Building your tomorrow.

Seamed sheets installation manual

Classic SR35-475D
Classic SR35-475C

Roofing, Accessories, Arrangement, Assembly procedure

2020 – 1. edition

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Assembly Guide, roof model Classic

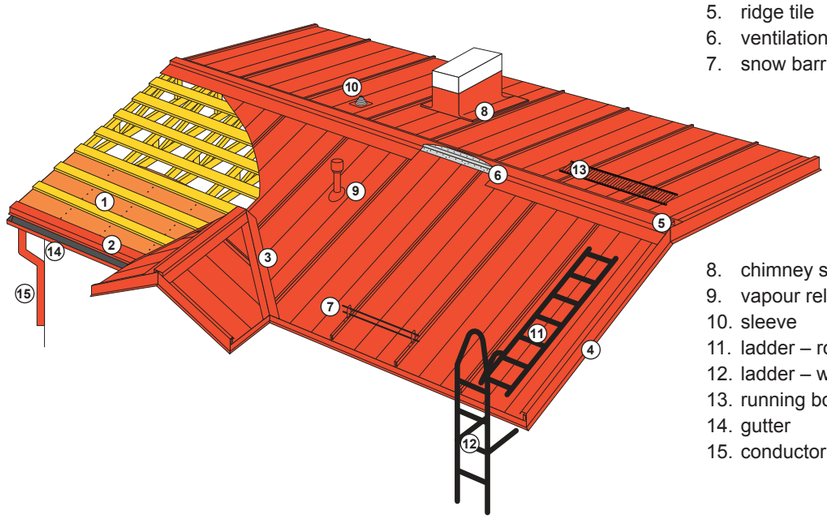
Introduction

Procedures mentioned in the Installation manual are sample procedures only and cannot be applied in roof assemblies of all types and shapes. Technical solution of the roof deck structure including details for specific roof should be specified in the detail design.

Ruukki is the only manufacturer of roofing in Finland that holds the quality certificate issues by Scientific Research Centre seated in Finland (VTT). This certificate applies to all components across the production program of roof coverings.

Schematic drawing:

Roofing, accessories – arrangement and use on the roof structure



1. counter battens, roof board
2. Gutter lining (venting protective strip, trimming under membrane)
3. valley
4. gable lining
5. ridge tile
6. ventilation bar
7. snow barrier
8. chimney sheathing
9. vapour relief vent
10. sleeve
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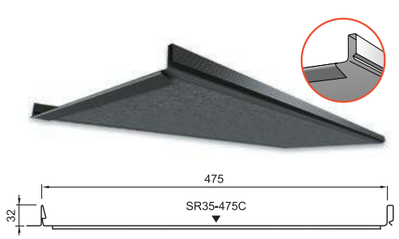
12. ladder – wall
13. running board
14. gutter
15. conductor

Classic premium SR35-475C

(no offsets)

Lock height	32 mm
Covering width	475 mm
Total width	505 mm
Maximum length	10 000 mm
Minimum length	800 mm
Material thickness	0,50 mm
Zinc amount	275 g/m²
Weight	5,2 kg/m²
Min. roof pitch	6 ° (14 °)*



Classic SR35-475D

(with offsets)

Lock height	32 mm
Covering width	475 mm
Total width	505 mm
Maximum length	10 000 mm
Minimum length	800 mm
Material thickness	0,50 mm
Zinc amount	275 g/m²
Weight	5,2 kg/m²
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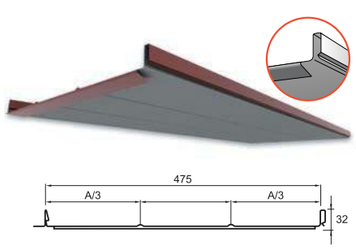


* Classic roofing can be used on roofs with the min. pitch of 6 degrees (in case of patterns that are not divided lengthwise from the gutter edge to the ridge). If the roofing need to be divided lengthwise, Classic roofing can be laid without additional measures up to the pitch of 14 degrees.

Reception of goods

Make sure that the goods delivered corresponds with the order and delivery note. Any discrepancies and faults at delivery and any damage incurred during transport must be recorded in the delivery note, including the name and signature of the carrier, and reported immediately to Ruukki or its sales representative. The company assumes no responsibility for any expenses incurred due to modification of product assembly methods specified in this guide. For further specification see General Delivery Conditions of Ruukki CZ s.r.o.

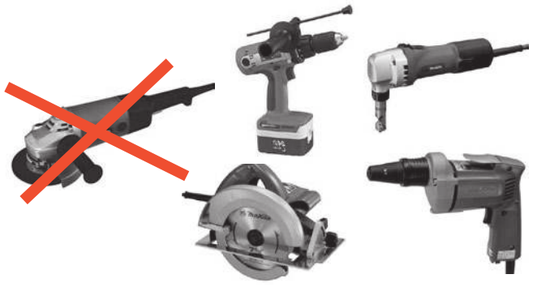
Unloading and handling at delivery

Patterns Classic are usually delivered on pallets, which simplifies their handling significantly. If this is not the case, they are unloaded to roof sheets from the truck on even ground. Under the sheet sets, place wooden beams with the approximate height of 200 mm at 1 m distances. Under regular conditions, wrapped sets of roof covering may be stored for about one month. For longer storage, they must be protected and bevelled to allow vaporization or drainage of collected water. Roof covering in sets may be also transported to the roof. If you transport patterns to the roof using a lifting device or crane, do not remove transportation packing from them before patterns are lifted. If you handle individual pieces of patterns, bear in mind that long patterns must not be lifted by their ends or rub against each other. The best handling method is to hang them by edges or grooves. Individual patterns are lifted to the roof along supports, which are erected between the gutter edge and the ground. When lifting patterns from the ground, the pattern may be held on sides. For safety reasons, do not stay under the roof covering being lifted!

Alignment

The supplied roof covering has already been cut to size. For valleys, hipped roofs and openings, it is necessary to cut roof patterns on site. Roof patterns can be cut by puncher or special circular saw designed for steel plate cutting, by scissors, nibbling machine or by other device that do not cause extreme warming of the plate being cut.

Using angular grinders with cutting disk is strictly prohibited. Using an angular grinder with cutting disk to cut roof patterns will invalidate the warranty of the plate surface immediately.

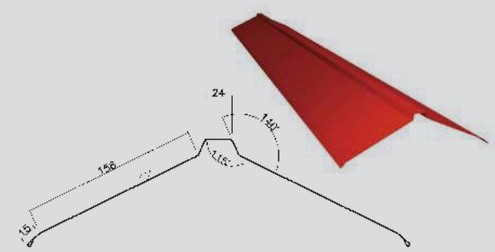


Before you start cutting, ensure protection of patterns against sharp steel cuts that may damage their surface. All metal chips and cuts from drilling, cutting or assembly works must be swept away thoroughly. We suggest you to apply respective repair paint to any cracks on the surface and visible cutting edges. It is necessary to paint the damage part only (repair paint is not designed for overall roofing surface repairs). Repair paint has not identical characteristics as the original finishing, therefore it might get different shade then the original surface finish in the course of years. Using other repair paint then from Ruukki CZ s.r.o. may result in repudiation of eventual complaint.

