

INSTALLATION GUIDE

SHINGLES

EVERTILE

STONE COATED STEEL ROOF TILES



www.evertile.net



GENERAL INSTRUCTIONS

1. These instructions will help with the installation of a simple roof. For installations of more complicated roofs, it is recommended to hire an authorized roofing company.

2. The tiles are designed for roofs that pitch range from 10° to 90° depending on the altitude above sea level of the site and the „snow area“.

3. Minimal temperature of the air, as well as the tiles, during installation should be above +5°. In the sake that the installation has to be proceeded even in temperatures below 5°C, it is necessary to keep the temperature of the material above 5°C until the moment of installation. The surface finish can crack or exfoliate in lower temperature in the spots of cutting, bending or nailing.

4. Remember that the tile is a lightweight material and under windy conditions the un-secured panels can fall down and cause damage and/or injury. Respect the rules for safe work.

5. During storage of the tiles on the site, it is necessary to keep the material away from dust and water, that could leak or condensate inside the palettes and between tiles.

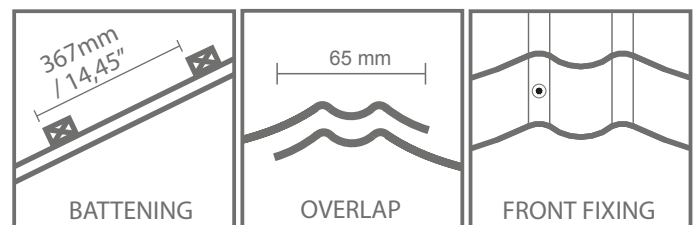
6. Walkability of the roofing is limited. If necessary, step on the lower part of the wide shape, where the tile is supported by a batten. Otherwise, there is a risk of tile deformation. For regular maintenance of the roof, chimneys, and technical equipment, it is necessary to install original safety elements (BPN+GRID, FSN) during installation, which allow safe movement and work and protection of the roofing.

7. Tiles should be installed from the ridge to the eaves. Places for the correct fixing of tiles, ridges and trims can be found in the following chapters. It is recommended to install just 3 rows of tiles at the same time and resolve all details contained (chimneys, ventilators, etc.) simultaneously. This prevents further stepping on the installed tiles.

8. The Evertile warranty voids in the case of incorrect installation and/or use. The correct installation means also, but not only, sufficient roof ventilation, use of the original stainless screw-nails and screws and use of the original accessories, where possible. Atypical details shall be made with materials with adequate durability and corrosion resistance and which do not exude compounds effecting corrosion resistance, colour shade and other changes on the surface finish of the Evertile products.

9. Ventilation must be provided with the system ventilators or other proceeding backed by technical calculation.

10. It is forbidden to clean the surface of products mechanically, with pressurized water or chemicals. In case of roof contamination, seek recommendations from Evertile's technical department.



FIXING, CUTTING, BENDING

FIXING MATERIAL

Original screw-nails supplied by the manufacturer are stainless and painted. Screw-nails are available in coils (NCS) to be used with pneumatic guns. There are always needed 4 nails/1 tile for proper fixing.

For extremely windy locations, it is recommended to use original screws (SCR TX-25) made of stainless steel with a painted head. Each panel should be fastened with 3-6 nails, depending on the climate conditions and the desired wind resistance.



Stainless screw-nails
(NCS)



Stainless screws
(SCR TX-25)

Screws at the fastening points may damage the corrosion protection of the panels. The warranty does not cover corrosion around the screws. Zinc-galvanized screws and nails have a shorter lifespan compared to the roofing panels and can significantly reduce the roof's durability and contaminate its surface.

CUTTING

During the roof installation, it may be necessary to cut and adjust some tiles for various details (such as corners or valleys). Tiles can be cut using different types of sheet metal scissors - lever scissors, manual scissors, or electric scissors (Fig. 2).

Ensure that all exposed edges are coated with acrylic paint from the repair kit (REP).

WARNING:

Tiles must not be cut with circular saws or grinders, as they can burn the material's anti-corrosion protection. Only use lever, manual, or electric scissors.

CROSS BENDING

The ends of the last in row tiles need to be bent in the transverse direction to ensure tightness of the details - bellow finishing trims, in the valleys or at the hips, etc. To make the bending precise and easy, without risking damage to the surface finish, it is advisable to use a specially designed bender (Fig. 3) or tinsmith pliers.

LONGITUDINAL BENDING

To finish the last row of tiles under the ridge or to the wall, it is necessary to cut and bend the tiles longitudinally upwards along the ridge batten or under the wall dilatation trim. **In the longitudinal direction, the tile is always first bent and then cut. (Fig. 3)**



Fig. 1



Fig. 2



Fig. 3

BATTENING

PLYWOOD DECK

Tiles SHINGLE are fixed on horizontal battens. The underlaid plywood makes installation easier and safer. Lay the diffusion membrane on the plywood horizontally, from the eave to the ridge with overlaps. Fix the membrane under the counter battens, which are fixed vertically into the rafters with screws min. 100mm long. Fixing of the counter battens into the plywood, only, is not sufficient to secure the roof against strong wind (hurricanes).

