

# PANELO INSTALLATION GUIDE

## 1. Unloading and storing

The installation of panels is carried out using a crane, and disposable lifting straps are attached to the panels in the factory. Lift the panels directly up and to the desired location. Panels can also be unloaded with a forklift, but extra caution must be taken. Panels should be lifted one at a time. Improper lifting can damage the panel.

Ensure that you have enough space for unloading, storage, and crane placement. Stack the panels so that they do not come into contact with the ground. Have some wooden beams and plywood sheets available for unloading, placing under the panel stacks, etc. If possible, store the panels according to the installation sequence. Use, for example, a tarpaulin to cover the panels from direct rain.

## 2. Foundation

The foundation must comply with the requirements of the construction project.

### a) Post Foundation

A post foundation is necessary for floor panels. The distance between the ground and the floor panel must be at least 300 mm. Before installing the floor panels, ensure that:

- The entire building area is free of topsoil and covered with a ground cover and sand or gravel.
- The spacing between the centers of the posts does not exceed 2.5 m.
- The difference between diagonals does not exceed  $\pm 0.3\%$  of the length of the diagonal (e.g., 3 cm for every 10 m of measurable length).
- All posts have a concrete part of sufficient height for attaching the floor panels (see detail).
- The difference in heights on the upper surface does not exceed  $\pm 3\text{mm}$  for every 6 meters of measurable length (see detail).
- Deviations are measured from the worst-case location. All requirements apply simultaneously.

## b) Strip Foundation

A strip foundation is necessary for floor panels. The distance between the ground and the floor panel must be at least 300 mm. Before installing the floor panels, ensure that:

- The entire building area is free of topsoil and covered with a ground cover and sand or gravel.
- The spacing between the axes of the foundation does not exceed 3.0 m.
- The difference between diagonals does not exceed  $\pm 0.3\%$  of the length of the diagonal (e.g., 3 cm for every 10 m of measurable length).
- The foundation has a concrete part of sufficient height for attaching the floor panels (see the project).
- The difference in heights on the upper surface does not exceed  $\pm 3$  mm for every 6 meters of measurable length.
- Deviations are measured from the worst-case location. All requirements apply simultaneously.

## c) Slab Foundation

In the case of a slab foundation, floor panels are not used. The foundation must comply with the requirements of the construction project. Wall panels are installed directly onto the slab foundation using base studs. Before installing the panels, make sure that:

- The geometry of the foundation corresponds to the plan of the base studs for the wall elements.
- The difference between diagonals may be a maximum of  $\pm 0.3\%$  of the length of the diagonal (e.g., 3 cm for every 10 m of measurable length).
- The difference in heights on the foundation surface should not exceed  $\pm 3$  mm for every 6 meters of measurable length.
- The foundation has a sufficient concrete part for attaching the base stud (see detail D2-1a).
- Deviations are measured from the worst-case location. All requirements apply simultaneously.

## 3. Installation of sole plate

- Before installing the sole plate, place bitumen roll material on the foundation to prevent moisture penetration onto the concrete base stud.
- Secure the sole plate to the foundation according to the structural calculations and drawings.
- Verify that the diagonals correspond to the plan of the base studs.
- The difference between diagonals may be a maximum of  $\pm 0.2\%$  of the length of the diagonal (e.g., 2 cm for every 10 meters of measurable length).

**NOTE!** The sole plate must always be wide enough to ensure that the panel sits entirely on the base stud throughout its thickness.

#### 4. Installation of PANELO floor panels

- a) Secure the fastening details (brackets, plates) to the side of the post or strip foundation in the manner prescribed by the structural design.
- b) Attach foam gaskets (Ø 13-16mm) with clamps to the lower part of both edges of the floor panel (short and long sides).
- c) Assemble the floor panels according to the installation plan, leaving a minimum of 10 mm gaps between them.
- d) Secure the floor panels to each other and to the fastening details installed on the foundation in the manner prescribed by the structural design.
- e) Fill all gaps with assembly foam.