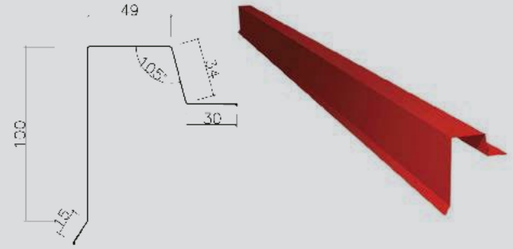
Safety at work

For work with the roof covering use always work gloves and protective cloths. Pay attention to sharp edges and corners. Do not stay under the roofing while being transported.
Ensure that the lifting ropes are in good operating condition, dully installed, and that their bearing capacity corresponds with the roofing weight. Avoid handling of the roofing under strong wind. When working on the roof, be very careful and use a safety rope and shoes with soft sole to secure yourself. Works must be executed in compliance with all safety regulation measure in effect.

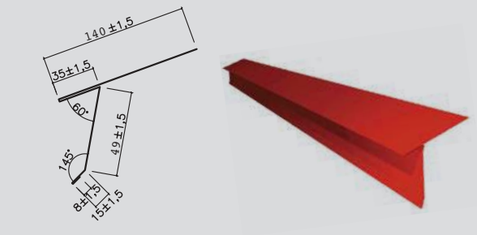
Accessories



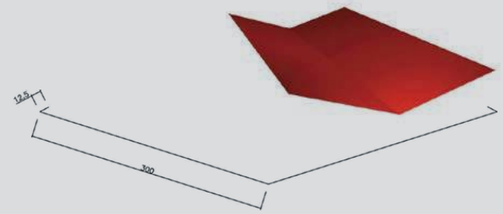
Ridge tile plain RA9AR
covering length 1900 mm



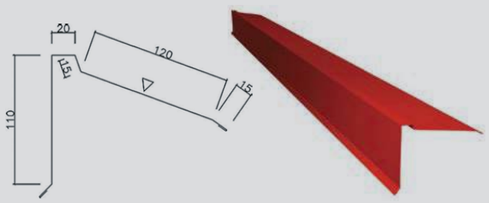
Gable lining RA9AEF
covering length 1900 mm



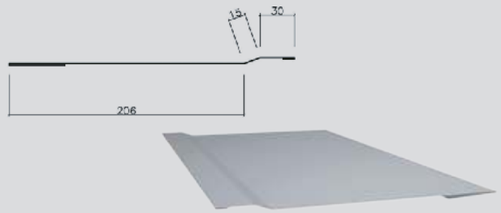
Gutter lining extended RA1AECZ
covering length 1900 mm



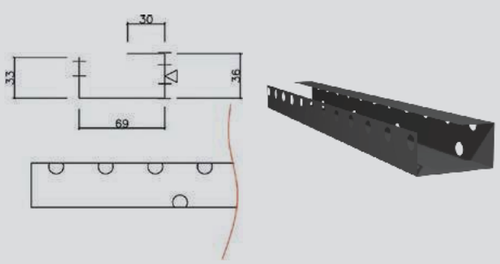
Valley 625RA1BV
covering length 1700 mm
Available with standing seam or recessed



Pent edge lining RA1AEU
covering length 1900 mm

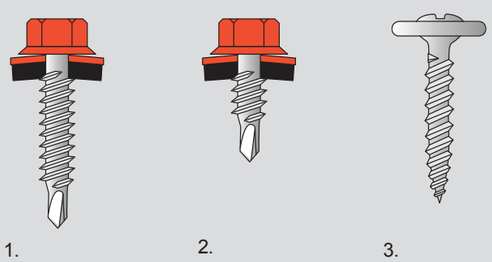


Adjusting piece to connect the roofing Classic RA1ACJ width 460 mm



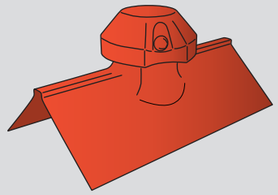
Ventilation bar RA1AS460
length 460 mm for horizontal ridge tile, and 3000 mm for bevelled ridge tile (hip)

Note:
For all available accessories for the roofing Classic see the current price list of RUUKKI.

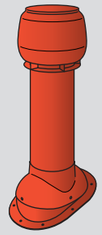


1. 2. 3.

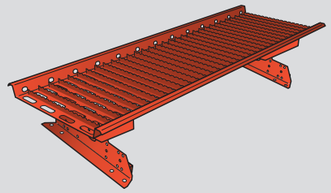
Jointing material
1. screw 4.8 × 35 mm (250 pcs/pack)
2. screw 4.8 × 20 mm (250 pcs/pack)
3. screw 4.2 × 25 mm with flathead (250 pcs/pack)



Plain ridge tile ventilation RA12PF

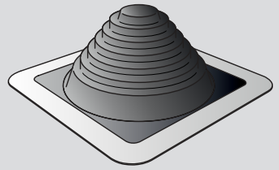


Vapour relief vent
Ø 110 mm non-insulated SET RA4VHLS110U
Ø 125 mm insulated SET RA4VHLS125I



Running board
length 1000 or 3000 mm RSBSB

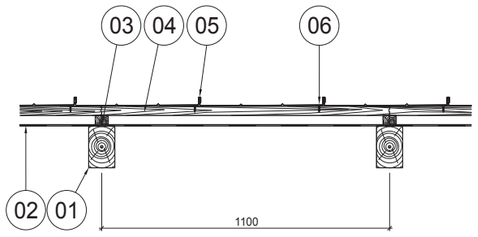
Snow barrier RSSSA
length 3000 mm, incl. accessories



Sleeve from EPDM RA4BS
(dismountable, not dismountable)
Ø 6–660 mm

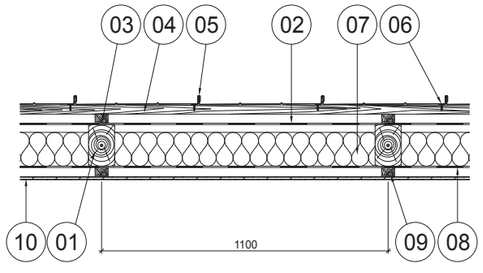
Roof deck structure

1. Non-insulated roof structure



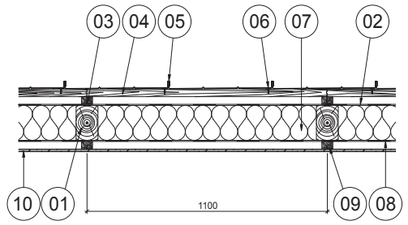
Legend
1. Roof spar
2. Membrane
3. Counter batten 40 × 60 mm
4. Board 28 x 100 mm
5. Roofing Classic SR35-475D
6. Wood screw 4.2 × 25 mm

2. Insulated roof structure



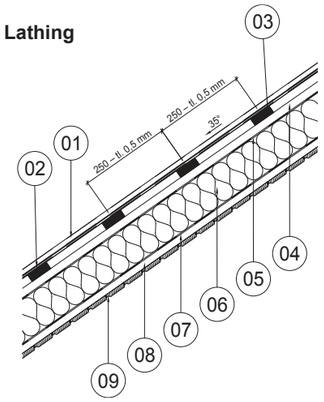
Legend
1. Roof spar
2. Membrane
3. Counter batten 40 × 60 mm
4. Board 28 x 100 mm
5. Roofing Classic SR35-475D
6. Wood screw 4.2 × 25 mm
7. Thermal insulation
8. Moister stop
9. Wooden grid
10. Ceiling (drywall, matched lumber)

