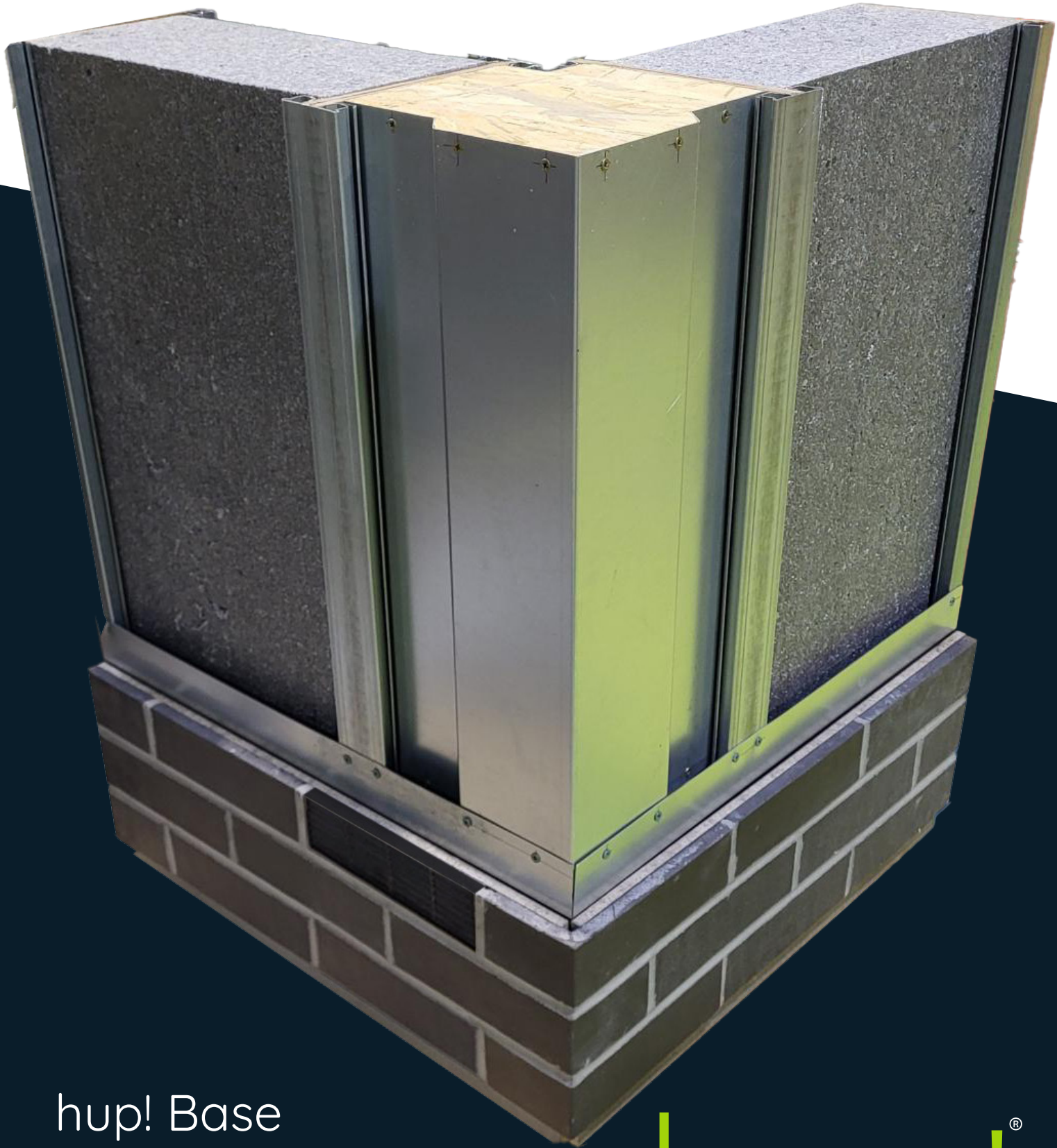




hup! Base Installation Guide

(Concrete Pads)

Version 8 | 08.26

hup! - A Building Revolution from Ultraframe

hup![®]
The better way to build

Introduction

Thank you for choosing hup!. This guide is designed to make building as straightforward as possible. Before you commence the hup! build, please take a moment to read the guide. This guide is written on the basis that a qualified surveyor has undertaken correct checks for the capability / structural performance of any existing framework / walls / foundations to verify they are fit for purpose. Any feedback - positive or negative - is welcomed so we can make our systems even better.

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Read ALL the instructions completely BEFORE commencing any work. Understanding these instructions and familiarity with procedures will make the build process much easier and an enjoyable project to undertake. **Not reading the instructions could lead to problems later on in the build process.**

Health and Safety

Site safety is paramount. The Construction (Design & Management) Regulations 2015 apply to the whole construction process, on all construction projects from concept through to completion. Compliance is required to ensure construction projects are carried out in a way that secures health and safety. The installation company shall be responsible for the safety of all of the fitting team, the customer and members of the public.

The Surveyor should have carried out a risk assessment to reduce risk on site and this should have been discussed with you prior to starting.

Always use equipment in line with manufacturers recommendations. Personal Protective Equipment - such as goggles, gloves, mask and ear defenders – should be used when appropriate.

Careful consideration should be given to the safe disposal of all packaging - packaging is predominantly made from recycled materials and can be readily recycled.

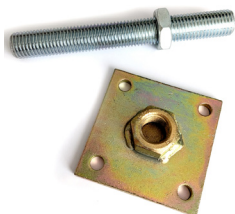
For technical support, please contact us on **01200 414607** or email **hupbase@ultraframe.co.uk**.

For everything you need to know about hup!, including guides and explainer videos, visit **www.trade-hup.co.uk**

What's in the box?

The kit is supplied with a location plan, a quality control checklist for the box in which this guide arrives and, of course, this installation guide. The location plan is used to match individual components to their respective positions.

Base Support Parts



Fixing Down Plate
Base to concrete pad



Jacking Leg & Plate
Levelling the base

Supplied Fixings



(a) 10 x 110 Hex Anchor
Back cill to host wall



(b) 10 x 50mm Coach Bolts
Base to concrete pad



(c) 10 x 110 Hex Nut & Bolt
Splitter beam to edge beam



(d) M6 x 60 Nut & Bolt
Floor joist to hanger



(e) 4.8 x 32mm Csunk Self-drilling Screw
Skirt to edge beam



(f) 4.8 x 100mm Csunk Self-drilling Screw
Base tray to floor joist



(g) 10 x 19mm Hex Head Self-drilling Screw
Base tray to edge beam

Ancillary Materials



Damp Proof Course (DPC)



Weed Suppressing Membrane



Brick Slips Corners / Inline



Brick Slip Adhesive



Brick Slip Mortar



Foil Tape

Setting Out from the Host Wall

Setting the base out

This section explains how to establish the correct base position relative to the host wall. Before assembly, check the wall alignment and identify any deviations that may affect the base location. Any discrepancies shall be accounted for during setting out.

Setting Out Point (SP)

To ensure the conservatory or extension is installed square and plumb, the alignment of the host wall(s) must be checked before setting out the base.

Wall leaning outwards

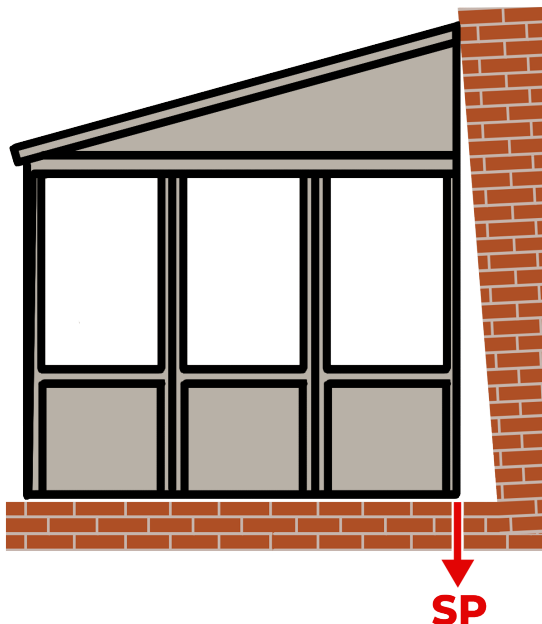
If the host wall leans outwards, suspend a plumb line from the highest point where the roof will meet the wall. The point at which the plumb line meets the ground establishes the Setting Out Point (SP). Set out the base from this point. Any resulting gap between the base and wall shall be made good using suitable packers (not supplied).

Wall leaning inwards

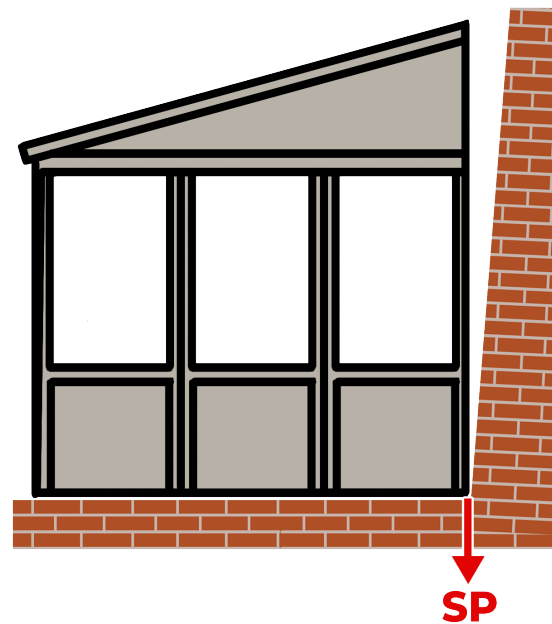
If the host wall leans inwards, set out the base directly from the base of the wall. This location becomes the Setting Out Point (SP). Any gap at the top of the wall shall be accommodated using suitable packers (not supplied) to ensure the wall is installed plumb and correctly aligned.

Note Any additional trims to cover large gaps are not included with the base or conservatory/extension and should be purchased separately. If house is leaning outwards, you may need to specify extra skirting when you order.

House wall leaning outwards



House wall leaning inwards



Preparing the Site: Pads

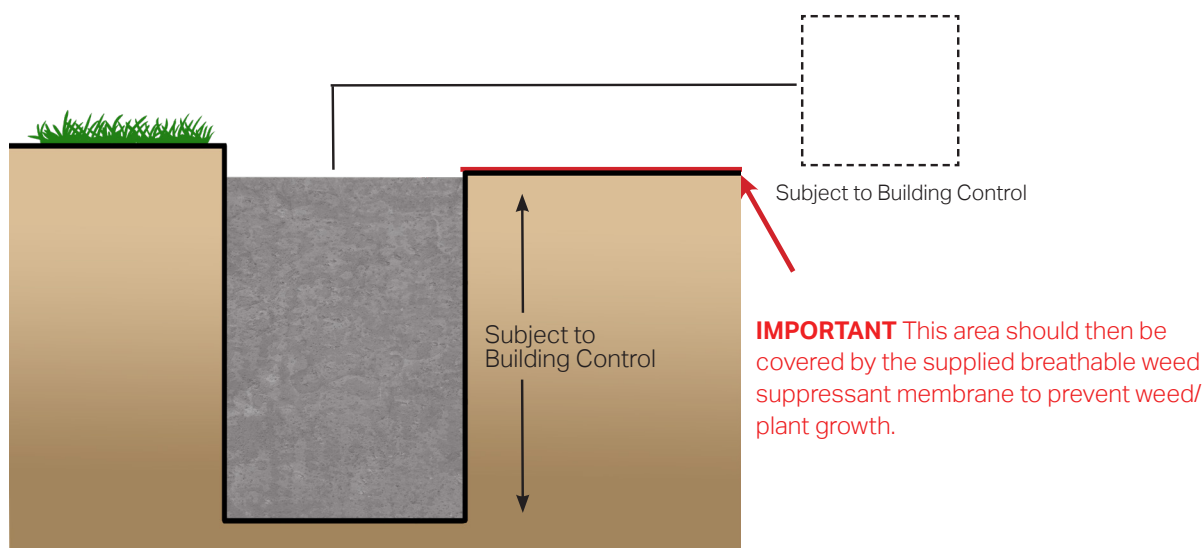
If you are using pads which are required under each fixing down leg. Refer to the pad plan provided for the location and number of concrete pads required. The back cill does not require concrete pads because this is fixed to the house wall. Any legs fitted to the back cill are used for levelling and need to rest on something firm e.g. paving slabs or blocks.

