



TILE SHEET

Installation instructions



Designed to make your life easier.

Congratulations, you have just purchased a Ruukki steel roof, the best choice for the worry-free builder. Our roofs are as easy to install and carefree to maintain as they are aesthetically pleasing. They are light, and therefore ideal also for renovation construction.

Ruukki's high quality roofs are based on the latest know-how in materials and processing technologies. This combined with extensive variety of timeless designs make it a top-of-the-class choice for roof renovation.

Designed for demanding climates.

Our roofs are designed for demanding climates and withstand years of fluctuating conditions, from summer heat and autumn rains to ice-cold winter. Your building will have a beautiful roof that lasts for decades. A key advantage is our unique surface treatment, i.e. the color coating that will effectively protect your roof from corrosion due to humidity. It also ensures that the color will not fade due to the sun's UV radiation. We do not just say this; instead we openly assign a generous product warranty for aesthetic and functional performance.

This guide will provide general installations instructions. Use them as guidelines for your roofing project.

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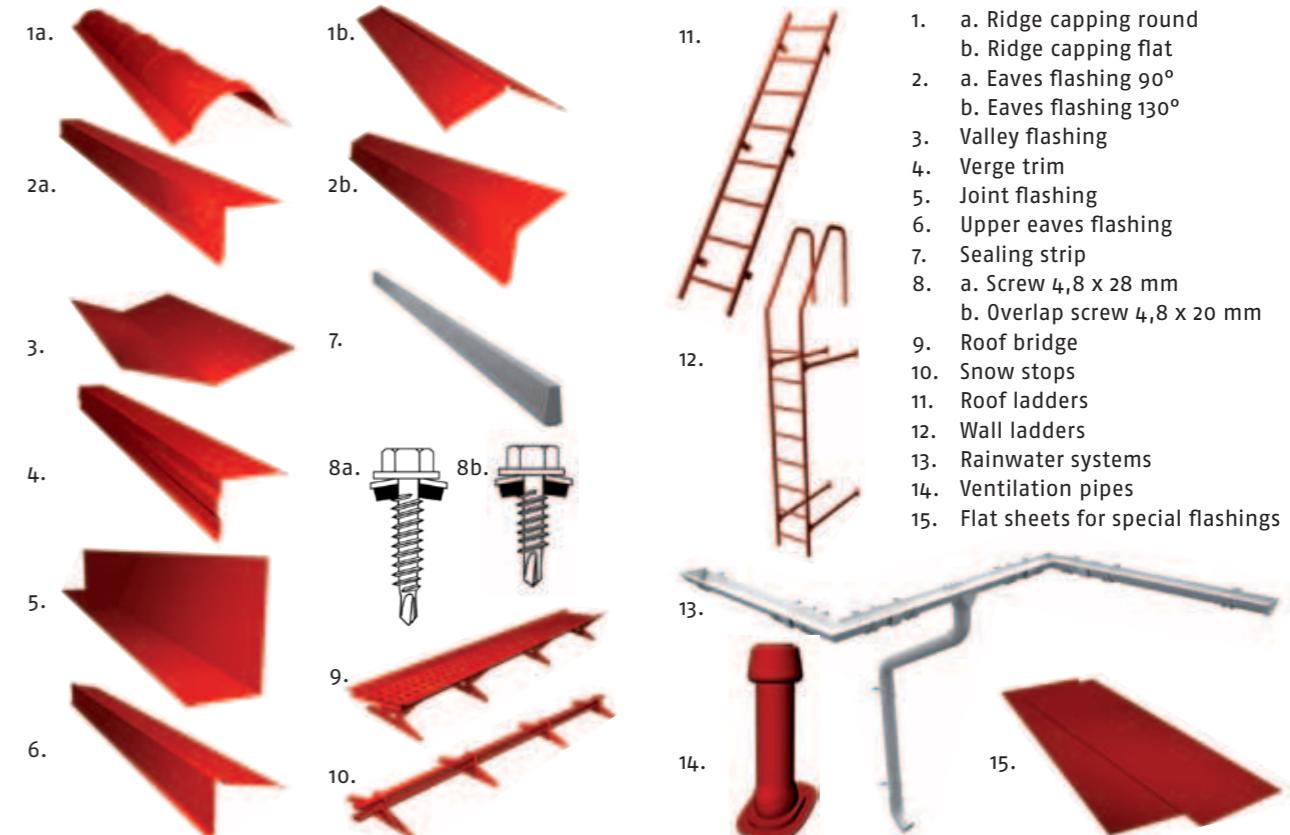
The installation methods presented in the installation instructions are for guideline purposes. The required method of installation may vary slightly depending on the roof type or country of installation. For special instructions, updates and more installation tips visit our web site at www.ruukkihome.com

For general installation instructions and guidance, follow the structural designer's instructions or contact our technical support department.

Tile sheet system and components

PRODUCT	DECORREY	MONTERREY	ELITE	ADAMANTE
Code	TS28-400-1130	TS39-350-1100	TS60-400-1025	TS55-350-1125
Total height	28 mm	39 mm	60 mm	55 mm
Length of pattern	400 mm	350 mm	400 mm	350 mm
Effective width	1130 mm	1100 mm	1025 mm	1125 mm
Total width	1181 mm	1180 mm	1115 mm	1153 mm
Minimum length	950 mm	850 mm	1030 mm	850 mm
Maximum length	6000 mm	8200 mm	8230 mm	8200 mm
Minimum slope	9 °	9 °	9 °	9 °
Thickness	0.45 mm	0.45 – 0.50 mm	0.50 mm	0.50 mm
Weight per m ²	4.01 kg	4.19 – 4.70 kg	5.00 kg	4.72 kg
Sales unit	m ²	m ²	m ²	m ²
Coating	Polyester	Polyester/Purex/Pural Matt	Pural Matt	Pural Matt

Material	Tolerances
Hot galvanized steel sheet	EN 10346
Minimum zinc amount	Product 275g/m ²
Coated steel flat products	Material EN 10169-1 EN 10169-2
	EN 508-1 EN 10143



Delivery reception

Verify that the delivery is as ordered and features all the goods listed on the dispatch note. Any deficiencies, errors, or damage incurred in transit must be recorded on the consignment note and reported immediately to Ruukki or the retailer.

Any claims regarding the delivery must be made within eight days of the delivery. Ruukki accepts no liability for costs arising from the replacement of products installed in a manner other than that described in these instructions.

