Varitile®

weather [p]roof

iSeries
Installation
Guide

This manual provides general guidelines and procedures relating to the estimating and installation of Varitile roof products. It is not a training guide for installers and it does not address the specific requirements of applicable building codes and other laws and regulations of the locale where the Varitile product is being installed. It is the installer's and home owner's responsibility to ensure that all building codes and other laws are strictly adhered to.

As well, this manual does not depict every possible roofing situation or technique or local weather conditions. The installer must choose the most suitable installation method for the location and particular design, construction and quality of the building on which the Varitile product is being installed. The installer must ensure that the structure complies with all applicable codes and laws, is sound and of sufficient quality and design to accept the Varitile roof product.

This manual is not a warranty or guarantee. Quality installation is a product of proper technique, attention to detail and ultimately is the responsibility of the installer. For installation questions not covered in this guide please contact Varitile.

Dissimilar Metals: Use of copper and lead in conjunction with Varitile products will void the Varitile product warranty. This includes direct contact products such as accessories or situations where copper/ lead drains onto a Varitile roof.

Pressure Treated Lumber: Pressure treated lumber products labeled "CCA" (chromium copper arsenate), "ACQ" (alkaline copper quaternary) and "CA-C" (copper azole) treated lumber and/ or any variation thereof are not to be used in conjunction with Varitile products or it will void the Varitile product warranty. Borate or Borax treated lumber does not contribute to the corrosion of Varitile roofing products and their use will not void the warranty. The most proven lumber products utilized are untreated "SPF" (spruce-pine-fir) or "SYP" (southern yellow pine).

Industrial and Agricultural installations: Physical contact or heavy airborne concentrations of any industrial or agricultural corrosive materials should be treated as potentially corrosive to the steel base of Varitile products.

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ISHAKE
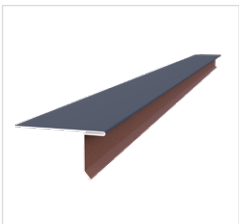

ISHINGLE

ISLATE

IPANEL

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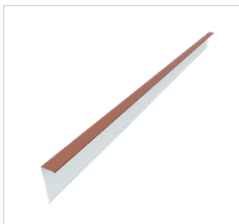
EAVE

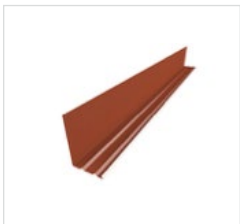BARGE BOARD
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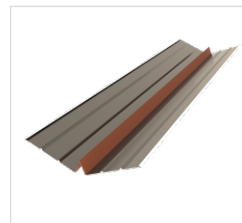BARGE COVER

SIDEWALL UNDER
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Z-FLASHING ATTACHMENT

Z-FLASHING LARGE 5"

Z-FLASHING SMALL 3"

VALLEY 5V

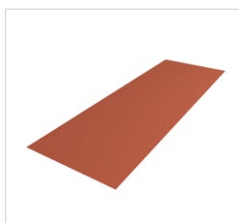## VALLEY COVER

FOAM BLOCKER

ANGLED RIDGE CAP

RIDGEVENT

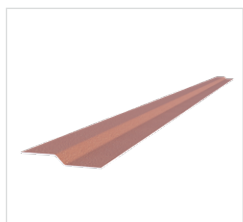## RV-200

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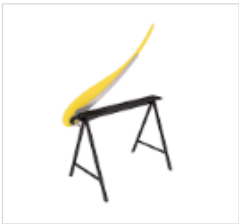
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2. ESTIMATING

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B BARGE BOARD UNDER FLASHING