The depth required for Building Regulations will vary depending on the situation – please consult Building Control to determine the right depth for your project.

The pads should be dug down into firm natural ground, but other factors should be taken into account such as:

- The type of subsoil
- Presence of trees/roots
- Location and invert of drains
- On clay, sand or peaty subsoil further excavation will be required.

Fill the holes with concrete (C40 grade recommended) to the level specified on the pad plan. This measurement is from the top of the pad to the steel (DPC) level. You must ensure that the pads are deep enough to meet Building Regulations based on the ground conditions. Publicly available guidance suggests up to 1000mm for cohesive soil prone to movement e.g. clay. The depth required for Building Regulations will vary depending on the situation – please consult Building Control to determine the right depth for your project.



Note Concrete pads should be below ground level based on the survey measurements given. However if a pad is considerably higher than ground level, please contact hup! Base tech support 01432 801805.

England & Wales Pads



1. Initial Quotation

2. Site Survey

3. Order Confirmation

4. Installation

Installer

Provide the following information

- Ground depth: Internal unfinished house floor and the ground. (every 1m for sloping ground)
- Base setout of the finished external wall in relation to host wall
- Skirt type
- Identify drains, manholes
- Photos of site

- Survey the site noting any obstructions under the base area
- Note any intrusions on the host wall
- Consult the property deeds, the local water authority or the council to locate any drain runs under the base area
- Agree Pad depth and width with Building control. (min width is 450mm x 450mm)

- Send order details to hup!
- Include any changes from the site survey
- Check all order confirmation details
- Sign and return order confirmation

- Mark the unfinished house floor level (datum) on the back wall
- Excavate c.300mm down from this level
- Mark the edge of the finished external walls on to the host wall
- If not already done so, agree Pad depth and width with Building control. (min width is 450mm x 450mm)
- Dig and fill the concrete pads according to the pad plan
- Build the steel base, then insulated floor

hup!

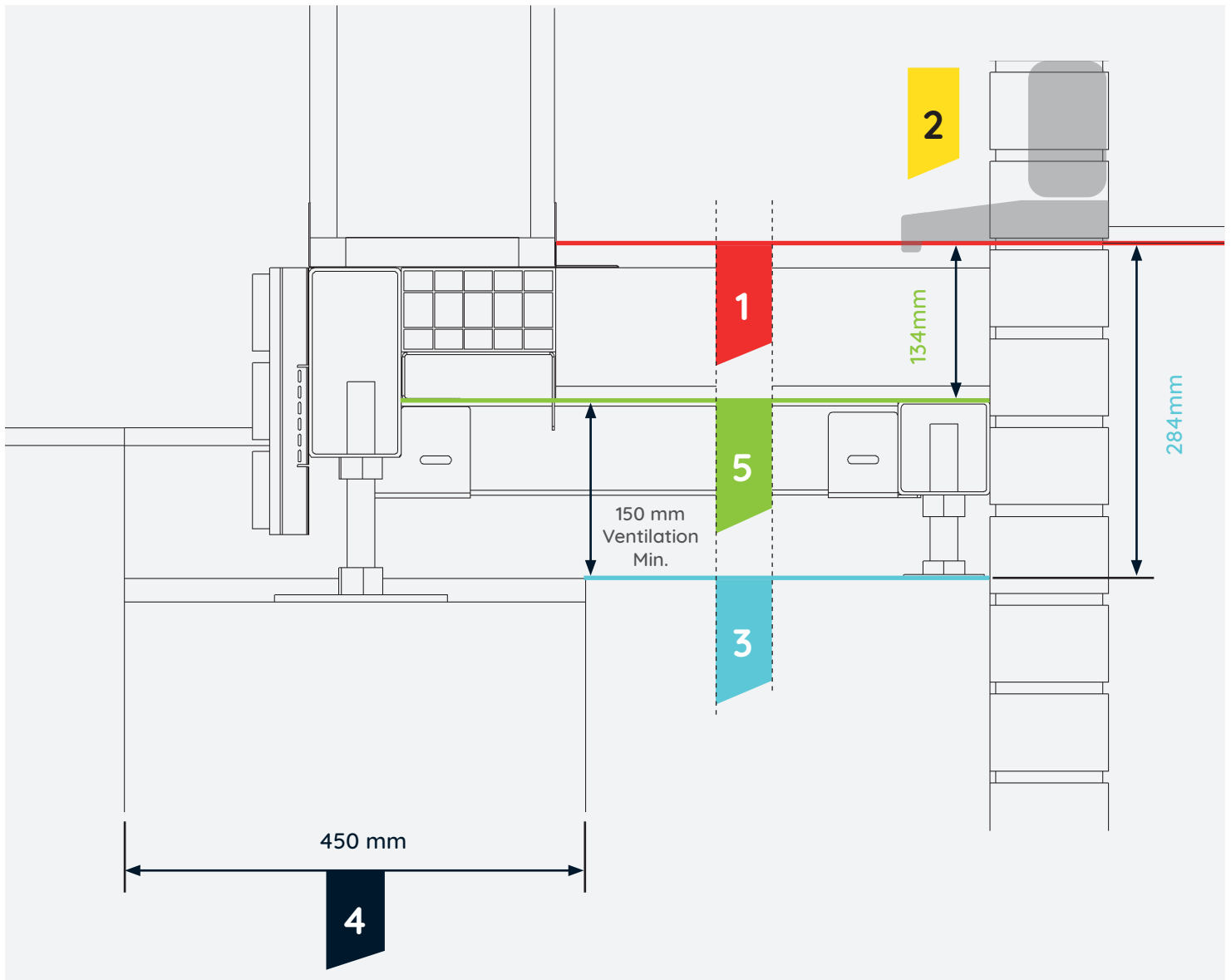
Provide the following

- A price for your hup! Base
- An indicative pad count for your costings

- Final design checks
- Send order confirmation
- Design the pad plan within 7 days
- Manufacture steel base
- Inform all parties of the delivery date

- Deliver the base to site on the agreed date

Pads Installation



1

SET THE DATUM

Mark the unfinished house floor datum on the exterior of the house wall.

This is the level of the house floor without any floor tiles etc i.e the top of the screed.

This can be done in chalk or using tape (top of tape is datum).

2

SETOUT

Mark the edge of the finished wall datum onto the host wall.

This can be done in chalk. All walls that project from the house wall must be marked.

3

EXCAVATION

Excavate c.300mm below the datum.

This step may not be needed if ground is already 300mm below finished floor level, or as ground slopes away.

4

CONCRETE PADS

Dig 450mm x 450mm square concrete pads.

Use the base plan to determine the location for each concrete pad.

The depth of the concrete pads will be determined by ground conditions and building control.

5

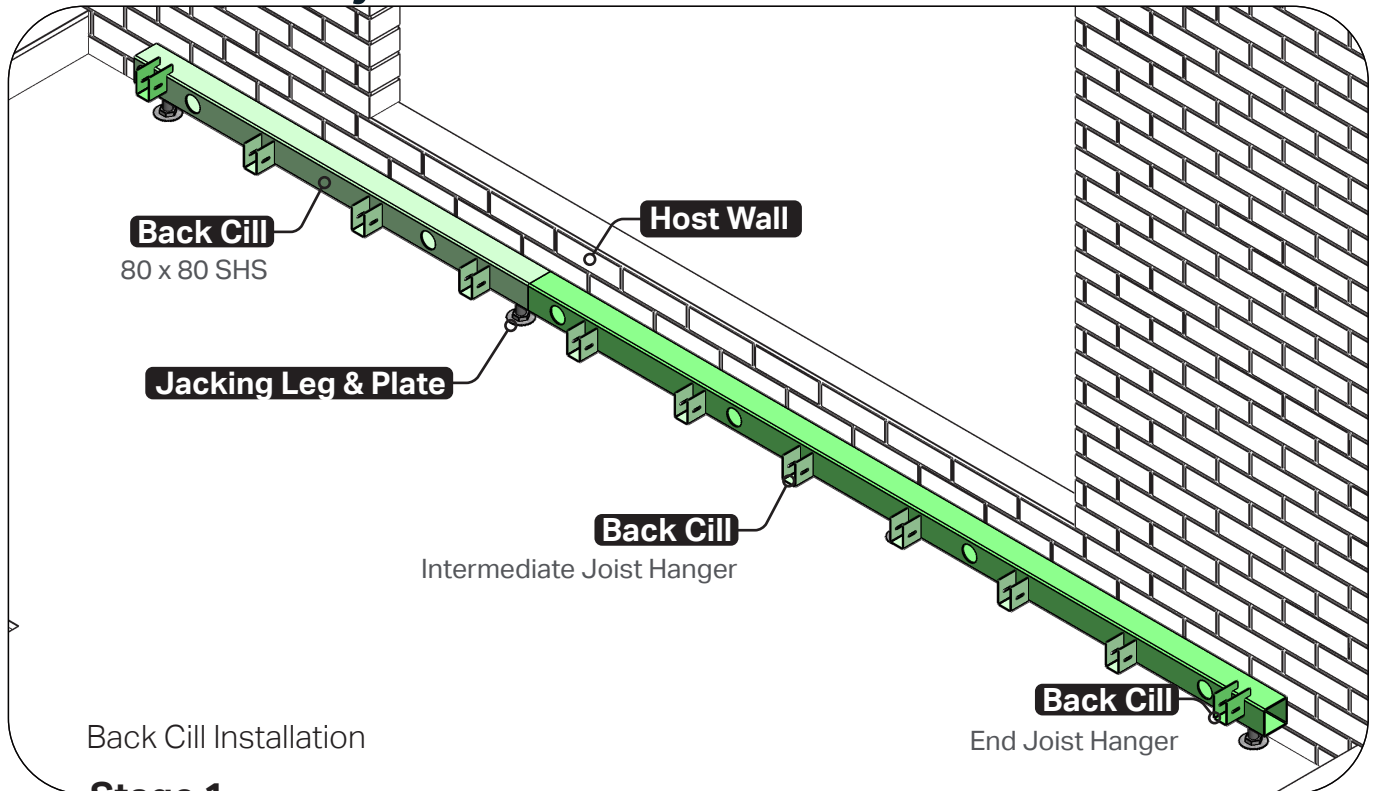
BASE

Install the steel base, skirt and internal floor.