RECOMMENDED BATTEN DIMENSIONS:

Evertile roofing is installed on horizontal battens. The dimensions of the battens are determined by the distance between rafters, snow load in the area, roof pitch, and the safety of workers on the roof. The minimum possible batten size is 30x50 mm (1x1") (with the plywood underlay only). The recommended and most commonly used batten size is 40x50 mm (1x2"). Ensure secure attachment of vertical and horizontal battens. Use impregnated and straight battens.

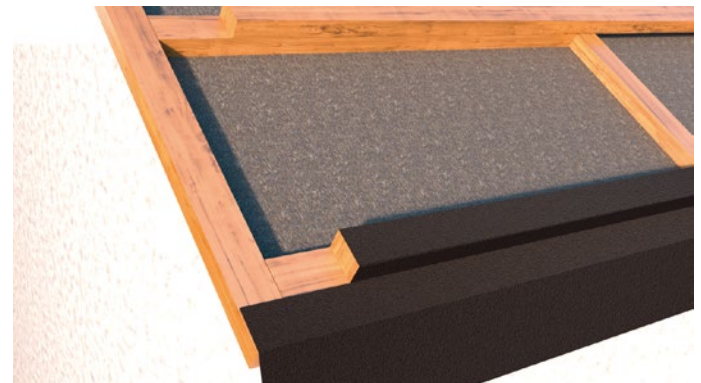
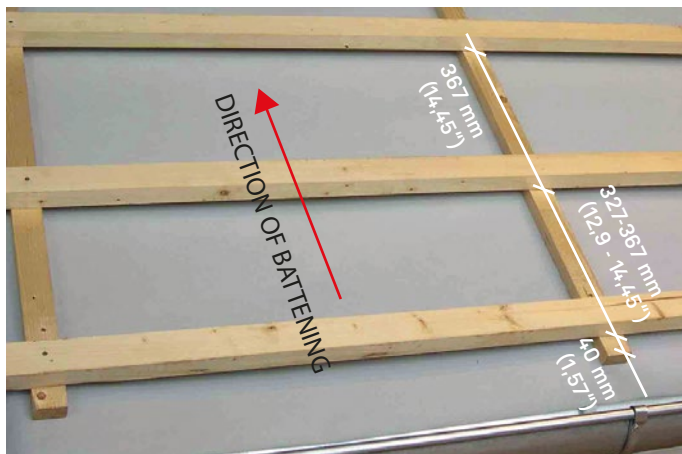
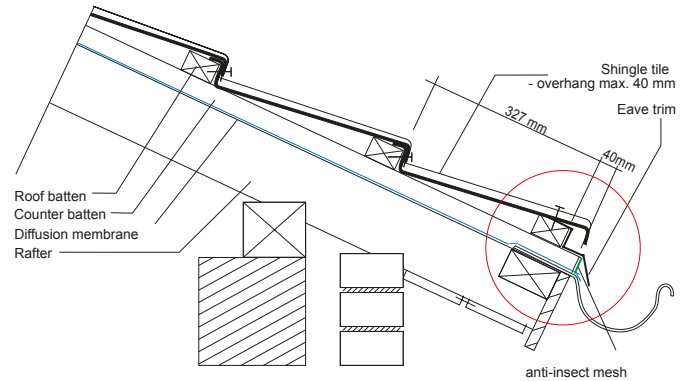
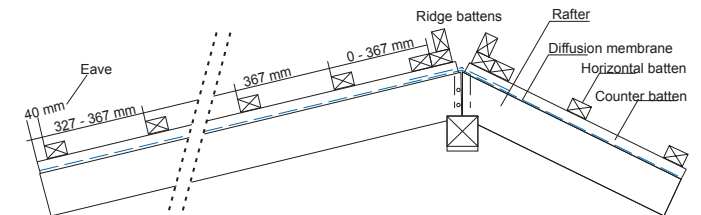
Attention! There are widely used SYP No.2 wood battens, in the USA. It shall be considered as a hard wood and thus the scrails cannot be used. Just screws.

INSTALLATION OF HORIZONTAL BATTENS

INSTALLATION DIRECTION

After securing the diffusion membrane under the counter battens, lay the horizontal battens gradually from the eaves to the ridge.

For the installation of the eaves flashing (ETN), attach the first batten 40mm (1,57") from the end of the counter batten (Fig. 1). Place the second batten at a distance of 327-367mm (12,3-14,45") so the tiles can overhang the batten. The maximum overhang of the tile is 40mm (1,57"). Fix the subsequent battens at a distance from the bottom edges of the battens of 367 mm (14,45") as close to the ridge as possible. Pay attention to the selection of battens. Curved and twisted battens disable proper and secure installation of the tiles.



PROCESS OF INSTALLATION

EAVE TRIM (ETN)

Eave trims cover the gap below the tiles and help to secure rainwater flow to the gutter. ETN can be laid on the counter-battens edge or with a ventilation gap between the trims and the front of the rafters. The front of rafters and counter-battens shall be covered with an anti-insect protective mesh.

For the correct installation of the trim the first horizontal batten should be laid between 20-40mm from the edge of counter-battens. The upper section of the trim is placed on the roof batten and the middle section lies on ends of the counter-battens. The bottom section ends above the gutter. The trim shall be fixed by 3-4 nails to the batten and with an overlap of 75-100mm.

