



rustic shingle

by Classic Metal Roofing Systems
the peak of modern architectural roofing

Rustic Shingle Installation Manual

Residential Roofing Procedures

Revision 10/07



CLASSIC
METAL ROOFING SYSTEMS

the best roofs under the sun

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Classic Metal Roofing Systems is proud to make available this in-depth installation manual complete with job-sight photos to provide a realistic presentation of a Rustic Shingle installation. This manual is intended for the roofing professional who is experienced with normal safety procedures.

Classic Metal Roofing Systems assumes no responsibility for the improper installation of Rustic Shingle nor for any personal or property injury that may occur with the product's use. This manual contains suggested application procedures; conformity to local building codes is the responsibility of the installer.

Rustic Shingle is an aluminum roofing system engineered for years of service. The distinctive looks, proven long-life durability, energy savings and fire protection combine to make Rustic Shingle the ultimate product for residential roofing. Proper installation, which can be achieved by following this manual, is key to the long-term success of the Rustic Shingle system.

This printing supersedes all previous printings and should be studied carefully.

Fiberglass roofs have usually lost more than 40 lbs. per square in granules. Rustic Shingle has been installed over some existing slate and asbestos roofs although it is imperative that applicators contact the factory for recommendations before proceeding with such a re-roof.

You will notice that the Detailed Instructions suggest using sealants in certain roof areas in order to guarantee an installation unmatched for long-life durability. Only use C-190 color-matched terpolymer butyl rubber sealant on Rustic Shingle installations. Touch-up paint is available from Classic Metal Roofing Systems to match all Rustic Shingle colors.

SPECIAL INSTALLATION ISSUES

RUSTIC SHINGLE

See Index for detailed explanation.

Roof Preparation

Install shingles over sound solid sheathing. To prepare the surface of old composition shingles, nail down any loose or curled shingles and protruding nail heads, remove old Starter Strips and Drip Edges, cut off overhanging shingles and sweep the roof clean. Clay tile, cement, asbestos or metal roofing must be removed before applying underlayment. Refer to the special section on installation over heavy wood shakes for information on that application.

Underlayment

Cover the entire roof with 30 lb. felt or equivalent underlayment, lapping head and end joints 18" and lapping successive courses at least 6". Beginning at left, apply first course along eave. Proceed upward to ridge with the succeeding courses being installed from left to right. Spot nail, as needed, to hold underlayment in place using simplex or plastic cap nails. In areas where the design temperature is 0° Fahrenheit or colder, seal all joints on eave overhanging plus two feet up beyond exterior wall line. Seal these joints as prescribed in the following paragraph. The minimum recommended roof pitch for Rustic Shingle is 3:12.

Special Requirements

Before doing any installation, be sure to check the local code requirements. Some local codes may require special installation procedures to meet fire ratings, wind uplift, or a number of other particular requirements. This manual provides basic installation procedures and does not attempt to describe every installation procedure for every local code requirement. Please contact the factory for technical assistance when any of these special installation requirements are encountered.

Installation Over Stress-Skin Panels

There are concerns with installing roofing over structural insulated panels or other construction methods which result in a non-vented, insulated space directly beneath the roof decking. Roofs constructed with structural insulated or stress-skin panels are the most common occurrences of a non-vented, insulated space beneath the roof system. Stress-skin panels are composite structured panels usually made of expanded polystyrene sandwiched between two pieces of laminated wood sheets. The wood sheets are usually oriented strand board, also known as OSB.

Moisture produced in the living space of a home travels up through the bottom layer of the panel through the polystyrene, then up into the top wood layer of the stress-skin panel. The moisture can travel no further because it is blocked by the underlayment used in the roofing system. As a result the water becomes trapped in the top layer of the stress-skin panel's top wooden layer causing the panel to rot.

Some stress-skin panel manufacturers have designed their products with air channels or grooves to allow outside air to circulate over the panels and help keep them dry in an attempt to prevent the wood from rotting.

Please call Classic Metal Roofing Systems at 800-543-8938 if you would like more information on installation over stress-skin panels.

Layout the Roof

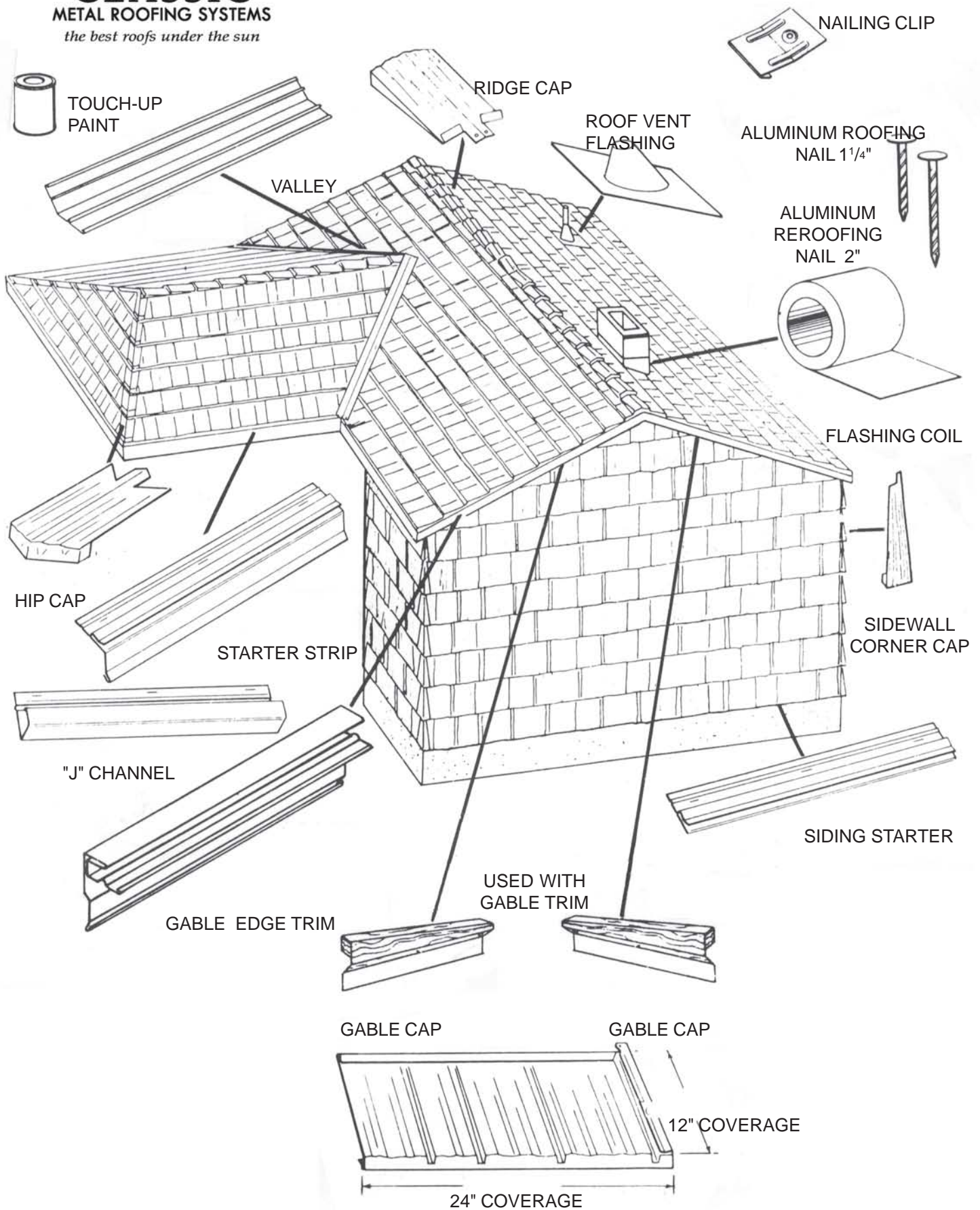
Prior to installing the shingles, look for places where a short course or makeshift flashings may have to be installed. It's best to avoid short courses and odd flashings whenever possible. Short courses usually occur above dormers, chimneys and valley intersections. What commonly happens is, one installer works on one side of a dormer and another installer works on the opposite side of the dormer. When they reach the back of the dormer and they find the shingle locks don't align. A short course of shingles or a special flashing must be installed. Neither one is visually appealing. A third option would be to tear-off one section and reinstall it. There are a number of reasons why the courses don't align: the house is not square or it may have settled.

To avoid short courses, snap parallel chalk lines every foot from the eave to ridge. Make sure the lines extend over the entire roof section. Install the shingles to the chalk line. Always fully engage the shingle locks. In most cases, if there is a short course it will end at the ridge and it will be cover by the ridge caps. In some instances a short course will occur at the eave. A short course at the eave is more visually acceptable than a short course in the middle of a roof section.

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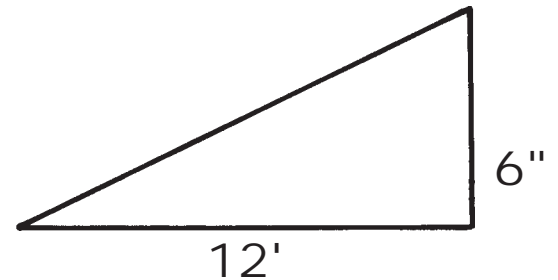
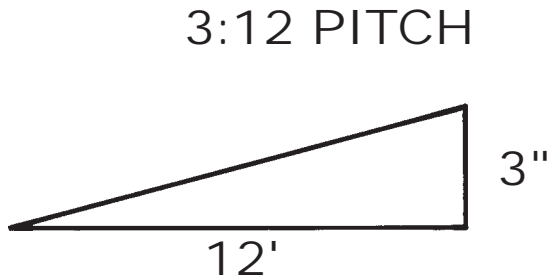
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RUSTIC SHINGLE



CALCULATING ROOF SLOPE

Roof slope is equal to rise over run. For example:



Roof pitch viewfinders are available from Classic Metal Roofing Systems

CALCULATING MATERIALS

Measuring from the ground has many advantages

1. Avoids falling off the roof!
2. Can involve the customer.
3. Avoids making holes in the roof and later hearing “The roof never leaked till you got on it.”
4. It’s easier and just as accurate.

Measuring tools:

1. A strong 100' Tape measure.
2. A 16 ft. Tape measure for gables, eaves, etc.
3. Graph paper of 100 squares per inch. It’s a good idea to put the name of the customer on the sketch.
4. A pencil and eraser.

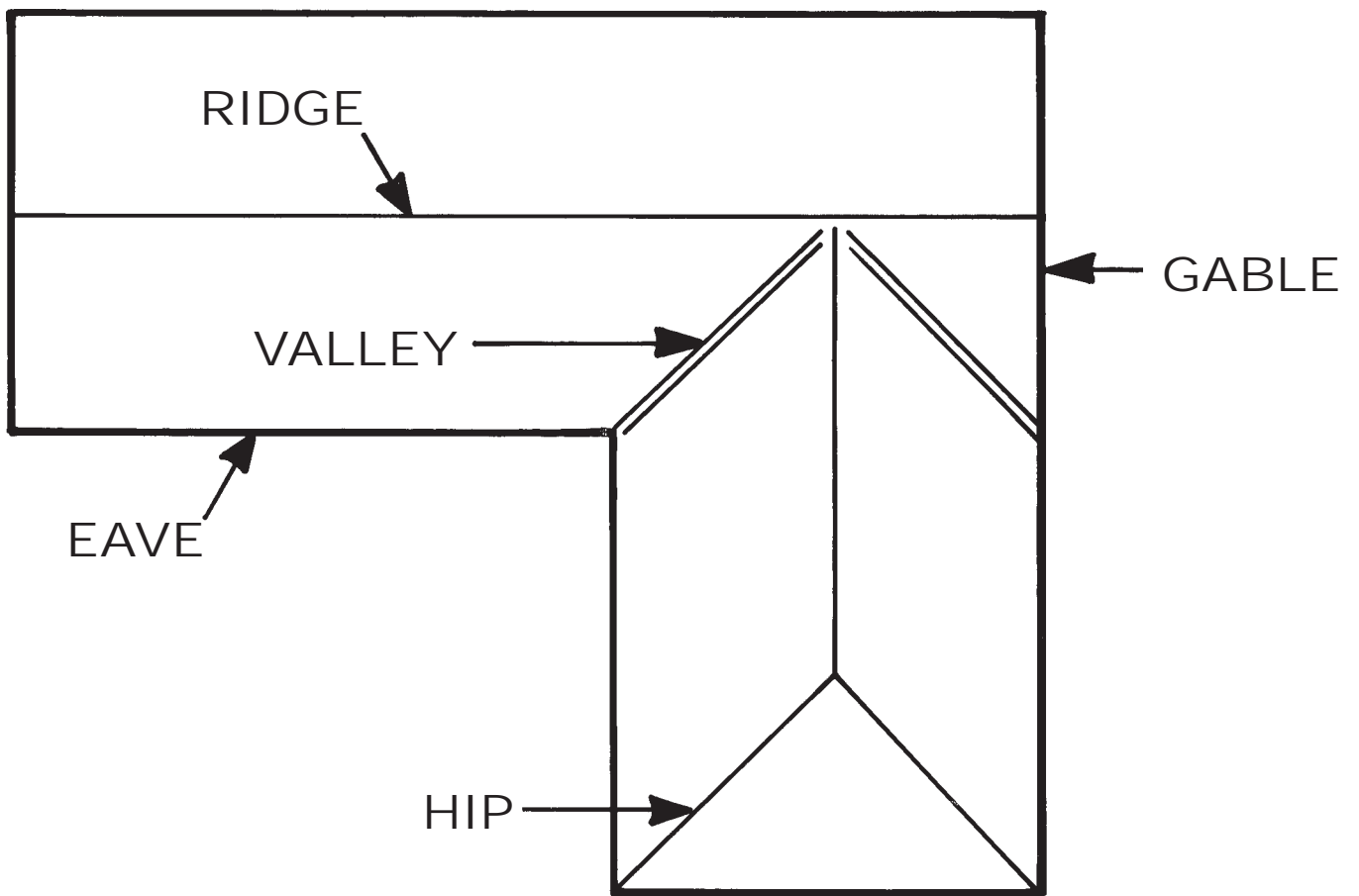
CALCULATING MATERIALS

Measuring the roof:

1. Start from the front of the house at the furthest-most protrusion.
2. Measure from eave to eave. When alone, attach tape to side of house and add the overhang.
3. Measure the home's perimeter and calculate the number of square feet for a flat roof. Sketching the roof on graph paper will be beneficial. One square of shingles will cover 100 square feet.
4. Determine the roof pitch factor by using the guidelines on page 8.
5. Use the table below to determine multiplication factors for converting the flat roof square footage to the required square footage for a hip or gable roof.
6. If the roofline is complicated or has many lineal feet of valley, add the corresponding additional factor to the multiplication factor determined in step #5.
7. Multiply the resulting factor times the flat roof square footage. Divide this number by 100 to determine the required squares of shingles. Round up to the next highest square in all cases.
8. Use illustration on the top of the next page to calculate the lineal feet of eave Starter Strip, Hip Caps, Ridge Caps, Gable Trim, Valley, etc.

In most cases, using the factors below will allow liberally for waste. The other option is to calculate the true square footage of the pitched roof surfaces and add on allowance for scrap. In most cases the scrap will run from 3% to 10% depending on the roof's complexity.

Roof Pitch Factor	Gable Multiplication Factor	Hip Multiplication Factor	Additional Multiplication Factor
3:12	1.12	1.16	.07
4:12	1.15	1.19	.07
5:12	1.18	1.22	.07
6:12	1.21	1.24	.07
7:12	1.25	1.29	.07
8:12	1.30	1.34	.07
9:12	1.34	1.38	.07
10:12	1.40	1.43	.07
11:12	1.45	1.49	.08
12:12	1.51	1.56	.08
13:12	1.57	1.61	.08
14:12	1.61	1.67	.08
15:12	1.69	1.73	.08
16:12	1.76	1.80	.08
17:12	1.83	1.87	.08
18:12	1.90	1.94	.08
19:12	1.97	2.01	.08
20:12	2.04	2.08	.08



RECOMMENDED TOOLS

The following tools may be necessary for proper installation of Rustic Shingle.

Hammer
Power Saw
Ladders
Chalk Line
Caulking Gun
Flanging Pliers

Tin Snips
Utility Knife
Scaffolding
Tape Measure
Hand Brake

CODE LISTINGS

Rustic Shingle has the following codes:

U.L. file	R5100
ICBO	2002
BOCA	6108
SBCCI	2033

INSTALLATION TIPS

- Walk on the shingles' upper halves only and avoid walking on the shingles' sidelocks.
- Take care to not scratch the shingles' surfaces.
- Work from above the shingles whenever possible.
- When working from below, protect shingles with cardboard, carpeting, padding, etc.
- Always keep the uphill portions of flashings on top of the down hill portions to prevent water from running under the flashings.
- Study this manual carefully and do not hesitate to call the factory at 1-800-543-8938 for more information. Be certain that your installation is registered with the factory by obtaining, completing, and returning a Rustic Shingle Warranty Registration.

