

INSTALLATION DETAILS

Issued August 19th, 2002

revised March 25, 2004

These Installation Details are provided to demonstrate the recommended installation method for Metro Shingle panels and accessories.

The details and information shown in this document reflect current roofing practices used in the United States. Consult the Metro Technical Services Division for additional information.

Metro Roof Products

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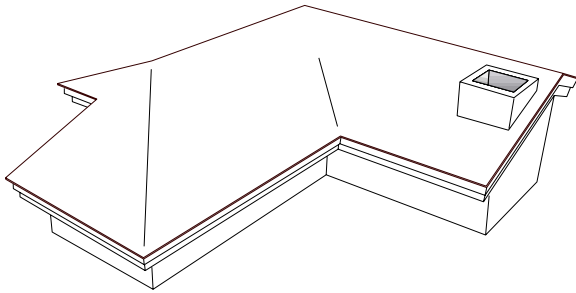
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www.smartroofs.com

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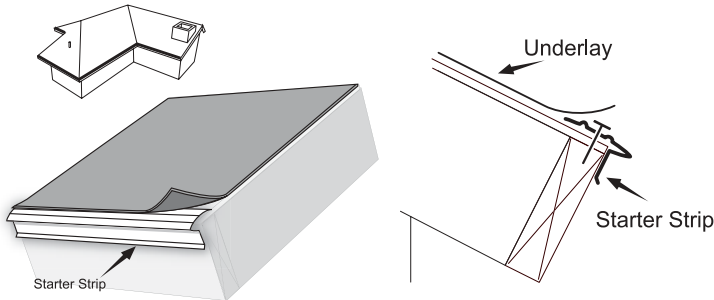
ROOF PREPARATION

Underlayment



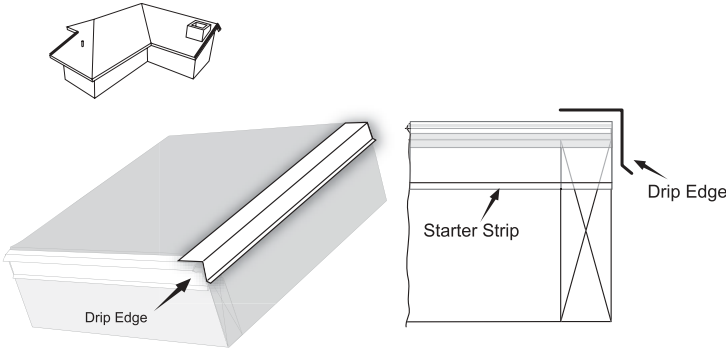
Metro shingles are installed on new or existing roofs pitched from at least 3:12 and above. Installation begins with roofing edge metals installed as shown, followed by the installation of roofing felt being conventionally applied. Ice and Water Shield should be installed per product application instructions in areas where icing may occur. For reroofing applications, the existing shingles are cut back flush with the perimeter of the roof. Consult local codes for other specific requirements.

Starter Strip



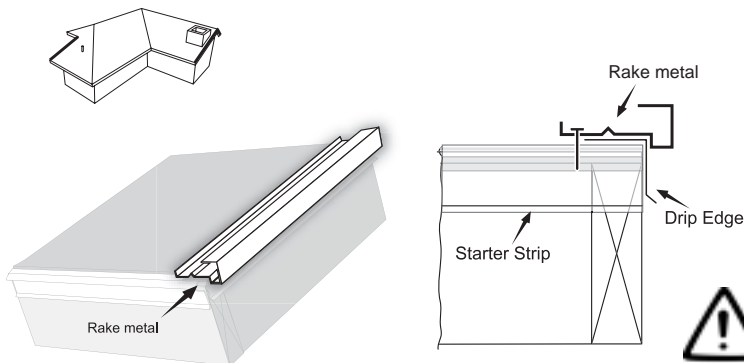
Install Starter Metal under the felt paper. Fasten using ring shank roofing nails spaced 12" apart. For high wind areas contact Metro for closer nail spacing.

Drip Edge



Install Drip Edge Metal over the felt on all rakes.