3. Insulated door structure



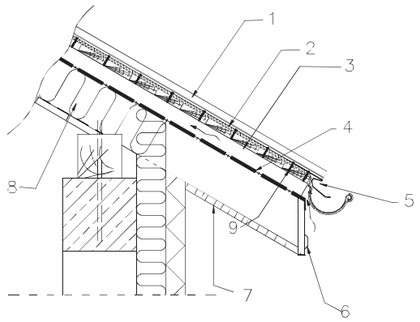
Legend
1. Roof spar
2. Membrane
3. Counter batten 40 × 60 mm
4. Board 28 x 100 mm
5. Roofing Classic SR35-475D
6. Wood screw 4.2 × 25 mm
7. Thermal insulation
8. Moister stop
9. Wooden grid
10. Ceiling (drywall, matched lumber)

Lathing



Legend
1. Roofing Classic SR35-475D
2. Wood screw 4.2 × 25 mm
3. Board 28 x 100 mm
4. Counter batten 40 × 60 mm
5. Membrane
6. Thermal insulation
7. Moister stop
8. Wooden grid
9. Ceiling (drywall, matched lumber)

Detail at the gutter – full boarding + structured separation layer



Legend
1. Roofing Classic
2. Full boarding from boards e.g. 28x100mm
3. Structure separation layer may be installed on full boarding
4. Counter batten
5. Membrane
6. Gutter lining for Classic
7. Sheathing from plain sheet
8. Boarding
9. Thermal insulation
10. Screw for Classic

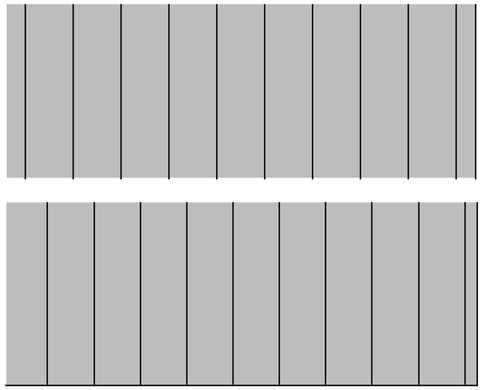
For roofs in places with extreme external influences, wind, or roofs with low pitch, we suggest using Classic with anti-condensation (anti-noise) finish, or inserting structure separation mat or geotextile between boards and the roofing. Structured separation mat laid directly on boards does not substitute ventilation of double-shell roof. We do not suggest using OSB boards, both under the membrane and roofing.

Assembly procedure

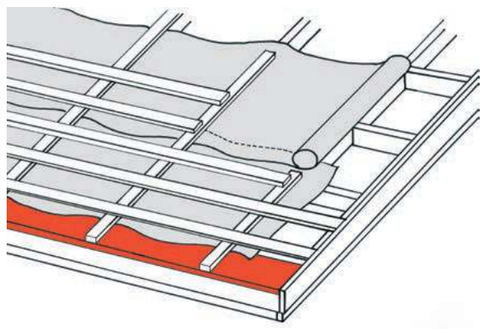
- **Roof covering may be laid on both, full boarding and boarding with gaps with max. axial spacing 250 mm.**

Board size according to the distance of rafters:

Axial distance	min. board size
600 mm	22 × 100 mm
900 mm	28 × 100 mm
1200 mm	32 × 100 mm



Membrane laying example

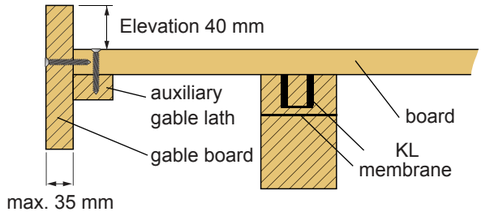


When installing roof patterns on metal battens, it is necessary to insert acoustic insulation between battens and patterns!

Mentioned axial distances and sizes of boards mentioned serve for orientation only, they might vary according to specific snow areas. We suggest consulting with the project designer (dealt with in the detail design).

- **Gable board assembly**

Gable board shall be connected at the end of boards at the gable edge.
Gable lining is then connected to this gable board.



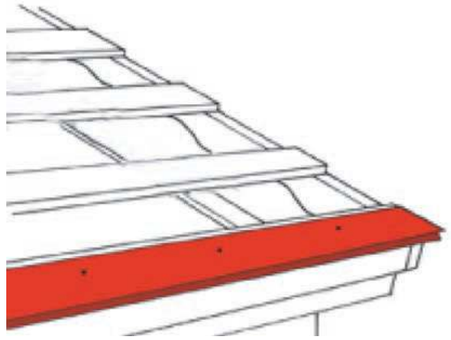
- **Laying patterns**

The roofing Classic may be laid from the right side only. However, complete pattern may not always fit on both sides. In case of aesthetic appearance requirement, it is necessary to measure patterns in advance and adapt them as needed. They can be laid from the left side; the bottom sections of patterns must however be adapted.

- **Under-roofing membranes**

Fundamental prerequisite is selection of the suitable type of an under-roofing membrane (according to the detail design). Before staring membrane assembly, it is necessary to mount a flap on the roof structure under the membrane (water bar). Start the assembly of under-roofing membrane horizontally and proceed from the gutter to the roof ridge. Overlap of the under-roofing membrane at gable walls should be at least 200 mm behind the wall plane. Fix the membrane first to spars using a staple gun at points where it will be overlapped by other membrane strip. Final attachment is provided by nailing of a wooden counter batten (to provide ventilation) from the upper side of under-roofing membrane in the direction of spars. On the ridge, install the under-roofing membrane under instructions in details (pg. 22–23). Under-roofing membrane should overlap in the horizontal joint by about 150 mm. If the membrane needs to be adjusted longitudinally, this must be made at the spar and the overlap length must be min. 100 mm.

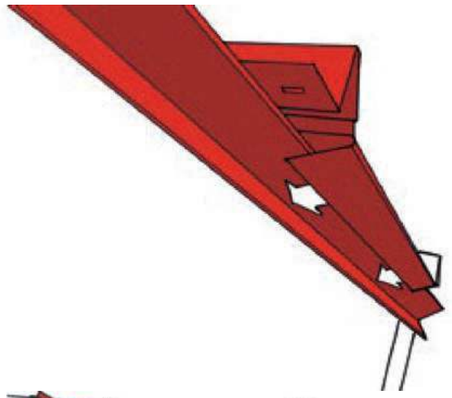
For roof pitch lower than 15 degrees, it is necessary to consult membrane application with its manufacturer.
It is recommended to install the membrane on a solid surface (solid insulation, boarding), have the membrane joints glued, and connection between the membrane and counter batten sealed.



