

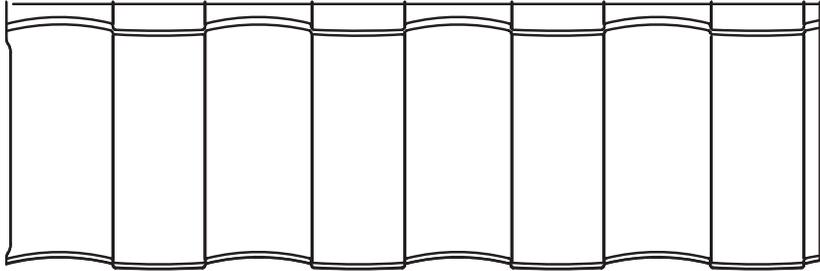
GERARD ROOFING TECHNOLOGIES

BATTENLESS INSTALLATION MANUAL

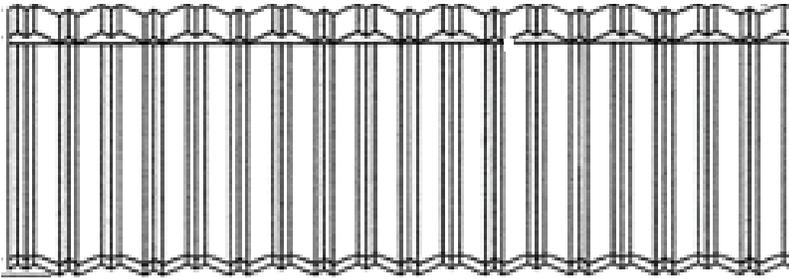
NB Tile, Canyon Shake, Barrel Vault

(Manufacturer's installation details for Gerard's Battenless Product & Accessories)

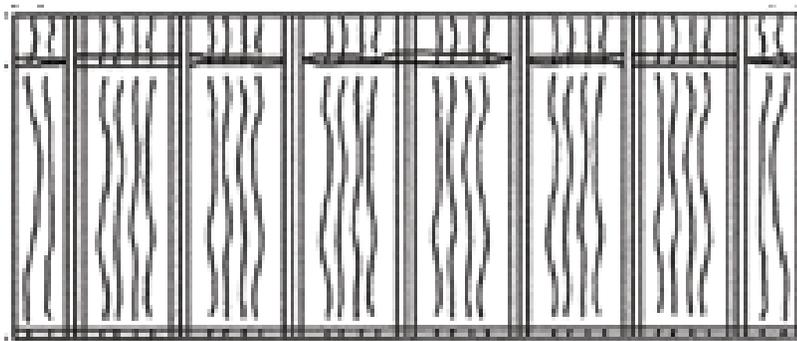
Date February 5th, 2010



Barrel Vault



NB Tile



Canyon Shake

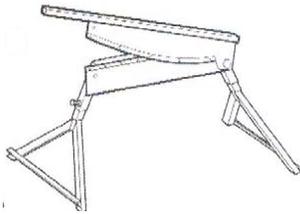
Gerard Battenless Product Installation manual is a component of Gerard Roofing Technologies and as such is intended to be used with Gerard product only. All information printed in this manual is copyrighted and is the property of Gerard Roofing Technologies, member of the Building Products Group - Metals USA and may not be reproduced without written permission of Gerard Roofing Technologies.

GERARD ROOFING BATTENLESS PRODUCT MANUAL

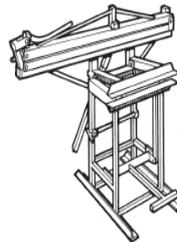
TOOLS NEEDED

- 1- Standard claw hammer
- 2- A 50' or 100' tape measure
- 3- Screw Drivers (optional power driver)
- 4- Utility Knife (when re-roofing over composition shingle)
- 5- Tin Snips
- 6- Caulking Gun
- 7- Chalk Line

Option Tools:

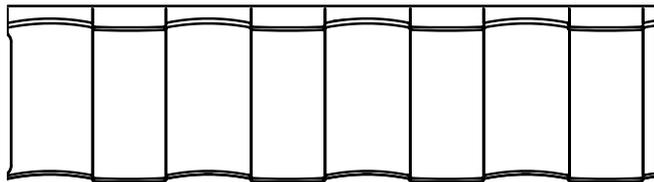


Gerard Cutter, creates neater, straighter cuts



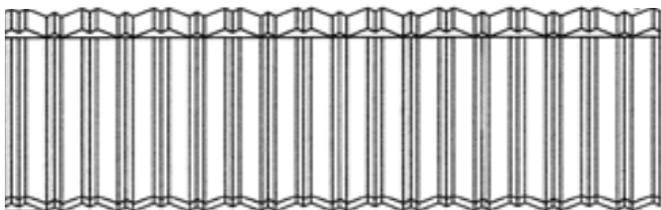
Gerard Top and Bottom Bender

GERARD BATTENLESS PROFILES.



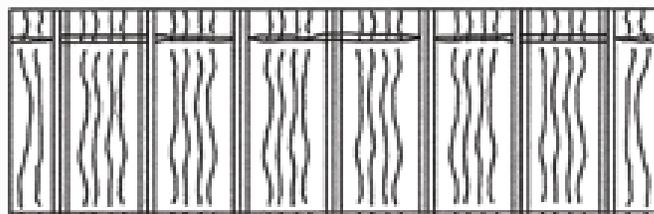
Barrel Vault

Actual Size: 43.84" long by 15.58" wide
Exposure: 42.0" x 13.58"
Pieces per Square: 26
Average Weight per panel: 5.4 lbs.
Average Weight per square foot: 1.32 lbs



NB Tile

Actual Size: 45.5" long by 17.0" wide
Exposure: 43.5" x 14.25"
Pieces per Square: 24
Average Weight per panel: 6.6 lbs.
Average Weight per square foot: 1.65 lbs



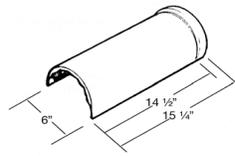
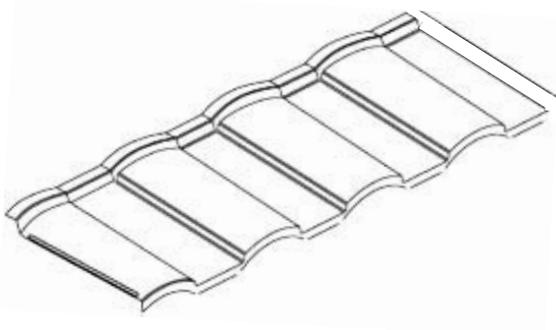
Canyon Shake

Actual Size: 45.0" long by 16.5" wide
Exposure: 42.0" x 14.0"
Pieces per Square: 25
Average Weight per panel: 5.83 lbs
Average Weight per square foot: 1.30 lbs

GERARD ROOFING BATTENLESS PRODUCT MANUAL

MATERIALS

1. Barrel Vault Tile



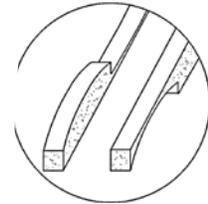
Mission Trim



Bird Stop Eave
3.75" & 5"

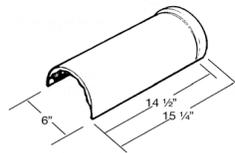
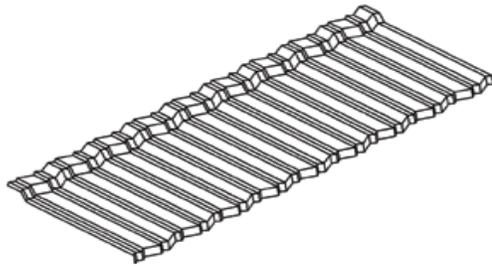


Bird Stop Top Row



Foam Closure

2. NB Tile



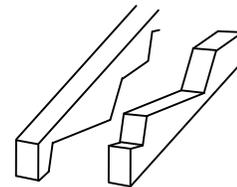
Mission Trim



Gerard Fascia
Metal - 10 ft.