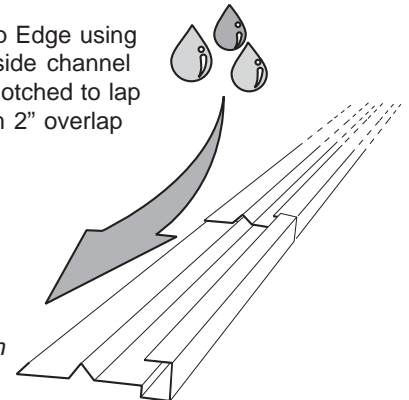
Rake Metal



Install Rake Metal over Drip Edge using roofing nails placed in outside channel as shown. Rake Metal is notched to lap at joints leaving a minimum 2" overlap in water channels.



Lap 2" minimum to prevent leakage through seams.

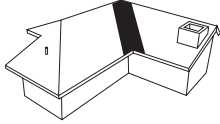


VALLEY

Double 'V' Valley



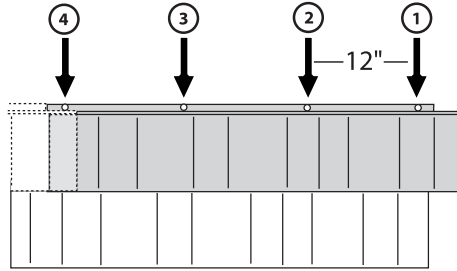
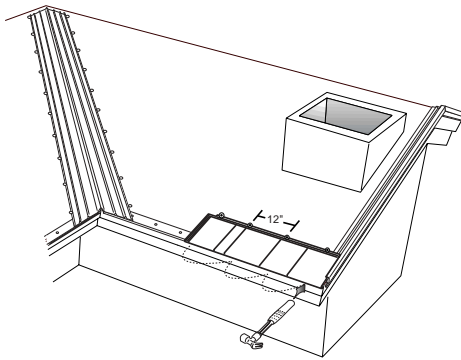
Do not nail through the valley metal.



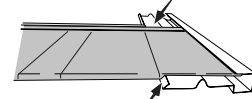
Install the 18" Double 'V' Valley metal overlapping a min. of 4". Attach valleys installing fasteners outside of flashing metal as shown.



Panel Placement



The Rear of the panels are fastened to the decking at each lap and intermediate third points approximately 12" o/c with a minimum of four corrosion-resistant ring shank nails.

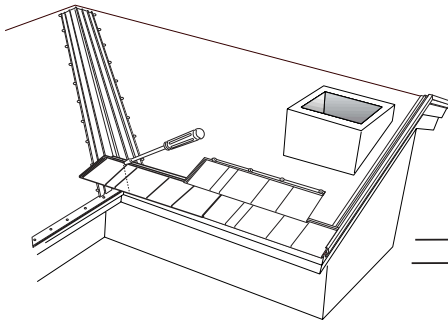


The first course of panels hook into the Starter Metal. Subsequent courses hook into the rear of the panel beneath. The shingles lay from the right side of the roof to the left.

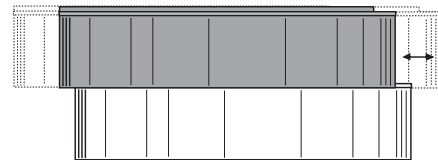
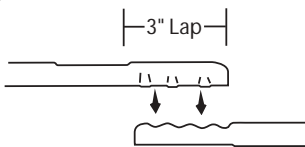


Miter and notch both nailing flange and front lapping edge on panel at the Rake metal prior to installing each course.

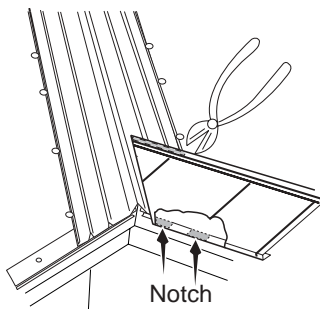
Panel Layout



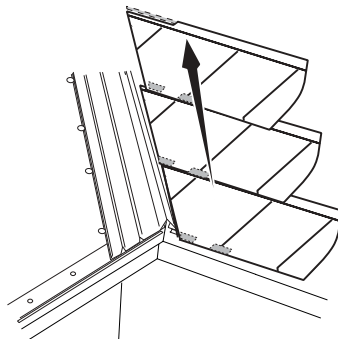
After laying the first course, subsequent rows are staggered to off-set side-laps and prevent stack-bonding lay-out. A stagger key pattern can be created by using off-cuts from one end of the first row on the next row up the roof. Randomly stagger subsequent rows of panels. At valley junctions, mark and cut panels from the center of the valley.



