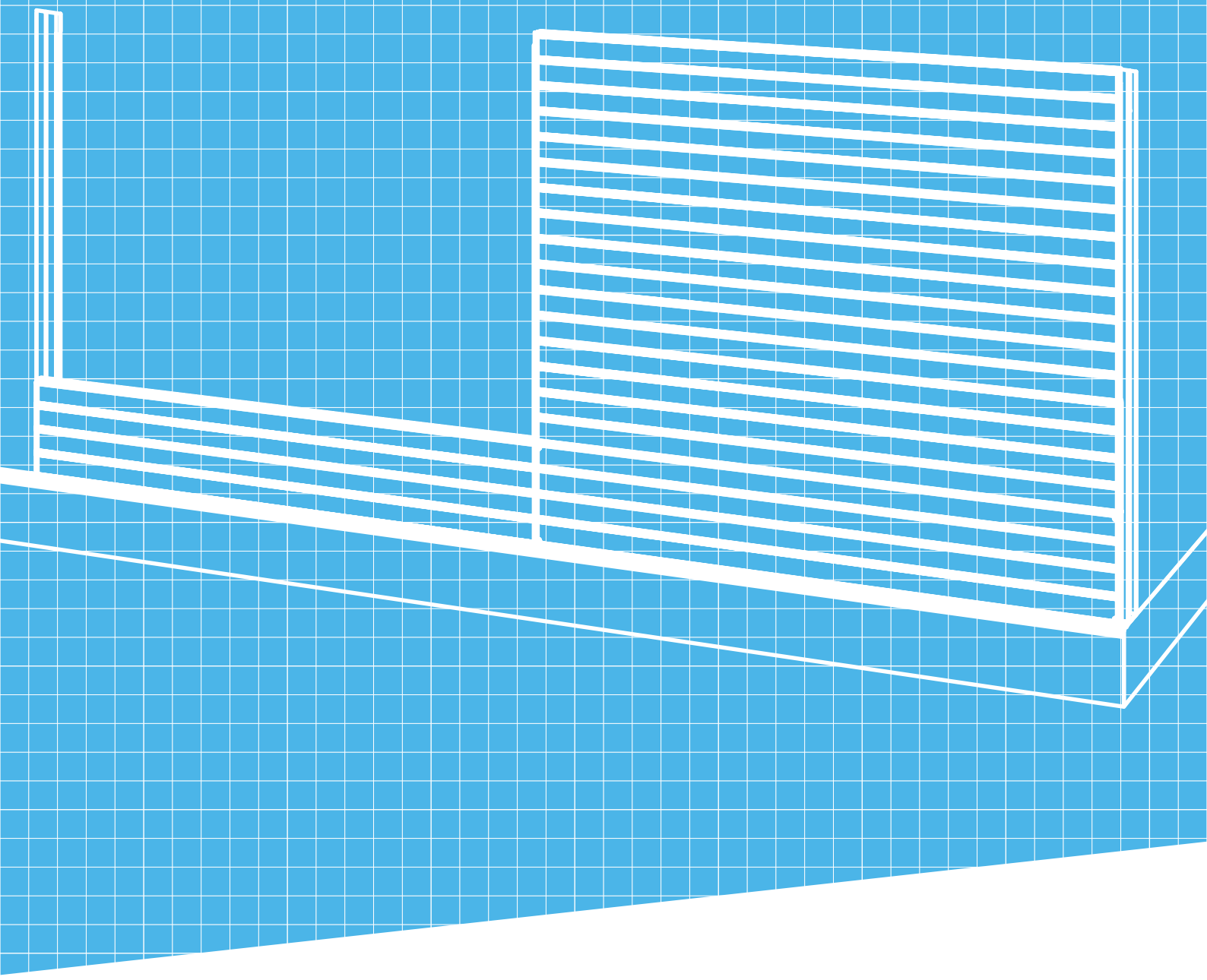
lindab | we simplify construction



Lindab **Sandwich Panels**

Installation instructions Mineral Wool Panels

Lindab®

Assembly instructions – Handling

Receiving of goods
Check that the material has not been damaged in transit and that the number of packages agrees with the consignment note.

In case of defects or shortages you have to:
- make remarks on the consignment note
- immediately submit a complaint report to the carrier
- report the damage to Lindab with copies of the consignment note, the complaint and the inspection report, etc.

Unloading
The panels arrive in bundles that are about 1,2 m high, normally weighing between 500 kg and 1500 kg.

The unloading is made with a fork truck or a tractor with forks. The fork distance is to be minimum 1500 mm. The forks are to be arranged, so that the centre of gravity is halfway between the forks at hoisting.

Unload just one package at a time!