GABLE / VERGE TRIMS (FLASHING)

When the eaves is ready, install the flashing elements on the gables / verges of the roof.

GABLE - FINISHING TRIMS

The roof gable shall be covered/finished by the original finishing trims (UFT), which are made specifically for the right or left side and aren't interchangeable due to its' conic shape.

Finishing trims cover the gable of a saddle or shed roofs. Trims shall be installed from the eave to the ridge. UFT shall be laid in the inserted battens in the level with counter-battens and create a bottom flashing. That is why it must be installed before the installation of tiles.

Finishing trims shall be fixed to the battens by staples and to the gable (longitudinal) battens / boards by 3 screws from outside (pic.1). Bottom edge of the trim above the gutter shall be cut and bent in order to close its' front gap.

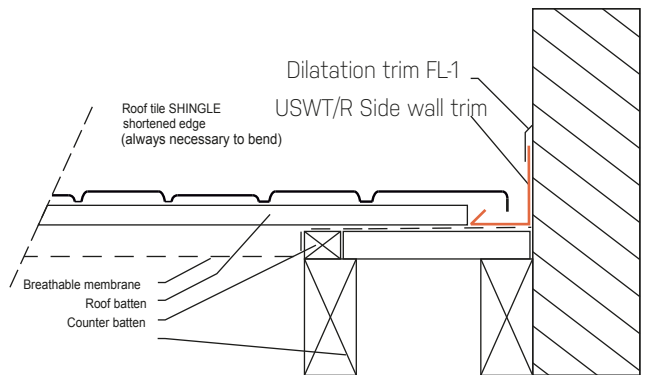
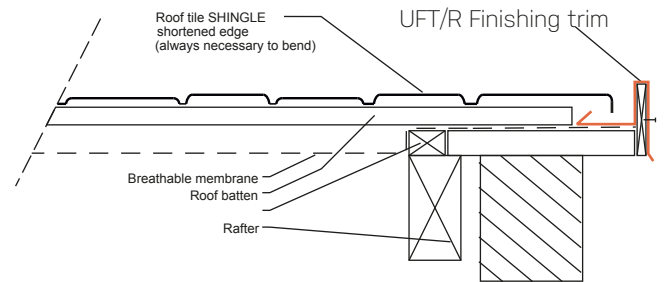
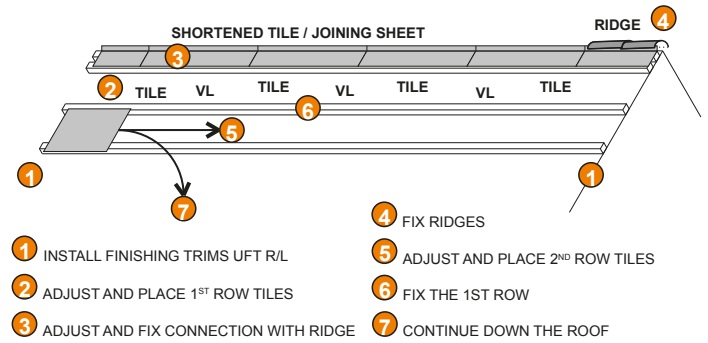
VERTICAL STRUCTURES - SIDE WALL TRIMS

SIDE WALL TRIMS (USWT)

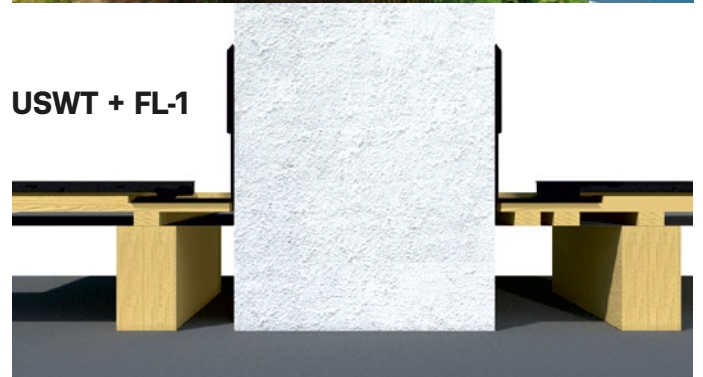
Side wall trims join the tiles with vertical side structures. Trims are available for both right and left sides. The elements are not inter-changeable.

Trims shall be installed from the eave to the ridge as a bottom flashing and before the installation of tiles. Trims shall be fixed to the battens, only, by staples and vertical part shall be left free. Do not fix the trim to the wall.

The vertical (flashing) part of the trim shall be overlaid by a dilatation trim (FL-1), which can be fixed to the structure.



USWT + FL-1



PROCESS OF INSTALLATION

DIRECTION OF THE INSTALLATION

Installation of tiles begins from the ridge and continues down to the eaves. It is necessary to install all details and accessories simultaneously with the laying of the tiles, in order to avoid stepping on the installed tiles unless absolutely necessary.

