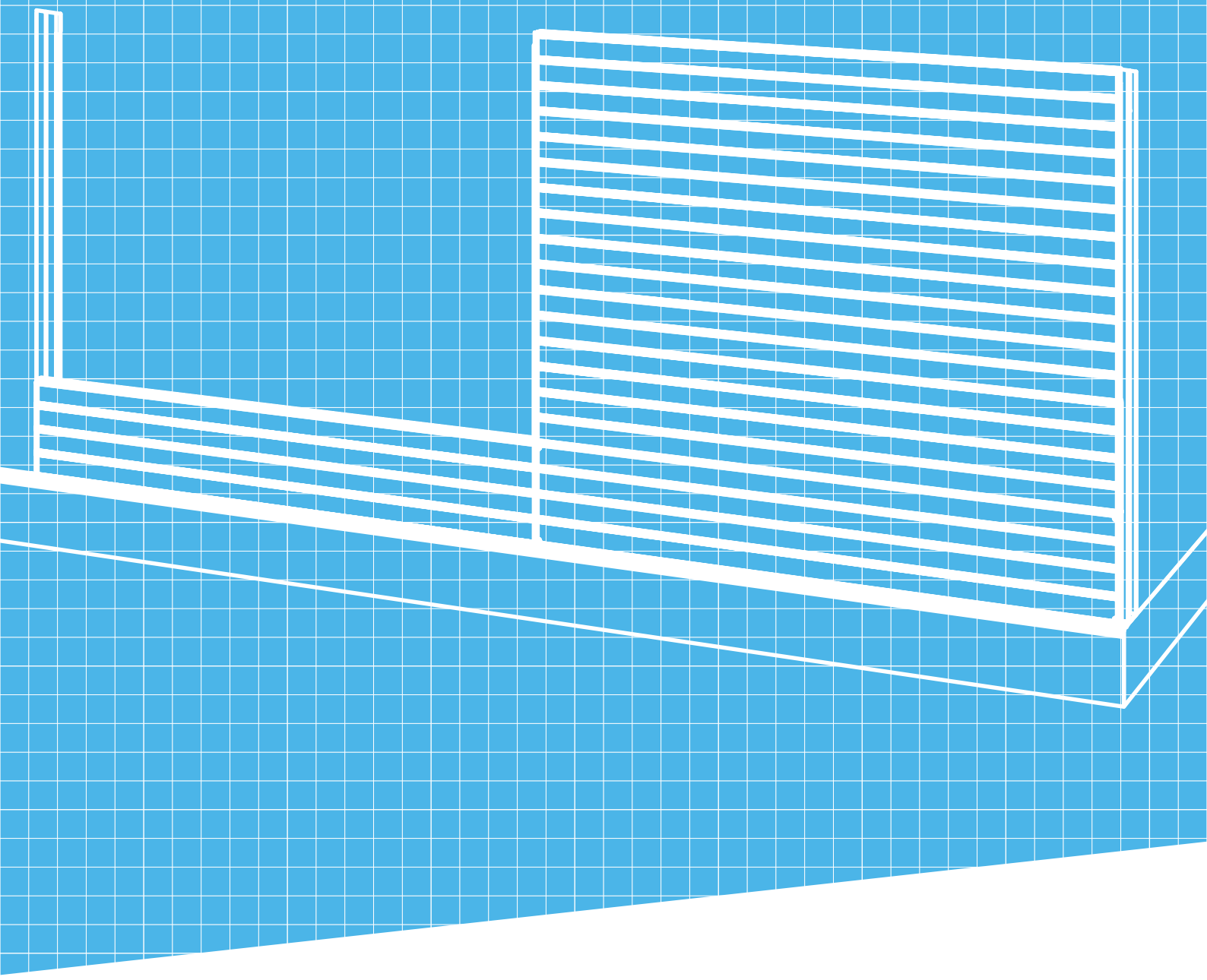
lindab | we simplify construction



Lindab **Sandwich Panels**

Installation instructions PIR Panels

Lindab®

Assembly instructions

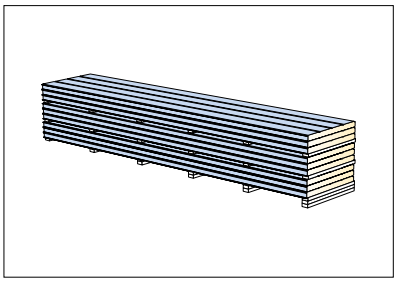
Before you start
Check that the panel support structures are level. Position the packages of panels near the points of use. Prepare a fixed or cradle scaffold, according to the working height, 30/40 cm far from the external edge of the main columns and comply with the rules on safety in the workplace. Control that all workers are equipped with individual safety equipment according to current regulations. Prepare all the power supply lines for tools according to current regulations. Prepare the panel lifting vehicles.

Before the assembly, the polyethylene protecting film must be taken away from the entire panel. Thoroughly check that no traces of residual glue of the protecting film are left on the surface. In such case, remove them using a detergent in a waterbasedsolution.

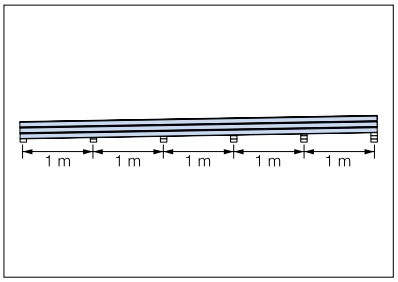
If the panel surface shows clear damages on the sheet, set the panel aside and use it when undersizes are required.

The base-connection must be perfectly stationed horizontally. Attachment with rivets at the sub-construction before positioning the panels (s. Fig. 5). After the deposition of the panels, the base -connection will be fastened, thus the panels connected with the sub-construction.

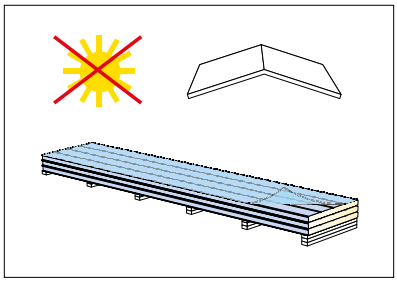
Storage
Do not store more than three packages one on top of another, and place spacers or boards between them.



Place the package on a flat and rigid surface, and position 50 mm-thick and 200 mm- wide polystyrene spacers or wooden boards at max. 1 m intervals. Panels will have to be stored slightly sloping in order to help possible condensation flow and to prevent backwater.

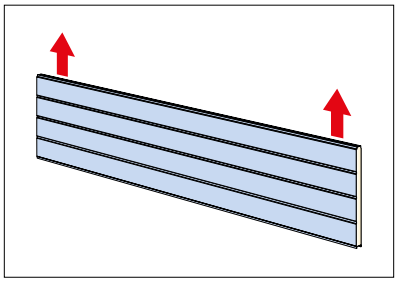


Store packages under cover; if this is impossible, protect them with rainproof membranes. Make sure that the goods are appropriately aerated. Any protective film should be not exposed to direct sunbeams and, in any case, should be removed within 45 days after the date when the panels are prepared.

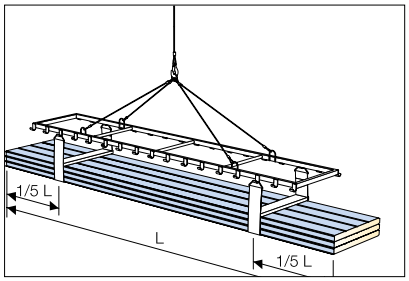


NOTE: The extendable polyethylene forming the external wrap of the package is not suitable for a long exposition outdoor, since sunbeams change its properties.