Storing
When storing the panels at the building site the base must be level. Indoors, two bundles can be piled upon each other. Outdoors, bundles should not be piled upon each other. Ends and bundles, which have been opened, must be protected against rain. If the panels shall be stored more than 4 weeks at the building site they must be stored under a roof in a dry and ventilated environment.

Assembly instructions – Prior to installation

Industrial safety
The regulations of the Board for Occupational Safety and Health apply at the handling and assembly of Lindab Panel.

The following is especially to be observed:
- Always use working gloves
- Attach the panel directly
- Never stay under suspended panels
- Never weld near to an EPS panel

Stability of framework
The framework must be stabilised at the time of assembly. The roof is often used as a stiff plate, to stabilise the framework. In that case the roof must be assembled prior to start of the wall assembly.

Preparations
Read the detail solutions. The accuracy at e.g. sealing and attachment is critical to the functioning of the building.

Check
Measure the framework and plan any corrections in advance.

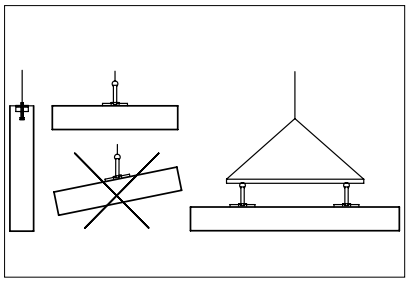
The edges guiding the assembly are to be horizontal/vertical. In other cases, guiding lines must be marked up.

Assembly instructions – Installation

Installation
The cover width of the panels is 1197 mm. Horizontal panels must be orientated with the male part of the side lap uppermost.

Hoisting
The panels weight 14 - 45 kg/m depending on quality of the core material. A hoisting crane or other lifting device is normally required.

For horizontal and vertical panels there are adapted lifting yokes for each thickness. Read further instructions on each lifting yoke.



Locate the lifting device as advised to make the panel hang horizontally. In cases where two lifting devices are required, they are to be located in the quarter points under the load spreader.

Never walk under a suspended panel!

Cutting and making holes
It should be noted that cutting and making holes will reduce the strength of the panels. Therefore, dimension of holes and locations must conform with the basic drawing data.
Making holes may well be made after installation. Electric plate shear or an electric jigsaw can be used. Regarding burglary protected panels, Lindab instructions 100-110 must be followed.

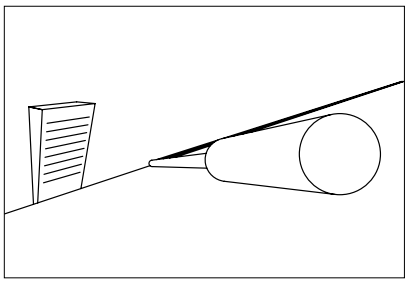
- Mark the cut on both sides.
- Start in bore holes of size 10 mm.
- Cut the sheet from both sides. The electric plate shear has a higher speed, but cannot cope with the side joint between two panels, which can be sawn by hand.
- The core of the panel is then cut with a reciprocating saw or an insulating knife.

For more extensive cutting with straight cuts, a circular saw with a blade of hard metal is to be used.

An electric reciprocating saw with a blade for steel sheets can sometimes be used for cuts through the full depth of panels. Care should be taken to keep the cut straight on the reverse side of the panels.

Never use an angle grinder or a cutting torch!

Sealing
Use plastic wedges to get sufficient joint gap, where required.

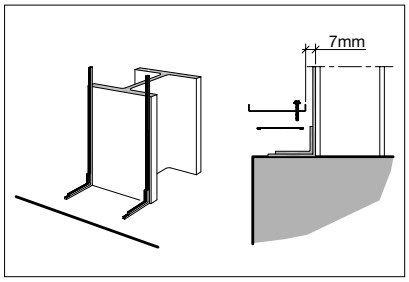


Surfaces should always be clean, dry, and free from grease when sealing. Sealants supplied by Lindab have good adhesion to most materials without a primer. Concrete surfaces which may be damp should always be primed. Porous and certain painted surfaces may also need a primer. If in doubt perform adhesion tests. For further information refer to the sealant manufacturer.

Cleaning
Keep drilling/cutting swarf away from the sheet surface. Stains are to be removed with a soap solution and white spirit. Possible damages resulting from the assembly are to be touched up with touch-up paint. It is recommended that only the damaged area is touched up, as there may be some gloss difference.

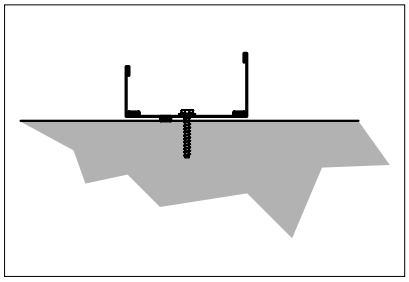
Assembly – Horizontal Wall Sandwich Panels

Start for external walls
Install two double sealing strips on top of each other under the ground beam insulation and a little bit up on the column.

