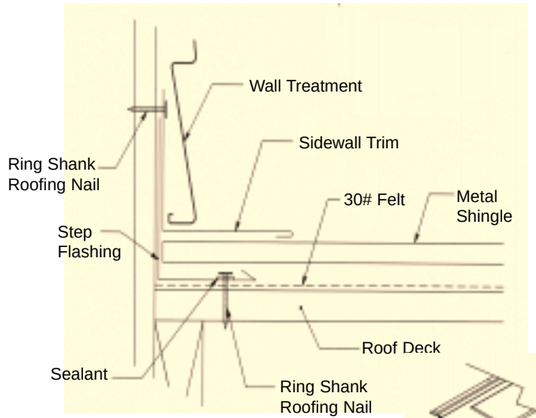
Sidewall/Rake



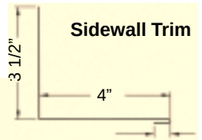
1.Install step flashing tight against the sidewall. Apply sealant and fasten through sealant with galvanized nail.

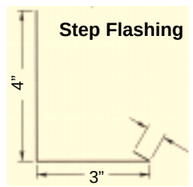
2. Install the panel up to the wall. Fasten the panel as close to the wall as possible without penetrating the step flashing.

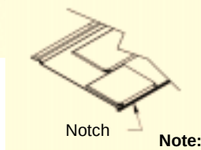
Note: Step flashing is designed to drain onto top side of lower panel.

3. Install the sidewall cap and fasten in place with a roofing nail.

4. If the wall treatment is siding, it should lay over the sidewall trim. If brick or stucco, a reglet should be used with counterflashing to seal.

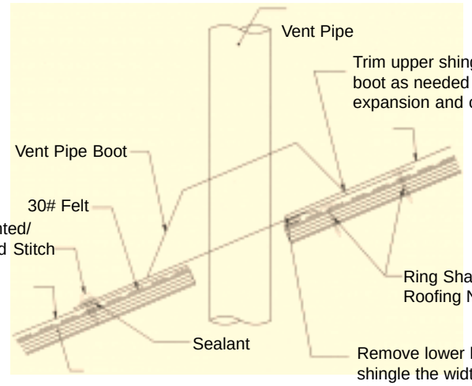






Note: Notch bottom flange of panel 3" from end for proper overlayment of step flashing on lower shingle.

Pipe Detail



1. Vent boots are provided by others; therefore, manufacturer's instructions should be followed. Note that the installation procedure is similar to asphalt shingle.

2. Make sure the upper flange of the boot is located under the upper course of shingles.

3. The lower lock of the upper shingle needs to be removed in order to maintain an even plane of shingles.

4. Lay the lower flange of the boot over the metal shingles.

5. A continuous bead of tube sealant around the perimeter should be used to protect against moisture.

Care for Workers and Materials

The safety of you and your crew members is of utmost importance. It is a worker's responsibility to abide by all state and federally legislated worker's safety guidelines. Be careful when moving and stacking cartons to avoid back strain and damage to the boxes. Cartons are packed at a weight appropriate to carry to the roof. Avoid having loose metal shingles on the roof. If it is necessary to cut a shingle, use hand snips, nibbler, straight blade shear or profile shear. Make sure tools are in good condition so a clean cut can be obtained. Never cut a steel product with a tool that creates friction because it will damage the paint and metal coatings. Metal filings, cuttings and other debris, such as fasteners, pop rivets, cartons, etc., should never be left on the roof surface. Sweep debris off the roof each day during installation. Trim pieces are supplied with a strippable masking film to protect the painted surface. It is important to remove the film at time of installation. Sunlight increases the adhesion between the film and painted surface, therefore, trim pieces should not be left in full sun on the job site. Keep cartons in a dry place. If storing outside or on the job site, keep cartons and trim pieces off the ground - on skids that are angled for drainage - under a waterproof tarp. In the event it becomes necessary to walk on Performa shingles special care should be taken to avoid stepping on the raised portion of the shingles.

