

# INSTALLATION

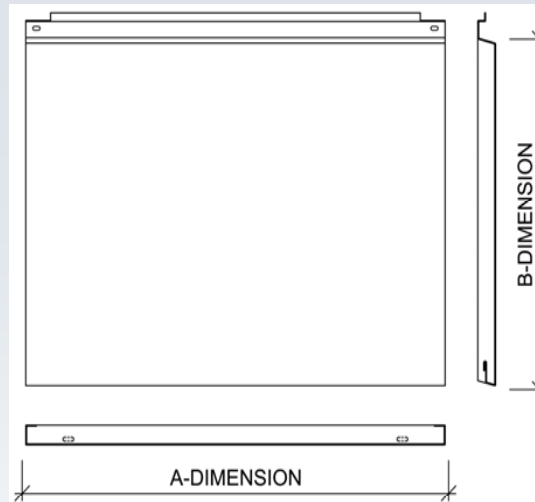
## Liberta™ elegant 500 & Liberta™ elegant 500Grande

# PRODUCT PROPERTIES

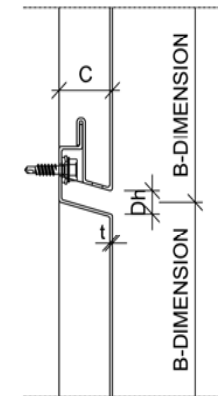
## Liberta™ elegant 500



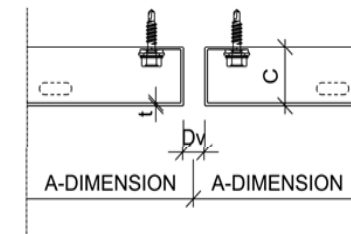
- Depth (C): 25 - 30 mm
- Horizontal joint (Dh): 5 – 30 mm
- Vertical joint (Dv): 5 – 30 mm
- Fastening holes: Oval 5 x 10 mm
- Ventilation holes: Oval 5 x 15 mm
- Concealed fasteners
- Starting fillet required



### HORIZONTAL JOINT



### VERTICAL JOINT

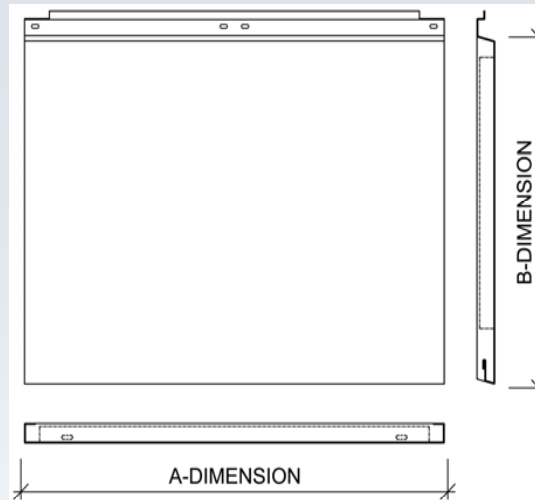


# PRODUCT PROPERTIES

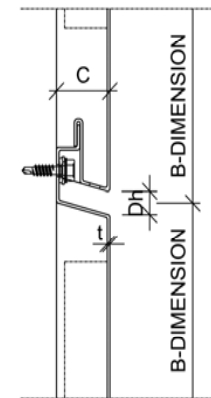
## Liberta™ elegant 500Grande



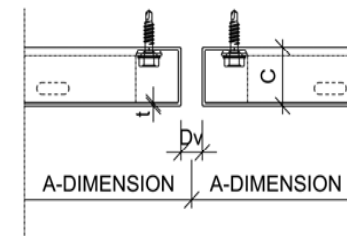
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### HORIZONTAL JOINT



### VERTICAL JOINT



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### **Receiving the panels**

The panels are delivered to the installation site in plastic-protected wooden boxes. Check that the received delivery corresponds to the order and that all the panels mentioned in the dispatch note are included. If the delivery is defective or erroneous or has been damaged in transport, write an account on the delivery note and immediately notify the supplier. Include the signatures of the driver and the recipient on the delivery note.