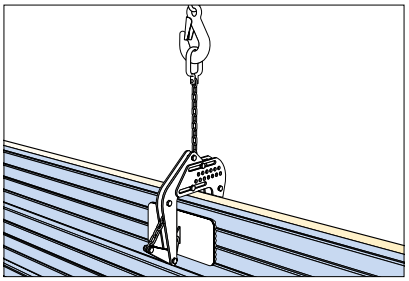
When panels have to be moved one by one due to building yard needs, they should be always carried as shown in the illustration.



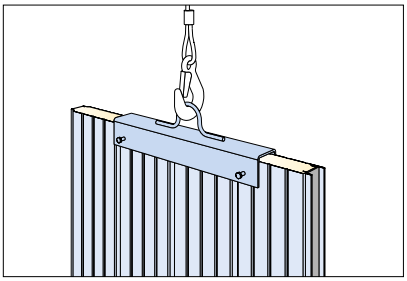
Assembly instructions



Lifting
Sling the package by using a rocker arm and min. 200 mm-wide nylon belts. Insert min. 200 mm-wide wooden boards between the package and the belts. The wooden boards will have to be approximately 2 cm longer than the package width.

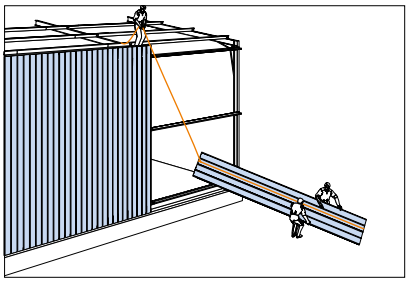


Lifting panels horizontally
In the assembly stage of the panels, especially when they are handled along the wall, considering their horizontal size, special lifting devices can be used like a suitably sized device with clamps, which in turn is held by a lifting device.

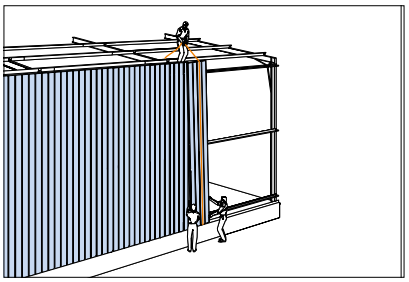


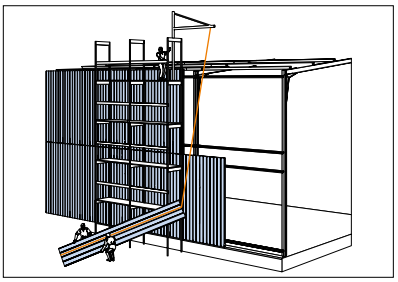
Lifting panels vertically
An easy support-solution to lift the panels by crane for vertical assembling is to use a U-profile fixed on the end of the panel.

For wall panels assembled in vertical position it is necessary to lift very carefully avoiding to damage the surface.



The lifting can be executed simply by hand or with the aid of a rope, like shown in the pictures below.





For heights where it is not possible to work from ground, use a mobile or stationary crane.

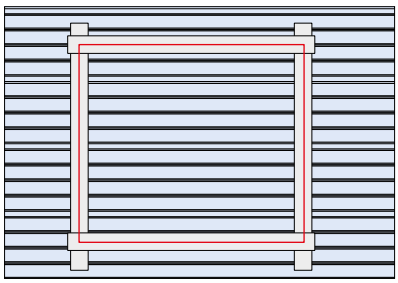
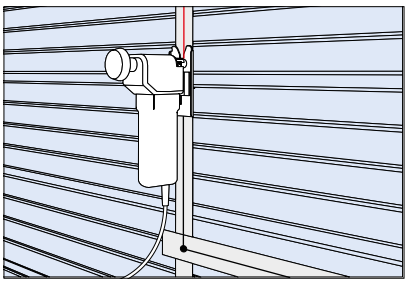
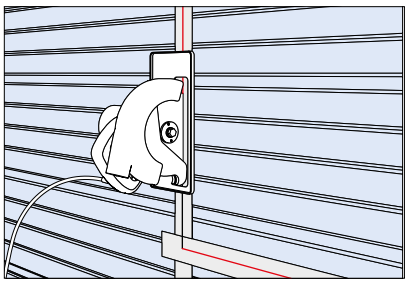
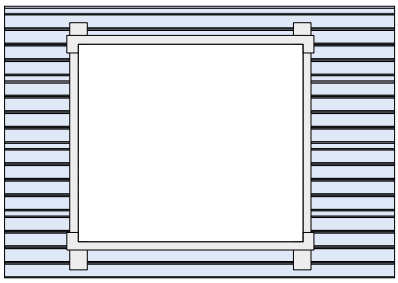
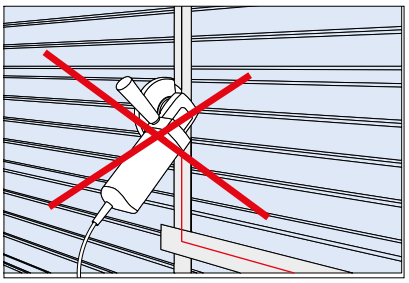
Assembly instructions

Cutting

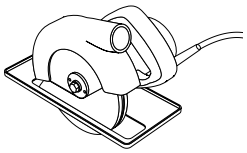
If panels need to be cut to make openings or passages, proceed as follows:

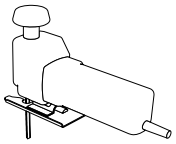
- Protect the surface to be cut with adhesive tape.
- Draw the cut to be made on the tape using a felt-tip pen.
- for cutting use a hack sawing machine or a hand-held circular saw
- Clean the surface from the shavings formed during the cutting, because they can cause corrosion over time.
- Remove the adhesive tape.

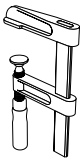
For cutting at the building site use a hack saw machine or a hand held circular saw.

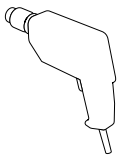






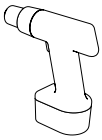
Tools

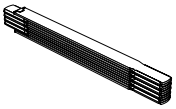

Circular saw


Compass saw

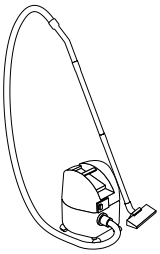

Clamp

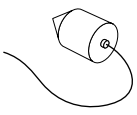

Electrical drilling machine

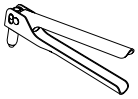

Electric screw driver

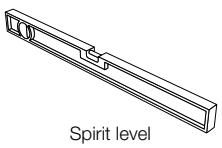

Folding rule


Pencil


Vacuum cleaner


Plumb line


Rivet plier


Spirit level

Assembly instructions

Maintenance

For the good panel maintenance, two phases must be distinguished: First phase: regards the time necessary to assemble the panels. Second phase: regards the use of the building, to which the panels have been assembled.

In the first phase, in order to maintain panels undamaged, you should take care of what follows:

- the handling during the unloading operations from vehicles must be carried out with suitable means and appropriate protections, in order to prevent panels from being indented or scratched.
- the handling during the removal of the protective film and the distribution near the works. In this stage, we always suggest that the panel and sections are controlled to remove any excess of the insulating material for the benefit of the perfect execution of the panel coupling joint.
- the lifting operations near walls, to be carried out with suitable means and safety systems for the staff.
- the assembly stages, taking particular care to the fastening operations, im mediately removing all the shavings caused by drilling from the panel surface. In order to insert screws and avoid indentations to the panel, use screwdrivers that are equipped with a depth limiting device.