Position the back cill 134mm below the unfinished house floor. The steel frame sits 22mm below to allow for the chipboard floor.

hup! Base: Installation Sequence

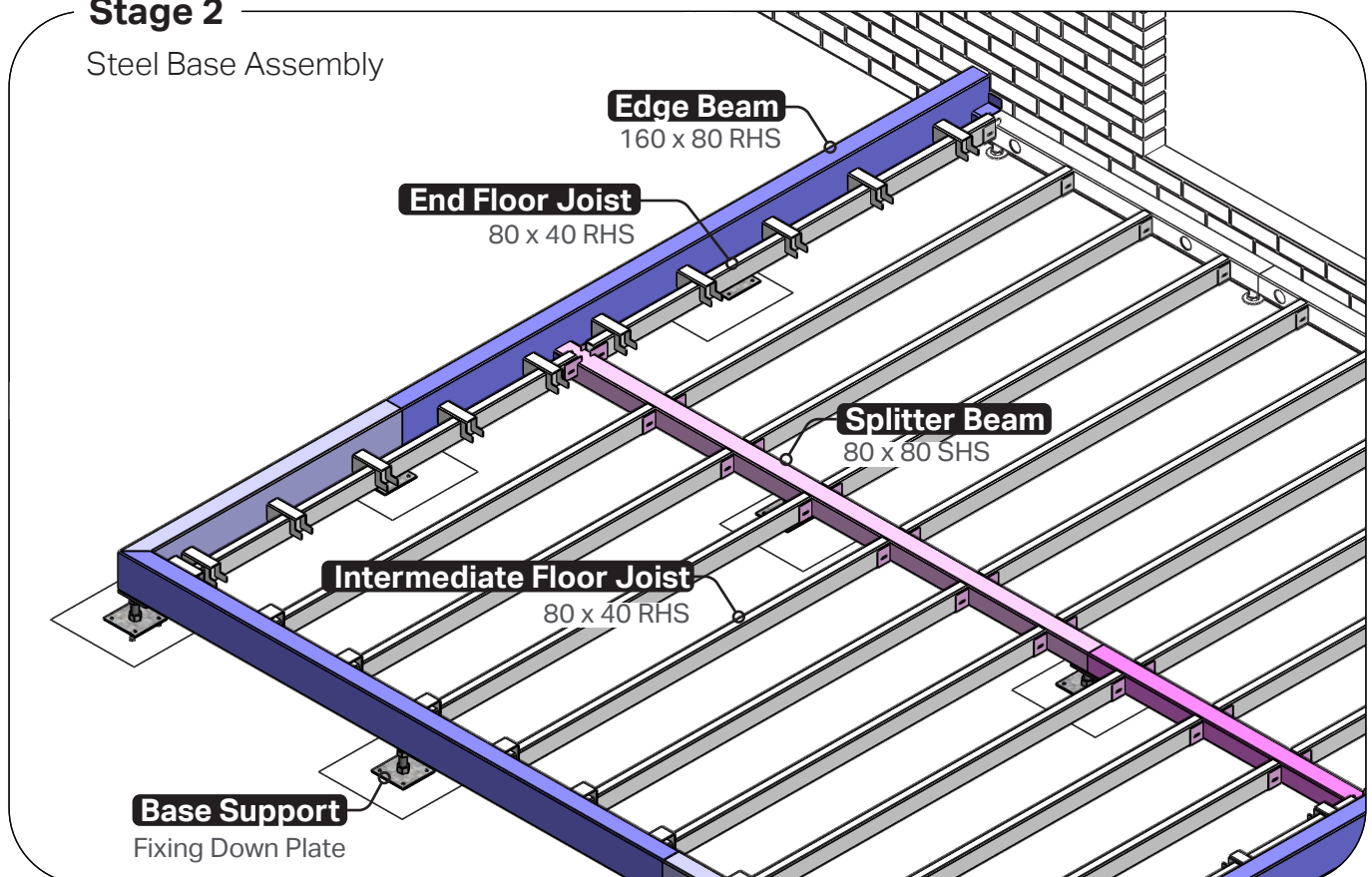
Base assembly

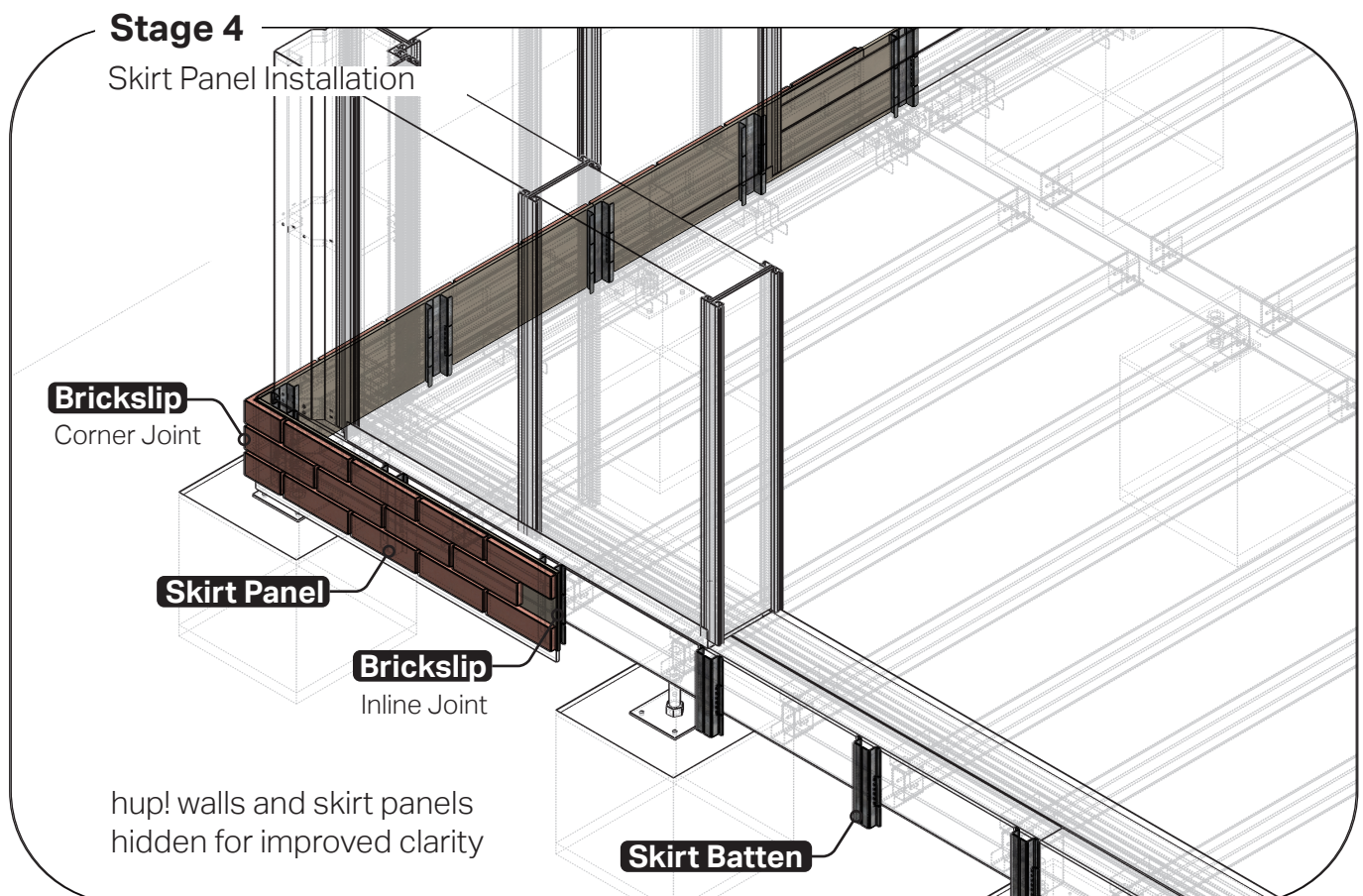
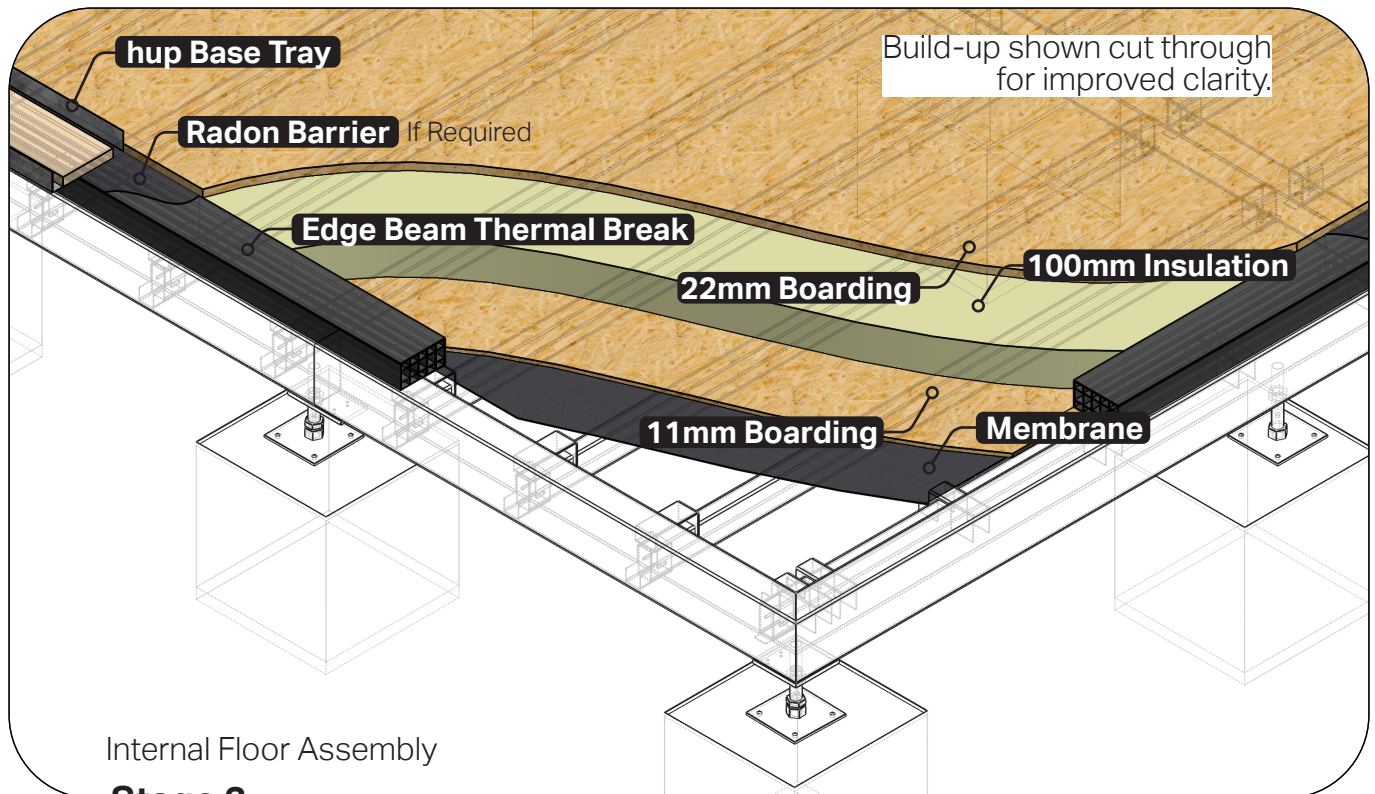


Stage 1

Stage 2

Steel Base Assembly





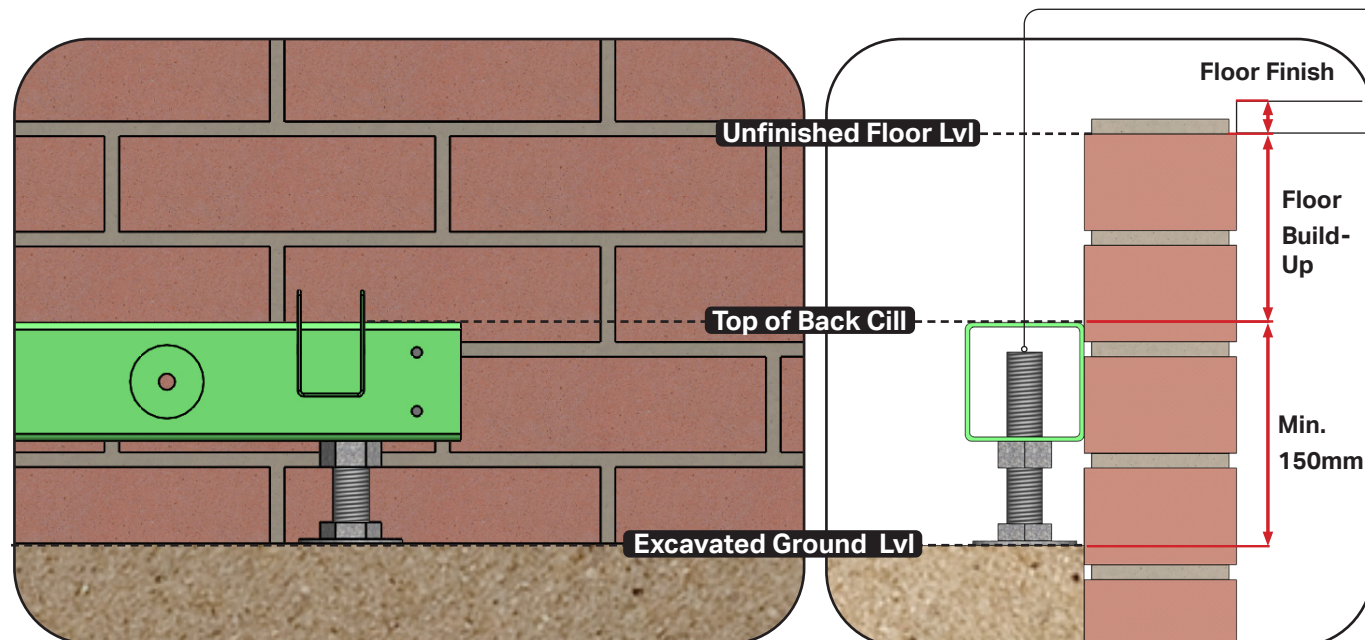
Back Cill Installation

To assist with identifying base components and simplify the installation process, the key components of the base are numbered. A base labelling map will be supplied that corresponds to the identification numbers welded to each member of the base, to assist in setting out before fitting.

