



# Comax Klik 31

Summary of basic **information**  
**for self-installation** of the roofing

# Technical parameters

## Technical specifications

Material	Al	FeZn
Material Thickness	0,70 mm	0,50/0,55 mm
Effective Profile Width	455 mm	475 mm
Coverage Lock Height	31 mm	31 mm
Minimum Length	1050 mm	1050 mm
Maximum Length	8000 mm	8000 mm
Min. Slope without connection	9°	9°
Min. Slope with connection	15°	15°

We offer 3 design variants:



Swage lines



Microprofiling



Smooth



## Standard shades on stock

											warranty		
FeZn PES GLOSS 0,50/0,55	3009		6021	7016	7037	8004	8017	8019K	9005	9006	20 years		
FeZn PES MATT 0,50	3009		6020	7016			8017				20 years		
FeZn PUR/PA 0,55	3009			7016			8017	8019K	9005		40 years		
Al PES GLOSS 0,70	natural		3016	6021	7016		8017	8019K			50 years		
Al PES MATT 0,70	3009	3011			7016		8004	8017	8019K	9005	9007	Dunkelgrau	50 years
Al PES MATT + Stucco 0,70	3009*	3011*			7016		8004*	8017	8019K*	9005*	9007*	Dunkelgrau*	45 years
Al PVDF 0,70					7016		8004	8017					75 years
Al PUR/PA 0,70	3009				7016			8017		9005			75 years

\* contact your sales representative for availability



**Metal waste does not pollute the environment and is 100% recyclable.** The products do not contain any substances above the limits set by European legislation REACH and RoHS.

# Basic information about the product

## Introduction

COMAX KLIK is a light large-format roofing designed for roofs and facades of flat shapes. The design of this system is replaced by machine production and simple assembly, which is based on the principle of joining seams by snapping them into each other. The surface of the roof sheets can be reinforced with longitudinal seaming (Swage lines) on request, which contributes to the rigidity and optical appearance of the roof.

The roofing is suitable for one or more cladding roofs with full-support decking, or even battens (for steel version), on buildings of all styles and designs. It is made to measure according to the requirements of the building, thanks to which it is the optimal economic variant.

**COMAX® ROOFS provide free advice by an experienced team of metal roofing experts and technicians to address any problems.**

## Advantages

The profile with a seam lock of 31 mm height is designed especially for the use at altitudes exceeding 600 m above the sea level. The purpose of a higher seam lock is to prevent melting snow water from rising even more effectively.

As standard, we supply the roofing in a modification with a reinforcing swage lines in the middle of the sheet and seam lock cuts at both ends of the sheet. Thanks to the cuts, it is possible to quickly bend back (by Folding tool) to fit the roofing without the need to cut the sheets directly on the construction site. At the customer's request, the sheets can be profiled without swages or without cutting. In such a case, it is necessary to inform us about this when ordering at the latest.

Another optional modification of the roofing is using ANTISOUND foil, an additional layer applied to the underside of the roofing, which aims to reduce any noise and vibration in case of rain and wind. It also plays the role of an anticondensation layer. Its use is especially suitable for laying roof on battens. Laying on battens is only permitted for the steel variant.

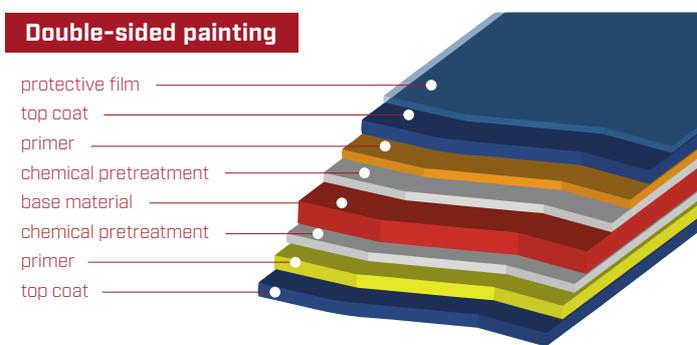
## Roof system elements

- Klik 31 roofing
- All standard and non-standard flashings elements (list of metalworkers elements on the back)
- Roof ventilation - aerators, turbines, ventilation ridge elements, chimneys
- System safety elements - snow guards, footbridges, ladders, safety hooks and others
- Rain water system, a complete gutter system in the material and colour of the roofing
- Roof ventilation system, sanitary penetrations, aerators, ventilation ridge elements, chimneys, turbines
- Installation material, sealants and adhesives

## Surface treatments, Coatings

We are the only company in the Czech Republic to paint sheets with Coil-Coating technology. It consists in rolling layers of a special organic coating onto an unrolled steel or aluminum strip with subsequent curing in furnaces. This technology gives the material unique functional and aesthetic properties for its use both in demanding exterior and interior conditions.

We produce roofing in four basic color shades and at the same time, as manufacturers of coated sheets, we are able to offer more than 600 color shades derived from RAL. The condition for the supply of non-standard shades is the purchase of a minimum quantity of 400 m<sup>2</sup> of coated material. Contact our sales department for more information.



## Electrochemical compatibility

In order to ensure the long life of the building, it is necessary to avoid the negative interaction of materials. This means that materials that are in direct contact or whose condensation can act on the building structure must not interact with each other. It is also necessary to protect the coated roof cover from the negative effects of other materials. We recommend separating materials that can be affected in this way by a separating layer (Bitumen membrane - Bauder). The actual coated surface of the reverse side of the roofing cannot be considered as sufficient separation.

The roofing must be protected from permanent contact with water, especially hot water (hot water corrosion of the material) - the correct installation of the roofing on a sloping roof, without contact with water on the reverse side (e.g. ventilation of the reverse side of the sheet metal) can be considered sufficient protection. Furthermore, acidic or alkaline environment and contact with metal ions, which form an electrical cell with the metal core of the covering, must be avoided. Adverse effects may be caused by: extracts from cement, lime, gypsum or degraded asphalt building materials, exotic woods, flue gases, sewage wastes, certain protective penetrations, copper and its alloys or other ferrous metals not protected by galvanizing or coating.

Material compatibility			Allowed combination ○		Impermissible combination ✗	
	Aluminium	Lead	Copper	TitanZinc	Stainless steel	Galvanised Steel
Element No.	Al	Pb	Cu	TiZn	S.S	FeZn
Aluminium	○	○	✗	○	○	○
Lead	○	○	○	○	○	○
Copper	✗	○	○	✗	○	✗
TitanZinc	○	○	✗	○	○	○
Stainless steel	○	○	○	○	○	○
Galvanised Steel	○	○	✗	○	○	○

Coated materials from the manufacturer COMAX® ROOFS are mutually compatible with each other in terms of material, when installed correctly. They do not release any harmful ions into the water flowing down and are therefore suitable for the ecological collection of rainwater.

## Offloading and storage

Please strictly follow the instructions for unloading and storing the material presented on the website [www.comaxroofs.eu](http://www.comaxroofs.eu), we are not liable for defects caused by non-compliance! The same applies to the warranty conditions, which can also be found on the website in the „DOCUMENTS“ section.

## Cutting and modifications

We divide the sheet by cutting with shears or manual tools with electric drive. The use of scissors is a common and proven way to cut roof covers. The edges of the cut are slightly „retracted“ with the shear, and thus both functional and aesthetic separation of the sheet metal is achieved.

