MATTERHORN®
METAL ROOFING

Tile Installation Guide
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table of Contents</td>
<td>2</td>
</tr>
<tr>
<td>Tools &amp; Accessories</td>
<td>3</td>
</tr>
<tr>
<td>System Components</td>
<td>4</td>
</tr>
<tr>
<td>Installation Sequence</td>
<td>5</td>
</tr>
<tr>
<td>General Installation Guidelines</td>
<td>6</td>
</tr>
<tr>
<td>Screw &amp; Fastening Specifications</td>
<td>7</td>
</tr>
<tr>
<td>Eave Detail</td>
<td>8</td>
</tr>
<tr>
<td>Rake Edge</td>
<td>9</td>
</tr>
<tr>
<td>Rake Edge</td>
<td>10</td>
</tr>
<tr>
<td>Hip &amp; Ridge</td>
<td>11</td>
</tr>
<tr>
<td>Valley</td>
<td>12</td>
</tr>
<tr>
<td>Sidewall</td>
<td>13</td>
</tr>
<tr>
<td>Sidewall Masonry &amp; Stucco</td>
<td>14</td>
</tr>
<tr>
<td>Endwall</td>
<td>15</td>
</tr>
<tr>
<td>Transition</td>
<td>16</td>
</tr>
<tr>
<td>Under Panning</td>
<td>17</td>
</tr>
<tr>
<td>Roof Penetration</td>
<td>18</td>
</tr>
<tr>
<td>Panel to Panel Installation</td>
<td>19</td>
</tr>
</tbody>
</table>

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**Check list for Metal Installs:**

- Install crew watches all the tile installation videos [Link to our install videos](matterhornmetalroofing.com/Tile-Install/)

- Install crew reads the tile install manual [Link to our install guide](matterhornmetalroofing.com/wp-content/uploads/2016/05/Matterhorn-Tile-Install-Manual_v2.pdf)

- The install crew foreman has a written copy of the install guide on site throughout the job for reference.

- All the tools listed in the install guide be on site throughout the install.

- Trainer has the opportunity to review the material list against the roof report/blueprint to confirm the correct material will be on site.

- Install specialist needs to have the project address and contractor’s name/phone number

- Roof is stripped and dried in before our Matterhorn® install specialist arrives to the job site.

- Our trainer to be notified of changes in the schedule 48 hours prior to the start date/time.
Tools & Accessories

Required Tools
Minimum recommend tools and equipment:
The standard set of tools and equipment in the general roofing trade.

Including: Cordless driver, snips, tape measure, electric metal saw, caulking gun, chalk line, hand seamer/hemming tool, gloves, square, felt tipped marker, needle nose pliers and a small flat head screw driver.

Special Additional Tools:
Not needed to complete the job but can improve install procedures and provide an overall finished look.

Accessories
Most available through local roofing distributors:

Caulk: Butyl or urethane caulk/sealant

Tape: Butyl tape, or flashing tape on a roll, for side and end wall flashing

Boots: For vent pipes with metal sealer ring

Snow Guards: Should be placed as needed, and always refer to the manufacturing instruction guide when installing. Refer to local distributor for more information.
System Components

A  2 Course Panel
B  4 Course Panel
C  T-Style Drip Edge
D  Hip/Ridge Cap
E  2" C-Closure Vented
F  Ridge Cap End Closure
G  Inner Gable
H  Outer Gable
I  Side Wall Flashing
J  End Wall Trim
K  2" Valley Closure
L  Valley Closure Cap
M  24" W-Valley
N  Bird Guard
O  Trim Coil
P  Wind Stop
Q  Valley Cleat

All screws used while installing Matterhorn® Slate or Shake must be of a recommended screw type. Screws must be long enough to penetrate the roof deck. Refer to diagram on page 7.

Watch detailed Matterhorn® Tile installation videos online at Certainteed.com
1. Install T style drip edge straight and square to the roof plane. To ensure it does not follow any wave in the fascia measure down from the ridge to the eave on both ends of the roof plane. Determine the common measurement then chalk a line. (See Page 7)

2. Install applicable underlayments based on slope requirements. (See Page 7)
   - > 4/12: DiamondDeck® synthetic underlayment must be installed prior to the installation of the metal roofing products. WinterGuard® Metal/WinterGuard® HT high temperature self-adhering underlayment is required in all valleys and eaves—refer to local building code.
   - 3/12 to < 4/12 slope: WinterGuard® Metal/WinterGuard® HT must be used over the entire roof deck.

