. Install 6" (152.4 mm) splice plates or lap flashing sections a minimum of 4", with two rows of field applied sealant.
5. Fasten sidewall flashing to wall with approved fasteners 12" (304.8 mm) o.c.
6. Fasten sidewall flashing with rivets installed through top flange of zee trim 12" (304.8 mm) o.c.
7. Install surface mounted counterflashing or insert sawn reglet counterflashing and apply continuous field applied sealant.

## GABLE & RAKE TRIM

## DETAIL #E

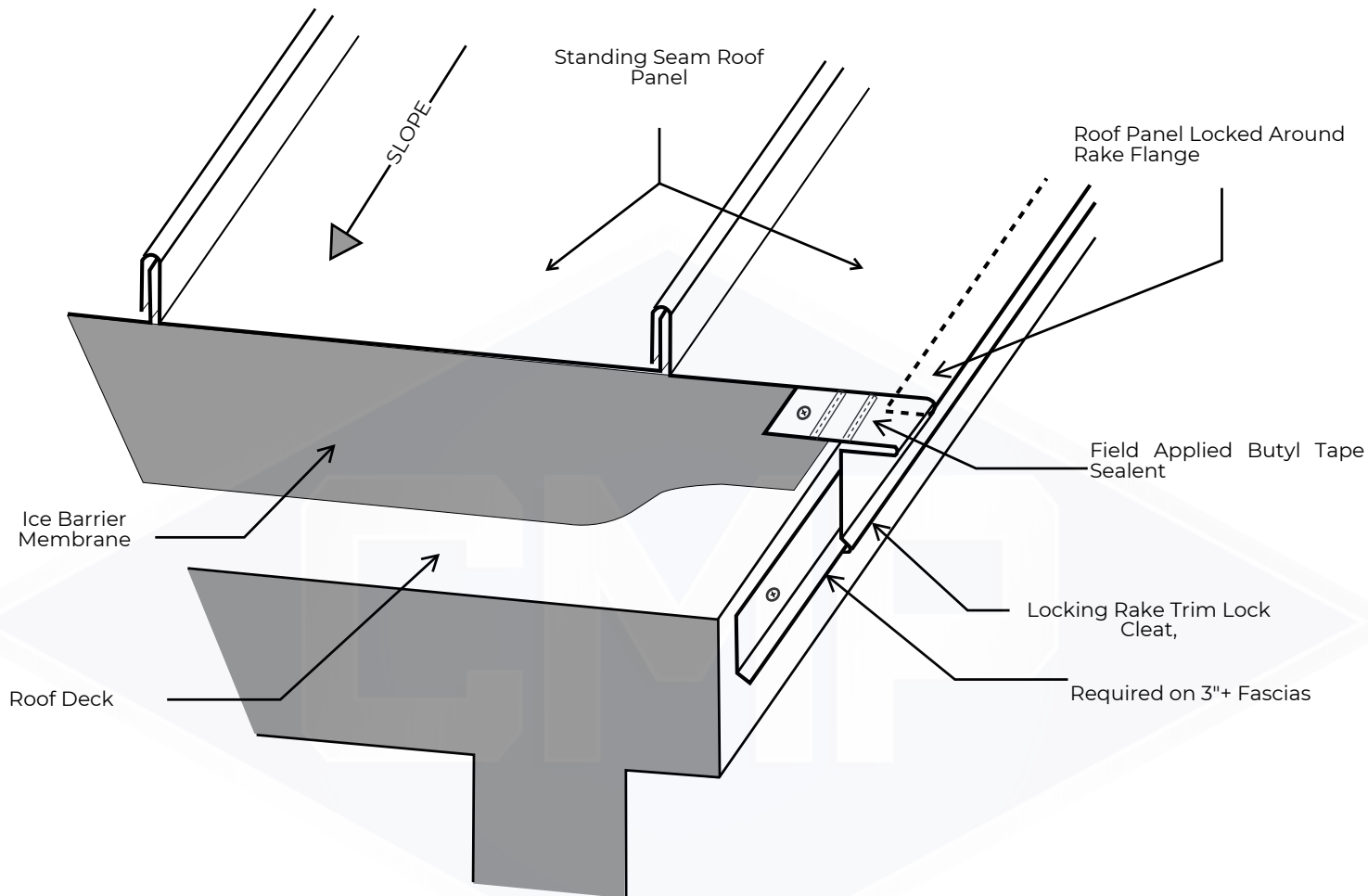


### E. Gable/Rake Trim

1. Field bend side of roof panel (as necessary) up 1" min. to evenly align with gable end of structure.
2. Install appropriate roof panel clips and side fasten roof panel into clips with #14x7/8" fasteners.
3. Install continuous zeetrim along the field bend, over double bead butyl tape sealant and attach with #1013x1" fasteners 12" (304.8 mm) o.c.
4. Install gable trim wall cleat as required for trims with 3'+ fascias.
5. Install gable/rake trim onto zeetrim (and cleat, if present) and close hems. Install 6" (152.4 mm) splice plates or lap flashing sections a minimum of 4", with two rows of field applied sealant.
6. Fasten gable/rake trim with rivets installed through top flange of zeetrim 18" (457.2 mm) o.c.
7. Cut and fold end closure tab down to enclose the eave end, zee trim & roof panel sideseam.