ROOF PREPARATION

New Roofs: Plywood decking should have a minimum thickness of $\frac{1}{2}$ " and should be secured solidly to the roof deck.

Reroofing: Rustic Shingle can be installed over existing roofs of asphalt, composition, fiberglass and thin wood shingles provided such materials are not badly buckled or uneven and that screwshank nails can penetrate solid decking or spaced sheathing by at least $\frac{1}{2}$ ". Rustic Shingle's light weight/high strength ratio promotes this installation over existing roofs.

Any warped or loose shingles must be nailed down along with any protruding nail heads. Remove all roof debris. Remove existing starter strips and drip edges. Cut off all overhanging shingles and, with dimensional shingles, remove the hip caps and ridge caps. Clay, cement, and metal roofing should usually be stripped and if necessary, replaced with a minimum $\frac{1}{2}$ " solid decking. Contact the factory for details on installation over asbestos and slate roofing.

For installation over heavy wood shakes, refer to this installation guide's special section on installation over heavy wood shakes.

UNDERLAYMENT APPLICATION

In both new and reroofing applications, cover the entire roof with 30 lb. felt or equivalent underlayment, lapping vertical joints by 18" and horizontal joints by 6". It is important to use a plastic cap underlayment nails. Any tears or cuts in the underlayment should be replaced with new underlayment and sealed with roofing cement or C-190 sealant.

Beginning at the left, apply the first course of underlayment along the eave. Allow the underlayment to overhang the bottom of the roof slope by 1½". Rustic Shingle Starter Strip (SH-402) is applied over the underlayment. Proceed upward to the roof ridge, overlapping successive courses by at least 6". The underlayment should always be installed from left to right and nailed with plastic cap nails every 12" horizontally and every 12" vertically

Please inquire with Classic Metal Roofing Systems concerning any specialty underlayments offered with their products.



UNDERLAYMENT APPLICATION

Underlayment must be well-overlapped, particularly on hips, ridges and valleys. Valleys should have additional layers of underlayment spanning their lengths applied after the horizontal courses. Always lap underlayments with uphill portions over downhill ones. Apply one full-width course of underlayment over the ridge once the underlayment is installed on both sides of the roof. If there are any roof pitch changes, maintain the rule of keeping uphill underlayment lapped on top of downhill underlayment.



UNDERLAYMENT APPLICATION

The underlayment should be brought up 2" around roof projections such as vent pipes, turbines, and chimneys. This underlayment wrapping the projection should then be sealed to the projection itself with roofing cement or C-190 sealant.

A typical roof vent pipe will have 4 seals:

1. the original seal
2. the underlayment sealed to the vent
3. the aluminum and rubber boot flashing under the uphill shingle
4. the sealant sealing the gap between the shingle and pipe.



UNDERLAYMENT APPLICATION

In areas where the design temperature is 0° Fahrenheit or colder, seal all underlayment joints on eave overhangs plus 2' up beyond the exterior wall line. Seal such joints as prescribed in next paragraph.

Use plastic cap nails to secure the upper underlayment edges on approximately 8" centers. Seal nail heads and bond between overlapping plies with hot asphalt cement. Apply one full width of underlayment at the ridge. Nail and seal each edge of this ridge underlayment on both sides of the ridge. With factory approval and recommendations, this method of underlayment installation can also be used on roofs from 2:12 to 3:12 pitch.



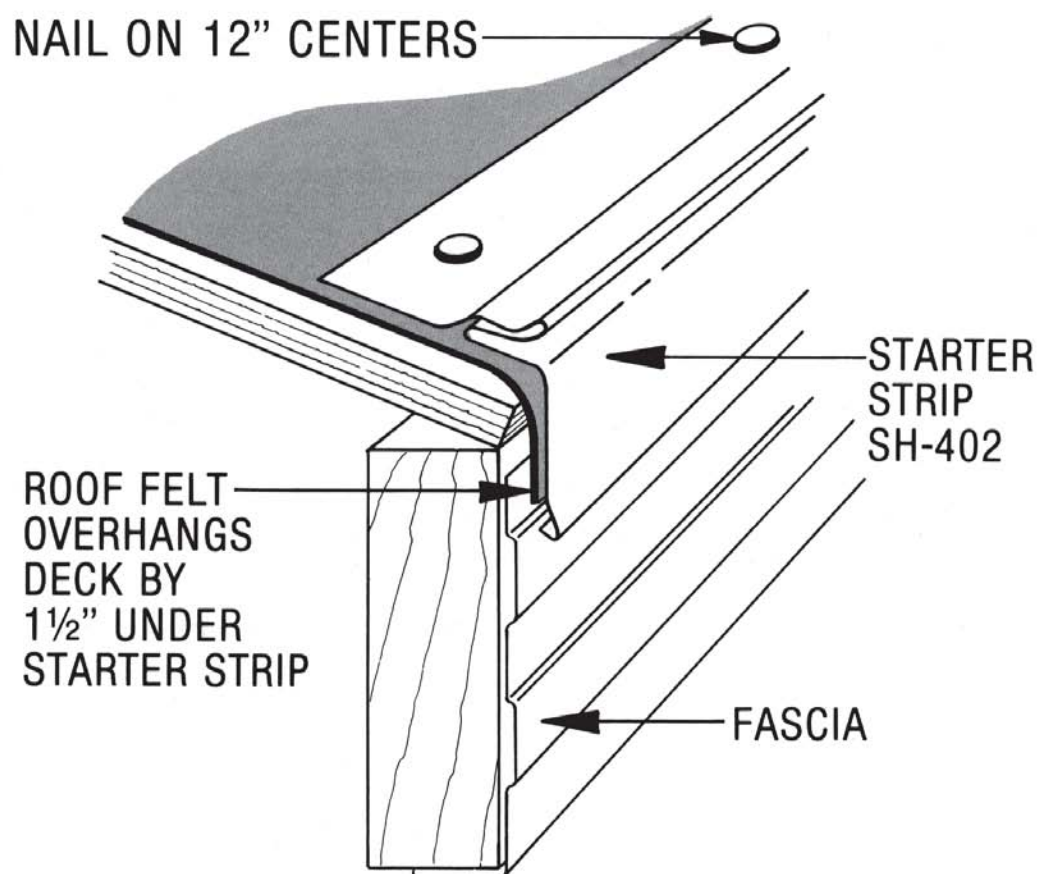
STARTER STRIP

Apply Starter Strip (SH-402) at eaves and nail on 12" centers. Do not face nail the Starter Strip. Before applying the Starter Strip, fold down the 1 ½" of overhanging underlayment and let it lay under the Starter's face. Cut back the lock on the top of the Starter Strip for approximately 3" at the gable edge to accommodate the Gable Edge Trim (SH-417) if it is used. On hip roofs, cut the starter Strip bead and lock in order to fold the Starter around the corner.



NOTE: Felt wrapping the fascia. The starter strip has not been trimmed.

STARTER STRIP



Typical cross section of roof eave and Starter Strip.

SHINGLE INSTALLATION

Use only Classic Metal Roofing Systems Aluminum Screwshank Nails throughout. Nails should be long enough to fully penetrate sheathing by at least $\frac{1}{2}$ " or at least 1" into solid lumber. Install a Nailing Clip (SH-409) in the middle of each shingle, regardless of its location on the roof. At valleys and gable edges, use two Nailing Clips per shingle plus the self-contained nailing tab.

Use only the accessories designed for Rustic Shingle. Do not apply copper, tin, galvanized iron, terne or other dissimilar metal parts with this aluminum roof. Insulate aluminum from contact with existing masonry or metal by coating with bituminous paint or mastic and separating the surfaces with a layer of underlayment.



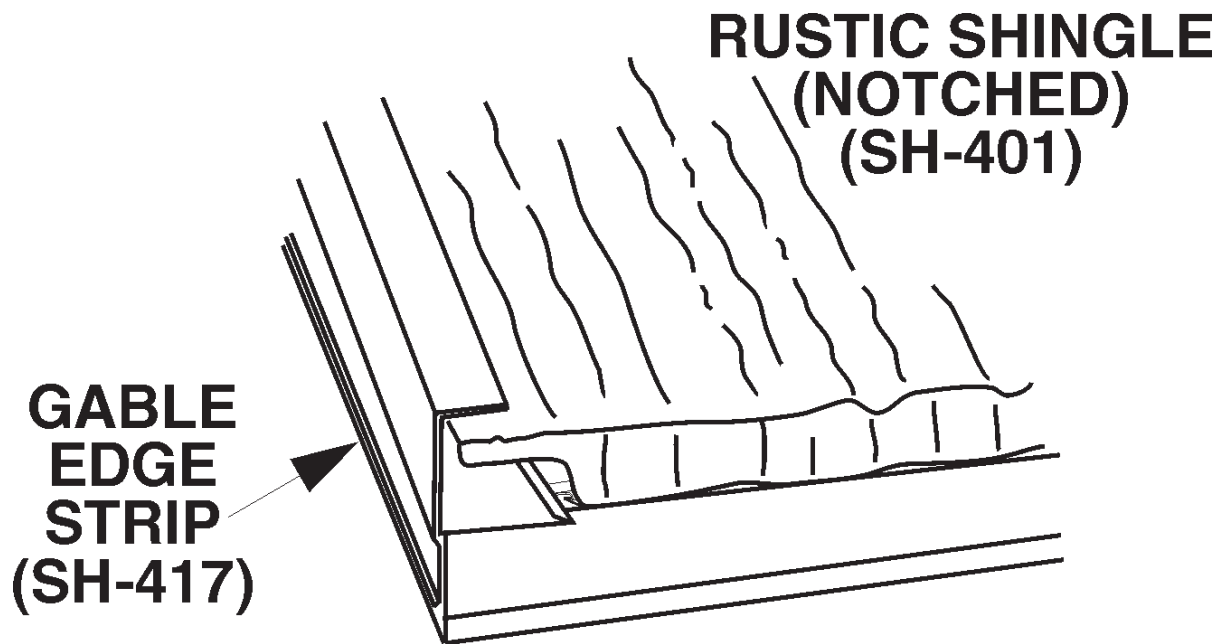
SHINGLE INSTALLATION

On steep pitch installations, distribute weight loads and protect the new roof by placing planks, plywood, cardboard, carpet, etc. under ladders or other types of roof scaffolding. Always maintain level courses of shingles on unusual roof slopes and shapes to properly accommodate the natural flow of water. Contact the factory for suggestions on high-pitched installations.



SHINGLE INSTALLATION

Prior to shingle installation, parts SH-402, SH-405, SH-412, SH-417, SH-421 and SH-425 should be installed. To begin the roof, install a full Rustic Shingle (SH-401) into the Starter Strip (SH-402) lock on the lower left of the roof. Be sure to cut away the shingle butt and lower flange in the roof's lower corner for about 3". Be certain that the Gable Edge Trim (SH-417) extends over the notch in the Starter Strip (SH-402) and beyond the roof eave by 1/2".



Shingle installation normally occurs from the lower left of the roof to the upper right. For narrow roof sections, particularly against hips and valleys, however, it is possible to “hook and slide” the shingles for installation from, right to left in order to ensure shingle squareness and straight runs.

Avoid short courses whenever possible. From the main roof section, measure up from the eave to the ridge, and make a mark every foot, the height of the shingle. At the ridge, snap chalk lines at every 1' mark. Ensure the chalk lines run parallel to the ridge. Snap lines on both sides of valleys, dormers and other obstacles. This will ensure the courses are parallel and there are no short courses.

SHINGLE INSTALLATION

If Gable Edge Trim (SH-417) is used, it should be installed before the shingles and the shingles should extend into it by $\frac{3}{8}$ ". Leave a $\frac{1}{8}$ - $\frac{1}{4}$ " gap between the Edge Trim and the shingle to permit water drainage and allow for expansion and contraction. If Gable Edge Caps (SH-406) are to be installed, shingles must overhang the roof's edge and the already installed Gable Trim (SH-405) by $\frac{3}{4}$ ". Apply a Nailing Clip near the center of each shingle and nail using an aluminum screwshank nail. Also nail through the shingle's nailing tab.

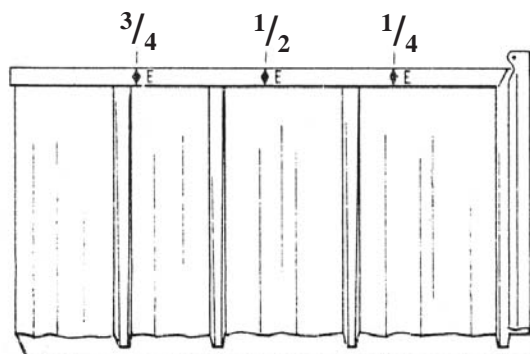


SHINGLE INSTALLATION

Fully engage side and front flanges of succeeding shingles before nailing. Tap Rustic Shingles (SH-401) with palm of hand or hammer handle until tight and flush with neighboring shingles. To ensure maximum shingle tightness, many applicators compress the shingles' top locks a bit with the palms of their hands prior to installation. Be careful not to compress them so much as to prevent proper locking. The Nailing clips can also be pinched for additional tightness.



For random appearance and maximum wind resistance, stagger shingles by starting succeeding courses with $\frac{1}{2}$, $\frac{3}{4}$, $\frac{1}{4}$ shingles. Repeat this sequence (full, $\frac{1}{2}$, $\frac{3}{4}$, $\frac{1}{4}$ shingle) when starting remaining sources. This same stagger should be created on hip roofs as well.



TYPICAL INSTALLATION PHOTO

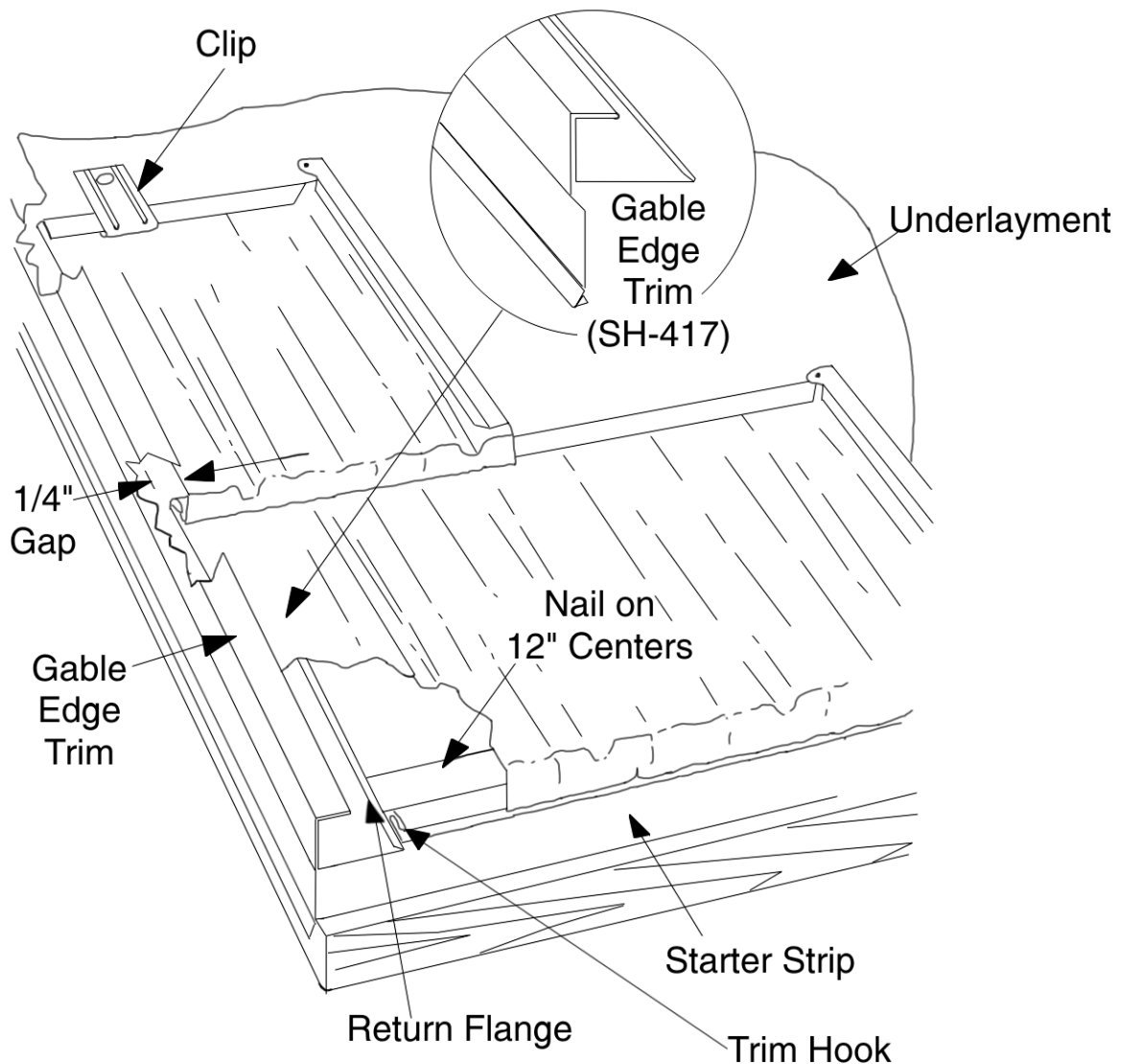


GABLE EDGE TREATMENTS

There are two methods of sealing gable edges. One method is with Gable Edge Trim (SH-417) and the other is with Gable Edge Caps (SH-406).