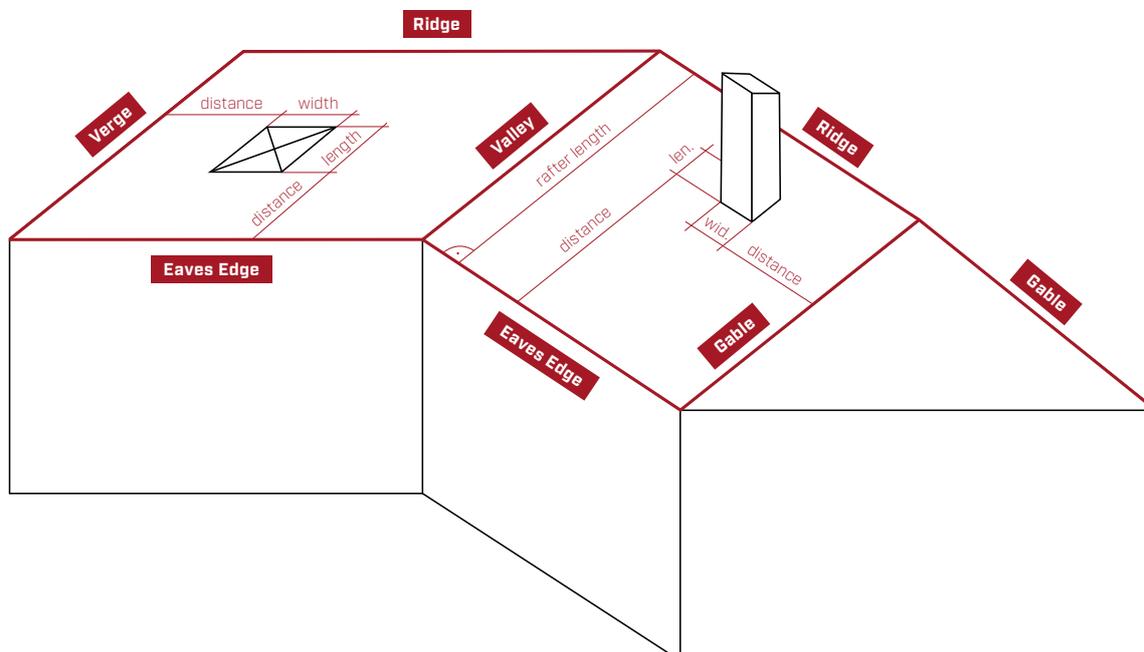
**We do not recommend the use of an angle grinder**, the material is enormously heated at the cutting point, which leads to the degradation of the sheet metal and its coating, notwithstanding the flying hot sparks, which stick to the surface and irreversibly damage it. We do not provide guarantees for the material cut in this way. For machine material cutting, we use electric punching shears (nibbler), which easily create a cut of any shape, even in profiled sheet metal. Any chips are removed from the coated surfaces by sweeping with a soft broom.

## Measuring the roof structure

For the initial (indicative) orientation of the roof structure, we offer the elaboration of a laying plan using satellite orientation. The condition is stating the exact address of the reconstructed building and the assuming that the roof structure has not recently changed its shape (satellite data can be several years old). To use the satellite orientation, fill out the inquiry form on our website in the contacts section. The offer created by this method is always only indicative, it never replaces the hard measure on the spot.

The final measure is done on the roof with a finished OSB/Ply decking! The figure below shows in red which edge lengths need to be measured. The length of the rafter (usually perpendicular from the ridge to the gutter edge), the width and length to the roof penetrations, together with the distance from the gutter or gable edge are important. It is advisable to list all penetrations (e.g. dormers, skylights, hatches, chimneys, etc.). If you know, also state the prevailing wind direction, it will be taken into account in the draft laying plan.

We recommend measuring the roof even if there is project documentation. It often happens that the actual dimensions do not correspond to the proposed state. This problem concerns both reconstructions and new constructions.



## Fitting, Joining

Profiled roofing COMAX KLIK 31 presume installation methods by joining. Concealed fitting of the roofing to the base is made with waferhead screws 4.2 x 25 mm, through a longitudinal perforation in the roofing strip. Screws in the center of the holes are tightened so that longitudinal movement is possible during thermal expansion of the strips. When screws are too tight, roofing sheet breaks (visible waves across the sheet), and over time, the screws are gradually pulled out of fitting holes. **The exact number is determined according to the local conditions (altitude, snow load, wind area, etc.) and is determined by the project. In normal conditions on the area of the Comax KLIK 31 gable roof in the lowlands, we recommend a spacing of screws in a strip of 24 cm, on the edges of the roof 18 cm and in the corners 12 cm.**

Additional screws must be added in places of additional load (snow guards, steps, footbridges, solar collectors, etc.). If the Comax KLIK 31 in the FeZn material variant is mounted on a batten, a screw must be in each batten.

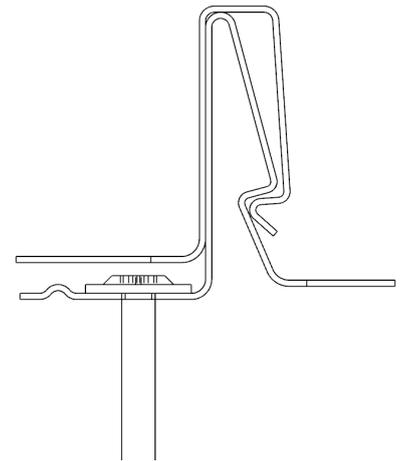
We start laying the roofing from the right side of the roof area. We adhere to the laying plan, which will be delivered after the roof has been measured. In most cases, we will have to subtract the overlaps from both the left and right sides to achieve an even distribution of the sheets over the entire roof area.

From an aesthetic point of view, the result of the roof area will be perfect and it will be symmetrical. When narrowing the width of a sheet from the left and right side of the roof, the shortened edge is lifted by perpendicularly bending the sheet by approx. 32 mm. This bend works as a water groove against leakage and acts as the upstand, over which we fit the barge flashing.

## Fullplank decking/Laying on battens

Comax KLIK 31 we recommend laying it on a full-plank decking, or OSB. It is best implemented with plank casing made of quality spruce wood with gaps up to 5 mm and only with minor unevenness (so that deviations from the flatness of the decking do not exceed 3 mm, otherwise bumps can be pressed into the roof covering). With full planking, we must ensure sufficient ventilation of the space under the decking with a ventilation gap 40 to 100 mm high, taking into account the roof pitch. Make sure that the plank decking is anchored to the rafters, not just to the counter-battens. (It is also to ensure easy and especially safe operation on the roof). Planks for rafter spans 800 - 900 mm: we recommend a plank thickness of at least 18mm though 24mm is preferred, recommended width from 80 mm to 160 mm. For rafter spans up to 1200 mm we use plank thickness of at least 24 mm to 32 mm x 100 mm. Wood humidity maximum 10%. We connect the decking planks to the rafter, choosing their length so that each plank is pressed against at least three rafters. When layed on OSB boards, a separation layer (bitumous membrane) that we can supply must be applied.