## GABLE & RAKE TRIM

## DETAIL #E1

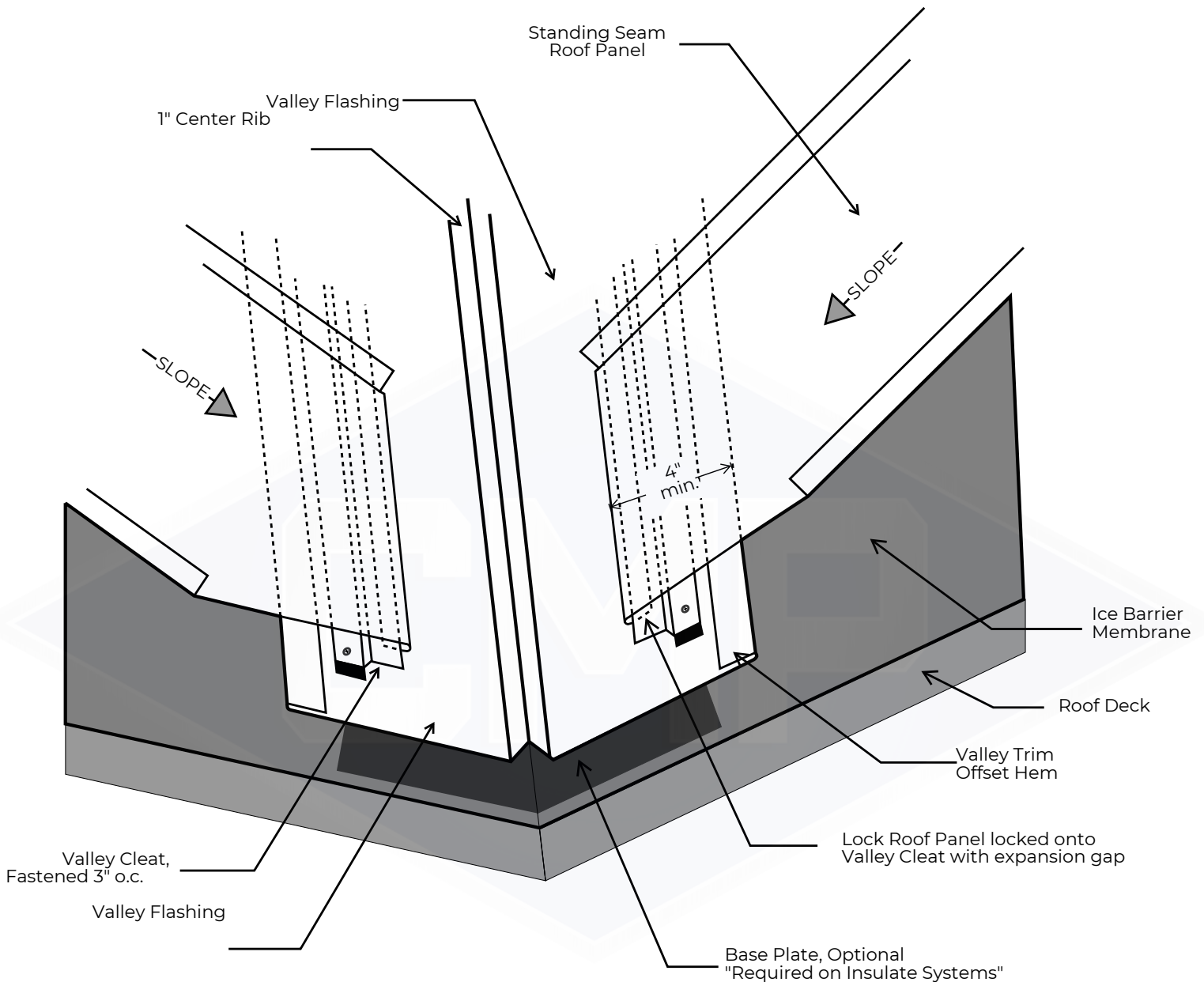


### E1. Gable/Rake Trim

1. Install lock cleat as required for trims with 3'+ fascias.
2. Install gable/rake locking trim with #1013x1" fasteners @ 12" o.c. and field apply two rows of butyl tape sealant. Install 6" (152.4 mm) splice plates or lap trim sections a minimum of 4", with two rows of field applied sealant.
3. Install roof panel and field hem side of panel onto gable/rake lock trim.
4. Cut and fold end closure tab down to enclose the eave end, zee trim & roof panel sideseam.