### **Unloading**

Deliveries are unloaded using for example a forklift or failing that a crane and lifting belts. Make sure that the lifting belts are long enough and wide enough. Using lifting belts that are too short could cause the upper edges of the packages to cave in and damage the panels. Lift the packages onto a level base, one at a time, while making sure each package's centre of gravity is consolidated in its middle at all times.

### **Storing the panels at work site**

You can store the panels in their packages. If you are storing the packages outdoors, make sure they are covered with a tarpaulin or other suitable covering, and fully protected from rain, sunlight and dirt. Make sure that the packages also receive adequate ventilation. For long-term storing, store the packages inside. Always cover any opened packages at the end of a working day. Do not move an opened package. If an opened package must be moved, support the remaining panels so as to prevent them from moving around inside the package during transportation. Single panels that have been removed from their packages should either be stored back in their original packages or in a manner deemed appropriate.

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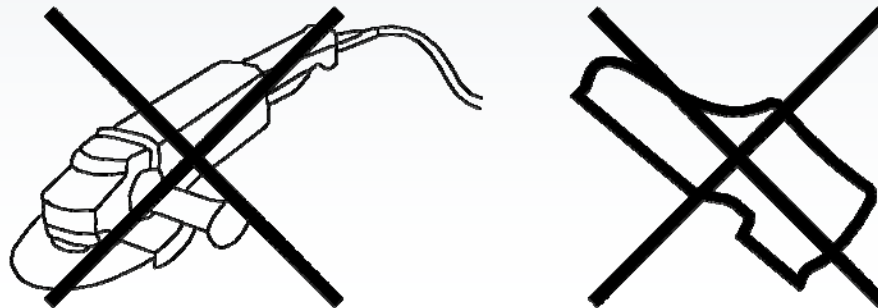
### Handling and processing the panels

Handle the panels in a manner that prevents them from being damaged. Do not place the panels on uneven or unprotected bases. Do not step on the panels. Special attention should be paid when handling panels that do not have protective film wrapping.

If the panels need to be cut or processed in any other way, carry out these procedures using the appropriate tools to ensure safety and a good end result. Cut the panels using various sheet cutters. Alternatively, you can cut the panels using a circular saw that has a cemented carbide-tipped blade with a negative angle. Cutting panels using an angle grinder is strictly forbidden. Make sure that the surface of the panel itself is protected throughout the cutting process. Immediately brush and/or wash away all resulting cuttings and impurities at the end of the process. Wash using water or a diluted washing liquid.

Surfaces of cosmetically damaged panels can be repair painted using appropriate touch up paint. Replace any panels that are irreparably damaged.

Remove the protective film from panels as soon as they have been installed, provided there is no longer a risk of them being damaged.



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### Installation instructions

Installation of the panels must be carried out by at least two, preferably three, installers. Lift the panels from the vertical sides. Lifting from horizontal sides may cause the folds at the edges to unravel.

Install the panels according to the instructions given. All the instructions in this document are presented as principles and then can not be necessarily used one to one in all work sites. Project specific designs and instructions must always be considered first.

The panel facade allows only very small tolerance deviations. To ensure the right dimensions, it is always recommended that the optical measurement devices are used at the work site.

Ruukki takes no responsibility for the quality of installation.

