INSTALLATION DETAILS

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INSTALLATION WARNING!
These installation details are provided to demonstrate a recommended installation method for Metro roof panels and accessories. The details and information in this document reflect current roofing practices used in the United States. Installers of Metro roof panels & accessories should, have knowledge of roof structures, an understanding of how to work with stone-coated steel panels and accessories and be experienced at working on sloped roof environments.

Metro recommends installers of its products use a Metro Installation Kit (1-Cutter, 1-Foot Bender & 1-Foot Bender Attachment) and to have completed a ‘SMART-Start On-Site Installer Training Orientation Program’ (http://metroroofs.com/SmartStartTraining.cfm) for each profile they attempt to install. Metro does not consider its products to be a ‘Do-it-Yourself’ (D.I.Y) product, mainly due to the need for specialized cutting & bending tools used during installation.
Roman-Tile Install

General

Metro Roman Tile panels are installed on new or existing roofs pitched a minimum of 2-1/2:12 (12 degrees). An underlayment is to be installed as per local code and manufacturers instructions.

Panel Battens

1"x4" or 2"x2" panel battens may be used over a solid sheathed roof deck. For installation using 1"x4" counter battens, 2"x2" panel battens must be used (see Counter Battens). Panel battens are installed parallel to the ridge/fascia. The first panel batten is positioned flush with the fascia or batten build-up. The second panel batten is positioned 13-3/4" from the fascia to accommodate the "Bird-Stop" metal.

Wood panel battens can be 2"x2", 1"x3" or 1"x4". Consult Metro regarding approved steel purlin sections. Precise panel batten spacing is critical because the rear of each Metro panel must fit snugly against the batten.

Battens are fastened to supporting framing members as per code and Metro instructions.

Ridge Battens

2"x2" ridge battens or double stacked 1"x4" pcs. are used to provide approximately 1½" of build-up height for hip and ridge pcs. Hip battens are installed directly on top of each intersecting panel batten, so that cut panels can be fitted against the battens.

Space Ridge/Hip battens 5" apart.
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Counter Battens

1"x4" counter battens are placed approximately 24" o/c directly over rafters. Fasteners must penetrate 1" into or through the roof framing members and be placed 12" o/c.

When counter battens are used, install 1"x4" battens down both sides of valley flashing as shown.

Counter battens (1"x4") are used when roofing over uneven surfaces or for additional ventilation, i.e. to create a cold roof application.

Fascia build-up for roofing over existing roofs.

When reroofing over wood shingles or shakes, the existing roof is cut back around the perimeter to allow a build-up of 1"x4", 2"x2" or a combination of both, to provide a solid nailing foundation. Wood is built up to match the underside of the 1"x4" counter battens placed on top of the existing roof. Consult local codes for other specific requirements.

Drip Edge

A standard “Drip-Edge” flashing is used along the eave/fascia, and should be installed over the batten, as shown.
20" Double ‘V’ Valley

Install 20" (508mm) Double ‘V’ Valley metal overlapping a min. of 4" (100mm). Valleys are attached with site fabricated clips as shown. Washer and rubber grommet screws are acceptable at the outside locations, as shown above.

Rake Metal

Metro Tile Rake metal is installed along the rake edges as shown. Tile Rake metal aids in positioning Metro Trim Caps, and is placed on the wood build-up. The Metro Trim Caps cover battens and folded up Metro panels, as shown.

Panel Layout & Fastening

Full panels are laid from the top of the roof (1st full course from the ridge) down to the fascia. Roman Tile panels are laid from right to left.

Each Roman Tile panel is fastened to the battens with a minimum or four (4) 131" die x 2-3/8" long corrosion resistant ring shank nails through the front down turn of the panels as shown. #10 x 2" long 1/4" hex head corrosion resistant screws may be used in place of nails.

Stagger Metro Roman Tile panels 1-2 “pan” modules to eliminate negative visual effects of continuous side-laps.

Metro panels are fastened on the right side of each overlapped pan as shown.
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Fastening First Course

Fasten the first course of panels at the raised panel section, through the fascia metal, and into the 1"x4" batten. This is the only place where it is acceptable to fasten panels through the top.

Valley Panels

1. Measure, mark and cut panels to fit tightly against valley center (reverse ‘V’). Fasten valley section panels to roof decking similar to the other panels without penetrating valley flashing.

2. Mark the bend line 1½" in from the cut line.

3. Bend panel down to fit into valley metal.

Start the 1st panel 12" (300mm) from the valley edge. This allows for a valley cut section to be securely fastened to the roof deck without penetrating the valley flashing.
Hip Panels

Hip cuts are measured, cut and bent similarly to valleys. Each hip panel is bent up a min. of 1 1/2" and fastened against the hip board.