C BARGE BOARD COVER

D Z FLASHING

E Z-FLASHING ATTACHMENT

F SIDE WALL FLASHING

G HEADWALL FLASHING

H FLAT SHEET

I REGLET

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K PIPE JACK TRAY

L VALLEY 5V

M VALLEY COVER
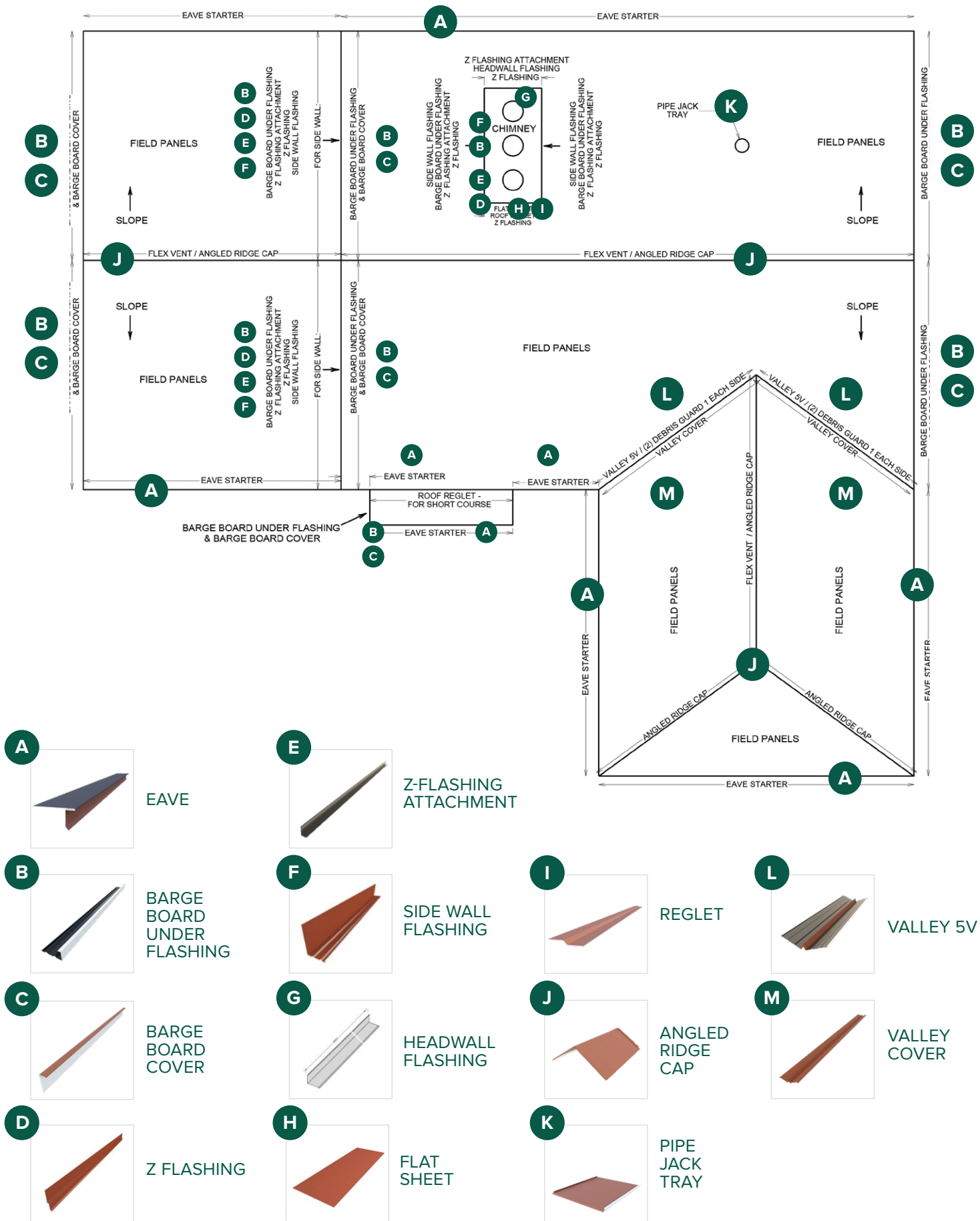
2.1 CALCULATION IN IMPERIAL

RAFTER: 1.2   EAVE: 4   HIP/ VALLEY: 0.3

All accessory flashings are 6'6" in length. Figure 6' useful length.   Figure 5'6" useful length for valley only. Angled Ridge Cap covers 14.5".
STANDARD INSTALLATION: 6 nails/ screws per panel, 2 per trim cap, 6 per flashing piece 10% additional waste.

For example, divide the rafter length of the roof by 1.2 and round up to the next whole number. This is the number of courses needed to cover eave to ridge. Divide the eave length by 4 and round up to the next whole number. This is the number of tiles needed to cover gable to gable. Multiple the rafter tile amount and the eave tile amount together and this will give you the total number of tiles needed to cover that plane of the roof. Add your hip and valley together and multiply by 0.3. This is the number of tiles needed for waste.

2.2 CALCULATION IN METRIC

RAFTER: 370   EAVE: 1220   HIP/ VAL: 100

All accessory flashings are 2000mm in length. Figure 1850mm useful length.   Figure 1700mm useful length for valley only. Angled Ridge Cap covers 370mm
STANDARD INSTALLATION: 6 nails/ screws per panel, 2 per trim cap, 6 per flashing piece 10% additional waste.