In areas with a lower snow load, we can install Comax KLIK 31 in the FeZn material variant on roofs and battens. We recommend 40 x 60 mm battens with a span of up to 180 mm. The minimum



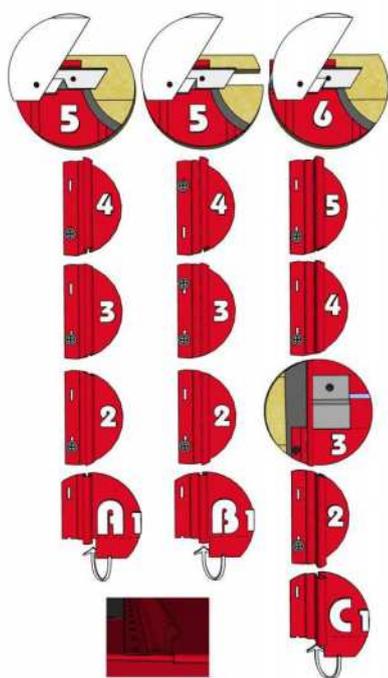
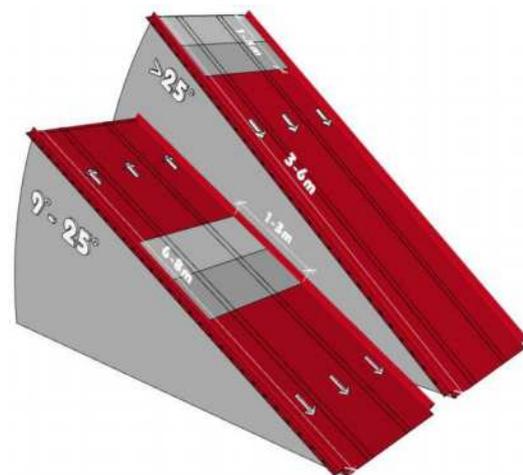
Concealed anchoring using flat head screws



ventilation gap above the insulation is secured by counter-battens. If it is necessary to ensure impermeability, we cover the counter-battens with tape. We perform the actual battening as usually parallel to the gutter edge. We fasten the battens to the rafters over the counter-battens using nails of appropriate length (120 mm and more). We must always maintain a sufficient ventilation gap for venting the roofing (40 mm to 100 mm) according to the roof pitch. Wood humidity should not exceed 10%. If the wood is impregnated, it must be perfectly dry and must also be matched by a suitably selected safety waterproofing layer that is resistant to impregnation. When laying on battens or metal battens, it is advisable to order strips with antisound foil on the reverse side. The soundproofing of the roof is completed by a PE strip 5x100 mm, which we apply under the sheets along their entire length (from the gutters to the ridge) in the middle of the sheet. We provide the same gutter base bar along its entire length with the same tape to prevent the screws from being pressed into the roofing. Attach the tape (with clips, nails) to the base battens.

## Fitting, Joining

The fitting of the COMAX KLIK roofing is based on the basic principles of assembly of folded sheet metal. For the placement of fixed (gray color) and sliding expansion zones of the roofing, we recommend following the basic rules for folding single and double standing seams! The fixed zone of the fitted seam locks shifts towards its center, depending on the pitch of the roof structure. At lower pitches, in most cases the length of the rafter also increases and the roofing sheets must be connected transversely.



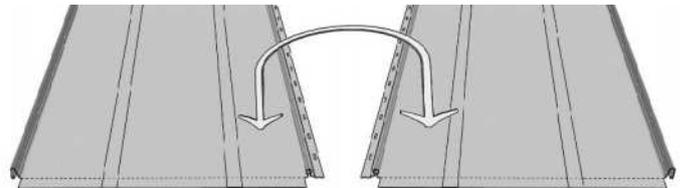
**Scheme „A“** recommends placing wafer head screws with expansion from the ridge towards the eave flashing. The fixed one is supported by fitting the ventilation „Z“ bar directly through the roofing into the formwork (the fixed zone can be extended to 1 to 3 m).

**Scheme „B“** shows fitting a screw with a fixed zone to the center of the sheets along the entire length of the structure. Sliding expansion joints are meant from the center out. The roofing dilates both towards the gutter and the ridge. Here we do not fit the „Z“ bar directly to the sub-structure (connection only sheet x sheet). The whole ridge part is intended as an expansion zone.

**Scheme „C“** considers the placement of screws in the transverse connection of KLIK roofing. The area is divided into two parts of different lengths laid alternately with 400 mm overlap. We connect the sheets using an fastening device flashing. Both connected lines are fitted to their lower part (fastening device, then eave flashing). In their upper part, they are directly fitted to the substructure (vented, or standard Z-bar). The lower and upper connected parts therefore have the same fitting procedure. Depending on the length of the connected joints, it is possible to extend the fixed zones of the roofing from 1 to 3 m.

## 1st sheet and layout direction

Thanks to the cuts of the KLIK roofing on both edges (20 mm), it is possible to determine the laying direction from both the left and the right side of the roof area. By simply turning the sheet, we ensure a change in the direction of laying the roofing. The Roof assembly plan assumes the direction of laying according to the construction solution of the roof with minimization of the material waste. Before fitting, it is also advisable to take into account the prevailing wind direction and structural obstacles of the individual roof areas.

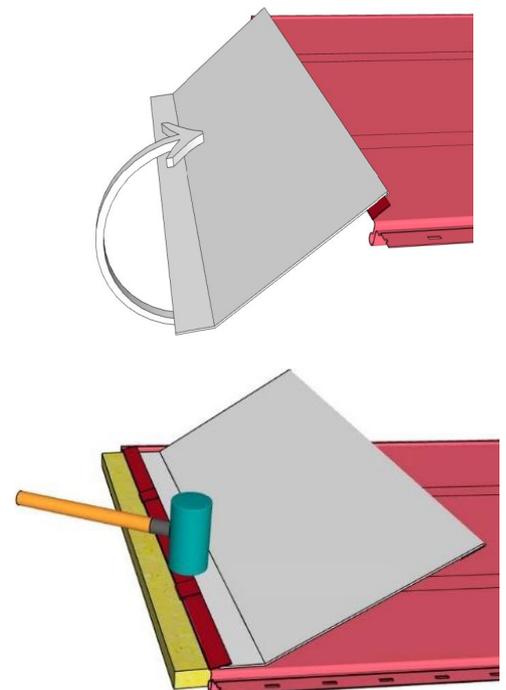


Before fitting, it is also advisable to take into account the prevailing wind direction and structural obstacles of the individual roof areas.

## Folding tool usage

If we know the layout direction, we can proceed to the preparation of each sheet. With the help of the folding tool, which is a part of the supplied material, we achieve the bending of the lower edge of the sheet for its insertion into the EAVE FLASHING BELOW MEMBRANE.

Carefully turn the roof covering to reverse side and put on a folding tool, thanks to which we will bend the edge by the required 20 mm below the underside of the sheet. Subsequently, using a plastic mallet, tap the starting edge to achieve a flat shape of the gutter edge along its entire length. We make sure that the folded edge (20 mm) that we have prepared on the underside remains at an angle of approx. 35°. When pulled into the eave flashing, we never press the bend and leave it loose for safe rainfall from the gutter edge.



## Recommended tools and equipment

- Sheet metal shears (left, right)
- Hammer 500 g
- Folding pliers
- Electric sheet metal shears
- Electric shaper shears
- Plastic mallet
- Straight snips
- Tacker, Tacker hammer (for foils and tapes)
- Cordless drilling screwdriver with torque limiter
- Bit holders and screwdriving bits
- Magnetic wrench OKB
- Riveting pliers for blind rivets
- Glue gun
- Meter, Pencil, Angle, Marking string

# Fitting process

The assembly procedure describes the most common solution of a new building with a ventilated double-skin structure, or a reconstruction with free attic space. Both new construction and reconstruction, we consider the attic space as residential

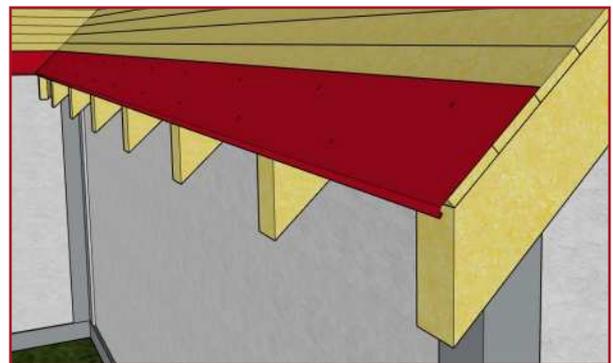
Before we start it is important to choose a suitable composition of the roof inclination (purpose of use). We check the flatness of the roof structure, the parallelism of the gutter edge with the ridge and also the perpendicularity of the truss. If we notice structural irregularities before installation, it is advisable to correct them and take into account any deviations when installing the roofing.