1.0 Screw the lock nuts onto the **jacking legs**, then screw the **jacking legs** into the welded nuts which are located on the underside of the **back cill section (80 x 80 SHS)**. Position the **load-bearing plates (70mm circular washers)** beneath each **jacking leg**. Ensure all **jacking legs** are supported on a firm, stable surface to prevent settlement or sinking. e.g. paving slabs or blocks.



1.1 Position the **back cill section (80 x 80 mm SHS)** against the house wall in the location shown on the setting-out drawings. Once positioned, adjust the section to the height specified on the site drawings to accommodate the required floor build-up. Ensure the section is level across its full length before proceeding with installation.



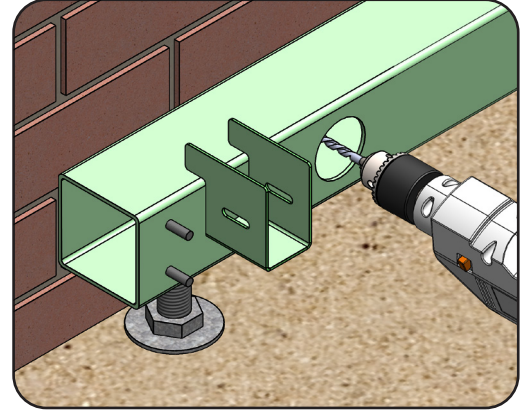
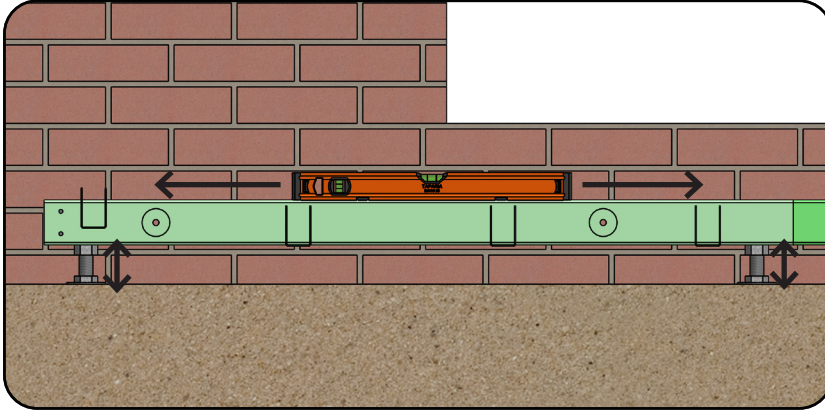
Floor Type	Floor Build-Up (Unfinished floor lvl to top of back cill)
22mm Boarding	134mm
75mm Screed	187mm
22mm Boarding Scotland	154mm
75mm Screed Scotland	207mm

IMPORTANT When setting the extension finished floor level to align with the existing house finished floor level, allowance must be made for the thickness of the proposed floor finish.

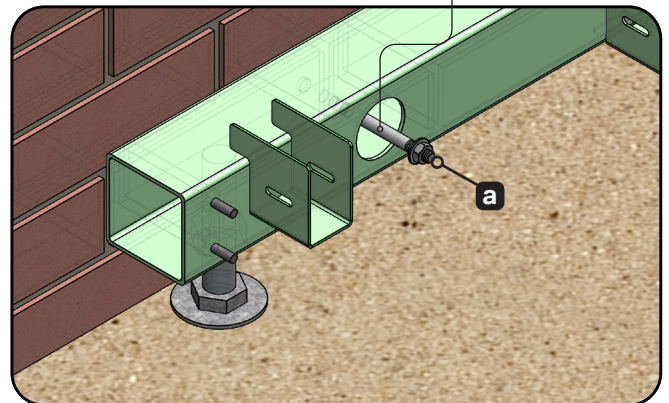
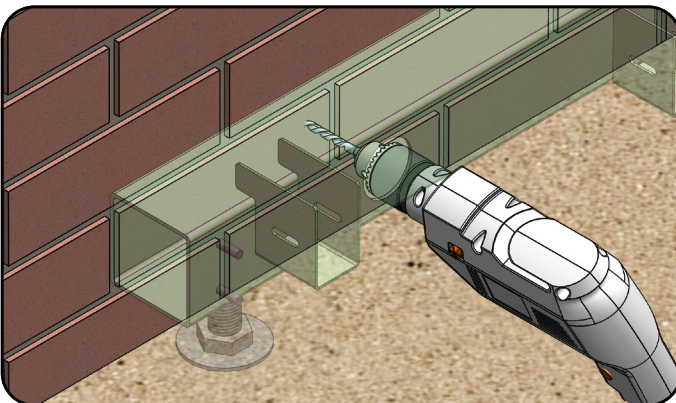
The **back cill section (80 x 80 mm SHS)** is intentionally shorter than the overall base width as part of the hup! Base design. It is positioned lower than the **edge beam sections (160 x 80mm RHS)** to accommodate the **lower boarding** and **insulation** within the floor construction.

If the **upper boarding** is installed below the property's **damp-proof course (DPC)**, a suitable **vertical damp-proof barrier** must be provided to maintain continuity of damp protection between the existing property and the extension floor build-up.

1.2 Check that the **back cill section (80 x 80mm SHS)** is level along its full length. Using the fixing holes as a guide, drill pilot holes into the masonry with a 10mm masonry drill bit.



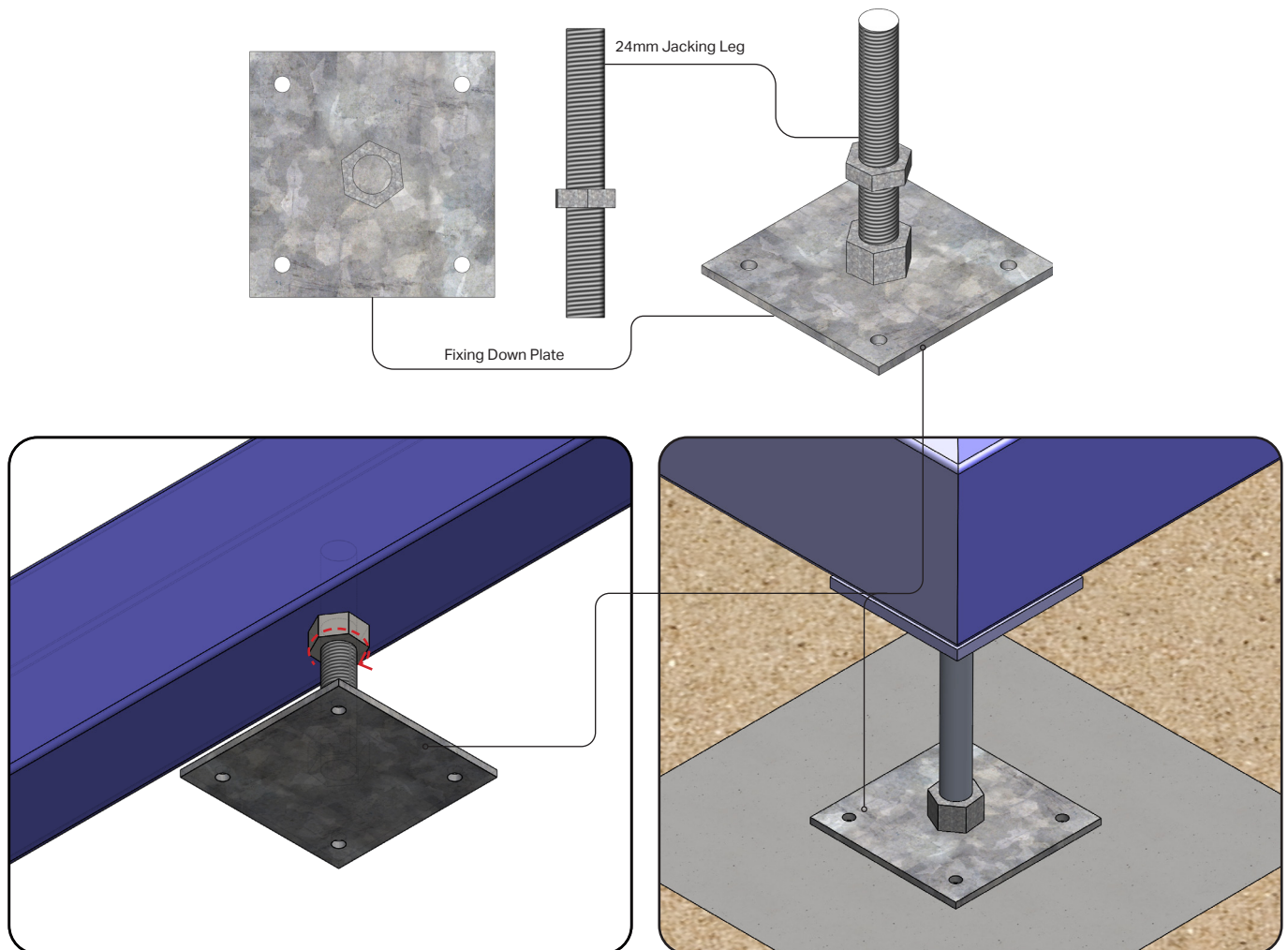
1.3 Remove the **back cill section (80 x 80mm SHS)** and re-drill pilot holes to a depth of 70mm using a 16mm masonry drill bit. Using **(a) 10 x 110 Hex Head Anchors**, insert the anchor sleeve into the holes and remove the bolts. Replace the **back cill section (80 x 80mm SHS)**, insert bolts and tighten using a 17mm socket.



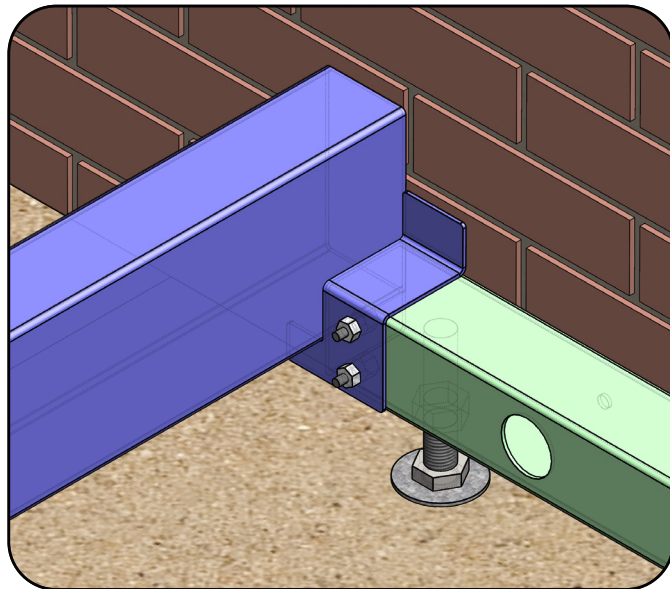
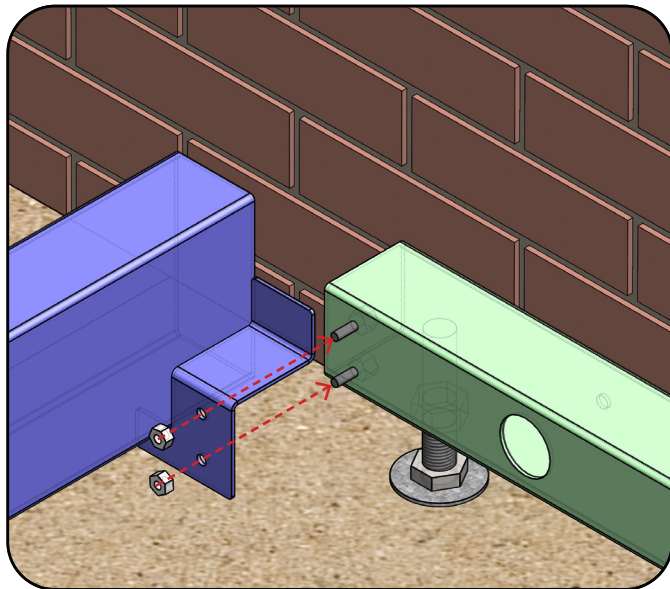
Steel Base Assembly

2.0 Assemble the **fixing down plate**, including lock nuts, and screw into the welded nuts located on the underside of the **edge beam sections (160 x 80mm RHS)**.