Fix the first row of tiles under the ridge, starting above the fixed gable / verge trim on one side. (Fig.1) The front hem of the tile and its end should remain free. Therefore, the tiles are fixed by 2-3 nails through the top hem into the batten. Place the ventilators between each adjacent tiles. (Fig.2)

The first and last tiles in each row shall have the ends bent downwards to the flashing and min. 10mm from the vertical parts of the flashing elements. The right end of the tile always covers the left side double-grooved end of the adjacent tile. (Fig.3) After laying the bottom row of tiles, nail the front hem in the usual manner through the front hem. (Fig.4)

LAYING ON A HALF-BOND

The first tile of every second row is trimmed by 2-4 sections (Fig. 5). This allows for the tiles to be laid "on half-bond" without four corners of the tiles meeting in the same place. In the first or second row under the ridge, it is necessary to place and fix ventilation elements, and other accessories, simultaneously.

The heads of screws should be tight to the tile, but should not deform the tile. Check a proper grip of the screws in the battens.

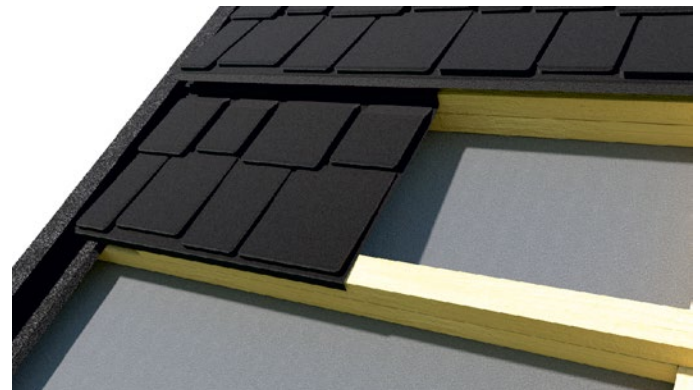
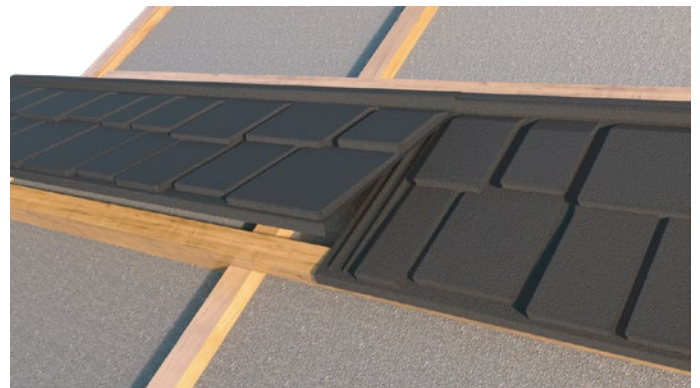
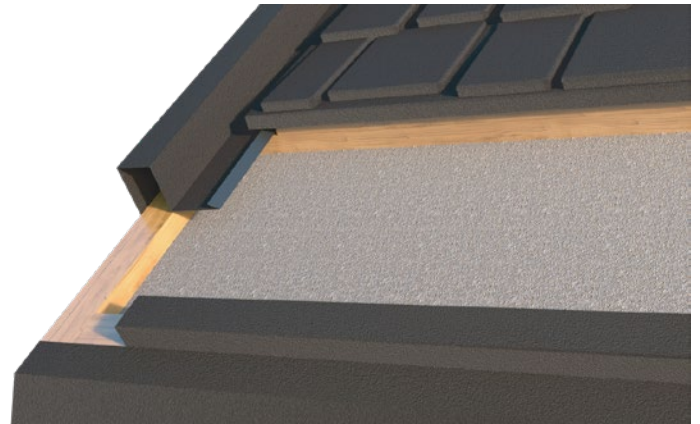
ROOF VENTILATION

Ventilation with the ventilators Q-VL or Q-LV120 fixed among adjacent tiles in the first row can be sufficient on roofs with the length of rafters up to 30ft. In principle, the overall ventilation gap shall be 20.000 mm^2 (31 sq.in.) / 1m (40") of the ridge length. The area of the gap in the eaves for air sucking in shall be $1/500$ of the whole roof area.

If the original ventilators QVL or QLV120 are not used, the engineer's calculation must be stated what efficient ventilation was created for maintaining the warranty.

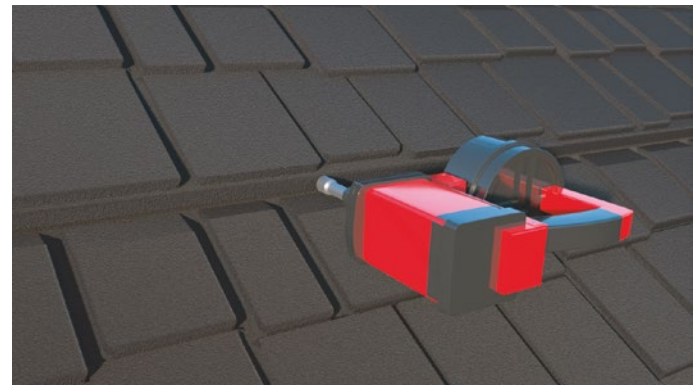
Ventilation area Q-VL is 12500 mm^2

Ventilation area Q-LV120 is 12000 mm^2



WARNING:

Finish all construction works above the roof (chimney, facade,...) before the beginning of installation. Otherwise there is a risk of damage or pollution of the roofing tiles.