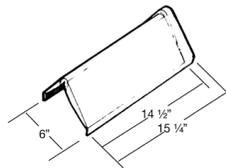
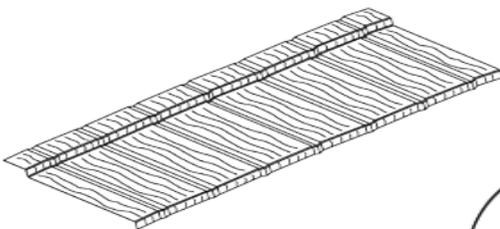


Gerard Drip Edge



Foam Closure

3. Canyon Shake Tile



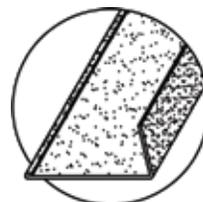
Shake Cap



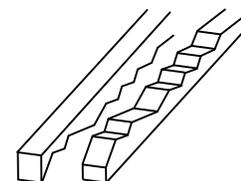
Gerard Fascia
Metal - 10 ft.



Gerard Drip Edge



Gerard Trimless
Rake



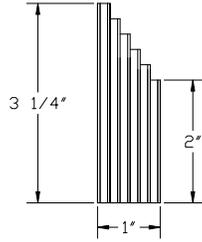
Foam Closure

GERARD ROOFING BATTENLESS PRODUCT MANUAL

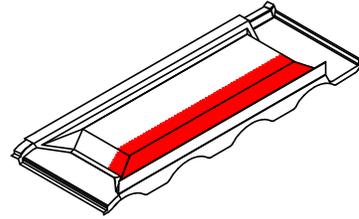
Accessories Common to All Profiles



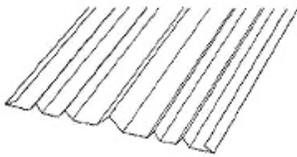
Wind Soffit Flash
(Common to Vented Ridge)



Cor-A-Vent



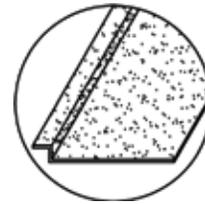
EZ Vent (Profiled to match)
(Two Alternatives - See Pg. 15)



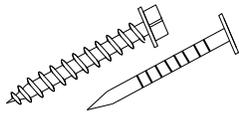
24" Valley



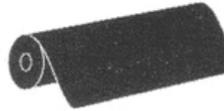
Z Bar Metal



Saddle Flashing



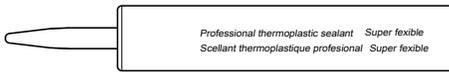
8d (0.131) x 2-3/8" Ring Shank,
Corrosion Resistant Nail or
#10 x 2-1/2" Corrosion Resistant
Screw



30# Felt (min.) or
Equivalent



Finishing Kit



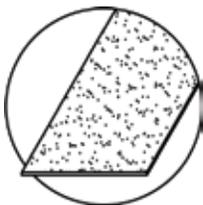
NP1 or Equivalent



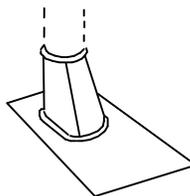
Neoprene Rubber
Boot (thru roof flash)



End Disc - Stone Coated
(Mission Trim)



Flat Stock
16-1/4" wide x 120"



Stone Coated Pipe Flash

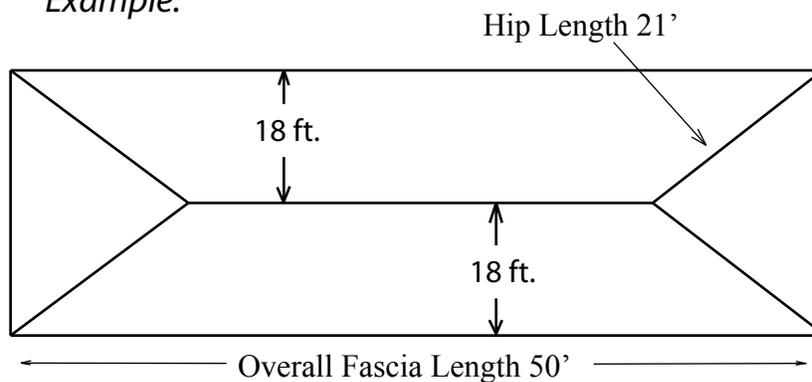
GERARD ROOFING BATTENLESS PRODUCT MANUAL

Determine How Much Material You Will Need:

Quick step method, USA Standard (approximate).

- 1.) Determine roof square foot / feet with-out waste.
- 2.) Add linear feet of hips and valleys. Multiply by 2.
- 3.) Add totals from steps 1 and 2.
- 4.) Multiply total by 1.06. This yields roof square feet including waste.
- 5.) Divide total from step 4 by 100. This yields roof squares.

Example:



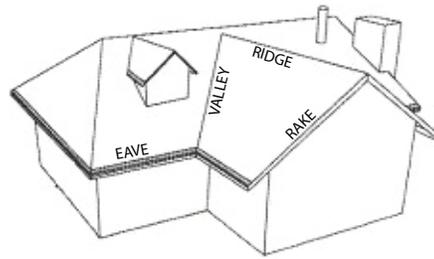
- 1) $50 \times 36 = 1800$ sf without waste
- 2) Hip $\times 4 = 84 \times 2 = 168$ linear feet.
- 3) $168 + 1800 = 1968$
- 4) $1968 \times 1.06 = 2086$
- 5) $2086 / 100 = 20.86$ sqs.

Note:

- Gerard Barrel Vault - 26 panels per square
Gerard NB Tile - 24 panels per square
Gerard Canyon Shake - 25 panels per square

GERARD ROOFING BATTENLESS PRODUCT MANUAL

ROOF PREPARATION

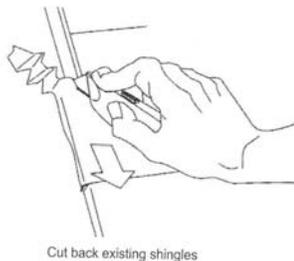


Gerard Battenless profiles can be installed over composition shingle or over solid sheathing (solid sheathing will require code approved underlayment).

1. Re-roof over composition shingles, the procedures are as follows:

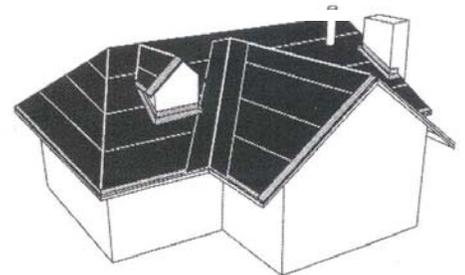
- 1- Cut back existing shingles flush with the perimeter of the roof. (see Figure A)
- 2- Remove existing drip edge.
- 3- Remove hip and ridge cap.

Figure A



Notes

- 1- Make sure deck attachment is to code but at a minimum .8d x 2 3/8" Ring Shank Nails spaced 6" O.C.
- 2- Minimum underlayment should be ASTM D226 Type II 30# felt fastened according to code.
- 3- If a fire barrier is required any UL listed fire barrier is approved when installed according to code.
- 4- Local building codes govern.

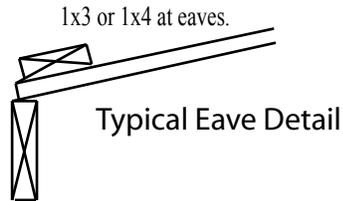
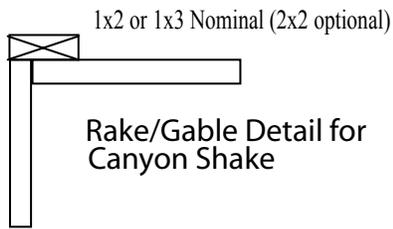
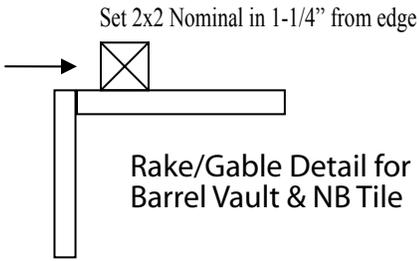


2. Remove existing and roof over deck, procedures as follows:

- 1- Remove all existing roofing materials to deck. Ensure deck is to local code.
- 2- New underlayment according to local code requirements.
- 3- Install required valley materials per local codes including water barrier underlay.
- 4- If a fire barrier is required any UL listed fire barrier is approved when installed according to code.
- 5- Local building codes govern.