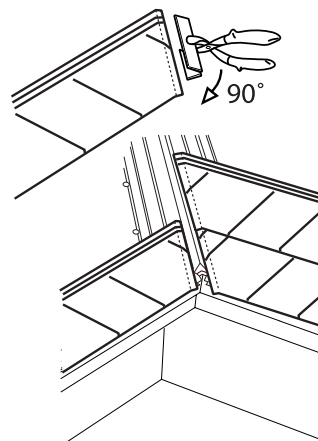
Miter & Notch



Notch



Miter & Fold-down



Valley shingle cut sections are turned down 90 degrees 1/4" - 1/2" (6-12mm) into the valley pan.



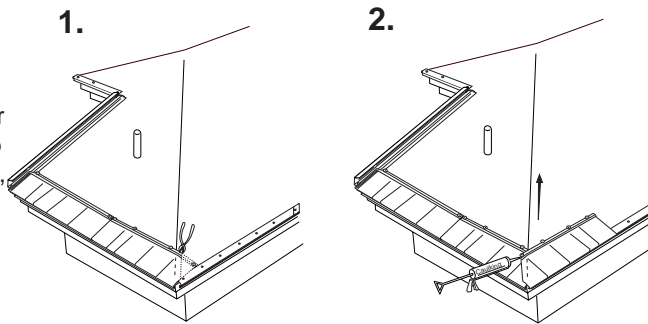
Cut top nail flange off and notch bottom lap in two places as shown. Miter, fold down and notch all rows as shown.



HIP & RIDGE

Overlapping method

Trim off the corners of the panel leaving a 2" flap, fold the flap over the hip, and attach the folded flap to the roof using ring shank nails, or screws.

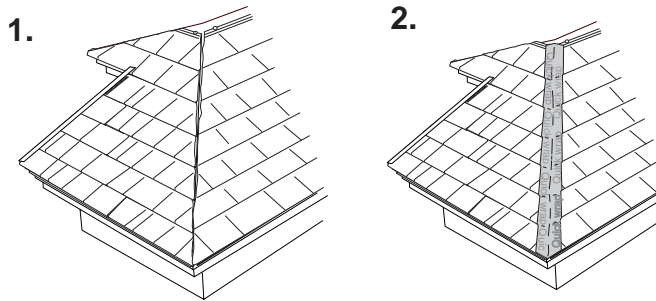


The adjacent panel is cut and installed so the excess flap covers the overlapped panel.

Secure the panel to the roof using ring shank nails. Seal with caulk between panels and fasten the lapped edge.