#### 5. PANELO Wall Assembly

For Floor or Ceiling Panels:

- Mark the lengths of wall panels on the floor or ceiling panels with 10 mm gaps.
- Secure foam gaskets to the floor or ceiling panels with clamps according to the wall panel plan.

On Base Studs:

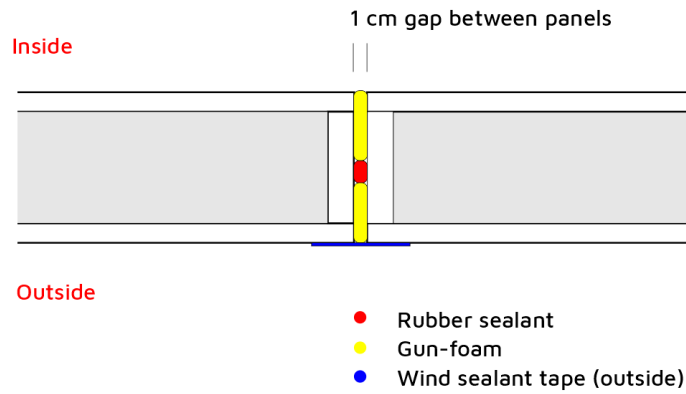
- Mark the lengths of the panels on the side of the base stud (see the diagram below).
- Secure foam gaskets to the floor or ceiling panels with clamps according to the wall panel plan

- a) Attach 2 spacer wedges (10 mm) to one vertical edge of the wall panel (1/3 of the panel's height apart).
- b) Secure foam gaskets with clamps (Ø 13-16 mm) to the same vertical edge of the wall panel (in the middle of the panel's thickness).
- c) Place the wall panel according to the designated position on the wall plan. All panels are marked. External wall panels have the PANELO trademark on the outer side.
- d) Check that the length of the panel does not exceed the marks indicated on the base studs or floor panels. If the panel length exceeds the corresponding mark, the thickness of the vertical joint must be reduced.
- e) Fix the verticality of the panel with auxiliary tools.
- f) Secure the panels to each other and to the floor or base stud in the manner prescribed by the structural design.
- g) Fill all joints with assembly foam throughout the length, height, and thickness of the panel.
- h) Cut off any protruding extruded foam from the panel's surface and apply tape with the appropriate purpose to the joint (for external wall panels, apply on the outer surface).

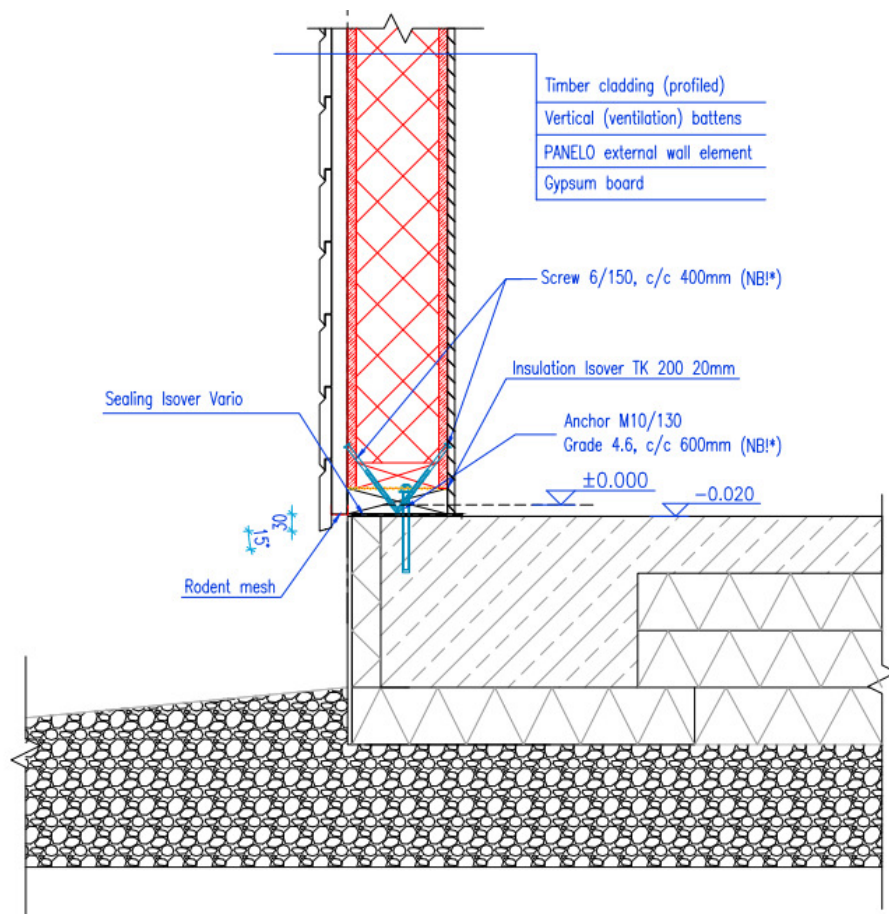
**NOTE! Ventilated facade is intended for the external surface of external wall panels.**