GERARD ROOFING BATTENLESS PRODUCT MANUAL

RAKE / GABLE / EAVES DETAILS

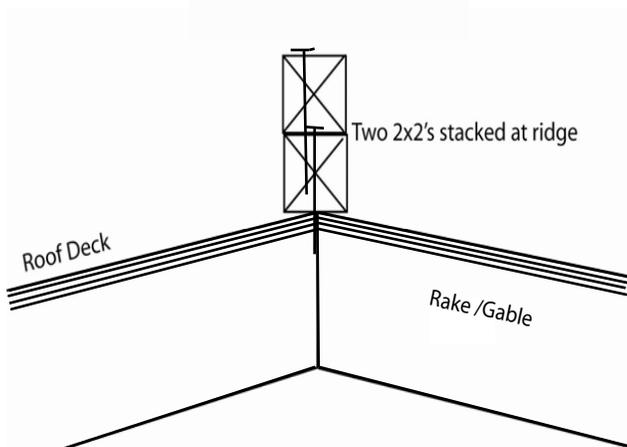


- 1- Install nominal wood nailer along rake/gable/eave. See diagram left for batten size and location.
- 2- Wood support material to be nailed every 6" with 16d ring shank nails or #10 screws of sufficient length to penetrate 1" min. existing structure.
- 3- A 1" x 4" at the eave is recommended to maintain the pitch of the first course.

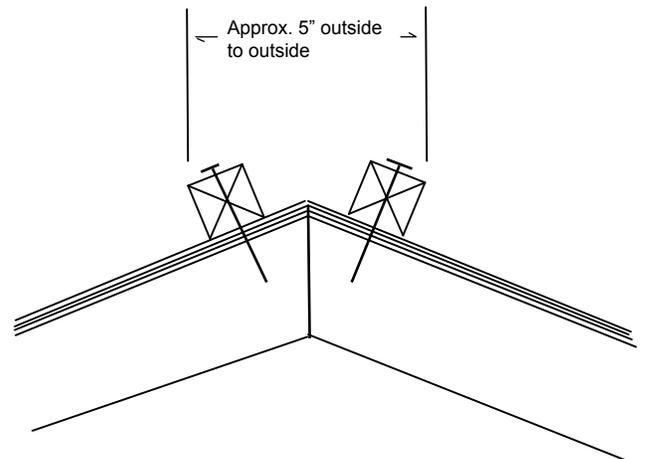
Note: Pressure Treated Lumber.
Lumber should not be pressured treated. If treated lumber is required by local codes, a roofing membrane material must be used to isolate the treated lumber. Stainless steel fasteners must be used when working with treated lumber for fastening.

RIDGE / HIP

1. Position two 2x2's over the center of the ridge or hip or spaced depending on trim.
2. Note fastener requirements above. Ensure fasteners penetrate the framing member below a minimum of 1" spaced 12" on center.
3. At hips, the battenless panels will be cut and bent up to the nailers later.



Universal Ridge / Hip Detail - Non-Vented for Mission Trim & Shake Cap

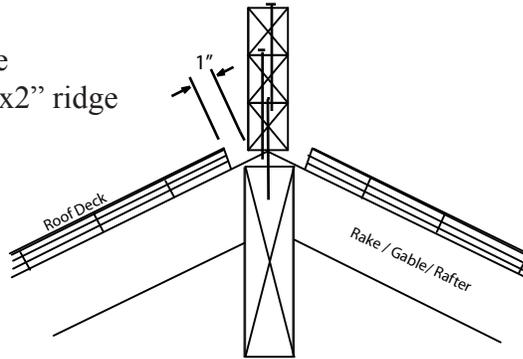


Typical Ridge / Hip Detail - Non-Vented for Mission Trim Only

GERARD ROOFING BATTENLESS PRODUCT MANUAL

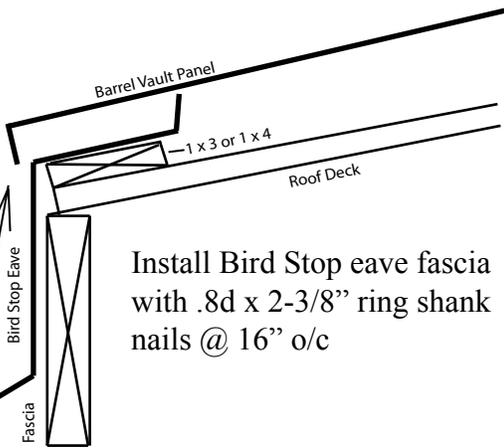
Note:

- Measure down 2" from center of ridge of existing roof and cut gap on each side to give a net vent opening of 1" after 2"x2" ridge board application
- As shown three 2" x 2" may be too tall if the roof is a steep pitch. Adjust height of ridge nailers as necessary.
- Suggest install insect screen at vent cuts.



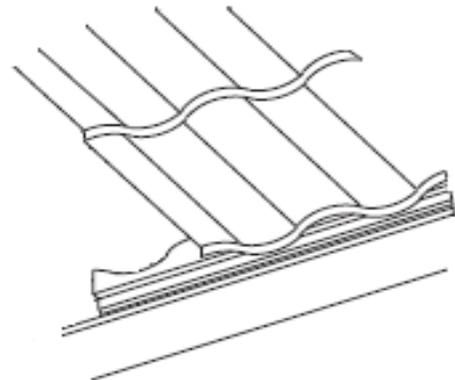
Universal Vented Ridge Detail - for Mission Trim and Shake Cap

EAVES DETAILS



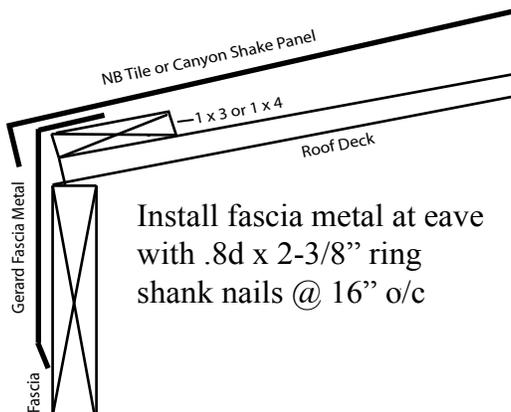
Install Bird Stop eave fascia with .8d x 2-3/8" ring shank nails @ 16" o/c

Barrel Vault Bird Stop Eave Cross-section



Bird Stop Eave Fascia Top View

Note first course panel overhang requirement page 10.



Install fascia metal at eave with .8d x 2-3/8" ring shank nails @ 16" o/c

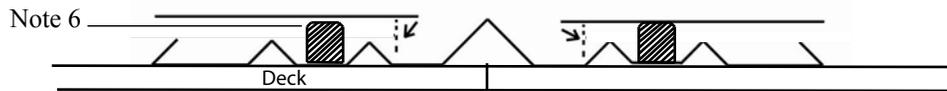
NB Tile or Canyon Shake Tile Eave Detail

GERARD ROOFING BATTENLESS PRODUCT MANUAL

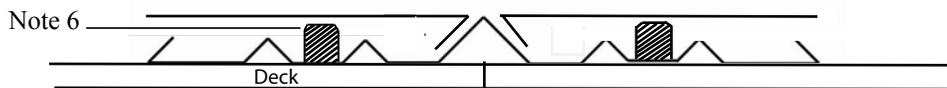
VALLEYS

- 1- Install valley fastening with 8d x 2-3/8" ring shank nails or #10 x 2-1/2" screws @ 24" o/c up valley each side through the outside pan.
- 2- If more than one length is required it must be overlapped 6" and set in a bead of sealant.
- 3- Panels will extend into the valley to the first 3/8" diverter for open valley or to center divider and bend down in return for closed valley. (see details)
- 4- Cut and bend as per detail. Note to cut 1 1/4" longer than the measurement and bend the 1-1/4" into the valley (this will seat the cut panel securely into the valley metal).
- 5- Using 3/4" sharp point screws, fasten the nose of the panel to the top shelf of the panel below. Take care not to penetrate the valley metal.
- 6- 2" vent mesh as required in high velocity hurricane or wind zones (HVHZ).