Seal Tape method

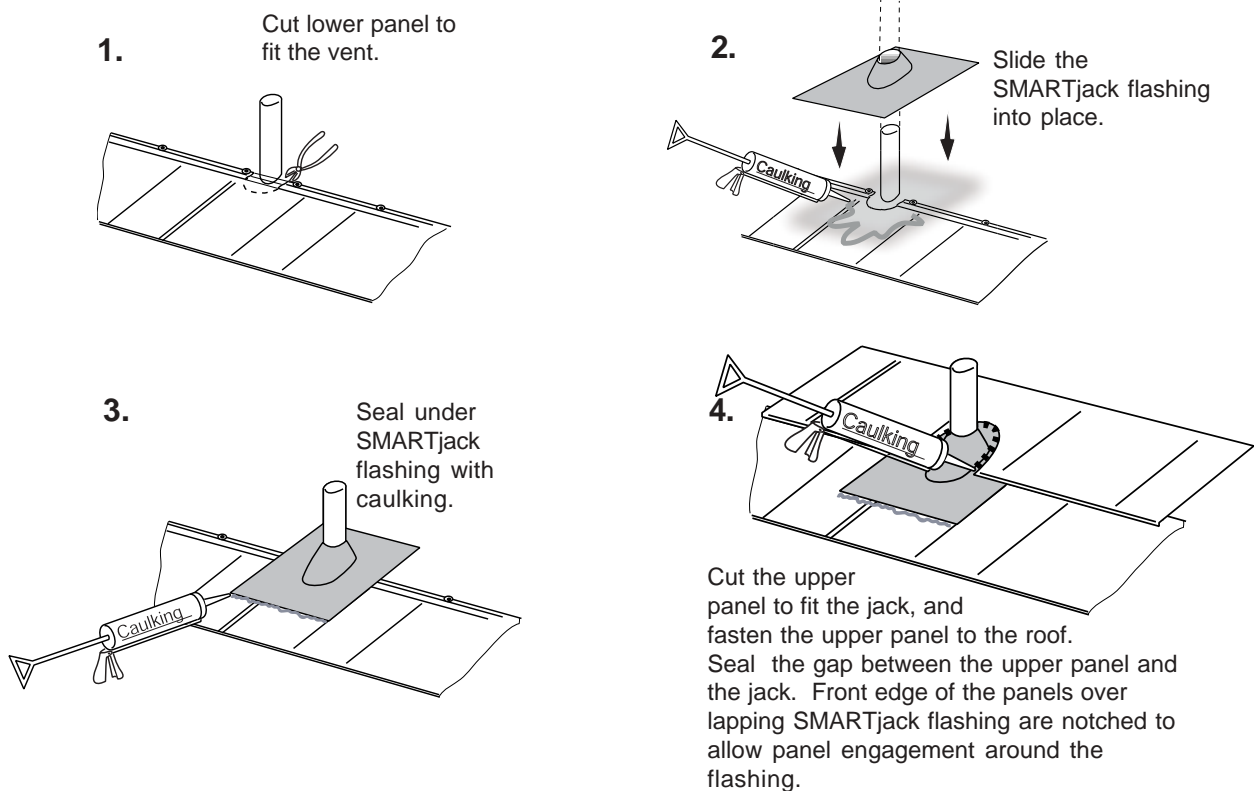
Cut Hip & Ridge pieces to butt together



6" wide ice / water shield is installed over cut panels. Membrane is notched and depressed at panel course steps.

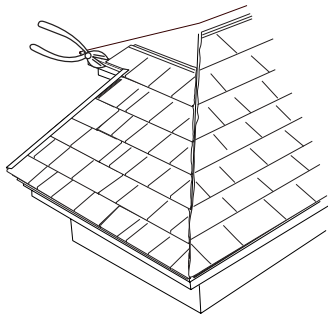
ROOF PENETRATIONS - SMARTjack Method

The Metro 3-in-1 SMARTvent is a moldable stone-coated roof flashing that can be used on most roof vent pipes, 1" to 3" in. dia. Apply sealant under 3-in-1 SMARTjack to keep it secured to the panel beneath.



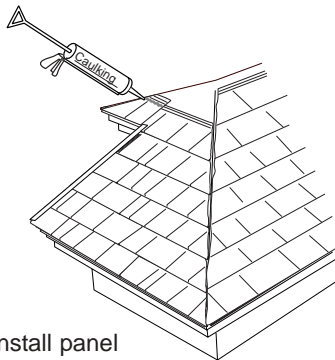
SHORT/SLIP COURSE

1.



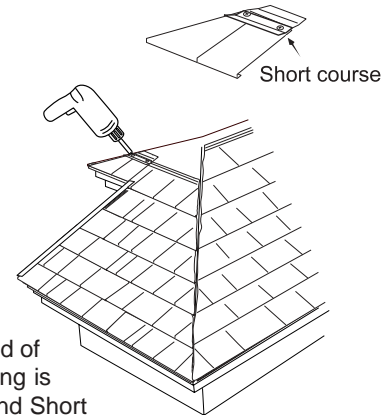
Cut panel to conform to disjointed eave.

2.