**The additional waterproofing layer** protects the structure from rain and condensation, it also addresses the temporary covering of the building and its overall wind tightness. At the same time, it allows the passage of water vapor, which can be properly drained into the ventilated gap of the structure, which is defined by the height of the counter-batten (40 to 100 mm). A properly functioning structure should be given by project properly designed by architect. If the roof consists of areas with different slopes connected to each other, then it is not possible to use a lower class of waterproofing layer in the roof structure than the one used in the upper roof structure (e.g. reconstruction).

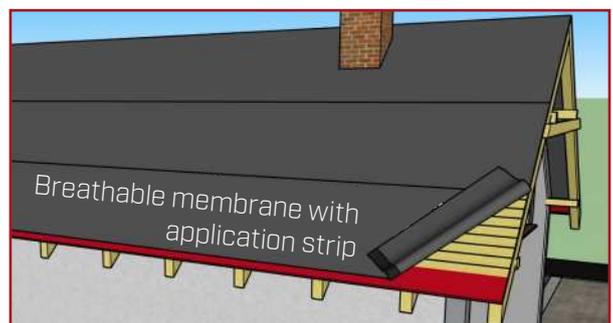
When applying the membrane and all related accessories, we always follow the manufacturer's instructions. In general, we lay the sheets horizontally from the gutter edge gradually to the ridge (but this is not the rule). We connect the first row of the membrane with application tape and the gutter sheet metal under the membrane. It is important to tighten the strips thoroughly and fasten them in the place under the counter-battens. The safety waterproofing layer we supply contains application tape, ensuring the windproofness of the structure and simplifies laying when joining the membrane to the surface.



Flatness check and preparation of truss



Installing drip edge under foil



Installation of safety waterproofing layer

**Counter-batten** plays an important function in the roof structure, where its height defines the size of the ventilated gap (min. 40 to 100 mm). The size of the ventilated gap is essential to ensure adequate ventilation of the roof structure, determined by the project documentation.

We install the counter-battens after the application of the membrane, parallel to the slope of the roof on the rafters. It is necessary to ensure impermeability by glueing with the appropriate sealing tape according to the slope. By glueing the counter-battens, we ensure the impermeability of safety waterproofing layer at the perforation point for the necessary length of time when roofing the structure temporarily.

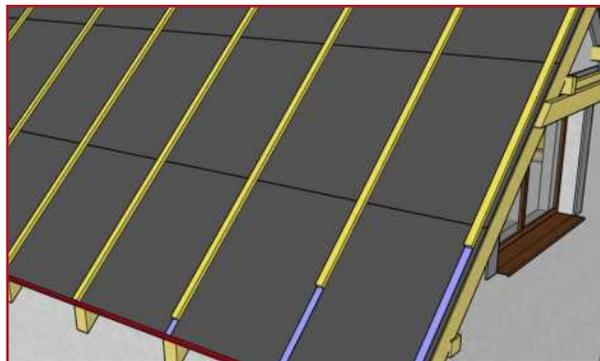
**The ventilated gap** is functional only if the supply opening (gutter edge) and the outlet (ridge) to the surface of the ventilated roof are in accordance with the recommended dimensioning of roof ventilation according to project documentation. Thermal protection of buildings. The recommended planking parameters are specified in more detail in this manual in the section "FITTING, JOINING" on page 5.

We secure a ventilated gap at the gutter edge with a protective mesh, usually anchored with staples to the fronts of counter-battens and planks. Then we fit the brackets, as recessed, by fitting them into preprepared grooves. The recommended minimum slope of the gutter is 0.5%. If the gutter edge is longer than 10 m, gutters with a slope from the centre to the edges or vice versa are installed.

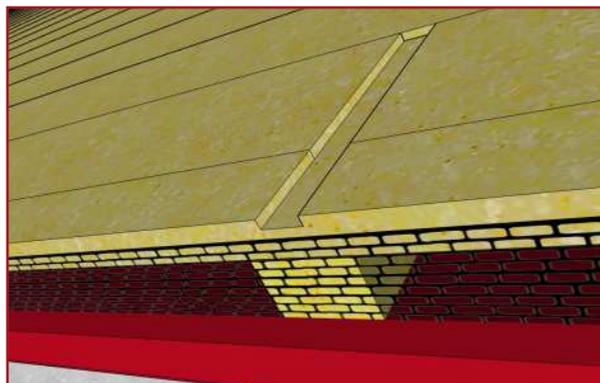
**We install the eave edge below** roofing over the gutter brackets and fit it with ring nails with a flat head, overlapping up to one third into the gutter. We then place a bitumous separation layer (asphalt strip) with an application tape on the eave flashing and glue it and all joints in the area in a windproof manner. We install the gutters in pre-installed brackets. We let the eave edge flashing overlaps by at least 100 mm.

We do not recommend the use of a structured membrane under aluminum fullsupported roofing.

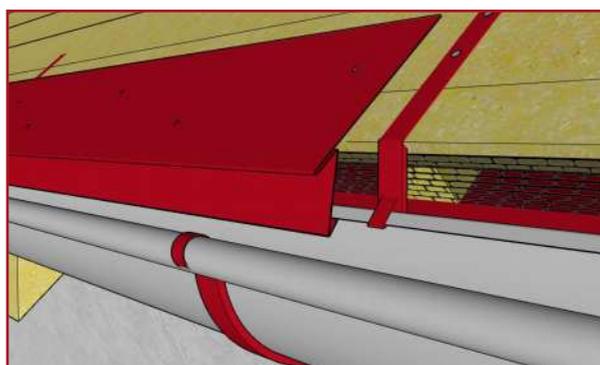
**The separating layer** protects the roof cover from the underside against harmful chemical and physical influences resulting from the structure of the roof below. These effects can be acidic in nature (impregnating agents for wood protection), alkaline (cement-bonded particle boards, etc.) or electrochemical (metal ions released from metal elements, or by impregnation against woodworm). The layer reduces the copying of nails and uneven planking, and also improves protection against noise caused by weather



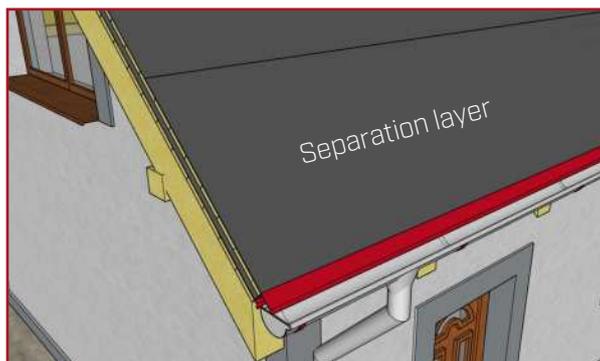
Counter-batten installation



Full planks decking



Brackets and eave edge below roofing installation



Additional separation layer

conditions. During construction, it protects against rain. **When using OSB boards, a separating layer must always be applied!** Keep in mind that this layer is perforated with a fitting material and therefore we cannot consider it as a safety waterproofing layer.

