

hup![®]
The better way to build



A Building Revolution from Ultraframe

Specification Guide | Version 1.0 | 05.23



Contents

Summary of specification steps

This guide is designed to give step by step guidance to specify the hup! building system, resulting in completion of a simple order/quote form.

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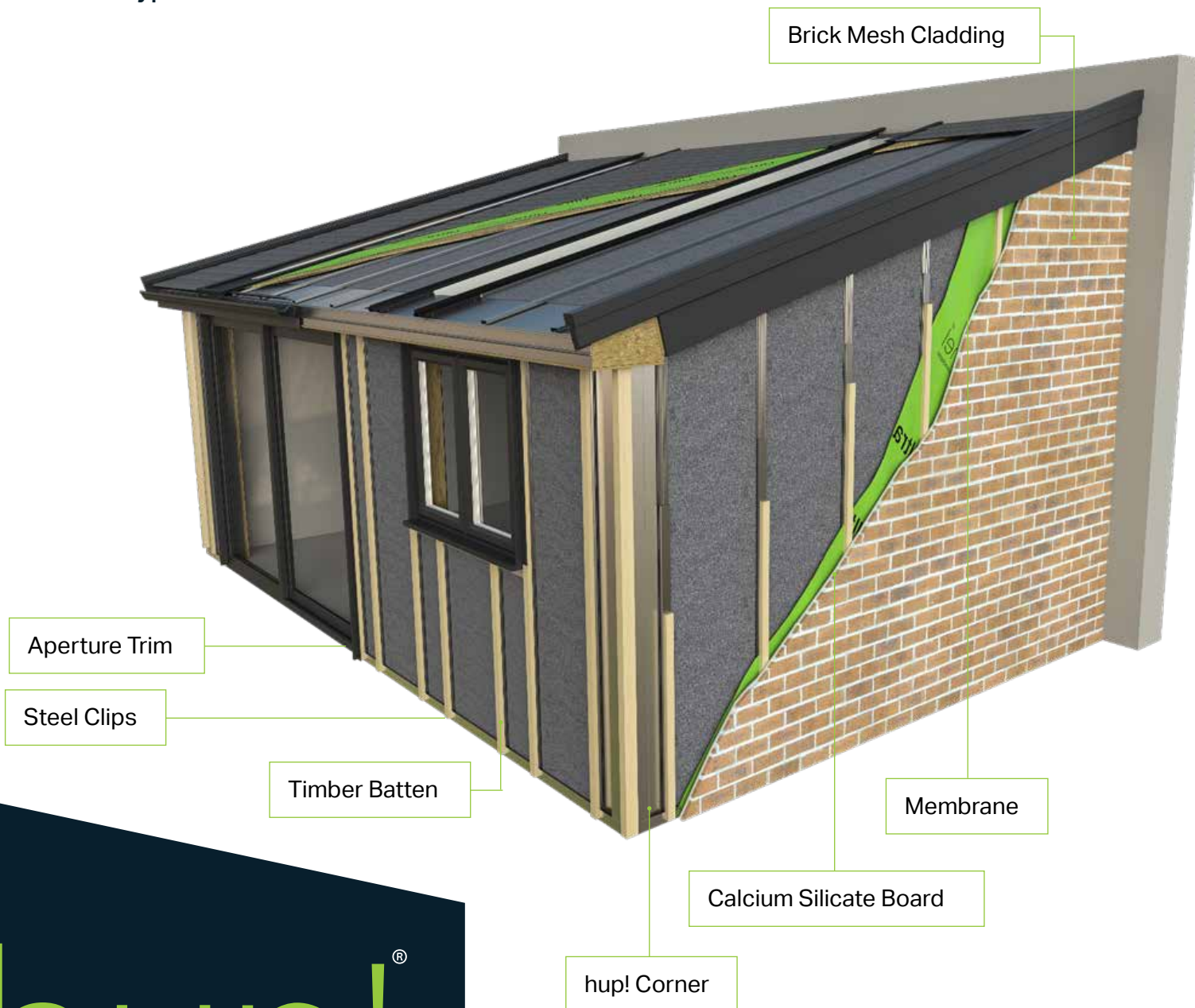
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Introduction

Welcome to the hup! Specification Guide

Using the latest Ultrapanel technology and pre-manufactured to the required specifications, the hup! system is quick to build, hassle free and requires minimal cutting or drilling on site. The hup! system has been designed to be installed by trained conservatory fitters or builders and is fully compliant with the latest Building Regulations with a U-Value of 0.17W/m²K for the walls, 0.15 W/m²K for solid roofs, and 1.4W/m²K for glazed roofs. The product is available with various shades of unique hup! Brick Mesh finishes to give the appearance of a traditional brick wall and is compatible with any other wall finishes available on the market.

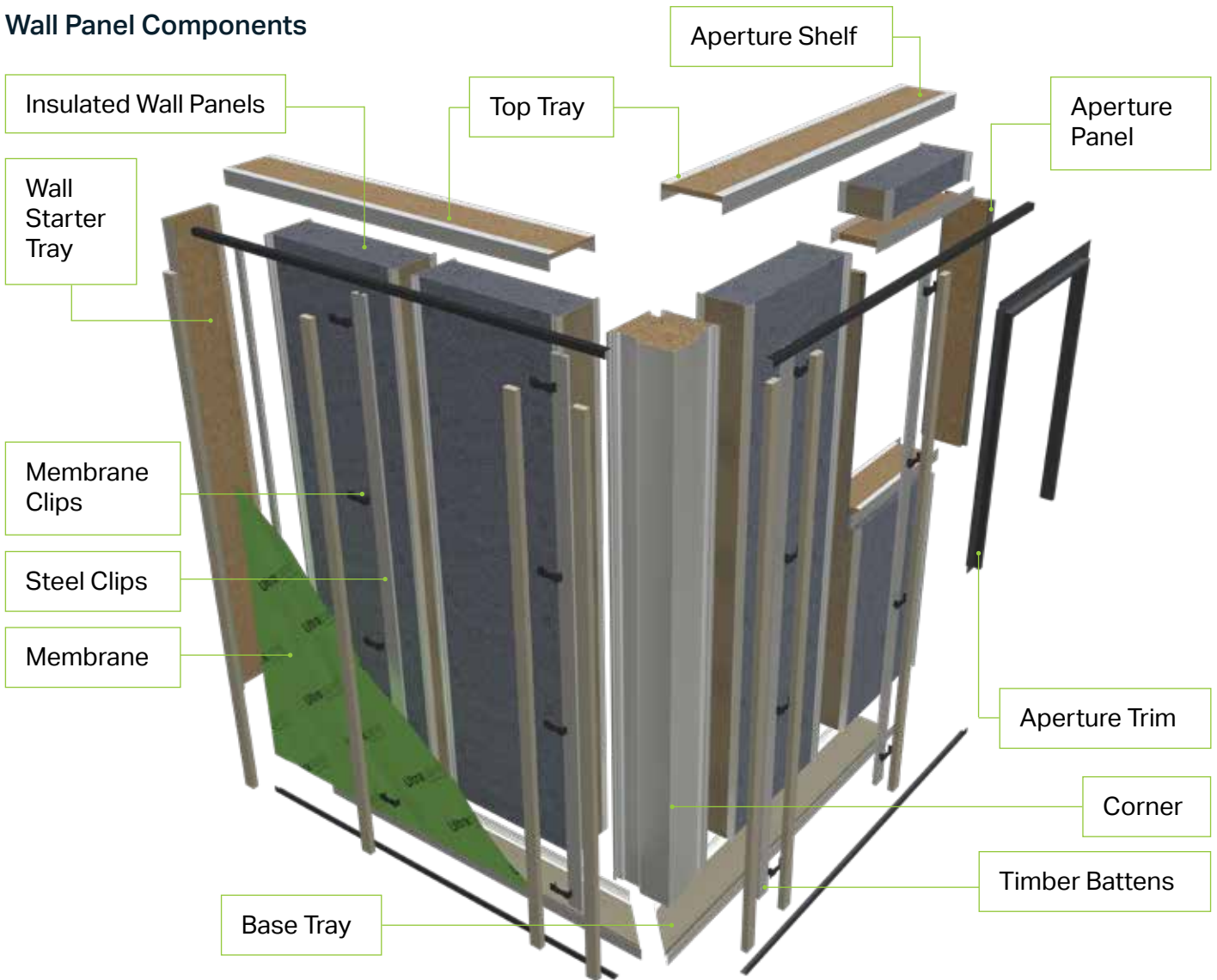
Below is a typical Tiled Roof lean-to extension.



The hup! building system is designed to be used with any of the five Ultraframe roofing systems

hup! walls, when combined with the choice of one of five different roofing systems, deliver a lightweight yet robust structural solution which can be built and made watertight in a fraction of the time it takes to build the equivalent structure using standard construction methods.

Wall Panel Components



Four Roof Types



Glass Roof



Hybrid Roof



Tiled Roof



Flat Roof



Five Times More Energy Efficient - Easy Building Regulations

- Five times more energy efficient than the average UK home.
- Components compliant with Part L June 2022 Building Regulations.
- Solid roofs with U-Values less than 0.15 W/m²K for England and 0.13W/m²K in Scotland.
- Walls with a U-Value of 0.17 W/m²K, exceeding Building Regulations.



Less Trades – Easy Project Management

- No bricks required – range of authentic Brick Mesh wall finishes.
- Designed to be fitted by one conservatory team.
- Comprehensive fitting team training provided.
- Design, specify and price in one easy U-Design order.



Five Times Faster to Build – Collect Cash Quicker

- 100% pre-fabrication, no cutting required on site.
- Rapid wall and roof connections.
- 10m² of wall built in minutes.
- Can be built in most weather conditions unlike brick.



Ultimate Design Flexibility – Convert More Sales

- Choose from five Ultraframe roofs.
- Compatible with any wall finishes.
- Configurable to any window and door layout.
- Perfect for extensions, conservatories, transformations, and garden homes.



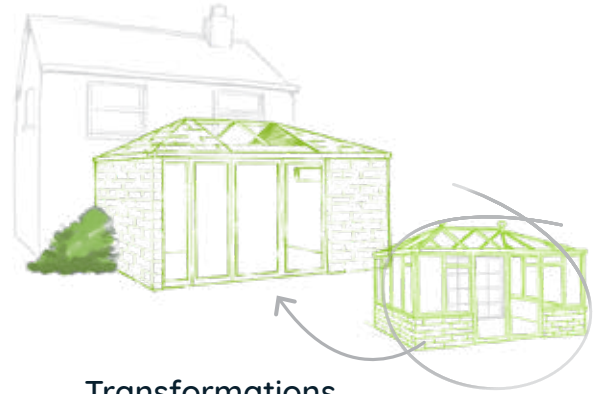
Engineered by Ultraframe – High Quality Finish

- BBA approved Ultrapanel technology from a BBA approved factory.
- Designed to accommodate on site tolerances.
- Precision engineered for a consistent high quality finish.
- No cold bridging.

What is hup! for?



Extensions



Transformations



Conservatories

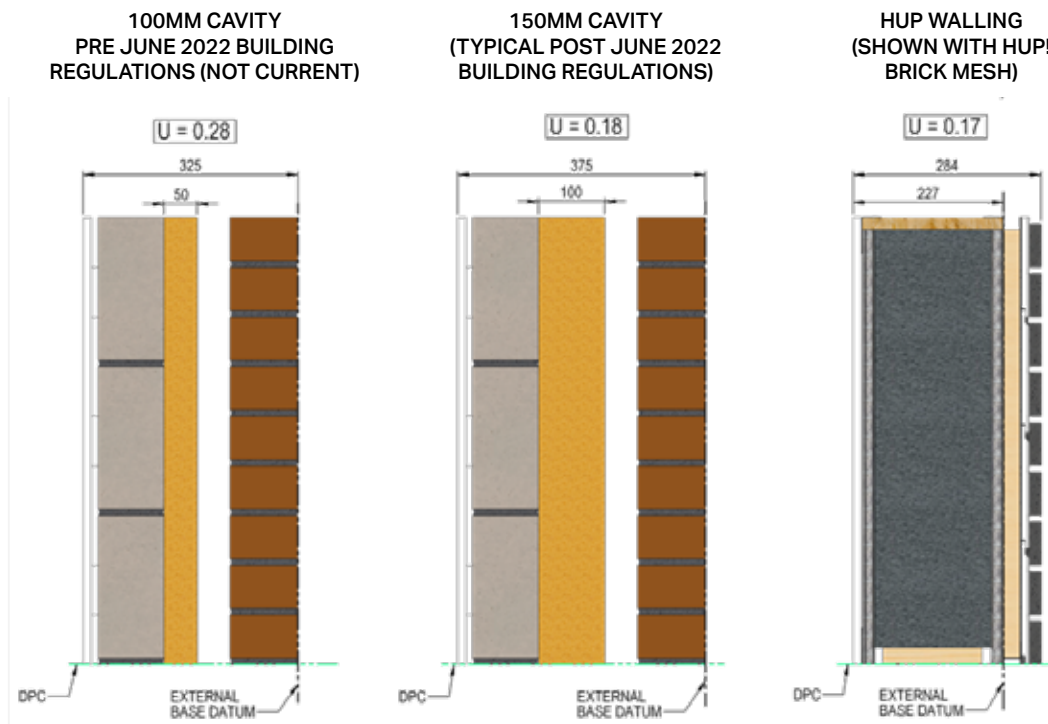


Garden Homes

Wall Thickness and U-Values

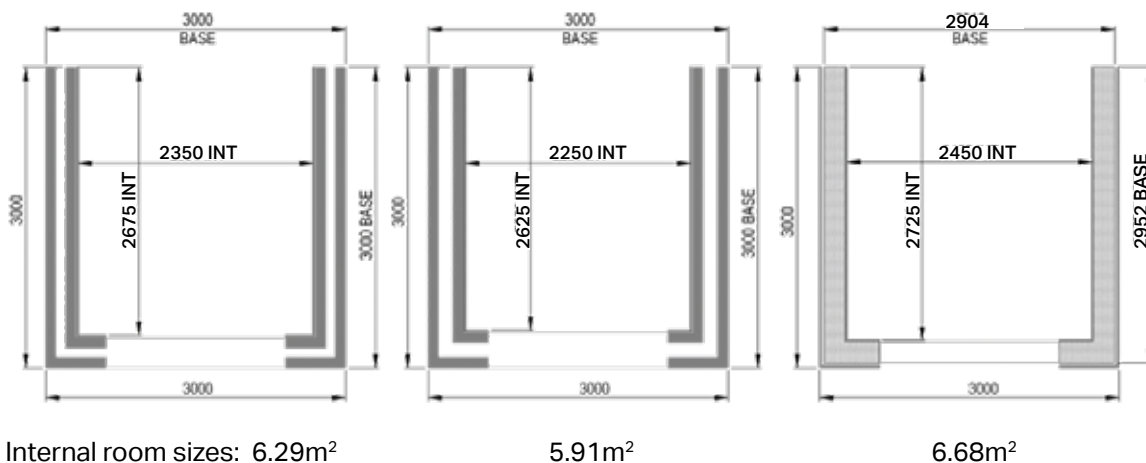
Building Regulations requirements for walls

New Building Regulations specify that walls should have a U-Value of $0.18\text{W/m}^2\text{K}$. The outgoing regulation specified a value of $0.28\text{W/m}^2\text{K}$. To achieve this new value in traditional brick and block construction, the width of the cavity wall will increase from 300mm to 350mm. This size is increased further with the addition of dot and dab plasterboard on the inside (325mm and 375mm respectively). The hup! wall system achieves a U-Value of $0.17\text{W/m}^2\text{K}$ and only has a width of 227mm, however with the addition of both the external Brick Mesh finish and plasterboard on the internal face, has an overall thickness of 284mm. This 27% reduction in width over the new brick requirement results in additional internal floor space.



Footprints (Internal & External)

Below is a comparison between typical builds using traditional brick methods above and hup!. The example shown is for a 3000mm x 3000mm external wall. Assuming that the wall finish is brick mesh finish the external base of hup! is 2904mm wide by 2952mm projection, giving an overall external brick size of 3000mm x 3000mm.