Unloading and handling the delivery

Unload the roofing sheets from the delivery vehicle onto a supporting structure covered with plywood boarding or a similar level surface that is roughly equal in size to the roofing sheets.

In normal conditions, the roofing sheet stacks can be stored either packaged or unwrapped for about one month. For longer storage periods, the stacks must be protected and placed on a sloping surface to allow any water between them to evaporate or drain off.

When handling individual sheets, ensure that the sheets do not rub against each other – ideally, by hanging them from the edge. Also, a hoist can be used to lift the required sheets up to the roof pane.

Dimensioning

The roofing sheets come in the lengths ordered. For ridges, roof valleys, hipped roofs and lead-ins, etc., the sheets need to be cut on site. Roofing sheets can be cut with a handheld circular saw suitable for cutting steel sheets, shears, a nibbling machine, a jigsaw, or any other non-heat-generating cutting device.

N.B. Using an angle grinder and cut-off disc for sheet-cutting is strictly forbidden (doing so automatically voids the product warranty).

In addition to a hand-held circular saw with suitable blade and shears or nibbling machine, you will need at least one screw gun and a measuring tape. Protect the sheets before starting the cutting work, as the sharp cuttings can damage the sheet surface.

Any debris created by drilling or cutting during installation must be carefully brushed off. It is recommended that any scratches on the coating and any visible cut surfaces be painted with suitable touch-up paint.

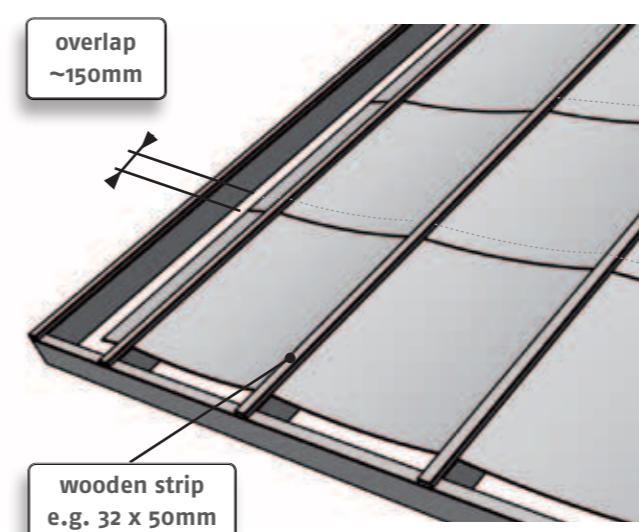
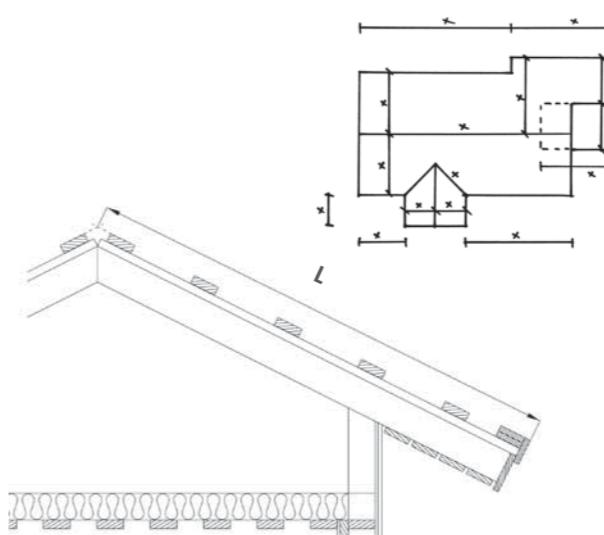
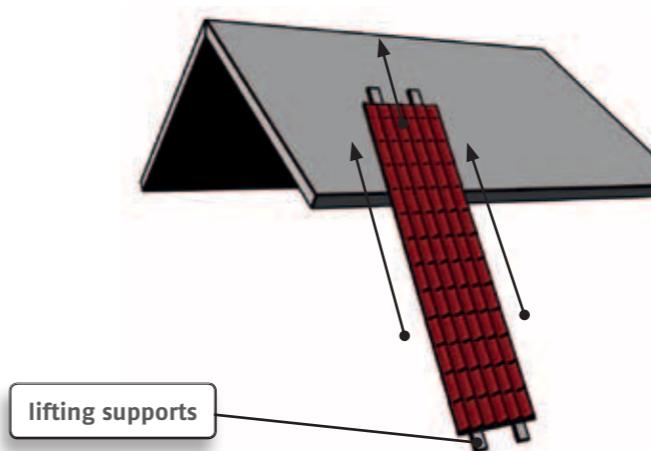
Work safety

Always wear work gloves and protective clothing when working on the sheets. Avoid contact with sharp cut edges and corners.

Do not walk beneath raised sheets or sheet packages. Ensure that the hoisting lines are in proper working order and suitable for the sheets' weight and that they are appropriately attached. Avoid handling the sheets in high winds. Observe utmost caution when moving about on the roof and working there. Use a safety rope and soft-soled footwear, and observe all applicable safety regulations.

Checking the roof measurements

Roofing sheets are installed at right angles (90 degrees) to the eaves. Before installation, check how level the roof is, its cross-measure, and the straightness of the ridge and eaves. In problem situations, contact our technical support department.



Lifting and laying out the sheets

When handling individual sheets, remember that long sheets must not be lifted by their ends or allowed to rub against each other. The best way is to lift them from the side edges. Individual sheets are lifted onto the roof along supports that run from the eaves to the ground.

The sheets are lifted onto the roof for installation along supports, and lifting can be aided from the ground by pushing the sheets from their sides. Do not go under the sheets during lifting.

Ordering the roof

Ruukki delivers the roofing on the basis of measurements provided by the customer. These measurements can easily be found in structural drawings. You can also draw a simplified model including the most important measurements.

