

INSTALLATION GUIDE



EVOQ
EVERTECH
EVERGLAZE

EVERGLAZE

CONTENT

SPECIFICATION	1
GENERAL INSTRUCTIONS	2
FIXING, CUTTING, BENDING	3
ROOFING BATTENS	4
INSTALLATION PROCESS	5
FIXING OF TILES	6
INSTALLATION PROCESS (BATTENING / FIXING):	
RIDGE	
- BOW RIDGE (BR / 3BR / BR225 / 3BR225)	7
- V-FORM RIDGE (RV / RV155)	8
HIP	
- BOW RIDGE (BR / 3BR / BR225 / 3BR225)	9
- V-FORM RIDGE (RV / RV 155)	9
GABLE FLASHING	
- FINISHING TRIM (FT155 / UFT / GT)	10
SIDE WALL FLASHING	
- SIDE WALL TRIM (SWT / USWT)	11
EAVE FLASHING	
- EAVE TRIM (ETN)	12
VALLEY	
- VALLEY SHEET (VY)	13
CHIMNEY FLASHING	14
SKYLIGHT	15
PITCH CHANGE	
- FROM LOWER TO STEEPER PITCH	16
- FROM STEEPER TO LOWER PITCH	16
MODULAR CONSOLE SYSTEM	
- SNOWSTOPPING DOUBLE-TUBE SYSTEM	17
- SOLAR PANEL HOLDER	17
- HOLDER FOR GRID WALKWAY / FOOT-STEP	17
- INTEGRATED FOOT-STEPS AND HOLDERS	17
SNOW CAPTURE	18
ACCESSORIES	
- ROOF VENTILATION	19
- BIBO SHINGLE	19
- OTHER ACCESSORIES	19
ROOF MAINTENANCE	20

SPECIFICATION

Total width	411 mm
Total length	1320 mm
Useful width	367 mm
Useful length	1260 mm
Pieces / m2	2,15 ks/m2
Weight / pc	3,05 kg/pc
Battening	367 mm
Number of screw-nails / pc	4 / 6 (hurricane zone)
Number of screws / pc	3 - 4

EVOQ



Total width	411 mm
Total length	1320 mm
Useful width	368 mm
Useful length	1260 mm
Pieces / m2	2,15 ks/m2
Weight / pc	2,30 kg/pc
Battening	368 mm
Number of screw-nails / pc	4 / 6 (hurricane zone)
Number of screws / pc	3 - 4

EVERTECH



Total width	411 mm
Total length	1320 mm
Useful width	368 mm
Useful length	1260 mm
Pieces / m2	2,15 ks/m2
Weight / pc	2,10 kg/pc
Battening	368 mm
Number of screw-nails / pc	4 / 6 (hurricane zone)
Number of screws / pc	3 - 4

EVERGLAZE



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.

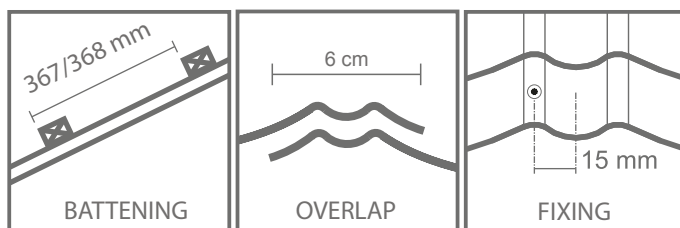
6. Walkability of the roofing is limited. If necessary, step on the lower part of the wide shape, where the tile is supported by a batten. Otherwise, there is a risk of tile deformation. For regular maintenance of the roof, chimneys, and technical equipment, it is necessary to install original safety 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 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.



Fig. 1



Fig. 2

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. 3

ROOFING BATTENS

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 (it is recommended to supplement with plywood under the diffusion membrane). The recommended and most commonly used batten size is 40x50 mm. In mountainous areas with higher snow load, it is possible to use a maximum batten size of 40x60 mm, but the top edge of the batten may protrude into the shape of the tile. Ensure secure attachment of vertical and horizontal battens. Use impregnated and straight battens.

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 from the end of the counter batten (Fig. 1). Place the second batten at a distance of 367/368 mm or smaller - up to 327 mm if the tiles are to overhang the batten. The maximum overhang of the tile is 60mm. Fix the subsequent battens at a distance from the bottom edges of the battens of 367/368 mm 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.

DISTANCE OF BATTENS ACCORDING TO THE TYPE OF TILE:

EVOQ	367 mm
EVERTECH	368 mm
EVERGLAZE	368 mm

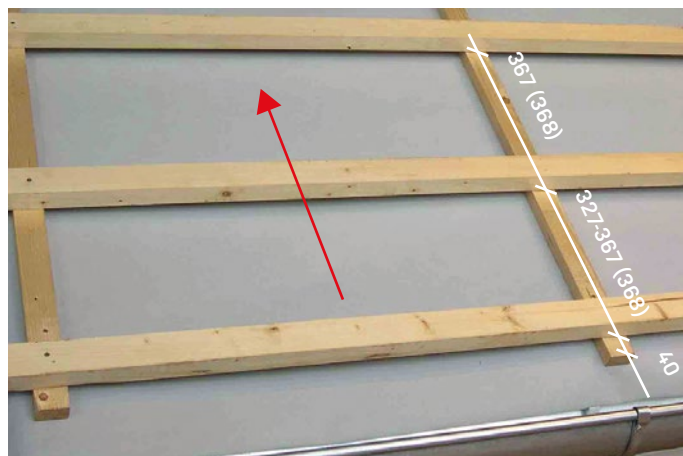
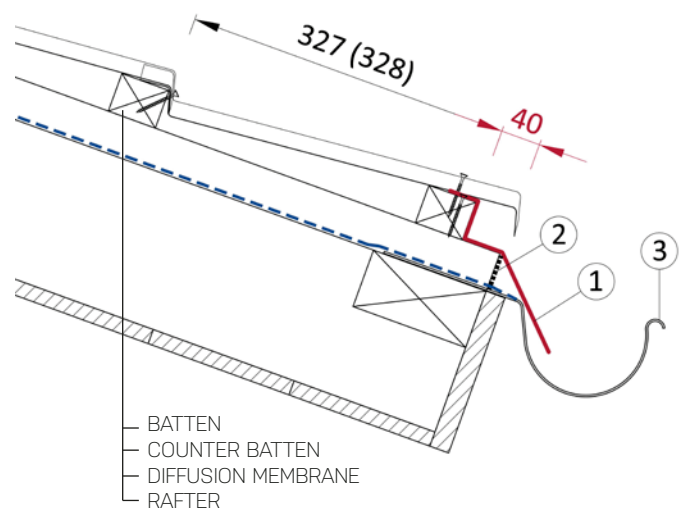


Fig. 1



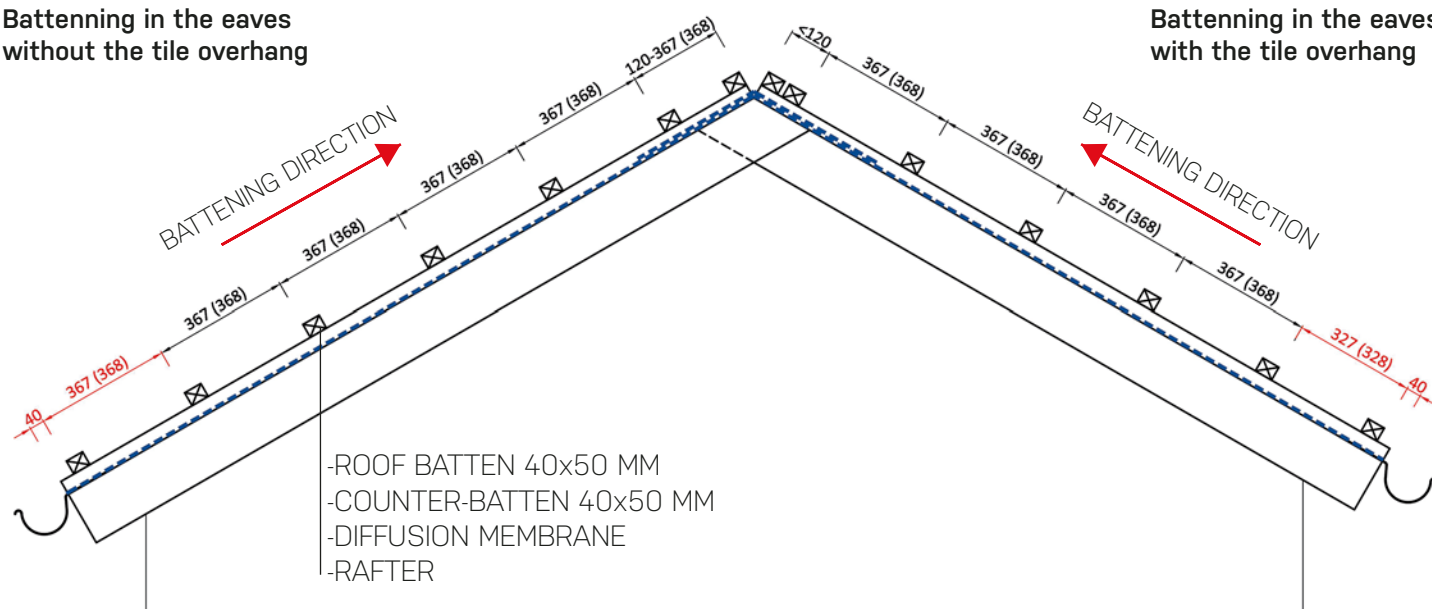
1. EAVES TRIM (ETN)
2. ANTI-INSECT MESH
3. GUTTER HOOKS

Fig. 2

Battenning in the eaves with the tile overhang

BATTENING ADJUSTMENTS FOR INDIVIDUAL ROOF DETAILS ARE DESCRIBED IN SEPARATE CHAPTERS.

