



INSTALLATION MANUAL

FIT MODULAR ROOF PANEL



THE POWER OF ROOFS



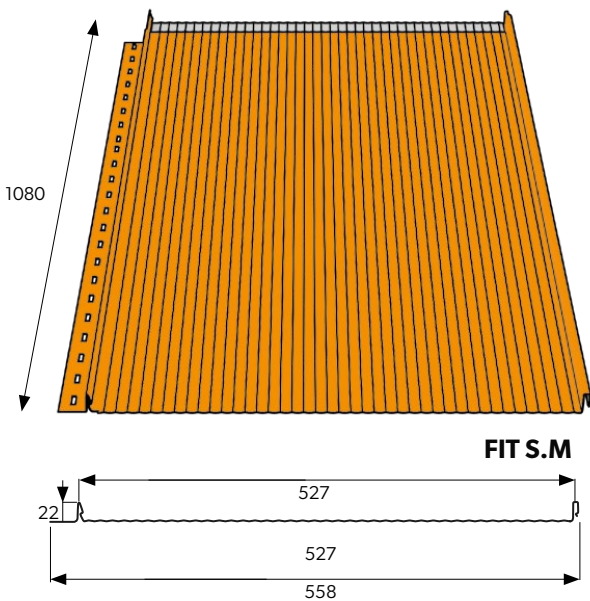
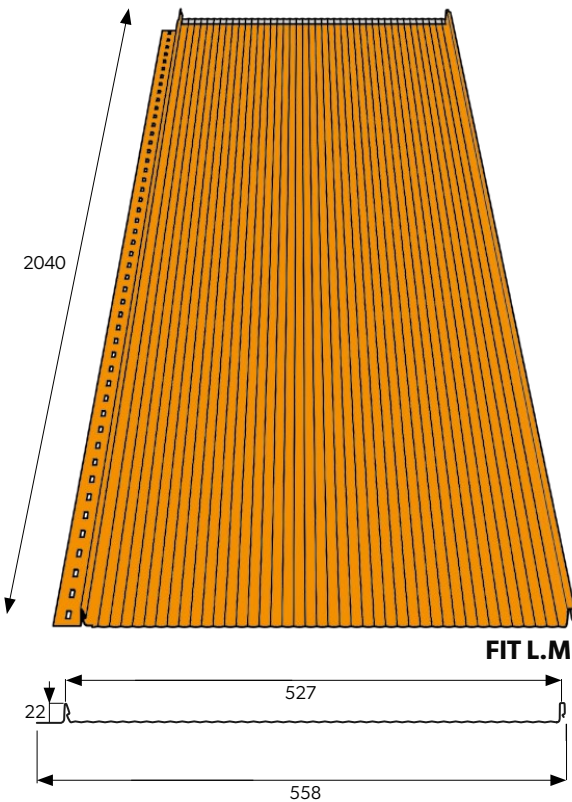
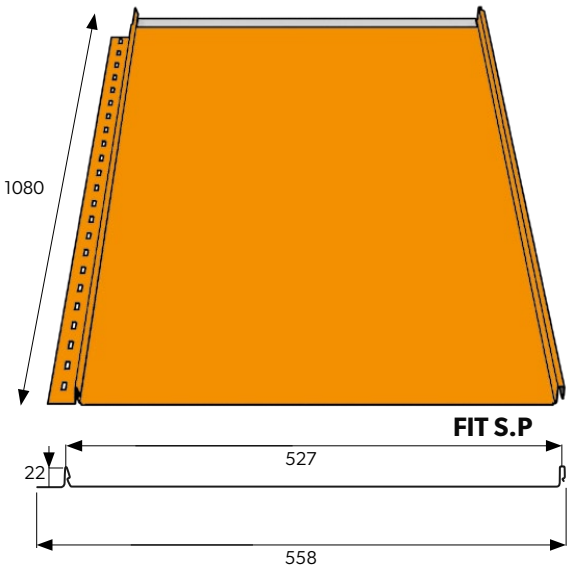
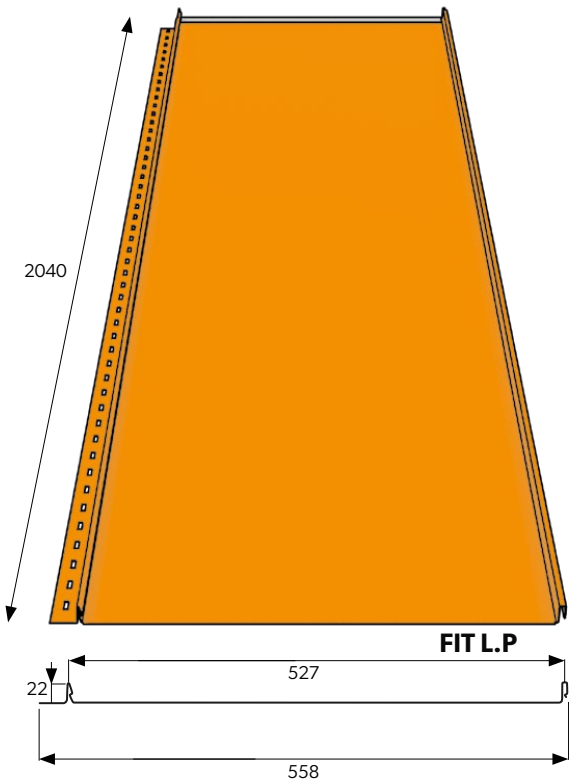
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**THIS MANUAL IS AN ILLUSTRATIVE MATERIAL AND DOES NOT RELEASE
THE CONTRACTORS FROM THE OBLIGATION TO OBSERVE THE PRINCIPLES
OF BEST ROOFING PRACTICES.**

1. Technical specifications of FIT roof panels

FIT – technical parameters (mm)		
Naming	FIT S	FIT L
The height of the seam	22	22
Effective width	527	527
Total width	558	558
Sheet thickness	0,5	0,5
Effective sheet length	1050	2010
Total sheet length	1080	2040



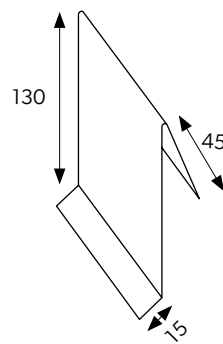
FIT modular roof panels are produced in two length variants: FIT S - 1080 mm and FIT L - 2040 mm, and in two variants of surface finishing: classic flat and micro-rib. Micro-rib of the surface minimizes the risk of the phenomenon of sheet waviness on the surface of the roofing.

2. FIT flashing system

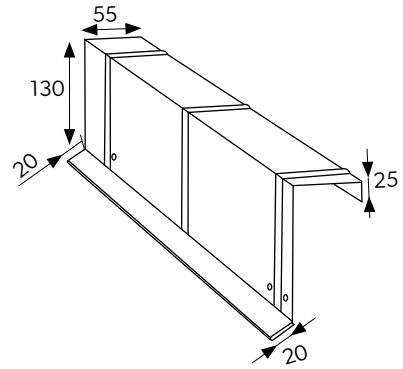
The flashings are made from sheets available in the same range of coatings and colours as the steel roof tiles, trapezoidal sheets and roof panels we produce.



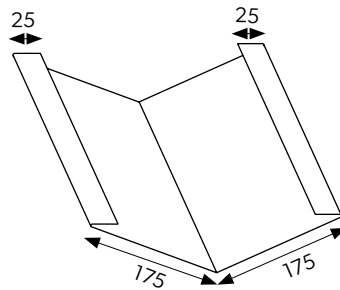
Standard flashing of the following dimensions:
2 m long and 0.5 mm thick. Non-standard flashing of length up to 8 m and thickness of 2 mm.



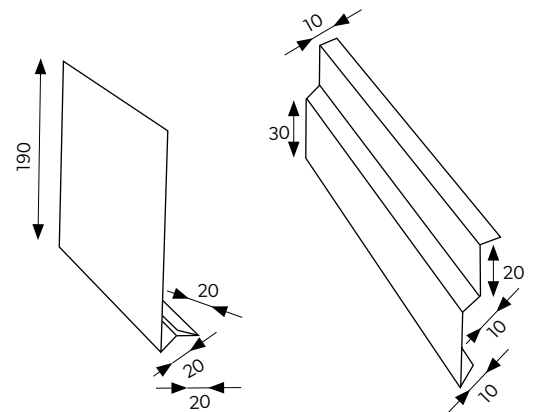
WIND BRACE II
(end of the panel)



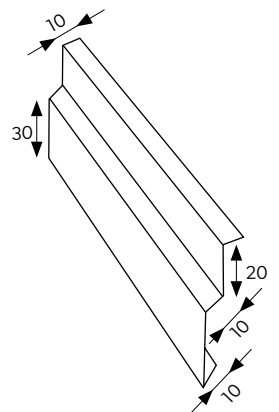
WIND BRACE III
(using a batten of wind brace)



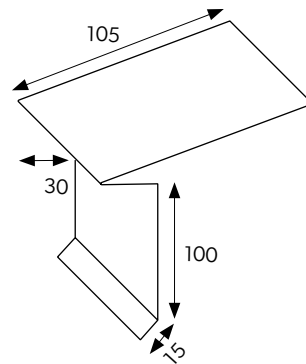
VALLEY GUTTER



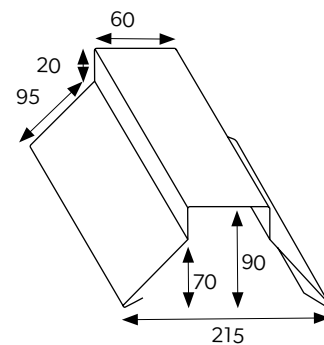
UNIVERSAL VERGE TRIM/
WIND BRACE EXTENSION



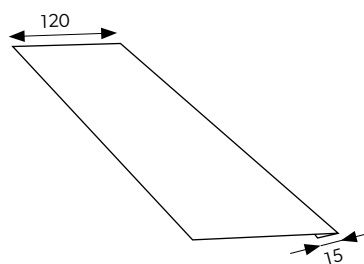
EXPANSION STRIP



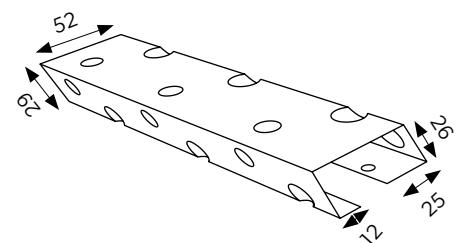
STARTING GUTTER
FLASHING FIT / LAMBDA 2.0



TRAPEZOIDAL RIDGE TILE



FIT / LAMBDA 2.0 PANEL
CONNECTOR FLAT STRIP



UNIVERSAL VENTILATION FLASHING

3. General recommendations

Transport

FIT modular roofing panels are delivered in boxes with lengths adapted to the length of the sheets: 1.08 m (**FIT S**) and 2.04 m (**FIT L**). Damage to the undercoat is not subject to complaint. When moving the sheets during manual unloading, the number of people should be selected in such a way as to prevent the sheets from moving one after another.

Rules for handling sheets

There may be slight undulation on the sheets, which is a normal phenomenon. **FIT** modular panels should be stored in dry and ventilated storage rooms. In case of long-term storage, the stacks must be placed on a sloped surface in order to enable moisture to evaporate or drain. The distance of the stored box from the ground should be at least 14 cm. Maximum storage time is 6 months since the production date. However, after 2 weeks from the production date, the foil in which the box with the sheets is packed should be removed, it will ensure air circulation between the sheets.



Important - damage on the metal sheet panel surfaces as a result of moisture dismisses any claims.

Cutting the steel sheet

It is not allowed to cut the sheets with tools that cause thermal effect (sudden increase of temperature), e.g. angle grinder. This causes damage to the organic and zinc coating and thus leads to corrosion accelerated by hot filings melting into the sheet surface. To cut the sheets, use a nibbler or manual scissors if the sections are short.

Maintenance

In case of coating damage caused during transport, installation or treatment, carefully clean the damaged surface of dirt and grease and coat the damaged area with lacquer. The edges of the roof which are not protected with lacquer may delaminate. This is a natural phenomenon and shall not constitute grounds for guarantee claims. It is recommended to control the roof every year in order to perform maintenance works.



Attention - one of the guarantee conditions is to protect of open cut edges of coated sheet with lacquer.

Depending on the angle of the roof and the height of the eaves, the suction forces under the roofing vary as follows:

Tilt angle	Eaves height (meters)	Wind suction(N/m ²)		
		Corners	Edges	Intermediate surfaces
0 - 25°	0 - 8	1600	900	300
	8 - 20	2560	1440	480
	20 - 100	3520	1980	660
25° - 35°	0 - 8	900	550	300
	8 - 20	1440	880	480
	20 - 100	1980	1210	660

Depending on the eave height, the maximum wind load on the wall cladding changes as follows:

Eaves height (meters)	Wind suction (N/m ²)		
	Corners	Edges	Intermediate surfaces
0 - 8	1250	750	500
8 - 20	20200	1200	800
20 - 100	27500	1650	1100

4. Types of substrate for the installation of the modular roof panel FIT

FIG. 1: The recommended substrate for **LAMBDA 2.0** roof panels is full boarding made of planed boards or 22 mm thick OSB. A spacer membrane should be used on the prepared substrate.

FIG. 2: If the substructure uses openwork boarding, a highly vapour-permeable roof membrane should be used. The spacing between the boards should be in the range of 5-100 mm. This solution may cause a slight but noticeable noise of the sheet steel. It is recommended to use a soundproofing tape min. 10 cm wide, glued in the centre of each panel.

Alternatively, strips of the roofing membrane should be made of three parts and attached to the boards with a tacker.

The soundproofing will additionally raise the panel in its centre, thus minimizing the possibility of its undulations.

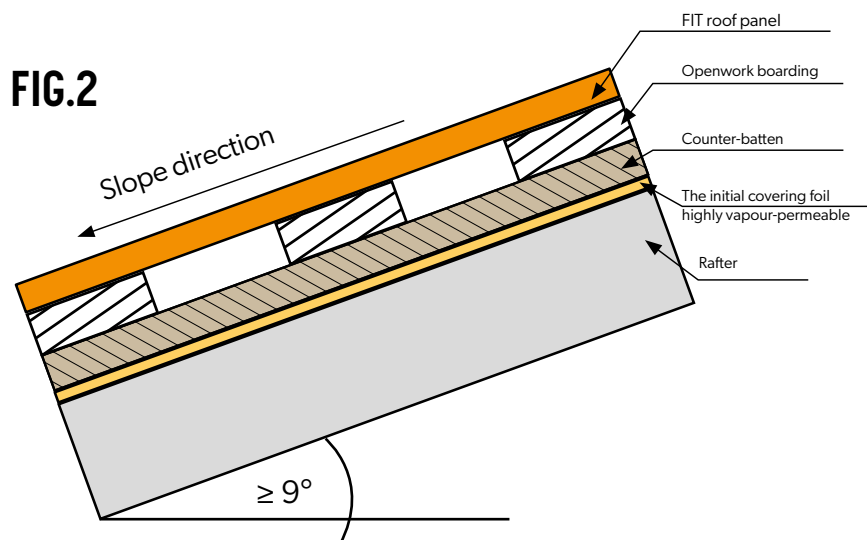
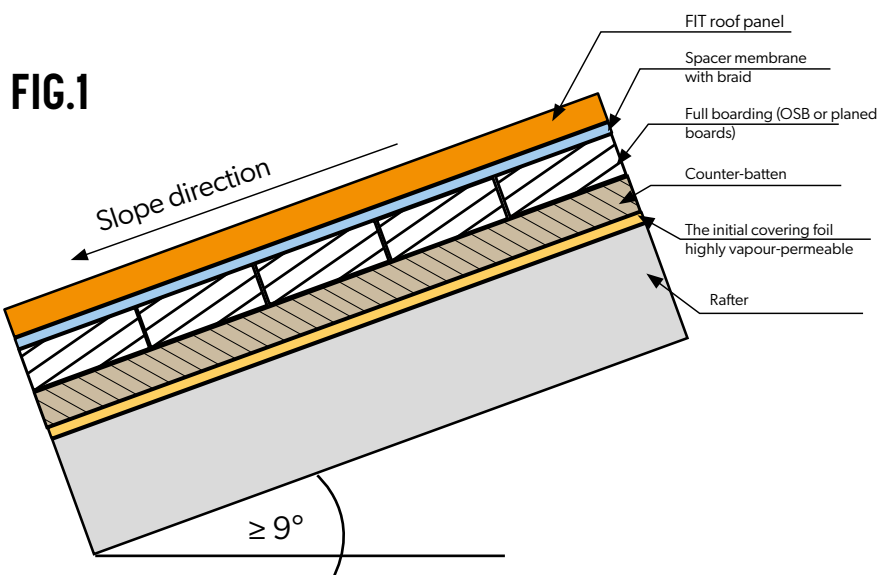


ASSEMBLY TIP

Full boarding is recommended



The modular FIT roof panel can be used for roofs with a slope of not less than 9 degrees. Installation on surfaces with smaller angles of inclination requires prior consultation with the manufacturer's technical advisor regarding the preparation of the roof base.