Wall Finishes

The hup! system is designed to be used with most wall finishes.

If you are choosing to render the walls or require a fire rated board underneath your wall finish, the hup! calcium silicate board can be provided as part of the system. This is pre-cut to size for fast assembly and is A1 fire rated - size see page (12)

Cement boards or Timber boards can be used too. To install horizontally, vertical battens must be fixed to the steel clips. These battens can be provided pre-cut to size for fast assembly. To install boards vertically, counter battening is required to ensure sufficient continuous ventilation. Counter battens are not supplied.

If you want a brick effect, we recommend brick slips. These are mini tiles of brick that are available in many shades and sizes to match the host house. These are applied to a render board (which can be supplied pre-cut) and pointed on site in a similar way to tiling.

Alternatively you can use hup! brick mesh (see page 13).



Rendered Wall Finish



Horizontal Timber Boards



Horizontal Cement Boards

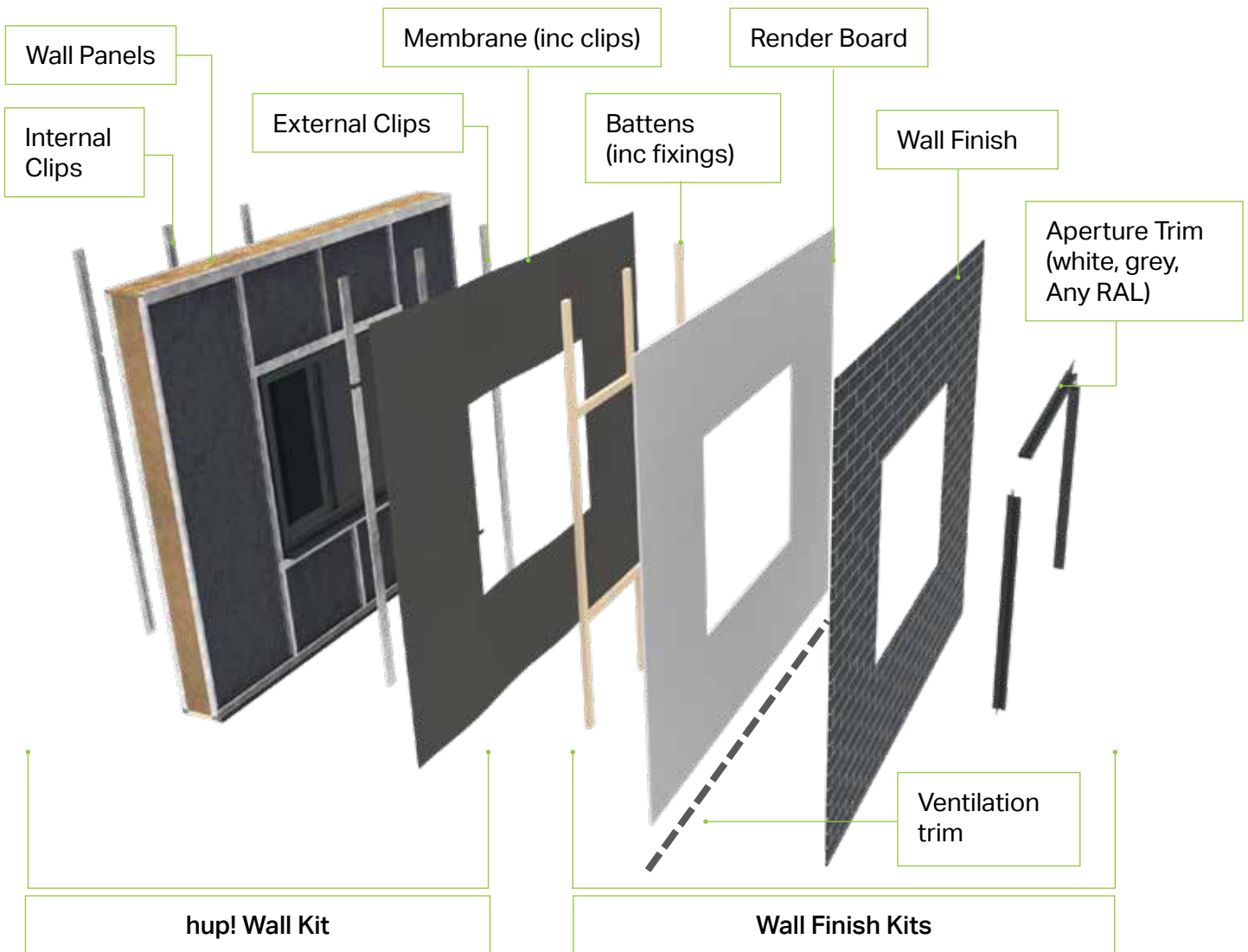


Brick Slips Finish



Brick Slips Application

What's Supplied?



The hup! wall kit consists of everything you need to get your hup! building watertight including Ultrapanel, Ultrapanel clips, wall and base trays, membrane and clips to fix the membrane to the Ultrapanel clips.

It's up to you to decide how you want to finish your wall and we can provide you with all of the elements including our Brick Mesh or, if you want to provide your own wall finishes, we can provide other elements to help you finish your wall as required. Choose from one of the wall kits in the table below which shows you what is included in each kit.

Wall Finish Kit	What's included?					
	Battens (cut to size)	Batten Fixings (required quantity)	Ventilation trim (2.5m lengths to be cut on site)	Aperture Trim (cut to size)	Render Board (cut to size)	Brick Mesh (Supplied in required quantity)
Ventilation Trim			✓			
Aperture Trim				✓		
Batten	✓	✓	✓			
Render Board	✓	✓	✓	✓	✓	
Brick Mesh	✓	✓	✓	✓	✓	✓

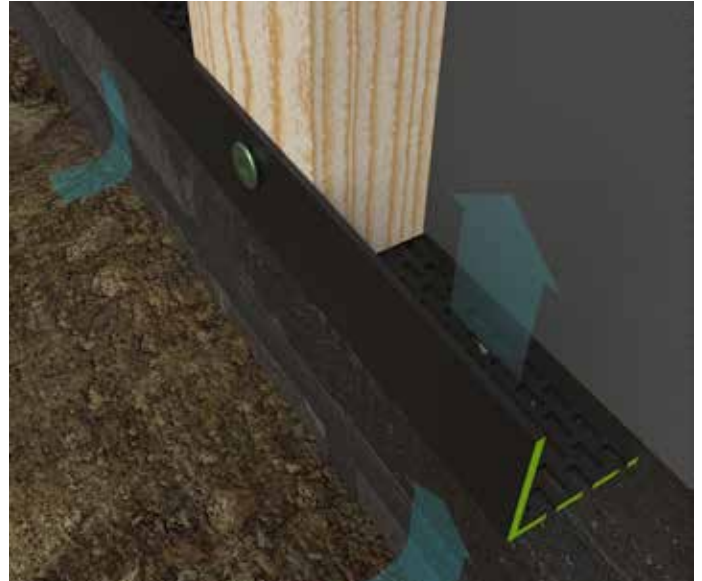
Wall Finish Kits

Ventilation Trim

To comply with Building Regulations, hup! has a drained and ventilated air gap behind the external calcium silicate board. The system allows for 10mm continuous ventilation.

To prevent vermin or insect ingress and other debris, the wall finish is supplied with a ventilation trim which has 3mm slots incorporated into the profile along its length. This profile runs around the perimeter of the build at the top and bottom of the walling.

The ventilation trim can be ordered separately if using your own wall finishes or it is supplied with the batten, render board, or Brick Mesh wall kits. Enough 2.5m lengths are supplied to run along both the top and the bottom of the hup! build.



Aperture Trim

The aperture trim accommodates wall finishes up to 25mm which is enough for most wall finishes. If brick slips are used with the aperture trim, the edge of the brick will be visible.

Battens and Batten Fixings

The battens supplied are 25 x 50mm and fit to the Ultrapanel clips with a specialist self drilling winged screw designed to penetrate and fix securely to the timber and the steel clips.



Wall Finishes – Render Board

Calcium Silicate Board

Calcium silicate board is manufactured from a mixture of Portland cement, fine silica, special cellulose fibres and selected fillers to impart durability, toughness, fire and moisture resistance.

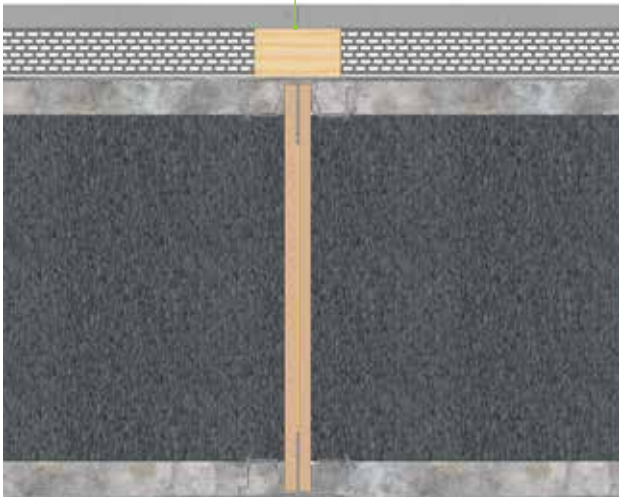
Calcium silicate panels will not degrade with time and within normal applications. Calcium silicate board will not rot or support fungal growth and is unaffected by sunlight or steam.

Calcium silicate sheet is specially designed for applications which require impact resistance, fireproof (A1 Class), waterproof, sound absorption and heat isolation. These products are suitable in a high humidity environment.

The calcium silicate boards are 12mm in thickness and are pre cut to suit the walling layout of the hup! extension. Each board is marked with its location which coordinates with the provided location plan.

The boards are screwed directly to the timber battens using the provided square drive self drilling screws.

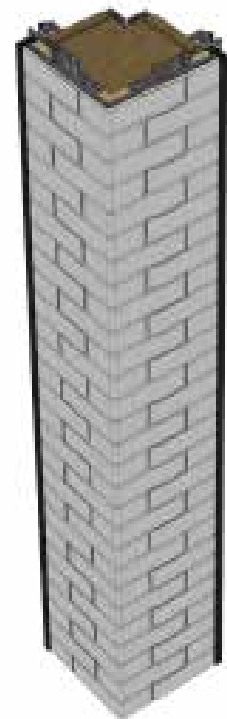
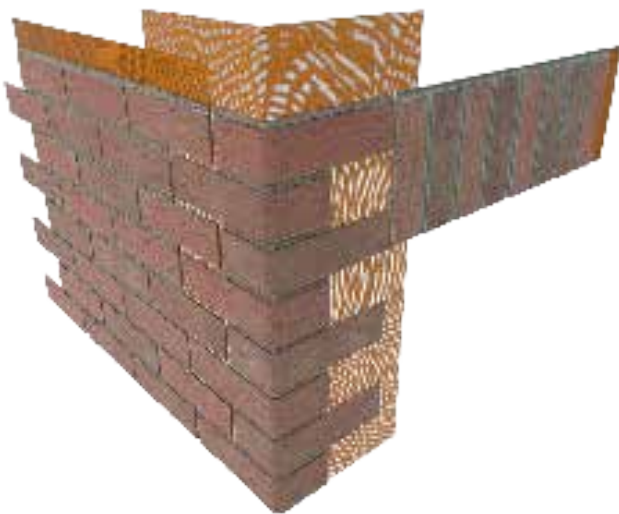
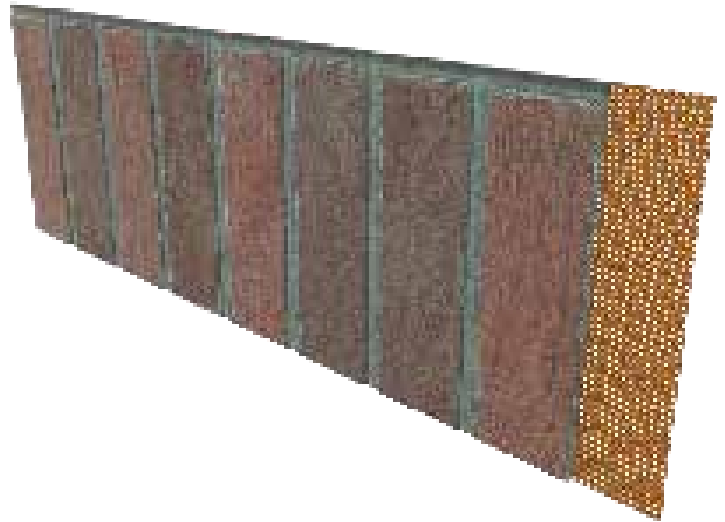
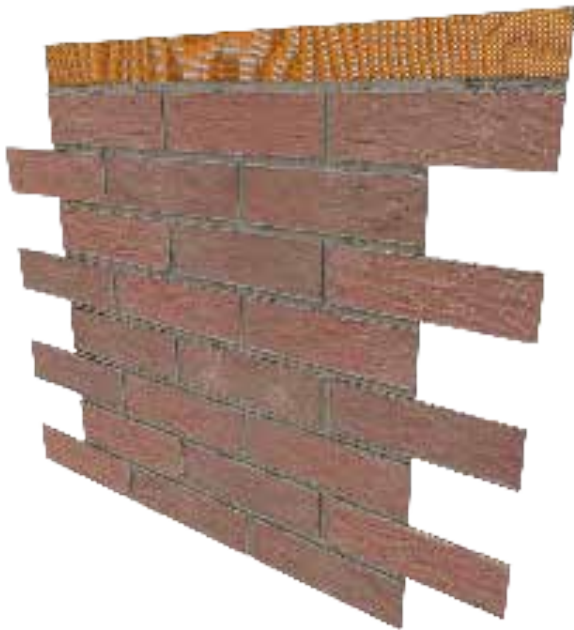
Calcium silicate board fixed to timber batten



Wall Finishes - Brick Mesh

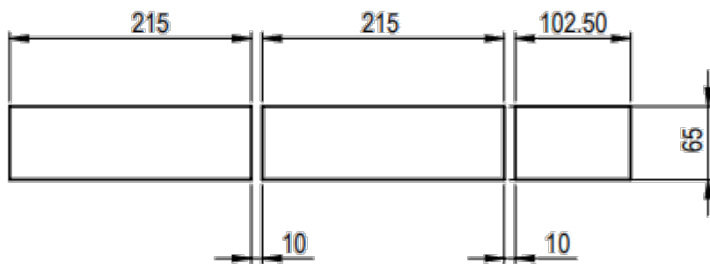
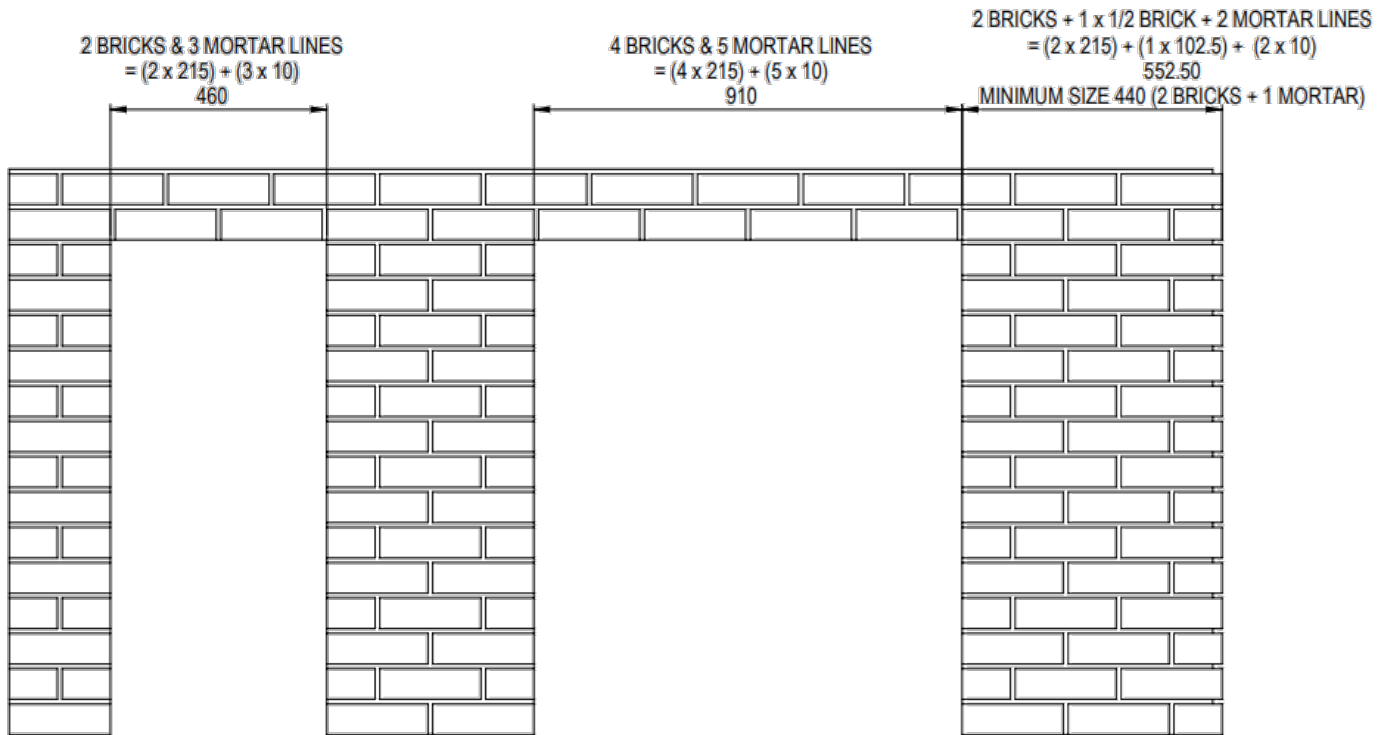
The Brick Mesh wall finish comes pre-pointed on sheets which are x 8 courses high to match the x 3 courses wide and are applied to the surface of the calcium silicate board using a mortar coloured adhesive. There are 5 component elements to the mesh wall finish. A 'map' of where each brick mesh panel should be applied will be provided as part of the on site paperwork.

