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 waterbased solution.

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.

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.

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.

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
- Plumb line
- Rivet plier
- Spirit level
- Vacuum cleaner
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, immediately 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 instructions

Components
All the wall panels from Lindab are composite panels, formed by two metal sheets linked by a layer of insulating material, which can be manufactured upon request with polyurethane foam or with mineral wool. Panels are manufactured in 1000 mm wide modules, their length depends on the specific design requirements and the feasibility of the manufacturing factory. Please request for that.

Wall panels

Monowall A/B
Thickness t (mm): 40 50 60 80 100 120

Monowall B/B
Thickness t (mm): 40 50 60 80 100 120

Superwall ML
Thickness t (mm): 60 80 100

H-Wall 8
s (mm): 50 80 100
Thickness t (mm): 70 100 120
Assembly instructions

Wall Panels

**H-Wall 10**
- s (mm): 50 80 100
- Thickness t (mm): 68 98 118

**HIPERTEC: Fire protection panel:** F60/F90/F120/F180
- Thickness t (mm): 50 80 100 120 150

Roof panels

**G4 Roof panel**
- s (mm): 30 40 50 60 80 100
- Thickness t (mm): 68 78 88 98 118 138

**Firemet: Fire protection panel**
- s (mm): 60 80 100
- Thickness t (mm): 98 118 138

**TOPROOF: Agricultural panel**
- s (mm): 40
- Thickness t (mm): 75

**HIPERTEC: Fire protection panel**
- s (mm): 50 80 100 120 150
- Thickness t (mm): 88 118 138 158 188
## Assembly instructions

### Flashings

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>Ridge Capping</td>
<td><img src="#" alt="Image" /></td>
</tr>
<tr>
<td>S2</td>
<td>Internal Flashing</td>
<td><img src="#" alt="Image" /></td>
</tr>
<tr>
<td>S3</td>
<td>Eaves Flashing</td>
<td><img src="#" alt="Image" /></td>
</tr>
<tr>
<td>S4</td>
<td>Eaves Flashing</td>
<td><img src="#" alt="Image" /></td>
</tr>
<tr>
<td>S5</td>
<td>Eaves Flashing</td>
<td><img src="#" alt="Image" /></td>
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<tr>
<td>S6</td>
<td>Gable Flashing</td>
<td><img src="#" alt="Image" /></td>
</tr>
<tr>
<td>S7</td>
<td>Gable Flashing Support Angle</td>
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## Flashings

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
<th>Measures</th>
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<tbody>
<tr>
<td>S9</td>
<td>Corner Flashing</td>
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<tr>
<td>S10</td>
<td>Pilaster</td>
<td><img src="image2.png" alt="Pilaster Diagram" /></td>
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<tr>
<td>S11</td>
<td>Base Cover Flashing Exterior</td>
<td><img src="image3.png" alt="Base Cover Flashing Exterior Diagram" /></td>
</tr>
<tr>
<td>S12</td>
<td>Base Cover Flashing Interior</td>
<td><img src="image4.png" alt="Base Cover Flashing Interior Diagram" /></td>
</tr>
<tr>
<td>S13</td>
<td>Still Flashing Long Side Interior</td>
<td><img src="image5.png" alt="Still Flashing Long Side Interior Diagram" /></td>
</tr>
<tr>
<td>S14</td>
<td>Still Flashing Long Side Exterior</td>
<td><img src="image6.png" alt="Still Flashing Long Side Exterior Diagram" /></td>
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</table>
## Assembly instructions

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<tbody>
<tr>
<td>S15</td>
<td>Still Flashing Long Side Interior</td>
<td><img src="image1.png" alt="Image" /></td>
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<tr>
<td>S16</td>
<td>Case Flashing</td>
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</tr>
<tr>
<td>S17</td>
<td>Drip Flashing</td>
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</tr>
<tr>
<td>S18</td>
<td>Window Flashing</td>
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<tr>
<td>S19</td>
<td>Runner Monowall</td>
<td><img src="image5.png" alt="Image" /></td>
</tr>
<tr>
<td>S20</td>
<td>Runner Hipertec</td>
<td><img src="image6.png" alt="Image" /></td>
</tr>
</tbody>
</table>

A = Measure according to width of the sandwich panel
Assembly – Horizontal Wall Sandwich Panels

First panel section (Monowall used in example)

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 Superwall 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.

Connection of H wall paneltype
Screw with load distribution plate.
Place the top screws in the valley of the panel.

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.

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

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

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

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

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

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.

First panel section (monowall used in example)
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.

Connection H wall 10 paneltype

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

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

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

One screw on each side of joint.

Connection Monowall 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 Superwall paneltype

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

Use a distribution plate if necessary.

Connection H wall 8 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.

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

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

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

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

Assemble the window profiles on the inside.

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

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.

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

Fill up the cavity around the door 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 long side 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 fixing points according to picture.

Flashings

Use the short screws with cap along the panel joint. Place a Z-profiled flashing S3 underneath the KFK bracket and the eaves flashing. Assemble the gutter in the brackets.

From left to right in the picture. Gable flashing S6 at roof end, support angle S14. Place an insulate tow between the two roof panels and an ridge capping S1 over the panels.
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.
Lindab Profile is a business area within the Lindab Group that develops, manufactures, and markets efficient, economical and aesthetic steel and sheet-metal solutions for the building industry.

We offer everything from complete building systems to individual building components for all types of housing, as well as commercial and industrial buildings.

Lindab Profile is represented in over 25 countries throughout Europe. Our head office is in Förslöv, in the south of Sweden.