Battenning in the eaves without the tile overhang



Battenning in the eaves with the tile overhang

INSTALLATION PROCESS

DIRECTION OF THE INSTALLATION

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

Installation of the roofing starts by fixing the first complete (untrimmed along) row of tiles under the ridge. The front hem of the tile and its end should remain free (Fig. 3). Therefore, the tiles are fixed by 2-3 nails through the top hem into the batten (Fig. 1).

Bend the right (left) end of the first tile in the row and position it approximately 10mm from the longitudinal (gable) batten (Fig. 2). Start from the side against the direction of the prevailing winds and overlay the ends of the other tiles in the row from the top = downwind. After laying the bottom row of tiles, nail the front hem in the usual manner.

LAYING ON A HALF-BOND

The first tile of every second row is trimmed by 2-4 profiles (Fig. 3). 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.

1. Fixing the first complete row of tiles behind the top batten and inserting ventilation tiles between the panels.
2. Adjusting and fixing tiles or joining sheets for the finishing under the ridge.
3. Trimming the first tile of the next row and underlaying the entire row of tiles under the front hem of the upper tiles.
4. Fixing the front hems of the first row of tiles.
5. Continuing the process on the other side of the roof.
6. Adjusting and attaching finishing trims on the gable edge or side wall trims to the gable wall.
7. Installation of ridges and, if necessary, lightning rod holders.
8. Continuing in the same direction and process.



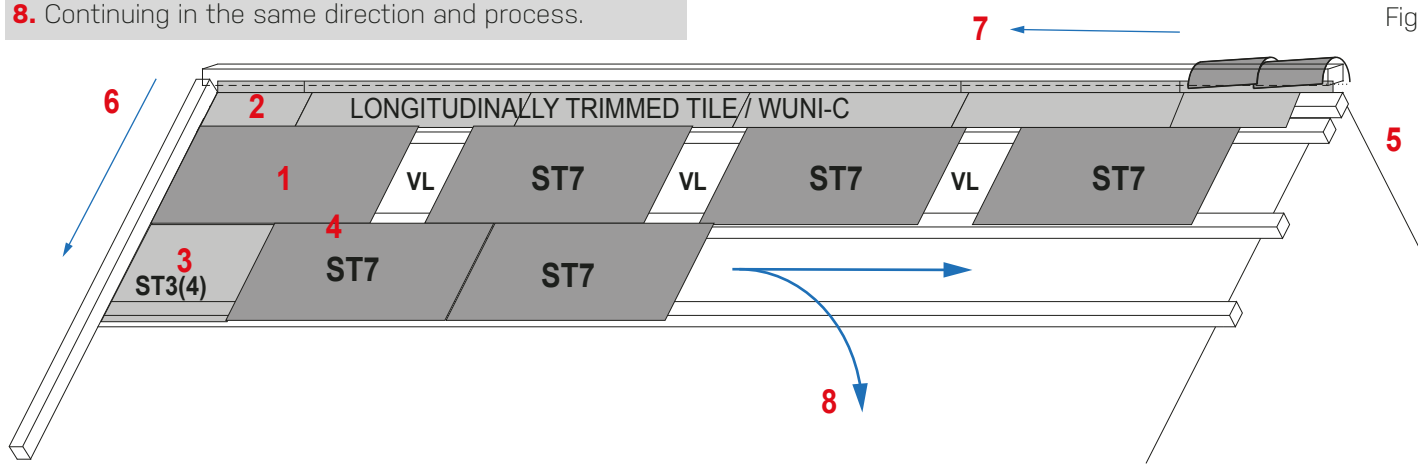
Fig. 1



Fig. 2



Fig. 3



INSTALLATION OF TILES

FIXING OF TILES

The most convenient method is to use a pneumatic nailer with original stainless steel screw-nails (NCS) to attach the elements. Alternatively, manual nailing with stainless steel nails is also possible. However, this method is less convenient, slower, and may cause damage to the finish when using a hammer.

With the exception of the first row and the row at the eaves, the tiles are always nailed along the front edge, supported by the batten, specifically between the groove opening and the wider profile (Fig. 1).

For each profile of the template, nails are used, and there is always one nail at the point where adjacent tiles overlap (4 nails per bag).

The strongest attachment can be achieved by using stainless steel screws SCR TX-25, which can withstand even the load in hurricane areas. In normal climatic conditions, only 3 screws per tile are sufficient. However, it should be noted that screws generally damage the anti-corrosion protection of the sheet metal and are not suitable for areas with an increased risk of corrosion.

The nail head must be securely tightened to the edge of the tile, but should not be driven into or deform it. A nail gun allows for adjustment of the driving force. The first row of tiles, which is the starting point of the installation (sometimes the second row entirely below the ridge), needs to be initially attached in place from the upper edge, but leave the front edge free. Only after laying the bottom row of tiles, they can be nailed in the normal way through the front edge. Make sure that the nails are securely attached to the battens. (A gap between the tile and the batten can cause a flexible shock to the material at the attachment point, leading to surface cracks.)

TILES OVERLAPS

Tiles overlap by one groove (approximately 60 mm), from the side, (Fig. 2). Only for roof pitch below 15°, it is necessary to consider increasing the overlap to two grooves (one profile) taking into account the building location, elevation, and snowload area.

TILES IN THE EAVES

The last row of tiles at the eaves usually intentionally extends beyond the edge. In this case, the front edge is not supported by a batten, and the tile must be nailed from above, diagonally next to the highest point of the profile, towards the wider groove (outside of the groove) (Fig. 3). The nail heads are covered with paint or silicone and filled with granules from a repair kit.

FIXING OF ACCESSORIES

The accessories equipped with a base plate in the shape of a tile, shall be inserted under the edges of the adjacent tiles so that the longitudinal grooves fit together, and then fixed nailed or screwed through the front hem of the tiles. (Fig. 4) For plastic made accessories, it is recommended to pre-drill before nailing to prevent the element from cracking. Attach other accessories according to this guide, always against the roof batten, and adjust the force of the nail gun or the tightening of the screws to prevent deformation or cracking of the elements.



Fig. 1

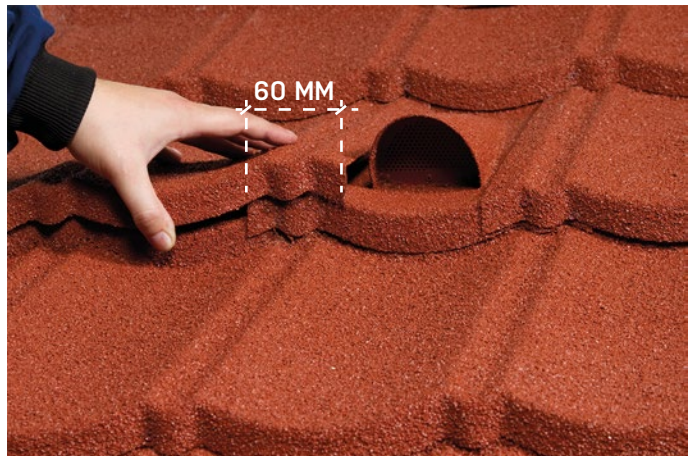


Fig. 2



Fig. 3

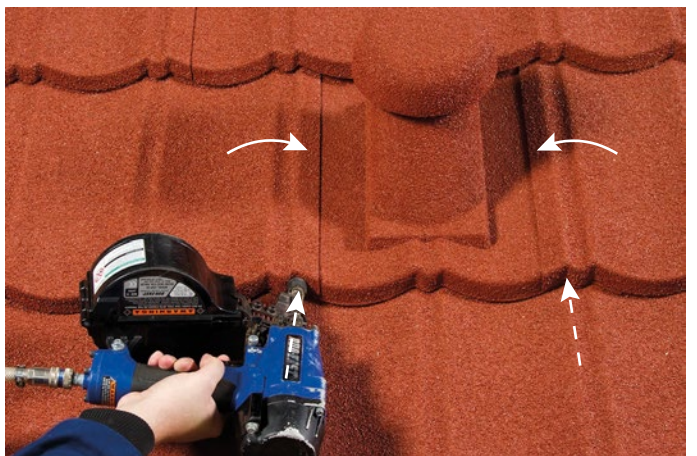


Fig. 4

BOW RIDGE

BATTENING FOR BOW RIDGE CAPS (BR/BR225)

Fix the last batten to the ends of the counter-battens. This will create a ventilation gap below the ridge batten. The last two battens are usually spaced at a smaller distance than the entire module of the tile (367/368 mm). The last batten will provide support for the element (WUNI-C or shortened tile) with which the tiles can be finished below the ridges.