5. Roof construction

Before installation, check the correctness of the construction, including: diagonals, flatness. The distance between the boarding and the eaves should be determined taking into account the assembly of the **FIT** starting gutter flashing.

The **FIT** modular roof panel can be used on roofs with a slope of not less than 9° .

FIT roof panels are recommended to be installed on a slope with full boarding.

In order to lay the full boarding, install a highly vapour-permeable underlay foil on the rafters, then counter-battens and complete the full boarding. This way, the attic ventilation gap is provided. Install the spacer mat on full boarding. Make sure that the spacer mat is led out onto the starting belt and glued to it with a system adhesive tape.

This solution will also prepare the client's attic for thermal insulation.

FIG.3 CHECKING THE DIAGONALS

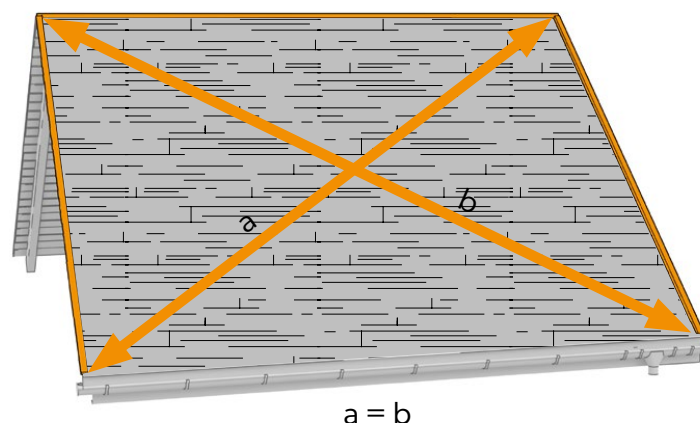


FIG.4 FULL BOARDING OF THE ROOF SLOPE AND A SYSTEM TAPE STUCK TO IT

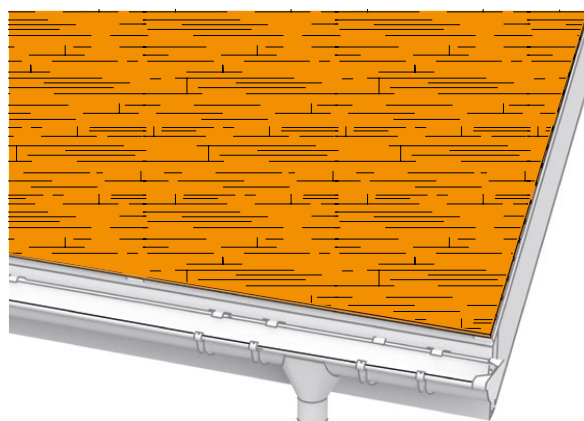
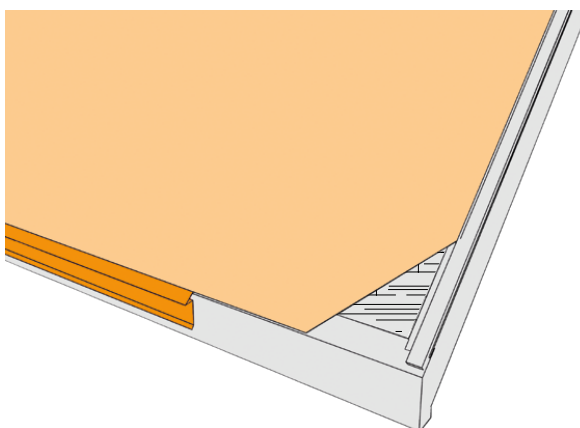


FIG.5 ATTACHING MEMBRANE ON GUTTER STARTING FLASHING



Maintaining the appropriate diligence in the preparation of the roof structure is of key importance for the aesthetics of the covering. Errors made at this stage may result in visible waves and kinks on the surface of the panels. The substrate should be made in accordance with the principles of roofing practice.



NOTE!

Due to the construction of the roof panels, the so-called sheet "corrugation" on the covering is possible. It is a natural phenomenon for this type of product.

6. Installation of the starting gutter flashing

The starting gutter flashing is a flashing dedicated to **FIT** and **LAMBDA 2.0** roof panels.

By equipping it with a protruding edge, it combines the functionality of the gutter flashing and the starting profile that allows you to aesthetically display the fronts of the roof panels from the eaves side.

The starting flashing should be installed after the other eaves flashing (gutter belt) and the gutter are installed. It precedes the installation of roof panels.

The starting gutter flashing is installed straight in the eaves line, attaching it to the first board (batten). Screws are recommended to fix roof panels. The levelling should be checked before the complete fixation of the flashing.

If it is necessary to connect the starting flashings, there should be overlays of min. 25 mm.

FIG.6 STARTING GUTTER FLASHING

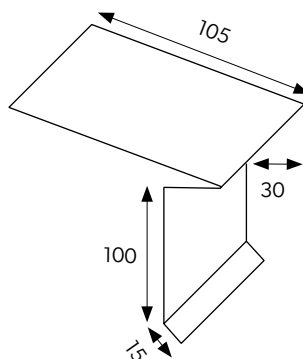
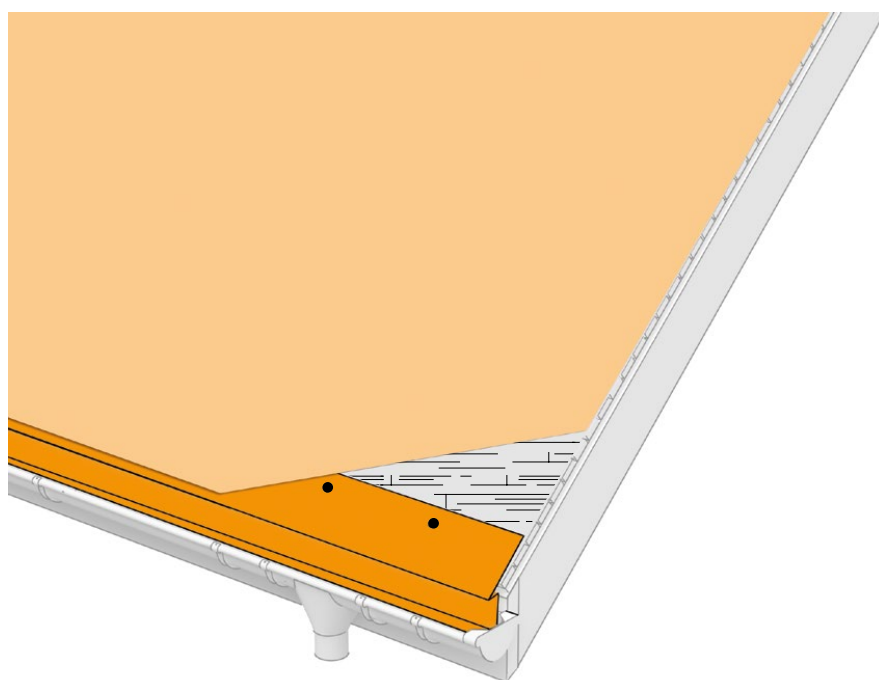
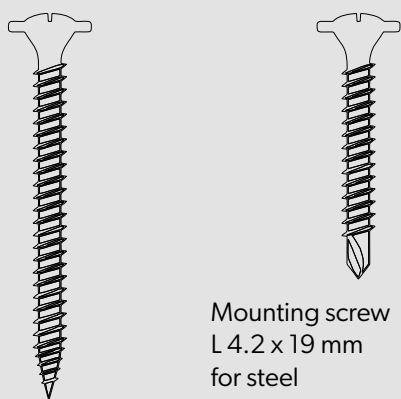


FIG.7 STARTING FLASHING - ASSEMBLY



Mounting screws for **FIT** and **LAMBDA 2.0**.



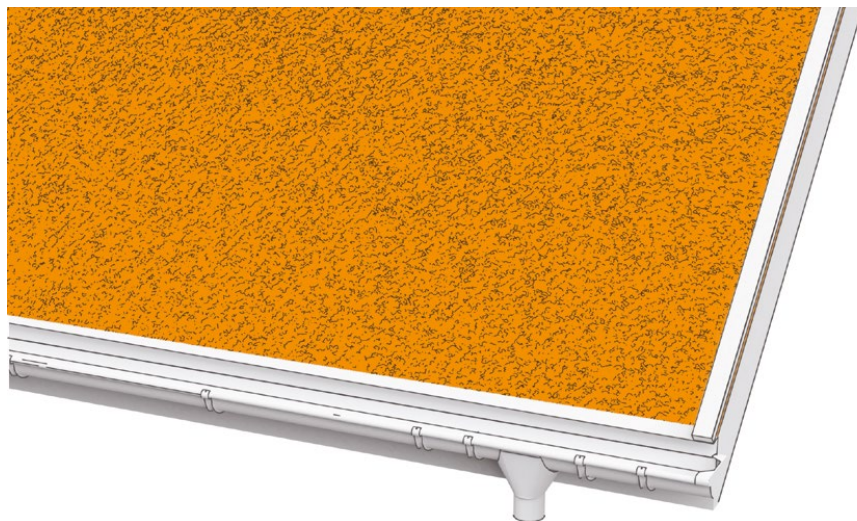
Mounting screw
L 4.2 x 30 mm
for wood

7. Spacer mat / braided membrane

To ensure adequate ventilation of the roof, it is recommended to use a braided membrane or a separate membrane with certificates for installation under a flat sheet.

If there is tar paper on the roof, install the braid only on its surface and start the installation of **FIT** roof panels.

FIG.8 SPACER MAT / BRAIDED MEMBRANE



8. Wind brace strip

Along the edge of the roof, you can (as one of the solutions) install a batten, the so-called the batten of the wind brace. It is the support for the first roof panel and the wind brace.



Maintaining particular accuracy when assembling the edge board determines the even arrangement of subsequent panels.

FIG.9 A WIND BRACE STRIP - ONE OF POSSIBLE SOLUTIONS



9. First panel installation

FIT roof panel should be hooked on the starting gutter flashing. It is recommended to use the product version with a factory-prepared "**BEND-LOCK**" bend, which guarantees that its parameters (bend radius, length) are appropriate for the starting gutter flashing.

Taking into account the suction forces occurring under the roof covering, it is recommended that after measuring the roof slope, the extreme widths of the panels should be selected so that they do not appear in full widths. E.g. if the roof slope is 10 full panels, start and end the covering with panel halves. As a result you will thicken the edge fixing of the panels.



Before screwing the sheet to the structure, use a rubber hammer to gently bring the bent edge to the starting flashing.

FIG.10

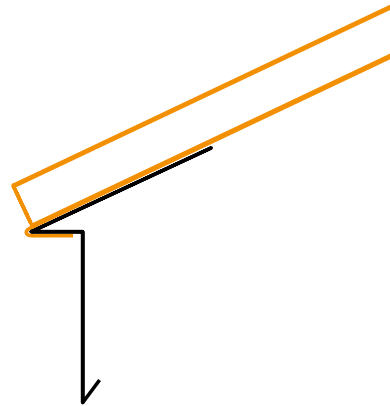
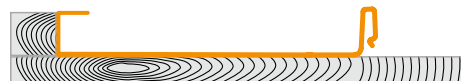
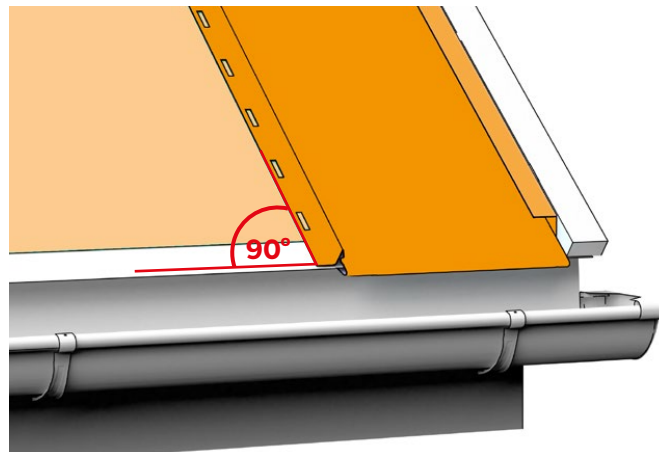


FIG.11 FIRST PANEL INSTALLATION



10. Direction and sequence of assembly of sheets



Before starting roofing works, the roof surface should be planned. It is recommended to narrow the first and last panel in order to compact the edge and corner zones of the sheet fixing.

Roof panel sheets **FIT** are installed in a series of vertical lines from the eaves to the ridge. Successive rows should be started alternately with a short (**FIT S** - 1.08 m) and long (**FIT L** - 2.04 m) sheet, which will ensure their arrangement with a shift (alternately - **Fig. 13**). You can also finish the roof from the ridge side with short sheets (if the roof dimension justifies their use).

Only long sheets should be used in the central part of the slope, so that the joining of the panels in adjacent rows will be at different heights.

Installation should be carried out from right to left, which is conditioned by the arrangement of mounting holes on the left side of the panel, unlike traditional roof panels, **FIT** modular panels have a specific eaves and ridge side, defined by **EASY LINK** cutouts and **BEND LOCK** folds, therefore the direction assembly cannot be changed.

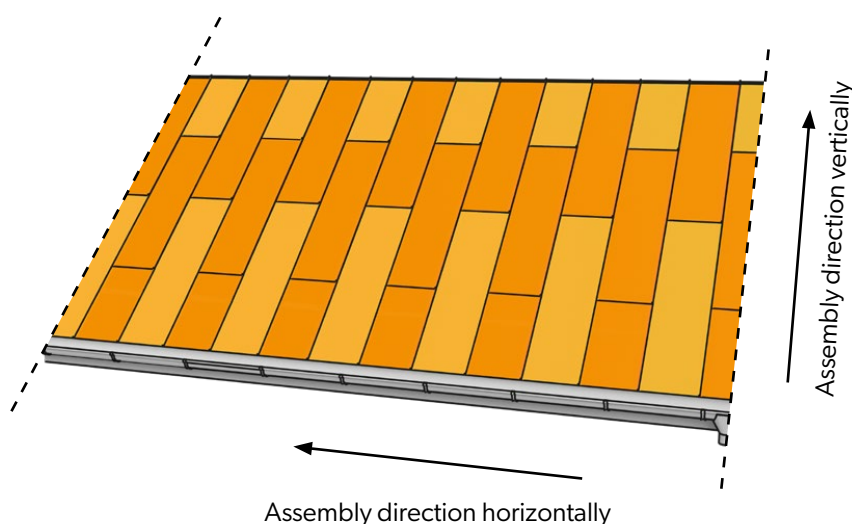
Taking into account the suction forces occurring under the roof covering, it is recommended that after measuring the roof slope, the extreme widths of the panels should be selected so that they do not appear in full widths. E.g. if the roof slope is 10 full panels, start and end the covering with panel halves. As a result you will thicken the edge fixing of the panels.

FIG.12 ROOF LAYOUT

50	44	39	33	28	22	17	11	6
49		38		27		16		5
	43		32		21		10	
48		37		26		15		4
	42		31		20		9	
47		36		25		14		3
	41		30		19		8	
46		35		24		13		2
	40		29		18		7	
45		34		23		12		1

Edge (external) panel
 Full panel

FIG.13 ARRANGEMENT OF PANELS WITH A SHIFT



11. External panels installation

Attach a batten (counter batten) along the edge of the roof, cut the panel to the height of the batten + 20 mm for an angular hook (installation clip).

Keep in mind that the edge panels are of the same width, so it is important to check the geometry of the roof before starting the installation. On the edge panels, thicken the installation clips - every 300 mm.

The outermost panel should be fastened firmly enough to the batten of the wind brace with the use of hooks, which allow the panel to work along its length (**Fig. 15**).