3. When joining two pieces of outer gable ensure top piece overlaps the bottom piece.

3. Install Bird Guard (See Page 7)
4. Install rake edge detail (See pages 10 & 11)
5. Install hip & ridge detail (See page 12)
6. Install valley flashing (See page 13)
7. Install sidewall & or endwall flashing as necessary (See pages 14,15,16)
8. Address any remaining penetrations that require under panning. (See page 17)
9. Install the field panels (See page 18)
General Installation Guidelines

• CertainTeed recommends tearing off existing roof systems and installing Matterhorn® Metal Roofing over a clean deck.

• Matterhorn® Metal Roofing must be installed on a solid roof deck. The roof deck must be a minimum of 15/32” wood structural panels or nominal 1” thick wood deck.

• **Slope requirements:**
  - > 4/12: DiamondDeck® synthetic underlayment must be installed prior to the installation of the metal roofing products. WinterGuard® Metal/ WinterGuard HT high temperature self-adhering underlayment is required in all valleys and eaves—refer to local building code.
  - 3/12 to < 4/12 slope: WinterGuard® Metal/ WinterGuard® HT must be used over the entire roof deck.
  - < 3/12 slope: Do not install Matterhorn® Metal Roofing.

• Prior to installing the underlayments, clear the roof deck of any debris or protrusions that could puncture the protective membrane. Installing roof panels on uneven surfaces may cause distortion or deflection on the metal surface.

• Inner Gable, Valley, Valley Closure, T-Style Drip Edge, Vented C-Closure, Bird Guard must be installed before the panels. Sidewall Flashing, Outer Gable, Hip/Ridge Cap, Transition Flashing, Valley Closure Cap and Ridge Cap End Closure may also be installed before the panels.

• When cutting panels to length, always remove material so that the factory pre-formed bend remains intact to allow for proper locking to adjacent panel below. Must use factory edge when joining panels.

• Always install Matterhorn® Tile panels vertically from the bottom to top, then right to left; beginning with the bottom right corner of the roof deck. Always fill one column in completely before moving to the next one. Install Bird Guard prior to starting the next column.

• Be sure each panel is fully engaged to the panel to the right before fastening it to the deck.

• Minimize foot traffic. Wear clean, soft sole, non-marking shoes when walking on installed panels.

• Upon completion of the installation, inspect the roof surface for metal shavings or other loose material. Remove by wiping softly with a cloth, being careful not to scratch the painted surface. Remove dirt with a damp rag, using detergent if necessary.

Safety Guidelines

• Follow all governmental safety procedures, including, but not limited to, all OSHA guidelines. Always wear safety gloves, safety glasses and fall protection gear when installing Matterhorn® Metal Roofing.

Fastening

• Fasten all panels to the roof using only the recommended screw type, inserting one into each of the holes along the left side of the panel.

Ventilation

Proper ventilation must be achieved to avoid moisture and heat buildup in the attic space, or between the layers of the building envelope. Consult local building code for NFA (Net Free Area) rating requirements.

• **Intake vs. exhaust:** To achieve maximum airflow through the attic, the amount of intake at the eave must be less than or equal to the exhaust at the ridge.

• **Soffit vents** are found on the underside of the eave overhang. This is the primary source for the intake of air to the attic.

• **Ridge vents** are located at the peak of the roof and are the primary exhaust outlet for accumulated hot, moist air.

Class A Fire Rating

Matterhorn® is tested for a Class A Fire rating using ether of the two assembly’s below.