UNVENTILATED RIDGE (Fig. 1)

If you fix the end of the tile or the joining sheet directly to the ridge batten, the ridge will always be unvented. Adjust the height of the ridge batten according to the roof pitch so that the ridges sit firmly on the ridge batten and maintain a gap of 5-10mm above the tiles.

VENTILATED RIDGE (Fig. 2)

When battening for a ventilated ridge, the ridge batten must be doubled. Add battens (20-30 mm) divided into sections approximately 300mm long to the lower ridge batten from both sides. Two of these battens are attached at an axial distance of 1260mm, with a third section inserted in the middle. This creates ventilation gaps between the sections of approx. 330mm wide. Fix the up-bended ends of the tiles/joining sheets to these short battens. This ensures that a ventilation gap is maintained around the ridge batten and between the end of the tile and the ridges. Adjust the height of the ridge batten according to the roof pitch, so that the ridge tile sits firmly on the ridge batten and maintains a gap of 10-20mm above the covering.

FIXING OF BOW RIDGE CAPS BR / 3BR / BR225 / 3BR225

The narrow bow ridge caps (BR/3BR) are nailed at the point of their overlap, diagonally from above, with one nail/screw into the ridge batten (Fig. 3). The wide bow ridge caps (BR225 /3BR225) are nailed at the point of transversal overlap or transversal bend (3BR225) with two nails/screws diagonally from the side at an angle of approximately 60°. The hip finishing caps (BRSP/BRSP225 also Y-BR/Y-BR225) are made of plastic, so it is recommended to pre-drill the fixing point and manually nail or screw in the element.

TYPE	Number of nails / pc
Bow ridge (BR)	1
Bow ridge wide (BR225)	2
Triple bow ridge (3BR)	3
Triple bow ridge wide (3BR 225)	6

FIXING OF END RIDGE CAPS BRS/E and BR225S/E

The ridge end caps (BRS/E and BR225S/E) are fixed in the same way as the bow ridges, and additionally, the front is fixed to the end of the ridge batten (Fig. 4).

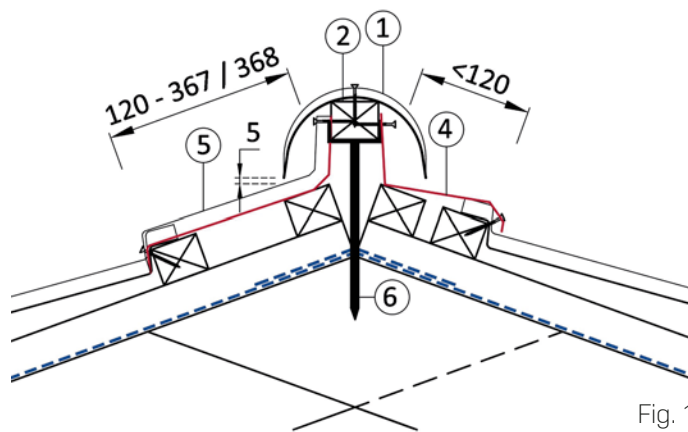
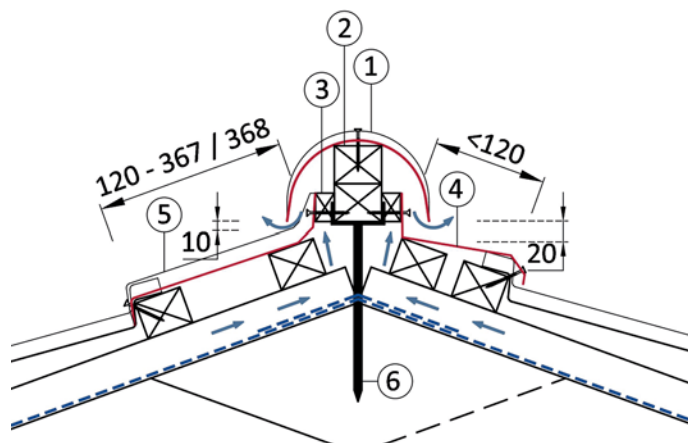


Fig. 1
UNVENTILATED RIDGE



1. BOW RIDGE (BR225)
2. RIDGE BATTEN
3. LONGITUDINAL INTERRUPTED BATTEN
4. JOINING SHEET (WUNI-C)
5. SHORTENED ROOF TILE
6. RIDGE BATTEN HOLDER

Fig. 2
VENTILATED RIDGE



Fig. 3



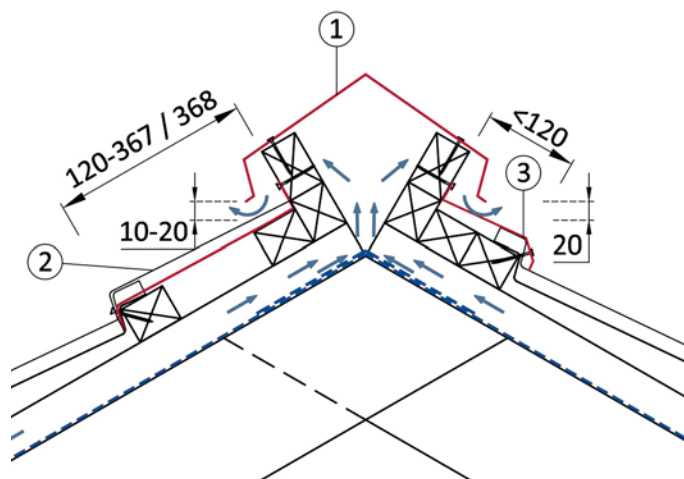
Fig. 4

THE RIDGE (V-FORM)

Battens for V-FORM RIDGE CAPS RV155

Two horizontal battens lying on top of each other are attached to the end of the counter battens, and one more batten is attached under them, on which a shortened tile or joining sheet (WUNI-C) with the end bent upwards is placed. Adjust the height of the double batten according to the roof pitch (Fig. 1). The gap between the ridge cap and the tile must be 5-10 mm (10-20 mm for a ventilated ridge).

When battening for a ventilated ridge, the upper batten must be upright and divided into sections 300 mm long, two of which are attached at an axial distance of 1260 mm, and a third part is inserted between them in the middle. This leaves ventilation gaps approx. 330 mm wide between the parts (Fig. 2).



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

Fig. 1
VENTILATED RIDGE (RV155)



Fig. 2

V-FORM RIDGE CAP FIXING

The ridge caps RV and RV155 are installed on 2 parallel ridge battens (doubled) with the height and distance adjusted according to the pitch of the roof. They are always attached in the ridge caps overlap (100 mm) and then in approx. 350 mm distance from both sides.

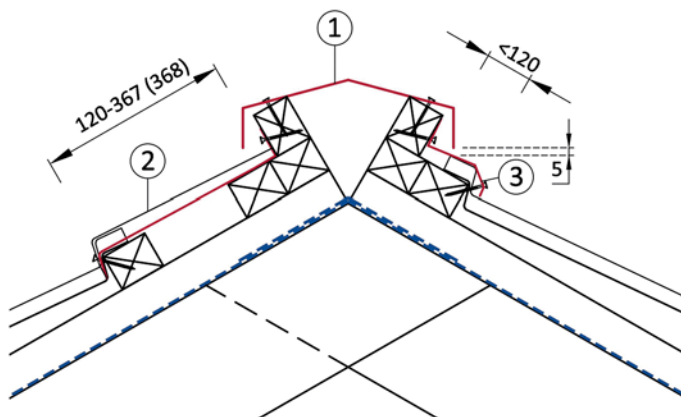
At the end of the ridge, the ending ridge cap is cut and bent to close its front. The front can also be made of flat sheet metal (VST). The front of the ridge is attached to the end of the battens.