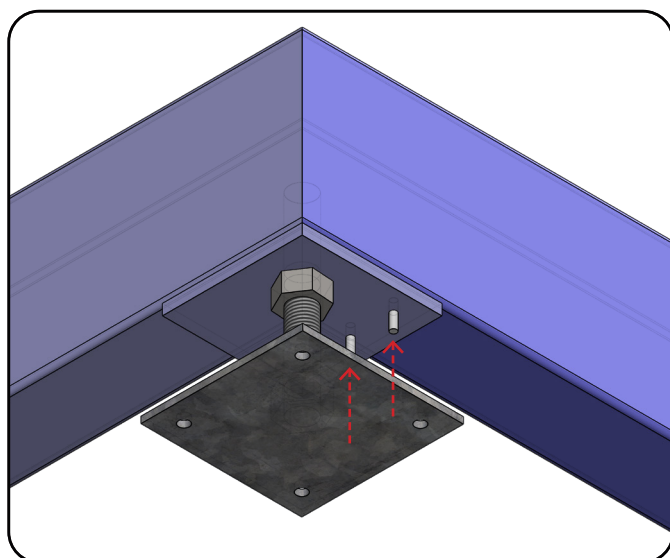
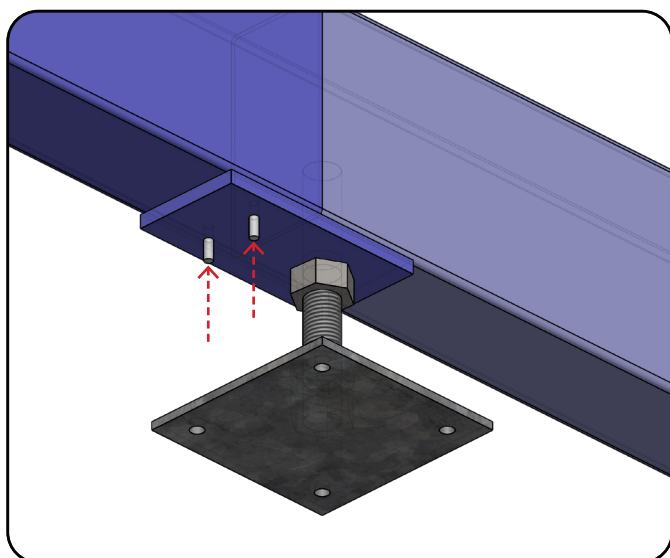
NOTE: A fixing down leg is required on each pad to secure the base. In certain positions, there will be a second slot where a jacking leg will also be required to assist with levelling the base.



2.1 Fit the **edge beam side sections (160 × 80 mm RHS)** to the **back cill section (80 × 80 mm SHS)** by locating the **corner fixing brackets** over the **pre-welded studs**. Secure each connection using the **nuts** supplied, but do not fully tighten them at this stage to allow for final alignment during assembly.

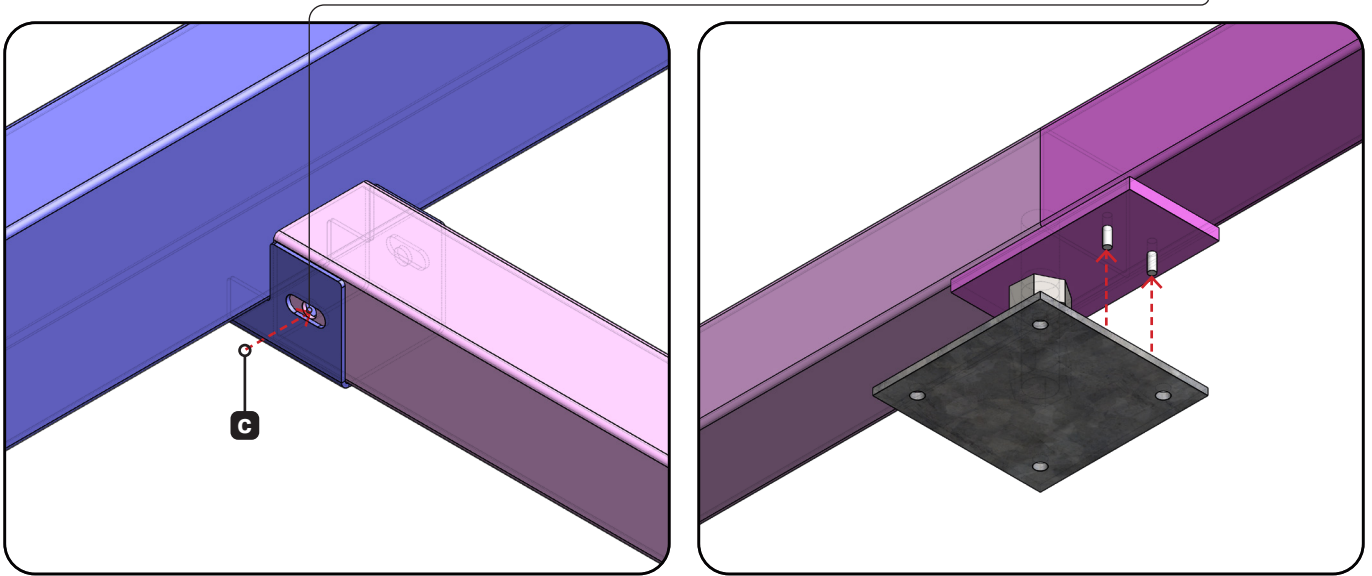
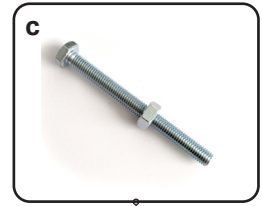


2.2 Repeat the above step for the **edge beam front section (160 × 80mm RHS)**. Edge beam inline joints and corner joints will include a **bearing plate** which allows the adjacent edge beam to be supported at the junction. Once located in position the beams should be secured in place using the supplied **nuts**. Beams should be sequenced to ensure the beam with the **bearing plate** and **fixing down plate** are installed before the adjacent supported beam.



Steel Base Assembly

2.3 Repeat the above step for the **splitter beam section (80 x 80mm SHS)**. The **splitter beam section** should be positioned within the welded hangers located on the **edge beams (160 x 80mm RHS)**. Once positioned the splitter beam should be fixed in place using a **(c) 10 x 110 Hex Nut & Bolt**.



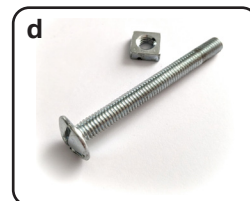
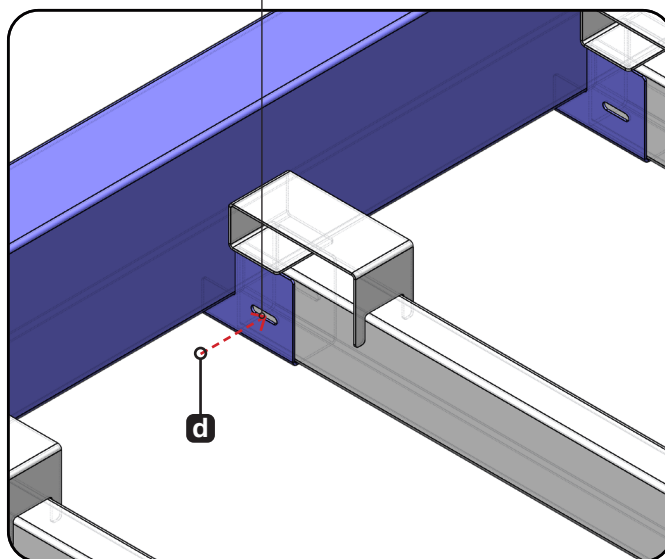
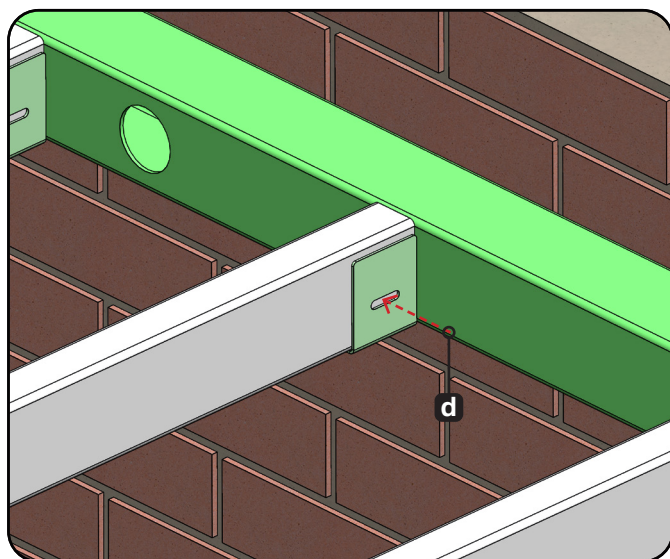
2.4 Working around each position, adjust the **24mm jacking leg** so that it fully supports the weight of the steel base. Use the **welded locking nut** to adjust the height as required, checking the level of the base using a spirit level throughout the process.

Check that the base is square and tighten all joints. Re-check levels and tighten lock nut on the **fixing down plate**.

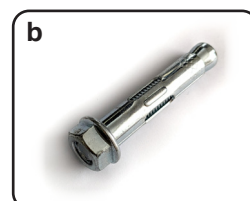
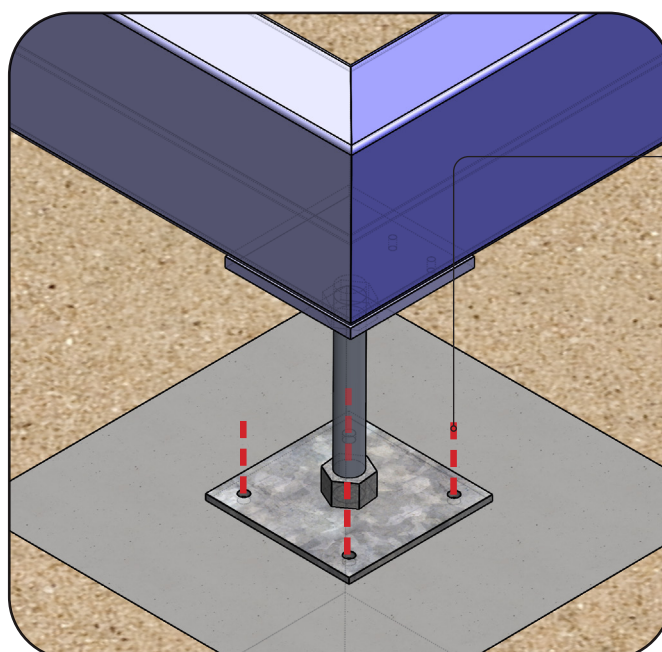
The base should now be level, square, and ready for the next stage of installation.

2.5 Slot the **floor joists (80 x 40mm RHS)** into the welded 'u' support brackets / hangers, and secure using the supplied **(d) M6 x 60 Nut & Bolt**. Tighten with 10mm spanner. The joist supports, if supplied, should be fitted centre of the joist length and the jacking legs should be adjusted and locked at this stage.

NOTE: Not all hup! Bases are supplied with joist supports. Similar to jacking legs, joist supports should be placed on something firm to avoid sinking e.g. paving slabs or blocks.