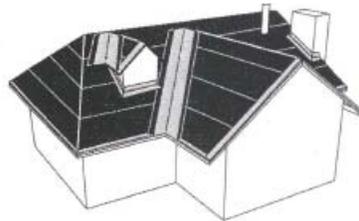
Open Valley Detail Drawing



Closed Valley Detail Drawing



NOTE: Location of valley at edge of fascia should be at the beginning of the first inside flutes of the valley. (See diagram below)



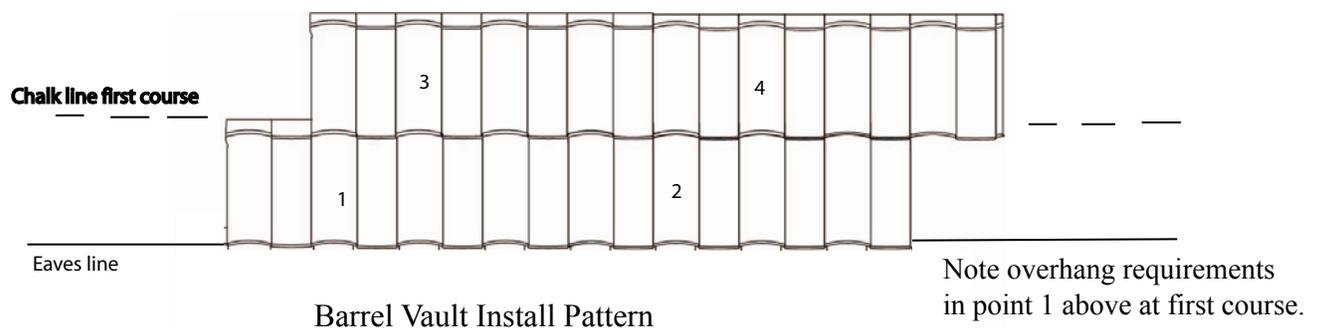
Note: Do not penetrate the valley with stitch screws "care must be taken".

GERARD ROOFING BATTENLESS PRODUCT MANUAL

LAYOUT AND INSTALLATION OF PANELS

- 1- Barrel Vault panels installed left to right. Canyon Shake and NB Tile can be installed either way. Note to adjust for irregular fascia or special eave overhang requirements. Allow for adequate overhang at first course minimum 1/4" (6 mm) ranging to maximum 3/4" (19 mm).
- 2- Barrel Vault installation is started at the left side aligning with Bird Stop Eave fascia contour. Canyon Shake and NB Tile start with full panel moving either way over installed fascia metal
- 3- Measure up from eave on the furthest outside points of roof deck the same overall measurement as the panel you are installing, less 1/4". Drive a nail on each side of deck and string a line between the two. Before installing any panels, measure along the eaves to ensure all of the panels will overhang the fascia. Adjust the string line as needed.
- 4- Begin installing panels as laid out in previous points. Make sure to stagger panels a minimum of 1 pan or 1 pickup point; this will ensure your sidelaps do not line up vertically.
- 5- Continue installing panels course by course upwards until you have installed the last possible full course.

NOTE: *The panel courses must start and remain straight.*



PANELS:

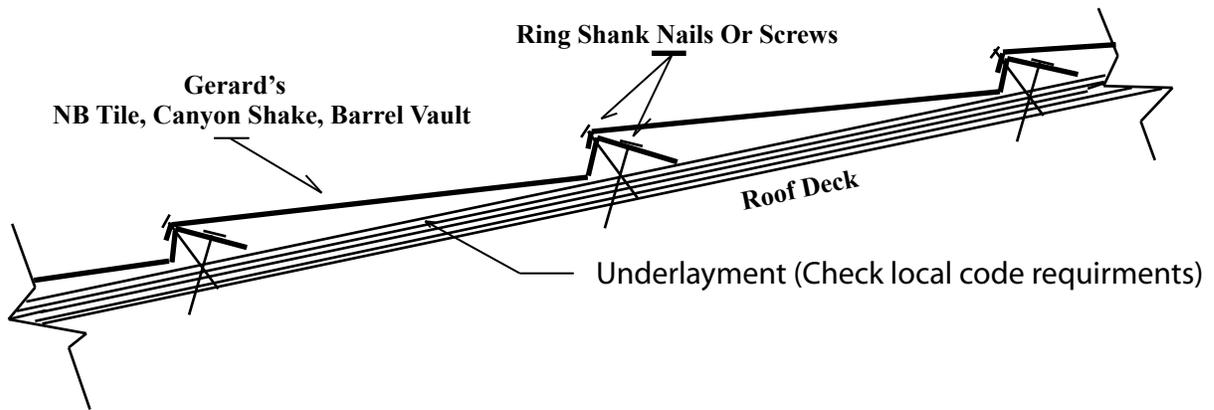
- 6- The first course is fastened through the back flange with a minimum 5 - 8d x 2-3/8" Ring Shank Nails or #10 x 2-1/2" screws.
- 7- After the first course is installed, fall back and install 5 fasteners per panel. (see next page)
- 8- After all full panels are laid, open areas requiring cut panels are measured. Panels are cut and bent to fit. Add minimum upturns required on panels prior to cutting.
- 9- The panels must turn up 1 1/2" at the gable and hips against the wood batten.

NOTES:

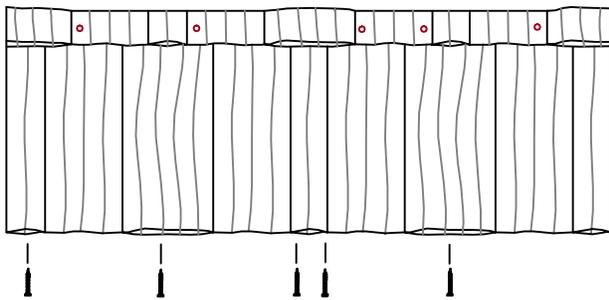
- *For installations in high velocity wind zones see applicable product evaluation reports and local building code requirements.*
- *Ensure same type of fastener is used throughout the installation. Do not intermix nails and screws for panel fastening..*

GERARD ROOFING BATTENLESS PRODUCT MANUAL

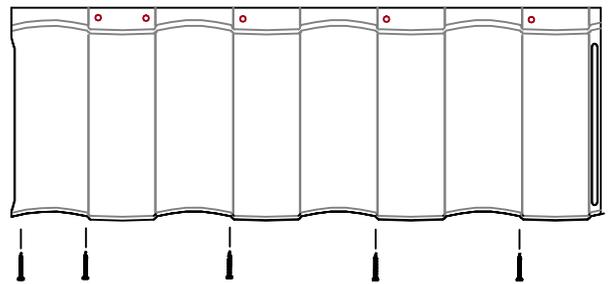
Typical Panel & Fastener Cross-Section



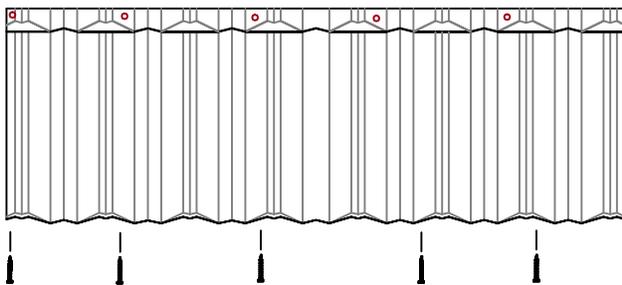
Canyon Shake



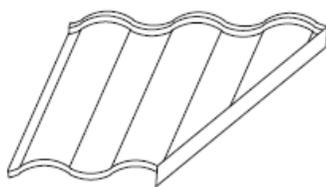
Barrel Vault



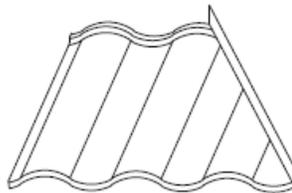
NB Tile



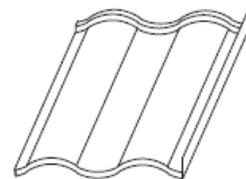
Note: Barrel Vault exposed front fasteners located in transition area of panel front edge between barrel and flat water channel. Do not locate fastener in flat, water channel area of panel.