Fig. 3

V-FORM RIDGE RV

The RV ridge cap can only be used for unventilated ridges with a roof slope of up to approx. 25°. The angle of the ridge cap can be adjusted according to the pitch of the roof. The ridge cap does not allow enough space for effective ventilation. (Fig.4)



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

Fig. 4
UNVENTILATED RIDGE (RV)

BATTENING OF THE HIP

The hips are usually lathed with layered longitudinal battens 40x50 or 40x60mm in the axis of the hip for covering with bow ridges BR or BR225 (Fig. 2).

The hip can also be covered with RV or RV155 types of ridge. In this case, two parallel (layered) battens are fixed along the hip axis at a distance from the hip axis according to the roof pitch and the type of ridge tile (Fig. 5).

FINISHING OF TILES AT THE HIP

Lines for bending and cutting of the tiles are marked along the hip batten. After cutting, the ends of the tiles are bent 20 – 25 mm upwards along the batten (Fig. 3).

The hip tiles cannot copy the transverse profile of the tiles and this creates gaps between the ridge line and the tiles. To prevent snow, dirt or water from blowing in, it is possible to insert a suitable type of ridge ventilation belt (RB310) between the ridge tile and the bent edge of the tiles.

FIXING OF THE RIDGES

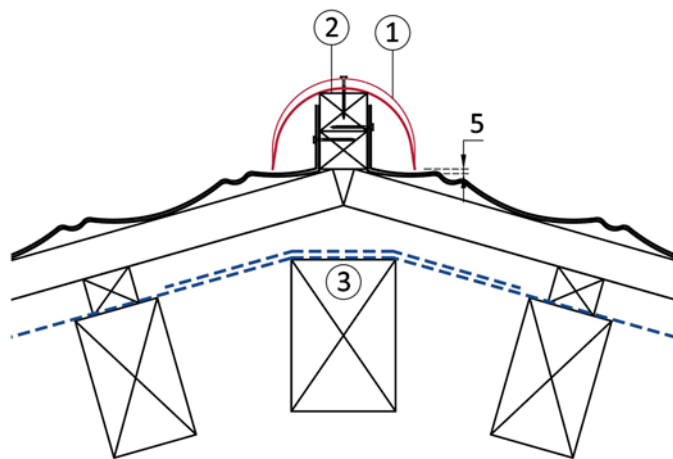
Bow ridges - BR / 3BR / BR225 / 3BR225 type - are placed on the longitudinal hip batten from the ridge to the eaves. They are nailed obliquely from above in the overlap / transverse profile of the ridges and at an angle of 45° to the hip batten (Fig. 4). As the first ridge from the bottom of the hip is used the bow ridge - start (BRS or BRSP - Fig. 1). To join the hip with the ridge, it is possible to use the hip corner element (Y-BR / Y-BR225)



Fig. 1

HIP MADE OF V-FORM RIDGES (RV, RV155)

The V-form ridge (RV) is usually fixed to 2 parallel hip battens, along which the ends of the tiles are shortened and bent. The ends of the tiles are bent 20 – 25 mm upwards and covered with a ridge (Fig. 5). Especially for smaller roof pitches, we recommend leaving space under the ridge and insert the ridge ventilation belt. The ridges are usually nailed from above to the parallel battens with nails of 350 mm on each side, one of which is always in the overlap of the elements. The nail heads must be covered with paint from the repair kit or covered with silicone and, if necessary, supplemented with granulate.



1. BOW RIDGE CAP (BR / 3BR / BR225 / 3BR225)
2. DOUBLE HIP BATTEN
3. HIP RAFTER

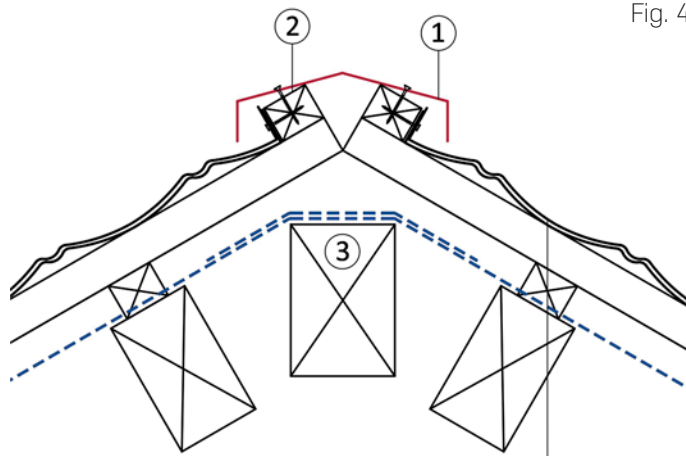
Fig. 2



Fig. 3



Fig. 4



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

Fig. 5

GABLE FLASHING

SHIELD LATHING

Saddle or monopitch roofs must be finished on the gable edge with a finishing trim or a side wall trim.

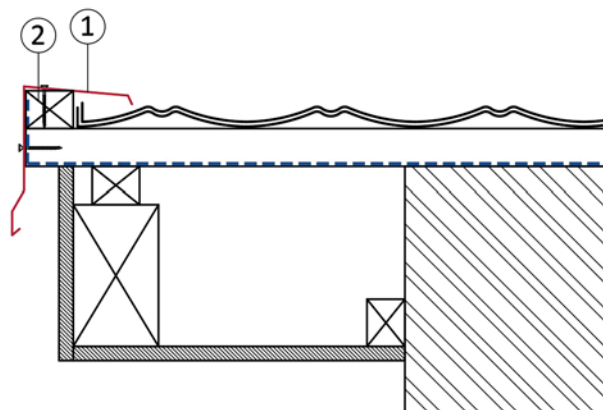
When the horizontal battens are ready, mark the vertical line of the gable perpendicular to the eaves and cut the horizontal battens along it. Fix a 40x50 mm batten (or gable board) perpendicular to the horizontal battens at the ends of the horizontal battens so that the tiles can be finished along it and the finishing trims (FT45/FT155) can be fixed to it (Fig. 1).

For the use of short gable trims (GT), the gable edge is created with a vertical batten or board, fixed to the end and with the upper face of the horizontal battens.

It is advisable to "wrap" the vertical batten / board with a diffusion foil to protect it from condensation or blown moisture.

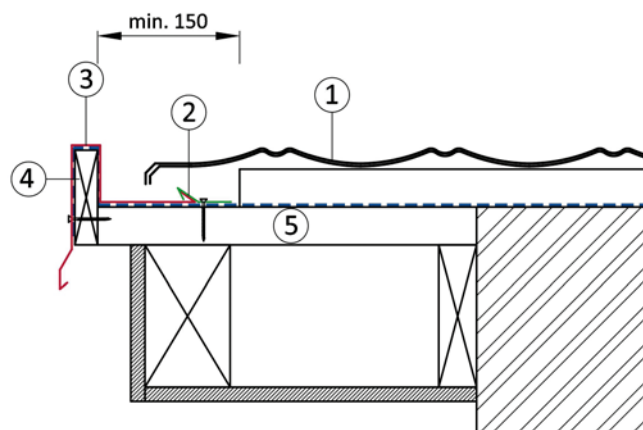
To finish the roof at the gable, it is possible to use the universal finishing trim for bottom flashing (UFT), which is placed on the lowered ends of the horizontal battens (by 20 mm) or on the inserted plywood or horizontal battens in the level of the counter battens (Fig. 2).

The bottom flashing (UFT) will have to be used whenever the gable edge is not perpendicular to the direction of the horizontal battens and therefore it is not possible to use FT45/FT155 trims.



1. FINISHING TRIM (FT155)
2. LONGITUDINAL BATTEN (50 x 40 MM)

Fig. 1



1. EVERTILE ROOF TILE
2. STAPLE
3. UNIVERSAL FINISHING TRIM (UFT)
4. LONGITUDINAL BATTEN (100 x 24 MM)
5. ROOF BATTEN

Fig. 2

INSTALLING THE FINISHING TRIMS

LONG FINISHING TRIMS (FT45 / FT155)

The finishing trim covers the side edges of a saddle or shed roof. The finishing trims are laid from top to bottom over the ends of the tiles (tiles with a 20 mm bend upwards) and fixed to a longitudinal board or batten. (Fig. 3). The finishing trim is fastened with 2-3 nails or screws from the front and 2 nails or screws from the top to the gable batten so that it is not lifted by the wind. Adjust the lower end of the finishing trim over the end of the eave trim by cutting and bending it so that the front of the element closes (Fig. 4).

UNIVERSAL LEEWARD BAR (UFT)

In case the gable edge is not perpendicular to the battens, use the UFT universal leeward rail. The strips are laid on the plane of the counter battens, form the bottom flashing and are installed before the tiles are installed. The bags are terminated above the bar and the ends are bent 20-25 mm down.