Unless **expressly** specified by the project or the customer, when processing price offers, we normally consider laying on a full planks decking, using a bitumous separation membrane and a retractable eave flashing under the roofing. The ‚Swage‘ lines in the sheet and edge´s cut off can be removed or left in upon production, please confirm either before ordering

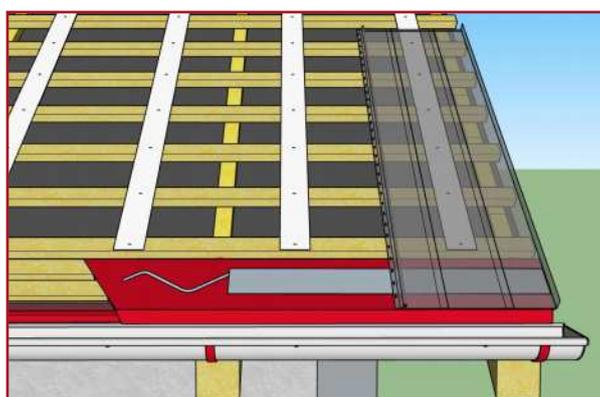
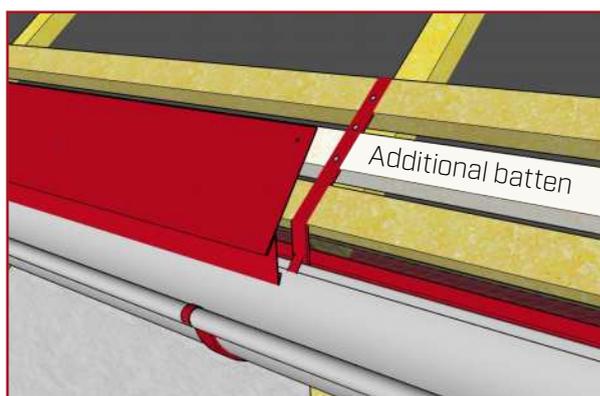
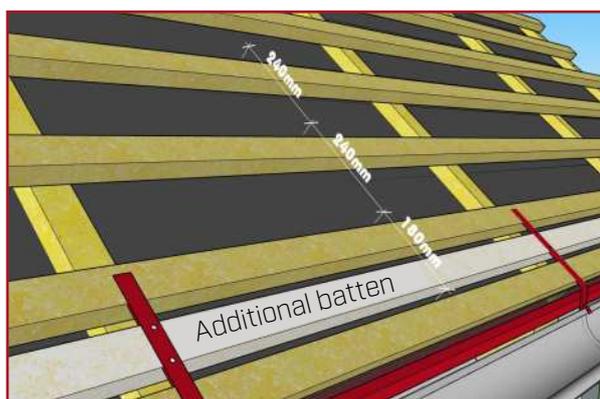
## FITTING ON BATTENS – STEEL VARIANT ONLY!

**We install the eave edge below roofing** over the gutter brackets and fit it with ring nails with a flat head, overlapping up to one third into the gutter. We then place a bitumous separation layer (asphalt strip) with an application tape on the eave flashing and glue it and all joints in the area in a windproof manner. We install the gutters in preinstalled brackets. We let the eave edge flashing overlaps by at least 100 mm.

We do not recommend the use of a structured membrane under aluminium fullsupported roofing.

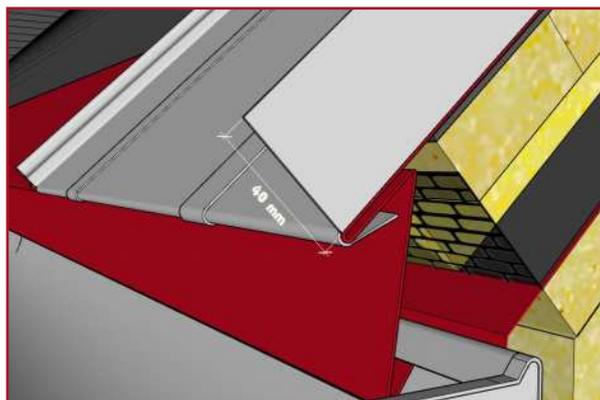
When installing the eave edge below the roofing on the battens, we follow the same rules as for the above-described variant of laying on a full decking. We insert the brackets into the pre-prepared grooves. Before installing the eave flashing on battens, we will install an additional batten to anchor the flashing. We let the eave edge flashing overlap by at least 100 mm.

When laying on wooden or steel battens, we recommend using a PE strip 5x100 mm, which we apply under the each sheet along their entire length (from the gutters to the ridge) in the middle of the sheet. We provide eave flashing below roofing along its entire length with the same tape to prevent the screws from being pressed into the roofing. Attach the tape (with clips, nails) to the base battens.



## VARIANT A – INSTALLING THE 1st ROW WITH ROOFING OVERLAP INTO THE GUTTER

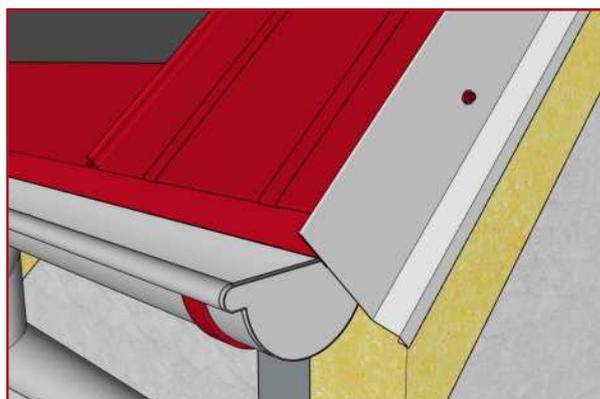
Before fitting, we will clarify the location of each sheet in the area according to the roof assembly plan and consider the symmetry of the laying according to the gable edge. The lower edge of the roofing aligns with the gutter edge of the roof. Just the eave flashing below roofing overlaps into the gutter. Then we adjust the profiles of all outer parts from gutter to ridge for verges flashings installation. This is achieved by cutting the outer seam lock of the roofing and bending upwards the 40 mm. of the edge of the sheet to install the barge trim.



1st row installation

**Barge trim for standing seam roofing** protects the verge of the roof from the weather and visually finishes off the roof area. For the connection of each flashings elements, we take into account an overlap of the profile by 100 mm.

We pull the barge trim behind the prepared bend/upstand of the sheet and anchor it with supplied colour coded farmer screws to the side surface of the roof verge. At the ridge part, the flashings elements are then connected to each other by folding over and securing (see “closed detail of the roof ridge” on page 14).