Valley



Hip

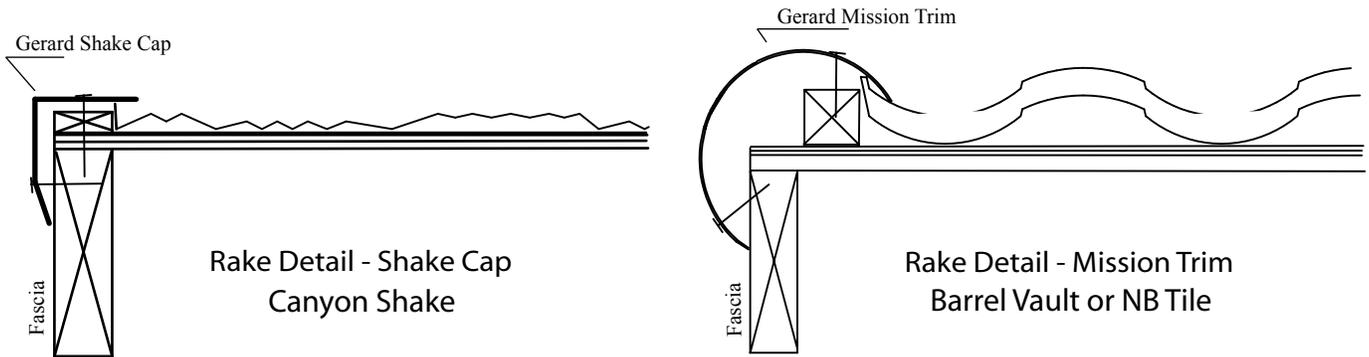


Gable and Sidewall

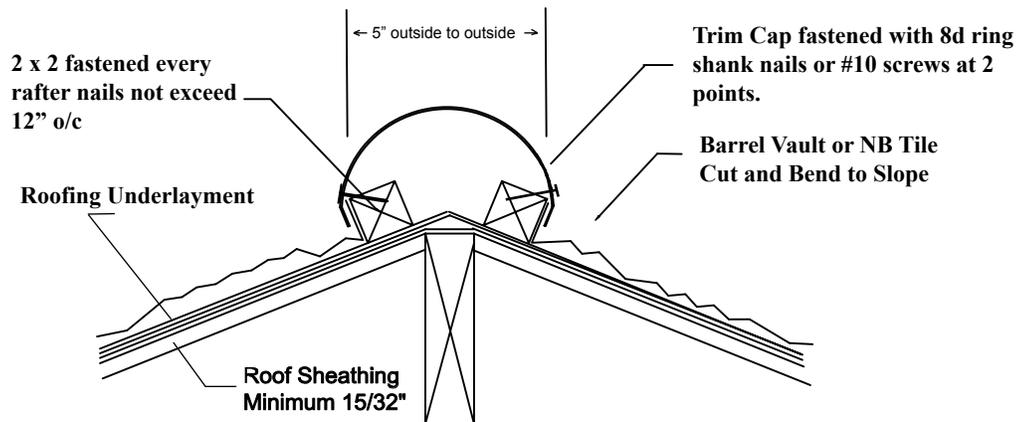
GERARD ROOFING BATTENLESS PRODUCT MANUAL

RAKE TRIM DETAILS

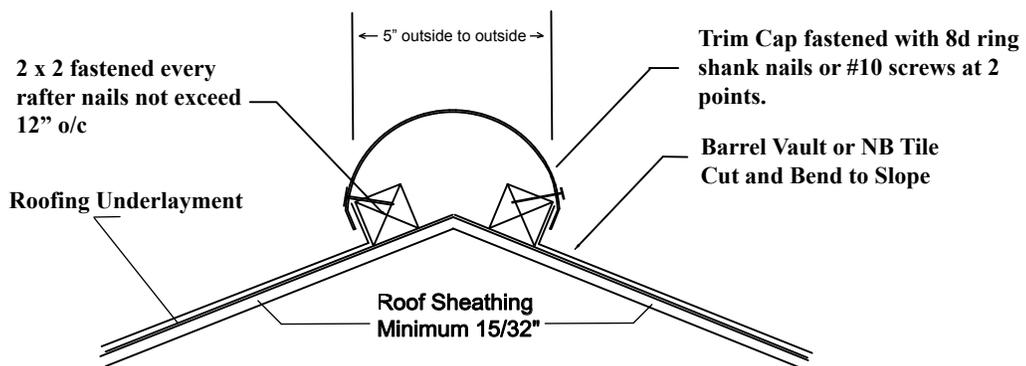
- 1- Mission Trim and Shake Cap used to complete the rakes, hips and ridges.
- 2- Three 8d x 2 3/8" Ring Shank Nails or #10 x 2-1/2" screws used to secure trims. Two fasteners into the sides. The third fastens into the top of the cap.
- 3- Seal and chip top fastener.