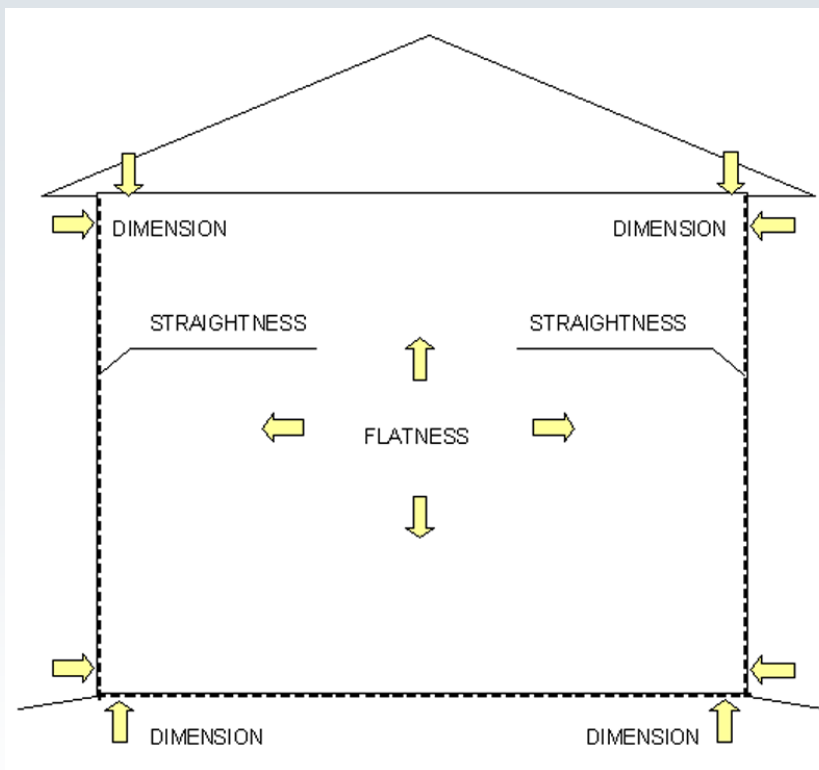
### Work safety

Always use cut-resistant gloves and other appropriate protective clothing when handling the panels. Watch out for any sharp edges and corners on the panels. Only use approved lifting equipment to lift the panels. Make sure that lifting belts are in good condition and are properly fastened before lifting.

*Before starting work, make sure that all current safety regulations and any specific safety requirements relating to the installation site in question are being followed correctly.*

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### Checking of facade's dimensions

- Check the facade's (backing wall) dimensions on the work site that they are as according to the project designs. Ensure that the backing wall surface is flat and even and dimensions as in the project designs and within the required tolerances.
- The support studs can be fastened directly onto the backing wall if the backing wall dimensions are within the required tolerances.
- In case of backing wall dimensions are outside the required tolerances, then adjustment needed between the support studs and the backing wall. For this purpose for example the system Adjustable fasteners can be used.
- Tolerances for the support studs:
  - Deviation from vertical direction:
    - ± 5 mm from theor. line parallel the plane
    - ± 2 mm from theor. line perpendicular the plane, at the corners tighter: ± 1 mm
  - Deviation between the studs at one panel width: ± 1 mm

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### Plinth flashings

- Install the plinth flashings (for example Plinth flashing CA1P1X).
- Check the right fastener type from the plans. Given amounts of the fasteners must be followed.
- Place the fastenings so that they will not be in the place of the support studs.
- The flashings are partly visible and should be the colour of the panel.



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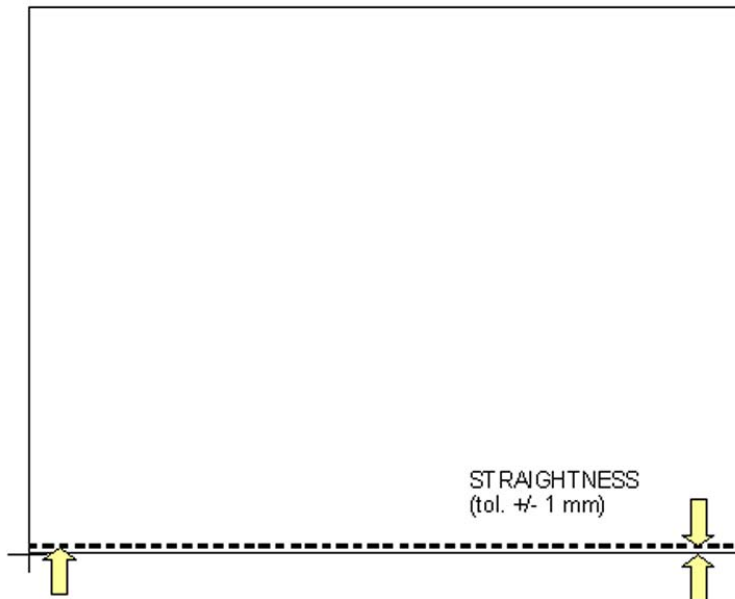