For Gable Edge Trim (SH-417), plumb cut the trim, snipping leg of the trim to accommodate the Starter Strip and then nailing the trim on 6" centers, using Nailing clips connected to the return flange. When installing shingles, leave a 1/8" to 1/4" gap between the shingles and the inside of the SH-417. Special care must be taken to not flatten the Gable Edge Trim's return flange as it prevents water from running under the shingles. Notch the butt edge of the bottom shingle. Face nail the Gable Edge Trim drip leg into the gable fascia using trim nails in areas of high wind potential.

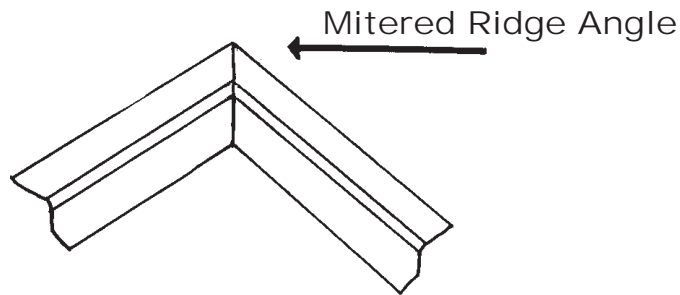
NOTE: For applications with "flared gables" (the ridge is wider than the eave). Classic Metal Roofing Systems' special Flared Gable Trim **must** be used. Contact the manufacturer for details.



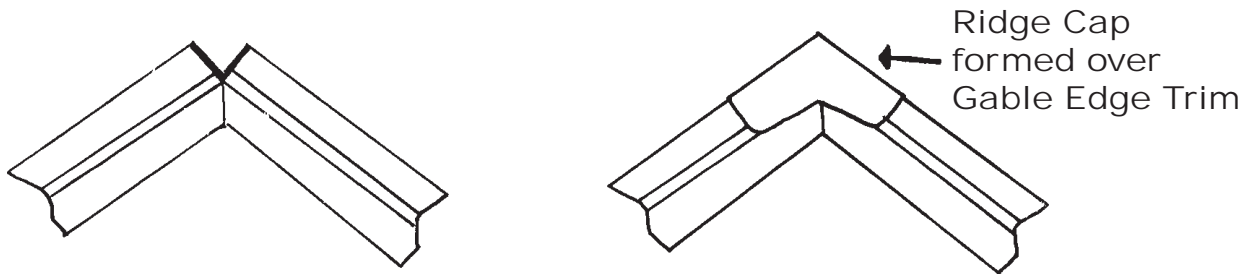
GABLE EDGE TREATMENTS

On the slope, lap Gable Edge Trim (SH-417) with the uphill section inside of the downhill section for at least 4". Do not just butt the sections together. Seal between the pieces with C-190 sealant.

At the roof peak, the SH-417 can be cut for a finished mitered angle. Lap the pieces of trim at the ridge where the miter occurs.

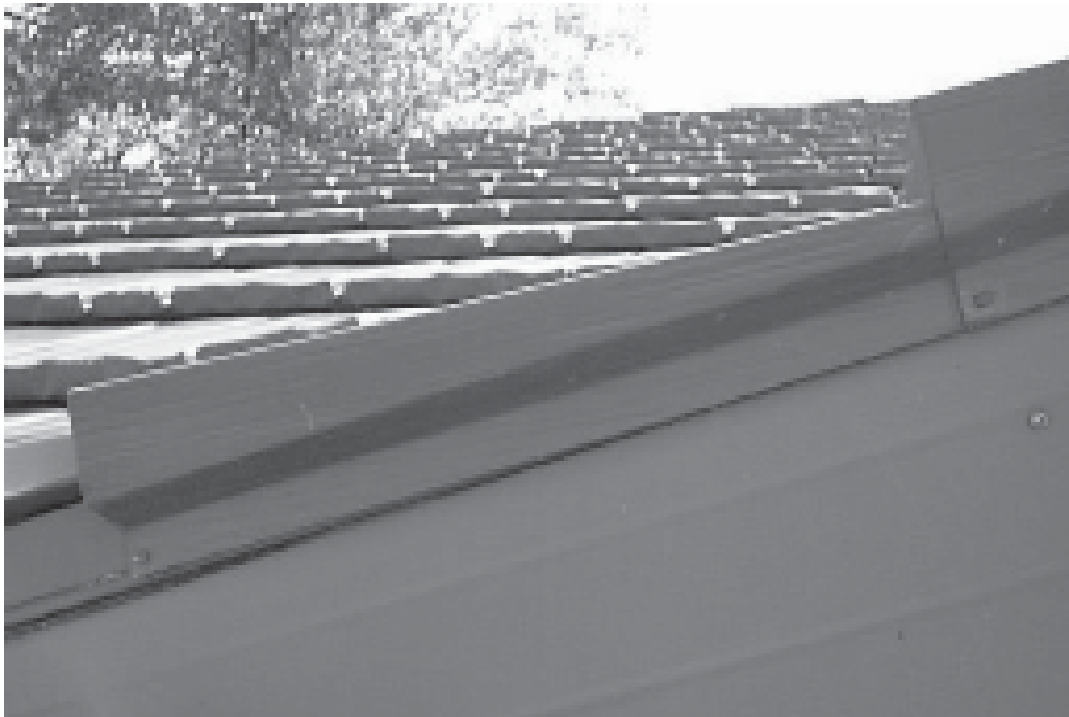


On the gable end where the Ridge Cap butts will face outward, the Gable Edge Trim (SH-417) may be simply notched and bent over the ridge, later to be capped by a Ridge Cap butt (SH-407). If desired, the Ridge Caps can be run from both ends in this manner and meet in the center. Refer to this manual's section on Ridge Cap installation.



GABLE EDGE TREATMENTS

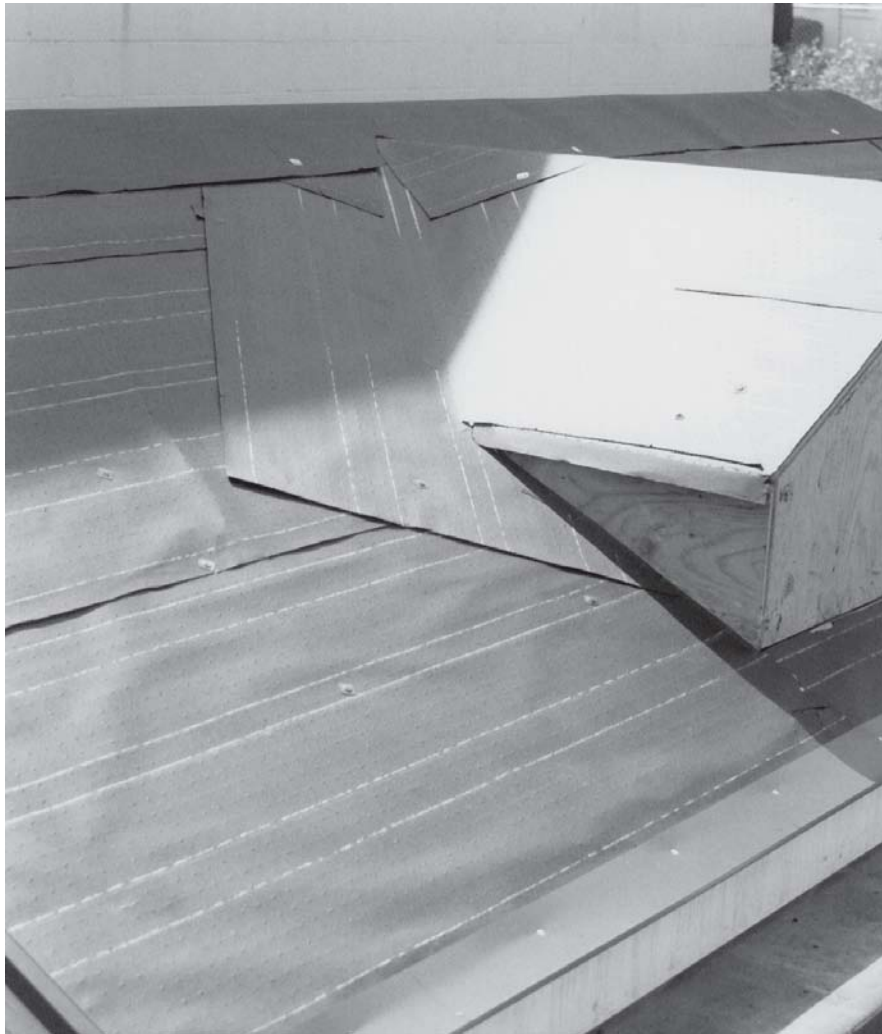
For Gable Edge Caps (SH-406), shingles must overhang the roof's edge by $\frac{3}{4}$ ". Before shingles are installed, run Gable Trim (SH-405) the length of the gable and nail on 12" centers, using Nailing clips connected to the return flange. At the eave, run SH-405 on top of the Starter Strip. After shingle installation, apply the caps individually to the ends of the shingle courses and nail down using the pre-punched holes. Nail heads can be painted later with Touch-up Paint (C-284). Both left-and right-hand caps are available and installed with the cap's extended portions hanging down over the Gable Trim (SH-405). To determine if a cap is a left-end cap or a right-end cap, look into the eave, not the gable.



VALLEY TREATMENT

Valleys are prepared by lacing the horizontal underlayment over them and then running a full width of underlayment down their lengths. Use plastic cap nails as necessary to hold the underlayment. Chalk mark the valley's center line or run two marks down the sides of where the one-piece valley will lay. Valley (SH-425) is then laid the length of the area, bent down and overlapped 2" at the top and left hanging over 2" at the bottom.

Valleys should be run in one length if possible or else with the uphill portion overlapping the lower by 6" on top of it. The return flanges at the edges of the one-piece aluminum valley must never be flattened as they prevent water from draining under the shingles. Seal the joint between the valley sections.



VALLEY TREATMENT

The Valley (SH-425) and its return flanges must overhang the starter strip and the roof eave and be cut with an angle to match the inside corner of the home. The return flanges are used to hold Nailing Clips to secure the Valley with aluminum screwshank nails every 12" on both sides. Do not flatten return flanges.

For maximum weather-tightness and the best look, fold the bottom edge of the valley under and insert it into the Eave Starter.



VALLEY TREATMENT

Overlap the shingle at the valley and form the edge shingle to extend down over the valley's ridge dams by $1\frac{3}{4}$ " at the shingle butt and taper the edge to $\frac{3}{4}$ " at the top of the shingle. Trim the edge of the starter course to $\frac{3}{4}$ " at both the butt and top.

Snap chalk lines to ensure the shingle courses do not "grow" (extend uphill) as you approach the valley.

A template can be made of the necessary angle and used to cut and form shingles on the ground.



VALLEY TREATMENT

The shingle top lock and butt must be cut at the point where they intersect the valley's ridge dams and flattened. It is also necessary to close and flatten the major creases in the shingle, extending this treatment from the angle cut up about 3" into the shingle. This is achieved by carefully hammering the back of the shingle, protecting the shingle front with a piece of carpet or cardboard. Fold the grooves over to one side, then flatten.



VALLEY TREATMENT

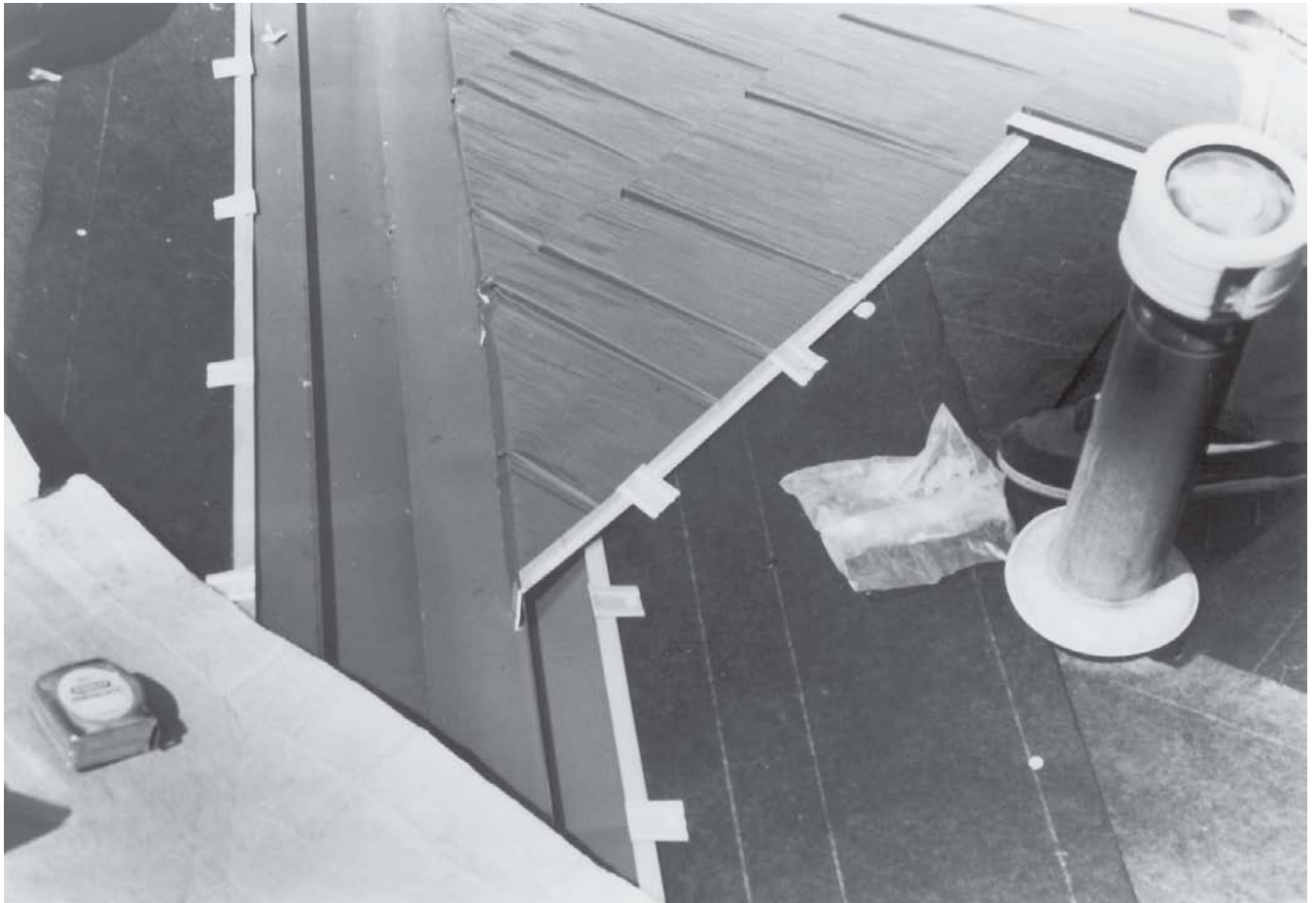
Fold the entire overlapping area of the shingle down to extend over from the valley's ridge dam to the base of the valley. When folded over, the shingle's flattened butt should extend past the top of the lower shingle course. Trim the cut edge after flattening to a straight line. The top lock will lie on top of the Valley dam, making a slight slope back to the roof deck outside of the Valley.



VALLEY TREATMENT

During installation, shingles must be pulled and bumped firmly against one another and meet the Valley snugly. Fasten the shingles with aluminum screwshank nails, using two Nailing Clips per shingle in the Valley area. Small sections may have to be pop riveted to a larger section. Seal any rivets. Ensure the course runs straight, not uphill or downhill.

Hint: Simplify the valley installation by selecting where the flattened area is (example at the wider grained area).



Hint: When installing shingles from the valley to the right, it is helpful to connect a full shingle to the right side of the partial shingle to ensure squareness and a straight run. Avoid having two shingles intersect the valley on one course by creating the shingle stagger with a field-formed shingle of less than full width as the shingle next to the one which intersects the valley.

VALLEY TREATMENT

If two Valleys from different angles join together, they must be trimmed to overlap. Fasten the Valley using Nailing clips and aluminum screwshank nails. Pay close attention to not impede the natural water flow and keep uphill flashings on top of downhill flashings. The Valley's return flanges, again, are **not** to be flattened.



VALLEY TREATMENT

A well done two-Valley treatment. Notice the short course of shingles required to match course above and left of the valley intersection. If the roof was pre-planned with parallel chalk lines prior to installing the shingles, the short course could have been avoided.



VALLEY TREATMENT

Another well done two-Valley treatment. Notice the formation of Ridge Caps (SH-407) into the Valley. Note how the Aluminum Valleys allow the water to flow naturally. Note also how the neighboring shingles slope up to the Valley, not draining the water flowing down the roof toward the Valley but channeling such water down the roof to the gutters or drip edge.