## VALLEY FLASHING

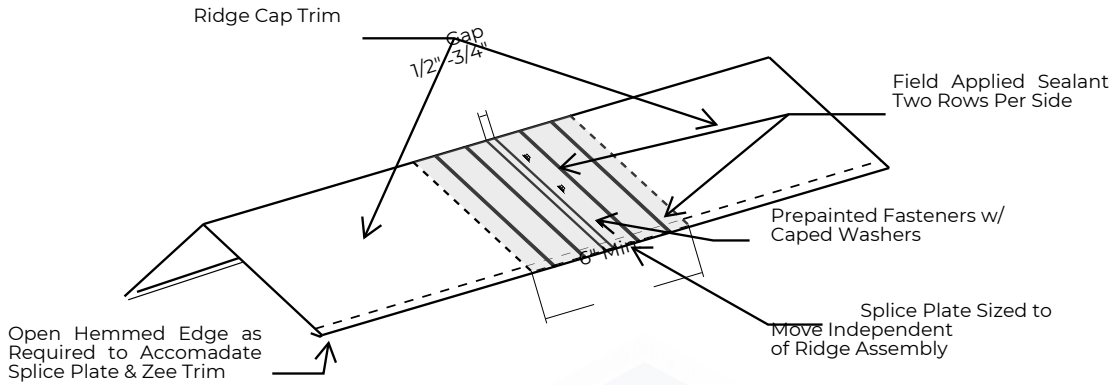
## DETAIL #F



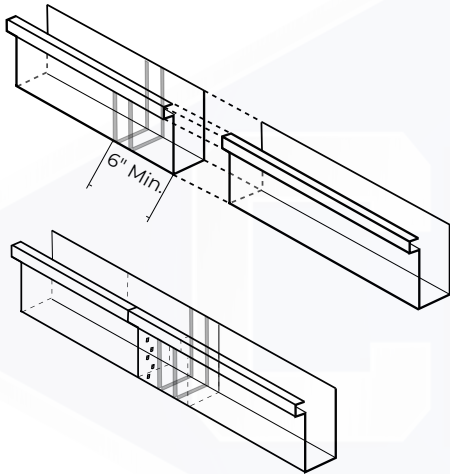
### F. Valley Flashing

1. Install 18ga min. Base Plate (required on insulated systems) centered in valley line. Fasten both sides into roof deck with approved fasteners at 12" (304.8 mm) o.c.
2. Center and install valley flashing into valley.
3. Install valley/joggle cleats over double bead butyl sealant at 4" (101.6 mm) from valley flashing edges (both sides).
4. Attach with #1013 fasteners at 12" (304.8 mm) o.c. through valley flashing into substrate.
5. Install roof panel using specified and approved panel clips, noting that first clip is spaced at maximum 6" (152.4 mm) from alley/joggle cleat (both sides).
6. Hem panel over lip of cleat with a gap to accommodate the anticipated expansion & contraction.
7. Install adjacent roof panels, with field applied inseam sealant for 10" (254 mm) min. up each roof panel sideseam.
8. Fold end tab of the female sideseam around end of the opposing male sideseam.