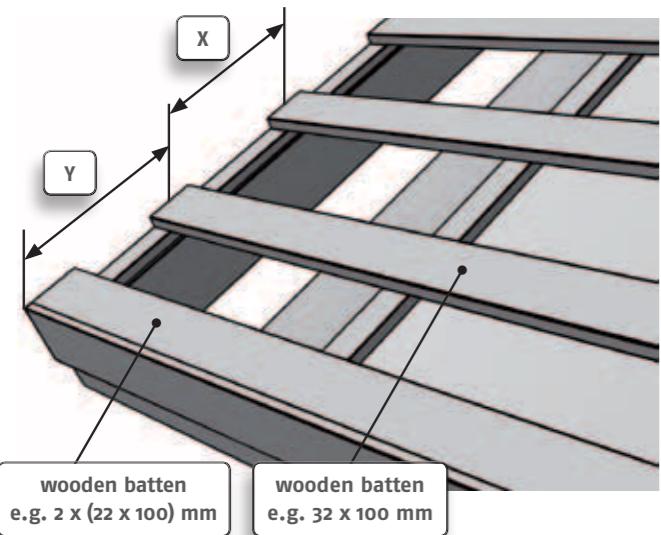
A rule of thumb is that the length (L) of a roofing sheet is measured from the outer surface of the furthest facing board at the eaves to the middle of the ridge. In order for you to obtain the right measurements for the order, it is useful to check the measurements of all roof panes in different places.

Preparing the understructure

Begin installing the underlay horizontally from the eaves, over the roof trusses. The underlay should extend at least 200 mm beyond the wall at the eaves and the verge. Staple the underlay onto the roof trusses, and then finish the fixing by nailing wooden strips – e.g., 32 x 50 mm – on top of the underlay in the direction of the roof trusses (these are needed to ensure proper ventilation). Leave the roofing underlay hanging loose between the roof trusses.

At the ridge, install the underlay according to the installation instructions specified in the detailed drawings. If problems arise, contact the structural designer regarding the specific ridge design.

The underlay sheets should overlap by about 150 mm at the horizontal joint. If the underlay must be extended lengthways, this must be done at the roof trusses with a minimum overlap of 100 mm.



Battening

With a roof truss spacing of 900 or 1200 mm, wooden battens of 32 x 100 mm will suffice. When using tile profile roofing sheets, the lowest roofing batten must be approx. 10 mm thicker than the standard batten e.g. 2 x (22 x 100 mm). To verify the correct batten thickness, contact your structural designer.

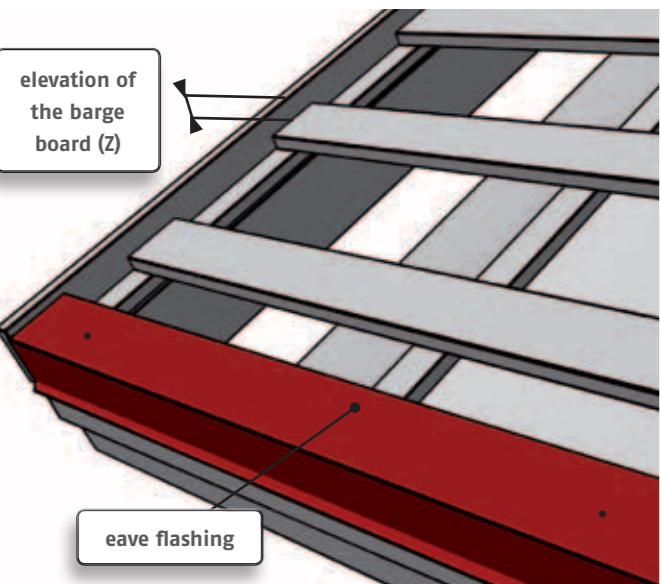
Begin installing the roofing sheet battens on the eaves where the roofing is to be installed first. This is important if the eaves are staggered and pattern adjustment must be taken into consideration.

Check batten distances from the table below:

PRODUCT	Y (mm)	X (mm)
Adamante	300	350
Decorrey	350	400
Elite	350	400
Monterrey	300	350

Y = The distance from the outer edge of the fascia boards to the centre of the second batten

X = The distance (c/c) between the remaining battening boards of roof pane



Installation of fascia boards

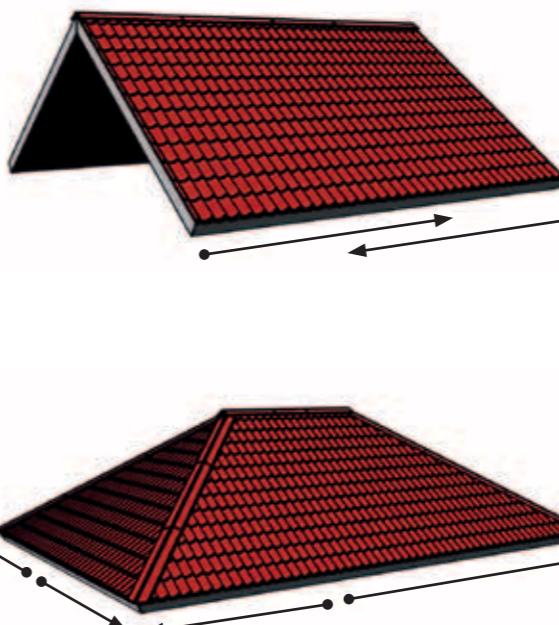
With tile sheets, the bargeboards should be positioned level with the height of the profile above the roofing battens. The verge trims will be fastened to the bargeboards.

Check the barge board elevation from the table below:

PRODUCT	Z (mm)
Adamante	55
Decorrey	28
Elite	60
Monterrey	39

Eaves flashing installation

Install the eaves flashings before installing the roofing sheets. Align the flashing with the eaves line, and fix it to the first battening board with galvanised nails or screws. Overlap the eaves flashing by about 100 mm.