#### Plinth flashings

- The plinth flashings are jointed together in the corners.

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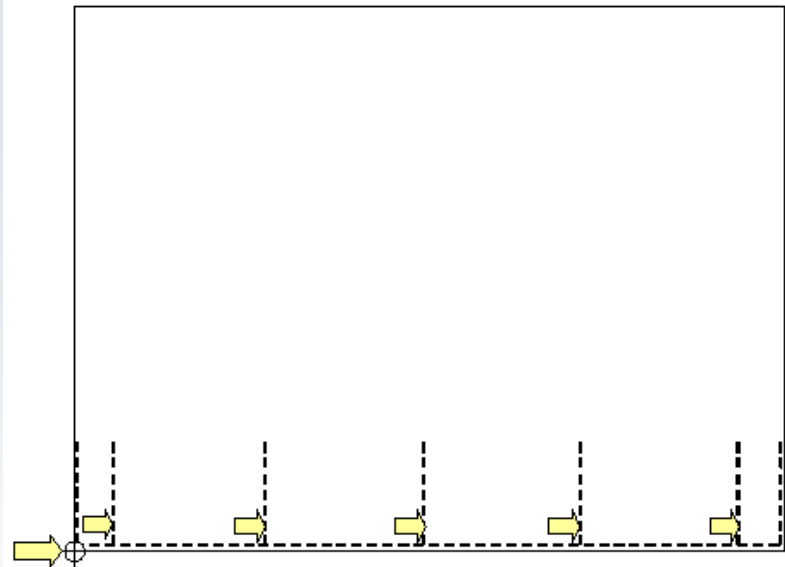


### Support studs

- Mark the starting line for the support studs on the bottom edge of the wall.
- The final height, and thus the precise height of the starting fillets and the panels, must always be checked at the work site, ensuring that the minimum ventilation gap 25 mm is left. At the same time, it is necessary to ensure that any changes made will not cause problems with the connections at the top.

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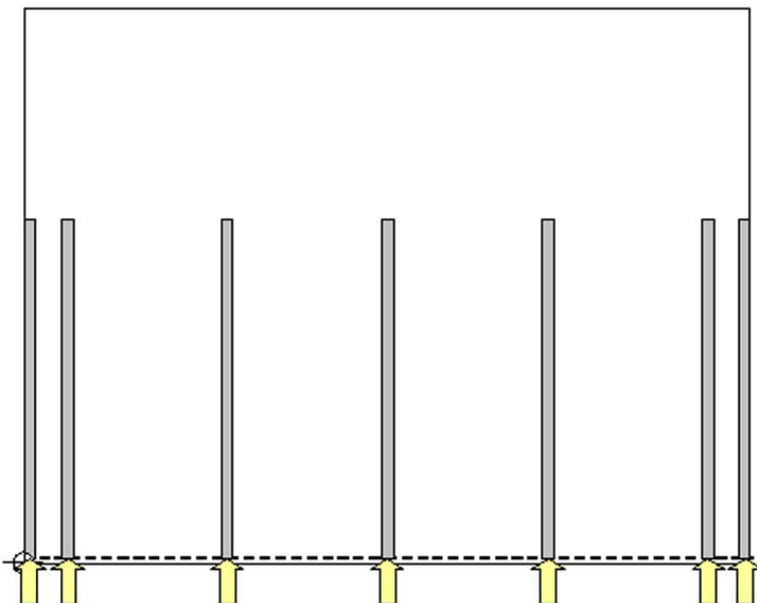