THE RIDGE

FINISHING TILES BELOW THE RIDGE

The next step after laying the first 2-3 rows of tiles is to cover the space between the tiles and the ridge batten. The last two battens will usually have shorter distances than the full module (367mm).

This can be solved in two ways:

a) With longitudinal trimming of tiles. (Fig.1 and 2)

Mark a horizontal line where the tile will be bent upwards along the ridge batten (20mm out from the ridge batten to keep a space for ventilation) and another mark – 40 mm outside from the bend line – where the tile will be trimmed. Bend the tiles, then cut off.

b) With a joining trim (WUNI-C).

The longitudinal bending and cutting of the tile can be replaced if the joining sheet (WUNI-C) is used instead of the tile.

Fix the prepared elements (tiles or trims) in the right position through its front hem to the batten. The upper bedded part fix in the ridge batten. If you plan a ventilated ridge, insert short pieces of a batten (min. 20mm thick) between the ridge batten and the vertical fold of the joining trimmed tile (or WUNI-C) to provide ridge ventilation gap and fix the element to the ridge batten.

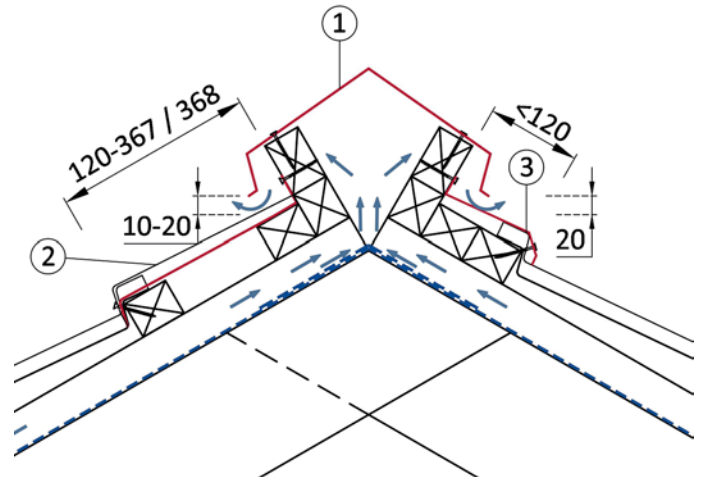
BATTENING for the RIDGE V-FORM CAPS (RV/RV 155)

Two parallel ridge double-battens will be fixed 20-40mm from the outer hems of the ridge caps. The height of the ridge battens depends on the roof pitch, so the ridge can sit down firmly on the ridge battens and in a straight line with the tiles keeping a gap of 5-10mm above the tiles. The upper batten supports the elements connecting the tiles below the ridge – shortened tiles or joining trim (WUNI-C).

VENTILATED RIDGE (RV155 only) Fig.3.

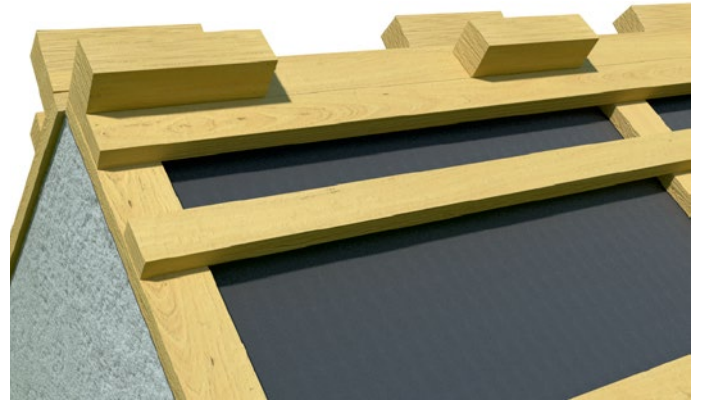
The last horizontal batten will be fixed on the end of the counter-battens, and then one more batten fixed below, as a support for a shortened tile or the WUNI-C sheet. To make it ventilated, there must be a sufficient gap between the ridge caps, joining elements and the battens, where it is all fixed to. This can be made with attached short battens on the last horizontal batten in intervals of about 250mm. The ventilation area can reach approx. 20.000 mm²/1m, what is the required ventilation area by the norm for roofs with the rafter length up to 10m.

The gap has to be kept also between the ridge caps and the longitudinal bend of the tiles as well as between the bottom of the ridge hem and the tiles.