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Spencer Steel Supply, Spencer, NC
Anderson Steel Supply, Anderson SC
Tifton Steel Products, Tifton, GA
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Unico Metal Products, Ocala, FL
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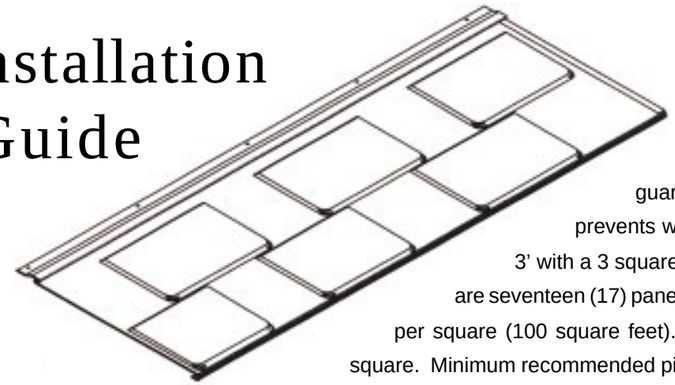
UNION CORRUGATING COMPANY

PERFORMA STEEL SHINGLES™

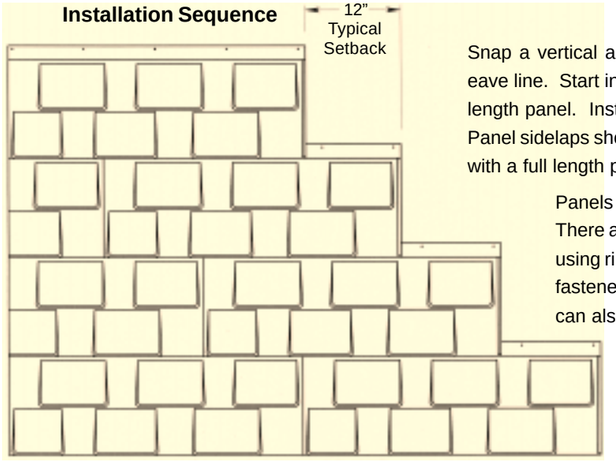
DIMENSIONAL STEEL SHINGLES

Installation Guide



This shingle's patented four-way interlock design guards against wind driven rain and prevents wind uplift. Panels measure 1' x 3' with a 3 square foot net coverage area. There are seventeen (17) panels per carton and two (2) cartons per square (100 square feet). Panels weigh 95 pounds per square. Minimum recommended pitch is 3:12.

Installation Sequence

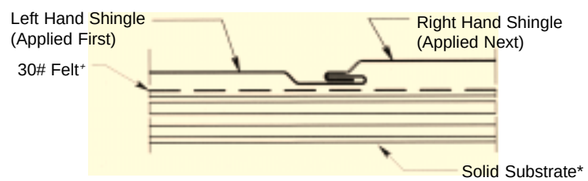


Panel Installation Detail

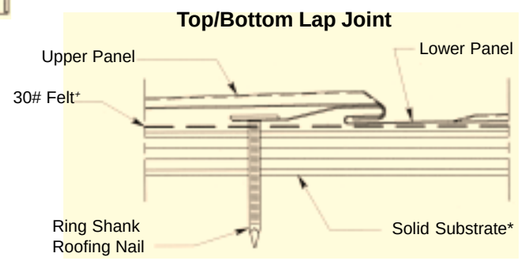
Snap a vertical and horizontal line to square up the roof plane with the eave line. Start in the bottom left hand corner of the roof plane with a full-length panel. Install shingles in a left to right manner from eave to ridge. Panel sidelaps should be staggered with a 12-inch typical setback. Repeat with a full length panel every fourth row.

Panels are pre-punched to accomodate five fasteners per panel. There are 170 fasteners per square. Manufacturer recommends using ring shank, galvanized roofing nails; however, a pneumatic fastener gun with fasteners that have equivalent pull out values can also be used.

Left/Right End Lap Joint



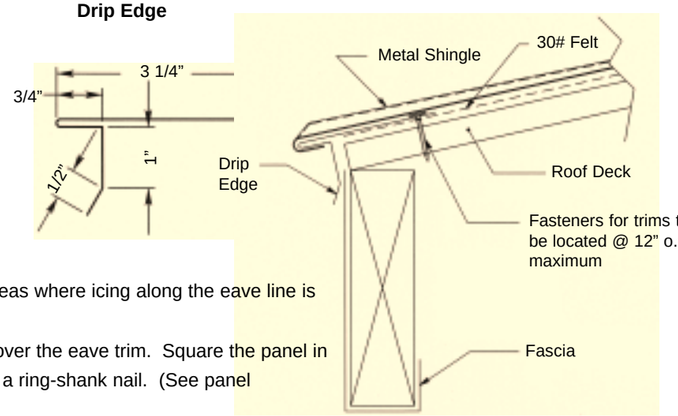
Top/Bottom Lap Joint



** Recommended solid substrate is a minimum 1/2-inch exterior grade plywood or equivalent. The steel shingle can be applied over existing roofing materials in accordance with local building codes. Current roof deck should be structurally sound and capable of anchoring fasteners. + 30# Felt paper and ice and water shield is manufactured by others. Follow manufacturers' instructions for proper installation. Standard roofing procedures should be followed when felting the roof.*