## WALL PANEL CONNECTIONS - SEALING (view from top)



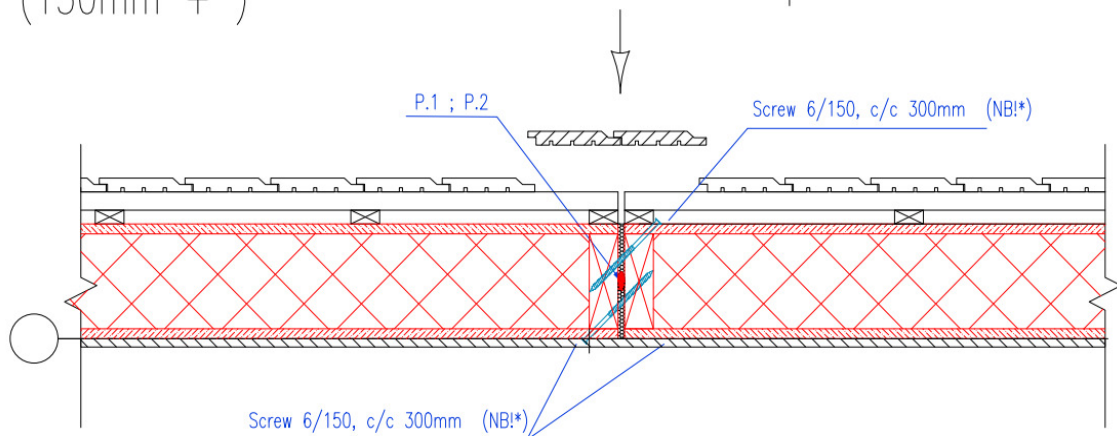
## D2-1a. External wall (175mm) to foundation connection