- • Brick Mesh sheet
- • Corner (1 brick)
- • Soldier course for over apertures (optional)
- • Mesh jointing strip
- • Adhesive

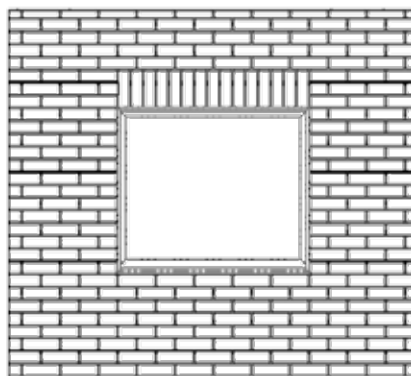
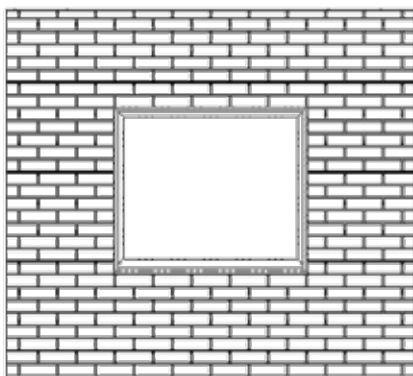


Important Design Considerations

The bricks sizes are to standard UK stock brick sizes and therefore to ensure the best and most convincing aesthetic, openings should take the brick size into consideration. We have the option for the sizes to be checked within the software and recommendations made to move openings to achieve the best aesthetic.



**STANDARD UK BRICK SIZES
LAYOUT BASED ON BRICK & HALF BRICK**



Soldier courses are available above apertures to give the aesthetic options shown left. If you select soldier course in the software you will be supplied with enough soldier course for above every aperture.

Brick Mesh Options

The hup! Brick Mesh is available in a range of brick colour and mortar colour combinations. All bricks are 215mm x 65mm with a 10mm mortar gap.

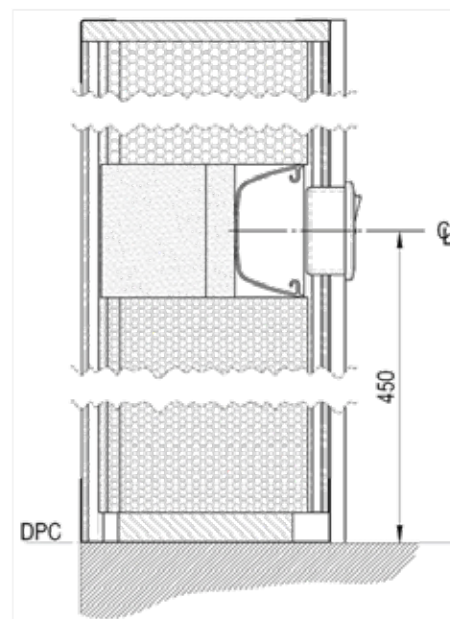


Wiring Details

Cable Management Panels

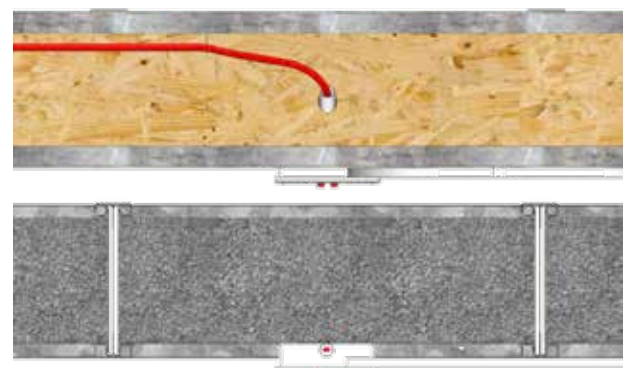
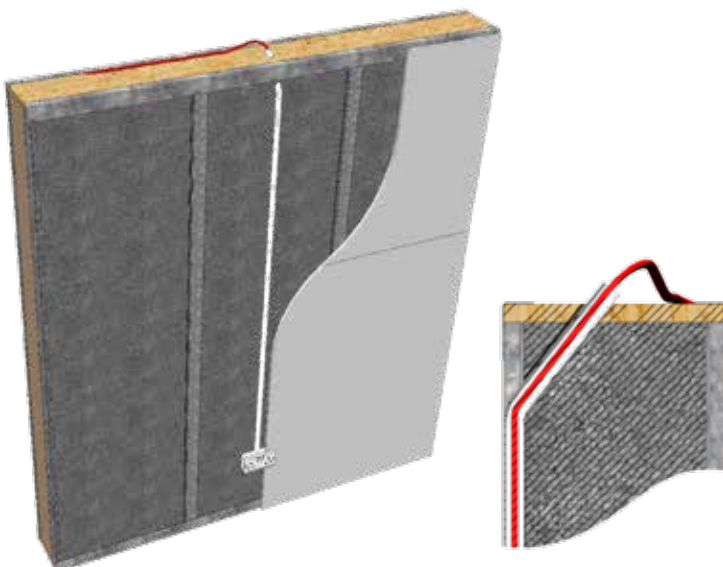
A cable management panel option is available for running cables around the perimeter of the build. It is supplied on every panel if this option is selected.

- The cable management will appear if selected on applicable panels above 560mm.
- The channel is set at 450mm above the DPC level and allows holes to be drilled between panels through the hardboard and cables fed through.
- The channel is deep enough to cater for socket back boxes.
- If cables need to be run up the wall, or around apertures, the cable must be sheathed in a flexible conduit to avoid contact between the cable and the EPS.
- All electrics must be carried out by a certified and qualified electrician.



Alternative Methods (for Glass and Hybrid Roofs only)

If a cable management panel is not specified, the wiring can be run around the perimeter of the eaves and then dropped vertically to the required position of the socket or switch. When running the cable across or down the face of the EPS, the cable must be run in a flexible conduit.



Drill hole through top tray and EPS to thread conduit through.

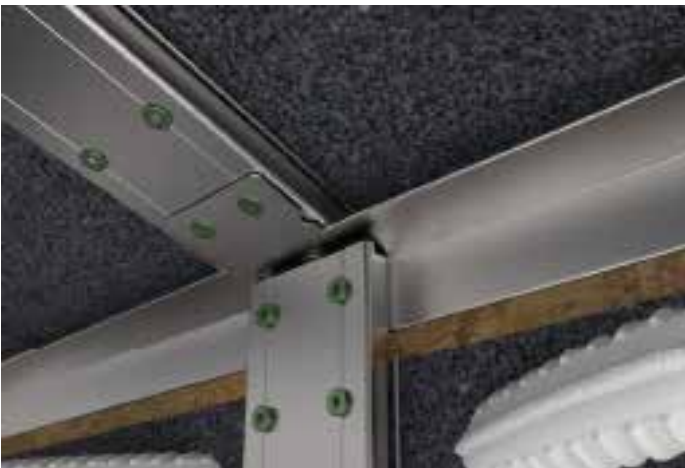
Alternative Methods - (Tiled and Flat Roof)

If a cable management panel is not specified, the wiring can be run around the perimeter of the eaves and then dropped vertically to the required position of the socket or switch. When running the cable across or down the face of the EPS, the cable must be run in a flexible conduit.



Option 1

Drill a 20mm diameter hole either side of the clip into the back of the beam. Push in a grommet to protect the cable against the steel edge. Using a rigid wire pull string through the holes to enable feeding cable through.



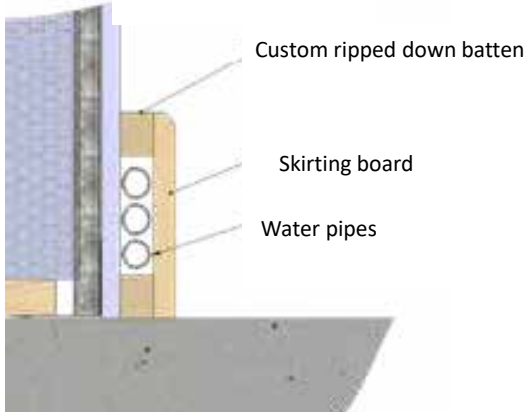
Option 2

Drill an angled 20mm diameter hole (shown in red) either side of the clip into the EPS and break through the hardboard behind the steel clip. Using a rigid wire pull string through the holes to enable feeding cable through. **Ensure that cable is in conduit to isolate from the EPS.**



Pipework Details

- Pipework should be located in a dedicated service void or behind skirtings and where practical, provide access for pipe bends, stop valves etc. This can be achieved by creating a void behind skirting by using custom 'ripped down' battens to pack the skirting away from the plasterboard, or by using a purpose manufactured rebated skirting.
- Alternatively, pipework can be ran via the cable management panel along with any electrical or network cables, providing that there is a minimum 25mm gap.



Skirting boards can be purchase with a ready made void for pipes as shown to the right.



Dedicated rebated skirting to accommodate pipework.

Recommended Fixings (not supplied)

Some fixings for the hup! building system are not supplied, however below are some recommended fixings for securing the walls to the base and fixings for hanging heavy objects from interior or exterior walls.

Base Tray Connection Detail

We recommend for speed of installation, self cutting concrete screws (6mm x 85mm minimum) with a minimum pull out of 1KN to fix the base tray to the concrete base. Alternatively, sleeved anchor bolts can be used.



Self Cutting Concrete Screw



Sleeved Anchor Bolt

Wall Plate Connection Detail

We recommend fixing the wall plate to the host wall using a masonry frame fixing screw.



Wall plate fixing screw

Hanging objects from interior walls

Use an appropriate hollow plasterboard wall fixing to accommodate the required weight of the object to be mounted. We recommend expanding fixings which help distribute the load over a larger area.



Steel Hollow Wall Anchor

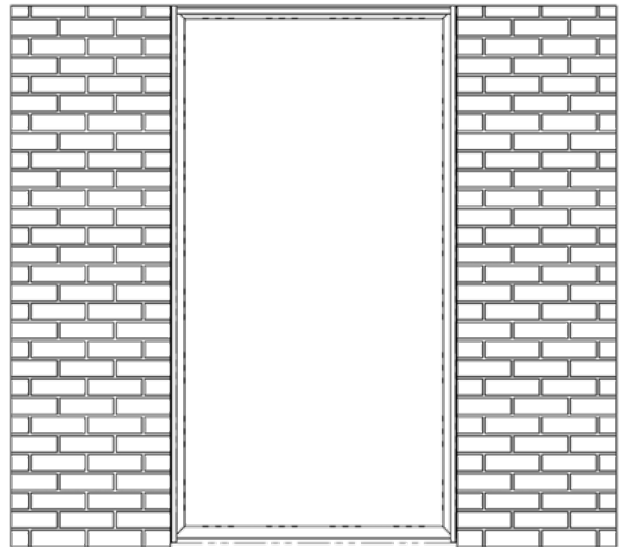
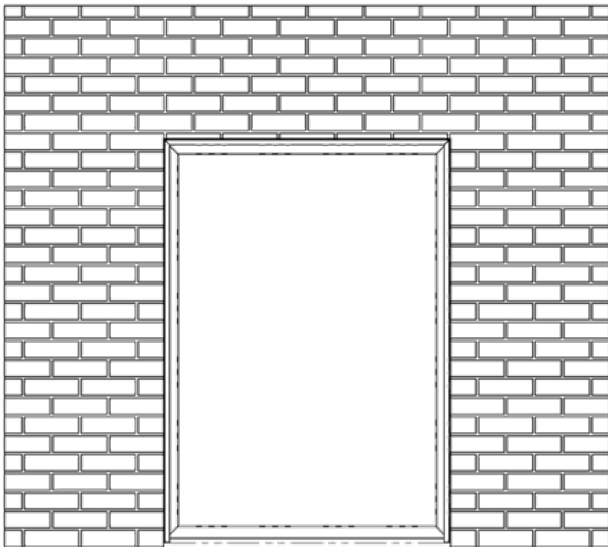
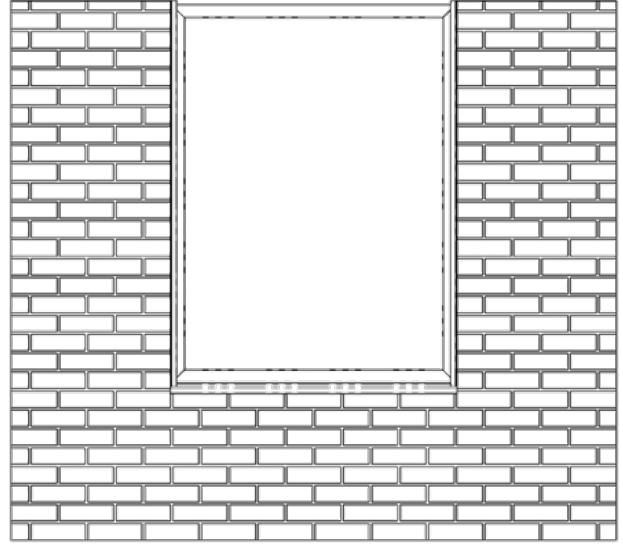
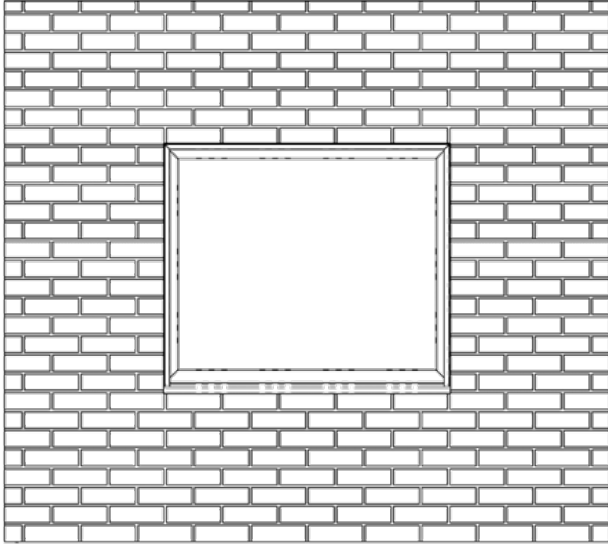


GRIPIT Plasterboard Fixings (Various weight carrying capacities)

Alternatively the interior walls may be lined in plywood before plaster boarding, or boarded with Fermacell board which can take 50kg per fixing and can be directly plastered for a final finish.