### Support studs

- Specify the precise location of the zero-point and mark it on the wall. The zero-point can be situated for example on the bottom left corner of the first panel.
- Mark the positions of the support studs in horizontal direction according to the panel fastening hole location. Make sure that each support stud is positioned in the middle of the dimension.

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### Support studs

- Install the support studs (for example Support stud CA1SS1).
- Check the right fastener type from the plans. Given amounts of the fasteners must be followed.
- The support studs at the vertical joints are visible and should be the colour of the panel. The support studs behind the panels can be zinc coated.
- The joints of the support studs should always be located at the supports. If it is not possible, the separate joint pieces can be used (for example to Support stud CA1SS1: Support stud joint piece CA1SSJ1).

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#### Support studs

- Install the support studs on the external corners (for example Support stud corner CA1SSC1).
- The support studs at the vertical joints are visible and should be the colour of the panel. When the corner panels or the external corner flashings are used, the support studs can be zinc coated.

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#### Support studs

- The support studs which are underneath opening are cut so that the upper edge of the lower panel can be fastened.

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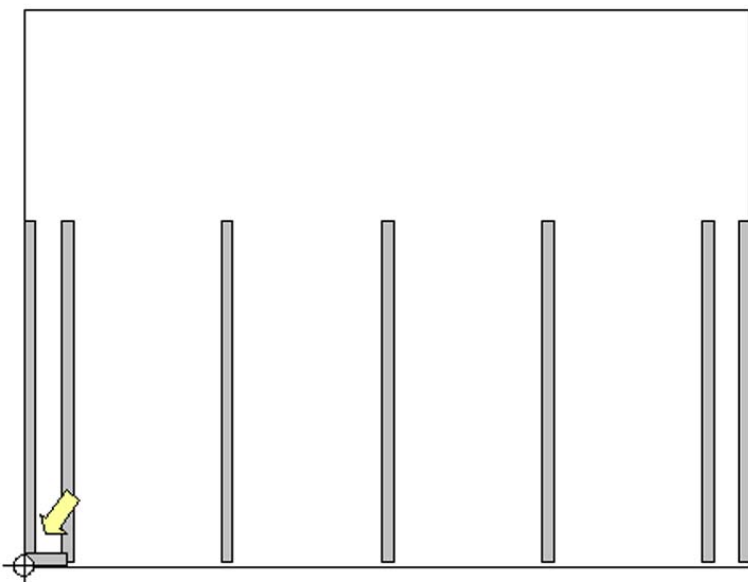


### Support studs

- Install the support studs on the vertical edges of the openings (for example Support stud CA1RS1).
- The support studs can be zinc coated.

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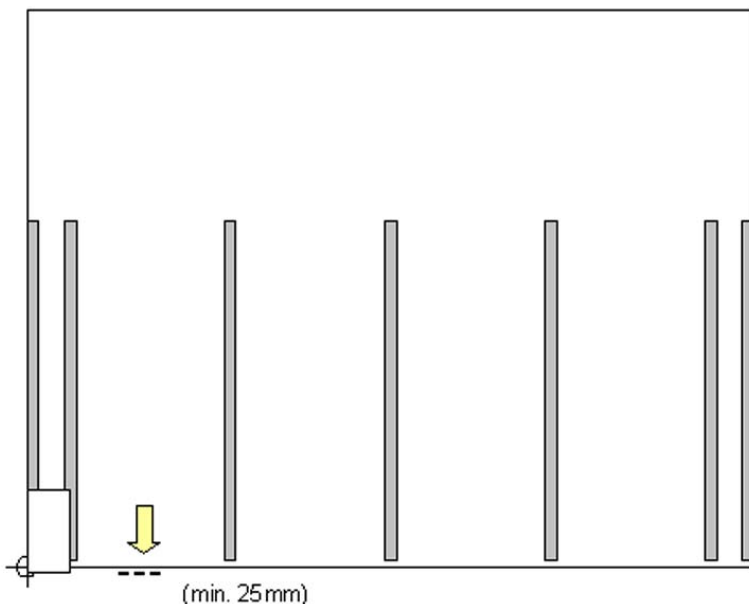
### Starting fillets