SIDEWALL FLASHING-NEW CONSTRUCTION AND EXISTING SIDING

Apply SH-421 Sidewall Flashing against the sidewall, lapping the joints by 4", keeping the uphill section on top of the downhill section. Fasten the Sidewall Flashing to the roof deck on 12" centers using Nailing Clips and aluminum screwshank nails.

If the Sidewall Flashing cannot go under the siding, nail it to the sidewall and apply sealant to the edge of the flashing. Use color-matched sealant (C-190) to cover the nail heads.

If preferred, a field-formed "L" Channel with a ridge dam and return flange can be installed in place of the Sidewall Flashing. The shingles are then folded over the ridge dam as they would be folded over a valley's ridge dam.



Note: For Flashings against existing stucco or other irregular surfaces, it may be necessary to fasten the flashing to the wall with a terminator bar of extruded aluminum. The flashing is sealed to the wall and the terminator bar, installed at the top of the flashing, is screwed or bolted through the flashing and into the wall the entire

length of the flashing.

SIDEWALL FLASHING-BRICK

In this case, the wall must be sawed using a masonry blade at a depth of $\frac{1}{2}$ " about 5" up the wall. The cut is made to keep parallel to the roof deck by following a pre-drawn chalk line.



SIDEWALL FLASHING-BRICK

To prevent the aluminum from contacting the masonry, thoroughly coat the area of the wall below the cut with mastic or roofing cement. It is recommended to run underlayment up this portion of the wall. Be careful not to allow portions of the underlayment to trap water under itself.



SIDEWALL FLASHING-BRICK

Form a lip on the top of a Sidewall Flashing (SH-421). The lip will extend into the 1/2" saw cut. As always, do not mash the return flange. Install the flashing with Nailing clips.

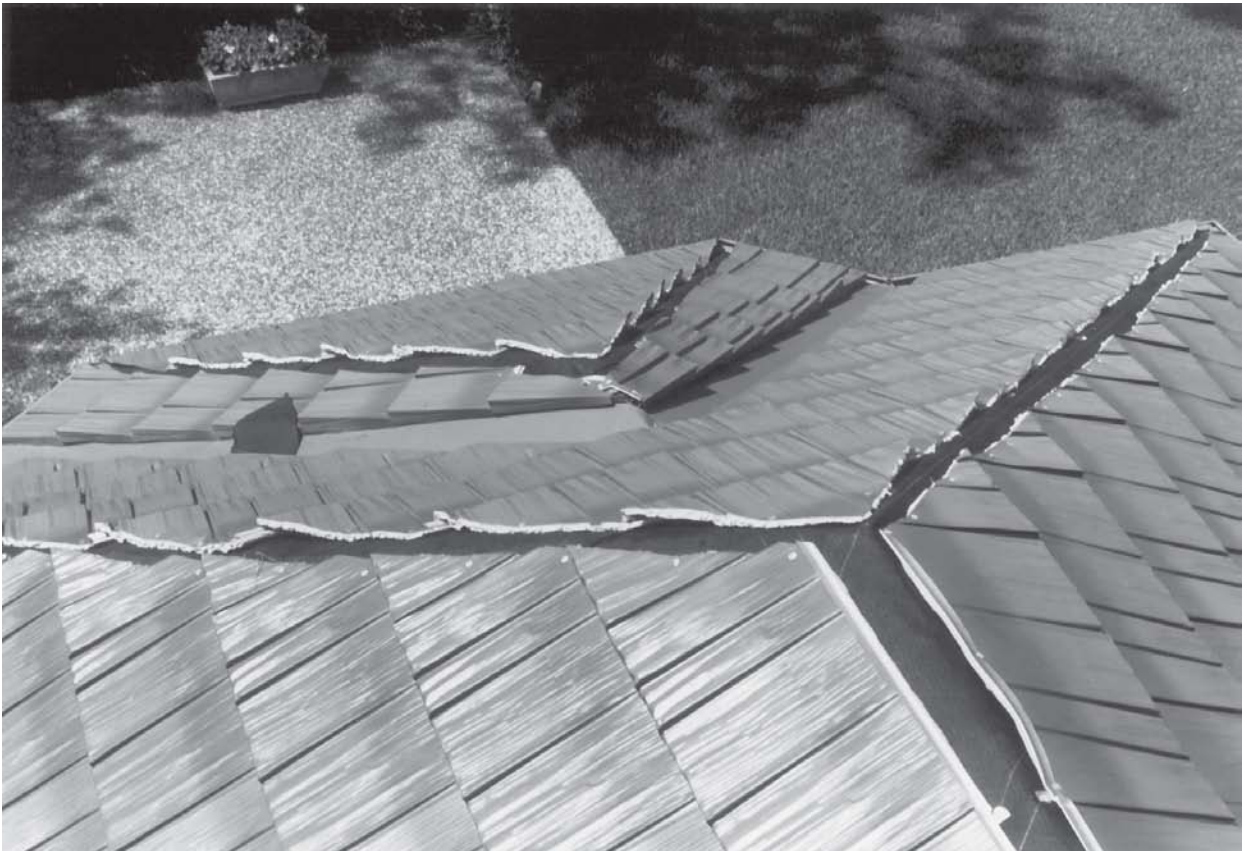


HIP CAPS

When approaching the lower edge of a hip, notch the Starter Strip as necessary to fold it around the corner. Trim the shingles on both sides of the hip to within no more than 1" of the centerline of the roof hip. Such centerlines can be chalk marked.

Nail the tops and edges of these partial shingles at the hip using two Nailing Clips per shingle and aluminum screwshank nails. Shingle courses to the right of the hip should be staggered for random appearance with the full, $\frac{1}{2}$, $\frac{3}{4}$, $\frac{1}{4}$ shingle sequence described in the "Shingle Installation".

For near-vertical mansard roofs, Mansard Caps (SH-420) are available from the factory.



Shingles awaiting Hip Cap installation. Note the valley treatment.

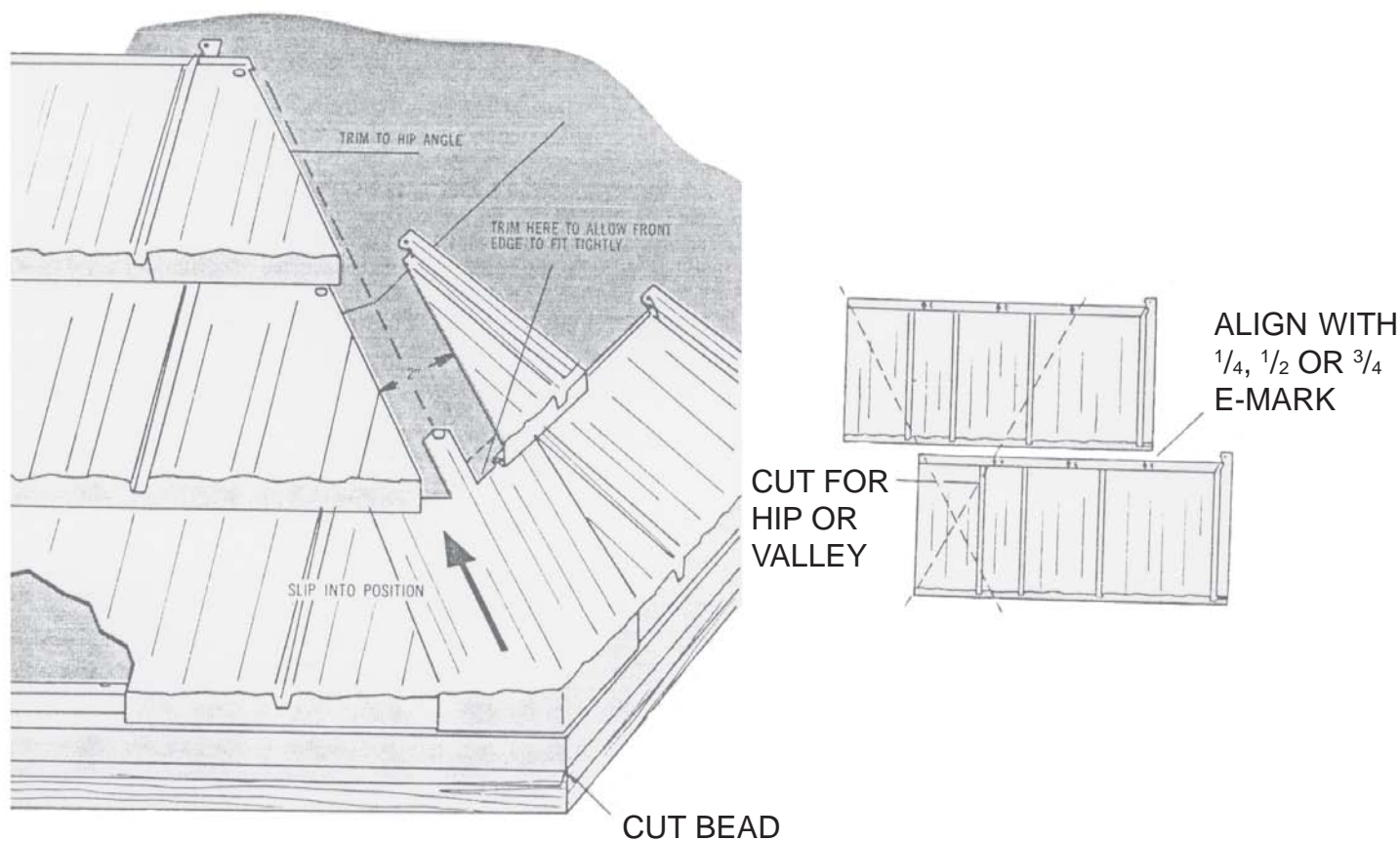
Hint: When installing shingles from the hip line to the right, it's helpful to connect a full shingle to the right

side of the partial shingle to ensure squareness and a straight run.

HIP CAPS

After both sides of the hip are shingled, install Hip Caps (SH-408) by slipping the back end up under the top flange of the adjacent shingles until the front edge of the Hip Cap locks over the butt edge of the adjacent shingles. Nail the Hip Cap at its top center. If the front of the Hip Cap does not lock over the shingles, trim the back of the Hip cap until fit is achieved. Hip caps must be fitted as tightly as possible.

In rare instances where shingle courses mismatch across hip due to unequal pitches of the roof, hook Hip Cap to the lower course. Make filler piece for gap in other side and attach it with aluminum screws. Also, Ridge Caps (SH-407) can be used in place of Hip Caps in this instance by overlapping the shingles at the hip and flattening the shingle butts under the Ridge caps. In this instance, a Hip Cap is used at the eave. A third alternative is to re-brake one butt edge of the hip cap in order to make the required angle. Contact the factory for details.



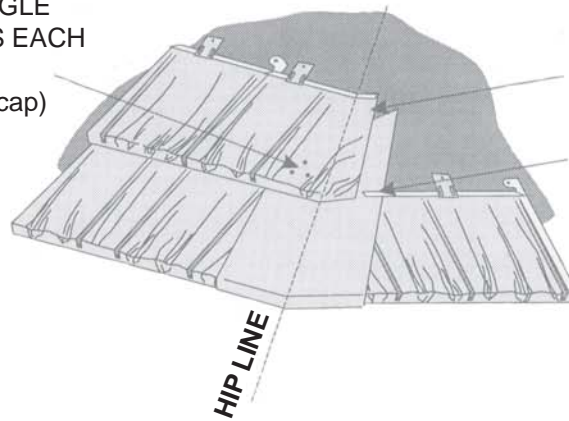
NOTE: An alternative to cutting the shingles at an angle back from the hip line is to cut them at a 90° angle from where the shingle butt hits the hip line. The shingles are over lapped across the hip line and trimmed as

needed to be covered by the Hip Caps (SH-408).

HIP CAPS INSTALLATION FOR MAXIMUM WIND RESISTANCE:

1. Slit the top locks of the shingles just enough to slide the full length of the cap through.
2. The shingles in the next course should be installed over the upper end of the ridge cap.
3. On the left side of the hip, bend the shingle across the hip line. Flatten the shingle and remove some of the excess material. Drive three nails through the face of the shingle, the hip cap and into the decking.
4. On the right side of the hip, bend the shingle across the hip line. Flatten the shingle and trim the edge of the shingle so the next cap will cover it. Drive three nails through the face of the shingle, the hip cap and into the decking. The next hip cap will cover these nails.
5. Install the next cap by slitting the top locks of the shingles just enough to slide through the full length of the cap.

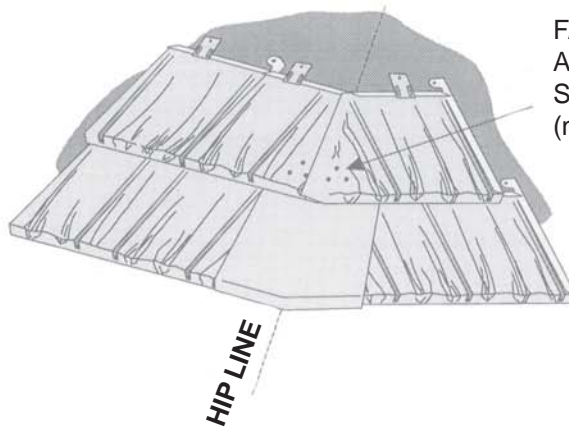
FACE NAIL THROUGH SHINGLE
AND HIP CAP. THREE NAILS EACH
SIDE OF HIP LINE
(nails will be covered by next cap)



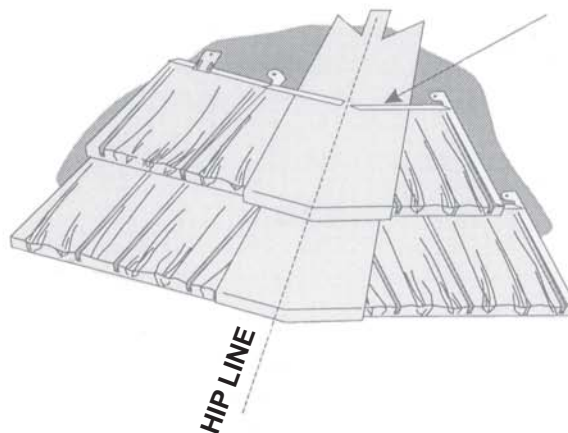
BEND SHINGLE ACROSS HIP
LINE, FLATTEN AND TRIM

SLIT TOP LOCKS JUST ENOUGH
TO SLIDE FULL LENGTH OF HIP
CAP THROUGH

FACE NAIL THROUGH SHINGLE
AND HIP CAP. THREE NAILS EACH
SIDE OF HIP LINE
(nails will be covered by next cap)



SLIT TOP LOCKS JUST ENOUGH
TO SLIDE FULL LENGTH OF HIP
CAP THROUGH

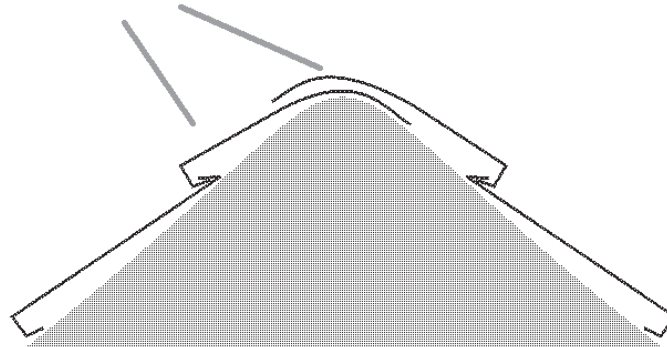


RIDGE CAPS

Make the ridge watertight prior to installing the ridge caps. Either bend the shingles over the ridge or form flashing to cover the ridge.

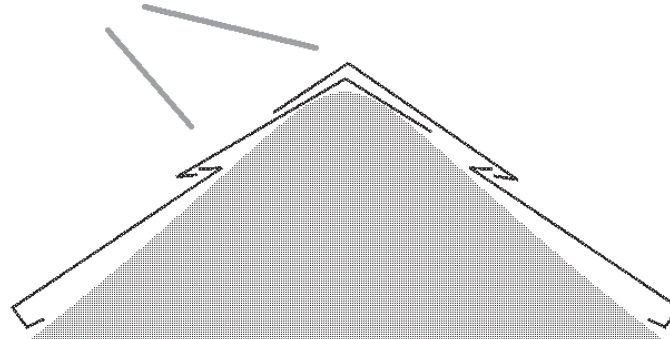
If the last full course of shingles is more than 6" from the ridge, install an additional course of shingles. Bend the top course of shingles over the top of the ridge and nail down with aluminum screwshank nails.

BENT SHINGLES



If top of the last full course is less 6" from the ridge, use Trim Coil (C-250) to field-form a top flashing consisting of two pieces. Each piece will lock into the top lock of the shingle and bend over the ridge. This same thing can be achieved with one piece of flashing but this will require greater accuracy of dimensions. Always keep uphill flashings on top of downhill flashings to prevent water from running under the flashings.