1. V-FORM RIDGE (RV155)
2. SHORTENED ROOF TILE
3. JOINING SHEET (WUNI-C)

Fig. 1
VENTILATED RIDGE (RV155)



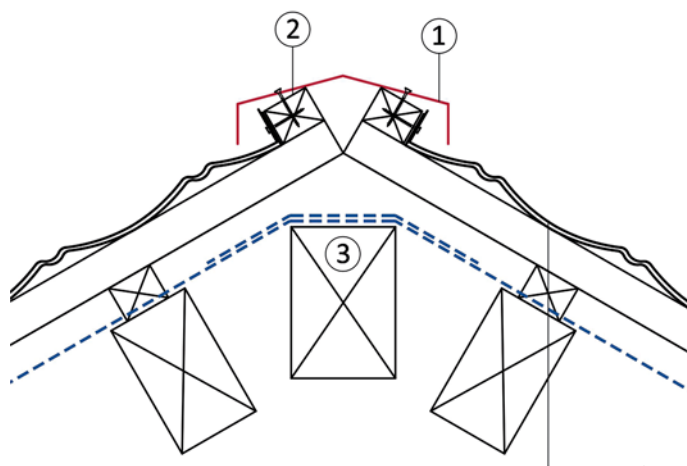
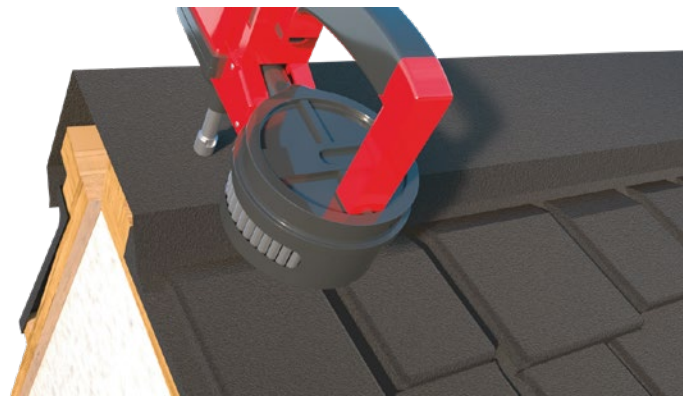
FIXING THE RIDGE / HIP CAP

FIXING THE V-FORM RIDGE CAPS (RV, RV155)

The V-form ridge caps (RV/ RV155) are fixed to inserted ridge (hip) battens (see the previous chapter).

The ends of the tiles are bent 20 – 25 mm upwards and covered with the ridge caps.

The screws are fixed through the upper sections of the ridge caps, so the vertical hems are left free for creating a ventilation gap. Use 3 screws on each side of the ridge cap and by two of them always in the overlap of the elements. In the strong wind areas use min. 4 screws on each side and respect local norms and advises of engineers. The nail heads shall be covered with paint and sand from the repair kit (REP) or covered with silicone.

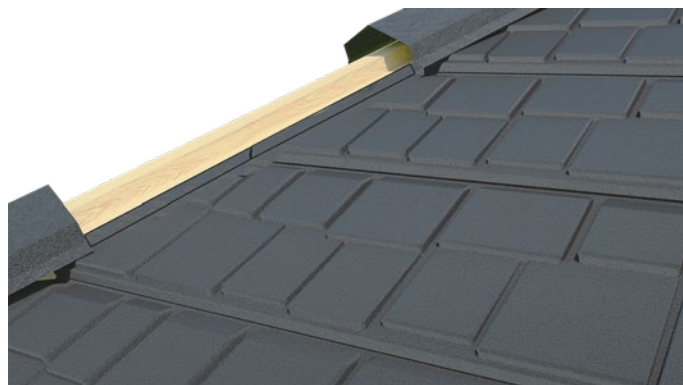


- 1. RIDGE V-FORM (RV / RV155)
- 2. HIP BATTENS
- 3. HIP RAFTER

Fig. 5

HIP MADE OF V-FORM RIDGE CAPS (RV, RV155)

In the hip the V-form ridge caps (RV/ RV155) are also fixed in the 2 parallel hip battens. The ends of the tiles are shortened and bent along the battens. The ridge caps must cover ends of tiles with a gap about 10mm on each side for better ventilation. In the case of small roof pitch ($< 20^\circ$ / $< 4/12$), use the adhesive ridge ventilation belt under the caps. The ridge caps are fixed the same way like in the ridge.



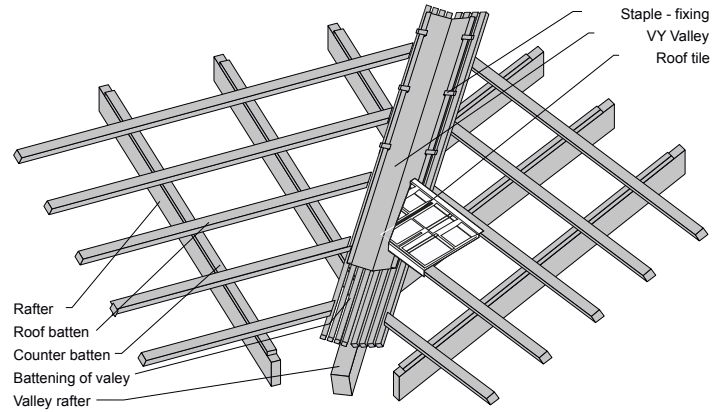
THE VALLEY

VALLEY

For water and snow drainage from the roof valley, it is possible to use the original valley sheet (VY) with a smooth surface. The valley shall be laid on the level with counter-battens. Then the ends of tiles can be laid over the valley sheet and bent down.

The valley sheet has conic shape. It can be used in one direction only. Follow the arrow mark on the bottom side, which shows the direction from up to down (water flow). The valley sheets will have vertical overlay 100-150mm according to the roof pitch. The valley sheets will be fixed with "staples" only to horizontal battens (never fixed through the bottom flashing part).

