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INSTALLATION GUIDE

FACTS ABOUT OUR PANELS

If you are looking for a panel that requires little maintenance and provides a natural look with plenty of wood feel, you should choose Bitus Linax.

The panel is dried and dimensionally stable, which results in reduced moisture uptake in the timber and less crack formation over time.

Panels in Linax Brown and Linax Grey have excellent colour fastness and if you choose a panel in Linax Natural you will experience grey weathering over time. The Linax panel is ready for complete installation. Any cuts must be coated with our wood oil in order for the Linax warranty to apply.

On our façade panels in Linax, we provide a 50-year rot protection warranty, which gives you, the customer, a sustainable choice over time.

INSTALLATION/ INSTRUCTIONS

Linax is an outstanding product for outdoor use providing you fit it correctly. Follow the recommendations we specify in Linax's product warranty, as well as the information below.

Linax is installed just like any other timber product. It must be installed in a professional manner and in such a way that prevents moisture penetration. Construction must comply with the guidelines and instructions.

It is vital that all cut surfaces have an application of Linax oil. This is to ensure good protection of the cut surfaces to counteract rot and moisture. It is also important that the nails and screws that go into the timber are brushed with a thin layer of oil.

All nails and screws must be stainless steel or in harsh climates acid-proof. Important note: It is recommended that you use lacquered plates, etc. or stainless steel materials. This is to prevent discolouration of the timber.

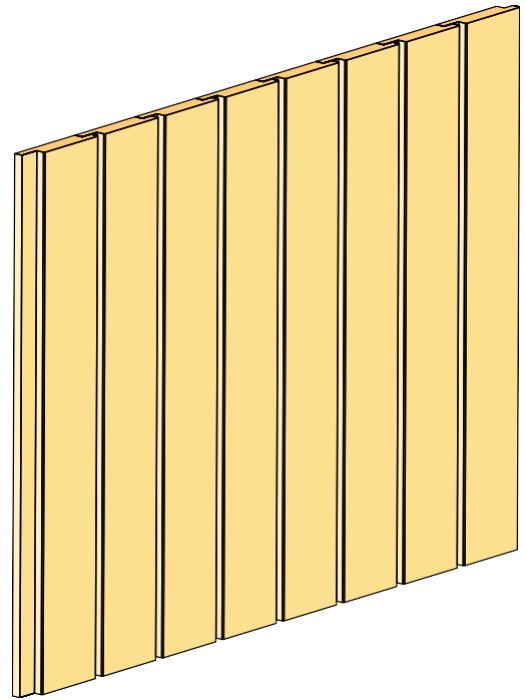
VERTICAL EXTERIOR PANEL

Installation and attachment

Proper installation is required to ensure a long service life for exterior panel boards. The following recommendations and illustrations correspond to the instructions in AMA Hus 18 Chapter HSD.16.

- Recommended nail joist 34 x 70 mm or 28 x 70 mm.
- Panel boards must be installed vertically.

Screw/nail (mm)	Nail joist (mm)	Surface treatment	Centre spacing between screws/nails (mm)	Nail requirement (pcs/m ²)
Panel screw 4.8 x 48	28 x 70	Stainless steel acid proof (A2/A4)	600	Approx. 35
Panel screw 4.8 x 55	34 x 70	Stainless steel acid proof (A2/A4)	600	Approx. 35
Panel nail 2.8 x 48	28 x 70	Stainless steel acid proof (A2/A4)	600	Approx. 35
Panel nail 2.8 x 55	34 x 70	Stainless steel acid proof (A2/A4)	600	Approx. 35

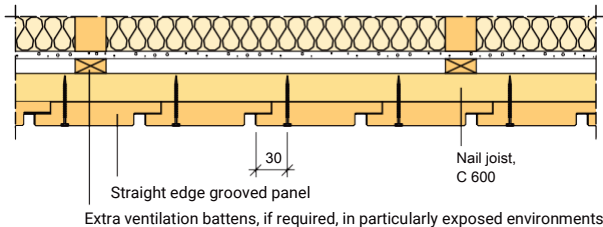


Assembled grooved panel with straight edges.