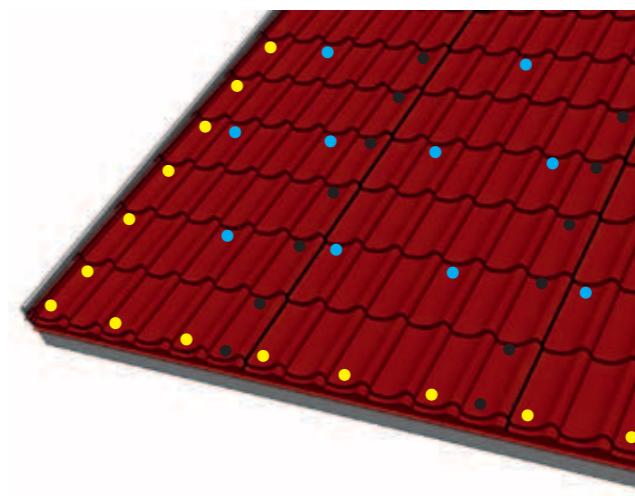
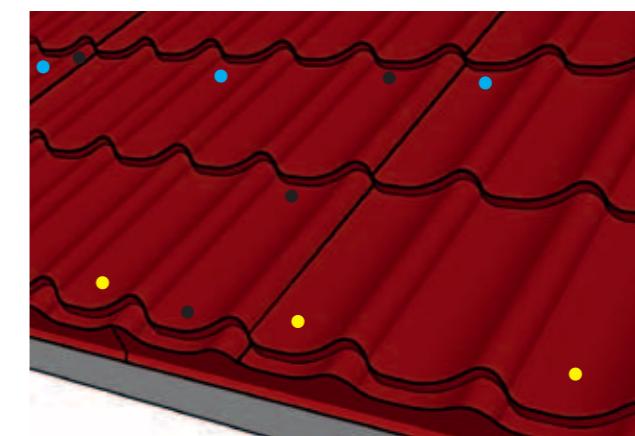


Installation method and direction

Tile sheets can be installed regardless of the capillary slot, proceeding from left to right or vice versa. When working from left to right, the edge of the preceding sheet is lifted and the following sheet's edge is pushed under it. By this means, the latest sheet is supported by the preceding sheet's transverse pattern, preventing the sheet from sliding down during installation. This is helpful on steep-pitch roofs or when installing long sheets.

With pitched roofs, the installation of the roofing sheets is usually started at the gable, and with hipped roofs always at the hip. The sheets are aligned with the eaves, not the gable.

Try to start the installation with long sheets, as that will make aligning the sheets with the eaves (at a right angle) easy.



Fastening

Fixing the sheets in place

Fix tile sheets to the battening at the lowest point of the wave profile, just below the lateral raised edges of the sheet. With wooden battening, use 4.8 x 28 mm self-drilling screws.

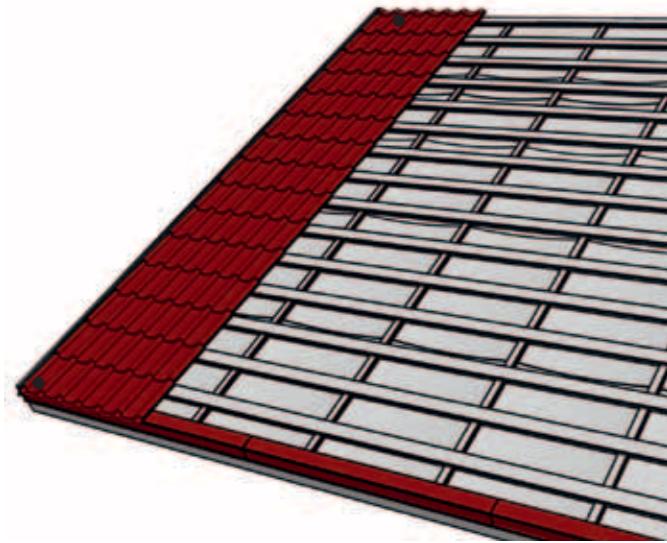
At the overlap joint, fix the sheets to the battening at the lowest point of the wave profile below each of the raised lateral edges of the sheet.

At eaves fix the sheets into battening at every second wave.

- Fixing screws (three waves to the side – two lateral raised edges up)
- Fixing screws for overlap joint (below each of the raised lateral edges)
- Fixing screws for eaves at every second wave
Fixing screw for verge below each lateral raised edge

Fixing the screws on the roof pane should be started at the gable end, skipping one row of lateral edges at the eaves. After the first screw, the next screw goes two lateral edges up and one wave to the side. Continue like this until you reach the ridge. Then go back to the first screw, move three waves to the side and proceed up towards the ridge the same way.

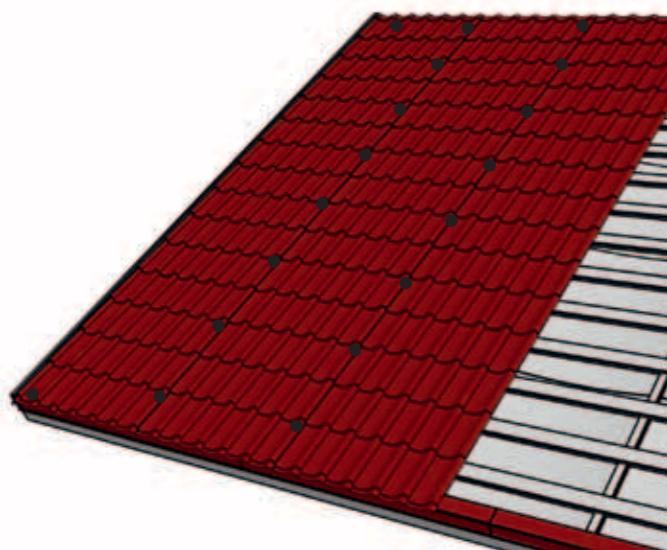
The instructions for laying and fixing of the sheets take into account issues such as the possibility of wind lifting the sheets' edges, thermal movement, and the tightness and appearance of the sheet joints.



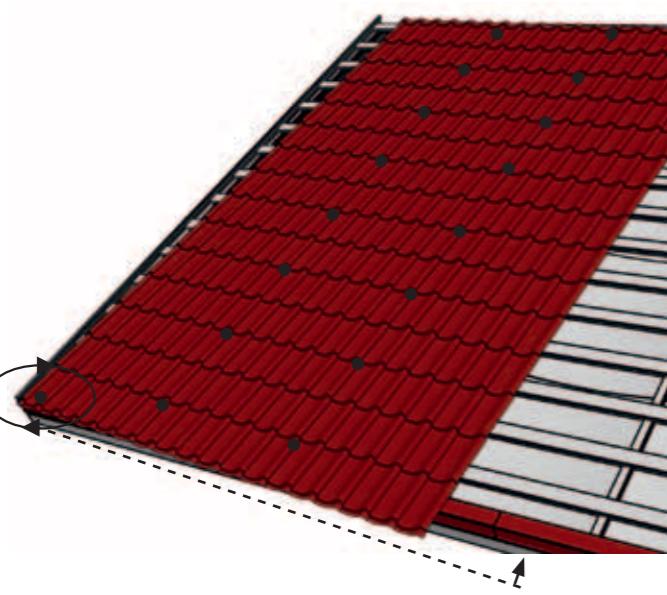
Installing the sheets

At the side where the roofing is started, fasten the first sheet in place, leaving a sufficient overhang over the eaves (approx. 40–45 mm).

