



**Installation Guide**

**Please read before installing SIPs Kit.**

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## 1 METHOD STATEMENT FOR THE ERECTION OF A SIPS INDUSTRIES KIT

**Think safety first, a clean site is a safe site.**

### 1.1 MATERIALS

All materials should be covered and level on site until required. All timber to be straight and true.

SIP panels should be stacked carefully and in a manner which is in the order of the erection process. Care must be taken not to damage the exposed edges of the OSB, as this will make positioning of the panel difficult.

There must be adequate room around the materials to allow ease of mechanical lift or human lifting. Lifting straps used must be positioned in accordance with any manufacturers guidelines.

## 1.2 SIPS INDUSTRIES DO'S AND DON'TS

Do handle SIPS with care.

Do provide adequate support for SIPS when storing them.

Do store SIPS lying flat and covered.

Do place mastic or expanding foam along the leading edge of wood being inset into panel.

Do use mastic or expanding foam on wood to wood, wood to EPS and EPS to EPS connections.

Do use only continuous timber I-Beams and insulated I-Beams for spline connections.

Do provide level and square foundations or floors that support SIP walls.

Do hold sole plate back from edge of floor system 11mm to allow full bearing of SIP OSB skins.

Do provide adequate bracing of panels during the erection process.

Do remove debris from sole plate area prior to panel placement.

Don't install SIPS directly on concrete (use a leveling plate with DPC under or DPM as a barrier).

Don't drop SIPS on corners.

Don't lift SIPS by top skins.

### 1.3 INSTALLATION PROCESS

1. Ensure concrete perimeter wall or slab is free of dust and debris. Ensure there are no high points created by mortar or concrete which would keep the sole plate from being installed properly.



2. Check the level and dimensions of slab and alter the sole plate if feasible to square and level any discrepancies.
3. Attach DPC into the underside of the sole plate with stainless staples.

4. Fix sole plate with frame anchors into the concrete base. These should be no less than 600mm and no greater than 1800mm centres, depending on site location, engineers certificate and specification. Ensure that the sole plate is installed in a straight line by using laser (or string lines where lasers are not available). If the sole plate is bowed, fix the one end of the sole plate to the foundation, install the next concrete fixing through the sole plate into the foundation approximately 600mm from the first fixing ensuring the edge of the sole plate lines up with the string line or laser line. Continue by installing the next fixing through the sole plate at the next 600mm centre, again ensuring the edge of the soleplate is in line with the string line or laser line, until you have achieved a straightened sole plate. It is critical that the sole plates are installed in a straight line or SIP installation will be extremely difficult. Check the levelling plate and sole plate for level and square.
  
5. Apply a bead of mastic or expandable foam to the top of the sole plate before lifting the first wall SIPS panels into position to ensure an air tight seal.



- Lift the first panel into position, working from one corner of the slab. Panels are usually lifted into place by mechanical means, but can be man handled if only 1200mm x 3800mm x 162mm panels or smaller.



- Check the plumb of the panels and adjust if necessary.





8. Nail the SIP panel through the OSB skins into the sole plate at no more than 150mm centre with 51mm ring shank nails on both inside and outside of the building. Check with engineer's detail for nail schedule. These nails are also used to nail the SIP panels together on the joining splines on both inside and outside of the building as per engineers spec.



9. Repeat the process for the next and subsequent SIP panels ensuring that either mastic or expanding foam is applied to both the horizontal sole plate and the vertical joining spline timbers. Nail the joining spline at the same centres as the sole plate on both inside and outside of the building.

Once you have reached the corner of the building with the last SIP panel (this SIP panel is closed off with a 35mm thick timber so the polystyrene is not exposed) the next wall SIP panel will be placed into position at 90°(or whatever the angle) and they are fastened together at the corner with the specified SIP screws at centres as specified by the engineer.



10. Continue to install the SIPS until all the wall SIPS are in position, continually checking the plumb and level of the panels as you progress.





11. Install the head binding timber into the top of the SIP panel. The head binder is installed so it is flush with the top of the SIP and must be installed with sealant and nails.