- when, during the distribution of panels, stains or deformations (indentations) that cannot be easily fixed are found, avoid to assemble such panels and set them aside for use as undersize elements, where possible.

If the above-mentioned recommendations are truly complied with, they guarantee the product integrity and avoid the annoying building yard objections that very often translate into unpleasant financial costs.

The second stage regards the panel maintenance, which is the final user's task, in order for the panels of his building to maintain their original look and have the building look pleasant. The consequences of a slow degradation of the pre-painted external sides are mostly originated from the contact with aggressive substances contained in corrosive air and gaseous emissions from surrounding activities. Therefore, periodical inspections to the panels should be planned in order to find possible corrosion; if it is found, action should be taken immediately, starting protective cycles to stop the process.

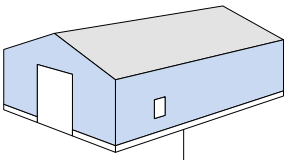
In the long run, smog deposits on painted surfaces and may create a dirt film, and the walls will have to be cleaned with water jets.

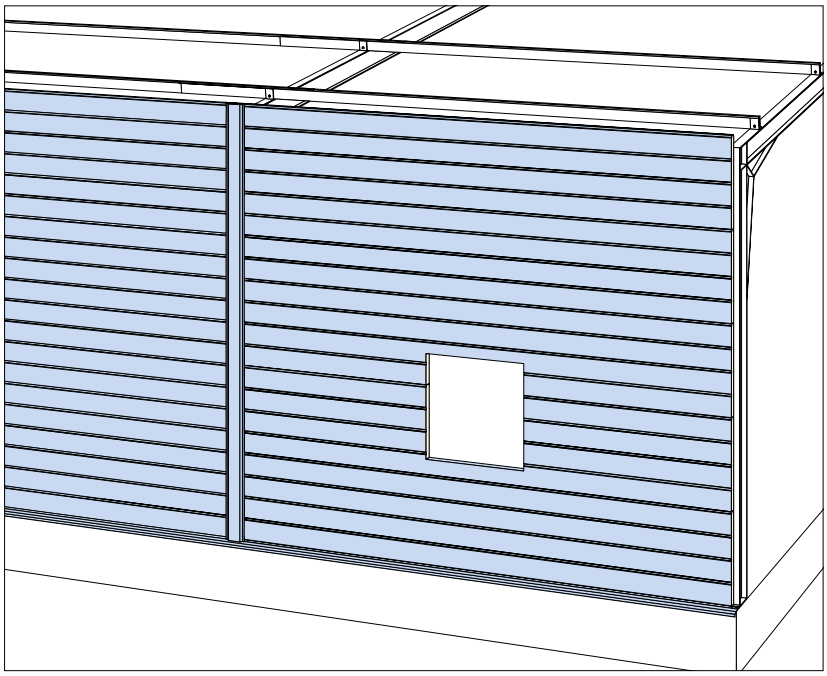
The existing seals will have to be controlled, verifying that they are still airtight and waterproof, which otherwise may cause deterioration. All the fastenings will have to be controlled to verify that they are still in good conditions. Any scratches of the paint that may have been caused accidentally will have to be protected by retouching: cleaning and painting. In case of large size dents caused by impacts, the panel will have to be replaced.

Disposal

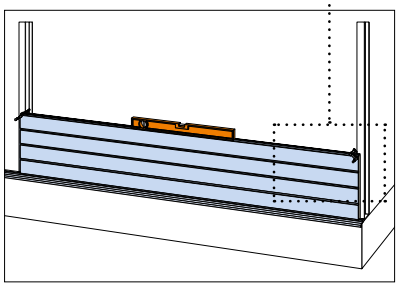
In case of yard working wastes and/or dismissal, the panel disposal shall only be entrusted with authorized companies and carried out in compliance with the current laws in each country.

Assembly – Horizontal Wall Sandwich Panels

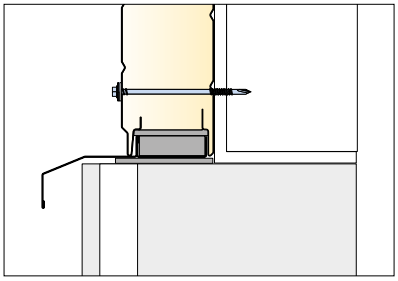




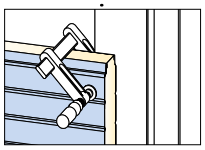
First panel section

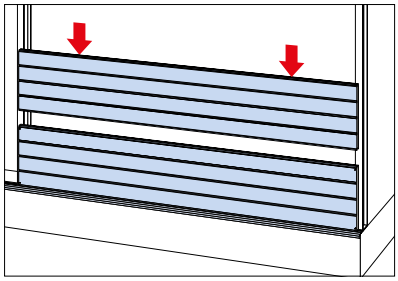


Check that the panel is horizontal by using a spirit level and fix it with a clamp.

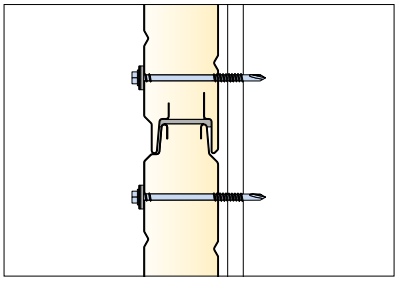


The bottom panel is assembled over a U-shaped base runner, insulate it on the inside. Also assemble a drop flashing.





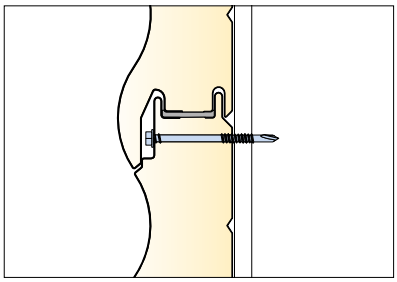
Before assembling the second panel, make sure the joints are clean.

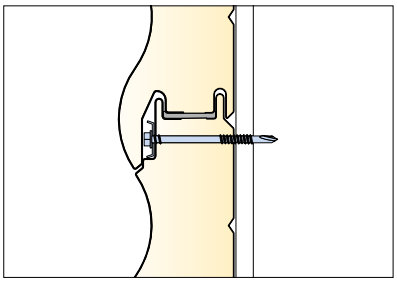


Fasten the panel with self drilling screws one screw at bottom and one at the top of the panel.

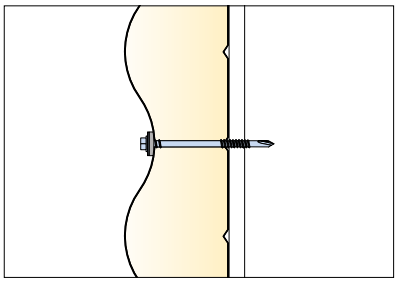
Assembly – Horizontal Wall Sandwich Panels

Connection of paneltype



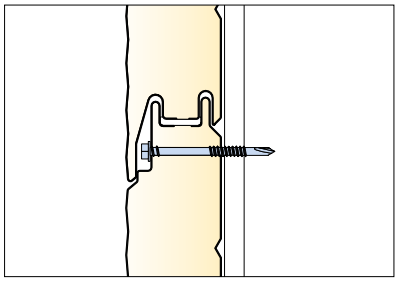


Screw with load distribution plate.