Eave Detail

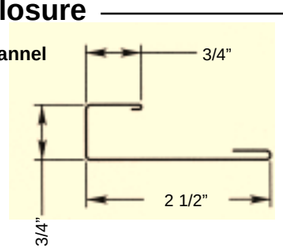
Drip Edge

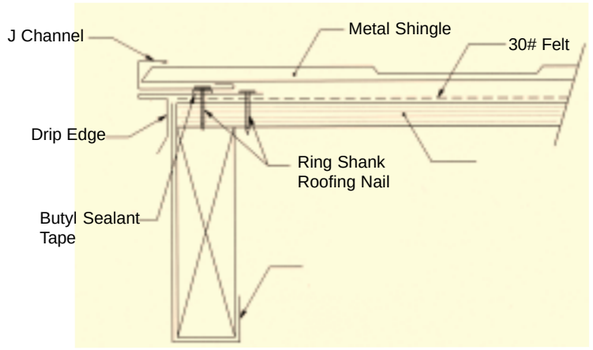


1. When applying in a reroof application, cut back existing shingles and drip edging to be flush with eave and gable lines. Apply new eave and gable trim after removing existing.
2. Install eave trim as tight as possible against the fascia trim. Space fasteners at a maximum of 12” o.c. Overlap eave trim a minimum of 1”.
3. Lay a full width of 30# felt paper over the eave trim. Ice and water shield is required in areas where icing along the eave line is possible.
4. Attach the lower flanged edge of the shingle over the eave trim. Square the panel in the J channel at the gable edge and fasten with a ring-shank nail. (See panel installation section.)

Gable Closure

J Channel

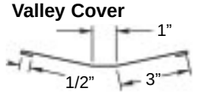




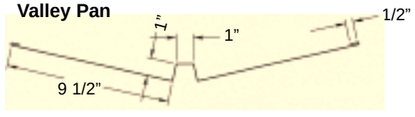
1. Apply drip edge over felt paper at gable. Make sure to overlap the drip edge at the eave line.
2. Lay the J channel along the gable edge. Overlap J channel a minimum of 4” to 6”.
3. Apply sealant between the drip edge and J channel. All fasteners should penetrate through the sealant into the solid substrate.
4. Align the first shingle into the J channel and snap a line across the roof plane. (See panel installation section.)

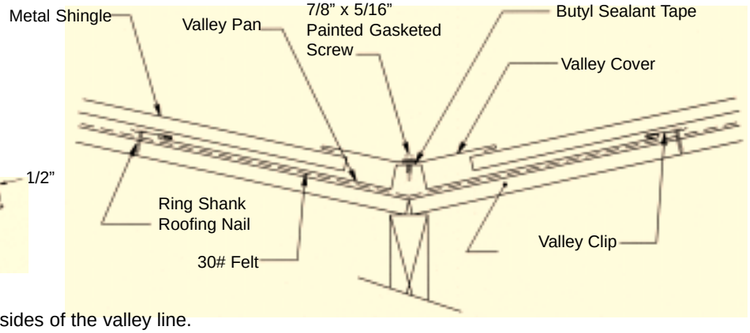
Valley Assembly

Valley Cover



Valley Pan

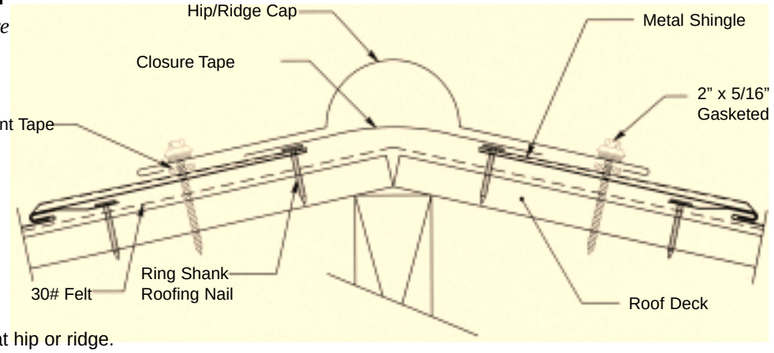




1. Install ice and water shield 18” up both sides of the valley line.
2. Install the valley pan and clip fasten through the substrate 2’ 0” o.c.
3. Lay shingles onto the valley pan maintaining at least a 2” clearance from the valley’s center.
4. Overlap valley pans and covers by a minimum of 6”. Apply double faced caulk tape between the valley cover and pan and fasten with 7/8” stitch screws spaced 2’ 0” o.c.