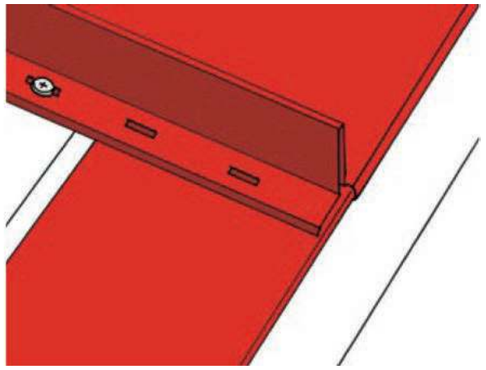
- **Roof installation**

Before installation of the first roofing strip, install the gutter foundation lining Classic. Gutter lining is installed in straight direction and fixed first by galvanized screws Classic to the first board. You may achieve correct alignment of gutter lining for example by indicating a line along the gutter using an alignment string.

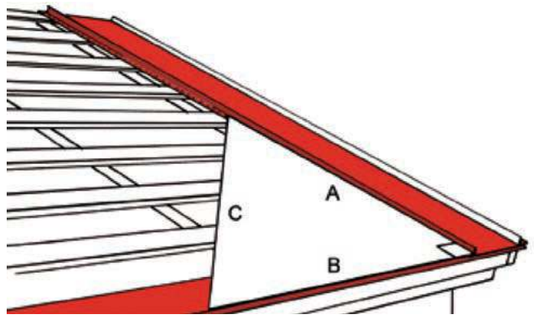
Install the first roofing module to the right edge of the roof deck, so that the bent on the bottom end of the strip is under the gutter lining edge. Then pull up the roofing strip to the ridge, so that the bottom section of the sheet bent at the roofing strip is slipped closed on the gutter lining. Proceed identically with each following roofing strip.



Fix the roofing strip first by its bottom corner using single screw only.

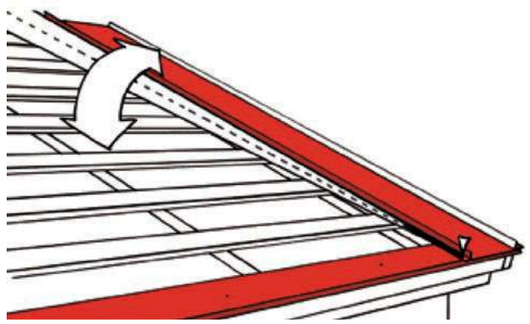


Fix the roofing approximately in the middle of the hole. Max. distance of screws is about 250 mm. Pay attention to correct tightening and screwing direction. Overtightened crews would prevent sheet dilatation. If the screws are not applied straight, they prevent the following adjacent sheet to reach the bottom the joint.

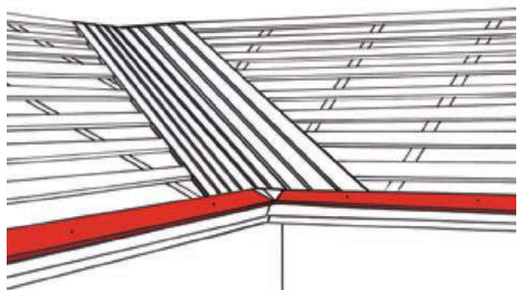


Pay special attention to Installation of the first roofing strip. Perpendicular alignment of the first roofing string with the gutter lining facilitates installation of remaining sheets. Right angle (90°) can be set by right-angled triangle, which sides have the following lengths:
A = 3 m
B = 4 m
C = 5 m.

Mark the length A on the roofing strip and the length B on the gutter lining.

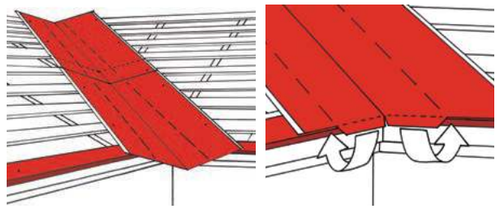


By turning the roofing strip around the fixed point, set the length C. If the length of the side C is exactly 5 m, the roofing is perpendicular to the gutter lining.



- **Valley assembly**

The valley is always installed on the boarding or a narrow-spaced grid formed by boards. Before fitting the valley, adjust the gutter lining by cutting to respective shape and fit it in the valley corner.



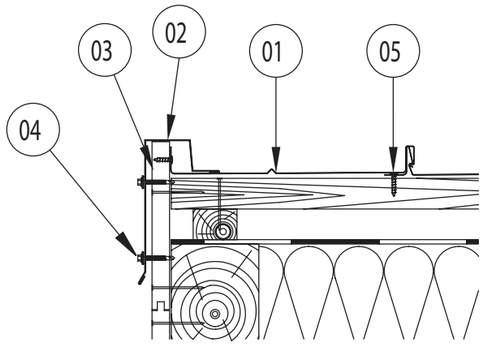
Fit the valley in correct position. First attach the valley using clamps made from sheet metal and flathead screws (4.2 × 25 mm). Mutual overlap of valley sheets at the joint should be 300 mm. To seal overlaps, we suggest using a jointing compound or EPDM tape. In the gutter edge, cut the valley according to the roof structure shape.

The cutting angle of roof patterns in the valley can be set using for example a triangle.

On the reverse side of the roof pattern, draw a line of cut. Note: Make sure that dimensions and shape of the cut correspond with those intended. Make the cut on the reverse side of the roof pattern.

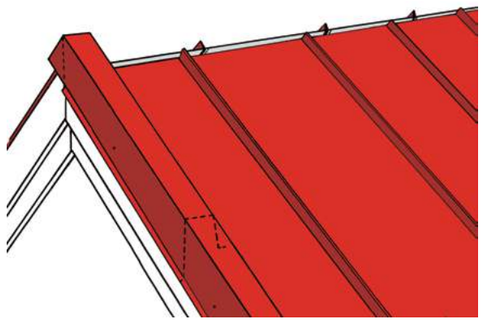
Mount the cut roof patterns up to the top of the valley. During assembly make sure that the valley angle corresponds with the line drawn. Attach roof patterns mounted in the valley right behind the valley sheet by three farm-type screws (4,8 × 35 mm) to boards.

Other option of roofing transition to the valley is to create dog-leg bent on the bottom part of the roofing and hook it up either directly to the valley or to an auxiliary bar.



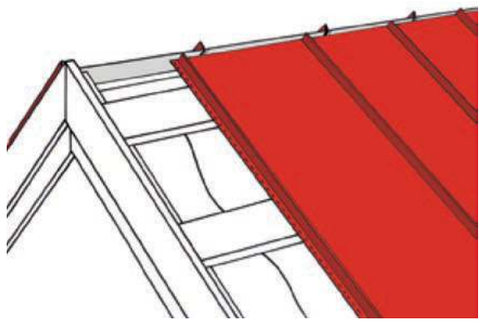
- **Gable lining assembly**

1. Roofing Classic
2. Gable lining
3. Gable board
4. Crew 4,8x35 mm
5. Wood screw 4.2 × 25 mm

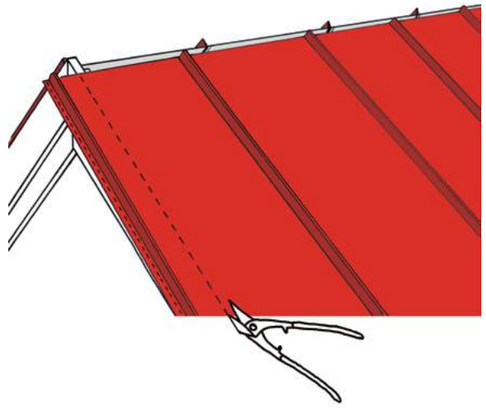


Conduct the assembly of gable lining upwardly from the gutter edge. Gable lining must overlap by at least 100 mm. Fix the gable lining from the top and side by farm-type screws (4.8 × 35 mm) to the gable board approximately after each 1000 mm.