Apertures

Apertures can be located at the bottom, the top or anywhere in between and also run full height.




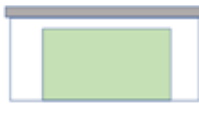
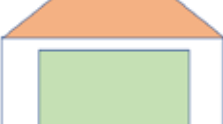
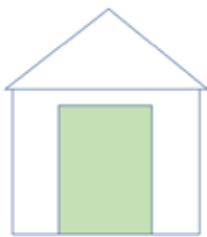
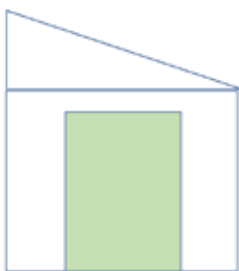
If using the hup! corner, apertures must be a minimum of 275mm from the corner of the base.

If locating an aperture between the top and bottom of the elevation the apertures must be a minimum of 215mm from the underside of the beam and 215mm from the DPC level at the bottom.

All aperture sizes will be confirmed at order stage. These will be 'tight' sizes, so you will need to make the necessary deductions when you order window and door frames.




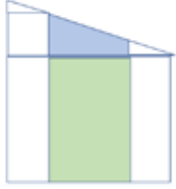
Support Beams - No Lintels Required

When a soldier course is used across the top of doors a support beam will be built into the wall at no extra cost, which runs across the top of the door between the walls. The maximum door span is as follows. There is no need for additional lintels as a support beam is provided at no extra cost. Please note that when using large door openings lateral stability must be considered. If larger door spans are needed, please consult Ultraframe.

Situation		Wall finish	Roof pitch (°)	Max Lintel Span (mm)
Glass Roof		Brick mesh, render or brick slips	15 - 40	4500
Hybrid Roof			15 - 40	4500
Flat Roof			N/A	4500
			15 - 40	4000
Tiled Roof				
Tiled Roof Gable		Brick mesh or render	15 - 25	4500
			26 - 40	3500
		Brick Slips	15 - 25	4000
			26 - 40	3000
Tiled Roof Lean to		Brick mesh or render	12.5 - 15	4500
			16 - 25	4000
			26 - 35	3500
			36 - 40	3000
		Brick Slips	12.5 - 15	4000
			16 - 25	3500
26 - 40	3000			

Gable reinforcement

When using glass above an opening on a gable end, a gable support beam is used which sits above the doors between the hup! walls. The table below shows the maximum span of the gable support beam in certain situations

Situation	Image	Wall Finish	Roof pitch (°)	Max Span (mm)
Duo pitch gable with hybrid or glass roof		Brick slips or render (If claddings are heavier than 22mm brick slips, please contact the technical team)	15-40	5400
Lean to with glass or hybrid roof			5 – 17	5400
			18 - 40	5100
Duo pitch gable with tiled roof and glazing			15 - 19	5500
			20 – 25	5200
			26 – 30	5000
			31 – 35	4700
			36 – 40	4500
Lean to with tiled roof and glazing			12.5 – 15	5200
			16 – 20	5000
			21 – 35	4500
			36 - 40	4000

Key

Tiled roof	hup! Walls	Flat roof	Doors	Glass/hybrid roof
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Ventilation

Any hup! must be ventilated in accordance with Building Regulations with the installation of trickle vents in windows as necessary. If the new hup! room has a kitchen, additional ventilation like an extractor fan should also be installed.

Datums

External Base Datum

The outside of the edge of the Ultrapanel clips and base tray align with the outside of the base brickwork or shuttered concrete edge.

External Cladding Datum

25mm battens are required to accommodate any wall finishes and depending on which wall finish you choose these will over hang the base datum by around 48mm (3mm membrane and clips, 25mm battens, plus 12mm calcium silicate board, plus 8mm for hup! Brick Mesh).

Internal Wall Datum

This sits 215mm inboard of the external base. Including plasterboard this is 227mm.

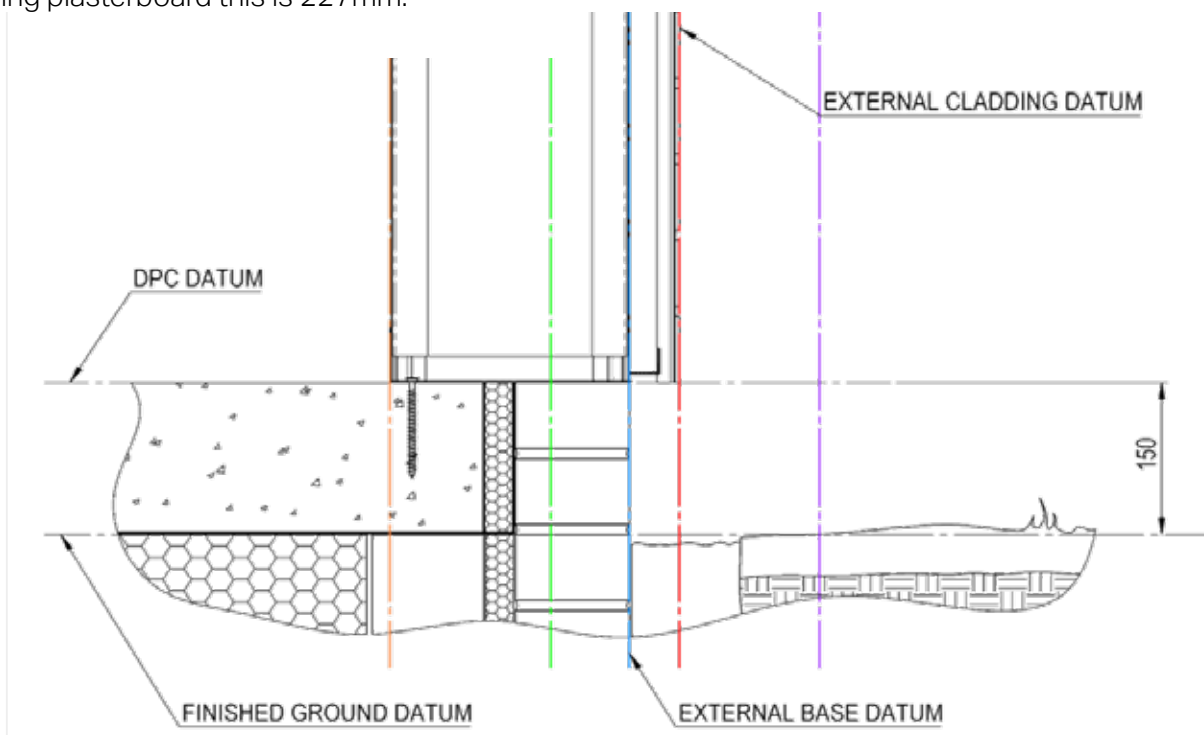
Internal Frame Datum

The external face of the window or door frames lines up with the panel clips on the external base datum. With traditional 70mm frames the internal frame line sits 70mm inboard of the external base datum.

Boundary Wall Situations

It is possible to install hup! walling next to a boundary wall or where access is restricted. You will need to specify which wall is on the boundary so a specific boundary wall kit is provided.

The kit consists of a wall hinge, PVC tray and skids so that the wall can be fully assembled then moved into final position easily.



Datum lines in each diagram are indicated using different colours

Orange	----- Internal hup! Wall Datum
Green	----- Internal Window/Door Frame Datum
Blue	----- External Base/External hup! Wall Datum
Red	----- External hup! Wall Cladding Datum
Purple	----- External Beam Soffit Overhang Datum

Please note that any outside flooring (eg decking or patio) should finish sufficiently below the DPC to stop water ingress and ensure ventilation gap behind the wall finishes. If you would like the outside floor to be level with the inside floor, you must install drainage to prevent water ingress.

Datums Glass/Hybrid Roof

Internal Frame Datum

The external face of the window or door frames lines up with the panel clips on the external base datum. With traditional 70mm frames the internal frame line sits 70mm inboard of the external base datum.

Beam Position

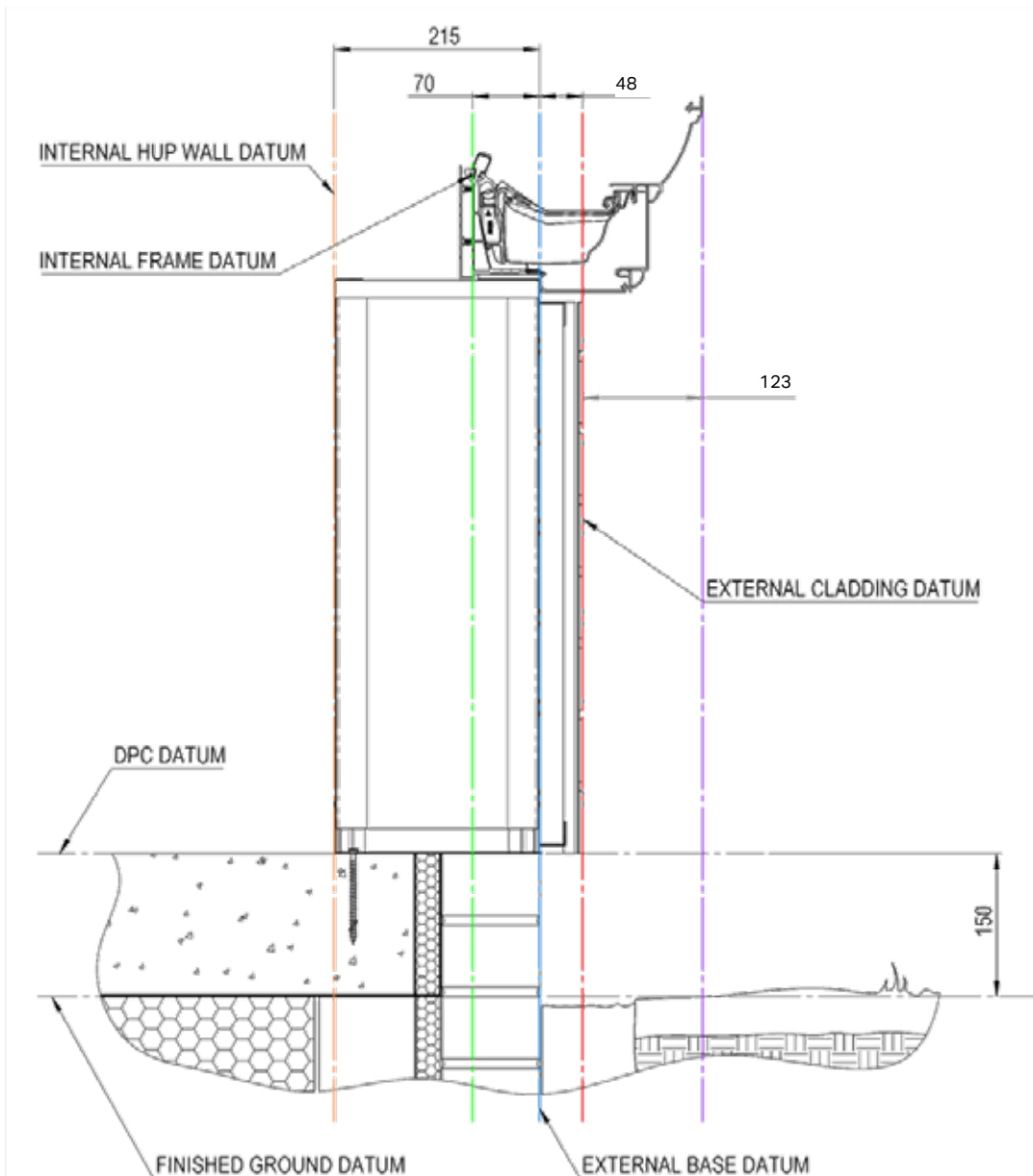
The inside of the eaves beam sits 70mm inboard of the external wall / external base datum. If packers are required for eaves reinforcements or the position of the internal pelmet, then wall heights will be automatically adjusted to the right height. Packers are not provided by Ultraframe.

External Fascia & Soffit

The external cornice (curved) is 241mm outboard from the internal frame line. If using the Brick Mesh wall finish product, the external wall finish datum and the outside of the finished wall would be 48mm outboard of the external base. The soffit overhang from the wall finish is 123mm.

Notes for Pricing/Specification

hup! walls are ordered to external base datums and the roof is ordered from internal frame datums. Therefore when ordering a glass or hybrid hup!, order walls to external base and deduct 70mm from each elevation to determine your roof size.



Glass Roof



The hup! Glass Roof is available for roof pitches from 2.5° to 40° and fully configurable to any shape and size. Available with a range of cornice designs, the hup! Glass Roof is also known as the Classic Roof, the UK's favourite Glass Roof system. Available in any colour, the roof system is packed full of high quality Ultraframe components such as the super-strong jack rafter, storm protection system and highly durable glazing stops and gaskets.

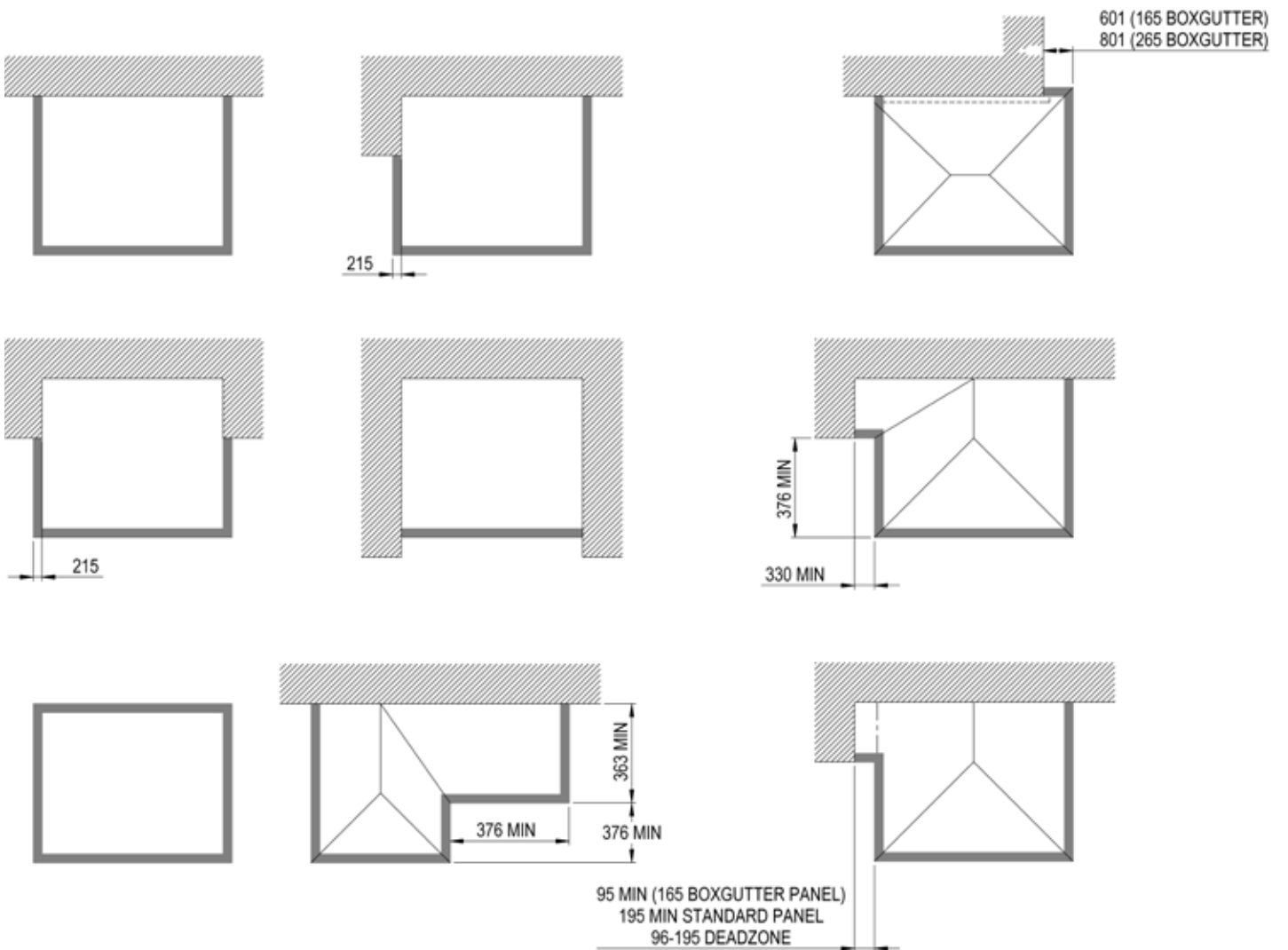
The Glass Roof can be supplied with a hup! mini pelmet as shown below, or the internal pelmet can be widened to up to 1200mm making it the perfect place for spotlights or speakers. You can add earthwool to the pelmet to enhance its thermal performance.