For example, divide the rafter length of the roof by 370 and round up to the next whole number. This is the number of courses needed to cover eave to ridge. Divide the eave length by 1220 and round up to the next whole number. This is the number of tiles needed to cover gable to gable. Multiple the rafter tile amount and the eave tile amount together and this will give you the total number of tiles needed to cover that plane of the roof. Add your hip and valley together and divide by 100. This is the number of tiles needed for waste.

3. PREPARATIONS

UNDERLAYMENT:
Underlayment should meet or exceed local building code. Our minimum requirement is ASTM D226 type 2 (30#). If you are in a jurisdiction that requires ice and water shield we recommend high temperature rated products.

Always install underlayment per manufacturer's specifications and instructions.

In the event you are laying over an existing roof, we recommend installing a slip sheet between the existing layer and the Varitile panels. All fasteners must penetrate through the sheathing a minimum ½". Always ensure you are following local building code and that the existing structure is capable accepting an additional layer of material.
Tip: rolling the underlayment over the eave and rake helps make a more weathertight system.

4. INSTALLATION PROCEDURES

4.1 EAVE FLASHING

Install eave flashing left to right or right to left fastening a minimum of 10" on center. (1) **Tip:** make a 45-60 degree cut on one side of the return to allow easy overlap of the flashing.

In cold weather applications, we recommend stripping the flashing between layers of ice shield. Alternatively you can use a subflashing and lay the Varitile eave flashing over the top.

## 4.2 GABLE, VALLEY, SIDEWALL FLASHING

Once you have set all your eave flashings, install the gable, valley and sidewall base flashings. Fasten every 12" outside the main water channels. Waterproof screw/ nail heads prior to installing panels. (2, 3) **Tip:** extend all flashings past the leading edge of the eave flashing so water drains beyond the eave.
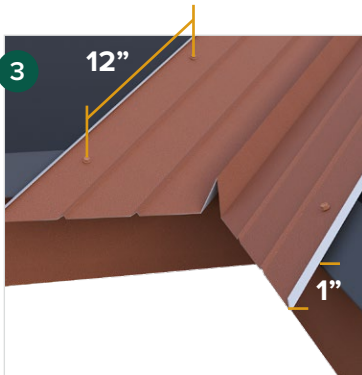
In cold weather climates, apply a bead of caulking under the gable, valley and sidewall flashings. Prior to laying panels, install barge cover flashing and sidewall attachment. (2, 4) **Tip:** in areas prone to heavy roof debris, we recommend installing debris blocking foam in gable and sidewall flashings.
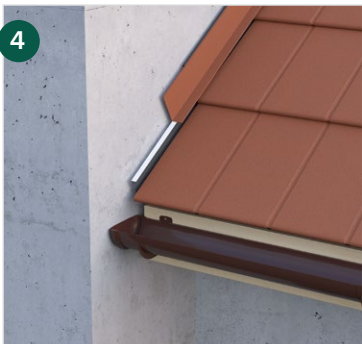
4.3 PANEL INSTALLATION
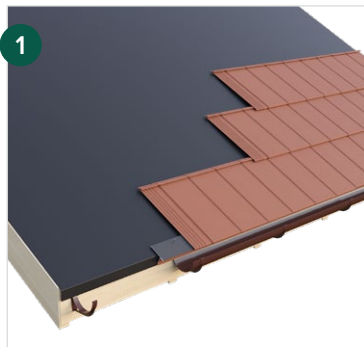
All four of the iSeries profiles are the same size and are installed in the same manner. Panels are laid right to left. (1)

45°cut

Relief/Drainage Cut
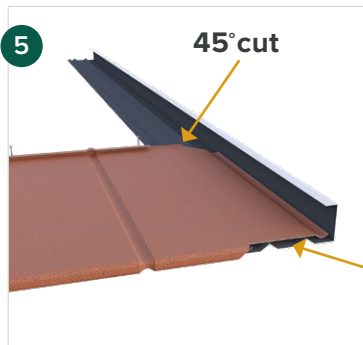
1st Course: begin by hooking the panel nose on the eave hook. Fasten as required and continue along the eave. When you reach a channel flashing (gable, valley, sidewall) cut a 45 degree notch at the top of the panel that extends past the first "v" in the base flashing. (5) Cut a relief notch that allows water to drain at the eave out of the base flashings. (6)