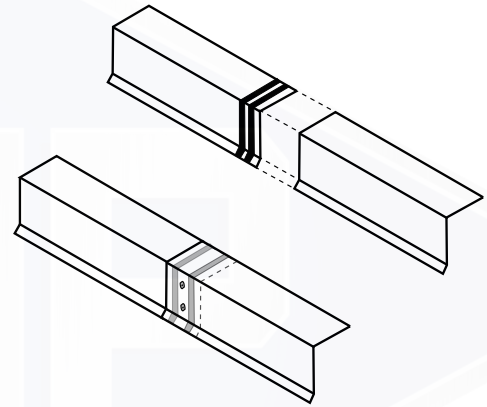
## ACCESSORY & TRIM JOINERY



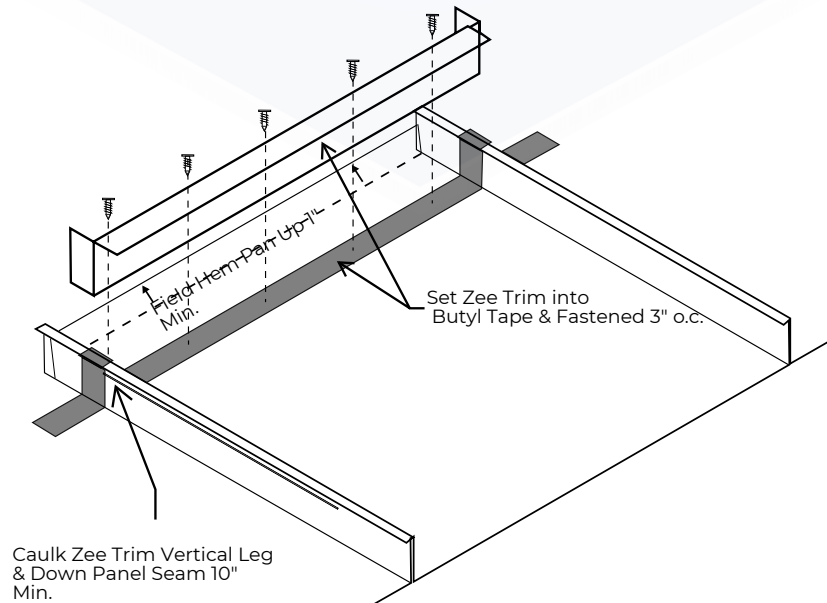
## Ridge & Hip Trims



Gutters



Eave & Rake Trims



## ZEE CLOSURE INSTALLATION





## 2.10 Roof Care and Maintenance

With a little care and attention during service, your CMP Roof System will provide an extended service of life. While durable, factory applied finishes for metal panels will last many years longer than ordinary paints, they should be cleaned thoroughly on a routine basis when ever the finish is not washed by rain. We recommend that you follow our simple maintenance schedule. By following our recommendations you will be assured of the maximum trouble free lifespan of your building.

Periodic maintenance of the exterior will depend on the location of your building. The following table gives recommended periods but can be varied to suit particular environments based on local or practical experience.

Building Location	Maintenance Period
(a) Up to 5 km from the sea	2 Months
(b) High Pollution industrial area	2 Months
(c) Medium pollution industrial area	3 Months
(d) Areas of high humidity	4 Months
(e) Low-pollution industrial area	6 Months
(f) Dry, desert areas	8 Months

Preventive maintenance should commence immediately after a project is erected, modified, or repaired.

### Inspection:

1. Check for any debris that may have been left on top of panel or trim. Examples of this are ferrous items such as screws, pop rivets, nails, drill sward, sheet metal offcuts, tin cans, etc. Large or heavy items should be removed by hand to avoid damaging the paint or zinc layer on the panel. The remaining smaller items may be swept off with a soft nylon brush. Please note this check should be made after any trade has worked on the building, e.g., electricians, plumbers, air conditioning technicians, and steel erectors.
2. Check for sand or dirt buildup. These retain salt and moisture and will rapidly break down the paint and zinc layers resulting in corrosion of the base metal.
3. The most vulnerable areas of the building are:
  - a. Gutters
  - b. Roof Sheets
  - c. Sheltered Areas.
  - d. Top portion of walls sheltered by roof overhangs or gutters.

4. Sand and dirt should be washed off with clean desalinated water and a soft nylon brush. Clean from top to bottom and give a final rinse with desalinated water when completed. Ensure no water is trapped anywhere. See the cleaning section for detailed instructions.

5. Check the base of wall panels to ensure the ground level is at least 150mm below the bottom of the panel. If wind-blown sand has built up at the base of the wall, it should be removed. If plants/ shrubs etc. are around the building, make sure they are not touching the wall panel, particularly thorn type bushes.

6. Check all high-traffic areas of the roof where maintenance personnel repeatedly traverse the roof surface. Foot traffic can be a major cause of damage. If traffic on the roof is routine, consider installing a walkway to protect the panels.

7. Check all equipment, which is located through or adjacent to any panel (Roof or Wall). Ensure there is no moisture buildup on or near the panel. If there is, then corrosion is inevitable. If this condition exists, then make modifications to avoid it. The following situations are examples of conditions to be avoided.

- a. Water runoff from water services or air conditioners.
- b. Copper pipes fastened directly to the steel panel.
- c. Open water storage tanks or ponds adjacent to the panel.
- d. Steam outlets adjacent to the panels.
- e. Acid storage areas adjacent to the panels.

8. Standard gutters and Valley gutters.

Regular checks should be made and all rubbish and sand should be removed.

- a. Flush the gutters with water
- b. Check that downspouts are clear.
- c. Check that downspouts have adequate drainage away from the building.

9. If minor damage occurs to the sheeting or trims, and paint touchup is required, then the following procedure should be followed:

- a. Abrade the affected area.
- b. Clean down with a solvent.
- c. If based metal is exposed, apply one coat of a zinc chromate primer.
- d. Apply one coat of available touchup paint.

## **Cleaning:**

Cleaning restores the appearance of the panels, making repainting unnecessary, and maintains a pleasing appearance, as well as removing the buildup of corrosive materials.



Applications requiring maintenance cleaning often include soffits, siding under eaves, and the undersides of gutters.

In many cases, washing the painted surface with clean water from a garden hose will remove most of the dirt and accumulated deposits. Ideally, washing should be done at least every six months and more frequently in coastal areas where marine salt spray washing is ineffective in cleaning stubborn dirt, mild detergents, or household ammonia solutions can be used as described below. In all cases, test a small unobtrusive area for colorfastness before cleaning large areas.

\* Use one cup of Tide® (or other common detergent containing less than 0.5% phosphate) dissolved in five gallons of warm water. NOTE: Detergents containing greater than 0.5% phosphate are not recommended for use in general cleaning of building panels.