A top tray runs along the top of the hup! walls underneath the eaves beam. The clips are secured into place by fixing through the top tray. Raked frames must be used on lean-to roofs as the walls cannot be raked and meet a glass panel/ starter bar

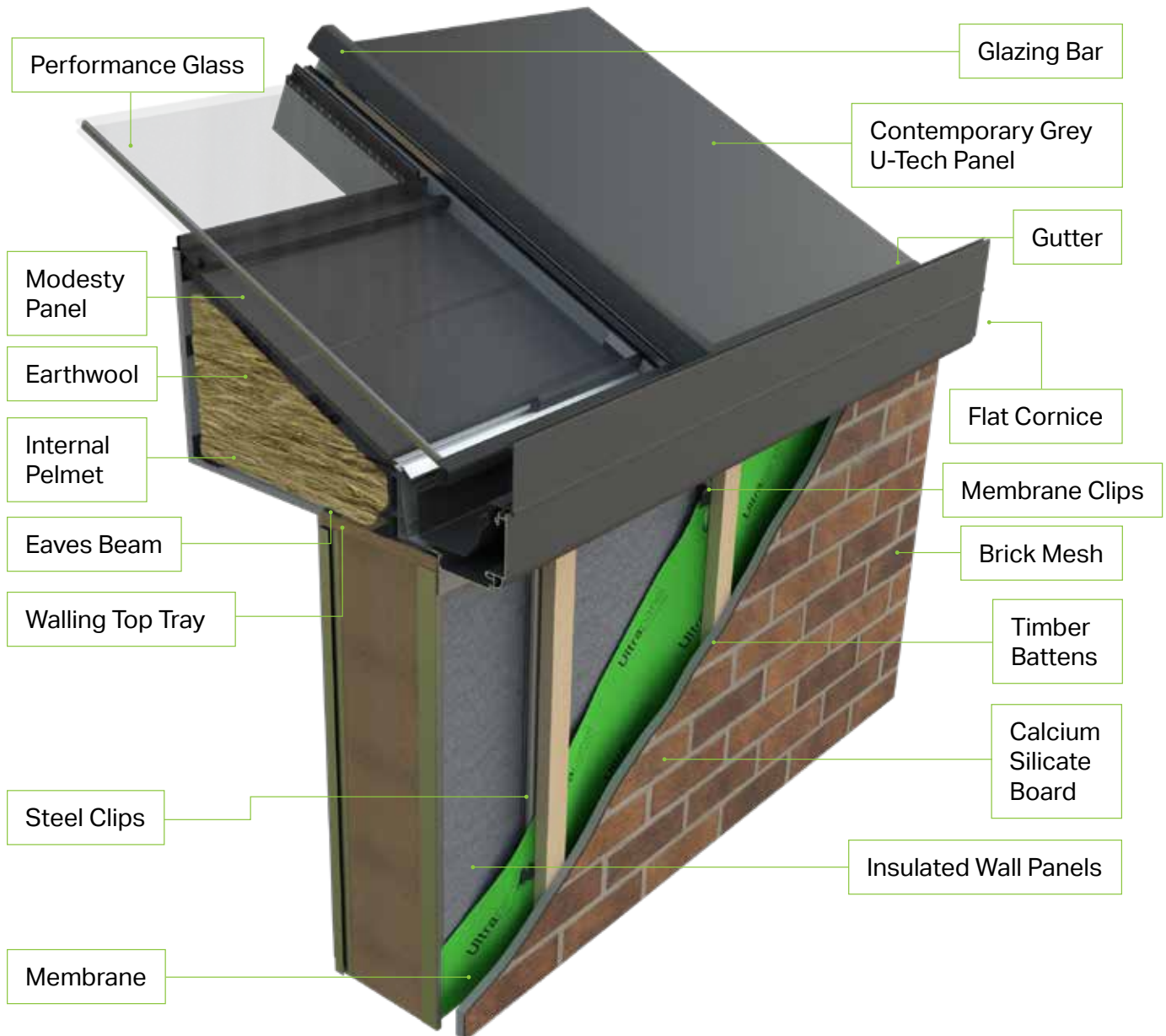
Internally the top tray meets the edge of the internal pelmet or it can be wider.

Glass/Hybrid Roof Wall Layouts



NB: External base datums (mm) are used.

Hybrid Roof



The hup! Hybrid Roof is available for roof pitches from 5° to 40° is fully configurable to any shape and size. Combining unique contemporary grey panels with rectangular or shaped glazed panels. The hup! Hybrid Roof is based on Livinroof by Ultraframe.

The pelmet in the Hybrid Roof must be a minimum of 400mm wide as shown above - this can be increased up to 1200mm. You add earthwool to the pelmet to enhance its thermal performance.



A top tray runs along the top of the hup! walls underneath the eaves beam. The clips are secured into place by fixing through the top tray. Raked frames must be used on lean-to roofs as the walls cannot be raked and meet the panels/ starter bar.

Internally the top tray meets the edge of the internal pelmet or it can be wider.

Datums Tiled Roof

Internal Frame Datum

The external face of the window or door frames lines up with the panel clips on the external base datum. With traditional 70mm frames the internal frame line sits 70mm inboard of the external base datum.

Beam Position

The inside face of the beam lies flush with the inside face of the EPS, excluding the steel clips which set the position for the beam.

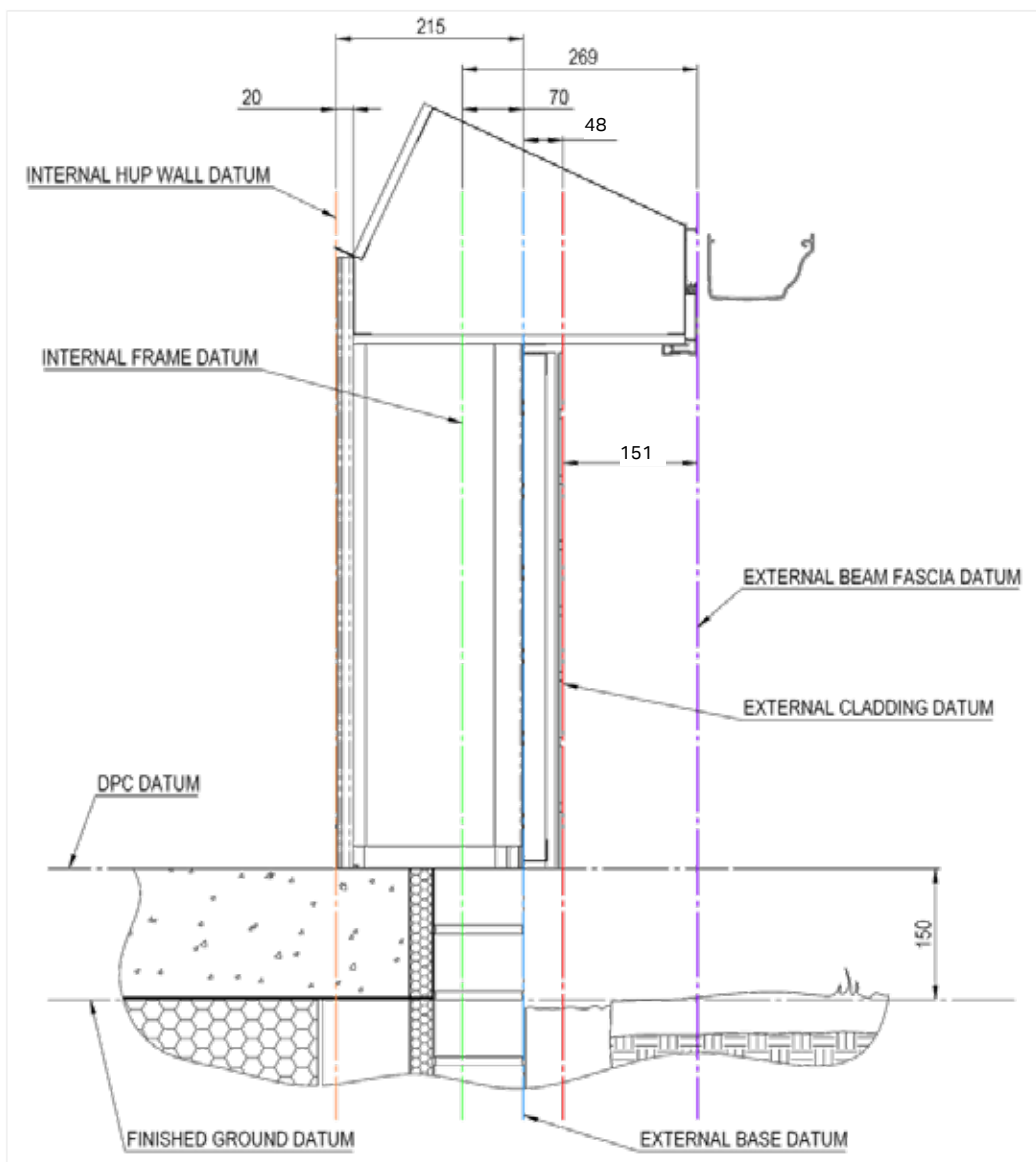
External Fascia & Soffit

The external fascia of the beam is 269mm outboard from the internal frame line. If using the Brick Mesh wall finish product, the external wall finish datum and the outside of the finished wall would be 48mm

outboard of the external base. The soffit overhang from the wall finish is 151mm.

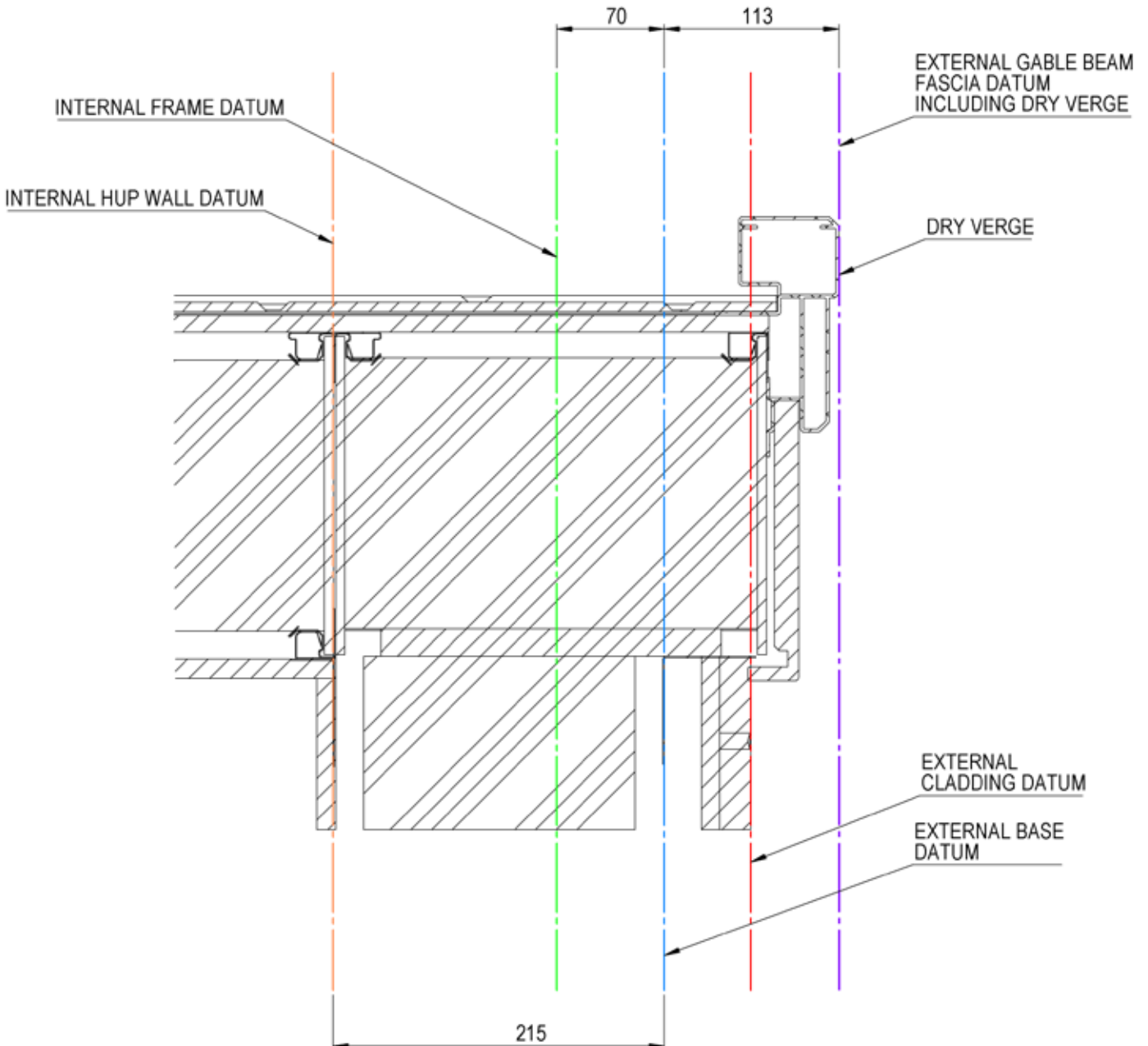
Pricing/Specification

hup! walls are ordered to external base datums and roof is ordered from internal frame datums. Therefore when pricing a Tiled Roof hup!, order walls to external base and deduct 70mm from each elevation to determine your roof size. The hup! soffit is 199mm from the external base. Both these options carry a 6% premium vs the standard roof size on the pricing matrix.