**ASTM E108 Class A**

<table>
<thead>
<tr>
<th>Assembly No. 1</th>
<th>Assembly No. 2 / With Underlayment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4” or 1/2” Georgia Pacific DensDeck</td>
<td>GAF VersaShield</td>
</tr>
<tr>
<td>CertainTeed WinterGuard® Metal;</td>
<td>CertainTeed WinterGuard® Metal;</td>
</tr>
<tr>
<td>CertainTeed WinterGuard® HT;</td>
<td>CertainTeed WinterGuard® HT;</td>
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<tr>
<td>CertainTeed DiamondDeck®</td>
<td>CertainTeed DiamondDeck®</td>
</tr>
</tbody>
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Screw & Fastening Specifications

Screw Must Penetrate Through the Deck

Standard five screw installation using pre-punched holes

Watch detailed Matterhorn® Tile installation videos online at Certainteed.com
1. Fasten drip edge to the roof deck every 12" with panhead screws.

2. When installing, ensure that drip edge is straight and square to the roof plane and does not follow any wave in the fascia. This may require a chalk line.

3. Matterhorn® drip edge is designed to be installed on up to a 12/12 pitch without modification. On steeper roof pitches, drip edge can be bent for easier installation. By bending forward the leg of the drip edge it will fit tight on a steep slope roof.

4. Install WinterGuard® Metal/WinterGuard® HT per local building codes.

5. Bird Guard should be installed underneath the panel at the eave edge.
Inner Gable

1. Install the inner gable up the rake edges using panhead screws every 12”. The opening of the inner gable should face toward the roof deck. The back side should align with the outside edge of the roof deck.

2. Overlap inner gable trim as per the sequence below. Overlap by at least 6”.

Place inner gable 1/4” from the nose of the drip edge.

Install inner gable as a whole piece. When adding a second inner gable trim, open up the water lock and cut out the top section to allow for tight, overlapping, waterproof fit.

When overlapping, apply sealant under overlap. Be sure to screw every 12” between the diverter and the water lock.

Refit the overlapping water locks together with a hand seamer.
Rake Edge

Option 1 - Outer Gable
1. Hook the hem of the outer gable over the top edge of the inner gable. This may require opening the hem slightly.
2. Make sure the outer gable lap joint is staggered with the inner gable lap joint.
3. When joining two pieces of outer gable ensure top piece overlaps the bottom piece.
4. Beveled cut the lower piece to receive the upper piece.
5. Outer gable should be hemmed to inner gable and fastened with painted 1-1/4” hex head screw, as necessary.

Option 1: Using Outer Gable

Option 2: Using Ridge Caps On The Rake
1. Hook the hem of the ridge cap over the top edge of the inner gable. This may require opening the hem slightly.
2. Make sure the ridge cap lap joint is staggered with the inner gable lap joint.
3. When joining two pieces of ridge cap ensure top piece overlaps the bottom piece.
4. Beveled cut the lower piece to receive the upper piece.
5. Ridge cap should be hemmed to inner gable and fastened with painted 1-1/4” hex head screw.
6. Install Valley Cleat along the fascia and hem ridge cap to cleat.

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Hip & Ridge Detail(s):

Hip & Ridge capping can be installed before the roof panels to prevent walking on the finished roof. For vented ridges, the vented C-Closure is fastened to the deck every 12” with panhead screws. For unvented hips or ridges the inner gable is installed with panhead screw every 12”. Be sure the inner gable or vented c-closure are properly spaced to engage the hem of the hip/ridge cap. When overlapping the cap sections, be sure to maintain the correct spacing end to end (raised sections of metal should fit together) When joining sections of hip & ridge cap bevel cut the outer hem to receive the next section. Refer to local building codes for proper ventilation.
Valley Detail #1: Closed Valley (3 Pieces)

1. Fully line the valley of the roof with WinterGuard® Metal/WinterGuard® HT.

2. Install the opposing pieces of valley closure back to back. Fasten every 12” within 6” of the water lock with pan head screws.

3. Install the Valley Closure Cap from the side by opening the hem on one side of the cap and installing it onto both closures. Then re-hem the Valley Closure Cap and secure with painted screws as necessary.

4. Make sure the joints in the Valley Closure Cap are staggered from the joints in the valley closure. Overlap sections of the Valley Closure Cap by approximately 2” to keep water from entering between Valley closures.