Attach the sheet at the eaves with a single screw and temporarily at the ridge.



Fix the next sheets at the overlap joint at the highest point of the profile, below every second of the raised lateral edges of the sheet. Install two or three sheets in this manner.



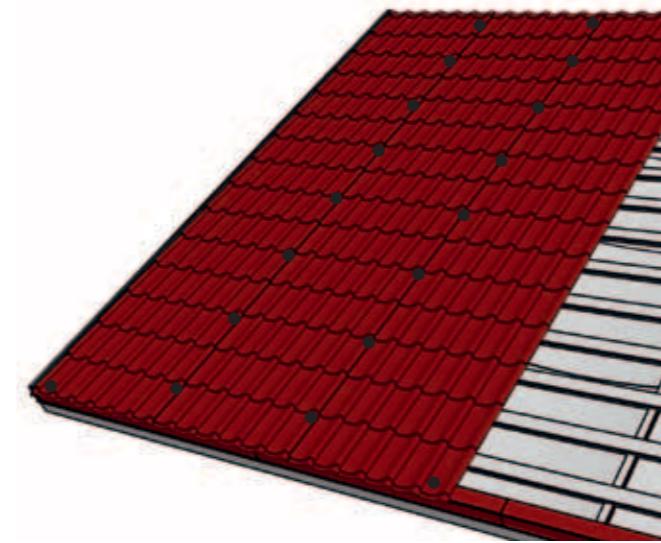
Remove the screw from ridge and align the sheet with the eaves. This can be done by measuring to ensure that the length of the overhang is equal at the left and right corner of the sheet (approx. 40–45 mm).

Lock the sheet alignment at eaves with a single screw.

Continue the installation with the next sheets. Attach the sheets to the battening and at overlaps according to the screwing instructions (p. 7).

Continue the installation as described.

Brush off any cutting and drilling debris from the finished roof pane, using a soft brush. Carry out touch-up painting if necessary.



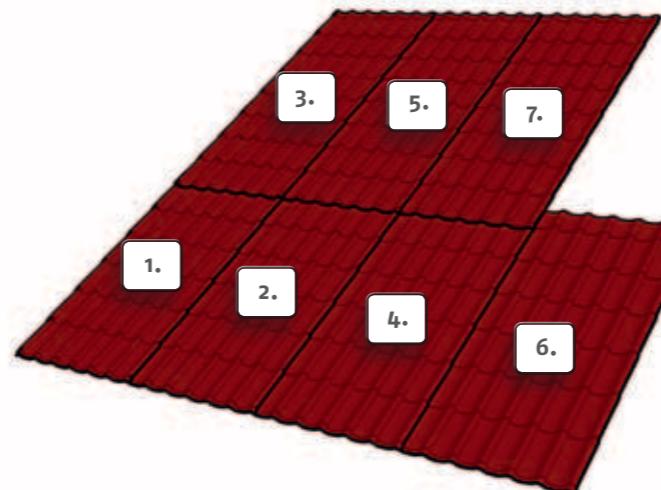
Fix the first sheets in place according to the screwing instructions (see p. 7).

Continue the installation with the next sheets. Attach the sheets to the battening and at overlaps according to the screwing instructions (p. 7).

Continue the installation as described.

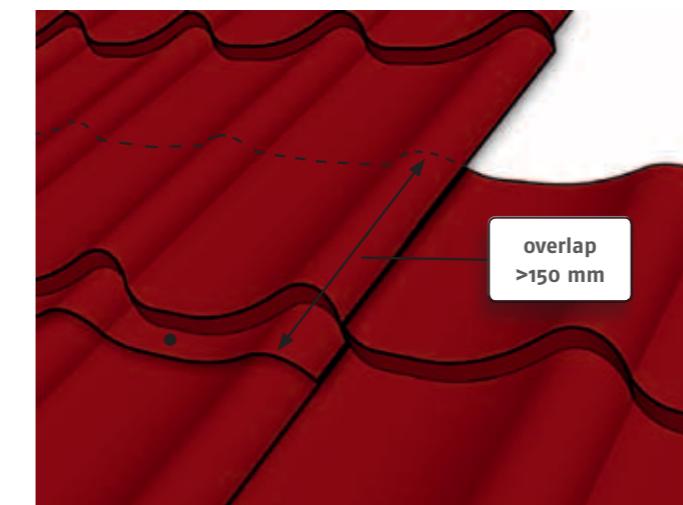
N.B. Overlap screws at highest point of the profile are only used when aligning the sheets with the eave.

Brush off any cutting and drilling debris from the finished roof pane, using a soft brush. Carry out touch-up painting if necessary.



Longitudinal joining

When doing longitudinal joining with tile sheets install sheets according to order in picture. The capillary slot in overlapping edges determines the order of installation.



A tile sheet is overlapped at the profile's raised lateral edge by at least 150 mm and fixed at the bottom of the wave into the battening below the raised lateral edge. N.B. In case of Adamante the overlapped sheet is fixed above the raised lateral edge or at an angle through the raised lateral edge to conceal the screw heads and achieve a more pleasant visual appearance.

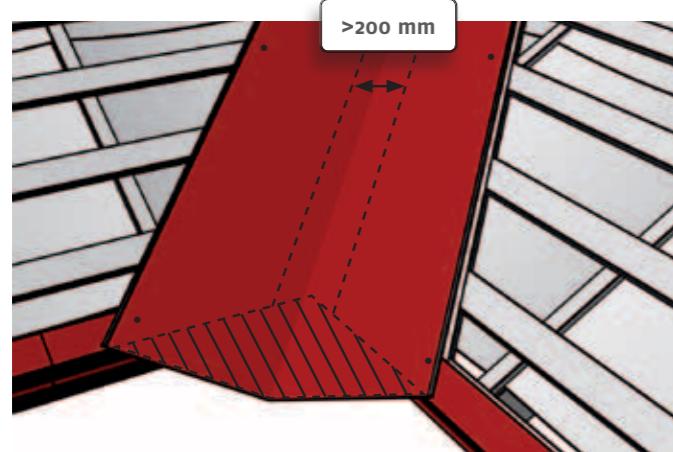
To maintain the appropriate layout of the roofing sheets, lay the sheet such that the top and bottom sheet patterns are aligned precisely with each other.