GABLE TRIM SHORT (GT)

You can use the short gable trim (GT) to accentuate the tiled character of the roof. Short gable trims are laid from top to bottom over the ends of the tiles, which, as with long finishing trims, are finished with a 20 mm upward bend. The gable trim is fastened with 1 nail / screw from the front of gable and, if necessary, from the top with 1 nail / screw into the gable batten.

All types of trims are designed separately for the right and left sides and the elements cannot be interchanged.



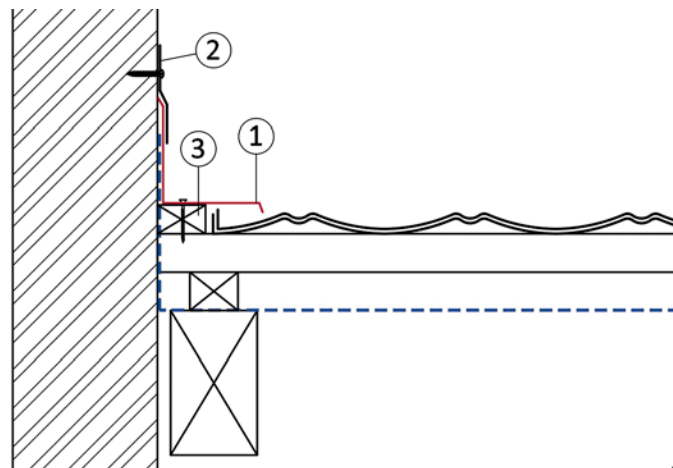
Fig. 3



Fig. 4

BATTENING TO THE SIDE / GABLE WALL

If the roof ends at the gable wall, mark a vertical line at the ends of the horizontal battens. Attach a 40x50 mm (40x60) vertical batten perpendicular to the horizontal battens on this line so that the tiles can be shortened and bent to it and the edging can be attached to the wall (SWT - Fig. 1).

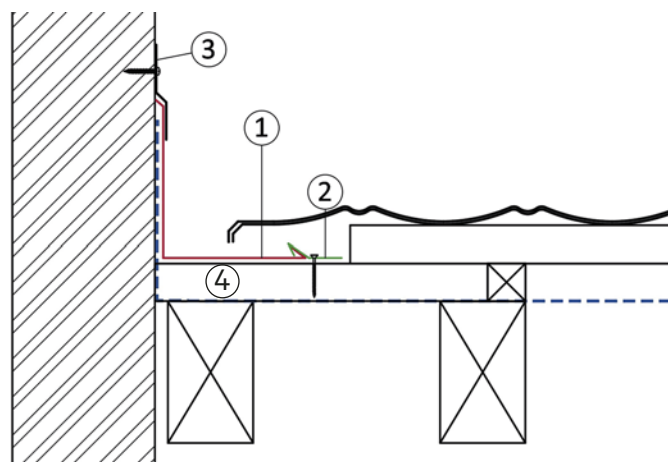


1. WALL TRIM (SWT)
2. DILATATION TRIM
3. LONGITUDINAL BATTEN

Fig. 1

To finish the roof at the gable wall, it is possible to use the trim for the bottom flashing (USWT - Fig. 2) placed on the inserted plywood or horizontal battens in the level of the counter battens.

The bottom flashing will have to be used whenever the wall is not perpendicular to the direction of the horizontal battens and it is not possible to use SWT trims.



1. UNIVERSAL WALL TRIM (USWT)
2. STAPLE
3. DILATATION TRIM (FL-1)
4. HORIZONTAL BATTEN

Fig. 2

FIXING OF THE SIDE WALL TRIMS

SIDE WALL TRIM (SWT)

The edging to the wall allows the tiles to be connected to vertical structures (walls). The original trim can be used if the structure is perpendicular to the direction of the battens. The trim is laid from top to bottom over the ends of the tiles (with a bend of 20 mm upwards) and fixed to the inserted vertical supporting batten with 2 - 3 nails / screws from above (it is recommended to seal the nail heads with paint or silicone). Adjust the lower end of the trim by cutting and bending it so that the face of the element closes (with a small hole of 10x30mm for washing out small debris).

UNIVERSAL SIDE WALL TRIM (USWT)

In case the gable wall is not perpendicular to the battens, use a universal USWT wall trim. The trims are laid on the level of the counter battens and make the bottom flashing which are installed before the tiles are fixed. The tiles are finished above the trim and the ends are bent 20-30 mm downwards.

The vertical part of the trim is left free so that it can dilate, and this is covered from above with an dilatation trim (FL-1), which is sealed with silicone or fixed into the wall. (Fig.3)

All side wall trims are designed separately for the right and left sides and the elements cannot be interchanged.



Fig. 3

EAVE FLASHING

EAVE TRIM (ETN)

The eave trim covers the gap between the tiles and the eaves. The eave trim can be fitted tightly to the lower edge of the rafters or set back to create a ventilation gap between the trim and the diffusion membrane. In such cases, it is advisable to protect the gap with a ventilation mesh to prevent insects from entering.

FIXING OF THE EAVES STRIP

To properly fix the eaves trim, the first batten must be placed 40mm from the end of the counter-batten. The top edge of the trim lays on the batten, the middle part leans against the end of the counter-batten, and the bottom edge extends over the eaves. The trim is nailed with 3-4 nails through the top edge into the batten. Trims should be fixed with an overlap of 75-100mm.

WITH TILE OVERHANG

During battening, we decide whether the first row of tiles will extend beyond the eaves or not (distance between the second batten 327-367/368mm). Having tiles with an overhang is more common (Pic. 1). Rainwater flows directly from the tiles into the gutter. The maximum tile overhang is 40mm.

WITHOUT TILE OVERHANG

Having tiles end flush with the eaves strip profile is less common (Figure 2). It is mainly used for eave gutters at the eaves or intermediate roof valleys, where ice build-up could damage the lower edge of the tiles. In this case, the minimum overhang of the eaves strip is 100mm.