12. If there are first floor joists, these are usually laid over the ground floor SIP wall head. The joists or flooring system is installed in accordance with instructions and plans provided by the suppliers details. Once the floor joists are in place repeat the process as before by installing a sole plate for the first floor SIP panels onto the top of the floor joists using fixings at specified centres.
13. First floor SIP panels are installed in the same manner as the ground floor SIP panels, over the sole plate and fixed into position, continually checking the plumb and level of the panels as you progress. Install the head binding timber into the top of the panel. The head binder is installed so it is flush with the top of the SIP and must be installed with sealant and nails.
14. For the gables of the building fix a sole plate to the top of the floor joists for the gables SIP panels to sit onto. These SIPs are fixed in the same manner as the first and ground floor SIP panels.
15. Tilting fillets are fixed to the top first floor head binder ( at the intersection of the roof SIP and wall SIP) and ridge timbers are fixed to the top of the roof beams to suit the angle of the SIP roof.
16. Lift the roof supporting ridge beam or mid span beams into position by mechanical means and secure to the gable panels in accordance with engineer's specification.
17. Lift the first SIP roof panel into position ensuring that the lifting slings are positioned in such a manner to allow the panel to move and be positioned. Depending on the size of the roof SIPs, they are generally installed by mechanical means.

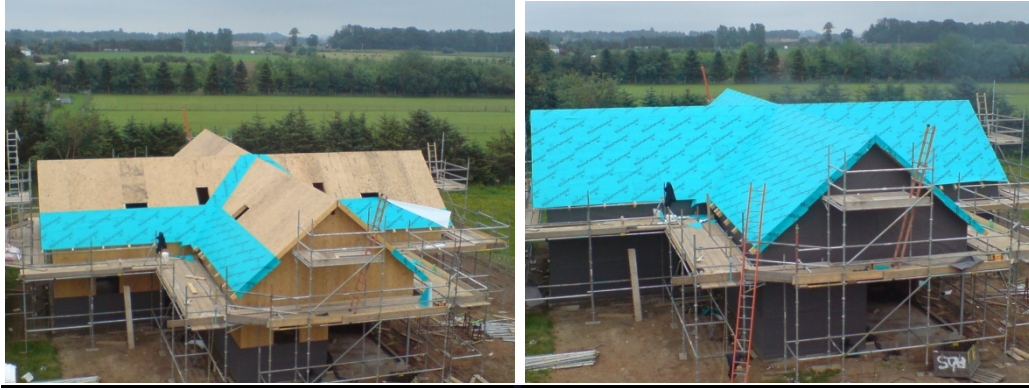


18. Fix the roof panel onto the ridge beam and the gable timber closures, using the specialised fasteners specified by the engineer.
19. Check eaves/verge overhangs and square of the first panel.
20. Lift the next roof SIP panel into position and check overhangs as above, apply mastic or expanding foam to joining splines then position and fix the SIPS panels together. Fix along the joining splines with the 51mm nails at 150mm centres on both the inside and outside. Fix the SIP panel to the ridge and the wall head using specialised panel fasteners. Repeat the process, continually checking the overhangs etc until the roof is fully closed in.



- 21.** The SIPS structure must be papered with a breathable membrane and this must be installed as per the manufacturers guidelines. The breathable paper must be fixed to the kit as per the manufacturers guidelines.





## 2 DEMOLITION / ALTERATION AND ASSOCIATED HEALTH AND SAFETY HAZARDS

### 2.1 ALTERATIONS

Hazards - uncontrolled collapse of the structural insulated panels.

In the event of alteration, temporary bracing may be necessary and a competent structural engineer should be appointed to advise.

### 2.2 DEMOLITION

Hazards - uncontrolled collapse of structural insulated panels

The building could be taken down elementally, in which case the construction sequence would be reversed, but particular care would be necessary to ensure that as the sips and frame components are removed, the frame would become unstable and temporary bracing would be necessary. A competent structural engineer should be appointed to advise.