Bird-Stop Metal

Bird stop metal extends into valleys as shown.

The Bird-Stop riser metal creates a 3/8" off-set from the fascia. The use of this ‘Bird-Stop’ requires standard Drip-Edge metal to be installed on a (1"X4" or 2"X2") support batten.

The second panel batten is positioned 13-3/4" from the fascia to accommodate the Bird-Stop metal.
SIDE-HEAD WALL/CHIMNEY/SKYLIGHT
The following details apply to any square cornered protrusion through a roof.

1. Cut and flatten

At front of chimney, measure, cut, and fold up panel 2". Cut panels on a 45 degree angle as shown and fold tabs around chimney.

2. On sides of chimney, cut and fold up panels 2" as shown.

3. NO BATTEN

At back of chimney, seal each top corner section. Keep panel battens away from saddle as shown.

4. Roman Foam Closure

At back of chimney, install chimney saddle as shown. Extend saddle a minimum of 6" past each side of chimney. Hem ends 1" to keep water on saddle flashing. Install a section of Metro Roman Foam Closure across the chimney saddle as shown (align with Roman profile).

5. Apply a bead of sealant across Foam Closure and ‘Seat’ back cut-section panel onto Foam Closure. Panels are fastened through the front downtum of the panels, the Foam Closure and saddle into decking.

6. Fold flap down to fit tight against saddle bend

Where applicable, cut and fold panels to overlap the hand fabricated hem on the sides of the chimney saddle.

Always start from the bottom of the item being flashed to ensure correct weather protection.

Counter Flashing metal or Z-bar covers bent up edges of panels.
**Roman-Tile Install**

**ALTERNATE FLASHING DETAIL**

Side-wall Underpan metal is covered with counter flashing or standard Z-bar.

Panel front down-turn is flared out to allow Underpan to exit onto panel below.

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**SMARTvent - Roman Tile**

Metro Roman Tile SMARTvents are used in place of regular panels where ventilation is required. The vents are installed similar to panels after cutting ventilation hole in decking (approximately 8' x 30'). A Metro Roman Tile SMARTvent provides approximately 82 sq. inches of Net Free Vent Area (NFVA). Care should be taken to adequately ventilate the building. Building codes require a minimum NFVA of 1/300 the area of the space to be ventilated (attic).

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**SMARTjack and SMARTsleeve**

Metro offers both a SMARTjack and SMARTsleeve for use with its stone-coated roof panels. The Metro 3-in-1 SMARTjack is a moldable stone-coated roof flashing and is available in a small (SMARTjack 12' x 16') and large (Roman SMARTjack 18' x 18') base size. Apply sealant under 3-in-1 SMARTjacks.

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*The Metro ‘Sandwich’ method should be used if a vent location prevents a SMARTjack 3-in-1 from being folded up and over a panel's back flange.*
Cut panel battens a min. of 6" from the protruding pipe. Flatten the panel directly below the pipe to avoid a hump. Cut and hem a lip around the perimeter of the SMARTjack on the section placed above the panel batten. Install a block behind the protrusion to support the back of the SMARTjack.

Slide the SMARTjack into place. Mold base of SMARTjack to conform with panel.

For added protection and appearance, SMARTSleeves are cut to conform to the panels and are installed over pipes. Sleeves are fastened with a screw through the front of the SMARTSleeve into the SMARTjack.

Measure, mark, and cut Roman panels to cover back section of SMARTjacks. Seal around flashing.
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Ridge Panels

The following steps should be followed to ensure adequate weather protection along the ridge. The top course of panels require cut and bent panels to complete the ridge line. Bend all ridge panels using Metro's top bender.

1. Cut Line - Bend Line

2. Always bend the ridge panels before cutting as they deform slightly and are difficult to install. Deduct ½" from measurements and make both bend and cut lines for each panel.

3. After bending and cutting, reshape panels to match existing panel courses.

1. Fasten panels first at bottom right corner.

2. Then fasten panels at bottom far left corner. Panels are then pushed down and fastened into place.

3. Push back of panel into position against ridge batten before fastening.

4. Additional fasteners are applied as necessary.
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Top Course Metal

Roman Top Course metal may be used to avoid bending and cutting full panels at the ridge or chimney.

Roman Top Course metal can also be used at the front of chimneys and skylights.

⚠️ Top Course Metal is used where the last panel course before the ridge measures 4½" or less.

Apply a bead of sealant between two overlapping top course pieces.

Short Course

This detail is needed where the fascia/eave steps out from the main roof course line.