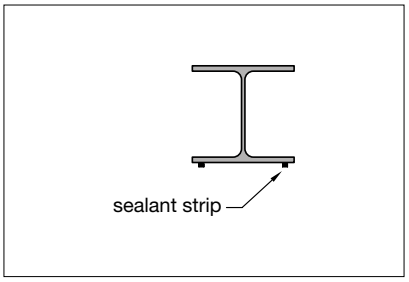


Install ground beam insulation, ground beam and ground beam trim in line and 7 mm from the column.

Start for internal walls
There exists different solutions how to begin the installation of internal walls. See the appropriate installation drawing. A solution which is often used on concrete floors for internal walls with fire requirements is shown above. The ground beam is provided with sealant strips both inside and underneath the beam.

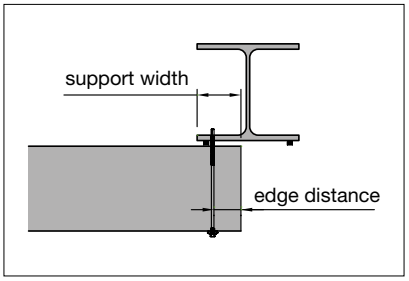


Sealing at supports
Fit the bearing supports with sealing strip according to the installation drawing.



Hoist and locate
Follow the instructions for the lifting device. Be careful during installation, so as to avoid scratches.

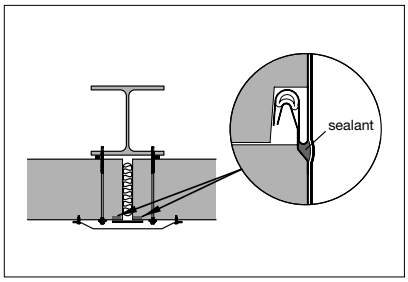
Make sure that the panels achieve the correct support width intended when laying them over the bearing supports.



Fix panels to the supports
Number of fasteners and position are indicated on the installation drawings, but always at least 2 pcs at each end of the panels. The fasteners must not be closer to the panel edge than as stated on the drawing, normally 50 mm.

The tightening is to be made so that a good contact is obtained without the sheet surface being noticeably deformed. The external wall is also to be fastened with through fasteners at 1000 mm c/c along the base of the roof.

Caulk and seal
Caulk between the panels with rock wool. The number of strips required in each joint depends on the thickness of the wall. See installation drawing.

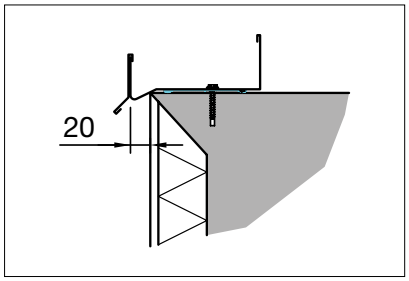


Follow the instructions on the installation drawing and seal with sealant at locations stated on the drawing.

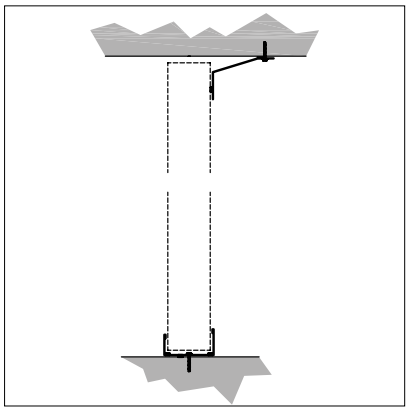
Where specified and attach according to drawing. Note that when there are fire requirements, fasteners of steel must be used.

Assembly – Vertical Wall Sandwich Panels

Start for external walls
Install ground beam and ground beam trim or attachment profile onto the ground beam insulation according to drawing.

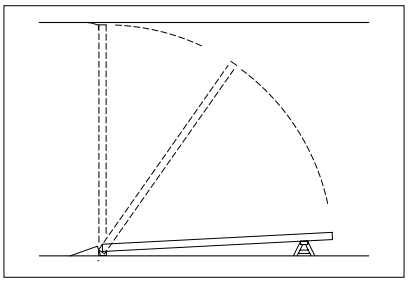


Start for partition walls
Both the upper and lower edges of the trims or profiles, which are to serve as bearing supports, are to be provided with a sealing strip. Install just one side, so that the panels can be put in or against these.