FIG.14 CUTTING THE PANEL TO THE EDGE BOARD

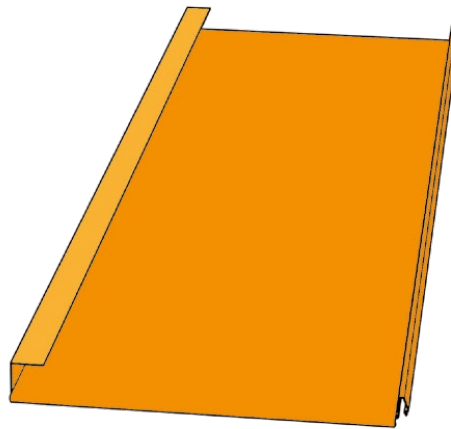
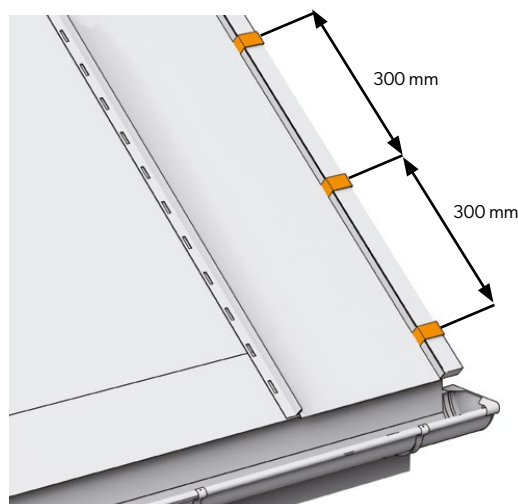
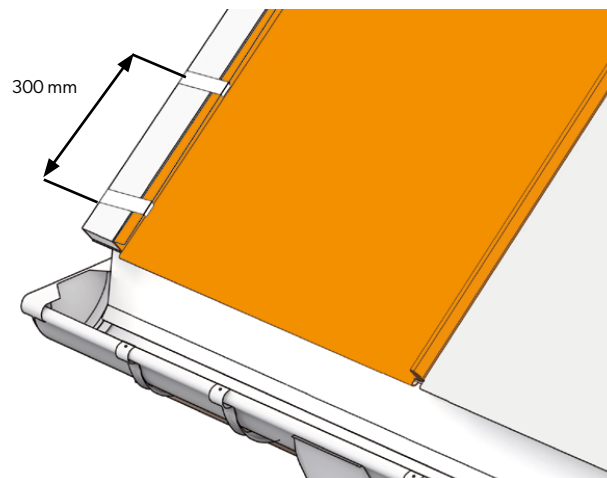


FIG.15 ASSEMBLY OF INSTALLATION CLIPS (ANGLE HOOKS)



12. Installation of panels from the eaves side

For the assembly of **FIT** roof panels, "L" (4.2 x 30 mm) mounting screws are screwed in using a tip with a length of min. 50 mm.

It is important to screw them into the centre of the mounting hole with a little play to compensate for thermal stresses.

The next panels are installed first by fastening the **BEND-LOCK** fold with the gutter runway and then by snapping the lock along the entire length of the sheet. This is called "Zipper method" (start from the eaves and move towards the ridge).

FIG.16 FIXING PANELS THROUGH MOUNTING HOLES

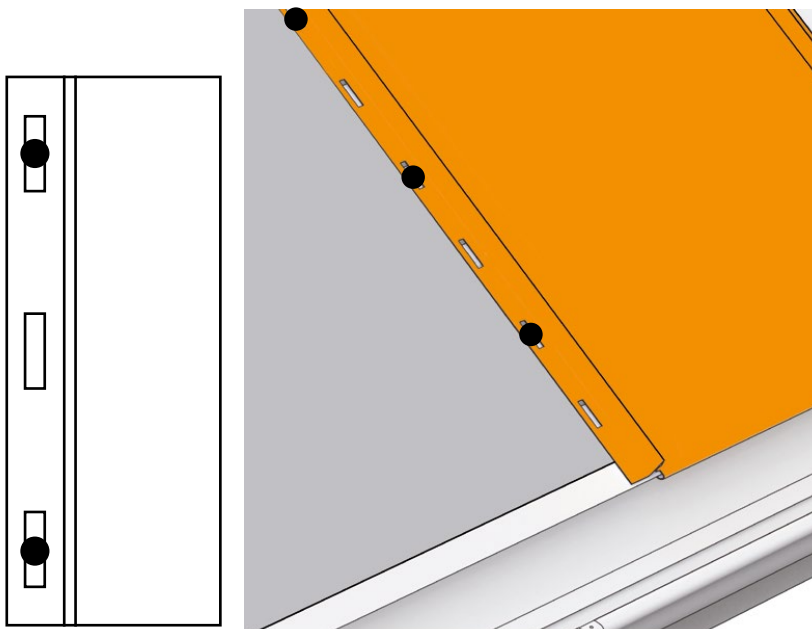
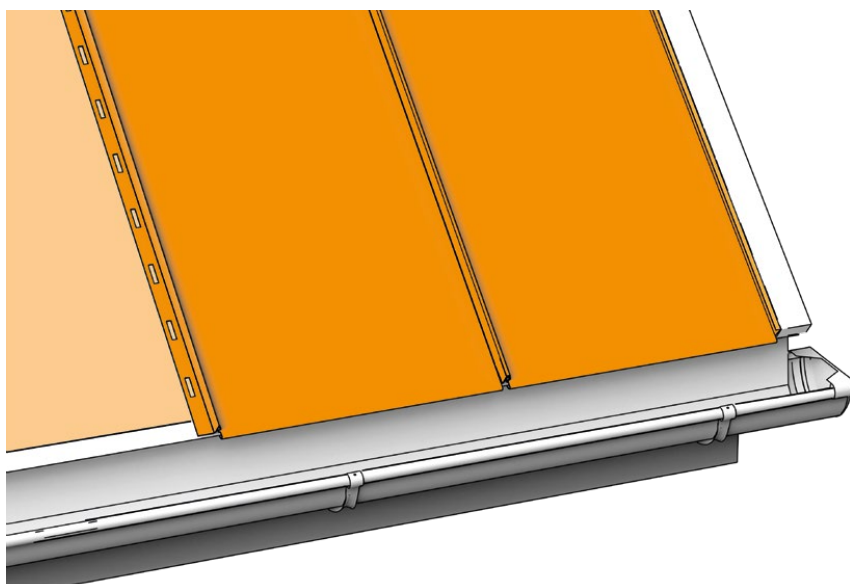


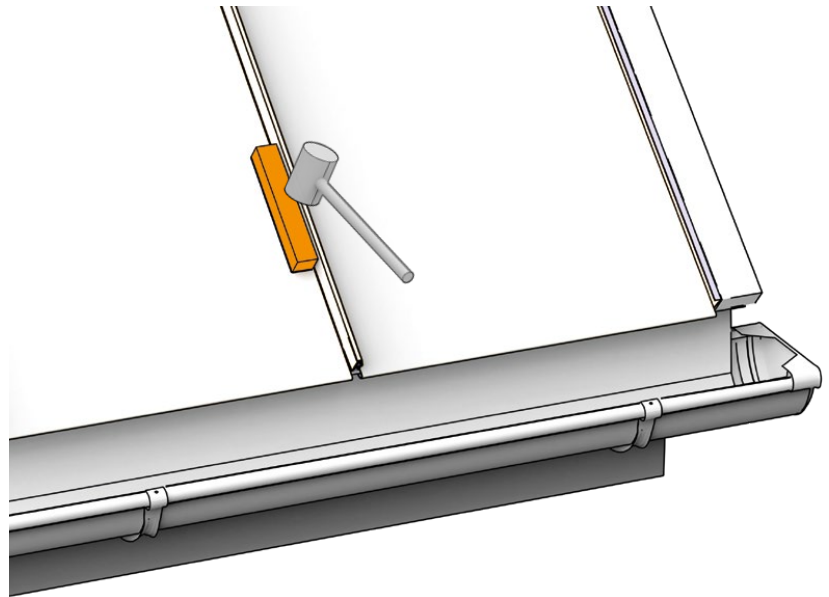
FIG.17 FASTENING THE SHEETS TO THE STARTING FLASHING AND JOINING THE PANELS "ZIPPER METHOD"



Note!
It should be remembered that the first panels from the eaves side should be alternately long (FIT L - 2.04 m) and short (FIT S - 1.08 m) panels.

After snapping the lock, gently press the panel on the overlap with a wooden block and a tinsmith hammer (rubber or plastic).

FIG.18



13. Connecting panels along the length

In order to securely and quickly connect the **FIT** roofing panels along their lengths, they are factory-equipped with sealed **BEND LOCK** (Fig. 19, Fig. 21) fold.

The edges of the panels are equipped with an **EASY LINK** (Fig. 20) cutout, which allows to avoid the effect of pushing out the overlapping sheets at the point of joining three sheets.

FIG.19 SEALANT

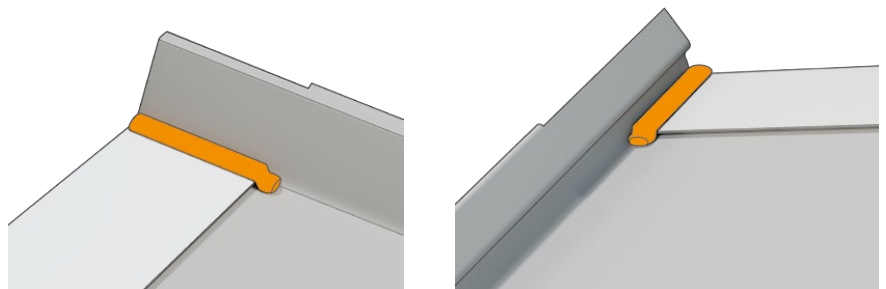


FIG.20 EASY LINK CUTOUT

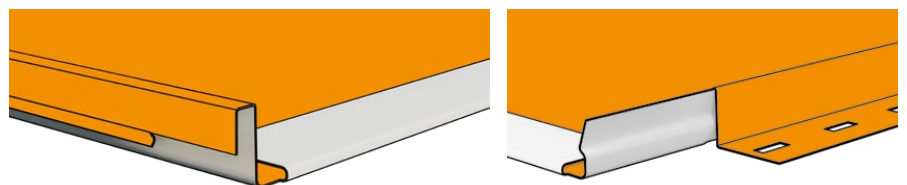
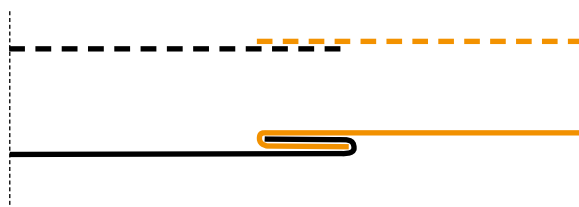


FIG.21 BEND LOCK FOLD



The **EASY LINK** cutout, visible at the joint of two panels **Fig. 22**, is covered by the panel in another row of sheets, **Fig. 23**.

FIG.22 EASY LINK CUTOUT AFTER FOLDING THE PANELS

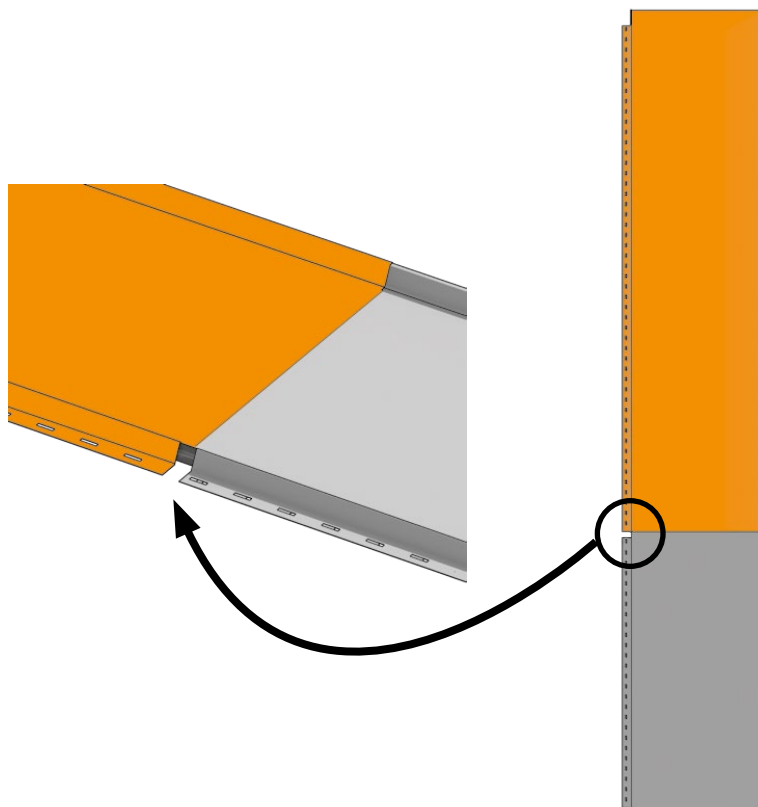
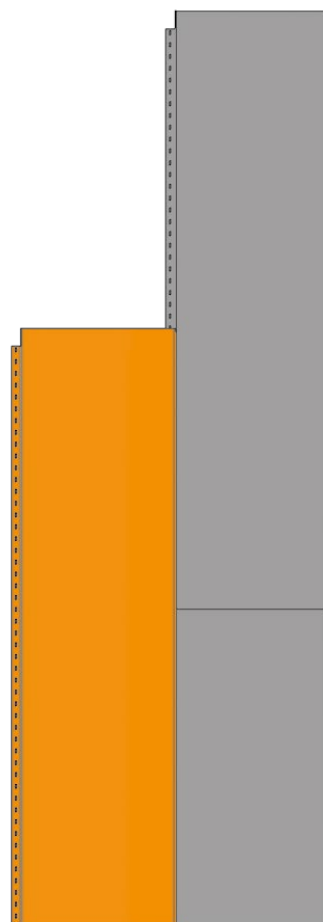
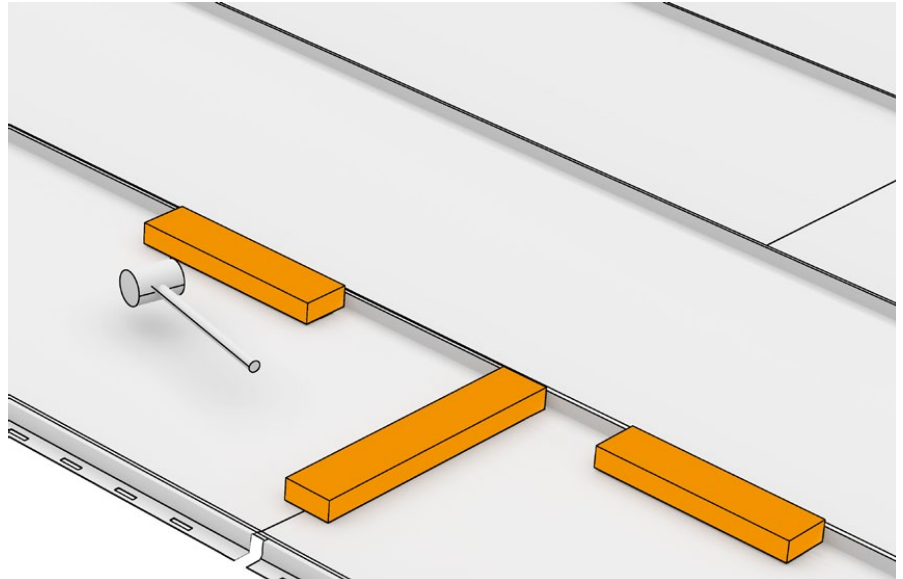


FIG.23 EASY LINK CUTOUT COVERED BY ANOTHER PANEL



After fastening the top panel with the connector, set the overlaps and then, using a block and a tinsmith hammer, close (store) the lock.

FIG.24 SETTING OVERLAPS



14. Wind brace installation

The extreme part of the roof slope is the place where high suction forces occur, therefore it is necessary to use compacted fastening.

The outermost panel should be attached firmly enough to the batten of the wind brace with the use of installation clips that allow the panel to work along its length. Thickened fastening guarantees resistance to the suction forces occurring on the extreme part of the roof slope.

FIG.25 WIND BRACE INSTALLATION

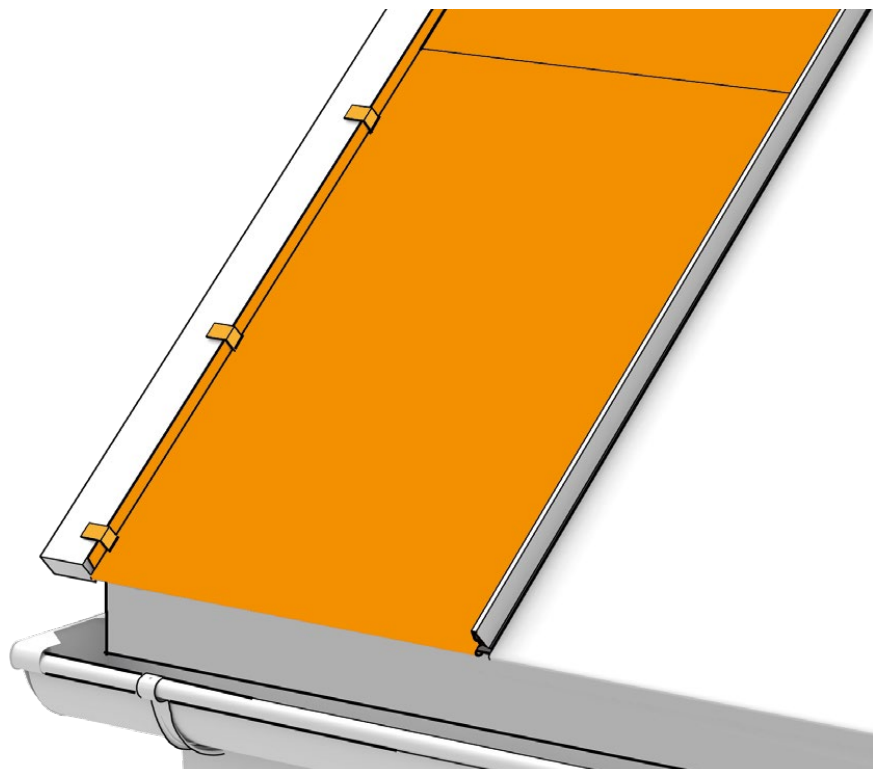
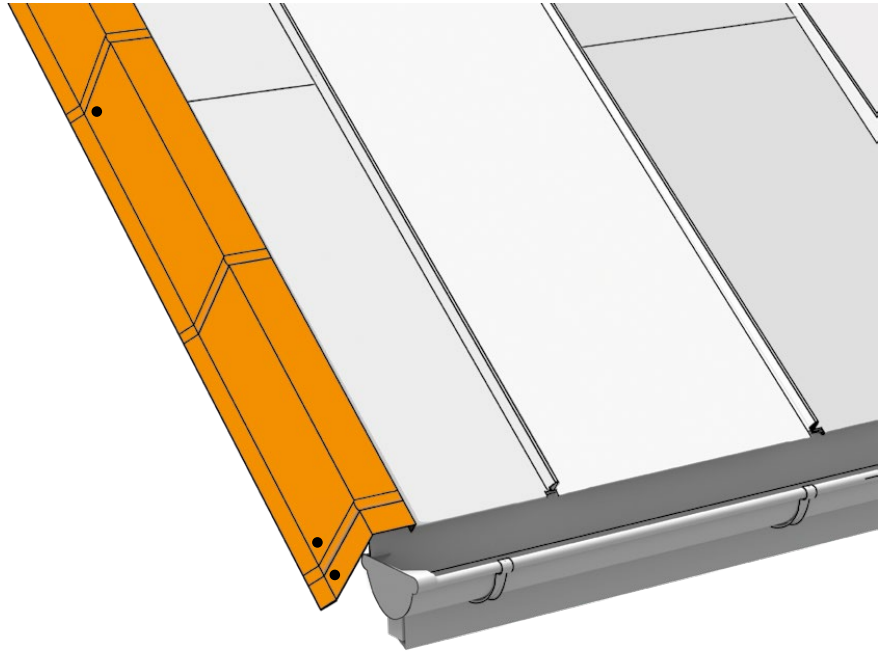


FIG.26 WIND BRACE INSTALLATION

Farmer screws should be used to mount the wind brace. When connecting the wind braces, use an overlap of 15-30 mm.