Hip & Ridge Detail

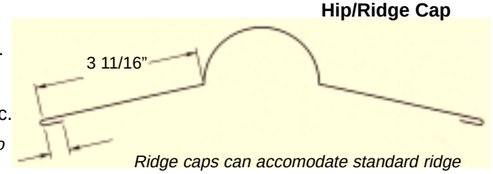
Hip and ridge applications are handled in the same manner.



1. Install roof panels to meet at hip or ridge.
2. Lay a 4” strip of closure tape across hip/ridge line.
3. Lay cap on roof and chalk a line to mark placement of butyl sealant tape. Apply sealant in a continuous strip 1/2” above chalk line.
4. Secure the cap with a 2” x 5/16” painted/gasketed screw approx. 2’ 0” o.c.

Note: For hip applications, fasten the caps to the high point on the shingle in order to avoid dimpling, and make sure the screw penetrates the cap through the butyl sealant tape into the solid substrate.

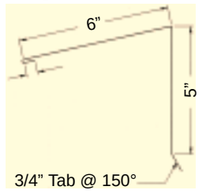
Hip/Ridge Cap



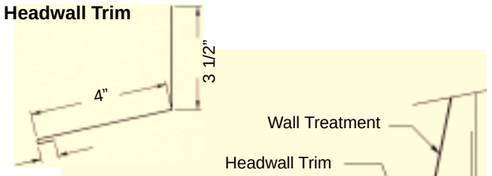
Ridge caps can accomodate standard ridge venting products. Refer to venting manufacturer’s instructions and local building code requirements.

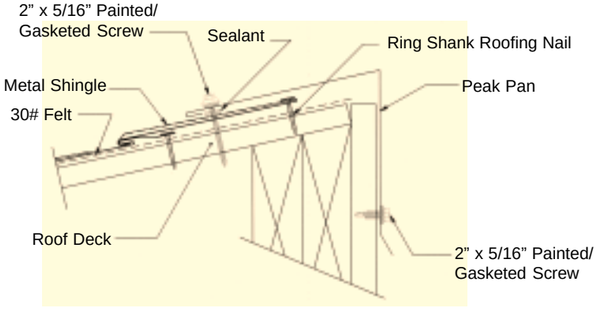
Headwall / Shed Ridge Closure

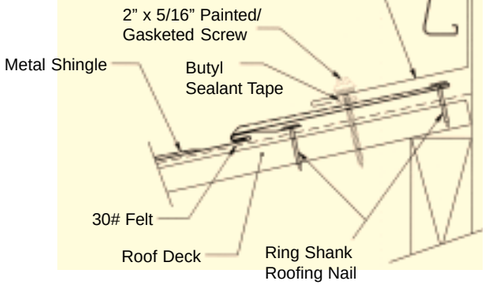
Peak Trim



Headwall Trim







1. Install metal shingles up to the headwall and/or roof peak.
2. Lay the headwall trim over the shingles while insuring that the perpendicular section is flush against the headwall. If a shed ridge condition exists, lay peak trim over the shingle. In both conditions, use double-faced caulk tape between the panel and the trim assemblies.
3. Trims should be fastened using a 2” x 5/16” painted/gasketed screw. Making sure to fasten through the caulk tape, shingle and into the solid substrate.
4. Apply counterflashing under the wall treatment and over the headwall trim, as required.

Note Regarding Trim Details

The application of flashing and trims requires a detailed approach. Consideration should be given to the roof’s geometry and course it creates for water run-off. Proper planning regarding the sequence of material overlap is critical. Sealants, such as butyl sealant tapes and tripolymers, should be used at overlapping trim edges, in conjunction with exposed fasteners, and to seal flashings and other ancillaries. All fasteners should be properly tightened and not over driven or driven at an angle. Fasteners that are too lose can “back out” over time. An over driven fastener may cause a depression in the material, which becomes a collection point for standing water.