- Mark the starting line for one starting fillet on the bottom edge of the support studs.
- Install the first starting fillet (Starting fillet CA1SF2) with one fastener to each support stud.
- Check the right fastener type from the plans. Given amounts of the fasteners must be followed.
- The starting fillet can be zinc coated.
- The final height of the starting fillets, and thus the precise height of the panels, must always be checked at the work site, ensuring that the minimum ventilation gap 25 mm is left. At the same time, it is necessary to ensure that any changes made will not cause problems with the connections at the top.



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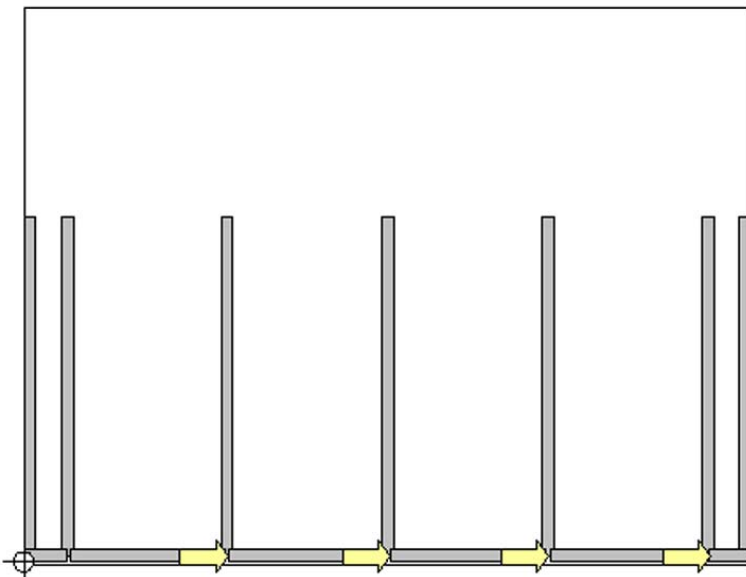


### Starting fillets

- Check the ventilation gap at the bottom edge of the wall by installing one panel. Set the panel on the starting fillet, adjust the panel in right position in horizontal and vertical direction, and fasten the panel to the support studs at every fastening hole in the panel upper edge. Measure the ventilation gap at the bottom.
- If necessary, adjust the height of the starting fillet.

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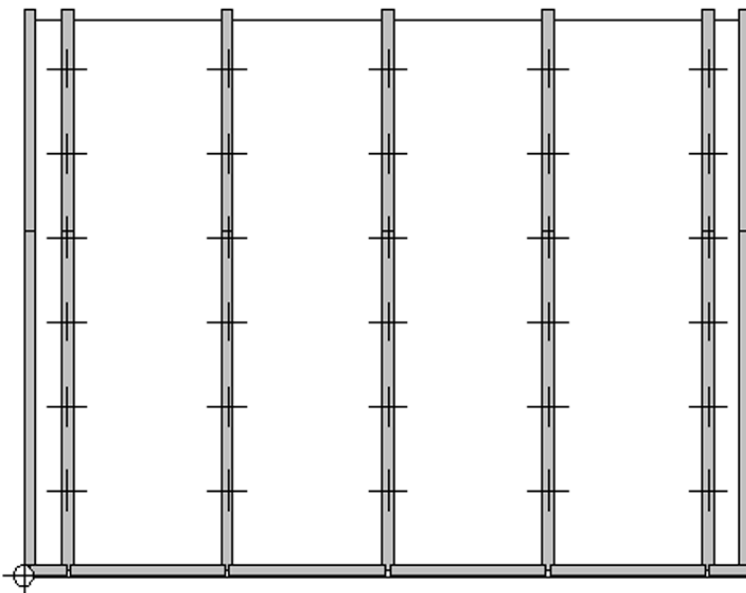