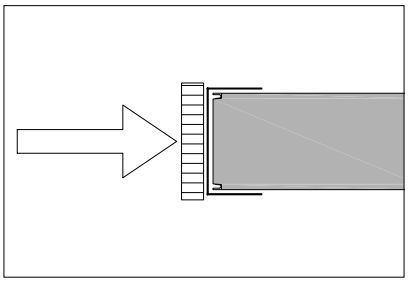
Hoist and locate
Follow the instructions for the lifting device. Be careful when erecting the panels, so as to avoid scratches. Thin and short panels can be handled and erected by hand.

Always use gloves!



Use an L-shaped sheet, with the short leg, in the bottom profile, as a kicker.

Press together and attach to bearing supports
It is important that the joint is tightly compressed and that the vertical line is maintained.



Never press directly against the panel edge. Instead, use a frame trim and a wood crossbar, 1-1,5 meters long, as a spacer.

Check the cover width (+/-2 mm). Attach panels in upper and lower edges according to drawing. External walls are also to be attached with through fasteners at 1000 mm c/c along the wall sides.

Caulk and seal
Caulk the connections of the wall laterally as well as connection to false ceiling. In case of fire requirements, Rock wool fire-caulk must be used.

Seal with joint sealing compound at points as stated on the drawing.

Complete with trims
Provide pilasters and trims with sealant strips if required, and attach according to drawing. Note that in case of fire requirements, fasteners of steel must be used.

Assembly – Fixing

Fixing of Lindab Panels to supports
Check that the chosen fasteners meet the requirements according to the dimensions, loadings, have the proper environmental class, and meet the requirements for the minimum thickness of the base. Also check that they have sufficient drill capacity.

To attach the panels with drilling screws, a screwdriver with a depth locator min. power of 600 W and a rotation speed of max. 1500 rpm is to be used. Max. torque should be min. 16 Nm. Various fasteners require different rotation speed of the machine. Appropriate speeds are usually indicated on the package.

Pre-drilling to concrete
For concrete a hammer drill (diameter as below) must be used.

Fasteners dim ø [mm]	Drill dim ø [mm]
6,0	5,0
7,5	6,5

Fixing of others to Lindab Panel wall
Loads due to installations are to be considered through a special design. Design value for permanent pull-out load (considering the Panels) using fasteners that are not all through the panel is for:

Rock wool	25 kg/fastener
EPS	16 kg/fastener.

Minimum distance between two fasteners is 250 mm.

Always use all through bolts for ladders, parts suspended with consoles and other installations, which may provide a dynamic load.

Assembly instructions – Fire

Fire resistance
Lindab has Rock wool sandwich panels that will resist fire for more than 3 hours.

Wall constructions of Lindab Panels with requirements of Fire resistance classification must be designed according to approved and by Lindab produced Type-drawings. As for example:

External wall:
110-100, 110-101, 110-150, 110-200, 110-201, 110-300, 110-500, 110-502, 110-510, 110-512.

Partition wall Indoors:
130-100, 130-101, 130-200, 130-201, 130-300, 130-350, 130-400, 130-450, 130-500, 130-501, 130-503, 130-504, 130-520, 130-550, 130-551, 130-552, 130-570, 130-571.

Fire resistance classification Lindab Panels of Rock wool is tested for fire resistance according to EN 1364-1:1999, EN 1363-1:2012 and suitable parts of EN 1363-2:1999.

Fire resistance classification for current type of panel, thickness, span and orientation is to be found in the DoP (Declaration of Performance) that is provided by Lindab.

Lindab Fire resistance Panels can be obtained as:
(1) **Standard** design without reinforcement of joint between panels according to (2).
(2) **Fire-reinforced** design with a fire-reinforced joint *Ex Works*. Fire-reinforced design implies that the surface of the open rock wool, on one long side, is covered with a white field of fire coating.

Assembly – Weather protection

Protect the Panels
Panels that, during assembly, are left with open, not vertical, mineral wool surfaces must be protected from influence of weather.

Suitable coverage is taped Protectionfoil, uformed metal fittings or similar protection covering the whole open surface.

About this product information
The product information at this package was correct at the time of publication in February 2016. Reservation is made for changes resulting from continuous product development or by new standards. The latest product information is given on request.

Good Thinking

At Lindab, good thinking is a philosophy that guides us in everything we do. We have made it our mission to create a healthy indoor climate – and to simplify the construction of sustainable buildings. We do that by designing innovative products and solutions that are easy to use, as well as offering efficient availability and logistics. We are also working on ways to reduce our impact on our environment and climate. We do that by developing methods to produce our solutions using a minimum of energy and natural resources, and by reducing negative effects on the environment. We use steel in our products. It's one of few materials that can be recycled an infinite number of times without losing any of its properties. That means less carbon emissions in nature and less energy wasted.

We simplify construction

2019-09-03

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