If bigger streams of rainwater or pressure of melting snow comes to the valley, on one side, it is recommended to use the original valley sheet designed for Evertile Coppo (CVYN).



ROOF WINDOW

ROOF WINDOW

The installation of roof windows will be made according to the specification of its manufacturer. The only exception is that the frame and flashings shall be laid on level with the counter-battens in order to avoid lifting the tiles over the flashings. Tile ends shall be cut, measured and bent down to the flashing.

The upper side of the window is usually finished in the middle of the tile. For this detail, use "joining sheet – WUNI-C", which can replace the tile and be adjusted to fit with the tiles around and with the window flashing, too.

The bottom side of the window frame shall be installed 50-80mm above the horizontal roof batten. The upper corner of the batten shall be cut off under angle 45°. That makes moderate exit of the window flashing (and easy flow of water), which has always be finished over the upper edge of the tile.

Always respect the instructions and limits published by the roof window manufacturer.

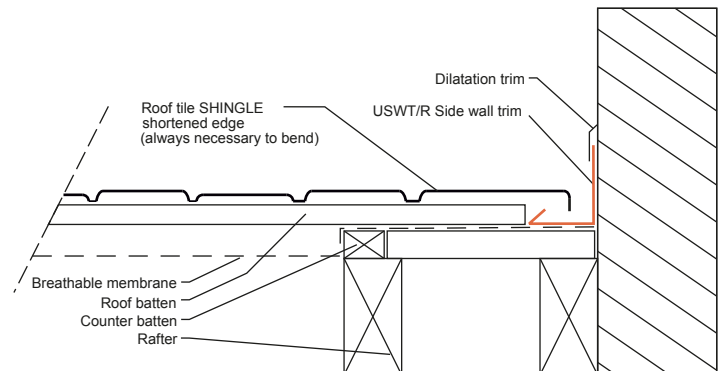


CHIMNEY FLASHING

"A" - The flashing around chimneys shall be imbedded in the level of the counter-battens. Side flashing shall be made from QSWT trim or from the flat steel sheet VST (to be measured and prepared on the site, like for any other roofing tile). The tiles' edges are bent down to the flashing. The upper edge of the flashing has to be bended and finished on the nearest horizontal roof batten and overlaid by tile.

"B" - The flashing is made over the edges of tiles.

Below the chimney a flat sheet, again, has to be bent and joined. According to the plumbers' rules take the water away from the detail to the tiles. The bottom edge of the sheet has to be bended over the upper edge of the tile below the chimney and fixed by nails from the front in the spots, designated for tiles. The upper edge of the sheet has to be bent and finished to the body of the chimney and shall be overlaid by dilatation trim or filled with silicon roofing glue.



SNOW BREAKERS

SNOW BREAKERS

Using the snow breakers (SBN-Q) is recommended in the following cases:

a) Prevention of snow falling from the roof.
Design and dimension depends on the snow territory, slope of the roof, length of the roof and type of the roof covering. (See your national or local norms)

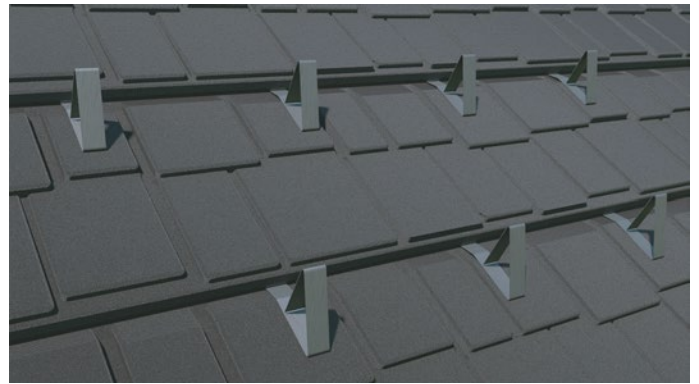
b) Prevention of snow move.
The snow, gliding down the roof can accumulate in details or damage some accessories – roof windows, valley, solar collectors, plastic sanitary vents etc.

Every snow breaker must be fixed with extra screws into the horizontal batten through the upper part.

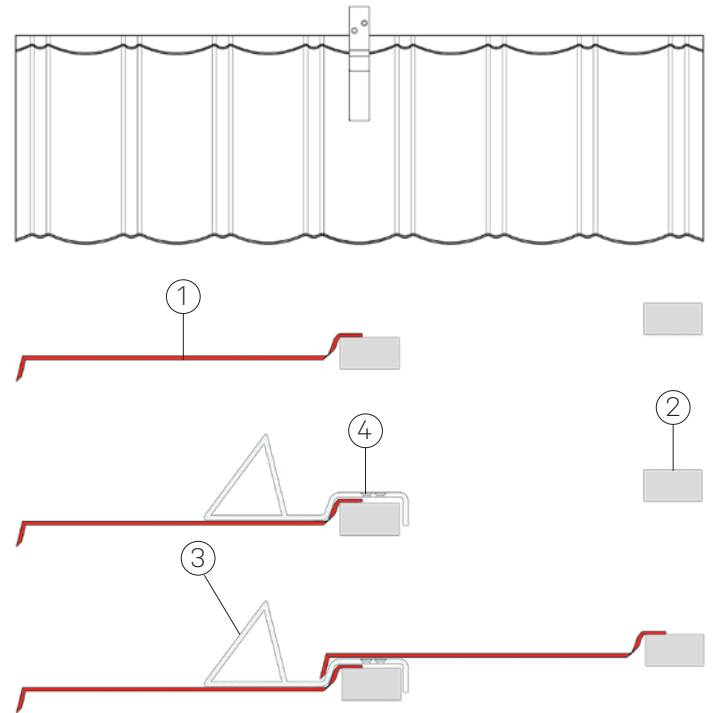
For Evertile roofing, do not use snow breakers and barriers made for concrete or clay tile roofs. Instead, use only original Evertile elements, which have specific shape and increased strength.