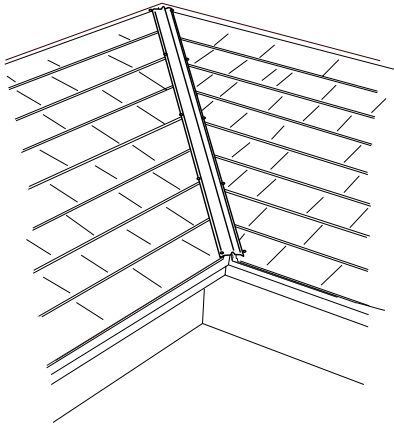
Install panel engaging the disjointed Starter Metal.

3.



A bead of caulking is laid and Short Course Metal is installed over the caulk to align with the rear locking point of adjacent panels. Subsequent courses of panels are installed normally.

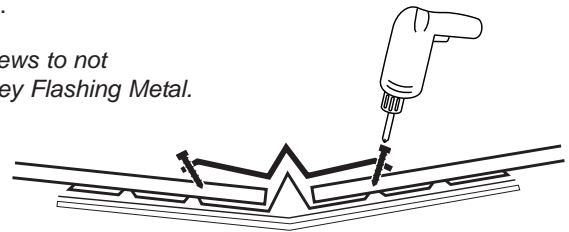
VALLEY COVER



Fasten the Valley Cover with corrosion resistant screws at alternating courses through the Valley Cover into the panels.

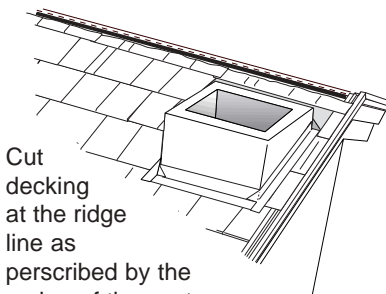


Use short screws to not perforate Valley Flashing Metal.

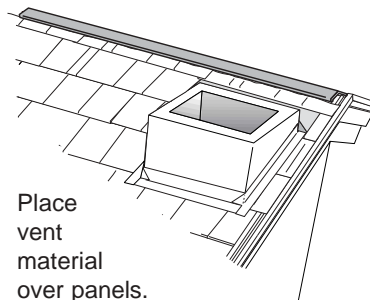


VENTED RIDGE DETAIL

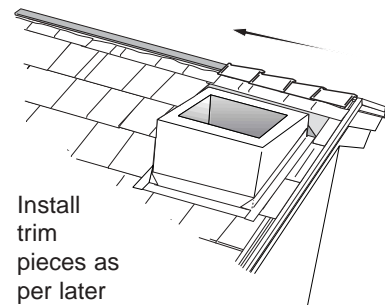
Ridge ventilation is best achieved using venting materials supplied by Owens Corning, Cor-a-vent, or others.



Cut decking at the ridge line as prescribed by the maker of the vent material and cut panels to match this gap.



Place vent material over panels.