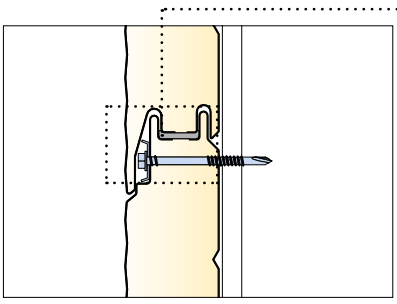


Place the top screws in the valley of the panel.

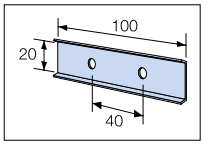
Connection Hidden fix paneltype



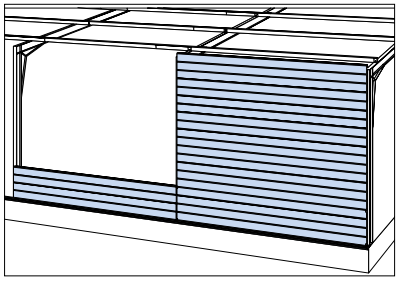
Make sure that you are assembling in the right direction. The panel on top must overlap the joint



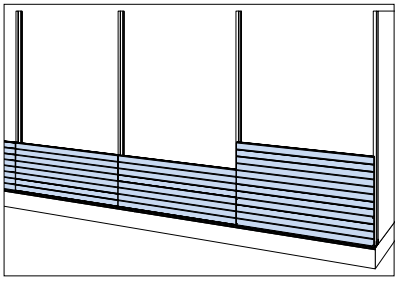
If necessary use a load distribution plate in the joint.



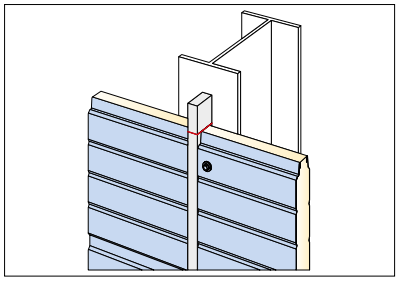
Second panel section



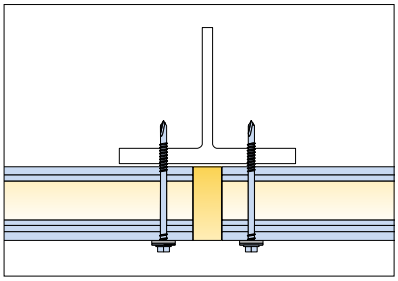
Go on with assembling the second panel section the same way as before.



If the wall length is more than 10 m assemble the section in gradual stages in order to keep the panels horizontally.



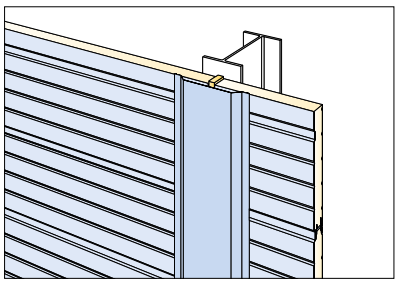
Use a template with 40 mm width between the panels during the assembling.

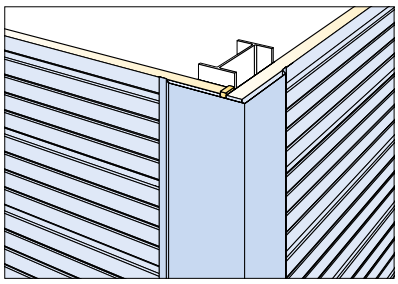


Don´t forget to insulate between the spacing of the panels.

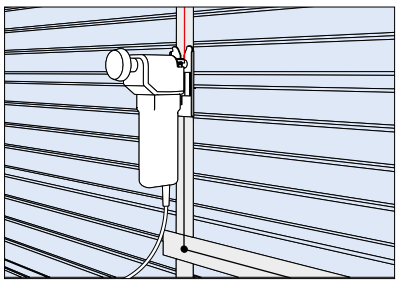
Assembly – Horizontal Wall Sandwich Panels

Details – Flashings, openings

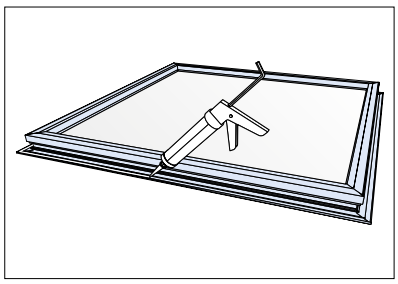




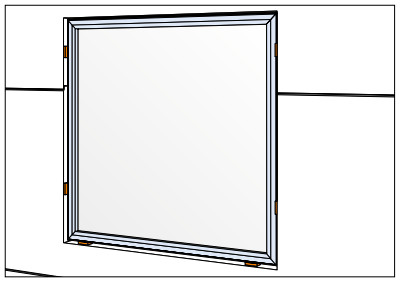
Cover the joints and corners with flashings. Use screws or blind rivets.



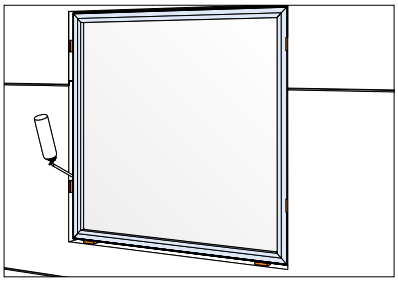
Measure the window and make the cut out in the panel accordingly.



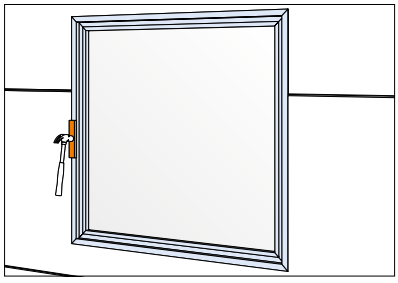
Use a sealant before you assemble the window in the opening.



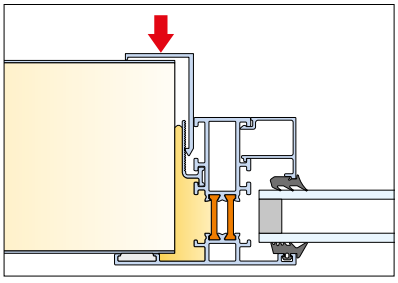
N.B View from the inside. Use wedges to hold the window in place.



Fill up the cavity around the window with insulating foam.

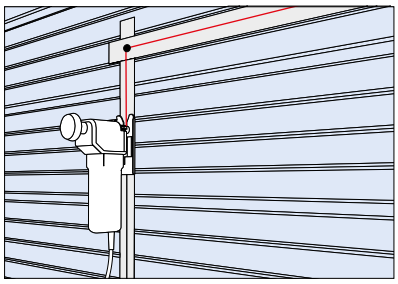


Assemble the window profiles on the inside.

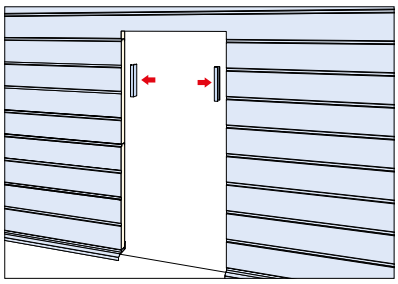


Plane drawing of the window profile and the cavity with insulating foam.