2.6 Secure fixing down plate leg to the concrete pad using the supplied **(b) 10 x 50mm Hex Head Sleeve Anchors**. Pre-drill the concrete using a 10mm masonry bit before fixing down. Refer to project specific drawings which indicate the min. number of fixings required.



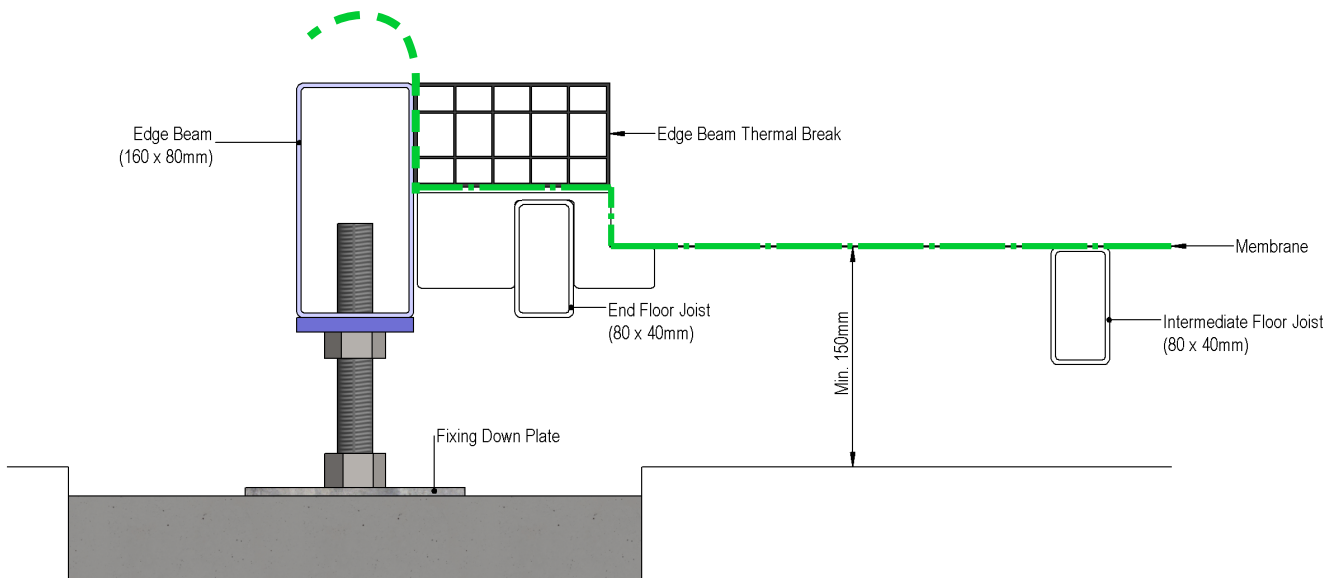
Internal Floor Assembly

NOTE This is a floating floor, so if finishing with a floor tile or similar, we recommend seeking advice. If extra fixings are required, long self-drilling screws are available (price on request).

Tip: It is advised to make a note of the joist centres so that lines can be drawn on the flooring to guarantee the correct fixing down positions into the steel joists.

3.0 Lay the **membrane** continuously across the **floor joists (80 x 40mm RHS)**, ensuring it is lapped up and over the **end floor joists (80 x 40mm RHS)**. Leave sufficient excess membrane around the perimeter to allow it to be tensioned and secured once the edge beam thermal break has been installed.

3.1 Install the **edge beam thermal break** around the perimeter of the base. Ensure the **membrane** is securely clamped between the **floor joists (80 x 40mm RHS)** and the **edge beam thermal break**. Using the excess material, pull the membrane taut across the floor joists to eliminate any sagging or wrinkles. Once the membrane is evenly tensioned and securely retained, trim off any excess membrane as required.

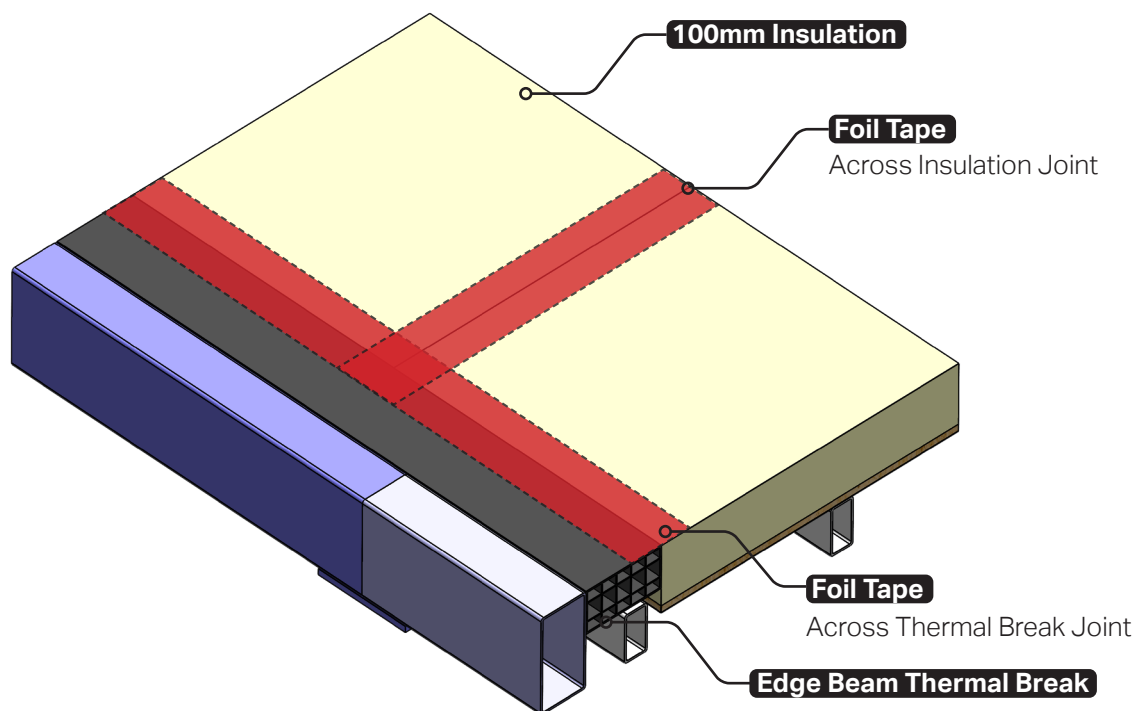


3.2 Deck out the floor area with **11mm boarding**, fixing down to the **floor joists (80 x 40mm RHS)** with the supplied **(e) 4.2 x 38mm Csunk Self-drilling Screws**.

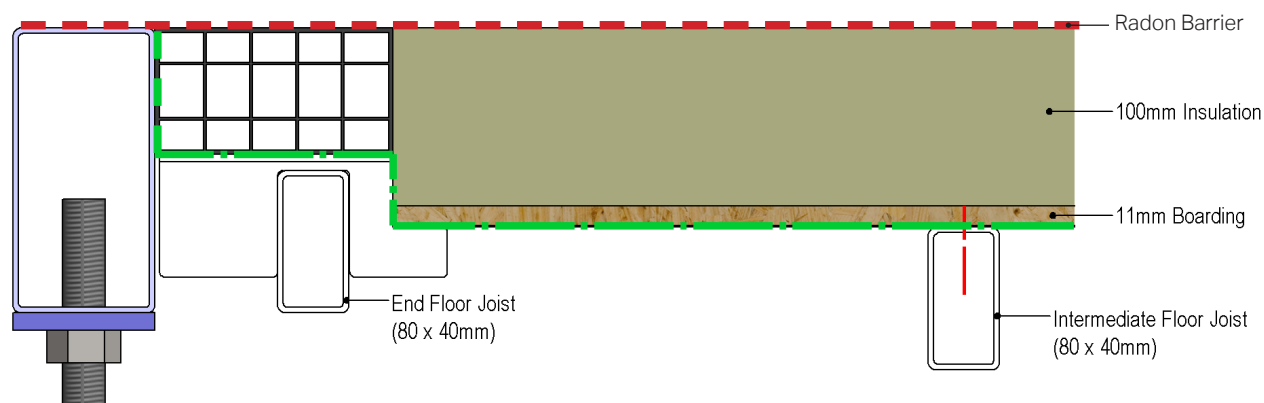
3.3 Cut the **100mm insulation** to size filling the same area with the underfloor insulation. The top of the insulation should finish flush with the top of the **edge beam** and **edge beam thermal break**. In order to meet Building Regulations in Scotland, **120mm insulation** will be supplied therefore it will sit slightly higher than the **edge beam thermal break**.



3.4 Tape all joints between **insulation boards** and seal all interfaces between the **insulation** and the **edge beam thermal break** with a suitable waterproof **foil tape**. Ensure continuity of the seal to minimise the risk of rainwater ingress reaching the **boarding** below.

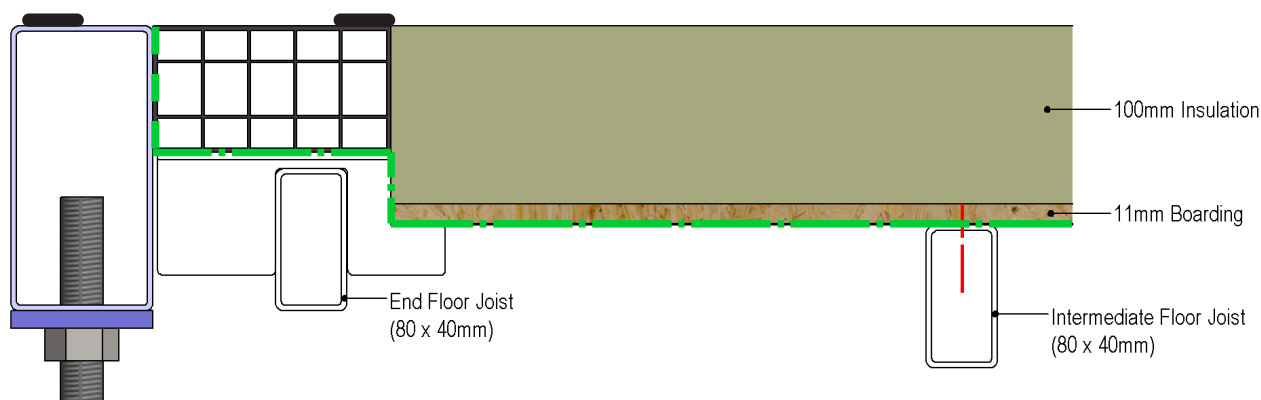


3.5 Where a **radon barrier** is required, install the radon membrane continuously across the **edge beam, edge beam thermal break** and **insulation** ensuring it is fully sealed to adjacent membranes and construction elements in accordance with the manufacturer's recommendations. All joints, laps and penetrations must be appropriately sealed to maintain the continuity and effectiveness of the radon protection system. Any fixings passing through the membrane shall be sealed using butyl tape or an approved equivalent.