\*OR use one cup of household ammonia dissolved in five gallons of water at room temperature. Never mix ammonia with any kind of bleach.

\*Never blend cleaners and bleach yourself. If bleach and detergent are required, use detergents containing bleach.

Using either solution, work from the top to the bottom of panels with a well-soaked soft cloth, sponge, brush with very soft bristles, or low pressure spray washer to clean the surface. Washing from the top down avoids streaking. The application should be gentle to prevent shiny spots. Scouring powders or industrial solvents are not recommended, since they may damage the paint film. Solvent containing cleaners such as Fantastic® are very effective and can be used. If mildew or other fungal growth is a problem and cannot be removed as described above, detergent containing bleach, such as Tide® with Bleach, is recommended. The surface should be thoroughly rinsed with water after cleaning to remove traces of detergent. If the building is in an area of industrial pollution or close to a marine environment then water alone may not be enough. Salts and other deposits build up at the formed corners of panels and quickly break down hardness of the layer increases making removal more difficult. In this case, the period between maintenance operations should be shortened and a mild detergent should be added to the initial washing water.

## **Solvents:**

CAUTION: Solvent and abrasive type cleaners as they can do more harm than good by wearing both the paint and zinc layers. Only use when cleaning solution listed above is ineffective.

Most organic solvents are flammable and/or toxic and must be handled accordingly. Keep away from open flames, sparks, and electrical motors. Use adequate ventilation, protective clothing, and goggles.

Solvents that may be used to remove non water soluble deposits (tar, grease, oil, paint, graffiti, etc.) from fluoropolymer surfaces include:

### A. Alcohols

- Denatured alcohol (ethanol)
- Isopropyl (rubbing alcohol)
- Methanol (wood alcohol)

### B. Petroleum Solvents and Turpentine

- VM&P Naphtha
- Mineral Spirits
- Kerosene
- Turpentine (wood or gum spirits)

The above alcohols and solvents have no permanent effect on fluoropolymer-painted surfaces.

### C. Aromatic and Chlorinated

- Xylol (Xylene)
- Toluol (Toluene)
- Perchloroethylene (Perclene)
- Trichloroethylene (Triclene)

The above solvents should be used with caution on any fluoropolymer painted surfaces. Limit contact with the fluoropolymer surface with solvent for five minutes maximum and test the effects of the solvent on a small area before using over the entire surface.

### D. Ketones, Esters, Lacquer, Thinner, Paint Remover

- Methyl Ethyl Ketone (MEK)
- Methyl Isobutyl Ketone (MIBK)

- Ethyl Acetate (Nail Polish Remover)
- Butyl Acetate
- Lacquer Thinner
- Paint Remover (nonflammable)
- Acetone (do not use acetone on painted surfaces)

The above solvents should be used very cautiously on a fluoropolymer painted surface. Limit contact of the fluoropolymer surface with solvent to one-minute maximum and test the effects of the solvent on a small area before using it over the entire surface. Note: There are many formulations of paint remover on the market. It is possible that some may remove the fluoropolymer surface. Proceed very cautiously in the use of any paint remover. Metal suppliers and coating manufacturers are not responsible for damage from unrestricted use.

#### E. Chemical Solutions

- Sodium Hypochlorite Solution (Laundry Bleach, Clorox)
- Hydrochloric Acid (Muriatic Acid)
- Oxalic Acid
- Acetic Acid (Vinegar)

Hydrochloric or muriatic acid, diluted with ten volumes of water, may assist in removing rust stains from fluoropolymer surfaces. Limit contact to five minutes. Caution: acid solutions are corrosive and toxic. Flush all surfaces with copious amounts of water after use. Oxalic acid solution or vinegar may be used for the same purpose. Flush with water.

#### **Graffiti:**

Graffiti presents a special problem because of the many possible agents used, generally aerosol paint. It is best to try the less active solvents first (Solvent Group A, B, C) then the stronger solvents (Solvent Group D). If none of these are satisfactory, it may be necessary to resort to touchup, repaint, or replacement, depending on the extent of the damage.

#### **Warranty:**

Misuse of any of the cleaning agents listed above will result in a voiding of warranty for the surface affected. To assure continued coverage under the CMP Warranty provisions, the owner must perform regular inspections of the roof system. Failure to perform any of these as required may result in suspension or loss of the roof warranty.



**Notify CMP immediately of any leaks or areas that indicate potential concerns.**

If repairs are required, as determined under the coverage of the Warranty necessary by the Building Owner, engage a CMP Licensed installer to perform the repairs.

Notify CMP of any leaks that occur between inspections. Please refer to the “Leak Notification” section of the “Terms and Conditions”.

Failure of the Owner to adhere to the maintenance required may void the CMP Roof Warranty in place for the roof system. Roof systems are exposed to severe weather conditions and, as a result, require inspections and maintenance. CMP suggests that a comprehensive maintenance program suited to your building be established.

**SAFETY:**

Extreme caution should be exercised when working on roofs.