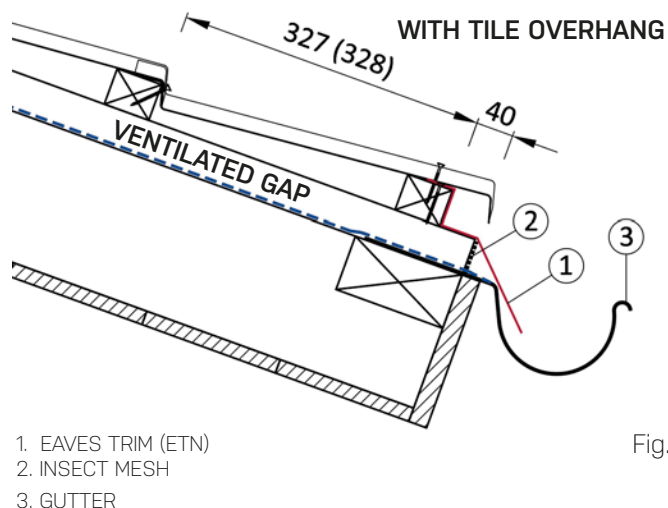


Fig. 1

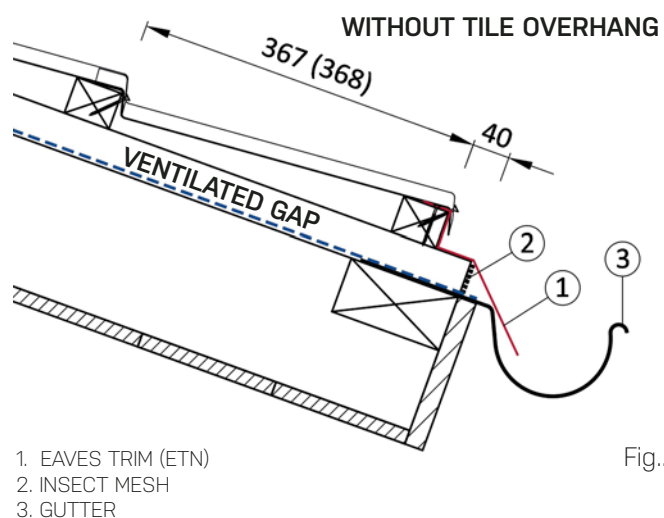


Fig. 2

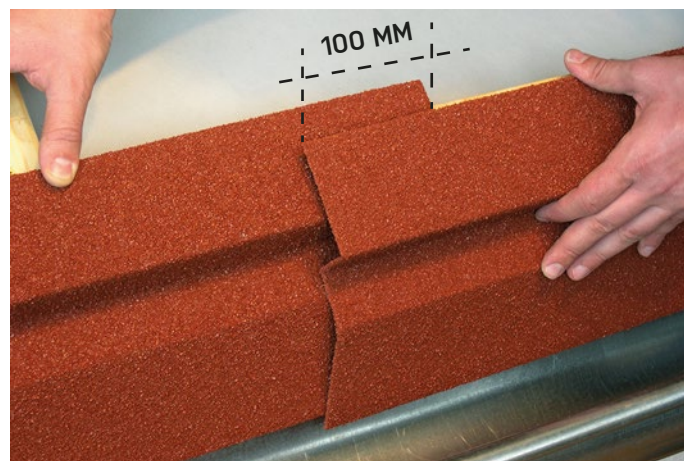


Fig. 3



Fig. 5

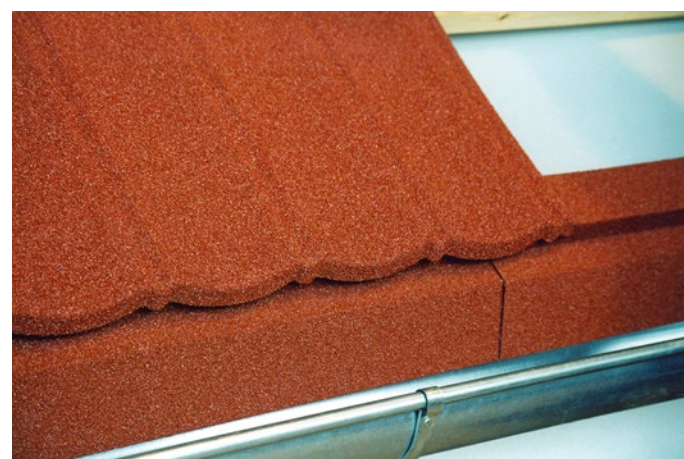


Fig. 4

VALLEY BATTENING (Fig. 1)

The valley must be positioned below the upper edge of the horizontal battens to allow for the downward bending of the tile ends and prevent the penetration of water and ice underneath the tiles!

Therefore, it is necessary to lay the valley on inserted counter battens or plywood. At the end counter batten, attach the shortened ends of the valley sheet (VY). Place the diffusion membrane in the valley, also on the inserted counter-battens, across the entire width and with sufficient overlaps.

VALLEY INSTALLATION (VY)

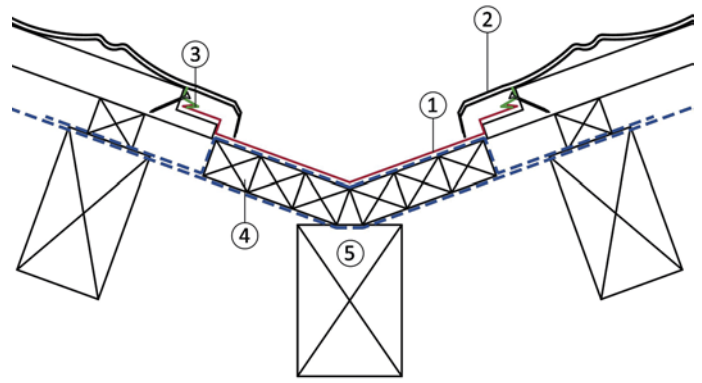
The original valley sheet (VY) can be used for the valley flashing. The valley sheet has a smooth surface for better water or snow drainage. The original valley sheet (VY) have a conic shape to fit snugly together. The direction of installation - following the slope - is indicated by an arrow on the backside. The sheets are laid with an overhang of 100-150mm, depending on the slope and length of the valley.

The sheets are fixed to the horizontal battens using only "clips" (Fig. 2). No fixing through the sheet is allowed.

The bottom part of the valley sheet is placed above the eaves edge (ETN) and finished with a downward bend (Fig. 3). The end of the upper part of the valley sheet is placed up to the ridge batten and finished with an upward bend. In cases where a larger volume of rainwater flows into the valley area or melting snow is pushed from one side of adjacent surfaces, it is recommended to use valley sheet with a standing groove in the middle.

"The ends of the tiles must extend above the valley sheet by a minimum of 50mm and they must be bent downwards approximately 20-30mm towards the valley sheet (Pics. 1 and 3). It is ideal to achieve a gap of 5-10mm between the valley sheet and the tile. To ensure that the bent ends of the tiles fit together, they need to be bent and cut diagonally = longer at the front edge by approximately 10-15mm with a wider bend of approximately 10mm at the front edge (Fig. 4)."

The tiles should be fixed to the battens as close to the edge of the valley sheet as possible, but not through the valley sheet. The last tile near the valley sheet can be fixed with multiple nails/screws. If the last trimmed tile at the valley is shorter than 2 profiles, add an additional profile and support it under the adjacent tile and secure it with at least 2-3 nails/screws. This will make the tile firmer fixed.



1. VALLEY SHEET (VY)
2. EVERTILE ROOF TILE (20 mm BEND)
3. STAPLE
4. PLYWOOD
5. VALLEY RAFTER

Fig. 1



Fig. 2



Fig. 3



Fig. 4

CHIMNEY FLASHING

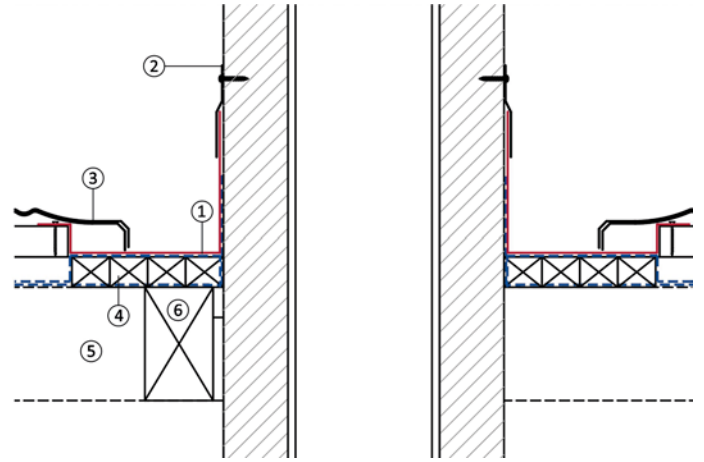
BATTENS FOR THE BOTTOM FLASHING OF THE CHIMNEY

The classic bottom flashing must lie on inserted battens or formwork that are in the level of the counter battens or mortise ends of the battens so that the ends of the tiles do not rise upwards. (Fig. 1)

BOTTOM FLASHING OF THE CHIMNEY

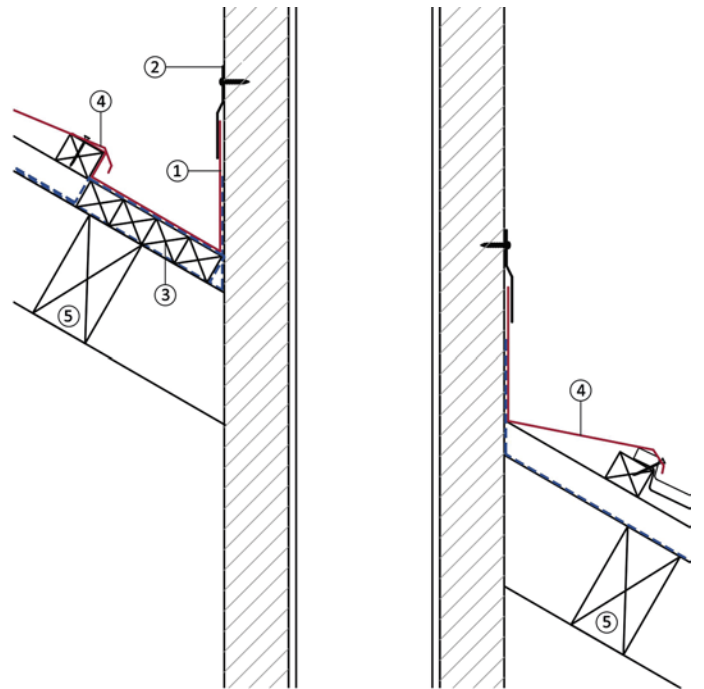
The classic bottom flashing is made of flat sheet metal (VST, or combined with a USWT trim).

Above the chimney, finish the flashing above the last continuous horizontal batten for tiles. Under the chimney, the flashing must be finished over the back edge of the last tile. The pitch of the lower part of the flashing must not be less than 7°. (Fig. 2)



1. FLAT SHEET (VST) / UNIVERSAL SIDE WALL TRIM (USWT)
2. DILATATION TRIM (FL-1)
3. EVERTILE ROOF TILE (BEND 20 mm)
4. INSERTED COUNTER BATTENS / PLYWOOD
5. "EXCHANGE" OF THE ROOF TRUSS
6. RAFTER

Fig. 1



1. FLAT SHEET - BENT TO SIZE (VST)
2. DILATATION TRIM (FL-1)
3. PLYWOOD
4. JOINING SHEET (WUNI)
5. EXCHANGE OF THE ROOF TRUSS

Fig. 2



Fig. 3

SKYLIGHT

Install the metal brackets that anchor the roof windows into the window frames according to the window-manufacturer's instructions. The entire subsequent installation of the windows is carried out according to the installation instructions of the window manufacturer, with the only difference being that the window frame and window edging are not laid on horizontal roof battens, but everything is anchored and lies on inserted counter battens or mortise ends of the battens so that the ends of the tiles do not rise upwards. The ends of the tiles are bent down to the window flashing.