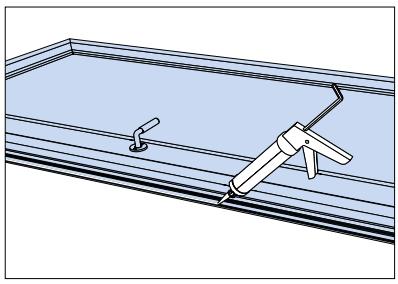
Assembly – Horizontal Wall Sandwich Panels



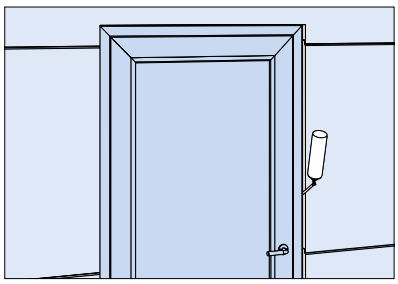
Measure the door and make the cut out in the panel accordingly



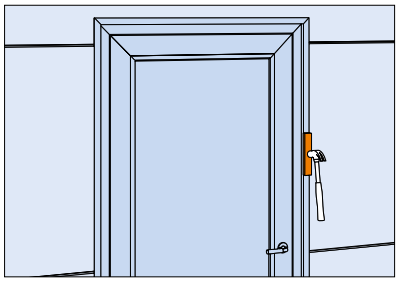
If heavy door is applied (outdoor) strengthen the wall wit U-profiles.



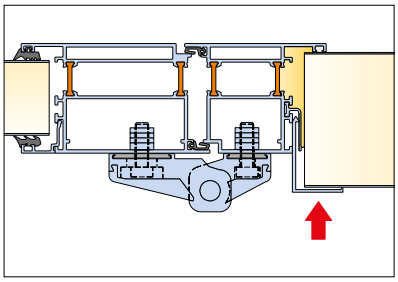
Use a sealant before you assemble the door in the opening.



Fill up the cavity around the door with insulating foam. N.B view from the inside.

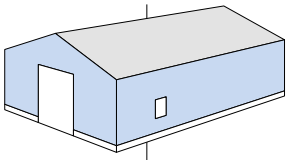


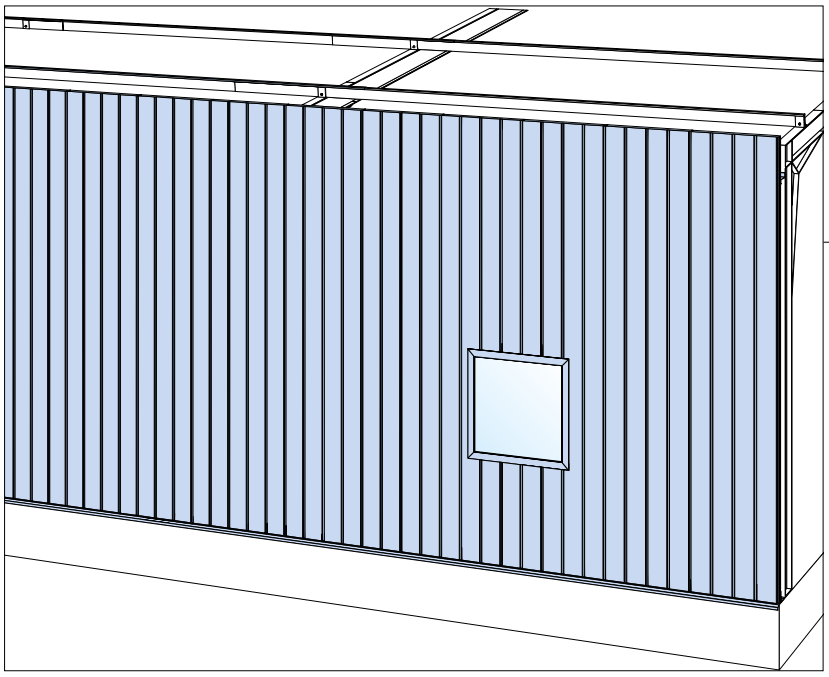
Assemble the door profiles on the inside.



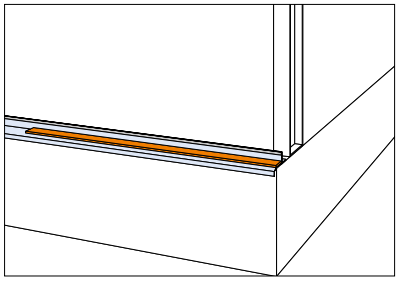
Plane drawing of the door profile and the cavity with insulating foam.

Assembly – Vertical Wall Sandwich Panels

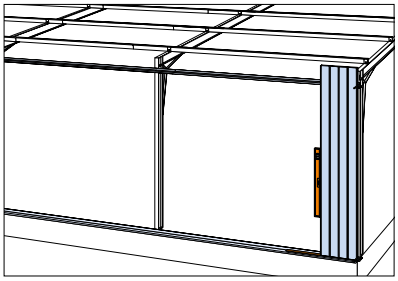




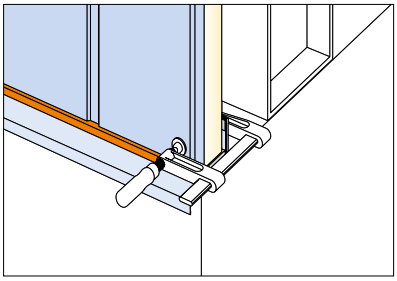
First panel section



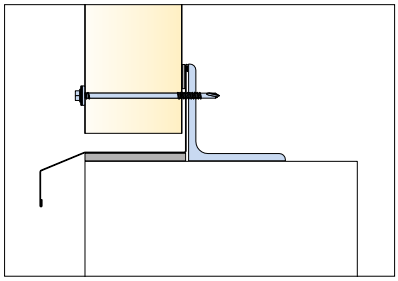
Start with placing a template for the right distance between base and plate.



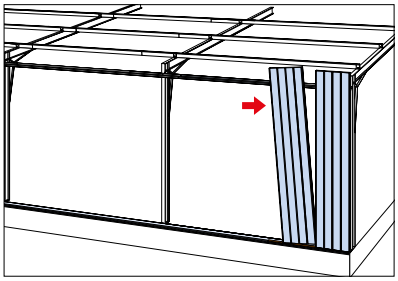
Check that the panel is vertical by using a spirit level and fix it with a clamp.



Fix the panel with a clamp before screwing.



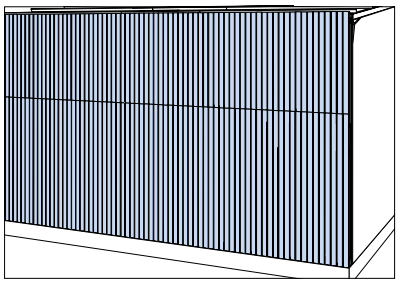
Plane drawing of the base construction.



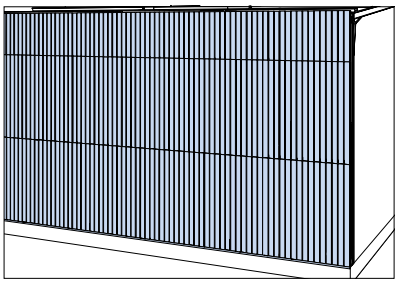
Continue with the other panels the same way as the first one.

Assembly – Vertical Wall Sandwich Panels

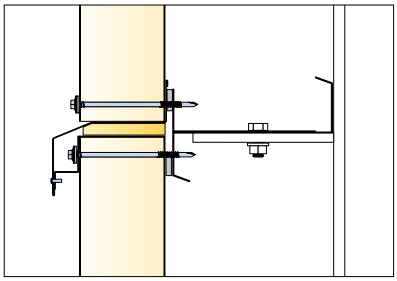
High walls



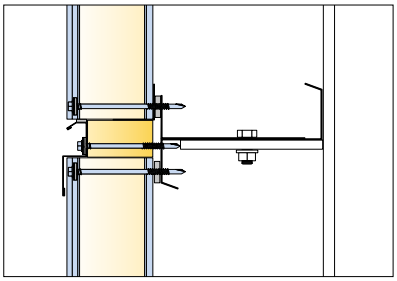
Alternative solution for high wall is to place one joint across the wall.