NB!\*  
If the structural calculations do not differ



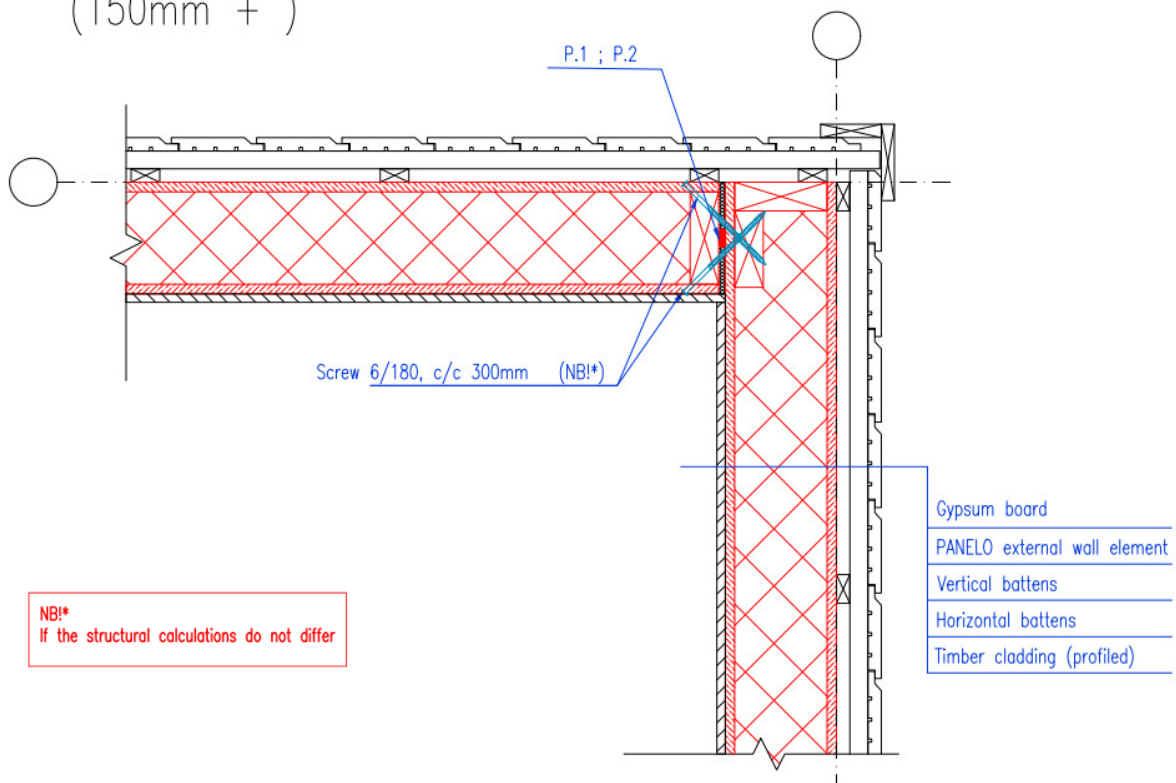
### D3-4. External wall to wall connection (150mm + )



NB!\*

If the structural calculations do not differ

### D3-3. External wall corner connection (150mm + )



NB!\*

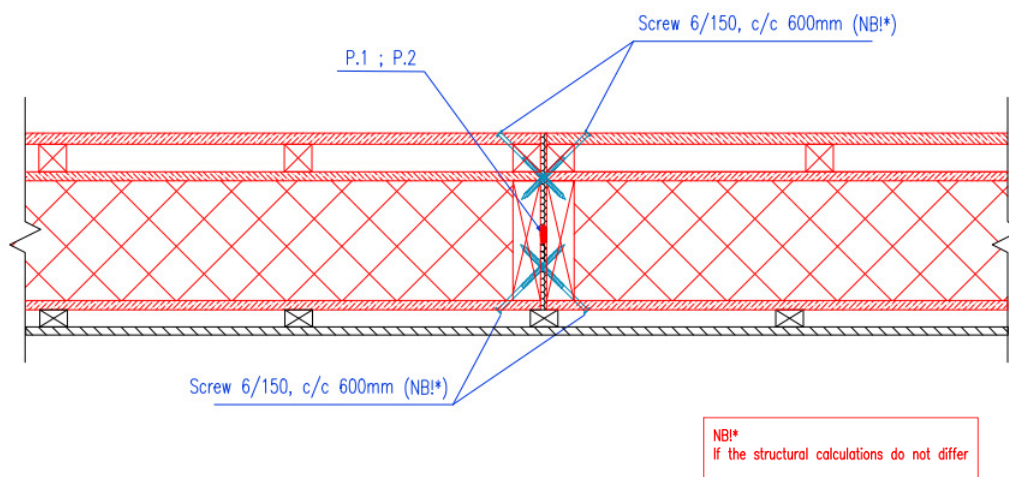
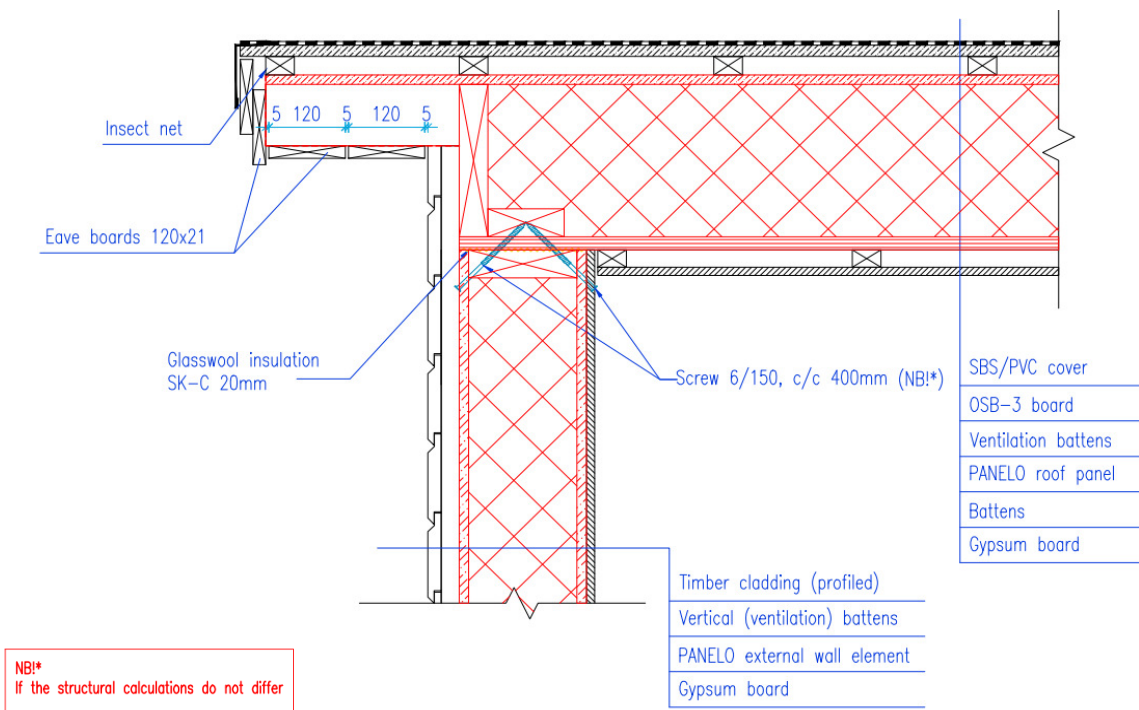
If the structural calculations do not differ