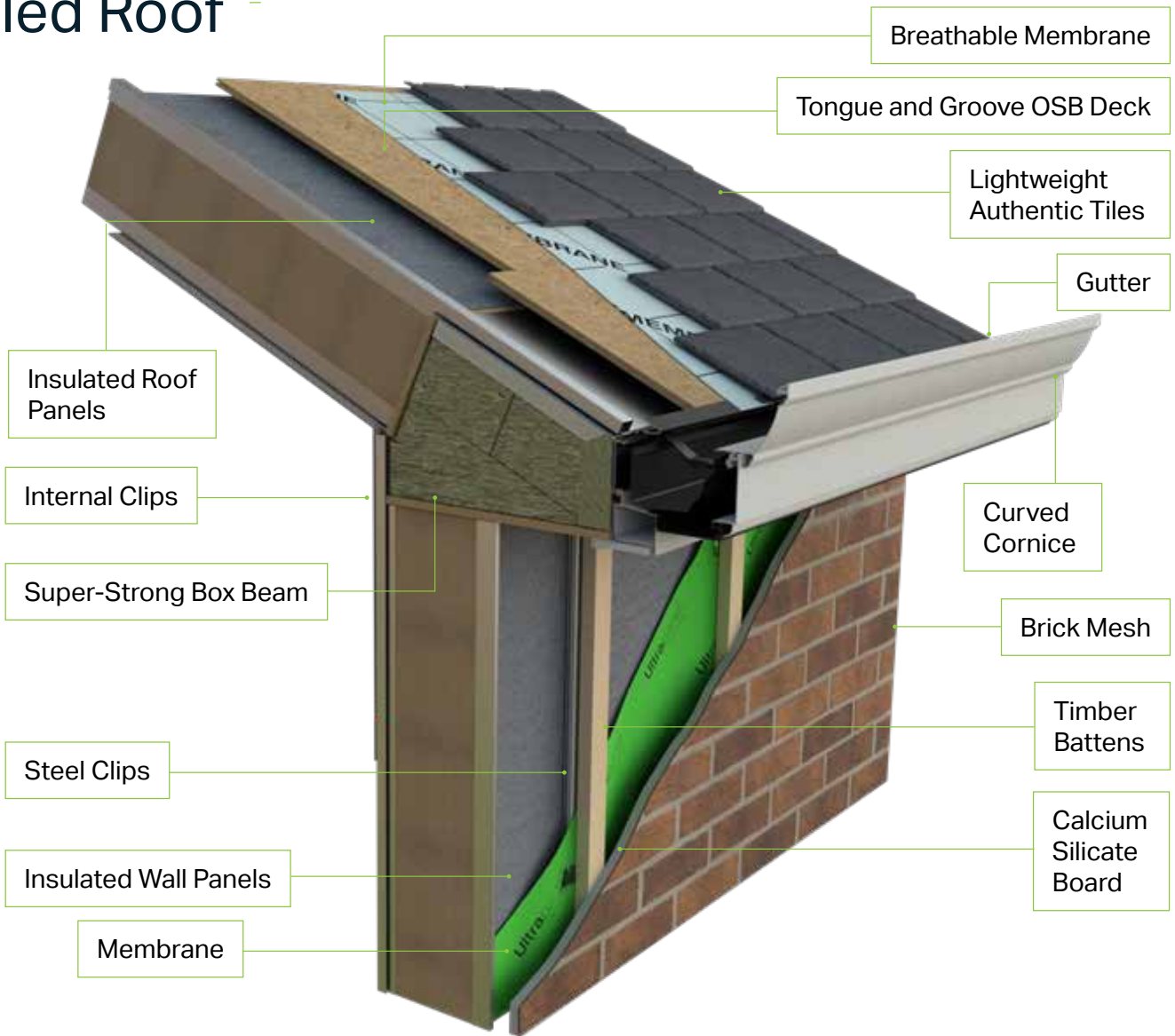


Gable/Lean to overhang with tiled roof

The diagram below shows you the dimensions of the tiled roof at gable or lean to ends.



Tiled Roof



The hup! Tiled Roof is also known as Ultrarroof and does not need a tie bar like other lightweight Tiled Roof systems (although for gable and lean-to roofs a high level strut may be needed, see page 35). Available with a choice of full length glazing panels in a range of high performance glass or conventional Velux windows, the roof can accommodate door spans of up to 4m with no need for extra structural support.

Ultrarroof is available with 3 shades of lightweight tiles or can also be used with slate or concrete tiles too.

The hup! Tiled Roof is available in lean-to, hipped lean-to, gable, Georgian, double hipped Georgian, L-shape and T-shape with a maximum width of 6780mm and projection of 5000mm. See process guide page 39 for maximum sizes by roof shape.

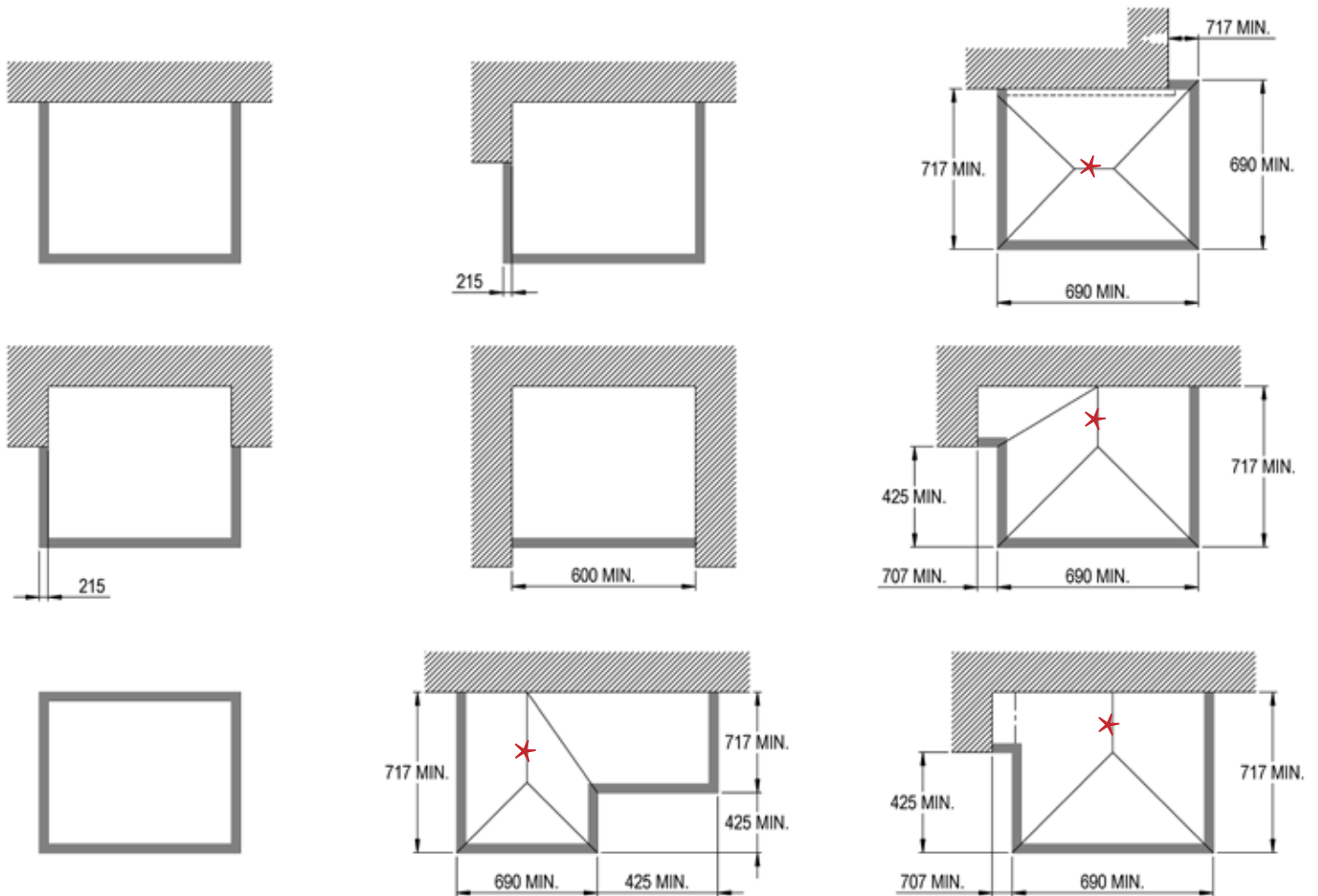


The clips run up the back of the internal side of the beam and are screwed into the steel beam section.

The clips are attached with small angle brackets to the front of the beam. These sit on the outside of the clip and are screwed to the underside of the OSB.

Please note there is no boundary wall option on the Tiled Roof. The external of the clip to the edge of the beam is 185mm.

Tiled Roof Wall Layouts



NB: Please note external base datums (mm) are used.

* Minimum ridge lengths apply.

Datums Flat Roof

Internal Frame Datum

The external face of the window or door frames lines up with the panel clips on the external base datum. With traditional 70mm frames the internal frame line sits 70mm inboard of the external base datum.

Beam Position

The inside face of the beam lies flush with the inside face of the EPS, excluding the steel clips which set the position for the beam.

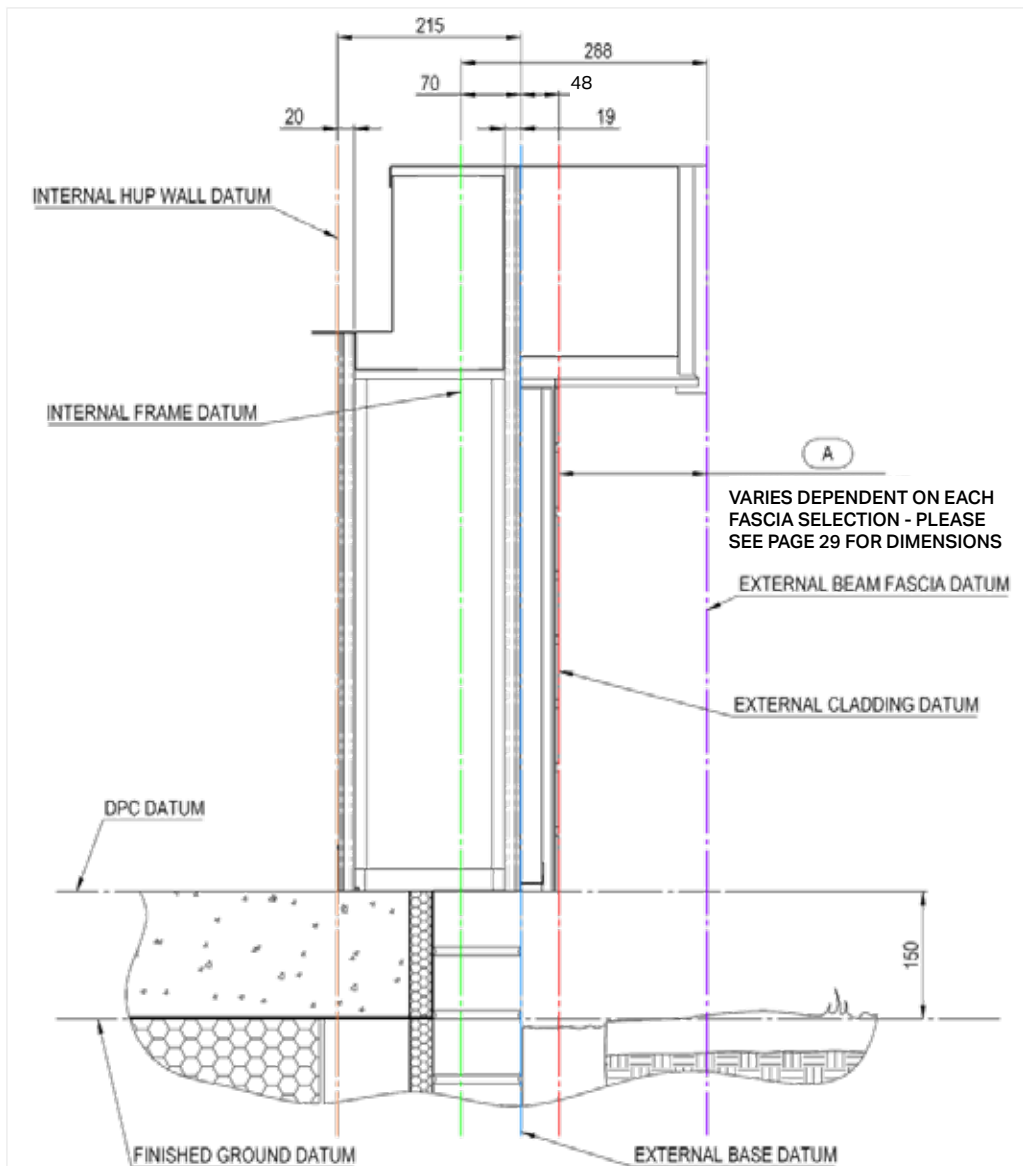
External Fascia & Soffit

The external fascia of the beam varies dependent on specification. If using the Brick Mesh wall finish product, the external wall finish datum and the outside of the finished wall would be 48mm outboard

of the external base. The soffit overhang from the wall finish is shown below as dimension A.

Pricing/Specification

hup! walls are ordered to external base datums and roof is ordered from the external beam face. Therefore when ordering a Flat Roof hup!, order walls to external base and deduct 19mm from each elevation to determine your roof size.



Flat Roof



The hup! Flat Roof system is available in rectangular shapes up to 4m projection and 7m wide. With all structural calculations taken care of in one easy order the hup! Flat Roof can accommodate 0, 1 or 2 apertures and supplied with lanterns or flat skylights as required.

Whether ordered separately or with hup! the Ultraframe Flat Roof uses the base datum for ordering and pricing purposes. With hup! the clips run up the front face of the beam and clips protrude by 19mm and with wall finishes the external wall face sits 48mm outside the base datum.

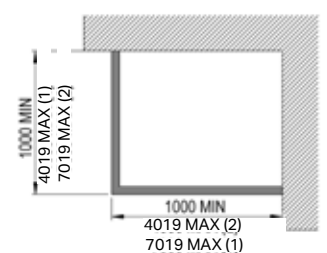
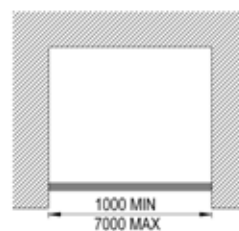
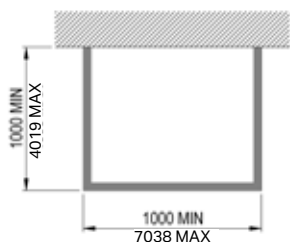


Externally the clips run up the outside of the beam behind the fascia.



Internally the clips meet the beam shelf.