- Use only ladders, which are long enough to reach one meter above the step off point.
- Always secure the ladder to the building and make sure it is on a firm base. •Do not step on skylight panels.
- When walking on the roof, step on the low corrugations, not on the high corrugations.
- Stepping on the high corrugations can damage the sheets. Walk along the screw line where possible.



## STANDING SEAM METAL ROOF SYSTEM SELECTOR TABLE

Refer to this table for roof panel profile specifics & requirements

 Roof Panel Selector	S-3000	S-2750 ML	S-2750 SL	S-2500 90°	S-2500 180°	S-2500 C	S-2000
Standard Panel Width	15-1/2"	17-1/2"	17-1/2"	16"	16"	16"	16"
Optional Panel Widths	12", 15-1/2"	12" - 17-1/2"	12" - 17-1/2"	12" - 18"	12" - 18"	12" - 18"	12" - 18"
Seam Height	3" Nom.	2" Nom.	2" Nom.	2" Nom.	2" Nom.	2" Nom.	1-3/4" Nom.
Minimum Panel Length	2'	2'	2'	2'	2'	2'	2'
Maximum Panel Length	64'	64'	64'	64'	64'	64'	64'
Pencil Ribs	No	Yes	Yes	Yes	Yes	Yes	Yes
Striated	No	Yes	Yes	Yes	Yes	Yes	Yes
Planks	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clip Relief	Yes	Yes	Yes	Yes	Yes	No	No
Embossed Panel Surface	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Clip	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Floating Clip	Yes	Yes	Yes	Yes	Yes	Yes	No
Tapered Profiles	Yes	No	No	Yes	Yes	No	Yes
Tapered & Curved	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Machine Curve Radius, (24ga)	N/A	N/A	N/A	N/A	N/A	16' 4" Min.	N/A
Laydown Curve Radius, (24ga)	N/A	N/A	N/A	N/A	N/A	200' Min.	N/A
Minimum Slope	.25/12	2.5/12	3/12	2.5/12	.5/12	N/A	3/12
Onsite Fabrication	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Warranty Term	5 - 20yr	5 - 20yr	5 - 20yr	5 - 20yr	5 - 20yr	5 - 20yr	5 - 20yr
Underlayment, Field	3/12> 100% I&W	3/12> 100% I&W	30lb Felt/Synthetic	3/12> 100% I&W	3/12> 100% I&W	100% I&W	30lb Felt/Synthetic
Underlayment, Details	I&W, Full Extent	I&W, Full Extent	I&W, Full Extent	I&W, Full Extent	I&W, Full Extent	I&W, Full Extent	I&W, Full Extent
In-Seam Sealant	Yes	Yes	Yes	Yes	Yes	No	Yes



## DOCUMENT REQUEST FORM

DATE:	
NAME:	
COMPANY:	
ADDRESS:	
CONTACT:	
PHONE NUMBER:	
EMAIL:	

PROJECT & PRODUCT INFORMATION	
Documents Requested:	
Warranty Level:	
Roof Slope:	
Underlayment, Type:	
Project Name:	
Address:	
Owner:	
Address:	
Square Footage:	
General Contractor:	
Phone:	
Architect:	
Phone:	
Panel Model:	
Term:	
Substrate:	
Deck Type:	
Insulation:	
Color:	
Start Date:	
Comp Date:	

NOTE: Shop Drawings and Clip Space Engineering are required on all projects requesting watertightness warranties. Select "CMP to Provide" to have these documents furnished by CMP, fees apply.

Shop Drawings:	<input type="checkbox"/>	Clip Space Engineering:	<input type="checkbox"/>
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CMP requires a complete list all invoice numbers associated with this project in order to release any warranties. We suggest you keep a copy of this form and note below all invoice numbers through project completion. At which time this form may be re submitted for release the requested warranty(s).

**INVOICE NUMBERS:**

SUBMITTAL REVIEW	INTERNAL USE ONLY DO NOT FILL IN
Approved <input type="checkbox"/>	Submittal approved by: <input type="checkbox"/>
Approved As Noted <input type="checkbox"/>	WTW per SF Fee: <input type="checkbox"/>
Revise & Re submit <input type="checkbox"/>	Additional Charges: <input type="checkbox"/>
Rejected <input type="checkbox"/>	Total Warranty Fee: <input type="checkbox"/>

Return this document and attachments to: [warranty@cmpmetalsystems.com](mailto:warranty@cmpmetalsystems.com)



## 29/26 GAUGE COLOR CHART

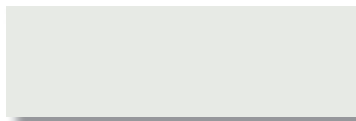
### Construction Metal Products inc.

CMP manufactures a variety of metal roof and wall panels in 26 gauge and/or 29 gauge material. Please see the back of this chart to view the profiles that are available.