1. Where panels intersect with a stepped fascia, stop panel battens approximately 6" away from new fascia line. If necessary, notch, cut, and flatten panel at this intersection as shown.

2. The 1st full panel (short course) piece is notched and fitted as shown.

3. Place Metro Roman Foam Closure strip in line with main coursing row. Use sealant to secure.

4. Install full panels aligned with main courses. Fasten with screws, through front down-turn of panel through the Foam Closure strip, and into the panel below as shown.
TRIM CAP DETAILS

HIP/RIDGE INTERSECTION
Install hip caps from the bottom using 2 fasteners per trim cap. Overlap trim-caps at hip/ridge intersection. Cut and fit the ridge cap over both intersecting hip caps as shown.

RIDGE CENTER CAP
At the center of a ridge line, a small/short ridge cap, as shown, can be made where cap pieces meet from different directions.

RIDGE/GABLE END
Where the ridge intersects with a gable end (rake), cut and fold the end disc as shown to follow the Rake Channel sections previously installed.

HIP CORNER
Notch & fold the end disc as shown to form a closed 3-dimensional end cap. Fit end disc to bottom hip corner with stitch screws and install balance of trim caps up the hip. Nail each cap on either side of hip boards.

Attach end disc with stitch screws.

After installing trim caps at intersections, seal cut edges and apply Metro basecoat and stone chip for a complete stone coat finish.

Indicates critical areas of installation
Roman-Tile Install

Materials & Accessories:

- **Metro RomanTile**
  - 52" x 16.5"
  - 5.5 lbs.
  - 21 pcs. per square

- **Barrel Cap Trim**
  - 14.5" x 6"
  - 1 lbs.

- **Trim End Disc**
  - 6" x 4"
  - .15 lbs.

- **MetroTile SMARTvent**
  - 62" x 14.5" x 3.5"
  - 10.5 lbs.
  - Net Free Vent Area 82.5"

- **'Bird-stop' Metal**
  - 79" x 5"
  - 3.75 lbs.
  - Stone Coated

- **Foam Closure**
  - 1" x 1" x 79"
  - Black foam

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

- **20" Double 'V' Valley**
  - 120" x 20" x 1"

- **Tile Rake Metal 120"**
  - 120" x 2" x 1.75"
  - 2.1 lbs.

- **2.5" Head-wall Flashing**
  - 79" x 2.5"
  - 3.3 lbs.
  - Stone Coated

- **Drip Edge Fordia**
  - 120" x 2" x 2.5"
  - 3.3 lbs.

- **Chimney Saddle**
  - 60" x 16"
  - 6.75 lbs.

- **Fascia/Counter Flashing**
  - 79" x 3.25" or 5"
  - 3.75 lbs.
  - Stone Coated

- **Top Course**
  - 79" x 1.5" x 4.5" x 2.25"
  - 4.10 lbs.
  - Stone Coated

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

Dissimilar Metals:
To avoid adverse corrosion effects caused by dissimilar metals, COPPER and LEAD flashings should not be used with Metro roof products and accessories. (refer to Metro SMARTbrief #02004)

Ventilation:
Ensure proper attic ventilation as prescribed per local codes. Either SMARTvents or ridge venting can be installed to achieve adequate ventilation.

Finish coating
Minor scuffing of Metro RomanTile panels can be repaired with a Touch-Up kit from Metro Roof Products. Use the Metro adhesive (not caulking). Unfinished flashing materials can be painted with durable acrylic aerosol paints. Colored aerosol paints should never be sprayed on stone coated panels or accessories made by Metro Roof Products.

Roofing felt
Unless local conditions require otherwise, a min. of either one layer of Type 30, or two layers of Type 15 lb. roofing felt (or equivalent) should be used with Metro RomanTile panels.

Roofing nails
Corrosion resistant .131” dia. x 2” long ring shank roofing nails are used to attach Metro roof products and accessories.

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

Other Items Needed:
- Caulk (sealant)
- Drill
- Metal snips
- Screw Gun
- Metro Cutter (optional)
- Nail gun
- Roofing nails (ring shank)
- Roofing felt
- Hammer
- Hand benders
- Tape measure
- Caulking gun

General:
Metro RomanTile panels are produced from Aluminum-zinc alloy coated steel complying with ASTM A792.

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

Warranty:
Metro RomanTile panels 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:
A pallet of Metro Roman Tile panels contains 19 squares. Care should be taken to store Metro RomanTile panels and accessories. They should be placed under a tarp, or placed in an area free from moisture and debris.

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Metro Roman Tile Installation

⚠ Indicates critical areas of installation

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