For more skillful roofers, we recommend to installing the wind braces using custom-made starting flashings. As a result, you eliminate visible screws and significantly improve the aesthetics of the work. This aspect is discussed in the BP2 practical training.

**FIG.27 UNIVERSAL VENTILATION TREATMENT**

15. Installation of universal ventilation and ridge tiles

The universal ventilation treatment serves as a **FIT** and **LAMBDA 2.0** ridge treatment. Thanks to the perforations, it ensures proper ventilation of the covering.

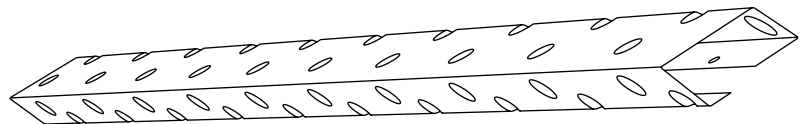


FIG.28 ASSEMBLY OF THE UNIVERSAL VENTILATION TREATMENT

Before installing the ridge tile, a universal ventilation flashing should be installed, for which farm screws 4.8 x 20 mm or "L" 4.2 x 30 mm mounting screws should be used (for one sheet of **FIT** panel reaching the top, one ventilation treatment is required).

The universal ventilation flashing must be installed using installation holes in the bottom flashing edge. Insert the screws through the larger pilot hole in the top edge, as presented in the cross-section aside.

We recommend sealing the flashing assembly, similar to the assembly of the connector. This aspect is discussed in detail in the BP2 practical training.

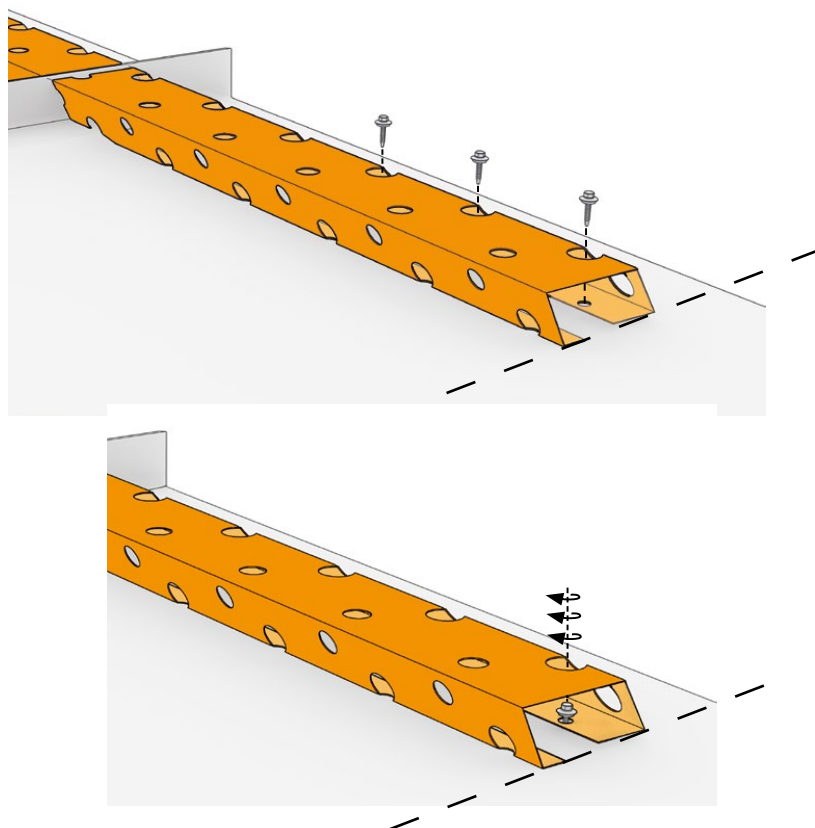
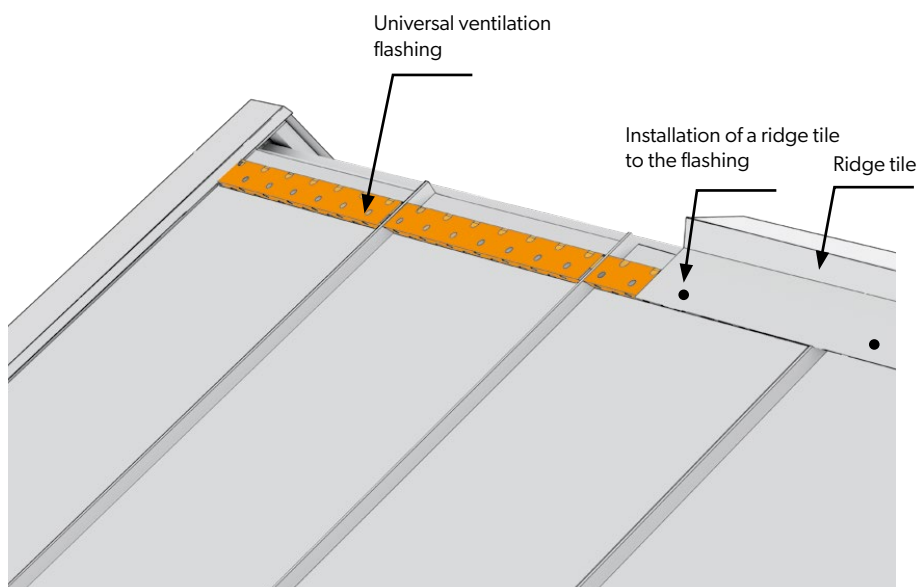


FIG.29 RIDGE TILE INSTALLATION

The ridge tile is screwed to the universal ventilation flashing with 4.8 x 20 mm farmer screws, at least every 300 mm, "sheet metal", previously adjusting its opening to the roof angle.



16. Valley gutter installation

The assembly of the valley gutter begins with adjusting it to the corner. When marking and cutting off the shape, a 30 mm overlap should be provided for making the bend to the starting flashing.

FIG.30 VALLEY GUTTER INSTALLATION

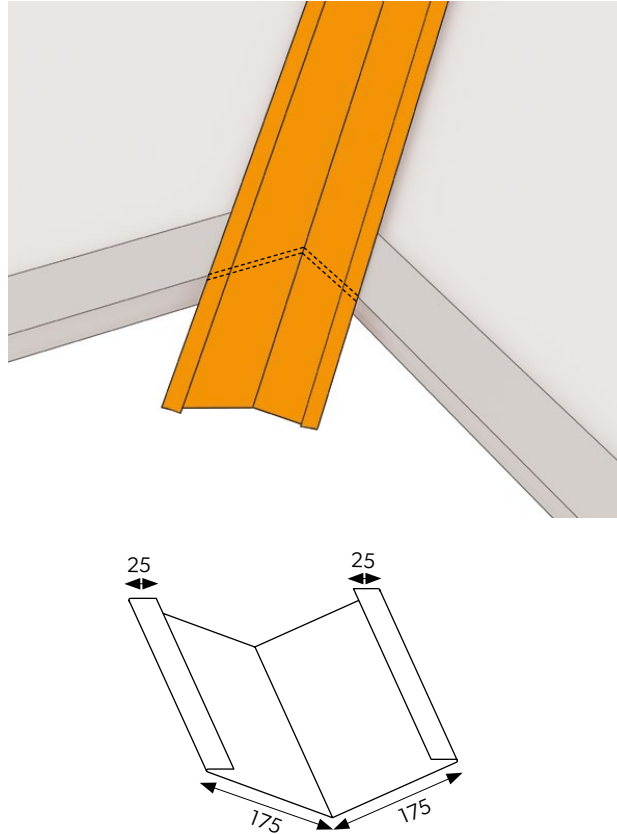
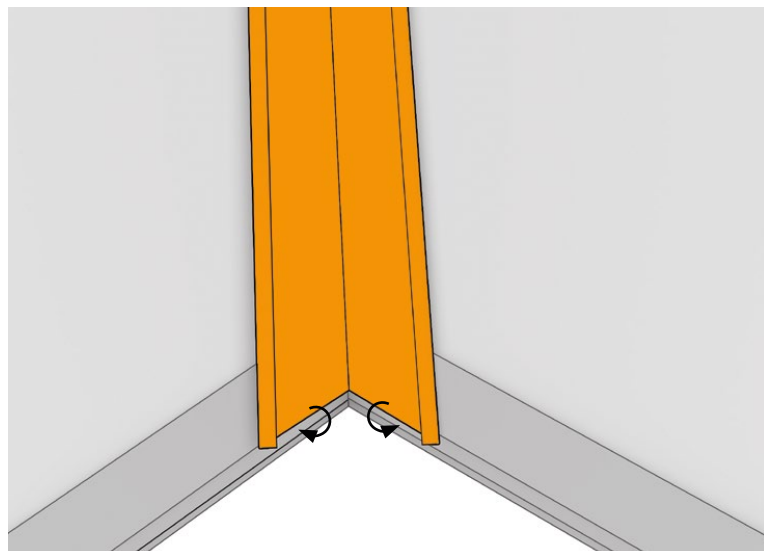


FIG.31 VALLEY GUTTER INSTALLATION

Using the folding made, we fasten the gutter to the starting flashing and attach it to the structure from the eaves to the ridge using installation clips, remembering to adjust the appropriate overlap to the angle of the roof slope.



Before cutting and assembling the panels adjacent to the valley gutter, the angle should be measured by making a template made of slats.

Then, using the template, cut the panel, leaving a 30 mm overlap for the folding to the gutter.

Then, we hook the panel to the edge of the valley gutter.

FIG.32 CUTTING PANELS TO THE VALLEY GUTTER

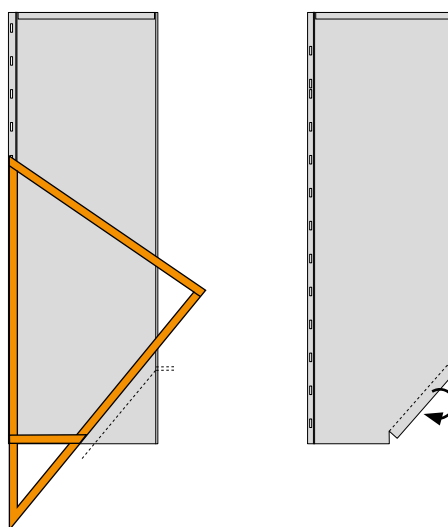
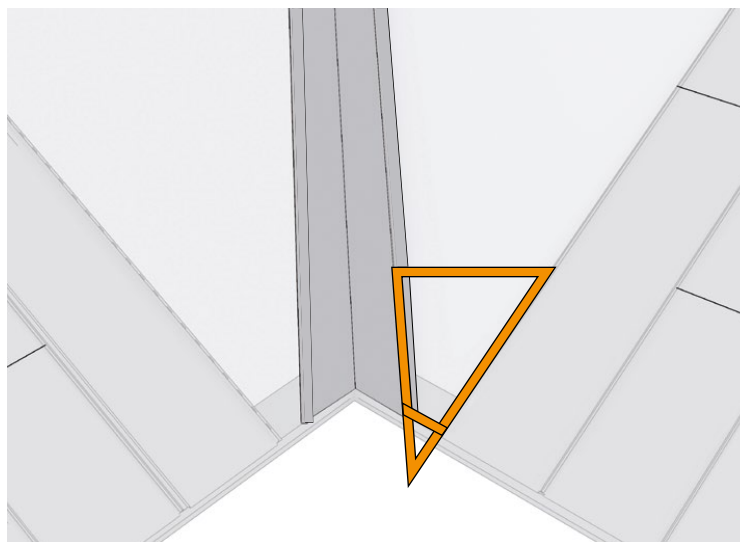
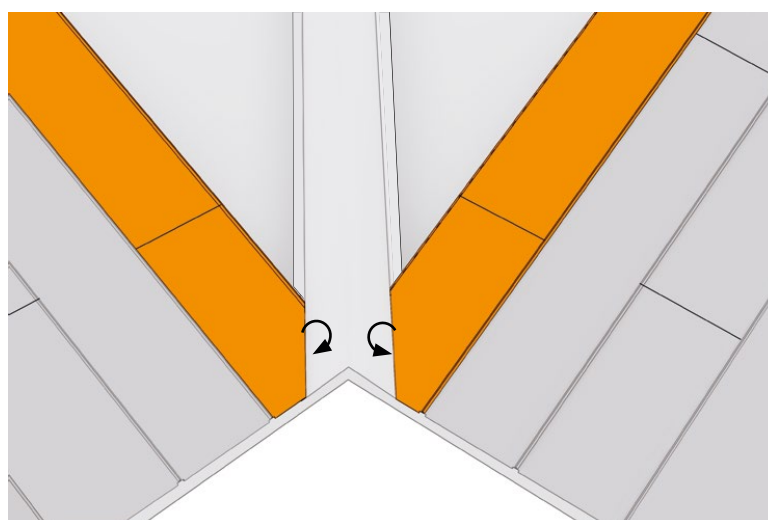


FIG.33 ASSEMBLY OF THE PANELS TO THE VALLEY GUTTER



17. Ventilation chimney installation

When installing a ventilation stack, the first step is to mark the area where the stack will pass through the structure and the roof covering. Try to lead the stack through the flat part of the panel. Do not cut the opening through the seam. Put the sheet through which the ventilation duct is to pass, but do not screw it to the roof.

Then, put the stack cover in the designated area on the sheet and draw the shape of the opening from the inside.

It is best to start cutting out a shape by drilling a technical hole inside the drawn shape, and then cut the entire hole with sheet metal shears, its diameter being approx. 5 mm smaller than the shape drawn.

Slightly bent the edges of the hole upwards with pliers or sheet metal tongs in order to protect the flange against damage by the sheet edges.

Then, after removing the panel, prepare an opening for the stack in the slope base. The size of the hole should be selected so that it allows the duct to pass through and the sealing collar to be installed.

FIG.34 ADJUSTING THE SHAPE OF THE OPENING TO THE CHIMNEY

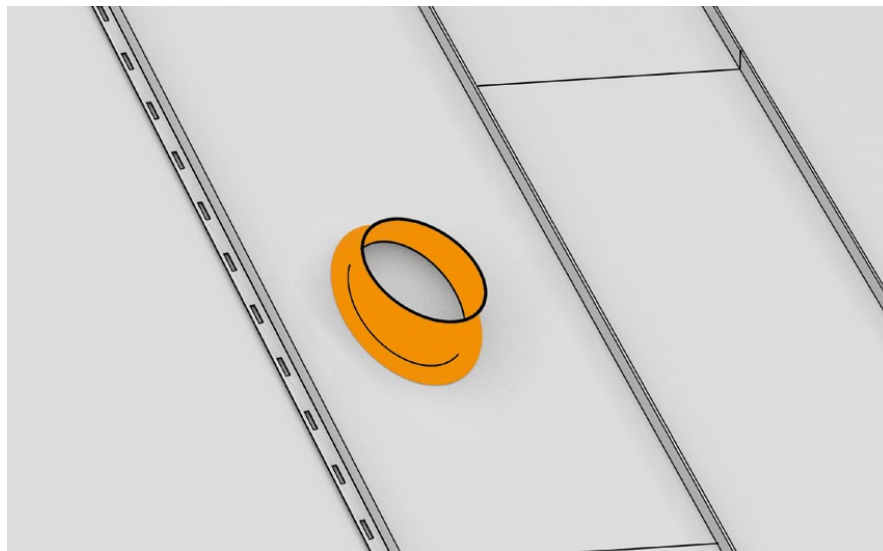


FIG.35 CUTTING THE HOLE



The flange should be installed with screws and sealed with a sealing compound or dedicated tape, depending on the substrate.