CMP's 40-year Silicon Polyester paint system, with Cool Roof Technology, provides solar reflectance ratings to meet today's Energy Star requirements. The 40-year paint system and galvalume steel guarantees a winning combination of weather-tested paint performance and superior corrosion resistance.



Colors shown here are as accurate as the printing process permits. Slight variations should be expected for the actual coil product.



*Polar White (Blanco Polar)*



*Light Stone (Piedra Clara)*



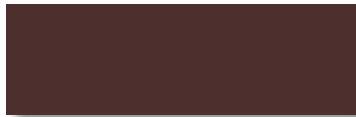
*Sahara Tan (Arena)*



*Ash Grey (Griz Ceniza)*



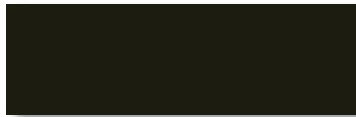
*Hawaiian Blue (Azul Cielo)*



*Burgundy (Vino)*



*Brite Red (Rojo Sangre)*



*Coal Black (Onyx Negro)*



*Charcoal Grey (Griz Oscuro)*



*Burnished Slate (Griz Carbón)*



*Forest Green (Verde Selva)*



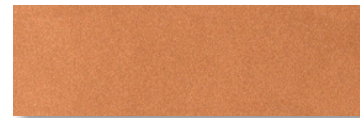
*Gallery Blue (Azul Royal)*



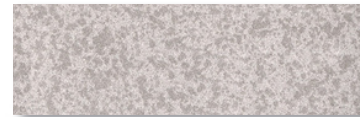
*Cocoa Brown (Coco)*



*Country Red (Terracota)*



*Copper Penny (Cobre Metálico)*

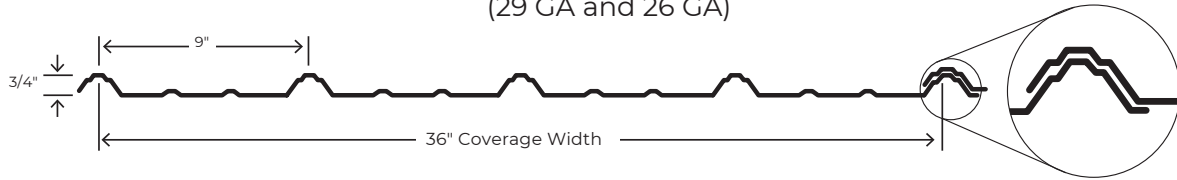


*Galvalume (Galvalume)*

## CMP MULTI-RIB

CMP MULTI-RIB Design Is Unmatched In Performance Durability.

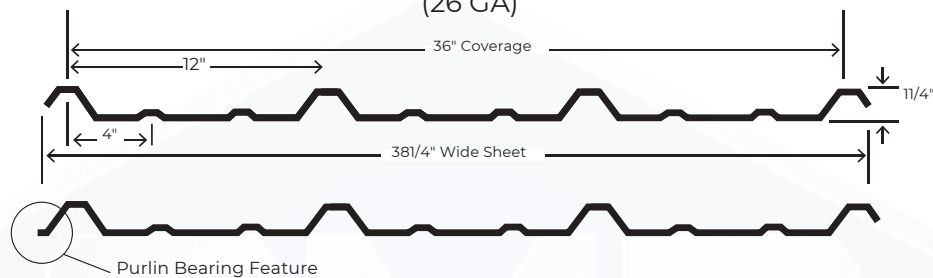
(29 GA and 26 GA)



## CMP R-PANEL

A Superior Roof or Wall Panel with Maximum Strength.

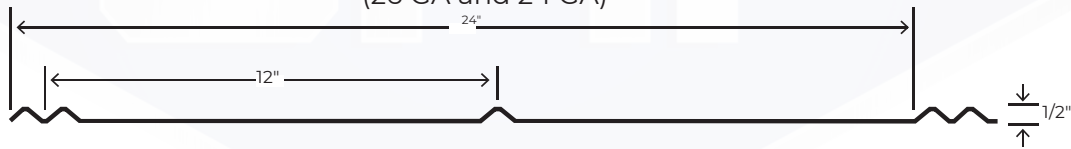
(26 GA)



## CMP 5-V

The 5-V's Stunning Design Makes it Very Popular with Residential and Commercial Customers.

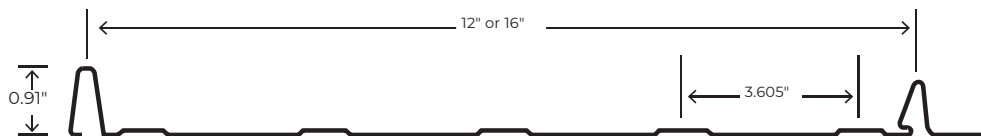
(26 GA and 24 GA)



## CMP NAIL STRIP

Revolutionary Design Eliminates the need for Through Fasteners.