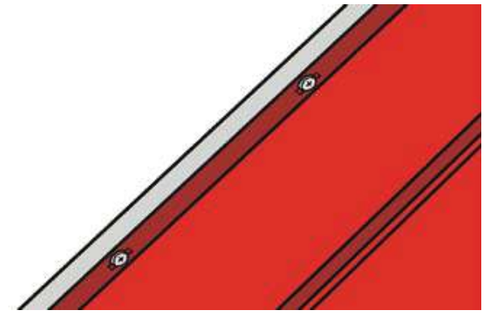
It must by no means be fixed to the roof pattern!



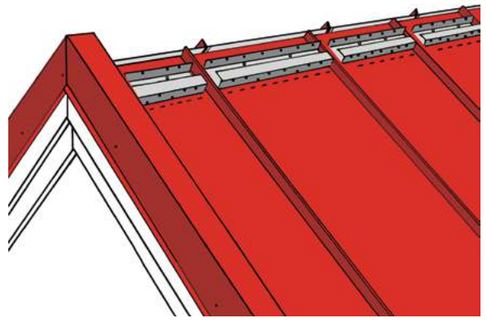
- **Forming an alternate fold at the gable edge**



Mark the bent and cut point on the roof. Bent length should be 30 mm (identical height as the pre-set fold). Cut the roof pattern according to the indicated line. Insert the cut roof pattern between two laths and bend it using a rubber hammer.



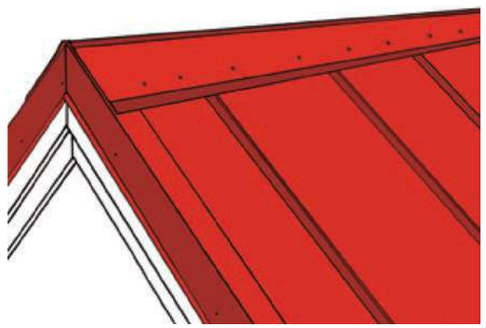
Fix the modified roof pattern to the gable board by flathead screws (4,2 × 25 mm) or using clamps made from sheet metal. Indeed, screw holes must be created larger due to thermal expansion of sheet metal.



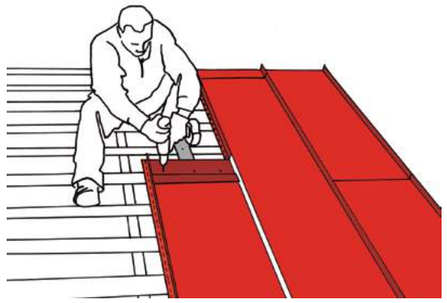
- **Ridge assembly**

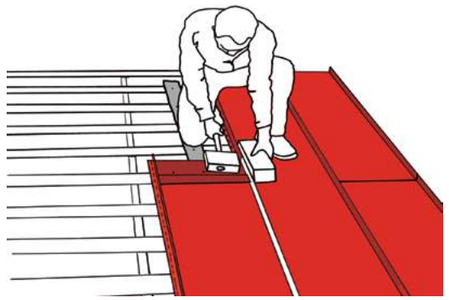
Completed assembly of roof patterns is followed by installation of ventilation bars of the ridge. Place the outside edge of the ventilation bar at the 20 mm distance inwards from the bottom edge of the ridge tile. Ventilation bars are attached to the straight part of patterns Classic by two farm-type screws (4.8 × 20 mm).
These ventilation bars must not be attached to boards, but to the roofing only!

For the low roof pitch, we recommend to insert a sealing tape or compound under the ventilation bar and bend the upper end of the roofing piece towards the roof covering!



Attach the plain ridge tiles to the ventilation bar using farm-type screws (4.8 × 20 mm) at the max. distance of 500 mm from each other. The overlap of ridge tiles must be min. 100 mm.





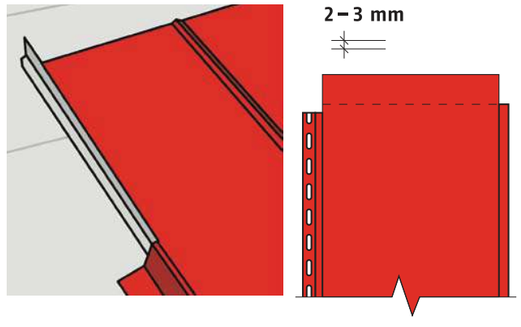
- **Longitudinal joint**

Maximum length of the roofing strip Classic is 10 m. I case of roof decks longer than 10 m, longitudinal overlap is required. If there is required for the roof deck more than one overlap, it is suggested that individual overlaps are arranged alternatively at the distance of one third of the roof deck length. In doing so, they must be at least 700 mm from each other.
During installation, please pay attention to the arrangement of sheet overlaps. In problem situations, please approach our technical department.

Fix the pattern requiring extension to the roof lath using Classic screws. Install the intermediate piece at the end of the sheet and fix it by three Classic screws, which must not be screwed through the board (the same principle applies to rivets). After previous consulting with a technician of Ruukki, the strip may be overlapped under certain circumstances without using the intermediate piece.

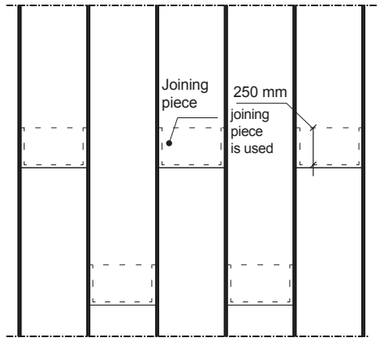
Using a mallet, tap on joints of both roofing strips at least in the length to reduce the size of joints, so that the upper roofing strip can be arranged.

Where the intermediate piece is to be inserted, cut the protective tape of the joint. Remove the tape after you arrange the upper sheet.



Then cut out the inner part of the lock on both sides of the pattern. The cut should be made about 2 mm under the top line of the lock fold.

On the pattern side with predrilled holes, it is necessary to trimmer the outer part of the lock fold by 2-3 mm more than on the other side of the pattern. Then install such adjusted bottom pattern on the lathing according to the assembly procedure mentioned above.



Separation of Roofing patterns must not be separated on a single level.

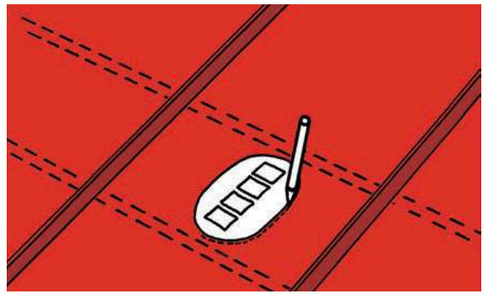
When using a joining piece, the overlap of 250 mm is always considered! In case you don’t use the joining piece, the overlap may be within 200-400 mm.

Place the bent of the upper roofing strip under the raised edge formed by intermediate pieces. Pull the sheet up towards the ridge and push it in place.

Secure both joints of roofing strips by tapping (using mallet) inner sheet corners down beside the joint.