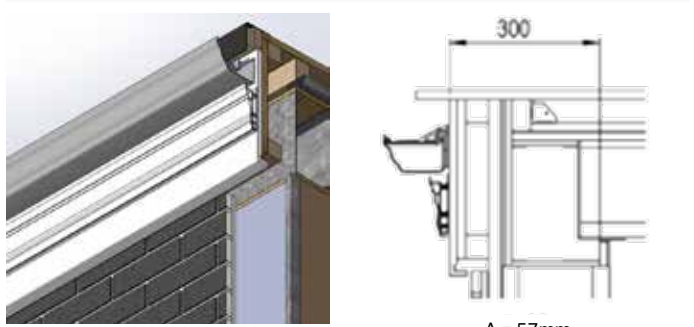
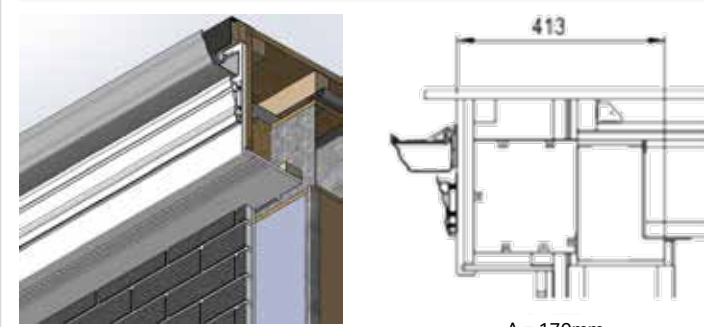
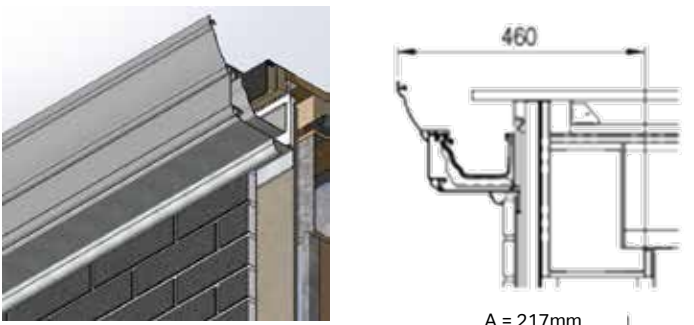
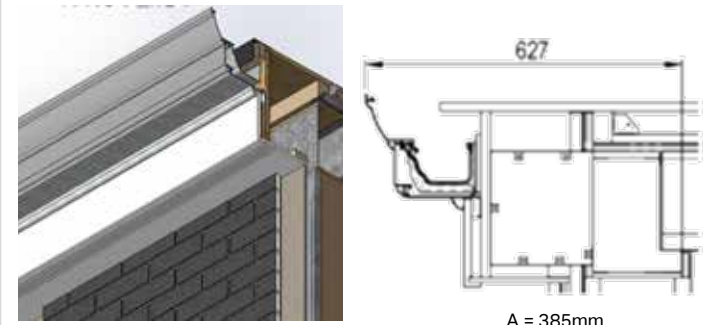
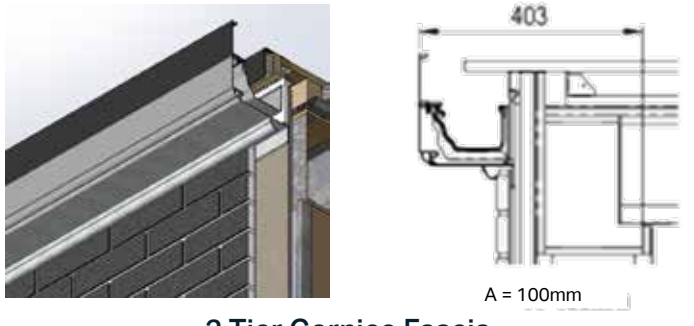
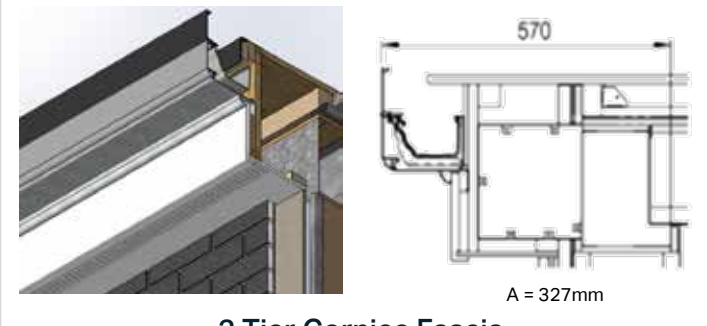
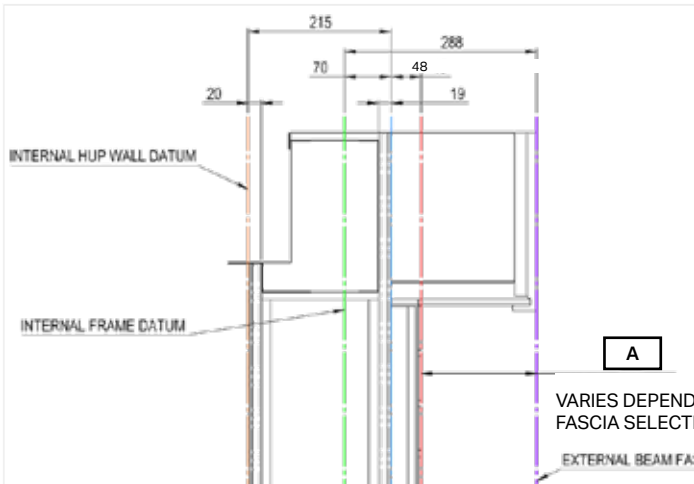
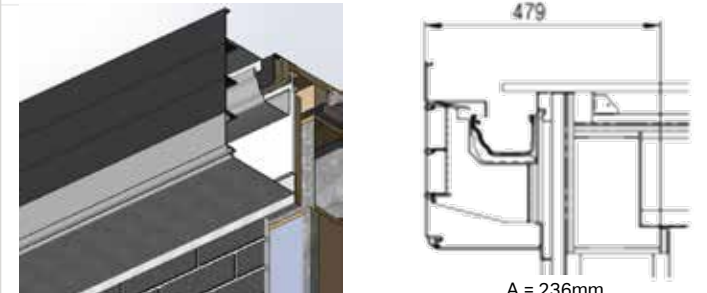
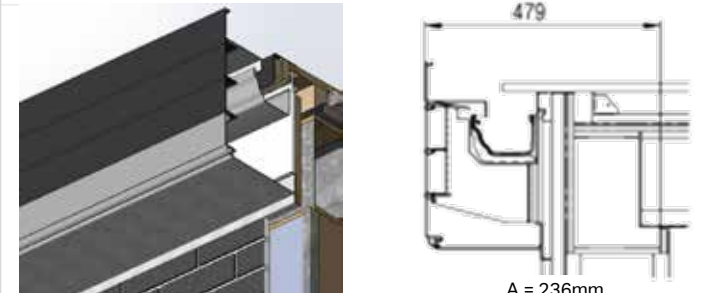
Flat Roof Wall Layouts



Flat Roof Soffit Sizes

Because the wall panel clips run up the front of the beam and the external wall finishes 48mm beyond the clips, the soffit sizes are smaller with hup! than if used with traditional brick.

Claddings can also run up the front face of the beam giving the impression of a slimmer roof deck.

<p>Standard Soffit</p>  <p>300</p> <p>A = 57mm</p>	<p>Extended Soffit</p>  <p>413</p> <p>A = 170mm</p>
<p>Classic Fascia</p>  <p>460</p> <p>A = 217mm</p>	<p>Extended Soffit</p>  <p>627</p> <p>A = 385mm</p>
<p>Curved Cornice Fascia</p>  <p>403</p> <p>A = 100mm</p>	<p>Curved Cornice Fascia</p>  <p>570</p> <p>A = 327mm</p>
<p>2 Tier Cornice Fascia</p>  <p>215 288 70 48 19 20</p> <p>INTERNAL HUP WALL DATUM</p> <p>INTERNAL FRAME DATUM</p> <p>A</p> <p>VARIES DEPENDENT ON FASCIA SELECTION</p> <p>EXTERNAL BEAM FASCIA DATUM</p>	<p>2 Tier Cornice Fascia</p>  <p>570</p> <p>A = 327mm</p> <p>4 Tier Cornice Fascia</p>  <p>479</p> <p>A = 236mm</p>

A = External cladding to external soffit.

Compatibility with Bases

Base Options

Unlike conventional bases with cavity walls, there is no need for a cavity between the two brick skins at the edge of the base with hup!. This is because ventilation (drainage) is outside the base behind the wall finishes.

If your base requires the hup! wall to be fixed to the blockwork (as shown in the insulated raft foundation below) ensure that the specification of the block is 7.3N/mm².

Please refer to Building Regulations to determine the right style and depth of base required for the ground conditions on site. Always consult with your local authority on ground conditions and whether a radon or methane barrier is required so you can specify the correct base for the site.



250mm Cavity Wall Base Detail

We recommend that the base tray is fixed to the concrete slab/ outer leaf and sits over the slab or internal leaf of blockwork.



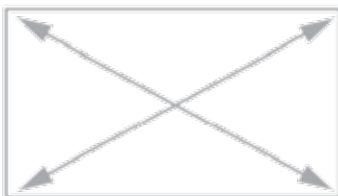
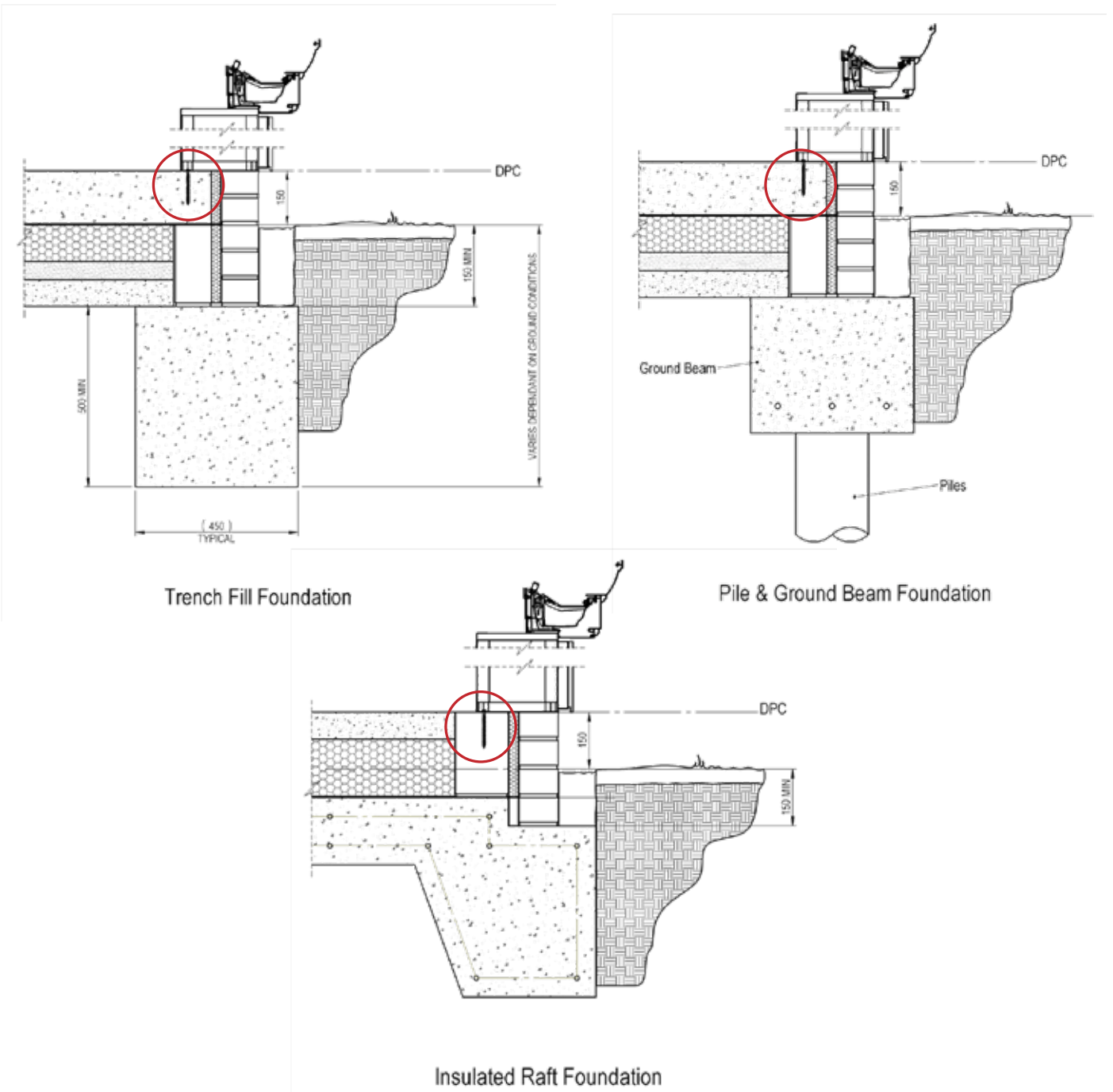
300mm Cavity Wall Base Detail

When installing hup! on to an existing foundation, it is important to ensure there is level surface on which to sit the base tray.

Simply point the cavity so the surface is level from the external leaf of brick to the inner leaf of blockwork. The base tray then fixes firmly and level.

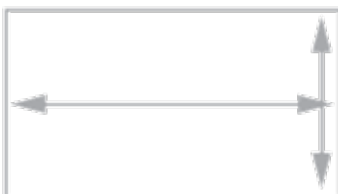
To ensure you get this extended base tray, specify 300mm cavity wall when you order.

Other Base Details



Required Base Tolerances

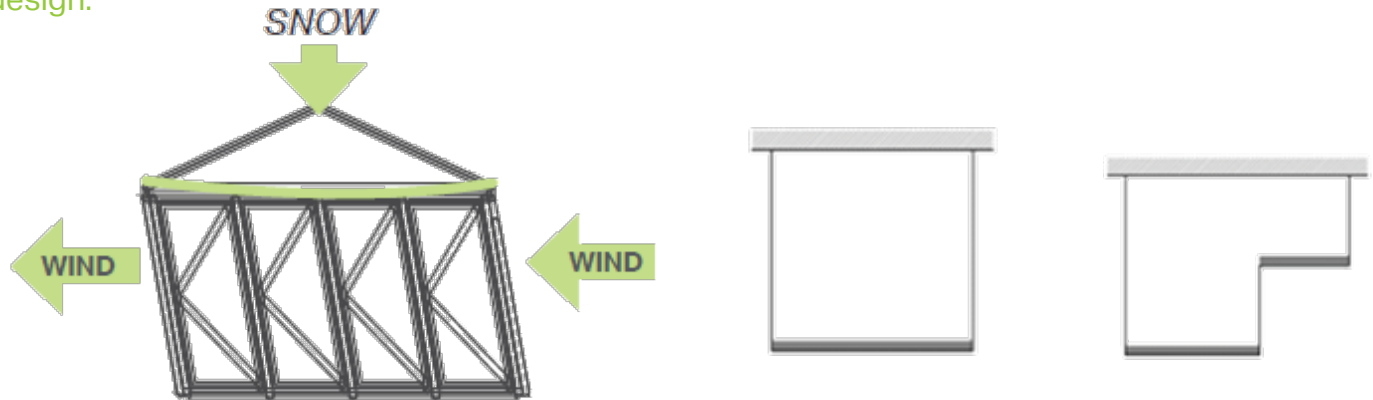
Measure diagonals to check that the base is square. The check measurement is provided in the paperwork.
Acceptable deviation is: +/- 10mm.



Measure lengths of base. Acceptable deviation is: +/-30mm overall on width and +/-15mm on projection.

Large Door Sets / Unsupported Spans

There are two forces that need to be considered if large doors are to be used within the hup! design.



Downward, vertical forces (e.g. snow) need to be managed to prevent doors from sticking and lateral forces from side winds need to be managed to prevent the building from racking.

Managing Vertical Forces

The eaves beam of the roof system chosen for your hup! needs to be strong enough to support the vertical forces. Refer to the specification guide of each roof system to determine the spanning capability of the system. The table below is a guide to help you. If your design needs a greater span that the roof system allows, goalposts can be used with hup! and are available from Ultraframe, price on application.

Roof System	Door Span Guidance
Glass Roof	Choose from a range of eaves reinforcements and goalposts to find the most cost effective solution to support the door span required up to 6m.
Hybrid Roof	
Tiled Roof	Spans up to 4m over doors.
Flat Roof	Max door span on front elevation is 5.6m and on side elevation 5.2m. This depends on roof configuration.

Managing Lateral Forces

When building with hup! like any extension, it is essential that lateral stability is considered. If large door spans are required in the elevation parallel to the host wall, the following options should be considered either side of the opening:

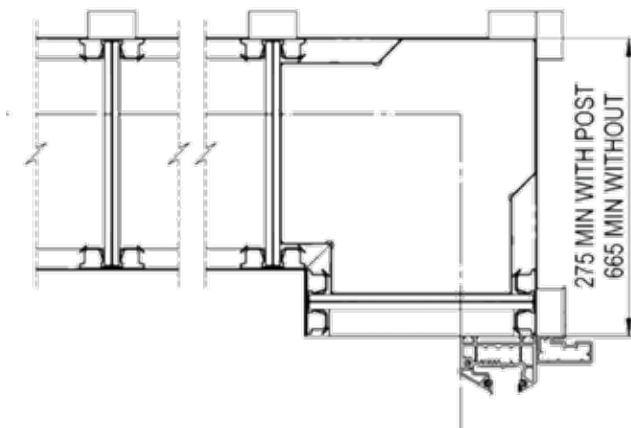
- Reinforced hup! corner: Standard hup! corner post is 300mm by 300mm with an integrated reinforced post on the outside which has no impact on overall dimensions. The post is visible on the lower courses of brick below DPC.
- 665mm wide hup! corner: this is a standard hup! corner + 335mm panel either side and requires no additional reinforcement.
- 500mm window return.
- Structural post : A minimum of 100 x 100mm structural post is required.
- Goalpost: If the roof requires a goalpost to support the doors below, a goalpost can also be used to provide lateral stability. The goalpost will sit inside the walling system and therefore needs to be boxed off or powder coated.