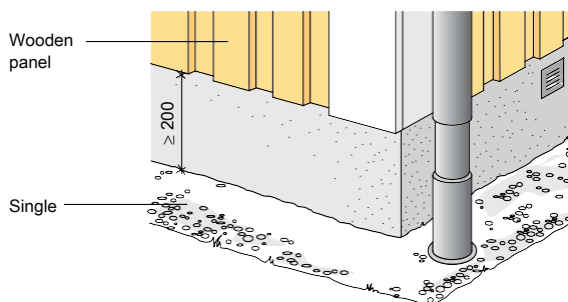
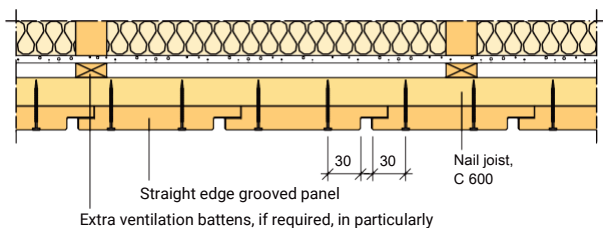
Assembly

Vertical installation is recommended. Panel boards with widths less than 120 mm are nailed in single rows. Wider exterior panel boards are nailed in double rows.

Grooved panel with straight edges 22 x 120 mm.



Grooved panel with straight edges 22 x 145 mm.

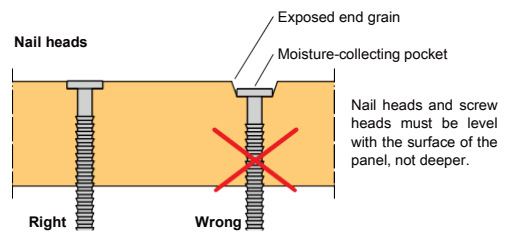


Methods for attaching panel boards

Nailing with hammer; stainless/acid proof panel nail.

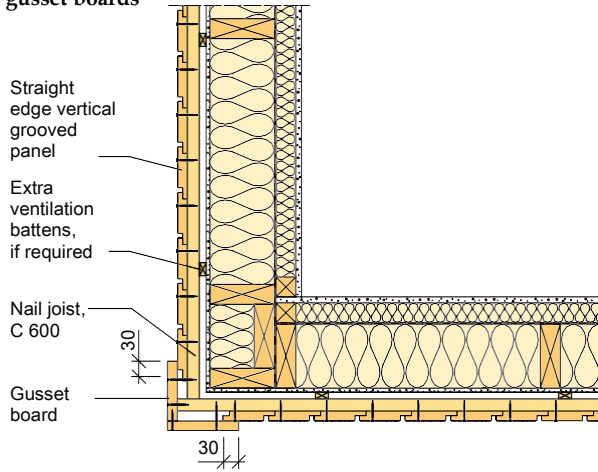
Screwing with electric screwdriver; with stainless or acid proof panel screw.

Nailing with a nail gun should be avoided as the panel nails easily penetrate too deep into the panel boards and cause moisture penetration at the nail head.

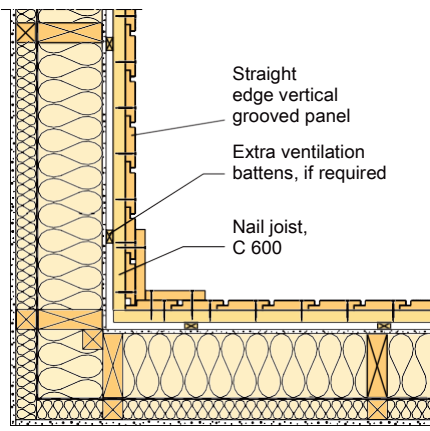


Panel ends must be double nailed or screwed at a spacing of 100 – 150 mm from the end. It is advisable to pre-drill the nail holes at the panel ends to reduce the risk of cracks, or use self-drilling panel screws.

Outer corners with gusset boards

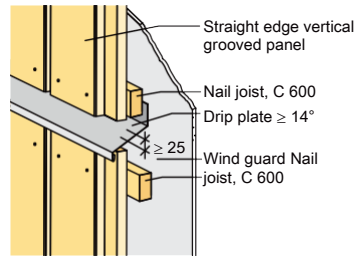


Inner corners



Joints for panels

Vertical panel boards are joined over longitudinal drip plates. The plates are fitted to the wind guard under the nail joist. The position of the nail joist is adjusted to ensure that the nail's spacing from the panel end is 100 – 150 mm. When installing, it is advisable to pre-drill holes for the panel nails or use self-drilling panel screws if the spacing to the panel end is less than 150 mm. The gap between the drip plate and the panel edge must be at least 25 mm to facilitate maintenance.