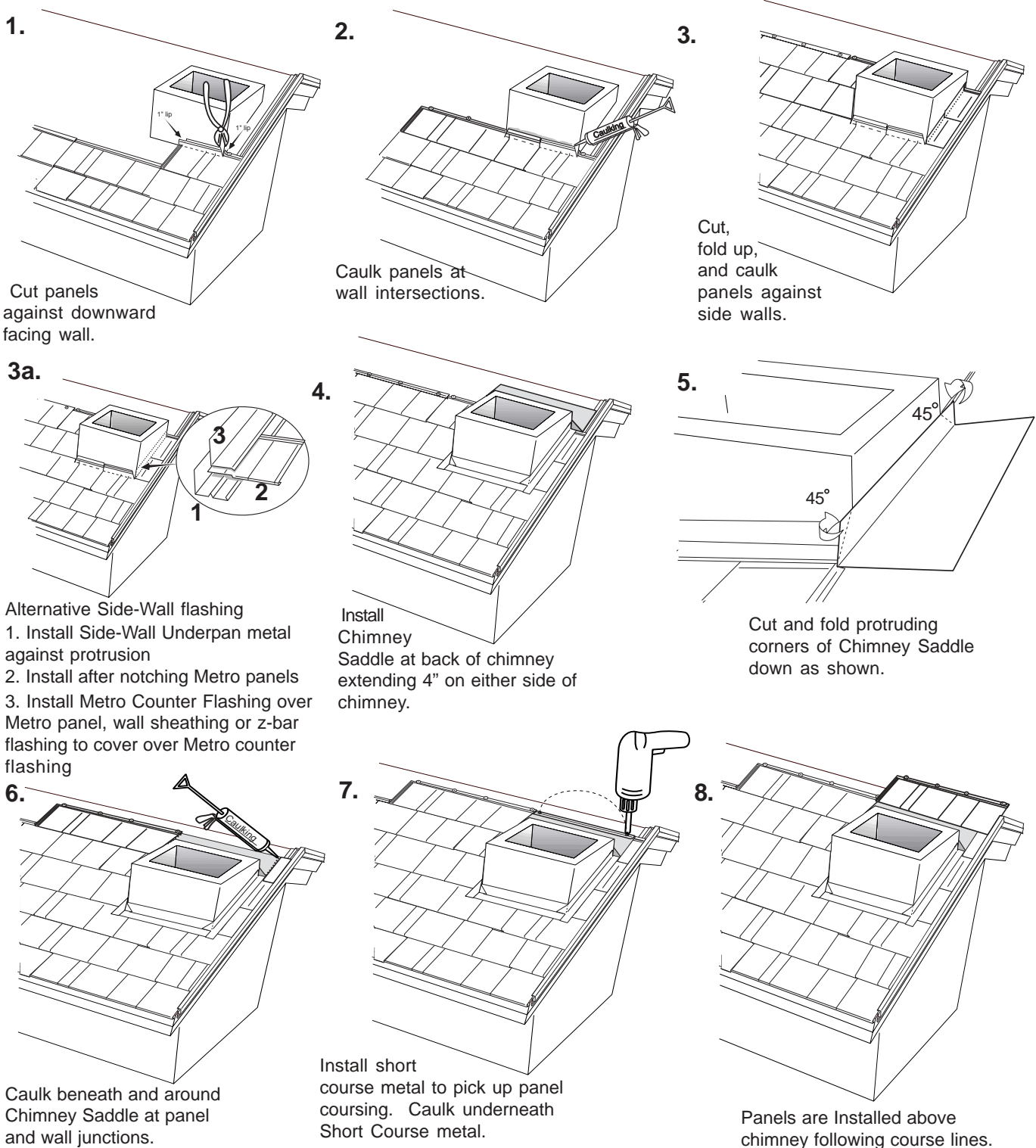


Install trim pieces as per later instructions using fasteners of sufficient length to extend through to the decking.

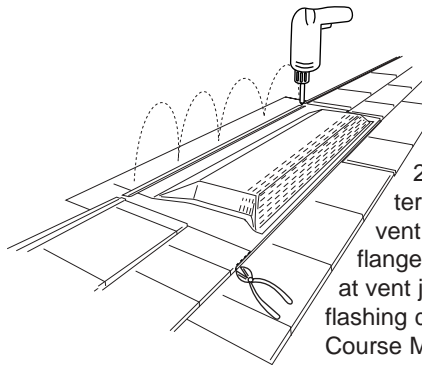


SIDE-HEAD WALL/CHIMNEY/SKYLIGHT

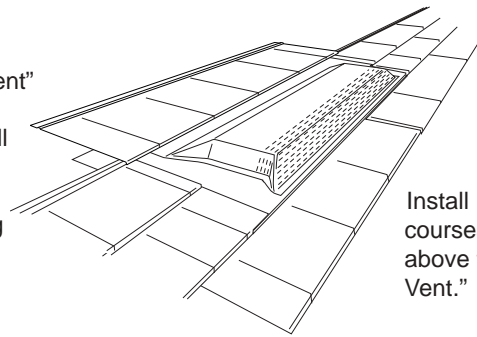
The following details apply to any square cornered protusion through roof.