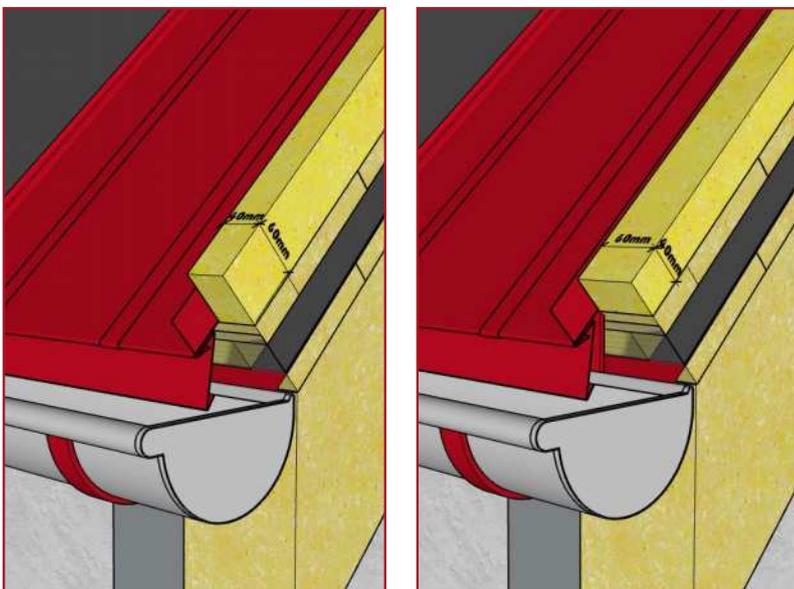


Barge trim for standing seam roofing installation

## VARIANT B – INSTALLING THE 1st ROW WITH ROOFING OVERLAP INTO THE GUTTER

In this variant, the drip edge will not be installed on the structure under the roofing, but the roofing with an overlap into the gutter.

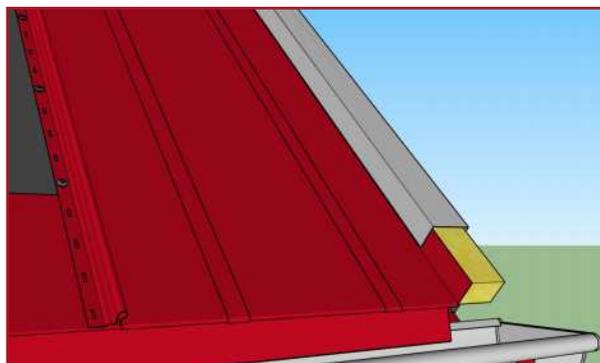
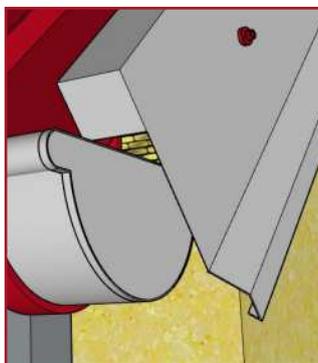
**Before laying the roofing, we install an additional gable batten, depending on the height of the used ventilation „Z,, bar (60 or 40 mm).** We place this parallel to the verge along its entire length. Next, we will clarify the location of each sheet in the area and **take into account the overlap of the roofing over the gutter edge, so that the lower edge of the roofing extends to 1/3 of the gutter (usually 80 mm).** Then we adjust the profiles of all outer parts from gutter to ridge for flashing installation. This is achieved by cutting the outer seam lock of the roofing and bending upwards the first 40 mm of the edge of the strip, which is covered with the barge trim upper.



The 1st row with roofing overlap into the gutter

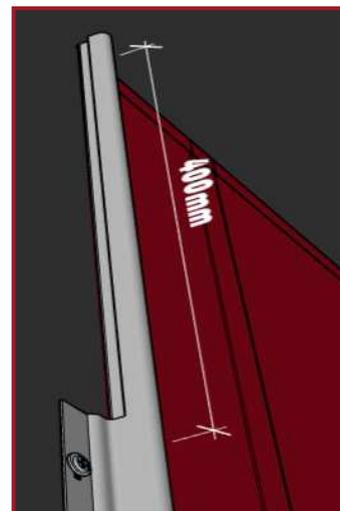
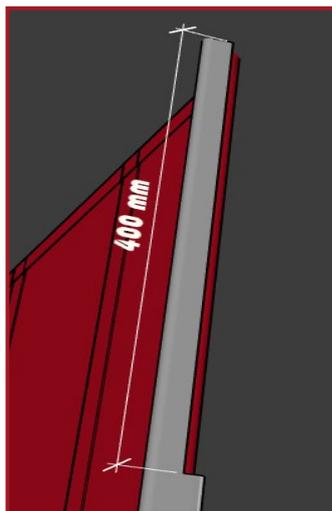
Installation of the **barge trim upper** follows the same rules as the standing seam verge flashing described above.

The difference is that we lay the flashing over the additional gable batten. The upper bend of the flashing overlaps the roofing edge. Depending on the height of the Z-bar used, we choose the height of the additional batten of 40/60 mm. The flashing is anchored from the side to the gable batten.



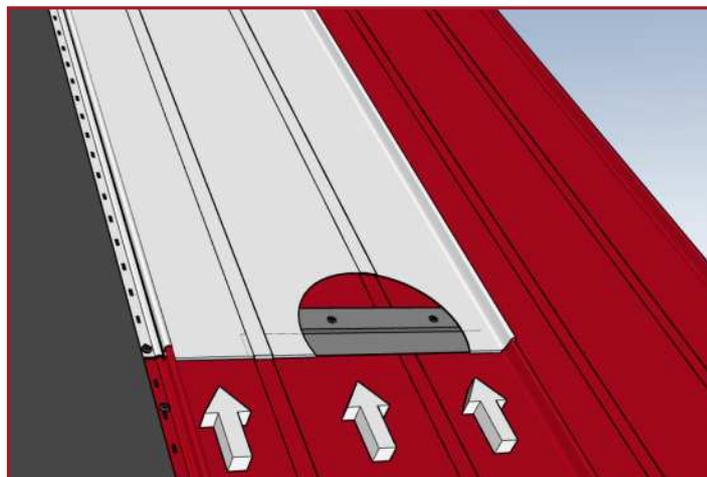
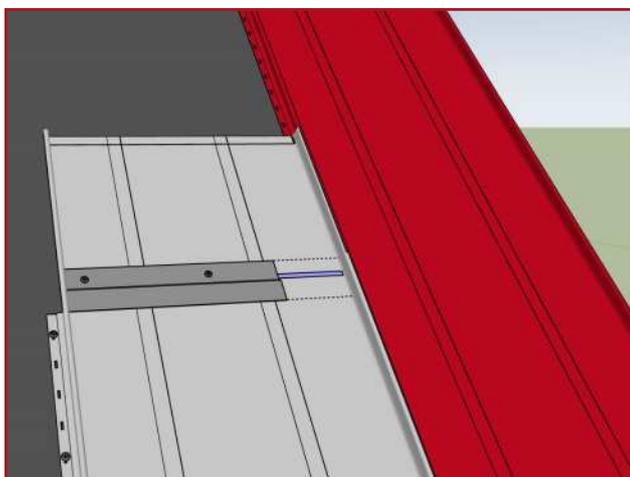
Barge trim upper installation

The procedure for finishing the area layout is determined by how the last longitudinal edge of the roofing rises relative to the gable edge of the roof. If the edge of the roofing sufficiently extends beyond the gable, we proceed in the same way as in the case of „Installing the first roofing strip - variant A“, i.e. we cut the excess part of the sheet and bend the outer 4 cm edge upwards to insert barge trim for standing seam. If the last longitudinal edge of the sheet ends just before the edge of the gable, we can help by choosing the barge trim upper flashing. It means the installation of an additional gable, as described in the paragraph above „Installing the first roofing strip - variant B“ that can help us to „make up“ any missing cm of the width of the roofing at the edge of the gable.



Preparation of roofing seam locks for connection

**Fastening device flashing** is necessary if roofing sheets need horizontal connection. Its fitted on the lower sheet with wafer head screws and could be sealed by EPDM 3x9mm tape. Please take note the lower sheet has to have locks trimmed 400 mm as above. We fold edge of the upper sheet by folding tool and then tuck it on the fastening device.