Next, put on and install the sheet with the cut hole, having previously led the stack base through the hole.

The next step is to install the stack cover so that it covers the opening and seal it with a dedicated compound or tape.

Next, pass the ventilation duct and connect it to the upper part of the stack.

Place the chimney in the previously installed cover, set the position and lock it with a screw.

FIG.36 CHIMNEY FLANGE INSTALLATION

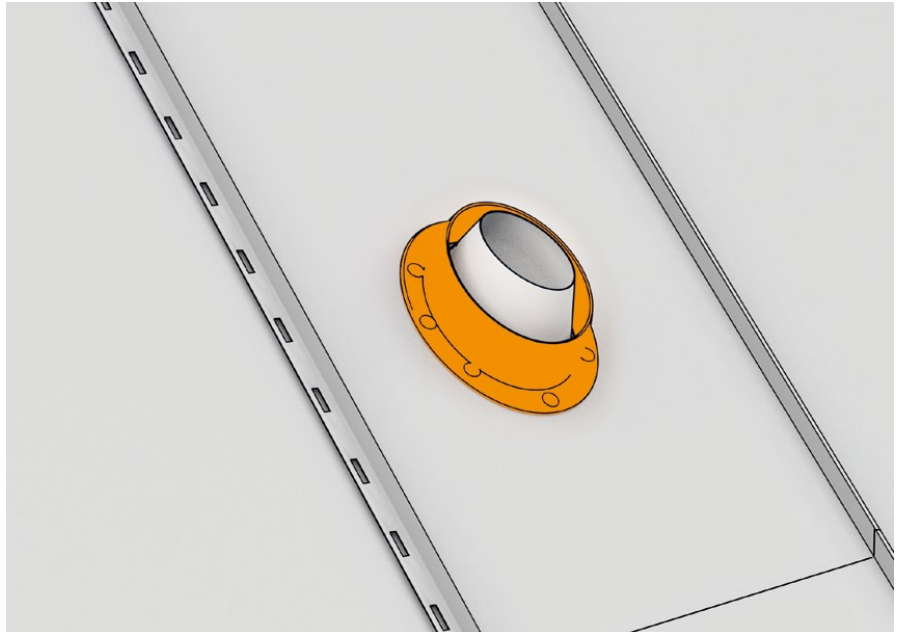
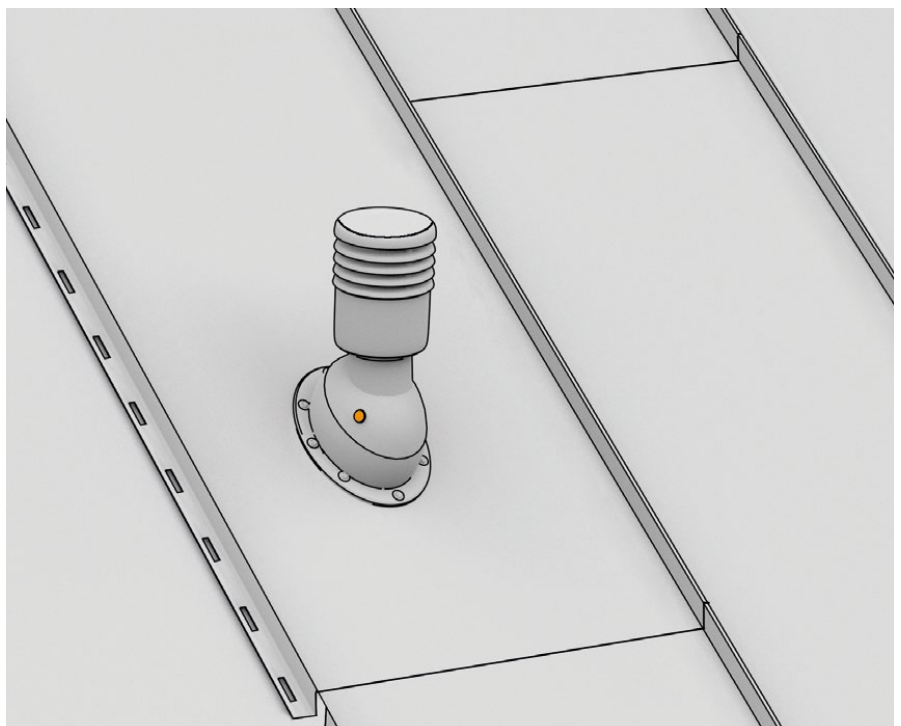


FIG.37 VENTILATION CHIMNEY INSTALLATION



18. Wall flashing installation

In this manual, we present one of the possible solutions.

The first step is to prepare and attach the grips to the roof that will be used to fix the edge panel. Such grips can be prepared from strips of steel sheet bent at right angles.

In the discussed solution, the wall flashing is the bending of the edge panel against the wall. This bending must be min. 200 mm; therefore, the section of the grip adjacent to the wall should be sufficiently longer than the bend of the edge of the panel to enable the connection to be made.

The flashing made of the edge panel should be at least 200 mm high. Moreover, its upper edge should be folded up, which will allow a secure connection with the previously prepared grips without the need for additional fastenings.

FIG.38 ATTACHING THE GRIPS TO THE ROOF

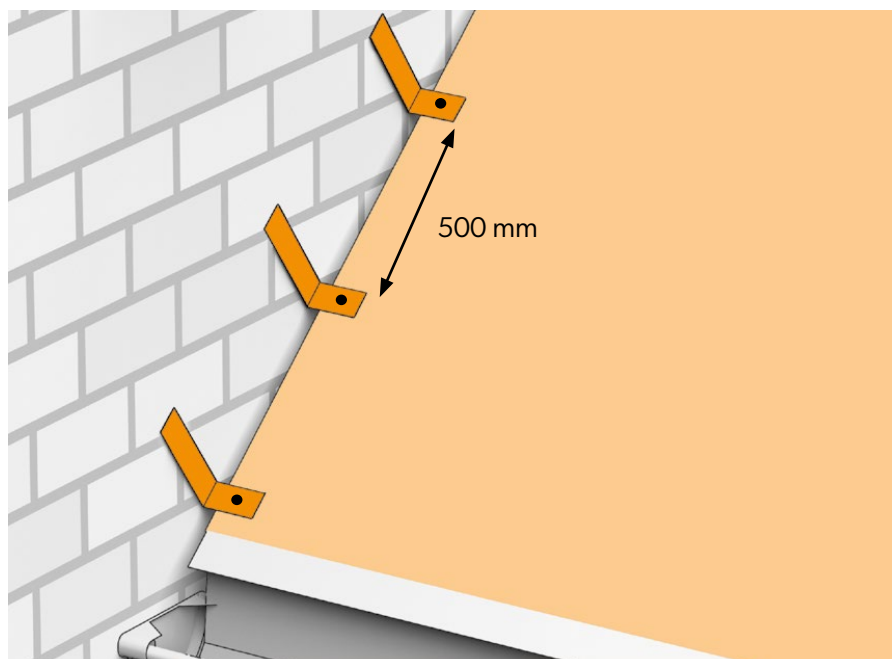
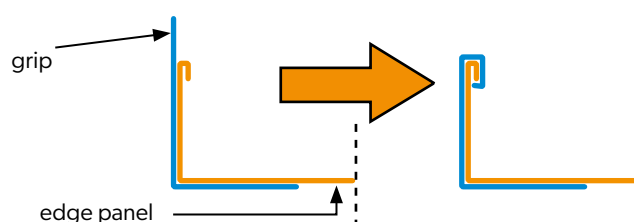
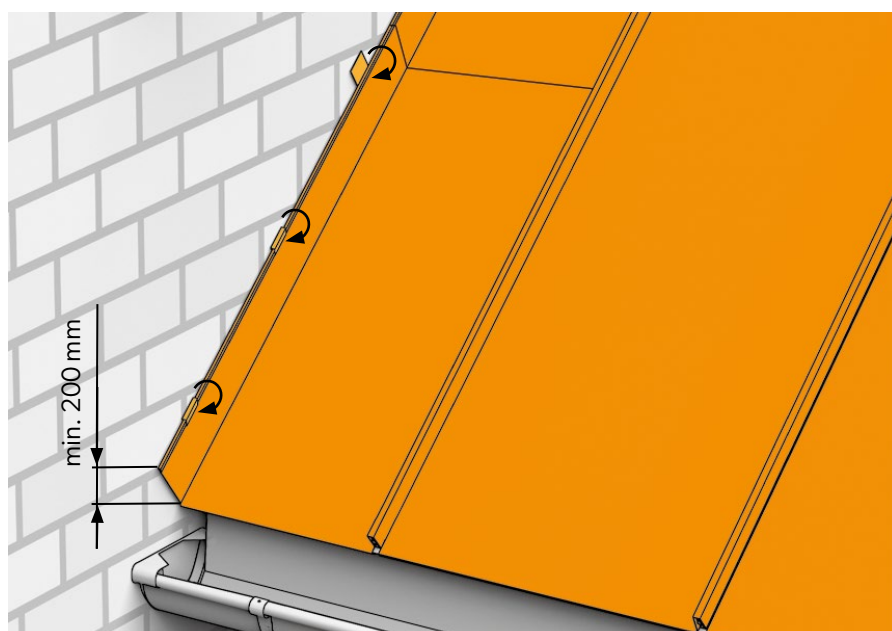
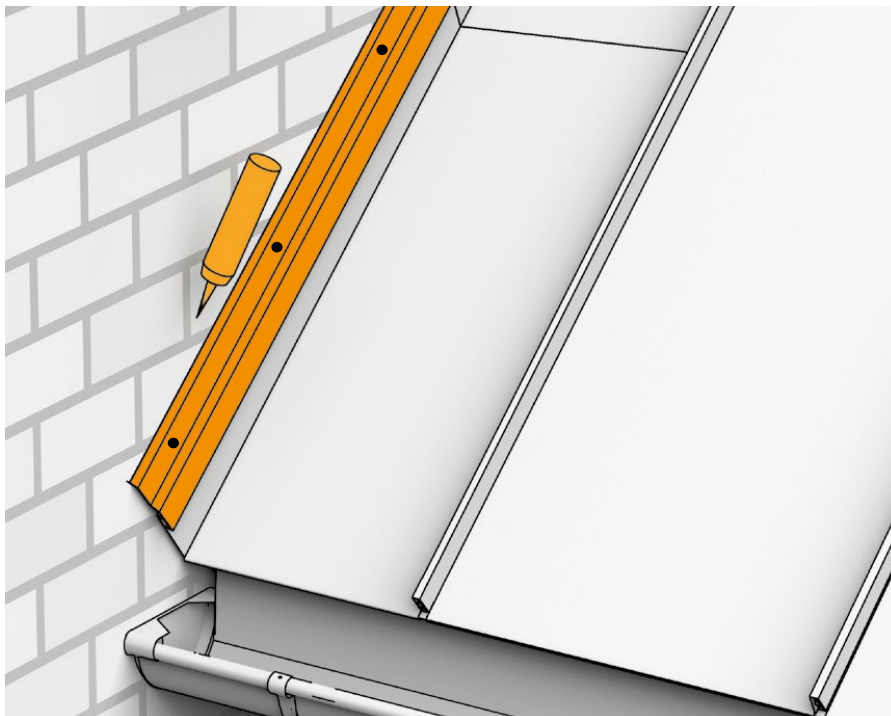


FIG.39 WALL FLASHING ASSEMBLY



The joint with the wall should be protected with an expansion strip and, if necessary, additionally sealed with roofing sealant.

The expansion strip must be attached to the wall.

FIG.40 EXPANSION STRIP INSTALLATION

19. Roof window installation

Before starting the work, remember to carefully measure the area the place where the window is to be mounted, so that the arrangement starts with panels of the appropriate width. It is important because we must remember that due to the specificity of this product and ensuring the highest possible tightness of the flashing, it is best to use a welt made of roof panels and flat steel sheet.

After determining the window installation location, cut the hole in the roof structure. For this purpose, outline the window frame, bearing in mind the structure and shape of the frame holders, so that after cutting an opening in the boarding, assembly to the structure is possible.

The next step is to protect against the effects of condensate. For this purpose, we use system flashings recommended by window manufacturers or we use a roofing membrane.

After securing the window with the roof membrane, proceed with the installation of the panels under the window.

Finishing the window from below can be done in two ways:

1. by making a window sill flashing, where the base of the flashing is a ventilation strip, 2. with the use of a custom-made starting flashing. This manual presents the second method as more universal.

Cut the panels to the size so that there is a space of about 10-15mm between the window and their edge after fastening them on the initial flashing of the eaves.

FIG.41 INSTALLATION AREA OF THE ROOF WINDOW

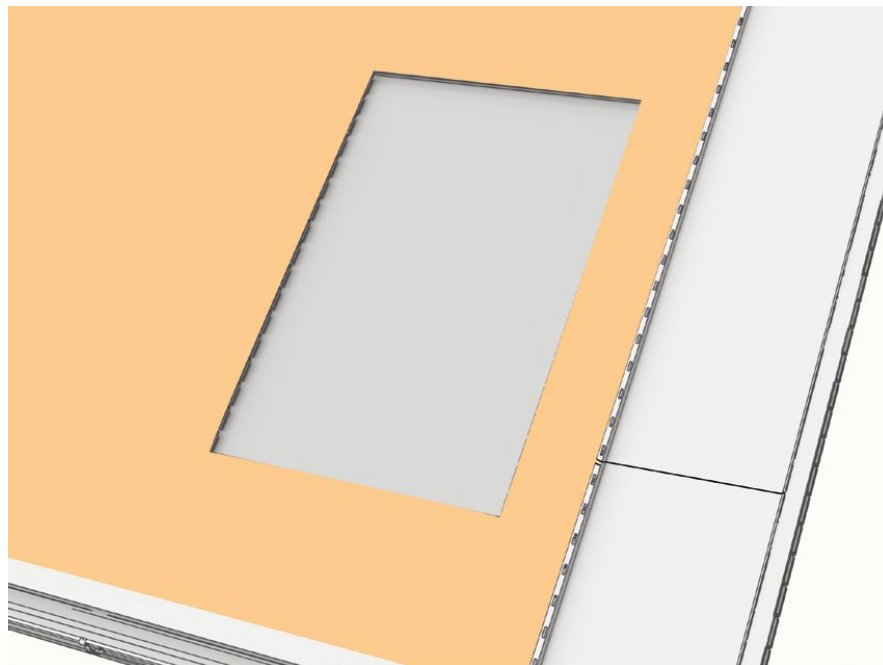
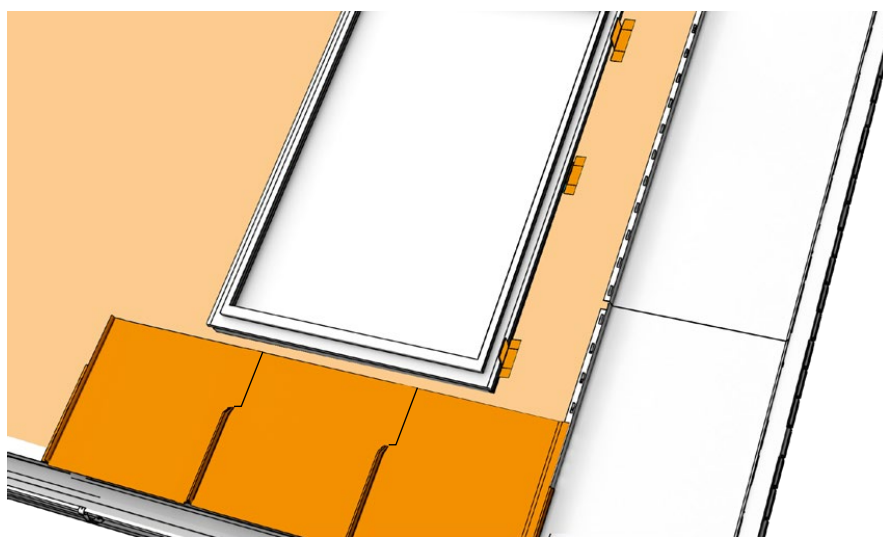


FIG.42 INSTALLATION OF PANELS UNDER THE WINDOW AND TAPPING OF THE SEAMS



The next step is to prepare the seams for the transverse connection of the panels. For this purpose, cut the outer parts of the seams on both sides of the window to the length of the overlap to enable the execution of longitudinal joining with the subsequent roof panels.

On the other hand, the seams falling directly under the window should be tapped flat to allow the installation of a custom-made starting flashing.



It should be remembered that the seams are always seamed down.

Measure approx. 200 mm for the lower flashing and install the starting flashing. This strip will also serve as a start for the side flashing panels.