FIELD FORMED SHINGLES



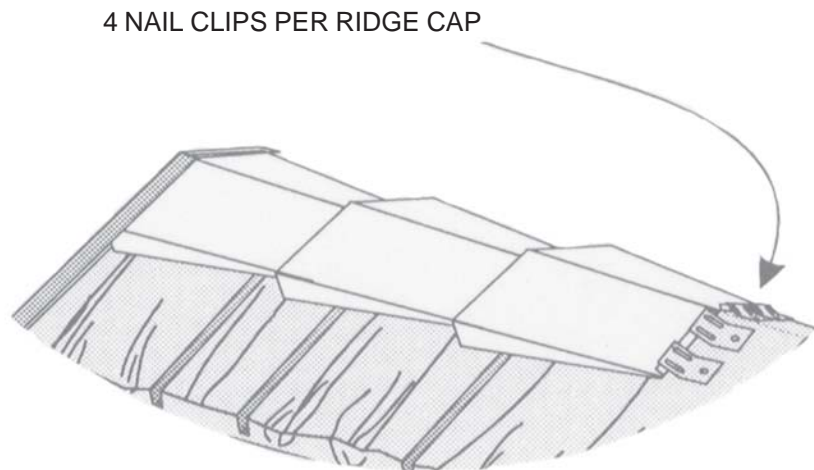
RIDGE CAPS

Ridge Cap (SH-407) installation occurs either on top of the lapped shingle course or on top of the field-formed lapped flashings.

To begin Ridge Cap (SH-407) installation, insert the first cap over a field-formed starter strip and hook securely. The butt edge of the Ridge Cap hooks over the starter and under Gable Edge Trim (SH-417) or above Gable Edge Cap (SH-406). Attach this Ridge Cap with four Nailing Clips (SH-409), two per each upper flange, and aluminum screwshank nails.

Apply succeeding Ridge Caps by engaging bottom butt flange of new cap into top flange of previously installed cap. Attach new cap with four Nailing Clips and aluminum screwshank nails.

On roof pitches under 4:12, it is advisable to seal the Ridge Cap nail shanks by coating with sealant before driving them in.



NOTE: In areas with potential for high winds, it is best to install the Ridge Caps with their low ends facing

into the predominant wind direction. This allows the wind to pass smoothly over the caps.

RIDGE CAPS

Ridge Caps may be started at both gable ends, run toward the middle and finished by meeting the upper portions of the two caps at the center and joining them with sheet metal screws. Cover the screws and fill in any gaps with sealant. Flashing Coil (SH-450) may also be needed over the joint.



PERMA-VENT INSTALLATION

For standard installations, the use of Z Channels is not required, as ventilation can occur through the deep grooves of these shingles (Illustration 1). On installations where maximum ventilation is desired, the Z Channels described in step #5 are used (Illustration 2).

Illustration 1

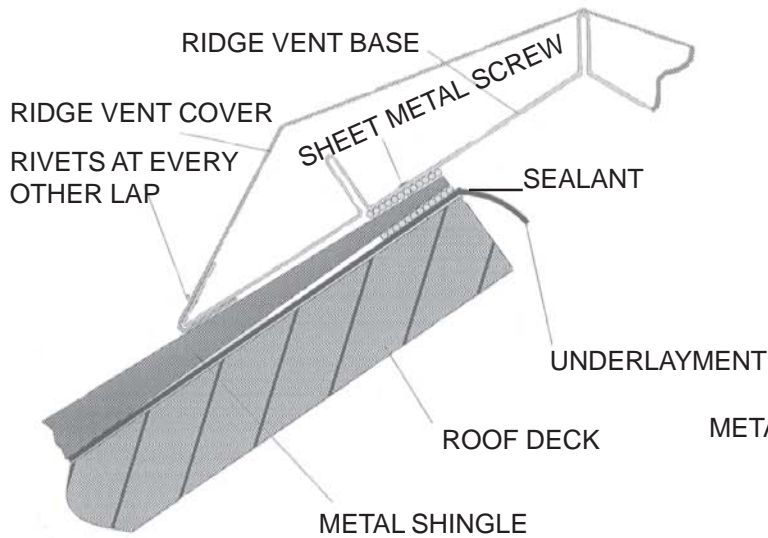
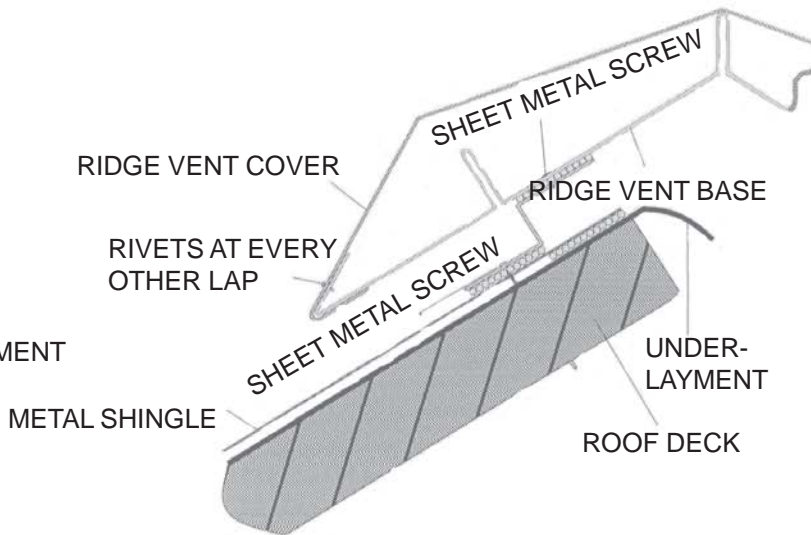


Illustration 2



Installation Instructions:

1. The roof should have a ridge opening of 3-3¼" width.
2. Install underlayment, wrapping it into the ridge opening and tacking it to the edge or bottom of the decking.
3. Install the roofing shingles to the ridge, cutting them as necessary to stop them at the opening. If the last course of shingles is 4 inches or less exposure, then either lay a 1 x 2" board under the uphill edge to raise its height or install custom-formed flat coilstock in place of the last course. In any event, place a ½" wide by ⅜" high bead of C-190 sealant between the last course (or custom-formed coilstock) and the underlayment or 1 x 2" board beneath it.
4. Place a ¾" wide by ⅜" high bead of C-190 Sealant on the last course of shingles (or custom-formed coilstock), starting at the ridge opening and extending downward 1". (Note exception to this in step #5 if Z Channels are to be installed.) This sealant must have a minimum thickness of ⅜" and should completely fill any deep grooves in the roofing shingles. The bead of sealant should be level on its surface.
5. If desired, install Z Channels on either side of ridge by first laying the 1" bed of sealant 1" lower on the roof than described in step #4. Place the Z Channel with its top leg extending further uphill, out over the remaining 1" of roofing just below the ridge opening. Do not allow the Z Channel to obstruct airflow from the ridge opening. Fasten Z Channels to roof using stainless steel screws of adequate length to penetrate the roof decking by ½", 12" on center, down through the sealant. Place C-190 Sealant on top of the screw heads.

PERMA-VENT INSTALLATION

6. Place the Ridge Vent Base squarely over the opening (or over the Z Channels, if installed), pressing it down into the sealant. Fasten using stainless steel screws of adequate length to fully penetrate the roof decking on either side of the opening, 12" on center, down through the sealant. (If Z Channels have been installed, put a minimum $\frac{3}{8}$ " x $\frac{3}{4}$ " bead of sealant on the top legs of the Z Channels, place the Ridge Vent Base squarely over the ridge opening and the Z Channels, and use $\frac{1}{2}$ " stainless steel sheet metal screws or aluminum rivets 12" on center to attach the Ridge Vent Base to the Z Channels.) Place C-190 Sealant over the screw or rivet heads.
7. Install all subsequent pieces of Ridge Vent Base prior to installing Ridge Vent Cover. Ridge Vent Base pieces should be lapped by 4" by removing all three ribs and the outside returns from the upper pieces.
8. Snap the Ridge Vent Cover over the Ridge Vent Base. Ensure it is firmly locked into place on both sides. Subsequent pieces of Ridge Vent Cover should be overlapped by 4". The locks on either side of the top-lapped piece should be removed within this 4" area. Two beads of C-190 Sealant, minimum $\frac{1}{2}$ " wide by $\frac{3}{8}$ " high, should be placed between the overlapped pieces. Secure the overlapped pieces at every other joint to each other and to the Ridge Vent Base with $\frac{1}{2}$ " stainless steel sheet metal screws or aluminum pop rivets. Seal the screw or rivet heads with C-190 Sealant.
9. Ends of ridge vent assembly should be closed with a custom-formed cap made from matching coilstock. Cut the cap to fill the opening, allowing for an extra $\frac{1}{2}$ " of metal on all sides to be bent 90° toward the middle of the roof. Insert the cap so that the extra $\frac{1}{2}$ " is beneath the Ridge Vent Cover and beneath the Ridge Vent Base. Seal well between all pieces and use $\frac{1}{2}$ " stainless steel sheet metal screws or aluminum pop rivets to securely hold the end cap in place. Seal the screw or rivet heads with C-190 Sealant.

CHIMNEY FLASHING

First, inspect all original flashings and replace if necessary. If the existing flashings are in good condition, do not remove them. If the existing flashings are not aluminum, cover the existing flashings with roofing cement or underlayment to prevent them from contacting the new aluminum flashings.

Use a chalk line to mark the perimeter of the chimney. The chalk line should be above existing flashings, parallel to the roof surface, and, if possible, 1" less than the height of the Sidewall Flashing (SH-421).



CHIMNEY FLASHING

Along the chalk line, cut a $\frac{1}{2}$ " deep groove into the bricks using a circular saw with a masonry blade.



CHIMNEY FLASHING

Flash the front of the chimney with Trim Coil (C-250) formed to match the roof slope. This flashing also goes into a saw cut in the masonry. Such flashing goes over the shingle below the chimney.

If the top of the Sidewall Flashing extends past the masonry cut, form a $\frac{1}{2}$ " lip on the top of the flashing and insert the lip into the cut. Hook Nailing Clips into the flashing's return flange and fasten it to the deck with aluminum screwshank nails. Do not flatten the return flange as it prevents water from rolling under the shingles. The Sidewall Flashings should rest on top of the chimney's front flashing. Shingles should be butted to the side flashings and fastened securely.

If the Sidewall Flashing will not reach the masonry cut, form another flashing that will fit into the masonry cut and over the Sidewall Flashing. Masonry-nail this to the mortar joints.

NOTE: In place of the Sidewall Flashing, the sides of the chimney can be flashed with a specially-formed "half-valley" style of flushing. This is wise for areas prone to high wind or heavy rains, as well as for very long chimneys.



CHIMNEY FLASHING

Once the flashing is fitted into the masonry cut, fill the cut with sealant. Remember to keep all uphill flashings on top of downhill flashings.



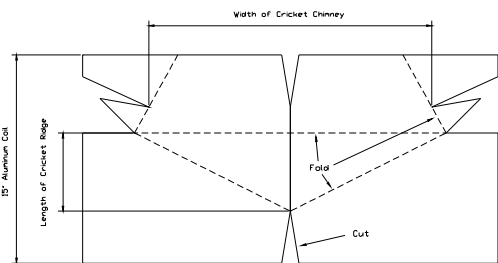
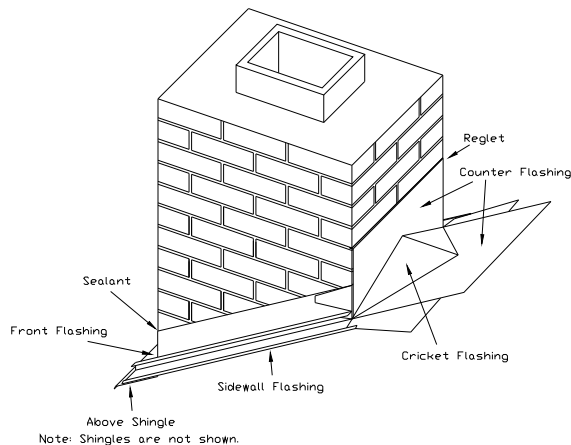
CHIMNEY FLASHING

The back of the chimney is flashed with Trim Coil (C-250). Such flashing should extend from the saw cut on the uphill side of the chimney down and under the shingles above the chimney to disperse water evenly down to both sides of the chimney. Seal flashing carefully and make it extend uphill at least 12" under the shingles to prevent water backup. Install siding starter over the chimney's back flashing. Align the siding starter with the top locks of the shingles on both sides of the chimney. The shingles installed on the back of the chimney will lock over the siding starter.



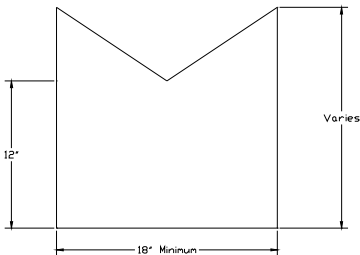
On large chimneys, a cricket or saddle is necessary on the backside. Contact the factory for details if necessary.

Cricket flashing at Backside of Chimney



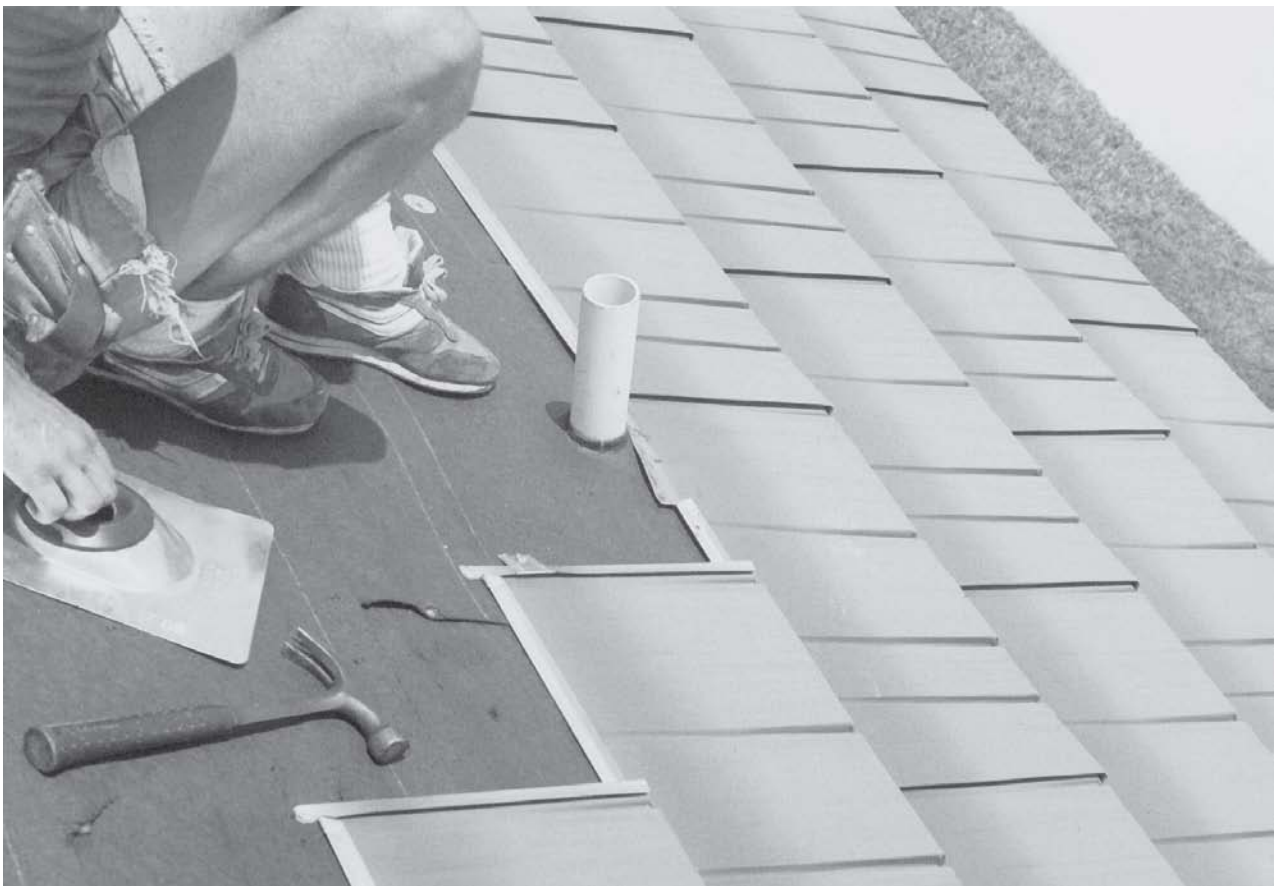
PATTERN B
Secondary Flashing
2 Required

PATTERN A
Base Flashing



VENT PIPE FLASHING

Bring underlayment up around the vent pipe by 2" and seal it to the pipe with roofing cement or (C-190) sealant. Add one additional layer of underlayment extending 18" to each side. Tuck it under the next higher course of underlayment and allow it to rest on top of upper shingle lock of the shingle course below the vent. Seal again with roofing cement or (C-190) sealant.



VENT PIPE FLASHING

Liberally apply roofing cement or sealant around base of pipe. If pipe enters through upper portion of shingle course, seal the pipe, apply the shingle by cutting a hole in it, and reseal on top of shingle.