## 6. Installation of Ceiling and Roof Panels

- a) Check the flatness of the upper edge of the wall panels. The difference in height of the panels should be  $< 3$  mm (smooth with a plane if necessary).
- b) Place a flat foam sealing strip between the wall and roof panels (on the upper edge of the wall panel).
- c) Position the ceiling panels according to the designated locations on the plan, leaving 10 mm gaps (using assembly blocks). All panels are marked. The PANELLO trademark is on the upper surface of the ceiling panels.
- d) Ensure that the panels do not exceed the outer surface of the EW walls. Otherwise, reduce the thickness of the joints.
- e) Secure the panels to each other and to the wall panels in the manner prescribed by the structural design.
- f) Fill all joints with assembly foam throughout the length, height, and thickness of the panel.
- g) Cut off any protruding extruded foam from the panel's surface and, if necessary, apply tape with the appropriate purpose to the joint.



## D6-2. Roof / Gable wall eaves








P.1 Montage gap 10 mm.  
P.2 Gap sealing Ø16 mm + Foam insulation












## 6. PANELO Team Recommendations:

1. Install the panels according to the drawings – panels are numbered.
2. We recommend using an installation team for the installation.
3. Always follow your best practices, and in case of conflicts, adhere to local construction standards.

## 7. Tools & equipment needed for installation

1. Laser level for foundation and sole plate check, checking diagonals etc.	
2. Laser meter	
3. Cordless drills, 4 pcs per team; sufficient number of spare batteries	
4. Torx heads for screws (measure have to specify according to the project)	
5. Sharp knives for cutting lifting slings	

6. Gun foams and foam guns for it	
7. Stapler for rubber sealant between panels	
8. Sledge hammer to shift panels from side if needed	
9. Hammers	
10. Crowbars 2 or 3 different sizes	
11. Ladder min 3 m, 2 pcs	

12. Mobile scaffolding, 3 m wide	
13. Supporting poles, telescope for walls or timber beams (min length 5 m)	
14. Chainsaw	
15. Saw	