METRO SMART-VENT



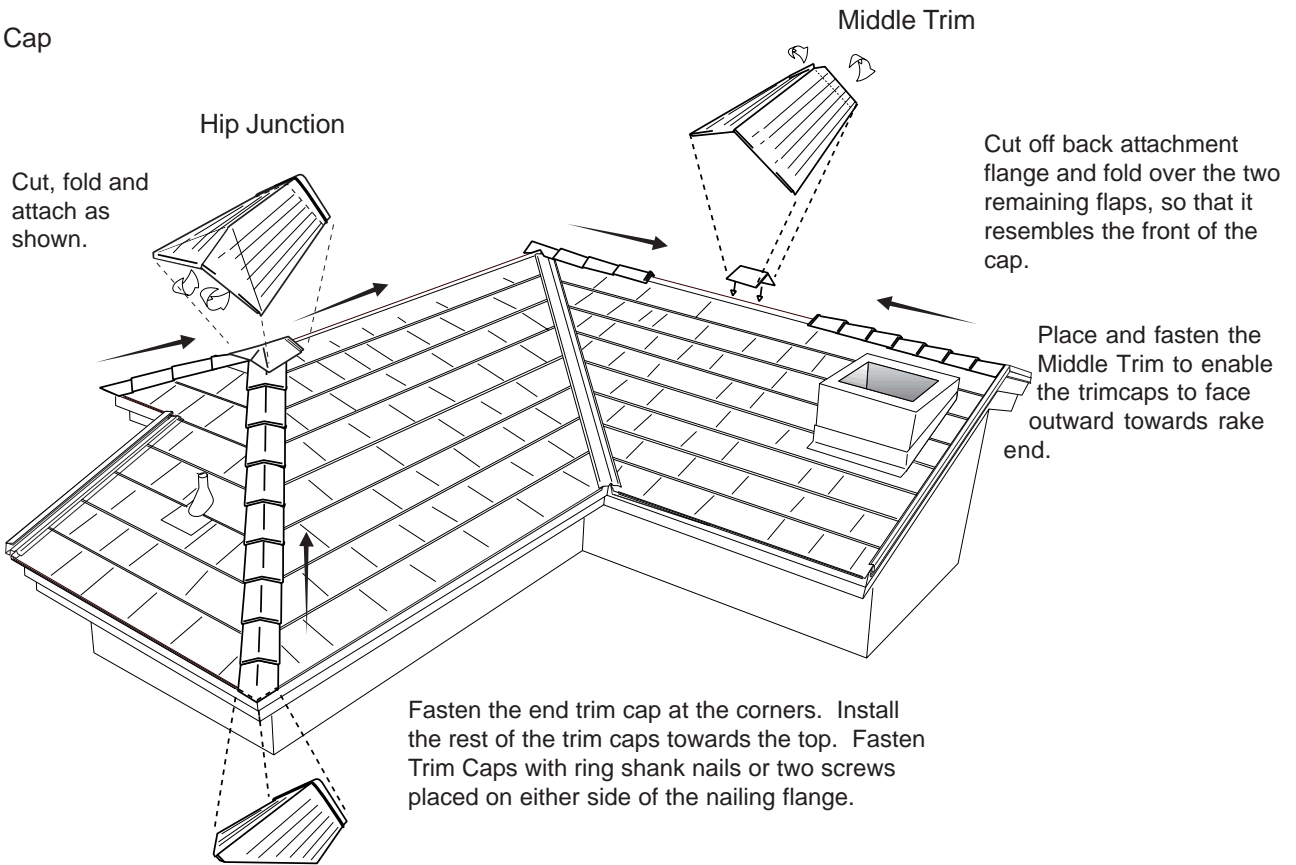
Engage "Smart Shingle Vent" over hole cut in decking to match vent's opening. Install 2 courses of shingle panels terminating the panels over the vent base. Notch the back nailing flange and underlapping front edge at vent junctions, similar to the valley flashing detail. Caulk and install Short Course Metal to align with panels.



Install subsequent courses of panels above the "Smart Vent."