5. Be sure the panel is cut to fit the valley angle.

Valley Detail #2: Open Valley

1. Be sure to run WinterGuard® Metal/WinterGuard® HT in all the roof valleys.

2. Install the W-Valley at the bottom of every roof valley overhanging the drip edge. Lap the next 10’ piece over the first one at least 6”. The water lock will have to be opened up on the top to allow the next section to nest inside. Two rows of sealant are required in the overlap.

3. Push the W-Valley down into the roof profile before fastening to prevent bridging or spanning of the metal between the two roof slopes. Tack the valley metal in place with panhead screws 1” down from the water lock.

4. Open tile valleys are more difficult to install than closed valleys. For this reason, we ask that you consult with your local certainTeed metal specialist to review the installation details.
Sidewall

1. Apply WinterGuard® Metal/WinterGuard® HT.
2. Install inner gable before the panel, fastening every 12”, between the water lock and the diverter.
3. Install the sidewall flashing over both the panel and the inner gable, hooking the bottom hem of the sidewall flashing over inner gable. Seal and fasten sidewall flashing into the sidewall.
4. Cut panel to the length needed to meet the sidewall inside the inner gable.
5. Install the panel with the cut side inside the inner gable.
1. Apply WinterGuard® Metal/WinterGuard® HT.

2. Install inner gable before the panel, fastening every 12”, between the water lock and the diverter.

3. Install the sidewall flashing hooking the bottom hem of the sidewall flashing over inner gable. Seal and fasten sidewall flashing into the sidewall.

4. Install counter flashing over the upper leg of the side wall to ensure waterproofing.

5. Cut panel 1/2” short of the length needed to meet the sidewall inside the inner gable, to allow water flow freely.

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**Endwall**

**Endwall Option 1**

1. Apply WinterGuard® Metal/WinterGuard® HT.
2. Attach endwall flashing under siding panel.
3. Fasten endwall flashing to wall, ensuring the hemmed end covers the panel below appropriately.

**Endwall Option 2**

1. Apply WinterGuard® Metal/WinterGuard® HT.
2. Install inner gable.
3. Install sidewall flashing onto inner gable. Bend sidewall flashing to existing roof to wall angle.
4. After installing the panel into the inner gable, install the wind stop.


**Transition Detail:**

1. Apply WinterGuard® Metal/WinterGuard® HT.
2. Install inner gable at the base of the transition.
3. Install the end wall flashing with the lower hem hooked into the inner gable.
4. Install the upper roof section first over the end wall flashing along the bottom edge, filling the voids with Bird Guard.
5. Then install the lower roof section under the end wall, fitting the panels all the way up into the inner gable.
6. After installing the panel into the inner gable, install the wind stop.
1. When you have a penetration in the roof, you make a pan to go under the Matterhorn® panels. Use trim coil to fabricate under pans to come out on a lower course of roofing material. If the water gets in the penetration it will discharge on top of the roof. *(Refer to roof vent detail)*

Be sure to cut a weep hole to allow proper drainage.
Roof Penetrations

**Vent Pipe**
Install WinterGuard® Metal/WinterGuard® HT or sealant over top of the DiamondDeck® to create under seal at the pipe. Cut panels tightly against pipe and apply sealant to ensure the panel is water tight to the pipe. Install high quality EPDM/silicone pipe boots per manufacturer’s instruction.

![Vent Pipe Diagram](image)

**Chimney / Sky light**
Install inner gable before the panel is set. Install sidewall flashing per standard installation, apply WinterGuard® Metal/WinterGuard® HT if needed for extra protection. Place beads of sealant on the sidewall flashing, bend steel trim coil into appropriate counter flashing shape and install. The metal panels may now be cut and installed.

![Chimney/Sky Light Images](image)
Panel to Panel Installation

1. Prior to installing the panels over the underlayment, clear the roof deck of any debris that could puncture the underlayment.

2. Always install tile panels from bottom to top, then right to left; beginning with the bottom right corner of the roof deck. Always fill one column in completely before moving to the next one.

3. To fully engage the panel to the previous row, start the panel down and to the right, engage the mating hook and flange, after the flange is started press the panel to the left and up to fully engage. (See Images Below)

4. Verify each panel is fully engaged to the panel below and to the right before fastening it to the deck. (See Images Below)