45°Cut

Panel Downturn

Relief/Drainage Cut

45°Cut

Relief/Drainage Cut
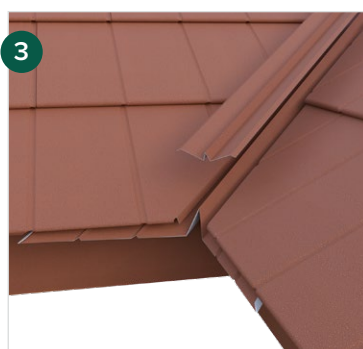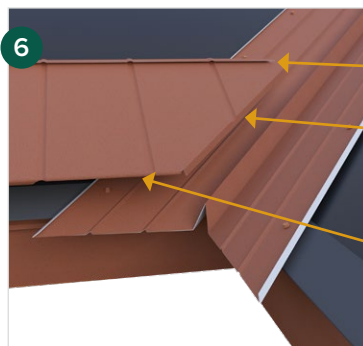
2nd and Succeeding Courses: Continue laying panels right to left. Make sure the nose is engaged with the top hook of the panel below. Minimum stagger of all profiles is a ½ pan width. Panels can be randomly staggered. Do not rack panels vertically. When you reach a channel (sidewall, gable, valley), notch the nose hook to allow drainage, turn the panel slightly down to add strength and reduce the chance of water tracking sideways out of the channel flashing. (pic 3, 5)

Tip: the last piece going into a channel has a tendency to want to creep vertically; especially on roofs that have some roll in the deck. At times you may not want to fully engage the panel lock in order to keep it straight. Note: the lock must be engaged enough keep the nose from lifting. **Tip:** it may be helpful to chalk lines across the top of each course until you get a feel for the product. Once all your field panels are installed, install valley cap. (3) Fasten the valley cap into the nose of each panel. Make sure your screws do not penetrate the valley flashing below. **Tip:** we highly recommend using debris blocking foam under the valley cap.

4.4 HIP AND RIDGE TRIM

RIDGE INSTALLATION

Once you reach the ridge, cut an air gap (if using ridgevent) on each side of the ridge board (per code) cut panels to fit and install ridgevent. (7) Install interlocking hip and ridge pieces. If not using ridgevent, simply cut panels tight to ridge peak, lay a strip of adhesive waterproof material over the ridge covering a minimum 4" on each side of ridge. Install interlocking hip and ridge pieces.
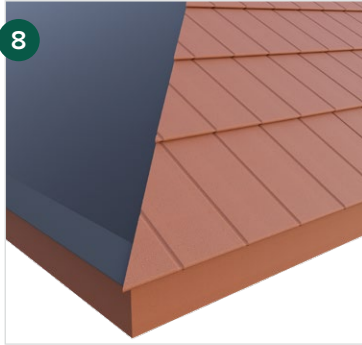
HIP INSTALLATION

When encountering a hip you have a couple of options.

1. Lay one side of the hip cutting and fastening panels just shy of the peak. Install the mirror side of the same hip leaving the panels with a 2" overhang beyond the peak. Once all the panels are engaged and nailed down on both sides of the hip, walk and bend the overhanging panels over the hip, screwing them tightly. Install interlocking hip and ridge pieces.

2. Cut field panels just shy of the peak on each side of the hip. Lay a strip of adhesive waterproof material over the hip covering a minimum 4" on each side of the hip. (9) Install interlocking hip and ridge pieces.

VENTING

Follow local building codes and proper ventilation techniques. Adequate air-flow while balancing intake and exhaust are a must for both the structure and roof to function properly.
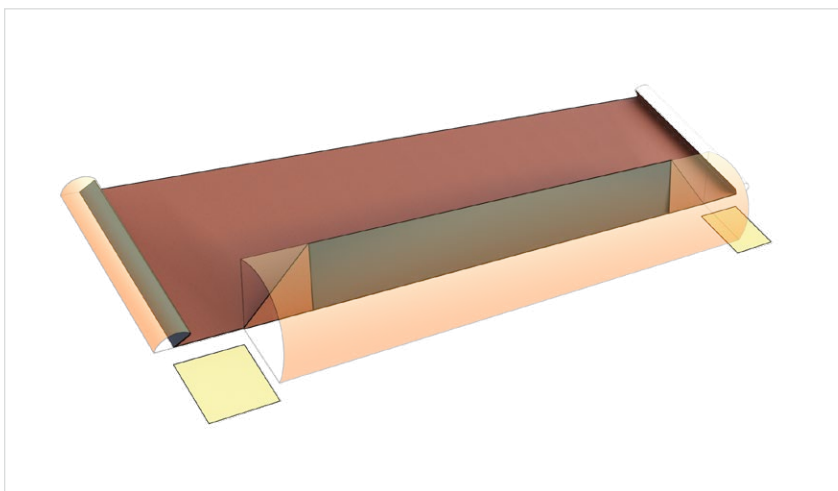
4.5 CHIMNEY/ CURB FLASHING/ HEADWALL, SIDEWALL, BACKPAN