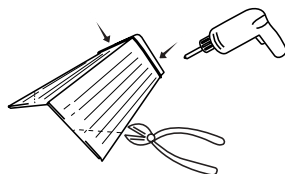
PLACEMENT AND MITERING OF TRIM CAP

Trim Cap

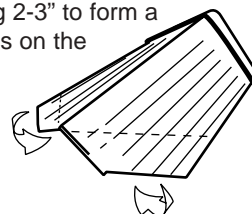


Hip End

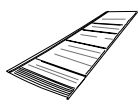
Cut off the corners leaving 2-3" evenly between the two sides



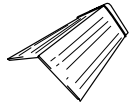
Fold the remaining 2-3" to form a flap which engages on the starter strip.



Materials & Accessories:



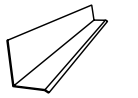
MetroShingle
52" x 10.5"
3.6 lbs.
31 per square



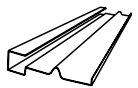
Trim Cap
10.5" x 6"
.57 lbs.



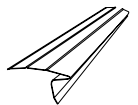
2" Short Course
120" x 2"
1.5 lbs.



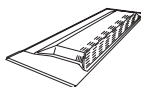
2.5" Counter Flashing
79" x 2.5"
3.3 lbs.
Stone Coated



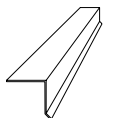
Shingle Rake Channel
79" x 3.5"
3 lbs.
Stone Coated



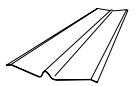
Shingle Fascia Starter
120" x 1.5"
2.5 lbs.



Smart Vent
59" x 22" x 2"
12.5 lbs.
Net Free Vent Area: 90 in².



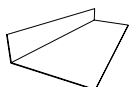
Drip Edge
120" x 2" x 2"
1.6 lbs.



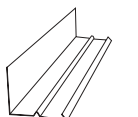
4" Valley Cover
79" x 4"
3.7 lbs.
Stone Coated



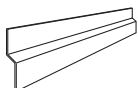
18" Double 'V' Valley
120" x 18"
12.5 lbs.



Chimney Saddle
60" x 16"
6.75 lbs.



Side-Wall Underpan metal
120" x 4"
5 lbs.



'Z'-bar Metal
79" x 2.5"
3.5 lbs.
Stone Coated

Other Items Needed:

Caulk (*sealant*)
Drill
Metal snips
Screw Gun
Metro Cutter (*optional*)
Roofing nails (*ring shank*)
Roofing felt
Hammer
Hand benders
Tape measure
Caulking gun

General:

MetroShingles are produced from Aluminum-zinc alloy coated steel complying with ASTM A792.

Testing:

MetroShingles have been tested according to the toughest Building Code Standards. Testing has been conducted to evaluate fire, wind, penetration, water infiltration, and durability resistance. Information regarding specific tests and approvals can be obtained from Metro Roof Products.

Warranty:

MetroShingles carry a limited warranty for fifty years. This limited warranty is transferable and does not cover damage due to improper handling or installation.

Packing and Storage:

Each MetroShingle bundle contains 10 panels. Care should be taken to store bundles of shingles and accessories. They should be placed under a tarp, or placed in an area free from moisture and debris.

Dissimilar Metals:

To avoid adverse corrosion effects caused by dissimilar metals, **copper** and **lead** flashings should not be used With MetroShingles.

Ventilation:

Ensure proper attic ventilation as prescribed per local codes. Either Smart Vents or Ridge venting can be installed to achieve adequate ventilation.

Finish coating

Minor scuffing of Metro Shingles can be repaired with a Touch-Up kit from Metro Roof Products. Use the Touch-Up kit Metro basecoat (*not caulking*). Unfinished flashing materials can be painted with durable acrylic aerosol paints. Colored aerosol paints should never be sprayed on shingles or accessories made by Metro Roof Products.

Roofing felt

Unless local conditions require otherwise, either one layer of type 30, or two layers of Type 15 lb. roofing felt or equal should be used with MetroShingles.

Roofing nails

3/8 in. head by min. 1" in. long corrosion resistant ring shank roofing nails are used to attach the panels and accessories.

Sealant/Caulking

Only exterior grade urethane or (non-acidic) sealant should be used. Only use Metro Repair-kit (basecoat) to apply stone chips.



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