(26 GA and 24 GA)

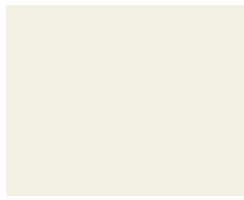


## SAFETY PRECAUTIONS

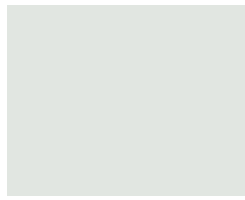
Gloves should be worn to prevent injury while handling steel panels. Safety glasses should be worn to prevent eye injury when cutting or drilling steel panels with power tools. Use care when walking, sitting, or kneeling on a steel roof to avoid a fall. Steel panels may become slippery when wet. Do not work on the steel panels when wet or when climatic conditions are not suitable for safe installation. Failure to comply with these procedures relieves the manufacturer of responsibility for any resultant damage to or deterioration of the product and VOIDS ALL WARRANTIES. THERE IS NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE.

# AlumaKlad ColorKlad™

The Solar Reflective Index (SRI) as per ASTM E1980 is noted next to each color name. All colors are direct deposit paint samples. Do not use this sheet to color match. Call your representative for a painted metal sample.



Snowdrift | 93



Regal White | 78



Stone White | 82



Bone White | 83



Sandstone | 71



Almond | 78



Sierra Tan | 30



Medium Bronze | 31



Mansard Brown | 26



Dark Bronze | 25



Ash Gray | 32



Dove Gray | 54



Slate Gray | 40



Musket Gray | 32



Charcoal Gray | 29



Aged Copper | 53



Patina Green | 55



Classic Green | 30



Hartford Green | 24



Black | -1



Slate Blue | 29



Royal Blue | 26



Banner Red | 43



Colonial Red | 34



Terra Cotta | 37



Copper Penny | 45



Bright Silver | 61



Pre-Weathered Galvalume | 39



AZ55 Acrylic Galvalume

Custom colors and/or color matching is available subject to minimum volume criteria. Pricing will be dependent on project requirements.

In testament to the high quality of ColorKlad and AlumaKlad, a written warranty is available upon request, for qualifying applications. Available at no charge, this warranty covers peeling, color fade, chalking and paint integrity. Reference actual warranty for details and conditions. Check suitability of use in potentially corrosive atmospheres. \* Acrylic AZ55 is not covered under the ColorKlad® warranty. Metallics and Premiums may be priced higher than standard colors.



ColorKlad® — available in a premium cool coating — is the field-proven, time-tested leader in metal roofing. ColorKlad is made of a PVDF coating containing 70% Kynar 500® or Hylar 5000® resin over a high-quality primer, permanently bonded to commercial quality, extra smooth Grade 50 AZ50 Galvalume® or Galvanized G90 sheet or coil.

AlumaKlad™ — available in a premium cool coating — maintains design integrity and attractive appearance when design, climatic and/or atmospheric conditions call for aluminum. AlumaKlad is made of a PVDF coating containing 70% Kynar 500® or Hylar 5000® resin over a high-quality primer, permanently bonded to 3105-H24 aluminum sheet or coil.

COOL COLORS	SRI	24ga		.032"		.040"	.050"	.063"
		20"	48"	20"	48"	48"	48"	48"
AZ55 Acrylic Galvalume*		●	●					
Aged Copper	53	●	●	●	●			
Almond	78	▲	●	▲	●	●	●	
Ash Gray	32	●	●					
Bone White	83	▲	●	▲	●			
Charcoal Gray	29	●	●	●	●			
Classic Green	30	●	●	▲	●	●		
Colonial Red	34	▲	●					
Dark Bronze	25	●	●	●	●	●	●	●
Dove Gray	54	●	●	●	●			
Mansard Brown	26	●	●	▲	●	●	●	
Musket Gray	32	●	●					
Black	-1	●	●	●	●			
Medium Bronze	31	●	●	●	●	●	●	●
Patina Green	55	▲	●					
Regal White	78	▲	●	●	●			●
Sandstone	71	▲	●			●	●	
Sierra Tan	30	●	●	●	●	●	●	
Slate Blue	29	▲	●					
Slate Gray	40	●	●	●	●			
Snowdrift	93	●	●	●	●			
Stone White	82	●	●	●	●	●		
Terra Cotta	37	▲	●					
<b>Premium / Metallic</b>								
Banner Red	43	▲	●					
Bright Silver	61	●	●	●	●	●	●	
Copper Penny	45	●	●	●	●			
Hartford Green	24	●	●				●	
Preweathered	39	●	●	●	●			
Royal Blue	26	●	●	●	●			

Items marked with (▲) are available but will be specially processed from 48.375" master coil and the drop coil will ship as part of order.



## CONSTRUCTION METAL PRODUCTS INC.

Metal Roofing | Metal Walls | Custom Fabrication

### FIND OUT MORE ABOUT CMP



704-871-8704



[questions@cmpmetalsystems.com](mailto:questions@cmpmetalsystems.com)



2204 West Front Street Statesville, NC 28677



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