In order to do this, it will be necessary to make an auxiliary support structure from battens, which will later support the flashing of the window. When installing the window, it is necessary to observe that the row of tiles under the window must not be shortened and the window frame must be placed 5 - 8 cm (the lower the roof slope, the higher) above the horizontal batten running under the window. It is a good idea to bevel the upper edge of the batten under the window so that it does not later lift the pleated (lead or aluminium) part of the lower part of the window flashing and thus does not form a pocket for water to accumulate.

The top edge of the window usually ends somewhere in the middle of the row of tiles. In this case, it is recommended not to cut the tile lengthwise, but to use the WUNI-C top-mounted flashing, which can be conveniently adjusted to sit on the upper batten, fit snugly just below the adjacent tiles and overlap the upper edge of the window.

Although tiles can be installed up to a 10°/12° roof pitch, roof windows can usually only be used from a 15° pitch and a lifting frame must be used at a lower pitch. The recommendations given by the window manufacturer are crucial.

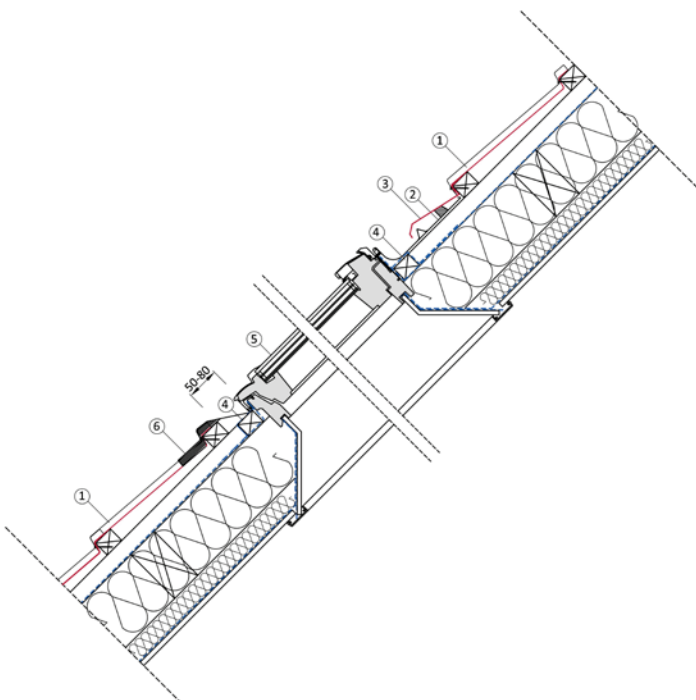


Fig. 1

1. EVERTILE ROOF TILE
2. FLASHING OF THE ROOF WINDOW
3. TOP-MOUNTED TRIM FLASHING (WUNI-C)
4. HORIZONTAL ROOF WINDOW BATTEN
5. ROOF WINDOW
6. BOTTOM WINDOW FLASHING



Fig. 2



Fig. 3



Fig. 4



Fig. 5

CHANGING THE ROOF SLOPE

CHANGING THE PITCH FROM LOWER TO STEEPER (MANSARD ROOF)

(Fig. 1, Fig. 2)

Changing the roof pitch from steeper to lower is simple. Place a batten under the break edge and place the bottom row of roof tiles on it.

Above the break edge, start battening as if from the eaves, with the roof tiles extending over the break. To cover the edge of the break from the bottom tile to the upper tile, adjust the joining sheet (WUNI-C) or create a custom transition flashing from flat sheet metal (VST). Attach the connecting elements to the battens.

In the gable end, the lower eave trim terminates at the break edge. The upper eave trim is cut and bent on the side above the break in order to overlap the lower trim. It is then fixed from the side and top to the battens or gable boards.

TRANSITION FROM STEEPER TO LOWER PITCH

(Fig. 3, Fig. 4)

In the roof break from a steeper to a lower pitch, you can reduce the distance between battens and tiles below and above the break, joining them with an adjusted joining sheet (WUNI-C) (Fig. 3).

Alternatively, it is more common to maintain the distance between battens and cover the break with a full tile (Fig. 4).

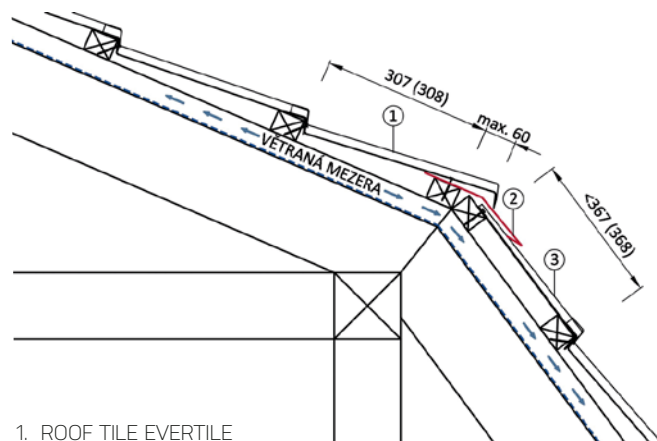


Fig. 1

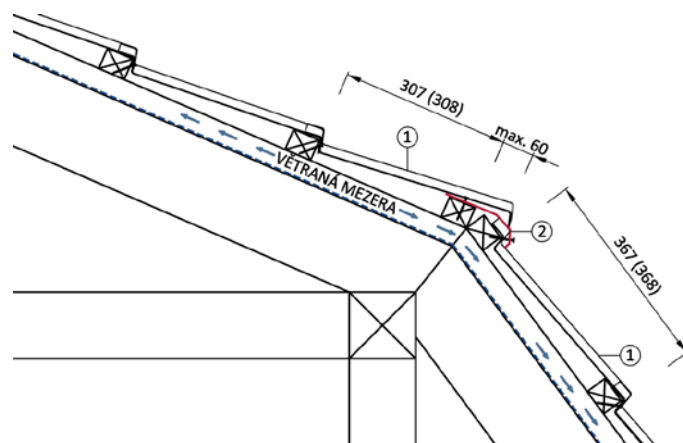


Fig. 2

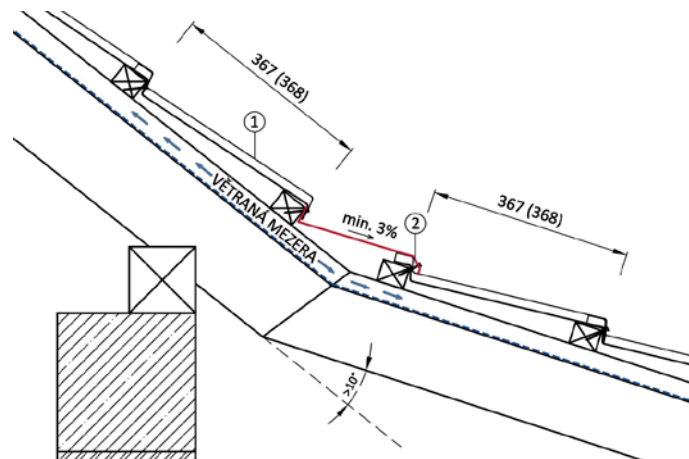


Fig. 3

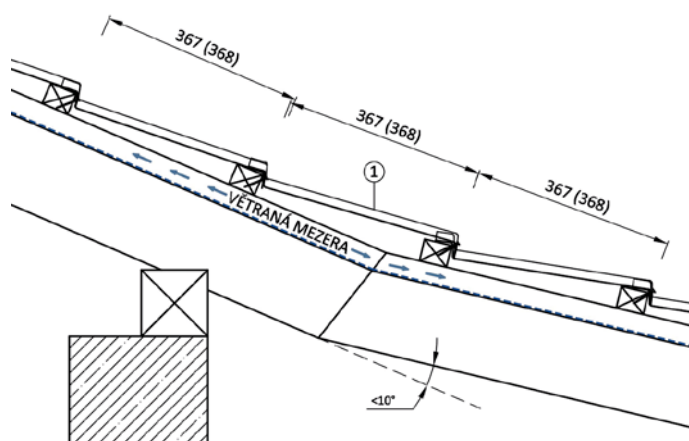


Fig. 4



MODULAR CONSOLE SYSTEM

Accessories - BPN, FSN, HSC,SHS

Additional installation and subsequent maintenance of technical equipment or roof elements after the installation of the roofing usually result in damage to the roofing material. This applies to the installation and maintenance of solar panels, snow guards, antennas, or chimneys. Therefore, it is necessary to plan access to all maintenance points and distribute the system elements before installing the roofing.