Building of the roof valley

Lay the base boards for roof valleys level with the roof pane battening. Leave ventilation gaps of approx. 20 mm between roof valley boards.

Cut the eaves flashing to shape, and install in the corner of the roof valley.

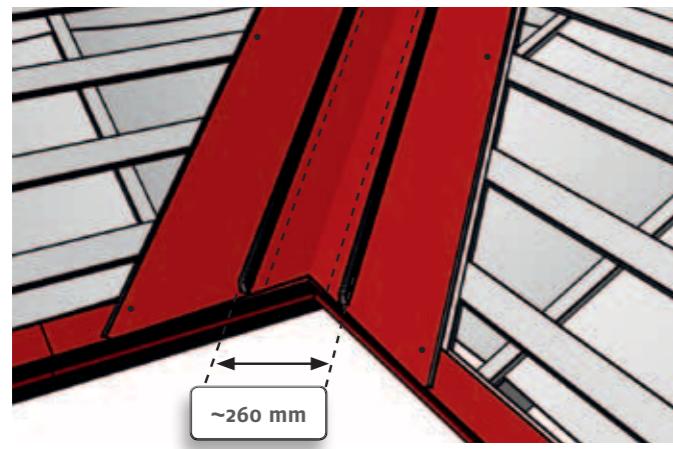


Fit the angled roof valley flashing in place. Fasten the sheet in place with galvanised nails. The angled roof valley sheeting should have an overlap of at least 200 mm at the joints. The use of sealing compound to seal the overlap is recommended.

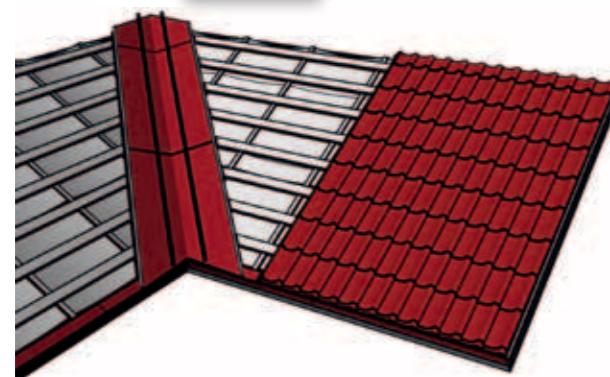
Cut and shape the bottom end of the roof valley flashing on the basis of the alignment of the eaves.

Draw guide lines on the roof valley sheet to show the alignment of the sheets along the roof valley. The minimum distance between the guide lines (indicating the position of the roofing sheets) must be at least 200 mm. The angled roof valley sheet must extend at least 250 mm beneath the roofing sheets (see detailed drawing on page 15).

Apply universal filler to the roof valley sheet: remove the cover tape from the universal filler and apply it about 30 mm from the guide lines in the edge direction of the valley sheet.



Lay the full-size roofing sheets. Leave the sheets that require cutting uninstalled at this stage.



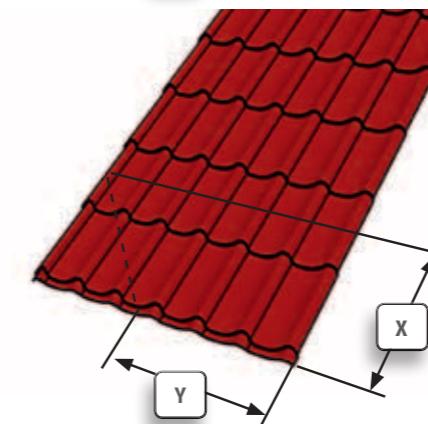
10



Measure the space for the roofing sheet, measuring from the guide line to where the roofing sheet overlap ends.

First draw an indication line on the battenning to where the next roofing sheet ends.

Two measures are needed to be able to cut the sheets to valley. The width at the lowest point of the sheet (Y) and the distance from eave to indication line where the roofing sheet overlaps ends (X).

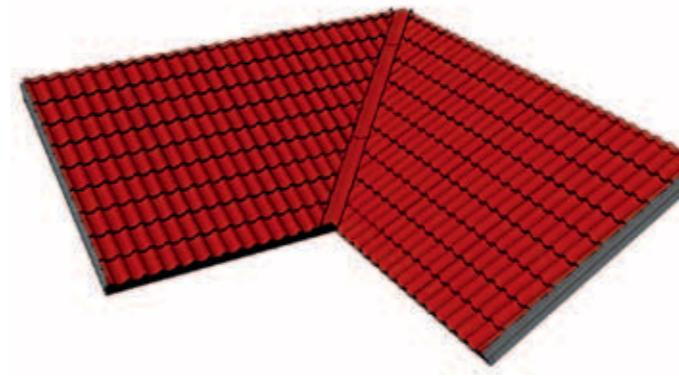


Draw the measured cutting line on the roofing sheet.

Cut the sheet.



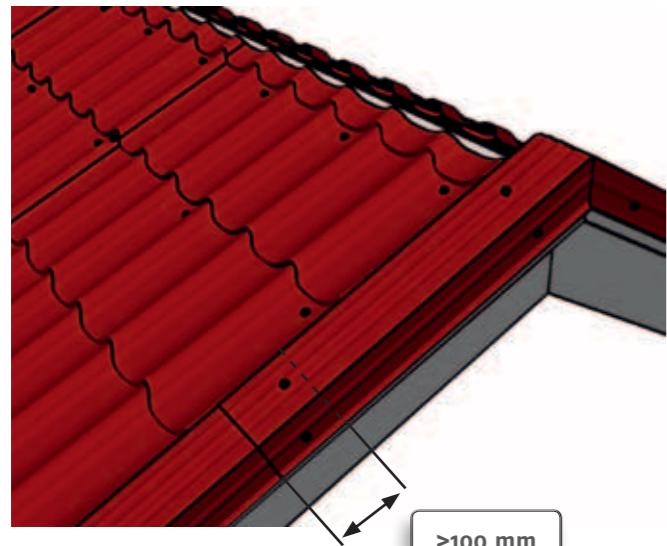
Install the cut roofing sheets up to the top of the roof valley, making sure as you proceed that the angle of the roof valley follows the guide line you have drawn.