Alternative is to use two joints across the wall. Dependable of the height of the wall.

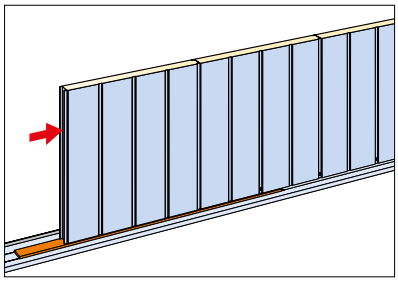


Alternative solution for horizontal joint with flashings and insulation in the joint.

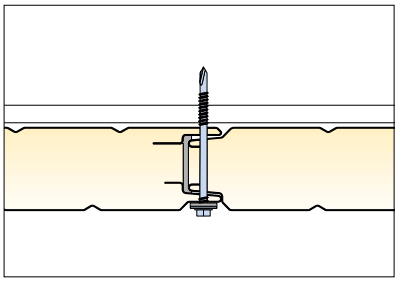


Alternative solution for horizontal joint with flashings and insulation in the joint.

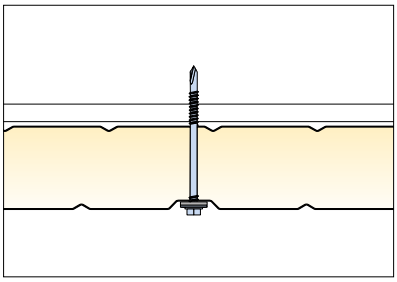
Connection paneltype



Make sure to place one screw in the joint and one screw in the middle of the panel.



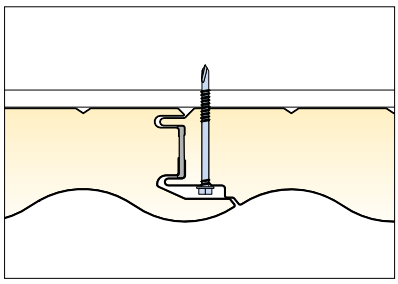
Screw in the joint.



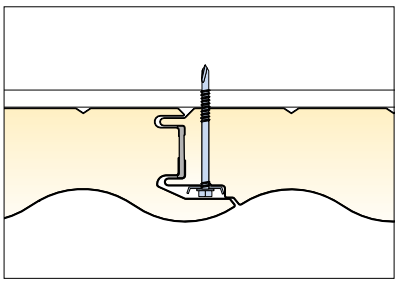
Place the middle screw in the valley of the panel profile.

Assembly – Vertical Wall Sandwich Panels

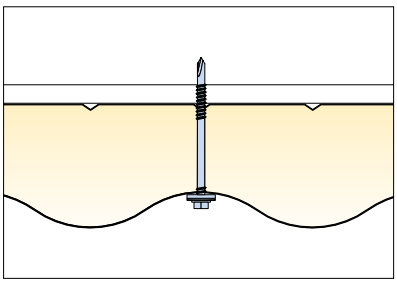
Connection paneltype



Place the screw in the joint.

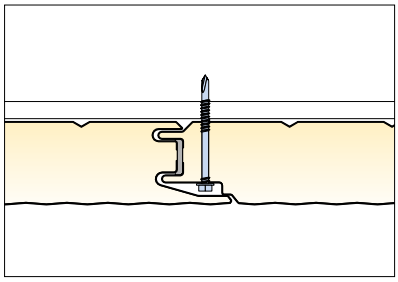


Use a distribution plate if necessary.

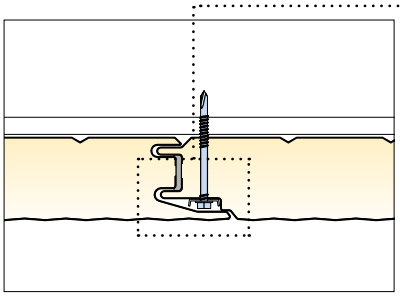


Put also a screw in the middle of the panel. Place it in the valley of the panel profile.

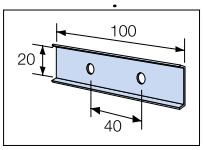
Connection Hidden fix paneltype



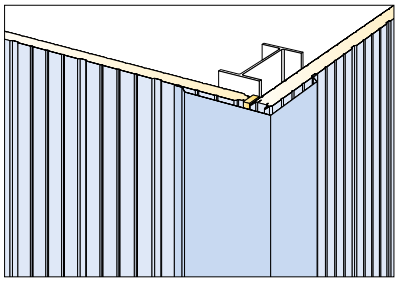
Place the screw in the joint and cover with the next panel.



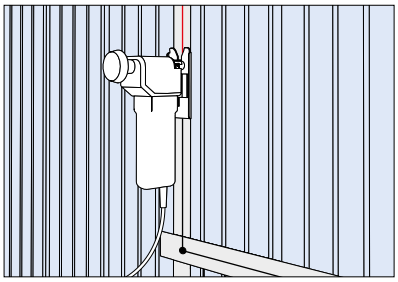
use a distribution plate if necessary.



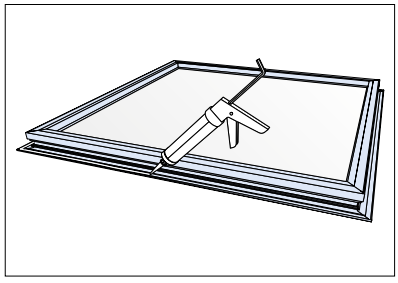
Details – Flashings, openings



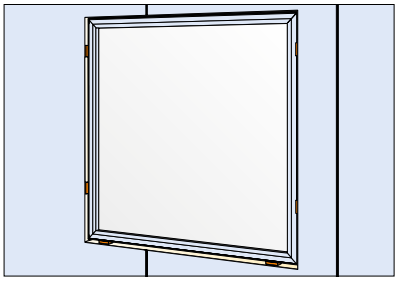
Cover the corners with flashings. Use screws or blind rivets.



Measure the window and make the cut out in the panel accordingly.

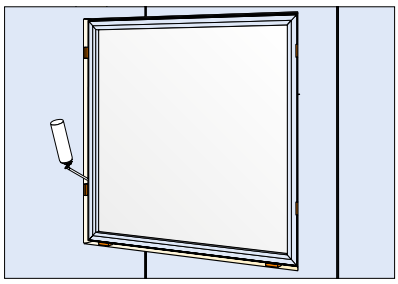


Use a sealant before you assemble the window in the opening.

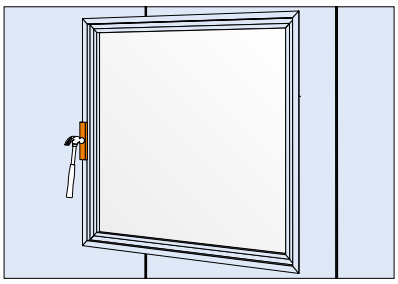


N.B view from the inside. Use wedges to hold the window in place.