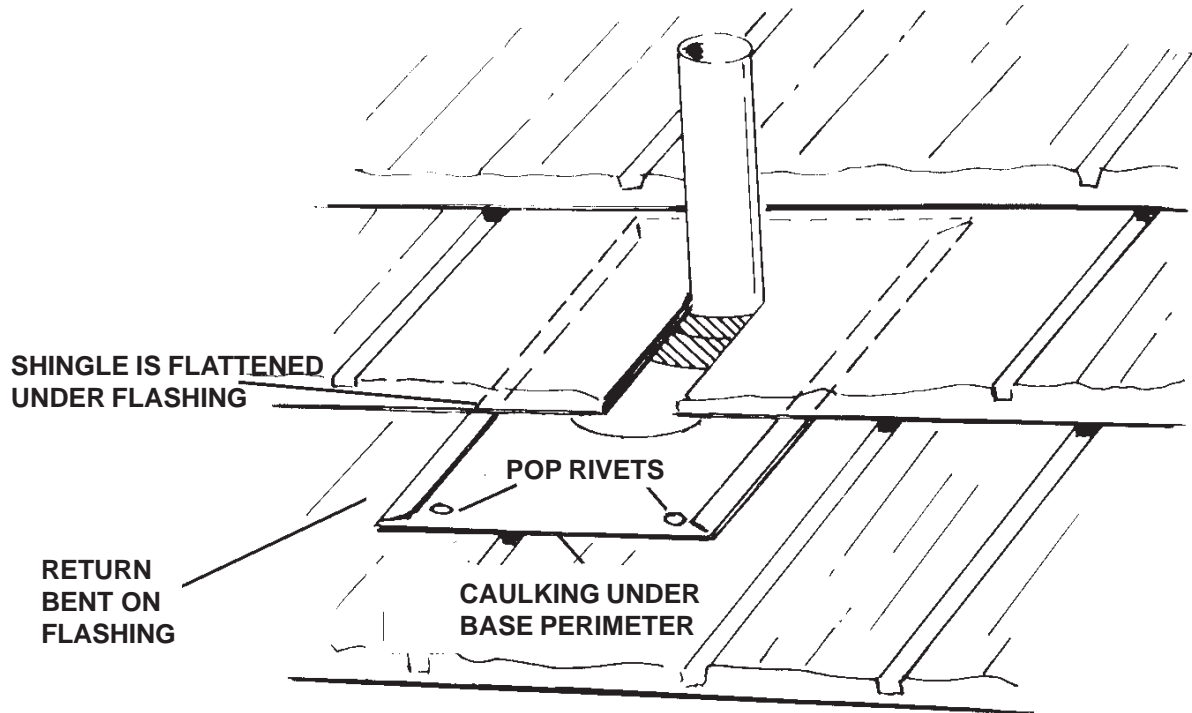
VENT PIPE FLASHING

Check to ensure that another shingle course should not be installed before installing the aluminum and rubber boot vent cone. If the top of the present top shingle course is below the bottom of the vent cone flashing, then another shingle course should be applied before continuing. Uphill portions of flashings and shingles must always be on top of downhill portions. Fold up $\frac{1}{2}$ " of the cone metal that will be under the next course of shingles to form a tray. This prevents water from being driven up under the shingles. Fold back the top lock of the shingle so the pipe boot will rest flat against the deck, and slip vent cone and rubber boot over vent pipe. The recommended aluminum and neoprene vent cones are available from Classic Metal Roofing Systems.



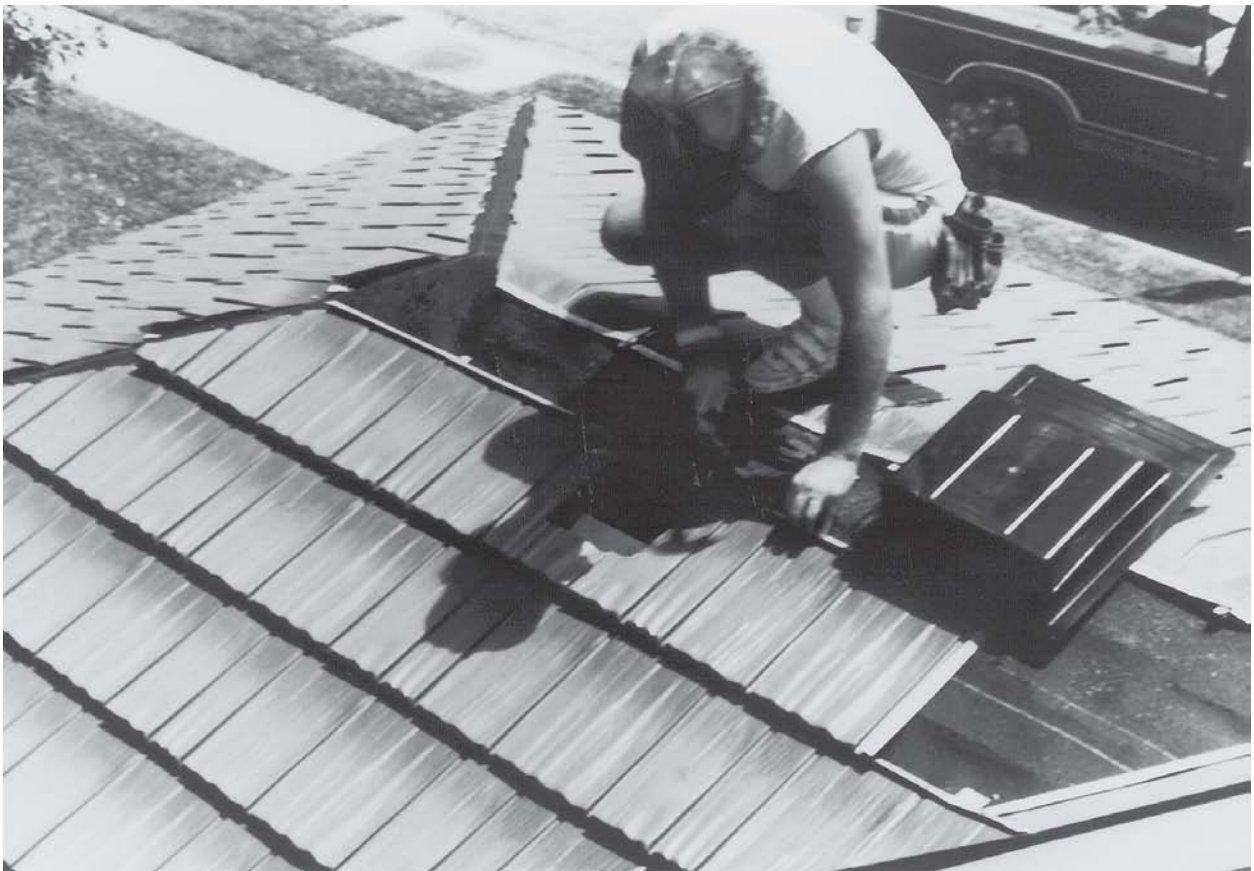
VENT PIPE FLASHING

Cut the shingles to surround the pipe and secure the bottom of the flashing to the shingles with aluminum pop rivets or stainless steel sheet metal screws. Use sealant liberally around the pipe and on the fastener heads. Use Touch-Up Paint (C-284) on the flashing and vent to match shingles.



ATTIC VENT FLASHING

Cut hole in shingles to allow for attic vent. Flatten shingle butt if necessary to allow for later installation of vent.



ATTIC VENT FLASHING

Liberal apply roofing cement or sealant around the opening. Install a piece of underlayment around the opening. Allow it to rest on the top flange of the shingle course closest to the opening. Tuck the underlayment under uphill underlayment. Apply sealant liberally around the opening again.

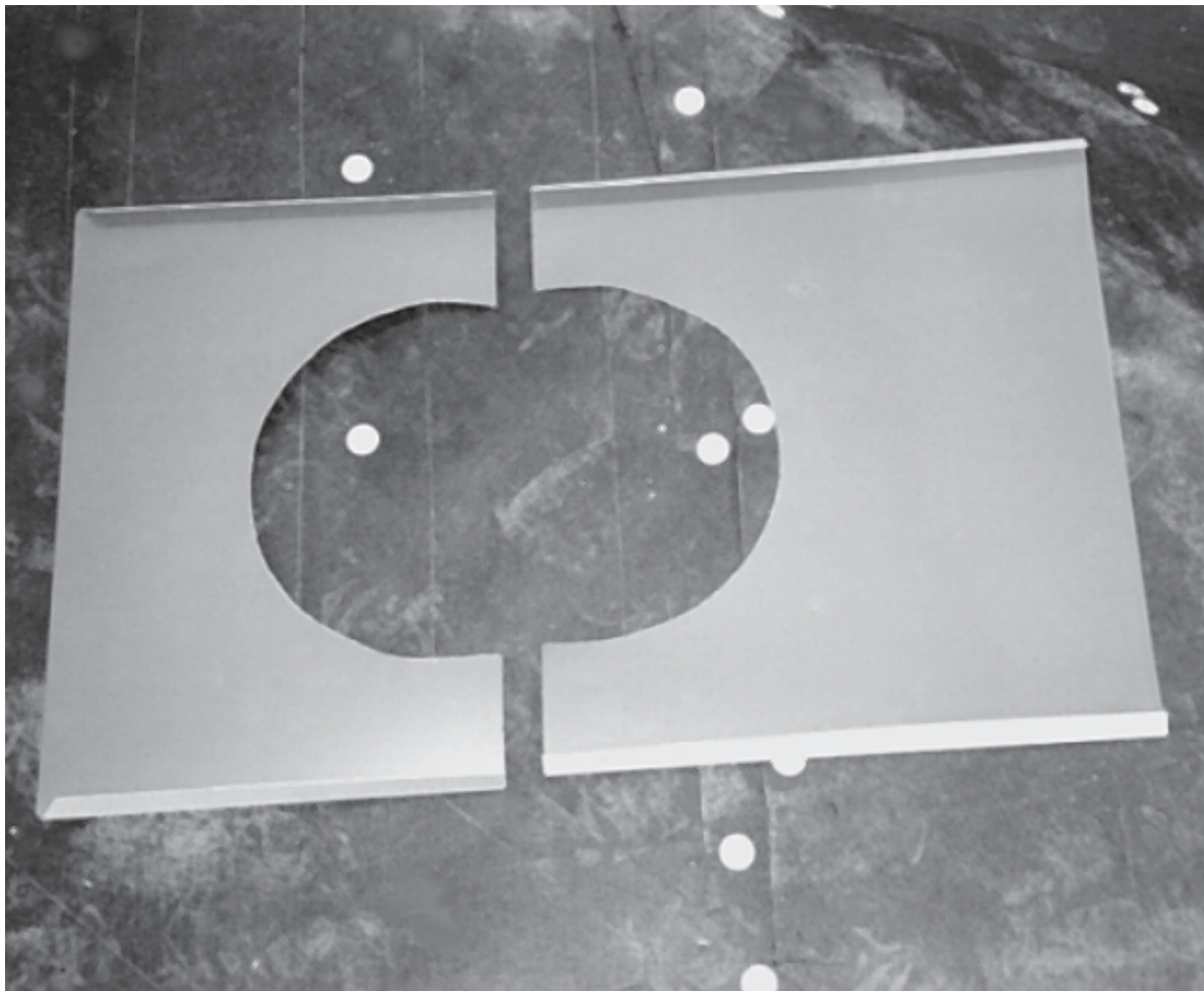


Press vent onto sealant and into place, using aluminum or stainless steel screws to attach the vent. Apply another layer of underlayment to surround the vent and extend above the vent, keeping uphill underlayment on top of downhill underlayment. Apply sealant liberally. Run the next course of shingles on top of built-in roof vent flashing if present. Fit shingles tightly around vent and seal. Keep uphill flashings on top of those below them. Use sealant and Touch-Up Paint (C-284) on screw heads and vent edges as necessary. In areas where water might wash into the vent from uphill, field-form a guard inside the vent to drain the water down the sides.

Most aluminum ridge vents can be installed with Rustic Shingle by bending the top courses of shingles down into the vent hole and then hammering them flat. The ridge vent is then installed using stainless steel sheet metal screws. Seal well between the shingles and vent with sealant. Contact the factory for ridge vent brand recommendations.

WIND TURBINE FLASHING

When flashing around a wind turbine or any other protrusion with a top that is larger in diameter than its base, a two-piece flashing can be formed to fit around the base of the protrusion.



WIND TURBINE FLASHING

Apply sealant around the base of the protrusion. Fit the flashing around the base. Fold the front flashing over butt of shingles and slide it around the protrusion. Slide the top flashing into the bottom flashing, keeping uphill portions over downhill flashings. Again, seal around the base of the protrusion. Install the shingles around the base in the same way the shingles are installed around a pipe vent.



TRANSITION FROM BOARD AND BATTEN TO SHINGLES

In applications of Rustic Shingle where a low-pitched roof section (less than 3:12 pitch) joins a steeper one, it is recommended to use another type of roofing on the low-pitched section. Available in colors to match Rustic Shingle, Colonial Board and Batten can be flashed in, as follows, to serve this purpose on roofs down to 1¹/₂:12 pitch. It is an attractive board and batten-style vertical roofing and should be installed over two layers of underlayment.

The Colonial Board and Batten panels must be installed before the shingles. Bend the panels and flatten the battens as necessary, being careful to keep the windlock intact through the break. If it is necessary to cut the windlock in order to accommodate a drastic pitch change, refer to the special instructions at the end of this section. After bending, the panels should extend 16" up the steep roof section. Outside edges of the low-pitched area are surrounded with J Channel (SH-404). Punch weep holes into the eave edge J Channel. Do not nail the vertical panels tight. The pre-slotted nail holes will allow for expansion and contraction. Be certain to pull the panels tightly against each other. The first panel will require siding starter (SH-412).



TRANSITION FROM BOARD AND BATTEN TO SHINGLES

Install pieces of Siding Starter (SH-412) between the battens of the vertical panel about 12" up the steep section and 4" below the end of the vertical panel. The Rustic Shingles are then laid up in their courses, hooked into the Siding Starter. The shingle butts are notched as necessary to allow for the battens of the vertical panel. Use sealant all along the transition between the two roofs, making sure that no gaps are left open where water can be driven up through. Use Touch-Up Paint (C-284) as necessary.



If there is an extreme change in pitch, special accommodations must be made as follows. First, cut the windlock on the Colonial Board and Batten Panel, if necessary, to negotiate the pitch change. Next, flashing must be formed of Trim Coil (C-250) which extends above the top of the vertical panel by several inches and under a course of roofing underlayment. This flashing should also extend 4" down the low-pitched roof. Cut notches in the flashing to allow for the battens. Seal well with sealant between the vertical panel and the flashing.

Install the siding starter above the roof break as prescribed earlier in this section and proceed with shingle installation, also, as necessary. It may be necessary to pop rivet or screw the flashing to the vertical panel in order to supplement the sealant.

TRANSITION FROM STANDING SEAM TO SHINGLES

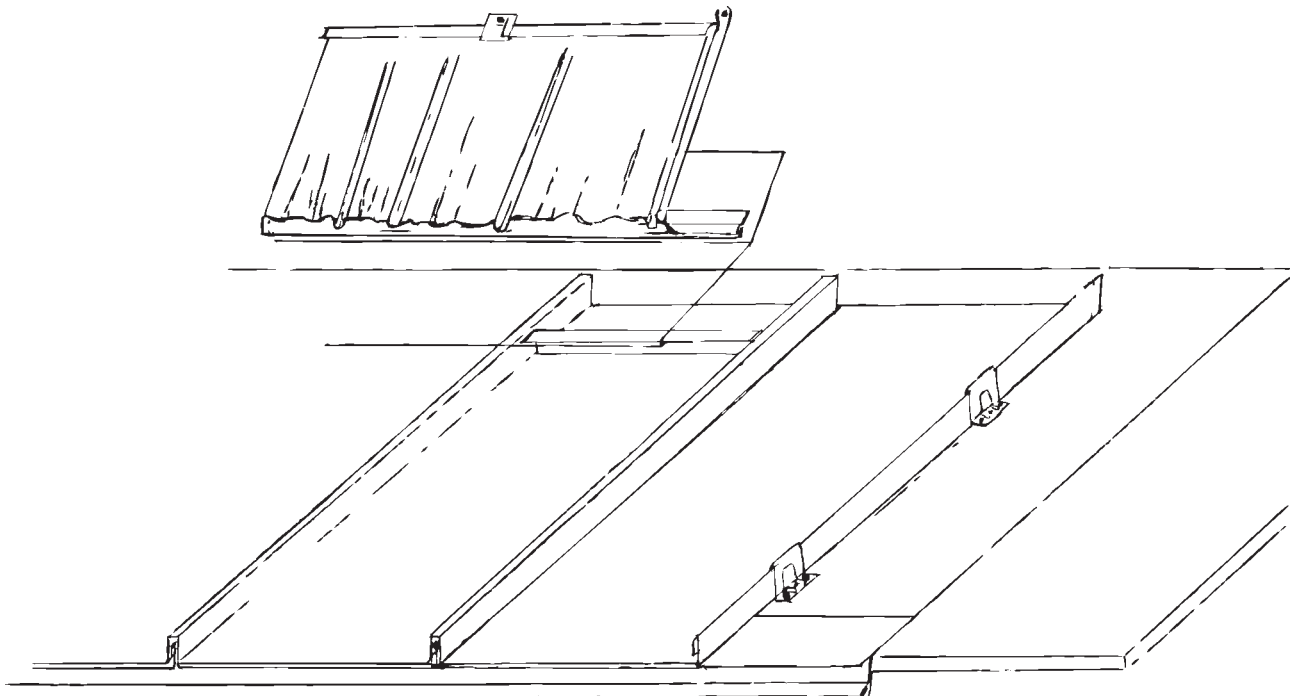
Rustic Shingle should not be installed on roofs with slopes that are less than 3:12, but Classic Metal Roofing Systems' ClickLock Standing Seam can be installed on roofs with slopes as low as 1½:12. A transition flashing can be made to connect the ClickLock standing seam on lower pitched areas to Rustic Shingle on higher pitched areas.