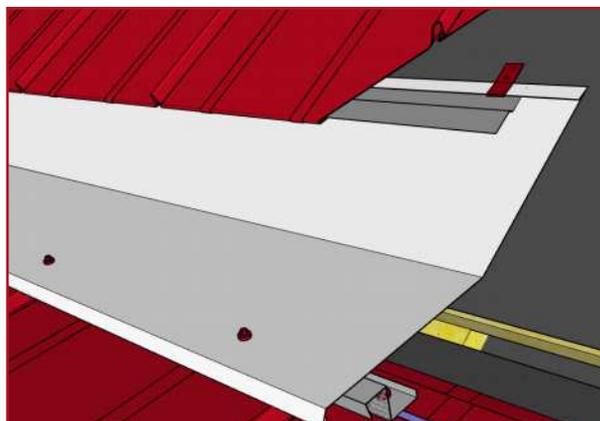


Fastening device installation

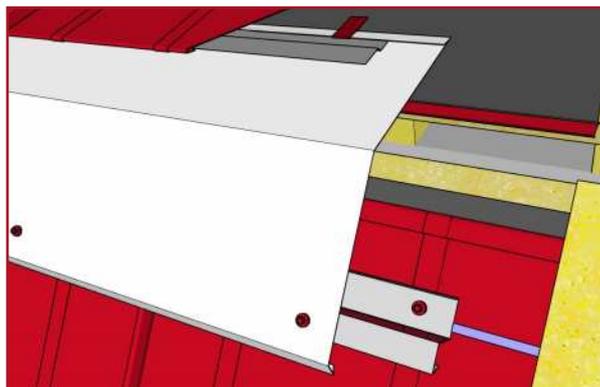
The transition of the main structure to the lower roof area is solved by a standard change of pitch flashing element and fastening device in at the bottom of the top part. We recommend to use to the lower part transition as a ventilated detail meaning of usage a ventilation „Z,, bar [40/60 mm].

**The change of pitch flashing** is fitted over the ventilation Z- bar, which is anchored to the installed roofing using farmer screws. Before installation, cut the bottom strip through as well as the perforated part of the ventilation z-bar in the places of the roofing seam lock. Then we install the flashing with wafer head screws and farmer screws in the color of the roofing.

Similar detail type is used for the mansard flashing. The transition of the main structure to the lower roof area is solved by a standard mansard flashing element and fastening device in upper part. We recommend to use to the lower part transition as a ventilated detail we will supply a ventilation „Z,, bar [40/60 mm].



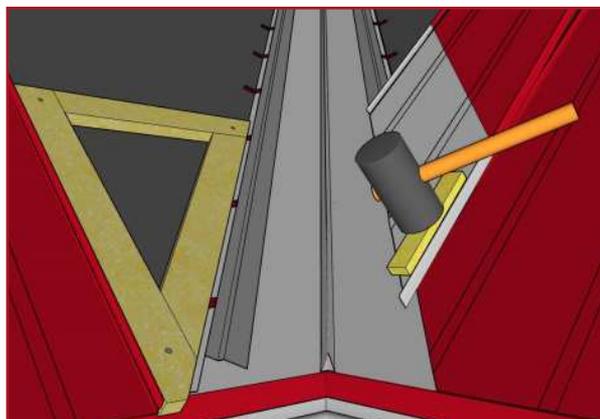
Change of pitch flashing



Mansard flashing

**The mansard flashing** is fitted over the ventilation Z-bar, which is anchored to the installed roofing using stainless steel screws. Before installation, notch the bottom strip through as well as the perforated part of the ventilation z- bar in the places of the roofing seam lock. Then we install the flashing with wafer head screw and farmer screws in the colour of the roofing.

We always install the roof valley on the decking and ensure the ventilation of the rafter fields above it. Sheets are trimmed according to the valley direction. Fastenings must not perforate the the valley flashing. In the case of a small pitch, we will adjust the planks and make the roof valley as a safety one, fixed with clips. We choose a fixed fastening zone at the upper edge of the valley flashing. We recommend strengthening the safety waterproofing membrane under the air gap and, if necessary, making a decking below. If it is necessary to connect the flashing, we take into account the overlap of each parts of the valley of min. 400 mm, we choose the connection method according to the pitch of the valley. At the point of its connection to the gutter overhang, it is usually appropriate to prevent the gutter from overflowing by installing some kind of gutter overflow protection. Please take into account the possible clogging of the roof valley with leaves and other debris.



W-valley detail

**The purpose of the ventilated “Z” bar** is, similarly to the counterbatten, to define the size of the ventilated gap with its height, at the same time it serves for fitting the ridge flashing elements. We produce it in two variants with a height of 40 and 60 mm [clear ventilation airhole of 156 and 265 cm<sup>2</sup> per linear metre of the ridge = safely ventilated rafter fields up to 5 and 8 linear metres of the rafter length, without taking into account the operating or built-in humidity of the roof structure].

We anchor the ventilated Z-bar to the installed roofing using farmer screws. Before fitting it, we must notch the bottom strip through as well as part of the side panel in the place of the roofing seam locks, so that the Z-bar can be fitted over the roofing profile.

After finishing the installation of the first area of the roof, we will start fitting the other side of the gabled roof parallel to the installation of a sealed (EPDM pad 3 x 9 mm) ventilation Z- bar. Next step, we anchor the ridge batten holder to the top of the each rafter fields. We install a reinforced duo ridge over the inserted additional ridge batten, which we fit with stainless colour coded steel farmer screws to vented z-bar below.

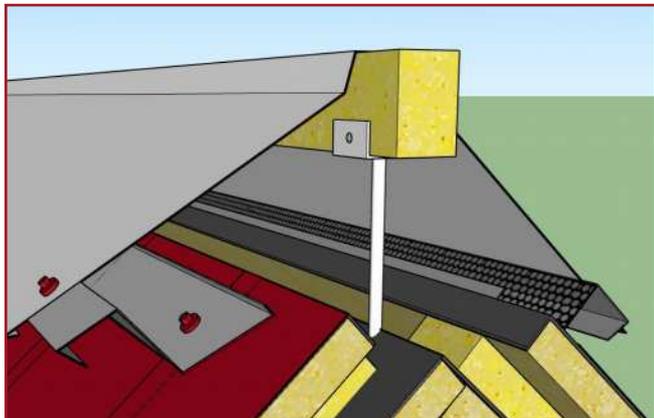


Vented Z-bar installation

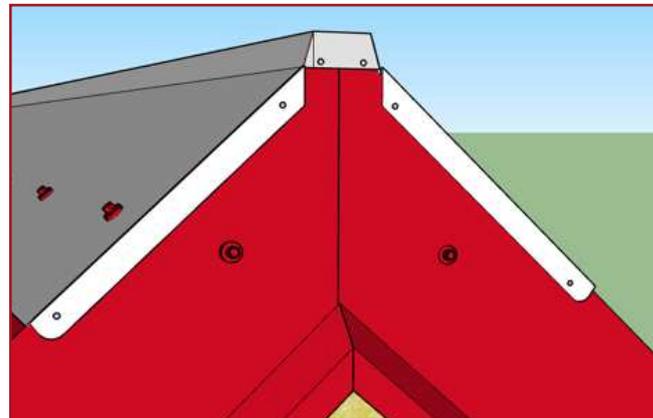
**Finishing the roofing layout-** if we correctly defined the symmetry of the surface at the beginning of fitting works, then we should finish layout with a sheet of the same width and install the same element of the verge flashing (sidewall flashing) - variant A / B.