HIP / RIDGE DETAILS



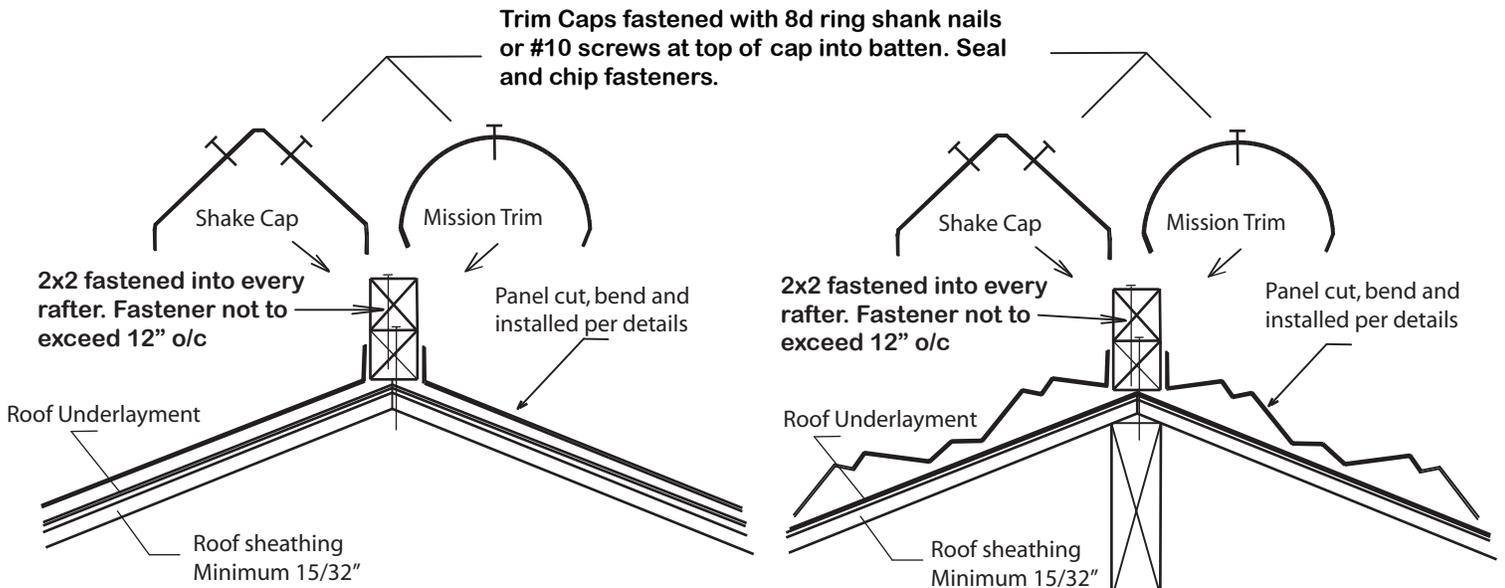
Mission Trim Hip Detail



Mission Trim Ridge Detail

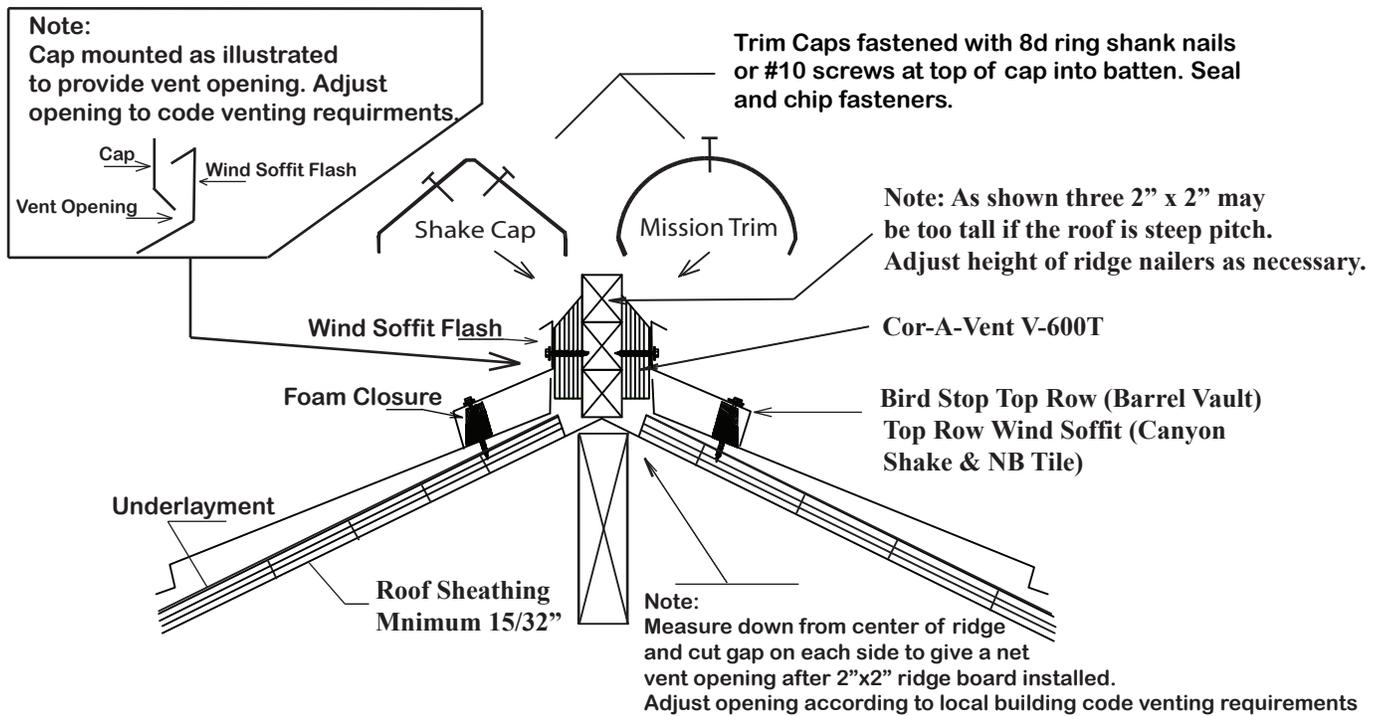
GERARD ROOFING BATTENLESS PRODUCT MANUAL

HIP / RIDGE DETAILS



Universal Ridge Detail

Universal Hip Detail



Vented Ridge Detail

Note:
Detail shown is typical application of Cor-A-Vent V-600T with Gerard Panel roof application of re-roof over existing roof. Refer to all standard application procedures as outlined in the Gerard install manuals and evaluation report instructions.

GERARD ROOFING BATTENLESS PRODUCT MANUAL

RIDGE DETAILS

- 1- Universal Ridge/Hip Detail - Stack two 2" x 2" battens on top of each other to form a solid backer to nail into. See details page 12 this manual.
- 2- Turn panel up 2" on to ridge nailer. If ridge venting is desired, using Cor-A-Vent, see page 13 of this manual. In areas of High Velocity Wind Zones (HVWZ) the use of EZ Vent is recommended. Check local building code requirements and applicable product evaluation reports. *See page 15 for two alternative to EZ Vent.*
- 3- Install Bird Stop Top Row with foam closure under it. *See Figure 1 below.*
- 4- Install mission trim with two 8d (.131) x 2-3/8" ring shank nails or #10 x 2-1/2" screws through the ridge cap and into nailer. *See Figure 2 below.*

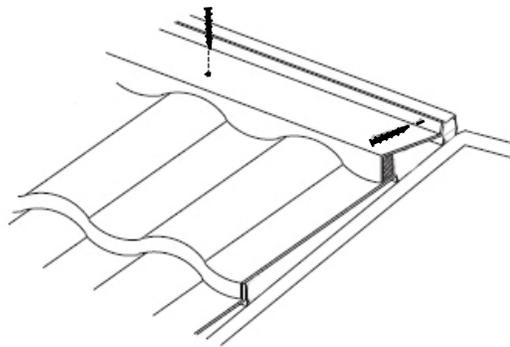


Figure 2.

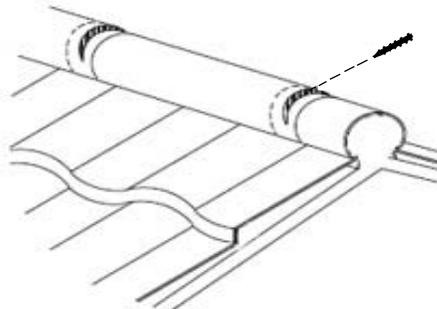


Figure 3.

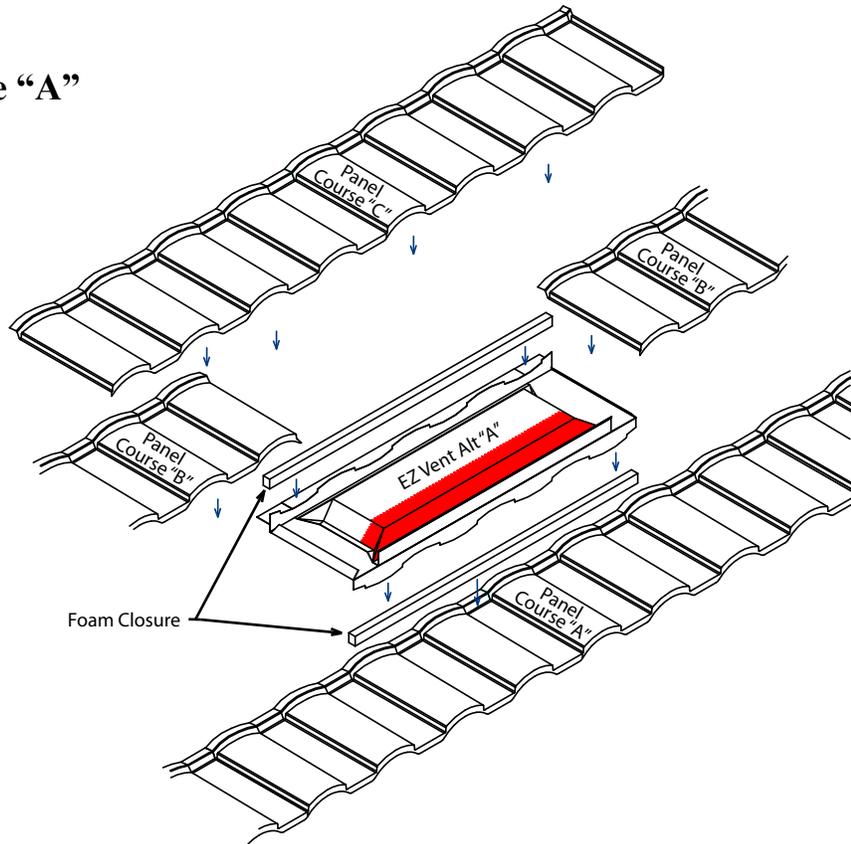
Gerard Product - E Z Vent Two (2) Alternatives

EZ Vent is available for all Gerard profiles..