Final treatment

End grain treatment is essential for the service life and maintenance intervals of exterior panel boards. End grained surfaces must be coated with Linax oil.

Air gap and nail joists

Exterior panel boards must be fitted with a vented back. The air gap behind the wooden panel must be at least 25 mm. Nails or screws must not penetrate the underlying wind guard. Prepare by the windows, doors, sills and waling to ensure that panel ends and nail joists have a base for nailing.

Horizontal nail joists, centre spacing 600 mm, dimensions 34 x 70 mm or 28 x 70 mm. In particularly exposed environments, it is advisable to install the nail joints at a distance from the wall's board material with an extra ventilation.

HORIZONTAL EXTERIOR PANEL

Horizontal panels have traditionally been used for two main reasons; they withstand weather and wind well and the boards are easy to install on vertical underlying frameworks.

Horizontal exterior panels are common in areas with heavy rainfall such as in western Sweden and in Norway, but are now also widely used in other parts of the country. Another advantage is that it is relatively easy to replace and repair damaged parts with horizontal panels.

In recent decades, the prevailing opinion in Sweden has been that horizontal panels can withstand the impact of rain less well, that water could penetrate the joints and damage the wood. Vertical panels have often been recommended instead, as the water here does not remain on the edges of the boards. Subsequent investigations of façades and moisture have shown that it is incumbent to adopt a more nuanced approach. The sections of the wood that is most sensitive to water are the end surfaces. End grained surfaces in vertical panels are exposed to a greater moisture load than end wood in horizontal panels.

Design, Installation and joints

Some components of the construction design that should be paid particular attention to in order to ensure that a sustainable façade can be formulated using the following basic rules (applies to both vertical and horizontal panels):

- With an air gap between the panel and water-repellent wind guard, the exterior wall works based on the two-stage principle, i.e. the water that will eventually penetrate the outer protection is prevented from entering the wall structure by the inner protection guard. Special water drainage of sheet metal, for example, is required for plinths and above windows.
- Upturned end grained surfaces should be covered. Other upturned grained surfaces can be inclined to drain off the water.
- Downturned end grained surfaces must be designed to ensure that they can be maintained.
- The panel should end ≥ 200 mm above ground.
- Panel boards should not be too wide or too thin. In both cases there is a risk of swelling, shrinkage, cupping and crack formation.
- Joints for panel boards on site should be avoided as far as possible. Figure 2 shows the proposed solution if you still have to make joints.
- Boards must be attached in such a way that the timber does not crack, and attachment must not be carried out using two boards as they must be able to move in relation to each other. Attachment close to end grained surfaces is always risky. The head of attachment devices must be flush with the board surface, neither deeper nor higher.
- After installation, the wooden panel should be checked for cracks and holes.