**The reinforced, or standard duo ridge flashing** protects the roof structure and the ventilated gap from weather conditions, mechanical dirt and from various animals entering the structure.

We fit the ridge element to the ventilation Z-bar. We take into account a **100 mm flashing overlap for connection and also an overlap of approx. 40 mm at both ends** of the ridge. The outer overlaps will be folded over the verge flashings and together they will end the detail of the ridge front, where the height of the verge flashings meets the ventilation Z-bar.



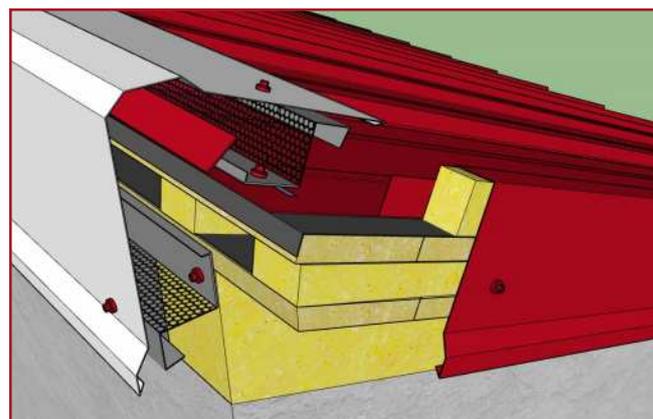
Open duo ridge detail



Closed duo ridge detail

To finish the **mono ridge roof**, we use the standard mono ridge flashing, or apron flashing, depends on if structure is connected to another or not. Regarding the rafter length and the pitch of the roof structure , we choose the height of the ventilation gap 40 mm or 60 mm.

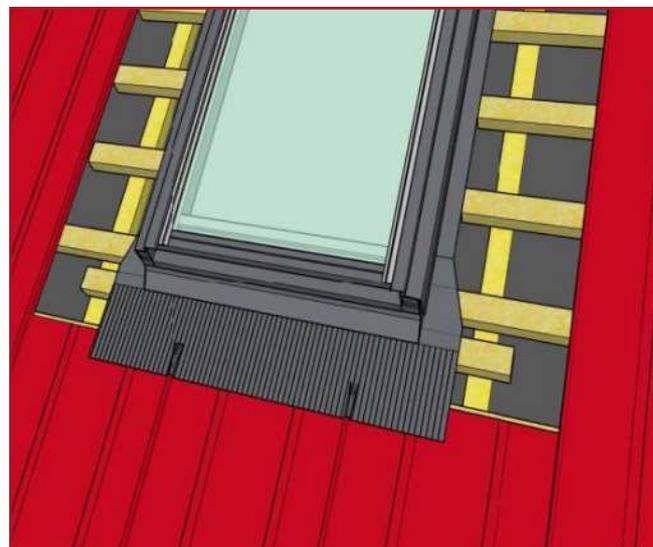
We fit the end of the mono roof to the sealed vented „Z“ bar. We count on a 100 mm overlap for connection and also with an overlap of approx. 40 mm at both ends of the ridge. To increase the ventilation capacity of the roof structure, we recommend the use of



Mono ridge detail

an additional ventilation „Z“ bar from the back of the structure. The end overlaps will be folded over the verge flashing and together end the detail.

Lay the roofing sheets under the lower edge of the window, no closer than the lower mounting batten (approx. 10 cm). Carefully cut off the seam locks of the edges s before fitting the bottom part of the flashing. We fit the lower part of the system flashing and then shape the flexible strip according to the roofing sheet profile, as shown in the picture. We will also fit the remaining elements of the system flashings, cut a foam wedge seal (to a height of approx. 2.5 cm). Finally, we lay the modified sheets of the side and top flashing. Fitting must not be done into the system flashings.



Window fitting

To more detailed info please see **Window and chimney flashings detail** guides. We would thoroughly recommend using the appropriate flashing kit supplied by your rooflight manufacturer.

## Working on the roof

If the situation requires it and it is necessary to walk on the roofing, then we recommend choosing suitable shoes with a soft rubber sole. Make sure that the sole is free of dirt that could scratch the roofing. When walking, we always step on the roofing base and only on the roofing anchored to the base. We also take into account the fact that the protective foil is very slippery and impassable when wet. **If the roof temperature exceeds 60 ° C in summer we DO NOT ENTER** the hot surface. The coating layer softens, there is a risk of slipping or damage the surface .

## Maintenance

External influences can have a negative impact on the functionality of the roofing. We recommend regularly inspecting the roofing and systematically removing accumulated dirt that could cause a chemical reaction and damage the protective coating. In the event of surface damage (e.g. scratching or peeling the paint off), this area must be thoroughly cleaned (including degreasing) and then treated with touch up paint, which could be a part of our material supply.

### The following elements should be inspected annually:

- Functionality of roof structure ventilation
- Condition and fastening of security elements
- Seal condition (ventilation strips)
- Condition of surface treatment and flashings
- Condition and fastening of drainage systems
- Condition and tightening of roof penetrations
- Condition of the fasteners

# Description of risks

Fitting and maintaining of Comax Klik 31 roofing is associated only with minimal risks, which we prevent by following the basic rules for work safety. When laying and maintaining the roofing, there are mainly risks of people and objects falling from a height and cutting the edge of the sheet metal. Every person who manipulates roofing and its components in any way must take care not only of their health, but also of the health of others. The roofing must be laid by a qualified person. When cutting, it is important to keep the cut sheet metal at a safe distance from the cutting plane. We use cut-resistant protective work gloves to securely grip individual elements. When working at heights, we use adequate protection gear and secure the workplace against unauthorized entry.

## Conclusion

This installation guide contains suggestions and guidelines on how to install KLIK roofing. The drawings in this guide are for illustration purposes only and may not apply to all building designs or product applications. The installation details shown are proven methods of construction, but are not intended to cover all instances, building requirements, designs, or codes. Each roof has its own unique parameters and properties, therefore it is necessary to approach each assembly part individually and take into account its given specifics. The assembly instructions cannot contain solutions of all details and variants, it is not their purpose; they shall explain standard and most frequently used procedures.

We consider this manual as a summary of generally valid recommendations. It is the responsibility of the designer/installer to ensure that the details meet particular building requirements. Consult local building officials to determine the appropriate building design load requirements. It is the buyer's responsibility to verify all applicable code requirements, check all measurements, and determine suitability of product for the job. The buyer is also responsible for determining lengths and quantities needed. Before ordering and installing materials, all dimensions should be verified with field measurements. Implied warranties of merchantability and fitness for a particular purpose are disclaimed.

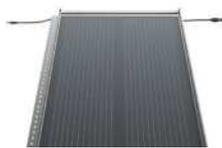
## Roofing materials we supply:



COMAX **Falc**



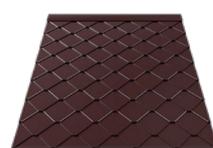
COMAX **Klik**



COMAX **Solroof**



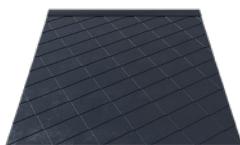
COMAX **Tile**



COMAX **BoCo**



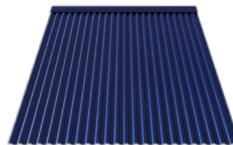
COMAX **ComBo**



COMAX **Rechteck**



COMAX **Trapeze**



COMAX **Wave**



COMAX **Alukryt**