### Starting fillets

- Mark the starting line for the rest starting fillets on the bottom edge of the support studs.
- Install the starting fillets.
- Follow the horizontal straightness of the starting fillets and also their position in horizontal direction.

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### Panels

- The panels can be positioned in the facade for example on a grid, so that the bottom left corner acts as the measurement point for the module both horizontal and vertical direction.
- The panels are typically marked with individual codes in the facade design drawings. The individual codes are marked on the back of the panels in the production.

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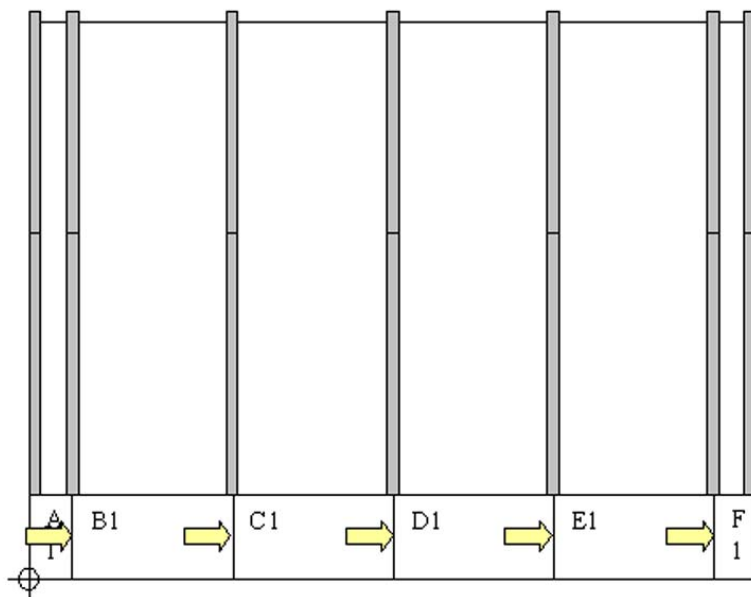


### Panels

- Remove the protective film from the joint areas of one panel prior to installing it.
- Remove the protective film from the center area of the panels as soon as they have been installed, provided there is no longer a risk of them being damaged.

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### Panels

- Begin the installation of the panels from the bottom left (or right) corner, and continue for example in horizontal direction.
- Check the right fastener type from the plans.

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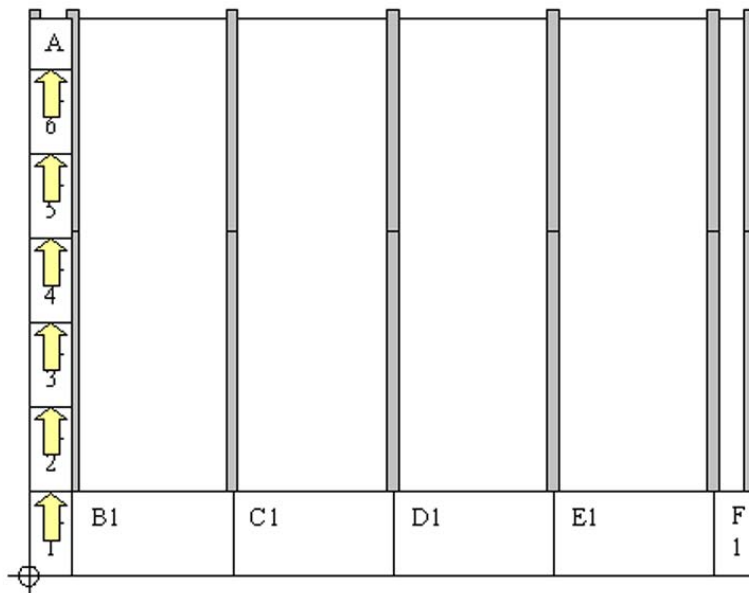