As you approach the curb measure and cut the last panel so it fits closely to the sides of the curb. Turn the panel up the curb face so it creates a headwall flashing (pic 1, 2, 3 on pg. 12). Another option is to notch the panel so it fits around the curb and install headwall metal instead of turning the panel up the curb. Extend the headwall flashing past the sides of the curb a minimum of 3", snip at a 45° angle and fold around curb. Install sidewall flashing; extend past the lower and upper portions of the curb a minimum of 3" (pic 3,4) and seal the sidewall flashing to the headwall flashing. Snip sidewall flashing on upper end of curb, flatten the metal, fold around/ down fastening into the curb/ deck. Install field panels as usual around the curb. Make sure to notch for drainage relief (pic 6) and cut the top panel to fit tightly around the curb (pic 7). Install back pan/saddle extending past the curb edge a minimum of 4" on each side. Seal back pan/saddle to shingle below (pic 8.) Install reglet across the back pan/saddle to engage the succeeding course above the curb (pic 9).
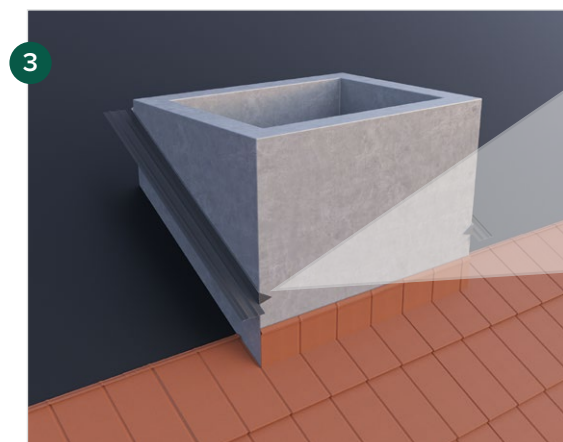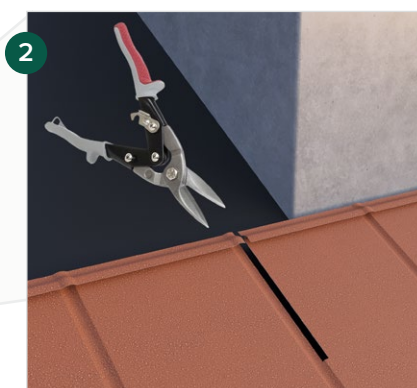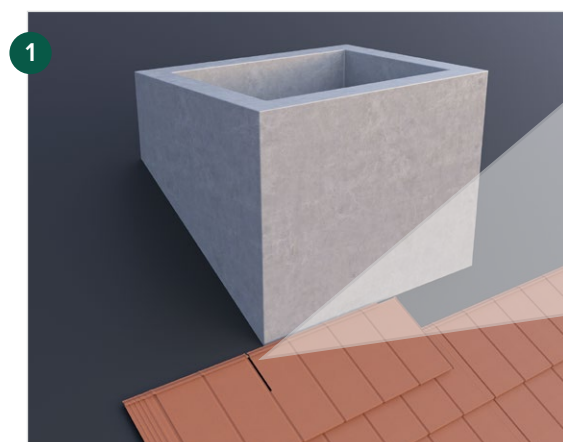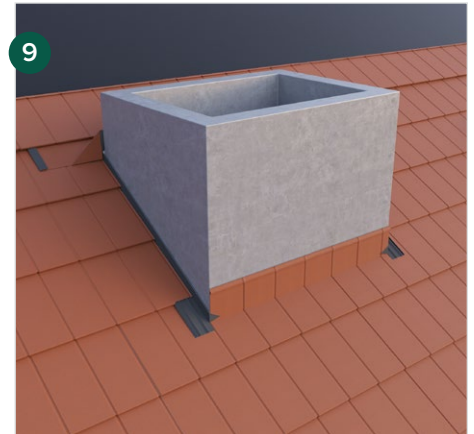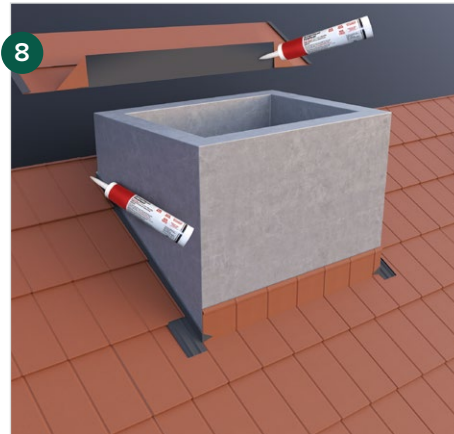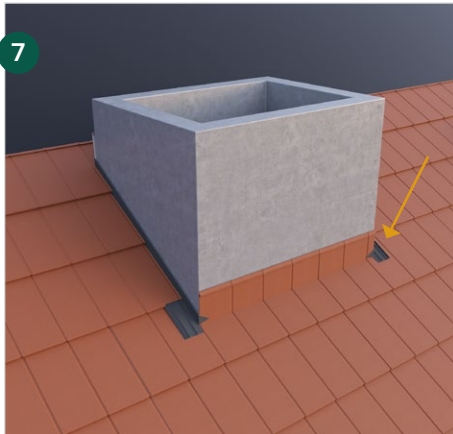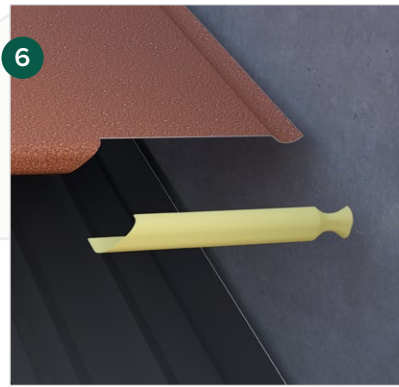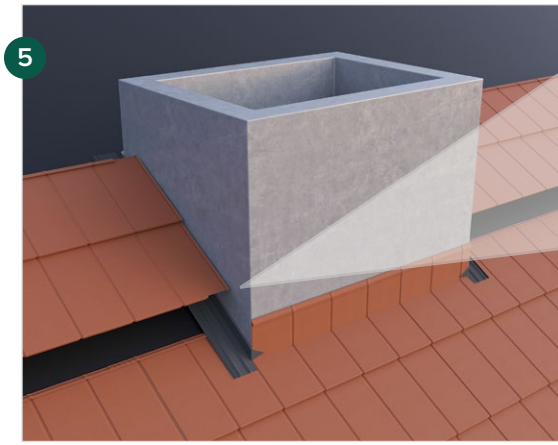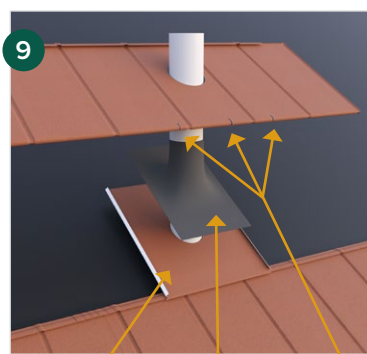
CHIMNEY SADDLE PREPARATION

4.6 PIPE FLASHING

Install full panels up to the pipe's base. Do not cut the top lock of the last panel leading up to the pipe. Measure and cut a hole in the pipe tray that allows the tray lock to engage with the panel below. Seal around the pipe. Install the pipe tray and seal to the pipe. Install the pipe jack. Measure and cut a hole in the succeeding panel allowing it to fit over the jack and engage the panel below. Make sure to cut a couple of weep holes in the panel nose so moisture will drain out. Bed panel in sealant at pipe base. (9)

Pipe tray   Pipe jack   Weep holes

4.7 REGLET/ SHORT COURSE:

Reglet is used in situations where you need a hook but the proceeding panels did not line up perfectly with the panel needing to be engaged. This can occur with short course eaves, coming across the top of a dormer with uneven starting points or as seen earlier across the back of curbs. Simply bed the reglet in sealant or butyl tape, fasten every 10" with screws. (10, 11) continue panel installation ensuring engagement with the reglet and panel nose.