Structural Post (Lateral Stability)

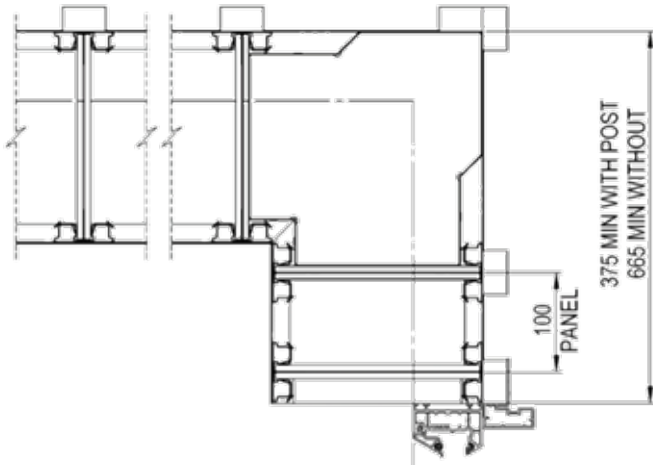
The hup! walls are configured to ensure that lateral stability is considered. To achieve this, the minimum distance of an opening from a corner is 665mm which can be achieved with either walling or fixed frames. It is possible to reduce this to 275mm and 375mm (300mm and 400mm to the outside of the timber batten) using the hup! corner as shown in the diagrams below, with the specification of a structural steel set out post which runs up the outside corner of the base. Please note that the painted (grey) post is visible locally at the corner of the courses of brick below DPC.

In order to ensure the building is laterally stable, hup! software will automatically insert a reinforced column based on dimensions of openings and size of build.

Minimum Size Corner



Next Smallest Size Corner



Reinforced Corner



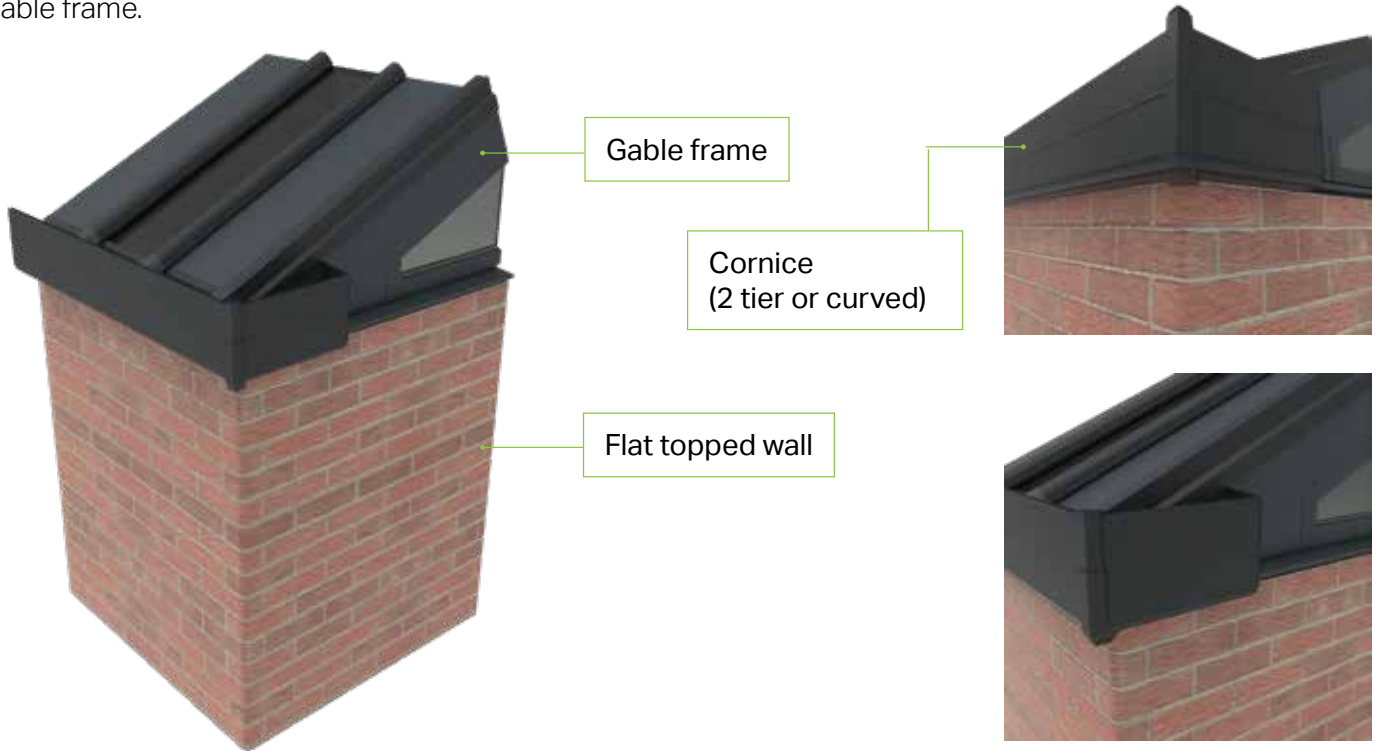
Structural Post

Gable Frames

When gable frames are specified with hup! walling, there are different finishing conditions dependant on the chosen roof system. This is applicable to full ridge gable ends and lean-to's.

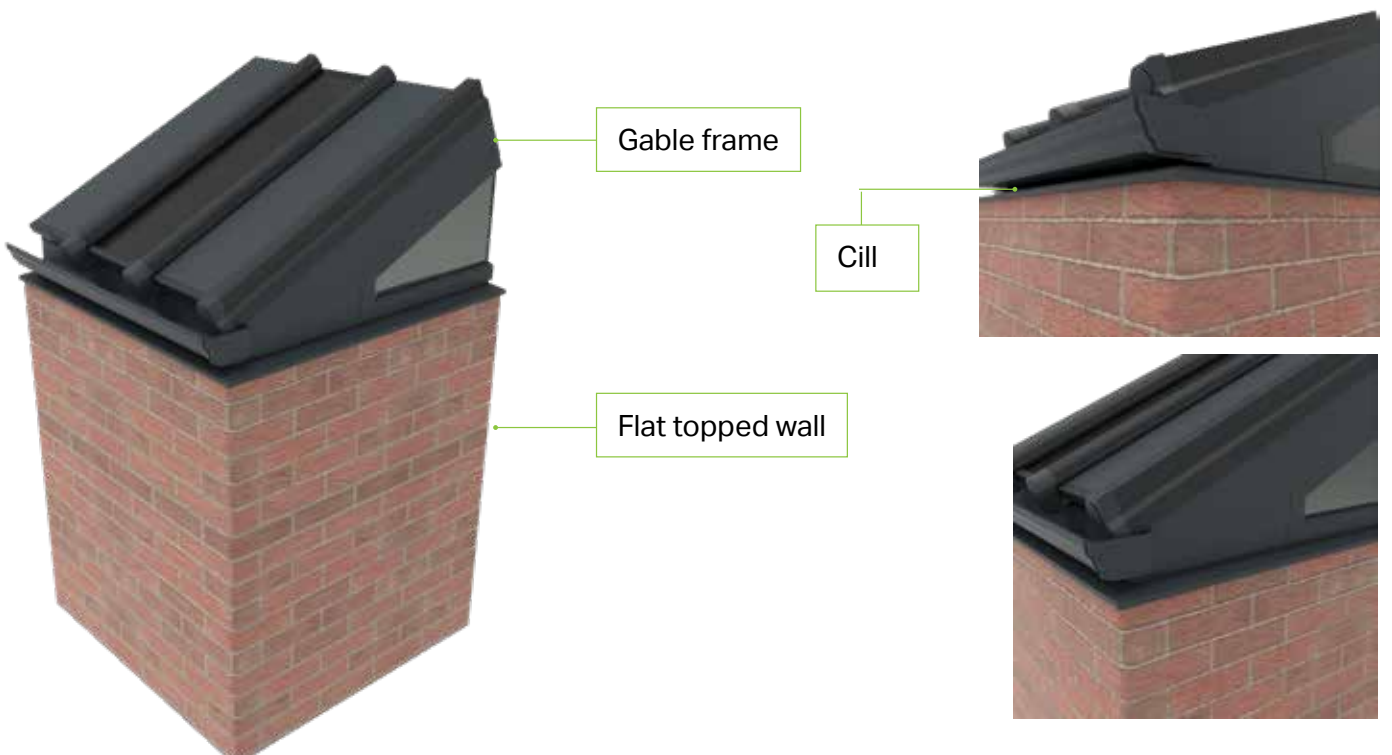
Glass or Hybrid Roof (with Cornice)

When Cornice is specified on a Glass or Hybrid hup!, the Cornice wraps around the gable end up to the gable frame.



Glass or Hybrid Roof (on Cill)

When Cornice is not specified, the top of the walls are closed off with a cill (not supplied).



Gable Frames

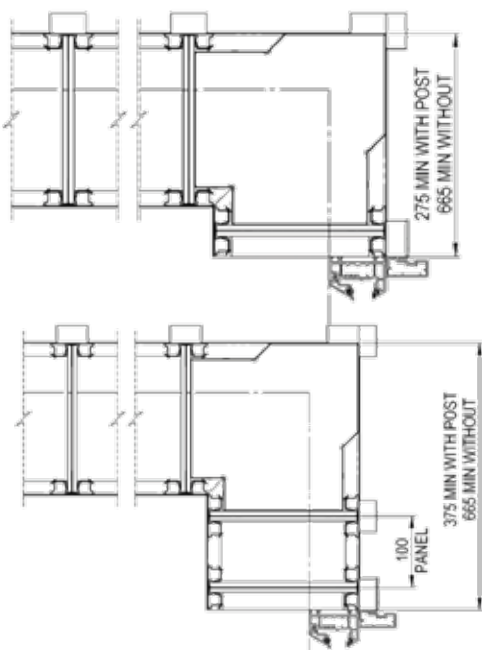
Tiled Roof

When specifying a gable tiled Hup!, the walling returns around the corner (following the minimum corner rules) and runs into the underside of the roof.



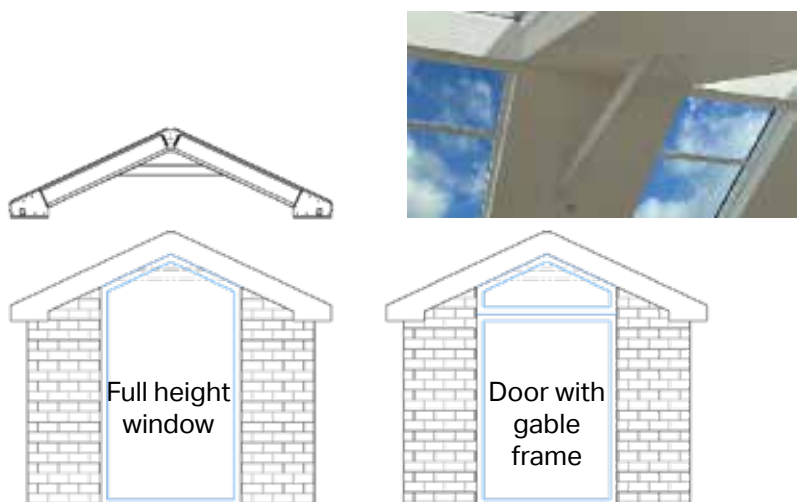
Minimum Corner Rules

Minimum corner rules apply but can be reduced by specifying a structural post. See lateral stability section.



High Level Structural Strut

The gable tiled hup! is supplied with a high level strut (matt white) to resist the spread of the roof.



Surveyors Checklist

Please check individual roof system Surveying Checklist for additional details.

General

- Is Planning Permission required? If yes, who will apply?
- Is Building Control approval required?
- Is there sufficient access to the proposed building? Including height and width restrictions for delivery of material, frames, glass & welded cills etc?
- Will construction involve crossing any public or neighbouring path, garden, wall or hedge?
- Will you need a skip on site?
- Are there plants, bushes, trees, sheds, fish ponds in the way?
- Are there any other visible obstructions on the ground?
- Is the house wall sufficiently out of plumb to require any allowance in the design of the build?
- Are there any signs of settlement or hairline cracks in the house wall- have these been pointed out to the homeowner?
- Is there a soil vent pipe, RWP, extractor fan or gas flue in the way of the proposed build?
- Are there any existing window or door openings to be moved, altered or bricked up?
- New openings to existing property will require new lintels which will require Building Regulation approval.
- Are there any height restrictions above the proposed roof (i.e. bedroom window)?
- Ensure that there is enough room above the ridge to lead flash.
- Will the new extension roof fit to the bungalow fascia board?
- Ensure that the fascia is deep enough and in good condition.
- Will the roof overhang the boundary?
- Proximity of walls to the boundary.
- If building close to a boundary or edge of existing property, ensure that finished external wall datum is considered. Dependant on cladding selection, finished wall can project 60mm (using brick slips) or 48mm (brick mesh) beyond base work.
- Is there sufficient access to the outside of the wall to apply claddings?
- If you are building on 300mm Cavity Wall Base Detail, please ensure you specify so an extended base tray can be specified for your order.
- If using a suspended timber floor base construction (or other base detail not shown on page 34/35), please indicate on the supplied plans and ensure that there is sufficient dense material for fixing the base trays.

Replacement

- Measure outside dimensions of base?
- Check whether existing base is square by measuring diagonals?
- Is there sufficient dense material for fixing the base trays to the base (see base details)?

Dwarf walls must be demolished.

New Build

- Are there any existing structures to demolish?
- Is there an existing patio or path to be removed?
- Are there any existing walls that need to be demolished?
- Are there any air bricks or head ventilators in the existing build?
- What is the existing external wall finish-facing brick, stone, render or pebbledash to match to?
- Are cavity trays required?
- Are there any existing underground drainage pipes to be moved or built over?
- Are there any existing manholes to be moved or raised to the new extension floor level then sealed with an airtight cover?
- Are there any pipes or cables to be catered for in the proposed build?
- Is the site sloping away requiring extra height to the base work?
- Is the site sloping towards the base work requiring excavation?
- Will a retaining wall be needed?
- Check coursing and spacing of brickwork on existing property to determine appropriate external cladding type.
- Is the new extension rainwater to discharge into an existing gully or is a new gully required?
- Is there a sufficient number of rainwater outlets for the size of the roof?
- Is there an existing gully to move?
- Has all the detail been discussed and agreed with the customer?

Frequently Asked Questions

Is planning permission required?

Check with your Local Authority and the Planning Portal.

Is Building Control approval required?

Check with your Local Authority and the Planning Portal.

What if my extension is close to the boundary (Fire)?

Within 1 metre of the boundary, the hup! wall is required to be fire rated to 30 minutes. The hup! walls have been tested using the calcium silicate board to achieve the required 30 minutes. If specifying your own cladding the relevant fire testing certification will be required for Building Control.

What if my extension is close to the boundary (access)?

If the hup! extension is close to a boundary, either allow enough access between the side wall and the boundary to enable fitting and cladding, or consult with the neighbouring property to allow access during this stage of installation.

How secure is hup! ?

If specifying the hup! Brick Mesh, brick slips, or a rendered finish, the external face of the walls are lined with calcium silicate board beneath the external cladding. This creates a robust external barrier which is incredibly difficult to penetrate. Windows and doors are secured to aperture panels which carry 25mm OSB to ensure fixings are robust.

Why is the trunking horizontal not vertical?

The horizontal trunking is run at a set height of 450mm above floor level to cater for sockets, giving space for back boxes. The main benefit of the trunking is to enable the cables to easily be run across the wall behind the steel clips without the requirement to batten out the inside of the wall, as a hole can be made in the hardboard panel sides to pass the cable between panels. Cabling however can be run vertically in conduit to avoid contact with the EPS.

Can the trunking be at a specified level?

Electrical cables and piping can be ran together provided that they are separated by a 25mm gap. Alternatively the cabling can run around the perimeter of the eaves and dropped down the panel in conduit.

How do we prevent the heat from a radiator affecting the wiring?

The trunking is for electrical cables or network cables only. Electrical cables and piping should not be run together in the trunking. Any pipework should run behind skirting as shown in the Specification Guide in rebated skirting boards. The cabling should not be directly affected by heat from radiators as it will be separated by plasterboard as it would with a stud or block wall.

To what extent do hup! walls let in noise from outside?

The make up of the hup! wall includes a combination of material densities resulting in excellent sound absorption.