Finish the installation of the overlap intermediate piece by gentle pressing of both joints using pliers.

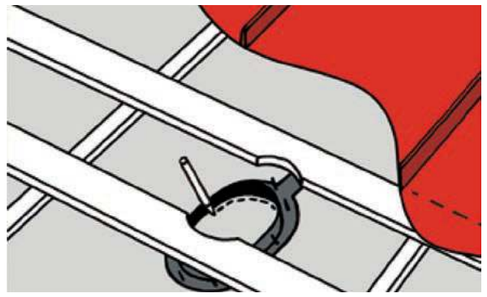
Continue with installation according to the procedure above.



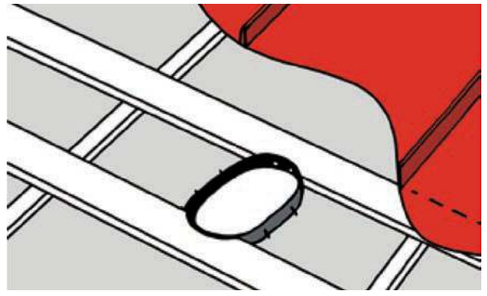
Assembly of accessories

- **Vapour relief vent assembly**

  Mark the point of intended attachment of the relief vent (non-insulated Ø 110 mm, insulated Ø 125 mm) between board using the pattern supplied in the package. Cut out a hole for passage assembly.

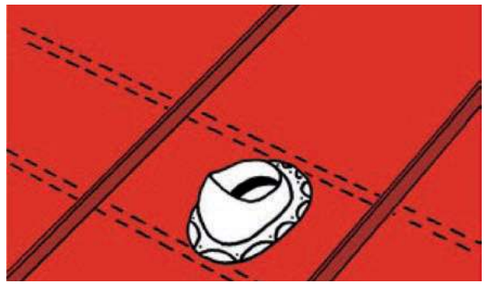


For better connection of the vapour relief vent through the diffusion membrane, use an auxiliary sleeve. Outline the required hole for the sleeve on the diffusion membrane and cut out the hole.

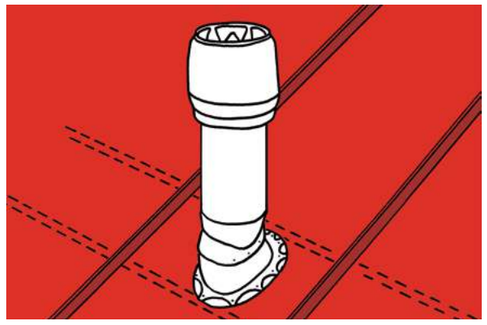


Apply sealing compound between the sleeve and the diffusion membrane. Push sleeve lugs into the diffusion membrane. Fix the sleeve by screws to the lathing.

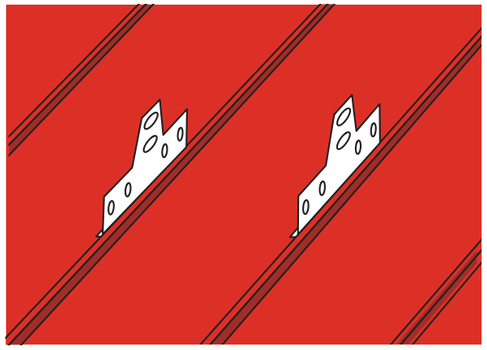
Apply sealing compound to the bottom section of the vapour relief vent.



Attach the bottom piece to the roofing and fix it by screws supplied in the package. It is suitable that several top screws are anchored in the board. Do not tighten screws too much. Excessive tightening of screws may under extremely cold weather cause breakage of the bottom piece.



Place the upper piece of the vapour relief vent on the bottom piece. Screw it on first by single screw. Using a bubble level, align it vertically. Then screw on remaining screws.



Snow barrier assembly

Mark the place of intended attachment of snow barriers. Attach a bracket of the snow barrier to the pre-set lock and fix them together by screws and moulded backing (see Fig. 2).

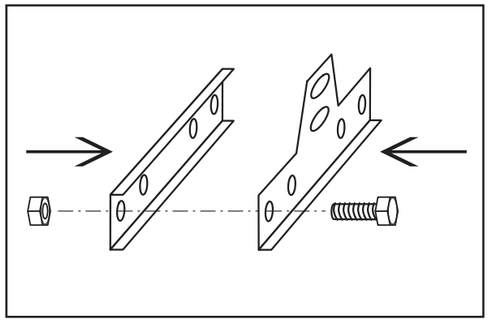
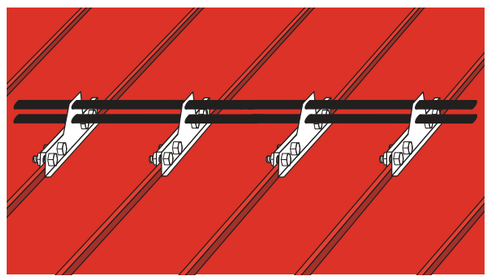
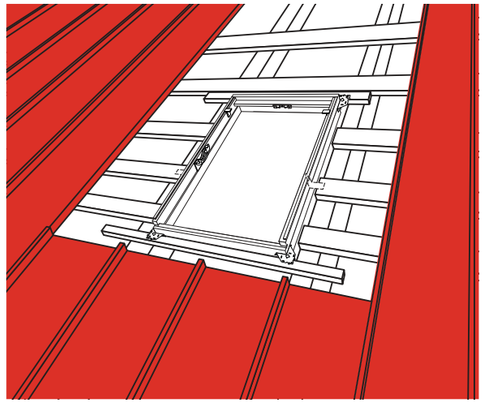


Fig. 2



Pull the pipes through the holes in supports of the snow barrier.

Please approach our technical department for consulting and proposal of snow barriers!

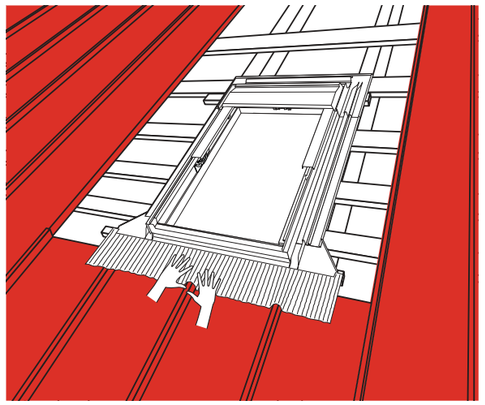


Skylight assembly

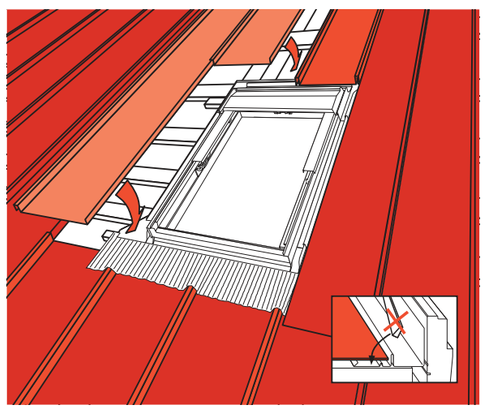
Dressing work

Place the roof patterns under the bottom edge We can mount the skylight using several methods, e.g. use the original window dressing.

We recommend to assemble the skylight in the manner, so that the distance between the window and pattern is approximately 100 mm.