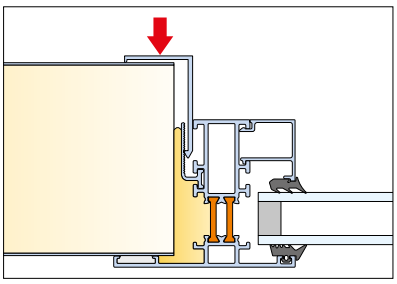
Assembly – Vertical Wall Sandwich Panels



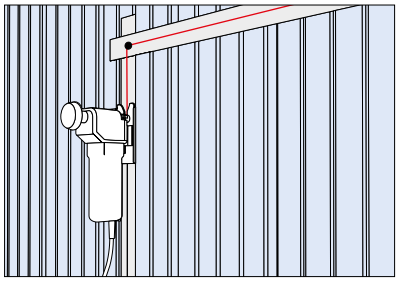
Fill up the cavity around the window with insulating foam.



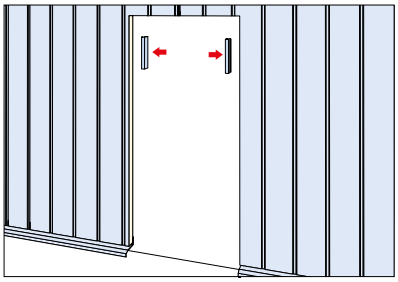
Assemble the window profiles on the inside.



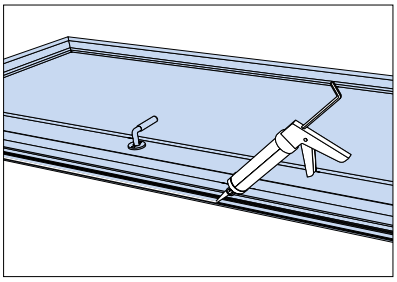
Plane drawing of the window profile an the cavity with insulating foam.



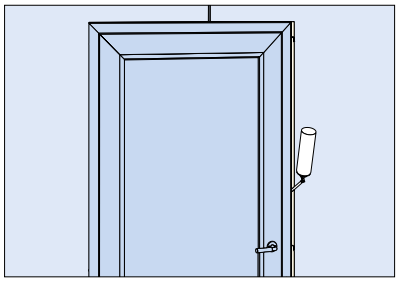
Measure the door and make the cut out in the panel accordingly.



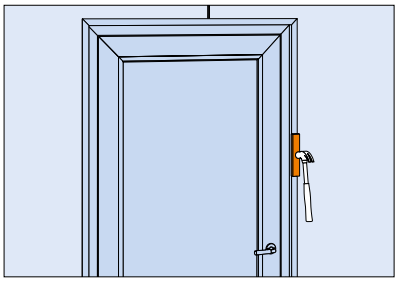
If heavy door is applied (outdoor) strengthen the wall wit U-profiles.



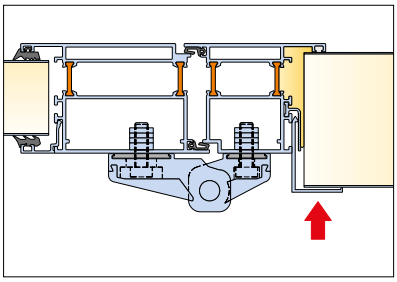
Use a sealant before you assemble the door in the opening.



Fill up the cavity around the door with insulating foam. N.B view from the inside.

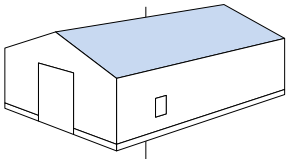


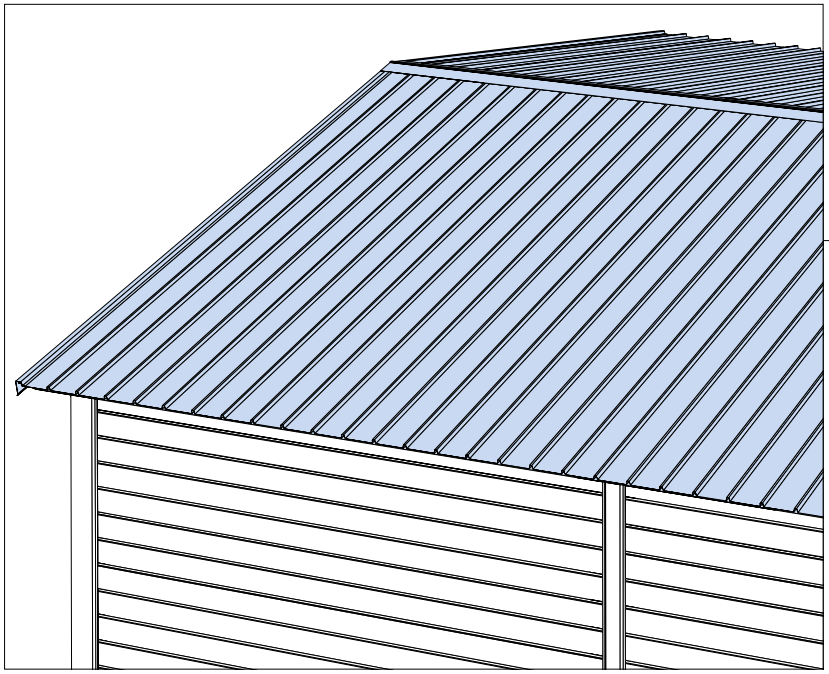
Assemble the door profiles on the inside.



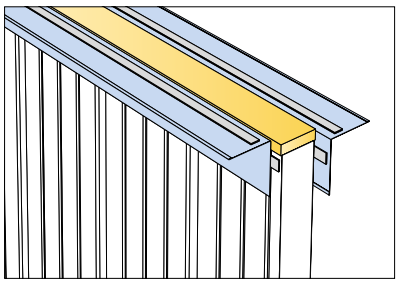
Plane drawing of the door profile and the cavity with insulating foam.

Assembly – Roof Sandwich Panels

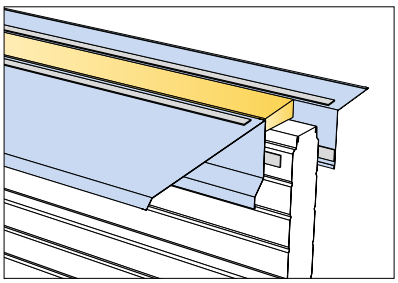




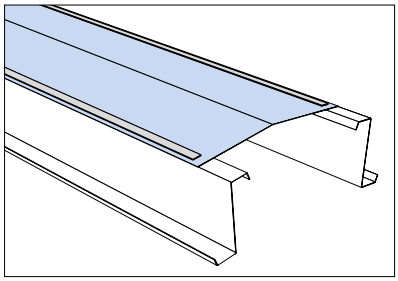
Preparations



Start to fix flashings on the gable walls. Corner flashing S9 at top of the sandwich element on the outside and on the inside a still flashing long side interior S15.



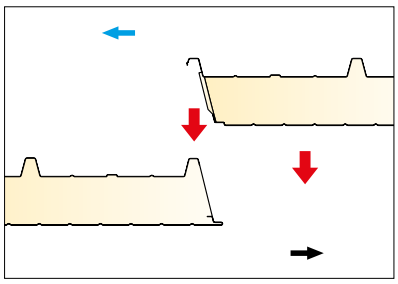
Prepare flashings on the long side walls. Flashing S5 up against the wall panel on the outside. On the inside a still flashing longside interior S13.