Measure the bottom flashing of the window, mark it, roll the side edges with a folding device, creating a transition from the roof plane to the vertical plane of the window frame. Clamp the fold and profile the edges into an arc. This will allow us to have an aesthetic and tight connection with side flashings.

Fasten the flashing with the previously installed starting flashing.

FIG.43 INSTALLATION OF A CUSTOM-MADE STARTING FLASHING

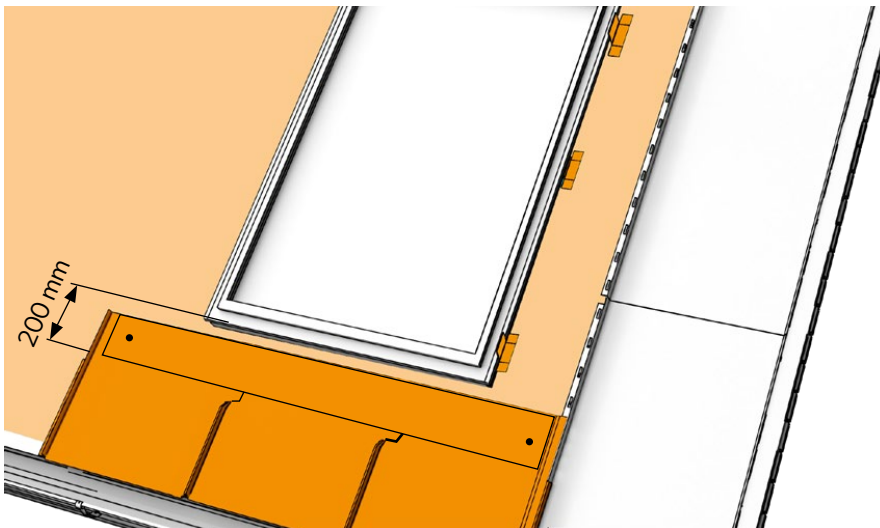
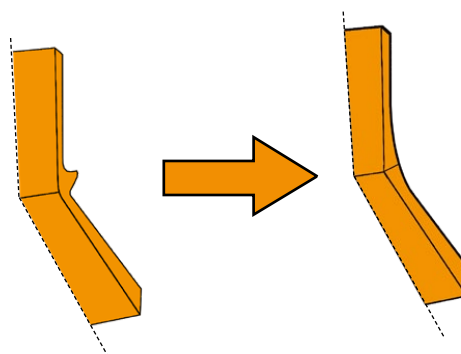
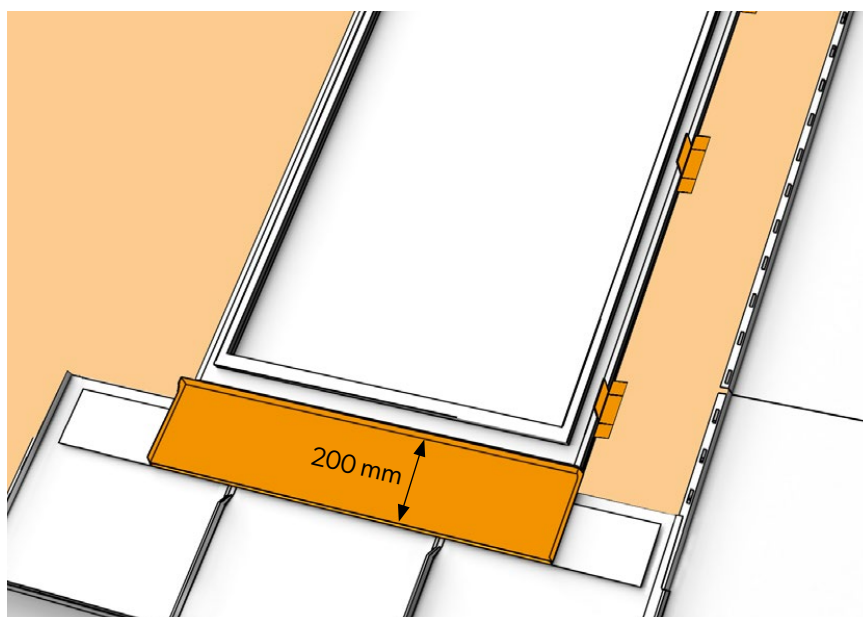


FIG.44 SILL FLASHING ASSEMBLY



Make side flashings of the window from **FIT** panels, cutting and bending them to the side surface of the window and to top and bottom flashings. Also, remember to cut out the outer parts of the locks on the upper part of the flashings in order to connect them later in length with the next panels above the window.

In the next step, join the side flashing with the bottom flashing using welt. Finally, install factory window flashings.

FIG.45 ASSEMBLY OF THE WINDOW SIDE FLASHINGS

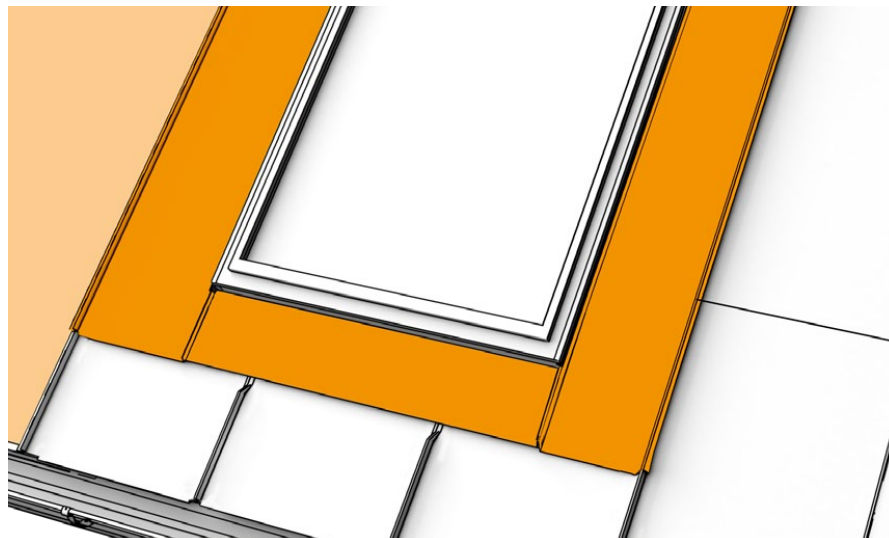


FIG.46 PREPARATION FOR MOUNTING THE UPPER WINDOW FLASHING

The upper part of the side flashing should be cut into an arc and a welt element should be made - the edge bent outwards about 10 mm, which will be used to slide the upper window flashing over. The upper flashing will be stamped on the side flashing prepared in this way.

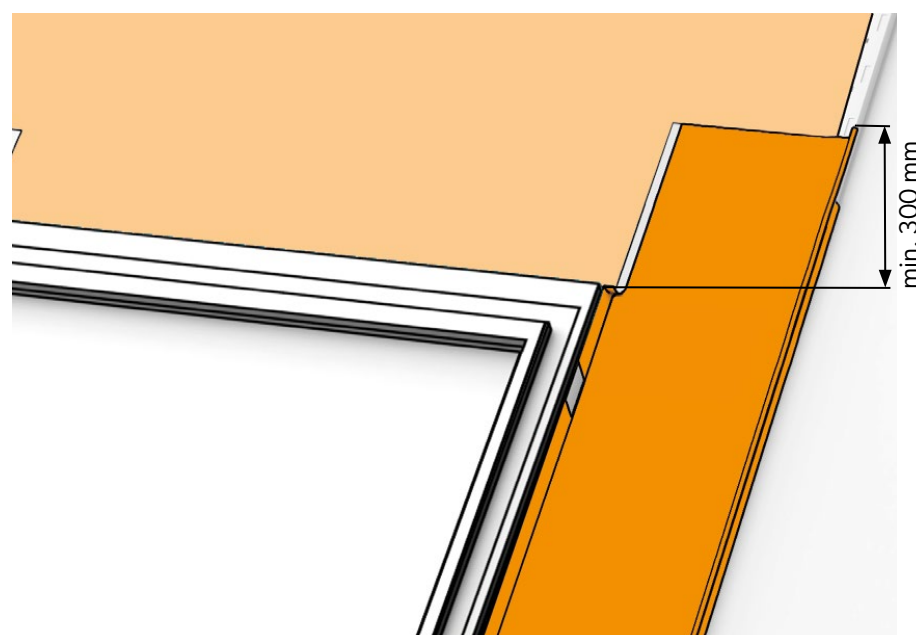


FIG.47 WINDOW FLASHING ASSEMBLY

The metal sheet for the upper flashing of the window should be bent approx. 10 mm at the side edges, leaving approx. 2 mm for its stamping.

Then, use a batten to nail the back flashing to the height of the side flashing, remembering to form an approx. 20 mm waterproofing strip on the upper edge.

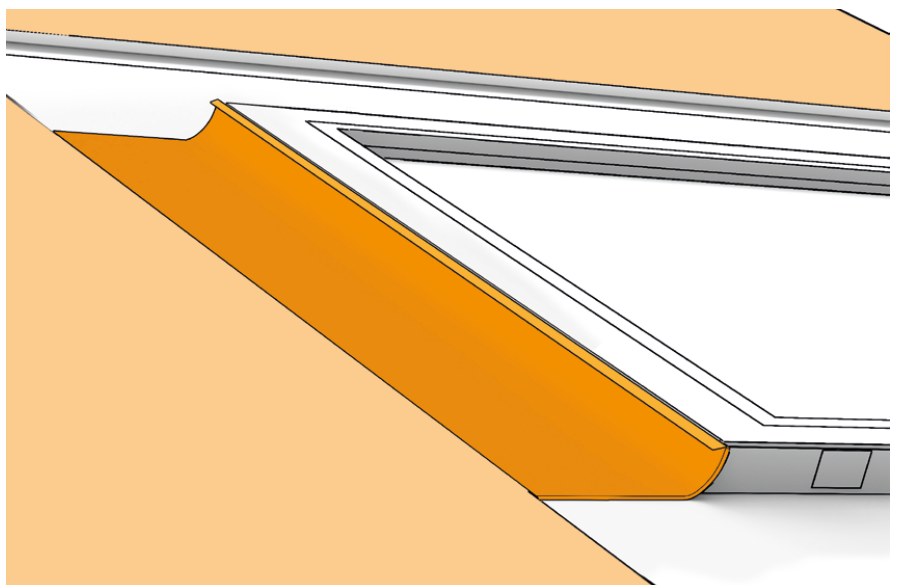
Placing a smaller sheet and using it as a guide makes it easier to slide the upper flashing.



Cross-section of the upper roof window flashing

FIG.48 BEND OF THE WATERPROOFING STRIP

After inserting the upper flashing, bend the waterproofing strip downwards, tap the top of the welt on the window frame, and then install the factory closing flashing.



Install the starting flashing on the side of side flashings and window flashings.

Remember to tap the joints and horizontal welts with a batten.

FIG.49 MOUNTING THE STARTING STRIP ABOVE THE WINDOW

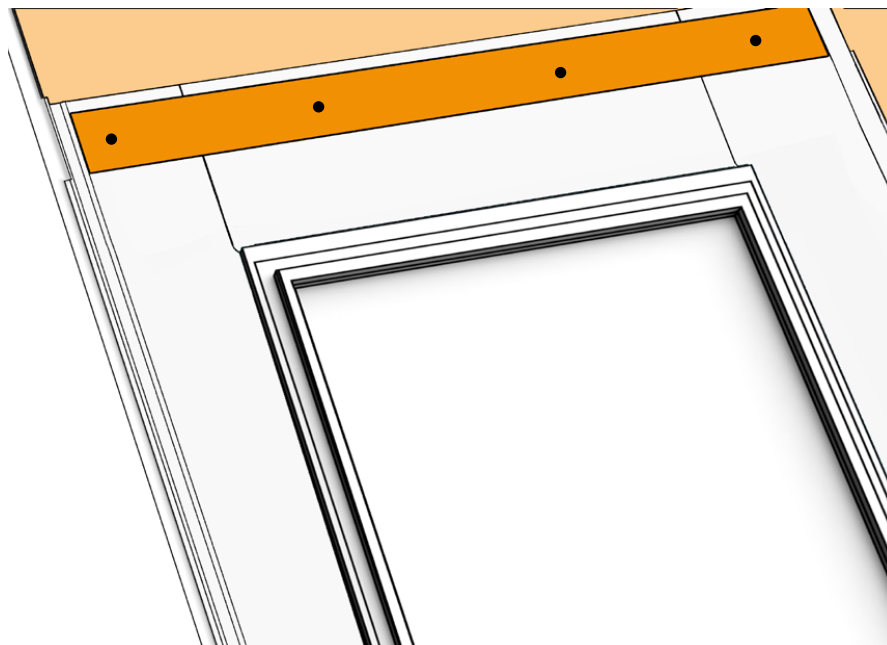
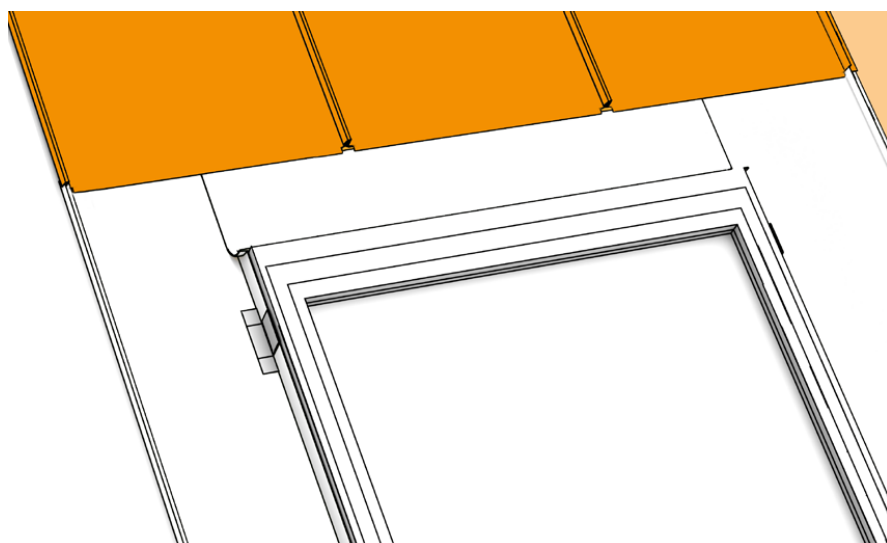


FIG.50 INSTALLATION OF PANELS ABOVE THE WINDOW

Install the panels above the window by hooking the starting flashing and joining the seams with the previously cut panel seams below.



20. Stack flashings installation

If it is possible, when planning the arrangement of **FIT** panels on the roof slope the stack is located on, it is worth noting that the stack flashings will look most advantageous in terms of aesthetics if the panels are arranged symmetrically in relation to the stack.

The bottom panels should be installed right up to the stack, leaving 10-15 mm of play to allow the sheet to work freely.

As in the case of the roof window flashings, keep in mind to cut the external elements of the seam to the connecting distance.

To connect the panels or fasten the flashing, use the so-called custom-made starting flashing, remembering to seal between the sheets. It is of great importance for capillary rise of rainwater.

The stack flashing should begin with the preparation of the bottom flashing. The first step is to measure and mark the sheet from which the processing will be made. After cutting the steel sheet and tracing the cuts and fractures, make a transition from the roof plane to the stack plane using a folding device.

The panels are installed by connecting them along their length in accordance with the rules described in point. 13.
Connecting panels along the length.

After tightening the fold, the edge radius should be cut to the shape of an arc. It will allow for the seam and aesthetic finishing of the flashing.

When installing the stack flashing, remember to make a two-centimetre waterproofing strip on their upper edge.