Install the ClickLock panels first. Make sure the top of the panels extend to pitch change. Install Z cleats 2 - 3" from the top of the panels. See Classic Metal Roofing Systems' ClickLock installation manual for detailed, standing seam, installation instructions.

A transition flashing will lock over the top edge of the Z cleats and it should extend up the steep roof section. Bend the flashing so it conforms to the angle of the pitch change. The top of the flashing should extend up the roof at least 12". Fasten the flashing to the steep roof section every 12" on center

After the standing seam and transition flashing are installed, install Siding Starter (SH-412) on top of the transition flashing. Once the Siding Starter is fastened in place, hook the bottom lock of the shingle over the Siding Starter and continue to install the shingles as normal.

Adjust the height of the Siding Starter so the courses of shingles on this roof section will align with the courses of shingles in other roof sections. If the Siding Starter is too high or too low, a short course of shingles may have to be installed. Avoid installing short courses whenever possible.



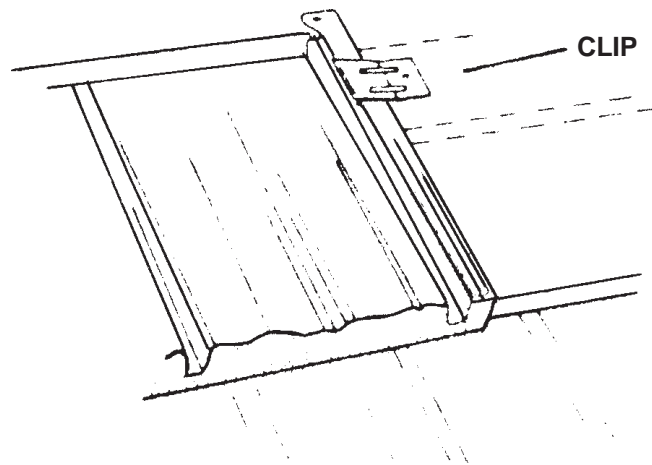
TYPICAL INSTALLATION PHOTO



VERTICAL NAILING CLIP FOR SPACED SHEATHING

When applying Rustic Shingles over wood shingles or other materials on skip or spaced sheathing, the nail hole in the nailing tab may not lie over a sheathing board. In such a case, use a Nailing Clip on the Rustic Shingle right-hand flange. Slide the Nailing Clip to the desired height to allow nailing into sheathing.

Use only 2" Classic Metal Roofing Systems Aluminum Screwshank Nails (N-505SP) for this purpose. Shingles must be fastened securely with nails driven into sound sheathing to prevent wind damage. Avoid overdriving that may deform or weaken the Nailing Clip. U.L. approval supports this installation for spaced or skip sheathing.



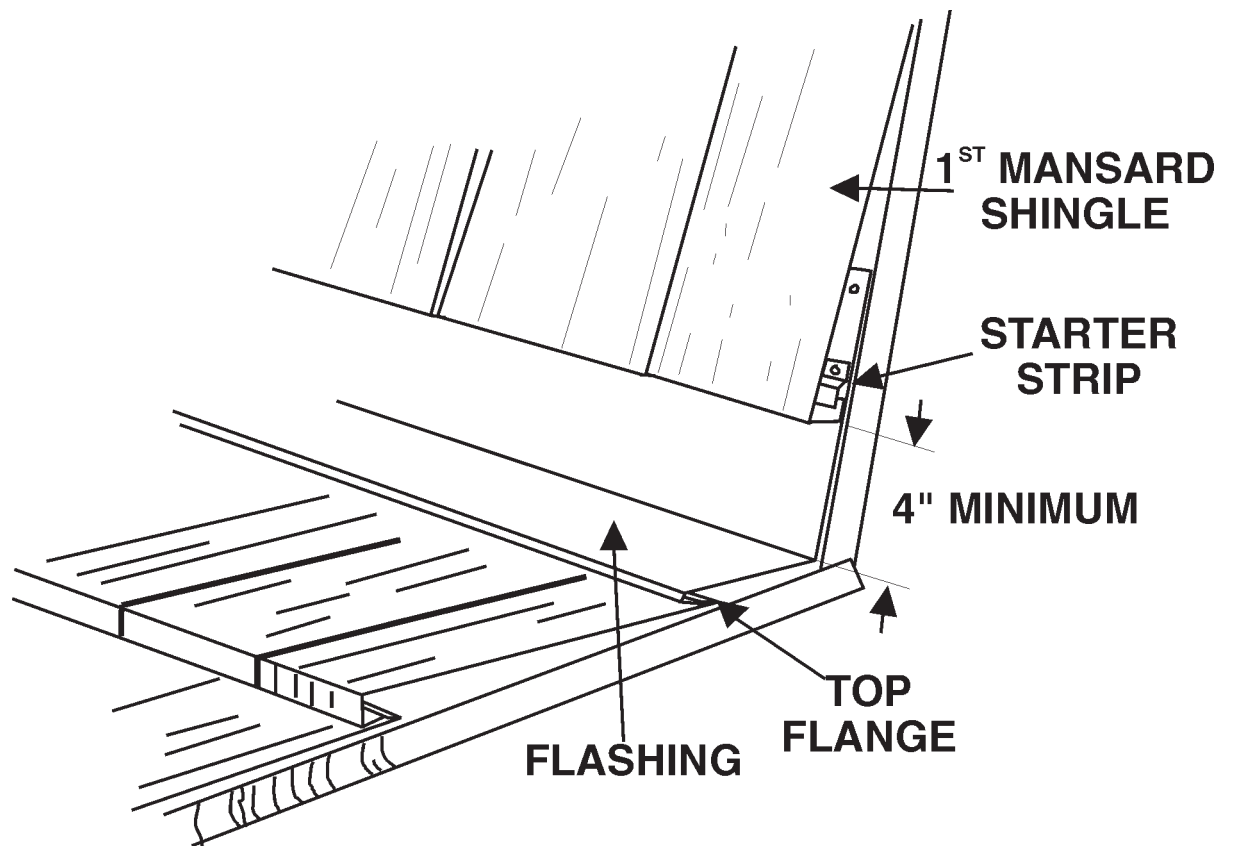
CHANGING ROOF SLOPES; LOW-PITCH TO HIGH-PITCH

TYPICAL INSTALLATION PHOTOS



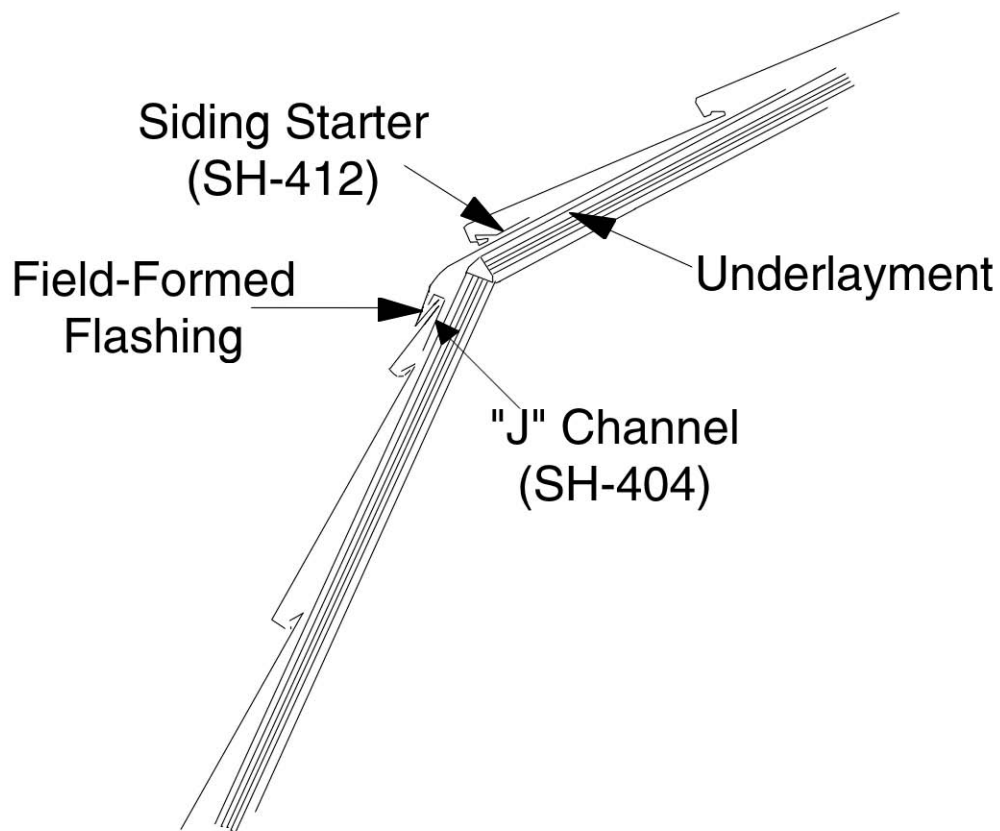
CHANGING ROOF SLOPES; LOW-PITCH TO HIGH-PITCH

In this case, the last full course of shingles that can be installed on the lower roof section should be installed as usual.



CHANGING ROOF SLOPES; HIGH-PITCH TO LOW-PITCH

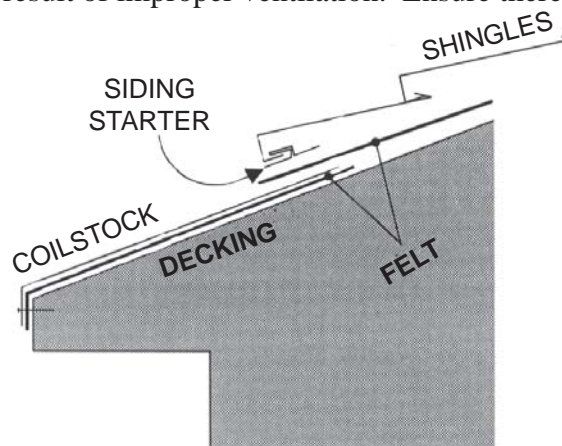
In the case of a Gambrel roof where the lower section is of steeper pitch than the higher section, the last course of shingles that is installed on the lower section is trimmed to be 1" below the roof break. This last shingle course is received by a piece of "J" channel (SH-404) that was installed with aluminum screwshank nails prior to the last course of shingle's installation. Next, flashing is field-formed of Trim Coil (C-250) that extends down the lower roof portion over the shingle course and then up at least 12" onto the higher roof portion. Finally Siding Starter (SH-412) is installed just above the roof break and Rustic Shingle installation is continued.



HEAVY SNOW AREAS

The following special procedures should be followed where heavy snowfalls are frequent. A rule of thumb is to apply these techniques where snowloads can exceed 18":

- Do not install Rustic Shingle on roofs of less than a 4:12 pitch in areas with regular snowloads exceeding 18".
- Do not install on less than a 5:12 pitch in areas that regularly exceed 24".
- Use Ice & Water Shield above all overhands and extending 36" above the wall line, as well as in all valleys and over unheated areas, such as enclosed patios. Seal all underlayment laps with roofing cement.
- In areas subject to snowloads of 24" or more, install Classic Products' matching Aluminum Coilstock (available up to 30" wide) on the roof from all eaves up to 10" past the exterior wall line. If 30" coilstock is insufficient to do this in one width, field-form a simple interlock between succeeding courses. Underlayment should lap the uphill edge of the coil. Siding Starter (SH-412) is installed to begin shingle installation
- Install foam inserts (SH-224) in all areas that might be hit by snow or ice falling from higher roof sections.
- Install Hip Caps strictly according to Hip Cap Installation For Maximum Wind Resistance as described on page 46 of this manual that calls for shingles to be lapped over the hipline beneath the caps.
- Only use our special Flared Gable Trim on all gables, riveting the shingles into the fascia leg of the Flared Gable Trim.
- Install shingles using a minimum of 2 Nailing Clips per shingle. Additional clips are used to secure the shingles along valleys, hips, eaves, gables, and ridges (three or four per shingle). Take care to tightly lock the shingles together. The one-piece Open Valley (SH-425) should also be used to protect against ice build-up.
- Ice damming is often the result of improper ventilation. Ensure there is adequate ridge and soffit ventilation.



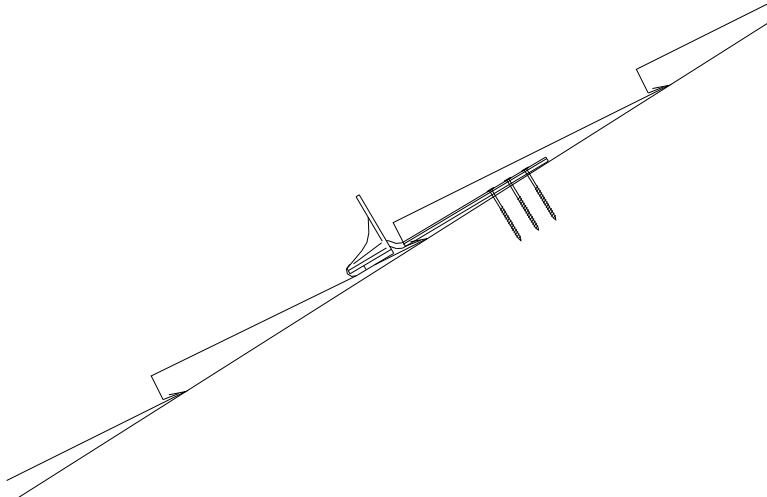
HEAVY SNOW AREAS

Generally, radiant heat passes through the snow, strikes the aluminum and is reflected back outward, melting the snow from underneath. This tends to make the snow slide off in mass, bringing about a need for snowguards.

Install snowguards in areas where falling snow is undesirable (over doors, walkways, landscaping, etc.) as well as on all areas where snow would fall onto a lower section of the roof. A basic installation method would be above the wall line install two parallel rows 12" apart with the guards on 36" centers in each row. Stagger the snowguards over the second and third shingle courses from the eave. Additional snowguards may be required with certain roof designs and snow load.



Cast Aluminum Snowguards (SH-555) are installed to overlap the top of a course of shingles with the guard's leg extending up nailed under the next higher course. The top flange of the lower course is notched as necessary just to allow the guard to extend over it.



HEAVY SNOW AREAS

Polycarbonate Snowguards (SH-556) are installed directly on top on the shingles. Apply (C-190) sealant to bottom of the snowguard. Set the snowguard into position. Avoid placing the snowguard over the deep grooves in the shingle. Drive screws through the snowguard, and shingle into the decking. Ensure the screws are long enough to penetrate solid decking. Note: The sealant alone will not hold the snowguard in place. The screws must be used to secure the snowguard in place.

Polycarbonate Snowguards can also be installed with adhesive. The roof must be dry and the ambient temperature must be greater than 50°F. Apply adhesive to the entire bottom surface of the snowguard. The adhesive must ooze out past the entire perimeter of the snowguard to prevent water from penetrating between the snowguard and the roof.

Note: Use snowguards sparingly. In general, it is best to allow snow to shed off of the roof.