Continue the installation as described.

Brush off any cutting and drilling debris from the finished roof pane, using a soft brush. Perform touch-up painting as necessary.

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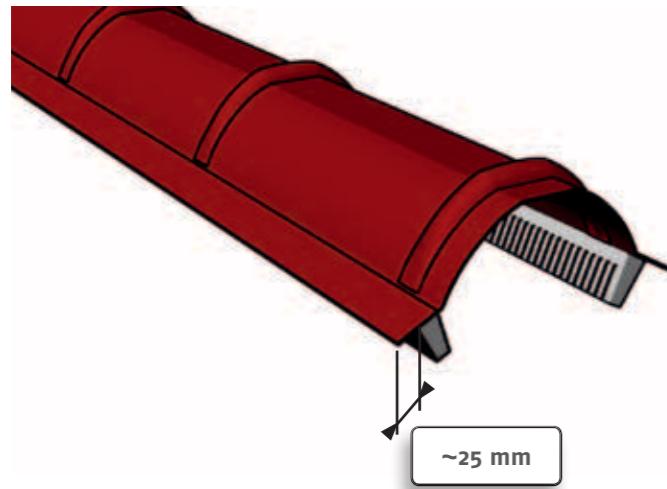


Flashings

Verge trim

Install the verge trims from the eaves upwards. Trim off any extra length at the ridge. Fix the trims with self-drilling screws to the fascia boards at approx. 1000 mm screw spacing and from above to the roofing sheets at approx. 300-800 mm screw spacing. Overlap the verge trims by at least 100 mm.

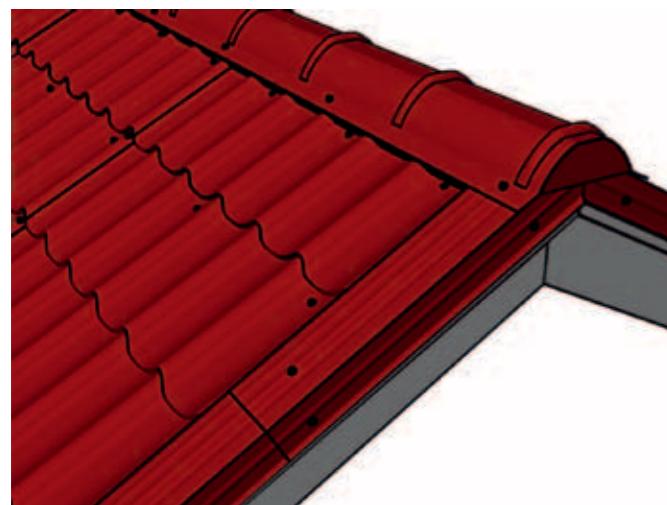
N.B. The verge trim must extend over the first pattern profile of the roofing sheet.



Ridge filler

Apply universal filler to the ridge capping before fixing the capping to the roof. Remove the cover tape from the universal filler and apply the filler under the ridge capping about 25 mm from the edge in the ridge direction.

N.B. It is not recommended to fix screws through the filler.



Ridge capping

Fix the ridge capping to the roofing sheets at every third wave with self-drilling screws. The ridge cap overlap must be at least 100 mm.

Check the following annually

The ventilation of roof structures still works

Condition and fixings of rainwater systems

Condition and fixings of roof safety products

Condition, tightness and fixings of lead-ins

Condition of seals

Condition and fixing of self-drilling screws

Condition of paintwork on roofing sheets and flashing

When necessary

Clean the roof

Remove snow

Remove leaves, twigs etc

Roof maintenance

Annual maintenance

To ensure optimal condition and a long service life, the roof condition should be inspected regularly. Under normal conditions the surface will be kept sufficiently clean by rainfall, although any fallen leaves, twigs etc. not washed away by rainwater should be cleared from the roof on an annual basis. Roof valleys and rainwater systems also require annual cleaning.

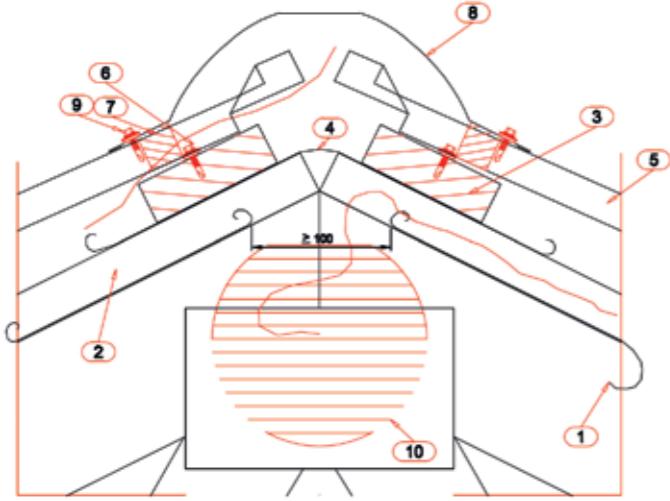
Cleaning

Dirt and stains can be washed off with a soft brush and water. Pressure washers (up to 50 bar) may also be used. More persistent dirt can be cleaned using a detergent intended for cleaning painted surfaces. Follow the detergent's usage instructions or contact the product manufacturer to verify its suitability. Persistent localised stains can be rubbed off with a cloth dipped in white spirit. The paint coating should be rinsed from the top down to ensure all detergent is removed. Finally, flush the rainwater systems through with water.

Removal of snow

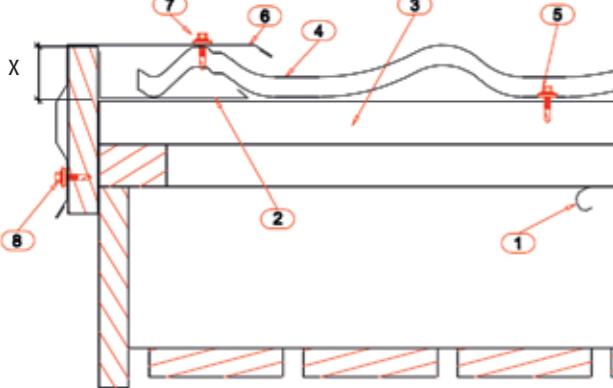
Snow will not typically accumulate on the painted roof or exceed the roof's structural load capacity. However, if snow removal is required, a layer of snow (~100 mm) is recommended to be left on the roof to protect the coating during snow removal.