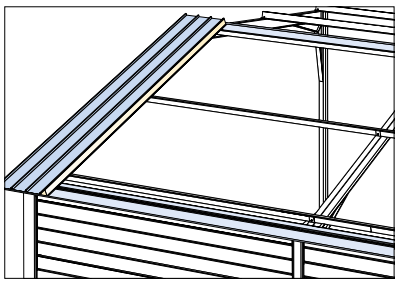
On the ridge prepare with a internal flashing S2.

Assembly – Roof Sandwich Panels

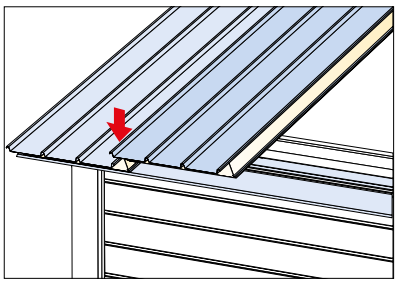
First panel



Check the dominant weather direction first of all.

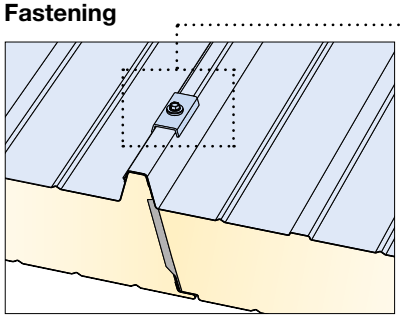


Start with the first panel at left hand roof side if weather direction is from the right hand side.

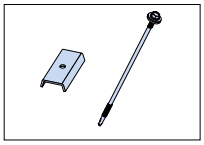


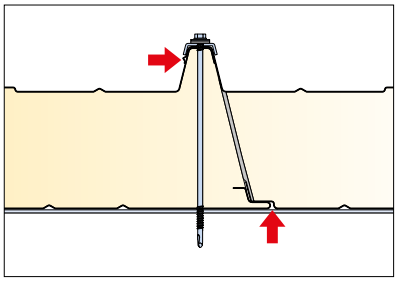
Continue with the second panel.

Fastening

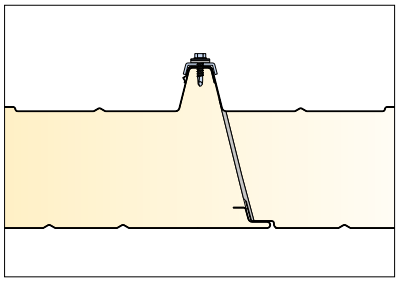


Use self tapping screw with prepainted aluminium cap and place it on the panel ridge.

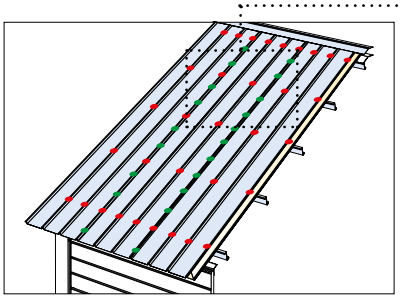


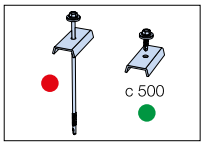


Make sure the screw is fastened to the underneath purlin.



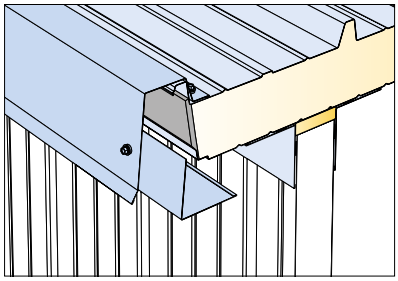
Use the short screws with cap along the panel joint.



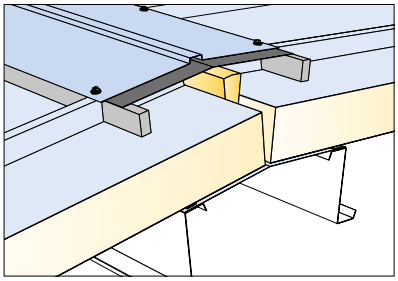


Use fixing points according to picture.

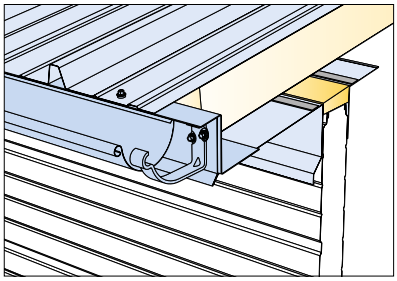
Flashings



From left to right in the picture. Gable flashing S6 at roof end, support angle S14



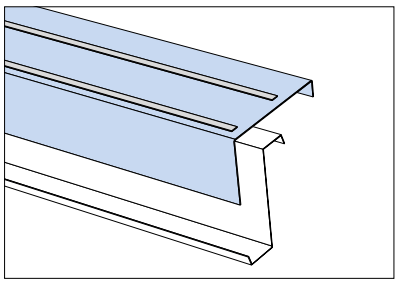
Place a insulate tow between the two roof panels and an ridge capping S1 over the panels.



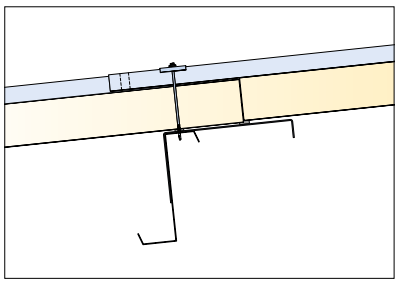
Place a Z-profiled flashing S3 underneath the KFK bracket and the eaves flashing. Assemble the gutter in the brackets.

Assembly – Roof Sandwich Panels

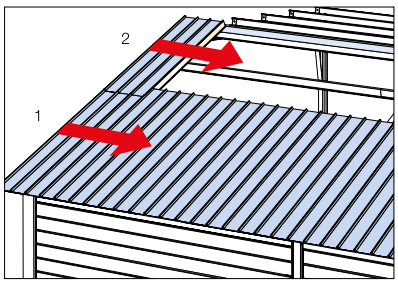
Large roof areas



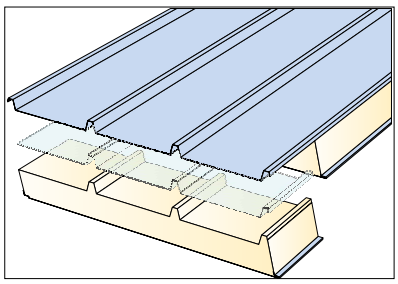
If two panel rows is necessary, reinforce on the joint purlins with a xxx profile.



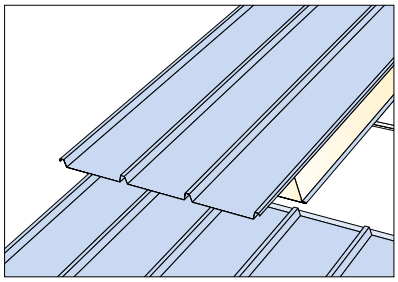
Plane drawing of the joint with screw.



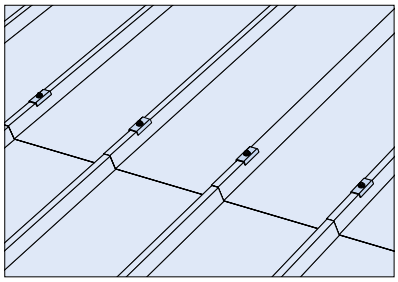
Assemble the lower panel row first and continue with second row.



Cut off min 100 mm and max 300 mm of the foam from the second row panels.



Place the panel on top of the first row panels.



Fasten with self tapping screws with cap on all panel ridges.

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2018-08-20

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