Slightly tap down pre-set locks at the point where they should be overlapped by skylight window dressing.
In the next step, shape carefully the bottom piece of window dressing according to the shape of roofing.

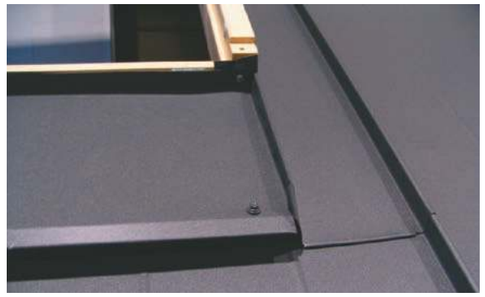


Slightly tap down pre-set locks at the point where they should be overlapped by skylight window dressing.
In the next step, shape carefully the bottom piece of window dressing according to the shape of roofing.

- **Sheathing of the skylight using similar method as in example 2 of chimney sheathing**.
  Dressing work
  - Side dressing from Classic roof covering
  - Bottom and upper dressing from sheet metal


Fitting bottom patterns modified to the shape required.


Face sheathing from smooth plate and its attachment to ventilation profiles and window.
Fitting the second side pattern, shaped as required.

Tinsmith's joint of the face sheathing and side pattern.

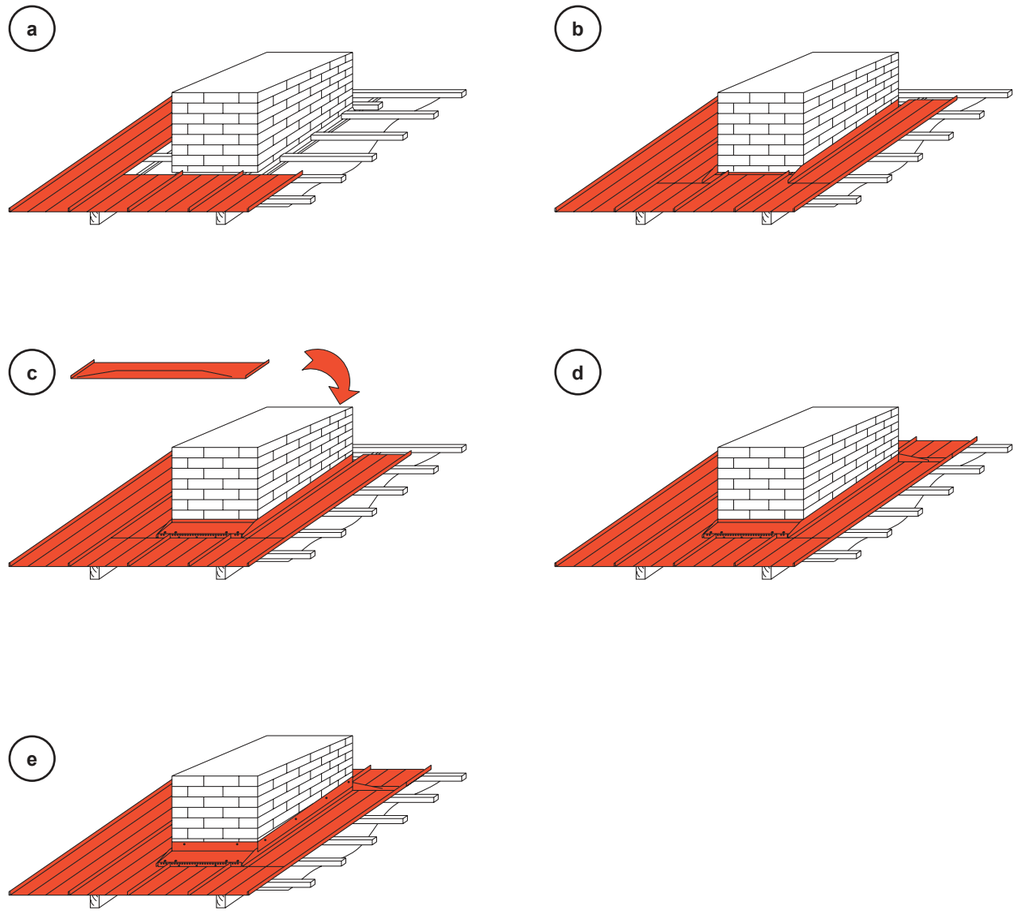

Fitting the backside of sheathing from smooth plate and fixing the third pattern by hooking and sheathing.

- **Sheathing of chimneys**

Dealt with individually; we supply smooth plate for this, dimensions 1250 x 2000 x 0.5 mm,
the colour identical with the roofing. It is fixed by plate clamps and galvanized nails.

Chimney sheathing method depends on its location and relates often also to sectioning of the roofing.

2. Sheathing of chimneys, example 1



2. Sheathing of chimneys, example 2

Fig. a – View of individual roofing components and chimney sheathing using three roofing patterns Classic.

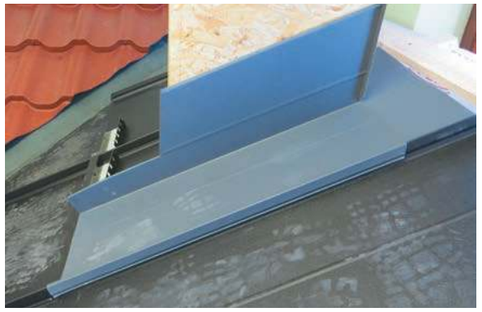


Fig. d – On the prepared first roofing pattern Classic, fit the second pattern that will form a side section of the chimney sheathing. At the relying point of the second and third pattern, outer sides of locks are cut off again.

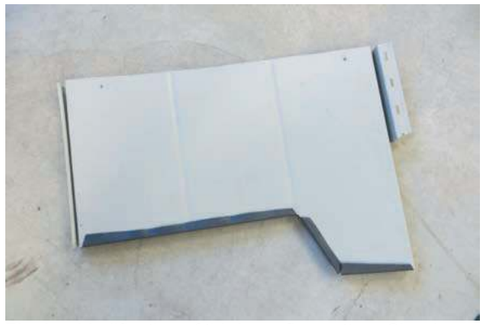


Fig. b – Modification of third proofing pattern Classic from the underside.

Fig. e – Fitting the face sheathing from smooth plate and its attachment to vent profiles and folding to the second pattern.