EVERTILE provides the "MODULAR CONSOLE" system, which provides a solid and stable support for accessories without perforating the tiles and allows safe movement of workers on the roof. Depending on the purpose, the appropriate top part and end piece of the console (FSN, BPN, SHS, SHC) are used.

The consoles are installed simultaneously with the placement of the tiles in the desired place. The assembly process for the console is illustrated in the images (Fig. 2). It is necessary to plan access to all points requiring occasional or regular maintenance before installing the roofing, as well as the placement of system elements.

INSTALLATION OF A FOOT-STEP OR WALKWAY GRID:

1. Secure the short part to the batten with two screws.
2. Secure the long part to the batten with two screws.
3. After connecting the lower and upper parts and tightening the screws from point 3, attach the "cradle" - a holder for the grid or foot-step - with two screws and small washers on each side using the hole-groove/groove-hole system to allow for adjustment of the element inclination.

NOTE: After assembling the complete step system and adjusting the necessary inclination of the element, carefully check the tightening of each screw!

INTEGRATED FOOT-STEPS AND HOLDERS (BP-E(T/G), FS-E(T/G), HSC-E(T/G))

Simpler installation, but at the cost of perforating the tile, integrated foot-steps and holders for walkways (grids) allow for a firm connection with shortened tiles (Fig. 1). The bottom steel reinforcement is attached in the upper part into the batten with two screws. Then, the integrated shortened tile is simply overlapped with neighboring tiles and fastened through the front edge in the usual way into the batten.



Fig. 1

SNOWSTOPPING DOUBLE-TUBE SYSTEM (SHS) SOLAR PANEL HOLDER (HSC)

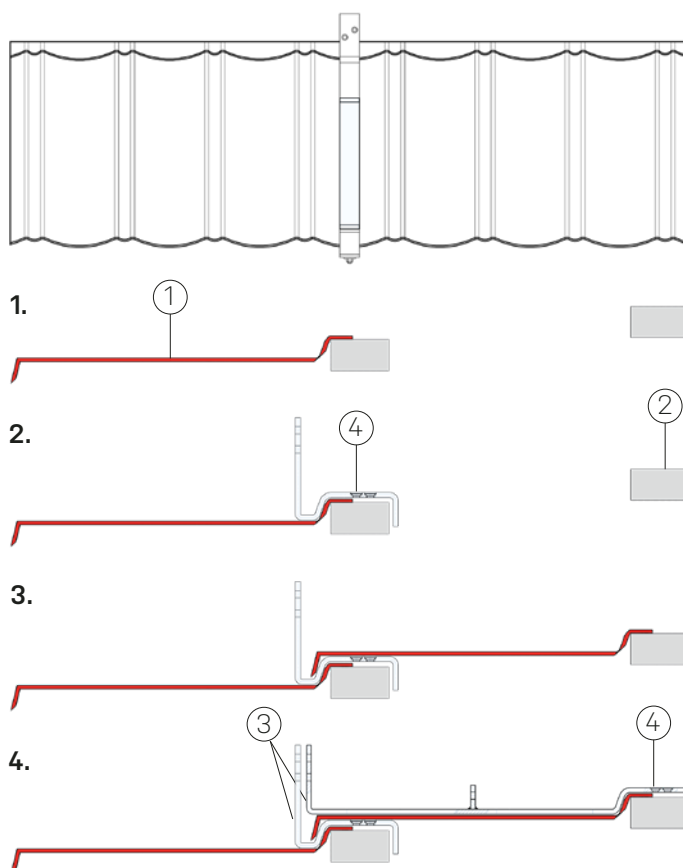


HOLDER FOR GRID (BPN)

FOOT-STEP (FSN)



MOUNTING THE ELEMENTS



1. ROOF TILE
2. ROOF BATTEN
3. CONSOLE
4. FIXING THE SCREWS

Fig. 2

SNOW BARRIERS

PREVENTION OF SNOW SHIFT

The use of snow breakers (SBN) and snow-stopping bars (SHS) or ladders (LHS) is recommended in the following cases:

Preventing snow from falling off the roof

Depends on the snow zone, roof slope, rafter length, and the type of roofing material used.

Preventing snow from shifting on the roof.

Can be done by installing snow breakers or barriers above roof windows, roof access points, valleys, above solar panels, and above plastic sanitary vents, etc.

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 (Evoq) 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.

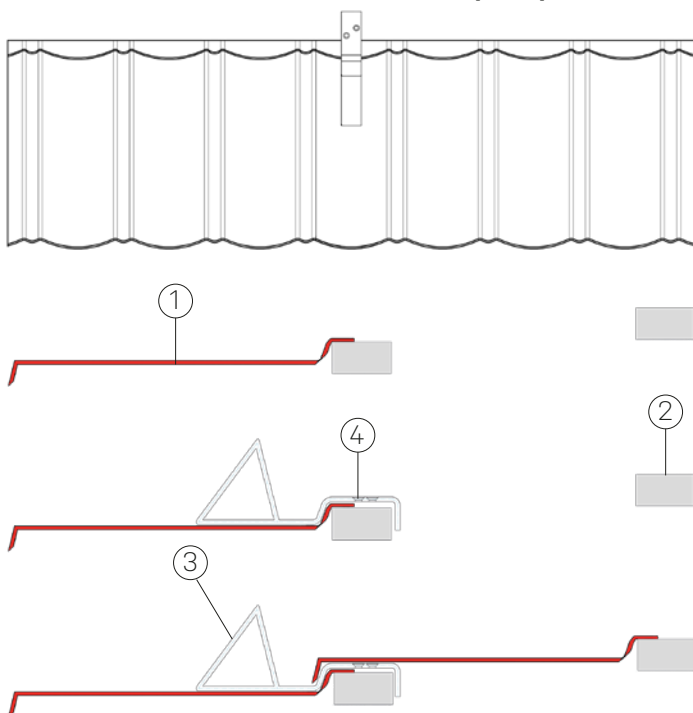
SNOW BREAKER (SBN)



SYSTEM OF SNOW STOPPING LADDERS (LHS)



FIXING OF THE SNOW BREAKER (SBN)



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

SYSTEM OF SNOW STOPPING BARS (SHS)



Fig. 1

THE COMPLETE ACCESSORY PROGRAM IS LISTED IN THE PRODUCT CATALOG.

ROOF VENTILATION

The number of ventilators necessary to ensure effective ventilation is determined by a calculation performed by a designer. According to the Czech Technical Standard (ČSN), it is necessary to install ventilation openings of 200cm² per 1m width of the roof (for lengths up to 10m). For typical roofs with lengths up to 10m, placing one VL type ventilator between every two adjacent tiles in the first row below the ridge in combination with a ventilation gap below the ridge is usually sufficient. The air supply area at the eaves should have a size equal to 1/500 of the roof area. If original ventilators (VL or LG75) are not used, it is necessary to provide evidence that an alternative effective ventilation meeting the valid national or EU norm has been implemented in order to maintain the warranty.

The ventilation area for the VL roof vent is 11,500 mm².
The ventilation area for the LG75 roof vent is 7,500 mm².

The V-form ventilated ridge RV-VENT is designed for roofs that require high levels of ventilation. It provides a ventilation area of 200cm² on each side. It is suitable for roof pitch ranging from 15 to 35 degrees. It is fixed using 2 x 3 screws from both sides into the ridge batten and 2 x 3 screws through the bottom edges into the battens.



RV-VENT

BIBO SHINGLE

BIBO component is an original element of the Evertile system. It is made of the same material and surface finish as the roof tiles. BIBO is exclusively used as cladding for vertical surfaces such as gables, dormers, chimneys, etc. The cladding pattern with the BIBO shingle can be varied, allowing for different surface structures. BIBO is attached with stainless steel nails, it can be easily bent and cut. Approximately 40 BIBO shingles are used to cover 1 square meter.

Warning!

BIBO shingle must not be used like roofing.



BIBO SHINGLE (BIBO)

The accessories include:



UNIVERSAL ROOF ACCESS (SNE)



ANTENNA PASSAGE (EAZ16)



ROOF VENT - METAL (VL)



SANITARY VENT (HV15x15)



SANITARY VENT (HV110iso)



ROOF VENT - PLASTIC (LG75)



BRACKET FOR LIGHTNING CONDUCTOR (BLC-BR/BR225, BLC-UNI)

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. Smooth roofing usually requires minimal maintenance. Only details that could accumulate dirt (such as needles, leaves, etc.) need to be checked and cleaned. 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

From the smooth surface roofing materials like EVERTECH or EVERGLAZE, snow usually slides, so it is necessary to control its' movement using one of the snow barrier systems. Snow typically does not slide off the roofing with granulate - EVERTILE-EVOQ, 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.



Fig. 1



REPAIR SET
(REP)



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