SKYLIGHT INSTALLATION

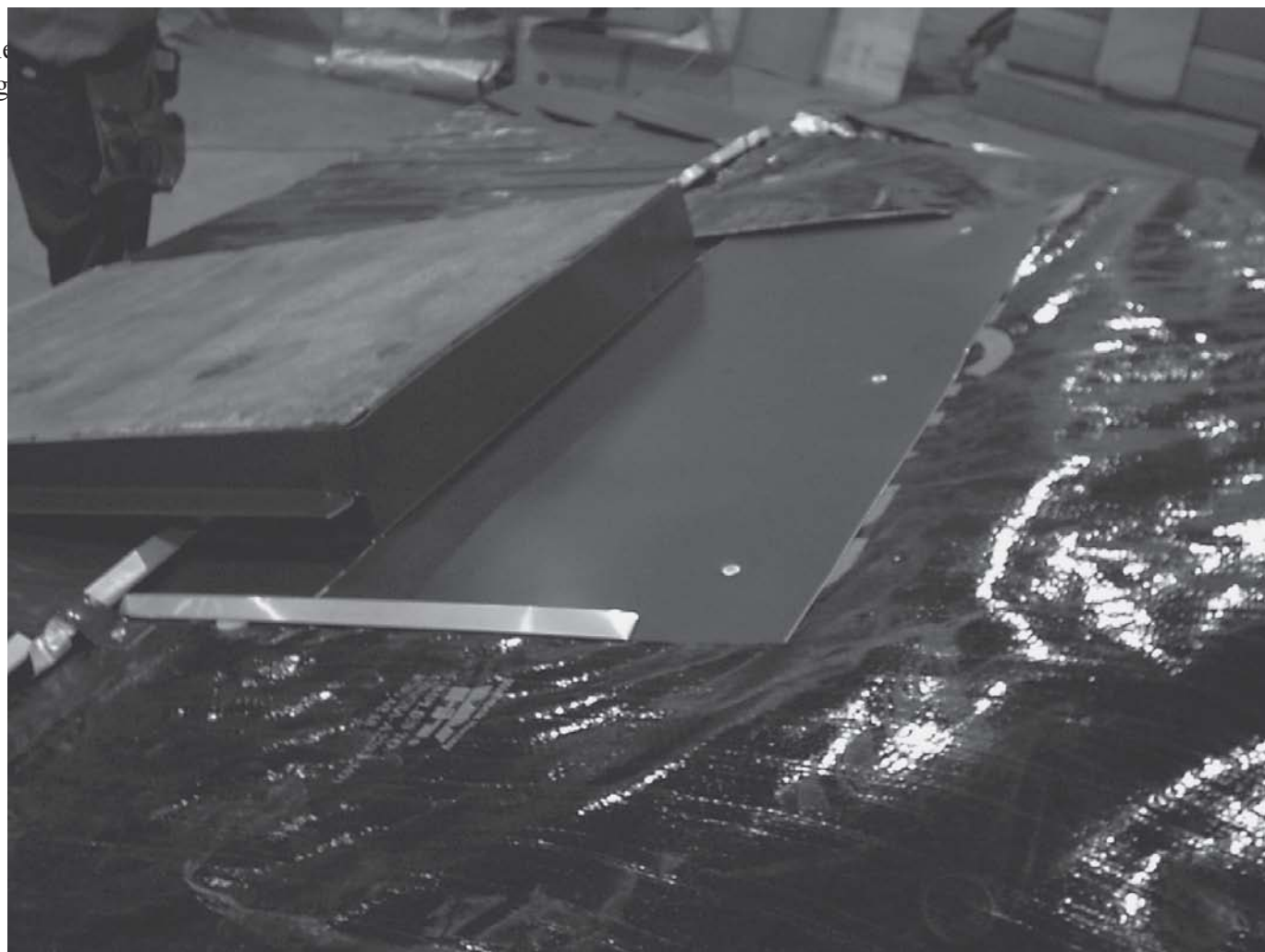
Before flashing, roof underlayment is applied to run up the sides of the skylight. Make sure all uphill underlayment portions are lapped on top of downhill portions. Skylights must have at least a 2 x 6" dam around their perimeters to keep water from washing over the skylight. Flashing around skylights is similar to that of chim-



SKYLIGHT INSTALLATION

Install Sidewall Flashing (SH-421) along the sides of the skylight. The Sidewall Flashing should extend at least 3" past the front of the skylight and at least 6" past the back of the skylight. Modify the extra material so all but the return flange is flat against the deck.

Fig
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INSTALLATION OVER HEAVY WOOD SHAKES

Uninsulated Rustic Shingle can be installed over heavy hand-split wood shakes up to $\frac{3}{4}$ " thick with some special procedures. The homeowner must be aware, however, that this type of installation may have an unusually rough or uneven appearance and that, ideally, the old heavy shake roof should be stripped before the installation of any new material. It is also the installer's responsibility to make sure the existing roof structure is in good condition and repaired if necessary.

Depending upon the thickness of the wood shakes, the drip leg of the Gable Edge Trim, Gable Trim and Eave Starter Strip may not cover wood shakes. If that is the case, Gable Edge Trim should not be used on the gable. Eave Starter Strip and Gable Trim with extended drip leg should be used. Contact Classic Metal Roofing Systems for information on these parts.

If Gable Trim is installed, complete the treatment with Gable Edge Caps (SH-406).

Remove all of the wood hip and ridge caps, so the aluminum shingles, hip caps and ridge caps can be installed on a smooth surface.

Cut the shakes back 4" from the eave. Fill in this area with 1 x 4' pine boards. Use enough boards to bring the eave up to the level of the shakes. Apply the underlayment overhanging the roof's edge by at least 1 $\frac{1}{2}$ ". Install Starter Strip over the underlayment, making sure it is installed straight and square. Gable Edge Trim and Gable Trim are installed in a similar fashion to the Starter Strip. The existing shingles are stripped back 4" and filled in with 1 x 4' pine boards. Underlayment is installed per the standard instructions before the trim is installed.

Aluminum screwshank nails of sufficient length to penetrate the wood shakes and their decking or sheathing are necessary to complete installation over the shakes.

NOTE: The installer is always responsible for adhering to all applicable building codes.

ICBO FIRE RATING APPROVALS

Following is a list of ICBO (International Conference of Building Officials) evaluation reports for **RUSTIC SHINGLE** fire retardancy. These are from ICBO Report #2002, June, 1987. Where it is desired to meet any of these evaluations, replace the standard 30 lb. roofing felt underlayment with the underlayment specified using the same installation procedure.

1. **NEW ROOFING CLASS C FIRE RETARDANT:** The shingles must be installed over minimum $\frac{15}{32}$ "-thick CDX plywood installed in accordance with the code on roofs and mansards having a minimum slope of 3:12. An underlayment is required for all installations. The underlayment is to consist of a listed Type 30 asphalt-saturated organic felt, laid by lapping head and end joints 6".
2. **NEW ROOFING CLASS B FIRE RETARDANT:** Installation procedures are the same as New Roofing Class C, except the underlayment must be one of the following: One layer of 72 lb. fiberglass mineral surface cap sheet or two plies of listed Type 15 asphalt-saturated asbestos felt. The felt must weight not less than 20 lbs. per 100 square feet.
3. **NEW ROOFING CLASS A FIRE RETARDANT:** Installation procedures are the same as New Roofing Class C, except the underlayment must be one of the following: Two layers of 72 lb. fiberglass mineral cap sheet or three plies of listed Type 15 asphalt-saturated asbestos felt.
4. **REROOFING CLASS C FIRE RETARDANT:** The shingles may be installed over old composition shingles or wood shingles installed upon spaced or solid sheathing with an underlayment of Type-30 asphalt-saturated organic felt.
5. **REROOFING CLASS B FIRE RETARDANT:** Underlayment must be one of the following: One layer of 72 lb. fiberglass mineral surface cap sheet (for reroofing over wood shingles); one layer of 28 lb. asphalt-saturated fiberglass roll roofing felt (for reroofing over composition shingles); three layers of Type 15 asphalt-saturated asbestos felt (for either composition or wood shingles); or two plies of classified asphalt-saturated asbestos felt weighing not less than 20 lbs. per 100 square feet (for composition and wood shingle roofing).
6. **REROOFING CLASS A FIRE RETARDANT:** For reroofing over wood shingles on 1" by 4" spaced sheathing spaced a maximum 1½" apart, use either four plies of listed Type 15 or two plies of listed Type 30 asphalt-saturated asbestos felt.

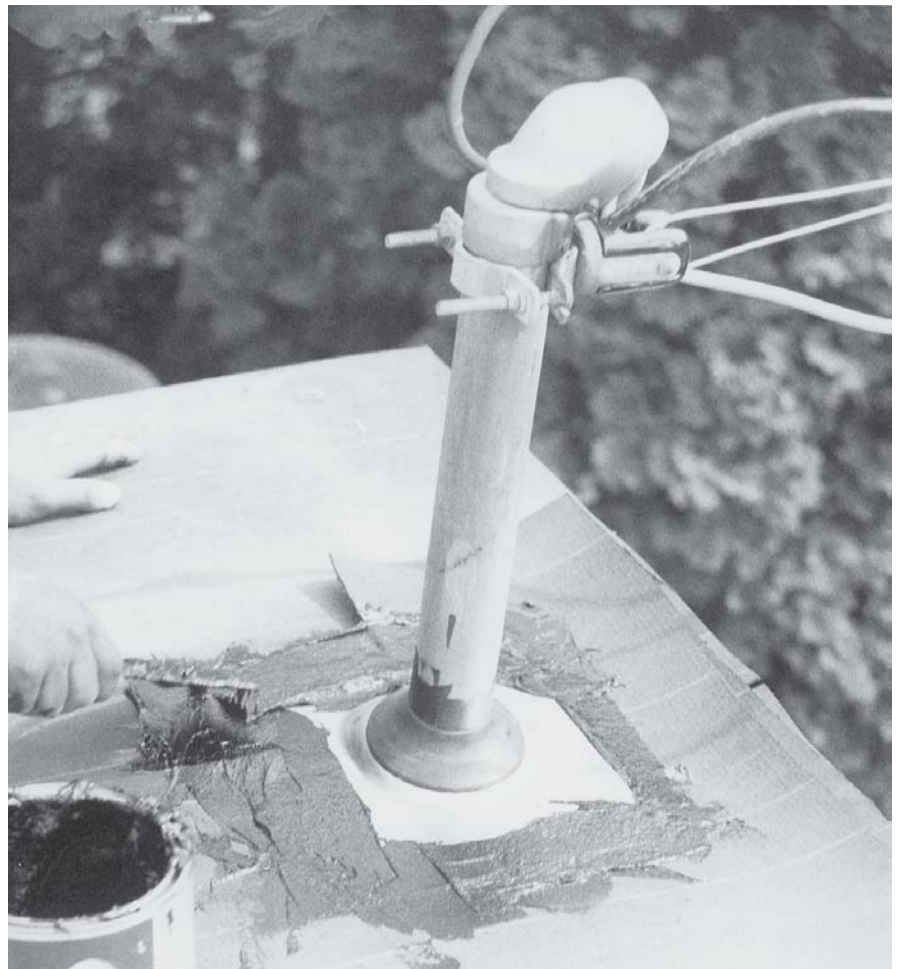
SPECIAL INSTANCES

Many special instances occur in various applications which are unique and cannot be covered in this manual. Such cases usually call for careful and intelligent flashings and their field formation. Remember that uphill flashings must always be lapped on top of downhill flashings. If questions arise, please call Classic Metal



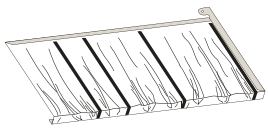



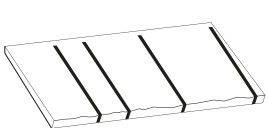


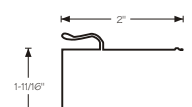

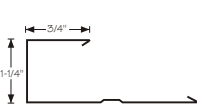
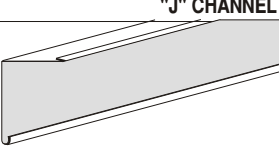
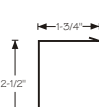
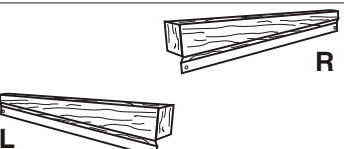
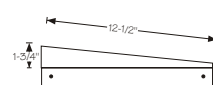
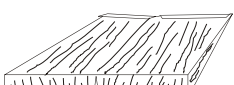
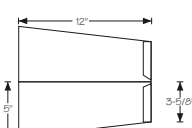
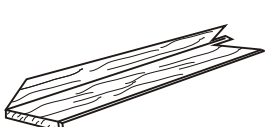
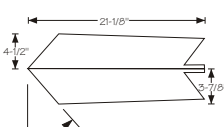
A correctly flashed blind valley.

Vent cone could not be slipped over conduit so it was split in half, installed and resealed with roofing cement.

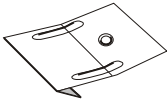
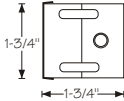
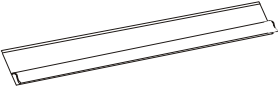
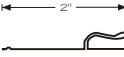

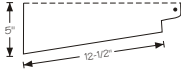
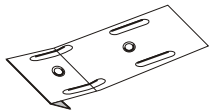
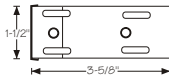
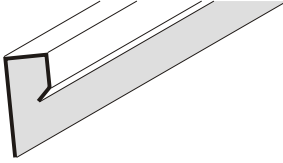
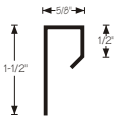
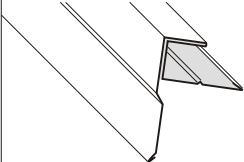
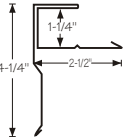

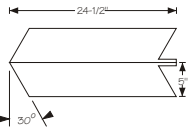
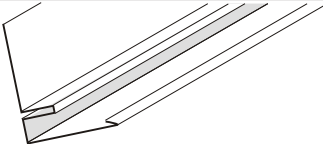
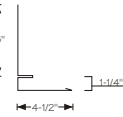
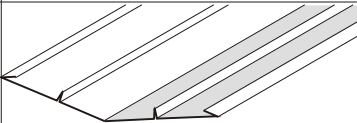
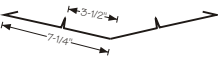


Vent cone could not be slipped over conduit so was split in half, installed and resealed roofing cement.

RUSTIC SHINGLE

PART NO.	PRODUCT	DIMENSIONS	SPECIFICATIONS & PACKAGING	
SH-401	 RUSTIC SHINGLE		Exposure: 24"x12" Butt: 1 1/8" Per Carton: 50 panels Coverage: 1 square Gross Weight: 44 lbs. Residential & light commercial use.	
SH-401-I	 INSULATED RUSTIC SHINGLE		Exposure: 24"x12" Butt: 1 1/8" Per Carton: 25 panels Coverage: 1/2 square Gross Weight: 25 lbs. Sold by full square only For areas requiring extra rigidity.	
SH-224	 STYROFOAM PANEL INSERT		24"x12" Sold by full square only Used one per panel in areas requiring extra rigidity.	
SH-402	 EAVE STARTER STRIP		Length: 12' Per Carton: 25 pieces 300 lineal feet Gross Weight: 42.8 lbs. One-piece starter/drip combination.	
SH-404	 "J" CHANNEL		Length: 12' Per Carton: 25 pieces 300 lineal feet Gross Weight: 31 lbs. Siding/mansard trim-out.	
SH-405	 GABLE TRIM		Length: 12' Per Carton: 25 pieces 300 lineal feet Gross Weight: 30.6 lbs. Drip Edge used with SH-406 Gable Caps.	
SH-406	 GABLE CAP		Exposed Length: 12" Per Carton: 100 pieces (50 R & 50 L) Gross Weight: 12 lbs. Used with SH-405. Handedness determined by looking into eave from ground.	
SH-407	 RIDGE CAP		Length: 12" Butt: 1 1/4" Per Carton: 60 pieces Gross Weight: 20.2 lbs. For roof peaks & mismatched hips. Ridges and hips must be watertight before 407 installation.	
SH-408	 HIP CAP		Coverage: One Course Butt: 1 1/2" Per Carton: 40 pieces Gross Weight: 16.7 lbs. For hips with equal roof pitches.	

RUSTIC SHINGLE

PART NO.	PRODUCT	DIMENSIONS	SPECIFICATIONS & PACKAGING
SH-409	 NAILING CLIPS		Per Carton: 2,500 pieces (25 bags of 100 each) Gross Weight: 17 lbs. Use one per panel with 401 and 401-I unless building codes dictate otherwise.
SH-412	 SIDING STARTER		Length: 12' Per Carton: 25 pieces 300 lineal feet Gross Weight: 14 lbs. For sidewalls or mansards where drip leg is not required.
SH-413	 SIDING CORNER		Coverage: 12" Per Carton: 40 pieces Gross Weight: 14 lbs. Individual corners for vertical walls and nearly vertical mansards.
SH-414	 NAILING CLIPS		Per Carton: 2,500 pieces (25 bags of 100 each) Gross Weight: 34 lbs. Extra Length for 401 or 401-I on wood shingles over spaced sheathing.
SH-415	 26-ga. STEEL "J" PURLIN		Length: 12' Per Carton: 25 pieces 300 lineal feet Gross Wt.: 75 lbs. Receiving channel for all-metal mansards with no weight load.
SH-417	 GABLE EDGE TRIM		Length: 12' Per Carton: 25 pieces 300 lineal feet Gross Weight: 75 lbs. Used as alternative to 405/406 combination.
SH-420	 MANSARD CAP		Coverage: One Course Butt: 1 1/2" Per Carton: 50 pieces Gross Weight: 23 lbs. Steep Mansard or over 90-degrees hip trim.
SH-421	 SIDEWALL FLASHING		Length: 12' Per Carton: 10 pieces 120 lineal feet Gross Weight: 40 lbs. Roof into sidewall trim.
SH-425	 OPEN VALLEY		Length: 12' Per Carton: 5 pieces 60 lineal feet Gross Weight: 25 lbs. Self-cleaning Valley.