Roofing with granules (Evertile Shingle) usually requires snow stoppers or barriers only on public or high-rise buildings or on roof pitch greater than approximately 35° (8/12).

We recommend consulting with an expert or reviewing the snow zone map and general guidelines for the placement of snow guards to choose the appropriate solution.



FIXING OF THE SNOW BREAKER (SBN)



1. ROOF TILE
2. BATTEN
3. SNOW BREAKER
4. FIXING BY SCREWS

ACCESSORIES

ACCESSORIES

The system of accessories is divided in 2 groups.

1. Accessories with tile shape basement.

Installation of these accessories shall be made the same way as the tiles. The basement of each element shall be underlaid below edges of the neighbouring tiles on both sides. Align the grooves and nail through the front edge of the tiles.

Before nailing the plastic made accessories it's recommended to drill the spots first, to avoid breaking off the plastic. Important in cold temperatures!

Q-HV 110 - sanitary chimney, Slope of the roof 15°-50°

Q-GS MULTI – gas fluid weathering tile, Slope of the roof 15°-50°

Q-LV 120 - ventilator plastic 120 cm², Minimal slope 15°

Q-VL - ventilator steel body 125 cm². Minimal slope 18°

Q-AZ 16 - tile for antenna

2. Other accessories,

The other accessories are designed for a special function and it is necessary to learn individual instructions for use and installation. These instructions are a subject of training, provided by the manufacturer or available in printed form upon request. This guide describes some of them.

When fixing the elements of basic plate (QBP) and the footstep (QFS) it is necessary to reinforce the elements by screwing the stiffener to the upper batten.

BP-Q - basic plate

FS-Q - foot step

HSC-Q -holder of solar collector

SNE– skylight

BLC-UNI - holder of flash conductor

SBN-Q -snow breaker

SAFETY ACCESSORIES

The Evertile Shingle panels were not designed for unauthorised stepping on the installed tiles in the purpose of any service and maintenance of the roof and relating structures and devices.

EVERTILE developed the system of accessories, which enable necessary access to the supplementary devices safely and without danger for the service authorised person or the roof self.

Reinforced safety elements must be installed during the roof installation according to the projected devices and functional consequences (FS-Q / BP-Q / HSC-Q).

IMPORTANT!

Every safety element must be fixed with extra screws into the horizontal batten through the reinforcement plate.



ROOF MAINTENANCE

AFTER FINISHING THE ROOF INSTALLATION

Perform a visual inspection of the roof to ensure everything is in accordance with the installation guidelines. The inspection is particularly important for walkable elements such as foot-steps and walkway grids (ensuring secure anchoring and proper tightening of all screws) to guarantee safe movement on the roof. Additionally, you need to remove any leftover debris or trimmings from the roofing or accessories that may have occurred during installation, including the eaves. The removal must be carried out in such a way that the surface finish of the roofing is not disturbed as a result. Paint over areas where the finish has been damaged during installation with touch-up paint (REP).

CLEANING

After completing the installation, it is necessary to avoid unnecessary access to the roofing. It is not recommended to clean the roof from dirt that does not effect its functionality (such as waterproofing). Access for required regular inspections, service and maintenance should be provided with original walkable elements BP-Q and FS-Q. If the tiles become dirty after installation (e.g., from facade or chimney finishing), we recommend replacing the dirty tiles.

Lifetime of the surface finish can be decreased by a biological pollution.

Evertile products have a build-in biological protection effective for 6-10 years, according to the local conditions. After this period, roofing with granulate shall be treated with a biocidal spray against the growth of mould, moss and lichen approximately every 2-3 years. Roofs near the sea or other chemical contamination must be rinsed with fresh water at least once a year.

Attention! Do not use pressure washers or any mechanical cleaning.

Any unapproved mechanical or chemical cleaning of the roof tiles will terminate the validity of the warranty and the manufacturer's liability for defects.

SNOW REMOVAL

Snow typically does not slide off the roofing with granulate - EVERTILE SHINGLE, and gradually melts. The weight of the snow usually does not exceed the load capacity of the roof structure. If it becomes necessary to remove snow cover, it is important to leave a layer of snow on the roof (approximately 100 mm) to protect the surface finish and prevent scratching. Snow removal should be done using a hydraulic platform, and access to the roof surface should be avoided.





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