#### Panels

- Install the adjacent panels with a help of a template in the vertical joint. Check the width of the vertical joint (Dv) from the plans.
- Follow the module dimension (A-dimension) and the width of the vertical joint (Dv). Follow also the straightness of the whole panel line.

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### Panels

- Continue the installation of the panels in vertical direction.
- Check the right fastener type from the plans.

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### Panels

- Install the upper panels with a help of a template in the horizontal joint. Check the width of the horizontal joint (Dh) from the plans.
- Follow the module dimension (B-dimension) and the width of the horizontal joint (Dh). Follow also the height level of the whole panel line.
- Installation tolerances in height direction: +2 / -1 mm



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### External corners

- Install the corner panels on the external corners. Alternatively the external corner flashings can be used.
- It may have been decided at the design phase that the external corners will be covered with tailored panels, which will be ordered and manufactured afterwards once precise dimensions have been carried out at the work site to ensure their compatibility.

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### Internal corners

- Install the internal corner flashings (for example Internal corner flashing CA1IC1X).
- Check the right fastener type from the plans. Given amounts of the fasteners must be followed.
- Place the fastenings so that they will not be in the place of the panels.
- The flashings are partly visible and should be the colour of the panel.
- Install the adjacent panels.
- Note. The internal corners are made with two separate basic panels. One continuous internal corner panel can not be manufactured.

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### Storm and Support flashings

- Install the storm and possible support flashings on the lower edges of the openings (for example Storm flashing CA1ST1X / Support flashing CA1SU1X).
- Check the right fastener type from the plans. Given amounts of the fasteners must be followed.
- Place the fastenings so that they will not be in the place of the panels.
- Always ensure the designed ventilation gap remains.
- Install the underneath panels.

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### Sill flashings

- Install the sill flashings (for example Sill flashing CA1S1X).
- Check the right fastener type from the plans. Given amounts of the fasteners must be followed.
- The flashings and fasteners are partly visible and should be the colour of the panel.
- Always ensure the designed ventilation gap remains.

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### Cover flashings

- Install the cover flashings on the vertical edges of the openings (for example Cover flashing CA1C12X).
- Check the right fastener type from the plans. Given amounts of the fasteners must be followed.
- The flashings and fasteners are partly visible and should be the colour of the panel.

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#### Cover flashings

- Install the cover flashings on the upper edges of the openings (for example Cover flashing CA1C10X).
- Check the right fastener type from the plans. Given amounts of the fasteners must be followed.
- The flashings and fasteners are partly visible and should be the colour of the panel.



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#### Support studs

- Continue the installation of the support studs above the openings.

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### Cover flashings

- Install the cover flashings on the vertical edges of the openings (for example Cover flashing CA1C3X).
- Check the right fastener type from the plans. Given amounts of the fasteners must be followed.
- The flashings and fasteners are partly visible and should be the colour of the panel.
- Install the adjacent panels.



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### Cover flashings

- Install the cover flashings on the upper edges of the openings (for example Cover flashing CA1C8X).
- Check the right fastener type from the plans. Given amounts of the fasteners must be followed.
- The flashings and fasteners are partly visible and should be the colour of the panel.
- Always ensure the designed ventilation gap remains.

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#### Starting fillets

- Install the starting fillets above the openings. The starting fillets are partly visible underneath and should be the colour of the panel.
- Install the panels above the openings.

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#### Installation completed.

- Finish other details like eaves, connections and other trimmings according to the project specific plans.