FIG.51 INSTALLING A CUSTOM-MADE STARTING FLASHING

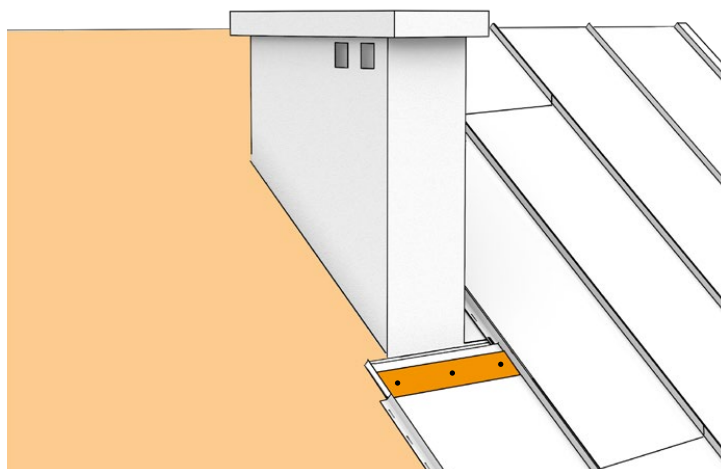


FIG.52 BOTTOM FLASHING OF THE STACK WITH A BENDING INTO A FOLD

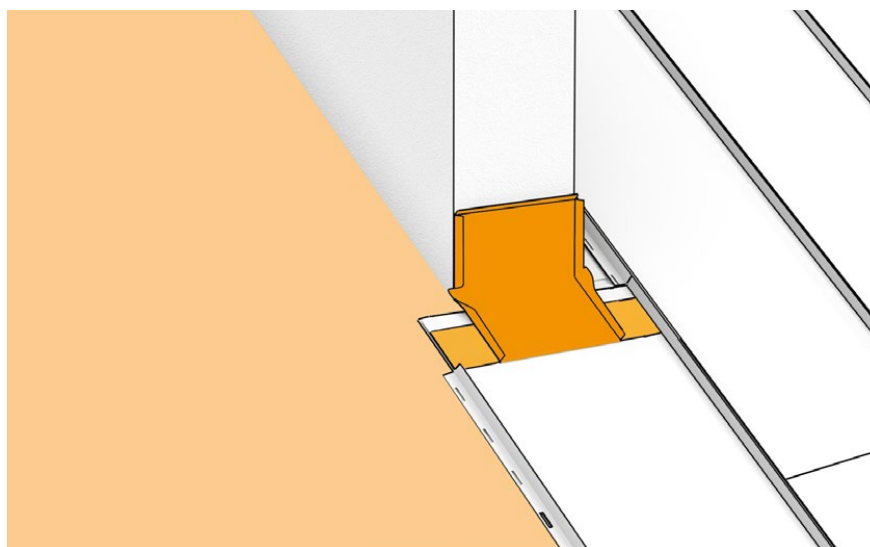


FIG.53 TRANSITION FROM THE STACK PLANE TO THE ROOF PLANE MADE WITH A FOLDING DEVICE

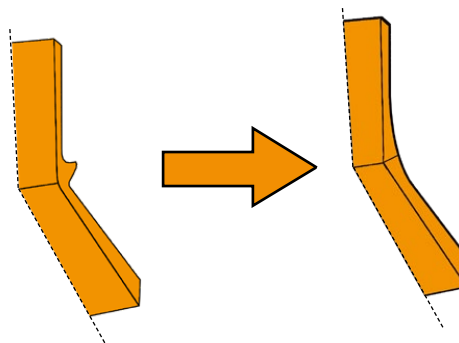


FIG.54 CLAMPING THE FOLD AND CUTTING THE RADIUS IN THE SHAPE OF AN ARC

The external side flashing must be positioned perfectly, otherwise it will not allow the panels to be fastened in a neat and even manner.

Side flashing should be cut approx. 10 mm higher than the lower flashing arc, enabling them to be joined together using a welt. Before starting the welting, the distances of the seam of the steel sheet above the stack should be checked.

After welting, in the upper part of the flashing, tap the seam flat, which will not allow the welt to open.

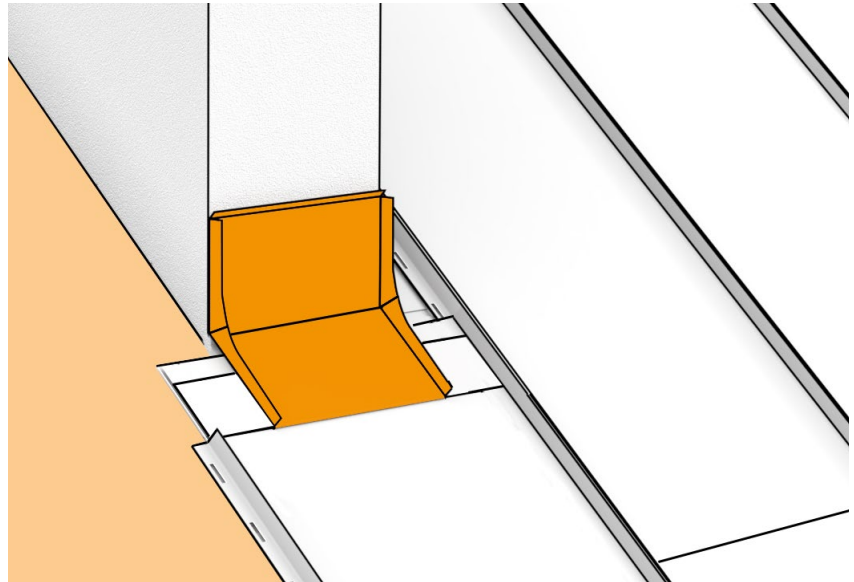


FIG.55 CONNECTING THE FLASHING TO THE REBATE

This operation should be started from the centre of the arc because the sheet will undergo additional stretching at this point.

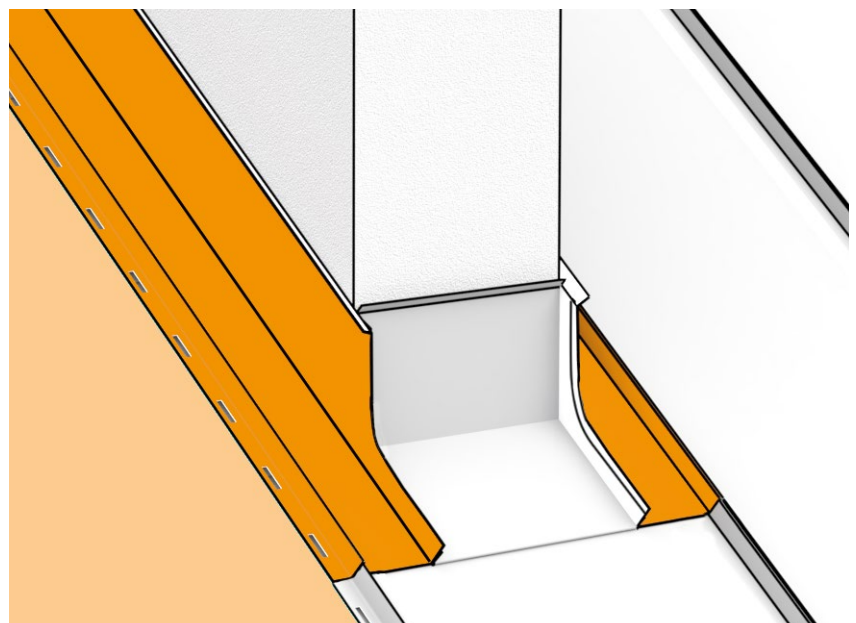
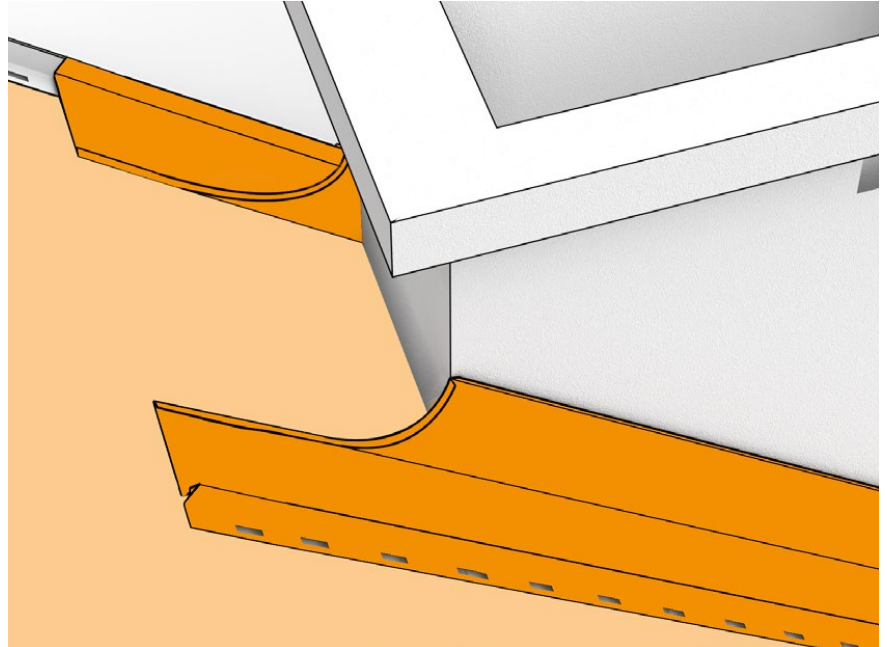


FIG.56 UPPER STACK FLASHING ASSEMBLY

The upper part of the side flashing should be cut into an arc and a welt element should be made - the edge bent outwards about 10 mm, which will be used to slide over the upper flashing of the stack.

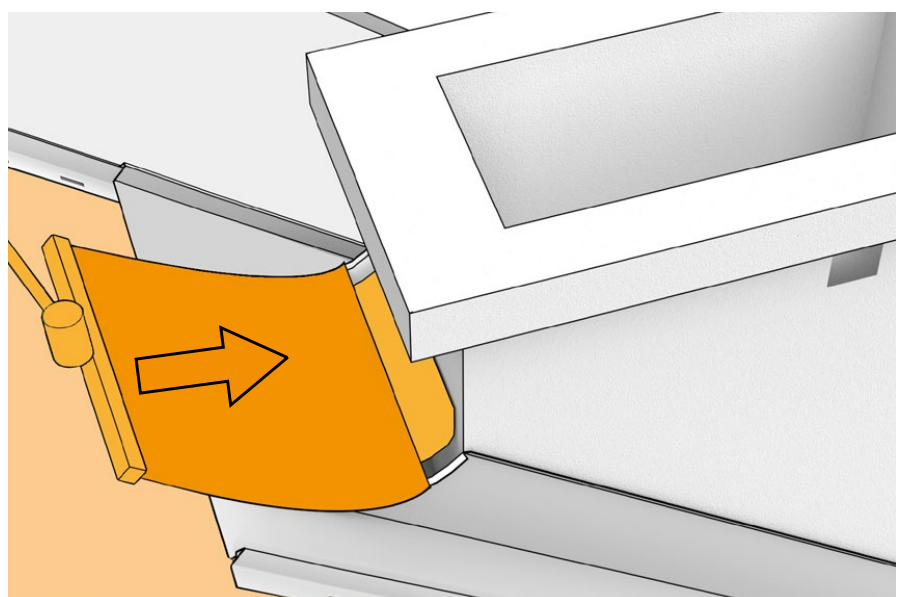
**FIG.57 UPPER STACK FLASHING ASSEMBLY**

The steel sheet for the top flashing of the stack should be bent approx. 10 mm on the side edges, leaving approx. 2 mm for its tapping.

Then, use a batten to nail the back flashing to the height of the side flashing, remembering to form an approx. 20 mm waterproofing strip on the upper edge.

Placing a smaller sheet and using it as a guide makes it easier to slide the upper flashing.

Top flashing cross-section



After sliding over the upper flashing, fold the waterproofing strip down.

Remember to tap the places of the joints and seams with the batten.

After the upper stack has been processed, install the starting flashing for further assembly of the roof panels.

FIG.58 STARTING FLASHING ASSEMBLY

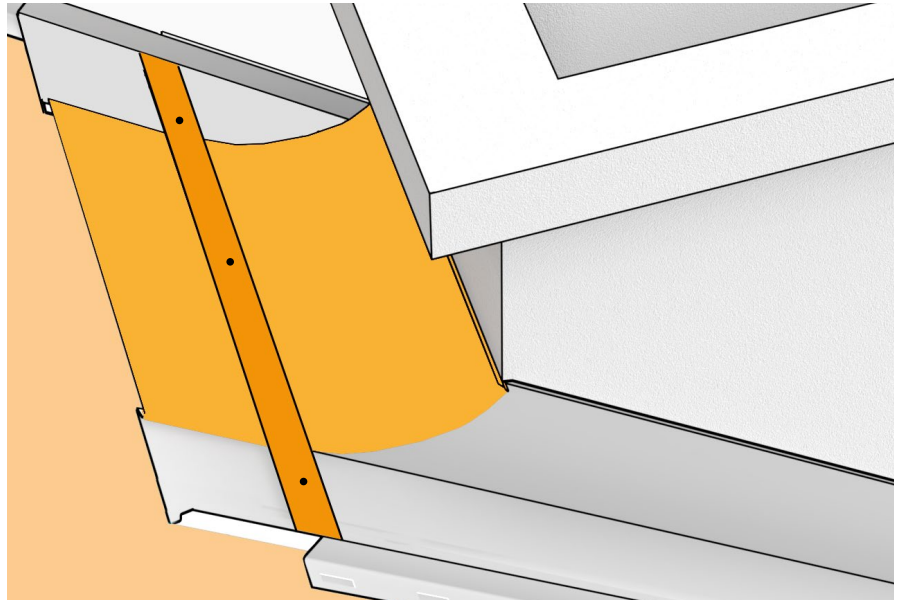
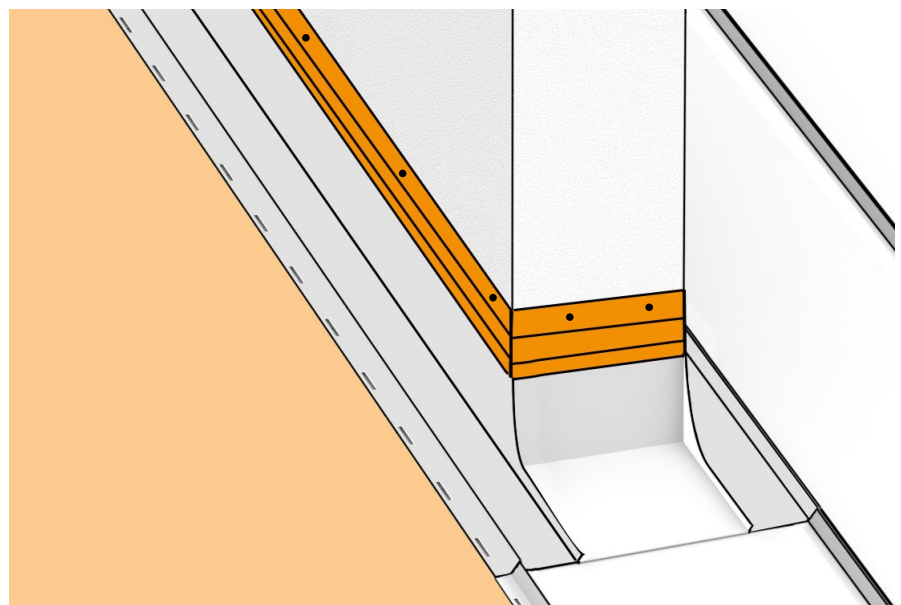


FIG.59 ASSEMBLY AND SEALING OF EXPANSION STRIPS

The last step is to install the expansion strip, which is mechanically attached to the stack wall. The main flashing of the stack must never be mechanically fastened to its wall.



21. The transition of the roof to the façade

We present one of the solutions on dense openwork boarding.

If the **FIT** panels are also intended to be installed on the building façade, the same substructure should be used for the roof: the recommended substrate is a board or boarding and an expansion mat.

Mount the prepared „J” strip to the prepared substructure at the end of the upper part of the façade.

Then, install the **FIT** panels by inserting them into the strip, but first fasten the panel to the prepared starting flashing at the bottom. The panels are screwed to the boards with screws. Remember to screw them in the central part of the mounting holes, leaving a little play because the panel will only work downwards. In this case, the panel in its upper part is fixed permanently.

You should also remember to leave about 10-15 mm of play on the starting flashing.