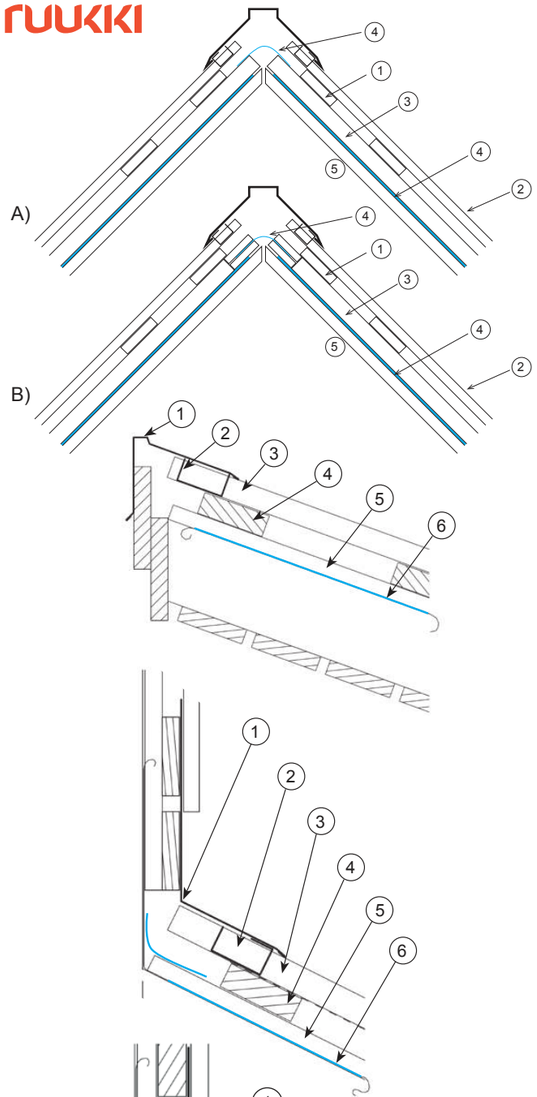
Fig. c – After cutting off outer sides of locks of the first pattern at the point of transverse relying with the second pattern, the pattern is fixed by stainless crews and ventilation apertures are fitted.

Fig. f – Fitting the second pattern from the left side.

Fig. g, h – Fitting the backside sheathing from smooth plate.

Fig. i, j – Fitting and hooking the third pattern to backside sheathing.

ATTENTION: In case of that his sheathing method is used for the chimney, double consumption of sheet metal must be calculated, since there are two transversal sectioning! In your quotation request, please state which of those two sheathing methods you plan to use.

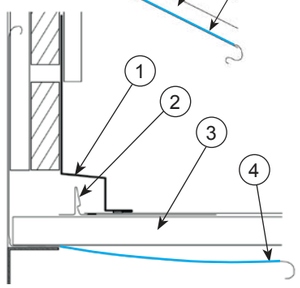


Details

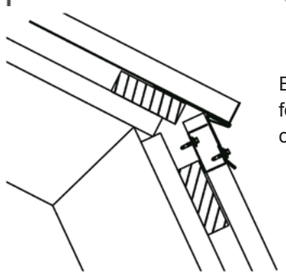
Classic ridge piece, cross section
1. Boards
2. Roofing
3. Counter battens
4. Membrane
5. Roof spar

Pent roof, cross section
1. Pent lining
2. Ridge ventilation bar
3. Roofing Classic
4. Board
5. Counter batten
6. Diffusion membrane

Roof – wall transition, cross section
1. Transition lining
2. Ridge ventilation bar
3. Roofing Classic
4. Board
5. Counter batten
6. Diffusion membrane

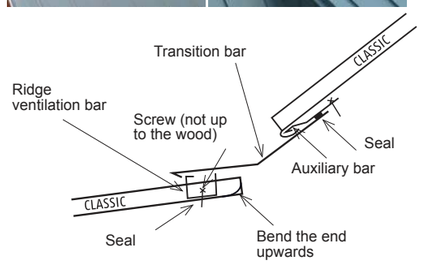


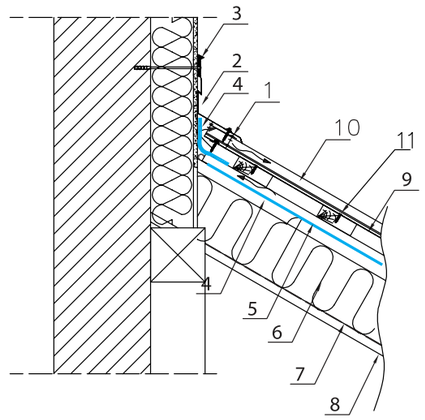
Roof – wall transition, cross section
1. Transition lining
2. Ridge ventilation bar
3. Roofing Classic
4. Board
5. Counter batten
6. Diffusion membrane



Example of gutter lining for the roofing Classic on mansard roof.

Example of the break point of the roofing Classic





Classic - detail on wall face
1. Ventilation profile under ridge piece fixed by screws 4.8x20mm
2. Bottom sheathing
3. Upper sheathing with sealing compound
4. Safety water-proofing
5. Counter batten
6. Thermal insulation
7. Moisture stop
8. Ceiling
9. Board
10. Roofing Classic
11. Flathead screw 4.2x25 mm

Ruukki quality class

- The finishing was developed using the top technology and it is based on polyurethane and polyamide. Polyurethane provides exceptional wear resistance, and polyamide improves sliding for shaping. Outer surface is characterised by lofty appearance, very high resistance against mechanical damage and extreme corrosion resistance. High temperature and UV radiation resistance also forms the base for exceptional long service life.
Finishing thickness is 50 microns. The warranty for roof coverings Ruukki 50 is 50 years for rusting through and 20 years for colour fastness. Perfect roofing choice. Highest resistance, best warranty on the market.

- Products with this finishing have stylish and elegant appearance, which is provided by slightly mat surface. It is based on polyurethane that provides high resistance against wear. Thickness of the surface finish layer on a steel plate is 26 microns. The warranty for the roofing Ruukki 40 is 40 years for rusting through and 15 years for colour fastness. Products with exceptional value. Smart choice for any conditions.

- It is characterised by surface finish resistant against temperature changes, UV radiation and corrosion. It has good mechanical properties – resistance against mechanical damage, high strength. This is the most demanded finishing on the market. The thickness of protective paint is 25 microns. The warranty for Ruukki 30 is 30 years for rusting through and 10 years for colour fastness. Affordable and reliable choice for standard needs.

Conversion table (degrees – percent)

Table 1

Pitch		Pitch		Pitch	
degree	**percent**	**degree**	**percent**	**degree**	**percent**
0.5	0.9	28	53.1	59	166.4
1.0	1.8	29	55.4	60	173.2
1.5	2.6	30	57.7	61	180.4
2.0	3.4	31	60.0	62	188.1
2.5	4.3	32	62.4	63	196.3
3	5.2	33	64.9	64	205.0
4	7.0	34	67.4	65	214.5
5	8.8	35	70.0	66	224.5
6	10.5	36	72.6	67	235.6
7	12.3	37	75.4	68	247.5
8	14.1	38	78.0	69	260.5
9	15.8	39	80.9	70	274.7
10	17.6	40	83.9	71	290.4
11	19.4	41	86.9	72	307.8
12	21.2	42	90.0	73	327.1
13	23.0	43	93.0	74	348.7
14	24.9	44	96.5	75	373.2
15	26.8	45	100.0	76	401.1
16	28.7	46	103.5	77	433.1
17	30.5	47	107.2	78	470.5
18	32.5	48	111.0	79	514.5
19	34.4	49	115.0	80	567.1
20	36.4	50	119.2	81	631.4
21	38.4	51	123.5	82	711.5
22	40.4	52	128.0	83	814.4
23	42.4	53	132.7	84	951.4
24	44.5	54	137.6	85	1143.0
25	46.6	55	143.0	86	1430.0
26	48.7	56	148.3	87	1908.0
27	50.9	57	154.0	88	2864.0
28	53.1	58	160.0	89	5729.0

Assembly Guide, roof model Classic

Comments

The producer reserves the right to make changes in colors, patterns and sizes of presented products.

RUUKKI

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