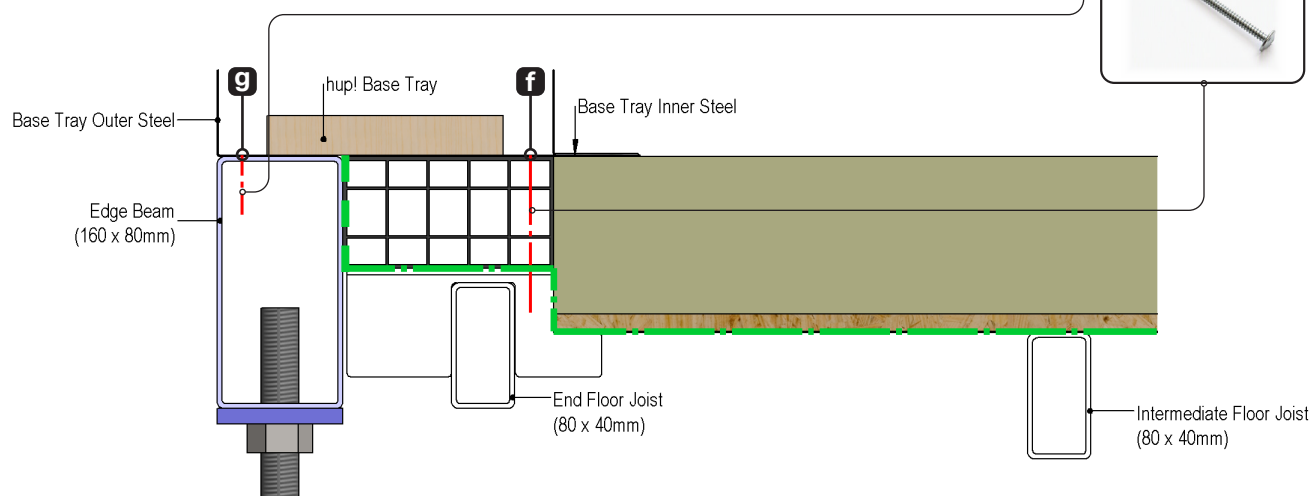


Internal Floor Assembly

3.6 Apply **silicone** to the outer edge of the **edge beam** and inner edge of the **edge beam thermal break**.

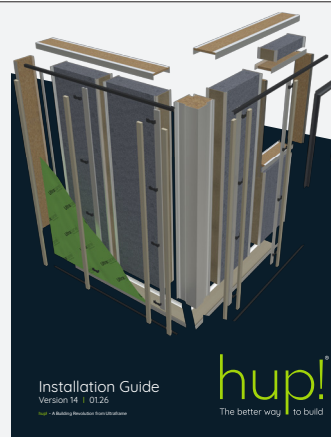


3.7 Install the **hup! base tray** around the perimeter of the base in accordance with the supplied drawings. Secure the **base tray** to the **edge beam** using **(g) 10 × 19 mm Hex Head Self-drilling Screws** at 150mm centres. Where the base tray is fixed internally, install fixings through the plastic extrusion/furring and secure using **(f) 4.8 × 100mm Csunk Self-drilling Screws** at every bracket intersection. Ensure the base tray is level, correctly aligned, and securely fixed throughout.



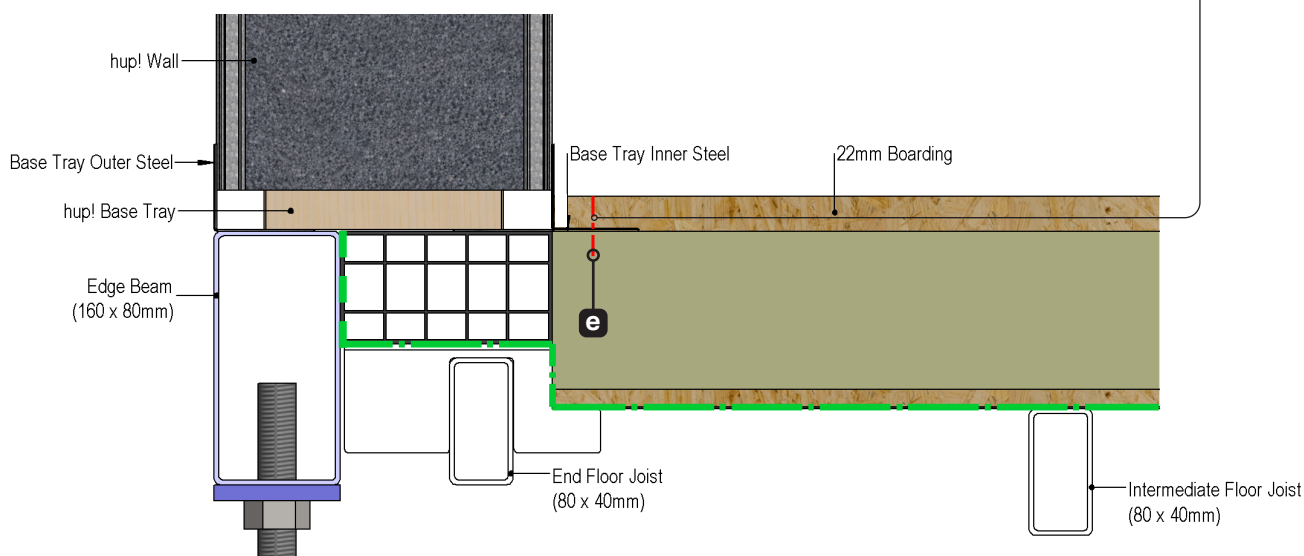
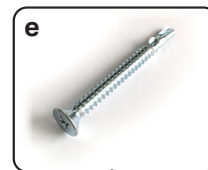
It is recommended that the hup! walls are installed at this stage. Before proceeding with the floor decking installation, ensure that the hup! walls and roof have been fully erected, correctly aligned, and securely fixed in accordance with the installation instructions.

Note: the skirt battens are installed after the hup walls as the wall membrane needs to continue down the bottom of the edge beam to reduce the risk of water ingress.

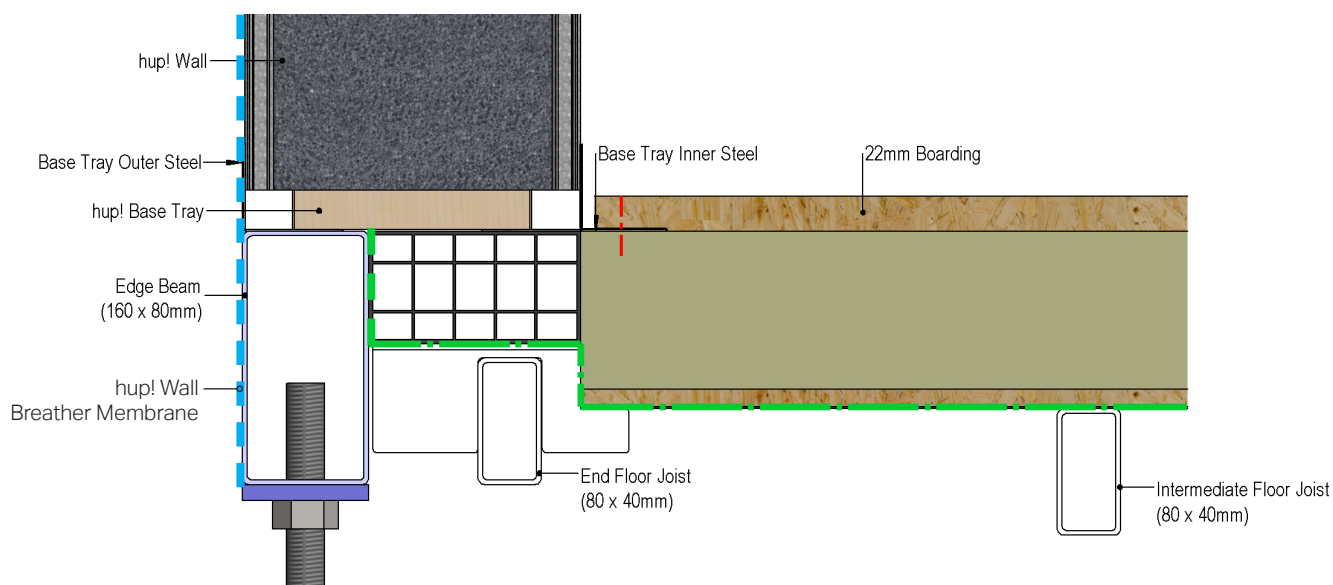


3.8 Start laying the **22mm boarding** directly onto the **insulation** from the rear left-hand side of the base, looking towards the house. Lay the boards the correct way up as marked. Use the off-cut from the last run to start the next. It is advisable to glue the joints of the boards and to glue the boards to the insulation below. Water-proof glue should be used, but is not provided. Fix boards to perimeter steel base tray using **(e) 4.2 × 38mm Csunk Self-drilling Screws** at recommended centres.

NOTE It is recommended to allow a 10mm expansion gap around the outside edges of the flooring. The floor is now ready for finishing with your choice of covering.

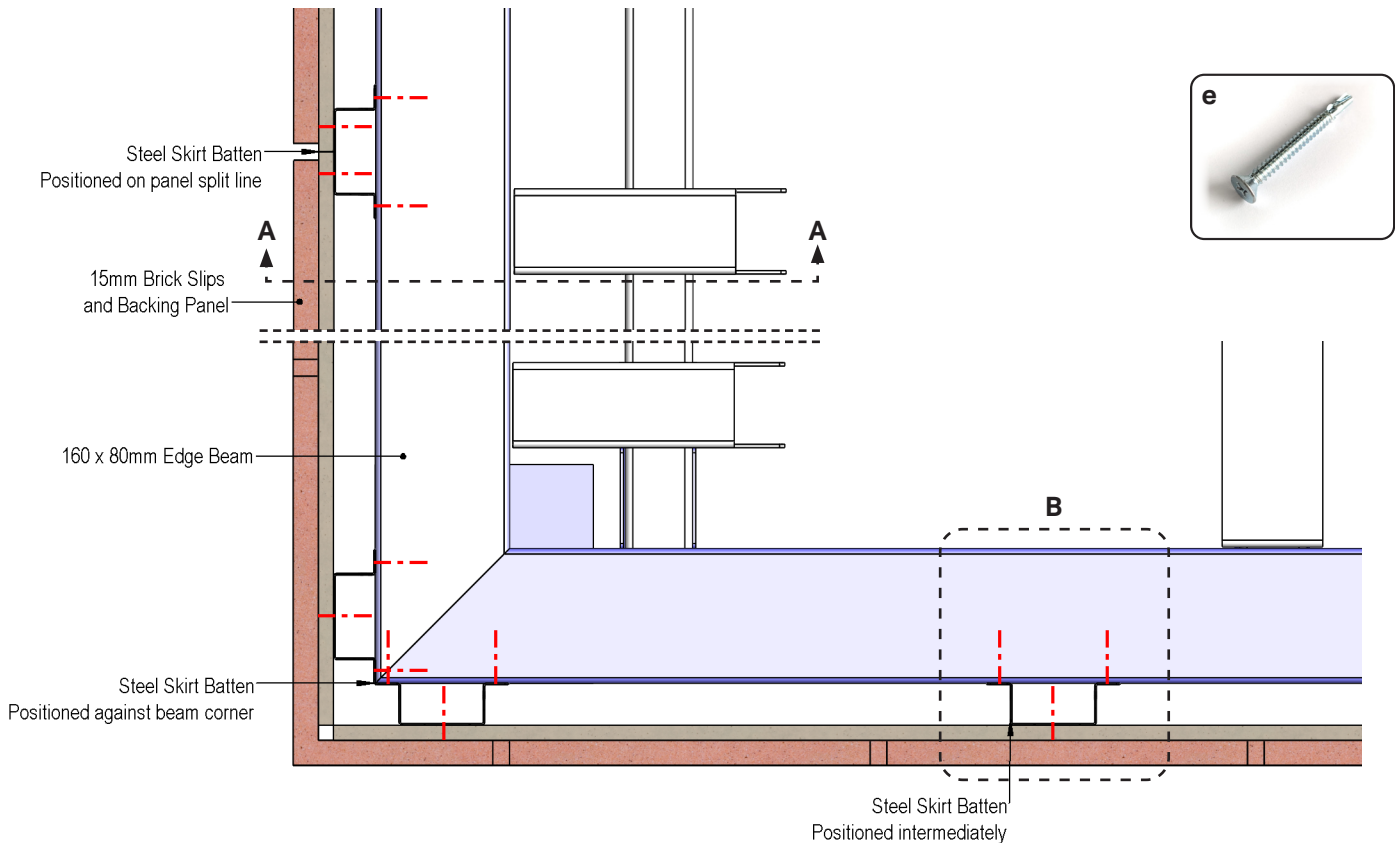


3.9 Extend the **hup! wall breather membrane** continuously across the external face of the **edge beam**, ensuring all overlaps are formed in accordance with the manufacturer's recommendations.