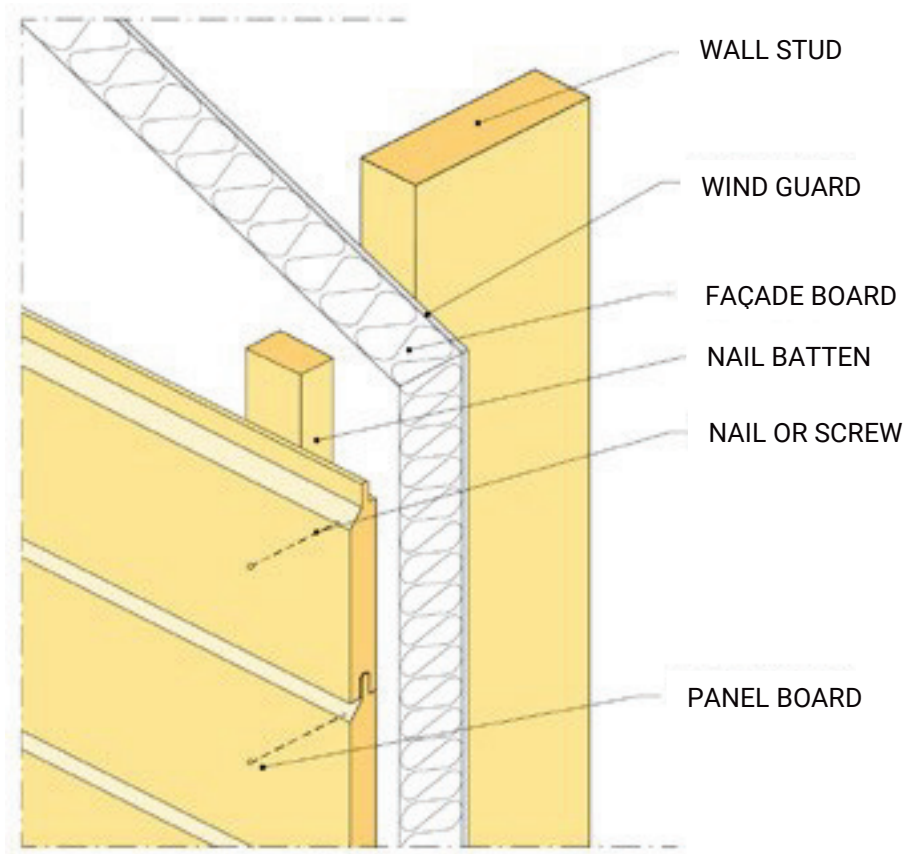


Figure 1. Horizontal profiled panel is nailed with a nail 30 mm from the bottom edge of the board.

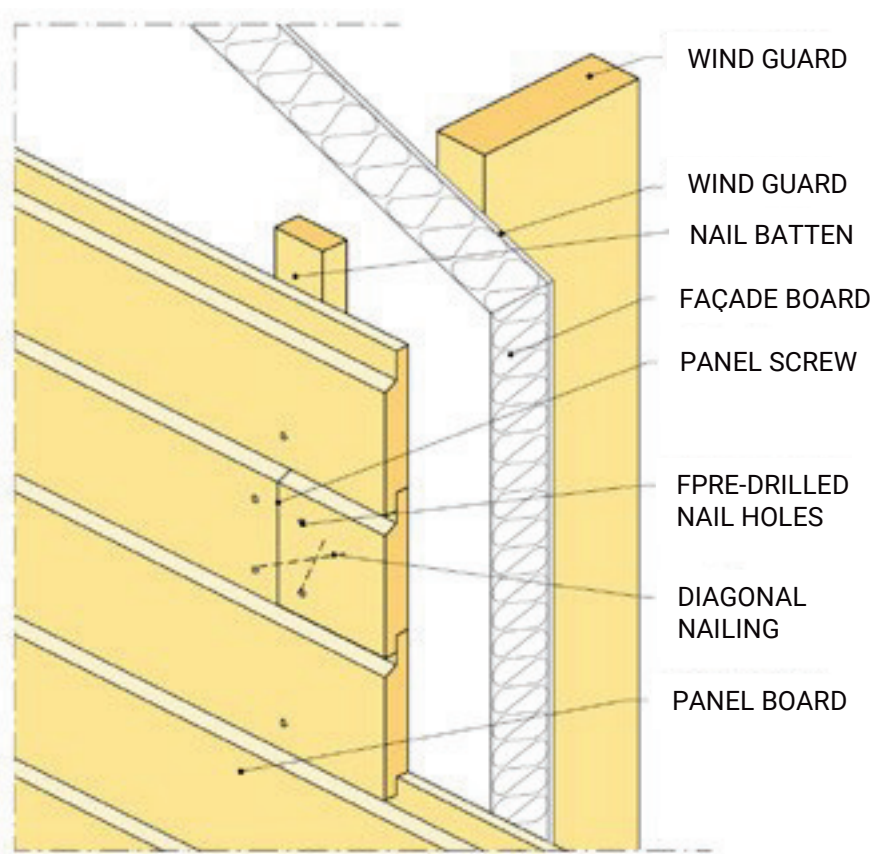


Figure 2. Joints should be avoided. Horizontal panel boards can be joined by cutting boards at right angles and fitting them flush with each other. Holes for nails or screws are pre-drilled and the boards are nailed or screwed diagonally into the underlying battens. Joints should be distributed evenly across the façade surface.