FIG.60 PREPARATION OF THE “J” STRIP

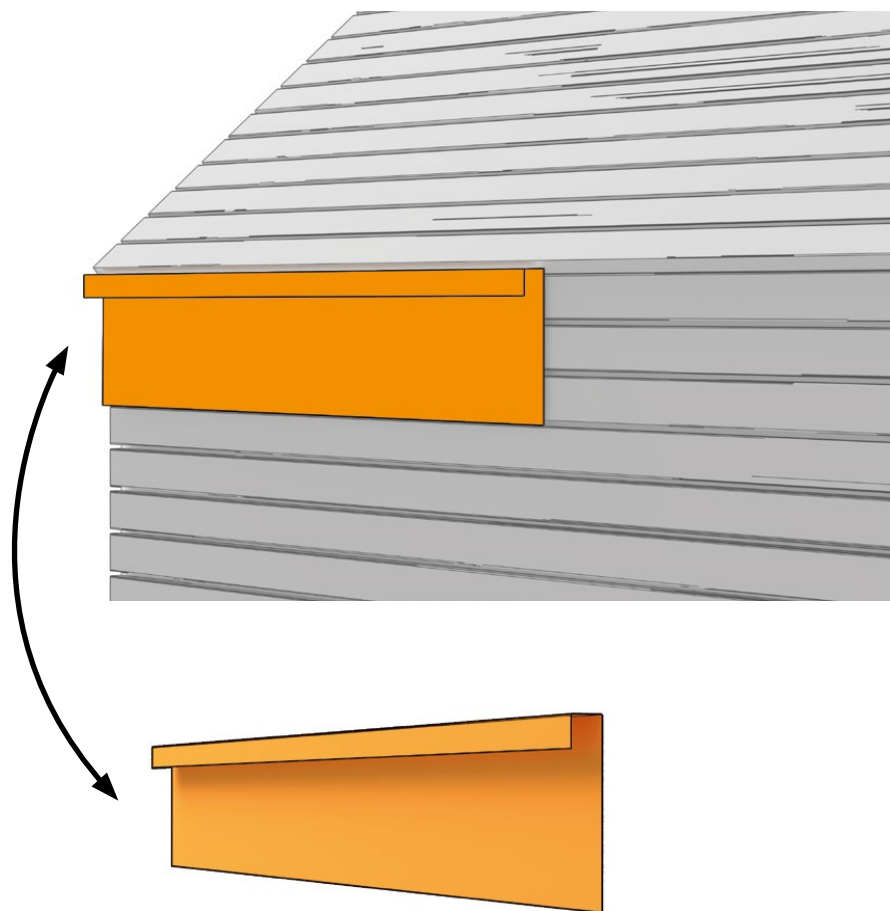
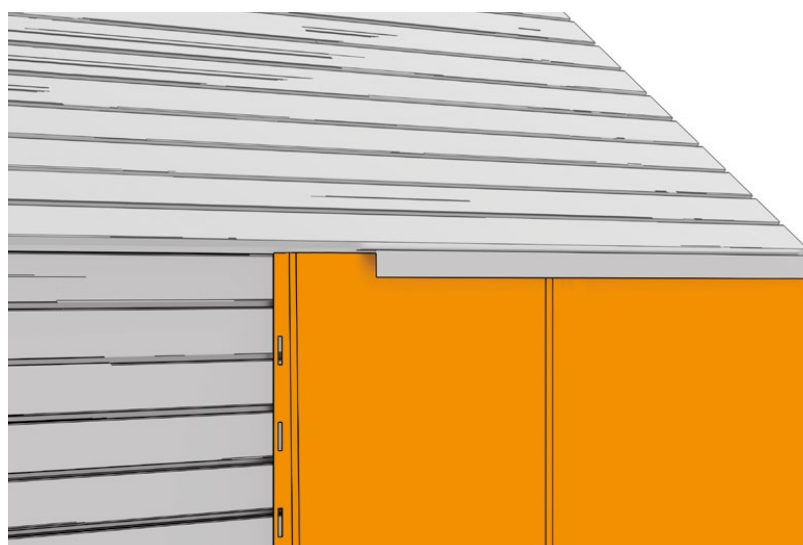
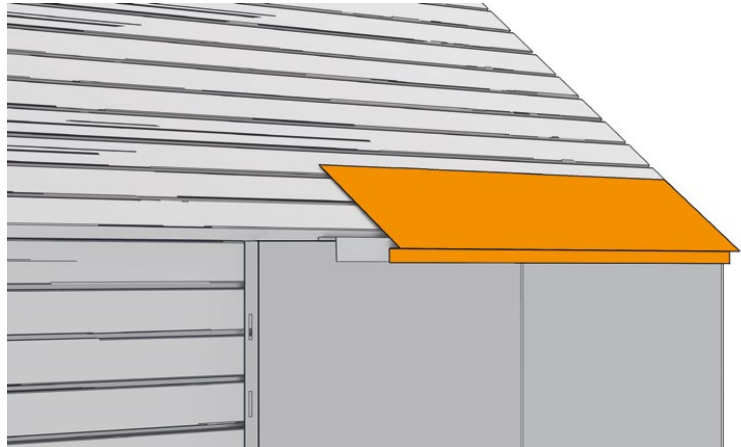


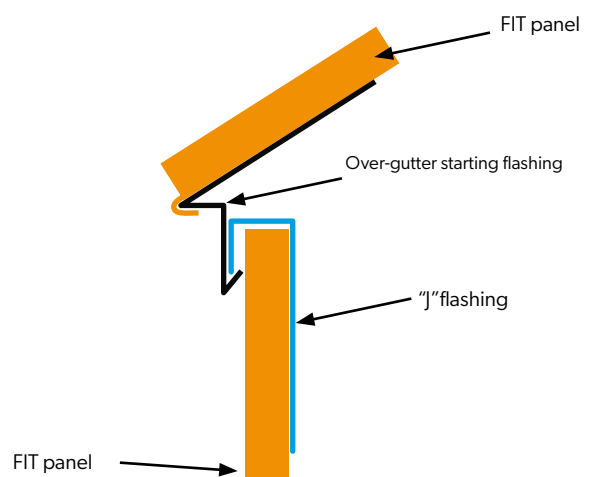
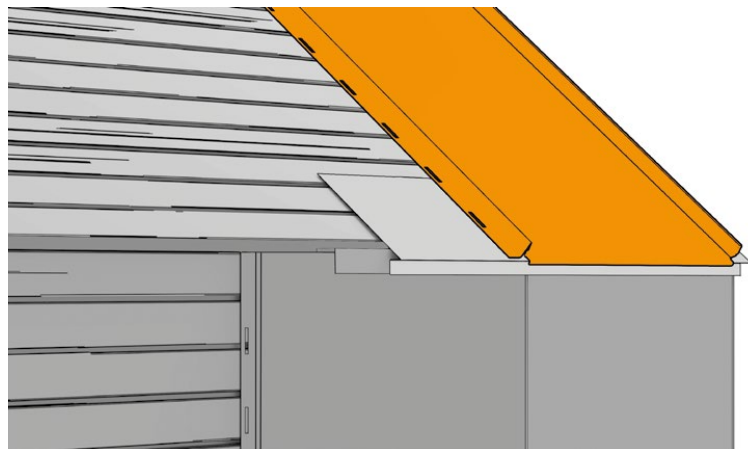
FIG.61 ASSEMBLY OF PANELS TO THE “J” STRIP



After the panels are installed on the façade, we proceed to the installation of the starting flashing. When attaching it, remember to fix it exactly with the prepared and installed "J" strip.

FIG.62 STARTING FLASHING INSTALLATION**FIG.63 INSTALLATION OF PANELS ON THE ROOF SLOPE**

Then, proceed to assemble the panels on the roof slope.

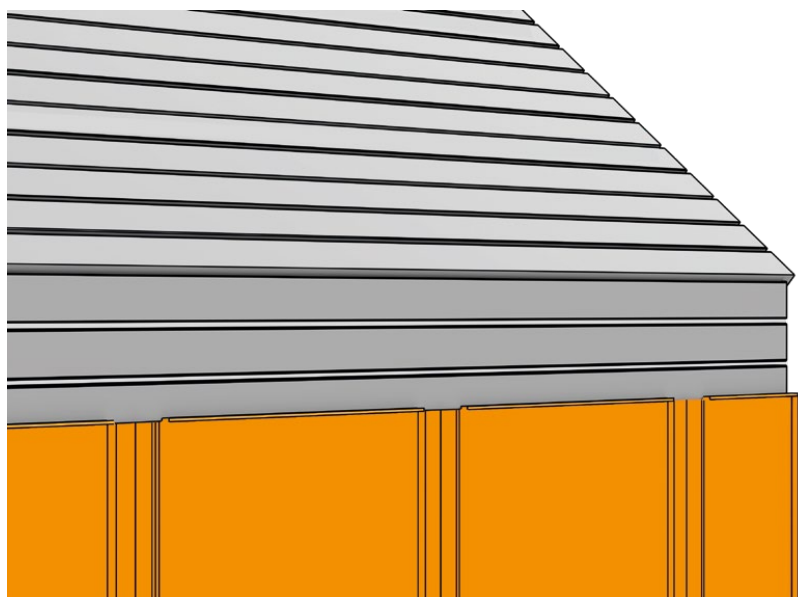


If the rainwater system is to be used, we recommend the solution using a verge trim. The flashing should be custom-made by the roofer.

Similarly to the previous solution, the recommended substrate comprises full boarding or an oriented standard board (OSB) as well as spacer membrane.

We begin to install **FIT** panels on the elevation (see **Fig. 64**). First, it is necessary to hook the panels to the starting flashing at the very bottom. Keep in mind to leave about 10-15 mm play on the starting flashing.

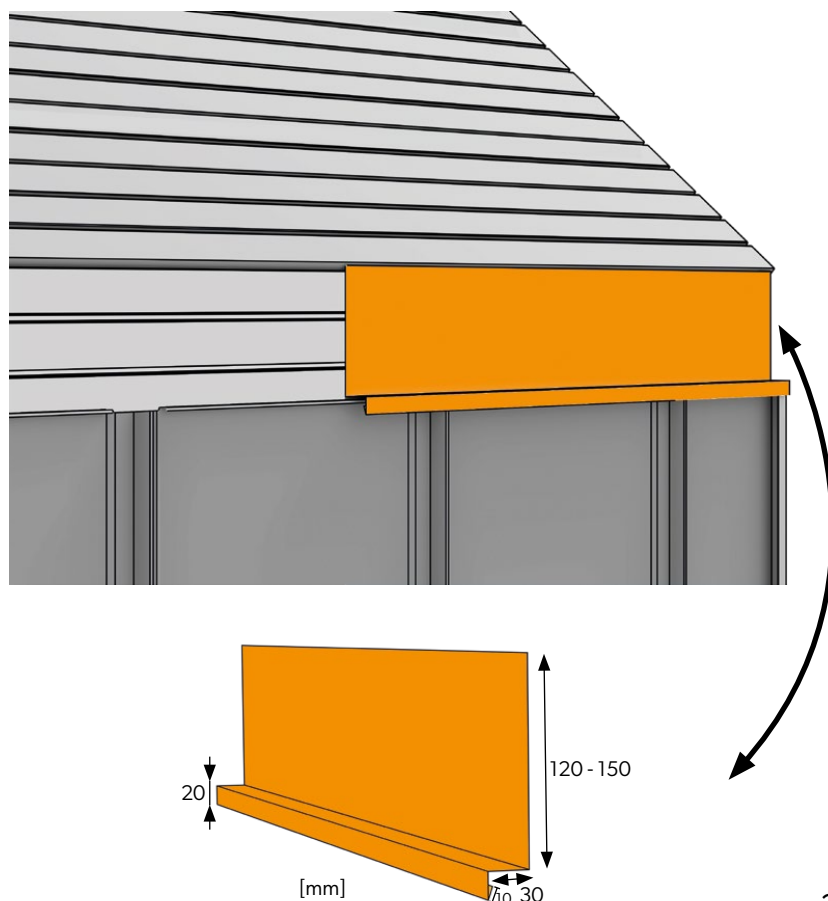
FIG.64 INSTALLATION OF THE FIT PANELS TO THE ELEVATION



Next, use screws to fix the panels to the boarding. Remember to screw the panels in the central part of the mounting holes, thus leaving a little play as the downward movement of the panel might occur. In this case, the top part of the panel is fixed permanently.

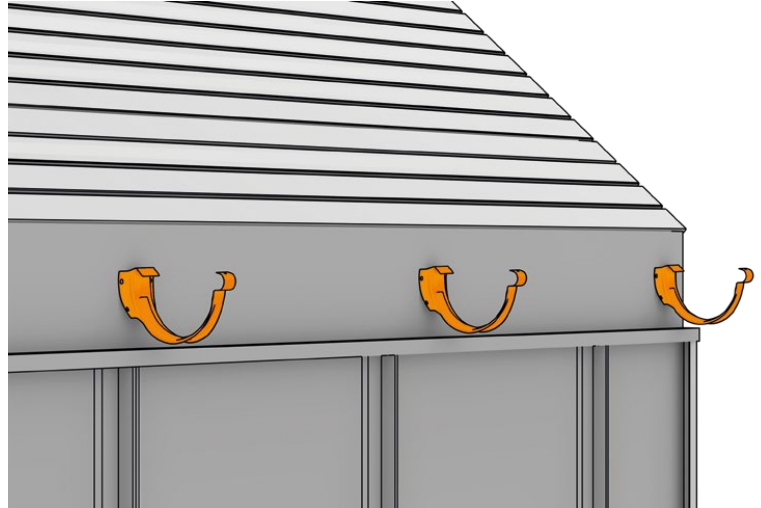
Then, it is required to make a verge trim and install it at the end of the top part of the facade. Recommended dimensions of the flashing are shown in **Fig. 65**.

FIG.65 PREPARATION AND INSTALLATION OF THE VERGE TRIM



Gutter hooks shall be fixed to the verge trim.

FIG.66 GUTTER HOOKS INSTALLATION



Once you install the panels and verge trim and place the gutter, proceed to assemble the drip edge/starting gutter flashing.

FIG.67 STARTING PROFILE INSTALLATION

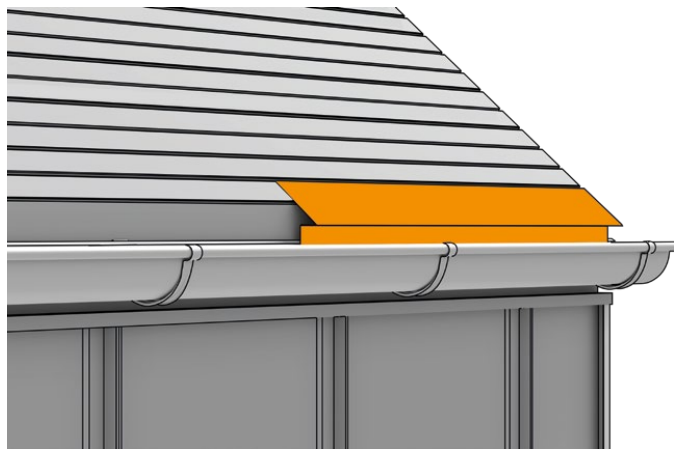
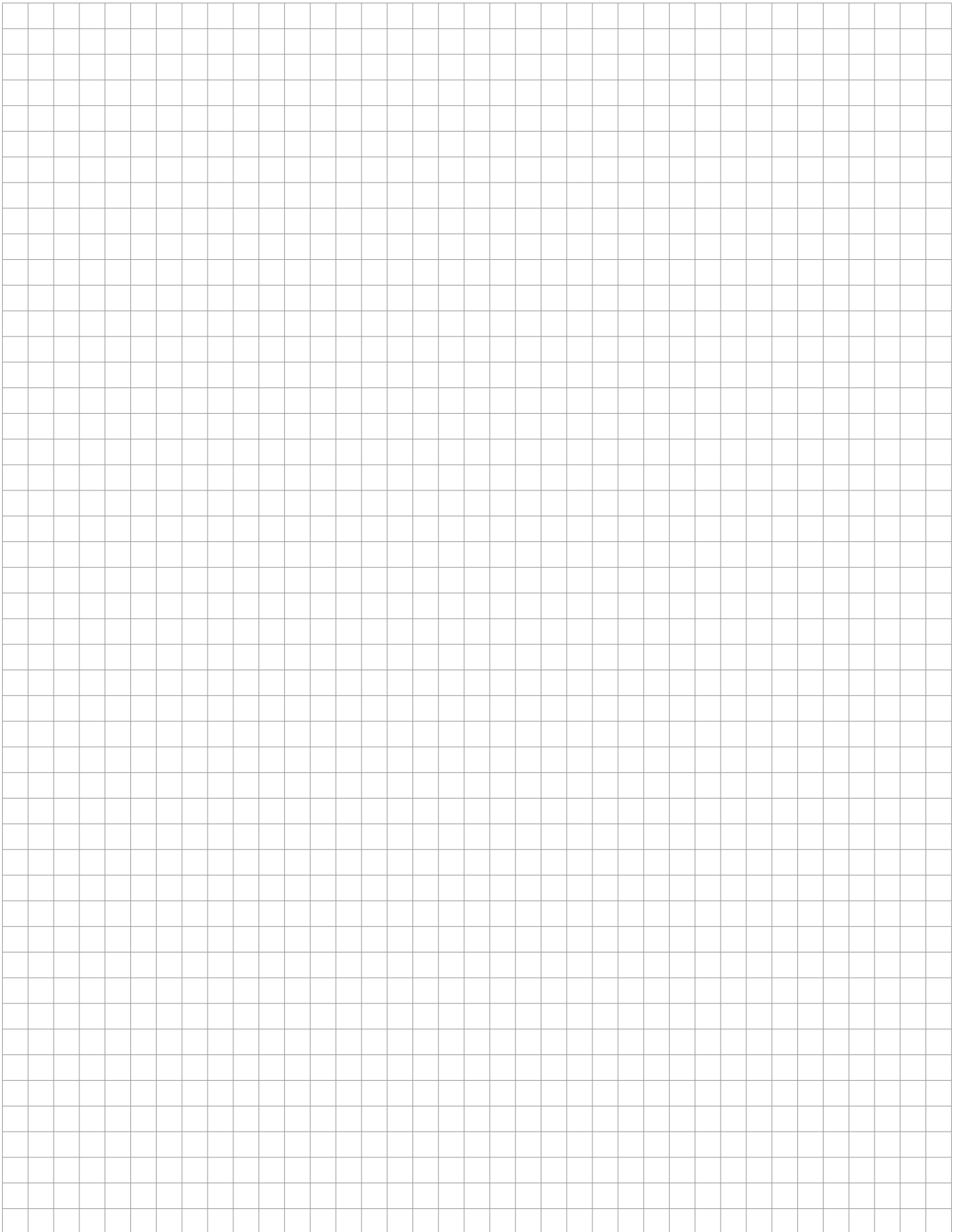


FIG.68 INSTALLATION OF PANELS ON THE ROOF SLOPE

Next, install the panel on the roof surface.



Notes





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