Skirt Panel Installation

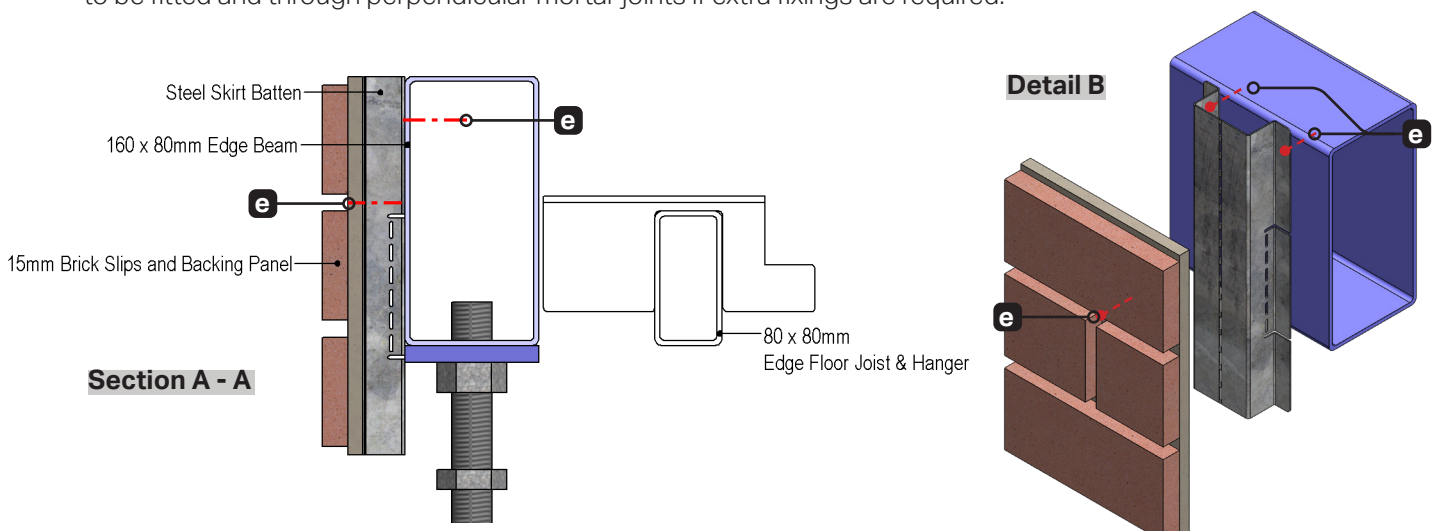
4.0 Install **steel skirt battens** in accordance with the setting-out drawings. Position battens to provide full support to **skirt panels** at corner junctions, inline panel joints, and intermediate locations as indicated. Secure each batten to the edge beam using **2 No. (e) 4.8 × 32 mm Phillips countersunk self-drilling screws**.



4.1 Lay out the **skirt panels** in the order they are to be fitted. The panels are lettered to correspond with the skirt plan and ensure the brick slips are flush with the top edge. Fit the panels so the top edge lines up with the top face of the **edge beam** and **steel skirt batten**.

NOTE: The ends of the panels that correspond with an external corner of the base frame must line up with the edge of the steel skirt batten face. Do not overlap panels on the corners.

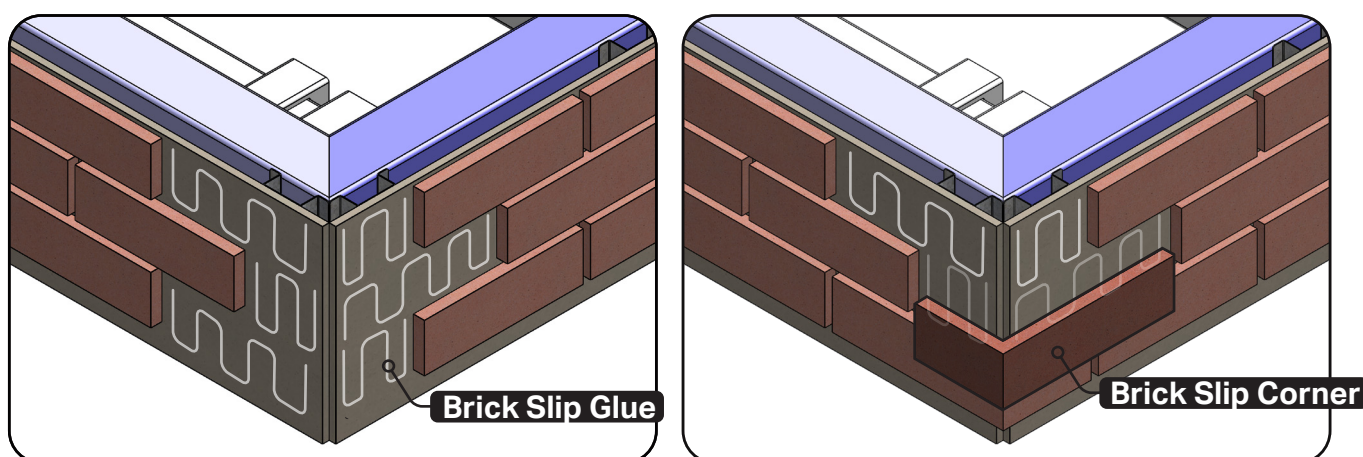
4.2 Using the **(e) 4.8 × 32 mm Phillips countersunk self-drilling screws** supplied, fix where the brick slips are still to be fitted and through perpendicular mortar joints if extra fixings are required.



Fitting skirt panels

4.3 Once fully constructed, use the **adhesive** supplied to fix the spare **brick slips** in place. You will need to use some **10mm spacers** to position the **brick slips** on the **skirt panels**. Press the bricks firmly into place.

NOTE Be aware of the weather forecast during the building process, the construction adhesive supplied can be used in temperatures between 5°C and 35°C.

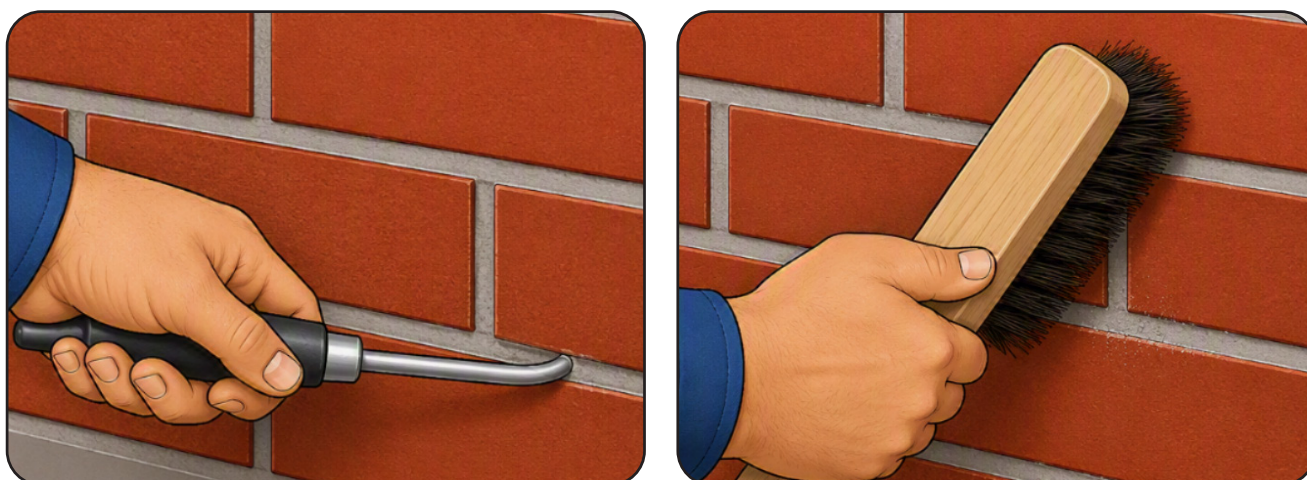


Mortaring the skirt

4.4 To point the joints, mix the mortar supplied with water until a consistency of a stiff cream is achieved. Fill the joints around the bricks completely using a pointing bag. Ensure you follow the instructions on the mortar supplied.

NOTE Check correct consistency by filling the bag, the mortar should hang from the end of the nozzle when the bag is shaken down.

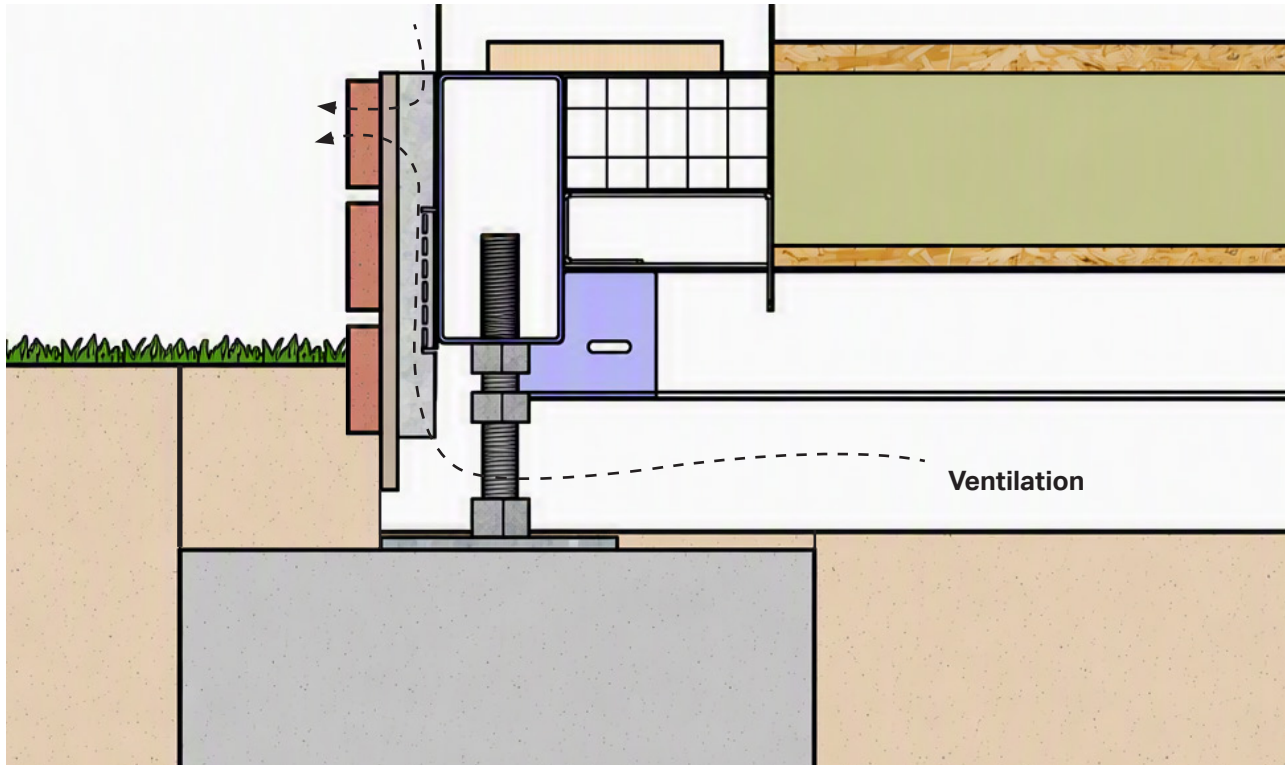
4.5 Allow the mortar to dry until fairly firm. We would recommend that the mortar is firm enough that when pushed in with a finger only a small indentation is left behind. It should have a dull finish, be moist but not wet and somewhat gritty. Use a curved pointing tool to strike off mortar and then, when almost dry, remove any remaining mortar with a soft brush.



Skirt Panel Installation

NOTE: Do not be tempted to strike off when the mortar is too moist. Overworking the mortar can cause colour variation, as each additional pass draws moisture to the surface. This may result in the mortar drying to a lighter shade than intended.

hup! Base skirts include a 35mm un-bricked section of cement board at the bottom to facilitate backfilling from the outside.



Ready to Render and Plain Skirts

4.6 Install the **render / plain skirt panels** in the same manner as **brick slip skirt panels** using the supplied **(e) 4.8 x 32 mm Csunk Self-drilling Screws**. The boards must be cut to the required length before installation. Air vents should be incorporated into the skirt panels as required. A suitable render board should be installed below the hup! Wall.

NOTE: Ensure the proposed vent locations do not interfere with the steel skirt batten positions. Refer to the project set-out drawings and verify dimensions on site before cutting. Skirt openings should be cut to suit the selected air brick dimensions.

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