Alternative "A"

Notes;

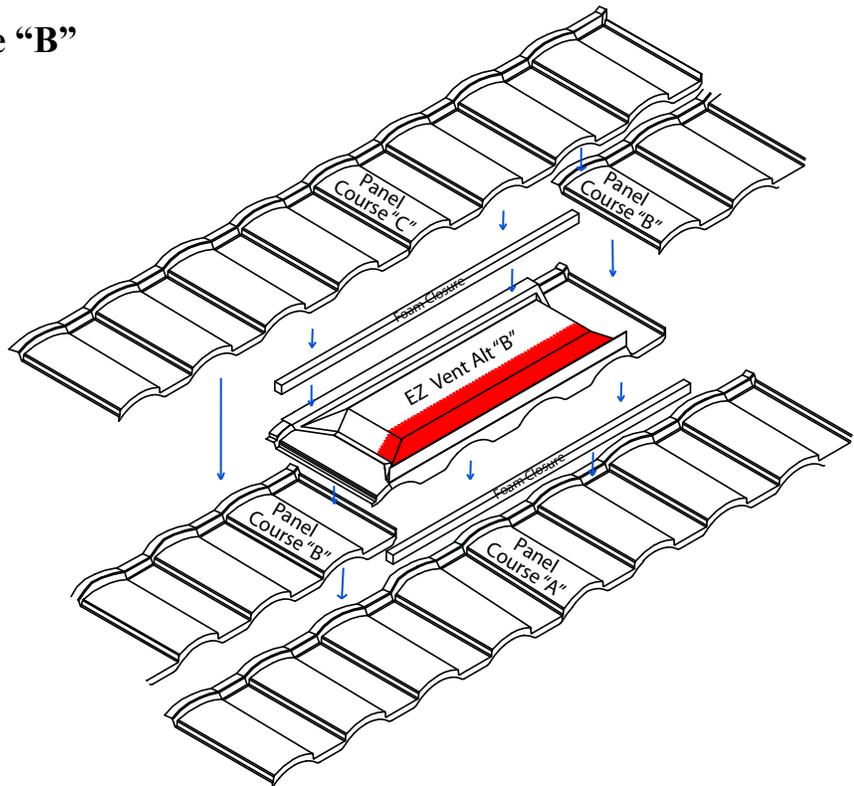
- EZ Vent flat panel installs atop bottom Foam closure panel course "A".
- Panel course "B" installs over EZ Vent both ends. Left and right side panels over the EZ Vent will require on-site modifications to fit proper.
- Panel course "C" installs atop panel course "B" and foam closure required at back of EZ Vent.
- Front nose of panel course "C" sits down into channel backside of EZ Vent over metal bird edge.



Alternative "B"

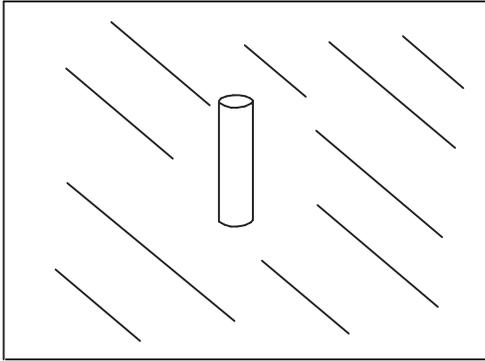
Notes:

- EZ Vent panel installs atop foam closure and panel course "A".
- Panel course "B" EZ Vent laps over left side, under right side.
- Panel course "C" atop foam closure and panel "B" course.
- Foam closure sits on flat area backside of EZ Vent panel.
- The front nose of panel "C" course sits down into metal channel backside of EZ Vent panel.

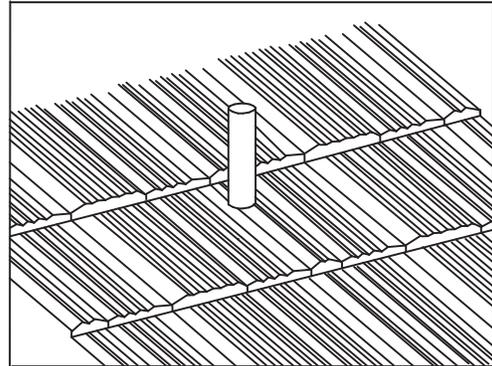


GERARD ROOFING BATTENLESS PRODUCT MANUAL

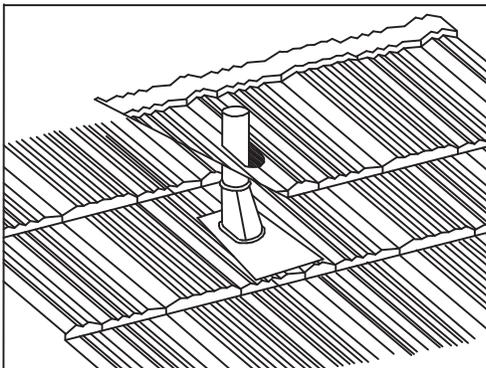
Stand Pipe Pan Flashing



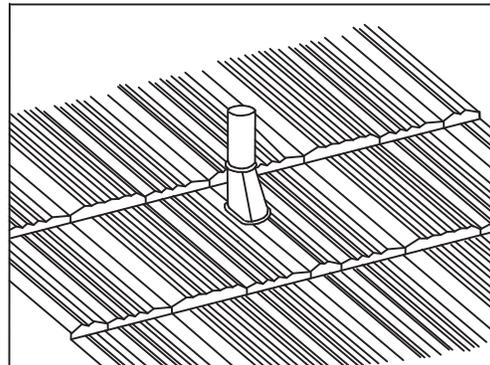
Dry In - Install Underlayment To Deck and Around Pipe



Full Panel Installed Around Pipe



Install Pipe Flash and Second Panel Fitted over Flashing



Fit Second Panel Over Securely. Lap Panels Properly. Caulk and Chip Around Pipe Flashing

Pipe Flashing Details

Buildings requiring a "dry-in" state, should have all conflicting sub-trades complete their work before applying Gerard roof panels. Standard pipe jack galvanized or flexible membrane flashing.

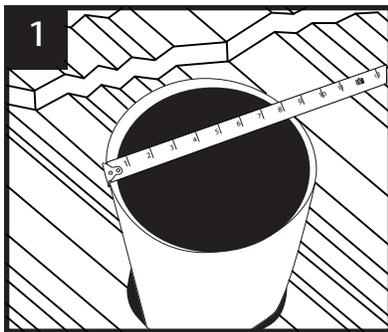
NOTE:

Do not use lead, copper or other dissimilar metal flashings without a separation barrier between.

GERARD ROOFING BATTENLESS PRODUCT MANUAL

UNIVERSAL STAND PIPE FLASHING

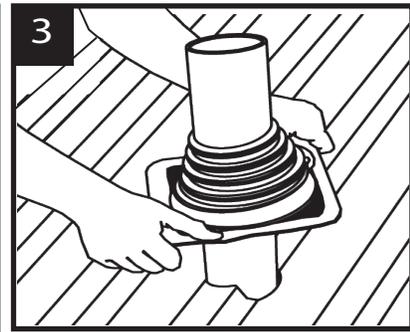
- Neoprene rubber boot flashing can be installed on-site quickly and easily. Be sure to follow manufacturer's recommended installation guidelines.
- Prior to installing the boot flashing, cut roof panel tight to vent pipe and caulk.
- Measure stand pipe to be flashed and select boot flashing with an opening approximately 20% smaller than pipe diameter. If necessary, trim opening to 20% smaller than pipe diameter.
- The following are suggested guidelines. Consult with manufacturer's guidelines, any applicable building codes and product evaluation reports.