Detailed drawings 1/2



Ridge

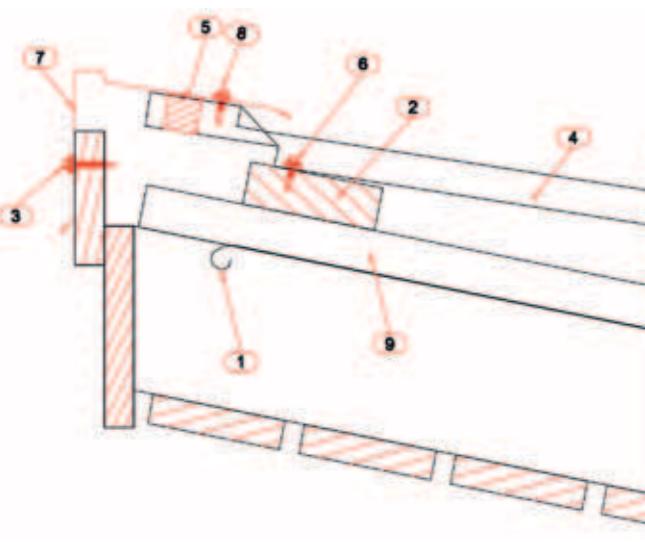
1. Roofing underlay (ventilation gap at ridge ≥ 100 mm)
2. Wooden strip, e.g. 32 x 50 mm
3. Batten, e.g. 32 x 100 mm
4. Roofing underlay strip, width ~ 400 mm
5. Tile sheet
6. Screw
7. Universal filler
8. Ridge capping round
9. Screw
10. Ventilation (if needed)



Verge

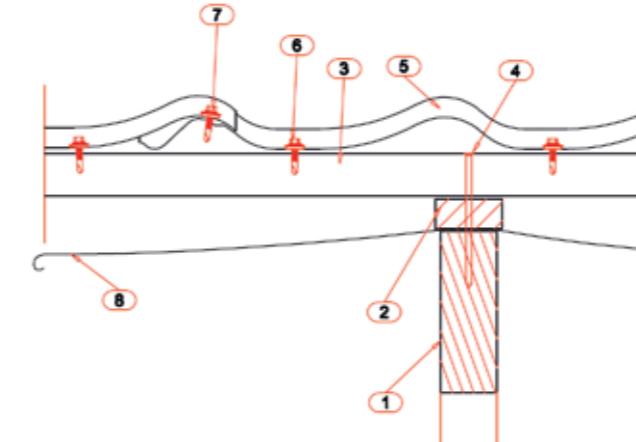
1. Roofing underlay
2. Bottom flashing (if necessary)
3. Batten, e.g. 32 x 100 mm
4. Tile sheet
5. Screw
6. Verge trim
7. Screw (k300-k800mm)
8. Screw (~k1000mm)

X = Adamante 55 mm
Decorrey 28 mm
Elite 60 mm
Monterrey 39 mm



Upper eave

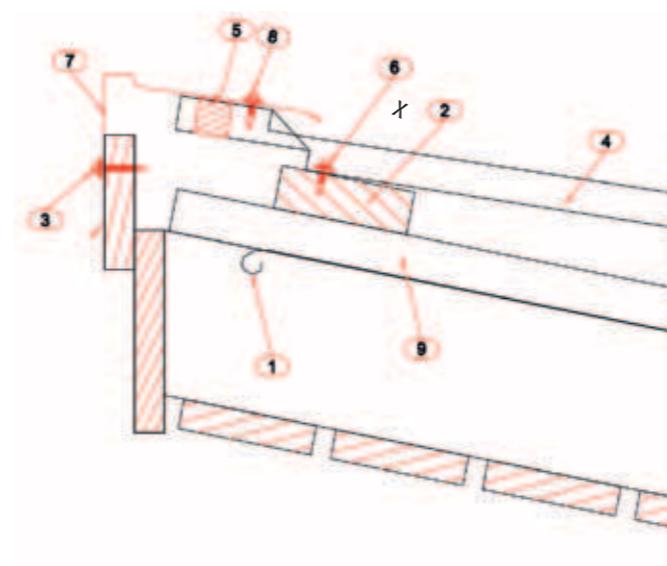
1. Underlay
2. Batten, e.g. 32 x 100 mm
3. Screw
4. Tile sheet
5. Universal filler
6. Screw
7. Upper eaves flashing
8. Screw
9. Wooden strip, e.g. 32 x 50 mm



Detailed drawings 2/2

Roof pane

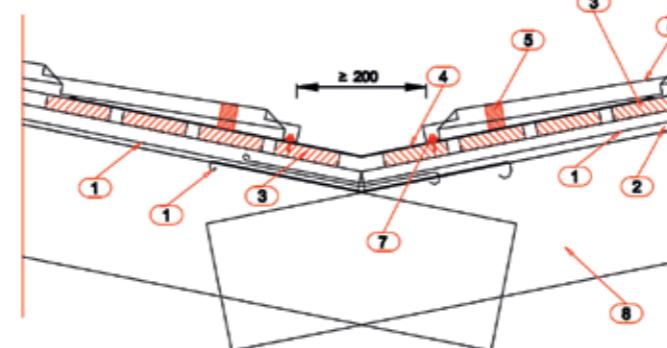
1. Roof rail
2. Wooden strip, e.g. 32 x 50 mm
3. Batten, e.g. 32 x 100 mm
4. Nail
5. Tile sheet
6. Screw
7. Screw (when aligning the sheets with the eaves - fix to every second of the raised lateral edges)
8. Roofing underlay



Eaves

1. Roofing underlay
2. Wooden strip, e.g. 32 x 50 mm
3. Batten, e.g. 32 x 100 mm
4. Battens, e.g. 2 x 22 x 100 mm
5. Eaves flashing
6. Tile sheet
7. Screw
8. Screw

X = Adamante 300 mm
Decorrey 350 mm
Elite 350 mm
Monterrey 300 mm



Roof valley

1. Roofing underlay (Lowest strip of underlay parallel with roof valley, underlays from pane of roof over it overlapped)
2. Wooden strip, e.g. 32 x 50 mm
3. Roof valley boarding, e.g. 32 x 100 mm
4. Valley flashing
5. Universal filler
6. Tile sheet
7. Screw
8. Roof rails



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