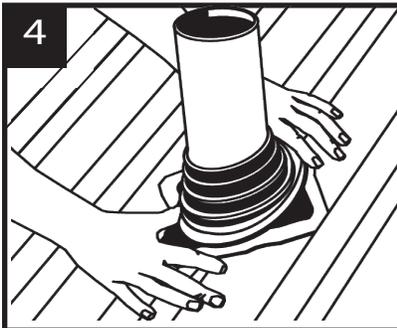
1
Measure for correct pipe size



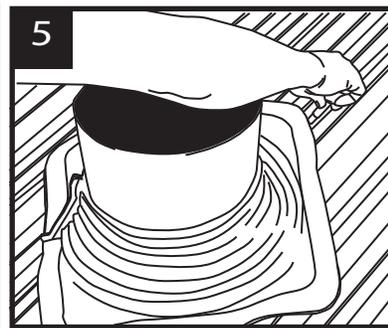
2
Choose pipe opening and trim.



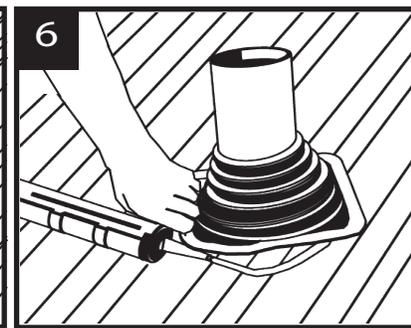
3
Slide flashing over Pipe using water.



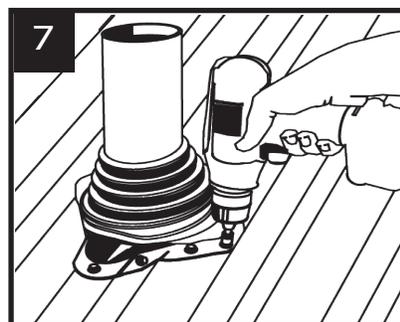
4
Form flashing to roof profile



5
Trace Flashing



6
Apply NP1 Sealant under base, leading edge and press into place.



7
Fasten with screws securing to panel

GERARD ROOFING BATTENLESS PRODUCT MANUAL

CHIMNEY / SKYLIGHT FLASHING DETAILS

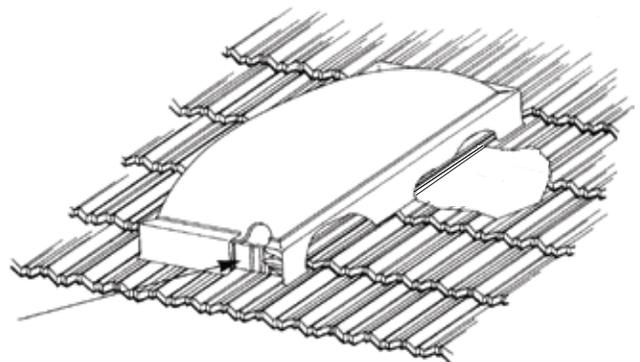
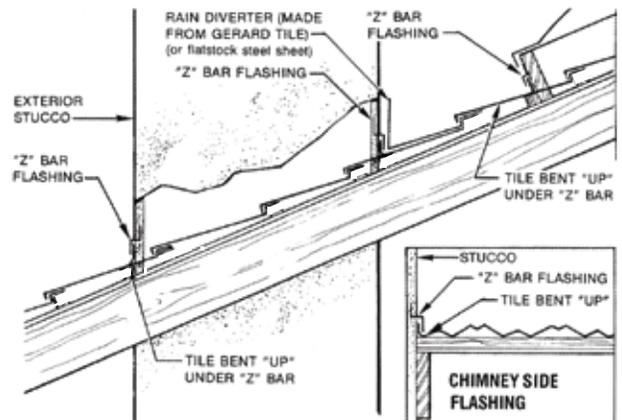
- 1- All panels that turn up at chimney should have a minimum 2" turn up on them.
- 2- Measure and cut Top Row Flashing even with the front of the chimney, allow enough top edge to wrap around the chimney 2".
- 3- Cut panels for the side of the chimney bending the panels cut 2".
- 4- The first panel cuts at the sides of the chimney will have bend ups protruding forward below the front of the chimney. These need to be cut at an angle and bend back down and secured to the top surface of the lower chimney cut and top row closure, secured with sharp point 3/4" screws, caulked and chipped.
- 5- At the back of the chimney, install chimney saddle as shown. Extend saddle minimum 2" past each side of the chimney. See saddle detail and notes below.
- 6- Install foam closure on the saddle prior to installing the next row of panels.
- 7- Apply bead of sealant across foam closure. Panels are fastened through the front downward turn in the panel, foam closure and saddle in to the sheathing.
- 8- Z bar is used to cover all bent up edges.

Flashing Details, Chimneys,

Chimneys and other square cornered roof protrusions are flashed with the Gerard panels acting as the flashing material. Gerard recommends that square cornered protrusions larger than 36" (914 mm) wide are flashed at the rear with a custom metal saddle. For protrusions smaller than 36" (914 mm) Gerard recommends either a Gerard chimney saddle or a custom made saddle. The Gerard panel is turned up against the chimney or skylight, and counter flashed with Z-bar, 3 1/2" (87.5mm) fascia metal stepped flashing, or the skylight down turned flange. (See ill. for details).

Skylights

Skylights for use with the Gerard product must be a "Curb" type. Generally skylight manufacturers provide a down turned lip around the skylight dome which will provide adequate weatherproofing over the turned up Gerard panels. It is recommended that the entire perimeter be sealed and that a diverter be installed above each skylight. If in doubt contact the Gerard Technical Services Department.



Gerard panels turned up against the skylight curb a minimum of 2" (50 mm) and sealed.

GERARD ROOFING BATTENLESS PRODUCT MANUAL

Maintenance

Caulking

We recommend that the caulking be checked for cracking and signs of undo stress every 5 years on any roof system. As caulking is typically utilized at intersections associated with differing roof and wall planes, as well as with mechanical roof protrusions, one must recognize the different expansion rates of these materials to appreciate the stress the caulking must be subjected to which is why we recommend and supply a long life thermal plastic rubber based sealant that is compatible with our roof coating.

Washing

Gerard's coating in general terms, is comprised of acrylic and ceramic stone that does not support fungi growth. However if you wish to remove any discoloration from airborne pollutants and/or fungus off your roof then we recommend washing it with a mild solution of chlorine (2%) and detergent. This should be applied and rinsed with a low pressure washer. Moderate scrubbing with a soft bristle brush may be used on tougher stains. For stucco and mortar droppings, moisten the area slightly and use moderate pressure with a wooden paddle to try and dislodge. After cleaning the area, it should be dried and inspected for coating damage. Touch up moderate scuffing using Gerard finishing kit. Please note the sections on the previous page regarding footwear and roof traffic.

Gutters

When gutters have been installed on the eaves of the roof, ensure that they are below the plane of the roof. Gutters should be cleaned regularly so that the water will drain freely and not back up on or under the Gerard roof system.

Chimneys

Chimneys can be a major maintenance item. Masonry fireplaces absorb water; this may lead to leaking through the masonry and behind the flashings. Spalling of stone and degradation of mortar are also common problems associated with water penetration. Ensure your flashings are installed properly, sealed well and as always, follow local building codes. It is advisable to recommend regular sealing of brick and stone to your clients.

Touch-up and Completion

Complete a final Inspection of the roof. Touch up superficial scuffs with the provided Finishing Kit. Remove all debris from the roof, gutters and jobsite.